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NUCLEAR WASTE MANAGEMENT ORGANIZATION ADAPTIVE PHASED MANAGEMENT PROJECT – SAUGEEN OJIBWAY NATION-SOUTH BRUCE AREA ENVIRONMENTAL MEDIA BASELINE PROGRAM – YEAR 2 BASELINE REPORT

Final Report

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Nuclear Waste Management Organization

Project No. 3570

November 2024

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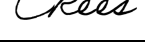
Project Manager	Cassandra Rees	November 20, 2024	
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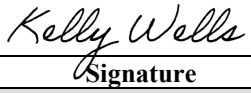
Project Director	Kelly Wells	November 20, 2024	
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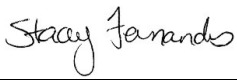
Technical Advisor	Stacey Fernandes	November 20, 2024	
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Version	Date	Description of Revision	Prepared/Revised by
Final Report Version 1.0	November 20, 2024	Initial issue	• Canada North Environmental Services • Geosyntec Consultants International Inc. • Saugeen Valley Conservation Authority

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LIST OF ACRONYMS

Term	Description
AO	Aesthetic Objective
AOI	Area of Interest
APM	Adaptive Phased Management
ASTM	American Society for Testing and Materials
BC ENV	British Columbia Ministry of Environment and Climate Change Strategy
BOD5	5-Day Biochemical Oxygen Demand
CALA	Canadian Association for Laboratory Accreditation
COPC	Contaminants of Potential Concern
CDWG RP	Canadian Drinking Water Quality Guidelines for Radiological Parameters
CSQG	Canadian Soil Quality Guidelines
CSSS	Canadian Society of Soil Science
DGR	Deep Geological Repository
DO	Dissolved Oxygen
DOC	Dissolved Organic Carbon
eDNA	Environmental DNA
ECCC	Environment and Climate Change Canada
ECHA	European Chemicals Agency
EMBP	Environmental Media Baseline Program
FEQG	Federal Environmental Quality Guideline
HSM	Historic Saugeen Métis
IA	Impact Assessment
IK	Indigenous Knowledge
LEL	Lowest Effect Level
LSA/LSA_X	Local Study Area/Local Study Area for 'X' environmental component

MECP	Ontario Ministry of the Environment, Conservation and Parks (formerly Ontario Ministry of the Environment [MOE], formerly Ontario Ministry of the Environment and Energy [MOEE])
MNO	Métis Nation of Ontario
MTBE	Methyl Tert-butyl Ether
NHIC	Natural Heritage Information Centre
NTU	Nephelometric Turbidity Units
NWMO	Nuclear Waste Management Organization
ODWQS	Ontario Drinking Water Quality Standard
ODWQS MC	Ontario Drinking Water Quality Standard Microbiological and Chemical Standard
ORP	Oxidation-reduction Potential
PAH	Polycyclic Aromatic Hydrocarbon
PCB	Polychlorinated Biphenyls
PEL	Probable Effect Level
PHC	Petroleum Hydrocarbon
PNEC	Probable No Effects Concentration
QA/QC	Quality Assurance/Quality Control
RDL	Reportable Detection Limit
RP	Radiological Parameters
RSA/RSA$_X$	Regional Study Area/Regional Study Area for 'X' environmental component
SEL	Severe Effect Level
SON	Saugeen Ojibway Nation
SSA	Site Study Area
SQG	Sediment Quality Guidelines
SVCA	Saugeen Valley Conservation Authority
SVOC	Semi-volatile Organic Compound

TDS	Total Dissolved Solids
TIC	Total Inorganic Carbon
TKN	Total Kjeldahl Nitrogen
TOC	Total Organic Carbon
TSS	Total Suspended Solids
US EPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound
WLON	Wabigoon Lake Ojibway Nation
WQG	Water Quality Guideline

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EXECUTIVE SUMMARY

The Nuclear Waste Management Organization (NWMO) has undertaken a voluntary siting process for the safe, long-term management of used nuclear fuel. Canada's plan, which follows an approach known as Adaptive Phased Management (APM), would safely contain and isolate used nuclear fuel inside a deep geological repository (DGR) in a manner that protects people and the environment for generations to come. Throughout this document, the term Project is used to refer to the DGR and associated infrastructure.

There are two remaining sites being considered as informed and willing hosts for the Project: the Saugeen Ojibway Nation (SON)-South Bruce area and the Wabigoon Lake Ojibway Nation (WLON)-Ignace area, both in Ontario. The SON-South Bruce area site, which is located near Teeswater in a primarily agricultural area within the Municipality of South Bruce, is the focus of this report. The site is located in the traditional lands and treaty territory of the Saugeen Ojibway Nation (SON), which is comprised of the Saugeen First Nation and Chippewas of Nawash Unceded First Nation. It is also acknowledged that Metis peoples have rich relationships with the land in this region.

As part of the siting process, an Environmental Media Baseline Program (EMBP) was initiated to collect baseline environmental data to get an understanding of the current conditions. The collection of data from the SON-South Bruce area under the EMBP commenced in September 2021. The data collected in Year 1 (2021/2022) are presented in the Year 1 baseline report. The current document presents the Year 2 (2022/2023) data, which includes surface water quality, plankton communities, sediment quality, hydrology, and soil quality. Additionally, sampling was completed for periphyton community, benthic invertebrate community, and environmental DNA (eDNA); however, the results for these programs are pending and will be reported in the future. The Year 2 baseline data were collected by Saugeen Valley Conservation Authority (SVCA) and the consulting company TULLOCH. NWMO also had a program to monitor drinking water (well water) quality. The objective of this report is to summarize the Year 2 data to further inform our current understanding of the area. Other parts of the EMBP, such as air quality, are still to be completed; the results will be provided in a future report.

Surface water

South Bruce lies almost entirely within the Saugeen River watershed, which drains into Lake Huron at the town of Southampton, Ontario. One of the main rivers in the watershed is the Teeswater River, which is 75 km long. It flows through the community of Teeswater,

then travels through the potential Project area and the Greenock Swamp Wetland Complex, and eventually draining into the Saugeen River at Paisley, Ontario.

Surface water quality

Water quality samples were collected from locations near the potential Project area as well as further away (reference stations) that would remain unaffected by the Project (i.e., located outside the expected area of potential interaction with the project). These include:

- *Teeswater and Saugeen rivers, as well as Beatty Saugeen River as a reference.*
- *Several lakes including Silver, Clam, and Oppleck lakes that are near the project and Robson and Hines lakes as reference locations. Additionally, water samples were collected from Lake Huron, far downstream of the proposed Project area.*
- *Wetlands including the nearby Greenock Swamp Wetland and the Teeswater Wetland, as well as wetlands further away that could act as reference areas.*

Information was collected in the fall, winter, and summer during the Year 2 program to characterize the water quality, which included taking measurements in the field and collecting water samples which were sent to an accredited laboratory for analysis. The laboratory measured general water quality characteristics, nutrient levels, metal and trace element levels, organic compounds, pesticides, and radionuclides.

Silver Lake

The water clarity was moderate to low within the lakes. Measured pH was slightly alkaline in the rivers and lakes and near neutral to slightly acidic in the wetland areas. The water naturally has dissolved minerals such as calcium and magnesium and is therefore called hard water. These results and variations are common and expected.

There were some nutrient levels that were measured above water quality guidelines in the area including phosphorus in most locations. Nitrogen compounds (ammonia, nitrate) were also commonly elevated, although less often in Lake Huron compared to the smaller lakes. This will affect the productivity and growth of algae in the water. Fluoride was commonly above the guideline in several of the lakes and wetlands. Bacterial counts, specifically E.coli, were elevated in the rivers. This water quality reflects the local land use in the area.

Teeswater River

Measured concentrations of total and dissolved metals and trace elements were generally low. There were some elevated concentrations of manganese in the rivers, lakes and wetlands and zirconium in Lake Huron. In the wetlands there were some elevated concentrations of aluminum, cobalt, iron, and mercury. These values reflect background and are not necessarily a concern. The results illustrate that some parameters are found at higher levels in the study area before development of the Project, which is important to establish during the baseline period. All other parameters were low, including radionuclides.

<u>Plankton communities</u>

Plankton are microscopic organisms (generally <1 mm) that live suspended in water. Some examples of plankton include algae, bacteria, and crustaceans.

Plankton samples were collected seasonally in the small lakes at the same time as the water quality samples. The communities varied in density, composition, evenness, and in diversity between waterbodies and between seasons, and were usually in higher densities in the summer than in the fall across all waterbodies. Community composition was not often similar across waterbodies. None of the plankton species identified were known as invasive species or species with special conservation considerations. The abundance of cyanobacteria remained below the health guideline.

<u>Sediment Quality</u>

Sediment samples were collected in the fall of Year 2 (October and November 2022) from Teeswater and Beatty Saugeen rivers and small lakes (Silver, Clam, Hines and Robson

lakes) as well as Lake Huron. Where possible, the samples were collected near where the water samples were collected.

Sediment particle size was variable in the study area, river samples were usually dominated by sand (fine sand + coarse sand), except the Teeswater River exposure area that nearly had equal amounts of fine particles (silt + clay) and sand. . Lakes tended to be dominated by fine particles, except Lake Huron where total sand was more abundant. Fine particles accounted for nearly all of the sediment at Clam Lake and Robson Lake, while fine particles accounted for approximately 60% to 80% of the sediment at Hines Lake and Silver Lake.

Concentrations of total organic carbon, total Kjeldahl nitrogen, phosphorus, and some metals (for example, manganese, selenium) were higher than Sediment Quality Guidelines at numerous sites indicating the study area has naturally elevated concentrations of these parameters, which is important to characterize during baseline studies.

Hydrology

To understand the existing hydrologic condition of the study area, it is important to collect data to assess seasonal changes in storage volume, water level, flow rates, and footprint of the waterbodies (rivers, lakes, and wetlands) located within the study area. These waterbodies include the Teeswater River, several small lakes (Silver Lake, Clam Lake, and Oppleck Lake), and wetlands such as the Greenock Swamp Wetland Complex and the Teeswater Wetland. Locations that are nearby but outside the area of the potential Project were also included as reference study sites. In Year 1 and 2 of this monitoring program, hydrologic (flow and water level) and meteorological data were collected to characterize the hydrologic condition of the study area.

Teeswater Wetland

On the Teeswater River, continuous water level monitoring was conducted upstream and downstream of the potential Project. The data at one of the stations was incomplete as a rodent severed the cable; this was repaired in November 2023. The data collected during two large precipitation events (one in August 2022 and one in September 2022) allowed information on the lag times between peak precipitation and the water level peaks to be observed. Lake and wetland water levels varied as expected for the local small lakes and wetlands.

Meteorological data including total precipitation and ambient temperature were also collected to supplement the hydrologic analysis for the study area. The data collected was compared to nearby stations and found to be similar, although the recorded rainfall was lower.

Hydrology data will continue to be collected at the same locations in Year 3.

Drinking water quality

Groundwater is an important part of the EMBP. For Year 2, the quality of the drinking water in the area surrounding the proposed Project was measured. A private water well sampling program was co-designed and implemented by community members and the NWMO. It focuses on sampling private drinking water wells on lands contracted by the NWMO and on properties adjacent to NWMO contracted lands. A total of 12 homeowners representing 14 properties volunteered to participate in the 2022/23 drinking water program. The results of the water quality sample analysis were compared to Ontario Drinking Water Quality Standards (ODWQS) and the Canadian Drinking Water Quality Guidelines for Radiological Parameters (CDWG RP). Each participant was provided with the results of the sample collected from their well.

The concentrations of water quality parameters in most wells were low, below the laboratory detection limits, and below applicable drinking water quality standards. There were exceedances of the ODWQS for chloride, iron, manganese, total coliforms, and sodium in a few wells. Two wells exceeded the CDWG RP for gross beta and two wells exceeded the CDWG RP for gross alpha. One well exceeded CDWG RP for radium-226. These results illustrate that some parameters in excess of the ODWQS are currently detected in the study area, before development of the proposed Project, which is important to establish during the baseline period. Additional data will be reported on as they become available from the Year 3 sampling campaign.

Soil quality

The soil was characterized into four different groups based on soil grain texture and organic content.

Soil samples were collected from various locations including agricultural fields, pastures, or meadows, as well as within cultural or naturalized forests. One sampling location was a manicured lawn. Of the 56 samples collected, approximately one third of the locations

were undisturbed, while the remaining locations had some degree of disturbances within or in proximity to the area, such as active/recent cultivation, evidence of logging, and ATV trails.

The laboratory evaluated general soil characteristics, nutrient levels, metal and trace element levels, organic compound levels, and radionuclides for the samples collected.

The chemistry information for all soil groups were quite similar, with the one group (Soil Group 3, moderately coarse-textured soils) samples having some higher detection limits (above guidelines) which may have been due to sample volume being limited for this soil group.

Overall, the soil was found to have concentrations of some parameters above available soil quality guidelines, including some metals, but these were found to be within typical background levels. These are components of the soil and reflect the local geology. Several organic compounds were also identified as exceeding guidelines, but their interpretation is complicated due to the elevated detection limits. Some of the radionuclides detected may be naturally occurring, including radioactive elements in soil and rock or are naturally produced by cosmic radiation, whereas some are the result of human activities, including global fallout from historical nuclear weapons, nuclear weapons testing, or major nuclear accidents.

Next Steps

The information presented in this report represents the second year of data collected in the study area for the EMBP; however, because conditions can change from year-to-year, data collections will continue to provide an understanding of the range of conditions in the SON-South Bruce area during the baseline period. There will be additional years of data and additional components sampled as part of the EMBP (such as air quality and tissues) and these will be discussed in future reports.

LAND ACKNOWLEDGEMENT

It is acknowledged that the lands and communities discussed in this report are situated on the traditional land and treaty territory of the Saugeen Ojibway Nation (SON), which is comprised of Saugeen First Nation and Chippewas of Nawash Unceded First Nation. It is also acknowledged that Metis peoples have rich relationships with the land in this region.

1.0 INTRODUCTION

1.1 Overview

The Nuclear Waste Management Organization (NWMO) was established in 2002 with the objective of developing and implementing a plan for the long-term management of Canada's used nuclear fuel. The process has included the adoption of Adaptive Phased Management (APM), undertaking a siting process for the Deep Geological Repository (DGR) and associated infrastructure (hereinafter referred to as the Project), and conducting preliminary studies. From an initial list of 22 potential sites, two remain in the voluntary siting process for informed and willing hosts for the Project, including the Saugeen Ojibway Nation (SON)-South Bruce area in Southern Ontario and the Wabigoon Lake Ojibway Nation (WLON)-Ignace area in Northwestern Ontario. The SON-South Bruce area, located near Teeswater and within the Municipality of South Bruce (Figure 1-1), is the focus of this report.

The NWMO is actively engaging with local Indigenous Nations, governments, and communities throughout the site selection process to better understand the thoughts and concerns of people who wish to be engaged. From a series of workshops that were held in 2019 and 2020, community members agreed that the natural features of the community and region must be protected from any potential negative effects from the Project and, where possible, strengthen, improve, and enhance them. Drinking water, green spaces, and environment and landscape were identified as top priorities (AECOM 2020).

As part of the siting process, an Environmental Media Baseline Program (EMBP; CanNorth et al. 2021) was designed to collect baseline environmental data from within and around the Area of Interest (AOI) that would be used to inform an Impact Assessment (IA) should the community remain in the process and become the single preferred site for the Project.

The collection of Year 1 data from the SON-South Bruce siting area under the EMBP occurred from September 2021 to August 2022. During this time, data were collected to

inform the surface water, hydrology, and drinking water (private well water) components. These data were summarized in the Year 1 baseline report (CanNorth et al. 2023b). The collection of Year 2 data occurred from September 2022 to August 2023 and includes surface water parameters (water quality, sediment quality, and plankton), hydrology, drinking water, and soil. The surface water and hydrology data collection programs are being completed by the Saugeen Valley Conservation Authority (SVCA). TULLOCH completed the collection of the drinking water samples under the direction of NWMO. TULLOCH also implemented the soil program.

The objective of this report is to summarize the collections that occurred and to provide a high-level summary of the Year 2 baseline data collected for the EMBP.

The NWMO plans to share this information with local communities to provide an update and gain input on the EMBP. It needs to be emphasized that at this time, the assessment has been conducted primarily through a Western Science approach. Additional discussion and input are required by rights-holders to reflect Indigenous Knowledge (IK) and a holistic view of the environment, within a harmonized approach.

1.2 Scope

The current document provides simple summary statistics for the Year 2 data collected for surface water, hydrology, drinking water, and soil, and general site characterization information based on observations while in the field. Air, noise, light, and tissues are also components of the EMBP, but data collection was not scheduled for Year 2; these components will be included and reviewed in a future year.

This report provides a summary of the Year 2 EMBP; detailed reports for surface water and hydrology are included as Appendix A, drinking water is included in Appendix B, and soil is included in Appendix C. The aim of this report is to present the findings from Year 2 of the EMBP and to obtain stakeholders and rights holder feedback such as any concerns around measured concentrations, areas that should be sampled in future years, etc.

Figure 1-1 Proposed location for DGR in Saugeen Ojibway Nation-South Bruce area.

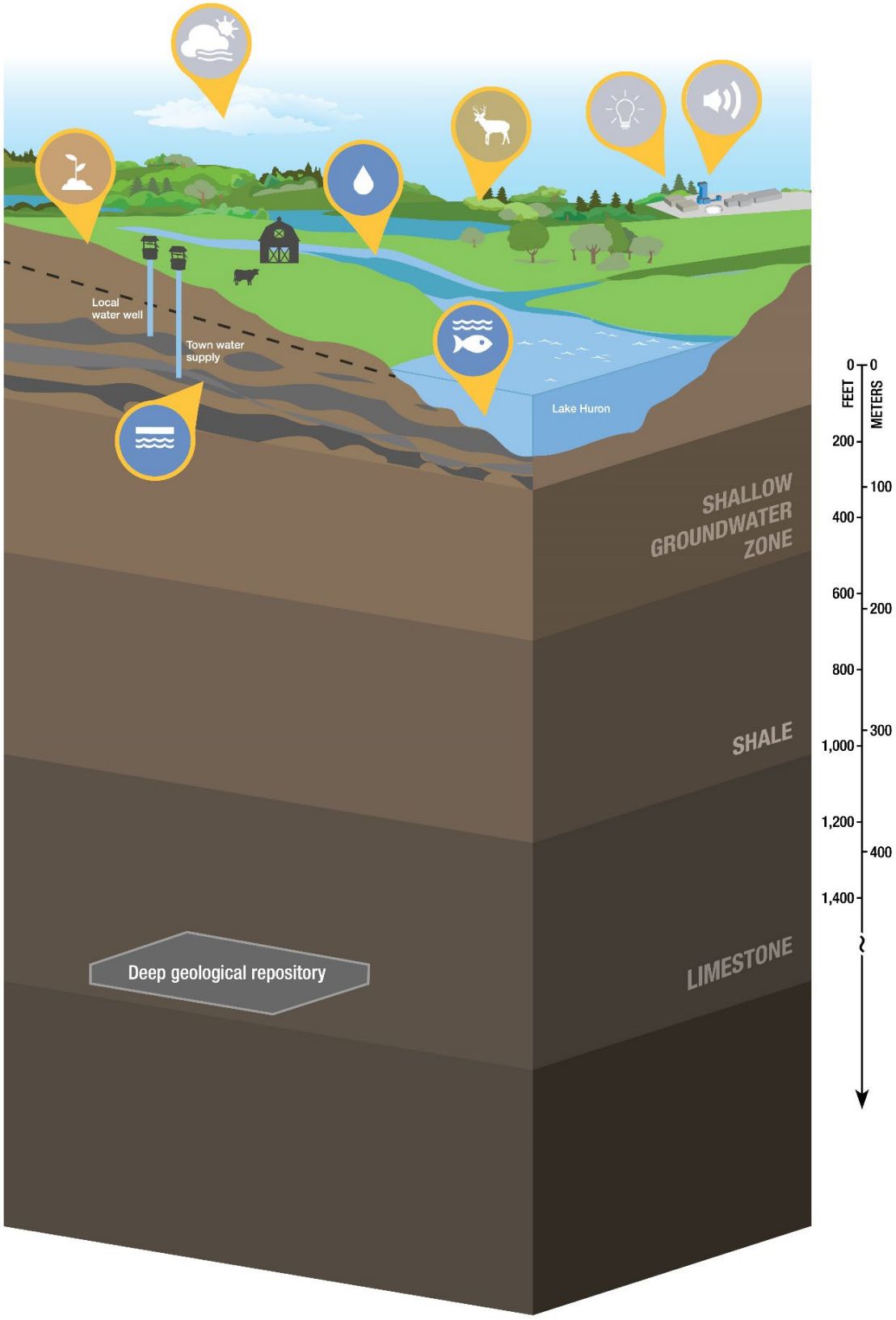
2.0 ENVIRONMENTAL MEDIA BASELINE PROGRAM

With the SON-South Bruce site being located in a populated area with nearby industry, there are numerous sources of existing environment data for the area; thus, prior to designing the EMBP, a gap analysis was completed to compile and review existing data and determine potential data adequacy for meeting the sample design requirements, statistical objectives, and regulatory standards. Gaps were identified and high-level recommendations were made to fill these gaps as part of the EMBP.

Ultimately, all of this information was used in the design of the EMBP, as detailed under separate cover (CanNorth et al. 2021). Periodic reviews of the program will be completed and the EMBP may be modified as needed, based on analysis of data collected, continued feedback from stakeholders, rights-holders, and technical experts, and data needs of other studies being completed in support of the Project.

The full EMBP is focused on select environmental components that have potential to interact with the Project and includes 1) tissues, 2) hydrology, 3) surface water parameters, 4) air quality, noise, and light, and 5) soil (soil quality and gamma radiation). Shallow groundwater (from 0 to 100 metres below ground surface [m bgs]) and subsurface soil and bedrock (between 0.3 m bgs to 100 m bgs) are also essential components when conducting site characterization of a DGR facility (CNSC 2021). Although these components were originally part of the EMBP, they are being implemented separately by the Geosciences group within the NWMO as part of the deep drilling program and will be reported distinctly from this report. The NWMO will remain accountable for addressing any concerns raised by the public and rights-holders related to groundwater. Shallow groundwater will also be included in the safety case, which will include identifying three groundwater systems (shallow, intermediate, and deep).

Figure 2-1 provides a pictorial representation of the Project and how the various Project components may interact with one another and the environment. Further details on these potential interactions, as well as potential mitigation meaures, is provided under separate cover (CanNorth et al. 2023a).



Note: 1000 m reflects the extent of deep drilling being completed by the NWMO; conceptual model not to scale.

Figure 2-1 Conceptual Site Model for the biophysical environment

2.1 Schedule

Data collections and reporting for the EMBP are planned to take place for one to three years for each component. Although Year 1 was intended to be the first year for all monitoring activities so that all EMBP monitoring would be completed after three years, this was not possible for various reasons such as delays in equipment, complications with COVID-19, short seasonal windows, etc. As a result, the baseline program has incorporated a staggered start to the baseline monitoring components with Year 1 focussing on surface water, hydrology, and drinking water and Year 2 continuing these components as well as adding soils. A full description of the data collection associated with each component is described in component specifc section (i.e., Section 3.0, 4.0, 5.0, and 6.0).

2.2 Study Area

The NWMO has secured parcels of land under contract upon which the Project will be located if the South Bruce site is selected. The parcels are situated starting 2.5 km northwest of Teeswater and extending westward. These land parcels and the watershed boundary were used to delineate the AOI for the EMBP; however, the AOI also includes other privately-owned lands that will not be purchased or optioned by the NWMO.

The EMBP includes monitoring the conceptual boundary of the potential facility (called the Site Study Area [SSA]) that would be located somewhere within the lands under contract in the AOI, in environments surrounding the facility (called the Local Study Area [LSA]), and in some cases, in a larger area (called the Regional Study Area [RSA]). The proposed LSA_X and RSA_X, where 'X' is specific for each of the environmental components, differ for the components and are discussed within respective sections of this report.

In addition to examining areas in the SSA and LSA that could be subject to future Project impacts, study areas that can act as reference areas in the future were established. Sampling reference areas will aid in determining whether temporal changes can be attributed to the Project or are due to other factors such as climate change, natural variability, or other sources of non-natural origin.

2.3 Contaminants of Potential Concern

A comprehensive list of baseline Contaminants of Potential Concern (COPC) is required for a baseline sampling program to provide a complete picture of the natural constituents in the environment; however, it is also important that the baseline COPC list meets EMBP

project objectives, is relevant to potential interactions with the environment, and is not cost prohibitive. The baseline COPC list for the EMBP was developed in collaboration with the NWMO, with consideration of stakeholder and rights-holder concerns, and with consultation of external sources of information. The EMBP report (CanNorth et al. 2021) provides the rationale for the selection of baseline COPC.

In general, only those contaminants with the highest potential for having interactions with the Project have been identified as baseline COPC. There are some exceptions where a contaminant was included due to a high level of community concern, and the potential for cumulative effects. For example, select pesticides (e.g., organochlorine insecticides) are not expected to have any Project-environment interactions, but they may be present in environmental media being sampled as part of the EMBP due to their potential presence from agricultural use in the area.

Table 2-1 summarizes the planned baseline COPC list for the environmental components monitored in 2021 and 2022, as per the EMBP design (CanNorth et al. 2021). It should be noted that not all baseline COPC are intended to be measured in every sample in every year. The list contains a wide suite of parameters, including metals, radionuclides, Polycyclic Aromatic Hydrocarbons (PAHs), Petroleum Hydrocarbons (PHCs), Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), pesticides, nutrients, and generic parameters routinely used to characterize components of the environment. The list will be re-evaluated as part of the design review and update to ensure it remains relevant and that information is available for all baseline COPC.

Table 2-1 Baseline contaminants of potential concern planned by environmental component.

Group	Parameters[1]
Surface Water	
Radionuclides	Tier 1[2]:H-3, C-14, Sr-90, I-129, Cs-137 [and associated Co-60, Ru-106], gross-α, gross-β Tier 2[2]:Cl-36, Co-60, Se-79, Ru-106, Np-237, Pu-238, Pu-239, Pu-210, Pu-91 Am-91, Cm-94 *(artificial)* Ra-226, U-238, U-234, U-235, K-40, Th-228, Th-230, Th-232 *(natural)*
Metals (Total or Dissolved)	Aluminum, Antimony, Arsenic, Barium, Beryllium, Bismuth, Boron, Cadmium, Cesium, Chromium (total, trivalent, hexavalent), Cobalt, Copper, Iron, Lead, Lithium, Mercury, Manganese, Molybdenum, Nickel, Rhodium, Ruthenium, Samarium, Selenium, Silver, Strontium, Thallium, Tin, Titanium, Uranium, Vanadium, Zinc, Zirconium
Organics	Semi-volatile Organic Compounds (SVOCs), dioxins and furans, Volatile Organic Compounds (VOCs), Polycyclic Aromatic Hydrocarbons (PAHs), Polychlorinated Biphenyls (PCBs), Petroleum Hydrocarbons (PHCs)
In situ limnology	Dissolved Oxygen (DO), Temperature, pH, Conductivity, Redox Potential
Nutrients and General Chemistry	Alkalinity, Bicarbonate, Bromide, Calcium, Carbonate, Chloride, Cyanide, Fluoride, Hydroxide, Magnesium, pH, Potassium, Sodium, Specific Conductivity, Sulphate, Sum of Ions, Total Dissolved Solids (TDS), Total Hardness, Total Suspended Solids (TSS), Turbidity, Ammonia as Nitrogen, Nitrate + Nitrite, Nitrate (NO_3), Total Organic Carbon (TOC), Total Inorganic Carbon (TIC), Dissolved Organic Carbon (DOC), Phosphorus, Total Kjeldahl Nitrogen, Iodine* 5-day Biological Oxygen Demand (BOD5), E. coli, Total Coliforms, Chlorophyll-a
Other	Organochlorine pesticides
Sediment	
Radionuclides	Tier 1[2]:H-3, C-14, Sr-90, I-129, Cs-137 [and associated Co-60, Ru-106], gross-α, gross-β Tier 2[2]: Cl-36, Co-60, Se-79, Ru-106, Np-237, Pu-238, Pu-239, Pu-210, Pu-91 Am-91, Cm-94 *(artificial)* Ra-226, U-238, U-234, U-235, K-40, Th-228, Th-230, Th-232 *(natural)*
Metals	Aluminum, Antimony, Arsenic, Barium, Beryllium, Bismuth, Boron, Cadmium, Cesium, Chromium (total, trivalent, hexavalent), Cobalt, Copper, Iron, Lead, Lithium, Mercury, Manganese, Molybdenum, Nickel, Rhodium, Ruthenium, Samarium, Selenium, Silver, Strontium, Thallium, Tin, Titanium, Uranium, Vanadium, Zinc, Zirconium
Nutrients and General Characterization	% moisture, total organic carbon (TOC), ammonia (as N), Nitrate as Nitrite (as N), Nitrate-N, Nitrite-N, and total Kjeldahl nitrogen (TKN)
Organics	SVOCs, dioxins and furans, VOCs, PAHs, PCBs, PHCs
Other	Particle size, Organochlorine pesticides
Well Water	
Radionuclides	Tier 1[2]:H-3, C-14, Sr-90, I-129, Cs-137 [and associated Co-60, Se-79, Ru-106], gross-α, gross-β Tier 2[2]:Cl-36, Co-60, Se-79, Ru-106, Np-237, Pu-238, Pu-239, PU-210, PU-91, AM-91, CM-94 *(artificial)* Ra-226, U-238, U-234, U-235, K-40, Th-228, Th-230, Th-232 *(natural)*

Group	Parameters[1]
Metals	Aluminum, Antimony, Arsenic, Barium, Beryllium, Bismuth, Boron, Bromine, Cadmium, Calcium, Cesium, Chromium (total, hexavalent), Cobalt, Copper, Iron, Lead, Lithium, Mercury (low-level), Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Rhodium, Ruthenium, Samarium, Selenium, Silver, Strontium, Thallium, Tin, Titanium, Uranium, Vanadium, Zinc, Zirconium
Organics	SVOCs, dioxins and furans, VOCs, PAHs, PCBs, PHCs
Other	Organochlorine pesticides
Soils	
Radionuclides	Tier 1[2]:H-3, C-14, Sr-90, I-129, Cs-137 [and associated Co-60, Ru-106], gross-α, gross-β Tier 2[2]: Cl-36, Co-60, Se-79, Ru-106, Np-237, Pu-238, Pu-239, Pu-210, Pu-91 Am-91, Cm-94 *(artificial)*
Metals	Aluminum, Antimony, Arsenic, Barium, Beryllium, Bismuth, Boron, Cadmium, Cesium, Chromium (total, trivalent, hexavalent), Cobalt, Copper, Iron, Lead, Lithium, Mercury, Manganese, Molybdenum, Nickel, Rhodium, Ruthenium, Samarium, Selenium, Silver, Strontium, Thallium, Tin, Titanium, Uranium, Vanadium, Zinc, Zirconium
Organics	SVOCs, dioxins and furans, VOCs, PAHs, PCBs, PHCs
General Chemistry and Characterization	Inorganic nitrogen compounds (nitrogen, nitrate, nitrite), pH, Moisture, Total Organic Carbon (TOC), DOC, Electrical Conductivity, Sodium Absorption Ratio, Iodine*
Other	Grain size distribution, Organochlorine pesticides

Note: As tissues, air quality, and RSA water quality have not yet been measured, parameters associated with these environmental components, as well as gamma radiation to be included in a future year of the soil program, are not included.

***** Iodine may be measured in media.

[1] Not all parameters were measured as planned. This is not unexpected in a large program and will be noted in the Program Review and corrected in subsequent sampling campaigns.

[2] Tier 1 (CanNorth et al. 2021) radionuclides are those that may be associated with releases from the Project. Tier 2 radionuclides are being measured to establish baseline.

3.0 SURFACE WATER

3.1 Program Overview

The primary objectives of the Year 2 surface water program were to characterize rivers, lakes, and wetlands in the LSA_{SW} and to establish variability and baseline data in COPC concentrations and other endpoints.

Sampling locations were selected to represent potential exposure areas near to and downstream of the Project, and locations that could act as reference areas once the Project commences. Factors such as potential Project interactions, representativeness, suitability for data end uses, and cumulative effects were considered when selecting study areas (CanNorth et al. 2021).

The overall sampling components included in the surface water parameters component of the EMBP were:

- Surface water quality and characterization;
- Phytoplankton and zooplankton community composition and biomass;
- Periphyton community composition and biomass;
- Sediment quality and characterization; and
- Benthic invertebrate community composition,biomass, and eDNA.

The detailed surface water quality report can be found in Appendix A. The Year 2 program focused on collecting all sampling components, though not all laboratory data were available for analysis. Notably, periphyton, benthic invertebrate community, and eDNA data are pending and thus not summarized herein. Details related to these samples collections can be found in Appendix A, with planned reporting for the data during the next monitoring cycle.

3.1.1 Study Areas

The LSA_{SW} includes waterbodies with the potential of being impacted by the Project, as well as potential reference areas. Locations for water withdrawal and treated effluent release from the Project have not yet been determined; thus, assumptions were made in order to initiate data collections for the EMBP (CanNorth et al. 2021). Figure 3-1 presents the surface water quality stations sampled during the Year 2 program; a detailed map showing the locations within the LSA_{SW} and AOI is provided in Figure 3-2. Sites were located in the following waterbodies:

- **Rivers**: several sampling locations were situated on the Teeswater and Saugeen rivers upstream and downstream of the AOI, as well as reference sampling locations on the Beatty Saugeen River. On the Teeswater River, consideration was given to situating sampling locations upstream and downstream of potential influences from communities, industry, and open municipal drains, as well as pairing sampling locations with active SVCA/Provincial Water Quality Monitoring Network stations.
- **Lakes**: Sampling stations were established in a total of five smaller recreational lakes during the Year 1 baseline program, including Silver, Clam, and Oppleck[1] lakes in the LSA_{SW} as potential exposure locations and Robson and Hines lakes as reference locations. Additionally, a larger lake (Lake Huron) was assessed as far downstream exposure location.
- **Wetlands**: A total of 10 sampling locations were established within the LSA_{SW} in the Greenock Swamp Wetland and the Teeswater Wetland complex[2]. Additionally, five potential reference wetlands were sampled to inform selection of a reference wetland for future monitoring years.
- **Community Locations**: The study design includes sampling up to five waterbodies of importance to local stakeholders and rights-holders within the RSA_{SW}. No community locations were established during the Year 1 or Year 2 baseline program.

[1] Oppleck lake was not part of the original EMBP design; it was added to the monitoring program when access permissions could not be secured for McGlinn Lake.
[2] It is currently unknown if the Teeswater Wetland Complex is potentially subject to Project impacts. Further understanding will be informed by groundwater and surface water flow, connectivity, and aerial dispersion modelling. There is the potential that the Teeswater Wetland Complex could act as a reference area in the future.

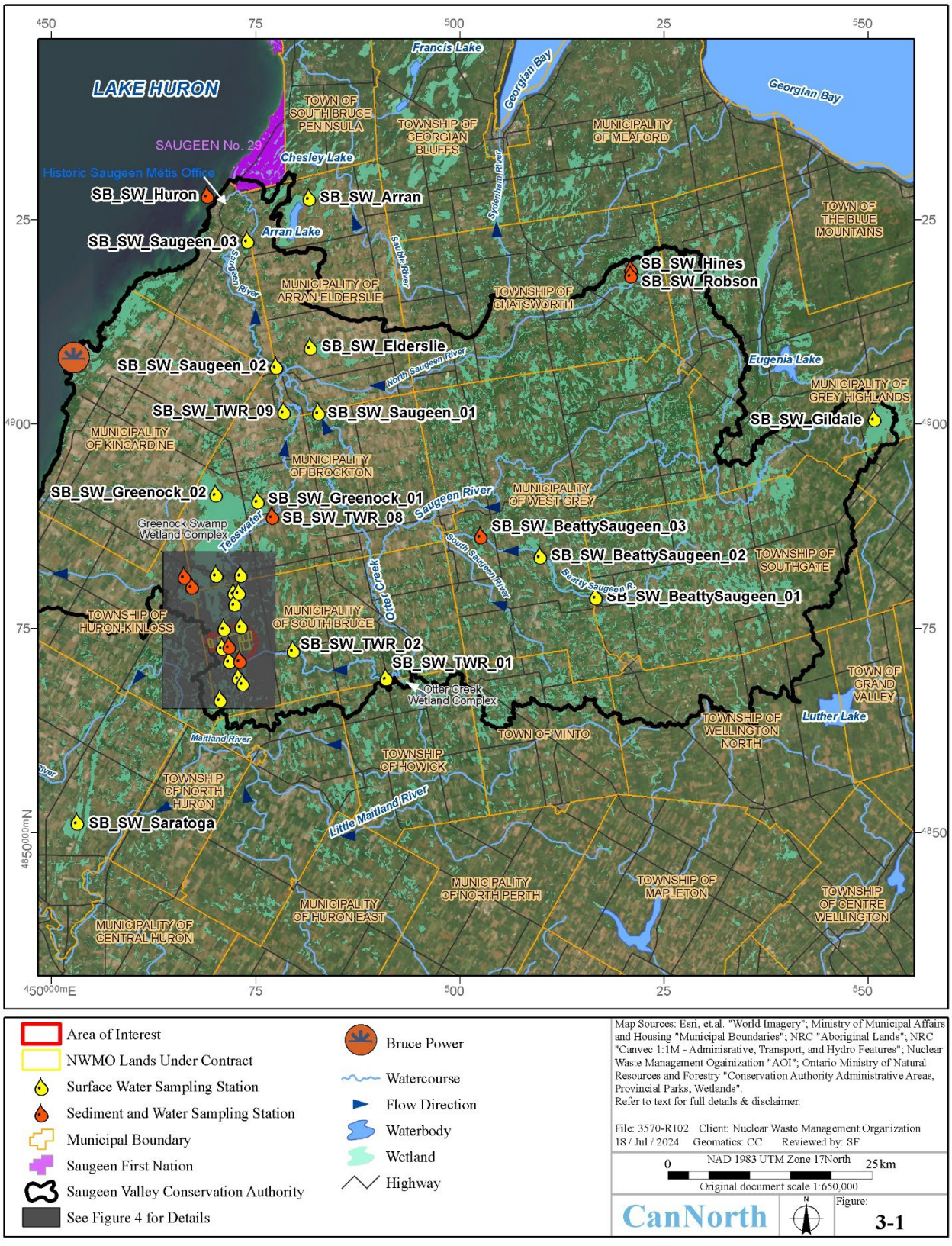


Figure 3-1 Year 2 surface water sampling locations.

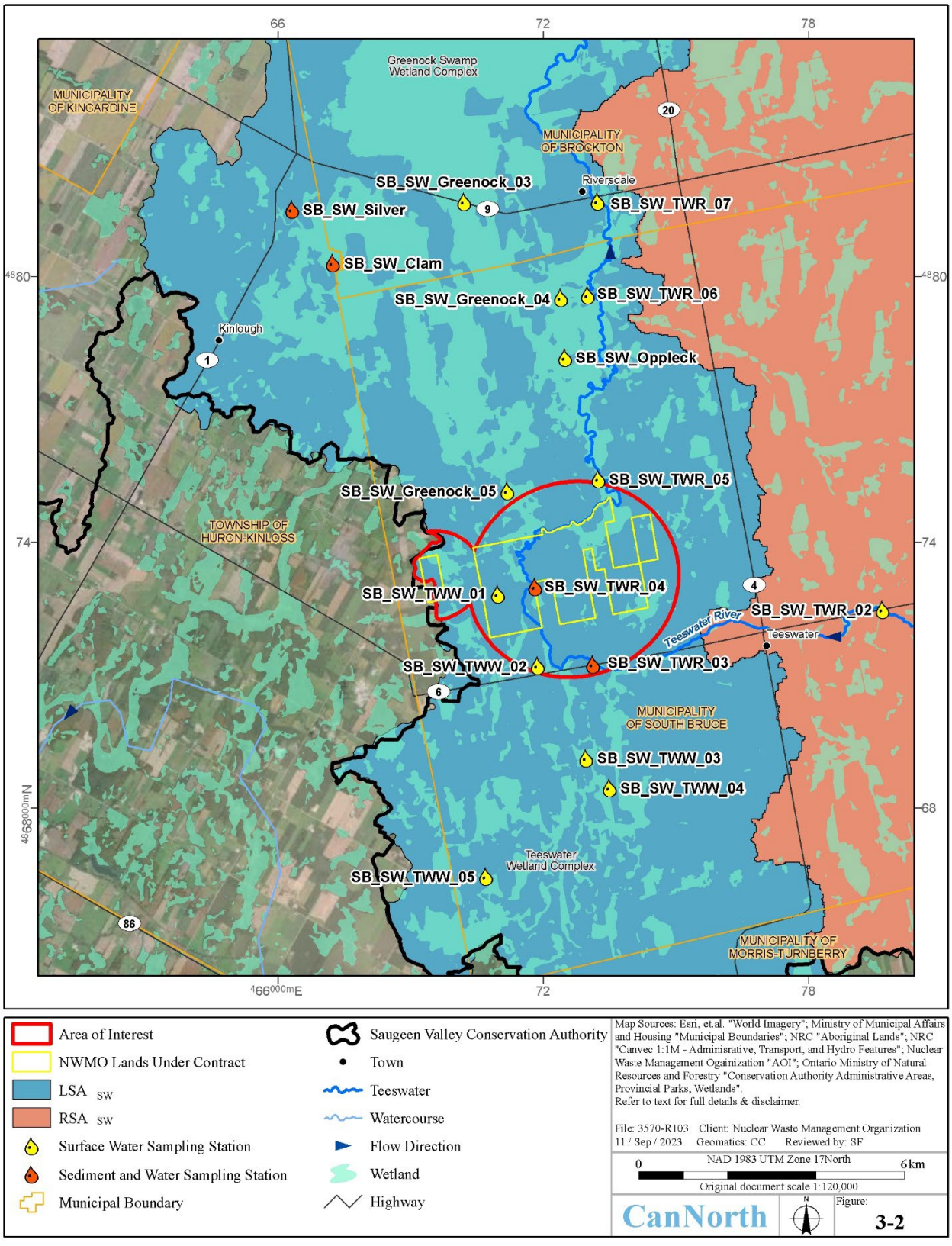


Figure 3-2 Year 2 surface water sampling locations – detailed.

3.2 Limnology and Water Quality

3.2.1 Field Methods

In Year 2, site visits to collect surface water quality samples and *in situ* limnology measurements occurred in the fall (October and November 2022), winter (February and March 2023), and summer (August 2023) seasons. A detailed description of sample collection methods is provided in Appendix A and summarized Table 3-1 and Table 3-2.

Table 3-1
Sample collection method descriptions.

Water Depth	Sample collection details
<1 m	One discrete sample was collected 15 cm below the surface via hand grab
1-2 m	One discrete sample was collected from mid-depth via Van-Dorn sampler
>2 m without a thermocline	One composite sample was collected from near surface, mid-depth, and near bottom via Van-Dorn sampler
>2 m with a thermocline[1]	Two discrete samples were collected: one from 15 cm below the surface in the epilimnion above the thermocline and one from the hypolimnion above the lakebed below the thermocline Van-Dorn sampler

[1] The thermocline was identified as a change in water temperature of ≥ 1°C occurring over ≤ 1 meter change in depth.

Table 3-2
Limnological measurement descriptions.

Water Depth (m)	Limnological measurement collection details
≤ 1	One measurement mid-depth
1 ≤ 2	Measurements every 0.5 m depth interval
>2	Measurements every 1 m depth interval

3.2.2 Laboratory Analysis

An extensive COPC list was measured in the Teeswater River and Beatty Saugeen River sites, including general water chemistry parameters, nutrients, ions, 5 day Biological Oxygen Demand (BOD5), bacteria (*Escherichia coli* (*E. coli*), and total coliforms), total and dissolved metals, organic compounds (PAHs, VOCs, SVOCs, PHCs, dioxins and furans), organochlorine pesticides, and a comprehensive list of radionuclides, including gross-α and gross-β and Tier 1 and Tier 2 radionuclides. To optimize the scope, Tier 2 artificial radionuclides are only being measured at select stations.

At the remaining sampling locations situated in the Saugeen River, lakes, and wetlands, the COPC list was reduced and does not include PAHs, VOCs, SVOCs, PHCs, dioxins and furans, and organochlorine pesticides since these contaminants are either specific to

potential near-field Project impacts, such as fuel spills, or are not directly related to potential Project impacts (CanNorth et al. 2021).

Samples were sent to an ALS Laboratory, a Canadian Association for Laboratory Accreditation (CALA) qualified laboratory. All quality-assurance/quality-control (QA/QC) procedures followed for this medium are available in Appendix A.

3.2.3 Data Analyses

3.2.3.1 Statistical Analyses

To facilitate data interpretation, data were grouped into relevant site categories (Table 3-3). Descriptive statistics were completed using the Year 2 data from all replicates and stations within each category.

Descriptive statistics including the geometric mean, minimum, maximum, median, 5th percentile, 95th percentile, and the geometric standard deviation were calculated for each site category. In addition to these descriptive statistics, units, number of samples (n) and number of samples below the Reportable Detection Limit (RDL) (n<RDL) were reported. To calculate descriptive statistics, values below RDLs were set as equal to the RDL. It is noted that contrary to what was used in the Year 1 baseline report (CanNorth et al. 2023b), the geometric mean and the geometric standard deviation were reported by SVCA (Appendix A). It is recommended for the Year 3 baseline report that the arithmetic means and the arithmetic standard deviations be used instead of the less common geometric ones.

3.2.3.2 Guideline Comparisons

The measured data were compared to Water Quality Guidelines (WQGs) as identified in the EMBP Design Report (CanNorth et al. 2021) and the acceptance criteria developed by NWMO (NWMO 2015, 2019). Guidelines were primarily obtained from the Canadian Council of Ministers of the Environment (CCME 2023), Canadian Federal Environmental Quality Guidelines (FEQG), Ontario Provincial Water Quality Objectives (MOEE 1994), and infilled from other agencies and documents, for example the British Columbia Ministry of Environment and Climate Change Strategy (BC ENV). When multiple WQGs were available for a given parameter, the procedure outlined in Appendix A was followed to determine which one was to be used for comparing the field results. This usually included choosing the most authoritative or the most protective/restrictive of the available WQGs.

The selected WQGs are provided in the results sections. However, WQGs were not available for every COPC.

Table 3-3
Site groupings for Year 2 surface water descriptive statistics.

Site Category	Stations included in the Category	n[1]
Teeswater River Reference	SB_SW_TWR_01	9
	SB_SW_TWR_02	
	SB_SW_TWR_03	
Teeswater River Exposure	SB_SW_TWR_04	18
	SB_SW_TWR_05	
	SB_SW_TWR_06	
	SB_SW_TWR_07	
	SB_SW_TWR_08	
	SB SW TWR 09	
Saugeen River Reference	SB_SW_Saugeen_01	3
Saugeen River Exposure	SB_SW_Saugeen_02	6
	SB_SW_Saugeen_03	
Beatty Saugeen River Reference	SB_SW_BeattySaugeen_01	9
	SB_SW_BeattySaugeen_02	
	SB_SW_BeattySaugeen_03	
Silver Lake Potential Exposure[2]	SB_SW_Silver	3
Clam Lake Potential Exposure[3]	SB_SW_Clam	2
Oppleck Lake Potential Exposure[4]	SB_SW_Oppleck	4
Robson Lake Reference[4]	SB_SW_Robson	4
Hines Lake Reference [5]	SB_SW_Hines	3
Greenock Wetland Exposure[6]	SB_SW_Greenock_01	13
	SB_SW_Greenock_02	
	SB_SW_Greenock_03	
	SB SW Greenock 04	
	SB_SW_Greenock_05	
Teeswater Wetland Exposure[7]	SB_SW_TWW_01	13
	SB_SW_TWW_02	
	SB_SW_TWW_03	
	SB_SW_TWW_04	
	SB_SW_TWW_05	
Aaran Wetland Candidate Reference[6]	SB_SW_Arran	2
Elderslie Wetland Candidate Reference[6]	SB_SW_Elderslie	2
Gildale Wetland Candidate Reference	SB_SW_Gildale	3
Osprey Wetland Candidate Reference	SB_SW_Osprey	3
Saratoga Swamp Candidate Reference	SB_SW_Saratoga	3
Lake Huron Potential Exposure	SB_SW_Huron	3

[1] Spring Year 2 sampling was cancelled to prioritize Year 1 reporting.

[2] Silver Lake was not sampled in the winter of Year 2 due to unsafe ice conditions. A shallow and deep sample were collected at Silver Lake in the summer due to stratification.

[3] Clam Lake was only sampled in the fall of Year 2 due to site access restrictions; a shallow and deep sample were collected due to stratification.

[4] A shallow and deep sample were collected at Oppleck Lake and Robson Lake during the summer due to stratification.

[5] A shallow and deep sample were collected at Hines Lake during the fall and summer due to stratification.

[6] SB_SW_Greenock_02, SB_SW_Greenock_04, SB_SW_Arran, and SB_SW_Elderslie were dry and therefore unsampleable in the summer of Year 2.

[7] SB_SW_TWW_02 was not sampled in the winter or summer of Year 2 due to site access restrictions.

3.2.4 Results

The objective of the surface water quality program was to provide an understanding of existing baseline conditions in the LSA_{SW}, and to provide a baseline for which future conditions can be compared. Detailed limnology and surface water quality results, including summary statistics used to evaluate the data below, are provided in Appendix A. This section provides a summary of the water quality characteristics of the study area.

3.2.4.1 Limnology

Field measured water quality parameters included water clarity (measured as a Secchi depth), turbidity, temperature, dissolved oxygen, specific conductance, Oxidation Reduction Potential (ORP), and pH. Average measurements across all seasons sampled and all depth profiles measurements (classified in Table 3-2) are summarized in Table 3-4, Table 3-5, and Table 3-6 for the river, lake, wetland sampling areas, respectively.

Similar to the results reported in Year 1, water clarity was moderate to low in the lakes within the LSA_{SW}, averaging higher in Robson Lake (3.7 m) as compared to the other lakes (between 0.8 m and 2.5 m Secchi depths). In rivers, turbidity measurements showed a high level of variability in some study areas, especially Oppleck Lake and several of the wetlands.

Average temperatures were comparable between waterbodies, averaging between approximately 6°C and 11°C in the lakes, between 4°C and 7°C in rivers, and between 1°C and 6°C in the wetlands. The apparently low average water temperatures were in some instances a measurement artefact because two of the Greenock wetland sites were dry in the summer which resulted in more cold weather measurements being included in the averaging than warm weather measurements.

Average dissolved oxygen concentrations remained above the lower guideline for the protection of freshwater aquatic life (6.5 mg/L) in all river sampling areas. Average levels fell below the 6.5 mg/L guideline in Silver, Clam, Oppleck, and Hines Lake as well as all wetland sampling areas.

Specific conductance was relatively similar across the rivers within the LSA_{SW}, varying more across the lake and wetland areas. Average levels ranged between approximately 300 µS/cm and 600 µS/cm and were generally comparable to those measured during the Year 1 program.

Table 3-4
Average *in situ* water quality measurements from lakes within the LSAsw during the Year 2 baseline.

Parameters	Silver		Clam		Oppleck		Robson		Hines		Huron	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Station Depth (m)	15.4	*0.85*	13.0	*4.3*	4.4	0.03	*6.6*	0.32	13.5	*0.50*	0.45	*0.27*
Secchi Depth (m)	2.2	*0.25*	2.5	*0*	2.5	0	*3.7*	1.1	0.81	*1.3*	-	-
Temperature (°C)	10.9	*6.2*	8.3	*1.4*	6.5	8.0	*5.6*	8.4	7.1	*6.5*	7.3	*10.9*
Dissolved Oxygen (mg/L)	3.8	*3.9*	3.0	*3.7*	4.6	15	*10*	2.2	2.3	*4.7*	11	*1.9*
Dissolved Oxygen (%)	35	*42*	25	*32*	9.7	7.9	*89*	25	19	*48*	100	*7.5*
Specific Conductance (µS/cm)	361	*37*	436	*61*	282	39	*490*	50	433	*102*	533	*70*
pH	8.03	*0.50*	7.44	*0.25*	7.65	0.18	*8.16*	0.25	7.81	*0.49*	8.43	*0.14*
ORP (mV)	67.3	*34.3*	-47.9	*13.7*	-21.5	43.1	*71.3*	27.6	34.7	*84.2*	99.1	*51.5*
Turbidity (NTU [Nephelometric Turbidity Units])	1.33	*2.12*	1.56	*0.12*	3.15	15	*0.12*	0.66	1.06	*1.76*	6.32	*7.95*

Table 3-5
Average *in situ* water quality measurements from rivers within the LSAsw during the Year 2 baseline.

Parameters	Teeswater Reference		Teeswater Exposure		Saugeen Reference		Saugeen Exposure		Beatty Saugeen Reference	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Station Depth (m)	0.26	*0.11*	1.03	*0.67*	1.96	*0.57*	0.95	*0.74*	0.57	*0.42*
Temperature (°C)	6.7	*8.0*	5.5	*7.3*	4.7	*4.7*	7.1	*8.9*	4.6	*7.1*
Dissolved Oxygen (mg/L)	12	*1.9*	11	*1.8*	12	*1.1*	11	*2.2*	12	*1.6*
Dissolved Oxygen (%)	81	*40*	93	*7.8*	98	*3.5*	100	*9.1*	100	*6.4*
Specific Conductance (µS/cm)	479	*186*	631	*89*	604	*163*	541	*109*	606	*57*
pH	8.27	*0.25*	8.18	*0.18*	8.41	*0.08*	8.21	*0.20*	8.47	*0.10*
ORP (mV)	76.2	*20.2*	64.0	*32.7*	105.3	*19.2*	61.6	*66.0*	83.7	*17.4*
Turbidity (NTU)	1.25	*7.17*	1.55	*1.33*	5.28	*8.39*	7.97	*10.03*	0.02	*0.92*

Table 3-6
Average *in situ* water quality measurements from wetlands within the LSAsw during the Year 2 baseline.

Parameters	Greenock		Teeswater		Arran		Elderslie		Gildale		Osprey		Saratoga	
	Mean	**SD**	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**
Station Depth (m)	0.19	*0.07*	0.27	*0.09*	0.26	*0.11*	0.17	*0.14*	0.14	*0.14*	0.07	*0.09*	0.24	*0.14*
Temperature (°C)	1.3	*6.5*	5.0	*6.9*	4.3	*6.1*	5.1	*7.3*	5.8	*8.0*	6.5	*8.0*	4.8	*8.6*
Dissolved Oxygen (mg/L)	2.6	*2.2*	6.4	*4.0*	2.2	*0.75*	2.9	*4.0*	2.0	*4.4*	4.6	*14.5*	0.9	*0.5*
Dissolved Oxygen (%)	22	*16*	54	*30*	17	*8.5*	23	*27*	23	*37*	9.7	*7.9*	7.6	*4.9*
Specific Conductance (µS/cm)	618	*512*	450	*214*	443	*205*	371	*404*	445	*57*	282	*39*	296	*116*
pH	7.32	*0.28*	7.71	*0.29*	7.32	*0.31*	6.42	*1.61*	7.61	*0.32*	7.65	*0.18*	7.17	*0.31*
ORP (mV)	9.1	*76.7*	40.0	*50.0*	37.9	*25.0*	-33.2	*23.3*	3.1	*90.2*	-21.5	*43.1*	-11.0	*77.2*
Turbidity (NTU)	2.27	*3.05*	5.96	*14.01*	1.42	*3.37*	14.61	*48.16*	3.74	*12.41*	3.15	*14.75*	14.62	*14.67*

Similar to Year 1, field measured pH in the LSA_{SW} was slightly alkaline in the river and lake sampling areas, with average levels ranging from 7.4 to 8.47. Near neutral to slightly acidic pH values were recorded in the wetland areas, with average pH ranging from 6.42 to 7.65. Average values fell within the WQG range of 6.5 to 9.0 for all areas except the Elderslie wetland where it was 6.42.

3.2.4.2 General Chemistry, Nutrients, and Bacteriological Tests

Of the 37 parameters analysed to characterize the general chemistry of the LSA_{SW}, 14 have available WQGs (Table 3-7). Six of the fourteen parameters with available guidelines exceeded their WQGs as shown in box plots (Figure 3-3 to Figure 3-8). A boxplot illustrates the data through a box, whiskers, and data points. The box contains most of the data (25^{th}-75^{th} percentiles) with a line representing the median. The whiskers represent the data which falls outside of the 25^{th}-75^{th} percentiles. Data points beyond the whiskers can be considered possible outliers.

Table 3-7
Water quality guidelines for general chemistry and nutrient analytes.

COPC	Units	Water Quality Guideline	
		Value	Source[2]
Anions, Bacteriological Tests, Nutrients, and Physical Properties			
Alkalinity, Total (as $CaCO_3$)[1]	mg/L	20	BC ENV
Ammonia, Total (as N)	mg/L	0.259	CCME
Chloride (Cl)	mg/L	120	CCME
Conductivity	µS/cm	700	BC ENV
Cyanide, Total	mg/L	0.005	MECP
E. coli	CFU/100 ml	100	MECP
Fluoride (F)	mg/L	0.12	CCME
Nitrate (as N)	mg/L	3	CCME
Nitrite (as N)	mg/L	0.02	CCME
pH	pH units	6.5 - 9	CCME
Phosphorus, Total	mg/L	0.01	MECP
Sulphate (SO_4)	mg/L	306	BC ENV
Total Dissolved Solids	mg/L	500	Health Canada
Turbidity	NTU	50	Health Canada

[1] Alkalinity is a minimum value.
[2] BC ENV (2023); CCME (2023); Health Canada (2023); MECP (MOEE 1994)

Exceedances in the river sampling areas included some ammonia (as N), *E. coli*, fluoride, and phosphorus measures in the Beatty Saugeen, the Saugeen, and the Teeswater rivers. In the lake sampling areas, some fluoride measures exceeded the WQG in Clam, Oppleck, and Silver lakes. Additionally, some of the ammonia (as N) and phosphorus measures

exceeded their WQG in all lakes. More parameters exceeded guidelines in the wetland areas, although that may be habitat related. WQGs were developed for lakes and rivers and therefore may not accurately represent the expected water quality of wetland habitats. Both ammonia (as N) and total phosphorus commonly exceeded their WQGs in these wetlands, while *E. coli*, chloride, fluoride, and turbidity exceeded their WQGs in only a few of these areas. There is one data point for ammonia, collected in Oppleck Lake in the summer sample, which is much higher than expected (reported as 132 mg/L). This is likely an anomalous value and following additional data collection to confirm ammonia levels are not present at this concentration, this record may be removed from the dataset.

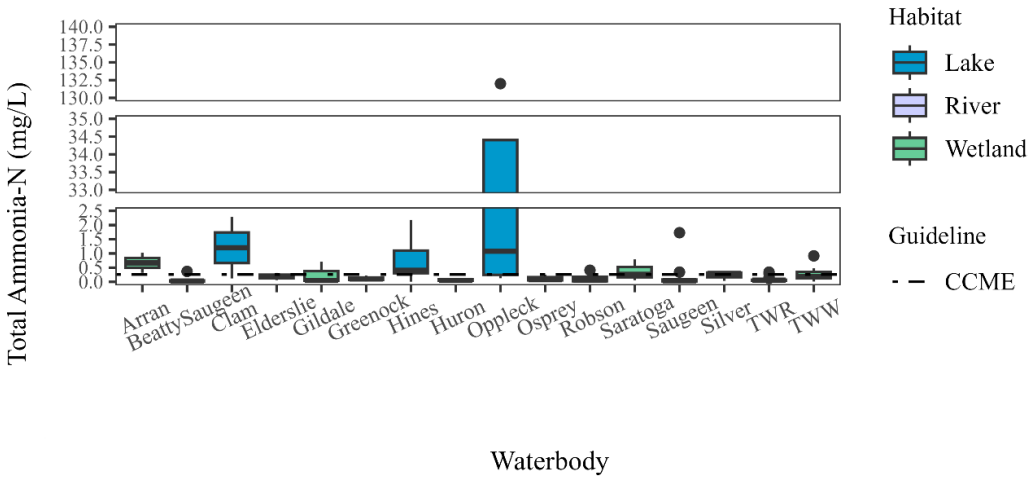


Figure 3-3 Total ammonia (as N) levels in water during the Year 2 baseline assessment of LSAsw.

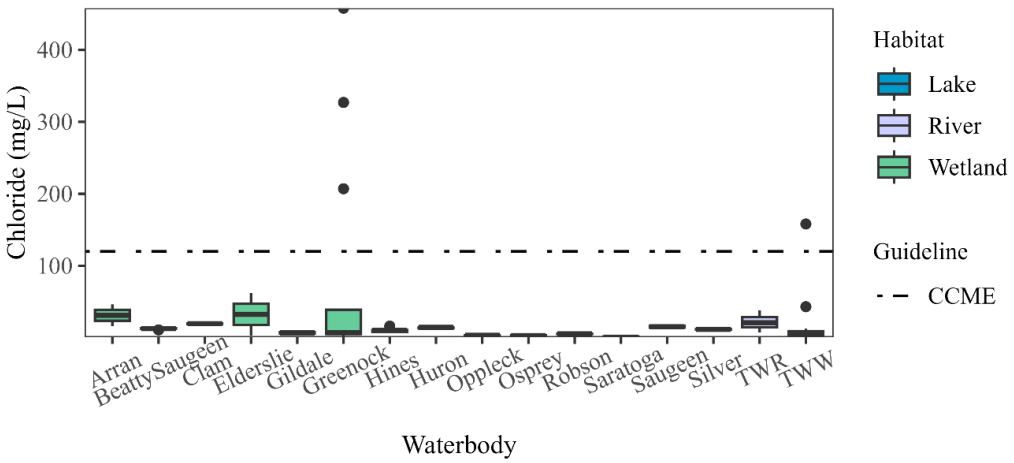


Figure 3-4 Chloride levels in water during the Year 2 baseline assessment of LSAsw.

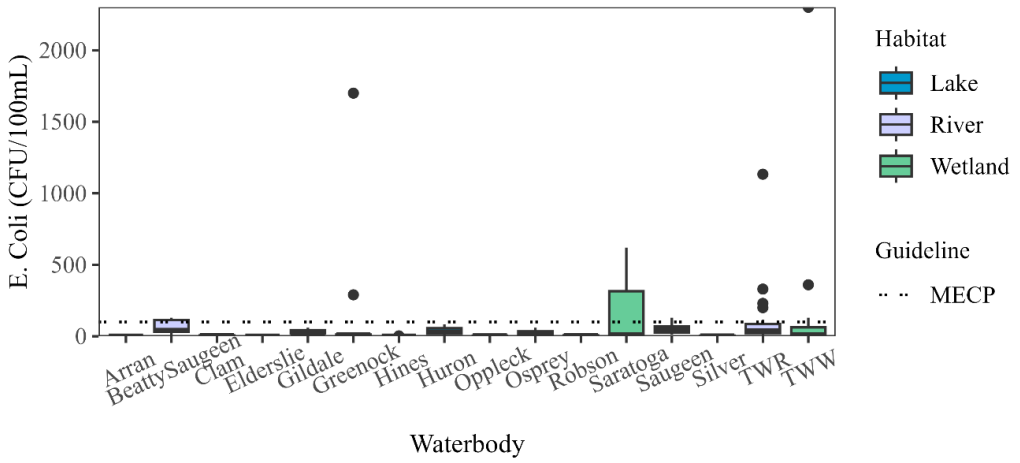


Figure 3-5 *E. coli* levels in water during the Year 2 baseline assessment of LSAsw.

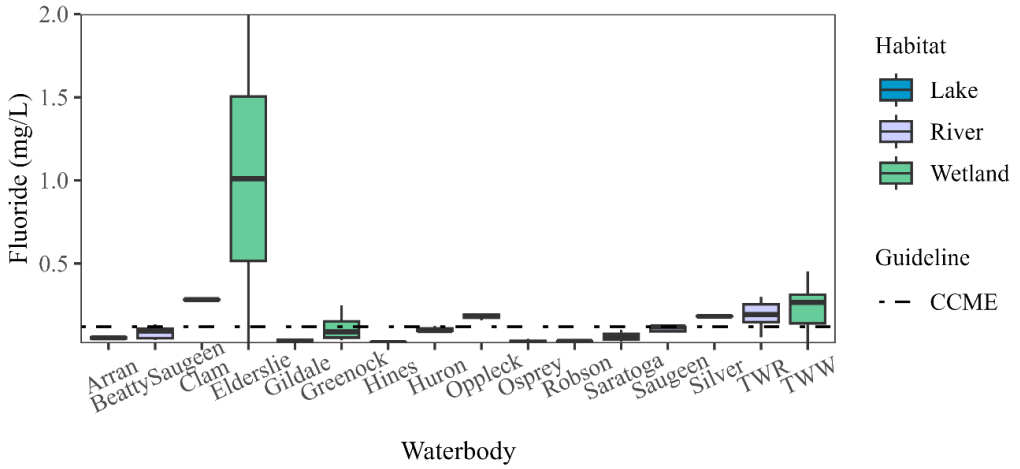


Figure 3-6 Fluoride levels in water during the Year 2 baseline assessment of LSAsw.

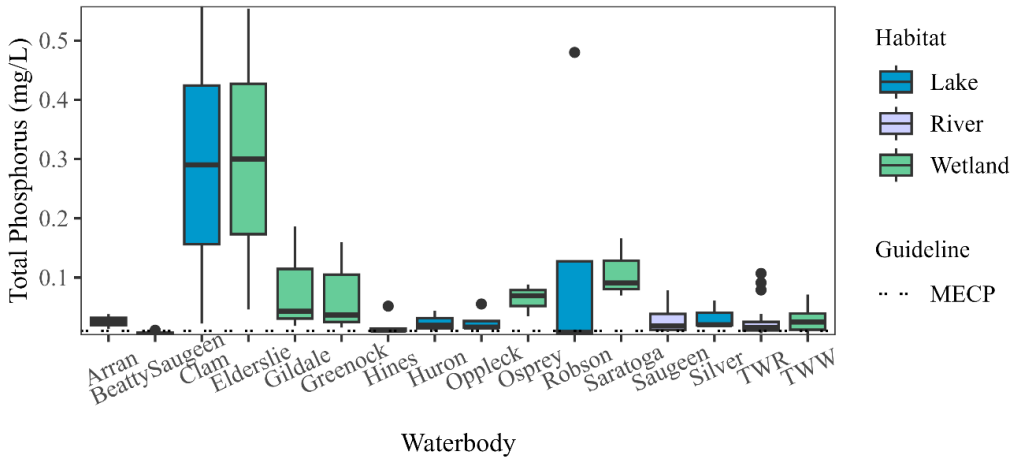


Figure 3-7 Total phosphorus levels in water during the Year 2 baseline assessment of LSAsw.

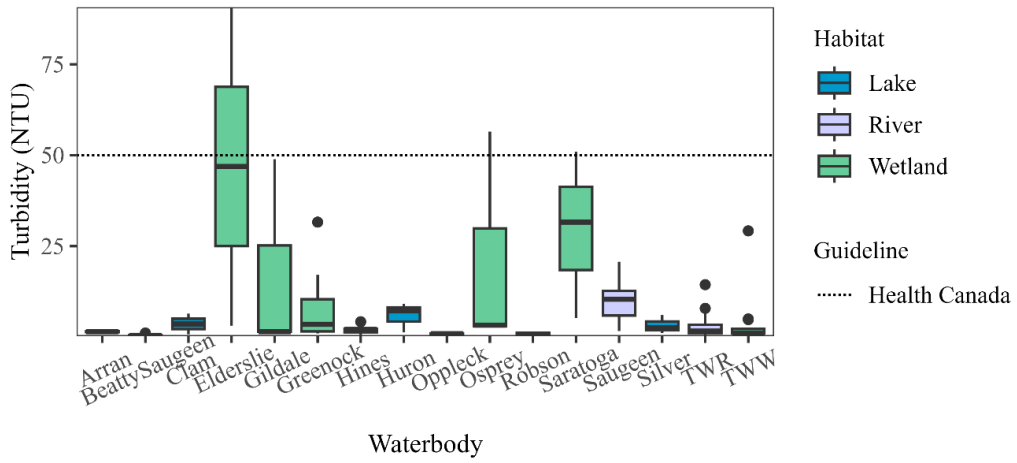


Figure 3-8 Turbidity levels in water during the Year 2 baseline assessment of LSAsw.

3.2.4.3 Metals and Trace Elements

Baseline concentrations of total and dissolved metals and trace elements were low and similar between waterbodies in the LSAsw. Of the 77 total and dissolved metals assessed in the water chemistry samples (Appendix A), 43 have available WQGs (Table 3-8). Few of these parameters exceeded guidelines in the LSA_{SW}. Exceptions included total aluminum, total cobalt, total iron, total and dissolved manganese, total mercury, and total zirconium, though these were mostly occasional exceedances (Figure 3-9).

In the river study areas, only total manganese exceeded its WQG while in the lake study areas, dissolved manganese and total manganese occasionally exceeded guidelines in Silver, Clam, and Hines lakes. Additionally, one total zirconium measure exceeded its WQG in Lake Huron. WQGs were more often exceeded in the wetland study areas; this included total aluminum, total cobalt, total iron, total and dissolved manganese, and total mercury exceedances in at least one wetland. The Elderslie and Gildale wetlands had three to five of these exceeding the guidelines, while in the Greenock, Osprey, and Saratoga wetlands, only one or two of these exceeded their WQGs.

Metals and trace elements are naturally occurring in the environment and elevated levels of manganese in the area may be more an indication that these are naturally elevated in the area, rather than a result of human caused disturbance.

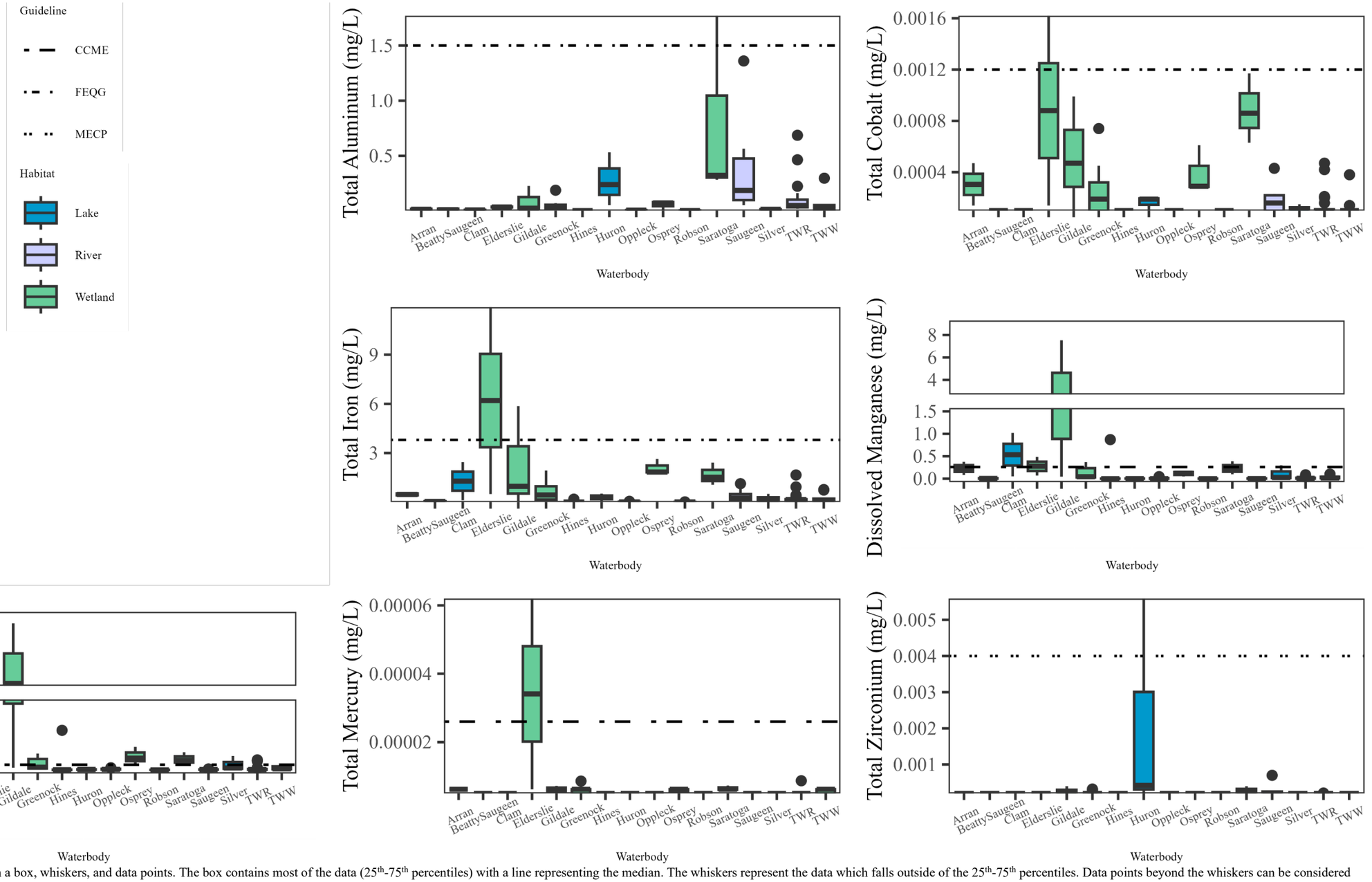
Table 3-8
Water quality guidelines associated with metals and trace elements.

COPC	Units	Water Quality Guideline	
		Value	Source[1]
Total Metals and Trace Elements			
Aluminum (Al)	mg/L	1.5	FEQG
Antimony (Sb)	mg/L	0.006	Health Canada
Arsenic (As)	mg/L	0.005	CCME
Barium (Ba)	mg/L	1	BC ENV
Beryllium (Be)	mg/L	1.1	MECP
Bismuth (Bi)	mg/L	17.5	ECHA PNEC[2,3]
Boron (B)	mg/L	1.5	CCME
Cadmium (Cd)	mg/L	0.000206	CCME
Calcium (Ca)	mg/L	1000	CCME
Chromium III (Cr3+)	mg/L	0.0089	CCME
Chromium VI (Cr6+)	mg/L	0.005	FEQG
Cobalt (Co)	mg/L	0.0012	FEQG
Copper (Cu)	mg/L	0.0031	CCME
Iron (Fe)	mg/L	3.8	FEQG
Lead (Pb)	mg/L	0.00477	CCME
Lithium (Li)	mg/L	2.5	NWMO
Magnesium (Mg)	mg/L	82	NWMO
Manganese (Mn)	mg/L	0.12	CCME
Mercury (Hg)	mg/L	0.000026	CCME
Molybdenum (Mo)	mg/L	0.073	CCME
Nickel (Ni)	mg/L	0.1217	CCME
Potassium (K)	mg/L	53	NWMO
Rhodium (Rh)	mg/L	0.01	NWMO
Ruthenium (Ru)	mg/L	0.01	NWMO
Samarium (Sm)	mg/L	0.0082	NWMO
Selenium (Se)	mg/L	0.001	CCME
Silver (Ag)	mg/L	0.00025	CCME
Sodium (Na)	mg/L	680	Suter and Tsao
Strontium (Sr)	mg/L	7	BC ENV
Tellurium (Te)	mg/L	0.0058	NWMO
Thallium (Tl)	mg/L	0.0008	CCME
Tin (Sn)	mg/L	0.073	Suter and Tsao
Titanium (Ti)	mg/L	0.076	ECHA PNEC
Tungsten (W)	mg/L	0.03	MECP
Uranium (U)	mg/L	0.015	CCME
Vanadium (V)	mg/L	0.12	FEQG
Zinc (Zn)	mg/L	0.02	MECP
Zirconium (Zr)	mg/L	0.004	MECP
Dissolved Metals and Trace Elements			
Copper (Cu)	mg/L	0.00611	FEQG
Lead (Pb)	mg/L	0.012	FEQG
Manganese (Mn)	mg/L	0.26	CCME
Strontium (Sr)	mg/L	2.5	FEQG
Zinc (Zn)	mg/L	0.031	CCME

[1] BC ENV (2023); CCME (2023); ECHA PNEC (ECHA 2023); FEQG (EC 2017; ECCC 2016, 2018, 2019, 2020a, 2020b, 2021, 2022); Health Canada (2023); MECP (MOEE 1994); NWMO (2015, 2019); Suter and Tsao (1996)

[2] European Chemicals Agency

[3] Probable No Effects Concentration



A boxplot illustrates the data through a box, whiskers, and data points. The box contains most of the data (25th-75th percentiles) with a line representing the median. The whiskers represent the data which falls outside of the 25th-75th percentiles. Data points beyond the whiskers can be considered possible outliers. Individual data points are shown as points on the figure when outside the range.

Figure 3-9 Metal and trace element levels that exceeded guidelines in water during the Year 2 baseline assessment of LSA$_{SW}$.

3.2.4.4 Organic Compounds

One hundred and thirteen organic compounds were monitored in water samples from the Teeswater River and the Beatty Saugeen River. Those are addressed below in four separate subcategories.

Dioxins and Furans

A total of 25 dioxin and furan compounds were assessed in the Teeswater and Beatty Saugeen rivers. No guidelines exist for these compounds; therefore, levels were assessed for differences between potential future exposure and reference areas. Overall, values were usually near or below their RDLs and mean[3] levels in the Teeswater River exposure locations always fell below the 95th percentiles of values measured in the upstream Teeswater River reference area and the Beatty Saugeen River reference area.

PHCs, PAHs, and PCBs

A total of 5 PHCs, 5 PCBs, and 19 PAHs were assessed in the Teeswater and Beatty Saugeen rivers, of which 16 have available WQGs (Table 3-9).

Except phenanthrene, F3 (C16-C34), and total hydrocarbons (C6-C50) that were marginally higher than their RDLs in one or both of the Teeswater River areas, all other values were below the RDLs. Some values may appear to exceed their WQGs, those occurred when the RDL was higher than (or equal to) the available WQG. To more accurately determine if levels exceed guidelines, lower RDLs would need to be achieved for some of these COPC.

Table 3-9
Water quality guidelines associated with petroleum hydrocarbons, PAHs, and PCBs.

COPC	Units	Water Quality Guideline	
		Value	Source[1]
Petroleum Hydrocarbons			
F1 (C6-C10)	µg/L	150	Alberta
F2 (C10-C16)	µg/L	110	Alberta
Polycyclic Aromatic Hydrocarbon (PAHs)			
1-Methylnaphthalene	µg/L	526	Suter and Tsao
Acenaphthene	µg/L	5.8	CCME
Anthracene	µg/L	0.012	CCME
Benzo(a)anthracene	µg/L	0.018	CCME
Benzo(a)pyrene	µg/L	0.015	CCME
Fluoranthene	µg/L	0.04	CCME

[3] Geometric mean.

COPC	Units	Water Quality Guideline	
		Value	Source[1]
Fluorene	µg/L	3	CCME
Naphthalene	µg/L	1.1	CCME
Phenanthrene	µg/L	0.4	CCME
Pyrene	µg/L	0.025	CCME
Polychlorinated Biphenyls (PCBs)			
Aroclor 1242	µg/L	0.001	MECP
Aroclor 1248	µg/L	0.001	MECP
Aroclor 1254	µg/L	0.001	MECP
Aroclor 1260	µg/L	0.001	MECP
Total PCBs	µg/L	0.001	MECP

[1] Alberta (GA 2018); CCME (2023); MECP (MOEE 1994); Suter and Tsao (1996)

Semi-Volatile Organic Compounds

SVOCs are a class of chemicals that can be found in pesticides, cleaning agents, personal care products, and additives to flooring, furniture, clothing, cookware, food packaging, and electronics. A total of 19 SVOCs were assessed in the Teeswater and Beatty Saugeen rivers of which 18 have available WQGs (Table 3-10).

Except one phenol value in the Beatty Saugeen River, all measures were below their respective RDLs. Similar to the PAHs and PCBs, some exceedances over the WQGs occur due to the RDLs being higher than (or equal to) the WQG. Lower RDLs would need to be achieved for some of these COPC, including biphenyl, 2,4-dichlorophenol pentachlorophenol.

Table 3-10
Water quality guidelines associated with SVOCs.

COPC	Units	Water Quality Guideline	
		Value	Source[1]
Semi-Volatile Organic Compounds (SVOCs)			
1,2,4-Trichlorobenzene	µg/L	0.5	MECP
2,4,5-Trichlorophenol	µg/L	18	CCME
2,4,6-Trichlorophenol	µg/L	5	Health Canada
2,4+2,6-Dinitrotoluene	µg/L	10	MECP
2,4-Dichlorophenol	µg/L	0.2	MECP
2,4-Dimethylphenol	µg/L	10	MECP
2,4-Dinitrophenol	µg/L	6.2	Suter and Tsao
2,4-Dinitrotoluene	µg/L	4	MECP
2,6-Dinitrotoluene	µg/L	6	MECP
2-Chlorophenol	µg/L	7	MECP
3,3-Dichlorobenzidine	µg/L	0.6	MECP
Biphenyl	µg/L	0.2	MECP
Bis(2-chloroethyl)ether	µg/L	200	MECP
Bis(2-ethylhexyl)phthalate	µg/L	3	Suter and Tsao

COPC	Units	Water Quality Guideline	
		Value	Source[1]
Diethylphthalate	µg/L	210	Suter and Tsao
Dimethylphthalate	µg/L	330	Suter and Tsao
Pentachlorophenol	µg/L	0.5	MECP
Phenol	µg/L	4	CCME

[1] CCME (2023); Health Canada (2023); MECP (MOEE 1994); Suter and Tsao (1996)

Volatile Organic Compounds

Similar to SVOCs, VOCs are a class of chemicals that are mostly human made. They can be solvents such as tetrachloroethylene, fuel oxygenates such as methyl tert-butyl ether (MTBE), or by products of water treatment such as chloroform. A total of 40 VOCs were assessed in the Teeswater and Beatty Saugeen rivers (Appendix A), of which 36 have available WQGs (Table 3-11).

For all three river areas, all measured VOC concentrations were below the RDLs. Lower RDLs would need to be achieved for some of these COPC given how close the RDL is to the guideline. This includes 1,2-dichlorobenzene, 1,2-dichloropropane, 1,3-dichloropropene (cis & trans), bromomethane, n-hexane, and toluene.

Table 3-11
Water quality guidelines associated with VOCs.

COPC	Units	Water Quality Guideline	
		Value	Source[1]
Volatile Organic Compounds (VOCs)			
1,1,1,2-Tetrachloroethane	µg/L	20	MECP
1,1,1-Trichloroethane	µg/L	10	MECP
1,1,2,2-Tetrachloroethane	µg/L	70	MECP
1,1,2-Trichloroethane	µg/L	800	MECP
1,1-Dichloroethane	µg/L	200	MECP
1,1-Dichloroethylene	µg/L	14	Health Canada
1,2-Dibromoethane	µg/L	5	MECP
1,2-Dichlorobenzene	µg/L	0.7	CCME
1,2-Dichloroethane	µg/L	5	Health Canada
1,2-Dichloropropane	µg/L	0.7	MECP
1,3-Dichlorobenzene	µg/L	2.5	MECP
1,3-Dichloropropene (cis & trans)	µg/L	0.2	CCME
1,4-Dichlorobenzene	µg/L	4	MECP
Acetone	µg/L	1500	Suter and Tsao
Benzene	µg/L	5	Health Canada
Bromodichloromethane	µg/L	200	MECP
Bromoform	µg/L	60	MECP
Bromomethane	µg/L	0.9	MECP
Carbon tetrachloride	µg/L	2	Health Canada
Chlorobenzene	µg/L	1.3	CCME
Chloroform	µg/L	1.8	CCME
cis-1,2-Dichloroethylene	µg/L	200	MECP

COPC	Units	Water Quality Guideline	
		Value	Source[1]
Dibromochloromethane	µg/L	40	MECP
Ethylbenzene	µg/L	8	MECP
Methyl Ethyl Ketone	µg/L	400	MECP
Methylene Chloride	µg/L	50	Health Canada
MTBE	µg/L	200	MECP
n-Hexane	µg/L	0.58	Suter and Tsao
Styrene	µg/L	4	MECP
Tetrachloroethylene	µg/L	10	Health Canada
Toluene	µg/L	0.8	MECP
trans-1,2-Dichloroethylene	µg/L	200	MECP
trans-1,3-Dichloropropene	µg/L	7	MECP
Trichloroethylene	µg/L	5	Health Canada
Vinyl chloride	µg/L	2	Health Canada
Xylenes (Total)	µg/L	30	BC ENV

[1] BC ENV (2023); CCME (2023); Health Canada (2023); MECP (MOEE 1994); Suter and Tsao (1996)

3.2.4.5 Organochlorine Pesticides

A total of 14 organochlorine pesticides were assessed in the Teeswater and Beatty Saugeen rivers (Appendix A), of which 12 have available WQGs (Table 3-12).

All values were below the laboratory RDLs, though most of the RDLs were higher than the available WQGs. Lower RDLs would need to be achieved for all parameters with available WQGs except methoxychlor and DDT (total).

Table 3-12
Water quality guidelines associated with organochlorine pesticides.

COPC	Units	Water Quality Guideline	
		Value	Source[1]
Organochlorine Pesticides			
Aldrin	µg/L	0.001	MECP
Chlordane (Total)	µg/L	0.006	MECP
Dieldrin	µg/L	0.001	MECP
Endosulfan (Total)	µg/L	0.003	MECP
Endrin	µg/L	0.002	MECP
Heptachlor	µg/L	0.001	MECP
Heptachlor Epoxide	µg/L	0.001	MECP
Hexachlorobenzene	µg/L	0.0065	MECP
Hexachlorobutadiene	µg/L	0.009	MECP
Hexachloroethane	µg/L	1	MECP
Methoxychlor	µg/L	0.04	MECP
Total DDT	µg/L	0.013	Suter and Tsao

[1] MECP (MOEE 1994); Suter and Tsao (1996); US EPA (2023)

3.2.4.6 Radionuclides

A total of 22 naturally occurring and artificial radionuclides were assessed in the water chemistry samples from the LSA_{SW} (Appendix A) of which 16 have available WQGs (Table 3-13).

No radionuclides exceeded their WQGs. It is noted that some radionuclides including Pu-240, Pu-241, and Cm-244 were not measured.

Table 3-13
Water quality guidelines associated with radionuclides.

COPC	Units	Water Quality Guideline	
		Value	Source[1]
Radionuclides			
C-14	Bq/L	200	Health Canada
Co-60	Bq/L	40	Health Canada
Cs-137	Bq/L	10	Health Canada
H-3 (Tritium)	Bq/L	7000	MECP
I-129	Bq/L	1	Health Canada
Pu-238	Bq/L	0.6	Health Canada
Pu-239	Bq/L	0.6	Health Canada
Ra-226	Bq/L	0.5	Health Canada
Ru-106	Bq/L	20	Health Canada
Sr-90	Bq/L	5	Health Canada
Th-228	Bq/L	2	Health Canada
Th-230	Bq/L	0.6	Health Canada
Th-232	Bq/L	0.6	Health Canada
U-234	Bq/L	3	Health Canada
U-235	Bq/L	3	Health Canada
U-238	Bq/L	3	Health Canada

[1] Health Canada (2023); MECP (MOEE 1994)

3.3 Plankton

Plankton are microscopic organisms (generally <1 mm) that live suspended in the water column of fresh and saltwater ecosystems. Phytoplankton are photosynthetic and include often unicellular plants, algae, bacteria, as well as other similar groups that perform photosynthesis. Zooplankton are small animals that mainly feed on phytoplankton, and they usually belong to groups such as rotifers and crustaceans. Understanding phytoplankton community metrics can support water quality and ecological assessments by providing insights into the primary productivity and trophic status of lakes. Understanding zooplankton community metrics can support both the water quality and

ecological assessment by providing insight to the quality of the food chain and the energy flow through the system.

3.3.1 Field Methods

Three replicate phytoplankton samples were collected from Silver Lake, Clam Lake, Hines Lake, and Robson Lake in the fall of 2022 and summer of 2023. Samples were collected in the daytime from the euphotic zone as described in Appendix A. Each sample was a composite of three vertical tube hauls. Phytoplankton samples were preserved using a 1% Lugol's solution and samples were stored in the dark at temperatures above 4ºC until delivery to the taxonomist.

Three replicate zooplankton samples were collected from Silver Lake, Clam Lake, Hines Lake, and Robson Lake in the fall of 2022 and summer of 2023. Samples were collected in the daytime from the euphotic zone as described in Appendix A. Zooplankton samples were preserved using 95% ethanol and samples were stored in a secure, dark area at approximately 4ºC until delivery to the taxonomist.

3.3.2 Laboratory Analyses

As described in Appendix A, phytoplankton analyses were completed by a taxonomist at ALS Laboratories. Plankton were identified using a microscope to the species level where possible. Plankton were also enumerated, and an average biovolume[4] and total biovolume for each taxon was computed by the laboratory (the results are not available in Appendix A at the time of reporting).All QA/QC procedures followed for this medium are available in Appendix A.

3.3.3 Data Analyses

Seasonally, the following phytoplankton and zooplankton community metrics were calculated for each sampled lake:

- Taxon richness;
- Taxon composition;
- Evenness; and
- Simpson's diversity.

[4] Biovolume is the volume of planktonic cells of each taxon, which serves as a surrogate for biomass.

Taxon richness considers how many different taxa of organisms are represented in a sample. Taxon composition considers how much of the community is represented by an individual taxon. Taxon composition was calculated by dividing the number of organisms in a single taxon by the total number of organisms in the entire sample.

Evenness considers how common or rare a taxon of organisms is within a sample. Evenness was calculated by determining the relative diversity over the total number of taxa in each sample, where relative diversity is the sum of the proportions of each taxon in the sample (EC 2012). A sample composed of primarily one taxon will have low evenness, while a sample where each taxon's presence is equally abundant will have high evenness. Evenness can range from zero to one where the greater the value, the more even the distribution of the population.

Simpson's diversity considers both the richness and the evenness of distribution of individuals among taxa in a sample (EC 2012). For each taxon, this index was calculated by determining the proportion of individuals that contribute to the community total in the sample. The value of the Simpson's diversity ranges between zero and one where the greater the value, the greater the community diversity.

Taxon richness, evenness, diversity, and taxon composition were computed at the genus level, while community composition was computed at higher taxonomic levels for ease of pie chart interpretation. Community composition was calculated by dividing the number of organisms at higher taxonomic levels by the total number of organisms in the entire sample. Summary of taxon richness, evenness, and diversity, as well as the community composition results are the averages of the three replicates collected at each site per season. Results were also compared against the Ontario Natural Heritage Information Centre (NHIC) species lists for exotic and provincially tracked species.

3.3.4 Results

3.3.4.1 Phytoplankton

Phytoplankton community metrics are summarized by season in Table 3-14 and community compositions are shown in Figure 3-10, and detailed in Appendix A. Phytoplankton densities ranged between approximately half a million organisms/L to 11 million organisms/L, with summer densities being higher than those in the fall and densities being higher in Hines Lake than in the other three lakes (Table 3-14). Taxon richness ranged between 10 and 26 taxa per area, with higher richness in the summer and higher

overall richness in Silver Lake than in the other three lakes. Diversity was low to moderate, ranging between 0.12 and 0.44, depending on seasons and lakes. Evenness was moderate to moderately high, ranging between 0.36 and 0.79. The two lakes close to the AOI (Silver Lake and Clam Lake) displayed lower phytoplankton diversity and higher evenness than the two potential reference lakes (Hines Lake and Robson Lake).

Phytoplankton community composition varied between seasons and between lakes (Figure 3-10). Golden-Brown algae (Chrysophyceae) were dominant in Hines Lake and in Robson Lake, but less abundant in Silver Lake and Clam Lake. Cyanophycea and Cryptophycea were the two dominant groups in Silver and Clam lakes, together accounting for roughly 60% to 70% of the community composition.

Some cyanotoxins originating from select species of cyanobacteria have been implicated in adverse health reactions. Health Canada has developed a guideline value where total cyanobacteria counts are used as an indicator of the potential presence of cyanotoxins. For primary contact recreation, total cyanobacteria counts should not exceed 50,000 cells/mL (Health Canada 2022). None of the samples exceeded this guideline value.

Table 3-14
Summary of the phytoplankton results at each lake.

Season	Density (organisms/L)[1]	Taxon Richness	Simpson's Diversity[1]	Evenness[1]	Dominant Class[2]	Subdominant Class[2]
Silver Lake						
Fall	1,859,333	20	0.12	0.79	Cyanophyceae	Chlorophyceae
Summer	6,128,000	26	0.15	0.66	Cyanophyceae	Chlorophyceae
Clam Lake[3]						
Fall	760,667	16	0.18	0.72	Cryptophyceae	Cyanophyceae
Robson Lake						
Fall	541,333	10	0.39	0.54	Chrysophyceae	Cryptophyceae
Summer	8,439,000	20	0.44	0.36	Chrysophyceae	Bacillariophyceae
Hines Lake						
Fall	2,018,000	15	0.38	0.51	Chrysophyceae	Cyanophyceae
Summer	11,214,000	21	0.38	0.47	Chrysophyceae	Cyanophyceae

[1] Simpson's diversity, evenness, and density are the average of the 3 replicates taken at each site per season.
[2] The dominant and subdominant class were determined considering the population distribution in all three replicates combined.
[3] Plankton samples were not collected from Clam Lake in the summer of Year 2 due to access restrictions.

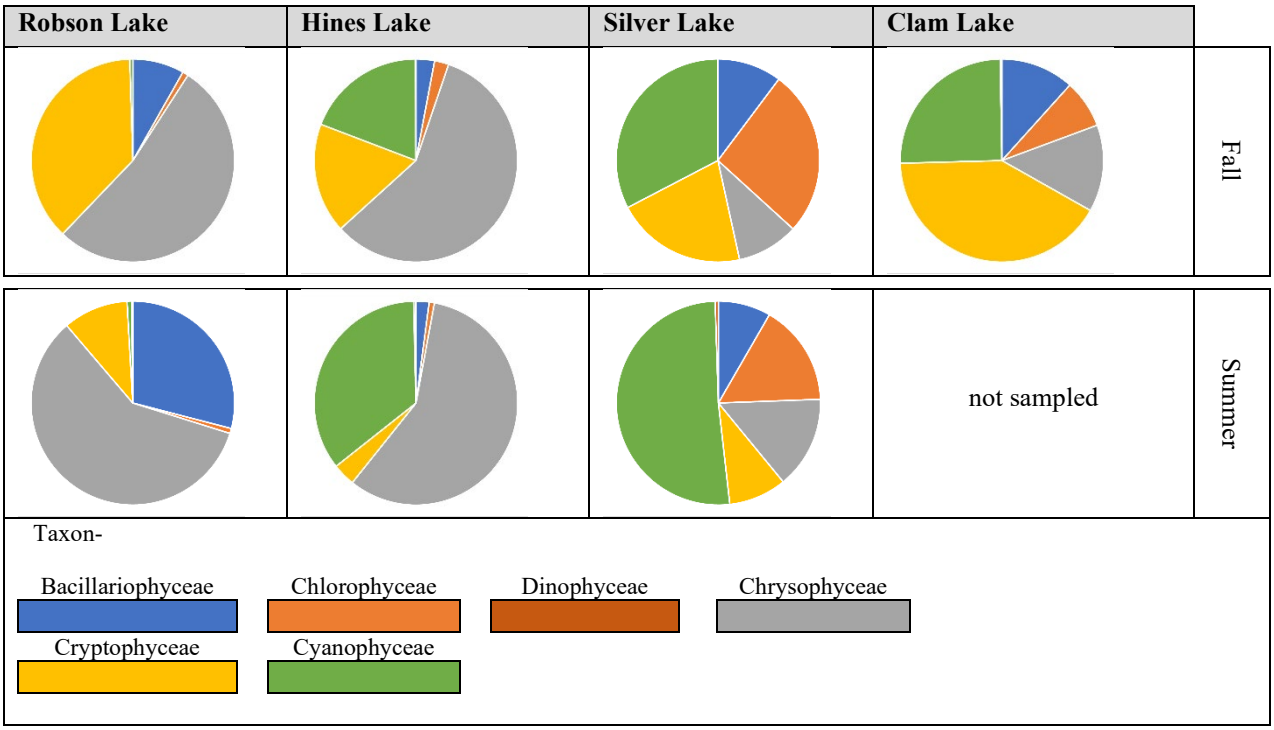


Figure 3-10 Phytoplankton percent composition in Year 2.

3.3.4.2 Zooplankton

Zooplankton community metrics are summarized by season in Table 3-15 and community compositions are shown in Figure 3-11, and detailed in Appendix A.

Zooplankton densities ranged between approximately 1,000 and 70,000 organisms/L, depending on seasons and lakes (Table 3-15). Summer densities were generally higher than those in the fall, with densities in Hines Lake being the highest. Taxon richness ranged between 12 and 25 taxa/L, with summer richness being higher than fall. Summer richness at Silver Lake was the highest across lakes and seasons. Simpson's diversity was generally low, ranging between 0.12 and 0.28, with summer values being lower or marginally lower than those in the fall. Evenness was moderately high, ranging from 0.62 to 0.84, with values higher at Robson Lake than at the other three lakes, but with no consistent seasonal patterns. The two lakes close to the AOI (Silver Lake and Clam Lake) displayed an overall similar zooplankton diversity and evenness to the two potential reference lakes (Hines Lake and Robson Lake).

Community composition varied between seasons in all four lakes (Figure 3-11). The classes of Branchiopoda and of Copepoda (amongst crustaceans) and the class of Monogononta (amongst rotifers) together often accounted for the largest portion of the

zooplankton communities at all four lakes. Each of these three taxa usually accounted for approximately 20% to 50% of the community, depending on lakes and seasons. There were usually no repeating trends across seasons or waterbodies, i.e., differences in taxon composition between waterbodies were not the same across seasons.

Table 3-15
Summary of the zooplankton results at each lake.

Season	Density (organisms/L)	Taxon Richness	Simpson's Diversity[1]	Simpson's Evenness[1]	Dominant Class[2]	Subdominant Class[2]
Silver Lake						
Fall	30,117	14	0.25	0.68	Branchiopoda	Copepoda
Summer	45,267	25	0.14	0.72	Monogononta	Ciliata
Clam Lake[3]						
Fall	24,750	15	0.22	0.69	Branchiopoda	Monogononta
Robson Lake						
Fall	1,352	16	0.14	0.79	Monogononta	Copepoda
Summer	23,427	17	0.12	0.84	Monogononta	Copepoda
Hines Lake						
Fall	14,033	12	0.28	0.68	Monogononta	Copepoda
Summer	67,333	19	0.26	0.62	Ciliata	Monogononta

[1] Simpson's diversity, evenness, density and taxon richness are the average of the 3 replicates taken at each site per season.
[2] The dominant and subdominant class were determined considering the population distribution in all three replicates combined.
[3] Plankton samples were not collected from Clam Lake in the summer of Year 2 due to access restrictions.

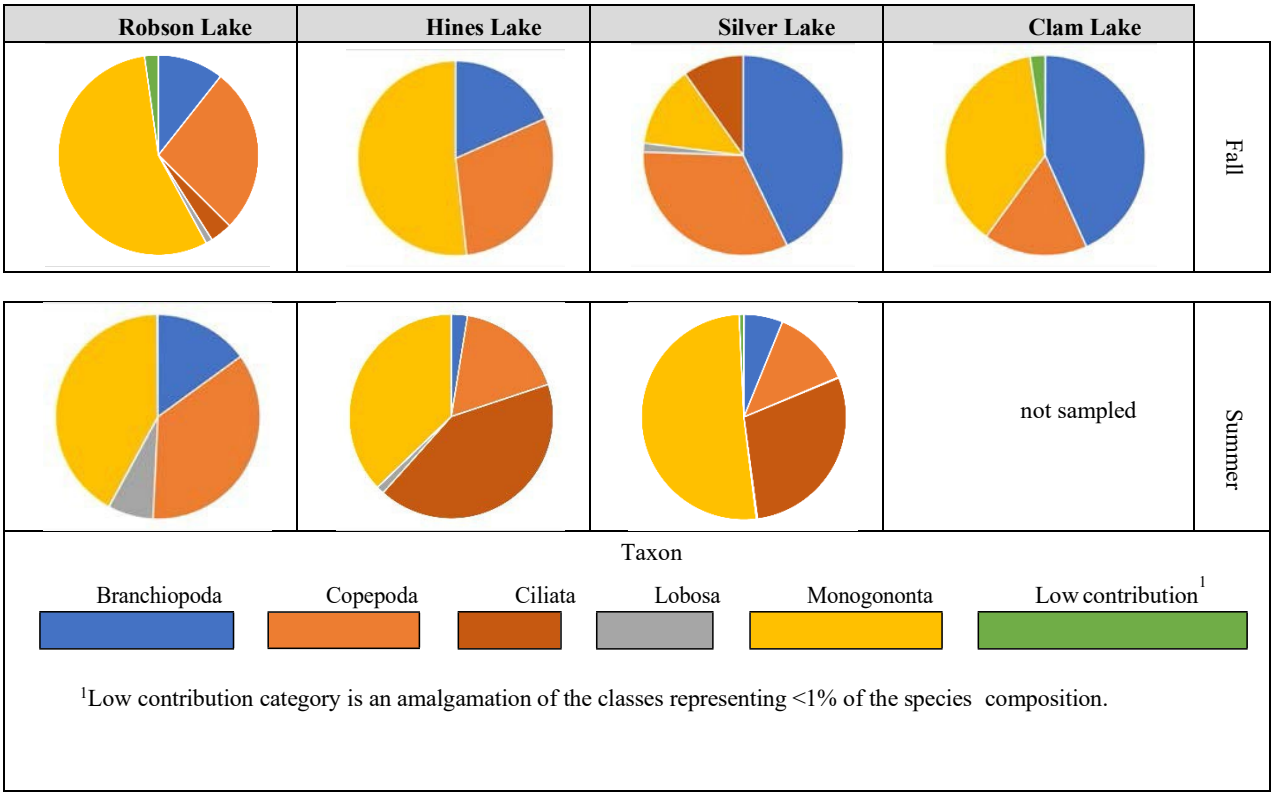


Figure 3-11 Zooplankton percent composition in Year 2.

3.4 Sediment

3.4.1 Field Methods

In the fall of Year 2 (October and November 2022), five replicate samples were collected from comparable habitats near the banks of riffle/run habitats at three sites on the Teeswater River and one site on the Beatty Saugeen River. Additionally, five replicate samples were collected from comparable habitats at five lacustrine sites situated in areas with an approximate depth of 5 m. The lacustrine sites were Silver Lake, Clam Lake, Hines Lake, Robson Lake, and Lake Huron. Replicates were spaced a minimum of 20 metres, to be considered statistical replicates (EC 2012).

The top 5 cm of sediment was sampled using a clean petite Ponar. Using a gravity corer was not feasible at riverine or lacustrine sites given the large sediment mass required by the analytical laboratory. A full description of field sampling methods is described in Appendix A.

3.4.2 Laboratory Analyses

Samples were sent to ALS Laboratory, CALA qualified laboratory for chemistry and particle size analyses. All QA/QC procedures followed for this medium are available in Appendix A.

3.4.3 Data Analyses

3.4.3.1 Statistical Analyses

To facilitate data interpretation, data were grouped into relevant site categories (Table 3-16). Descriptive statistics were completed using the Year 2 data from all replicates and stations within each category.

Descriptive statistics including the geometric mean, minimum, maximum, median, 5th percentile, 95th percentile, and the geometric standard deviation were calculated for each site category. In addition to these descriptive statistics, units, number of samples (n) and number of samples below the RDL (n<RDL) were reported. To calculate descriptive statistics, values below RDLs were set as equal to the RDL. It is noted that contrary to what was used in the Year 1 baseline report (CanNorth et al. 2023b), the geometric mean and the geometric standard deviation were used in Appendix A and that those are the results reported here. It is recommended for the Year 3 baseline report that the arithmetic mean and the arithmetic standard deviations be used instead of the less common geometric ones, especially since these reports are meant for a large audience not familiar with interpreting the geometric mean and the geometric standard deviation.

Table 3-16
Site groupings for Year 2 sediment descriptive statistics.

Waterbody	Category Label	Stations included in the Category	n
Teeswater River	Teeswater Potential Exposure	SB_SW_TWR_04	10
		SB_SW_TWR_08	
	Teeswater Reference	SB_SW_TWR_03	5
Beatty Saugeen River	Reference	SB_SW_BeattySaugeen_03	5
Silver Lake	Potential Exposure	SB_SW_Silver	5
Clam Lake	Potential Exposure	SB_SW_Clam	5
Robson Lake	Potential Reference	SB_SW_Robson	5
Hines Lake	Potential Reference	SB_SW_Hines	5
Lake Huron	Huron Exposure	SB_SW_Huron	5

3.4.3.2 Guideline Comparisons

Sediment COPC concentrations or activity levels were compared to a series of Sediment Quality Guidelines (SQGs) following the EMBP Design Report (CanNorth et al. 2021) and the acceptance criteria developed by the NWMO (2015, 2019). When multiple SQGs were available for a given parameter, the procedure outlined in Appendix A was followed to determine which one was to be used for comparing the field results. This usually included choosing the most authoritative or the most protective/restrictive of the available SQGs.

3.4.4 Results

The aim of the sediment quality program was to provide an overview of existing baseline conditions in the LSA_{SW} and to provide a baseline with which to compare future conditions. The descriptive statistics used to evaluate the data below are presented in Appendix A. This section provides a summary of the sediment quality results from sites in the LSAsw.

3.4.4.1 Nutrients and Physical Properties

Nutrients

Nutrients and physical properties were measured in all eight of the waterbodies included in the LSAsw. Sediment quality benchmarks were available for two of the nutrients and physical properties (Table 3-17). The mean, median, 5th and 95th percentile for both total organic carbon (TOC) and total Kjeldahl nitrogen (TKN) exceeded their SQG at all sites (Appendix A). Figure 3-12 and Figure 3-13, respectively, illustrate how both COPC exceed their SQGs at all seven areas of the LSAsw.

Because TOC and TKN are heavily influenced by local geology and topography, the selected TOC and TKN guideline may need to be re-evaluated for the study area. The lowest effect level (LEL) is defined as the level at which most organisms can tolerate the concentration, or the level at which ecotoxic effects become noticeable, whereas the severe effect level (SEL) would have a pronounced effect on the sediment-dwelling organisms and could be detrimental to majority of the benthic species (MOE 2008; MOEE 1993).

The Ministry recognizes the geologic diversity in Ontario and acknowledges natural sediment levels of TOC and TKN can vary considerably and may naturally exceed the LEL (BC MOE 2008; MOEE 1993). It is important to note that exceedance of an LEL is cautionary rather than indicative of hazards. While the LEL and SEL may be useful as an approximation for comparing carbon and nitrogen content, exploring the concentration of

additional parameters should be used for determining the health of the sediment in the study area.

Table 3-17
Sediment quality guidelines for nutrients and physical properties.

COPC	Units	Value	Source[1]
Carbon, total organic [TOC]	%	1	MECP
Kjeldahl nitrogen, total [TKN]	mg/kg	500	MECP

[1] MECP (MOE 2008)

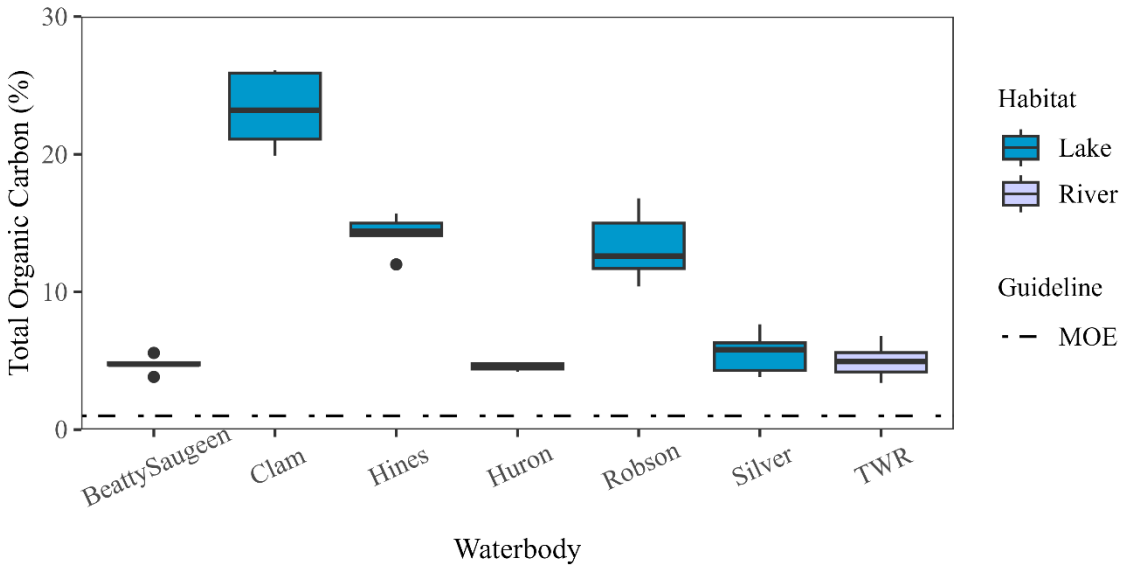


Figure 3-12 Total organic carbon (TOC) levels in sediment during the Year 2 baseline assessment of LSAsw.

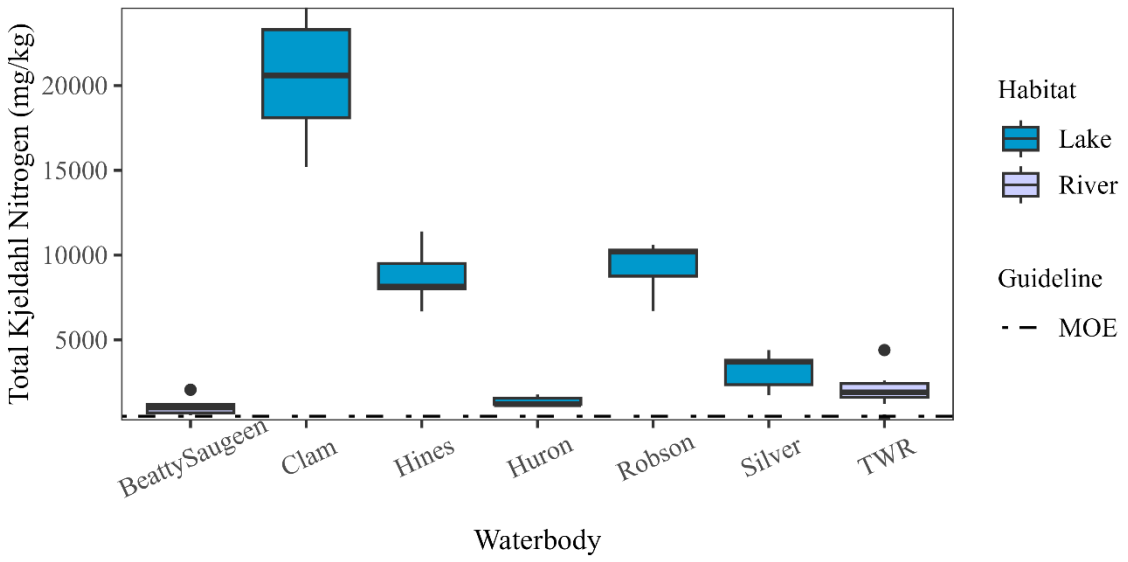


Figure 3-13 Total Kjeldahl nitrogen (TKN) levels in sediment during the Year 2 baseline assessment of LSA$_{SW}$.

Particles Size

The sediment particle size content summary is shown in Table 3-18, and the detailed data are available in Appendix A.

It is noted that, due to local habitat characteristics, it was difficult to collect sufficient amounts of sediment at the TWR_03 and BeattySaugeen_03 sites. These riverbeds were comprised of almost entirely cobble and gravel substrate. In contrast, the riverbed at TWR_08 was dominated by finer sediment such as sand and silt, and a wide variety of substrates occurred at the TWR_04 because a wide variety of habitat types such as riffles, runs, and pools occurred, which allowed for sediment other than cobble and gravel to occur depending on the area sampled.

River samples usually had more total sand (fine sand + coarse sand) than total fine particles (Table 3-18), except the Teeswater River exposure area that nearly had equal amounts of the two. Lakes tended to be dominated by fine particles (clay + silt), except Lake Huron where total sand was more abundant. Fine particles accounted for nearly the totality of the sediment at Clam Lake and Robson Lake, while fine particles accounted for approximately 60% to 80% of the sediment at Hines Lake and Silver Lake.

Table 3-18
Sediment particle size fraction results.

Waterbody[1]	Geometric Mean[2] of Particle Size Content (%)						
	Clay	Silt	Fine Particles[3]	Fine Sand	Coarse Sand	Total Sand[4]	Gravel
Beatty Saugeen River	5	18	23	26	29	61	6
Teeswater River Exposure	4	39	43	22	18	44	1
Teeswater River Reference	3	13	16	20	48	70	12
Clam Lake	7	88	97	1	1	2	2
Hines Lake	18	63	81	10	6	16	1
Lake Huron	7	20	27	3	66	69	2
Robson Lake	20	74	94	3	2	5	1
Silver Lake	10	48	58	15	14	32	1

[1]The ALS laboratory methods and particle size limits were inconsistent across waterbodies, with the samples from the Beatty Saugeen River and from Clam, Hines, and Robson lakes analyzed as per the American Society for Testing and Materials (ASTM) Methods D6913 and D7928, while the samples the Teeswater River, Lake Huron, and Silver Lake being analyzed instead as per the Canadian Society of Soil Science (CSSS) Method 47.2 (Canadian Society of Soil Science 1993). Some of the categories of the results using the ASTM standards had to be modified to correspond to those of the CSSS.
[2]The geometric mean was used to remain consistent with the data presentation used for the sediment chemistry results; values less than the RDL were set at the RDL for geometric mean computations.
[3]Fine particles = clay + silt.
[4]Total sand = fine sand + coarse sand.
Primary fraction (fine particles or sand) shown as shaded

3.4.4.2 Metals and Trace Elements

All eight waterbodies in the LSAsw were analyzed for metals and trace analytes. Sediment quality guidelines were available for 23 of the 37 metals and trace elements (Table 3-19). While many metal and trace element concentrations in sediment were low and similar between waterbodies in the LSAsw, some analytes exceeded their SQGs. Those were arsenic, cadmium, copper, iron, lead, manganese, nickel, phosphorus, selenium, silver, and zinc (Figure 3-14).

Arsenic, copper, iron, and nickel exceeded their SQGs in Clam and Silver lakes, although only one copper value exceeded the SQGs in Silver Lake. Cadmium exceeded its SQG in Clam and Robson lakes. Lead exceeded its SQG only in Clam Lake. Manganese exceeded its SQG in the Beatty Saugeen River, Hines Lake, Lake Huron, Robson Lake, and the Teeswater River. Phosphorus exceeded the SQG at Clam, Robson, Silver, and Teeswater River. Selenium exceeded the SQG in Clam, Hines, Robson, and Silver lakes. Silver exceeded its SQG in only Silver Lake and zinc exceed its SQG in only Clam Lake.

Table 3-19
Sediment quality guidelines for metals and trace elements.

COPC	Units	Value	Source[1]
Antimony	mg/kg	3	NWMO 2015
Arsenic	mg/kg	5.9	ISQG
Bismuth	mg/kg	65000	NWMO 2019
Cadmium	mg/kg	0.6	ISQG
Chromium	mg/kg	26	MOE 2008
Cobalt	mg/kg	50	MOE 2011
Copper	mg/kg	16	MOE 2011
Iron	mg/kg	20000	MOE 2008
Lead	mg/kg	31	MOE 2011
Manganese	mg/kg	460	MOE 2008
Mercury	mg/kg	0.17	ISQG
Molybdenum	mg/kg	8.3	NWMO 2015
Nickel	mg/kg	16	MOE 2011
Phosphorus	mg/kg	600	MOE 2008
Rhodium	mg/kg	600	NWMO 2019
Ruthenium	mg/kg	390	NWMO 2019
Samarium	mg/kg	2500	NWMO 2019
Selenium	mg/kg	0.9	NWMO 2015
Silver	mg/Kg	0.5	MOE 2011
Tungsten	mg/kg	960	NWMO 2019
Uranium	mg/Kg	32	NWMO 2015
Vanadium	mg/kg	27	NWMO 2015
Zinc	mg/kg	120	MOE 2008

[1] NWMO (2015, 2019), CCME ISQG (CCME 2023), MECP (MOE 2008, 2011)

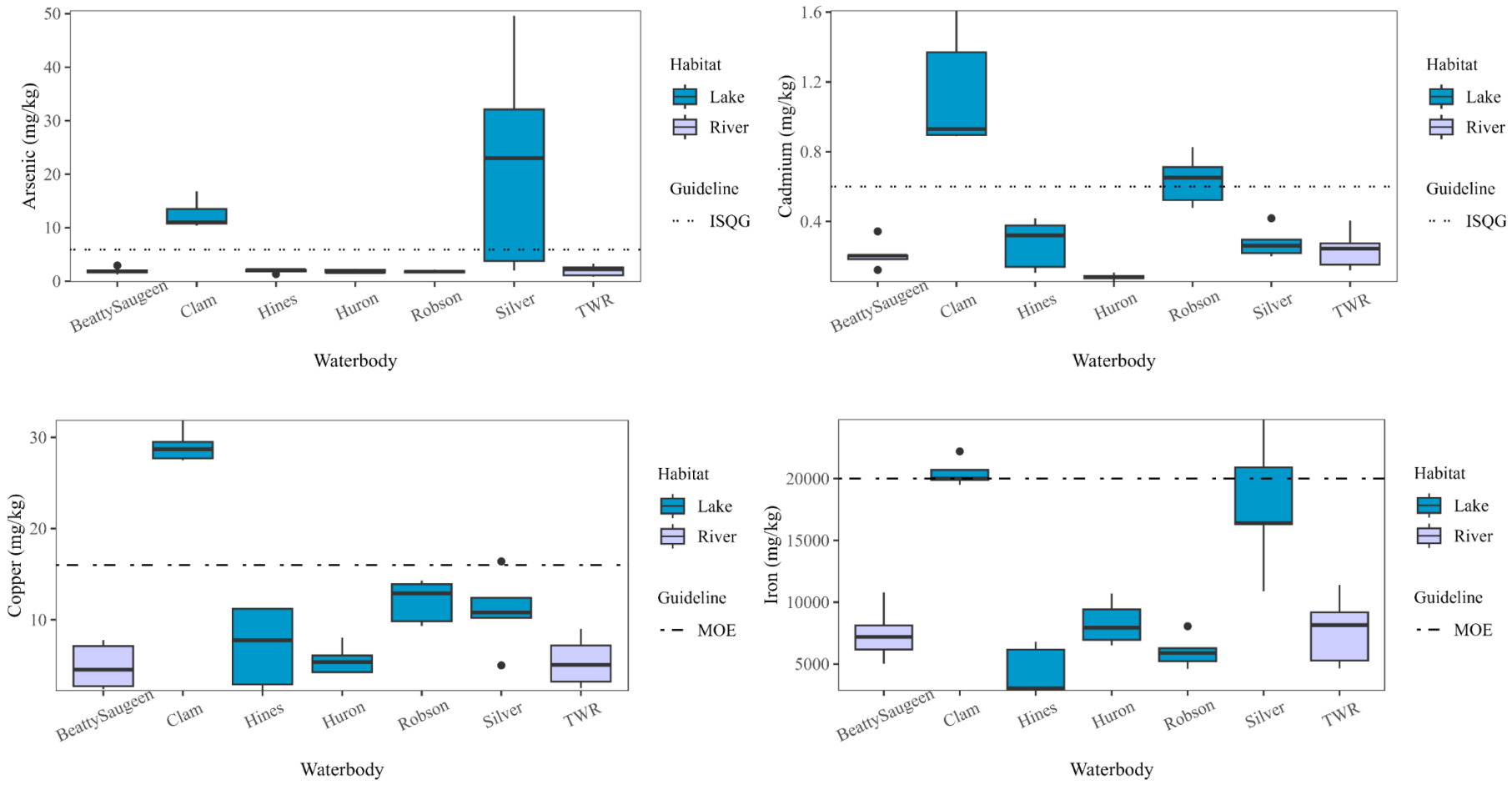


Figure 3-14 Metal and trace element levels in sediment that exceeded guidelines during the Year 2 baseline assessment of LSAsw.

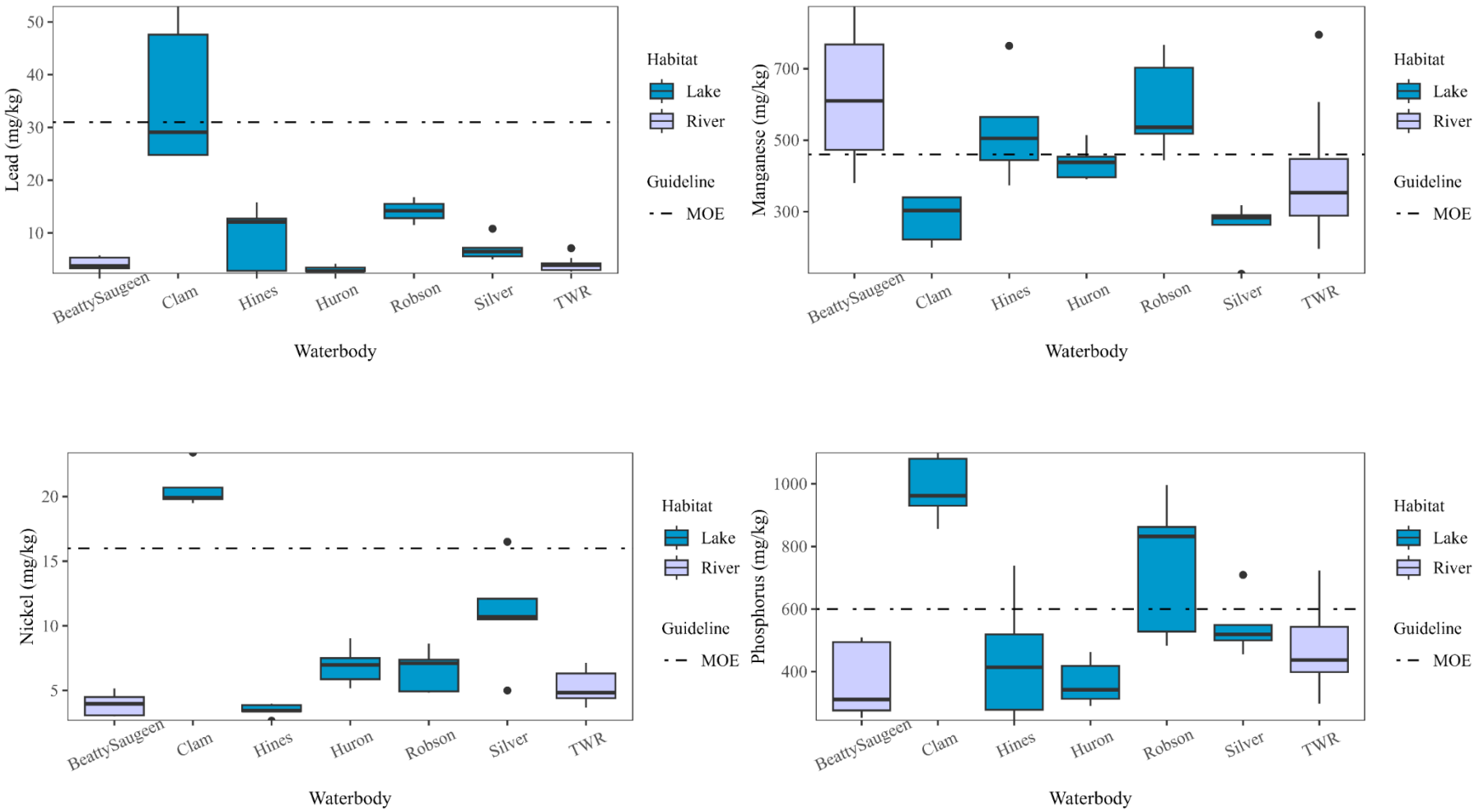


Figure 3-14 Metal and trace element levels in sediment that exceeded guidelines during the Year 2 baseline assessment of LSASW.

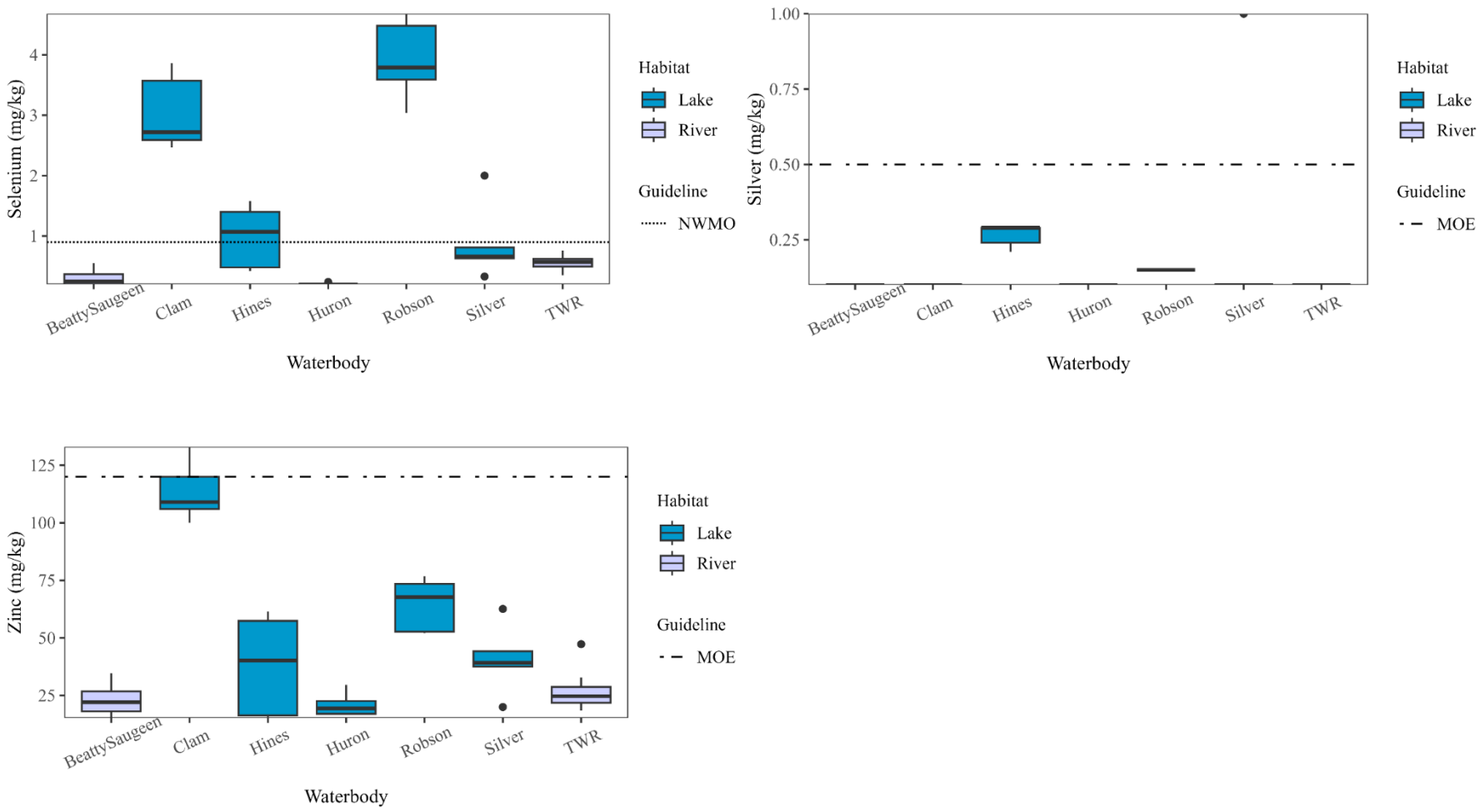


Figure 3-14 Metal and trace element levels in sediment that exceeded guidelines during the Year 2 baseline assessment of LSAsw.

3.4.4.3 Organic Compounds

One hundred and seven organic compounds were monitored in sediment from the Teeswater River exposure and reference, as well as from the Beatty Saugeen River reference. Those are addressed below in four subcategories.

Dioxins and Furans

Twenty-five COPC were categorized as dioxins and furans, but no SQGs were available for this category of compounds. Therefore, comparisons were made between the potential exposure and the potential references to determine how these compounds currently vary between areas. Most values were greater than the RDL in all three areas (Appendix A). In 12 of these 25 COPC, the geometric mean in the Teeswater River exposure was higher than the 95th percentile of one or of both of the Teeswater River reference and the Beatty Saugeen River reference. In many of these, the exceedance over the 95th percentile of the reference was marginal.

PHCs, PAHs, and PCBs

Guidelines were available for 25 of the 32 PHCs, PCBs, and PAHs (Table 3-20). Most of these COPC were in concentrations lower than the RDLs, except for a small number of hydrocarbons in the Teeswater River exposure and a number of PAHs and hydrocarbons in the Teeswater River reference (Appendix A).

Table 3-20
Sediment quality guidelines for petroleum hydrocarbons, PAHs, and PCBs.

COPC	Units	Value	Source[1]
Petroleum Hydrocarbons (PHCs)			
F1 (C6-C10)	mg/kg	15	Atlantic RBCA
F2 (C10-C16)	mg/kg	25	Atlantic RBCA
F3 (C16-C34)	mg/kg	43	Atlantic RBCA
Polychlorinated Biphenyls (PCBs)			
Aroclor 1016	mg/kg	0.007	MOE 2008
Aroclor 1248	mg/kg	0.03	MOE 2008
Aroclor 1254	mg/kg	0.06	MOE 2008
Aroclor 1260	mg/kg	0.005	MOE 2008
Polychlorinated biphenyls [PCBs], total	mg/kg	0.0341	ISQG
Polycyclic Aromatic Hydrocarbon (PAHs)			
Acenaphthene	mg/kg	0.00671	ISQG
Acenaphthylene	mg/kg	0.00587	ISQG
Anthracene	mg/kg	0.0469	ISQG
Benz(a)anthracene	mg/kg	0.0317	ISQG
Benzo(a)pyrene	mg/kg	0.0319	ISQG
Benzo(g,h,i)perylene	mg/kg	0.17	MOE 2011
Benzo(k)fluoranthene	mg/kg	0.24	MOE 2011

COPC	Units	Value	Source[1]
Chrysene	mg/kg	0.0571	ISQG
Dibenz(a,h)anthracene	mg/kg	0.00622	ISQG
Fluoranthene	mg/kg	0.111	ISQG
Fluorene	mg/kg	0.0212	ISQG
Indeno(1,2,3-c,d)pyrene	mg/kg	0.2	MOE 2011
Methylnaphthalene, 1-	mg/kg	0.201	Atlantic RBCA
Methylnaphthalene, 2-	mg/kg	0.0202	ISQG
Naphthalene	mg/kg	0.0346	ISQG
Phenanthrene	mg/kg	0.0419	ISQG
Pyrene	mg/kg	0.053	ISQG

[1] ISQG (CCME 2023), MECP (MOE 2008, 2011), Atlanta RBCA (2022)

Some PHCs, PAHs, and PCBs had RDLs larger than their SQGs. Among the PHCs, F3 (C16-C34) concentrations were higher than the RDL in the Teeswater River and exceeded the SQG (Figure 3-15). The concentration of this COPC in the Beatty Saugeen River reference area was less than the RDL but nonetheless exceeded the SQG because this RDL was higher than the SQG. Lower RDLs for accurate comparison to SQGs are needed for nearly all measured PHCs, PAHs, and PCBs.

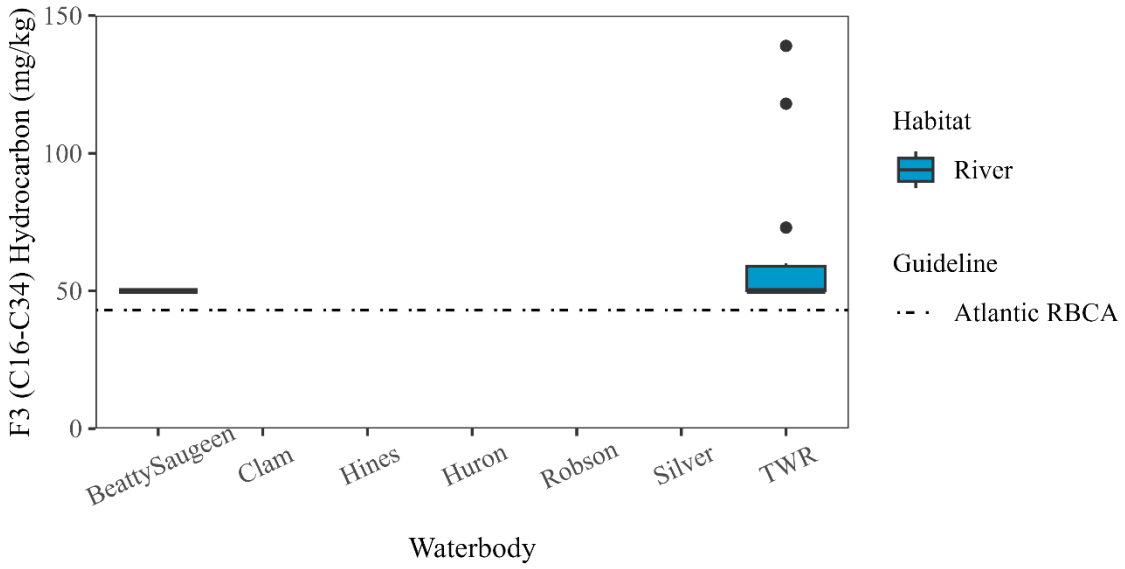


Figure 3-15 F3 (C16-34) hydrocarbon levels in sediment during the Year 2 baseline assessment of LSA_{SW}.

Semi-Volatile Organic Compounds

Eight semi-volatile organic compounds were measured in the sediment samples, of which four had SQGs (Table 3-21). All values were below their RDLs (Appendix A), but the RDLs of 3,3-dichlorobenzidine and 2,4-dinitrotoluene of these were higher than the SQG. Higher analytical resolution would be necessary to determine with certainty whether the levels of those COPC exceed the SQGs.

Table 3-21
Sediment quality guidelines for SVOCs.

COPC	Units	Value	Source[1]
Biphenyl	mg/kg	1.22	US EPA Region 3
3,3-Dichlorobenzidine	mg/kg	0.127	US EPA Region 3
2,4-Dinitrotoluene	mg/kg	0.0416	US EPA Region 3
1,2,4-Trichlorobenzene	mg/kg	2.1	US EPA Region 3

[1] US EPA (2006)

Volatile Compounds

Forty-two volatile compounds were monitored in sediment samples, among which 36 had SQGs (Table 3-22). All of these COPC were less than their RDLs (Appendix A). Some of these RDLs were larger than their SQGs including 1,1-dichloroethylene, cis+trans-1,3-dichloropropylene, n-Hexane, and 1,1,1-Trichloroethane. Lower RDLs would be necessary in such instances.

Table 3-22
Sediment quality guidelines for VOCs.

COPC	Units	Value	Source[1]
Acetone	mg/kg	360.18	US EPA Region 6
Benzene	mg/kg	1.2	Atlantic RBCA
Bromodichloromethane	mg/kg	14.74	US EPA Region 6
Bromoform	mg/kg	0.65	Atlantic RBCA
Bromomethane	mg/kg	0.46	US EPA Region 6
Carbon tetrachloride	mg/kg	1.2	Atlantic RBCA
Chlorobenzene	mg/kg	0.41	Atlantic RBCA
Chloroform	mg/kg	0.94	US EPA Region 6
Dibromochloromethane	mg/kg	5.67	US EPA Region 6
1,2-Dichlorobenzene	mg/kg	0.33	Atlantic RBCA
1,3-Dichlorobenzene	mg/kg	1.7	Atlantic RBCA
1,4-Dichlorobenzene	mg/kg	0.34	Atlantic RBCA
Dichlorodifluoromethane	mg/kg	22.09	US EPA Region 6
1,1-Dichloroethane	mg/kg	13.89	US EPA Region 6
1,2-Dichloroethane	mg/kg	28.68	US EPA Region 6

COPC	Units	Value	Source[1]
1,1-Dichloroethylene	mg/kg	0.031	US EPA Region 3
trans-1,2-Dichloroethylene	mg/kg	1.05	US EPA Region 3
Dichloromethane	mg/kg	46.52	US EPA Region 6
1,2-Dichloropropane	mg/kg	21.12	US EPA Region 6
cis+trans-1,3-Dichloropropylene	mg/kg	0.0000509	US EPA Region 3
trans-1,3-Dichloropropylene	mg/kg	1.37	US EPA Region 6
Ethylbenzene	mg/kg	1.2	Atlantic RBCA
n-Hexane	mg/kg	0.0396	US EPA Region 3
Methyl ethyl ketone [MEK]	mg/kg	154.26	US EPA Region 6
Methyl isobutyl ketone [MIBK]	mg/kg	116.59	US EPA Region 6
Styrene	mg/kg	0.559	US EPA Region 3
1,1,2,2-Tetrachloroethane	mg/kg	1.4	Atlantic RBCA
Tetrachloroethylene	mg/kg	0.41	Atlantic RBCA
Toluene	mg/kg	1.4	Atlantic RBCA
1,1,1-Trichloroethane	mg/kg	0.03	Atlantic RBCA
1,1,2-Trichloroethane	mg/kg	1.24	US EPA Region 3
Trichloroethylene	mg/kg	0.22	Atlantic RBCA
Trichlorofluoromethane	mg/kg	10.12	US EPA Region 6
Vinyl chloride	mg/kg	4.18	US EPA Region 6
m+p-Xylene	mg/kg	0.0252	US EPA Region 3
Xylenes, total	mg/kg	1.3	Atlantic RBCA

[1] Atlanta RBCA (2022), US EPA (US EPA 2006, 2023)

3.4.4.4 Organochlorine Pesticides

Organochlorine pesticides were measured in the Teeswater River exposure area, the Teeswater River reference area, as well as in the Beatty Saugeen River reference area. Sediment quality guidelines were available for all 14 of these organochlorine pesticides (Table 3-23).

Table 3-23
Sediment quality guidelines for organochlorine pesticides.

COPC	Units	Value	Source
Aldrin	mg/kg	0.002	MOE 2011
Chlordane, total	mg/kg	0.0045	ISQG
DDD, total	mg/kg	0.00354	ISQG
DDE, total	mg/kg	0.00142	ISQG
DDT, total	mg/kg	0.00119	ISQG
Dieldrin	mg/kg	0.002	MOE 2011
Endosulfan, total	mg/kg	0.006	Atlantic RBCA
Endrin	mg/kg	0.00267	ISQG
Heptachlor	mg/kg	0.0006	ISQG
Heptachlor epoxide	mg/kg	0.005	MOE 2011

COPC	Units	Value	Source
Hexachlorobenzene	mg/kg	0.02	MOE 2011
Hexachlorobutadiene	mg/kg	0.55	US EPA Region 6
Hexachloroethane	mg/kg	1.027	US EPA Region 3
Methoxychlor	mg/kg	0.0187	US EPA Region 3

[1] ISQG (CCME 2023), MECP (MOE 2011), Atlantic RBCA (2022), US EPA (US EPA 2006, 2023)

Several parameters did not have sufficient RDL resolution to determine if they exceeded the SQG, as the RDLs themselves equaled or exceeded the SQGs. This Included DDE (total), DDT (total), endosulfan (total), endrin, and heptachlor. To more accurately determine if levels of those parameters exceed guidelines during baseline conditions, lower RDLs will need to be achieved by the laboratory. Only total dichlorodiphenyltrichloroethane (Total DDT) was measured in concentrations above the RDL and exceeded the SQG in the Teeswater River exposure area (Figure 3-16).

With regards to the DDT exceedance over the SQG, it is important to first note that the values in the Beatty Saugeen River and the Teeswater River reference were all below the RDL and that this RDL sometimes varied between samples. None of these potential exceedances are therefore confirmed, and lower RDLs are required to properly test whether this COPC met the SQG of 0.00119 mg/kg. Secondly, in the Teeswater River exposure area, the only area with values greater than the RDL, 8 of the 10 samples had DDT concentrations below the RDL. The two values that were detectable were within five times the RDL, therefore a high level of measurement uncertainty exists within the reported results. Four other federal and provincial benchmarks exist for this parameter, and measured values met all four of these. Namely, the CCME's PEL of 0.00477 mg/kg, the MECP (2011) of 0.007 mg/kg, and the MOE's (2008) LEL and PEL of 0.007 mg/kg and of 0.12 mg/kg, respectively. Therefore, the inspection of these results suggests that the RDLs for this COPC have insufficient resolution to allow the proper comparison with the ISQG.

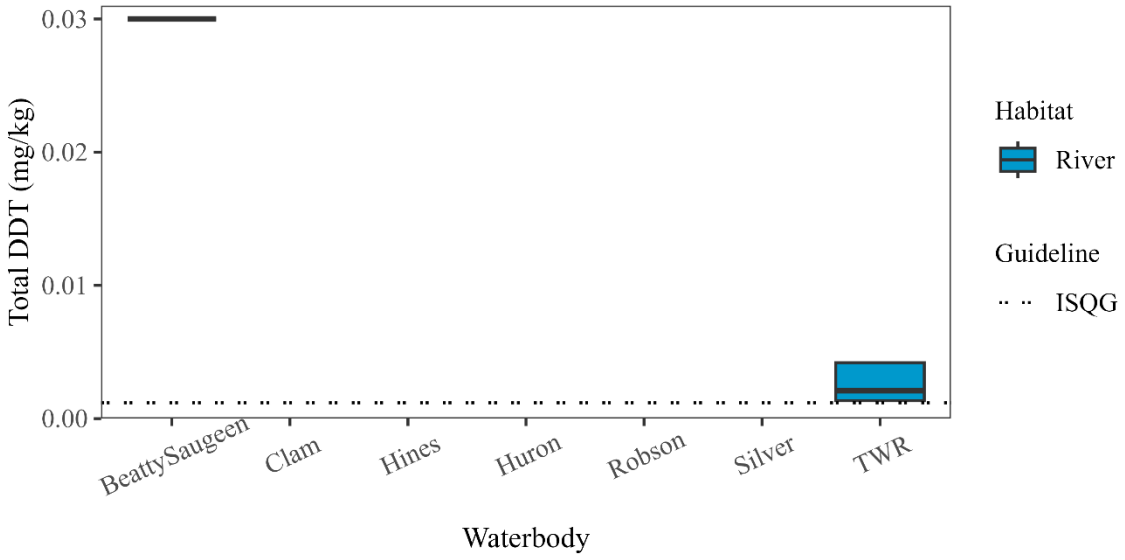


Figure 3-16 DDT levels in sediment during the Year 2 baseline assessment of LSAsw.

3.4.4.5 Radionuclides

Radionuclides were monitored in each of the waterbodies in the LSAsw. Sediment quality benchmarks were available for 11 of these 17 radionuclides (Table 3-24). None exceeded their benchmarks (Appendix A).

Table 3-24
Sediment quality guidelines for radionuclides.

COPC	Units	Value	Source
Tritium	Bq/kg	10000000	US EPA Region 6
Strontium-90	Bq/kg	20000	US EPA Region 6
Iodine-129	Bq/kg	1000000	US EPA Region 6
Cesium-137	Bq/kg	100000	US EPA Region 6
Cobalt-60	Bq/kg	40000	US EPA Region 6
Uranium-238	Bq/kg	40000	US EPA Region 6
Uranium-234	Bq/kg	20000	US EPA Region 6
Uranium-235	Bq/kg	10000	US EPA Region 6
Thorium-232	Bq/kg	40000	US EPA Region 6
Radium-226	Bq/kg	600	Thompson et al
Plutonium-239	Bq/kg	200000	US EPA Region 6

[1] US EPA (2023), Thompson et al. (2005)

3.5 Summary

The Year 2 surface water quality program was completed between the fall of 2022 and the summer of 2023 to characterize aquatic components of rivers, lakes, and wetlands within the LSA_{sw}. While the Year 1 surface water quality program was comprised of mostly water quality, the Year 2 program included not only water quality but also plankton community, and sediment quality. Additionally, sampling was completed for periphyton community, benthic invertebrate community, and eDNA with results pending.

In terms of water analyses, up to 252 baseline COPC were analyzed, depending on waterbodies. The levels of these parameters in water from most waterbodies were low, below or close to the RDLs, and with a few exceptions, below available WQGs. Total ammonia (as N) and total phosphorus exceeded their WQGs most of the time. Additionally, aluminum, chloride, cobalt, *E. coli*, fluoride, iron, manganese, mercury, turbidity, and zirconium were sometimes elevated above their WQGs in some of the waterbodies. Organic compounds, pesticides, and radionuclides were below their WQG, when available, or were below their respective RDLs. For several of the organic compounds in water, the RDL was higher than the WQG; if possible, lower RDLs would need to be achieved, especially for COPC meant to be monitored in the longer term.

Phytoplankton and zooplankton communities varied in density, composition, evenness, and in diversity between waterbodies and between seasons, and were usually in higher densities in the summer than in the fall across all waterbodies. Community composition was not often similar across waterbodies.

Up to 182 baseline COPC were measured in sediment, depending on waterbodies. Nutrients, general chemistry, metals, trace elements, and radionuclides were often above RDLs, while organic compounds such as petroleum hydrocarbons, PAHs, PCBs, SVOCs, VOCs, and organochlorine pesticides were often below the RDLs. Some parameters exceeded their SQGs in a few waterbodies, including arsenic, cadmium, copper, iron, lead, nickel, silver, zinc, the F3 (C16-C34) petroleum hydrocarbon, and DDT. Manganese, phosphorus, and selenium often exceeded their SQGs, in more than half of the waterbodies.

These results illustrate that some parameters are higher in the study area before development of the Project, which is important to establish during the baseline period. As additional data become available from the Year 3 sampling campaign, a more comprehensive characterization of the study area will be completed.

4.0 HYDROLOGY

4.1 Program Overview

The purpose of the hydrology monitoring is to determine the existing hydrology conditions within the vicinity of the proposed Project location and to assess the potential impact posed by the development of the Project. The hydrologic conditions near the Project location will be monitored for at least three years, and the data collected will be used to assess the feasibility of design, construction, and operation of the Project on the local hydrologic environment. Understanding the hydrology of the area will help with understanding how water withdrawal and/or discharge of treated effluent(s) during construction and operations to the Teeswater River may influence the hydrologic regime, if applicable.

The LSA_{HYD} and RSA_{HYD} are the same areas as the LSA_{SW} and RSA_{SW}, respectively. The LSA_{HYD} is bounded on the west by the Greenock Creek – Teeswater River quaternary watershed boundary and the Teeswater River outlet quaternary boundary and is bounded to the south by the Greenock Creek – Teeswater River quaternary watershed boundary (Figure 4-1). The LSA_{HYD} encompasses the AOI, a stretch of the Teeswater River (that extends for approximately 31 km, 2.8 km upstream and 21 km downstream of the AOI), and wetlands/lakes/tributaries located in the near vicinity of the AOI, including large portions of the Greenock Swamp Wetland Complex and Teeswater Wetland Complex. Several lakes/ponds are also located in the LSA_{HYD}. In addition, several reference monitoring locations were selected outside of the Teeswater River watershed in order to determine whether temporal changes in local hydrology can be attributed to the Project. These candidate reference locations are denoted in Table 4-1.

During Year 2 of the program (September 2022- August 2023), monitoring instrumentation set up at the study area in Year 1 of the program were used to continue to collect hydrologic and meteorological data, as shown in Figure 4-1 and Figure 4-2 and summarized in Table 4-1. The following information was collected:

- **Continuous Water Level Readings**: Two flow stations in the Teeswater River with calibrated pressure transducers installed in Year 1 continued to collect data at 15-minute intervals in Year 2. Data from these monitoring stations were developed into Stage-Discharge rating curves in Year 1 to then be used in subsequent years to provide flow estimates. In Year 2, SB_Flow_TWR_01's transductor cable was cut after May 5, 2023, 20:15:00. No additional readings were received for Year 2 from

SB_Flow_TWR_01 after May 5, 2023. The transductor cable was replaced in November 2023 to allow for Year 3 data collection.

- **Discrete Water Level Readings**: Water level readings in lakes and wetlands in the Teeswater River watershed and surrounding areas were collected periodically in Year 2 at the 12 permanent staff gauge locations installed in Year 1. Monitoring consisted of monthly visual inspections during open water seasons and recording the water level indicated on the gauge. Gauges were visually inspected for damage and any observed changes to the equipment were noted by SVCA staff during each monthly visit. In Year 2, the Silver Lake Monitoring Station was shifted to a new location because of property access issues. No data was collected for Silver Lake in September 2022. Monitoring resumed in October 2022 at the new location on Silver Lake. Clam Lake monitoring station was monitored until November 2022, at which time property access issues rendered the station inaccessible.

- **Meteorology**: Measurements of air temperature, total precipitation, snow depth, wind speed and direction, relative humidity or dew point temperature, soil moisture content, atmospheric pressure, and solar radiation were collected to help understand the conditions at the AOI. The collected meteorological data will support the hydrology component of the site feasibility studies as well as surface water, soils, and air. For the hydrology component, the most important data collected are ambient temperature and precipitation, which will be used to assess the frequency of intense rainfall, major flooding events, drought conditions, snow cover seasonality, and thawing periods. The data will also be used to assess how climate change will impact the longer-term hydrologic conditions of the AOI.

The following section provides a summary of the Year 2 hydrology and meteorology methods and results; further details can be found in Appendix A.

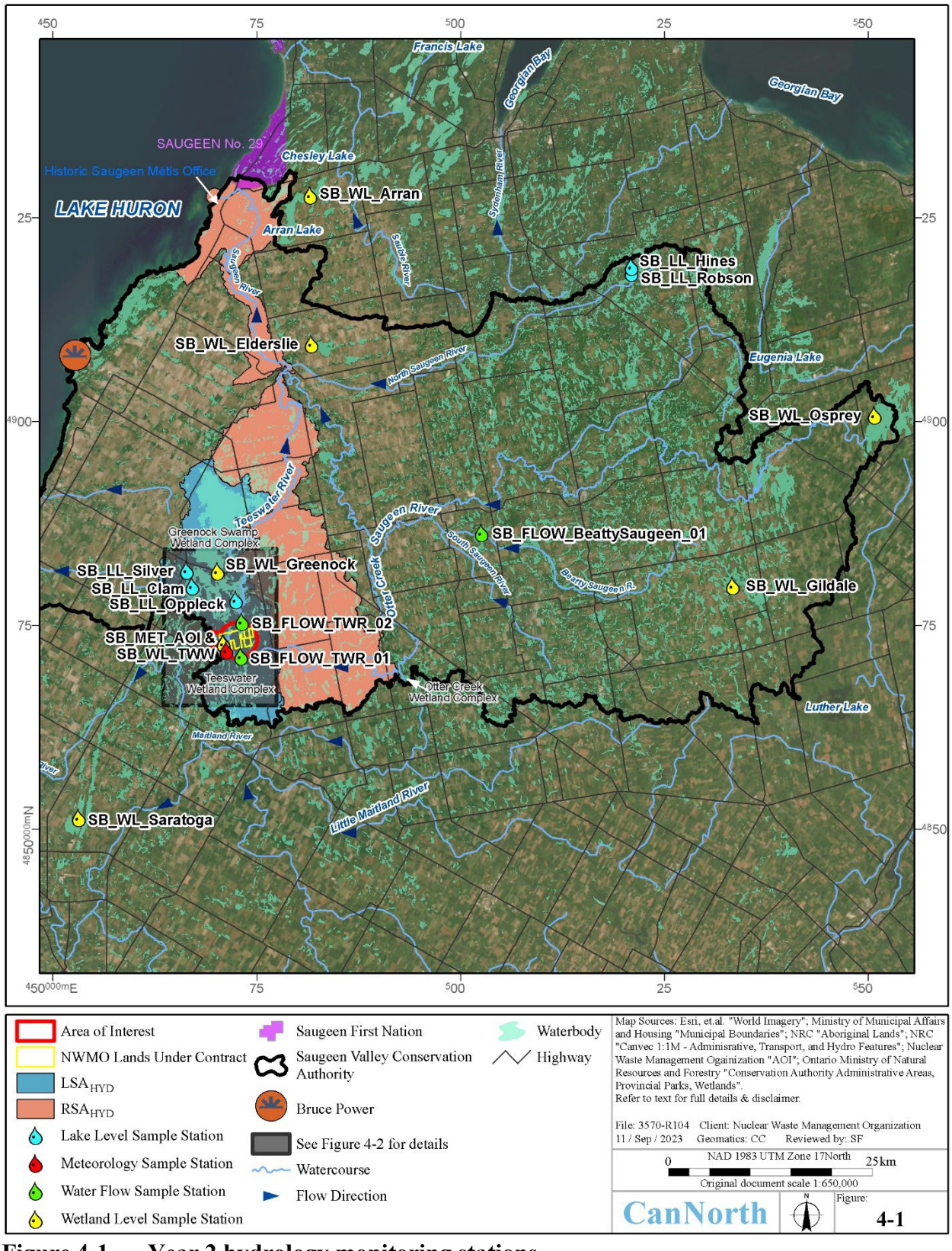


Figure 4-1 Year 2 hydrology monitoring stations.

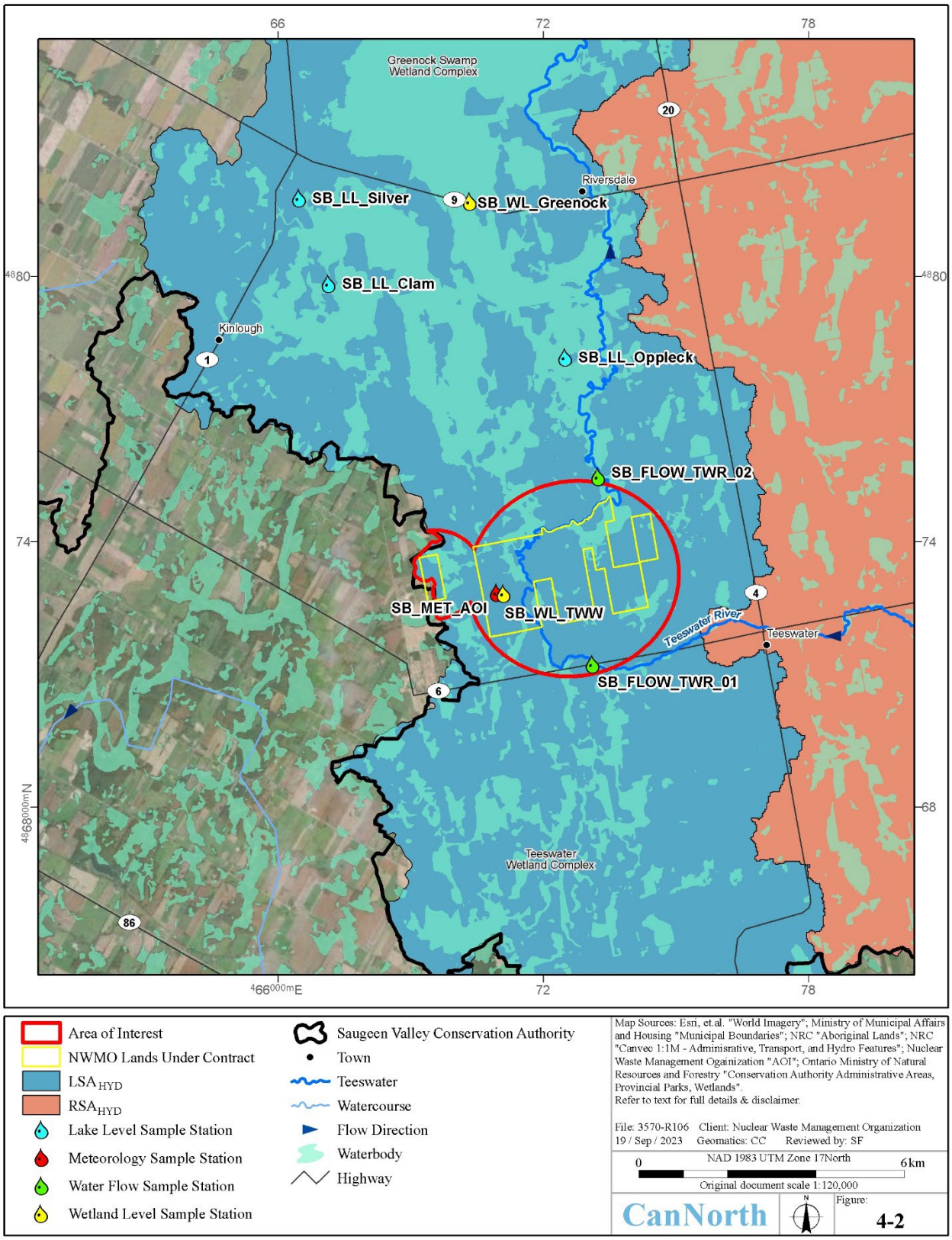


Figure 4-2 Year 2 hydrology monitoring stations - detailed.

Table 4-1 Summary of Year 2 EMBP hydrology monitoring program.

Waterbody	Location Details	Station ID [1]	UTM (Zone 17T)		Continuous Water Level Readings	Discharge Measurements	Lake Bathymetry	Discrete Water Level Readings	Meteorology
			Easting	Northing					
Silver Lake[1]	LSA_{HYD}	SB_LL_Silver	466470	4881785			X 2021-12-15	X Monthly	
Clam Lake[2]	LSA_{HYD}	SB_LL_Clam	466704	4880103			X 2022-04-20	X Monthly	
Unnamed Lake[3]	LSA_{HYD}	SB_LL_Oppleck	472492	4878183				X Monthly	
Hines Lakes	RSA_{HYD}	SB_LL_Hines	521090	4919215			X 2021-12-17	X Monthly	
Robson Lake	Candidate Reference Site	SB_LL_Robson	520858	4918308			X 2021-12-14	X Monthly	
Greenock Swamp Wetland Complex	Candidate Reference Site	SB_WL_Greenock	470215	4881712				X Monthly	
Teeswater Wetland Complex	LSA_{HYD}	SB_WL_TWW SW_MET_AOI	470988	4872838				X Monthly	X
Arran Lake Wetland Complex	LSA_{HYD}	SB_WL_Arran	481603	4927831				X Monthly	
Elderslie Wetland Complex	Candidate Reference Site	SB_WL_Elderslie	481789	4909595				X Monthly	
Gildale Wetland Complex	Candidate Reference Site	SB_WL_Gildale	533446	4879953				X Monthly	

Waterbody	Location Details	Station ID [1]	UTM (Zone 17T)		Continuous Water Level Readings	Discharge Measurements	Lake Bathymetry	Discrete Water Level Readings	Meteorology
			Easting	Northing					
Osprey Wetlands	Candidate Reference Site	SB_WL_Osprey	550867	4900842				X Monthly	
Saratoga Swamp	Candidate Reference Site	SB_WL_Saratoga	453192	4851426				X Monthly	
Teeswater River[4]	LSA_{HYD}	SB_Flow_TWR_01 SB_Flow_TWR_02	473131 473255	4871247 4875442	X Every 15 min	X Every 15 min			
Beatty Saugeen River[5]	Candidate Reference Site	SB_Flow_BeattySaugeen_01	501245	4882826	X Every 5 min	X Every 5 min			

[1] Silver Lake Monitoring Station was not monitored in September 2022 due to property access restrictions. SVCA staff installed a new Silver Lake gauge at an alternate location and resumed monitoring in October 2022.
[2] Clam Lake Monitoring Station was not monitored after November 2022 because of property access issues that have yet to be resolved.
[3] Unnamed Lake included in this study is also referred to as Oppleck Lake, and although this lake does not have a formal name, the name Oppleck was shared with us from a local resident and adopted into our program.
[4] SB_Flow_TWR_01's transducer cable was severed by a rodent on May 5th after 20:15:00. A replacement cable was installed in November 2023 to provide continuous data collection for Year 3.
[5] The Beatty Saugeen River Flow Station is operated by the Government of Canada and the publicly available data from this station is used as a reference site to the Teeswater River located within the AOI.

4.2 Methods

4.2.1 Field Methods

4.2.1.1 Continuous Water Level

Continuous level loggers were installed at two stations within the Teeswater River (SB_Flow_TWR_01 and SB_Flow_TWR_02; see Figure 4-1 and Table 4-1) in December of 2021 to collect water level data at 15-minute intervals using a submersible pressure transducer. The water level stations were installed by inserting the pressure transducer into a perforated plastic tubing attached to an aviation cable. The cable was then secured to a ground anchor and the pressure transducer was submerged into the waterbody at a depth that would remain underwater during normal water level fluctuations. Barometric pressure transducers were also installed. Throughout Year 2 of the monitoring period, maintenance visits were conducted to ensure that instrumentation defects, battery life, and wildlife did not affect the continuous collection of water level data. As noted in Section 4.1, SB_Flow_TWR_01 had its transducor cable severed by a rodent on May 5, 2023. The cable was not replaced until November 2023, providing only a partial Year 2 data set for the transducer.

4.2.1.2 Discrete Water Level

Permanent staff gauges were installed at 12 locations in the Teeswater River watershed and surrounding areas for discrete water level readings (see Figure 4-1 and Table 4-1). Each staff gauge was installed with the bottom of the staff gauge at the sediment-water interface (water level measurement of 0.00 m). Staff gauge monitoring consisted of staff visually inspecting each staff gauge monthly and recording the water level indicated by the gauge. As noted in Section 4.1, Silver Lake monitoring station was inaccessible due to property access issues in September 2022 and was subsequently relocated to allow access, with monitoring resuming in October 2022. Clam Lake monitoring station was inaccessible due to property access issues after November 2022.

4.2.1.3 Meteorology

In late August 2021 a meteorological station was installed at SB_MET_AOI (Figure 4-1 and Table 4-1). Sensors within the meteorological station continuously measure multiple parameters at 15-minute intervals, including soil moisture content, ambient temperature, total precipitation, snow depth, wind speed and direction, relative humidity, atmospheric

pressure, and solar radiation. The meteorological station is solar-powered and uses telemetry to transmit data to an online data storage platform hourly.

4.2.2 Data Quality Assurance & Quality Control

For each monitoring component, QA/QC measures were completed as part of the data collection effort and included calibration of survey equipment, protection of the instrument against factors that may obstruct or damage the equipment (wildlife, flooding, and winter conditions), and establishing proper vertical and horizontal datum for the data collection.

Data quality controls were also conducted throughout Year 2 of the monitoring programs. Site visits to the monitoring stations were conducted to download and assess the reliability of the data, re-calibrate the survey equipment, and perform other maintenance activities periodically. After all data from Year 2 were retrieved, the data were checked for completeness and reliability (by comparison with normal range expected for the AOI).

Further details on the QA/QC methods for each monitoring component are provided in Appendix A.

4.3 Results

The results of the Year 2 hydrology monitoring component of the EMBP are provided in Appendix A. A brief summary is provided herein.

4.3.1 Water Level

Continuous water level monitoring at SB_Flow_TWR_02 was relatively complete. SB_Flow_TWR_01 suffered a cable failure after May 5, 2023, which is the most significant data gap in the water level measurements. Measurements can be found in Appendix A. No stage references were changed in Year 2. Year 2 saw two significant rainfall events: one in August 2022, and the second one in September 2022. This permitted a review of the rainfall response time at each station: the peak water level at SB_Flow_TWR_01 occurred more than 10 hours earlier than at SB_Flow_TWR_02 in both large events. Given the land cover difference between the tributaries to each flow station, the difference in storm response time between the two stations is reasonable.

Discrete water level data collected from the 12 staff gauges (see Appendix A) suggest that five water bodies in the EMBP study area may be intermittent: Arran Wetland, Elderslie Wetland, Greenock Wetland, Osprey Wetland, and Saratoga Wetland. The seasonal

variation in water level for all stations during Year 2 was between 0.0 m to 0.540 m, which is within the reasonable range for local small lakes and streams.

4.3.2 Meteorology

A variety of meteorological parameters were monitored continuously at the EMBP meteorological station (SB_MET_AOI), with the most important parameters for site hydrology being the ambient temperature and total precipitation. No data gaps were identified for Year 2. Data from this EMBP station were compared with data from existing Environment and Climate Change Canada (ECCC) meteorology stations in Mount Forest and Goderich (current EMBP year), and Hanover (historical data from 1981 to 2010). The Mount Forest Station (Climate ID: 6145504) and the Hanover Station (Climate ID: 6112171) are both located approximately 50 km east of the AOI. Goderich (Climate ID: 6122847) is located approximately 40 km southwest of the AOI.

Air temperatures measured at the EMBP meteorological station exhibited similarities to the air temperatures measured at the nearby Mount Forest station and the EMBP meteorological data aligns closely with the historical trends recorded at the Hanover station. The consistency between the two current locations and similarity to the 40-year historical average supports the overall accuracy of the meteorological observations from the EMBP meteorology station. It was noted that a high average monthly temperature was observed in the month of April 2022 for the EMBP station.

Total cumulative monthly precipitation at the EMBP were within a reasonable range compared to the Mount Forest station and the 1981 to 2010 historical average from the a station in Hanover, Ontario. In most cases, precipitation at the EMBP station was recorded to be lower than what was observed at the Mount Forest Station. Rainfall at the EMBP station was lower than the average historical rainfall at the Hanover Station and the recorded monthly totals for both Mount Forest and Goderich.

Snow depth measurements showed some anomalous readings that were identified and dealt with during the QA/QC phase of the data analysis.

As part of the continuous monitoring efforts, data collection will persist throughout Year 3 of the monitoring period. This extended monitoring phase will allow for further analyses to be conducted, contributing to a more comprehensive understanding of the climate dynamics with the EMBP station.

4.4 Summary

In summary, Year 2 data were collected at the established monitoring stations, with few exceptions including the flow monitoring at SB_Flow_TWR_01 (cable issue that has been repaired) and water levels at Silver Lake and Clam Lake (due to access issues). Data will continue to be collected at the same locations in Year 3.

Lake and wetland water levels varied as expected for the local small lakes and wetlands. For the meteorology data, two significant (daily precipitation >20 mm) rainfall events were captured in Year 2, one in August 2022 and one in September 2022. Temperature was similar to the climate normal at Hanover Station; however, the recorded rainfall was lower than the average monthly values at Hanover Station and the measured monthly totals at Goderich and Mount Forest stations.

5.0 DRINKING WATER

5.1 Program Overview

The shallow groundwater (less than 100 meters below ground surface [mbgs][5]) is a key component of an EMBP. Concurrent with implementing the EMBP, the NWMO Geoscience team is designing and implementing a shallow groundwater monitoring program that focuses on characterizing the physical hydrogeology in the AOI. The design of the shallow groundwater physical hydrogeology program is built on the current understanding of the regional and local hydrogeology and builds on the existing groundwater data[6] to determine the locations of the new and proposed shallow groundwater monitoring wells. The EMBP also included recommendations for a groundwater quality program that is being refined and implemented by the NWMO Geoscience team as the groundwater monitoring well network is established. The shallow groundwater monitoring program is being implemented by others and will be presented in a separate report.

An important component of the shallow groundwater program is the quality of the drinking water in the area surrounding the proposed Project. The drinking water quality portion of the EMBP for the SON-South Bruce site includes a private water well sampling program co-designed and implemented by community members and the NWMO. It focuses on sampling private drinking water wells on lands under contract with the NWMO and on properties adjacent to NWMO contracted land. The drinking water program involves annual sampling over the three years of the EMBP. The number of wells, parameters analyzed, and frequency of sampling may be adjusted each year depending on the data collected in previous years and the interest of private well owners. The Year 1 drinking water program results were presented in the Year1 Baseline Report (CanNorth et al. 2023b).

The data collected as part of the drinking water program will be used to understand the current drinking water quality, engage with the local community, and help assess cumulative effects. The data would also become a key component of the IA should the community remain in the process and become the single preferred site for the Project. To

[5] The 100 m is a guideline only used to separate the shallow groundwater program from the NWMO Geosciences deeper geologic and groundwater investigation program (down to 1 km) which has a different, although complimentary and overlapping, focus than the EMBP. The actual depth of the sampling and investigation associated with the shallow groundwater program will be determined by the Geosciences team as they advance the characterization of the shallower intervals and install the monitoring network.

[6] From sources such as the Ontario well water information system (WWIS), Ontario Ministry of the Environment, Conservation and Parks (MECP) provincial wells, Ontario Geologic Survey studies, Gao et al. (2006).

support an IA, data collected as part of the EMBP, along with other data collected to complete the IA process will be used to:

- identify all domestic, communal, or municipal water wells within the local and regional project areas, including their screened hydrostratigraphic unit and piezometric level; and
- describe their current use, potential for future use, and whether their consumption has any Indigenous cultural importance.

This regulatory requirement will in part be addressed by the current design of the drinking water program, but modifications may be required to address additional data needs in the future.

The drinking water program is designed to evaluate the baseline conditions in private well drinking water sources near NWMO contracted lands and to provide homeowners within that area an opportunity to test their drinking water quality. To meet this objective, information will be gathered to:

- Identify existing drinking water wells which may serve as appropriate shallow groundwater monitoring wells should the SON-South Bruce siting area be selected as the single preferred site for the Project.
- Document existing conditions against which to measure any environmental change.
- Provide interested homeowners with information about their drinking water.
- Identify existing drinking water wells that may possibly be included in a long-term comprehensive monitoring program.

The program is voluntary for homeowners, and it provides participants an opportunity to find out if their well water has any existing issues. The program at this stage is not designed to fully evaluate the environmental baseline conditions for the SON-South Bruce study area or to meet the standards of various permitting processes associated with the program. As drinking water private well samples are collected and results are analyzed, the program will be updated over time to meet these standards.

The drinking water quality program is designed to evaluate the baseline conditions in private well drinking water sources within the AOI. Homeowners within the SON-South Bruce siting area AOI were contacted by the NWMO to inquire about their interest in participating in the residential water well sampling program. Those who were interested

notified the NWMO, and subsequently had their wells sampled by Tulloch Engineering (Tulloch) in 2021 and then again in Year 2.

A total of 12 homeowners volunteered to participate in the Year 2 drinking water program for a total of 14 properties being sampled. All sampling locations were within the AOI (Figure 5-1). Results were distributed in 2023 to participants of the program in the form of personalized memos. Results may also be incorporated into a long-term comprehensive baseline monitoring program should the community remain in the process and become the single preferred site for the Project.

The sampling parameters, frequency, and locations of the drinking water program may be altered in future years as data are evaluated and further engagement with the local communities is conducted who may identify specific areas of importance such as lands of cultural importance, those used for commercial purposes (e.g., sand and gravel pits), or those that will be addressing concerns of the local population outside of the study areas.

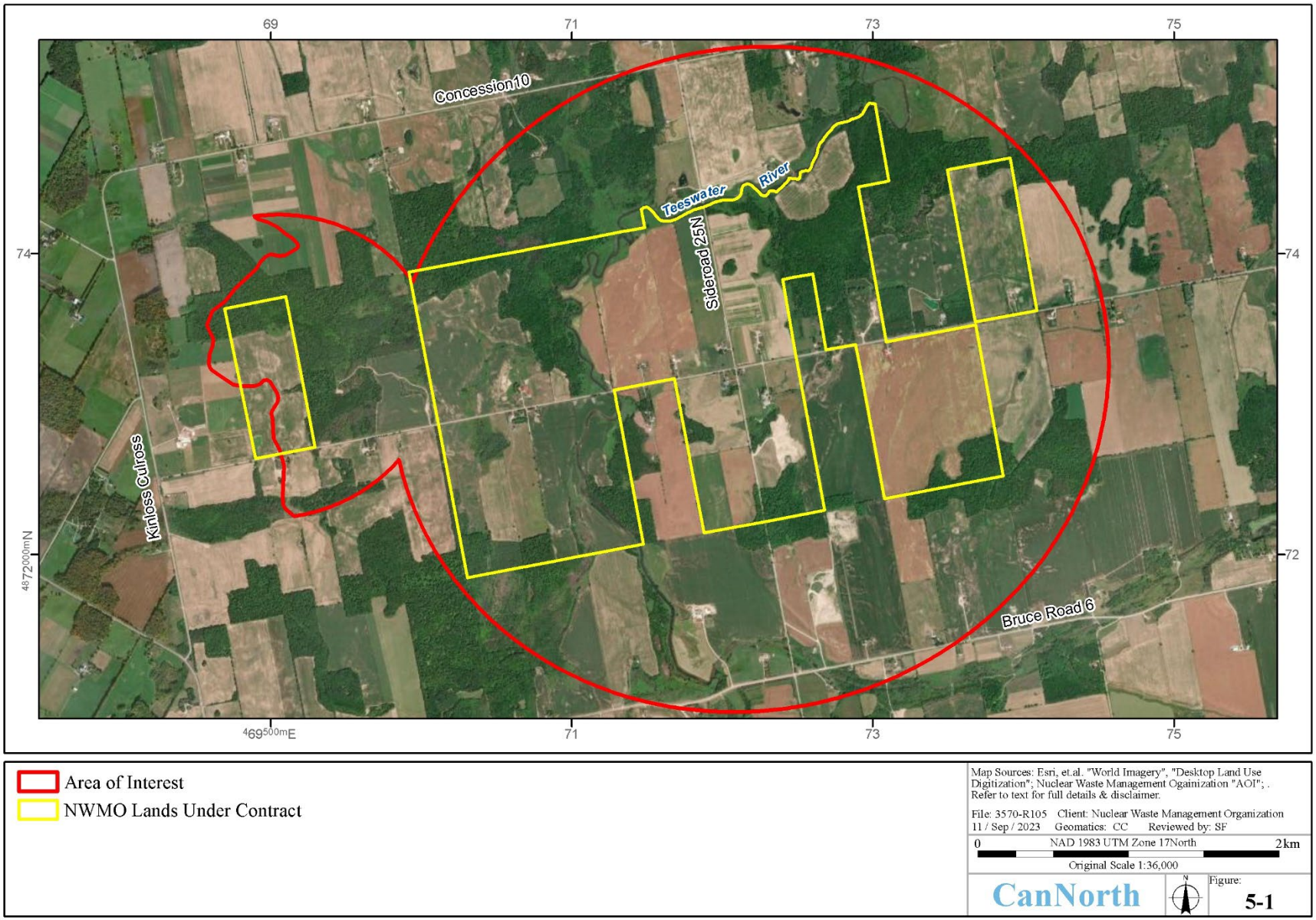


Figure 5-1 Study area boundaries of drinking water program.

5.2 Methods

Tulloch followed field investigation procedures and data collection and management procedures outlined in the EMBP Design Report (CanNorth et al. 2021). Samples were collected following provincial drinking water collection guidelines from the Ontario Ministry of Environment (MOE 2009). A total of 12 homeowners volunteered to participate in the 2022/23 drinking water program for a total of 14 properties being sampled. In order to anonymize the data, locations are simply identified in this report as WW01–WW14 and well locations are not mapped. However, all sampling locations were within the AOI (Figure 5-1). A more detailed summary of the methods used are provided in Appendix B.

5.2.1 Laboratory Analyses

Water quality analyses included:

- PAHs
- Anions, Nutrients and Alkalinity
- Bacteriological Tests (*E.Coli*, Total Coliforms)
- Extractable Metals (Mercury)
- Herbicides (Glyphosate)
- Pesticides (Diquat, Diuron)
- Petroleum Hydrocarbons (F1-F4 Fractions)
- pH
- PCBs
- Radioactive Elements (Gross alpha and beta)
- SVOCs
- Total Metals
- VOCs

If samples exceeded guidelines for gross alpha and beta, they were re-tested for gross alpha and beta concentrations in April 2023. Following the April 2023 gross alpha and beta results, samples which exceeded guidelines again were tested for a full suite of radionuclides. WW01 had exceeded gross beta guidelines in 2021 sampling, so following an exceedance again in November 2022, a full suite of radionuclides was run in April 2023. The full radionuclide suite included:

- Tier 1 Radionuclides
    - Tritium
    - Cesium-137
    - Cobalt-60
    - Gross alpha
    - Gross beta
    - Ruthenium-106
    - Carbon-14

  - Iodine-129
  - Strontium-90
- Tier 2 Artificial Radionuclides
  - Selenium-79
  - Chlorine-36
  - Neptunium-237
  - Plutonium-238
  - Plutonium-239
- Tier 2 Natural Radionuclides
  - Uranium-238
  - Uranium-235
  - Uranium-234
  - Potassium-40
  - Thorium-232
  - Thorium-230
  - Thorium-228
  - Radium-226

5.2.2 Data Analyses

Field measured parameters (DO, pH, TDS, temperature, conductivity, and ORP), although they can be indicators of water quality, are collected to evaluate if the water samples collected after purging will be representative of the groundwater. Some parameters, such as pH, stabilize quickly and others such as DO can take longer to stabilize. Generally, these field measured parameters indicate if samples were collected after the conditions had stabilized and were therefore representative samples of the water.

The drinking water samples were compared to Schedule 1 (Microbiological Standards) and Schedule 2 (Chemical Standards) of the Ontario Drinking Water Quality Standards (ODWQS Microbiological and Chemical (MC); Ontario Regulation (O.Reg.) 169/03). Additionally, water samples were compared to the Table 4 (Ontario Drinking Water Quality Standards Aesthetic and Operational Objectives [ODWQS AO]) of the Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines (MOE 2006). Table 4 (ODWQS AO) indicates that the Aesthetic Objective (AO) for sodium in drinking water is 200 mg/L but that the local Medical Officer of Health should be notified when the sodium concentration exceeds 20 mg/L so that this information may be communicated to local physicians for their use with patients on sodium restricted diets. The results presented herein describe an exceedance of concentrations above 20 mg/L and an exceedance of ODWQS AO for concentrations above 200 mg/L.

Drinking water samples were tested for the presence of radioactivity using gross alpha and beta determinations. Gross alpha and beta concentrations were compared to the Canadian Drinking Water Quality Guidelines for Radiological Parameters (CDWG RP). If samples exceeded guidelines for gross alpha and beta, they were re-tested and samples which exceeded guidelines again were tested for a full suite of radionuclides which were compared with the CDWG RP.

5.3 Results

Flow rates and total volumes of well water purged prior to sampling were collected along with field measured parameters. The results for each location are presented in Appendix B.

There was no consistent increasing or decreasing trends observed during the purging of the wells (measured at start, after 5 and 10 minutes of purging, and prior to sample collection) during the well sampling events.

Appendix B presents only the data that had exceedances of one of the drinking water standards or guidelines. Detection limits varied in all samples due to some samples requiring dilution in the laboratory. For the November 2022 samples, reported PAHs, mercury, herbicides, pesticides, PHCs, PCBs, SVOCs, and VOCs (excluding phenols) were below reported detection limits in all samples (non-detect). Laboratory detection limits were below the applicable guidelines where available with the exception of one (1) PAH, benzo(a)pyrene, which had detection limits between 0.038 ug/L and 0.044 ug/L (Section 2.4 in Appendix B). Multiple parameters in the anions and nutrients suite, the bacteriological suite, the metals suite, and the radioactive elements were above the laboratory detection limits but below regulatory guidelines. Exceedances of ODWQS guidelines were measured in five parameters, and exceedances in CDWG RP were measured in two parameters as outlined below:

- Chloride (1 of 14 locations; ODWQS AO: WW13)
- Total Coliforms (3 of 14 locations; ODWQS: WW01, WW10, WW13)
- Iron (5 of 14 locations; ODWQS AO: WW02, WW03, WW05, WW06, WW08)
- Manganese (1 of 14 locations; ODWQS AO: WW02)
- Sodium (3 of 14 locations; exceeded 20 mg/L: WW04, WW11, WW13)
- Gross alpha (2 of 14 locations; CDWG RP: WW02, WW03)
- Gross beta (2 of 14 locations; CDWG RP: WW01, WW06)

Some of the exceedances may be due to natural conditions of the aquifers in which the wells are screened, such as the exceedances of iron, which can be present in the aquifer materials and mobilized in groundwater with low ORP/low DO. The exceedance of chloride in WW13, which is a very shallow well that also has the highest sodium concentration, may indicate that this well is impacted by salt (e.g., road salt, water softener, septic, etc.). The exceedances of the total coliforms generally indicate impacts to the well from surface water or runoff. Three of the wells (WW01, WW10 and WW13) with total

coliforms exceedances also have positive ORP and higher DO which supports a shallow source of water.

Wells which exceeded CDWG RP guidelines for gross alpha and beta concentrations during November 2022 sampling were re-sampled in April 2023 to further investigate the results (WW01, WW03, WW06). Homeowners at WW02 did not wish to partake in the April 2023 sampling program. WW03 and WW06 were re-tested for gross alpha and beta concentrations. Concentrations of both parameters were below CDWG RP guidelines at WW06 (gross alpha = 0.363 Bq/L; gross beta =<0.148 Bq/L), so no further radionuclide testing was completed. Concentrations of gross alpha at WW03 remained above CDWG RP guidelines during April 2023 re-sampling (gross alpha = 1.32 Bq/L), so the full radionuclide suite was analyzed. Following concentrations of gross beta above CDWG RP at WW01 during November 2022 testing (gross beta = 1.11 Bq/L), the full radionuclide suite was run during April 2023 re-sampling, as this well had previously exceeded gross beta CDWG RP guidelines in the 2021 sampling program. Exceedances in CDWG RP at WW01 and WW03 following the analysis of the full radionuclide sampling suite are shown in Appendix B and are listed below:

- Gross alpha (WW03)
- Gross beta (WW01, WW03)
- Radium-226 (WW03)

Detectable concentrations of Uranium-234, Uranium-235, and Uranium-238 were reported at WW01 and WW03 although all well below the guideline of 3 Bq/L.

All exceedances were reported to homeowners and they were referred to their local public health unit if they wanted to follow up on the implications of the results.

5.4 Quality Assurance/Quality Control

The QA/QC procedures employed during the 2022/23 drinking water program are presented in Appendix B and the sampling methods and results met the QA/QC guidelines.

5.5 Summary

The Year 2 drinking water program was completed in November 2022 with follow up sampling at select locations in April of 2023, to characterize the drinking water in the SON-South Bruce siting area AOI. Participation in the program was voluntary and may be expanded to other homeowners in subsequent years. Results may also be incorporated into

a long-term comprehensive baseline monitoring program if the study area is selected as the repository site.

The focus of the Year 2 program was on sampling private wells from homeowners who volunteered to have their wells sampled. The aim is to sample these wells for an additional year to get a baseline drinking water quality assessment. The concentrations of water quality parameters in most wells were low, below the laboratory detection limits, and below applicable drinking water quality standards (ODWQS and CDWG RP). There were exceedances of the ODWQS for chloride, iron, manganese, total coliforms, and sodium in a few wells. Two wells exceeded the applicable water quality guideline (CDWG RP) of radioactivity for gross beta and two wells exceeded the applicable water quality guideline (CDWG RP) of radioactivity for gross alpha. One well exceeded the applicable water quality guideline (CDWG RP) for radium-226.

These results illustrate that some parameters are currently detected in the study area, even before development of the Project should it become the single preferred site, which is important to establish during the baseline period. The Year 2 results generally align with the results of the Year 1 sampling event (CanNorth et al. 2023b). As additional data become available from the Year 3 sampling campaign, further characterization of the study area will be completed.

6.0 SOIL

6.1 Sampling Overview

The purpose of the soil component of the EMBP is to determine the existing conditions within the SSA, LSA_{SOIL}, and RSA_{SOIL} in order to assess the potential for impacts and feasibility of the design and construction of the Project.

Understanding terrestrial soil quality and bedrock chemistry is an essential component of site characterization for a DGR. The Project may affect the surficial soil (top 30 cm) through multiple pathways (CanNorth et al. 2021), and soil is the main medium from which COPC may partition into groundwater and surface water (CCME 2016). Soil impacted with COPC may also be transported through the air as dust or through wind erosion. Soil quality may be affected by excavation and construction activities, air deposition, and water (spills, runoff, leachate) and then transferred to other media such as plant tissue and subsequently up the food chain. Heterogeneous bedrock (consolidated or unconsolidated) may affect COPC distribution, especially in fractured areas (CCME 2016).

The soil component of the EMBP includes assessing soil at the ground surface (top 30 cm). Soil quality was to be sampled primarily in Year 1, with confirmation sampling occurring in Year 2 at a subset of the Year 1 locations and newly selected locations that were not accessible in Year 1. As mentioned in Section 2.1, due to a number of circumstances, the baseline program had to incorporated a staggered start with Year 1 focussing on surface water, hydrology, and drinking water and Year 2 continuing these components as well as adding soils. Thus, Year 1 of the soil program was initiated as part of the Year 2 sampling campaign.

A total of 56 soil samples and six duplicate soil samples were collected in the summer of 2023 (Table 6-1). As shown in Figure 6-1, soil sampling was performed across the four Soil Groups identified within the AOI, LSA_{SOIL} (2 km radius around the AOI), and RSA_{SOIL} (5 km radius around the AOI).

Table 6-1 Soil samples collected in August 2023.

Location ID	Soil Group	Study Area	Sample Date	Duplicate Sample Collected?
A-2-01-01	Soil Group 2	AOI	15-Aug-23	
A-2-02-01	Soil Group 2	AOI	16-Aug-23	
A-2-03-01	Soil Group 2	AOI	15-Aug-23	
A-3-01-01	Soil Group 3	AOI	15-Aug-23	
A-3-02-01	Soil Group 3	AOI	18-Aug-23	
A-3-03-01	Soil Group 3	AOI	30-Aug-23	
A-3-04-01	Soil Group 3	AOI	17-Aug-23	
A-3-05-01	Soil Group 3	AOI	16-Aug-23	
A-3-06-01	Soil Group 3	AOI	16-Aug-23	
A-3-07-01	Soil Group 3	AOI	30-Aug-23	
A-5-01-01	Soil Group 5	AOI	15-Aug-23	
A-5-02-01	Soil Group 5	AOI	16-Aug-23	Yes
A-5-03-01	Soil Group 5	AOI	16-Aug-23	
A-5-04-01	Soil Group 5	AOI	15-Aug-23	Yes
A-5-05-01	Soil Group 5	AOI	15-Aug-23	
A-5-07-01	Soil Group 5	AOI	14-Aug-23	
A-5-09-01	Soil Group 5	AOI	14-Aug-23	
A-5-10-01	Soil Group 5	AOI	15-Aug-23	
A-5-11-01	Soil Group 5	AOI	15-Aug-23	
A-5-14-A2	Soil Group 5	AOI	29-Aug-23	
A-6-01-01	Soil Group 6	AOI	16-Aug-23	Yes
A-6-02-01	Soil Group 6	AOI	28-Aug-23	
A-6-03-01	Soil Group 6	AOI	14-Aug-23	
A-6-04-A1	Soil Group 6	AOI	30-Aug-23	
A-6-05-A2	Soil Group 6	AOI	29-Aug-23	
L-2-01-01	Soil Group 2	LSA	17-Aug-23	
L-2-02-01	Soil Group 2	LSA	14-Aug-23	
L-2-03-01	Soil Group 2	LSA	16-Aug-23	
L-3-01-01	Soil Group 3	LSA	19-Aug-23	
L-3-02-01	Soil Group 3	LSA	17-Aug-23	
L-3-03-01	Soil Group 3	LSA	18-Aug-23	
L-3-03-02	Soil Group 3	LSA	18-Aug-23	
L-3-04-01	Soil Group 3	LSA	16-Aug-23	
L-3-04-02	Soil Group 3	LSA	16-Aug-23	
L-3-05-01	Soil Group 3	LSA	18-Aug-23	
L-3-06-01	Soil Group 3	LSA	16-Aug-23	
L-3-06-02	Soil Group 3	LSA	16-Aug-23	
L-5-01-01	Soil Group 5	LSA	14-Aug-23	
L-5-02-01	Soil Group 5	LSA	15-Aug-23	Yes
L-6-02-01	Soil Group 6	LSA	18-Aug-23	
R-2-01-01	Soil Group 2	RSA	18-Aug-23	
R-2-01-02	Soil Group 2	RSA	18-Aug-23	
R-2-02-01	Soil Group 2	RSA	15-Aug-23	
R-2-03-01	Soil Group 2	RSA	19-Aug-23	
R-2-04-01	Soil Group 2	RSA	19-Aug-23	

Location ID	Soil Group	Study Area	Sample Date	Duplicate Sample Collected?
R-2-05-01	Soil Group 2	RSA	17-Aug-23	Yes
R-3-01-01	Soil Group 3	RSA	19-Aug-23	
R-3-03-01[1]	Soil Group 2	RSA	19-Aug-23	
R-3-04-01	Soil Group 3	RSA	17-Aug-23	
R-3-05-01	Soil Group 3	RSA	17-Aug-23	
R-3-06-01	Soil Group 3	RSA	17-Aug-23	
R-3-08-A2	Soil Group 3	RSA	29-Aug-23	
R-6-01-01	Soil Group 6	RSA	15-Aug-23	
R-6-02-01	Soil Group 6	RSA	17-Aug-23	
R-6-03-01	Soil Group 6	RSA	28-Aug-23	
R-6-04-01	Soil Group 6	RSA	17-Aug-23	Yes

[1] Central point located in Soil Group 2 instead of Soil Group 3 as intended. Corrected in Table 6-3 count.

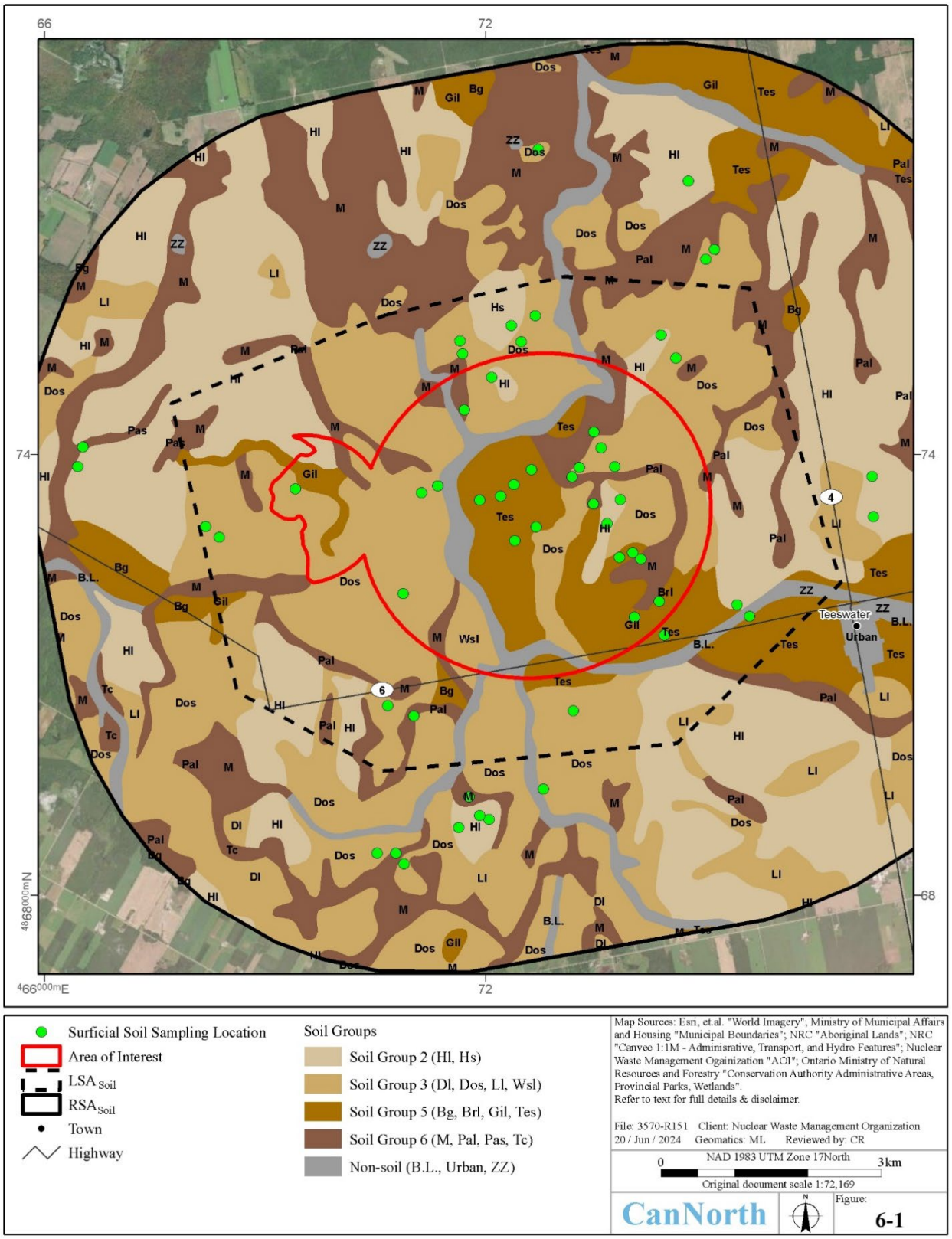


Figure 6-1 Soil sampling locations.

6.2 Methods

Soil samples were collected using the methods and standard operating procedures as documented in the EMBP (CanNorth et al. 2020).

6.2.1 Field Methods

Each soil sample was a composite of eight discrete samples, consisting of seven samples collected from within 20 m of one central sampling point. VOC sample collection (a discrete sample) and *in-situ* field tests were performed at each central sampling point. Additionally, LaMotte Soil Macronutrient and Micronutrient field kits were also used for next-day analyses of several soil parameters.

6.2.1.1 Sample Site Selection

The central point of all soil sampling circular buffers was chosen through a desktop GIS exercise. A shapefile of all soil types within the Study Area (the AOI plus a 5 km radius beyond the AOI) included soil layer data from the National Soil Database (EPA 2021) with soil categorization into four (4) groups; Soil Groups 2, 3, 5, and 6. Descriptions of Soil Groups are provided in Table 6-2 based on the EMBP (CanNorth et al. 2021).

Table 6-2 General description of Soil Group attributes.

Soil Group	Description
Soil Group 2	Medium- to fine-textured soils developed from calcareous glacial till, medium-textured to moderately fine-textured soils developed from slightly calcareous glacial till mixed with shale, and medium-textured soils developed in recent alluvium.
Soil Group 3	Moderately coarse-textured soils developed from glacial outwash and recent alluvium and medium textured acid soils with fragipans developed on glacial till.
Soil Group 5	Coarse-textured to very coarse-textured soils formed from gravelly or sandy glacial outwash or glacial lake beach ridges or deltas.
Soil Group 6	Organic or muck soils with more than 80% organic content.

The study area comprised primarily of private land and sampling was conducted with property access acceptance in the sampling program. Sampling was constrained by several avoidance criteria which sought to minimise the influence of buildings and local sources of contamination (e.g., outbuildings, septic systems, waste piles). Sampling was also targeted to include locations sampled from within both agricultural and naturalised areas. A desktop exercise was completed to: (1) narrow the sampleable areas to accessible lands, (2) exclude areas not suitable for sampling, (3) classify land use into naturalized or

agricultural, (4) compile a list of accessible and potentially suitable sample areas, (5) randomly select and prioritise candidate sample area for inclusion in the sampling program, and (6) situate sample plots appropriately within those prioritised locations.

Land parcels were overlaid on the soil groups map, along with the boundaries of the AOI, LSA_{SOIL}, and RSA_{SOIL} and aerial imagery obtained from ESRI and Google Earth databases. Sampleable areas were constrained to accessible sites and removed portions of those remaining areas based on the following rules:

- Sites were set back a minimum of 20 m from all property boundaries.
- Sites were set back a minimum of 20 m from all Soil Group boundaries, with preference for choosing a site near the midpoint of the polygon representing the Soil Group.
- Sites were set back a minimum of 20 m from all homesteads, outbuildings, septic systems, driveways, traveled roads or apparent trails, other visually apparent sources of possible contamination, and waterbodies.
- Area less than 0.5 ha, once the above setbacks were imposed, were eliminated from consideration.

The remaining areas were considered candidates for sampling and were classified into agricultural and naturalized land uses. A random number generator was used to select among the candidate areas and assign them a relative priority.

Once selected, a sample plot was positioned within each candidate area at locations that appeared representative. Slight modifications to sample locations were done as needed in the field based on observed conditions. Each plot was then given an alphanumeric code representing (1) the study area in which it is located (i.e., the AOI, LSA_{SOIL} or RSA_{SOIL}), (2) the Soil Group number, and (3) the randomized priority number.

Example: A sample location that is the greatest priority for Soil Group 2 in the AOI would be coded A-2-01 (A = AOI, 2 = Soil Group 2, 01 = First Priority). A fourth numerical value was assigned to prioritize areas within a soil group within a parcel, or to create an extra sampling location if there were not enough available sampling locations for the proposed number of samples within a study area soil group. For example, A-2-01-01 was the preferred sampling location in the Soil Group within the parcel, however, if inappropriate to sample, the sample would be taken at A-01-01-02. If there were not enough available Soil Group 2 sampling locations within the AOI, both A-2-01-01 and A-2-01-02 could be

sampled. Likewise, some alternative sampling locations were produced (i.e., R-3-08-A2) as back-up sampling locations when there was an excess of available sampling locations compared to the proposed number of samples for a Soil Group within a study area. If the high priority sampling locations were deemed inappropriate in the field (e.g., due to inaccessibility or inappropriate land use), alternative sampling locations were used.

6.2.1.2 Field Soil Collection Procedures

NWMO provided participating property owners with 48 hours of notice prior to accessing sample plots. Upon arrival, crews navigated to the pre-selected sample plot and field-fit the plot, if necessary, according to the following rules:

- Sampling closer than 20 m to property boundaries was permissible if the boundary was clearly indicated, such as with a fence.
- If required, sampling could be undertaken closer to travelled roads or trails (a minimum setback of 3 m), to minimize other sources of contamination.
- Centralized points were adjusted to ensure all samples were setback a minimum of 10 m from manure piles, domestic and agricultural waste, high-water marks of waterbodies, and any evidence of possible sources of soil contamination (e.g., abandoned vehicles, outbuildings with chemical storage, soil discolouration, etc.).
- Each sampling plot included a composite sample prepared from eight discrete samples; one at a centralized sample point, and seven within 20 m of the central point. Sampling entailed:
    - Documenting existing conditions of the site, weather, date/time, UTM coordinates and waypoints, photographs, any potential sources of contamination.
    - VOCs were collected from the central sampling location only and were collected using a laboratory supplied Terra Core soil plug to collect soil directly from the excavated hole. The soil plug was deposited directly into laboratory containers pre-filled with methanol. Containers were sealed properly to prevent evaporation of the methanol during transport.
- Once all eight discrete sub-samples were thoroughly mixed, all laboratory supplied containers (aside from VOCs) were filled from the composite sample.
- In addition to the laboratory soils kits, a 45 mL sample was collected from the composited sample at each site for field laboratory analysis. These samples were analysed for pH, nitrate nitrogen, and phosphorus using a LaMotte 5928-01 Soil

Macronutrient Case, and ammonia nitrogen using a LaMotte 5938-02 Soil Micronutrient Case.

- At the central sampling location soil moisture was measured using an Extech MO750 Soil Moisture Meter by Cole-Parmer. Soils were assessed according to select field techniques outlined in the *Field Guide for Substrates of Ontari*o (Heck et al. 1993). Colour was estimated using a Munsell Soil Colour Chart. Any notable smell or abnormalities were recorded.

In addition to the sampling equipment cleaning procedures, various QA/QC samples were submitted to the laboratory to verify sample quality.

- One trip blank was completed per sampling day. Trip blanks were used to check contamination of sample jars from sources of VOCs (e.g., gasoline-fueled vehicles) during sampling and cooler transport.
- Six duplicate samples (representative of 10% of the total number of samples as recommended by CCME (2016)) were collected. Each duplicate sample was collected similarly to a regular sample.
- Nine rinsate blanks (one per sampling day) were prepared to check for contamination of the sampling procedure and devices. Rinsate blanks were analysed for parameters collected during that sampling day. Four randomly selected rinsate samples were also analysed for Tier 2 artificial radionuclides.

6.2.2 Laboratory Analyses

All soil samples and associated rinsate and trip blanks were analyzed by ALS laboratories, a CALA accredited lab. All quality-assurance/quality-control (QA/QC) procedures followed for this medium are available in Appendix C.

6.2.3 Data Analyses

All soil samples were submitted to the laboratory and analyzed for the following primary suite of analytes:

- Total metals – major and trace elements
- VOCs
- PAHs
- SVOCs
- PHCs

- Dioxins and furans
- Total PCBs
- Organochlorine pesticides
- Nutrients – total phosphorus, potassium, and nitrogen
- Ammonia, nitrite, nitrate, organic nitrogen
- pH
- TOC
- Electrical conductivity
- Sodium absorption ratio
- Grain size distribution
- Chloride
- Total inorganic carbon
- Cyanide
- Sulphate, and sulphur
- Soil moisture content
- Tier 1 and 2 natural radionuclides – H-3, C-14, Sr-90, I-129, Cs-137, gross-α, gross-β, U-234, U-235, U-238, K-40, Th-228, Th-230, Th-232, Ra-226
- Tier 2 artificial radionuclides (for 10% of sampling locations) – Cl-36, Co-60, Se-79, Ru-106, Np-237, Pu-238, Pu-239,

The EMBP Design report (CanNorth et al. 2020) identified the following primary references for obtaining regulatory guidelines:

- MECP: Soil, Groundwater and Sediment Site Condition Standards (MOE 2011).
- CCME (2023): Canadian Soil Quality Guidelines (CSQGs) for the Protection of Environment and Human Health.
- Non-Radiological Interim Acceptance Criteria for the Protection of Persons and the Environment (NWMO 2015).
- Alberta Tier 1 Soil and Groundwater Remediation Guidelines (AEPA 2024)

If guidelines were not available from these federal or provincial agencies then other jurisdictions were considered. In addition, the NWMO developed interim acceptance criteria for the protection of persons and the environment from non-radiological impacts for surface water, groundwater, soil, sediment, and air (NWMO 2015, 2019). The interim acceptance criteria are primarily based on the applicable guidelines, supplemented as needed by internationally developed guidelines and literature. These acceptance criteria are

being used in the NWMO postclosure safety assessment and are, therefore, also relevant as an evaluation tool.

6.3 Results

Preliminary summary statistics were performed on the results for each reported analyte by soil type (Appendix C). These preliminary summary statistics included average result concentration, median result concentration, standard deviation, and the 5th and 95th percentile concentrations. Non-detect concentrations were set as equal to the detection limit. The results were then compared to the guidelines as detailed in Section 6.2.3.

Thirty-one of the soil sampling locations were located within agricultural fields, pastures, or meadows, and 24 soil sampling locations were located within cultural or naturalized forests. One sampling location was a manicured lawn. Nineteen plots were found to have no disturbances within the soil plot, while the remaining 37 plots had some degree of disturbances within or in proximity to the plot, predominantly being active/recent cultivation, evidence of logging, and ATV trails. During data QC, one site was found to be in the incorrect Soil Group. Site R-3-03-01 was collected from Soil Group 2 as opposed to Soil Group 3.

Table 6-3 Summary of soil samples collected per Soil Group and location.

Soil Group	Number of Samples			
	AOI	LSA_{SOIL}	RSA_{SOIL}	Grand Total
Soil Group 2	3	3	7	**13**
Soil Group 3	7	9	5	**21**
Soil Group 5	10	2	0	**12**
Soil Group 6	5	1	4	**10**
Grand Total	**25**	**15**	**16**	**56**

6.3.1 Anions, Nutrients, Organics, and Physical Properties

Of the 20 anions, nutrients, organics, and physical properties analyzed to characterize the general chemistry of the soil, only three have available guidelines. As shown in Table 6-4, pH is slightly acidic and below the expected range for the 5th percentile in Soil Group 3at a pH of 5.84, however, the mean, median, and 95th percentile for Soil Group 3 (6.8, 7, and 7.31 respectively) are within the guideline. The 5th percentile, mean, median, and 95th percentile for Soil Groups 2, 5, and 6 are within the guideline range.

Table 6-4 Summary of exceedances of available guidelines for anions, nutrients, organics, and physical properties.

Parameter	Guideline	Unit	Exceedance			
			Soil Group			
			2	3	5	6
Conductivity (1:2 leachate)	0.57	mS/cm				
pH (1:2 soil:CaCl2-aq)	6 to 8	pH Units				
Sodium adsorption ratio [SAR]	2.4	-				

	All summary statistics below the guideline
	5th Percentile outside guideline
	Mean and 95th Percentile outside guideline
	Mean, Median and 95th Percentile outside guideline
	5th Percentile, Mean, Median and 95th Percentile outside guideline

6.3.2 Inorganics

The inorganic cyanide was analyzed to characterize the general soil quality. As shown in Table 6-5, the cyanide concentration range for the 5th percentile, mean, median, and 95th percentile exceeded the guideline for Soil Groups 2, 3, 5, and 6. Results range from 0.057 mg/kg (the lowest reported non-detect concentration) to 9.66 mg/kg.

Table 6-5 Summary of exceedances of available guidelines for cyanide.

Parameter	Guideline	Unit	Exceedance			
			Soil Group			
			2	3	5	6
Cyanide	0.051	mg/km				

	All summary statistics below the guideline
	5th Percentile outside guideline
	Mean and 95th Percentile outside guideline
	Mean, Median and 95th Percentile outside guideline
	5th Percentile, Mean, Median and 95th Percentile outside guideline

6.3.3 Metals

Of the 39 metals assessed in the soil samples, 31 have available guidelines. As shown in Table 6-6, some of the analyzed parameters (aluminum, arsenic, cadmium, chromium, hexavalent chromium, copper, iron, lithium, manganese, mercury, selenium, sulphur, and uranium) exceeded soil quality guidelines. It should be noted that some of the soil guidelines are the upper estimate of background in Ontario and are not related to any potential for effects.

Table 6-6 Summary of exceedances of available guidelines for metals

Parameter	Guideline	Unit	Exceedance			
			Soil Group			
			2	3	5	6
Aluminum	50	mg/kg				
Antimony	1	mg/kg				
Arsenic	11	mg/kg				
Barium	210	mg/kg				
Beryllium	2.5	mg/kg				
Bismuth	20	mg/kg				
Boron	36	mg/kg				
Cadmium	1	mg/kg				
Chromium	0.4	mg/kg				
Chromium, hexavalent [Cr VI]	0.4	mg/kg				
Cobalt	19	mg/kg				
Copper	62	mg/kg				
Iron	200	mg/kg				
Lead	45	mg/kg				
Lithium	2	mg/kg				
Manganese	100	mg/kg				
Mercury	0.16	mg/kg				
Molybdenum	2	mg/kg				
Nickel	37	mg/kg				
Selenium	1	mg/kg				
Silver	0.5	mg/kg				
Strontium	33000	mg/kg				
Sulphur[1]	500	mg/kg	*	*	*	*
Thallium	1	mg/kg				
Tin	5	mg/kg				
Titanium	1000	mg/kg				
Tungsten	400	mg/kg				
Uranium	1.9	mg/kg				
Vanadium	86	mg/kg				
Zinc	200	mg/kg				
Zirconium	97	mg/kg				

All summary statistics below the guideline

95th Percentile outside guideline

Mean and 95th Percentile outside guideline

Mean, Median and 95th Percentile outside guideline

5th Percentile, Mean, Median and 95th Percentile outside guideline

*RDL close to or higher than guideline

[1] Included in analysis list, although not identified as a COPC

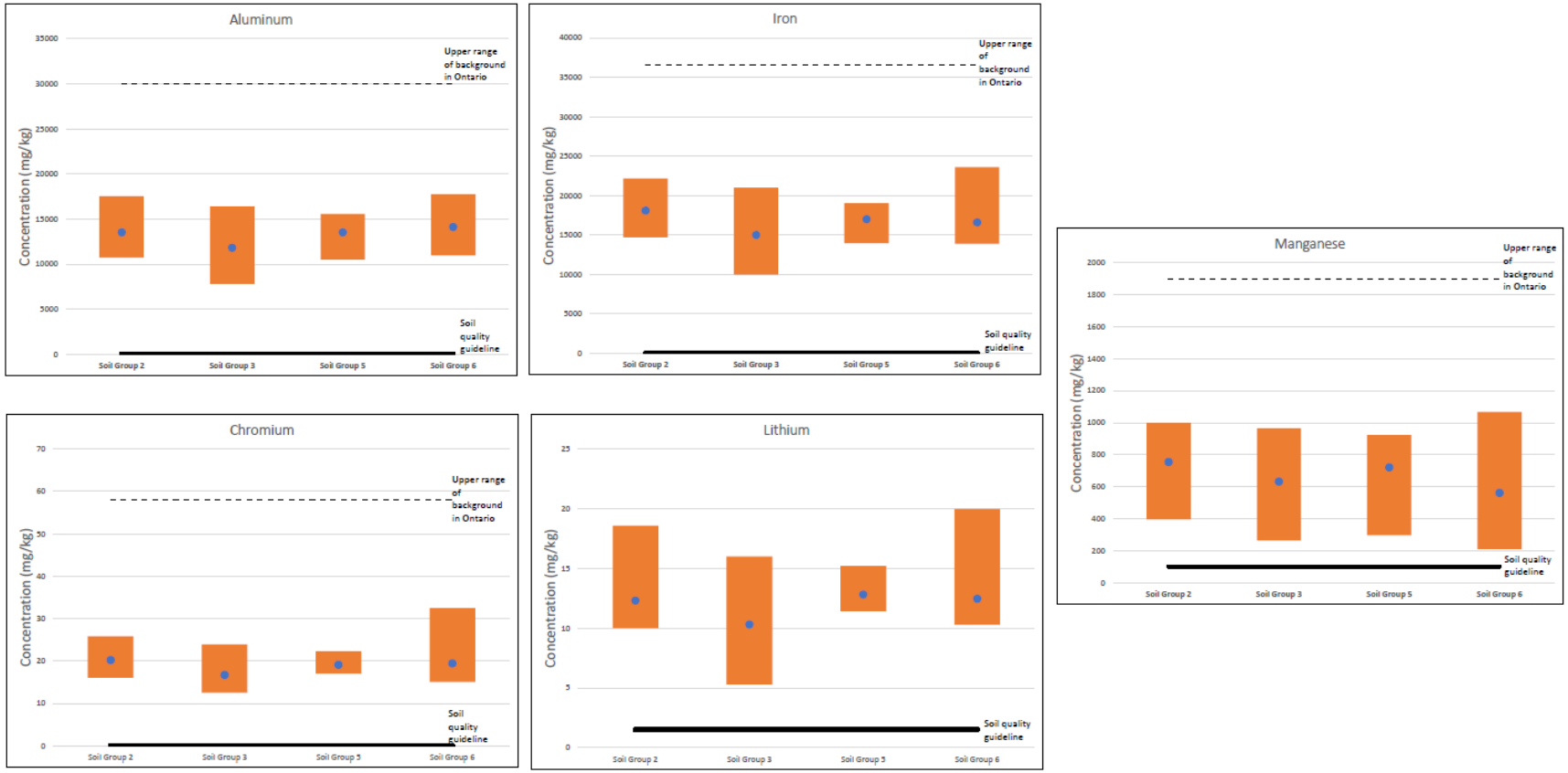


Figure 6-2 Summary of selected COPC in soil.

Note: The orange bars represent the range of data (from the 5th percentile to the 95th percentile) and the blue dots are the median of the data.

6.3.4 Organic Compounds

Volatile Organic Compounds (VOCs)

A total of 43 VOCs were analyzed, of which 41 have available soil quality guidelines (Table 6-7). Although exceedances were noted in Soil Group 3, these exceedances were due to the RDL of the analysis being higher than or equal to the available guideline. Additionally, of the exceedances in Soil Group 3, only acetone had concentrations reported above the RDL, occurring in three of 21 samples. Each of these three results (0.52 mg/kg, 0.54 mg/kg, and 0.64 mg/kg) are individually greater than the guideline; the exceedance of the 95th percentile for acetone is a result of the elevated RDLs (ranging from 0.5 mg/kg to 1.79 mg/kg). To more accurately determine if levels exceed guidelines during baseline conditions, lower RDLs will need to be achieved by the laboratory for this soil group. It is expected that the high RDL from the laboratory for these compounds could be due to the limited sample volume that can be collected from the Terra Core sampler used.

Table 6-7 Summary of exceedances of available guidelines for VOCs

			Exceedance Soil Group			
Parameter	**Guideline**	**Unit**	**2**	**3**	**5**	**6**
Acetone	0.5	mg/kg		*		
Benzene	0.02	mg/kg		*		
Bromodichloromethane	0.05	mg/kg		*		
Bromoform	0.05	mg/kg		*		
Bromomethane	0.05	mg/kg		*		
Carbon tetrachloride	0.05	mg/kg		*		
Chlorobenzene	0.05	mg/kg		*		
Chloroform	0.05	mg/kg		*		
Dibromochloromethane	0.05	mg/kg		*		
Dibromoethane, 1,2-	0.05	mg/kg		*		
Dichlorobenzene, 1,2-	0.05	mg/kg		*		
Dichlorobenzene, 1,3-	0.05	mg/kg		*		
Dichlorobenzene, 1,4-	0.05	mg/kg		*		
Dichlorodifluoromethane	0.05	mg/kg		*		
Dichloroethane, 1,1-	0.05	mg/kg		*		
Dichloroethane, 1,2-	0.05	mg/kg		*		
Dichloroethylene, 1,1-	0.05	mg/kg		*		
Dichloroethylene, cis-1,2-	0.05	mg/kg		*		
Dichloroethylene, trans-1,2-	0.05	mg/kg		*		
Dichloropropane, 1,2-	0.05	mg/kg		*		

			Exceedance			
			Soil Group			
Parameter	**Guideline**	**Unit**	**2**	**3**	**5**	**6**
Dichloropropylene, cis+trans-1,3-	0.05	mg/kg				
Dichloropropylene, cis-1,3-	0.05	mg/kg				
Dichloropropylene, trans-1,3-	0.05	mg/kg				
Ethylbenzene	0.05	mg/kg		*		
Hexane, n-	0.05	mg/kg		*		
Methyl ethyl ketone [MEK]	0.5	mg/kg		*		
Methyl isobutyl ketone [MIBK]	0.5	mg/kg		*		
Methyl-tert-butyl ether [MTBE]	0.05	mg/kg				
Styrene	0.05	mg/kg		*		
Tetrachloroethane, 1,1,1,2-	0.05	mg/kg		*		
Tetrachloroethane, 1,1,2,2-	0.05	mg/kg		*		
Tetrachloroethylene	0.05	mg/kg		*		
Toluene	0.2	mg/kg		*		
Trichloroethane, 1,1,1-	0.05	mg/kg		*		
Trichloroethane, 1,1,2-	0.05	mg/kg		*		
Trichloroethylene	0.05	mg/kg				
Trichlorofluoromethane	0.25	mg/kg				
Vinyl chloride	0.02	mg/kg		*		
Xylene, m+p-	0.05	mg/kg				
Xylene, o-	0.05	mg/kg				
Xylenes, total	0.05	mg/kg				

	All summary statistics below the guideline
	95th Percentile outside guideline
	Mean and 95th Percentile outside guideline
	Mean, Median and 95th Percentile outside guideline
	5th Percentile, Mean, Median and 95th Percentile outside guideline

*RDL close to or higher than guideline

Petroleum Hydrocarbons (PHCs)

Guidelines are available for the F1 to F4 fractions of PHC (Table 6-8). Although exceedances were noted in the Soil Groups 3, 5 and 6 for F2, it was due to the RDL of the analysis (ranging from 10 mg/kg to 30 mg/kg) being higher than or equal to the available guideline. F2 was detected in one sample in Soil Group 6 at a concentration of 11 mg/kg. Hydrocarbons were detected in two samples from Soil Group 3 (in the RSA_{soil} and LSA_{soil} for F3 and F4), one from Soil Group 5 (AOI for F3 and F4) and two from Soil Group 6 (AOI for F2 and F3). Concentrations for the F3 fraction range from 255 mg/kg and 312 mg/kg. Concentrations for the F4 fraction range from 143 mg/kg and 251 mg/kg. It is

possible that this reflects natural organic compounds. CCME (2008) acknowledges that soils with a high natural organic carbon content (such as peats) may give a "false positive" result when analyzed, specifically, laboratory results for F2, F3 and F4 may be falsely elevated.

Table 6-8 Summary of exceedances of available guidelines for petroleum hydrocarbons.

			Exceedance			
			Soil Group			
Parameter	**Guideline**	**Unit**	**2**	**3**	**5**	**6**
F1 (C6-C10)	25	mg/kg				
F1-BTEX	25	mg/kg				
F2 (C10-C16)	10	mg/kg		*	*	*
F3 (C16-C34)	240	mg/kg				
F4 (C34-C50)	120	mg/kg				

	All summary statistics below the guideline
	95th Percentile outside guideline
	Mean and 95th Percentile outside guideline
	Mean, Median and 95th Percentile outside guideline
	5th Percentile, Mean, Median and 95th Percentile outside guideline

*RDL close to or higher than guideline

Polycyclic Aromatic Hydrocarbons (PAHs) and Semivolatile Organic Compounds (SVOCs)

Table 6-9 summarizes the exceedances of the soil quality guideline for PAHs and SVOCs. Although exceedances were noted, it was due to the RDL of the analysis being higher than or equal to the available guideline. One SVOC, chrysene, was detected in one sample at a concentration of 0.067 mg/kg (guideline of 2.8 mg/kg). To more accurately determine if levels exceed guidelines during baseline conditions, lower RDLs will need to be achieved by the laboratory.

Table 6-9 Summary of exceedances of available guidelines for PAHs and SVOCs.

Parameter	Guideline	Unit	Exceedance			
			Soil Group			
			2	3	5	6
Acenaphthene	0.072	mg/kg				
Acenaphthylene	0.093	mg/kg				
Anthracene	0.16	mg/kg				
Benz(a)anthracene	0.36	mg/kg				
Benzo(a)pyrene	0.3	mg/kg				
Benzo(b+j)fluoranthene	0.47	mg/kg				
Benzo(g,h,i)perylene	0.68	mg/kg				
Benzo(k)fluoranthene	0.48	mg/kg				
Chrysene	2.8	mg/kg				
Dibenz(a,h)anthracene	0.1	mg/kg				
Fluoranthene	0.56	mg/kg				
Fluorene	0.12	mg/kg				
Indeno(1,2,3-c,d)pyrene	0.23	mg/kg				
Methylnaphthalene, 1-	0.59	mg/kg				
Methylnaphthalene, 2-	0.59	mg/kg				
Naphthalene	0.09	mg/kg				
Phenanthrene	0.69	mg/kg				
Pyrene	1	mg/kg				
Biphenyl	0.05	mg/kg		*		
bis(2-Chloro-1-methylethyl) ether	0.5	mg/kg				
bis(2-Chloroethyl) ether	0.5	mg/kg	*	*		
bis(2-Ethylhexyl) phthalate [DEHP]	5	mg/kg				
Chloroaniline, 4-	0.5	mg/kg				
Chlorophenol, 2-	0.1	mg/kg		*		
Dichlorobenzidine, 3,3'-	1	mg/kg				
Dichlorophenol, 2,4-	0.1	mg/kg		*		
Diethyl phthalate	0.5	mg/kg				
Dimethyl phthalate	0.5	mg/kg				
Dimethylphenol, 2,4-	0.2	mg/kg				
Dinitrophenol, 2,4-	2	mg/kg				
Dinitrotoluene, 2,4-	0.5	mg/kg				
Dinitrotoluene, 2,4 + 2,6-	0.5	mg/kg				
Dinitrotoluene, 2,6-	0.5	mg/kg				
Pentachlorophenol [PCP]	0.1	mg/kg		*		
Phenol	0.5	mg/kg				
Trichlorobenzene, 1,2,4-	0.05	mg/kg		*		
Trichlorophenol, 2,4,5-	0.1	mg/kg		*		
Trichlorophenol, 2,4,6-	0.1	mg/kg		*		

All summary statistics below the guideline

95th Percentile outside guideline

Mean and 95th Percentile outside guideline

Mean, Median and 95th Percentile outside guideline

5th Percentile, Mean, Median and 95th Percentile outside guideline

*RDL close to or higher than guideline

6.3.5 Pesticides

Table 6-10 summarizes the exceedances of the soil quality guideline for pesticides. Pesticides were not detected in any of the samples. Although exceedances were noted for endrin aldehyde, these were due to the RDL of the analyses being higher than or equal to the available guideline of zero.

Table 6-10 Summary of exceedances of available guidelines for pesticides.

			Exceedance			
			Soil Group			
Parameter	**Guideline**	**Unit**	**2**	**3**	**5**	**6**
Aldrin	0.05	mg/kg				
Chlordane, total	0.05	mg/kg				
DDD, total	0.05	mg/kg				
DDE, total	0.05	mg/kg				
DDT, total	0.078	mg/kg				
Dieldrin	0.05	mg/kg				
Endosulfan, total	0.04	mg/kg				
Endrin	0.04	mg/kg	*	*	*	*
Endrin aldehyde	0	mg/kg				
Heptachlor	0.05	mg/kg				
Heptachlor epoxide	0.05	mg/kg				
Hexachlorobenzene	0.01	mg/kg				
Hexachlorobutadiene	0.01	mg/kg				
Hexachlorocyclohexane, gamma-	0.01	mg/kg				
Hexachloroethane	0.01	mg/kg				
Methoxychlor	0.05	mg/kg				

All summary statistics below the guideline

95th Percentile outside guideline

Mean and 95th Percentile outside guideline

Mean, Median and 95th Percentile outside guideline

5th Percentile, Mean, Median and 95th Percentile outside guideline

*RDL close to or higher than guideline

6.3.6 Radionuclides

A total of 22 radionuclides were analyzed in the soil samples. There are no guidelines in Ontario for these parameters; however, Alberta has guidelines for some radionuclides in soil including uranium-234, uranium-238, radium-226, thorium-230, thorium-232, and

potassium-40. It is noted that not all the Tier 2 radionuclides (Pu-240, Pu-241, Am-241, and Cm-244) were included in the analyte list.

Cesium-137, selenium-79, gross alpha, gross beta, potassium 40, radium-226, thorium-228, thorium-230, thorium-232, tritium, uranium-234, uranium-235, and uranium-238 were detected in some of the samples although all well below the range of criteria of 0.3 to 17 Bg/g with concentrations ranging from 0.001 pCi/g to 1.03 pCi/g. Cesium-137, selenium-79, and tritium can be present from global fallout from historical nuclear weapons, nuclear weapons testing, or major nuclear accidents (Health Canada 2009). Cesium-137 was present in all four soil groups, selenium-79 was present in Soil Group 6, and tritium was detected in Soil Groups 5 and 6. Although tritium can be produced through cosmogenic radiation and selenium-79 occurs in trace quantities in uranium ores, these isotopes are predominantly produced by nuclear fission and are more likely present as a result of human activities; cesium-137 does not occur naturally and is only present as a result of human activities (Health Canada 2009). The remaining radionuclides were detected in all soil groups.

6.4 Summary

In summary, the soils portion of the monitoring plan was initiated. Data quality assurance and control are ongoing, and a few data gaps have been identified. These data gaps will be reviewed in the context of the project data quality objectives and corrective actions will be identified to address these data gaps, as appropriate.

The soil was found to have elevated concentrations of some parameters including aluminum, arsenic, boron, cadmium, chromium, hexavalent chromium, copper, iron, lithium, manganese, mercury, selenium, and uranium. Some of these are components of the soil and reflect the local geology. Several organic compounds were also identified as exceeding guidelines, but their interpretation is complicated due to the detection limits being higher than the applicable guidelines.

Some of the radionuclides detected may be naturally occurring, including radioactive elements in soil and rock or are naturally produced by cosmic radiation, whereas some are the result of human activities, including global fallout from historical nuclear weapons, nuclear weapons testing, or major nuclear accidents (Health Canada 2009).

The chemistry information for all four Soil Groups were quite similar, with the Soil Group 3 samples having some higher detection limits (above guidelines) which may have been due to sample volume being limited for this soil type.

7.0 MAP SOURCES AND DISCLAIMERS

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YEAR 2 SAUGEEN VALLEY CONSERVATION AUTHORITY SURFACE WATER AND HYDROLOGY REPORT

Year 2 Final Report – Revision 0

Environmental Media Baseline Program for the Adaptive Phased Management Project – Saugeen Ojibway Nation-South Bruce Area

The Nuclear Waste Management Organization (NWMO) is conducting the Environmental Media Baseline Program (EMBP) as part of its ongoing investigations for the long-term management of used nuclear fuel. Data collected through the EMBP will help inform site selection for the adaptive phased management project and contribute to understanding the local environment and how it can be protected. This report summarizes the portions of the Year 2 EMBP implemented by Saugeen Conservation from September 2022 to August 2023.

Saugeen Valley Conservation Authority (SVCA)
Issued Date: November 11th, 2024.

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List of Acronyms

AOI	Area of Interest (as defined in the EMBP design (CanNorth et al, 2021))
APHA	American Public Health Association
APM	Adaptive Phase Management
BCMOE	British Columbia Ministry of Environment
BHC	Hexachlorocyclohexane
BOD	Biological Oxygen Demand
$CaCO_3$	Calcium Carbonate
CALA	Canadian Association for Laboratory Accreditation
CanNorth	Canada North Environmental Services
CCME	Canadian Council of Ministers of the Environment
CFU/100 mL	Colony Forming Units per 100 milliliters
COPC	Contaminants of Potential Concern
CWQG	Canadian Water Quality Guidelines
DDD	Dichlorodiphenyldichloroethane
DDE	Dichlorodiphenyldichloroethylene
DDT	Dichlorodiphenyltrichloroethane
DGR	Deep Geological Repository
DO	Dissolved Oxygen
DOC	Dissolved Organic Carbon
DQO	Data Quality Objective
EEM	Environmental Effects Monitoring
EC	Environment Canada
ECCC	Environment and Climate Change Canada
ECHA	European Chemicals Agency
EDL	Estimated Detection Limit
EDMS	Environmental Data Management System
eDNA	Environmental DNA (Deoxyribonucleic acid)
EMBP	Environmental Media Baseline Program
EMPC	Estimated Maximum Potential Concentration
FEQG	(Canadian) Federal Environmental Quality Guidelines
HpCDD	Heptachlorodibenzo-para-dioxin
HpCDF	Heptachlorodibenzofuran
HxCDD	Hexachlorodibenzo-p-dioxin
HxCDF	Hexachlorodibenzofuran
ISQG	(Canadian) Interim Sediment Quality Guideline
LEL	Lowest Effect Level
LSA	Local Study Area (as defined in the EMBP design (CanNorth et al, 2021))
MECP	Ontario Ministry of the Environment, Conservation and Parks
MNRF	Ministry of Natural Resources and Forestry

MOEE	Ministry of Energy and the Environment
N	Population size (number of samples analyzed)
NHIC	Natural Heritage Information Centre
N<MDL	Number of samples with reported concentrations less than the laboratory's method detection limit
NSRI	Natural Resource Solutions Incorporated
NWMO	Nuclear Waste Management Organization
OBBN	Ontario Benthic Biomonitoring Network
OCDF	Octachlorodibenzofuran
OCPs	Organochlorine Pesticides
ORP	Oxidation-Reduction Potential
PAHs	Polycyclic Aromatic Hydrocarbons
PCBs	Polychlorinated Biphenyls
PCDD	Polychlorodibenzo-p-dioxins
PCDF	Polychlorodibenxo-furans
PeCDD	Pentachlorodibenzo-p-dioxin
PeCDF	Pentachlorodibenzofuran
pH	Potential of Hydrogen
PHCs	Petroleum hydrocarbons
PNEC	Probable No Effects Concentration
PWQMN	(Ontario) Provincial Water Quality Monitoring Network
PWQO	(Ontario) Provincial Water Quality Objectives
QA/QC	Quality Assurance / Quality Control
QC	Quality Control
RBCA	Risk Based Corrective Action
RDL	Reported Detection Limit
RPD	Relative Percent Difference
RSA	Regional Study Area (as defined in the EMBP design (CanNorth et al, 2021))
SON	Saugeen Ojibway Nation
SOP	Standard Operating Procedure
SQB	Sediment Quality Benchmark
SSA	Site Study Area
SVCA	Saugeen Valley Conservation Authority
SVOC	Semi-volatile organic compound
TCDD	Tetrachlorodibenzo-p-dioxin
TCDF	Tetrachlorodibenzofuran
TDS	Total Dissolved Solids
TIC	Total Inorganic Carbon
TOC	Total Organic Carbon
TSS	Total Suspended Solids
US EPA	United States (of America) Environmental Protection Agency
USGS	United States (of America) Geological Survey
VOC	Volatile organic compound
WLON	Wabigoon Lake Ojibway Nation
WQG	Water Quality Guideline

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Land Acknowledgement

It is acknowledged that the lands and communities discussed in this report are situated on the traditional land and treaty territory of the Saugeen Ojibway Nation (SON), which is comprised of Saugeen First Nation and Chippewas of Nawash Unceded First Nation. It is also acknowledged that Metis peoples have rich relationships with the land in this region.

Introduction

The Environmental Baseline Monitoring Program (EMBP)

The Nuclear Waste Management Organization (NWMO) was established in 2002 with the objective of developing and implementing a plan for the long-term management of Canada's used nuclear fuel. The process has included the adoption of Adaptive Phased Management (APM), undertaking a siting process for the Deep Geological Repository (DGR) and associated infrastructure (hereinafter referred to as the Project), and conducting preliminary studies.

From an initial list of 22 potential sites, two remain in the voluntary siting process for the Project, including the Saugeen Ojibway Nation (SON)-South Bruce area in Southern Ontario (Figure 1) and the Wabigoon Lake Ojibway Nation (WLON)-Ignace area in Northwestern Ontario. The SON-South Bruce area near Teeswater is the focus of this report.

As part of the siting process, sources of existing environmental data for the SON-South Bruce area were identified and assessed to determine the suitability of the existing data to meet statistical objectives, regulatory standards, and Project requirements. Data gaps were identified, and this information was used to design a 3-year long Environmental Media Baseline Monitoring Program (EMBP) (CanNorth et al, 2021). The purpose of the EMBP is to address some of the environmental data gaps and to characterize the environmental conditions in the area on a high level. The full EMBP is focused on select environmental components that have the potential to interact with the Project, including tissues, hydrology, surface water, air quality, noise, light, and soil. Other environmental components including shallow groundwater, subsurface soil, and bedrock are being

characterized by the Geosciences group within the NWMO and will be reported separately from the EMBP.

Data collection for the EMBP surface water and hydrology components within the SON-South Bruce area have been conducted by Saugeen Valley Conservation Authority for Year 1 (September 2021-August 2022) and Year 2 (September 2022-August 2023) of the EMBP. Following the end of Year 1, a report was developed to present the Year 1 findings. This report presents the Year 2 findings.

Figure 1 Proposed location for the DGR in the Saugeen Ojibway Nation – South Bruce area

The Study Area

The EMBP includes monitoring the conceptual boundary of the potential facility (called the Site Study Area [SSA]) that would be located somewhere within the AOI, in environments surrounding the facility (called the Local Study Area [LSA]), and in some cases, in a larger area (called the Regional Study Area [RSA]). The proposed LSAx and RSAx, where 'x' is specific for each of the environmental components, differ for the components and are discussed within respective sections of this report. In addition to examining areas in the SSA and LSA that could be subject to future Project impacts, study areas that can act as reference areas in the future were established. Sampling reference areas will aid in determining whether temporal changes can be attributed to the Project or are due to other factors such as climate change, natural variability, or other sources of non-natural origin.

Contaminants of Potential Concern

A list of contaminants of potential concern (COPC) was developed as part of the EMBP design (CanNorth et al, 2021) in collaboration with the NWMO, with consideration of stakeholder and right-holder concerns and with consultation of external sources of information. In general, only contaminants with the highest potential for having interactions with the project were identified as COPC, however some additional contaminants have been included as COPC based on high levels of community concern and/or the potential for cumulative effects.

The planned COPC list outlined in the EMBP design (CanNorth et al, 2021) for the environmental components monitored by SVCA in Year 2 of the EMBP are outlined in Table 1 below. As per the design, not all parameters are intended to be measured in every sample.

Table 1 Planned COPC list as outlined in the EMBP design (CanNorth et al, 2021) for the environmental components monitored by SVCA in Year 2 of the EMBP.

Surface Water	
Radionuclides	Tier 1: H-3, C-14, Sr-90, I-129, Cs-137 [and associated Co-60, Ru-106], gross-α, gross-β
	Tier 2 (Artificial): Cl-36, Co-60, Se-79, Ru-106, Np-237, Pu-238, Pu-239, Pu-210
	Tier 2 (Natural): U-238, U-234, U-235, K-40, Th-230, Th-232, Ra-226
Metals (Total or Dissolved)	Aluminum, Antimony, Arsenic, Barium, Beryllium, Bismuth, Boron, Cadmium, Cesium, Chromium (total, trivalent, hexavalent), Cobalt, Copper, Iron, Lead, Lithium, Mercury, Manganese, Molybdenum, Nickel, Rhodium, Ruthenium, Samarium, Selenium, Silver, Strontium, Thallium, Tin, Titanium, Uranium, Vanadium, Zinc, Zirconium
Organics	Polycyclic Aromatic Hydrocarbons (PAHs), Volatile Organic Compounds (VOCs), Semi-Volatile Organic Compounds (sVOCs), Petroleum Hydrocarbons (PHCs), Dioxins and Furans, Polychlorinated Biphenyls (PCBs)
Nutrients and	Alkalinity, Bicarbonate, Bromide, Calcium, Carbonate, Chloride, Cyanide,

General Chemistry	Fluoride, Hydroxide, Magnesium, pH, Potassium, Sodium, Specific Conductivity, Sulphate, Sum of Ions, Total Dissolved Solids (TDS), Total Hardness, Total Suspended Solids (TSS), Turbidity, Ammonia as Nitrogen, Nitrate + Nitrite, Nitrate (NO3), Total Organic Carbon (TOC), Total Inorganic Carbon (TIC), Dissolved Organic Carbon (DOC), Phosphorus, Total Kjeldahl Nitrogen, Chlorophyll-a, BOD, Total Coliforms, E. coli
Other	Organochlorine (OC) pesticides, Iodine
In Situ Limnology Measurements	Temperature, Turbidity, Potential of Hydrogen (pH), Dissolved Oxygen (DO), Conductivity, Oxidation-Reduction Potential (ORP)
Sediment	
Radionuclides	Tier 1: H-3, C-14, Sr-90, I-129, Cs-137 [and associated Co-60, Ru-106], gross-α, gross-β
	Tier 2 (Artificial): Cl-36, Co-60, Se-79, Ru-106, Np-237, Pu-238, Pu-239, Pu-210, Pu-91 Am-91, Cm-94
	Tier 2 (Natural): U-238, U-234, U-235, K-40, Th-213, Th-230, Th-232, Ra-226
Metals	Aluminum, Antimony, Arsenic, Barium, Beryllium, Bismuth, Boron, Bromine, Cadmium, Calcium, Cesium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Mercury, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Rhodium, Ruthenium, Samarium, Selenium, Sodium, Silver, Strontium, Thallium, Tin, Titanium, Uranium, Vanadium, Zinc, Zirconium
Organics	PAHs, VOCs, SVOCs, PHCs, Dioxins and Furans, PCBs (Total)
Nutrients and General Characterization	Moisture, Total Organic Carbon (TOC), Particle Size (5 fraction EEM), Ammonia as Nitrogen, Nitrate + Nitrite, Nitrate (NO3), Total Phosphorus, Total Kjeldahl Nitrogen
Other	Organochlorine (OC) pesticides, Iodine

Surface Water

Sampling Overview

The primary objectives of the Year 2 surface water program were to characterize rivers, lakes, and wetlands in the LSA_{SW} and to establish variability and baseline data in COPC concentrations and other endpoints.

Sampling locations were selected to represent potential exposure areas near to and downstream of the Project, and locations that could act as reference areas once the Project commences. Factors such as potential Project interactions, representativeness, suitability for data end uses, and cumulative effects were considered when selecting study areas (CanNorth et al., 2021).

The sample matrices collected varied by site; the field methods sections below outline which

sites were sampled for each matrix. The study components included in the surface water parameters component of the EMBP include:

- Surface water quality and characterization;
- Sediment quality and characterization;
- Phytoplankton and zooplankton community composition and biomass; and
- Benthic invertebrate community composition and biomass.

The LSA_{SW} includes waterbodies with the potential of being impacted by the Project, as well as potential reference areas. Potential locations for water withdrawal and treated effluent release from the Project have not yet been determined; thus, assumptions were made to initiate data collections for the EMBP (CanNorth et al, 2021). Sampling site locations are presented in Figure 2 below. As a summary, sites were located on the following waterbodies:

- Rivers: several sampling locations were situated on the Teeswater and Saugeen rivers upstream and downstream of the AOI, as well as reference sampling locations on the Beatty Saugeen River. On the Teeswater River, consideration was given to situating sampling locations upstream and downstream of potential influences from communities, industry, and open municipal drains, as well as pairing sampling locations with active SVCA/PWQMN stations.

- Lakes: Sampling stations were established in a total of five separate smaller recreational lakes during the Year 1 baseline program, including Silver, Clam, and Oppleck lakes in the LSA_{SW} as potential exposure locations and Robson and Hines lakes as reference locations. Additionally, Lake Huron was assessed as a downstream exposure location.

- Wetlands: A total of 10 sampling locations were established within the LSA_{SW} in the Greenock Swamp Wetland and the Teeswater Wetland complex. It is currently unknown if the Teeswater Wetland Complex would be subject to Project impacts. Further understanding will be informed by groundwater and surface water flow, connectivity, and aerial dispersion modelling. There is the potential that the Teeswater Wetland Complex could act as a reference area in the future. Additionally, five potential reference wetlands were sampled to inform selection of a reference wetland following Year 3 of the EMBP.

- Community Locations: The study design includes sampling up to five waterbodies of importance to local stakeholders and rights-holders within the RSA_{SW}. No community locations were established during the Year 1 or Year 2 baseline program.

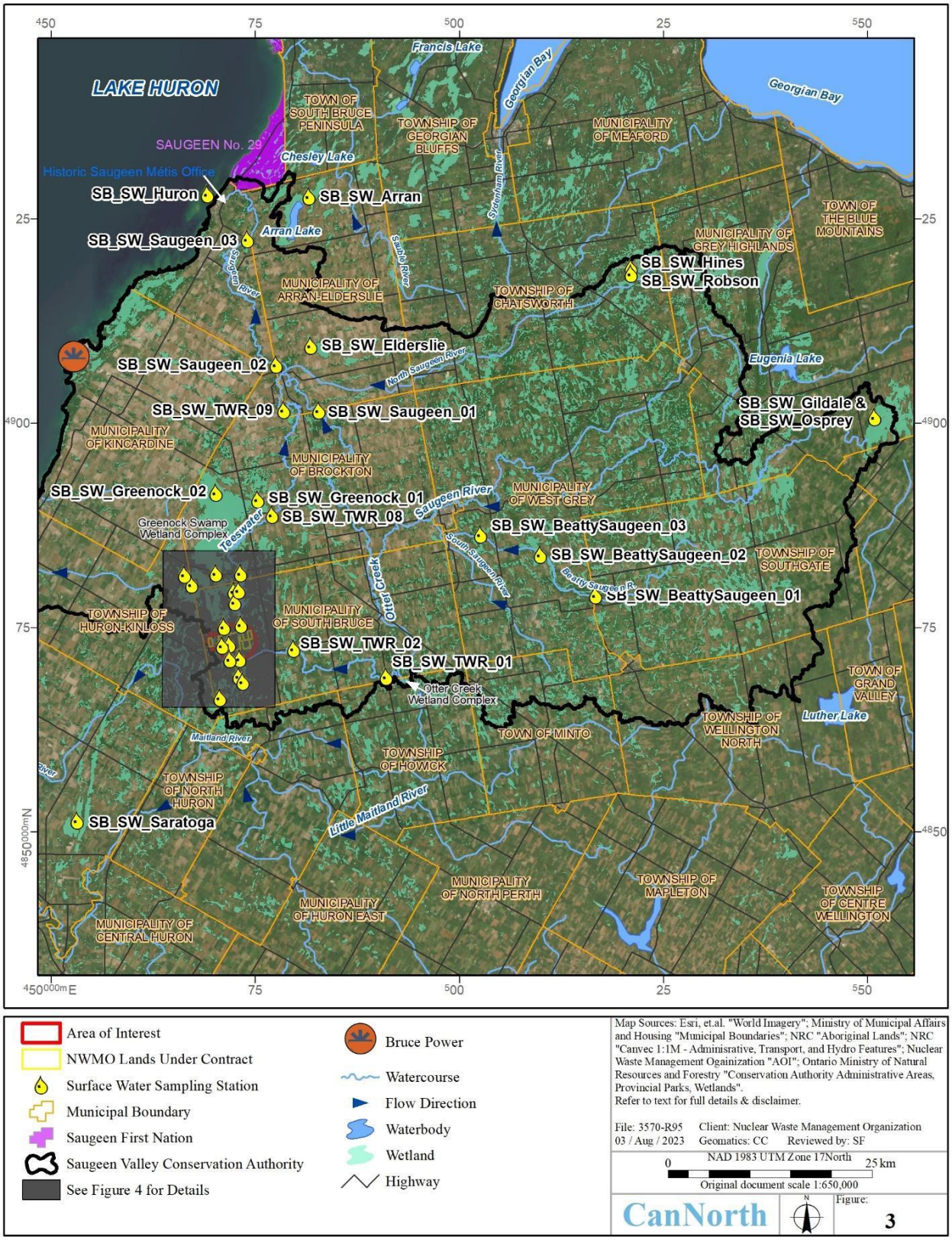


Figure 2 Location of the 36 Year 2 surface water quality 9 sediment quality 4 zooplankton and phytoplankton and 8 benthic invertebrate sampling sites.

Surface Water Quality

Field Methods

In Year 2, site visits to collect surface water quality samples and in situ limnology measurements occurred in the fall (October and November 2022), winter (February and March 2023), and summer (August 2023) seasons. The spring event was cancelled to focus on writing the Year 1 report.

An extensive COPC list was measured in the Teeswater River and Beatty Saugeen River sites, including general water chemistry parameters, nutrients, ions, 5 day Biological Oxygen Demand [BOD], bacteria (E.coli, and total coliforms), total and dissolved metals, organic compounds (PAHs, VOCs, SVOCs, PHCs, dioxins and furans), organochlorine pesticides, and a comprehensive list of radionuclides, including gross-α and gross-β and Tier 1 and Tier 2 radionuclides. To optimize the scope, Tier 2 artificial radionuclides that do not exist in nature are only being measured at select stations as a means of confirming their absence.

At the remaining sampling locations situated in the Saugeen River, lakes, and wetlands, the COPC list was reduced and does not include PAHs, VOCs, SVOCs, PHCs, dioxins and furans, and organochlorine pesticides since these contaminants are either specific to potential near-field Project impacts, such as fuel spills, or are not directly related to potential Project impacts.

The method of sample collection was determined by the surface water depth at the site, as outlined in Table 2 below. When ice cover was present, staff carefully used a serrated stainless-steel knife, spud b a r , and/or chainsaw to cut an access hole, exposing the water underneath. The chain saw was lubricated using a biodegradable non-petroleum, vegetable-based bar oil. Surface water depths were determined using a ruler or the calibrated depth sensor of the YSI ProDSS.

Table 2 Sample collection method descriptions based on observed surface water depth.

Surface Water Depth	Sample collection details
<1 m	One discrete sample was collected 15 cm below the surface via hand grab
1-2 m	One discrete sample was collected from mid-depth via Van-Dorn sampler
>2 m without a thermocline	One composite sample was collected from near surface, mid-depth, and near bottom via Van-Dorn sampler
>2 m with a thermocline[1]	Two discrete samples were collected: one from below the surface in the epilimnion above the thermocline and one from the hypolimnion above the lakebed below the thermocline.

[1] The thermocline was identified as a change in water temperature of ≥ 1°C occurring over ≤ 1 meter change in depth.

Water samples destined for dissolved metal analysis were field filtered using a clean, single-use

0.45 µM cellulose acetate filters and syringes. Water samples destined for chlorophyl A analysis were field filtered at low vacuum pressure using a clean, single use glass fiber filter with a 0.7 µM pore size.

Water samples were stored in coolers on ice and delivered to the laboratory daily to meet laboratory analysis hold times.

Limnological measurements (temperature, pH, dissolved oxygen, specific conductance, turbidity, and oxidation-redox potential) were taken following each surface water sample collection using a calibrated YSI ProDSS. The number and location of limnological measurements collected depended on the surface water depth at the site, as outlined in Table 3 below. A 20-cm diameter Secchi disk was also lowered through the water column to inform the approximate depth of the euphotic zone (CCME, 2011).

Table 3 Limnological measurement descriptions based on observed surface water depth.

Surface Water Depth (m)	Limnological measurement collection details
≤ 1	One measurement mid-depth
1 ≤ 2	Measurements every 0.5 m depth interval
>2	Measurements every 1 m depth interval

Laboratory Analysis

Samples were sent to an ALS Laboratory, a Canadian Association for Laboratory Accreditation (CALA) qualified laboratory.

Data Analysis

Quality Assurance

The YSI ProDSS was calibrated using certified calibration standards in accordance with the manufacturer's manual recommendations, as per direction from the study designers. Prior to sampling, water collection equipment was cleaned using phosphate-free soap and deionized water, then triple- rinsed with water from the sampling site. Rinse water was disposed of upland, away from the sampling site. Samplers wore nitrile gloves while conducting sampling. When creating access through ice layers, staff were careful to avoid disturbing the underlying water and sediment.

Quality Control

Prior to sample submission to the analytical laboratory, SVCA completed chain of custody forms. These forms included an inventory of all the surface water samples which were part of the submission, an outline of requested analysis, and information about the sample collection, preservation, and handling.
Duplicates of the same sample were run by ALS internally following their QA/QC measures, and

field duplicates were collected at a frequency of approximately 10% of the samples collected. The Relative Percent Difference (RPD) was calculated between the test and duplicate sample using the following formula (MOE, 2011):

$$RPD = (\frac{\frac{Duplicate - Sample}{Duplicate + Sample}}{2}) * 100$$

The Data Quality Objective (DQO) for the surface water RPDs was set at 20%, to provide a benchmark for the initial data screening process. It is estimated that concentrations near the reported detection limit (RDL) have a high level of measurement uncertainty at concentrations approaching five times the RDL (McQuaker,1999). Therefore, RPDs exceeding 20% were flagged for further investigation only when the sample and duplicate results were both greater than five times the RDL. Water chemistry QA/QC results from Year 2 are presented in Appendix A. The RPDs for some parameters exceeded the DQO with both results measuring greater than five times the RDL. Flagged results were not able to be re- analyzed by ALS for confirmation of the original measurement, however ALS includes comprehensive QC checks with every analysis to ensure high standards of quality are met. The flagged samples all passed the laboratory quality checks. Additionally, analytical results for the field blank and trip blank samples were low or non-detectable and considered acceptable. Thus, these exceedances are likely related to matrix heterogeneity and measurement uncertainty and not a result of sample contamination. Duplicate results are presented in Appendix B.

A field blank consisting of deionized water supplied by the analytical laboratory was generated and analyzed once per season. A trip blank consisting of sample bottles that the laboratory had pre-filled with deionized water was also generated and analyzed once per season. Both trip blanks and field blanks were transported to and from the field by staff at a frequency of once per season. Measured concentrations in the trip and field blanks were expected to be below the RDL; see Appendix C for a full table of surface water blank QAQC results. Analytical results for the field blank and trip blank samples were low or non-detectable and considered acceptable.

Statistical Analysis

In order to provide a high-level characterization of the surface water sites sampled, data were grouped into categories, see Table 4 below. Summary statistics were completed using the Year 2 data from all replicates and stations within each category.

Summary statistics including the geometric mean, minimum, maximum, median, 5th percentile, 95th percentile, and geometric standard deviation were calculated for each category of sites. In addition, for each parameter the units, number of samples (n), RDL, and number of samples below the RDL (n<RDL) are reported. To calculate summary statistics, values below RDL's were set as equal to the RDL.

Table 4 Site groupings for Year 2 surface water summary statistics.

Category Label	Stations included in the Category	n[1]
Teeswater River Reference	SB_SW_TWR_01	9
	SB_SW_TWR_02	
	SB_SW_TWR_03	
Teeswater River Exposure	SB_SW_TWR_04	18
	SB_SW_TWR_05	
	SB_SW_TWR_06	
	SB_SW_TWR_07	
	SB_SW_TWR_08	
	SB_SW_TWR_09	
Saugeen River Reference	SB_SW_Saugeen_01	3
Saugeen River Exposure	SB_SW_Saugeen_02	6
	SB_SW_Saugeen_03	
Beatty Saugeen River Reference	SB_SW_BeattySaugeen_01	9
	SB_SW_BeattySaugeen_02	
	SB_SW_BeattySaugeen_03	
Silver Lake Potential Exposure[2]	SB_SW_Silver	3
Clam Lake Potential Exposure[3]	SB_SW_Clam	2
Oppleck Lake Potential Exposure[4]	SB_SW_Oppleck	4
Robson Lake Reference[4]	SB_SW_Robson	4
Hines Lake Reference [5]	SB_SW_Hines	3
Greenock Wetland Exposure[6]	SB_SW_Greenock_01	13
	SB_SW_Greenock_02	
	SB_SW_Greenock_03	
	SB_SW_Greenock_04	
	SB_SW_Greenock_05	
Teeswater Wetland Exposure[7]	SB_SW_TWW_01	13
	SB_SW_TWW_02	
	SB_SW_TWW_03	
	SB_SW_TWW_04	
	SB_SW_TWW_05	
Aaran Wetland Candidate Reference[6]	SB_SW_Arran	2
Elderslie Wetland Candidate Reference[6]	SB_SW_Elderslie	2
Gildale Wetland Candidate Reference	SB_SW_Gildale	3
Osprey Wetland Candidate Reference	SB_SW_Osprey	3
Saratoga Swamp Candidate Reference	SB_SW_Saratoga	3
Lake Huron Potential Exposure	SB_SW_Huron	3

[1] Spring Year 2 sampling was cancelled to prioritize Year 1 reporting.
[2] Silver Lake was not sampled in the winter of Year 2 due to unsafe ice conditions. A shallow and deep sample were collected at Silver Lake in the summer because the lake was stratified.
[3] Clam Lake was only sampled in the fall of Year 2 due to site access restrictions; a shallow and deep sample were collected because the lake was stratified.
[4] A shallow and deep sample were collected at Oppleck Lake and Robson Lake during the summer of Year 2 because the lakes were stratified. A shallow and deep sample were collected at Hines Lake during the fall and summer of Year 2 because the lake was stratified.
[6] SB_SW_Greenock_02, SB_SW_Greenock_04, SB_SW_Arran, and SB_SW_Elderslie were dry and therefore unsampleable in the summer of Year 2.
[7] SB_SW_TWW_02 was not sampled in the winter or summer of Year 2 due to site access restrictions.

Guideline Comparisons

The measured data were compared to a series of Water Quality Guidelines (WQGs) as identified in the EMBP Design Report (CanNorth et al, 2021) and NWMO-developed interim acceptance criteria for the protections of persons and the environment from non- radiological impacts for surface water, groundwater, soil, sediment, and air (NWMO 2015, 2019). When guidelines were available from multiple agencies for a parameter, the following approach was taken in selecting an appropriate WQG.

1. As specified in the EMBP, the first consideration was for all federal Canadian Water Quality Guidelines [CWQGs] and Federal Environmental Quality Guidelines [FEQGs]) and provincial (Ontario Ministry of the Environment, Conservation and Parks [MECP]) guidelines. However, within this there are some additional considerations:
    a. For many of the metals and trace elements, the CWQGs and FEQGs are updated values compared to the MECP guidelines. Therefore, for these COPC, the FEQG was the first priority, CWQG was the second priority, and MECP was the third priority.
        - If there was a value for dissolved, it was given preference in the assessment of the data over the guideline for total.
    b. Other than the metals and trace elements, the most restrictive of the applicable federal and provincial guidelines was selected, except as follows.
        - The MECP guidelines for PAHs are below the level of detection. As the basis of the derivation of these values is unknown, they were not considered in the selection of the applicable guidelines.
2. If federal or provincial values were not available, as outlined in the EMBP, guidelines from the British Columbia Ministry of Environment (BCMOE)

were considered.

3. If no values were available from the first two steps, then guidelines from other jurisdictions and sources were adopted including:
    - Environmental quality guidelines for Alberta surface waters (GA 2018).
    - United States Environmental Protection Agency (US EPA 2023) water quality criteria for aquatic life.
    - NWMO interim acceptance criteria (NWMO 2015, 2019).
    - Suter and Tsao (1996).
    - European Union – Probable No Effects Concentration (PNEC) values from the European Chemicals Agency (ECHA 2023)
4. The final consideration in selecting the WQG was to ensure that the value did not exceed drinking water or recreational use guidelines.
    a. For drinking water guidelines, only those that are health-based were included as candidate guidelines (not operational guidelines or aesthetic objectives, except for sulphate and Total Dissolved Solids (TDS) as these are based on taste).
    b. The bacterial guidelines for drinking water were not considered appropriate for application to freshwater sources.

The selected WQGs are included in the results sections below; WQGs were not available for every COPC.

Results

Radionuclides

Water quality guidelines are available to characterize sixteen of the radionuclide analytes, see Table 5 below. Surface water samples from 36 sites were analyzed to determine gross alpha and gross beta activity, and the concentration of specific radionuclides of interest. These radionuclides of interest were categorized into three tiers: Tier 1, Tier 2 Natural and Tier 2 Artificial. The Tier 1 category contains radionuclides that could be influenced by the construction, operation, or closure of the proposed DGR. The Tier 2 category contains radionuclides groups that could be present due to natural or existing artificial sources.

None of the Year 2 samples exceeded the selected WQGs for gross alpha and gross beta activity, and none of the Year 2 samples exceeded the selected WQGs for Tier 1, Tier 2 natural or Tier 2 artificial radionuclides. See Appendix A for detailed Year 2 surface water quality results.

Table 5 Water Quality Guidelines for radionuclide analytes.

COPC	Units	Water Quality Guideline	
		Value	Source
Radionuclides			
C-14	Bq/L	200	Health Canada
Co-60	Bq/L	40	Health Canada
Cs-137	Bq/L	10	Health Canada
H-3 (Tritium)	Bq/L	7000	MECP
I-129	Bq/L	1	Health Canada
Pu-238	Bq/L	0.6	Health Canada
Pu-239	Bq/L	0.6	Health Canada
Ra-226	Bq/L	0.5	Health Canada
Ru-106	Bq/L	20	Health Canada
Sr-90	Bq/L	5	Health Canada
Th-228	Bq/L	2	Health Canada
Th-230	Bq/L	0.6	Health Canada
Th-232	Bq/L	0.6	Health Canada
U-234	Bq/L	3	Health Canada
U-235	Bq/L	3	Health Canada
U-238	Bq/L	3	Health Canada

Metals and Trace Elements (total and dissolved)

Water quality guidelines are available to characterize forty-three of the total and dissolved metals and trace elements analyzed, see Table 6 below. Seven parameters were found to exceed the WQGs, as summarized in Tables 7 and 8 below. See Appendix A for detailed Year 2 surface water quality results.

Redox conditions and pH are two large factors contributing to rate of adsorption and precipitation of many heavy metals (Bourg et al, 1995), with the formation of some soluble metals being more likely under acidic and/or reductive conditions (Kohl and Medlar, 2006). The average pH and redox potential measured in situ at the riverine sites generally appear to be more basic and have lower higher redox potential values than the nearest wetland and lacustrine sites; see Tables 15, 16, and 17 below for a summary of limnology statistics. As such, it is reasonable that the concentration of metals measured in the lake and wetland sites are higher than concentrations measured in the riverine sites.

Note that in the riverine samples, only total manganese concentrations exceeded the WQG. Looking closely at the riverine sample results it was observed that only the three samples were in exceedance, and that all three had been collected from SB_SW_TWR_01 station. The SB_SW_TWR_01 station is a headwater feature which flows through a wetland.

Table 6 Water Quality Guidelines for metals and trace element analytes.

COPC	Units	Water Quality Guideline	
		Value	Source
Total Metals and Trace Elements			
Aluminum (Al)	mg/L	1.5	FEQG
Antimony (Sb)	mg/L	0.006	Health Canada
Arsenic (As)	mg/L	0.005	CCME
Barium (Ba)	mg/L	1	BCMOE
Beryllium (Be)	mg/L	1.1	MECP
Bismuth (Bi)	mg/L	17.5	ECHA PNEC
Boron (B)	mg/L	1.5	CCME
Cadmium (Cd)	mg/L	0.000206	CCME
Calcium (Ca)	mg/L	1000	CCME
Chromium III (Cr3+)	mg/L	0.0089	CCME
Chromium VI (Cr6+)	mg/L	0.005	FEQG
Cobalt (Co)	mg/L	0.0012	FEQG
Copper (Cu)	mg/L	0.0031	CCME
Iron (Fe)	mg/L	3.8	FEQG
Lead (Pb)	mg/L	0.00477	CCME
Lithium (Li)	mg/L	2.5	NWMO
Magnesium (Mg)	mg/L	82	NWMO
Manganese (Mn)	mg/L	0.12	CCME
Mercury (Hg)	mg/L	0.000026	CCME
Molybdenum (Mo)	mg/L	0.073	CCME
Nickel (Ni)	mg/L	0.1217	CCME
Potassium (K)	mg/L	53	NWMO
Rhodium (Rh)	mg/L	0.01	NWMO
Ruthenium (Ru)	mg/L	0.01	NWMO
Samarium (Sm)	mg/L	0.0082	NWMO
Selenium (Se)	mg/L	0.001	CCME
Silver (Ag)	mg/L	0.00025	CCME
Sodium (Na)	mg/L	680	Suter and Tsao
Strontium (Sr)	mg/L	7	BCMOE
Tellurium (Te)	mg/L	0.0058	NWMO
Thallium (Tl)	mg/L	0.0008	CCME
Tin (Sn)	mg/L	0.073	Suter and Tsao
Titanium (Ti)	mg/L	0.076	ECHA PNEC
Tungsten (W)	mg/L	0.03	MECP
Uranium (U)	mg/L	0.015	CCME
Vanadium (V)	mg/L	0.12	FEQG

Zinc (Zn)	mg/L	0.02	MECP
Zirconium (Zr)	mg/L	0.004	MECP
Dissolved Metals and Trace Elements			
Copper (Cu)	mg/L	0.00611	FEQG
Lead (Pb)	mg/L	0.012	FEQG
Manganese (Mn)	mg/L	0.26	CCME
Strontium (Sr)	mg/L	2.5	FEQG
Zinc (Zn)	mg/L	0.031	CCME

Table 7 Summary of Year 2 surface water statistic WQG exceedances at riverine and lacustrine sites.

Parameter	WQG (mg/L)	Teeswater River	Silver Lake	Clam Lake	Hines Lake	Lake Huron
Total Manganese	0.12	1,4	4		4	
Dissolved Manganese	0.26		4	3,4	4	
Total Zirconium	0.004					4

1. Geometric Mean 2. Fifth percentile 3. Median 4. Ninety-fifth percentile

Table 8 Summary of Year 2 surface water statistic WQG exceedances at wetland sites.

Parameter	WQG (mg/L)	Greenock	Arran	Elderslie	Gildale	Osprey	Saratoga
Total Aluminum	0.000206						4
Total Cobalt	0.0012			4			
Total Manganese	0.12		1,3,4	1,3,4	1,2,3,4	1,2,3,4	1,2,3,4
Dissolved Manganese	0.26	4	4	3,4	1,3,4		4
Total Iron	3.8			3,4	4		
Total Mercury	0.000026			3,4			

1. Geometric Mean 2. Fifth percentile 3. Median 4. Ninety-fifth percentile

General Chemistry and Nutrients

Water quality guidelines are available to characterize thirteen of the general chemistry and nutrient analytes, see Table 9 below. Six parameters (total phosphorus, E. coli, Fluoride, Chloride, Ammonia-N and turbidity) were found to exceed these WQGs, as summarized in Tables 10, 11, and 12 below.

The 95th percentile exceeded the WQG for chloride in the Greenock wetland category. It was observed that all samples with exceeding measurements were collected from SB_SW_Greenock_03 site, which is immediately adjacent to Highway 9. Note that sodium chloride is extensively used in southern Ontario along highways to improve road safety in winter conditions, which may explain the elevated concentrations in the SB_SW_Greenock_03 samples.

E. coli levels were found to exceed the WQGs in the 95th percentile at most of the riverine sites. All of the samples exceeding the E. coli WQG also exhibited high total coliform counts, and high turbidity. Sampling was conducted under a variety of conditions, in accordance with the program design (CanNorth et al, 2021). With one exception, all the exceeding samples were collected during or following precipitation and/or snow melt events. This suggests that these higher E. coli levels are associated with inputs from overland runoff and are not representative of the baseline E. coli concentrations in the rivers, with one exception. The summer Year 2 SB_SW_TWR_02 sample was collected under sunny conditions, however staff documented that there were cattle visible in the river immediately upstream of the site, which likely accounts for the higher E. coli counts in this one sample.

Fluoride concentrations were generally in exceedance of the WQG of 0.12 mg/L in samples collected in the rivers, lakes, and wetlands in the AOI. Provincial Ground Water Monitoring Network (PGWMN) records from the last decade indicate that the fluoride concentration in groundwater samples collected from the Lucknow and Kinloss areas, west of the AOI, have concentrations consistently above 0.30 mg/L (Lucknow well) and consistently above 0.93 mg/L (Kinloss well). This suggests that the fluoride exceedances measured in the surface water samples in the EMBP are likely representative and may originate from the weathering of local fluoride-containing minerals.

Total Phosphorus exceeded WQGs across all riverine, lake and most of the wetland sites.

Table 9 Water Quality Guidelines for general chemistry and nutrient analytes.

COPC	Units	Water Quality Guideline	
		Value	Source
Anions, Nutrients, and Physical Properties			
Alkalinity, Total (as CaCO3)[1]	mg/L	20	BCMOE
Ammonia, Total (as N)	mg/L	0.259	CCME
Chloride (Cl)	mg/L	120	CCME
Conductivity	µS/cm	700	BCMOE
Cyanide, Total	mg/L	0.005	MECP
E. coli	CFU/100mL	100	MECP
Fluoride (F)	mg/L	0.12	CCME
Nitrate (as N)	mg/L	3	CCME
Nitrite (as N)	mg/L	0.02	CCME
pH	pH units	6.5 - 9	CCME
Phosphorus, Total	mg/L	0.01	MECP
Sulphate (SO4)	mg/L	306	BCMOE
Total Dissolved Solids	mg/L	500	Health Canada
Turbidity	NTU	50	Health Canada

[1] Alkalinity is a minimum value.

Table 10 Summary of Year 2 surface water statistic WQG exceedances at reference and exposure riverine sites.

Parameter	WQG (mg/L)	Teeswater River Reference	Teeswater Exposure	Beatty Saugeen Reference	Saugeen Reference	Saugeen Exposure
Phosphorus Total	0.01	1,3,4	1,3,4	4	1,3,4	1,2,3,4
E. coli	100	4	4	4		4
Fluoride	0.12	4	1,2,3,4	4		

1. Geometric Mean 2. Fifth percentile 3. Median 4. Ninety-fifth percentile

Table 11 Summary of Year 2 surface water statistic WQG exceedances at lacustrine sites.

Parameter	WQG (mg/L)	Silver Lake	Clam Lake	Oppleck Lake	Robson Lake	Hines Lake	Lake Huron
Phosphorus, Total	0.01	1,2,3,4	1,2,3,4	1,2,3,4	1,4	1,2,3,4	1,2,3,4
Fluoride	0.12	1,2,3,4	1,2,3,4	1,2,3,4			

1. Geometric Mean 2. Fifth percentile 3. Median 4. Ninety-fifth percentile

Table 12 Summary of Year 2 surface water statistic WQG exceedances at wetland sites.

Parameter	WQG (mg/L)	Greenock Exposure	Teeswater Wetland Exposure	Elderslie	Arran	Gildale	Osprey	Saratoga
Phosphorus, Total	0.01		1,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4
E. coli	100		4					4
Fluoride	0.12	4	1,3,4	1,3,4				
Chloride	120	4						
Turbidity	50			4			4	

1.Geometric Mean 2. Fifth percentile 3. Median 4. Ninety-fifth percentile

Organics

No guidelines exist for the dioxin and furan parameters assessed in the EMBP, however WQGs are available to characterize seventy of the hydrocarbon, polycyclic aromatic hydrocarbon (PAH), polychlorinated biphenyl (PCB), semi-volatile organic compounds (SVOC), and volatile organic compound (VOC) parameters. None of the measured hydrocarbons, PAHs, PCBs, SVOCs and VOCs exceeded the available guidelines (see Table 13 below).

Table 13 Water Quality Guidelines for hydrocarbon, polycyclic aromatic hydrocarbon, polychlorinated biphenyl, semi-volatile organic compound, and volatile organic compound analytes.

COPC	Units	Water Quality Guideline	
		Value	Source
Hydrocarbons			
F1 (C6-C10)	µg/L	150	Alberta
F2 (C10-C16)	µg/L	110	Alberta
Polycyclic Aromatic Hydrocarbon (PAHs)			
Acenaphthene	µg/L	5.8	CCME
Anthracene	µg/L	0.012	CCME
Benzo(a)anthracene	µg/L	0.018	CCME
Benzo(a)pyrene	µg/L	0.015	CCME
Fluoranthene	µg/L	0.04	CCME
Fluorene	µg/L	3	CCME
Naphthalene	µg/L	1.1	CCME
Phenanthrene	µg/L	0.4	CCME
Pyrene	µg/L	0.025	CCME
Polychlorinated Biphenyls (PCBs)			
Aroclor 1242	µg/L	0.001	MECP
Aroclor 1248	µg/L	0.001	MECP
Aroclor 1254	µg/L	0.001	MECP
Aroclor 1260	µg/L	0.001	MECP
Total PCBs	µg/L	0.001	MECP
Semi-Volatile Organic Compounds (SVOCs)			
1,2,4-Trichlorobenzene	µg/L	0.5	MECP
2,4,5-Trichlorophenol	µg/L	18	CCME
2,4,6-Trichlorophenol	µg/L	5	Health Canada
2,4+2,6-Dinitrotoluene	µg/L	10	MECP
2,4-Dichlorophenol	µg/L	0.2	MECP
2,4-Dimethylphenol	µg/L	10	MECP
2,4-Dinitrophenol	µg/L	6.2	Suter and Tsao
2,4-Dinitrotoluene	µg/L	4	MECP
2,6-Dinitrotoluene 2-Chlorophenol	µg/L µg/L	6 7	MECP MECP
3,3-Dichlorobenzidine	µg/L	0.6	MECP
Biphenyl	µg/L	0.2	MECP
Bis(2-chloroethyl)ether	µg/L	200	MECP
Bis(2-ethylhexyl)phthalate	µg/L	3	Suter and Tsao
Diethylphthalate	µg/L	210	Suter and Tsao
Dimethylphthalate	µg/L	330	Suter and Tsao
Pentachlorophenol	µg/L	0.5	MECP
Phenol	µg/L	4	CCME
Volatile Organic Compounds (VOCs)			

COPC	Units	Water Quality Guideline	
		Value	Source
1,1,1,2-Tetrachloroethane	µg/L	20	MECP
1,1,1-Trichloroethane	µg/L	10	MECP
1,1,2,2-Tetrachloroethane	µg/L	70	MECP
1,1,2-Trichloroethane	µg/L	800	MECP
1,1-Dichloroethane	µg/L	200	MECP
1,1-Dichloroethylene	µg/L	14	Health Canada
1,2-Dibromoethane	µg/L	5	MECP
1,2-Dichlorobenzene	µg/L	0.7	CCME
1,2-Dichloroethane	µg/L	5	Health Canada
1,2-Dichloropropane	µg/L	0.7	MECP
1,3-Dichlorobenzene	µg/L	2.5	MECP
1,3-Dichloropropene (cis & trans)	µg/L	0.2	CCME
1,4-Dichlorobenzene	µg/L	4	MECP
Acetone	µg/L	1500	Suter and Tsao
Benzene	µg/L	5	Health Canada
Bromodichloromethane	µg/L	200	MECP
Bromoform	µg/L	60	MECP
Bromomethane	µg/L	0.9	MECP
Carbon tetrachloride	µg/L	2	Health Canada
Chlorobenzene	µg/L	1.3	CCME
Chloroform	µg/L	1.8	CCME
cis-1,2-Dichloroethylene	µg/L	200	MECP
Dibromochloromethane	µg/L	40	MECP
Ethylbenzene	µg/L	8	MECP
Methyl Ethyl Ketone	µg/L	400	MECP
Methylene Chloride	µg/L	50	Health Canada
MTBE	µg/L	200	MECP
n-Hexane	µg/L	0.58	Suter and Tsao
Styrene	µg/L	4	MECP
Tetrachloroethylene	µg/L	10	Health Canada
Toluene	µg/L	0.8	MECP
trans-1,3-Dichloropropene	µg/L	7	MECP
Vinyl chloride	µg/L	2	Health Canada
Xylenes (Total)	µg/L	30	BCMOE
trans-1,2-Dichloroethylene	µg/L	200	MECP

Organochlorine Pesticides

Water quality guidelines are available to characterize twenty-one of the organochlorine

pesticide analytes, see Table 14 below. Several parameters did not have sufficient RDL resolution to determine if they exceeded the WQGs, as the RDLs themselves equaled or exceeded the WQGs. To more accurately determine if levels of those parameters exceed guidelines during baseline conditions, lower RDLs will need to be achieved by the laboratory. None of the Year 2 samples with RDLs below the WQGs exceeded the selected pesticide WQGs.

Table 14 Water Quality Guidelines for organochlorine pesticide analytes.

COPC	Units	Water Quality Guideline	
		Value	Source
Organochlorine Pesticides			
Aldrin	µg/L	0.001	MECP
alpha-BHC	µg/L	2.2	Suter and Tsao
beta-BHC	µg/L	2.2	Suter and Tsao
Chlordane (Total)	µg/L	0.006	MECP
DDT+Metabolites	µg/L	0.001	MECP
delta-BHC	µg/L	2.2	Suter and Tsao
Dieldrin	µg/L	0.001	MECP
Endosulfan (Total)	µg/L	0.003	MECP
Endosulfan II	µg/L	0.056	US EPA
Endosulfan Sulfate	µg/L	0.056	US EPA
Endrin	µg/L	0.002	MECP
gamma-hexachlorocyclohexane	µg/L	0.01	MECP
Heptachlor	µg/L	0.001	MECP
Heptachlor Epoxide	µg/L	0.001	MECP
Hexachlorobenzene	µg/L	0.0065	MECP
Hexachlorobutadiene	µg/L	0.009	MECP
Hexachloroethane	µg/L	1	MECP
Methoxychlor	µg/L	0.04	MECP
Mirex	µg/L	0.001	MECP
pp-DDD	µg/L	0.011	Suter and Tsao
Total DDT	µg/L	0.013	Suter and Tsao

Limnology

In situ physical and chemical water quality parameter measurements included water clarity (as Secchi depth), turbidity, temperature, dissolved oxygen, specific conductance, pH, and ORP. Measurements are summarized in Table 15, 16, and 17 below. These tables present average measurements across seasons and depth profiles.

Average temperatures were generally comparable between the waterbodies. Temperatures in the Saugeen River Reference and Beatty Saugeen River Reference sites were lower than the temperatures measured in the other river sites. Average temperatures in Silver Lake and Clam

Lake were higher than the other monitored lakes, however this average was calculated using measurements from all seasons and depths, without consideration for thermal stratification. The average surface water temperature at the Greenock wetlands appears to be lower than the averages measured at the other wetlands, however this is likely an artificial trend because the Greenock wetland data set is skewed in favor of colder temperatures; two of the Greenock wetland sites were dry in the summer resulting in more cold weather measurements than warm weather measurements.

Table 15 Year 2 geometric average in situ water quality measurements from lakes within the LSAsw study area.

Parameters	Silver		Clam		Oppleck		Robson		Hines		Huron	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Station Depth (m)	15.39	0.85	13.00	4.33	4.35	0.03	6.63	0.32	13.46	0.50	0.45	0.27
Secchi Depth (m)	2.24	0.25	2.50	0.00	2.5	0	3.66	1.05	0.81	1.30	-	-
temp (°C)	10.92	6.17	8.25	1.40	6.46	8.00	5.56	8.38	7.11	6.53	7.31	10.85
DO (mg/L)	3.81	3.92	2.97	3.69	4.64	14.54	10.42	2.19	2.25	4.74	10.99	1.95
DO (%)	35.48	42.41	25.19	32.34	9.70	7.93	89.22	25.33	18.59	47.52	99.62	7.53
Sp. Cond. (µS/cm)	360.79	36.51	435.81	60.92	282.07	38.91	490.26	50.37	432.67	101.73	533.05	69.84
pH	8.03	0.50	7.44	0.25	7.65	0.18	8.16	0.25	7.81	0.49	8.43	0.14
ORP (mV)	67.31	34.25	-47.89	13.66	-21.50	43.13	71.32	27.62	34.72	84.22	99.12	51.52
Turbidity (NTU)	1.33	2.12	1.56	0.12	3.15	14.75	0.12	0.66	1.06	1.76	6.32	7.95

Table 16 Year 2 geometric average in situ water quality measurements from rivers within the LSAsw study area.

Parameters	Teeswater Reference		Teeswater Exposure		Saugeen Reference		Saugeen Exposure		Beatty Saugeen Reference	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Station Depth (m)	0.26	0.11	1.03	0.67	1.96	0.57	0.95	0.74	0.57	0.42
temperature (°C)	6.65	7.96	5.47	7.27	4.67	4.74	7.09	8.85	4.64	7.13
DO (mg/L)	12.00	1.85	11.03	1.79	12.28	1.05	11.17	2.18	11.78	1.60
DO (%)	103.69	22.97	93.11	7.78	97.97	3.54	99.71	9.08	100.49	6.42
Sp. Cond. (µS/cm)	478.57	185.89	630.63	88.81	603.73	163.13	541.27	109.15	606.10	57.00
pH	8.27	0.25	8.18	0.18	8.41	0.08	8.21	0.20	8.47	0.10
ORP (mV)	76.20	20.22	63.95	32.70	105.33	19.23	61.64	65.97	83.73	17.38
Turbidity (NTU)	1.25	7.17	1.55	1.33	5.28	8.39	7.97	10.03	0.02	0.92

Table 17 Year 2 geometric average in situ water quality measurements from wetlands within the LSAsw study area.

Parameters	Greenock		Teeswater		Arran		Elderslie		Gildale		Osprey		Saratoga	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Station Depth (m)	0.19	0.07	0.27	0.09	0.26	0.11	0.17	0.14	0.14	0.14	0.07	0.09	0.24	0.14
temp (°C)	1.34	6.50	4.99	6.91	4.33	6.08	5.10	7.28	5.82	7.97	6.46	8.00	4.84	8.64
DO (mg/L)	2.63	2.19	6.44	4.02	2.17	0.75	2.91	4.04	2.70	4.41	4.64	14.54	0.94	0.49
DO (%)	21.51	16.06	53.90	29.88	17.29	8.49	23.75	27.29	22.88	36.53	9.70	7.93	7.63	4.85
Sp. Cond. (µS/cm)	618.32	511.61	450.49	214.28	442.66	205.27	370.50	403.55	445.07	57.32	282.07	38.91	295.55	116.39
pH	7.32	0.28	7.71	0.29	7.32	0.31	6.42	1.61	7.61	0.32	7.65	0.18	7.17	0.31
ORP (mV)	9.10	76.72	39.83	49.92	37.87	25.03	-33.20	23.33	3.13	90.17	-21.50	43.13	-11.03	77.15
Turbidity (NTU)	2.27	3.05	5.96	14.01	1.42	3.37	14.61	48.16	3.74	12.41	3.15	14.75	14.62	14.67

Sediment

Sampling Overview

Field Methods

In the fall of Year 2 (October and November 2022), five replicate samples were collected from comparable habitats near the banks of riffle/run habitats at three sites on the Teeswater River and one site on the Beatty Saugeen River. Five replicate samples were collected from comparable habitats at five lacustrine sites: Silver Lake, Clam Lake, Hines Lake, Robson Lake, and Lake Huron. Replicates were spaced a minimum of 20 metres, to be considered statistical replicates (Environment Canada, 2012).

Lacustrine sample locations were situated in areas with an approximate depth of 5 metres. Grab samples were collected using a clean petite Ponar. Using a gravity corer was not feasible at riverine or lacustrine sites given the large sediment volume required by the analytical laboratory and the erosional nature of the rivers being sampled. Since analytes and sampling size varied by site, the maximum volume required for sediment sampling at a riverine site was 19.03L of sediment and the minimum volume required for sediment sampling at a lacustrine site was 17.23L.

The petite Ponar was dropped as many times as necessary to collect a sufficient volume of sediment to meet the required laboratory volumes. Non-sediment material was removed from each grab sample, and a clean stainless-steel spoon was used to remove approximately 5 cm of sediment from the top of the grab sampler, being sure to exclude the sediment touching the edges of the petite Ponar.

In the field, sediment samples were stored in clean, labeled bags and stored in a cooler with icepacks. Due to the volume of material required by the laboratory, each replicate required multiple bags. Once sampling was complete at a site, staff returned to the office where each replicate's sample was composited and homogenized using a clean stainless-steel bowl and spoon. Immediately after being homogenized, semi-volatile organic compound (SVOC) samples were collected using the single-use syringes provided by the laboratory, then the remaining laboratory-provided glass containers were filled with sample sediment. Sediment samples in the appropriate glass containers were then stored in a secure area at approximately 4°C and delivered to the laboratory in a cooler containing icepacks within 24 hours.

Laboratory Analysis

Samples were sent to ALS Laboratory, a Canadian Association for Laboratory Accreditation (CALA) qualified laboratory.

Data Analysis

Quality Assurance

Prior to sampling, equipment was cleaned using phosphate-free soap and deionized water.

Samplers wore nitrile gloves while conducting sampling, including homogenization. When petite Ponar grabs did not meet sampling quality control measures (e.g., sediment overflowing out of the top of Ponar, excessive debris or plant material, or insufficient material retained), in rivers the deficient grabs were discarded downstream of the sampling area, and in lakes the deficient grabs were retained in the canoe until the completion of the sample replicate.

Quality Control

Prior to sample submission to the analytical laboratory, SVCA completed chain of custody forms. These forms included an inventory of all the sediment samples which were part of the submission, an outline of requested analysis, and information about the sample collection, preservation, and handling. Field duplicates were collected at a frequency of approximately 10% of the samples collected. The Relative Percent Difference (RPD) between the test and duplicate sample was calculated using the following formula:

$$RPD = (\frac{\frac{Duplicate - Sample}{Duplicate + Sample}}{2}) * 100$$

The Data Quality Objective (DQO) for the sediment RPDs was set at 40%, to provide a benchmark for the initial data screening process. It is estimated that concentrations near the reported detection limit (RDL) have a high level of measurement uncertainty at concentrations approaching five times the RDL (McQuaker,1999). Therefore, RPDs exceeding 40% were flagged for further investigation only when the sample and duplicate results were both greater than five times the RDL. Sediment quality results are presented in Appendix D. Sediment QAQC duplicate results are presented in Appendix E. In very few instances, the RPDs for some parameters exceeded the DQO with both results measuring greater than five times the RDL. Flagged results were not able to be re-analyzed by ALS for confirmation of the original measurement, however ALS includes comprehensive QC checks with every analysis to ensure high standards of quality are met. The flagged samples all passed the laboratory quality checks with one exception; for the SB_SW_BeattySaugeen_03 / SB_SW_Duplicate_3 samples, the dioxin and furan parameters flagged were detected in the laboratory method blank below the calibrated range but above the EDL. Accounting for the small concentrations reported in the method blank, these samples would still exceed the DQO, thus these exceedances are likely the result of matrix heterogeneity and not a result of sample contamination.

Statistical Analysis

To provide a high-level characterization of the sediment sites sampled, data were grouped into categories and summary statistics were completed using the data from all replicates and stations within each category. Categories are outlined in Table 18 below.

Table 18 Site groupings for Year 2 sediment summary statistics.

Waterbody	Category Label	Stations included in the Category	n
Teeswater River	Teeswater Potential Exposure	SB_SW_TWR_04	10
		SB_SW_TWR_08	
	Teeswater Reference	SB_SW_TWR_03	5
Beatty Saugeen River	Reference	SB_SW_BeattySaugeen_03	5
Silver Lake	Potential Exposure	SB_SW_Silver	5
Clam Lake	Potential Exposure	SB_SW_Clam	5
Robson Lake	Potential Reference	SB_SW_Robson	5
Hines Lake	Potential Reference	SB_SW_Hines	5
Lake Huron	Huron Exposure	SB_SW_Huron	5

Summary statistics including the geometric mean, minimum, maximum, median, 5th percentile, 95th percentile, and geometric standard deviation were calculated for each category of sites. In addition, for each parameter the units, number of samples (n), RDL, and number of samples below the RDL (n<RDL) are reported. To calculate summary statistics, values below RDL's were set as equal to the RDL.

Benchmark Comparison

The measured data were compared to a series of Sediment Quality Benchmarks (SQBs). When benchmarks were available from multiple agencies for a parameter, the following approach was taken in selecting an appropriate SQB.

1. The first consideration was for the lowest effect level (LEL) guideline listed in Table 1 of the federal Interim Sediment Quality Guidelines (ISQGs).

2. If federal values were not available, then guidelines from other jurisdictions and sources were adopted including:
    - Ontario Ministry of the Environment Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act. 2011
    - MOE 2008. Guidelines for Identifying, Assessing and Managing Contaminated Sediments in Ontario: An Integrated Approach. 2008
    - NWMO interim acceptance criteria (NWMO 2015, 2019).
    - Thompson, P.A., J. Kurias and S. Mihok. 2005.
    - Atlantic Risk Based Corrective Action (RBCA) 2022
    - US EPA Region 3 Screening Benchmarks. 2006
    - US EPA Region 6 Screening Benchmarks. 2023

The selected SQBs are included in the results sections below, although SQBs were not available for every COPC.

Results

Radionuclides

Sediment quality benchmarks are available to characterize eleven of the seventeen radionuclide analytes assessed, see Table 19 below. No radionuclides exceeded the available benchmarks. See Appendix D for detailed Year 2 sediment quality results.

Table 19 Sediment Quality benchmarks for radionuclide analytes.

COPC	Units	Value	Source
Tritium	Bq/kg	10000000	US EPA Region 6
Strontium-90	Bq/kg	20000	US EPA Region 6
Iodine-129	Bq/kg	1000000	US EPA Region 6
Cesium-137	Bq/kg	100000	US EPA Region 6
Cobalt-60	Bq/kg	40000	US EPA Region 6
Uranium-238	Bq/kg	40000	US EPA Region 6
Uranium-234	Bq/kg	20000	US EPA Region 6
Uranium-235	Bq/kg	10000	US EPA Region 6
Thorium-232	Bq/kg	40000	US EPA Region 6
Radium-226	Bq/kg	600	Thompson et al
Plutonium-239	Bq/kg	200000	US EPA Region 6

Metals and Trace Elements

Sediment quality benchmarks are available to characterize twenty-three of the thirty-seven metals and trace element analytes, see Table 20 below. Some parameters (manganese, phosphorus, arsenic, cadmium, copper, iron, lead, nickel, selenium, silver, and zinc) exceeded these SQBs as summarized in Table 21 below. See Appendix D for detailed Year 2 sediment quality results.

Table 20 Sediment Quality benchmarks for metal and trace element analytes.

COPC	Units	Value	Source
Antimony	mg/kg	3	NWMO 2015
Arsenic	mg/kg	5.9	ISQG
Bismuth	mg/kg	65000	NWMO 2019
Cadmium	mg/kg	0.6	ISQG
Chromium	mg/kg	26	MOE 2008
Cobalt	mg/kg	50	MOE 2011
Copper	mg/kg	16	MOE 2011
Iron	mg/kg	20000	MOE 2008
Lead	mg/kg	31	MOE 2011
Manganese	mg/kg	460	MOE 2008
Mercury	mg/kg	0.17	ISQG
Molybdenum	mg/kg	8.3	NWMO 2015

Nickel	mg/kg	16	MOE 2011
Phosphorus	mg/kg	600	MOE 2008
Rhodium	mg/kg	600	NWMO 2019
Ruthenium	mg/kg	390	NWMO 2019
Samarium	mg/kg	2500	NWMO 2019
Selenium	mg/kg	0.9	NWMO 2015
Silver	mg/Kg	0.5	MOE 2011
Tungsten	mg/kg	960	NWMO 2019
Uranium	mg/Kg	32	NWMO 2015
Vanadium	mg/kg	27	NWMO 2015
Zinc	mg/kg	120	MOE 2008

Table 21 Summary of Year 2 sediment statistic SQB exceedances.

Parameter	SQB (mg/kg)	Teeswater River	Beatty Saugeen River	Silver Lake	Clam Lake	Hines Lake	Robson Lake	Lake Huron
Manganese	460	4	1,3,4			1,3,4	1,3,4	4
Phosphorus	600	4		4	1,3,4	4	1,3,4	
Arsenic	5.9			1,3,4	1,3,4			
Cadmium	0.6				1-4		1-4	
Copper	16				1-4			
Iron	20000			4	1,4			
Lead	31				1,4			
Nickle	16				1-4			
Selenium	0.9			4	1-4	1,4	1-4	
Silver	0.5			4				
Zinc	120				4			

1. Geometric Mean 2. Fifth percentile 3. Median 4. Ninety-fifth percentile

Nutrients and General Characterization

Sediment quality benchmarks are available to characterize two of the nutrient and general characterization analytes, see Table 22 below. The geometric mean, median, 5th and 95th percentile for both TOC and TKN exceeded SQBs at all sites. See Appendix D for detailed Year 2 sediment quality results.

Substrate composition was investigated, and particle size distribution curves developed for each sample; see Appendix F. In the riverine samples, potential exposure site samples generally contained more silt than the reference site samples. Staff observed that the riverbed at the SB_SW_TWR_03 and SB_SW_BeattySaugeen_03 sites was dominated by cobble and gravel, and staff had difficulty locating sufficient volumes of smaller particulate to sample. In contrast, staff observed that the riverbed at SB_SW_TWR_08 was dominated by finer sand and silt material, and that SB_SW_TWR_04 showed a wide variety of dominant substrates that seemed to correlate with different morphological features (riffles dominated by cobble, runs and pools dominated by sand and silt).

Table 22 Sediment Quality benchmarks for nutrient and general characterization analytes.

COPC	Units	Value	Source
Carbon, total organic [TOC]	%	1	MOE. 2008
Kjeldahl nitrogen, total [TKN]	Mg/Kg	500	MOE. 2008

Organics

Sediment quality benchmarks are available to characterize sixty of the organic analytes, see Table 23 below. Several parameters did not have sufficient RDL resolution to determine if they exceeded the SQB, as the RDLs themselves equaled or exceeded the SQBs. To more accurately determine if levels of those parameters exceed guidelines during baseline conditions, lower RDLs will need to be achieved by the laboratory. See Appendix D for detailed Year 2 sediment quality results. F3 (C16-C34) hydrocarbon in Teeswater Exposure exceeded its SQB while having RDLS larger than this SQB.

Table 23 Sediment Quality benchmarks for organic analytes.

COPC	Units	Value	Source
Acenaphthene	mg/kg	0.00671	ISQG
Acenaphthylene	mg/kg	0.00587	ISQG
Anthracene	mg/kg	0.0469	ISQG
Benz(a)anthracene	mg/kg	0.0317	ISQG
Benzo(a)pyrene	mg/kg	0.0319	ISQG
Benzo(g,h,i)perylene	mg/kg	0.17	MOE 2011
Benzo(k)fluoranthene	mg/kg	0.24	MOE 2011
Chrysene	mg/kg	0.0571	ISQG
Dibenz(a,h)anthracene	mg/kg	0.00622	ISQG
Fluoranthene	mg/kg	0.111	ISQG

COPC	Units	Value	Source
Fluorene	mg/kg	0.0212	ISQG
Indeno(1,2,3-c,d)pyrene	mg/kg	0.2	MOE 2011
Methylnaphthalene, 1-	mg/kg	0.201	Atlantic RBCA
Methylnaphthalene, 2-	mg/kg	0.0202	ISQG
Naphthalene	mg/kg	0.0346	ISQG
Phenanthrene	mg/kg	0.0419	ISQG
Pyrene	mg/kg	0.053	ISQG
Acetone	mg/kg	360.18	US EPA Region 6
Benzene	mg/kg	1.2	Atlantic RBCA
Bromodichloromethane	mg/kg	14.74	US EPA Region 6
Bromoform	mg/kg	0.65	Atlantic RBCA
Bromomethane	mg/kg	0.46	US EPA Region 6
Carbon tetrachloride	mg/kg	1.2	Atlantic RBCA
Chlorobenzene	mg/kg	0.41	Atlantic RBCA
Chloroform	mg/kg	0.94	US EPA Region 6
Dibromochloromethane	mg/kg	5.67	US EPA Region 6
Dichlorobenzene, 1,2-	mg/kg	0.33	Atlantic RBCA
Dichlorobenzene, 1,3-	mg/kg	1.7	Atlantic RBCA
Dichlorobenzene, 1,4-	mg/kg	0.34	Atlantic RBCA
Dichlorodifluoromethane	mg/kg	22.09	US EPA Region 6
Dichloroethane, 1,1-	mg/kg	13.89	US EPA Region 6
Dichloroethane, 1,2-	mg/kg	28.68	US EPA Region 6
Dichloroethylene, 1,1-	mg/kg	0.031	US EPA Region 3
Dichloroethylene, trans-1,2-	mg/kg	1.05	US EPA Region 3
Dichloromethane	mg/kg	46.52	US EPA Region 6
Dichloropropane, 1,2-	mg/kg	21.12	US EPA Region 6
Dichloropropylene, cis+trans-1,3-	mg/kg	0.0000509	US EPA Region 3
Dichloropropylene, trans-1,3-	mg/kg	1.37	US EPA Region 6
Ethylbenzene	mg/kg	1.2	Atlantic RBCA
Hexane, n-	mg/kg	0.0396	US EPA Region 3
Methyl ethyl ketone [MEK]	mg/kg	154.26	US EPA Region 6
Methyl isobutyl ketone [MIBK]	mg/kg	116.59	US EPA Region 6
Styrene	mg/kg	0.559	US EPA Region 3
Tetrachloroethane, 1,1,2,2-	mg/kg	1.4	Atlantic RBCA
Tetrachloroethylene	mg/kg	0.41	Atlantic RBCA
Toluene	mg/kg	1.4	Atlantic RBCA
Trichloroethane, 1,1,1-	mg/kg	0.03	Atlantic RBCA
Trichloroethane, 1,1,2-	mg/kg	1.24	US EPA Region 3
Trichloroethylene	mg/kg	0.22	Atlantic RBCA
Trichlorofluoromethane	mg/kg	10.12	US EPA Region 6

COPC	Units	Value	Source
Vinyl chloride	mg/kg	4.18	US EPA Region 6
Xylene, m+p	mg/kg	0.0252	US EPA Region 3
Xylenes, total	mg/kg	1.3	Atlantic RBCA
Biphenyl	mg/kg	1.22	US EPA Region 3
3,3-Dichlorobenzidine	mg/kg	0.127	US EPA Region 3
2,4-Dinitrotoluene	mg/kg	0.0416	US EPA Region 3
1,2,4-Trichlorobenzene	mg/kg	2.1	US EPA Region 3
F1 (C6-C10)	mg/kg	15	Atlantic RBCA
F2 (C10-C16)	mg/kg	25	Atlantic RBCA
F3 (C16-C34)	mg/kg	43	Atlantic RBCA
Aroclor 1016	mg/kg	0.007	MOE 2008
Aroclor 1248	mg/kg	0.03	MOE 2008
Aroclor 1254	mg/kg	0.06	MOE 2008
Aroclor 1260	mg/kg	0.005	MOE 2008
Polychlorinated biphenyls [PCBs], total	mg/kg	0.0341	ISQG

Organochlorine Pesticides

Sediment quality benchmarks are available to characterize fourteen organochlorine pesticide analytes, see Table 24 below. Several parameters did not have sufficient RDL resolution to determine if they exceeded the SQB, as the RDLs themselves equaled or exceeded the SQBs. To more accurately determine if levels of those parameters exceed guidelines during baseline conditions, lower RDLs will need to be achieved by the laboratory. Only total dichlorodiphenyltrichloroethane (DDT) was measured in concentrations exceeding the SQB, which was observed in two of the Teeswater River potential exposure TWR_08 replicate samples. See Appendix D for detailed Year 2 sediment quality results.

Table 24 Sediment Quality benchmarks for organochlorine pesticide analytes.

COPC	Units	Value	Source
Aldrin	mg/kg	0.002	MOE 2011
Chlordane, total	mg/kg	0.0045	ISQG
DDD, total	mg/kg	0.00354	ISQG
DDE, total	mg/kg	0.00142	ISQG
DDT, total	mg/kg	0.00119	ISQG
Dieldrin	mg/kg	0.002	MOE 2011
Endosulfan, total	mg/kg	0.006	Atlantic RBCA
Endrin	mg/kg	0.00267	ISQG
Heptachlor	mg/kg	0.0006	ISQG
Heptachlor epoxide	mg/kg	0.005	MOE 2011
Hexachlorobenzene	mg/kg	0.02	MOE 2011
Hexachlorobutadiene	mg/kg	0.55	US EPA Region 6

Hexachloroethane	mg/kg	1.027	US EPA Region 3
Methoxychlor	mg/kg	0.0187	US EPA Region 3

Plankton

Sampling Overview

Field Methods

Three replicate phytoplankton samples were collected from Silver Lake, Clam Lake, Hines Lake, and Robson Lake in the fall of 2022 and summer of 2023. Samples were collected in the daytime from the euphotic zone (the upper portion of the lake which receives sunlight). A weighted Nalgene tube with a one-way foot valve on the bottom was slowly lowered through the water column, allowing water and small organisms into the tubing. Once the foot valve reached the deepest extent of the euphotic zone, the tubing was pulled vertically, causing the foot valve to close. As the tubing was pulled vertically, the tube discharged the captured water and organisms into a sampling container. Each sample was a composite of three vertical tube hauls. Phytoplankton samples were preserved using a 1% Lugol's solution and samples were stored in the dark at temperatures above 4°C until delivery to the taxonomist.

Three replicate zooplankton samples were collected from Silver Lake, Clam Lake, Hines Lake, and Robson Lake in the fall of 2022 and summer of 2023. Samples were collected in the daytime from the euphotic zone (the upper portion of the lake which receives sunlight) which is estimated as being twice the Secchi disc depth. A 64 µm mesh Wisconsin plankton net was drawn vertically through the euphotic zone to capture zooplankton within the water column at a continuous rate of 0.5 m/s. Once the haul was completed at the lake surface, the outside of the net was rinsed, and the sample was drained into the sample container. Each sample was a composite of 5 hauls. Zooplankton samples were preserved using 95% ethanol and samples were stored in a secure, dark area at approximately 4°C until delivery to the taxonomist.

Laboratory Analysis

Phytoplankton analyses were completed by a taxonomist at ALS Laboratories following APHA 10200 C, F, and I reference methods. Zooplankton analyses were completed by a taxonomist at ALS laboratories following APHA 10200 C, G, and I. Plankton were identified using a microscope to the species level where possible. Plankton were also enumerated, and an average biovolume and total biovolume for each genus/species was reported.

Data Analysis

Quality Assurance

Prior to sampling, the Nalgene tube and Wisconsin net were cleaned using a phosphate free soap, scrub brush, and deionized water, followed by a deionized water rinse. A 10% bleach solution rinse was also used in between sampling lakes which were not hydraulically connected.
On site, the Wisconsin net was soaked in the target lake for a minimum of 2 minutes with the net opening above the surface prior to sample collection. During sampling, staff monitored the haul

speeds and profiles, discarding any Nalgene tube hauls or Wisconsin net samples that did not conform to the protocol.

Quality Control

Before samples were submitted to the analytical laboratory, SVCA completed chain of custody forms. These forms included an inventory of all the phytoplankton and zooplankton samples which were part of the submission, an outline of requested analysis, and information about the sample collection, preservation, and handling.

After receiving analytical results from ALS Laboratories, SVCA staff reviewed the results and ensured sample dates and identifications matched with the sample chain of custody forms, and that no results were omitted.

Data Analysis

Seasonally, the following phytoplankton and zooplankton community metrics were calculated for each sampled lake:

- Taxon richness
- Species composition
- Evenness
- Simpson's Diversity

Taxon richness considers how many different taxa of organisms are represented in a sample. Species composition considers how much of the community is represented by an individual taxon. Species composition was calculated by dividing the number of organisms in a single taxon by the total number of organisms in the entire sample.

Evenness considers how common or rare a taxon of organisms is within a sample. Evenness was calculated by determining the relative diversity over the total number of taxa in each sample, where relative diversity is the sum of the proportions of each taxon in the sample (EC, 2012). A sample composed of primarily one taxon will have low evenness, while a sample where each taxon's presence is equally abundant will have high evenness. Evenness can range from zero to one where the greater the value, the more even the distribution of the population.

Simpson's Diversity considers both the richness and the evenness of distribution of individuals among taxa in a sample (EC, 2012). For each family-level taxon, this index was calculated by determining the proportion of individuals that contribute to the community total in the sample. The value of the Simpson's diversity ranges between zero and one where the greater the value, the greater the community diversity.

The biotic indices and community composition information is presented at the family level of taxonomy or lower, consistent with the lowest taxonomic level identifications provided by the analytical lab.

Result summaries in this report are the averages of the three replicates collected at each site per season.

Results were also compared against the Ontario Natural Heritage Information Centre (NHIC) species lists for exotic and provincially tracked species.

Results

Understanding phytoplankton community metrics can support water quality and ecological assessments by providing insights into the primary productivity and trophic status of lakes. Understanding zooplankton community metrics can support both the water quality and ecological assessment by providing insight to the quality of the food chain and the energy flow through the system.

Phytoplankton community compositions are summarized by season in Table 25 and Figures 3 below. All the lakes displayed seasonal variability in community composition. The two lakes close to the AOI (Silver Lake and Clam Lake) displayed lower phytoplankton diversity and higher evenness than the two potential reference lakes (Hines Lake and Robson Lake). Golden-Brown algae (Chrysophyceae) were dominant in Hines Lake (58% of the species composition both fall and summer), and in Robson Lake (53% in the fall and 59% in the summer), but less abundant in Silver Lake and Clam Lake, making up less than 15% of the population). Detailed phytoplankton enumeration results are presented in Appendix G.

Some cyanotoxins originating from select species of Cyanobacteria have been implicated in adverse health reactions. Health Canada has developed a guideline value where total Cyanobacteria counts are used as an indicator of the potential presence of cyanotoxins. For primary contact recreation, total Cyanobacteria counts should not exceed 50,000 cells/mL (Health Canada, 2022). None of the samples exceeded this total Cyanobacteria guideline value.

Table 25 Summary of the seasonally dominant and subdominant phytoplankton class at each lake.

Phytoplankton						
Season	**Density (organisms/L)[1]**	**Taxon Richness**	**Simpson's Diversity[1]**	**Evenness[1]**	**Dominant Class[2]**	**Subdominant Class[2]**
Silver Lake						
Fall	1,859,333	20	0.12	0.79	Cyanophyceae	Chlorophyceae
Summer	6,128,000	26	0.15	0.66	Cyanophyceae	Chlorophyceae
Clam Lake[3]						
Fall	760,667	16	0.18	0.72	Cryptophyceae	Cyanophyceae
Robson Lake						
Fall	541,333	10	0.39	0.54	Chrysophyceae	Cryptophyceae
Summer	8,439,000	20	0.44	0.36	Chrysophyceae	Bacillariophyceae

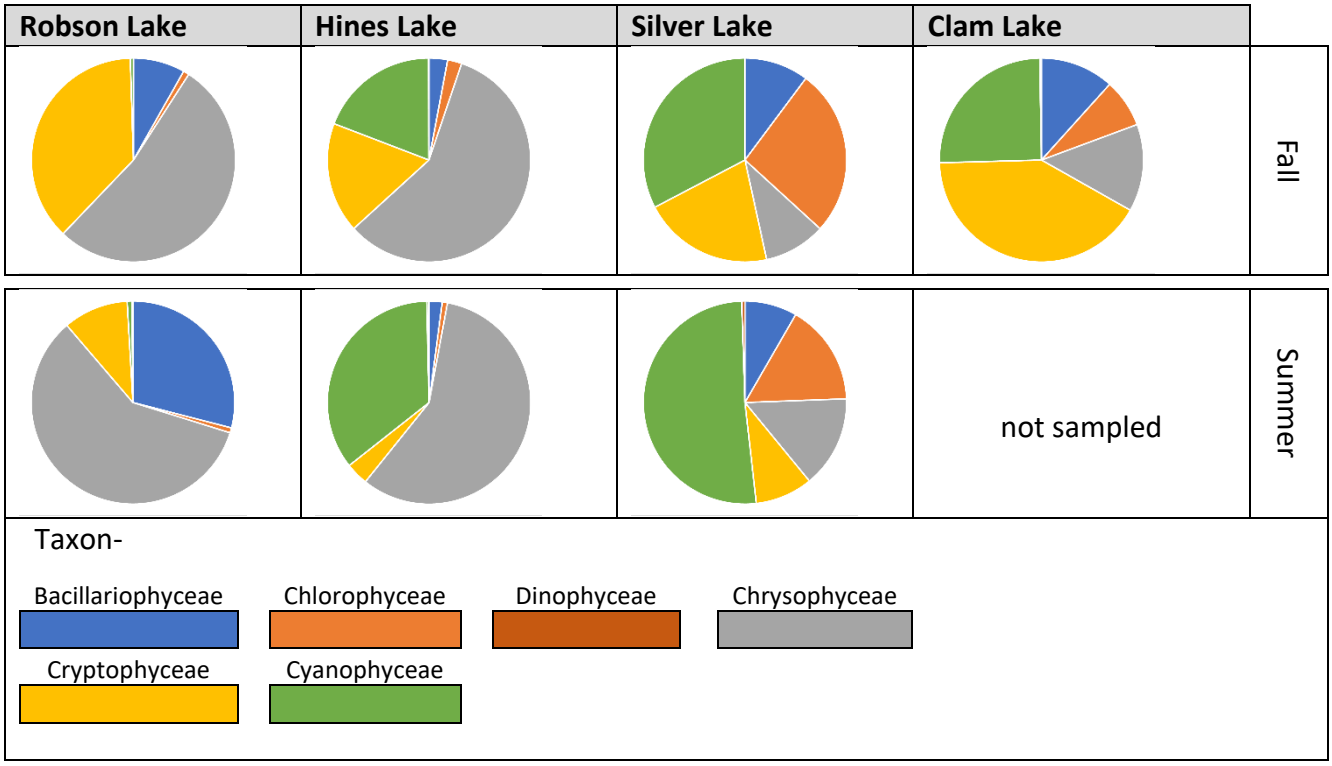
Hines Lake						
Fall	2,018,000	15	0.38	0.51	Chrysophyceae	Cyanophyceae
Summer	11,214,000	21	0.38	0.47	Chrysophyceae	Cyanophyceae

[1] Simpson's Diversity, Evenness, and Density are the average of the 3 replicates taken at each site per season.

[2] The dominant and subdominant class were determined considering the population distribution in all three replicates combined.

[3] Plankton samples were not collected from Clam Lake in the summer of Year 2 due to access restrictions.

Figure 3 Phytoplankton percent composition in Year 2.



Zooplankton community compositions are summarized by season in Table 26 and Figure 4 below. All lakes displayed seasonal variability in community composition. The two lakes close to the AOI (Silver Lake and Clam Lake) displayed similar zooplankton diversity and evenness to the two potential reference lakes (Hines Lake and Robson Lake). Branchiopoda and Copepoda (classes of crustaceans) and Monogononta (a class of rotifers) represented large portions of the zooplankton populations at all four lakes. Detailed zooplankton enumeration results are presented in Appendix G.

Table 26 Summary of the seasonally dominant and subdominant zooplankton class at each lake.

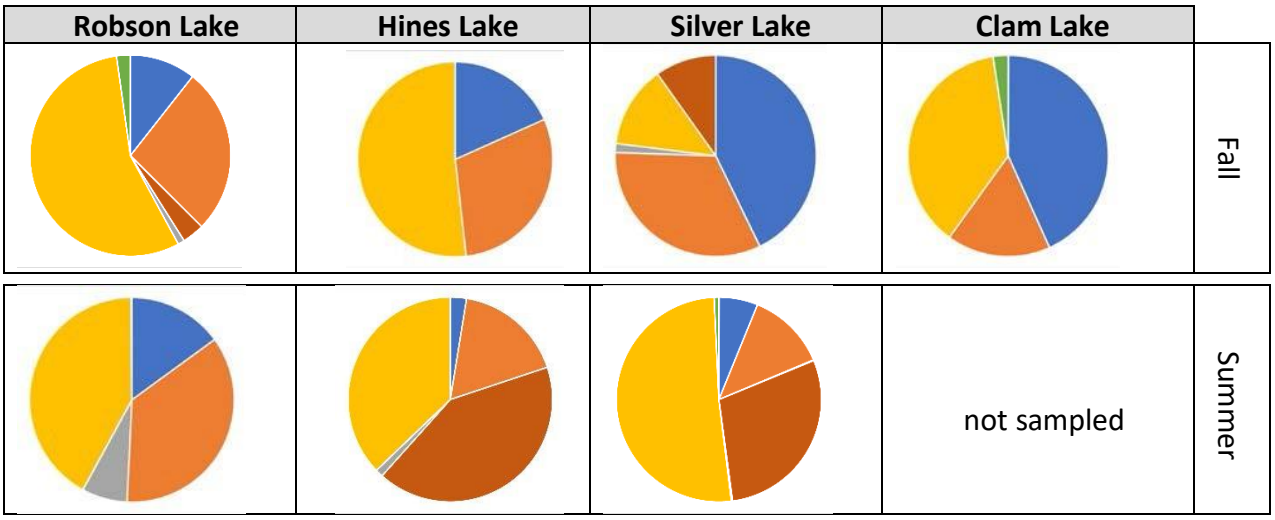
Zooplankton						
Season	**Density (organisms/L)**	**Taxon Richness**	**Simpson's Diversity**	**Simpson's Evenness**	**Dominant Class**	**Subdominant Class**
Silver Lake						
Fall	30,117	14	0.25	0.68	Branchiopoda	Copepoda
Summer	45,267	25	0.14	0.72	Monogononta	Ciliata
Clam Lake						
Fall	24,750	15	0.22	0.69	Branchiopoda	Monogononta
Robson Lake						
Fall	1,352	16	0.14	0.79	Monogononta	Copepoda
Summer	23,427	17	0.12	0.84	Monogononta	Copepoda
Hines Lake						
Fall	14,033	12	0.28	0.68	Monogononta	Copepoda
Summer	67,333	19	0.26	0.62	Ciliata	Monogononta

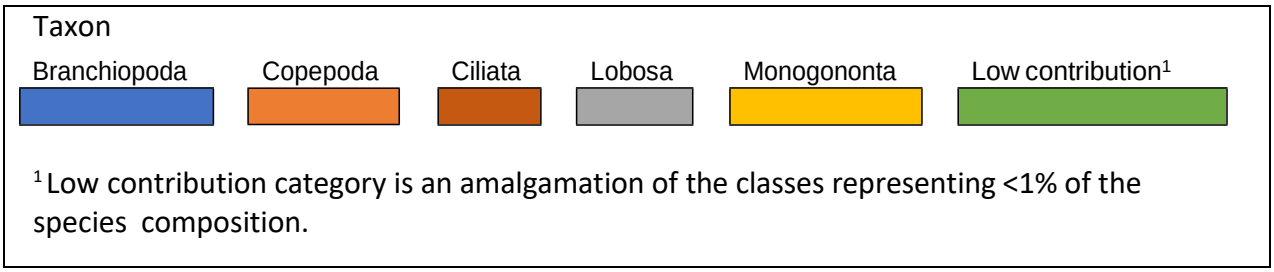
[1] Simpson's Diversity, Evenness, Density, and total biovolume are the average of the 3 replicates taken at each site per season.

[2] The dominant and subdominant class were determined considering the population distribution in all three replicates combined.

[3] Plankton samples were not collected from Clam Lake in the summer of Year 2 due to access restrictions.

Figure 4 Zooplankton percent composition in Year 2.





The Natural Heritage Information Centre (NHIC) tracks the locations, conditions, and natural heritage information for over 17,000 species in Ontario. While not an exhaustive inventory, the NHIC database does contain a significant number of species known to be exotic or of particular conservation concern. None of the phytoplankton or zooplankton detected were listed in the NHIC database.

Periphyton

Field Methods

In Year 2, site visits to collect periphyton occurred only in the Summer (August 2023); fall and spring periphyton sampling was deferred to allow time for discussions of initial site characterization and protocol development by the EMBP study designers.

The depth and substrate conditions at SB_SW_TWR_01, SB_SW_TWR_07, and SB_SW_TWR_08 were not appropriate for the application of this sampling methodology. Five replicate samples were collected from SB_SW_TWR_03, SB_SW_TWR_04, and SB_SW_BeattySaugeen_03 in the summer 2023. Replicates were spaced a minimum of 20 metres, to be considered statistical replicates (Environment Canada, 2012). Each replicate was collected from a location within the euphotic zone, in areas with channel characteristics approximating a crossover (MNR, 2010), and with approximately uniform cobble substrate size (64 mm to 256 mm diameter).

Periphyton samples were collected from submerged rocks, and each sample was the composite of periphyton collected from five rocks. Each rock was removed from the water and placed in a watertight bin, and if filamentous algae were present, the longest filament was measured. Then algae and periphyton were removed from a 2.6 cm diameter area of the rocks surface using a pick, forceps, toothbrush, pipette, and squirt bottle. Staff were careful to collect samples from the side of the rock which had been exposed to the sunlight and were sure to include any dislodged periphyton from the bin in the sample bottle.

In the field, samples were stored in the lab-provided sample containers in a cooler with icepacks. Once staff returned to the office, each sample was preserved using a 1% Lugol's solution and stored in a secure, dark area at approximately 4°C until delivery to the taxonomist.

Laboratory Analysis

All periphyton samples were delivered to ALS at the end of the season, for enumeration and identification by a qualified taxonomist. As of the writing of this report, the Year 2 periphyton analysis results are anticipated for later in 2024, and as such will be included in the Year 3 report.

Data Analysis

Quality Assurance

Prior to sampling, all equipment was cleaned using phosphate-free soap and deionized water. A 2.6 cm diameter ring was used as a guide to ensure accuracy of sample collection areas from each rock. A 10% bleach solution rinse was used in between sampling sites which were not hydraulically connected.

Quality Control

Before samples were submitted to the analytical laboratory, SVCA completed chain of custody forms. These forms included an inventory of all the periphyton samples which were part of the submission, an outline of requested analysis, and information about the sample collection, preservation, and handling.

Benthic Macroinvertebrates

Field Methods

Riverine Environment

In the fall of Year 2 (October and November 2022), five replicate samples were collected from comparable riffle or run habitats at four riverine sites: three on the Teeswater River and one site on the Beatty Saugeen River. Samples were collected using a modified Ontario Benthic Biomonitoring Network Kick-and-Sweep-Transect method (Jones et al, 2007).

Each replicate sample was collected from a 30 metre transect over a 9-minute period. Transects consisted of one pass of the wetted riverbed to a maximum of 30 metres. When the wetted width was less than 30 metres, samplers completed one pass of the wetted width then stepped upstream within the same habitat area, and sampled the remaining distance required. Transect locations were co-located with sediment sampling locations, and replicates were spaced a minimum of 20 metres, to be considered statistical replicates (Environment Canada, 2012).

At each transect, a 500 µm-mesh D-net was held immediately downstream of the sampler with the net positioned in the water, close to the river's bed. The sampler vigorously kicked, disturbing the river substrate to a depth of approximately 5 cm and dislodging invertebrates and small detritus. The dislodged material and organisms were carried into the net by the river current. After the completion of each transect, any non-benthic organisms captured were released, then the remaining contents of the net were transferred into a labelled sample container. Samplers carefully inspected the nets when transferring the contents to ensure any invertebrates adhered to the

inside of the net, were transferred into the sample container. Samples were preserved as soon as possible after collection using a sufficient volume of 10% neutral buffered formalin on the recommendation of the taxonomist.

At each site, in situ limnology measurements were recorded, a discharge measurement was collected, and photos were taken of each replicate transect location. In situ limnology measurements were collected using a calibrated YSI ProDSS. Discharge measurements were collected using an OTT MF Pro meter.

Lacustrine Environment

In the fall of Year 2 (October and November 2022), five replicate samples were collected from comparable habitats at four lacustrine sites: Silver Lake, Clam Lake, Hines Lake, and Robson Lake. Replicates were spaced a minimum of 20 metres, so as to be considered statistical replicates (Environment Canada, 2012). Replicate sample locations were co-located with sediment sample locations and were situated in areas of the lake with an approximate depth of 5 metres.

Five full petite Ponar grabs of material from the lakebed were composited to form each replicate sample. After each drop and retrieval of the petite Ponar the collected material was sieved through a 500 µm-mesh net, then transferred to a sample container. Samplers carefully inspected the nets when transferring the contents to ensure any invertebrates adhered to the inside of the net, were transferred into the sample container. Samples were preserved as soon as possible after collection using a sufficient volume of 10% neutral buffered formalin on the recommendation of the taxonomist.

The samplers collected in situ limnology measurements at one replicate station per lake using a calibrated YSI ProDSS prior to the lacustrine benthic sampling.

Laboratory Analysis

All benthic invertebrate samples were transferred to NWMO for temporary storage, pending submission to a qualified taxonomist for identification and enumeration. As of the writing of this report, the Year 2 benthic macroinvertebrate analysis results are anticipated for later in 2024, and as such will be included in the Year 3 report.

Data Analysis

Quality Assurance

Prior to sampling and between replicates, the petite Ponar and D-net were cleaned and inspected, and any net-holes were repaired. In riverine environs, the replicate furthest downstream was sampled first, then samplers progressed to the most upstream replicate. In lacustrine environs, any petite Ponar grabs that were <90% full or overflowing were rejected and resampled, with the rejected material retained within the canoe until the full replicate sample had been completed.

Each sample container was labelled on the lid and an internal label on acid-free, waterproof paper

duplicating the lid-label information was added inside each container.

Quality Control

Prior to sample submission to the analytical laboratory, SVCA completed chain of custody forms. These forms included an inventory of all the benthic macroinvertebrate samples which were part of the submission, an outline of requested analysis, and information about the sample collection, preservation, and handling.

eDNA

Sampling Overview

Field Methods

Stationary point sampling was used to collect eDNA samples from the water of Teeswater River and Beatty Saugeen River. A sterilized OSMOS eDNA sampler was used to filter 2 litres of water at each sampling site through a single-use glass fiber filter. Each glass fibre filter measured 1.2 µm, and no pre-filters were necessary in Year 2 of the South Bruce EMBP. Water from sampling sites was collected from just below the surface of the thalweg. The OSMOS sampler was set to a pressure of -60 kPa for the duration of all sampling. After filtration, the sample filter was removed from the OSMOS sampler filter housing using sterilized tweezers and the filter was placed in a clean, single use envelope. Each envelope was labeled and placed in a sealable bag containing a generous amount of desiccant. On site, each bag containing an eDNA filter sample was stored in a cooler containing icepacks. On return to the office, samples were stored in a secure, dark fridge.

After the eDNA water samples were collected from the rivers, a calibrated YSI ProDSS meter was used to measure the in situ physiochemical parameters of the surface water (see the surface water section of this report for more details), and an OTT MF Pro flow meter was used to measure the flow (see the hydrology section of this report for more details).

Stationary point sampling using a petite Ponar was used to collect sediment samples from the Teeswater River and Beatty Saugeen River for eDNA analysis (see sediment section of this report for field method, quality control, and quality assurance information). Sediment samples were stored in clean single-use sealable bags on ice inside coolers on site and transferred into a freezer upon staff's return to the office.

Kick and sweep sampling was used to collect benthic macroinvertebrate samples from the Teeswater River and Beatty Saugeen River for eDNA analysis (see the benthic macroinvertebrate section of this report for field method, quality assurance, and quality control information). Benthic macroinvertebrate samples for eDNA analysis were preserved in single use containers using 95% ethanol and stored in a temperature-controlled cabinet.

Laboratory Analysis

All eDNA samples were transferred to NWMO for temporary storage, pending submission to a

qualified laboratory. The eDNA samples will undergo metabarcoding to determine species presence/absence and Sanger sequence analysis to aid in building the barcode sequence reference library. As of the writing of this report eDNA results are anticipated for later in 2024, and as such will be included in the Year 3 report.

Data Analysis

Quality Assurance

Disposable nitrile gloves were worn during all sterilization, equipment preparation, and sampling activities. Gloves were changed in between handling contaminated and sterile equipment, replicate collections, before sample collection, and if samplers suspected the gloves could have been contaminated by contact with something in the local environment.

Filter housings, gaskets, and tweezers were decontaminated in the laboratory and packed in sterile sealed bags for transport into the field. A new, sterilized filter housing, filter, gasket, and tweezers were used for every sample replicate. Sterilization of filter housings, gaskets, and tweezers was conducted using a 10-minute soak in a 50% bleach solution. Sterilization of all other equipment, which could not be submerged, was conducted using a 1-part bleach: 9 parts tap water solution spray followed by a rinse with tap water.

At site, staff entered the river downstream of all replicates, and sampling was started at the furthest downstream location. Staff chose collection areas with no visible disturbances or atypical turbidity. During the collection of water samples, staff remained downstream a significant distance from the sample collection point as access permissions did not support collection from onshore. Aside from staff, no other humans were observed in or around the rivers at the time of sample collection. A field negative was collected prior to sample collection, and a duplicate sample was collected at one of the replicate stations.

Quality Control

Sample filters were stored in clean single-use resealable bags containing new desiccant. Samples were checked and any wet desiccant disposed of and replaced 24 hours after sample collection and weekly post-collection.

Benthic macroinvertebrate samples were decanted 1 week after collection and re-preserved using 95% ethanol.

Hydrology

Sampling Overview

The hydrology monitoring aims to assess the hydrologic conditions near the proposed Project site and examine the potential impacts of the Project's development. Monitoring of the hydrologic conditions in the vicinity of the Project location will be carried out for a minimum duration of three years. The collected data will then be used to evaluate the feasibility of designing, constructing, and operating

the Project within the local hydrologic environment. Building on the effort from Year 1 of the EMBP, the primary objectives of the Year 2 hydrology program were to continue monitoring surface water level, discharge, and other endpoints within the hydrology portion of the EMBP.

The LSA_{HYD} is bounded on the west by the Greenock Creek – Teeswater River quaternary watershed boundary and the Teeswater River outlet quaternary boundary and is bounded to the south by the Greenock Creek – Teeswater River quaternary watershed boundary. The aquatic LSA_{HYD} encompasses the AOI, a stretch of the Teeswater River (that extends for approximately 31 km, 2.8 km upstream and 21 km downstream of the AOI), and wetlands/lakes/tributaries located in the near vicinity of the AOI, including large portions of the Greenock Swamp Wetland Complex and Teeswater Wetland Complex. Several lakes/ponds are also located in the LSA_{HYD}. Figure 5 depicts the hydrology local and regional study areas.

Hydrology monitoring sites include the following three categories, and the locations of the stations are presented in Figure 6 below. Hydrology monitoring sites were established as follows:

- Continuous Water Level Readings: Water level measurements were obtained for the Teeswater River to help to understand the seasonal flow variation in the Teeswater River upstream and downstream of the potential project within the AOI.

- Discrete Water Level Readings: Water level readings in five lakes and six wetlands in the Teeswater River watershed and surrounding areas were obtained by installing permanent staff gauges and collecting periodic readings. This information will be used as baseline information to understand the characteristics of waterbodies within the study area, including the potential for increased water levels that might result in flooding, baseflow, and low water conditions.

- Meteorology: Measurements of air temperature, total precipitation, snow depth, wind speed and direction, relative humidity or dew point temperature, soil moisture content, atmospheric pressure, and solar radiation were collected to help understand the conditions at the AOI and the upper Teeswater Watershed. The collected meteorological data will support not only the hydrology component of the site feasibility studies, but also surface water, soils, and air. For the hydrology component, the most important data collected are ambient temperature and precipitation, which will be used to assess the frequency of intense rainfall, major flooding events, drought conditions, and snow cover seasonality.

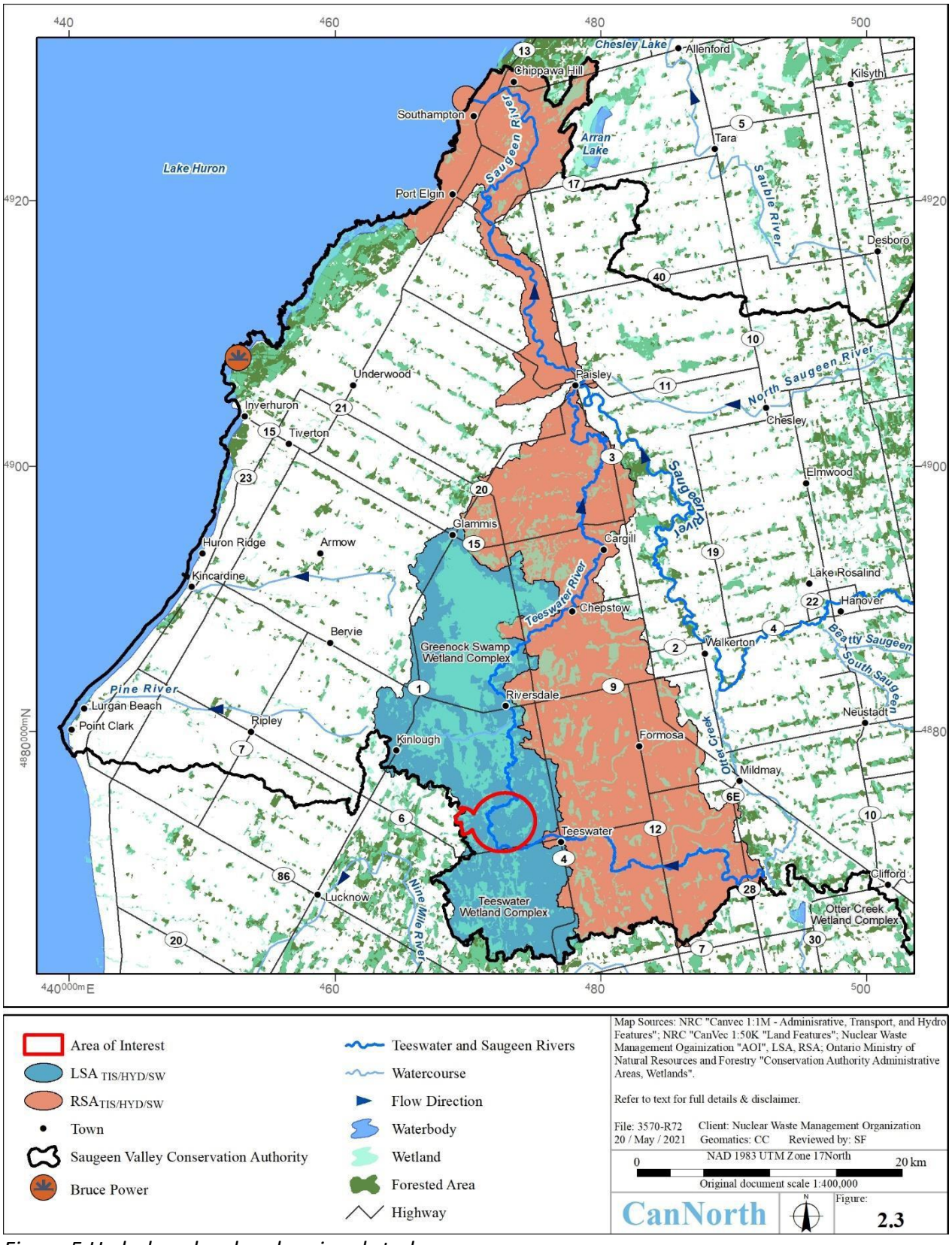


Figure 5 Hydrology local and regional study areas.

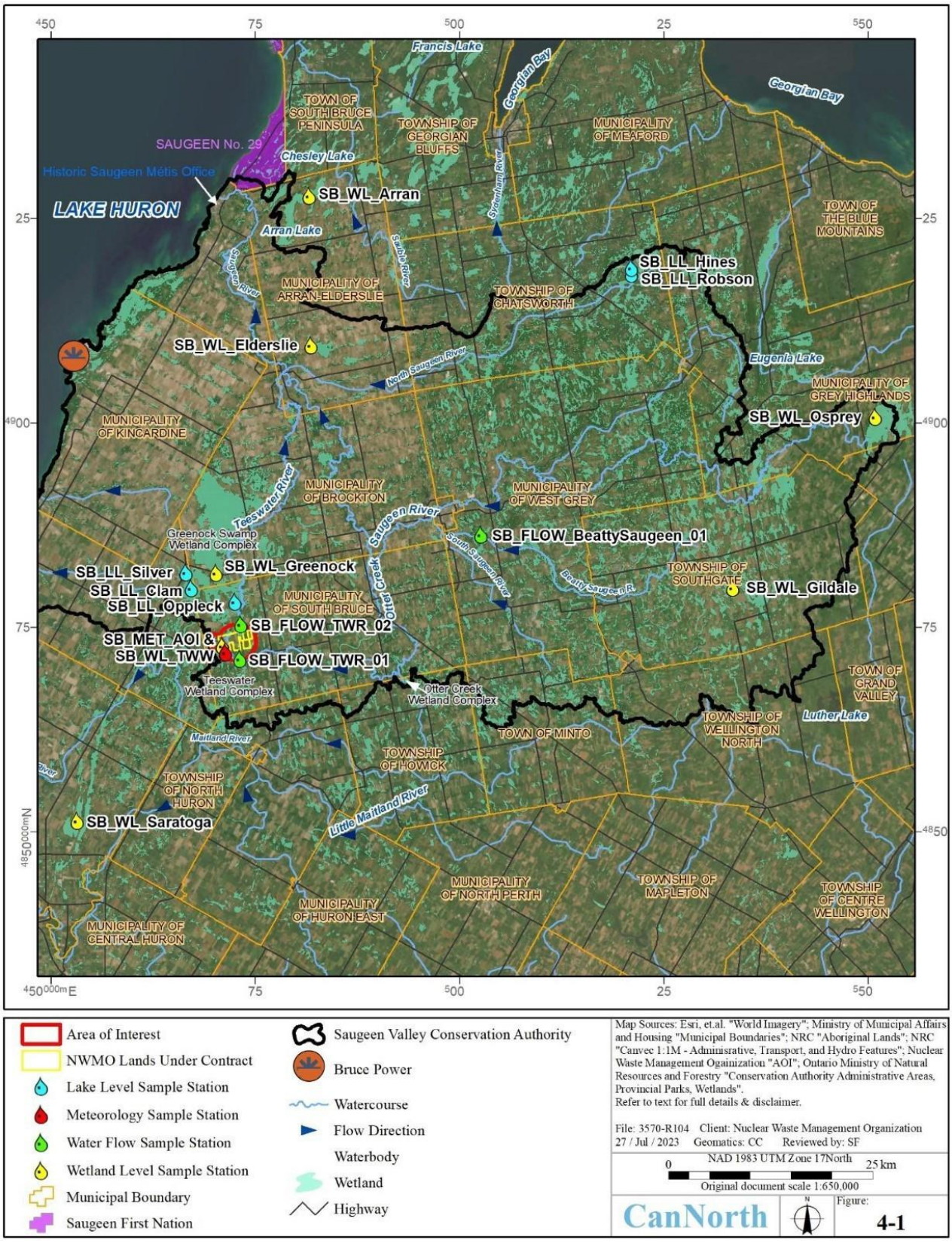


Figure 6 Location of the Year 2 continuous water level readings, discrete flow measurement, discrete water level measurement and meteorology monitoring sites.

Continuous Water Levels

Field Methods

Two flow stations with calibrated submersible pressure transducers were installed on the Teeswater River in Year 1 (see Figure 6 for locations). These equipment continued to collect water level data at 15-minute intervals in Year 2. The pressure transducers were attached to a vented cable. This cable vents the sensor diaphragm to the atmosphere, eliminating the need to compensate for changes in barometric pressure. The pressure transducers were anchored into the Teeswater River at a depth that would remain underwater during normal water level fluctuations.

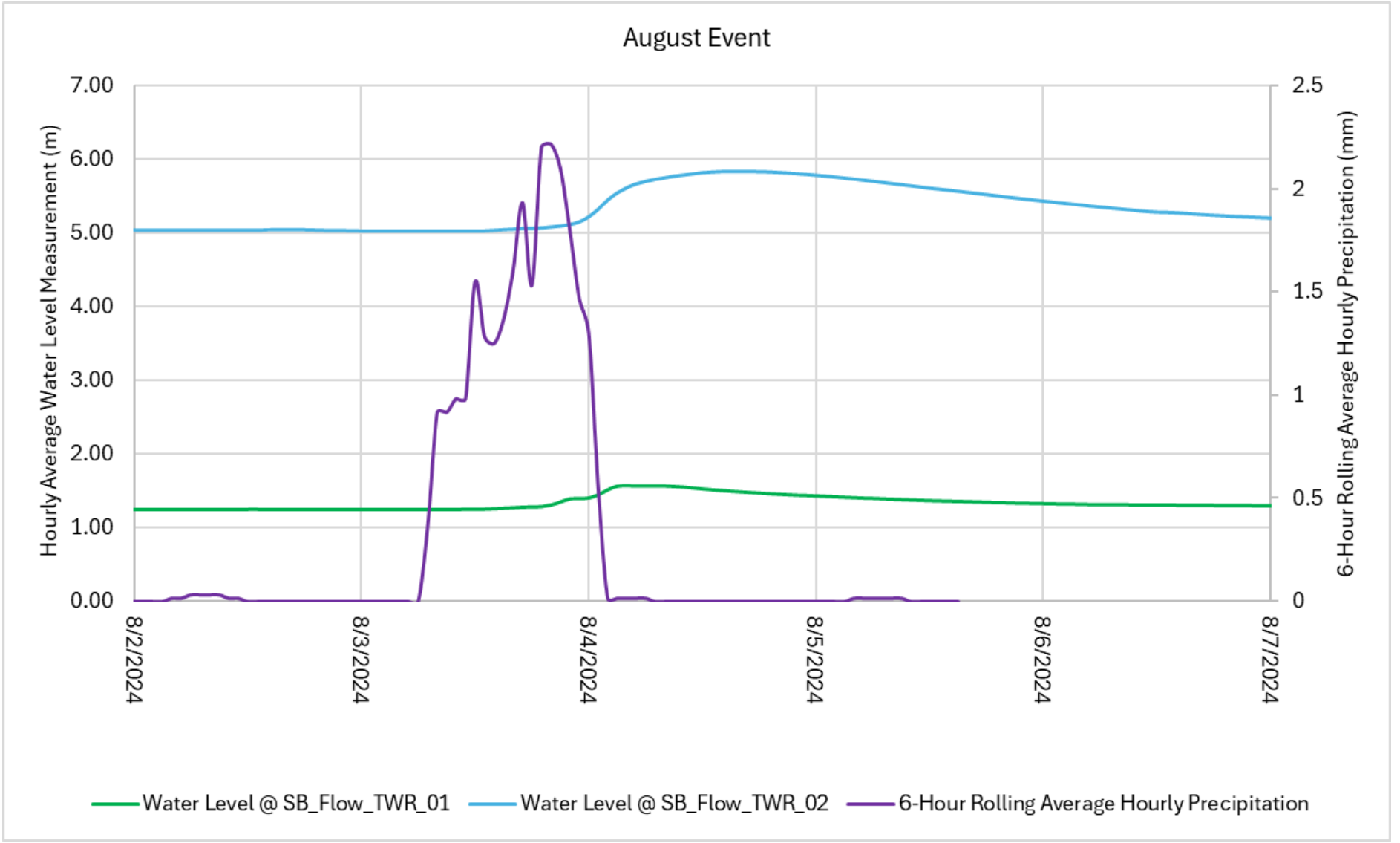
During the pressure transducer installation in Year 1, several local benchmarks were established to validate the water level measurements. The equipment and benchmarks were re-surveyed in Year 2, which confirmed that no changes to the pressure transducer elevation have occurred since installation.

Throughout Year 2, routine inspections of the flow stations were conducted to ensure that the equipment remained functional and accurate. On May 5th, 2023, after 20:15 the transductor cable was severed by a rodent at SB_FLOW_01. The last valid reading was May 5th at 20:15:00, afterwards the flow station failed to collect any data. A replacement cable for station SB_FLOW_01 was installed in November 2023, to ensure continuous data collection for Year 3 of the EMBP.

Results

Continuous water level data measured throughout Year 2 of the EMBP can be viewed in Appendix H. Staff compared the continuous water level data against data from the EMBP meteorological station and observed that high and low stage data generally correlated well with the local precipitation records. Higher spring levels are assumed to be influenced by watershed snowpack melt.

In Year 2, the EMBP meteorological station recorded two large precipitation events (daily total precipitation greater than 20 mm); one in August 2022 and one in September 2022; see Appendix I. The meteorological station measured 26.30 mm of total daily precipitation during the August event (August 3rd, 2022), and 26.70 mm of total daily precipitation during the heaviest day of rain in the September event (September 26th, 2022). Both events are summarized in figures 7 and 8 below.


August Event
Hourly Average Water Level Measurement (m)
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
2.5
2
1.5
1
0.5
0
6-Hour Rolling Average Hourly Precipitation (mm)
8/2/2024
8/3/2024
8/4/2024
8/5/2024
8/6/2024
8/7/2024
Water Level @ SB_Flow_TWR_01
Water Level @ SB_Flow_TWR_02
6-Hour Rolling Average Hourly Precipitation

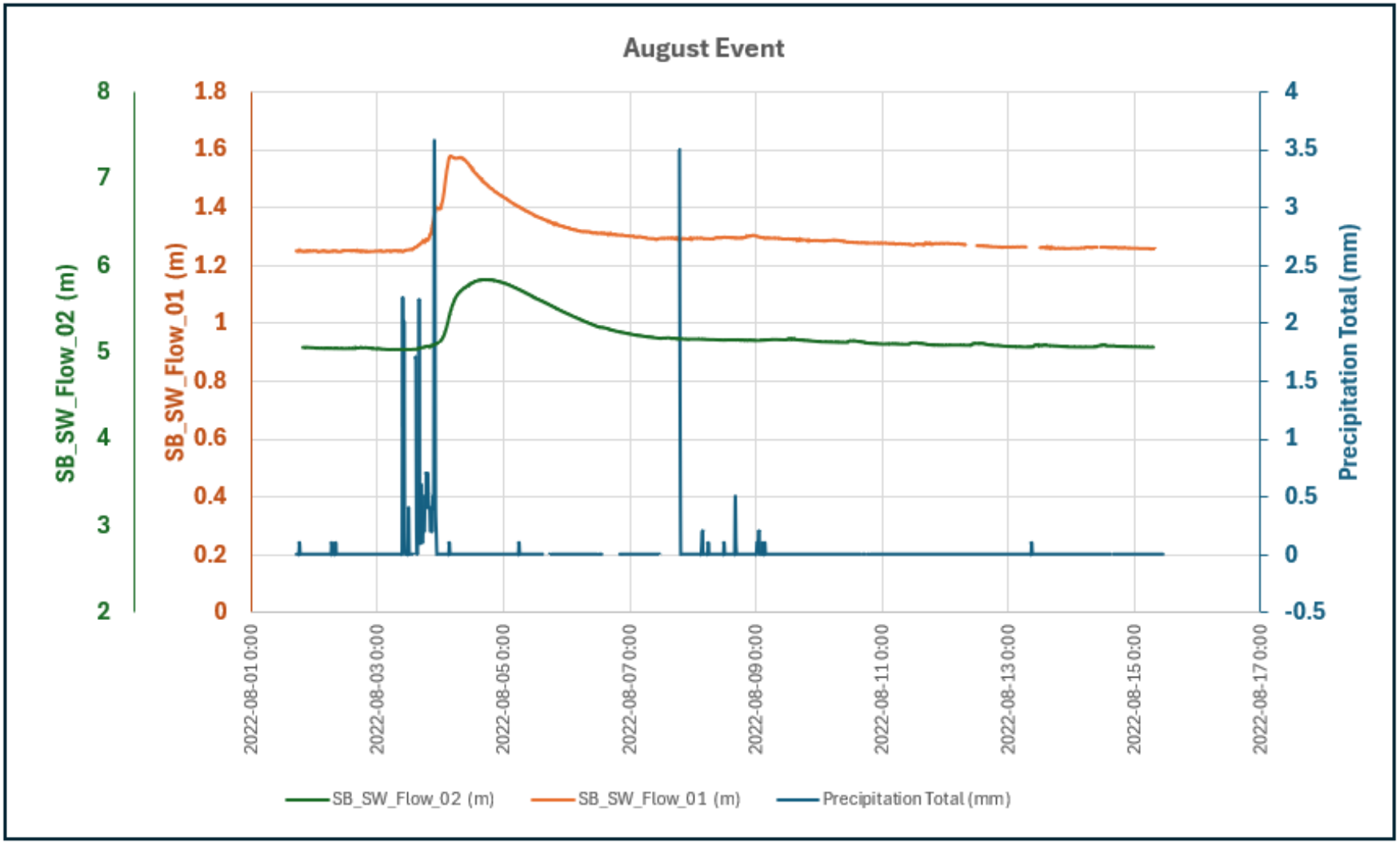


Figure 7 Water Level at SB_Flow_TWR_01 and SB_Flow_TWR_02 Stations and Precipitation during the August 2022 Rainfall Event.

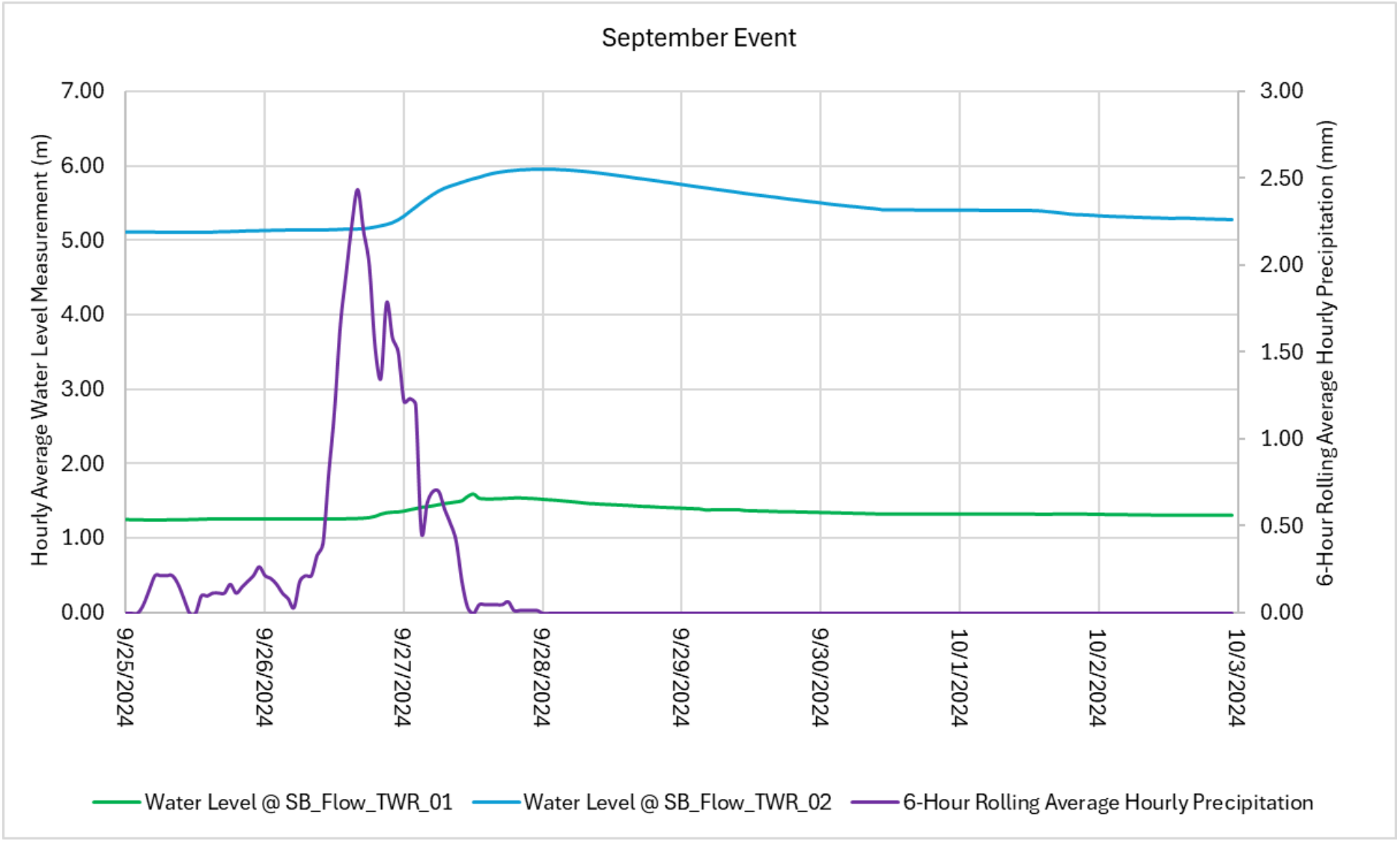


Figure 8 Water Level at SB_Flow_TWR_01 and SB_Flow_TWR_02 Stations and Precipitation during the September 2022 Rainfall Event.

The lag time between peak precipitation and the water level peaks were:

- 10 hours at SB_Flow_TWR_01 for the August event
- 20 hours at SB_Flow_TWR_02 for the August event
- 19 hours at SB_Flow_TWR_01 for the September event
- 31 hours at SB_Flow_TWR_02 for the September event

During both events, the peak flow at the downstream SB_Flow_TWR_02 station occurred more than 10 hours after the peak flow at the upstream SB_Flow_TWR_01 station. Given that tributary to SB_Flow_TWR_01 includes the impervious land covers in the community of Teeswater immediately upstream of the station, and vast majority of the tributary areas between the two stations are pervious agricultural land, the peak flow time difference between the two stations are reasonable.

Note that these observations should not be used to characterize hydrologic responses in the entirety of the Teeswater River, as both continuous water monitoring stations are located upstream of the Greenock Swamp, which can reasonably be expected to have significant hydrologic impacts on the river.

Discrete Water Levels

Field Methods

In Year 1 of the EMBP, permanent staff gauges were installed at 12 locations to facilitate discrete water level readings; see Figure 6 above and Table 27 below for station location information. Each staff gauge was installed with the bottom of the staff gauge at the sediment- water interface (water level measurement of 0.00m). Staff gauge monitoring consisted of visual inspections monthly during open water seasons and recording the water level indicated by the gauge. Staff visually inspected the staff gauges for damage and noted any observed changes to the equipment on a monthly basis.

To ensure accuracy of the staff gauge readings, a photograph of each staff gauge was taken at the same time the staff gauge was read. When the water level measurements were digitized, staff verified that the recorded water level matched the water level recorded in the photo.

Water level measurements were summarized in a table and the range of water level data was determined by observing the maximum and minimum water level measurements to ensure all values were within reasonable limits.

Table 27 Summary of discrete water level monitoring sites.

Waterbody	Category Label	Station ID
Silver Lake	LSA_{HYD}	SB_LL_Silver
Clam Lake	LSA_{HYD}	SB_LL_Clam
Unnamed Lake	LSA_{HYD}	SB_LL_Oppleck

Hines Lakes	RSA_{HYD}	SB_LL_Hines
Robson Lake	Candidate Reference Site	SB_LL_Robson
Greenock Swamp Wetland Complex	Candidate Reference Site	SB_WL_Greenock
Teeswater Wetland Complex	LSA_{HYD}	SB_WL_TWW
Arran Lake Wetland Complex	LSA_{HYD}	SB_WL_Arran
Elderslie Wetland Complex	Candidate Reference Site	SB_WL_Elderslie
Gildale Wetland Complex	Candidate Reference Site	SB_WL_Gildale
Osprey Wetland Complex	Candidate Reference Site	SB_WL_Osprey
Saratoga Swamp	Candidate Reference Site	SB_WL_ Saratoga

Quality Assurance and Quality Control

Monthly site visits to the monitoring stations were conducted to assess the condition of equipment; no repairs were required in Year 2 although a new staff gauge was installed at an alternate location at SB_LL_Silver in October 2022 to address property access restrictions.

Data were checked for completeness, and viability was assessed by comparing the measurements against the maximum threshold of the equipment.

Results

Discrete Water Levels (staff gauges)

Water level data collected from the 12 staff gauges during Year 2 are summarized in Table 28 below. The results suggest that five water bodies in the EMBP study area may be intermittent: Arran Wetland, Elderslie Wetland, Greenock Wetland, Osprey Wetland, and Saratoga Wetland. Gildale wetlands showed the largest fluctuations in water levels (from 0.00 m to 0.540 m), while the Teeswater Wetland site showed the smallest fluctuations in water levels (from 0.135 m to 0.200 m). All water levels recorded are within reasonable ranges for local small lakes and wetlands.

Table 27 Discrete water levels monitored in Year 2 of the EMBP.

Arran	Date	16-Sept-22	6-Oct-22	1-Nov-22	14-Dec-22	28-June-23	31-July-23	2-Aug-23
	Level (m)	0	0	0.135	0.170	0.080	0	0
Clam [1]	Date	15-Sept-22	19-Oct-22	Monitoring not completed due to access restrictions.				
	Level (m)	0	0.205					

Elderslie	Date	16-Sept-22	20-Oct-22	10-Nov-22	14-Dec-22	28-June-23	28-July-23	2-Aug-23
	Level (m)	0	0	0	0.205	0	0	0
Gildale	Date	15-Sept-22	20-Oct-22	10-Nov-22	13-Dec-22	29-June-23	31-July-23	8-Aug-23
	Level (m)	0	0.260	0.250	0.255	0.450	0.530	0.540
Greenock	Date	16-Sept-22	7-Oct-23	7-Nov-23	14-Dec-22	28-June-23	31-July-23	8-Aug-23
	Level (m)	0	0.125	0.150	0.170	0	0.210	0.180
Hines	Date	15-Sept-22	28-Oct-22	22-Nov-22	14-Dec-22	29-June-23	31-July-23	12-Aug-23
	Level (m)	0.010	0.110	0.110	0.185	0.200	0.200	0.200
Oppleck	Date	16-Sept-22	31-Oct-22	16-Nov-22	14-Dec-22	29-June-23	28-July-23	30-Aug-23
	Level (m)	0.160	0.290	0.290	0.330	0.260	0.220	0.295
Osprey	Date	15-Sept-22	20-Oct-22	10-Nov-22	12-Dec-2022	28-June-23	31-July-23	8-Aug-23
	Level (m)	0	0	0	0.19	0	0.2	0.21
Robson	Date	15-Sept-22	17-Oct-22	22-Nov-22	14-Dec-22	28-June-23	31-July-23	15-Aug-23
	Level (m)	0	0	0	0.06	0	0.08	0.08
Saratoga	Date	15-Sept-22	29-Oct-22	21-Nov-22	14-Dec-22	28-June-23	28-July-23	21-Aug-23
	Level (m)	0	0.009	0.12	0.135	0	0	0
Silver[1]	Date	13-Sept-22	5-Oct-22	14-Nov-22	14-Dec-22	28-June-23	28-July-23	17-Aug-23
	Level (m)	Monitoring not completed due to access restrictions.	0.26	0.22	0.235	0.15	0.195	0.225
TWW	Date	16-Sept-22	31-Oct-22	16-Nov-22	14-Dec-22	23-June-23	28-July-23	16-Aug-23
	Level (m)	0.135	0.195	0.18	0.2	0.18	0.185	0.19

[1] Discrete water level monitoring of the staff gauge at Silver Lake was halted in September 2022 due to property access restrictions. Discrete water level monitoring at Silver Lake resumed in October 2022 when SVCA staff installed a new staff gauge at an alternate location accessed via a different property. Discrete water level monitoring of the staff gauge at Clam Lake was halted in November 2022 due to property access restrictions and did not resume in Year 2.

Meteorology

Field Methods

In 2021, a meteorological monitoring station was installed at SB_SW_TWW_01 see Figure 6 above for station location information. Sensors within the station measure multiple parameters at 15-minute intervals, including soil moisture, ambient temperature, total precipitation, snow depth, wind speed and direction, relative humidity, atmospheric pressure, and solar radiation. Data from the station is both saved internally and transmitted hourly to an online portal for data storage.

Quality Assurance and Quality Control

Monthly site visits to the monitoring stations were conducted to assess the reliability of the data, re-calibrate the survey equipment in accordance with manufacturer recommendations, and perform other maintenance activities.

Data were checked for completeness and reliability by comparison with normal range expected for the AOI, and for conformance to calibrated sensor ranges. Data were also compared with local Environment and Climate Change Canada (ECCC) meteorologic stations in Mount Forest and Goderich to determine if trends were approximately correlated as a means of validating EMBP station data.

Results

Average monthly air temperatures were calculated using data spanning the length of the EMBP Year 2 for the EMBP meteorology station and the Environment and Climate Change Canada (ECCC) meteorology stations located in Mount Forest and Goderich. Average monthly air temperatures were calculated using data spanning from 1981 to 2010 for the ECCC meteorology station located in Hanover (Figure 9). The air temperatures recorded at the EMBP meteorological station align well with records from the nearby station and the historical trends observed at the ECCC Hanover station. The consistency between the locations and similarity to the historical average supports the overall accuracy of the meteorological observations from the EMBP meteorology station.

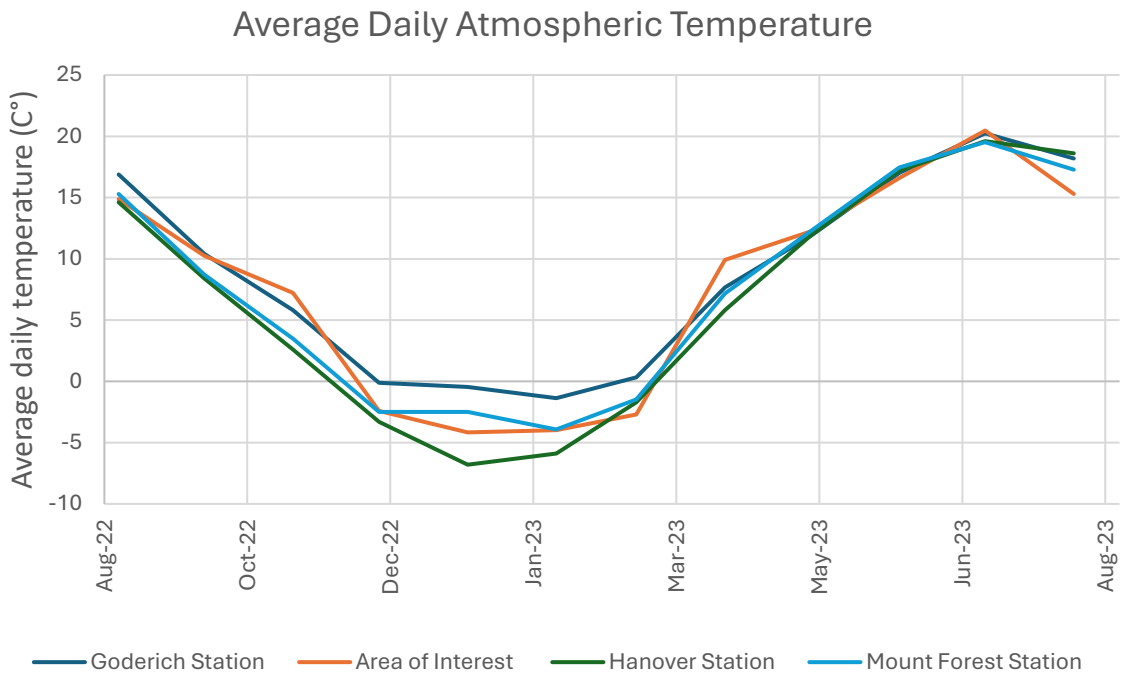


Figure 9 Average monthly atmospheric temperatures recorded by meteorology stations in the Area of Interest, Mount Forest, and Goderich areas for Sept 2022 to July 2023, and Hanover station for 1981-2010.

Total monthly precipitation at the EMBP and Goderich Station were within a reasonable range, the total yearly volume was just within 50mm, albeit lower than the historical trends from 1981 to 2010 observed at the ECCC Hanover station. In most cases, precipitation at the EMBP station was also recorded to be lower than what was observed at the Goderich Station, as summarized in table 29 below.

Table 28 Monthly total precipitation (cm) measured at SON- South Bruce area meteorology stations.

Station[1]	Sept 2022	Oct 2022	Nov 2022	Dec 2022	Jan 2023	Feb 2023	Mar 2023	Apr 2023	May 2023	Jun 2023	Jul 2023	Aug 2023
Area of Interest	51.7	47.9	48.2	85.8	50.1	62.9	81.1	50.4	28.2	24	56.6	61.6
Mount Forest	67.4	43.3	58.4	89	70.3	68.6	77.8	113.7	39.5	84.6	136.4	102.4
ECCC Goderich	59.3	87.6	44.7	53.8	49.7	51.7	74.7	69.3	48.3	28.3	24.8	109.6
ECCC Hanover	109.1	89.7	103	108.4	109.6	81.3	72	73.1	84.6	78.3	83.1	95

[1] Data from the Area of Interest, Mount Forest, and Goderich meteorology stations are the total monthly precipitation depth recorded only in Year 2 of the EMBP. As the Hanover meteorology station did not record data during Year 2 of the EMBP, the Hanover station precipitation values in

this table were calculated as monthly averages by using measurements collected by the Hanover station spanning from 1981-2010.

Although the Sonic Ranging Sensor, deployed to measure snow depths, did record measurements greater than 0 cm in the early fall, late spring, and summer. Temperature records from the same location indicate temperatures greater than 0°C, which suggest that the measurements recorded by the sensor were artificial, likely the result of the Sonic Ranging Sensor's transducer picking up return signal from vegetation rather than actual snowpack.

Summary

In summary, the surface water and hydrology portion of the EMBP was completed between the fall of 2022 and summer of 2023. Data from the surface water portion will be used to characterize the water and sediment quality as well as the plankton, benthic macroinvertebrate, and periphyton populations in rivers, lakes, and wetlands within the LSA_{sw}. Data from the hydrology portion will be used to characterize water levels in lakes and wetlands and meteorologic conditions within the LSA_{sw}. Surface water quality, plankton, and hydrology monitoring will be continued into Year 3.

COPC levels in surface water and sediment were low, below, or close to the RDLs, and below available WQGs and SQBs with a few exceptions. Thirteen analytes were detected in at least one surface water sample in concentrations exceeding the WQGs. Fourteen analytes were detected in at least one sediment sample in concentrations exceeding the SQBs. These results illustrate that some parameters were detected in Year 2 samples in concentrations exceeding the WQGs and SQBs prior to the development of the Project.

For several of the organic compounds the detection limit from the laboratory was not sufficient; to more accurately determine if levels exceed guidelines during baseline conditions, lower RDLs will need to be achieved by the laboratory, if possible.

None of the plankton species identified were flagged in the NHIC as invasive species or species with special conservation considerations, and the Cyanobacteria population were not measured in concentrations exceeding the Health Canada guidelines.

In Year 2, the EMBP meteorological station recorded two large precipitation events (daily total precipitation greater than 20 mm); one in August 2022 and one in September 2022. During these events, lag times between peak precipitation and the water level peaks were observed to be between 10 and 31 hours. The peak water level at the upstream station occurred significantly earlier than the downstream station (greater than 10 hours difference).
As additional data become available from the Year 2 and Year 3 sampling campaigns, a full characterization of the study area will be completed.

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Appendices

Appendix A, Table 1

Year 2 Surface Water Chemistry Results – Teeswater River Potential Exposure [1,2,3,4]

Analyte	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Radionuclides - Tier 1										
Tritium	Bq/L	17	14.8	16	14.3	1.6	13.5	14.8	8.1	7000
Carbon-14	Bq/L	17	18.5	17	18.5	0	18.5	18.5	18.5	200
Strontium-90	Bq/L	17	0.037	18	0.037	0	0.037	0.037	0.037	5
Iodine 129	Bq/L	17	0.37	17	0.37	0	0.37	0.37	0.37	1
Cesium-137	Bq/L	18	0.37	18	0.37	0	0.37	0.37	0.37	10
Cobalt-60	Bq/L	18	0.37	18	0.37	0	0.37	0.37	0.37	40
Ruthenium-106	Bq/L	18	3	18	3	0	3	3	3	20
Gross Alpha	Bq/L	18	0.111	15	0.110	0.009	0.106	0.111	0.121	-
Gross Beta	Bq/L	18	0.148	8	0.119	0.027	0.081	0.124	0.124	-
Radionuclides - Tier 2 natural										
Uranium-238	Bq/L	18	0.0074	0	0.0171	0.0042	0.0123	0.0172	0.0235	3
Uranium-234	Bq/L	18	0.0074	0	0.0212	0.0061	0.0147	0.0219	0.0312	3
Uranium-235	Bq/L	18	0.0074	13	0.0053	0.0023	0.0019	0.0074	0.0037	3
Potassium-40	Bq/L	18	7.1	18	7.1	0	7.1	7.1	7.1	-
Thorium-228	Bq/L	18	0.0074	18	0.0074	0	0.0074	0.0074	0.0074	2
Thorium-230	Bq/L	18	0.0074	14	0.0074	0.0027	0.0054	0.0074	0.0165	0.6
Thorium-232	Bq/L	18	0.0074	17	0.0069	0.0012	0.0066	0.0074	0.0022	0.6
Radium-226	Bq/L	18	0.037	9	0.035	0.117	0.019	0.037	0.342	0.5
Radionuclides - Tier 2 artificial										
Chlorine-36	Bq/L	3	0.37	0	0.00	0.37	0.37	0.37	0.37	-
Selenium-79	Bq/L	3	1.85	2	0	2	2	2	2	-
Neptunium-237	Bq/L	3	0.0037	3	0.0037	0	0.0037	0.0037	0.0037	-
Plutonium-238	Bq/L	3	0.0037	3	0.0037	0	0.0037	0.0037	0.0037	0.6
Plutonium-239	Bq/L	3	0.0037	3	0.0037	0	0.0037	0.0037	0.0037	0.6
Metals - Total										
Aluminum (Al)-Total	mg/L	18	0.003	0	0.063	0.051	0.032	0.056	0.171	1.5
Antimony (Sb)-Total	mg/L	18	0.0001	18	0.0001	0	0.0001	0.0001	0.0001	0.006
Arsenic (As)-Total	mg/L	18	0.0001	0	0.0005	0.0002	0.0003	0.0005	0.0009	0.005
Barium (Ba)-Total	mg/L	18	0.0001	0	0.0344	0.0071	0.0223	0.0340	0.0439	1
Beryllium (Be)-Total	mg/L	18	0.00002	18	0.00002	0	0.00002	0.00002	0.00002	1.1
Bismuth (Bi)-Total	mg/L	18	0.00005	18	0.00005	0	0.00005	0.00005	0.00005	17.5
Boron (B)-Total	mg/L	18	0.01	3	0.02	0	0.01	0.02	0.02	1.5

Analyte	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Cadmium (Cd)-Total	mg/L	18	0.000005	4	0.000006	0.000001	0.000005	0.000007	0.000009	0.00021
Calcium (Ca)-Total	mg/L	18	0.05	0	77.22	10.90	62.01	77.20	96.14	1000
Cesium (Cs)-Total	mg/L	18	0.00001	14	0.00001	0	0.00001	0.00001	0.00002	-
Chromium (Cr)-Total	mg/L	18	0.0005	16	0.0005	0.0002	0.0005	0.0005	0.0011	-
Cobalt (Co)-Total	mg/L	18	0.0001	10	0.0001	0	0.0001	0.0001	0.0002	0.0012
Copper (Cu)-Total	mg/L	18	0.0005	0	0.0007	0.0003	0.0005	0.0006	0.0012	0.0031
Iron (Fe)-Total	mg/L	18	0.01	0	0.15	0.10	0.06	0.17	0.37	3.8
Lead (Pb)-Total	mg/L	18	0.00005	2	0.00008	0.00006	0.00005	0.00006	0.00022	0.00477
Lithium (Li)-Total	mg/L	18	0.001	3	0.002	0	0.001	0.002	0.002	2.5
Magnesium (Mg)-Total	mg/L	18	0.005	0	25.512	3.107	19.940	26.100	29.835	82
Manganese (Mn)-Total	mg/L	18	0.0001	0	0.0150	0.0122	0.0063	0.0162	0.0389	0.12
Mercury (Hg)-Total	mg/L	18	0.000005	17	0.000005	0.000001	0.000005	0.000005	0.000009	0.000026
Molybdenum (Mo)-Total	mg/L	18	0.00005	0	0.00046	0.00013	0.00026	0.00048	0.00064	0.073
Nickel (Ni)-Total	mg/L	18	0.0005	13	0.0005	0.0001	0.0005	0.0005	0.0008	0.1217
Phosphorus (P)-Total	mg/L	18	0.05	18	0.05	0	0.05	0.05	0.05	-
Potassium (K)-Total	mg/L	18	0.05	0	2.02	0.26	1.65	2.08	2.36	53
Rhodium (Rh)-Total	mg/L	18	0.001	18	0.001	0	0.001	0.001	0.001	0.01
Ruthenium (Ru)-Total	mg/L	18	0.001	18	0.001	0	0.001	0.001	0.001	0.01
Samarium (Sm)-Total	mg/L	18	0.001	18	0.001	0	0.001	0.001	0.001	0.0082
Selenium (Se)-Total	mg/L	18	0.00005	0	0.00025	0.00003	0.00020	0.00026	0.00029	0.001
Silver (Ag)-Total	mg/L	18	0.00001	18	0.00001	0	0.00001	0.00001	0.00001	0.00025
Sodium (Na)-Total	mg/L	18	0.05	0	15.16	5.41	8.40	15.30	24.04	680
Strontium (Sr)-Total	mg/L	18	0.0002	0	0.4401	0.1430	0.2439	0.4450	0.6503	7
Sulfur (S)-Total	mg/L	18	0.5	0	11.0	4.5	4.9	10.8	19.0	-
Thallium (Tl)-Total	mg/L	18	0.00001	18	0.00001	0	0.00001	0.00001	0.00001	0.0008
Tin (Sn)-Total	mg/L	18	0.0001	18	0.0001	0	0.0001	0.0001	0.0001	0.073
Titanium (Ti)-Total	mg/L	18	0.0003	4	0.0018	0.0015	0.0009	0.0017	0.0051	0.076
Tungsten (W)-Total	mg/L	18	0.0001	16	0.0001	0	0.0001	0.0001	0.0001	0.03
Uranium (U)-Total	mg/L	18	0.00001	0	0.00134	0.00024	0.00110	0.00130	0.00178	0.015
Vanadium (V)-Total	mg/L	18	0.0005	7	0.0006	0.0002	0.0005	0.0005	0.0011	0.12
Zinc (Zn)-Total	mg/L	18	0.003	18	0.003	0	0.003	0.003	0.003	0.02
Zirconium (Zr)-Total	mg/L	18	0.0002	18	0.0002	0	0.0002	0.0002	0.0002	0.004
Metals - dissolved										
Aluminum (Al)-Dissolved	mg/L	18	0.001	0	0.005	0.003	0.002	0.004	0.012	-
Antimony (Sb)-Dissolved	mg/L	18	0.0001	18	0.0001	0	0.0001	0.0001	0.0001	-
Arsenic (As)-Dissolved	mg/L	18	0.0001	0	0.0004	0.0002	0.0002	0.0005	0.0008	-
Barium (Ba)-Dissolved	mg/L	18	0.0001	0	0.0331	0.0068	0.0222	0.0324	0.0431	-
Beryllium (Be)-Dissolved	mg/L	18	0.00002	18	0.00002	0	0.00002	0.00002	0.00002	-
Bismuth (Bi)-Dissolved	mg/L	18	0.00005	18	0.00005	0	0.00005	0.00005	0.00005	-
Boron (B)-Dissolved	mg/L	18	0.01	3	0.01	0	0.01	0.02	0.02	-
Cadmium (Cd)-Dissolved	mg/L	18	0.000005	15	0.000005	0	0.000005	0.000005	0.000006	-

Analyte	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Calcium (Ca)-Dissolved	mg/L	18	0.05	0	75.14	10.05	61.48	75.00	90.88	-
Chromium (Cr)-Dissolved	mg/L	18	0.0005	18	0.0005	0	0.0005	0.0005	0.0005	-
Cobalt (Co)-Dissolved	mg/L	18	0.0001	16	0.0001	0	0.0001	0.0001	0.0001	-
Copper (Cu)-Dissolved	mg/L	18	0.0002	0	0.0006	0.0002	0.0004	0.0006	0.0011	0.00611
Iron (Fe)-Dissolved	mg/L	18	0.01	0	0.05	0.03	0.02	0.05	0.12	-
Lead (Pb)-Dissolved	mg/L	18	0.00005	15	0.00005	0	0.00005	0.00005	0.00006	0.012
Lithium (Li)-Dissolved	mg/L	18	0.001	4	0.001	0	0.001	0.001	0.002	-
Magnesium (Mg)-Dissolved	mg/L	18	0.005	0	24.999	2.939	19.570	25.550	28.520	-
Manganese (Mn)-Dissolved	mg/L	18	0.0001	0	0.0106	0.0095	0.0036	0.0112	0.0261	0.26
Mercury (Hg)-Dissolved	mg/L	18	0.000005	18	0.000005	0	0.000005	0.000005	0.000005	-
Molybdenum (Mo)-Dissolved	mg/L	18	0.00005	0	0.00044	0.00012	0.00027	0.00046	0.00061	-
Nickel (Ni)-Dissolved	mg/L	18	0.0005	17	0.0005	0	0.0005	0.0005	0.0005	-
Phosphorus (P)-Dissolved	mg/L	18	0.05	18	0.05	0	0.05	0.05	0.05	-
Potassium (K)-Dissolved	mg/L	18	0.05	0	2.00	0.25	1.65	2.02	2.35	-
Rhodium (Rh)-Dissolved	mg/L	18	0.001	18	0.001	0	0.001	0.001	0.001	-
Ruthenium (Ru)-Dissolved	mg/L	18	0.001	18	0.001	0	0.001	0.001	0.001	-
Samarium (Sm)-Dissolved	mg/L	18	0.001	18	0.001	0	0.001	0.001	0.001	-
Selenium (Se)-Dissolved	mg/L	18	0.00005	0	0.00026	0.00003	0.00021	0.00026	0.00031	-
Silver (Ag)-Dissolved	mg/L	18	0.00001	18	0.00001	0	0.00001	0.00001	0.00001	-
Sodium (Na)-Dissolved	mg/L	18	0.05	0	14.78	5.21	8.15	14.70	23.31	-
Strontium (Sr)-Dissolved	mg/L	18	0.0002	0	0.4380	0.1415	0.2456	0.4715	0.6455	2.5
Sulfur (S)-Dissolved	mg/L	18	0.5	0	10.7	4.4	5.2	10.6	18.3	-
Thallium (Tl)-Dissolved	mg/L	18	0.00001	18	0.00001	0	0.00001	0.00001	0.00001	-
Tin (Sn)-Dissolved	mg/L	18	0.0001	18	0.0001	0	0.0001	0.0001	0.0001	-
Titanium (Ti)-Dissolved	mg/L	18	0.0003	12	0.0003	0.0001	0.0003	0.0003	0.0005	-
Tungsten (W)-Dissolved	mg/L	18	0.0001	18	0.0001	0	0.0001	0.0001	0.0001	-
Uranium (U)-Dissolved	mg/L	18	0.00001	0	0.00129	0.00019	0.00108	0.00128	0.00164	-
Vanadium (V)-Dissolved	mg/L	18	0.0005	12	0.0005	0.0001	0.0005	0.0005	0.0007	-
Zinc (Zn)-Dissolved	mg/L	18	0.001	0	0.002	0.002	0.001	0.002	0.004	0.031
Zirconium (Zr)-Dissolved	mg/L	18	0.0003	18	0.0003	0	0.0003	0.0003	0.0003	-
Nutrients & General Chemistry										
Alkalinity, Total (as CaCO3)	mg/L	18	1	0	257	19	222	260	283	20
Alkalinity, Bicarbonate (as CaCO3)	mg/L	18	1	0	242	19	208	241	273	-
Bromide (Br)	mg/L	18	0.1	16	0.1	0.2	0.1	0.1	0.6	-
Alkalinity, Carbonate (as CaCO3)	mg/L	18	1	1	14	7	6	16	29	-
Chloride (Cl)	mg/L	18	0.5	0	25.1	6.5	16.4	25.9	35.3	120
Cyanide, Total	mg/L	18	0.002	18	0.002	0	0.002	0.002	0.002	0.005
Fluoride (F)	mg/L	18	0.02	0	0.22	0.04	0.17	0.22	0.30	0.12
Alkalinity, Hydroxide (as CaCO3)	mg/L	18	1	18	1	0	1	1	1	-
pH	pH units	18	0.1	0	8.5	0.1	8.3	8.5	8.7	6.5 - 9
Conductivity	µS	18	1	0	614	66	490	626	714	-

Analyte	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Ion Balance	%	18	0.01	0	0.06	3.10	-3.16	-0.74	5.05	-
Total Dissolved Solids	mg/L	18	10	0	338	63	230	353	429	-
Hardness (as CaCO3)	mg/L	18	0.5	0	332.1	421.6	237.3	297.5	645.5	-
Total Suspended Solids	mg/L	18	3	4	5	4	3	4	12	-
Turbidity	NTU	18	0.1	0	2.1	2.1	0.8	1.6	6.7	50
Ammonia, Total (as N)	mg/L	18	0.005	0	0.068	0.084	0.037	0.057	0.293	0.259
Nitrate and Nitrite as N	mg/L	18	0.02	0	2.56	1.03	1.50	2.44	4.57	-
Total Organic Carbon	mg/L	18	0.5	0	6	2	4	6	11	-
Total Inorganic Carbon	mg/L	18	1	0	55.7	5.1	47.8	55.5	62.7	-
Dissolved Organic Carbon	mg/L	18	0.5	0	6	2	4	6	11	-
Phosphorus, Total	mg/L	18	0.002	0	0.015	0.007	0.009	0.015	0.028	0.01
Total Kjeldahl Nitrogen	mg/L	18	0.05	0	7.22	0.07	7.12	7.21	7.35	-
Chlorophyll a	µg/L	18	0.002 - 0.010	0	1.602	0.818	0.746	1.735	2.993	-
Biological Oxygen Demand	mg/L	18	2	17	2	0	2	2	2	-
Total Coliforms	CFU/100mL	18	1	0	531	734	100	700	2420	-
E. Coli	CFU/100mL	18	1	0	41	73	12	38	159	100
Organics - Polycyclic Aromatic Hydrocarbons										
Acenaphthene	µg/L	18	0.01 - 0.20	18	0.03	0.09	0.01	0.01	0.20	5.8
Acenaphthylene	µg/L	18	0.01 - 0.20	18	0.03	0.09	0.01	0.01	0.20	-
Anthracene	µg/L	18	0.01 - 0.20	18	0.03	0.09	0.01	0.01	0.20	0.012
Benzo(a)anthracene	µg/L	18	0.01 - 0.20	18	0.03	0.09	0.01	0.01	0.20	0.018
Benzo(a)pyrene	µg/L	18	0.01 - 0.02	18	0.01	0.02	0.01	0.01	0.04	0.015
Benzo(b&j)fluoranthene	µg/L	18	0.01 - 0.10	18	0.02	0.04	0.01	0.01	0.10	-
Benzo(g,h,i)perylene	µg/L	18	0.01 - 0.20	18	0.03	0.09	0.01	0.01	0.20	-
Benzo(k)fluoranthene	µg/L	18	0.01 - 0.10	18	0.02	0.04	0.01	0.01	0.10	-
Chrysene	µg/L	18	0.01 - 0.10	18	0.02	0.04	0.01	0.01	0.10	-
Dibenz(a,h)anthracene	µg/L	18	0.01 - 0.20	18	0.02	0.09	0.01	0.01	0.20	-
Fluoranthene	µg/L	18	0.01 - 0.20	18	0.03	0.09	0.01	0.01	0.20	0.04
Fluorene	µg/L	18	0.01 - 0.20	18	0.03	0.09	0.01	0.01	0.20	3
Indeno(1,2,3-cd)pyrene	µg/L	18	0.01 - 0.20	18	0.03	0.09	0.01	0.01	0.20	-
1+2-Methylnaphthalenes	µg/L	18	0.02 - 0.60	18	0.05	0.28	0.02	0.02	0.60	-
1-Methylnaphthalene	µg/L	18	0.01 - 0.40	18	0.03	0.18	0.01	0.01	0.40	526
2-Methylnaphthalene	µg/L	18	0.01 - 0.40	18	0.03	0.18	0.01	0.01	0.40	-
Naphthalene	µg/L	18	0.05 - 0.20	18	0.08	0.07	0.05	0.05	0.20	1.1
Phenanthrene	µg/L	18	0.02 - 0.20	17	0.04	0.09	0.02	0.02	0.21	0.4
Pyrene	µg/L	18	0.01 - 0.20	18	0.03	0.09	0.01	0.01	0.20	0.025
Organics - Volatile Organic Compounds										
Acetone	µg/L	18	20	18	20	0	20	20	20	1500
Benzene	µg/L	18	0.5	18	0.5	0	0.5	0.5	0.5	5
Bromodichloromethane	µg/L	18	0.5	18	0.5	0	0.5	0.5	0.5	200
Bromoform	µg/L	18	0.5	18	0.5	0	0.5	0.5	0.5	60

Analyte	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Bromomethane	µg/L	18	0.5	18	0.5	0	0.5	0.5	0.5	0.9
Carbon tetrachloride	µg/L	18	0.2	18	0.2	0	0.2	0.2	0.2	2
Chlorobenzene	µg/L	18	0.5	18	0.5	0	0.5	0.5	0.5	1.3
Dibromochloromethane	µg/L	18	0.5	18	0.5	0	0.5	0.5	0.5	40
Chloroform	µg/L	18	0.5	18	0.5	0	0.5	0.5	0.5	1.8
1,2-Dibromoethane	µg/L	18	0.2	18	0.2	0	0.2	0.2	0.2	-
1,2-Dichlorobenzene	µg/L	18	0.5	18	0.5	0	0.5	0.5	0.5	-
1,3-Dichlorobenzene	µg/L	18	0.5	18	0.5	0	0.5	0.5	0.5	-
1,4-Dichlorobenzene	µg/L	18	0.5	18	0.5	0	0.5	0.5	0.5	-
Dichlorodifluoromethane	µg/L	18	0.5	18	0.5	0	0.5	0.5	0.5	-
1,1-Dichloroethane	µg/L	18	0.5	18	0.5	0	0.5	0.5	0.5	-
1,2-Dichloroethane	µg/L	18	0.5	18	0.5	0	0.5	0.5	0.5	-
1,1-Dichloroethylene	µg/L	18	0.5	18	0.5	0	0.5	0.5	0.5	-
cis-1,2-Dichloroethylene	µg/L	18	0.5	18	0.5	0	0.5	0.5	0.5	200
trans-1,2-Dichloroethylene	µg/L	18	0.5	18	0.5	0	0.5	0.5	0.5	200
Methylene Chloride	µg/L	18	1	12	1	0	1	1	1	-
1,2-Dichloropropane	µg/L	18	0.5	18	0.50	0	0.50	0.50	0.50	-
cis-1,3-Dichloropropene	µg/L	18	0.3	18	0.30	0	0.30	0.30	0.30	-
trans-1,3-Dichloropropene	µg/L	18	0.3	18	0.30	0	0.30	0.30	0.30	7
1,3-Dichloropropene (cis & trans)	µg/L	18	0.3	18	0.50	0	0.50	0.50	0.50	-
Ethylbenzene	µg/L	18	0.5	18	0.5	0	0.5	0.5	0.5	8
n-Hexane	µg/L	18	0.5	18	0.5	0	0.5	0.5	0.5	0.58
Methyl Ethyl Ketone	µg/L	18	20	18	20	0	20	20	20	400
Methyl Isobutyl Ketone	µg/L	18	20	18	20	0	20	20	20	-
MTBE	µg/L	18	0.5	18	0.5	0	0.5	0.5	0.5	200
Styrene	µg/L	18	0.5	18	0.5	0	0.5	0.5	0.5	4
1,1,1,2-Tetrachloroethane	µg/L	18	0.5	18	0.5	0	0.5	0.5	0.5	-
1,1,2,2-Tetrachloroethane	µg/L	18	0.5	18	0.5	0	0.5	0.5	0.5	-
Tetrachloroethylene	µg/L	18	0.5	18	0.5	0	0.5	0.5	0.5	10
Toluene	µg/L	18	0.5	18	0.5	0	0.5	0.5	0.5	0.8
1,1,1-Trichloroethane	µg/L	18	0.5	18	0.5	0	0.5	0.5	0.5	-
1,1,2-Trichloroethane	µg/L	18	0.5	18	0.5	0	0.5	0.5	0.5	-
Trichloroethylene	µg/L	18	0.5	18	0.5	0	0.5	0.5	0.5	5
Trichlorofluoromethane	µg/L	18	0.5	18	0.5	0	0.5	0.5	0.5	-
Vinyl chloride	µg/L	18	0.5	18	0.5	0	0.5	0.5	0.5	2
Xylenes (Total)	µg/L	18	0.5	18	0.5	0	0.5	0.5	0.5	30
Organics - Semi-Volatile Organic Compounds										
Biphenyl	µg/L	18	0.4	18	0.4	0	0.4	0.4	0.4	0.2
4-Chloroaniline	µg/L	18	0.4	18	0.4	0	0.4	0.4	0.4	-
Bis(2-chloroethyl)ether	µg/L	18	0.4	18	0.4	0	0.4	0.4	0.4	200
2-Chlorophenol	µg/L	18	0.3	18	0.3	0.1	0.3	0.3	0.3	7

Analyte	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
3,3-Dichlorobenzidine	µg/L	18	0.4	18	0.4	0	0.4	0.4	0.4	0.6
2,4-Dichlorophenol	µg/L	18	0.3	18	0.3	0.1	0.3	0.3	0.3	0.2
Diethylphthalate	µg/L	18	0.2	18	0.2	0	0.2	0.2	0.2	210
Dimethylphthalate	µg/L	18	0.2	18	0.2	0	0.2	0.2	0.2	330
2,4-Dimethylphenol	µg/L	18	0.5	18	0.5	0.1	0.5	0.5	0.6	10
2,4-Dinitrophenol	µg/L	18	1	18	1	1	1	1	2	6.2
2,4-Dinitrotoluene	µg/L	18	0.4	18	0.4	0	0.4	0.4	0.4	4
2,6-Dinitrotoluene	µg/L	18	0.4	18	0.4	0	0.4	0.4	0.4	6
2,4+2,6-Dinitrotoluene	µg/L	18	0.6	18	0.6	0	0.6	0.6	0.6	10
Bis(2-ethylhexyl)phthalate	µg/L	18	2	18	2	0	2	2	2	3
Pentachlorophenol	µg/L	18	0.5	18	0.5	0.1	0.5	0.5	0.6	0.5
Phenol	µg/L	18	0.5	18	0.5	0.1	0.5	0.5	0.8	4
1,2,4-Trichlorobenzene	µg/L	18	0.4	18	0.4	0	0.4	0.4	0.4	0.5
2,4,5-Trichlorophenol	µg/L	18	0.2	18	0.2	0	0.2	0.2	0.2	18
2,4,6-Trichlorophenol	µg/L	18	0.2	18	0.2	0	0.2	0.2	0.2	5
Organics - Hydrocarbons										
F1 (C6-C10)	µg/L	18	25	18	25	0	25	25	25	150
F2 (C10-C16)	µg/L	18	100	18	101	1	100	102	102	110
F3 (C16-C34)	µg/L	18	250	17	256	27	250	250	268	-
F4 (C34-C50)	µg/L	18	250	18	250	0	250	250	250	-
Total Hydrocarbons (C6-C50)	µg/L	18	240	17	370	0	370	370	370	-
Organics - Dioxins and Furans										
2,3,7,8-TCDD	pg/L	18	0.13 - 1.50	18	0.50	0.37	0.13	0.59	1.16	-
1,2,3,7,8-PeCDD	pg/L	18	0.14 - 1.80	17	0.44	0.45	0.14	0.42	1.46	-
1,2,3,4,7,8-HxCDD	pg/L	18	0.14 - 1.40	16	0.50	0.37	0.20	0.57	1.23	-
1,2,3,6,7,8-HxCDD	pg/L	18	0.14 - 1.40	17	0.47	0.39	0.20	0.45	1.23	-
1,2,3,7,8,9-HxCDD	pg/L	18	0.13 - 1.40	14	0.58	0.39	0.20	0.69	1.33	-
1,2,3,4,6,7,8-HpCDD	pg/L	18	0.13 - 2.20	11	1.05	0.94	0.42	1.03	3.42	-
OCDD	pg/L	18	0.37 - 8.20	4	3.98	8.35	1.09	3.15	26.08	-
Total-TCDD	pg/L	18	0.13 - 1.50	18	0.50	0.37	0.13	0.59	1.16	-
Total-PeCDD	pg/L	18	0.14 - 1.80	18	0.44	0.45	0.14	0.42	1.46	-
Total-HxCDD	pg/L	18	0.14 - 1.40	14	0.58	0.40	0.22	0.60	1.33	-
Total-HpCDD	pg/L	18	0.13 - 2.20	14	0.97	0.83	0.36	0.94	2.40	-
2,3,7,8-TCDF	pg/L	18	0.09 - 1.20	18	0.36	0.33	0.12	0.36	1.12	-
1,2,3,7,8-PeCDF	pg/L	18	0.08 - 0.72	14	0.34	0.17	0.19	0.31	0.69	-
2,3,4,7,8-PeCDF	pg/L	18	0.07 - 0.65	18	0.26	0.17	0.13	0.26	0.65	-
1,2,3,4,7,8-HxCDF	pg/L	18	0.08 - 0.64	16	0.30	0.18	0.11	0.32	0.62	-
1,2,3,6,7,8-HxCDF	pg/L	18	0.09 - 0.62	15	0.30	0.19	0.10	0.31	0.64	-
1,2,3,7,8,9-HxCDF	pg/L	18	0.10 - 0.97	16	0.41	0.27	0.13	0.47	0.93	-
2,3,4,6,7,8-HxCDF	pg/L	18	0.09 - 0.64	14	0.28	0.19	0.12	0.35	0.66	-
1,2,3,4,6,7,8-HpCDF	pg/L	18	0.12 - 1.20	12	0.54	0.86	0.20	0.49	1.88	-

Analyte	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
1,2,3,4,7,8,9-HpCDF	pg/L	18	0.15 - 1.80	17	0.52	0.43	0.18	0.51	1.46	-
OCDF	pg/L	18	0.26 - 5.50	12	1.66	2.78	0.39	2.25	9.78	-
Total-TCDF	pg/L	18	0.09 - 1.20	17	0.37	0.33	0.12	0.39	0.38	-
Total-PeCDF	pg/L	18	0.08 - 0.72	15	0.34	0.20	0.15	0.31	0.74	-
Total-HxCDF	pg/L	18	0.10 - 0.97	16	0.45	0.32	0.21	0.47	1.29	-
Total-HpCDF	pg/L	18	0.15 - 1.80	15	0.56	0.42	0.25	0.50	0.72	-
Organics - Polychlorinated Biphenyls										
Aroclor 1242	µg/L	18	0.02	18	0.02	0	0.02	0.02	0.02	0.001
Aroclor 1248	µg/L	18	0.02	18	0.02	0	0.02	0.02	0.02	0.001
Aroclor 1254	µg/L	18	0.02	18	0.02	0	0.02	0.02	0.02	0.001
Aroclor 1260	µg/L	18	0.02	18	0.02	0	0.02	0.02	0.02	0.001
Total PCBs	µg/L	18	0.06	18	0.06	0	0.06	0.06	0.06	0.001
Organochlorine Pesticides										
Aldrin	µg/L	18	0.008	18	0.008	0	0.008	0.008	0.008	0.001
Chlordane (Total)	µg/L	18	0.011	18	0.011	0	0.011	0.011	0.011	0.006
Total DDD	µg/L	18	0.006	18	0.0060	0	0.0060	0.0060	0.0060	-
Total DDE	µg/L	18	0.006	18	0.0060	0	0.0060	0.0060	0.0060	-
Total DDT	µg/L	18	0.006	18	0.0063	0.0015	0.0060	0.0060	0.0080	0.001
Dieldrin	µg/L	18	0.008	18	0.008	0	0.008	0.008	0.008	0.001
Endosulfan (Total)	µg/L	18	0.01	18	0.01	0	0.01	0.01	0.01	0.003
Endrin	µg/L	18	0.01	18	0.01	0	0.01	0.01	0.01	0.002
Heptachlor	µg/L	18	0.008	18	0.008	0	0.008	0.008	0.008	0.001
Heptachlor Epoxide	µg/L	18	0.008	18	0.008	0	0.008	0.008	0.008	0.001
Hexachlorobenzene	µg/L	18	0.008	18	0.008	0	0.008	0.008	0.008	0.0065
Hexachlorobutadiene	µg/L	18	0.008	18	0.008	0	0.008	0.008	0.008	0.009
Hexachloroethane	µg/L	18	0.008	18	0.008	0	0.008	0.008	0.008	1
Methoxychlor	µg/L	18	0.008	18	0.008	0	0.008	0.008	0.008	0.04

[1] Cells containing grey highlights indicate exceedances of the WQG. Note that datum is not flagged as an exceedance if the measured concentration was reported by the laboratory as <RDL where the RDL is greater than or equal to the WQG due to measurement uncertainty.
[2] Some radionuclide parameters were not analyzed for SB_SW_TWR_08 as sample bottles were broken before analysis could be conducted.
[3] As per the EMBP design, Tier 2 artificial radionuclides were only analyzed in samples from SB_SW_TWR_04.
[4] In the fall of Year 2 several bottles from SB_SW_TWR_08 broke after transport to the analytical laboratory leading to some radiological analytes not being analyzed due to insufficient sample volumes.

Appendix A, Table 2

Year 2 Surface Water Chemistry Results – Teeswater River Reference [1,2]

Analyte	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Radionuclides - Tier 1										
Tritium	Bq/L	9	14.8	9	14.8	0	14.8	14.8	14.8	7000
Carbon-14	Bq/L	9	18.5	9	18.5	0	18.5	18.5	18.5	200
Strontium-90	Bq/L	9	0.037	9	0.037	0	0.037	0.037	0.037	5
Iodine-129	Bq/L	9	0.37	9	0.37	0	0.37	0.37	0.37	1
Cesium-137	Bq/L	9	0.37	9	0.37	0	0.37	0.37	0.37	10
Cobalt-60	Bq/L	9	0.37	9	0.37	0	0.37	0.37	0.37	40
Ruthenium-106	Bq/L	9	3	9	3	0	3	3	3	20
Gross alpha	Bq/L	9	0.111	7	0.124	0.028	0.103	0.128	0.152	-
Gross beta	Bq/L	9	0.148	1	0.143	0.062	0.088	0.128	0.258	-
Radionuclides - Tier 2 natural										
Uranium-238	Bq/L	9	0.0074	1	0.0122	0.0044	0.0059	0.0145	0.0177	3
Uranium-234	Bq/L	9	0.0074	3	0.0210	0.0071	0.0149	0.0192	0.0330	3
Uranium-235	Bq/L	9	0.0074	7	0.0018	0.0004	0.0015	0.0019	0.0022	3
Potassium-40	Bq/L	9	7.1	9	7.1	0	7.1	7.1	7.1	-
Thorium-228	Bq/L	9	0.0074	9	0.0074	0	0.0074	0.0074	0.0074	2
Thorium-230	Bq/L	9	0.0074	6	0.0070	0.0001	0.0060	0.0074	0.0074	0.6
Thorium-232	Bq/L	9	0.0074	8	0.0062	0.0018	0.0039	0.0074	0.0074	0.6
Radium-226	Bq/L	9	0.037	4	0.025	0.013	0.012	0.027	0.046	0.5
Radionuclides - Tier 2 artificial										
Chlorine-36	Bq/L	3	0.37	1	0.856	1.985	0.370	0.370	0.370	-
Selenium-79	Bq/L	3	1.85	3	1.85	0	1.85	1.85	1.85	-
Neptunium-237	Bq/L	3	0.0037	0	0.0037	0	0.0037	0.0037	0.0037	-
Plutonium-238	Bq/L	3	0.0037	0	0.0037	0	0.0037	0.0037	0.0037	0.6
Plutonium-239	Bq/L	3	0.0037	3	0.0037	0	0.0037	0.0037	0.0037	0.6
Metals										
Aluminum (Al)-Total	mg/L	9	0.003	0	0.060	0.231	0.019	0.031	0.597	1.5
Antimony (Sb)-Total	mg/L	9	0.0001	9	0.0001	0	0.0001	0.0001	0.0001	0.006
Arsenic (As)-Total	mg/L	9	0.0001	0	0.0003	0.0002	0.0002	0.0003	0.0008	0.005
Barium (Ba)-Total	mg/L	9	0.0001	0	0.0254	0.0087	0.0163	0.0250	0.0412	1
Beryllium (Be)-Total	mg/L	9	0.00002	8	0.00002	0	0.00002	0.00002	0.00002	1.1
Bismuth (Bi)-Total	mg/L	9	0.00005	9	0.00005	0	0.00005	0.00005	0.00005	17.5
Boron (B)-Total	mg/L	9	0.01	5	0.01	0	0.01	0.01	0.02	1.5
Cadmium (Cd)-Total	mg/L	9	0.000005	5	0.000014	0.000012	0.000005	0.000006	0.000036	0.00021
Calcium (Ca)-Total	mg/L	9	0.05	0	74.17	11.70	58.68	74.50	90.98	1000
Cesium (Cs)-Total	mg/L	9	0.00001	7	0.00001	0.00002	0.00001	0.00001	0.00005	-

Chromium (Cr)-Total	mg/L	9	0.0005	7	0.0006	0.0002	0.0005	0.0005	0.0010	-
Cobalt (Co)-Total	mg/L	9	0.0001	7	0.0001	0.0001	0.0001	0.0001	0.0005	0.0012
Copper (Cu)-Total	mg/L	9	0.0005	0	0.0008	0.0003	0.0006	0.0007	0.0013	0.0031
Iron (Fe)-Total	mg/L	9	0.01	0	0.12	0.54	0.04	0.07	1.37	3.8
Lead (Pb)-Total	mg/L	9	0.00005	3	0.00016	0.00035	0.00005	0.00006	0.00092	0.00477
Lithium (Li)-Total	mg/L	9	0.001	3	0.001	0	0.001	0.001	0.001	2.5
Magnesium (Mg)-Total	mg/L	9	0.005	0	27.563	4.406	21.200	28.100	33.480	82
Manganese (Mn)-Total	mg/L	9	0.0001	0	0.0142	0.0865	0.0044	0.0071	0.2170	0.12
Mercury (Hg)-Total	mg/L	9	0.000005	9	0.000005	0	0.000005	0.000005	0.000005	2.6E-05
Molybdenum (Mo)-Total	mg/L	9	0.00005	0	0.00025	0.00017	0.00011	0.00027	0.00059	0.073
Nickel (Ni)-Total	mg/L	9	0.0005	7	0.0006	0.0002	0.0005	0.0005	0.0009	0.1217
Phosphorus (P)-Total	mg/L	9	0.05	6	0.06	0.02	0.05	0.05	0.10	-
Potassium (K)-Total	mg/L	9	0.05	0	2.38	0.56	1.66	2.68	3.14	53
Rhodium (Rh)-Total	mg/L	9	0.001	9	0.001	0	0.001	0.001	0.001	0.01
Ruthenium (Ru)-Total	mg/L	9	0.001	9	0.001	0	0.001	0.001	0.001	0.01
Samarium (Sm)-Total	mg/L	9	0.001	9	0.001	0	0.001	0.001	0.001	0.0082
Selenium (Se)-Total	mg/L	9	0.00005	0	0.00021	0.00005	0.00013	0.00022	0.00028	0.001
Silver (Ag)-Total	mg/L	9	0.00001	9	0.00	0	0.00	0.00	0.00	0.00025
Sodium (Na)-Total	mg/L	9	0.05	0	6.34	3.33	3.52	5.57	13.00	680
Strontium (Sr)-Total	mg/L	9	0.0002	0	0.1812	0.0862	0.1049	0.1740	0.3258	7
Sulfur (S)-Total	mg/L	9	0.5	0	3.3	2.5	1.1	4.4	8.1	-
Thallium (Tl)-Total	mg/L	9	0.00001	7	0.00001	0	0.00001	0.00001	0.00001	0.0008
Tin (Sn)-Total	mg/L	9	0.0001	9	0.0001	0	0.0001	0.0001	0.0001	0.073
Titanium (Ti)-Total	mg/L	9	0.0003	1	0.0018	0.0054	0.0006	0.0008	0.0141	0.076
Tungsten (W)-Total	mg/L	9	0.0001	9	0.0001	0	0.0001	0.0001	0.0001	0.03
Uranium (U)-Total	mg/L	9	0.00001	0	0.00085	0.00034	0.00037	0.00100	0.00135	0.015
Vanadium (V)-Total	mg/L	9	0.0005	4	0.0007	0.0004	0.0005	0.0006	0.0015	0.12
Zinc (Zn)-Total	mg/L	9	0.003	7	0.003	0.001	0.003	0.003	0.005	0.02
Zirconium (Zr)-Total	mg/L	9	0.0002	8	0.0002	0	0.0002	0.0002	0.0002	0.004
Metals - dissolved										
Aluminum (Al)-Dissolved	mg/L	9	0.001	0	0.004	0.003	0.002	0.003	0.010	-
Antimony (Sb)-Dissolved	mg/L	9	0.0001	9	0.0001	0	0.0001	0.0001	0.0001	-
Arsenic (As)-Dissolved	mg/L	9	0.0001	0	0.0003	0.0001	0.0001	0.0003	0.0005	-
Barium (Ba)-Dissolved	mg/L	9	0.0001	0	0.0238	0.0098	0.0136	0.0222	0.0416	-
Beryllium (Be)-Dissolved	mg/L	9	0.00002	9	0.00002	0	0.00002	0.00002	0.00002	-
Bismuth (Bi)-Dissolved	mg/L	9	0.00005	9	0.00005	0	0.00005	0.00005	0.00005	-
Boron (B)-Dissolved	mg/L	9	0.01	5	0.01	0	0.01	0.01	0.01	-
Cadmium (Cd)-Dissolved	mg/L	9	0.000005	7	0.000005	0	0.000005	0.000005	0.000006	-
Calcium (Ca)-Dissolved	mg/L	9	0.05	0	74.17	10.53	60.14	73.00	90.84	-
Chromium (Cr)-Dissolved	mg/L	9	0.0005	9	0.0005	0	0.0005	0.0005	0.0005	-
Cobalt (Co)-Dissolved	mg/L	9	0.0001	7	0.0001	0	0.0001	0.0001	0.0001	-
Copper (Cu)-Dissolved	mg/L	9	0.0002	0	0.0007	0.0002	0.0005	0.0008	0.0010	0.00611
Iron (Fe)-Dissolved	mg/L	9	0.01	1	0.02	0.02	0.01	0.02	0.07	-

Lead (Pb)-Dissolved	mg/L	9	0.00005	9	0.00005	0	0.00005	0.00005	0.00005	0.012
Lithium (Li)-Dissolved	mg/L	9	0.001	5	0.001	0	0.001	0.001	0.001	-
Magnesium (Mg)-Dissolved	mg/L	9	0.005	0	27.870	4.099	21.800	28.700	33.160	-
Manganese (Mn)-Dissolved	mg/L	9	0.0001	0	0.0078	0.0283	0.0029	0.0046	0.0731	0.26
Mercury (Hg)-Dissolved	mg/L	9	0.000005	9	0.000005	0	0.000005	0.000005	0.000005	-
Molybdenum (Mo)-Dissolved	mg/L	9	0.00005	0	0.00024	0.00017	0.00010	0.00030	0.00058	-
Nickel (Ni)-Dissolved	mg/L	9	0.0005	9	0.0005	0	0.0005	0.0005	0.0005	-
Phosphorus (P)-Dissolved	mg/L	9	0.05	8	0.05	0.01	0.05	0.05	0.06	-
Potassium (K)-Dissolved	mg/L	9	0.05	0	2.34	0.57	1.63	2.49	3.22	-
Rhodium (Rh)-Dissolved	mg/L	9	0.001	9	0.001	0	0.001	0.001	0.001	-
Ruthenium (Ru)-Dissolved	mg/L	9	0.001	9	0.001	0	0.001	0.001	0.001	-
Samarium (Sm)-Dissolved	mg/L	9	0.001	9	0.001	0	0.001	0.001	0.001	-
Selenium (Se)-Dissolved	mg/L	9	0.00005	0	0.00020	0.00007	0.00010	0.00024	0.00031	-
Silver (Ag)-Dissolved	mg/L	9	0.00001	9	0.00001	0	0.00001	0.00001	0.00001	-
Sodium (Na)-Dissolved	mg/L	9	0.05	0	6.31	3.26	3.50	6.04	12.74	-
Strontium (Sr)-Dissolved	mg/L	9	0.0002	0	0.1812	0.0922	0.1026	0.1670	0.3378	2.5
Sulfur (S)-Dissolved	mg/L	9	0.5	0	3.3	2.4	1.2	4.4	7.7	-
Thallium (Tl)-Dissolved	mg/L	9	0.00001	9	0.00001	0	0.00001	0.00001	0.00001	-
Tin (Sn)-Dissolved	mg/L	9	0.0001	9	0.0001	0	0.0001	0.0001	0.0001	-
Titanium (Ti)-Dissolved	mg/L	9	0.0003	8	0.0003	0.0001	0.0003	0.0003	0.0004	-
Tungsten (W)-Dissolved	mg/L	9	0.0001	9	0.0001	0	0.0001	0.0001	0.0001	-
Uranium (U)-Dissolved	mg/L	9	0.00001	0	0.00080	0.00036	0.00037	0.00100	0.00134	-
Vanadium (V)-Dissolved	mg/L	9	0.0005	7	0.0005	0.0001	0.0005	0.0005	0.0007	-
Zinc (Zn)-Dissolved	mg/L	9	0.001	3	0.001	0	0.001	0.002	0.002	0.031
Zirconium (Zr)-Dissolved	mg/L	9	0.0003	9	0.0003	0	0.0003	0.0003	0.0003	-
Nutrients & General Chemistry										
Alkalinity, Total (as CaCO3)	mg/L	9	1	0	265	34	217	268	314	20
Alkalinity, Bicarbonate (as CaCO3)	mg/L	9	1	0	246	36	203	247	304	-
Bromide (Br)	mg/L	9	0.1	9	0.1	0	0.1	0.1	0.1	-
Alkalinity, Carbonate (as CaCO3)	mg/L	9	1	1	21	8	5	21	28	-
Chloride (Cl)	mg/L	9	0.5	0	12.5	4.2	7.1	13.3	19.6	120
Cyanide, Total	mg/L	9	0.002	9	0.002	0	0.002	0.002	0.002	0.005
Fluoride (F)	mg/L	9	0.02	0	0.10	0.05	0.06	0.11	0.18	0.12
Alkalinity, Hydroxide (as CaCO3)	mg/L	9	1	9	1	0	1	1	1	-
pH	pH units	9	0.1	0	8.5	0.1	8.4	8.5	8.6	6.5 - 9
Conductivity	µS	9	1	0	576	58	497	569	660	-
Ion Balance	%	9	0.01	0	1.38	4.35	-2.34	-0.40	9.42	-
Total Dissolved Solids	mg/L	9	10	0	303	36	246	313	339	-
Hardness (as CaCO3)	mg/L	9	0.5	0	371.8	577.0	233.8	323.0	1430.6	-
Total Suspended Solids	mg/L	9	3	2	9	9	3	5	27	-
Turbidity	NTU	9	0.1	0	1.4	4.2	0.4	1.1	10.3	50
Ammonia, Total (as N)	mg/L	9	0.005	0	0.054	0.040	0.021	0.059	0.128	0.259
Nitrate and Nitrite as N	mg/L	9	0.02	0	3.71	1.16	2.49	3.28	5.63	-

Total Organic Carbon	mg/L	9	0.5	0	5.4	2.5	3.4	5.0	10.2	-
Total Inorganic Carbon	mg/L	9	1	0	59	7	48	61	71	-
Dissolved Organic Carbon	mg/L	9	0.5	0	4.5	1.1	3.4	4.3	6.4	-
Phosphorus, Total	mg/L	9	0.002	0	0.026	0.038	0.007	0.020	0.101	0.01
Total Kjeldahl Nitrogen	mg/L	9	0.05	0	0.77	0.47	0.51	0.64	1.73	-
Chlorophyll a	µg/L	9	0.002 - 0.010	0	1.27	0.84	0.49	1.24	2.68	-
Biological Oxygen Demand	mg/L	9	2 - 2	8	2.10	0.03	2.00	2.00	2.06	-
Total Coliforms	CFU/100mL	9	1	0	306	980	90	180	2370	-
E. Coli	CFU/100mL	9	1	0	60	341	15	31	772	100
Organics - Polycyclic Aromatic Hydrocarbons										
Acenaphthene	µg/L	9	0.01 - 0.20	9	0.03	0.09	0.01	0.01	0.20	5.8
Acenaphthylene	µg/L	9	0.01 - 0.20	9	0.03	0.09	0.01	0.01	0.20	-
Anthracene	µg/L	9	0.01 - 0.20	9	0.03	0.09	0.01	0.01	0.20	0.012
Benzo(a)anthracene	µg/L	9	0.01 - 0.20	9	0.03	0.09	0.01	0.01	0.20	0.018
Benzo(a)pyrene	µg/L	9	0.01 - 0.02	9	0.01	0.02	0.01	0.01	0.05	0.015
Benzo(b&j)fluoranthene	µg/L	9	0.01 - 0.10	9	0.02	0.04	0.01	0.01	0.10	-
Benzo(g,h,i)perylene	µg/L	9	0.01 - 0.20	9	0.03	0.09	0.01	0.01	0.20	-
Benzo(k)fluoranthene	µg/L	9	0.01 - 0.10	9	0.02	0.04	0.01	0.01	0.10	-
Chrysene	µg/L	9	0.01 - 0.10	9	0.02	0.04	0.01	0.01	0.10	-
Dibenz(a,h)anthracene	µg/L	9	0.01 - 0.20	9	0.02	0.09	0.01	0.01	0.20	-
Fluoranthene	µg/L	9	0.01 - 0.20	9	0.03	0.09	0.01	0.01	0.20	0.04
Fluorene	µg/L	9	0.01 - 0.20	9	0.03	0.09	0.01	0.01	0.20	3
Indeno(1,2,3-cd)pyrene	µg/L	9	0.01 - 0.20	9	0.03	0.09	0.01	0.01	0.20	-
1+2-Methylnaphthalenes	µg/L	9	0.02 - 0.60	9	0.05	0.28	0.02	0.02	0.60	-
1-Methylnaphthalene	µg/L	9	0.01 - 0.40	9	0.03	0.18	0.01	0.01	0.40	526
2-Methylnaphthalene	µg/L	9	0.01 - 0.40	9	0.03	0.18	0.01	0.01	0.40	-
Naphthalene	µg/L	9	0.05 - 0.20	9	0.08	0.07	0.05	0.05	0.20	1.1
Phenanthrene	µg/L	9	0.02 - 0.20	9	0.04	0.08	0.02	0.02	0.20	0.4
Pyrene	µg/L	9	0.01 - 0.20	9	0.03	0.09	0.01	0.01	0.20	0.025
Organics - Volatile Organic Compounds										
Acetone	µg/L	9	20	9	20	0	20	20	20	1500
Benzene	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	5
Bromodichloromethane	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	200
Bromoform	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	60
Bromomethane	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	0.9
Carbon tetrachloride	µg/L	9	0.2	9	0.2	0	0.2	0.2	0.2	2
Chlorobenzene	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	1.3
Dibromochloromethane	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	40
Chloroform	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	1.8
1,2-Dibromoethane	µg/L	9	0.2	9	0.2	0	0.2	0.2	0.2	-
1,2-Dichlorobenzene	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	-
1,3-Dichlorobenzene	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	-
1,4-Dichlorobenzene	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	-

Dichlorodifluoromethane	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	-
1,1-Dichloroethane	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	-
1,2-Dichloroethane	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	-
1,1-Dichloroethylene	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	-
cis-1,2-Dichloroethylene	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	200
trans-1,2-Dichloroethylene	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	200
Methylene Chloride	µg/L	9	1	6	1	0	1	1	1	-
1,2-Dichloropropane	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	-
cis-1,3-Dichloropropene	µg/L	9	0.3	9	0.30	0	0.30	0.30	0.30	-
trans-1,3-Dichloropropene	µg/L	9	0.3	9	0.30	0	0.30	0.30	0.30	7
1,3-Dichloropropene (cis & trans)	µg/L	9	0.30 - 01	9	0.50	0	0.50	0.50	0.50	-
Ethylbenzene	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	8
n-Hexane	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	0.58
Methyl Ethyl Ketone	µg/L	9	20	9	20	0	20	20	20	400
Methyl Isobutyl Ketone	µg/L	9	20	9	20	0	20	20	20	-
MTBE	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	200
Styrene	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	4
1,1,1,2-Tetrachloroethane	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	-
1,1,2,2-Tetrachloroethane	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	-
Tetrachloroethylene	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	10
Toluene	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	0.8
1,1,1-Trichloroethane	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	-
1,1,2-Trichloroethane	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	-
Trichloroethylene	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	5
Trichlorofluoromethane	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	-
Vinyl chloride	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	2
Xylenes (Total)	µg/L	9	0.3	9	0.5	0	0.5	0.5	0.5	30
Organics - Semi-Volatile Organic Compounds										
Biphenyl	µg/L	9	0.4	9	0.4	0	0.4	0.4	0.4	0.2
4-Chloroaniline	µg/L	9	0.4	9	0.4	0	0.4	0.4	0.4	-
Bis(2-chloroethyl)ether	µg/L	9	0.4	9	0.4	0	0.4	0.4	0.4	200
2-Chlorophenol	µg/L	9	0.3	9	0.3	0	0.3	0.3	0.3	7
3,3-Dichlorobenzidine	µg/L	9	0.4	9	0.4	0	0.4	0.4	0.4	0.6
2,4-Dichlorophenol	µg/L	9	0.3	9	0.3	0	0.3	0.3	0.3	0.2
Diethylphthalate	µg/L	9	0.2	9	0.2	0	0.2	0.2	0.2	210
Dimethylphthalate	µg/L	9	0.2	9	0.2	0	0.2	0.2	0.2	330
2,4-Dimethylphenol	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	10
2,4-Dinitrophenol	µg/L	9	1	9	1	0	1	1	2	6.2
2,4-Dinitrotoluene	µg/L	9	0.4	9	0.4	0	0.4	0.4	0.4	4
2,6-Dinitrotoluene	µg/L	9	0.4	9	0.4	0	0.4	0.4	0.4	6
2,4+2,6-Dinitrotoluene	µg/L	9	0.6	9	0.6	0	0.6	0.6	0.6	10
Bis(2-ethylhexyl)phthalate	µg/L	9	2	9	2	0	2	2	2	3
Pentachlorophenol	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	0.5

Phenol	µg/L	9	0.5	9	0.5	0.1	0.5	0.5	0.7	4
1,2,4-Trichlorobenzene	µg/L	9	0.4	9	0.4	0	0.4	0.4	0.4	0.5
2,4,5-Trichlorophenol	µg/L	9	0.2	9	0.2	0	0.2	0.2	0.2	18
2,4,6-Trichlorophenol	µg/L	9	0.2	9	0.2	0	0.2	0.2	0.2	5
Organics - Hydrocarbons										
F1 (C6-C10)	µg/L	9	25	9	25	0	25	25	25	150
F2 (C10-C16)	µg/L	9	100	9	101	1	100	102	102	110
F3 (C16-C34)	µg/L	9	250	7	300	138	250	250	586	-
F4 (C34-C50)	µg/L	9	250	9	250	0	250	250	250	-
Total Hydrocarbons (C6-C50)	µg/L	9	240	7	406	91	370	370	586	-
Organics - Dioxins and Furans										
2,3,7,8-TCDD	pg/L	9	0.12 - 1.30	9	0.47	0.35	0.13	0.58	1.14	-
1,2,3,7,8-PeCDD	pg/L	9	0.11 - 1.20	9	0.46	0.35	0.14	0.48	1.16	-
1,2,3,4,7,8-HxCDD	pg/L	9	0.12 - 1.30	8	0.50	0.30	0.22	0.60	1.06	-
1,2,3,6,7,8-HxCDD	pg/L	9	0.13 - 1.30	8	0.48	0.31	0.23	0.48	1.07	-
1,2,3,7,8,9-HxCDD	pg/L	9	0.12 - 1.30	8	0.55	0.40	0.22	0.59	1.36	-
1,2,3,4,6,7,8-HpCDD	pg/L	9	0.13 - 1.60	5	1.32	0.48	0.71	1.40	2.14	-
OCDD	pg/L	9	0.35 - 4.10	5	4.77	5.07	1.50	4.00	14.50	-
Total-TCDD	pg/L	9	0.12 - 1.30	9	0.47	0.35	0.13	0.58	1.14	-
Total-PeCDD	pg/L	9	0.11 - 1.20	9	0.46	0.35	0.14	0.48	1.16	-
Total-HxCDD	pg/L	9	0.13 - 1.30	7	0.59	0.26	0.41	0.60	1.07	-
Total-HpCDD	pg/L	9	0.13 - 1.60	5	1.82	2.53	0.92	1.50	6.70	-
2,3,7,8-TCDF	pg/L	9	0.10 - 1.20	9	0.40	0.34	0.13	0.45	1.09	-
1,2,3,7,8-PeCDF	pg/L	9	0.09 - 0.67	5	0.40	0.17	0.20	0.42	0.66	-
2,3,4,7,8-PeCDF	pg/L	9	0.08 - 0.61	8	0.27	0.19	0.11	0.27	0.60	-
1,2,3,4,7,8-HxCDF	pg/L	9	0.08 - 0.52	8	0.26	0.12	0.14	0.26	0.47	-
1,2,3,6,7,8-HxCDF	pg/L	9	0.08 - 0.51	7	0.26	0.12	0.14	0.27	0.48	-
1,2,3,7,8,9-HxCDF	pg/L	9	0.10 - 0.69	7	0.40	0.21	0.18	0.41	0.79	-
2,3,4,6,7,8-HxCDF	pg/L	9	0.08 - 0.49	8	0.26	0.11	0.13	0.28	0.44	-
1,2,3,4,6,7,8-HpCDF	pg/L	9	0.07 - 0.83	6	0.59	0.68	0.25	0.53	1.90	-
1,2,3,4,7,8,9-HpCDF	pg/L	9	0.09 - 1.10	7	0.61	0.48	0.20	0.75	1.53	-
OCDF	pg/L	9	0.29 - 3.00	5	1.83	2.20	0.71	1.90	6.12	-
Total-TCDF	pg/L	9	0.10 - 1.20	9	0.40	0.34	0.13	0.45	1.09	-
Total-PeCDF	pg/L	9	0.09 - 0.67	6	0.38	0.19	0.15	0.40	0.66	-
Total-HxCDF	pg/L	9	0.10 - 0.69	7	0.42	0.36	0.18	0.41	1.14	-
Total-HpCDF	pg/L	9	0.09 - 1.10	7	0.68	1.13	0.22	0.75	2.91	-
Organics - Polychlorinated Biphenyls										
Aroclor 1242	µg/L	9	0.02	9	0.02	0	0.02	0.02	0.02	0.001
Aroclor 1248	µg/L	9	0.02	9	0.02	0	0.02	0.02	0.02	0.001
Aroclor 1254	µg/L	9	0.02	9	0.02	0.01	0.02	0.02	0.03	0.001
Aroclor 1260	µg/L	9	0.02	9	0.02	0.01	0.02	0.02	0.04	0.001
Total PCBs	µg/L	9	0.06	9	0.06	0.02	0.06	0.06	0.10	0.001

Organochlorine Pesticides										
Aldrin	µg/L	9	0.008	9	0.008	0	0.008	0.008	0.008	0.001
Chlordane (Total)	µg/L	9	0.011	9	0.011	0	0.011	0.011	0.011	0.006
Total DDD	µg/L	9	0.006	9	0.006	0	0.006	0.006	0.006	-
Total DDE	µg/L	9	0.006	9	0.006	0	0.006	0.006	0.006	-
Total DDT	µg/L	9	0.006	9	0.006	0.001	0.006	0.006	0.008	0.001
Dieldrin	µg/L	9	0.008	9	0.008	0	0.008	0.008	0.008	0.001
Endosulfan (Total)	µg/L	9	0.01	8	0.010	0	0.010	0.010	0.010	0.003
Endrin	µg/L	9	0.01	9	0.010	0	0.010	0.010	0.010	0.002
Heptachlor	µg/L	9	0.008	9	0.008	0	0.008	0.008	0.008	0.001
Heptachlor Epoxide	µg/L	9	0.008	9	0.008	0	0.008	0.008	0.008	0.001
Hexachlorobenzene	µg/L	9	0.008	9	0.008	0	0.008	0.008	0.008	0.0065
Hexachlorobutadiene	µg/L	9	0.008	9	0.008	0	0.008	0.008	0.008	0.009
Hexachloroethane	µg/L	9	0.008	9	0.008	0	0.008	0.008	0.008	1
Methoxychlor	µg/L	9	0.008	9	0.008	0	0.008	0.008	0.008	0.04

[1] Cells containing grey highlights indicate exceedances of the WQG. Note that datum is not flagged as an exceedance if the measured concentration was reported by the laboratory as <RDL where the RDL is greater than or equal to the WQG due to measurement uncertainty.
[2] As per EMBP design, Tier 2 artificial radionuclides were only analyzed in samples from SB_SW_TWR_01.

Appendix A, Table 3

Year 2 Surface Water Chemistry Results – Saugeen River Reference [1]

Analyte	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Radionuclides - Tier 1										
Tritium	Bq/L	3	14.8	0	14.8	0	14.8	14.8	14.8	7000
Carbon-14	Bq/L	3	18.5	3	18.5	0	18.5	18.5	18.5	200
Strontium-90	Bq/L	3	0.037	3	0.037	0	0.037	0.037	0.037	5
Iodine-129	Bq/L	3	0.37	3	0.37	0	0.37	0.37	0.37	1
Cesium-137	Bq/L	3	0.37	3	0.37	0	0.37	0.37	0.37	10
Cobalt-60	Bq/L	3	0.37	3	0.37	0	0.37	0.37	0.37	40
Ruthenium-106	Bq/L	3	3	3	3	0	3	3	3	20
Gross alpha	Bq/L	3	0.111	2	0.125	0.022	0.111	0.111	0.157	-
Gross beta	Bq/L	3	0.148	0	0.107	0.034	0.083	0.093	0.152	-
Radionuclides - Tier 2 natural										
Uranium-238	Bq/L	3	0.0074	2	0.0083	0.0014	0.0074	0.0074	0.0100	3
Uranium-234	Bq/L	3	0.0074	1	0.0083	0.0024	0.0066	0.0074	0.0115	3
Uranium-235	Bq/L	3	0.0074	3	0.0074	0	0.0074	0.0074	0.0074	3
Potassium-40	Bq/L	3	7.1	3	7.1	0	7.1	7.1	7.1	-
Thorium-228	Bq/L	3	0.0074	3	0.0074	0	0.0074	0.0074	0.0074	2

Analyte	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Thorium-230	Bq/L	3	0.0074	3	0.0074	0	0.0074	0.0074	0.0074	0.6
Thorium-232	Bq/L	3	0.0074	3	0.0074	0	0.0074	0.0074	0.0074	0.6
Radium-226	Bq/L	3	0.037	3	0.037	0	0.037	0.037	0.037	0.5
Metals - total										
Aluminum (Al)-Total	mg/L	3	0.003	0	0.138	0.189	0.060	0.098	0.438	1.5
Antimony (Sb)-Total	mg/L	3	0.0001	3	0.0001	0	0.0001	0.0001	0.0001	0.006
Arsenic (As)-Total	mg/L	3	0.0001	0	0.0004	0.0001	0.0003	0.0004	0.0005	0.005
Barium (Ba)-Total	mg/L	3	0.0001	0	0.0173	0.0017	0.0153	0.0184	0.0188	1
Beryllium (Be)-Total	mg/L	3	0.00002	2	0.00002	0	0.00002	0.00002	0.00002	1.1
Bismuth (Bi)-Total	mg/L	3	0.00005	3	0.00005	0	0.00005	0.00005	0.00005	17.5
Boron (B)-Total	mg/L	3	0.01	0	0.02	0.01	0.01	0.02	0.02	1.5
Cadmium (Cd)-Total	mg/L	3	0.00001	1	0.00001	0	0.00001	0.00001	0.00001	0.00021
Calcium (Ca)-Total	mg/L	3	0.05	0	84.12	17.42	68.45	81.50	106.25	1000
Cesium (Cs)-Total	mg/L	3	0.00001	1	0.00002	0.00002	0.00001	0.00001	0.00004	-
Chromium (Cr)-Total	mg/L	3	0.0005	2	0.0006	0.0001	0.0005	0.0005	0.0008	-
Cobalt (Co)-Total	mg/L	3	0.0001	1	0.0001	0.0001	0.0001	0.0001	0.0002	0.0012
Copper (Cu)-Total	mg/L	3	0.0005	1	0.0007	0.0003	0.0005	0.0007	0.0011	0.0031
Iron (Fe)-Total	mg/L	3	0.01	0	0.20	0.17	0.11	0.17	0.46	3.8
Lead (Pb)-Total	mg/L	3	0.00005	0	0.00011	0.00007	0.00006	0.00013	0.00021	0.00477
Lithium (Li)-Total	mg/L	3	0.001	0	0.002	0	0.002	0.003	0.003	2.5
Magnesium (Mg)-Total	mg/L	3	0.005	0	27.338	4.989	22.170	28.200	33.150	82
Manganese (Mn)-Total	mg/L	3	0.0001	0	0.0094	0.0012	0.0080	0.0100	0.0105	0.12
Mercury (Hg)-Total	mg/L	3	0.000005	3	0.000005	0	0.000005	0.000005	0.000005	0.000026
Molybdenum (Mo)-Total	mg/L	3	0.00005	0	0.00032	0.00005	0.00026	0.00036	0.00037	0.073
Nickel (Ni)-Total	mg/L	3	0.0005	2	0.0006	0.0001	0.0005	0.0005	0.0007	0.1217
Phosphorus (P)-Total	mg/L	3	0.05	3	0.05	0	0.05	0.05	0.05	-
Potassium (K)-Total	mg/L	3	0.05	0	1.85	0.07	1.77	1.85	1.93	53
Rhodium (Rh)-Total	mg/L	3	0.001	3	0.001	0	0.001	0.001	0.001	0.01
Ruthenium (Ru)-Total	mg/L	3	0.001	3	0.001	0	0.001	0.001	0.001	0.01
Samarium (Sm)-Total	mg/L	3	0.001	3	0.001	0	0.001	0.001	0.001	0.0082
Selenium (Se)-Total	mg/L	3	0.00005	0	0.00013	0.00003	0.00010	0.00014	0.00017	0.001
Silver (Ag)-Total	mg/L	3	0.00001	3	0.00001	0	0.00001	0.00001	0.00001	0.00025
Sodium (Na)-Total	mg/L	3	0.05	0	8.38	1.30	7.01	8.62	9.86	680
Strontium (Sr)-Total	mg/L	3	0.0002	0	0.9571	0.5644	0.5042	1.1000	1.7480	7
Sulfur (S)-Total	mg/L	3	0.5	0	25.6	13.9	13.8	30.4	44.5	-
Thallium (Tl)-Total	mg/L	3	0.00001	3	0.00001	0	0.00001	0.00001	0.00001	0.0008
Tin (Sn)-Total	mg/L	3	0.0001	3	0.0001	0	0.0001	0.0001	0.0001	0.073
Titanium (Ti)-Total	mg/L	3	0.0003	0	0.0038	0.0047	0.0018	0.0028	0.0112	0.076
Tungsten (W)-Total	mg/L	3	0.0001	2	0.0001	0	0.0001	0.0001	0.0001	0.03
Uranium (U)-Total	mg/L	3	0.00001	0	0.00050	0.00004	0.00046	0.00050	0.00055	0.015
Vanadium (V)-Total	mg/L	3	0.0005	1	0.001	0	0.001	0.001	0.001	0.12

Analyte	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Zinc (Zn)-Total	mg/L	3	0.003	3	0.00	0	0.00	0.00	0.00	0.02
Zirconium (Zr)-Total	mg/L	3	0.0002	2	0.0002	0	0.0002	0.0002	0.0002	0.004
Metals - dissolved										
Aluminum (Al)-Dissolved	mg/L	3	0.001	0	0.006	0.007	0.003	0.005	0.017	-
Antimony (Sb)-Dissolved	mg/L	3	0.0001	3	0.0001	0	0.0001	0.0001	0.0001	-
Arsenic (As)-Dissolved	mg/L	3	0.0001	0	0.0003	0.0001	0.0002	0.0003	0.0004	-
Barium (Ba)-Dissolved	mg/L	3	0.0001	0	0.0160	0.0028	0.0129	0.0180	0.0185	-
Beryllium (Be)-Dissolved	mg/L	3	0.00002	3	0.00002	0	0.00002	0.00002	0.00002	-
Bismuth (Bi)-Dissolved	mg/L	3	0.00005	3	0.00005	0	0.00005	0.00005	0.00005	-
Boron (B)-Dissolved	mg/L	3	0.01	0	0.02	0.01	0.01	0.02	0.02	-
Cadmium (Cd)-Dissolved	mg/L	3	0.000005	3	0.000005	0	0.000005	0.000005	0.000005	-
Calcium (Ca)-Dissolved	mg/L	3	0.05	0	83.29	18.22	65.50	84.40	105.64	-
Chromium (Cr)-Dissolved	mg/L	3	0.0005	3	0.0005	0	0.0005	0.0005	0.0005	-
Cobalt (Co)-Dissolved	mg/L	3	0.0001	3	0.0001	0	0.0001	0.0001	0.0001	-
Copper (Cu)-Dissolved	mg/L	3	0.0002	0	0.0005	0.0002	0.0004	0.0005	0.0008	0.00611
Iron (Fe)-Dissolved	mg/L	3	0.01	0	0	0	0	0	0	-
Lead (Pb)-Dissolved	mg/L	3	0.00005	3	0.00005	0	0.00005	0.00005	0.00005	0.012
Lithium (Li)-Dissolved	mg/L	3	0.001	0	0.002	0.001	0.001	0.003	0.003	-
Magnesium (Mg)-Dissolved	mg/L	3	0.005	0	26.998	5.247	21.350	29.000	32.690	-
Manganese (Mn)-Dissolved	mg/L	3	0.0001	0	0.0041	0.0006	0.0036	0.0041	0.0049	0.26
Mercury (Hg)-Dissolved	mg/L	3	0.000005	3	0.000005	0	0.000005	0.000005	0.000005	-
Molybdenum (Mo)-Dissolved	mg/L	3	0.00005	0	0.00032	0.00004	0.00027	0.00034	0.00036	-
Nickel (Ni)-Dissolved	mg/L	3	0.0005	3	0.0005	0	0.0005	0.0005	0.0005	-
Phosphorus (P)-Dissolved	mg/L	3	0.05	3	0.05	0	0.05	0.05	0.05	-
Potassium (K)-Dissolved	mg/L	3	0.05	0	1.81	0.04	1.77	1.79	1.86	-
Rhodium (Rh)-Dissolved	mg/L	3	0.001	3	0.001	0	0.001	0.001	0.001	-
Ruthenium (Ru)-Dissolved	mg/L	3	0.001	3	0.001	0	0.001	0.001	0.001	-
Samarium (Sm)-Dissolved	mg/L	3	0.001	3	0.001	0	0.001	0.001	0.001	-
Selenium (Se)-Dissolved	mg/L	3	0.00005	0	0.00012	0.00003	0.00009	0.00011	0.00015	-
Silver (Ag)-Dissolved	mg/L	3	0.00001	3	0.00001	0	0.00001	0.00001	0.00001	-
Sodium (Na)-Dissolved	mg/L	3	0.05	0	8.26	1.34	6.78	8.85	9.64	-
Strontium (Sr)-Dissolved	mg/L	3	0.0002	0	0.8900	0.4279	0.5049	1.0800	1.4400	2.5
Sulfur (S)-Dissolved	mg/L	3	0.5	0	24.8	12.9	13.6	30.0	41.9	-
Thallium (Tl)-Dissolved	mg/L	3	0.00001	3	0.00001	0	0.00001	0.00001	0.00001	-
Tin (Sn)-Dissolved	mg/L	3	0.0001	3	0.0001	0	0.0001	0.0001	0.0001	-
Titanium (Ti)-Dissolved	mg/L	3	0.0003	2	0.0005	0.0006	0.0003	0.0003	0.0014	-
Tungsten (W)-Dissolved	mg/L	3	0.0001	3	0.0001	0	0.0001	0.0001	0.0001	-
Uranium (U)-Dissolved	mg/L	3	0.00001	0	0.00050	0.00002	0.00048	0.00049	0.00052	-
Vanadium (V)-Dissolved	mg/L	3	0.0005	3	0.0005	0	0.0005	0.0005	0.0005	-
Zinc (Zn)-Dissolved	mg/L	3	0.001	1	0.001	0	0.001	0.001	0.002	0.031
Zirconium (Zr)-Dissolved	mg/L	3	0.0003	3	0.0003	0	0.0003	0.0003	0.0003	-

Analyte	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Nutrients & General Chemistry										
Alkalinity, Total (as CaCO3)	mg/L	3	1	0	236	10	226	234	248	20
Alkalinity, Bicarbonate (as CaCO3)	mg/L	3	1	0	224	5	219	224	230	-
Bromide (Br)	mg/L	3	0.1	3	0.1	0	0.1	0.1	0.1	-
Alkalinity, Carbonate (as CaCO3)	mg/L	3	1	0	11	5	8	10	18	-
Chloride (Cl)	mg/L	3	0.5	0	15.9	0.5	15.3	16.2	16.3	120
Cyanide, Total	mg/L	3	0.002	3	0.002	0	0.002	0.002	0.002	0.005
Fluoride (F)	mg/L	3	0.02	0	0.11	0.02	0.09	0.12	0.12	0.12
Alkalinity, Hydroxide (as CaCO3)	mg/L	3	1	3	1	0	1	1	1	-
pH	pH units	3	0.1	0	8.4	0.1	8.4	8.4	8.5	6.5 - 9
Conductivity	µS	3	1	0	628	65	554	653	694	-
Ion Balance	%	3	0.01	0	0.00	4.50	-3.40	-2.89	5.44	-
Total Dissolved Solids	mg/L	3	10	0	386	68	327	369	472	-
Hardness (as CaCO3)	mg/L	3	0.5	0	322.9	63.6	262.4	320.0	401.9	-
Total Suspended Solids	mg/L	3	3	0	9	7	4	11	19	-
Turbidity	NTU	3	0.1	0	5.1	5.0	2.1	5.9	12.9	50
Ammonia, Total (as N)	mg/L	3	0.005	0	0.066	0.148	0.022	0.042	0.314	0.259
Nitrate and Nitrite as N	mg/L	3	0.02	0	1.65	0.84	1.21	1.25	2.83	-
Total Organic Carbon	mg/L	3	0.5	0	4.99	0.93	3.96	5.60	5.85	-
Total Inorganic Carbon	mg/L	3	1	0	52.1	2.1	49.6	53.6	53.7	-
Dissolved Organic Carbon	mg/L	3	0.5	0	5	1	5	5	6	-
Phosphorus, Total	mg/L	3	0.002	0	0.017	0.018	0.008	0.012	0.045	0.01
Total Kjeldahl Nitrogen	mg/L	3	0.05	0	1	0	0	1	1	-
Chlorophyll a	µg/L	3	0.002 - 0.010	0	0.955	0.378	0.586	1.200	1.380	-
Biological Oxygen Demand	mg/L	3	2	3	2	0	2	2	2	-
Total Coliforms	CFU/100mL	2	1	0	1612	6400	840	6600	12360	-
E. Coli	CFU/100mL	2	1	0	27	27	14	38	62	100

[1] Cells containing grey highlights indicate exceedances of the WQG. Note that datum is not flagged as an exceedance if the measured concentration was reported by the laboratory as <RDL where the RDL is greater than or equal to the WQG due to measurement uncertainty.

Appendix A, Table 4

Year 2 Surface Water Chemistry Results – Saugeen River Potential Exposure [1,2]

Analyte	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Radionuclides - Tier 1										
Tritium	Bq/L	6	14.8	6	14.8	0	14.8	14.8	14.8	7000
Carbon-14	Bq/L	6	18.5	6	18.5	0	18.5	18.5	18.5	200
Strontium-90	Bq/L	6	0.037	6	0.037	0	0.037	0.037	0.037	5
Iodine-129	Bq/L	6	0.37	6	0.4	0	0.4	0.4	0.4	1

Analyte	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Cesium-137	Bq/L	6	0.37	6	0.4	0	0.4	0.4	0.4	10
Cobalt-60	Bq/L	6	0.37	6	0.4	0	0.4	0.4	0.4	40
Ruthenium-106	Bq/L	6	3	6	3	0	3	3	3	20
Gross alpha	Bq/L	6	0.111	6	0.111	0	0.111	0.111	0.111	-
Gross beta	Bq/L	6	0.148	2	0.108	0.045	0.053	0.142	0.162	-
Radionuclides - Tier 2 natural										
Uranium-238	Bq/L	6	0.0074	0	0.0074	0.0037	0.0042	0.0071	0.0136	3
Uranium-234	Bq/L	6	0.0074	0	0.0118	0.0020	0.0102	0.0111	0.0152	3
Uranium-235	Bq/L	6	0.0074	6	0.0074	0	0.0074	0.0074	0.0074	3
Potassium-40	Bq/L	6	7.1	5	7	1	5	7	7	-
Thorium-228	Bq/L	6	0.0074	6	0.0074	0	0.0074	0.0074	0.0074	2
Thorium-230	Bq/L	6	0.0074	5	0.0066	0.0014	0.0046	0.0074	0.0074	0.6
Thorium-232	Bq/L	6	0.0074	6	0.0074	0	0.0074	0.0074	0.0074	0.6
Radium-226	Bq/L	6	0.037	1	0.019	0.010	0.009	0.023	0.034	0.5
Radionuclides - Tier 2 artificial										
Chlorine-36	Bq/L	3	0.37	3	0.37	0	0.37	0.37	0.37	-
Selenium-79	Bq/L	3	1.85	3	2	0	2	2	2	-
Neptunium-237	Bq/L	3	0.0037	3	0.0037	0	0.0037	0.0037	0.0037	-
Plutonium-238	Bq/L	3	0.0037	3	0.0037	0	0.0037	0.0037	0.0037	0.6
Plutonium-239	Bq/L	3	0.0037	3	0.0037	0	0.0037	0.0037	0.0037	0.6
Metals										
Aluminum (Al)-Total	mg/L	6	0.003	0	0.256	0.447	0.077	0.219	1.161	1.5
Antimony (Sb)-Total	mg/L	6	0.0001	6	0.0001	0	0.0001	0.0001	0.0001	0.006
Arsenic (As)-Total	mg/L	6	0.0001	0	0.0005	0.0001	0.0004	0.0004	0.0007	0.005
Barium (Ba)-Total	mg/L	6	0.0001	0	0.0197	0.0021	0.0167	0.0200	0.0222	1
Beryllium (Be)-Total	mg/L	6	0.00002	5	0.00002	0.00001	0.00002	0.00002	0.00005	1.1
Bismuth (Bi)-Total	mg/L	6	0.00005	6	0.00005	0	0.00005	0.00005	0.00005	17.5
Boron (B)-Total	mg/L	6	0.01	0	0.02	0	0.01	0.02	0.02	1.5
Cadmium (Cd)-Total	mg/L	6	0.000005	2	0.000007	0.000003	0.000005	0.000007	0.000012	0.00021
Calcium (Ca)-Total	mg/L	6	0.05	0	74.71	12.47	62.10	73.30	94.20	1000
Cesium (Cs)-Total	mg/L	6	0.00001	1	0.00003	0.00004	0.00001	0.00002	0.00011	-
Chromium (Cr)-Total	mg/L	6	0.0005	3	0.0007	0.0005	0.0005	0.0005	0.0018	-
Cobalt (Co)-Total	mg/L	6	0.0001	1	0.0002	0.0001	0.0001	0.0002	0.0004	0.0012
Copper (Cu)-Total	mg/L	6	0.0005	0	0.0011	0.0004	0.0007	0.0011	0.0016	0.0031
Iron (Fe)-Total	mg/L	6	0.01	0	0.33	0.38	0.12	0.28	1.06	3.8
Lead (Pb)-Total	mg/L	6	0.00005	0	0.000167	0.000126	0.000067	0.000183	0.000399	0.00477
Lithium (Li)-Total	mg/L	6	0.001	0	0.002	0	0.002	0.002	0.003	2.5
Magnesium (Mg)-Total	mg/L	6	0.005	0	25.436	4.330	20.000	27.000	30.975	82
Manganese (Mn)-Total	mg/L	6	0.0001	0	0.0131	0.0061	0.0069	0.0139	0.0234	0.12
Mercury (Hg)-Total	mg/L	6	0.000005	6	0.000005	0	0.000005	0.000005	0.000005	0.000026
Molybdenum (Mo)-Total	mg/L	6	0.00005	0	0.00033	0.00005	0.00026	0.00036	0.00038	0.073

Analyte	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Nickel (Ni)-Total	mg/L	6	0.0005	2	0.0007	0.0003	0.0005	0.0007	0.0013	0.1217
Phosphorus (P)-Total	mg/L	6	0.05	5	0.05	0.01	0.05	0.05	0.08	-
Potassium (K)-Total	mg/L	6	0.05	0	1.91	0.13	1.81	1.87	2.12	53
Rhodium (Rh)-Total	mg/L	6	0.001	6	0.001	0	0.001	0.001	0.001	0.01
Ruthenium (Ru)-Total	mg/L	6	0.001	6	0.001	0	0.001	0.001	0.001	0.01
Samarium (Sm)-Total	mg/L	6	0.001	6	0.001	0	0.001	0.001	0.001	0.0082
Selenium (Se)-Total	mg/L	6	0.00005	0	0.00017	0.00002	0.00014	0.00018	0.00019	0.001
Silver (Ag)-Total	mg/L	6	0.00001	6	0.00001	0	0.00001	0.00001	0.00001	0.00025
Sodium (Na)-Total	mg/L	6	0.05	0	8.04	1.64	6.19	8.22	10.39	680
Strontium (Sr)-Total	mg/L	6	0.0002	0	0.6585	0.3179	0.3220	0.8115	1.1100	7
Sulfur (S)-Total	mg/L	6	0.5	0	18.2	9.5	8.7	21.9	32.6	-
Thallium (Tl)-Total	mg/L	6	0.00001	5	0.00001	0	0.00001	0.00001	0.00001	0.0008
Tin (Sn)-Total	mg/L	6	0.0001	6	0.0001	0	0.0001	0.0001	0.0001	0.073
Titanium (Ti)-Total	mg/L	6	0.0003	0	0.0076	0.0144	0.0024	0.0060	0.0366	0.076
Tungsten (W)-Total	mg/L	6	0.0001	6	0.0001	0	0.0001	0.0001	0.0001	0.03
Uranium (U)-Total	mg/L	6	0.00001	0	0.00067	0.00005	0.00060	0.00069	0.00074	0.015
Vanadium (V)-Total	mg/L	6	0.0005	1	0.0009	0.0006	0.0005	0.0010	0.0021	0.12
Zinc (Zn)-Total	mg/L	6	0.003	4	0.003	0.001	0.003	0.003	0.004	0.02
Zirconium (Zr)-Total	mg/L	6	0.0002	3	0.0003	0.0002	0.0002	0.0002	0.0007	0.004
Metals - dissolved										
Aluminum (Al)-Dissolved	mg/L	6	0.001	0	0.011	0.014	0.005	0.008	0.038	-
Antimony (Sb)-Dissolved	mg/L	6	0.0001	6	0.0001	0	0.0001	0.0001	0.0001	-
Arsenic (As)-Dissolved	mg/L	6	0.0001	0	0.0004	0.0002	0.0003	0.0004	0.0007	-
Barium (Ba)-Dissolved	mg/L	6	0.0001	0	0.0174	0.0034	0.0128	0.0198	0.0206	-
Beryllium (Be)-Dissolved	mg/L	6	0.00002	6	0.00002	0	0.00002	0.00002	0.00002	-
Bismuth (Bi)-Dissolved	mg/L	6	0.00005	6	0.00005	0	0.00005	0.00005	0.00005	-
Boron (B)-Dissolved	mg/L	6	0.01	1	0.02	0	0.01	0.02	0.02	-
Cadmium (Cd)-Dissolved	mg/L	6	0.000005	4	0.000005	0	0.000005	0.000005	0.000006	-
Calcium (Ca)-Dissolved	mg/L	6	0.05	0	71.77	13.52	58.03	70.20	92.55	-
Chromium (Cr)-Dissolved	mg/L	6	0.0005	6	0.0005	0	0.0005	0.0005	0.0005	-
Cobalt (Co)-Dissolved	mg/L	6	0.0001	6	0.0001	0	0.0001	0.0001	0.0001	-
Copper (Cu)-Dissolved	mg/L	6	0.0002	0	0.0008	0.0002	0.0005	0.0009	0.0010	0.00611
Iron (Fe)-Dissolved	mg/L	6	0.01	0	0.03	0.01	0.03	0.03	0.05	-
Lead (Pb)-Dissolved	mg/L	6	0.00005	6	0.00005	0	0.00005	0.00005	0.00005	0.012
Lithium (Li)-Dissolved	mg/L	6	0.001	2	0.002	0.001	0.001	0.002	0.002	-
Magnesium (Mg)-Dissolved	mg/L	6	0.005	0	24.663	4.399	19.225	25.850	30.250	-
Manganese (Mn)-Dissolved	mg/L	6	0.0001	0	0.0035	0.0006	0.0029	0.0033	0.0045	0.26
Mercury (Hg)-Dissolved	mg/L	6	0.000005	6	0.000005	0	0.000005	0.000005	0.000005	-
Molybdenum (Mo)-Dissolved	mg/L	6	0.00005	0	0.00031	0.00005	0.00024	0.00034	0.00036	-
Nickel (Ni)-Dissolved	mg/L	6	0.0005	6	0.0005	0	0.0005	0.0005	0.0005	-
Phosphorus (P)-Dissolved	mg/L	6	0.05	6	0.05	0	0.05	0.05	0.05	-

Analyte	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Potassium (K)-Dissolved	mg/L	6	0.05	0	1.82	0.07	1.71	1.84	1.90	-
Rhodium (Rh)-Dissolved	mg/L	6	0.001	6	0.001	0	0.001	0.001	0.001	-
Ruthenium (Ru)-Dissolved	mg/L	6	0.001	6	0.001	0	0.001	0.001	0.001	-
Samarium (Sm)-Dissolved	mg/L	6	0.001	6	0.001	0	0.001	0.001	0.001	-
Selenium (Se)-Dissolved	mg/L	6	0.00005	0	0.00011	0.00007	0.00004	0.00016	0.00020	-
Silver (Ag)-Dissolved	mg/L	6	0.00001	6	0.00001	0	0.00001	0.00001	0.00001	-
Sodium (Na)-Dissolved	mg/L	6	0.05	0	7.95	1.49	6.18	8.21	9.91	-
Strontium (Sr)-Dissolved	mg/L	6	0.0002	0	0.6444	0.3115	0.3145	0.7915	1.0800	2.5
Sulfur (S)-Dissolved	mg/L	6	0.5	0	17.39	8.95	8.33	20.80	30.60	-
Thallium (Tl)-Dissolved	mg/L	6	0.00001	6	0.00001	0	0.00001	0.00001	0.00001	-
Tin (Sn)-Dissolved	mg/L	6	0.0001	6	0.0001	0	0.0001	0.0001	0.0001	-
Titanium (Ti)-Dissolved	mg/L	6	0.0003	2	0.0006	0.0010	0.0003	0.0004	0.0027	-
Tungsten (W)-Dissolved	mg/L	6	0.0001	6	0.0001	0	0.0001	0.0001	0.0001	-
Uranium (U)-Dissolved	mg/L	6	0.00001	0	0.00065	0.00005	0.00058	0.00065	0.00071	-
Vanadium (V)-Dissolved	mg/L	6	0.0005	5	0.0005	0	0.0005	0.0005	0.0005	-
Zinc (Zn)-Dissolved	mg/L	6	0.001	1	0.001	0	0.001	0.001	0.001	0.031
Zirconium (Zr)-Dissolved	mg/L	6	0.0003	6	0.0003	0	0.0003	0.0003	0.0003	-
Nutrients & General Chemistry										
Alkalinity, Total (as CaCO3)	mg/L	6	1	0	227	18	204	228	251	20
Alkalinity, Bicarbonate (as CaCO3)	mg/L	6	1	0	280	343	195	217	907	-
Bromide (Br)	mg/L	6	0.1	6	0.1	0	0.1	0.1	0.1	-
Alkalinity, Carbonate (as CaCO3)	mg/L	6	1	0	16	6	8	17	25	-
Chloride (Cl)	mg/L	6	0.5	0	14.7	1.4	13.3	14.3	16.8	120
Cyanide, Total	mg/L	6	0.002	6	0.002	0	0.002	0.002	0.002	0.005
Fluoride (F)	mg/L	6	0.02	0	0.11	0.02	0.09	0.12	0.12	0.12
Alkalinity, Hydroxide (as CaCO3)	mg/L	6	1	6	1	0	1	1	1	-
pH	pH units	6	0.1	0	8.5	0.1	8.4	8.6	8.6	6.5 - 9
Conductivity	µS	6	1	0	573	73	486	581	666	-
Ion Balance	%	6	0.01	0	0.35	1.37	-0.06	1.24	3.41	-
Total Dissolved Solids	mg/L	6	10	0	331	56	262	341	412	-
Hardness (as CaCO3)	mg/L	6	0.5	0	291.2	48.4	237.0	294.0	362.8	-
Total Suspended Solids	mg/L	6	3	1	12	13	5	14	39	-
Turbidity	NTU	6	0.1	0	8.8	5.7	3.2	11.5	18.7	50
Ammonia, Total (as N)	mg/L	6	0.005	0	0.061	0.631	0.016	0.038	1.318	0.259
Nitrate and Nitrite as N	mg/L	6	0.02	0	1.45	0.81	0.91	1.21	2.80	-
Total Organic Carbon	mg/L	6	0.5	0	6.4	0.4	6.0	6.4	7.1	-
Total Inorganic Carbon	mg/L	6	1	0	48	3	45	46	53	-
Dissolved Organic Carbon	mg/L	6	0.5	0	7	1	6	7	8	-
Phosphorus, Total	mg/L	6	0.002	0	0.026	0.023	0.012	0.026	0.068	0.01
Total Kjeldahl Nitrogen	mg/L	6	0.05	0	0.67	0.66	0.43	0.54	1.88	-
Chlorophyll a	µg/L	6	0.002 - 0.010	0	1.730	1.449	0.598	2.100	4.195	-

Analyte	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Biological Oxygen Demand	mg/L	6	2	6	2	0	2	2	2	-
Total Coliforms	CFU/100mL	6	1	0	878	4605	152	600	10550	-
E. Coli	CFU/100mL	6	1	0	49	38	22	50	118	100

[1] Cells containing grey highlights indicate exceedances of the WQG. Note that datum is not flagged as an exceedance if the measured concentration was reported by the laboratory as <RDL where the RDL is greater than or equal to the WQG due to measurement uncertainty.
[2] As per EMBP design, Tier 2 Artificial Radionuclides were only analyzed for samples from SB_SW_Saugeen_02.

Appendix A, Table 5

Year 2 Surface Water Chemistry Results – Beatty Saugeen River Reference [1,2,3]

Analyte	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Radionuclides - Tier 1										
Tritium	Bq/L	9	14.8	2	14.8	0	14.8	14.8	14.8	7000
Carbon-14	Bq/L	9	18.5	9	18.5	0	18.5	18.5	18.5	200
Strontium-90	Bq/L	9	0.037	9	0.037	0	0.037	0.037	0.037	5
Iodine 129	Bq/L	9	0.37	9	0.37	0	0.37	0.37	0.37	1
Cesium-137	Bq/L	9	0.37	9	0.37	0	0.37	0.37	0.37	10
Cobalt-60	Bq/L	9	0.37	9	0.37	0	0.37	0.37	0.37	40
Ruthenium-106	Bq/L	9	3	9	3	0	3	3	3	20
Gross Alpha	Bq/L	9	0.111	9	0.111	0	0.111	0.111	0.111	-
Gross Beta	Bq/L	9	0.148	7	0.127	0.033	0.078	0.148	0.148	-
Radionuclides - Tier 2 natural										
Uranium-238	Bq/L	9	0.0074	2	0.0066	0.0013	0.0045	0.0074	0.0081	3
Uranium-234	Bq/L	9	0.0074	5	0.0068	0.0009	0.0052	0.0074	0.0074	3
Uranium-235	Bq/L	9	0.0074	8	0.0066	0.0015	0.0045	0.0074	0.0074	3
Potassium-40	Bq/L	9	7.1	9	7.1	0	7.1	7.1	7.1	-
Thorium-228	Bq/L	9	0.0074	9	0.0074	0	0.0074	0.0074	0.0074	2
Thorium-230	Bq/L	9	0.0074	8	0.0071	0.0007	0.0061	0.0074	0.0074	0.6
Thorium-232	Bq/L	9	0.0074	9	0.0074	0	0.0074	0.0074	0.0074	0.6
Radium-226	Bq/L	9	0.037	5	0.028	0.009	0.018	0.037	0.037	0.5
Radionuclides - Tier 2 artificial										
Chlorine-36	Bq/L	2	0.37	2	0	0	0	0	0	-
Selenium-79	Bq/L	2	1.85	2	2	0	2	2	2	-
Neptunium-237	Bq/L	2	0.0037	2	0.0037	0	0.0037	0.0037	0.0037	-
Plutonium-238	Bq/L	2	0.0037	2	0.0037	0	0.0037	0.0037	0.0037	0.6
Plutonium-239	Bq/L	2	0.0037	2	0.0037	0	0.0037	0.0037	0.0037	0.6
Metals										
Aluminum (Al)-Total	mg/L	9	0.003	0	0.013	0.007	0.007	0.012	0.026	1.5
Antimony (Sb)-Total	mg/L	9	0.0001	9	0.0001	0	0.0001	0.0001	0.0001	0.006

Analyte	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Arsenic (As)-Total	mg/L	9	0.0001	0	0.0003	0.0001	0.0002	0.0003	0.0005	0.005
Barium (Ba)-Total	mg/L	9	0.0001	0	0.0156	0.0027	0.0119	0.0148	0.0194	1
Beryllium (Be)-Total	mg/L	9	0.00002	9	0.00002	0	0.00002	0.00002	0.00002	1.1
Bismuth (Bi)-Total	mg/L	9	0.00005	9	0.00005	0	0.00005	0.00005	0.00005	17.5
Boron (B)-Total	mg/L	9	0.01	2	0.01	0	0.01	0.01	0.02	1.5
Cadmium (Cd)-Total	mg/L	9	0.000005	7	0.000006	0.000002	0.000005	0.000005	0.000010	0.00021
Calcium (Ca)-Total	mg/L	9	0.05	0	77.61	14.05	61.96	73.80	102.00	1000
Cesium (Cs)-Total	mg/L	9	0.00001	9	0.00001	0	0.00001	0.00001	0.00001	-
Chromium (Cr)-Total	mg/L	9	0.0005	9	0.0005	0	0.0005	0.0005	0.0005	-
Cobalt (Co)-Total	mg/L	9	0.0001	9	0.0001	0	0.0001	0.0001	0.0001	0.0012
Copper (Cu)-Total	mg/L	9	0.0005	8	0.0005	0	0.0005	0.0005	0.0005	0.0031
Iron (Fe)-Total	mg/L	9	0.01	0	0.04	0.02	0.02	0.04	0.07	3.8
Lead (Pb)-Total	mg/L	9	0.00005	7	0.00005	0.00001	0.00005	0.00005	0.00006	0.00477
Lithium (Li)-Total	mg/L	9	0.001	2	0.001	0.001	0.001	0.001	0.003	2.5
Magnesium (Mg)-Total	mg/L	9	0.005	0	28.712	3.840	25.140	26.600	35.000	82
Manganese (Mn)-Total	mg/L	9	0.0001	0	0.0061	0.0029	0.0028	0.0068	0.0110	0.12
Mercury (Hg)-Total	mg/L	9	0.000005	9	0.000005	0	0.000005	0.000005	0.000005	0.000026
Molybdenum (Mo)-Total	mg/L	9	0.00005	0	0.00023	0.00002	0.00021	0.00023	0.00025	0.073
Nickel (Ni)-Total	mg/L	9	0.0005	9	0.0005	0	0.0005	0.0005	0.0005	0.1217
Phosphorus (P)-Total	mg/L	9	0.05	9	0.05	0	0.05	0.05	0.05	-
Potassium (K)-Total	mg/L	9	0.05	0	1.62	0.18	1.40	1.70	1.86	53
Rhodium (Rh)-Total	mg/L	9	0.001	9	0.001	0	0.001	0.001	0.001	0.01
Ruthenium (Ru)-Total	mg/L	9	0.001	9	0.001	0	0.001	0.001	0.001	0.01
Samarium (Sm)-Total	mg/L	9	0.001	9	0.001	0	0.001	0.001	0.001	0.0082
Selenium (Se)-Total	mg/L	9	0.00005	0	0.00009	0.00002	0.00006	0.00010	0.00011	0.001
Silver (Ag)-Total	mg/L	9	0.00001	9	0.00001	0	0.00001	0.00001	0.00001	0.00025
Sodium (Na)-Total	mg/L	9	0.05	0	6.40	0.96	5.25	6.19	7.79	680
Strontium (Sr)-Total	mg/L	9	0.0002	0	0.4786	0.5164	0.1246	0.6940	1.5320	7
Sulfur (S)-Total	mg/L	9	0.5	0	11.4	12.1	2.9	15.8	35.3	-
Thallium (Tl)-Total	mg/L	9	0.00001	9	0.00001	0	0.00001	0.00001	0.00001	0.0008
Tin (Sn)-Total	mg/L	9	0.0001	9	0.0001	0	0.0001	0.0001	0.0001	0.073
Titanium (Ti)-Total	mg/L	9	0.0003	4	0.0004	0.0002	0.0003	0.0003	0.0007	0.076
Tungsten (W)-Total	mg/L	9	0.0001	9	0.0001	0	0.0001	0.0001	0.0001	0.03
Uranium (U)-Total	mg/L	9	0.00001	0	0.00034	0.00003	0.00031	0.00033	0.00039	0.015
Vanadium (V)-Total	mg/L	9	0.0005	9	0.0005	0	0.0005	0.0005	0.0005	0.12
Zinc (Zn)-Total	mg/L	9	0.003	9	0.003	0	0.003	0.003	0.003	0.02
Zirconium (Zr)-Total	mg/L	9	0.0002	9	0.0002	0	0.0002	0.0002	0.0002	0.004
Metals - dissolved										
Aluminum (Al)-Dissolved	mg/L	9	0.001	0	0.003	0.002	0.001	0.003	0.007	-
Antimony (Sb)-Dissolved	mg/L	9	0.0001	9	0.0001	0	0.0001	0.0001	0.0001	-
Arsenic (As)-Dissolved	mg/L	9	0.0001	0	0.0003	0.0001	0.0002	0.0003	0.0004	-

Analyte	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Barium (Ba)-Dissolved	mg/L	9	0.0001	0	0.0151	0.0026	0.0116	0.0145	0.0184	-
Beryllium (Be)-Dissolved	mg/L	9	0.00002	9	0.00002	0	0.00002	0.00002	0.00002	-
Bismuth (Bi)-Dissolved	mg/L	9	0.00005	9	0.00005	0	0.00005	0.00005	0.00005	-
Boron (B)-Dissolved	mg/L	9	0.01	2	0.01	0	0.01	0.01	0.02	-
Cadmium (Cd)-Dissolved	mg/L	9	0.000005	9	0.00001	0	0.00001	0.00001	0.00001	-
Calcium (Ca)-Dissolved	mg/L	9	0.05	0	75.88	12.21	61.34	75.20	95.88	-
Chromium (Cr)-Dissolved	mg/L	9	0.0005	9	0.0005	0	0.0005	0.0005	0.0005	-
Cobalt (Co)-Dissolved	mg/L	9	0.0001	9	0.0001	0	0.0001	0.0001	0.0001	-
Copper (Cu)-Dissolved	mg/L	9	0.0002	0	0.0006	0.0004	0.0004	0.0006	0.0015	0.00611
Iron (Fe)-Dissolved	mg/L	9	0.01	0	0.02	0.01	0.01	0.02	0.03	-
Lead (Pb)-Dissolved	mg/L	9	0.00005	9	0.00005	0	0.00005	0.00005	0.00005	0.012
Lithium (Li)-Dissolved	mg/L	9	0.001	3	0.001	0.001	0.001	0.001	0.002	-
Magnesium (Mg)-Dissolved	mg/L	9	0.005	0	28.119	2.923	24.900	27.000	32.560	-
Manganese (Mn)-Dissolved	mg/L	9	0.0001	0	0.0051	0.0028	0.0021	0.0059	0.0097	0.26
Mercury (Hg)-Dissolved	mg/L	9	0.000005	9	0.000005	0	0.000005	0.000005	0.000005	-
Molybdenum (Mo)-Dissolved	mg/L	9	0.00005	0	0.00022	0.00002	0.00020	0.00022	0.00025	-
Nickel (Ni)-Dissolved	mg/L	9	0.0005	9	0.0005	0	0.0005	0.0005	0.0005	-
Phosphorus (P)-Dissolved	mg/L	9	0.05	9	0.05	0	0.05	0.05	0.05	-
Potassium (K)-Dissolved	mg/L	9	0.05	0	1.60	0.17	1.39	1.66	1.83	-
Rhodium (Rh)-Dissolved	mg/L	9	0.001	9	0.001	0	0.001	0.001	0.001	-
Ruthenium (Ru)-Dissolved	mg/L	9	0.001	9	0.001	0	0.001	0.001	0.001	-
Samarium (Sm)-Dissolved	mg/L	9	0.001	9	0.001	0	0.001	0.001	0.001	-
Selenium (Se)-Dissolved	mg/L	9	0.00005	1	0.00009	0.00003	0.00006	0.00010	0.00014	-
Silver (Ag)-Dissolved	mg/L	9	0.00001	9	0.00001	0	0.00001	0.00001	0.00001	-
Sodium (Na)-Dissolved	mg/L	9	0.05	0	6.17	0.73	5.15	6.09	7.14	-
Strontium (Sr)-Dissolved	mg/L	9	0.0002	0	0.4510	0.4273	0.1216	0.6600	1.2780	2.5
Sulfur (S)-Dissolved	mg/L	9	0.5	0	11.0	11.2	2.9	14.8	32.7	-
Thallium (Tl)-Dissolved	mg/L	9	0.00001	9	0.00001	0	0.00001	0.00001	0.00001	-
Tin (Sn)-Dissolved	mg/L	9	0.0001	9	0.0001	0	0.0001	0.0001	0.0001	-
Titanium (Ti)-Dissolved	mg/L	9	0.0003	9	0.0003	0	0.0003	0.0003	0.0003	-
Tungsten (W)-Dissolved	mg/L	9	0.0001	9	0.0001	0	0.0001	0.0001	0.0001	-
Uranium (U)-Dissolved	mg/L	9	0.00001	0	0.00033	0.00003	0.00030	0.00032	0.00037	-
Vanadium (V)-Dissolved	mg/L	9	0.0005	9	0.0005	0	0.0005	0.0005	0.0005	-
Zinc (Zn)-Dissolved	mg/L	9	0.001	6	0.001	0.001	0.001	0.001	0.003	0.031
Zirconium (Zr)-Dissolved	mg/L	9	0.0003	9	0.0003	0	0.0003	0.0003	0.0003	-
Nutrients & General Chemistry										
Alkalinity, Total (as CaCO3)	mg/L	9	1	0	252	9	241	252	265	20
Alkalinity, Bicarbonate (as CaCO3)	mg/L	9	1	0	241	7	233	238	253	-
Bromide (Br)	mg/L	9	0.1	9	0.1	0	0.1	0.1	0.1	-
Alkalinity, Carbonate (as CaCO3)	mg/L	9	1	0	11	5	6	12	18	-
Chloride (Cl)	mg/L	9	0.5	0	12.6	0.8	11.2	12.6	13.5	120

Analyte	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Cyanide, Total	mg/L	9	0.002	9	0.002	0	0.002	0.002	0.002	0.005
Fluoride (F)	mg/L	9	0.02	0	0.08	0.03	0.04	0.09	0.13	0.12
Alkalinity, Hydroxide (as CaCO3)	mg/L	9	1	9	1	0	1	1	1	-
pH	pH units	9	0.1	0	8.4	0.1	8.3	8.4	8.5	6.5 - 9
Conductivity	µS	9	1	0	584	53	511	589	664	-
Ion Balance	%	9	0.01	0	1.46	4.48	-3.06	-0.35	8.09	-
Total Dissolved Solids	mg/L	9	10	0	324	44	267	326	383	-
Hardness (as CaCO3)	mg/L	9	0.500 - 1.000	0	312.272	48.977	258.800	299.000	397.600	-
Total Suspended Solids	mg/L	9	3	8	3	0	3	3	4	-
Turbidity	NTU	9	0.1	0	0.4	0.3	0.2	0.5	1.0	50
Ammonia, Total (as N)	mg/L	9	0.005	0	0.035	0.107	0.011	0.030	0.247	0.259
Nitrate and Nitrite as N	mg/L	9	0.02	0	1.93	0.38	1.48	1.94	2.46	-
Total Organic Carbon	mg/L	9	0.5	0	5	1	4	4	7	-
Total Inorganic Carbon	mg/L	9	1	0	55.0	2.2	51.6	55.3	58.1	-
Dissolved Organic Carbon	mg/L	9	0.5	1	0	5	1	4	4	-
Phosphorus, Total	mg/L	9	0.002	0	0.005	0.003	0.003	0.005	0.011	0.01
Total Kjeldahl Nitrogen	mg/L	9	0.05	0	1	0	0	1	1	-
Chlorophyll a	µg/L	9	0.002 - 0.010	0	0.665	0.385	0.358	0.596	1.328	-
Biological Oxygen Demand	mg/L	9	2	8	2	0	2	2	3	-
Total Coliforms	CFU/100mL	9	1	0	219	554	48	150	1360	-
E. Coli	CFU/100mL	9	1	0	42	46	9	41	126	100
Organics - Polycyclic Aromatic Hydrocarbons										
Acenaphthene	µg/L	9	0.010 - 0.200	9	0.027	0.090	0.010	0.010	0.200	5.8
Acenaphthylene	µg/L	9	0.010 - 0.200	9	0.027	0.090	0.010	0.010	0.200	-
Anthracene	µg/L	9	0.010 - 0.200	9	0.027	0.090	0.010	0.010	0.200	0.012
Benzo(a)anthracene	µg/L	9	0.010 - 0.200	9	0.027	0.090	0.010	0.010	0.200	0.018
Benzo(a)pyrene	µg/L	9	0.0050 - 0.0200	9	0.0103	0.0184	0.0050	0.0050	0.0440	0.015
Benzo(b&j)fluoranthene	µg/L	9	0.010 - 0.100	9	0.022	0.042	0.010	0.010	0.100	-
Benzo(g,h,i)perylene	µg/L	9	0.010 - 0.200	9	0.027	0.090	0.010	0.010	0.200	-
Benzo(k)fluoranthene	µg/L	9	0.010 - 0.100	9	0.022	0.042	0.010	0.010	0.100	-
Chrysene	µg/L	9	0.010 - 0.100	9	0.022	0.042	0.010	0.010	0.100	-
Dibenz(a,h)anthracene	µg/L	9	0.0050 - 0.2000	9	0.0171	0.0919	0.0050	0.0050	0.2000	-
Fluoranthene	µg/L	9	0.010 - 0.200	9	0.027	0.090	0.010	0.010	0.200	0.04
Fluorene	µg/L	9	0.010 - 0.200	9	0.027	0.090	0.010	0.010	0.200	3
Indeno(1,2,3-cd)pyrene	µg/L	9	0.010 - 0.200	9	0.027	0.090	0.010	0.010	0.200	-
1+2-Methylnaphthalenes	µg/L	9	0.015 - 0.600	9	0.051	0.276	0.015	0.015	0.600	-
1-Methylnaphthalene	µg/L	9	0.010 - 0.400	9	0.034	0.184	0.010	0.010	0.400	526
2-Methylnaphthalene	µg/L	9	0.010 - 0.400	9	0.034	0.184	0.010	0.010	0.400	-
Naphthalene	µg/L	9	0.050 - 0.200	9	0.079	0.071	0.050	0.050	0.200	1.1
Phenanthrene	µg/L	9	0.020 - 0.200	9	0.043	0.085	0.020	0.020	0.200	0.4
Pyrene	µg/L	9	0.010 - 0.200	9	0.027	0.090	0.010	0.010	0.200	0.025

Analyte	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Organics - Volatile Organic Compounds										
Acetone	µg/L	9	20	9	20	0	20	20	20	1500
Benzene	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	5
Bromodichloromethane	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	200
Bromoform	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	60
Bromomethane	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	0.9
Carbon tetrachloride	µg/L	9	0.2	9	0.2	0	0.2	0.2	0.2	2
Chlorobenzene	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	1.3
Dibromochloromethane	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	40
Chloroform	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	1.8
1,2-Dibromoethane	µg/L	9	0.2	9	0.2	0	0.2	0.2	0.2	-
1,2-Dichlorobenzene	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	-
1,3-Dichlorobenzene	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	-
1,4-Dichlorobenzene	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	-
Dichlorodifluoromethane	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	-
1,1-Dichloroethane	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	-
1,2-Dichloroethane	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	-
1,1-Dichloroethylene	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	-
cis-1,2-Dichloroethylene	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	200
trans-1,2-Dichloroethylene	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	200
Methylene Chloride	µg/L	9	1	8	1	0	1	1	1	-
1,2-Dichloropropane	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	-
cis-1,3-Dichloropropene	µg/L	9	0.30 - 0.50	9	0.38	0.10	0.30	0.30	0.50	-
trans-1,3-Dichloropropene	µg/L	9	0.3	9	0.30	0	0.30	0.30	0.30	7
1,3-Dichloropropene (cis & trans)	µg/L	9	0.30 - 0.50	9	0.40	0.10	0.30	0.50	0.50	-
Ethylbenzene	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	8
n-Hexane	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	0.58
Methyl Ethyl Ketone	µg/L	9	20	9	20.0	0	20.0	20.0	20.0	400
Methyl Isobutyl Ketone	µg/L	9	20	9	20.0	0	20.0	20.0	20.0	-
MTBE	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	200
Styrene	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	4
1,1,1,2-Tetrachloroethane	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	-
1,1,2,2-Tetrachloroethane	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	-
Tetrachloroethylene	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	10
Toluene	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	0.8
1,1,1-Trichloroethane	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	-
1,1,2-Trichloroethane	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	-
Trichloroethylene	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	5
Trichlorofluoromethane	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	-
Vinyl chloride	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	2
Xylenes (Total)	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	30

Analyte	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Organics - Semi-Volatile Organic Compounds										
Biphenyl	µg/L	9	0.4	9	0.4	0	0.4	0.4	0.4	0.2
4-Chloroaniline	µg/L	9	0.4	9	0.4	0	0.4	0.4	0.4	-
Bis(2-chloroethyl)ether	µg/L	9	0.4	9	0.4	0	0.4	0.4	0.4	200
2-Chlorophenol	µg/L	9	0.3	9	0.3	0	0.3	0.3	0.3	7
3,3-Dichlorobenzidine	µg/L	9	0.4	9	0.4	0	0.4	0.4	0.4	0.6
2,4-Dichlorophenol	µg/L	9	0.3	9	0.3	0	0.3	0.3	0.3	0.2
Diethylphthalate	µg/L	9	0.2	9	0.2	0	0.2	0.2	0.2	210
Dimethylphthalate	µg/L	9	0.2	9	0.2	0	0.2	0.2	0.2	330
2,4-Dimethylphenol	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	10
2,4-Dinitrophenol	µg/L	9	1	9	1	0	1	1	2	6.2
2,4-Dinitrotoluene	µg/L	9	0.4	9	0.4	0	0.4	0.4	0.4	4
2,6-Dinitrotoluene	µg/L	9	0.4	9	0.4	0	0.4	0.4	0.4	6
2,4+2,6-Dinitrotoluene	µg/L	9	0.6	9	0.6	0	0.6	0.6	0.6	10
Bis(2-ethylhexyl)phthalate	µg/L	9	2	9	2	0	2	2	2	3
Pentachlorophenol	µg/L	9	0.5	9	0.5	0	0.5	0.5	0.5	0.5
Phenol	µg/L	9	0.5	8	0.5	0.1	0.5	0.5	0.6	4
1,2,4-Trichlorobenzene	µg/L	9	0.4	9	0.4	0	0.4	0.4	0.4	0.5
2,4,5-Trichlorophenol	µg/L	9	0.2	9	0.2	0	0.2	0.2	0.2	18
2,4,6-Trichlorophenol	µg/L	9	0.2	9	0.2	0	0.2	0.2	0.2	5
Organics - Hydrocarbons										
F1 (C6-C10)	µg/L	9	25	9	25	0	25	25	25	150
F2 (C10-C16)	µg/L	9	100	9	101	1	100	102	102	110
F3 (C16-C34)	µg/L	9	250	9	250	0	250	250	250	-
F4 (C34-C50)	µg/L	9	250	9	250	0	250	250	250	-
Total Hydrocarbons (C6-C50)	µg/L	9	240	9	370	0	370	370	370	-
Organics - Dioxins and Furans										
2,3,7,8-TCDD	pg/L	9	1.16 - 11.40	0	0.42	0.48	0.17	0.39	1.46	-
1,2,3,7,8-PeCDD	pg/L	9	1.09 - 11.20	0	0.30	0.37	0.09	0.32	1.10	-
1,2,3,4,7,8-HxCDD	pg/L	9	1.09 - 11.10	0	0.32	0.30	0.10	0.38	0.90	-
1,2,3,6,7,8-HxCDD	pg/L	9	1.09 - 11.20	0	0.32	0.32	0.10	0.36	0.94	-
1,2,3,7,8,9-HxCDD	pg/L	9	1.09 - 11.10	9	0.36	0.35	0.11	0.37	1.06	-
1,2,3,4,6,7,8-HpCDD	pg/L	9	1.12 - 11.30	9	0.95	0.67	0.48	0.76	2.28	-
OCDD	pg/L	9	1.32 - 13.30	9	2.98	5.47	0.95	2.30	14.80	-
Total-TCDD	pg/L	9	1.16 - 11.40	9	0.41	0.41	0.17	0.39	1.28	-
Total-PeCDD	pg/L	9	1.09 - 11.20	9	0.30	0.37	0.09	0.32	1.10	-
Total-HxCDD	pg/L	9	1.09 - 11.20	9	0.42	0.44	0.13	0.38	1.36	-
Total-HpCDD	pg/L	9	1.12 - 11.30	9	0.27	0.23	0.12	0.27	0.72	-
2,3,7,8-TCDF	pg/L	9	1.11 - 1.84	9	0.27	0.23	0.12	0.27	0.72	-
1,2,3,7,8-PeCDF	pg/L	9	1.09 - 1.74	9	0.31	0.17	0.23	0.25	0.68	-
2,3,4,7,8-PeCDF	pg/L	9	1.08 - 1.71	9	0.19	0.18	0.08	0.21	0.56	-

Analyte	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
1,2,3,4,7,8-HxCDF	pg/L	9	1.06 - 1.85	9	0.21	0.23	0.07	0.25	0.68	-
1,2,3,6,7,8-HxCDF	pg/L	9	1.06 - 1.80	9	0.23	0.21	0.10	0.25	0.66	-
1,2,3,7,8,9-HxCDF	pg/L	9	1.08 - 11.10	9	0.28	0.30	0.09	0.37	0.87	-
2,3,4,6,7,8-HxCDF	pg/L	9	1.06 - 1.78	9	0.24	0.24	0.07	0.30	0.72	-
1,2,3,4,6,7,8-HpCDF	pg/L	9	1.10 - 1.67	9	0.31	0.21	0.11	0.32	0.71	-
1,2,3,4,7,8,9-HpCDF	pg/L	9	1.12 - 1.88	9	0.39	0.27	0.14	0.49	0.85	-
OCDF	pg/L	9	1.30 - 13.00	9	1.62	2.50	0.67	1.11	7.12	-
Total-TCDF	pg/L	9	1.11 - 1.84	9	0.32	0.78	0.12	0.27	1.94	-
Total-PeCDF	pg/L	9	1.09 - 1.74	9	0.23	0.21	0.09	0.24	0.68	-
Total-HxCDF	pg/L	9	1.08 - 11.10	0	0.29	0.29	0.10	0.37	0.87	-
Total-HpCDF	pg/L	9	1.12 - 1.88	0	0.40	0.26	0.14	0.49	0.85	-
Organics - Polychlorinated Biphenyls										
Aroclor 1242	µg/L	9	0.020 - 0.021	9	0.02	0	0.02	0.02	0.02	0.001
Aroclor 1248	µg/L	9	0.020 - 0.021	9	0.02	0	0.02	0.02	0.02	0.001
Aroclor 1254	µg/L	9	0.020 - 0.021	9	0.02	0.01	0.02	0.02	0.03	0.001
Aroclor 1260	µg/L	9	0.020 - 0.060	9	0.02	0.01	0.02	0.02	0.04	0.001
Total PCBs	µg/L	9	0.060 - 0.120	9	0.07	0.02	0.06	0.06	0.10	0.001
Organochlorine Pesticides										
Aldrin	µg/L	9	0.008	9	0.008	0	0.008	0.008	0.008	0.001
Chlordane (Total)	µg/L	9	0.011	9	0.011	0	0.011	0.011	0.011	0.006
Total DDD	µg/L	9	0.006	9	0.0060	0	0.0060	0.0060	0.0060	-
Total DDE	µg/L	9	0.006	9	0.0060	0	0.0060	0.0060	0.0060	-
Total DDT	µg/L	9	0.006	9	0.0060	0	0.0060	0.0060	0.0060	0.001
Dieldrin	µg/L	9	0.008	9	0.008	0	0.008	0.008	0.008	0.001
Endosulfan (Total)	µg/L	9	0.01	9	0.01	0	0.01	0.01	0.01	0.003
Endrin	µg/L	9	0.01	9	0.01	0	0.01	0.01	0.01	0.002
Heptachlor	µg/L	9	0.008	9	0.008	0	0.008	0.008	0.008	0.001
Heptachlor Epoxide	µg/L	9	0.008	9	0.008	0	0.008	0.008	0.008	0.001
Hexachlorobenzene	µg/L	9	0.008	9	0.008	0	0.008	0.008	0.008	0.0065
Hexachlorobutadiene	µg/L	9	0.008	9	0.008	0	0.008	0.008	0.008	0.009
Hexachloroethane	µg/L	9	0.008	9	0.008	0	0.008	0.008	0.008	1
Methoxychlor	µg/L	9	0.008	9	0.008	0	0.008	0.008	0.008	0.04

[1] Cells containing grey highlights indicate exceedances of the WQG. Note that datum is not flagged as an exceedance if the measured concentration was reported by the laboratory as <RDL where the RDL is greater than or equal to the WQG due to measurement uncertainty.
[2] As per EMBP design, Tier 2 artificial radionuclides were only analyzed the sample from SB_SW_BeattySaugeen_03.
[3] Radionuclide analysis was subcontracted by ALS Laboratories to GEL Laboratories LLC. During transport of samples from ALS to GEL in the Fall of Year 2, several radionuclide containers were damages and broken, so GEL did not complete analysis of chlorine-36, selenium-79, neptunium-237, plutonium-238, or plutonium-239 on the fall year 2 SB_SW_BeattySaugeen_03 water sample.

Appendix A, Table 6

Year 2 Surface Water Chemistry Results – Silver Lake Potential Exposure [1]

Analyte	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Radionuclides - Tier 1										
Tritium	Bq/L	3	14.8	3	14.8	0	14.8	14.8	14.8	7000
Carbon-14	Bq/L	3	18.5	3	18.5	0	18.5	18.5	18.5	200
Strontium-90	Bq/L	3	0.037	3	0.037	0	0.037	0.037	0.037	5
Iodine-129	Bq/L	3	0.37	3	0.37	0	0.37	0.37	0.37	1
Cesium-137	Bq/L	3	0.37	3	0.37	0	0.37	0.37	0.37	10
Cobalt-60	Bq/L	3	0.37	3	0.37	0	0.37	0.37	0.37	40
Ruthenium-106	Bq/L	3	3	3	3	0	3	3	3	20
Gross alpha	Bq/L	3	0.111	3	0.111	0	0.111	0.111	0.111	-
Gross beta	Bq/L	3	0.148	0	0.117	0.010	0.110	0.111	0.130	-
Radionuclides - Tier 2 natural										
Uranium-238	Bq/L	3	0.0074	0	0.0090	0.0015	0.0076	0.0089	0.0110	3
Uranium-234	Bq/L	3	0.0074	0	0.0095	0.0023	0.0072	0.0100	0.0123	3
Uranium-235	Bq/L	3	0.0074	1	0.0029	0.0026	0.0016	0.0020	0.0069	3
Potassium-40	Bq/L	3	7.1	2	5.2	2.0	3.2	7.1	7.1	-
Thorium-228	Bq/L	3	0.0074	3	0.0074	0	0.0074	0.0074	0.0074	2
Thorium-230	Bq/L	3	0.0074	2	0.0080	0.0010	0.0074	0.0074	0.0092	0.6
Thorium-232	Bq/L	3	0.0074	3	0.0074	0	0.0074	0.0074	0.0074	0.6
Radium-226	Bq/L	3	0.037	1	0.0341	0.0076	0.0260	0.0370	0.0425	0.5
Metals - total										
Aluminum (Al)-Total	mg/L	3	0.003	0	0.012	0.005	0.008	0.015	0.018	1.5
Antimony (Sb)-Total	mg/L	3	0.0001	3	0.0001	0	0.0001	0.0001	0.0001	0.006
Arsenic (As)-Total	mg/L	3	0.0001	0	0.0007	0.0002	0.0006	0.0007	0.0009	0.005
Barium (Ba)-Total	mg/L	3	0.0001	0	0.0151	0.0023	0.0126	0.0168	0.0170	1
Beryllium (Be)-Total	mg/L	3	0.00002	3	0.00002	0	0.00002	0.00002	0.00002	1.1
Bismuth (Bi)-Total	mg/L	3	0.00005	3	0.00005	0	0.00005	0.00005	0.00005	17.5
Boron (B)-Total	mg/L	3	0.01	0	0.01	0	0.01	0.01	0.01	1.5
Cadmium (Cd)-Total	mg/L	3	0.000005	3	0.000005	0	0.000005	0.000005	0.000005	0.00021
Calcium (Ca)-Total	mg/L	3	0.05	0	36.51	6.40	29.49	39.30	43.17	1000
Cesium (Cs)-Total	mg/L	3	0.00001	3	0.00001	0	0.00001	0.00001	0.00001	-
Chromium (Cr)-Total	mg/L	3	0.0005	2	0.0005	0	0.0005	0.0005	0.0006	-
Cobalt (Co)-Total	mg/L	3	0.0001	2	0.0001	0	0.0001	0.0001	0.0001	0.0012
Copper (Cu)-Total	mg/L	3	0.0005	3	0.0005	0	0.0005	0.0005	0.0005	0.0031
Iron (Fe)-Total	mg/L	3	0.01	0	0.09	0.22	0.02	0.08	0.46	3.8
Lead (Pb)-Total	mg/L	3	0.00005	3	0.00005	0	0.00005	0.00005	0.00005	0.00477
Lithium (Li)-Total	mg/L	3	0.001	3	0.001	0	0.001	0.001	0.001	2.5
Magnesium (Mg)-Total	mg/L	3	0.005	0	16.266	1.068	15.430	15.700	17.590	82
Manganese (Mn)-Total	mg/L	3	0.0001	0	0.0542	0.1350	0.0143	0.0483	0.2874	0.12
Mercury (Hg)-Total	mg/L	3	0.000005	3	0.000005	0	0.000005	0.000005	0.000005	0.000026
Molybdenum (Mo)-Total	mg/L	3	0.00005	0	0.00024	0.00002	0.00022	0.00022	0.00027	0.073
Nickel (Ni)-Total	mg/L	3	0.0005	3	0.0005	0	0.0005	0.0005	0.0005	0.1217

Analyte	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Phosphorus (P)-Total	mg/L	3	0.05	2	0.06	0.02	0.05	0.05	0.08	-
Potassium (K)-Total	mg/L	3	0.05	0	1.95	0.13	1.80	1.99	2.08	53
Rhodium (Rh)-Total	mg/L	3	0.001	3	0.001	0	0.001	0.001	0.001	0.01
Ruthenium (Ru)-Total	mg/L	3	0.001	3	0.001	0	0.001	0.001	0.001	0.01
Samarium (Sm)-Total	mg/L	3	0.001	3	0.001	0	0.001	0.001	0.001	0.0082
Selenium (Se)-Total	mg/L	3	0.00005	0	0.00014	0.00002	0.00013	0.00014	0.00017	0.001
Silver (Ag)-Total	mg/L	3	0.00001	3	0.00001	0	0.00001	0.00001	0.00001	0.00025
Sodium (Na)-Total	mg/L	3	0.05	0	6.31	0.59	5.88	5.97	7.04	680
Strontium (Sr)-Total	mg/L	3	0.0002	0	0.2785	0.0363	0.2375	0.2960	0.3140	7
Sulfur (S)-Total	mg/L	3	0.5	0	2.1	0.3	1.7	2.2	2.3	-
Thallium (Tl)-Total	mg/L	3	0.00001	3	0.00001	0	0.00001	0.00001	0.00001	0.0008
Tin (Sn)-Total	mg/L	3	0.0001	3	0.0001	0	0.0001	0.0001	0.0001	0.073
Titanium (Ti)-Total	mg/L	3	0.0003	1	0.0004	0.0001	0.0003	0.0005	0.0005	0.076
Tungsten (W)-Total	mg/L	3	0.0001	3	0.0001	0	0.0001	0.0001	0.0001	0.03
Uranium (U)-Total	mg/L	3	0.00001	0	0.00064	0.00004	0.00060	0.00065	0.00068	0.015
Vanadium (V)-Total	mg/L	3	0.0005	3	0.0005	0	0.0005	0.0005	0.0005	0.12
Zinc (Zn)-Total	mg/L	3	0.003	3	0.003	0	0.003	0.003	0.003	0.02
Zirconium (Zr)-Total	mg/L	3	0.0002	3	0.0002	0	0.0002	0.0002	0.0002	0.004
Metals - dissolved										
Aluminum	mg/L	3	0.001	0	0.002	0.001	0.002	0.002	0.004	-
Antimony	mg/L	3	0.0001	3	0.0001	0	0.0001	0.0001	0.0001	-
Arsenic	mg/L	3	0.0001	0	0.0006	0	0.0006	0.0006	0.0006	-
Barium	mg/L	3	0.0001	0	0.0142	0.0022	0.0118	0.0153	0.0164	-
Beryllium	mg/L	3	0.00002	3	0.00002	0	0.00002	0.00002	0.00002	-
Bismuth	mg/L	3	0.00005	3	0.00005	0	0.00005	0.00005	0.00005	-
Boron	mg/L	3	0.01	0	0.01	0	0.01	0.01	0.01	-
Cadmium	mg/L	3	0.000005	3	0.000005	0	0.000005	0.000005	0.000005	-
Calcium	mg/L	3	0.05	0	37.37	6.65	30.06	40.50	44.19	-
Chromium	mg/L	3	0.0005	3	0.0005	0	0.0005	0.0005	0.0005	-
Cobalt	mg/L	3	0.0001	2	0.0001	0	0.0001	0.0001	0.0001	-
Copper	mg/L	3	0.0002	0	0.0007	0.0002	0.0005	0.0007	0.0010	0.00611
Iron	mg/L	3	0.01	1	0.04	0.08	0.01	0.03	0.18	-
Lead	mg/L	3	0.00005	3	0.00005	0	0.00005	0.00005	0.00005	0.012
Lithium	mg/L	3	0.001	3	0.001	0	0.001	0.001	0.001	-
Magnesium	mg/L	3	0.005	0	15.704	0.974	14.930	15.200	16.910	-
Manganese	mg/L	3	0.0001	0	0.0187	0.1347	0.0033	0.0254	0.2707	0.26
Mercury	mg/L	3	0.000005	2	0.000006	0.000001	0.000005	0.000005	0.000007	-
Molybdenum	mg/L	3	0.00005	0	0.00023	0.00002	0.00021	0.00024	0.00025	-
Nickel	mg/L	3	0.0005	3	0.0005	0	0.0005	0.0005	0.0005	-
Phosphorus	mg/L	3	0.05	3	0.05	0	0.05	0.05	0.05	-
Potassium	mg/L	3	0.05	0	1.92	0.10	1.81	1.96	2.02	-

Analyte	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Rhodium	mg/L	3	0.001	3	0.001	0	0.001	0.001	0.001	-
Ruthenium	mg/L	3	0.001	3	0.001	0	0.001	0.001	0.001	-
Samarium	mg/L	3	0.001	3	0.001	0	0.001	0.001	0.001	-
Selenium	mg/L	3	0.00005	0	0.00012	0.00003	0.00009	0.00012	0.00016	-
Silver	mg/L	3	0.00001	3	0.00001	0	0.00001	0.00001	0.00001	-
Sodium	mg/L	3	0.05	0	6.05	0.48	5.71	5.75	6.65	-
Strontium	mg/L	3	0.0002	0	0.2865	0.0417	0.2401	0.3040	0.3292	2.5
Sulfur	mg/L	3	0.5	0	2.0	0.1	1.9	2.0	2.1	-
Thallium	mg/L	3	0.00001	3	0.00001	0	0.00001	0.00001	0.00001	-
Tin	mg/L	3	0.0001	3	0.0001	0	0.0001	0.0001	0.0001	-
Titanium	mg/L	3	0.0003	3	0.0003	0	0.0003	0.0003	0.0003	-
Tungsten	mg/L	3	0.0001	3	0.0001	0	0.0001	0.0001	0.0001	-
Uranium	mg/L	3	0.00001	0	0.00064	0.00002	0.00062	0.00065	0.00067	-
Vanadium	mg/L	3	0.0005	3	0.0005	0	0.0005	0.0005	0.0005	-
Zinc	mg/L	3	0.001	1	0.002	0.001	0.001	0.002	0.003	0.031
Zirconium	mg/L	3	0.0003	3	0.0003	0	0.0003	0.0003	0.0003	-
Nutrients & General Chemistry										
Alkalinity, Total (as CaCO3)	mg/L	3	1	0	151	16	134	156	168	20
Alkalinity, Bicarbonate (as CaCO3)	mg/L	3	1	0	145	21	122	152	167	-
Bromide (Br)	mg/L	3	0.1	3	0.1	0	0.1	0.1	0.1	-
Alkalinity, Carbonate (as CaCO3)	mg/L	3	1	1	4	5	1	4	11	-
Chloride (Cl)	mg/L	3	0.5	0	12.0	0.7	11.5	11.5	12.9	120
Cyanide, Total	mg/L	3	0.002	3	0.002	0	0.002	0.002	0.002	0.005
Fluoride (F)	mg/L	3	0.02	0	0.18	0.002	0.18	0.18	0.19	0.12
Alkalinity, Hydroxide (as CaCO3)	mg/L	3	1	3	1	0	1	1	1	-
pH	pH units	3	0.1	0	8.2	0.4	7.8	8.4	8.6	6.5 - 9
Conductivity	µS	3	1	0	343	36	305	345	385	-
Ion Balance	%	3	0.01	0	0.42	1.51	-0.75	-0.50	2.25	-
Total Dissolved Solids	mg/L	3	10	0	165	18	146	164	187	-
Hardness (as CaCO3)	mg/L	3	0.5	0	158.7	16.7	139.5	171.0	171.9	-
Total Suspended Solids	mg/L	3	3	2	3	0	3	3	3	-
Turbidity	NTU	3	0.1	0	2.6	2.1	1.2	2.6	5.7	50
Ammonia, Total (as N)	mg/L	3	0.005	0	0.157	0.143	0.061	0.292	0.361	0.259
Nitrate and Nitrite as N	mg/L	3	0.02	1	0.15	0.23	0.05	0.26	0.55	-
Total Organic Carbon	mg/L	3	0.5	0	7.3	0.3	6.9	7.2	7.7	-
Total Inorganic Carbon	mg/L	3	1	0	33	3	29	34	37	-
Dissolved Organic Carbon	mg/L	3	0.5	0	7.1	0.3	6.8	7.0	7.5	-
Phosphorus, Total	mg/L	3	0.002	0	0.029	0.019	0.019	0.020	0.057	0.01
Total Kjeldahl Nitrogen	mg/L	3	0.05	0	0.79	0.05	0.73	0.80	0.84	-
Chlorophyll a	µg/L	3	0.002 - 0.000	0	1.41	2.97	0.43	1.18	6.43	-
Biological Oxygen Demand	mg/L	3	2	3	3	0	3	3	3	-

Analyte	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Total Coliforms	CFU/100mL	3	1	2	126	918	19	100	1810	-
E. Coli	CFU/100mL	3	1	0	2	3	1	2	7	100

[1] Cells containing grey highlights indicate exceedances of the WQG. Note that datum is not flagged as an exceedance if the measured concentration was reported by the laboratory as <RDL where the RDL is greater than or equal to the WQG due to measurement uncertainty.

Appendix A, Table 7

Year 2 Surface Water Chemistry Results – Clam Lake Potential Exposure [1]

Analyte	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Radionuclides - Tier 1										
Tritium	Bq/L	2	14.8	2	14.8	0	14.8	14.8	14.8	7000
Carbon-14	Bq/L	2	18.5	2	18.5	0	18.5	18.5	18.5	200
Strontium-90	Bq/L	2	0.037	2	0.037	0	0.037	0.037	0.037	5
Iodine-129	Bq/L	2	0.37	2	0.37	0	0.37	0.37	0.37	1
Cesium-137	Bq/L	2	0.37	2	0.37	0	0.37	0.37	0.37	10
Cobalt-60	Bq/L	2	0.37	2	0.37	0	0.37	0.37	0.37	40
Ruthenium-106	Bq/L	2	3	2	3	0	3	3	3	20
Gross alpha	Bq/L	2	0.111	1	0.077	0.029	0.057	0.082	0.108	-
Gross beta	Bq/L	2	0.148	1	0.105	0.037	0.078	0.111	0.144	-
Radionuclides - Tier 2 natural										
Uranium-238	Bq/L	2	0.0074	0	0.0101	0.0039	0.0073	0.0108	0.0143	3
Uranium-234	Bq/L	2	0.0074	0	0.0088	0.0022	0.0071	0.0090	0.0110	3
Uranium-235	Bq/L	2	0.0074	1	0.0030	0.0031	0.0015	0.0043	0.0071	3
Potassium-40	Bq/L	2	7.1	2	7.1	0	7.1	7.1	7.1	-
Thorium-228	Bq/L	2	0.0074	2	0.0074	0	0.0074	0.0074	0.0074	2
Thorium-230	Bq/L	2	0.0074	2	0.0074	0	0.0074	0.0074	0.0074	0.6
Thorium-232	Bq/L	2	0.0074	2	0.0074	0	0.0074	0.0074	0.0074	0.6
Radium-226	Bq/L	2	0.037	1	0.035	0.002	0.033	0.035	0.037	0.5
Metals - total										
Aluminum (Al)-Total	mg/L	2	0.003	0	0.009	0.001	0.008	0.010	0.011	1.5
Antimony (Sb)-Total	mg/L	2	0.0001	2	0.0001	0	0.0001	0.0001	0.0001	0.006
Arsenic (As)-Total	mg/L	2	0.0001	0	0.0013	0.0004	0.0011	0.0014	0.0017	0.005
Barium (Ba)-Total	mg/L	2	0.0001	0	0.0499	0.0176	0.0371	0.0529	0.0687	1
Beryllium (Be)-Total	mg/L	2	0.00002	2	0.00002	0	0.00002	0.00002	0.00002	1.1
Bismuth (Bi)-Total	mg/L	2	0.00005	2	0.00005	0	0.00005	0.00005	0.00005	17.5
Boron (B)-Total	mg/L	2	0.01	0	0.01	0	0.01	0.01	0.01	1.5
Cadmium (Cd)-Total	mg/L	2	0.000005	1	0.000005	0	0.000005	0.000005	0.000005	0.00021
Calcium (Ca)-Total	mg/L	2	0.05	0	59.68	13.10	49.31	61.10	72.89	1000
Cesium (Cs)-Total	mg/L	2	0.00001	2	0.00001	0	0.00001	0.00001	0.00001	-
Chromium (Cr)-Total	mg/L	2	0.0005	2	0.0005	0	0.0005	0.0005	0.0005	-
Cobalt (Co)-Total	mg/L	2	0.0001	2	0.0001	0	0.0001	0.0001	0.0001	0.0012

Analyte	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Copper (Cu)-Total	mg/L	2	0.0005	2	0.0005	0	0.0005	0.0005	0.0005	0.0031
Iron (Fe)-Total	mg/L	2	0.01	0	0.55	1.16	0.24	1.28	2.32	3.8
Lead (Pb)-Total	mg/L	2	0.00005	2	0.00005	0	0.00005	0.00005	0.00005	0.00477
Lithium (Li)-Total	mg/L	2	0.001	0	0.001	0	0.001	0.001	0.001	2.5
Magnesium (Mg)-Total	mg/L	2	0.005	0	20.694	2.100	18.910	20.800	22.690	82
Manganese (Mn)-Total	mg/L	2	0.0001	0	0.2497	0.4953	0.1089	0.5547	1.0005	0.12
Mercury (Hg)-Total	mg/L	2	0.000005	2	0.000005	0	0.000005	0.000005	0.000005	0.000026
Molybdenum (Mo)-Total	mg/L	2	0.00005	0	0.00014	0.00012	0.00008	0.00019	0.00029	0.073
Nickel (Ni)-Total	mg/L	2	0.0005	2	0.0005	0	0.0005	0.0005	0.0005	0.1217
Phosphorus (P)-Total	mg/L	2	0.05	1	0.18	0.30	0.08	0.35	0.61	-
Potassium (K)-Total	mg/L	2	0.05	0	1.82	0.26	1.61	1.84	2.06	53
Rhodium (Rh)-Total	mg/L	2	0.001	2	0.001	0	0.001	0.001	0.001	0.01
Ruthenium (Ru)-Total	mg/L	2	0.001	2	0.001	0	0.001	0.001	0.001	0.01
Samarium (Sm)-Total	mg/L	2	0.001	2	0.001	0	0.001	0.001	0.001	0.0082
Selenium (Se)-Total	mg/L	2	0.00005	0	0.00015	0.00003	0.00013	0.00015	0.00018	0.001
Silver (Ag)-Total	mg/L	2	0.00001	2	0.00001	0	0.00001	0.00001	0.00001	0.00025
Sodium (Na)-Total	mg/L	2	0.05	0	12.28	0.70	11.67	12.30	12.93	680
Strontium (Sr)-Total	mg/L	2	0.0002	0	0.8196	0.0805	0.7511	0.8235	0.8960	7
Sulfur (S)-Total	mg/L	2	0.5	0	1.1	1.0	0.6	1.5	2.4	-
Thallium (Tl)-Total	mg/L	2	0.00001	2	0.00001	0	0.00001	0.00001	0.00001	0.0008
Tin (Sn)-Total	mg/L	2	0.0001	2	0.0001	0	0.0001	0.0001	0.0001	0.073
Titanium (Ti)-Total	mg/L	2	0.0003	1	0.0005	0.0003	0.0003	0.0006	0.0009	0.076
Tungsten (W)-Total	mg/L	2	0.0001	2	0.0001	0	0.0001	0.0001	0.0001	0.03
Uranium (U)-Total	mg/L	2	0.00001	0	0.00076	0.00016	0.00063	0.00078	0.00092	0.015
Vanadium (V)-Total	mg/L	2	0.0005	1	0.0007	0.0003	0.0005	0.0008	0.0010	0.12
Zinc (Zn)-Total	mg/L	2	0.003	1	0.005	0.002	0.003	0.005	0.007	0.02
Zirconium (Zr)-Total	mg/L	2	0.0002	2	0.0002	0	0.0002	0.0002	0.0002	0.004
Metals - dissolved										
Aluminum	mg/L	2	0.001	0	0.005	0.001	0.005	0.005	0.006	-
Antimony	mg/L	2	0.0001	2	0.0001	0	0.0001	0.0001	0.0001	-
Arsenic	mg/L	2	0.0001	0	0.0012	0.0003	0.0010	0.0013	0.0016	-
Barium	mg/L	2	0.0001	0	0.0479	0.0160	0.0361	0.0505	0.0648	-
Beryllium	mg/L	2	0.00002	2	0.00002	0	0.00002	0.00002	0.00002	-
Bismuth	mg/L	2	0.00005	2	0.00005	0	0.00005	0.00005	0.00005	-
Boron	mg/L	2	0.01	0	0.01	0	0.01	0.01	0.01	-
Cadmium	mg/L	2	0.000005	2	0.000005	0	0.000005	0.000005	0.000005	-
Calcium	mg/L	2	0.05	0	57.93	10.35	49.54	58.85	68.17	-
Chromium	mg/L	2	0.0005	2	0.0005	0	0.0005	0.0005	0.0005	-
Cobalt	mg/L	2	0.0001	2	0.0001	0	0.0001	0.0001	0.0001	-
Copper	mg/L	2	0.0002	1	0.0002	0	0.0002	0.0002	0.0002	0.00611
Iron	mg/L	2	0.01	0	0.47	1.08	0.20	1.18	2.15	-

Analyte	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Lead	mg/L	2	0.00005	2	0.00005	0	0.00005	0.00005	0.00005	0.012
Lithium	mg/L	2	0.001	0	0.001	0	0.001	0.001	0.001	-
Magnesium	mg/L	2	0.005	0	20.475	1.750	18.975	20.550	22.125	-
Manganese	mg/L	2	0.0001	0	0.2292	0.4843	0.0999	0.5358	0.9716	0.26
Mercury	mg/L	2	0.000005	2	0.000005	0	0.000005	0.000005	0.000005	-
Molybdenum	mg/L	2	0.00005	1	0.00012	0.00012	0.00006	0.00017	0.00028	-
Nickel	mg/L	2	0.0005	2	0.0005	0	0.0005	0.0005	0.0005	-
Phosphorus	mg/L	2	0.05	1	0.17	0.28	0.08	0.33	0.57	-
Potassium	mg/L	2	0.05	0	1.80	0.20	1.63	1.81	1.99	-
Rhodium	mg/L	2	0.001	2	0.001	0	0.001	0.001	0.001	-
Ruthenium	mg/L	2	0.001	2	0.001	0	0.001	0.001	0.001	-
Samarium	mg/L	2	0.001	2	0.001	0	0.001	0.001	0.001	-
Selenium	mg/L	2	0.00005	0	0.00014	0.00001	0.00013	0.00014	0.00015	-
Silver	mg/L	2	0.00001	2	0.00001	0	0.00001	0.00001	0.00001	-
Sodium	mg/L	2	0.05	0	12.14	0.45	11.75	12.15	12.56	-
Strontium	mg/L	2	0.0002	0	0.7969	0.0580	0.7468	0.7990	0.8512	2.5
Sulfur	mg/L	2	0.5	1	1.1	1.0	0.6	1.5	2.4	-
Thallium	mg/L	2	0.00001	2	0.00001	0	0.00001	0.00001	0.00001	-
Tin	mg/L	2	0.0001	2	0.0001	0	0.0001	0.0001	0.0001	-
Titanium	mg/L	2	0.0003	1	0.0005	0.0002	0.0003	0.0005	0.0007	-
Tungsten	mg/L	2	0.0001	2	0.0001	0.0000	0.0001	0.0001	0.0001	-
Uranium	mg/L	2	0.00001	0	0.00073	0.00012	0.00063	0.00074	0.00084	-
Vanadium	mg/L	2	0.0005	1	0.0007	0.0002	0.0005	0.0007	0.0008	-
Zinc	mg/L	2	0.001	1	0.001	0	0.001	0.001	0.001	0.031
Zirconium	mg/L	2	0.0003	2	0.0003	0	0.0003	0.0003	0.0003	-
Nutrients & General Chemistry										
Alkalinity, Total (as CaCO3)	mg/L	2	1	0	219	37	190	223	255	20
Alkalinity, Bicarbonate (as CaCO3)	mg/L	2	1	0	214	41	181	218	255	-
Bromide (Br)	mg/L	2	0.1	2	0.1	0	0.1	0.1	0.1	-
Alkalinity, Carbonate (as CaCO3)	mg/L	2	1	1	3	4	1	5	8	-
Chloride (Cl)	mg/L	2	0.5	0	19.4	0.6	19.0	19.5	19.9	120
Cyanide, Total	mg/L	2	0.002	2	0.002	0	0.002	0.002	0.002	0.005
Fluoride (F)	mg/L	2	0.02	0	0.28	0.002	0.28	0.28	0.28	0.12
Alkalinity, Hydroxide (as CaCO3)	mg/L	2	1	2	1	0	1	1	1	-
pH	pH units	2	0.1	0	8.3	0.1	8.1	8.3	8.4	6.5 - 9
Conductivity	µS	2	1	0	455	58	407	459	511	-
Ion Balance	%	2	0.01	0	2.68	2.28	1.47	3.52	5.56	-
Total Dissolved Solids	mg/L	2	10	0	212	31	186	214	242	-
Hardness (as CaCO3)	mg/L	2	0.5	0	234.9	41.5	201.2	238.5	275.9	-
Total Suspended Solids	mg/L	2	3	1	3	0	3	3	4	-
Turbidity	NTU	2	0.1	0	2.2	2.8	1.1	3.6	6.2	50

Analyte	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Ammonia, Total (as N)	mg/L	2	0.005	0	0.527	1.079	0.230	1.201	2.172	0.259
Nitrate and Nitrite as N	mg/L	2	0.02	1	0.02	0	0.02	0.02	0.02	-
Total Organic Carbon	mg/L	2	0.5	0	11.4	0.4	11.1	11.5	11.8	-
Total Inorganic Carbon	mg/L	2	1	0	46	9	39	47	54	-
Dissolved Organic Carbon	mg/L	2	0.5	0	11.7	0.9	10.9	11.7	12.5	-
Phosphorus, Total	mg/L	2	0.002	0	0.112	0.268	0.049	0.290	0.531	0.01
Total Kjeldahl Nitrogen	mg/L	2	0.05	0	1.39	0.88	0.85	1.64	2.43	-
Chlorophyll a	µg/L	2	0.010	0	5.06	0.63	4.53	5.10	5.67	-
Biological Oxygen Demand	mg/L	2	2	1	5	3	3	6	9	-
Total Coliforms	CFU/100mL	2	1	0	4	0	4	4	4	-
E. Coli	CFU/100mL	2	1	1	3	4	1	5	8	100

[1] Cells containing grey highlights indicate exceedances of the WQG. Note that datum is not flagged as an exceedance if the measured concentration was reported by the laboratory as <RDL where the RDL is greater than or equal to the WQG due to measurement uncertainty.

Appendix A, Table 8

Year 2 Surface Water Chemistry Results – Oppleck Lake Potential Exposure [1]

Analyte	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Radionuclides - Tier 1										
Tritium	Bq/L	4	14.8	1	14.8	0	14.8	14.8	14.8	7000
Carbon-14	Bq/L	4	18.5	1	18.5	0	18.5	18.5	18.5	200
Strontium-90	Bq/L	4	0.037	1	0.037	0	0.037	0.037	0.037	5
Iodine-129	Bq/L	4	0.37	1	0.37	0	0.37	0.37	0.37	1
Cesium-137	Bq/L	4	0.37	1	0.37	0	0.37	0.37	0.37	10
Cobalt-60	Bq/L	4	0.37	1	0.37	0	0.37	0.37	0.37	40
Ruthenium-106	Bq/L	4	3	1	3	0	3	3	3	20
Gross alpha	Bq/L	4	0.111	1	0.111	0	0.111	0.111	0.111	-
Gross beta	Bq/L	4	0.148	1	0.148	0	0.148	0.148	0.148	-
Radionuclides - Tier 2 natural										
Uranium-238	Bq/L	4	0.0074	1	0.0068	0.0009	0.0056	0.0074	0.0074	3
Uranium-234	Bq/L	4	0.0074	0	0.0076	0.0004	0.0074	0.0074	0.0081	3
Uranium-235	Bq/L	4	0.0074	1	0.0074	0	0.0074	0.0074	0.0074	3
Potassium-40	Bq/L	4	7.1	1	7.1	0	7.1	7.1	7.1	-
Thorium-228	Bq/L	4	0.0074	1	0.0074	0	0.0074	0.0074	0.0074	2
Thorium-230	Bq/L	4	0.0074	1	0.0070	0.0007	0.0061	0.0074	0.0074	0.6

Analyte	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Thorium-232	Bq/L	4	0.0074	1	0.0074	0	0.0074	0.0074	0.0074	0.6
Radium-226	Bq/L	4	0.037	1	0.030	0.009	0.019	0.037	0.037	0.5
Metals - total										
Aluminum (Al)-Total	mg/L	4	0.003	0	0.006	0.002	0.004	0.007	0.008	1.5
Antimony (Sb)-Total	mg/L	4	0.0001	1	0.0001	0	0.0001	0.0001	0.0001	0.006
Arsenic (As)-Total	mg/L	4	0.0001	0	0.0005	0.0001	0.0005	0.0006	0.0006	0.005
Barium (Ba)-Total	mg/L	4	0.0001	0	0.0355	0.0003	0.0351	0.0355	0.0359	1
Beryllium (Be)-Total	mg/L	4	0.00002	1	0.00002	0	0.00002	0.00002	0.00002	1.1
Bismuth (Bi)-Total	mg/L	4	0.00005	1	0.00005	0	0.00005	0.00005	0.00005	17.5
Boron (B)-Total	mg/L	4	0.01	1	0.01	0	0.01	0.01	0.01	1.5
Cadmium (Cd)-Total	mg/L	4	0.000005	1	0.000005	0	0.000005	0.000005	0.000005	0.00021
Calcium (Ca)-Total	mg/L	4	0.05	0	39.05	3.11	36.12	38.40	43.32	1000
Cesium (Cs)-Total	mg/L	4	0.00001	1	0.00001	0	0.00001	0.00001	0.00001	-
Chromium (Cr)-Total	mg/L	4	0.0005	1	0.0005	0	0.0005	0.0005	0.0005	-
Cobalt (Co)-Total	mg/L	4	0.0001	1	0.0001	0	0.0001	0.0001	0.0001	0.0012
Copper (Cu)-Total	mg/L	4	0.0005	0	0.0006	0.0001	0.0005	0.0005	0.0007	0.0031
Iron (Fe)-Total	mg/L	4	0.01	0	0.02	0.02	0.01	0.02	0.05	3.8
Lead (Pb)-Total	mg/L	4	0.00005	1	0.00005	0	0.00005	0.00005	0.00005	0.00477
Lithium (Li)-Total	mg/L	4	0.001	1	0.001	0	0.001	0.001	0.001	2.5
Magnesium (Mg)-Total	mg/L	4	0.005	0	12.019	0.390	11.800	11.800	12.565	82
Manganese (Mn)-Total	mg/L	4	0.0001	0	0.0182	0.0171	0.0084	0.0171	0.0471	0.12
Mercury (Hg)-Total	mg/L	4	0.000005	1	0.000005	0	0.000005	0.000005	0.000005	0.000026
Molybdenum (Mo)-Total	mg/L	4	0.00005	0	0.00040	0.00003	0.00037	0.00039	0.00044	0.073
Nickel (Ni)-Total	mg/L	4	0.0005	1	0.0005	0	0.0005	0.0005	0.0005	0.1217
Phosphorus (P)-Total	mg/L	4	0.05	1	0.05	0	0.05	0.05	0.05	-
Potassium (K)-Total	mg/L	4	0.05	0	0.36	0.09	0.28	0.37	0.46	53
Rhodium (Rh)-Total	mg/L	4	0.001	1	0.001	0	0.001	0.001	0.001	0.01
Ruthenium (Ru)-Total	mg/L	4	0.001	1	0.001	0	0.001	0.001	0.001	0.01
Samarium (Sm)-Total	mg/L	4	0.001	1	0.001	0	0.001	0.001	0.001	0.0082
Selenium (Se)-Total	mg/L	4	0.00005	0	0.00010	0.00002	0.00008	0.00011	0.00012	0.001
Silver (Ag)-Total	mg/L	4	0.00001	1	0.00001	0	0.00001	0.00001	0.00001	0.00025
Sodium (Na)-Total	mg/L	4	0.05	0	1.27	0.08	1.19	1.26	1.39	680
Strontium (Sr)-Total	mg/L	4	0.0002	0	0.0915	0.0066	0.0847	0.0917	0.0989	7
Sulfur (S)-Total	mg/L	4	0.5	0	1.4	0.2	1.3	1.4	1.7	-
Thallium (Tl)-Total	mg/L	4	0.00001	1	0.00001	0	0.00001	0.00001	0.00001	0.0008
Tin (Sn)-Total	mg/L	4	0.0001	1	0.0001	0	0.0001	0.0001	0.0001	0.073
Titanium (Ti)-Total	mg/L	4	0.0003	1	0.0003	0	0.0003	0.0003	0.0003	0.076
Tungsten (W)-Total	mg/L	4	0.0001	1	0.0001	0	0.0001	0.0001	0.0001	0.03
Uranium (U)-Total	mg/L	4	0.00001	0	0.00037	0.00003	0.00033	0.00038	0.00041	0.015
Vanadium (V)-Total	mg/L	4	0.0005	1	0.0005	0	0.0005	0.0005	0.0005	0.12
Zinc (Zn)-Total	mg/L	4	0.003	1	0.003	0	0.003	0.003	0.003	0.02

Analyte	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Zirconium (Zr)-Total	mg/L	4	0.0002	1	0.0002	0	0.0002	0.0002	0.0002	0.004
Metals - dissolved										
Aluminum	mg/L	4	0.001	0	0.004	0.001	0.003	0.004	0.005	-
Antimony	mg/L	4	0.0001	1	0.0001	0	0.0001	0.0001	0.0001	-
Arsenic	mg/L	4	0.0001	0	0.0005	0	0.0005	0.0005	0.0005	-
Barium	mg/L	4	0.0001	0	0.0347	0.0006	0.0339	0.0347	0.0355	-
Beryllium	mg/L	4	0.00002	1	0.00002	0	0.00002	0.00002	0.00002	-
Bismuth	mg/L	4	0.00005	1	0.00005	0	0.00005	0.00005	0.00005	-
Boron	mg/L	4	0.01	1	0.01	0	0.01	0.01	0.01	-
Cadmium	mg/L	4	0.000005	1	0.000005	0	0.000005	0.000005	0.000005	-
Calcium	mg/L	4	0.05	0	37.88	3.32	34.44	37.55	42.28	-
Chromium	mg/L	4	0.0005	1	0.0005	0	0.0005	0.0005	0.0005	-
Cobalt	mg/L	4	0.0001	1	0.0001	0	0.0001	0.0001	0.0001	-
Copper	mg/L	4	0.0002	0	0.0005	0.0010	0.0002	0.0003	0.0022	0.00611
Iron	mg/L	4	0.01	0	0.01	0.01	0.01	0.01	0.04	-
Lead	mg/L	4	0.00005	1	0.00005	0	0.00005	0.00005	0.00005	0.012
Lithium	mg/L	4	0.001	1	0.001	0	0.001	0.001	0.001	-
Magnesium	mg/L	4	0.005	0	11.444	0.364	11.045	11.400	11.925	-
Manganese	mg/L	4	0.0001	0	0.0027	0.0196	0.0006	0.0016	0.0400	0.26
Mercury	mg/L	4	0.000005	1	0.000005	0	0.000005	0.000005	0.000005	-
Molybdenum	mg/L	4	0.00005	0	0.00039	0.00004	0.00037	0.00037	0.00044	-
Nickel	mg/L	4	0.0005	1	0.0005	0	0.0005	0.0005	0.0005	-
Phosphorus	mg/L	4	0.05	1	0.05	0	0.05	0.05	0.05	-
Potassium	mg/L	4	0.05	0	0.35	0.09	0.26	0.36	0.45	-
Rhodium	mg/L	4	0.001	1	0.001	0	0.001	0.001	0.001	-
Ruthenium	mg/L	4	0.001	1	0.001	0	0.001	0.001	0.001	-
Samarium	mg/L	4	0.001	1	0.001	0	0.001	0.001	0.001	-
Selenium	mg/L	4	0.00005	0	0.00009	0.00001	0.00008	0.00009	0.00010	-
Silver	mg/L	4	0.00001	1	0.00001	0	0.00001	0.00001	0.00001	-
Sodium	mg/L	4	0.05	0	1.20	0.06	1.13	1.21	1.26	-
Strontium	mg/L	4	0.0002	0	0.0898	0.0058	0.0840	0.0893	0.0971	2.5
Sulfur	mg/L	4	0.5	0	1.3	0.1	1.2	1.3	1.5	-
Thallium	mg/L	4	0.00001	1	0.00001	0	0.00001	0.00001	0.00001	-
Tin	mg/L	4	0.0001	1	0.0001	0	0.0001	0.0001	0.0001	-
Titanium	mg/L	4	0.0003	1	0.0003	0	0.0003	0.0003	0.0003	-
Tungsten	mg/L	4	0.0001	1	0.0001	0	0.0001	0.0001	0.0001	-
Uranium	mg/L	4	0.00001	0	0.00035	0.00002	0.00033	0.00036	0.00037	-
Vanadium	mg/L	4	0.0005	1	0.0005	0	0.0005	0.0005	0.0005	-
Zinc	mg/L	4	0.001	0	0.002	0.003	0.001	0.002	0.007	0.031
Zirconium	mg/L	4	0.0003	1	0.0003	0	0.0003	0.0003	0.0003	-
Nutrients & General Chemistry										

Analyte	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Alkalinity, Total (as CaCO3)	mg/L	4	1	0	138	14	130	133	153	20
Alkalinity, Bicarbonate (as CaCO3)	mg/L	4	1	0	134	10	127	129	149	-
Bromide (Br)	mg/L	4	0.1	1	0.1	0	0.1	0.1	0.1	-
Alkalinity, Carbonate (as CaCO3)	mg/L	4	1	0	4	2	2	4	7	-
Chloride (Cl)	mg/L	4	0.5	0	3.2	0.1	3.0	3.2	3.3	120
Cyanide, Total	mg/L	4	0.002	1	0.002	0	0.002	0.002	0.002	0.005
Fluoride (F)	mg/L	4	0.02	0	0.18	0.01	0.16	0.18	0.19	0.12
Alkalinity, Hydroxide (as CaCO3)	mg/L	4	1	1	1	0	1	1	1	-
pH	pH units	4	0.1	0	8.4	0.0	8.3	8.4	8.4	6.5 - 9
Conductivity	µS	4	1	0	268	18	255	261	294	-
Ion Balance	%	4	0.01	0	2.09	0.72	1.54	1.96	3.18	-
Total Dissolved Solids	mg/L	4	10	0	159	8	148	163	166	-
Hardness (as CaCO3)	mg/L	4	0.5	0	146.7	9.4	138.3	144.0	159.9	-
Total Suspended Solids	mg/L	4	3	1	3	0	3	3	3	-
Turbidity	NTU	4	0.1	0	1.0	0.2	0.8	0.9	1.2	50
Ammonia, Total (as N)	mg/L	4	0.00500 - 1.00000	0	1.73682	56.83180	0.15200	1.07900	112.48050	0.259
Nitrate and Nitrite as N	mg/L	4	0.02	1	0.03	0.04	0.02	0.02	0.11	-
Total Organic Carbon	mg/L	4	0.5	0	14.8	0.3	14.3	14.9	15.1	-
Total Inorganic Carbon	mg/L	4	1	0	29	3	27	28	34	-
Dissolved Organic Carbon	mg/L	4	0.5	0	14.1	0.8	13.2	14.2	15.0	-
Phosphorus, Total	mg/L	4	0.002	0	0.022	0.017	0.015	0.016	0.050	0.01
Total Kjeldahl Nitrogen	mg/L	4	0.05	0	1.31	0.70	0.84	1.21	2.41	-
Chlorophyll a	µg/L	4	0.002 - 0.010	0	2.948	2.203	1.584	2.715	6.584	-
Biological Oxygen Demand	mg/L	4	2	1	2	0	2	2	2	-
Total Coliforms	CFU/100mL	4	1	0	52	27	25	65	89	-
E. Coli	CFU/100mL	4	1	0	3	2	1	4	6	100

[1] Cells containing grey highlights indicate exceedances of the WQG. Note that datum is not flagged as an exceedance if the measured concentration was reported by the laboratory as <RDL where the RDL is greater than or equal to the WQG due to measurement uncertainty.

Appendix A, Table 9

Year 2 Surface Water Chemistry Results – Robson Lake Reference [1]

Analyte	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Radionuclides - Tier 1										
Tritium	Bq/L	4	14.8	4	14.8	0	14.8	14.8	14.8	7000
Carbon-14	Bq/L	4	18.5	4	18.5	0	18.5	18.5	18.5	200
Strontium-90	Bq/L	4	0.037	4	0.037	0	0.037	0.037	0.037	5
Iodine-129	Bq/L	4	0.37	4	0.37	0	0.37	0.37	0.37	1
Cesium-137	Bq/L	4	0.37	4	0.37	0	0.37	0.37	0.37	10
Cobalt-60	Bq/L	4	0.37	4	0.37	0	0.37	0.37	0.37	40

Analyte	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Ruthenium-106	Bq/L	4	3	4	3	0	3	3	3	20
Gross alpha	Bq/L	4	0.111	4	0.111	0	0.111	0.111	0.111	-
Gross beta	Bq/L	4	0.148	4	0.148	0	0.148	0.148	0.148	-
Radionuclides - Tier 2 natural										
Uranium-238	Bq/L	4	0.0074	0	0.0069	0.0019	0.0047	0.0075	0.0092	3
Uranium-234	Bq/L	4	0.0074	1	0.0060	0.0014	0.0044	0.0066	0.0074	3
Uranium-235	Bq/L	4	0.0074	4	0.0074	0	0.0074	0.0074	0.0074	3
Potassium-40	Bq/L	4	7.1	4	7.1	0	7.1	7.1	7.1	-
Thorium-228	Bq/L	4	0.0074	4	0.00740	0	0.00740	0.00740	0.00740	2
Thorium-230	Bq/L	4	0.0074	1	0.0051	0.0015	0.0037	0.0051	0.0072	0.6
Thorium-232	Bq/L	4	0.0074	4	0.0074	0	0.0074	0.0074	0.0074	0.6
Radium-226	Bq/L	4	0.037	1	0.026	0.013	0.015	0.027	0.044	0.5
Metals - total										
Aluminum (Al)-Total	mg/L	4	0.003	2	0.004	0.001	0.003	0.004	0.006	1.5
Antimony (Sb)-Total	mg/L	4	0.0001	4	0.0001	0	0.0001	0.0001	0.0001	0.006
Arsenic (As)-Total	mg/L	4	0.0001	0	0.0002	0	0.0002	0.0002	0.0002	0.005
Barium (Ba)-Total	mg/L	4	0.0001	0	0.0080	0.0003	0.0077	0.0081	0.0084	1
Beryllium (Be)-Total	mg/L	4	0.00002	4	0.00002	0	0.00002	0.00002	0.00002	1.1
Bismuth (Bi)-Total	mg/L	4	0.00005	4	0.00005	0	0.00005	0.00005	0.00005	17.5
Boron (B)-Total	mg/L	4	0.01	4	0.01	0	0.01	0.01	0.01	1.5
Cadmium (Cd)-Total	mg/L	4	0.000005	4	0.000005	0	0.000005	0.000005	0.000005	0.00021
Calcium (Ca)-Total	mg/L	4	0.05	0	57.85	0.56	57.42	57.60	58.64	1000
Cesium (Cs)-Total	mg/L	4	0.00001	4	0.00001	0	0.00001	0.00001	0.00001	-
Chromium (Cr)-Total	mg/L	4	0.0005	4	0.0005	0	0.0005	0.0005	0.0005	-
Cobalt (Co)-Total	mg/L	4	0.0001	4	0.0001	0	0.0001	0.0001	0.0001	0.0012
Copper (Cu)-Total	mg/L	4	0.0005	4	0.0005	0	0.0005	0.0005	0.0005	0.0031
Iron (Fe)-Total	mg/L	4	0.01	0	0.02	0	0.02	0.02	0.02	3.8
Lead (Pb)-Total	mg/L	4	0.00005	3	0.00006	0.00003	0.00005	0.00005	0.00010	0.00477
Lithium (Li)-Total	mg/L	4	0.001	4	0.001	0	0.001	0.001	0.001	2.5
Magnesium (Mg)-Total	mg/L	4	0.005	0	27.660	0.915	26.440	27.900	28.595	82
Manganese (Mn)-Total	mg/L	4	0.0001	0	0.0039	0.0011	0.0025	0.0045	0.0049	0.12
Mercury (Hg)-Total	mg/L	4	0.000005	4	0.000005	0	0.000005	0.000005	0.000005	0.000026
Molybdenum (Mo)-Total	mg/L	4	0.00005	0	0.00010	0.00001	0.00009	0.00009	0.00011	0.073
Nickel (Ni)-Total	mg/L	4	0.0005	4	0.0005	0	0.0005	0.0005	0.0005	0.1217
Phosphorus (P)-Total	mg/L	4	0.05	4	0.05	0	0.05	0.05	0.05	-
Potassium (K)-Total	mg/L	4	0.05	0	1.10	0.07	1.01	1.10	1.18	53
Rhodium (Rh)-Total	mg/L	4	0.001	4	0.001	0	0.001	0.001	0.001	0.01
Ruthenium (Ru)-Total	mg/L	4	0.001	4	0.001	0	0.001	0.001	0.001	0.01
Samarium (Sm)-Total	mg/L	4	0.001	4	0.001	0	0.001	0.001	0.001	0.0082
Selenium (Se)-Total	mg/L	4	0.00005	0	0.00020	0.00005	0.00016	0.00021	0.00027	0.001
Silver (Ag)-Total	mg/L	4	0.00001	4	0.00001	0	0.00001	0.00001	0.00001	0.00025

Analyte	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Sodium (Na)-Total	mg/L	4	0.05	0	2.24	0.14	2.11	2.21	2.43	680
Strontium (Sr)-Total	mg/L	4	0.0002	0	0.0519	0.0026	0.0497	0.0510	0.0556	7
Sulfur (S)-Total	mg/L	4	0.5	0	1.4	0.2	1.2	1.4	1.7	-
Thallium (Tl)-Total	mg/L	4	0.00001	4	0.00001	0	0.00001	0.00001	0.00001	0.0008
Tin (Sn)-Total	mg/L	4	0.0001	4	0.0001	0	0.0001	0.0001	0.0001	0.073
Titanium (Ti)-Total	mg/L	4	0.0003	4	0.0003	0	0.0003	0.0003	0.0003	0.076
Tungsten (W)-Total	mg/L	4	0.0001	4	0.0001	0	0.0001	0.0001	0.0001	0.03
Uranium (U)-Total	mg/L	4	0.00001	0	0.00048	0.00007	0.00040	0.00048	0.00057	0.015
Vanadium (V)-Total	mg/L	4	0.0005	4	0.0005	0	0.0005	0.0005	0.0005	0.12
Zinc (Zn)-Total	mg/L	4	0.003	4	0.003	0	0.003	0.003	0.003	0.02
Zirconium (Zr)-Total	mg/L	4	0.0002	4	0.0002	0	0.0002	0.0002	0.0002	0.004
Metals - dissolved										
Aluminum	mg/L	4	0.001	1	0.001	0.001	0.001	0.001	0.002	-
Antimony	mg/L	4	0.0001	4	0.0001	0	0.0001	0.0001	0.0001	-
Arsenic	mg/L	4	0.0001	0	0.0002	0	0.0001	0.0002	0.0002	-
Barium	mg/L	4	0.0001	0	0.0083	0.0004	0.0077	0.0083	0.0088	-
Beryllium	mg/L	4	0.00002	4	0.00002	0	0.00002	0.00002	0.00002	-
Bismuth	mg/L	4	0.00005	4	0.00005	0	0.00005	0.00005	0.00005	-
Boron	mg/L	4	0.01	4	0.01	0	0.01	0.01	0.01	-
Cadmium	mg/L	4	0.000005	4	0.000005	0	0.000005	0.000005	0.000005	-
Calcium	mg/L	4	0.05	0	57.44	0.98	56.11	57.80	58.30	-
Chromium	mg/L	4	0.0005	4	0.0005	0	0.0005	0.0005	0.0005	-
Cobalt	mg/L	4	0.0001	4	0.0001	0	0.0001	0.0001	0.0001	-
Copper	mg/L	4	0.0002	0	0.0005	0.0003	0.0003	0.0004	0.0010	0.00611
Iron	mg/L	4	0.01	3	0.01	0	0.01	0.01	0.01	-
Lead	mg/L	4	0.00005	4	0.00005	0	0.00005	0.00005	0.00005	0.012
Lithium	mg/L	4	0.001	4	0.001	0	0.001	0.001	0.001	-
Magnesium	mg/L	4	0.005	0	28.182	0.985	26.830	28.700	28.870	-
Manganese	mg/L	4	0.0001	0	0.0011	0.0014	0.0005	0.0010	0.0036	0.26
Mercury	mg/L	4	0.000005	4	0.000005	0	0.000005	0.000005	0.000005	-
Molybdenum	mg/L	4	0.00005	0	0.00010	0	0.00009	0.00009	0.00010	-
Nickel	mg/L	4	0.0005	4	0.0005	0	0.0005	0.0005	0.0005	-
Phosphorus	mg/L	4	0.05	4	0.05	0	0.05	0.05	0.05	-
Potassium	mg/L	4	0.05	0	1.11	0.06	1.04	1.11	1.18	-
Rhodium	mg/L	4	0.001	4	0.001	0	0.001	0.001	0.001	-
Ruthenium	mg/L	4	0.001	4	0.001	0	0.001	0.001	0.001	-
Samarium	mg/L	4	0.001	4	0.001	0	0.001	0.001	0.001	-
Selenium	mg/L	4	0.00005	0	0.00018	0.00007	0.00014	0.00017	0.00029	-
Silver	mg/L	4	0.00001	4	0.00001	0	0.00001	0.00001	0.00001	-
Sodium	mg/L	4	0.05	0	2.26	0.15	2.12	2.24	2.46	-
Strontium	mg/L	4	0.0002	0	0.0534	0.0020	0.0510	0.0535	0.0558	2.5

Analyte	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Sulfur	mg/L	4	0.5	0	1.3	0.2	1.2	1.3	1.6	-
Thallium	mg/L	4	0.00001	4	0.00001	0	0.00001	0.00001	0.00001	-
Tin	mg/L	4	0.0001	4	0.0001	0	0.0001	0.0001	0.0001	-
Titanium	mg/L	4	0.0003	4	0.0003	0	0.0003	0.0003	0.0003	-
Tungsten	mg/L	4	0.0001	4	0.0001	0	0.0001	0.0001	0.0001	-
Uranium	mg/L	4	0.00001	0	0.00048	0.00008	0.00039	0.00048	0.00058	-
Vanadium	mg/L	4	0.0005	4	0.0005	0	0.0005	0.0005	0.0005	-
Zinc	mg/L	4	0.001	0	0.002	0.001	0.001	0.001	0.004	0.031
Zirconium	mg/L	4	0.0003	4	0.0003	0	0.0003	0.0003	0.0003	-
Nutrients & General Chemistry										
Alkalinity, Total (as CaCO3)	mg/L	4	1	0	259	7	250	261	265	20
Alkalinity, Bicarbonate (as CaCO3)	mg/L	4	1	0	243	8	234	242	253	-
Bromide (Br)	mg/L	4	0.1	4	0.1	0	0.1	0.1	0.1	-
Alkalinity, Carbonate (as CaCO3)	mg/L	4	1	0	16	3	12	16	20	-
Chloride (Cl)	mg/L	4	0.5	0	5.3	0.3	5.0	5.3	5.6	120
Cyanide, Total	mg/L	4	0.002	3	0.002	0	0.002	0.002	0.003	0.005
Fluoride (F)	mg/L	4	0.02	0	0.03	0	0.03	0.03	0.04	0.12
Alkalinity, Hydroxide (as CaCO3)	mg/L	4	1	4	1	0	1	1	1	-
pH	pH units	4	0.1	0	8.5	0	8.4	8.5	8.5	6.5 - 9
Conductivity	µS	4	1	0	489	22	459	497	509	-
Ion Balance	%	4	0.01	0	-1.65	1.33	-3.33	-1.57	-0.10	-
Total Dissolved Solids	mg/L	4	10 - 10	0	243.75	1.48	242.15	243.50	245.70	-
Hardness (as CaCO3)	mg/L	4	0.5	0	258.5	2.5	255.5	258.5	261.6	-
Total Suspended Solids	mg/L	4	3	4	3	0	3	3	3	-
Turbidity	NTU	4	0.1	0	0.6	0.4	0.3	0.8	1.2	50
Ammonia, Total (as N)	mg/L	4	0.005	0	0.063	0.160	0.016	0.064	0.363	0.259
Nitrate and Nitrite as N	mg/L	4	0.02	0	1.22	0.35	0.96	1.14	1.74	-
Total Organic Carbon	mg/L	4	0.5	0	3.2	0.2	3.0	3.1	3.6	-
Total Inorganic Carbon	mg/L	4	1	0	57	3	53	58	59	-
Dissolved Organic Carbon	mg/L	4	0.5	0	3.5	0.2	3.3	3.6	3.7	-
Phosphorus, Total	mg/L	4	0.002	0	0.017	0.205	0.004	0.007	0.410	0.01
Total Kjeldahl Nitrogen	mg/L	4	0.05	0	0.4	0.1	0.3	0.4	0.7	-
Chlorophyll a	µg/L	4	0.002 - 0.010	0	1.216	0.281	0.860	1.375	1.480	-
Biological Oxygen Demand	mg/L	4	2	4	2	1	2	3	3	-
Total Coliforms	CFU/100mL	4	1	0	129	40	95	125	190	-
E. Coli	CFU/100mL	4	1	1	3	3	1	4	8	100

[1] Cells containing grey highlights indicate exceedances of the WQG. Note that datum is not flagged as an exceedance if the measured concentration was reported by the laboratory as <RDL where the RDL is greater than or equal to the WQG due to measurement uncertainty.

Appendix A, Table 10

Year 2 Surface Water Chemistry Results – Hines Lake Reference [1,2]

Analyte	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Radionuclides - Tier 1										
Tritium	Bq/L	3	14.8	4	14.8	0	14.8	14.8	14.8	7000
Carbon-14	Bq/L	3	18.5	3	18.5	0	18.5	18.5	18.5	200
Strontium-90	Bq/L	3	0.037	3	0.0370	0	0.0370	0.0370	0.0370	5
Iodine-129	Bq/L	3	0.37	3	0.370	0	0.370	0.370	0.370	1
Cesium-137	Bq/L	3	0.37	3	0.370	0	0.370	0.370	0.370	10
Cobalt-60	Bq/L	3	0.37	3	0.370	0	0.370	0.370	0.370	40
Ruthenium-106	Bq/L	3	3	3	3.00	0	3.00	3.00	3.00	20
Gross alpha	Bq/L	3	0.111	3	0.111	0	0.111	0.111	0.111	-
Gross beta	Bq/L	3	0.148	3	0.148	0	0.148	0.148	0.148	-
Radionuclides - Tier 2 natural										
Uranium-238	Bq/L	3	0.0074	1	0.006517	0.001413	0.004979	0.007400	0.007886	3
Uranium-234	Bq/L	3	0.0074	2	0.007410	0.000014	0.007400	0.007400	0.007427	3
Uranium-235	Bq/L	3	0.0074	3	0.007400	0	0.007400	0.007400	0.007400	3
Potassium-40	Bq/L	3	7.1	3	7.10	0	7.10	7.10	7.10	-
Thorium-228	Bq/L	3	0.0074	3	0.00740	0	0.00740	0.00740	0.00740	2
Thorium-230	Bq/L	3	0.0074	2	0.00611	0.00153	0.00448	0.00740	0.00740	0.6
Thorium-232	Bq/L	3	0.0074	3	0.00740	0	0.00740	0.00740	0.00740	0.6
Radium-226	Bq/L	3	0.037	1	0.03410	0.01327	0.02197	0.03700	0.05122	0.5
Metals - total										
Aluminum (Al)-Total	mg/L	5	0.003	5	0.003	0	0.003	0.003	0.003	1.5
Antimony (Sb)-Total	mg/L	5	0.0001	5	0.0001	0	0.0001	0.0001	0.0001	0.006
Arsenic (As)-Total	mg/L	5	0.0001	0	0.0003	0	0.0002	0.0003	0.0003	0.005
Barium (Ba)-Total	mg/L	5	0.0001	0	0.0107	0.0045	0.0080	0.0101	0.0183	1
Beryllium (Be)-Total	mg/L	5	0.00002	5	0.00002	0	0.00002	0.00002	0.00002	1.1
Bismuth (Bi)-Total	mg/L	5	0.00005	5	0.00005	0	0.00005	0.00005	0.00005	17.5
Boron (B)-Total	mg/L	5	0.01	5	0.01	0	0.01	0.01	0.01	1.5
Cadmium (Cd)-Total	mg/L	5	0.000005	5	0.000005	0	0.000005	0.000005	0.000005	0.00021
Calcium (Ca)-Total	mg/L	5	0.05	0	39.34	10.19	30.64	39.80	55.32	1000
Cesium (Cs)-Total	mg/L	5	0.00001	5	0.00001	0	0.00001	0.00001	0.00001	-
Chromium (Cr)-Total	mg/L	5	0.0005	5	0.0005	0	0.0005	0.0005	0.0005	-
Cobalt (Co)-Total	mg/L	5	0.0001	5	0.0001	0	0.0001	0.0001	0.0001	0.0012
Copper (Cu)-Total	mg/L	5	0.0005	5	0.0005	0	0.0005	0.0005	0.0005	0.0031
Iron (Fe)-Total	mg/L	5	0.01	4	0.02	0.07	0.01	0.01	0.15	3.8
Lead (Pb)-Total	mg/L	5	0.00005	5	0.00005	0	0.00005	0.00005	0.00005	0.00477
Lithium (Li)-Total	mg/L	5	0.001	2	0.001	0	0.001	0.001	0.001	2.5
Magnesium (Mg)-Total	mg/L	5	0.005	0	20.754	1.683	19.200	20.900	23.240	82
Manganese (Mn)-Total	mg/L	5	0.0001	0	0.0148	0.3520	0.0032	0.0073	0.7109	0.12
Mercury (Hg)-Total	mg/L	5	0.000005	5	0.000005	0	0.000005	0.000005	0.000005	0.000026
Molybdenum (Mo)-Total	mg/L	5	0.00005	0	0.00009	0.00001	0.00007	0.00009	0.00010	0.073
Nickel (Ni)-Total	mg/L	5	0.0005	5	0.0005	0	0.0005	0.0005	0.0005	0.1217

Analyte	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Phosphorus (P)-Total	mg/L	5	0.05	5	0.05	0	0.05	0.05	0.05	-
Potassium (K)-Total	mg/L	5	0.05	0	0.99	0.06	0.93	0.99	1.09	53
Rhodium (Rh)-Total	mg/L	5	0.001	5	0.001	0	0.001	0.001	0.001	0.01
Ruthenium (Ru)-Total	mg/L	5	0.001	5	0.001	0	0.001	0.001	0.001	0.01
Samarium (Sm)-Total	mg/L	5	0.001	5	0.001	0	0.001	0.001	0.001	0.0082
Selenium (Se)-Total	mg/L	5	0.00005	0	0.00007	0.00001	0.00006	0.00007	0.00010	0.001
Silver (Ag)-Total	mg/L	5	0.00001	5	0.00001	0	0.00001	0.00001	0.00001	0.00025
Sodium (Na)-Total	mg/L	5	0.05	0	6.27	1.78	4.97	6.19	9.15	680
Strontium (Sr)-Total	mg/L	5	0.0002	0	0.0667	0.0248	0.0504	0.0652	0.1078	7
Sulfur (S)-Total	mg/L	5	0.5	0	1.3	0.3	0.9	1.6	1.6	-
Thallium (Tl)-Total	mg/L	5	0.00001	5	0.00001	0	0.00001	0.00001	0.00001	0.0008
Tin (Sn)-Total	mg/L	5	0.0001	5	0.0001	0	0.0001	0.0001	0.0001	0.073
Titanium (Ti)-Total	mg/L	5	0.0003	5	0.0003	0	0.0003	0.0003	0.0003	0.076
Tungsten (W)-Total	mg/L	5	0.0001	5	0.0001	0	0.0001	0.0001	0.0001	0.03
Uranium (U)-Total	mg/L	5	0.00001	0	0.00020	0.00001	0.00019	0.00020	0.00022	0.015
Vanadium (V)-Total	mg/L	5	0.0005	5	0.0005	0	0.0005	0.0005	0.0005	0.12
Zinc (Zn)-Total	mg/L	5	0.003	5	0.003	0	0.003	0.003	0.003	0.02
Zirconium (Zr)-Total	mg/L	5	0.0002	5	0.0002	0	0.0002	0.0002	0.0002	0.004
Metals - dissolved										
Aluminum	mg/L	5	0.001	1	0.001	0	0.001	0.001	0.002	-
Antimony	mg/L	5	0.0001	5	0.0001	0	0.0001	0.0001	0.0001	-
Arsenic	mg/L	5	0.0001	0	0.0002	0	0.0002	0.0002	0.0003	-
Barium	mg/L	5	0.0001	0	0.0110	0.0045	0.0085	0.0102	0.0186	-
Beryllium	mg/L	5	0.00002	5	0.00002	0	0.00002	0.00002	0.00002	-
Bismuth	mg/L	5	0.00005	5	0.00005	0	0.00005	0.00005	0.00005	-
Boron	mg/L	5	0.01	5	0.01	0	0.01	0.01	0.01	-
Cadmium	mg/L	5	0.000005	5	0.000005	0	0.000005	0.000005	0.000005	-
Calcium	mg/L	5	0.05	0	44.87	10.25	33.26	44.00	57.86	-
Chromium	mg/L	5	0.0005	5	0.0005	0	0.0005	0.0005	0.0005	-
Cobalt	mg/L	5	0.0001	5	0.0001	0	0.0001	0.0001	0.0001	-
Copper	mg/L	5	0.0002	1	0.0003	0.0002	0.0002	0.0003	0.0006	0.00611
Iron	mg/L	5	0.01	4	0.02	0.06	0.01	0.01	0.13	-
Lead	mg/L	5	0.00005	5	0.00005	0	0.00005	0.00005	0.00005	0.012
Lithium	mg/L	5	0.001	1	0.001	0	0.001	0.001	0.001	-
Magnesium	mg/L	5	0.005	0	22.919	3.148	20.080	21.600	27.820	-
Manganese	mg/L	5	0.0001	0	0.0029	0.3481	0.0005	0.0007	0.6971	0.26
Mercury	mg/L	5	0.000005	5	0.000005	0	0.000005	0.000005	0.000005	-
Molybdenum	mg/L	5	0.00005	1	0.00008	0.00002	0.00006	0.00009	0.00010	-
Nickel	mg/L	5	0.0005	5	0.0005	0	0.0005	0.0005	0.0005	-
Phosphorus	mg/L	5	0.05	5	0.05	0	0.05	0.05	0.05	-
Potassium	mg/L	5	0.05	0	1.05	0.06	0.98	1.05	1.14	-

Analyte	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Rhodium	mg/L	5	0.001	5	0.001	0	0.001	0.001	0.001	-
Ruthenium	mg/L	5	0.001	5	0.001	0	0.001	0.001	0.001	-
Samarium	mg/L	5	0.001	5	0.001	0	0.001	0.001	0.001	-
Selenium	mg/L	5	0.00005	0	0.00011	0.00008	0.00006	0.00008	0.00024	-
Silver	mg/L	5	0.00001	5	0.00001	0	0.00001	0.00001	0.00001	-
Sodium	mg/L	5	0.05	0	5.28	2.38	2.70	6.39	8.85	-
Strontium	mg/L	5	0.0002	0	0.0682	0.0235	0.0534	0.0639	0.1072	2.5
Sulfur	mg/L	5	0.5	0	1.5	0.2	1.3	1.5	1.7	-
Thallium	mg/L	5	0.00001	5	0.00001	0	0.00001	0.00001	0.00001	-
Tin	mg/L	5	0.0001	5	0.0001	0	0.0001	0.0001	0.0001	-
Titanium	mg/L	5	0.0003	5	0.0003	0	0.0003	0.0003	0.0003	-
Tungsten	mg/L	5	0.0001	5	0.0001	0	0.0001	0.0001	0.0001	-
Uranium	mg/L	5	0.00001	0	0.00025	0.00012	0.00020	0.00021	0.00046	-
Vanadium	mg/L	5	0.0005	5	0.0005	0	0.0005	0.0005	0.0005	-
Zinc	mg/L	5	0.001	2	0.003	0.005	0.001	0.001	0.011	0.031
Zirconium	mg/L	5	0.0003	5	0.0003	0	0.0003	0.0003	0.0003	-
Nutrients & General Chemistry										
Alkalinity, Total (as CaCO3)	mg/L	5	1	0	188	37	155	182	246	20
Alkalinity, Bicarbonate (as CaCO3)	mg/L	5	1	0	177	37	144	171	234	-
Bromide (Br)	mg/L	5	0.1	5	0.1	0	0.1	0.1	0.1	-
Alkalinity, Carbonate (as CaCO3)	mg/L	5	1	0	10	3	6	12	14	-
Chloride (Cl)	mg/L	5	0.5	0	10.2	2.9	8.0	10.2	14.9	120
Cyanide, Total	mg/L	5	0.002	5	0.002	0	0.002	0.002	0.002	0.005
Fluoride (F)	mg/L	5	0.02	0	0.03	0	0.02	0.03	0.03	0.12
Alkalinity, Hydroxide (as CaCO3)	mg/L	5	1	5	1	0	1	1	1	-
pH	pH units	5	0.1	0	8.5	0.1	8.4	8.5	8.6	6.5 - 9
Conductivity	µS	5	1	0	368	69	314	364	477	-
Ion Balance	%	5	0.01	1	-0.64	0.84	-1.90	-0.30	0.10	-
Total Dissolved Solids	mg/L	5	10	0	190	41	154	190	255	-
Hardness (as CaCO3)	mg/L	5	0.5	0	184.2	32.5	155.2	186.0	233.8	-
Total Suspended Solids	mg/L	5	3	3	4	4	3	3	11	-
Turbidity	NTU	5	0.1	0	1.6	1.3	0.6	2.1	3.8	50
Ammonia, Total (as N)	mg/L	5	0.005	0	0.293	0.777	0.068	0.405	1.964	0.259
Nitrate and Nitrite as N	mg/L	5	0.02	4	0.04	0.08	0.02	0.02	0.19	-
Total Organic Carbon	mg/L	5	0.5	0	5.2	1.0	3.9	5.6	6.3	-
Total Inorganic Carbon	mg/L	5	1	0	40	7	34	37	51	-
Dissolved Organic Carbon	mg/L	5	0.5	0	5.5	1.1	4.2	5.8	6.9	-
Phosphorus, Total	mg/L	5	0.002	0	0.015	0.016	0.009	0.011	0.044	0.01
Total Kjeldahl Nitrogen	mg/L	5	0.05	0	0.96	0.71	0.46	0.87	2.21	-
Chlorophyll a	µg/L	5	0.002 - 0.010	0	2.83	4.00	1.36	1.58	10.39	-
Biological Oxygen Demand	mg/L	5	2	5	3	0	2	3	3	-

Analyte	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Total Coliforms	CFU/100mL	5	1	1	55	806	4	10	1680	-
E. Coli	CFU/100mL	5	1	2	1	1	1	1	3	100

[1] Cells containing grey highlights indicate exceedances of the WQG. Note that datum is not flagged as an exceedance if the measured concentration was reported by the laboratory as <RDL where the RDL is greater than or equal to the WQG due to measurement uncertainty.

[2] In the fall of Year 2, ALS laboratories changed the physical laboratory location where radionuclide analysis was completed. During the changeover, the shallow and deep samples collected from Hines Lake in fall year 2 were lost, therefore no shallow/deep radionuclide results are reported for Hines Lake in Fall Year 2.

Appendix A, Table 11

Year 2 Surface Water Chemistry Results – Lake Huron Potential Exposure [1]

Analyte	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Radionuclides - Tier 1										
Tritium	Bq/L	3	14.8	3	14.8	0	14.8	14.8	14.8	7000
Carbon-14	Bq/L	3	18.5	3	18.5	0	18.5	18.5	18.5	200
Strontium-90	Bq/L	3	0.037	3	0.037	0	0.037	0.037	0.037	5
Iodine-129	Bq/L	3	0.37	3	0.37	0	0.37	0.37	0.37	1
Cesium-137	Bq/L	3	0.37	3	0.37	0	0.37	0.37	0.37	10
Cobalt-60	Bq/L	3	0.37	3	0.37	0	0.37	0.37	0.37	40
Ruthenium-106	Bq/L	3	3	3	3	0	3	3	3	20
Gross alpha	Bq/L	3	0.111	3	0.111	0	0.111	0.111	0.111	-
Gross beta	Bq/L	3	0.148	2	0.103	0.047	0.059	0.148	0.148	-
Radionuclides - Tier 2 natural										
Uranium-238	Bq/L	3	0.0074	1	0.0096	0.0025	0.0076	0.0089	0.0129	3
Uranium-234	Bq/L	3	0.0074	1	0.0110	0.0030	0.0079	0.0121	0.0144	3
Uranium-235	Bq/L	3	0.0074	3	0.0074	0	0.0074	0.0074	0.0074	3
Potassium-40	Bq/L	3	7.1	3	7.1	0	7.1	7.1	7.1	-
Thorium-228	Bq/L	3	0.0074	3	0.0074	0	0.0074	0.0074	0.0074	2
Thorium-230	Bq/L	3	0.0074	3	0.0074	0	0.0074	0.0074	0.0074	0.6
Thorium-232	Bq/L	3	0.0074	3	0.0074	0	0.0074	0.0074	0.0074	0.6
Radium-226	Bq/L	3	0.037	2	0.032	0.006	0.025	0.037	0.037	0.5
Metals - total										
Aluminum (Al)-Total	mg/L	3	0.003	0	0.189	0.197	0.072	0.239	0.503	1.5
Antimony (Sb)-Total	mg/L	3	0.0001	3	0.0001	0	0.0001	0.0001	0.0001	0.006
Arsenic (As)-Total	mg/L	3	0.0001	0	0.0005	0.0002	0.0004	0.0005	0.0008	0.005
Barium (Ba)-Total	mg/L	3	0.0001	0	0.0183	0.0033	0.0156	0.0172	0.0226	1
Beryllium (Be)-Total	mg/L	3	0.00002	3	0.00002	0	0.00002	0.00002	0.00002	1.1
Bismuth (Bi)-Total	mg/L	3	0.00005	3	0.00005	0	0.00005	0.00005	0.00005	17.5
Boron (B)-Total	mg/L	3	0.01	0	0.02	0.01	0.01	0.02	0.02	1.5
Cadmium (Cd)-Total	mg/L	3	0.000005	2	0.000006	0.000002	0.000005	0.000005	0.000009	0.00021
Calcium (Ca)-Total	mg/L	3	0.05	0	64.91	6.55	58.51	64.00	72.82	1000
Cesium (Cs)-Total	mg/L	3	0.00001	1	0.00002	0.00002	0.00001	0.00003	0.00005	-

Analyte	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Chromium (Cr)-Total	mg/L	3	0.0005	1	0.0006	0.0002	0.0005	0.0005	0.0008	-
Cobalt (Co)-Total	mg/L	3	0.0001	1	0.0002	0	0.0001	0.0002	0.0002	0.0012
Copper (Cu)-Total	mg/L	3	0.0005	0	0.0009	0.0003	0.0006	0.0011	0.0012	0.0031
Iron (Fe)-Total	mg/L	3	0.01	0	0.23	0.18	0.10	0.29	0.50	3.8
Lead (Pb)-Total	mg/L	3	0.00005	0	0.00016	0.00007	0.00009	0.00020	0.00024	0.00477
Lithium (Li)-Total	mg/L	3	0.001	0	0.002	0	0.002	0.002	0.002	2.5
Magnesium (Mg)-Total	mg/L	3	0.005	0	21.993	3.371	19.810	19.900	26.290	82
Manganese (Mn)-Total	mg/L	3	0.0001	0	0.0103	0.0058	0.0052	0.0152	0.0170	0.12
Mercury (Hg)-Total	mg/L	3	0.000005	3	0.000005	0	0.000005	0.000005	0.000005	0.000026
Molybdenum (Mo)-Total	mg/L	3	0.00005	0	0.00035	0.00008	0.00026	0.00039	0.00042	0.073
Nickel (Ni)-Total	mg/L	3	0.0005	1	0.0006	0.0001	0.0005	0.0007	0.0007	0.1217
Phosphorus (P)-Total	mg/L	3	0.05	3	0.05	0.00	0.05	0.05	0.05	-
Potassium (K)-Total	mg/L	3	0.05	0	1.78	0.17	1.59	1.80	1.97	53
Rhodium (Rh)-Total	mg/L	3	0.001	3	0.001	0	0.001	0.001	0.001	0.01
Ruthenium (Ru)-Total	mg/L	3	0.001	3	0.001	0	0.001	0.001	0.001	0.01
Samarium (Sm)-Total	mg/L	3	0.001	3	0.001	0	0.001	0.001	0.001	0.0082
Selenium (Se)-Total	mg/L	3	0.00005	0	0.00018	0.00005	0.00013	0.00021	0.00023	0.001
Silver (Ag)-Total	mg/L	3	0.00001	2	0.00001	0	0.00001	0.00001	0.00001	0.00025
Sodium (Na)-Total	mg/L	3	0.05	0	7.43	0.83	6.48	7.83	8.23	680
Strontium (Sr)-Total	mg/L	3	0.0002	0	0.5408	0.2050	0.3470	0.6080	0.7970	7
Sulfur (S)-Total	mg/L	3	0.5	0	14.9	5.5	9.5	18.6	20.9	-
Thallium (Tl)-Total	mg/L	3	0.00001	3	0.00001	0	0.00001	0.00001	0.00001	0.0008
Tin (Sn)-Total	mg/L	3	0.0001	3	0.0001	0	0.0001	0.0001	0.0001	0.073
Titanium (Ti)-Total	mg/L	3	0.0003	2	0.0049	0.0047	0.0019	0.0060	0.0122	0.076
Tungsten (W)-Total	mg/L	3	0.0001	3	0.0001	0	0.0001	0.0001	0.0001	0.03
Uranium (U)-Total	mg/L	3	0.00001	0	0.00061	0.00008	0.00053	0.00062	0.00070	0.015
Vanadium (V)-Total	mg/L	3	0.0005	1	0.0008	0.0003	0.0006	0.0011	0.0011	0.12
Zinc (Zn)-Total	mg/L	3	0.003	2	0.003	0	0.003	0.003	0.003	0.02
Zirconium (Zr)-Total	mg/L	3	0.0002	1	0.0008	0.0025	0.0002	0.0004	0.0051	0.004
Metals - dissolved										
Aluminum	mg/L	3	0.001	0	0.011	0.005	0.007	0.011	0.017	-
Antimony	mg/L	3	0.0001	3	0.0001	0	0.0001	0.0001	0.0001	-
Arsenic	mg/L	3	0.0001	0	0.0005	0.0002	0.0003	0.0005	0.0007	-
Barium	mg/L	3	0.0001	0	0.0166	0.0030	0.0138	0.0164	0.0204	-
Beryllium	mg/L	3	0.00002	3	0.00002	0	0.00002	0.00002	0.00002	-
Bismuth	mg/L	3	0.00005	3	0.00005	0	0.00005	0.00005	0.00005	-
Boron	mg/L	3	0.01	1	0.02	0	0.01	0.02	0.02	-
Cadmium	mg/L	3	0.000005	3	0.000005	0	0.000005	0.000005	0.000005	-
Calcium	mg/L	3	0.05	0	59.54	7.72	51.61	59.80	68.62	-
Chromium	mg/L	3	0.0005	3	0.0005	0	0.0005	0.0005	0.0005	-
Cobalt	mg/L	3	0.0001	3	0.0001	0	0.0001	0.0001	0.0001	-

Analyte	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Copper	mg/L	3	0.0002	0	0.0009	0.0005	0.0005	0.0011	0.0016	0.00611
Iron	mg/L	3	0.01	0	0.02	0	0.02	0.03	0.03	-
Lead	mg/L	3	0.00005	3	0.00005	0	0.00005	0.00005	0.00005	0.012
Lithium	mg/L	3	0.001	1	0.002	0	0.001	0.002	0.002	-
Magnesium	mg/L	3	0.005	0	20.661	3.688	17.760	19.200	25.410	-
Manganese	mg/L	3	0.0001	0	0.0026	0.0006	0.0020	0.0026	0.0033	0.26
Mercury	mg/L	3	0.000005	3	0.000005	0	0.000005	0.000005	0.000005	-
Molybdenum	mg/L	3	0.00005	0	0.00035	0.00007	0.00027	0.00039	0.00042	-
Nickel	mg/L	3	0.0005	3	0.0005	0	0.0005	0.0005	0.0005	-
Phosphorus	mg/L	3	0.05	3	0.05	0	0.05	0.05	0.05	-
Potassium	mg/L	3	0.05	0	1.71	0.21	1.54	1.64	1.97	-
Rhodium	mg/L	3	0.001	3	0.001	0	0.001	0.001	0.001	-
Ruthenium	mg/L	3	0.001	3	0.001	0	0.001	0.001	0.001	-
Samarium	mg/L	3	0.001	3	0.001	0	0.001	0.001	0.001	-
Selenium	mg/L	3	0.00005	0	0.00016	0.00003	0.00013	0.00018	0.00019	-
Silver	mg/L	3	0.00001	3	0.00001	0	0.00001	0.00001	0.00001	-
Sodium	mg/L	3	0.05	0	7.29	0.75	6.61	7.10	8.22	-
Strontium	mg/L	3	0.0002	0	0.4969	0.2037	0.3304	0.4870	0.7732	2.5
Sulfur	mg/L	3	0.5	0	13.7	5.0	8.9	15.8	19.8	-
Thallium	mg/L	3	0.00001	3	0.00001	0	0.00001	0.00001	0.00001	-
Tin	mg/L	3	0.0001	3	0.0001	0	0.0001	0.0001	0.0001	-
Titanium	mg/L	3	0.0003	1	0.0006	0.0005	0.0003	0.0004	0.0014	-
Tungsten	mg/L	3	0.0001	3	0.0001	0	0.0001	0.0001	0.0001	-
Uranium	mg/L	3	0.00001	0	0.00057	0.00009	0.00047	0.00061	0.00067	-
Vanadium	mg/L	3	0.0005	2	0.0005	0.0001	0.0005	0.0005	0.0006	-
Zinc	mg/L	3	0.001	1	0.001	0.001	0.001	0.001	0.002	0.031
Zirconium	mg/L	3	0.0003	3	0.0003	0	0.0003	0.0003	0.0003	-
Nutrients & General Chemistry										
Alkalinity, Total (as CaCO3)	mg/L	3	1	0	190	34	152	207	224	20
Alkalinity, Bicarbonate (as CaCO3)	mg/L	3	1	0	177	31	142	200	205	-
Bromide (Br)	mg/L	3	0.1	3	0.1	0	0.1	0.1	0.1	-
Alkalinity, Carbonate (as CaCO3)	mg/L	3	1	0	11	6	7	10	19	-
Chloride (Cl)	mg/L	3	0.5	0	13.4	1.2	12.0	14.2	14.4	120
Cyanide, Total	mg/L	3	0.002	3	0.002	0	0.002	0.002	0.002	0.005
Fluoride (F)	mg/L	3	0.02	0	0.10	0.01	0.09	0.10	0.12	0.12
Alkalinity, Hydroxide (as CaCO3)	mg/L	3	1	3	1	0	1	1	1	-
pH	pH units	3	0.1	0	8.5	0.1	8.4	8.5	8.6	6.5 - 9
Conductivity	µS	3	1 - 1	0	485.734	66.595	415.700	494.000	562.400	-
Ion Balance	%	3	0.01	0	3.49	3.81	0.02	1.92	8.05	-
Total Dissolved Solids	mg/L	3	10	0	258	52	207	259	321	-
Hardness (as CaCO3)	mg/L	3	0.5	0	252.3	29.6	227.5	241.0	289.6	-

Analyte	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Total Suspended Solids	mg/L	3	3	1	9	6	4	16	16	-
Turbidity	NTU	3	0.1	0	4.4	3.3	1.9	7.2	8.9	50
Ammonia, Total (as N)	mg/L	3	0.005	0	0.052	0.049	0.023	0.052	0.128	0.259
Nitrate and Nitrite as N	mg/L	3	0.02	0	1.22	0.97	0.67	1.00	2.67	-
Total Organic Carbon	mg/L	3	0.5	0	6.4	0.6	5.8	6.2	7.1	-
Total Inorganic Carbon	mg/L	3	1	0	40	7	32	45	46	-
Dissolved Organic Carbon	mg/L	3	0.5	0	5.6	1.6	3.9	6.9	7.1	-
Phosphorus, Total	mg/L	3	0.002	0	0.020	0.015	0.010	0.019	0.042	0.01
Total Kjeldahl Nitrogen	mg/L	3	0.05	0	0.52	0.15	0.37	0.59	0.69	-
Chlorophyll a	µg/L	3	0.002 - 0.010	0	1.47	0.32	1.17	1.45	1.87	-
Biological Oxygen Demand	mg/L	3	2	3	2	0	2	2	2	-
Total Coliforms	CFU/100mL	3	1	0	134	497	45	400	1120	-
E. Coli	CFU/100mL	3	1	0	27	32	10	28	78	100

[1] Cells containing grey highlights indicate exceedances of the WQG. Note that datum is not flagged as an exceedance if the measured concentration was reported by the laboratory as <RDL where the RDL is greater than or equal to the WQG due to measurement uncertainty.

Appendix A, Table 12

Year 2 Surface Water Chemistry Results – Greenock Wetland Potential Exposure [1]

Parameter	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Radionuclides - Tier 1										
Tritium	Bq/L	13	14.8	10	15.9	2.4	14.8	14.8	21.0	7000
Carbon-14	Bq/L	13	18.5	13	18.5	0	18.5	18.5	18.5	200
Strontium-90	Bq/L	13	0.037	13	0.0370	0	0.0370	0.0370	0.0370	5
Iodine-129	Bq/L	13	0.37	13	0.370	0	0.370	0.370	0.370	1
Cesium-137	Bq/L	13	0.37	13	0.370	0	0.370	0.370	0.370	10
Cobalt-60	Bq/L	13	0.37	13	0.370	0	0.370	0.370	0.370	40
Ruthenium-106	Bq/L	13	3	13	3.00	0	3.00	3.00	3.00	20
Gross alpha	Bq/L	13	0.111	13	0.111	0	0.111	0.111	0.111	-
Gross beta	Bq/L	13	0.148	8	0.127	0.019	0.098	0.138	0.148	-
Radionuclides - Tier 2 natural										
Uranium-238	Bq/L	13	0.0074	5	0.00664	0.00501	0.00359	0.00738	0.01720	3
Uranium-234	Bq/L	13	0.0074	6	0.00841	0.00547	0.00533	0.00738	0.01864	3
Uranium-235	Bq/L	13	0.0074	10	0.00522	0.00240	0.00139	0.00738	0.00740	3
Potassium-40	Bq/L	13	7.1	13	7.1	0	7.1	7.1	7.1	-
Thorium-228	Bq/L	13	0.0074	11	0.00682	0.00114	0.00490	0.00738	0.00740	2
Thorium-230	Bq/L	13	0.0074	6	0.00629	0.00205	0.00327	0.00738	0.00938	0.6

Parameter	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Thorium-232	Bq/L	13	0.0074	10	0.00587	0.00195	0.00218	0.00738	0.00740	0.6
Radium-226	Bq/L	13	0.037	7	0.0265	0.0096	0.0146	0.0370	0.0370	0.5
Metals - total										
Aluminum (Al)-Total	mg/L	13	0.003	0	0.0356	0.0444	0.0111	0.0420	0.1180	1.5
Antimony (Sb)-Total	mg/L	13	0.0001	10	0.00010	0	0.00010	0.00010	0.00010	0.006
Arsenic (As)-Total	mg/L	13	0.0001	0	0.00068	0.00109	0.00020	0.00057	0.00294	0.005
Barium (Ba)-Total	mg/L	13	0.0001	0	0.03	0.03	0.01	0.03	0.10	1
Beryllium (Be)-Total	mg/L	13	0.00002	13	0.000020	0	0.000020	0.000020	0.000020	1.1
Bismuth (Bi)-Total	mg/L	13	0.00005	13	0.000058	0.000006	0.000050	0.000062	0.000062	17.5
Boron (B)-Total	mg/L	13	0.01	9	0.011	0.002	0.010	0.010	0.015	1.5
Cadmium (Cd)-Total	mg/L	13	0.000005	3	0.000010	0.000008	0.0000056	0.000007	0.0000253	0.00021
Calcium (Ca)-Total	mg/L	13	0.05	0	76.4	27.0	44.6	79.2	124.7	1000
Cesium (Cs)-Total	mg/L	13	0.00001	11	0.000011	0.000002	0.000010	0.000010	0.000014	-
Chromium (Cr)-Total	mg/L	13	0.0005	11	0.00059	0.00006	0.00050	0.00062	0.00064	-
Cobalt (Co)-Total	mg/L	13	0.0001	4	0.00	0	0.00	0.00	0.00	0.0012
Copper (Cu)-Total	mg/L	13	0.0005	5	0.00062	0.00016	0.00050	0.00055	0.00096	0.0031
Iron (Fe)-Total	mg/L	13	0.01	0	0.37	0.60	0.06	0.44	1.70	3.8
Lead (Pb)-Total	mg/L	13	0.00005	2	0.000148	0.000173	0.000057	0.000164	0.000468	0.00477
Lithium (Li)-Total	mg/L	13	0.001	10	0.0011	0.0002	0.0010	0.0010	0.0015	2.5
Magnesium (Mg)-Total	mg/L	13	0.005	0	19.43	6.05	11.59	22.70	28.06	82
Manganese (Mn)-Total	mg/L	13	0.0001	0	0.08	0.12	0.02	0.06	0.33	0.12
Mercury (Hg)-Total	mg/L	13	0.000005	10	0.0000060	0.0000011	0.0000050	0.0000062	0.0000080	0.000026
Molybdenum (Mo)-Total	mg/L	13	0.00005	0	0.00	0	0.00	0.00	0.00	0.073
Nickel (Ni)-Total	mg/L	13	0.0005	8	0.00072	0.00020	0.00050	0.00062	0.00103	0.1217
Phosphorus (P)-Total	mg/L	13	0.05	7	0.072	0.036	0.055	0.062	0.155	-
Potassium (K)-Total	mg/L	13	0.05	0	0.78	0.79	0.12	0.82	2.27	53
Rhodium (Rh)-Total	mg/L	13	0.001	13	0.0010	0	0.0010	0.0010	0.0010	0.01
Ruthenium (Ru)-Total	mg/L	13	0.001	13	0.0010	0	0.0010	0.0010	0.0010	0.01
Samarium (Sm)-Total	mg/L	13	0.001	13	0.0010	0	0.0010	0.0010	0.0010	0.0082
Selenium (Se)-Total	mg/L	13	0.00005	0	0.000169	0.000100	0.000086	0.000140	0.000342	0.001
Silver (Ag)-Total	mg/L	13	0.00001	13	0.000010	0	0.000010	0.000010	0.000010	0.00025
Sodium (Na)-Total	mg/L	13	0.05	0	7.29	87.85	1.29	3.54	235.00	680
Strontium (Sr)-Total	mg/L	13	0.0002	0	0.173	0.170	0.063	0.134	0.512	7
Sulfur (S)-Total	mg/L	13	0.5	2	1.32	1.61	0.62	0.86	5.09	-
Thallium (Tl)-Total	mg/L	13	0.00001	13	0.000010	0	0.000010	0.000010	0.000010	0.0008
Tin (Sn)-Total	mg/L	13	0.0001	13	0.00010	0	0.00010	0.00010	0.00010	0.073
Titanium (Ti)-Total	mg/L	13	0.0003	4	0.00100	0.00108	0.00023	0.00131	0.00311	0.076
Tungsten (W)-Total	mg/L	13	0.0001	12	0.00010	0.00002	0.00010	0.00010	0.00012	0.03
Uranium (U)-Total	mg/L	13	0.00001	0	0.000258	0.000455	0.000072	0.000247	0.001264	0.015
Vanadium (V)-Total	mg/L	13	0.0005	9	0.00062	0.00011	0.00050	0.00062	0.00080	0.12
Zinc (Zn)-Total	mg/L	13	0.003	5	0.0040	0.0019	0.0030	0.0034	0.0077	0.02

Parameter	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Zirconium (Zr)-Total	mg/L	13	0.0002	10	0.00	0	0.00	0.00	0.00	0.004
Metals - dissolved										
Aluminum	mg/L	13	0.001	0	0.0078	0.0117	0.0018	0.0063	0.0370	-
Antimony	mg/L	13	0.0001	13	0.00010	0	0.00010	0.00010	0.00010	-
Arsenic	mg/L	13	0.0001	0	0.00055	0.00110	0.00016	0.00048	0.00287	-
Barium	mg/L	13	0.0001	0	0.0253	0.0185	0.0119	0.0248	0.0697	-
Beryllium	mg/L	13	0.00002	13	0.000020	0	0.000020	0.000020	0.000020	-
Bismuth	mg/L	13	0.00005	13	0.000059	0.000005	0.000050	0.000062	0.000062	-
Boron	mg/L	13	0.01	9	0.011	0.002	0.010	0.010	0.014	-
Cadmium	mg/L	13	0.000005	9	0.0000063	0.0000008	0.0000050	0.0000062	0.0000076	-
Calcium	mg/L	13	0.05	0	74.6	22.4	46.2	77.1	118.6	-
Chromium	mg/L	13	0.0005	12	0.00059	0.00005	0.00050	0.00062	0.00062	-
Cobalt	mg/L	13	0.0001	6	0.00018	0.00018	0.00010	0.00016	0.00054	-
Copper	mg/L	13	0.0002	4	0.00039	0.00028	0.00020	0.00034	0.00095	0.00611
Iron	mg/L	13	0.01	2	0.16	0.40	0.01	0.27	1.15	-
Lead	mg/L	13	0.00005	8	0.000064	0.000010	0.000052	0.000062	0.000081	0.012
Lithium	mg/L	13	0.001	10	0.0011	0.0002	0.0010	0.0010	0.0015	-
Magnesium	mg/L	13	0.005	0	19.05	5.97	11.86	21.30	27.90	-
Manganese	mg/L	13	0.0001	0	0.06	0.13	0.01	0.04	0.32	0.26
Mercury	mg/L	13	0.000005	11	0.0000050	0.0000013	0.0000035	0.0000062	0.0000062	-
Molybdenum	mg/L	13	0.00005	1	0.000147	0.000271	0.000066	0.000124	0.000698	-
Nickel	mg/L	13	0.0005	8	0.00059	0.00022	0.00035	0.00062	0.00095	-
Phosphorus	mg/L	13	0.05	13	0.058	0.006	0.050	0.062	0.062	-
Potassium	mg/L	13	0.05	0	0.79	0.80	0.13	0.76	2.31	-
Rhodium	mg/L	13	0.001	13	0.0010	0	0.0010	0.0010	0.0010	-
Ruthenium	mg/L	13	0.001	13	0.0010	0	0.0010	0.0010	0.0010	-
Samarium	mg/L	13	0.001	13	0.0010	0	0.0010	0.0010	0.0010	-
Selenium	mg/L	13	0.00005	0	0.000168	0.000383	0.000070	0.000111	0.000991	-
Silver	mg/L	13	0.00001	13	0.000010	0	0.000010	0.000010	0.000010	-
Sodium	mg/L	13	0.05	0	7.5	86.5	1.3	3.9	232.2	-
Strontium	mg/L	13	0.0002	0	0.174	0.169	0.072	0.128	0.502	2.5
Sulfur	mg/L	13	0.5	3	1.55	5.05	0.61	0.76	10.74	-
Thallium	mg/L	13	0.00001	13	0.000010	0	0.000010	0.000010	0.000010	-
Tin	mg/L	13	0.0001	13	0.00010	0	0.00010	0.00010	0.00010	-
Titanium	mg/L	13	0.0003	7	0.00053	0.00049	0.00030	0.00030	0.00154	-
Tungsten	mg/L	13	0.0001	13	0.00010	0	0.00010	0.00010	0.00010	-
Uranium	mg/L	13	0.00001	0	0.000229	0.000419	0.000067	0.000225	0.001158	-
Vanadium	mg/L	13	0.0005	11	0.00058	0.00006	0.00050	0.00062	0.00064	-
Zinc	mg/L	13	0.001	0	0.0033	0.0044	0.0014	0.0032	0.0114	0.031
Zirconium	mg/L	13	0.0003	11	0.00030	0.00001	0.00030	0.00030	0.00031	-
Nutrients & General Chemistry										

Parameter	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Alkalinity, Total (as CaCO3)	mg/L	13	1	0	258	62	174	271	371	20
Alkalinity, Bicarbonate (as CaCO3)	mg/L	13	1	0	257	63	174	271	371	-
Bromide (Br)	mg/L	13	0.1	12	0.14	0.17	0.10	0.10	0.55	-
Alkalinity, Carbonate (as CaCO3)	mg/L	13	1	10	1.6	5.0	1.0	1.0	11.8	-
Chloride (Cl)	mg/L	13	0.5	0	15.5	144.5	2.8	6.7	379.4	120
Cyanide, Total	mg/L	13	0.002	13	0.0020	0	0.0020	0.0020	0.0020	0.005
Fluoride (F)	mg/L	13	0.02	0	0.10	0.06	0.04	0.09	0.23	0.12
Alkalinity, Hydroxide (as CaCO3)	mg/L	13	1	13	1.0	0.0	1.0	1.0	1.0	-
pH	pH units	13	0.1	0	8.09	0.28	7.66	8.14	8.47	6.5 - 9
Conductivity	µS	13	1	0	627	492	336	565	1788	-
Ion Balance	%	13	0.01	1	0.8	3.8	-3.5	0.2	7.1	-
Total Dissolved Solids	mg/L	13	10	0	337	268	158	322	938	-
Hardness (as CaCO3)	mg/L	13	0.5	0	270	80	167	288	403	-
Total Suspended Solids	mg/L	13	3	1	13.8	27.4	3.1	17.4	76.0	-
Turbidity	NTU	13	0.1	0	4.14	8.52	1.06	3.50	22.90	50
Ammonia, Total (as N)	mg/L	13	0.005	0	0.096	0.052	0.048	0.104	0.190	0.259
Nitrate and Nitrite as N	mg/L	13	0.02	11	0.0356	0.0667	0.0224	0.0224	0.1704	-
Total Organic Carbon	mg/L	13	0.5	0	20.0	13.1	8.1	20.7	46.6	-
Total Inorganic Carbon	mg/L	13	1	0	55.8	11.5	38.3	60.3	73.7	-
Dissolved Organic Carbon	mg/L	13	0.5	0	17.8	13.0	6.2	21.2	44.3	-
Phosphorus, Total	mg/L	13	0.002	0	0.0457	0.0489	0.0162	0.0368	0.1450	0.01
Total Kjeldahl Nitrogen	mg/L	13	0.05	0	1.44	0.60	0.69	1.58	2.37	-
Chlorophyll a	µg/L	13	0.002 - 0.010	0	4.155	20.939	0.265	6.590	59.720	-
Biological Oxygen Demand	mg/L	13	2	3	4.9	9.6	2.1	4.2	22.9	-
Total Coliforms	CFU/100mL	13	1	0	2683	12954	208	3000	33400	-
E. Coli	CFU/100mL	13	1	6	9	451	1	10	854	100

[1] Cells containing grey highlights indicate exceedances of the WQG. Note that datum is not flagged as an exceedance if the measured concentration was reported by the laboratory as <RDL where the RDL is greater than or equal to the WQG due to measurement uncertainty.

Appendix A, Table 13

Year 2 Surface Water Chemistry Results – Teeswater Wetland Potential Exposure [1]

Parameter	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Radionuclides - Tier 1										
Tritium	Bq/L	13	14.8	12	15.0	0.6	14.8	14.8	15.7	7000
Carbon-14	Bq/L	13	18.5	13	18.5	0	18.5	18.5	18.5	200
Strontium-90	Bq/L	13	0.037	13	0.037	0	0.037	0.037	0.037	5
Iodine-129	Bq/L	13	0.37	13	0.37	0	0.37	0.37	0.37	1
Cesium-137	Bq/L	13	0.37	13	0.37	0	0.37	0.37	0.37	10
Cobalt-60	Bq/L	13	0.37	13	0.37	0	0.37	0.37	0.37	40
Ruthenium-106	Bq/L	13	3	13	3	0	3	3	3	20

Parameter	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Gross alpha	Bq/L	13	0.111	12	0.110	0.003	0.107	0.111	0.111	-
Gross beta	Bq/L	13	0.148	7	0.148	0.072	0.112	0.138	0.283	-
Radionuclides - Tier 2 natural										
Uranium-238	Bq/L	13	0.0074	3	0.0064	0.0023	0.0035	0.0074	0.0100	3
Uranium-234	Bq/L	13	0.0074	4	0.0077	0.0021	0.0059	0.0074	0.0117	3
Uranium-235	Bq/L	13	0.0074	11	0.0062	0.0018	0.0029	0.0074	0.0074	3
Potassium-40	Bq/L	13	7.1	12	6.74	0.98	5.69	7.10	7.10	-
Thorium-228	Bq/L	13	0.0074	13	0.0074	0	0.0074	0.0074	0.0074	2
Thorium-230	Bq/L	13	0.0074	9	0.0072	0.0019	0.0043	0.0074	0.0104	0.6
Thorium-232	Bq/L	13	0.0074	13	0.0074	0.0000	0.0074	0.0074	0.0074	0.6
Radium-226	Bq/L	13	0.037	8	0.033	0.009	0.018	0.037	0.045	0.5
Metals - total										
Aluminum (Al)-Total	mg/L	13	0.001 - 0.003	0	0.025	0.077	0.006	0.032	0.155	1.5
Antimony (Sb)-Total	mg/L	13	0.0001	13	0.0001	0	0.0001	0.0001	0.0001	0.006
Arsenic (As)-Total	mg/L	13	0.0001	0	0.0003	0	0.0001	0.0003	0.0008	0.005
Barium (Ba)-Total	mg/L	13	0.0001	0	0.0337	0.0513	0.0070	0.0464	0.1554	1
Beryllium (Be)-Total	mg/L	13	0.00002	13	0.00002	0	0.00002	0.00002	0.00002	1.1
Bismuth (Bi)-Total	mg/L	13	0.00005	13	0.00006	0.00001	0.00005	0.00006	0.00006	17.5
Boron (B)-Total	mg/L	13	0.01	8	0.01	0.01	0.01	0.01	0.03	1.5
Cadmium (Cd)-Total	mg/L	13	0.000005	5	0.000009	0.000006	0.000005	0.000009	0.000022	0.00021
Calcium (Ca)-Total	mg/L	13	0.05	0	58.47	23.30	26.46	66.80	91.36	1000
Cesium (Cs)-Total	mg/L	13	0.00001	12	0.00001	0.00001	0.00001	0.00001	0.00002	-
Chromium (Cr)-Total	mg/L	13	0.0005	11	0.0006	0.0001	0.0005	0.0006	0.0006	-
Cobalt (Co)-Total	mg/L	13	0.0001	11	0.0001	0.0001	0.0001	0.0001	0.0002	0.0012
Copper (Cu)-Total	mg/L	13	0.0005	12	0.0006	0.0001	0.0005	0.0006	0.0008	0.0031
Iron (Fe)-Total	mg/L	13	0.01	0	0.11	0.25	0.02	0.13	0.75	3.8
Lead (Pb)-Total	mg/L	13	0.00005	3	0.00010	0.00015	0.00005	0.00006	0.00043	0.00477
Lithium (Li)-Total	mg/L	13	0.001	7	0.002	0.004	0.001	0.001	0.008	2.5
Magnesium (Mg)-Total	mg/L	13	0.005	0	18.457	7.028	9.040	19.300	27.720	82
Manganese (Mn)-Total	mg/L	13	0.0001	0	0.0285	0.0422	0.0080	0.0261	0.1168	0.12
Mercury (Hg)-Total	mg/L	13	0.000005	13	0.000006	0.000001	0.000005	0.000006	0.000006	0.000026
Molybdenum (Mo)-Total	mg/L	13	0.00005	3	0.00017	0.00010	0.00006	0.00023	0.00033	0.073
Nickel (Ni)-Total	mg/L	13	0.0005	12	0.0006	0.0001	0.0005	0.0006	0.0007	0.1217
Phosphorus (P)-Total	mg/L	13	0.05	10	0.06	0.02	0.05	0.06	0.10	-
Potassium (K)-Total	mg/L	13	0.05	0	1.33	1.56	0.61	1.25	4.32	53
Rhodium (Rh)-Total	mg/L	13	0.001	13	0.001	0	0.001	0.001	0.001	0.01
Ruthenium (Ru)-Total	mg/L	13	0.001	13	0.001	0	0.001	0.001	0.001	0.01
Samarium (Sm)-Total	mg/L	13	0.001	13	0.001	0	0.001	0.001	0.001	0.0082
Selenium (Se)-Total	mg/L	13	0.00005	0	0.00009	0.00006	0.00006	0.00008	0.00021	0.001
Silver (Ag)-Total	mg/L	13	0.00001	13	0.00001	0	0.00001	0.00001	0.00001	0.00025
Sodium (Na)-Total	mg/L	13	0.05	0	2.82	29.31	1.13	1.96	47.44	680

Parameter	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Strontium (Sr)-Total	mg/L	13	0.0002	0	0.1472	0.3123	0.0299	0.1610	0.7228	7
Sulfur (S)-Total	mg/L	13	0.5	3	3.0	10.0	0.6	3.2	22.6	-
Thallium (Tl)-Total	mg/L	13	0.00001	13	0.00001	0	0.00001	0.00001	0.00001	0.0008
Tin (Sn)-Total	mg/L	13	0.0001	13	0.0001	0	0.0001	0.0001	0.0001	0.073
Titanium (Ti)-Total	mg/L	13	0.0003	4	0.0007	0.0023	0.0002	0.0006	0.0045	0.076
Tungsten (W)-Total	mg/L	13	0.0001	13	0.0001	0	0.0001	0.0001	0.0001	0.03
Uranium (U)-Total	mg/L	13	0.00001	0	0.00028	0.00022	0.00008	0.00038	0.00068	0.015
Vanadium (V)-Total	mg/L	13	0.0005	11	0.0006	0.0001	0.0005	0.0006	0.0007	0.12
Zinc (Zn)-Total	mg/L	13	0.003	11	0.003	0.001	0.003	0.003	0.005	0.02
Zirconium (Zr)-Total	mg/L	13	0.0002	13	0.0002	0	0.0002	0.0002	0.0002	0.004
Metals - dissolved										
Aluminum	mg/L	13	0.001	0	0.003	0.002	0.002	0.003	0.006	-
Antimony	mg/L	13	0.0001	13	0.0001	0	0.0001	0.0001	0.0001	-
Arsenic	mg/L	13	0.0001	1	0.0002	0.0002	0.0001	0.0003	0.0006	-
Barium	mg/L	13	0.0001	0	0.0310	0.0463	0.0068	0.0456	0.1316	-
Beryllium	mg/L	13	0.00002	13	0.00002	0	0.00002	0.00002	0.00002	-
Bismuth	mg/L	13	0.00005	13	0.00006	0.00001	0.00005	0.00006	0.00006	-
Boron	mg/L	13	0.01	7	0.01	0.01	0.01	0.01	0.03	-
Cadmium	mg/L	13	0.000005	10	0.000006	0.000001	0.000005	0.000006	0.000006	-
Calcium	mg/L	13	0.05	0	58.45	22.00	28.52	65.40	90.06	-
Chromium	mg/L	13	0.0005	13	0.0006	0.0001	0.0005	0.0006	0.0006	-
Cobalt	mg/L	13	0.0001	12	0.0001	0	0.0001	0.0001	0.0001	-
Copper	mg/L	13	0.0002	3	0.0003	0.0001	0.0002	0.0002	0.0005	0.00611
Iron	mg/L	13	0.01	2	0.04	0.08	0.01	0.06	0.21	-
Lead	mg/L	13	0.00005	13	0.00006	0.00001	0.00005	0.00006	0.00006	0.012
Lithium	mg/L	13	0.001	7	0.002	0.004	0.001	0.001	0.008	-
Magnesium	mg/L	13	0.005	0	18.310	6.547	9.472	19.800	26.620	-
Manganese	mg/L	13	0.0001	0	0.0181	0.0307	0.0047	0.0167	0.0852	0.26
Mercury	mg/L	13	0.000005	13	0.000006	0.000001	0.000005	0.000006	0.000006	-
Molybdenum	mg/L	13	0.00005	3	0.00017	0.00011	0.00006	0.00022	0.00035	-
Nickel	mg/L	13	0.0005	13	0.0006	0.0001	0.0005	0.0006	0.0006	-
Phosphorus	mg/L	13	0.05	13	0.06	0.01	0.05	0.06	0.06	-
Potassium	mg/L	13	0.05	0	1.33	1.51	0.62	1.27	4.29	-
Rhodium	mg/L	13	0.001	13	0.001	0	0.001	0.001	0.001	-
Ruthenium	mg/L	13	0.001	12	0.001	0	0.001	0.001	0.001	-
Samarium	mg/L	13	0.001	12	0.001	0	0.001	0.001	0.001	-
Selenium	mg/L	13	0.00005	4	0.00008	0.00006	0.00005	0.00006	0.00020	-
Silver	mg/L	13	0.00001	13	0.00001	0	0.00001	0.00001	0.00001	-
Sodium	mg/L	13	0.05	0	2.81	26.27	1.13	1.98	42.90	-
Strontium	mg/L	13	0.0002	0	0.1520	0.3039	0.0353	0.1650	0.7114	2.5
Sulfur	mg/L	13	0.5	3	2.9	9.0	0.6	3.0	20.6	-

Parameter	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Thallium	mg/L	13	0.00001	13	0.00001	0	0.00001	0.00001	0.00001	-
Tin	mg/L	13	0.0001	13	0.0001	0	0.0001	0.0001	0.0001	-
Titanium	mg/L	13	0.0003	13	0.0003	0	0.0003	0.0003	0.0003	-
Tungsten	mg/L	13	0.0001	13	0.0001	0	0.0001	0.0001	0.0001	-
Uranium	mg/L	13	0.00001	0	0.00026	0.00023	0.00008	0.00039	0.00067	-
Vanadium	mg/L	13	0.0005	13	0.0006	0.0001	0.0005	0.0006	0.0006	-
Zinc	mg/L	13	0.001	1	0.002	0.001	0.001	0.002	0.004	0.031
Zirconium	mg/L	13	0.0003	13	0.0003	0	0.0003	0.0003	0.0003	-
Nutrients & General Chemistry										
Alkalinity, Total (as CaCO3)	mg/L	13	1	0	209	57	122	232	277	20
Alkalinity, Bicarbonate (as CaCO3)	mg/L	13	1	0	203	52	121	232	268	-
Bromide (Br)	mg/L	13	0.1	12	0.1	0.1	0.1	0.1	0.4	-
Alkalinity, Carbonate (as CaCO3)	mg/L	13	1	5	3	8	1	2.1	19	-
Chloride (Cl)	mg/L	13	0.5	0	7.3	42.8	1.9	5.9	89.0	120
Cyanide, Total	mg/L	13	0.002	13	0.002	0	0.002	0.002	0.002	0.005
Fluoride (F)	mg/L	13	0.02	1	0.17	0.15	0.02	0.27	0.45	0.12
Alkalinity, Hydroxide (as CaCO3)	mg/L	13	1	13	1	0	1	1	1	-
pH	pH units	13	0.1	0	8.3	0.2	8.0	8.3	8.5	6.5 - 9
Conductivity	µS	13	1	0	455	235	220	514	829	-
Ion Balance	%	13	1	0	0	3	-4	-0.509	4	-
Total Dissolved Solids	mg/L	13	10	0	234	115	123	278	411	-
Hardness (as CaCO3)	mg/L	13	001. - 001.	0	222.5	85.4	103.2	265.0	339.6	-
Total Suspended Solids	mg/L	13	3	5	6	13	3	5.9	34	-
Turbidity	NTU	13	0.1	0	1.3	7.8	0.3	1.1	14.7	50
Ammonia, Total (as Nitrogen)	mg/L	13	0.005	0	0.193	0.240	0.052	0.191	0.652	0.259
Nitrate and Nitrite as N	mg/L	13	0.02	6	0.13	1.29	0.02	0.06	3.08	-
Total Organic Carbon	mg/L	13	0.5	0	7.5	3.8	2.6	8.7	13.5	-
Total Inorganic Carbon	mg/L	13	01.0 - 05.0	0	45	13	25	52.9	61	-
Dissolved Organic Carbon	mg/L	13	0.5	0	7.0	3.4	2.9	7.9	13.1	-
Phosphorus, Total	mg/L	13	0.002	0	0.018	0.020	0.005	0.025	0.056	0.01
Total Kjeldahl Nitrogen	mg/L	13	0.05	0	0.76	0.43	0.42	0.76	1.56	-
Chlorophyll a	µg/L	13	0.002 - 00.010	0	2.01	22.46	0.20	1.79	46.74	-
Biological Oxygen Demand	mg/L	13	2	7	3	2	2	2.1	6	-
Total Coliforms	CFU/100mL	13	1	2	545	6820	64	310	15600	-
E. Coli	CFU/100mL	13	1	3	12	632	1	8	1136	100

[1] Cells containing grey highlights indicate exceedances of the WQG. Note that datum is not flagged as an exceedance if the measured concentration was reported by the laboratory as <RDL where the RDL is greater than or equal to the WQG due to measurement uncertainty.

Appendix A, Table 14

Year 2 Surface Water Chemistry Results – Arran Wetland Candidate Reference [1]

Parameter	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Radionuclides - Tier 1										
Tritium	Bq/L	2	14.8	2	14.8	0	14.8	14.8	14.8	7000
Carbon-14	Bq/L	2	18.5	2	18.5	0	18.5	18.5	18.5	200
Strontium-90	Bq/L	2	0.037	2	0.037	0	0.037	0.037	0.037	5
Iodine-129	Bq/L	2	0.37	2	0.37	0	0.37	0.37	0.37	1
Cesium-137	Bq/L	2	0.37	2	0.37	0	0.37	0.37	0.37	10
Cobalt-60	Bq/L	2	0.37	2	0.37	0	0.37	0.37	0.37	40
Ruthenium-106	Bq/L	2	3	2	3	0	3	3	3	20
Gross alpha	Bq/L	2	0.111	1	0.106	0.007	0.102	0.106	0.111	-
Gross beta	Bq/L	2	0.148	1	0.120	0.024	0.105	0.121	0.136	-
Radionuclides - Tier 2 natural										
Uranium-238	Bq/L	2	0.0074	1	0.0047	0.0031	0.0032	0.0052	0.0072	3
Uranium-234	Bq/L	2	0.0074	2	0.0074	0	0.0074	0.0074	0.0074	3
Uranium-235	Bq/L	2	0.0074	1	0.0046	0.0032	0.0031	0.0051	0.0072	3
Potassium-40	Bq/L	2	7.1	2	7.1	0	7.1	7.1	7.1	-
Thorium-228	Bq/L	2	0.0074	2	0.0074	0	0.0074	0.0074	0.0074	2
Thorium-230	Bq/L	2	0.0074	2	0.0074	0	0.0074	0.0074	0.0074	0.6
Thorium-232	Bq/L	2	0.0074	2	0.0074	0	0.0074	0.0074	0.0074	0.6
Radium-226	Bq/L	2	0.037	1	0.071	0.071	0.042	0.087	0.132	0.5
Metals - total										
Aluminum (Al)-Total	mg/L	2	0.003	0	0.012	0.013	0.007	0.015	0.023	1.5
Antimony (Sb)-Total	mg/L	2	0.0001	2	0.0001	0	0.0001	0.0001	0.0001	0.006
Arsenic (As)-Total	mg/L	2	0.0001	0	0.0005	0.0003	0.0004	0.0005	0.0007	0.005
Barium (Ba)-Total	mg/L	2	0.0001	0	0.0101	0.0064	0.0070	0.0111	0.0151	1
Beryllium (Be)-Total	mg/L	2	0.00002	2	0.00002	0	0.00002	0.00002	0.00002	1.1
Bismuth (Bi)-Total	mg/L	2	0.00005	2	0.00006	0	0.00006	0.00006	0.00006	17.5
Boron (B)-Total	mg/L	2	0.01	1	0.01	0	0.01	0.01	0.01	1.5
Cadmium (Cd)-Total	mg/L	2	0.000005	2	0.000006	0	0.000006	0.000006	0.000006	0.00021
Calcium (Ca)-Total	mg/L	2	0.05	0	56.03	23.55	43.47	58.45	73.44	1000
Cesium (Cs)-Total	mg/L	2	0.00001	2	0.00001	0	0.00001	0.00001	0.00001	-
Chromium (Cr)-Total	mg/L	2	0.0005	2	0.0006	0	0.0006	0.0006	0.0006	-
Cobalt (Co)-Total	mg/L	2	0.0001	0	0.0003	0.0002	0.0002	0.0003	0.0005	0.0012
Copper (Cu)-Total	mg/L	2	0.0005	2	0.0006	0	0.0006	0.0006	0.0006	0.0031
Iron (Fe)-Total	mg/L	2	0.01	0	0.46	0.16	0.37	0.47	0.57	3.8
Lead (Pb)-Total	mg/L	2	0.00005	2	0.00006	0	0.00006	0.00006	0.00006	0.00477
Lithium (Li)-Total	mg/L	2	0.001	0	0.002	0.001	0.001	0.002	0.003	2.5
Magnesium (Mg)-Total	mg/L	2	0.005	0	17.660	6.223	14.240	18.200	22.160	82
Manganese (Mn)-Total	mg/L	2	0.0001	0	0.1543	0.1305	0.0967	0.1798	0.2628	0.12
Mercury (Hg)-Total	mg/L	2	0.000005	2	0.000006	0	0.000006	0.000006	0.000006	0.000026
Molybdenum (Mo)-Total	mg/L	2	0.00005	0	0.00009	0.00001	0.00009	0.00009	0.00010	0.073
Nickel (Ni)-Total	mg/L	2	0.0005	2	0.0006	0	0.0006	0.0006	0.0006	0.1217

Parameter	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Phosphorus (P)-Total	mg/L	2	0.05	2	0.06	0	0.06	0.06	0.06	-
Potassium (K)-Total	mg/L	2	0.05	0	2.81	1.60	2.01	3.03	4.05	53
Rhodium (Rh)-Total	mg/L	2	0.001	2	0.001	0	0.001	0.001	0.001	0.01
Ruthenium (Ru)-Total	mg/L	2	0.001	2	0.001	0	0.001	0.001	0.001	0.01
Samarium (Sm)-Total	mg/L	2	0.001	2	0.001	0	0.001	0.001	0.001	0.0082
Selenium (Se)-Total	mg/L	2	0.00005	1	0.00008	0.00002	0.00006	0.00008	0.00009	0.001
Silver (Ag)-Total	mg/L	2	0.00001	2	0.00001	0	0.00001	0.00001	0.00001	0.00025
Sodium (Na)-Total	mg/L	2	0.05	0	7.76	3.90	5.76	8.24	10.72	680
Strontium (Sr)-Total	mg/L	2	0.0002	0	0.1404	0.0952	0.0951	0.1557	0.2163	7
Sulfur (S)-Total	mg/L	2	0.5	1	0.8	0.2	0.6	0.8	0.9	-
Thallium (Tl)-Total	mg/L	2	0.00001	2	0.00001	0	0.00001	0.00001	0.00001	0.0008
Tin (Sn)-Total	mg/L	2	0.0001	2	0.0001	0	0.0001	0.0001	0.0001	0.073
Titanium (Ti)-Total	mg/L	2	0.0003	1	0.0005	0.0003	0.0003	0.0005	0.0007	0.076
Tungsten (W)-Total	mg/L	2	0.0001	2	0.0001	0	0.0001	0.0001	0.0001	0.03
Uranium (U)-Total	mg/L	2	0.00001	0	0.00007	0.00002	0.00006	0.00007	0.00008	0.015
Vanadium (V)-Total	mg/L	2	0.0005	2	0.0006	0	0.0006	0.0006	0.0006	0.12
Zinc (Zn)-Total	mg/L	2	0.003	2	0.003	0	0.003	0.003	0.003	0.02
Zirconium (Zr)-Total	mg/L	2	0.0002	2	0.0002	0	0.0002	0.0002	0.0002	0.004
Metals - dissolved										
Aluminum	mg/L	2	0.001	0	0.004	0	0.004	0.004	0.004	-
Antimony	mg/L	2	0.0001	2	0.0001	0	0.0001	0.0001	0.0001	-
Arsenic	mg/L	2	0.0001	0	0.0005	0.0004	0.0003	0.0005	0.0008	-
Barium	mg/L	2	0.0001	0	0.0099	0.0062	0.0069	0.0108	0.0148	-
Beryllium	mg/L	2	0.00002	2	0.00002	0	0.00002	0.00002	0.00002	-
Bismuth	mg/L	2	0.00005	2	0.00006	0	0.00006	0.00006	0.00006	-
Boron	mg/L	2	0.01	2	0.01	0	0.01	0.01	0.01	-
Cadmium	mg/L	2	0.000005	2	0.000006	0	0.000006	0.000006	0.000006	-
Calcium	mg/L	2	0.05	0	55.28	23.12	42.94	57.65	72.37	-
Chromium	mg/L	2	0.0005	2	0.0006	0	0.0006	0.0006	0.0006	-
Cobalt	mg/L	2	0.0001	0	0.0003	0.0003	0.0001	0.0004	0.0006	-
Copper	mg/L	2	0.0002	0	0.0002	0	0.0002	0.0003	0.0003	0.00611
Iron	mg/L	2	0.01	0	0.38	0.27	0.25	0.42	0.59	-
Lead	mg/L	2	0.00005	2	0.00006	0	0.00006	0.00006	0.00006	0.012
Lithium	mg/L	2	0.001	1	0.002	0.002	0.001	0.002	0.003	-
Magnesium	mg/L	2	0.005	0	17.674	6.435	14.155	18.250	22.345	-
Manganese	mg/L	2	0.0001	0	0.1749	0.2083	0.0961	0.2287	0.3613	0.26
Mercury	mg/L	2	0.000005	2	0.000006	0	0.000006	0.000006	0.000006	-
Molybdenum	mg/L	2	0.00005	0	0.00009	0.00002	0.00008	0.00009	0.00011	-
Nickel	mg/L	2	0.0005	2	0.0006	0	0.0006	0.0006	0.0006	-
Phosphorus	mg/L	2	0.05	2	0.06	0	0.06	0.06	0.06	-
Potassium	mg/L	2	0.05	0	2.74	1.61	1.94	2.97	4.00	-

Parameter	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Rhodium	mg/L	2	0.001	2	0.001	0	0.001	0.001	0.001	-
Ruthenium	mg/L	2	0.001	2	0.001	0	0.001	0.001	0.001	-
Samarium	mg/L	2	0.001	2	0.001	0	0.001	0.001	0.001	-
Selenium	mg/L	2	0.00005	0	0.00005	0	0.00005	0.00005	0.00006	-
Silver	mg/L	2	0.00001	2	0.00001	0	0.00001	0.00001	0.00001	-
Sodium	mg/L	2	0.05	0	7.55	3.69	5.64	7.99	10.34	-
Strontium	mg/L	2	0.0002	0	0.1428	0.1067	0.0936	0.1616	0.2295	2.5
Sulfur	mg/L	2	0.5	1	0.7	0.2	0.6	0.7	0.9	-
Thallium	mg/L	2	0.00001	2	0.00001	0	0.00001	0.00001	0.00001	-
Tin	mg/L	2	0.0001	2	0.0001	0	0.0001	0.0001	0.0001	-
Titanium	mg/L	2	0.0003	2	0.0003	0	0.0003	0.0003	0.0003	-
Tungsten	mg/L	2	0.0001	2	0.0001	0	0.0001	0.0001	0.0001	-
Uranium	mg/L	2	0.00001	0	0.00007	0.00002	0.00006	0.00007	0.00008	-
Vanadium	mg/L	2	0.0005	2	0.0006	0	0.0006	0.0006	0.0006	-
Zinc	mg/L	2	0.001	1	0.002	0.001	0.001	0.002	0.003	0.031
Zirconium	mg/L	2	0.0003	2	0.0003	0	0.0003	0.0003	0.0003	-
Nutrients & General Chemistry										
Alkalinity, Total (as CaCO3)	mg/L	2	1	0	197	54	167	201	235	20
Alkalinity, Bicarbonate (as CaCO3)	mg/L	2	1	0	192	45	166	194.5	223	-
Bromide (Br)	mg/L	2	0.1	1	0.1	0.1	0.1	0.1	0.2	-
Alkalinity, Carbonate (as CaCO3)	mg/L	2	1	1	4	8	2	6.95	12	-
Chloride (Cl)	mg/L	2	0.5	0	27.1	21.4	17.4	31.1	44.7	120
Cyanide, Total	mg/L	2	0.002	2	0.002	0	0.002	0.002	0.002	0.005
Fluoride (F)	mg/L	2	0.02	0	0.05	0.01	0.05	0.05	0.06	0.12
Alkalinity, Hydroxide (as CaCO3)	mg/L	2	1	2	1	0	1	1	1	-
pH	pH units	2	0.1	0	8.2	0.3	8.1	8.2	8.4	6.5 - 9
Conductivity	µS	2	1	0	454	166	363	469	574	-
Ion Balance	%	2	1	0	-1	3	-3	-0.61	2	-
Total Dissolved Solids	mg/L	2	10	0	239	110	182	251.5	321	-
Hardness (as CaCO3)	mg/L	2	0.5	0	212.3	84.1	167.0	220.5	274.1	-
Total Suspended Solids	mg/L	2	3	1	4	1	3	3.85	5	-
Turbidity	NTU	2	0.1	0	1.4	0.4	1.2	1.5	1.7	50
Ammonia, Total (as Nitrogen)	mg/L	2	0.005	0	0.571	0.495	0.355	0.670	0.985	0.259
Nitrate and Nitrite as N	mg/L	2	0.02	1	0.05	0.08	0.03	0.08	0.13	-
Total Organic Carbon	mg/L	2	0.5	0	10.1	6.8	6.9	11.2	15.5	-
Total Inorganic Carbon	mg/L	2	1	0	44	13	36	44.85	53	-
Dissolved Organic Carbon	mg/L	2	0.5	0	10.5	5.8	7.6	11.3	15.0	-
Phosphorus, Total	mg/L	2	0.002	0	0.023	0.018	0.015	0.026	0.037	0.01
Total Kjeldahl Nitrogen	mg/L	2	0.05	0	1.11	0.90	0.70	1.28	1.86	-
Chlorophyll a	µg/L	2	0.010	0	2.94	2.72	1.78	3.51	5.24	-
Biological Oxygen Demand	mg/L	2	2	1	2	0	2	2.3	3	-

Parameter	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Total Coliforms	CFU/100mL	2	1	1	400	1061	175	850	1525	-
E. Coli	CFU/100mL	2	1	0	1	0	1	1	1	100

[1] Cells containing grey highlights indicate exceedances of the WQG. Note that datum is not flagged as an exceedance if the measured concentration was reported by the laboratory as <RDL where the RDL is greater than or equal to the WQG due to measurement uncertainty.

Appendix A, Table 15

Year 2 Surface Water Chemistry Results – Elderslie Wetland Candidate Reference [1]

Parameter	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Radionuclides - Tier 1										
Tritium	Bq/L	2	14.8	0	15.8	0.8	15.4	15.9	16.3	7000
Carbon-14	Bq/L	2	18.5	2	18.5	0	18.5	18.5	18.5	200
Strontium-90	Bq/L	2	0.037	2	0.037	0	0.037	0.037	0.037	5
Iodine-129	Bq/L	2	0.37	2	0.37	0	0.37	0.37	0.37	1
Cesium-137	Bq/L	2	0.37	2	0.37	0	0.37	0.37	0.37	10
Cobalt-60	Bq/L	2	0.37	2	0.37	0	0.37	0.37	0.37	40
Ruthenium-106	Bq/L	2	3	2	3	0	3	3	3	20
Gross alpha	Bq/L	2	0.111	1	0.085	0.032	0.068	0.088	0.109	-
Gross beta	Bq/L	2	0.148	0	0.238	0.050	0.209	0.241	0.272	-
Radionuclides - Tier 2 natural										
Uranium-238	Bq/L	2	0.0074	0	0.0063	0.0046	0.0042	0.0071	0.0101	3
Uranium-234	Bq/L	2	0.0074	2	0.0074	0	0.0074	0.0074	0.0074	3
Uranium-235	Bq/L	2	0.0074	2	0.0074	0	0.0074	0.0074	0.0074	3
Potassium-40	Bq/L	2	7.1	2	7.1	0	7.1	7.1	7.1	-
Thorium-228	Bq/L	2	0.0074	2	0.0074	0	0.0074	0.0074	0.0074	2
Thorium-230	Bq/L	2	0.0074	2	0.0074	0	0.0074	0.0074	0.0074	0.6
Thorium-232	Bq/L	2	0.0074	2	0.0074	0	0.0074	0.0074	0.0074	0.6
Radium-226	Bq/L	2	0.037	1	0.029	0.010	0.023	0.030	0.036	0.5
Metals - total										
Aluminum (Al)-Total	mg/L	2	0.003	0	0.035	0.011	0.029	0.035	0.042	1.5
Antimony (Sb)-Total	mg/L	2	0.0001	0	0.0002	0.0001	0.0001	0.0002	0.0002	0.006
Arsenic (As)-Total	mg/L	2	0.0001	0	0.0011	0.0013	0.0006	0.0015	0.0023	0.005
Barium (Ba)-Total	mg/L	2	0.0001	0	0.0146	0.0178	0.0080	0.0193	0.0306	1
Beryllium (Be)-Total	mg/L	2	0.00002	2	0.00002	0	0.00002	0.00002	0.00002	1.1
Bismuth (Bi)-Total	mg/L	2	0.00005	2	0.00006	0	0.00006	0.00006	0.00006	17.5
Boron (B)-Total	mg/L	2	0.01	1	0.03	0.05	0.01	0.04	0.07	1.5
Cadmium (Cd)-Total	mg/L	2	0.000005	0	0.000038	0.000045	0.000021	0.000050	0.000078	0.00021
Calcium (Ca)-Total	mg/L	2	0.05	0	56.57	70.29	30.57	75.30	120.03	1000
Cesium (Cs)-Total	mg/L	2	0.00001	2	0.00001	0	0.00001	0.00001	0.00001	-
Chromium (Cr)-Total	mg/L	2	0.0005	1	0.0006	0	0.0006	0.0006	0.0006	-

Parameter	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Cobalt (Co)-Total	mg/L	2	0.0001	0	0.0005	0.0010	0.0002	0.0009	0.0015	0.0012
Copper (Cu)-Total	mg/L	2	0.0005	0	0.0016	0.0016	0.0009	0.0019	0.0029	0.0031
Iron (Fe)-Total	mg/L	2	0.01	0	2.44	8.06	1.07	6.20	11.33	3.8
Lead (Pb)-Total	mg/L	2	0.00005	0	0.00039	0.00027	0.00026	0.00043	0.00061	0.00477
Lithium (Li)-Total	mg/L	2	0.001	2	0.001	0	0.001	0.001	0.001	2.5
Magnesium (Mg)-Total	mg/L	2	0.005	0	16.053	21.574	8.416	22.145	35.875	82
Manganese (Mn)-Total	mg/L	2	0.0001	0	0.1846	0.2997	0.0903	0.2811	0.4718	0.12
Mercury (Hg)-Total	mg/L	2	0.000005	2	0.000020	0.000039	0.000009	0.000034	0.000059	0.000026
Molybdenum (Mo)-Total	mg/L	2	0.00005	1	0.00009	0.00006	0.00007	0.00010	0.00014	0.073
Nickel (Ni)-Total	mg/L	2	0.0005	0	0.0012	0.0014	0.0007	0.0016	0.0025	0.1217
Phosphorus (P)-Total	mg/L	2	0.05	0	0.17	0.40	0.08	0.33	0.58	-
Potassium (K)-Total	mg/L	2	0.05	0	2.84	5.34	1.32	4.72	8.12	53
Rhodium (Rh)-Total	mg/L	2	0.001	2	0.001	0	0.001	0.001	0.001	0.01
Ruthenium (Ru)-Total	mg/L	2	0.001	2	0.001	0	0.001	0.001	0.001	0.01
Samarium (Sm)-Total	mg/L	2	0.001	2	0.001	0	0.001	0.001	0.001	0.0082
Selenium (Se)-Total	mg/L	2	0.00005	0	0.00021	0.00016	0.00014	0.00024	0.00034	0.001
Silver (Ag)-Total	mg/L	2	0.00001	2	0.00001	0	0.00001	0.00001	0.00001	0.00025
Sodium (Na)-Total	mg/L	2	0.05	0	1.8	1.9	1.0	2.2	3.4	680
Strontium (Sr)-Total	mg/L	2	0.0002	0	0.0852	0.1166	0.0443	0.1186	0.1928	7
Sulfur (S)-Total	mg/L	2	0.5	0	9.9	35.2	4.4	26.8	49.2	-
Thallium (Tl)-Total	mg/L	2	0.00001	2	0.00001	0	0.00001	0.00001	0.00001	0.0008
Tin (Sn)-Total	mg/L	2	0.0001	2	0.0001	0	0.0001	0.0001	0.0001	0.073
Titanium (Ti)-Total	mg/L	2	0.0003	0	0.0009	0.0001	0.0009	0.0010	0.0010	0.076
Tungsten (W)-Total	mg/L	2	0.0001	2	0.0001	0	0.0001	0.0001	0.0001	0.03
Uranium (U)-Total	mg/L	2	0.00001	0	0.00036	0.00042	0.00020	0.00047	0.00073	0.015
Vanadium (V)-Total	mg/L	2	0.0005	1	0.0010	0.0007	0.0007	0.0011	0.0016	0.12
Zinc (Zn)-Total	mg/L	2	0.003	0	0.011	0.011	0.006	0.013	0.020	0.02
Zirconium (Zr)-Total	mg/L	2	0.0002	2	0.0002	0	0.0002	0.0002	0.0002	0.004
Metals - dissolved										
Aluminum	mg/L	2	0.001	0	0.015	0.010	0.010	0.017	0.023	-
Antimony	mg/L	2	0.0001	1	0.0001	0.0001	0.0001	0.0002	0.0002	-
Arsenic	mg/L	2	0.0001	0	0.0011	0.0014	0.0006	0.0014	0.0023	-
Barium	mg/L	2	0.0001	0	0.0136	0.0166	0.0074	0.0180	0.0285	-
Beryllium	mg/L	2	0.00002	2	0.00002	0	0.00002	0.00002	0.00002	-
Bismuth	mg/L	2	0.00005	2	0.00006	0	0.00006	0.00006	0.00006	-
Boron	mg/L	2	0.01	1	0.03	0.04	0.01	0.04	0.07	-
Cadmium	mg/L	2	0.000005	0	0.000023	0.000018	0.000015	0.000026	0.000038	-
Calcium	mg/L	2	0.05	0	56.46	70.36	30.48	75.25	120.03	-
Chromium	mg/L	2	0.0005	1	0.0006	0	0.0006	0.0006	0.0006	-
Cobalt	mg/L	2	0.0001	0	0.0004	0.0008	0.0002	0.0007	0.0013	-
Copper	mg/L	2	0.0002	0	0.0010	0.0010	0.0006	0.0012	0.0018	0.00611

Parameter	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Iron	mg/L	2	0.01	0	1.87	5.36	0.81	4.22	7.63	-
Lead	mg/L	2	0.00005	0	0.00022	0.00010	0.00017	0.00023	0.00029	0.012
Lithium	mg/L	2	0.001	2	0.001	0.000	0.001	0.001	0.001	-
Magnesium	mg/L	2	0.005	0	16.349	21.645	8.621	22.395	36.170	-
Manganese	mg/L	2	0.0001	0	0.1839	0.2920	0.0907	0.2765	0.4624	0.26
Mercury	mg/L	2	0.000005	2	0.000020	0.000039	0.000009	0.000034	0.000059	-
Molybdenum	mg/L	2	0.00005	1	0.00009	0.00005	0.00007	0.00009	0.00012	-
Nickel	mg/L	2	0.0005	0	0.0011	0.0013	0.0006	0.0014	0.0023	-
Phosphorus	mg/L	2	0.05	1	0.14	0.18	0.07	0.19	0.30	-
Potassium	mg/L	2	0.05	0	2.93	5.59	1.36	4.92	8.47	-
Rhodium	mg/L	2	0.001	2	0.001	0	0.001	0.001	0.001	-
Ruthenium	mg/L	2	0.001	2	0.001	0	0.001	0.001	0.001	-
Samarium	mg/L	2	0.001	2	0.001	0	0.001	0.001	0.001	-
Selenium	mg/L	2	0.00005	0	0.00025	0.00019	0.00016	0.00028	0.00040	-
Silver	mg/L	2	0.00001	2	0.00001	0	0.00001	0.00001	0.00001	-
Sodium	mg/L	2	0.05	0	1.80	1.94	1.03	2.27	3.50	-
Strontium	mg/L	2	0.0002	0	0.0850	0.1109	0.0450	0.1156	0.1862	2.5
Sulfur	mg/L	2	0.5	0	11.3	33.3	4.9	26.1	47.3	-
Thallium	mg/L	2	0.00001	2	0.00001	0	0.00001	0.00001	0.00001	-
Tin	mg/L	2	0.0001	1	0.0002	0.0001	0.0001	0.0002	0.0002	-
Titanium	mg/L	2	0.0003	0	0.0008	0.0005	0.0005	0.0009	0.0012	-
Tungsten	mg/L	2	0.0001	2	0.0001	0	0.0001	0.0001	0.0001	-
Uranium	mg/L	2	0.00001	0	0.00032	0.00033	0.00018	0.00039	0.00061	-
Vanadium	mg/L	2	0.0005	1	0.0003	0.0004	0.0001	0.0004	0.0006	-
Zinc	mg/L	2	0.001	0	0.009	0.012	0.005	0.012	0.020	0.031
Zirconium	mg/L	2	0.0003	2	0.0003	0	0.0003	0.0003	0.0003	-
Nutrients & General Chemistry										
Alkalinity, Total (as CaCO3)	mg/L	2	1	0	121	75	84	132	180	20
Alkalinity, Bicarbonate (as CaCO3)	mg/L	2	1	0	121	75	84	132	180	-
Bromide (Br)	mg/L	2	0.1	2	1.0	7.0	0.6	5.1	9.5	-
Alkalinity, Carbonate (as CaCO3)	mg/L	2	1	2	1	0	1	1	1	-
Chloride (Cl)	mg/L	2	0.005 - 0.500	1	13.0	41.9	5.7	32.4	59.0	120
Cyanide, Total	mg/L	2	0.002	2	0.002	0	0.002	0.002	0.002	0.005
Fluoride (F)	mg/L	2	0.02	2	0.20	1.40	0.12	1.01	1.90	0.12
Alkalinity, Hydroxide (as CaCO3)	mg/L	2	1	2	1	0	1	1	1	-
pH	pH units	2	0.1	0	6.9	0.7	6.5	6.9	7.4	6.5 - 9
Conductivity	µS	2	1	0	374	453	204	493	781	-
Ion Balance	%	2	1	0	14	12	7	14.045	22	-
Total Dissolved Solids	mg/L	2	10	0	294	429	149	422	695	-
Hardness (as CaCO3)	mg/L	2	0.5	0	207.4	264.2	111.0	279.2	447.3	-
Total Suspended Solids	mg/L	2	3	1	27	111	12	83.2	154	-

Parameter	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Turbidity	NTU	2	0.1	0	16.8	61.9	7.5	46.9	86.3	50
Ammonia, Total (as Nitrogen)	mg/L	2	0.005	0	0.141	0.178	0.076	0.189	0.302	0.259
Nitrate and Nitrite as N	mg/L	2	0.02	1	0.67	1.44	0.30	1.22	2.14	-
Total Organic Carbon	mg/L	2	0.5	0	91.5	256.1	39.9	202.9	365.9	-
Total Inorganic Carbon	mg/L	2	00.5 - 01.0	1	8.8	7.4	5.5	10.3	15.0	-
Dissolved Organic Carbon	mg/L	2	0.5 - 1.0	0	91.16	224.65	40.19	183.15	326.12	-
Phosphorus, Total	mg/L	2	0.002	0	0.160	0.359	0.072	0.300	0.529	0.01
Total Kjeldahl Nitrogen	mg/L	2	0.05	0	2.36	2.26	1.41	2.85	4.28	-
Chlorophyll a	µg/L	2	0.010	0	7.10	4.14	5.04	7.68	10.31	-
Biological Oxygen Demand	mg/L	2	2	0	92	264	40	208.2	376	-
Total Coliforms	CFU/100mL	2	1	0	938	5579	505	4055	7606	-
E. Coli	CFU/100mL	2	1	2	1	0	1	1	1	100

[1] Cells containing grey highlights indicate exceedances of the WQG. Note that datum is not flagged as an exceedance if the measured concentration was reported by the laboratory as <RDL where the RDL is greater than or equal to the WQG due to measurement uncertainty.

Appendix A, Table 16

Year 2 Surface Water Chemistry Results – Gildale Wetland Candidate Reference [1]

Parameter	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Radionuclides - Tier 1										
Tritium	Bq/L	3	14.8	2	15.2	0.7	14.8	14.8	15.9	7000
Carbon-14	Bq/L	3	18.5	3	18.5	0	18.5	18.5	18.5	200
Strontium-90	Bq/L	3	0.037	3	0.037	0	0.037	0.037	0.037	5
Iodine-129	Bq/L	3	0.37	3	0.37	0	0.37	0.37	0.37	1
Cesium-137	Bq/L	3	0.37	3	0.37	0	0.37	0.37	0.37	10
Cobalt-60	Bq/L	3	0.37	3	0.37	0	0.37	0.37	0.37	40
Ruthenium-106	Bq/L	3	3	3	3	0	3	3	3	20
Gross alpha	Bq/L	3	0.111	2	0.118	0.012	0.111	0.111	0.130	-
Gross beta	Bq/L	3	0.148	1	0.135	0.035	0.104	0.148	0.165	-
Radionuclides - Tier 2 natural										
Uranium-238	Bq/L	3	0.0074	3	0.0074	0	0.0074	0.0074	0.0074	3
Uranium-234	Bq/L	3	0.0074	3	0.0074	0	0.0074	0.0074	0.0074	3
Uranium-235	Bq/L	3	0.0074	3	0.0074	0	0.0074	0.0074	0.0074	3
Potassium-40	Bq/L	3	7.1	3	7.1	0	7.1	7.1	7.1	-
Thorium-228	Bq/L	3	0.0074	3	0.0074	0.0000	0.0074	0.0074	0.0074	2
Thorium-230	Bq/L	3	0.0074	2	0.0063	0.0016	0.0049	0.0074	0.0074	0.6
Thorium-232	Bq/L	3	0.0074	2	0.0056	0.0024	0.0036	0.0074	0.0074	0.6
Radium-226	Bq/L	3	0.037	1	0.024	0.012	0.015	0.028	0.036	0.5
Metals - total										
Aluminum (Al)-Total	mg/L	3	0.003	0	0.050	0.117	0.022	0.026	0.207	1.5
Antimony (Sb)-Total	mg/L	3	0.0001	3	0.0001	0.0001	0.0001	0.0001	0.0002	0.006

Parameter	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Arsenic (As)-Total	mg/L	3	0.0001	0	0.0013	0.0006	0.0008	0.0017	0.0018	0.005
Barium (Ba)-Total	mg/L	3	0.0001	0	0.0269	0.0260	0.0130	0.0274	0.0587	1
Beryllium (Be)-Total	mg/L	3	0.00002	3	0.00003	0.00001	0.00002	0.00002	0.00004	1.1
Bismuth (Bi)-Total	mg/L	3	0.00005	3	0.00007	0.00003	0.00005	0.00006	0.00010	17.5
Boron (B)-Total	mg/L	3	0.01	3	0.01	0.01	0.01	0.01	0.02	1.5
Cadmium (Cd)-Total	mg/L	3	0.000005	2	0.000013	0.000035	0.000005	0.000006	0.000061	0.00021
Calcium (Ca)-Total	mg/L	3	0.05	0	57.33	4.27	53.76	57.00	61.41	1000
Cesium (Cs)-Total	mg/L	3	0.00001	2	0.00001	0.00001	0.00001	0.00001	0.00002	-
Chromium (Cr)-Total	mg/L	3	0.0005	2	0.0006	0.0001	0.0005	0.0005	0.0006	-
Cobalt (Co)-Total	mg/L	3	0.0001	1	0.0004	0.0004	0.0001	0.0005	0.0009	0.0012
Copper (Cu)-Total	mg/L	3	0.0005	2	0.0007	0.0004	0.0005	0.0006	0.0011	0.0031
Iron (Fe)-Total	mg/L	3	0.01	0	0.78	3.11	0.17	0.97	5.37	3.8
Lead (Pb)-Total	mg/L	3	0.00005	0	0.00019	0.00054	0.00007	0.00011	0.00092	0.00477
Lithium (Li)-Total	mg/L	3	0.001	3	0.001	0.001	0.001	0.001	0.002	2.5
Magnesium (Mg)-Total	mg/L	3	0.005	0	18.962	0.493	18.480	19.200	19.290	82
Manganese (Mn)-Total	mg/L	3	0.0001	0	1.0728	4.1723	0.3372	2.9100	7.7340	0.12
Mercury (Hg)-Total	mg/L	3	0.000005	2	0.000006	0.000001	0.000005	0.000006	0.000007	0.000026
Molybdenum (Mo)-Total	mg/L	3	0.00005	0	0.00022	0.00005	0.00018	0.00024	0.00026	0.073
Nickel (Ni)-Total	mg/L	3	0.0005	3	0.0006	0.0003	0.0005	0.0005	0.0010	0.1217
Phosphorus (P)-Total	mg/L	3	0.05	2	0.08	0.09	0.05	0.05	0.19	-
Potassium (K)-Total	mg/L	3	0.05	0	0.54	0.28	0.41	0.43	0.85	53
Rhodium (Rh)-Total	mg/L	3	0.001	3	0.001	0.001	0.001	0.001	0.002	0.01
Ruthenium (Ru)-Total	mg/L	3	0.001	3	0.001	0.001	0.001	0.001	0.002	0.01
Samarium (Sm)-Total	mg/L	3	0.001	3	0.001	0.001	0.001	0.001	0.002	0.0082
Selenium (Se)-Total	mg/L	3	0.00005	0	0.00015	0.00003	0.00012	0.00016	0.00018	0.001
Silver (Ag)-Total	mg/L	3	0.00001	3	0.00001	0.00001	0.00001	0.00001	0.00002	0.00025
Sodium (Na)-Total	mg/L	3	0.05	0	2.56	0.27	2.33	2.58	2.81	680
Strontium (Sr)-Total	mg/L	3	0.0002	0	0.0683	0.0098	0.0618	0.0649	0.0784	7
Sulfur (S)-Total	mg/L	3	0.5	2	0.8	0.3	0.6	1.0	1.1	-
Thallium (Tl)-Total	mg/L	3	0.00001	3	0.00001	0.00001	0.00001	0.00001	0.00002	0.0008
Tin (Sn)-Total	mg/L	3	0.0001	3	0.0001	0.0001	0.0001	0.0001	0.0002	0.073
Titanium (Ti)-Total	mg/L	3	0.0003	0	0.0012	0.0033	0.0005	0.0006	0.0057	0.076
Tungsten (W)-Total	mg/L	3	0.0001	3	0.0001	0.0001	0.0001	0.0001	0.0002	0.03
Uranium (U)-Total	mg/L	3	0.00001	0	0.00008	0.00004	0.00005	0.00010	0.00013	0.015
Vanadium (V)-Total	mg/L	3	0.0005	3	0.0007	0.0003	0.0005	0.0006	0.0010	0.12
Zinc (Zn)-Total	mg/L	3	0.003	2	0.004	0.004	0.003	0.003	0.009	0.02
Zirconium (Zr)-Total	mg/L	3	0.0002	3	0.0003	0.0001	0.0002	0.0002	0.0004	0.004
Metals - dissolved										
Aluminum	mg/L	3	0.001	0	0.006	0.003	0.004	0.005	0.009	-
Antimony	mg/L	3	0.0001	3	0.0001	0.0001	0.0001	0.0001	0.0002	-
Arsenic	mg/L	3	0.0001	0	0.0010	0.0004	0.0007	0.0012	0.0014	-

Parameter	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Barium	mg/L	3	0.0001	0	0.0218	0.0187	0.0114	0.0214	0.0442	-
Beryllium	mg/L	3	0.00002	3	0.00003	0.00001	0.00002	0.00002	0.00004	-
Bismuth	mg/L	3	0.00005	3	0.00007	0.00003	0.00005	0.00006	0.00010	-
Boron	mg/L	3	0.01	3	0.01	0.01	0.01	0.01	0.02	-
Cadmium	mg/L	3	0.000005	3	0.000007	0.000003	0.000005	0.000006	0.000010	-
Calcium	mg/L	3	0.05	0	56.07	6.34	51.51	54.30	62.49	-
Chromium	mg/L	3	0.0005	3	0.0006	0.0001	0.0005	0.0006	0.0006	-
Cobalt	mg/L	3	0.0001	1	0.0003	0.0003	0.0001	0.0003	0.0006	-
Copper	mg/L	3	0.0002	1	0.0004	0.0002	0.0003	0.0004	0.0006	0.00611
Iron	mg/L	3	0.01	0	0.36	2.30	0.06	0.29	3.75	-
Lead	mg/L	3	0.00005	3	0.00007	0.00003	0.00005	0.00006	0.00010	0.012
Lithium	mg/L	3	0.001	3	0.001	0.001	0.001	0.001	0.002	-
Magnesium	mg/L	3	0.005	0	18.425	0.666	18.010	18.100	19.090	-
Manganese	mg/L	3	0.0001	0	0.8375	3.9265	0.2136	1.7300	6.9500	0.26
Mercury	mg/L	3	0.000005	3	0.000006	0.000001	0.000005	0.000006	0.000006	-
Molybdenum	mg/L	3	0.00005	0	0.00020	0.00003	0.00018	0.00019	0.00022	-
Nickel	mg/L	3	0.0005	3	0.0007	0.0003	0.0005	0.0006	0.0010	-
Phosphorus	mg/L	3	0.05	3	0.07	0.03	0.05	0.06	0.10	-
Potassium	mg/L	3	0.05	0	0.49	0.23	0.38	0.40	0.75	-
Rhodium	mg/L	3	0.001	3	0.001	0.001	0.001	0.001	0.002	-
Ruthenium	mg/L	3	0.001	3	0.001	0.001	0.001	0.001	0.002	-
Samarium	mg/L	3	0.001	3	0.001	0.001	0.001	0.001	0.002	-
Selenium	mg/L	3	0.00005	0	0.00011	0.00003	0.00008	0.00013	0.00014	-
Silver	mg/L	3	0.00001	3	0.00001	0.00001	0.00001	0.00001	0.00002	-
Sodium	mg/L	3	0.05	0	2.46	0.17	2.30	2.54	2.58	-
Strontium	mg/L	3	0.0002	0	0.0667	0.0122	0.0601	0.0607	0.0793	2.5
Sulfur	mg/L	3	0.5	2	0.8	0.3	0.6	1.0	1.1	-
Thallium	mg/L	3	0.00001	3	0.00001	0.00001	0.00001	0.00001	0.00002	-
Tin	mg/L	3	0.0001	3	0.0001	0.0001	0.0001	0.0001	0.0002	-
Titanium	mg/L	3	0.0003	3	0.0004	0.0002	0.0003	0.0003	0.0006	-
Tungsten	mg/L	3	0.0001	3	0.0001	0.0001	0.0001	0.0001	0.0002	-
Uranium	mg/L	3	0.00001	0	0.00007	0.00004	0.00004	0.00008	0.00012	-
Vanadium	mg/L	3	0.0005	3	0.0007	0.0003	0.0005	0.0006	0.0010	-
Zinc	mg/L	3	0.001	0	0.003	0.002	0.002	0.003	0.005	0.031
Zirconium	mg/L	3	0.0003	3	0.0003	0	0.0003	0.0003	0.0004	-
Nutrients & General Chemistry										
Alkalinity, Total (as CaCO3)	mg/L	3	1	0	211	26	193	202	238	20
Alkalinity, Bicarbonate (as CaCO3)	mg/L	3	1	0	208	29	187	202	238	-
Bromide (Br)	mg/L	3	0.1	3	0.1	0.0	0.1	0.1	0.1	-
Alkalinity, Carbonate (as CaCO3)	mg/L	3	1	2	2	4	1	1	7	-
Chloride (Cl)	mg/L	3	0.5	0	6.8	1.9	5.5	6.6	8.8	120

Parameter	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Cyanide, Total	mg/L	3	0.002	3	0.002	0	0.002	0.002	0.002	0.005
Fluoride (F)	mg/L	3	0.02	0	0.04	0.01	0.03	0.03	0.05	0.12
Alkalinity, Hydroxide (as CaCO3)	mg/L	3	1	3	1	0	1	1	1	-
pH	pH units	3	0.1	0	8.0	0.3	7.8	8.0	8.4	6.5 - 9
Conductivity	µS	3	1	0	410	66	371	413	454	-
Ion Balance	%	3	1	0	4	4	0	5.9	6	-
Total Dissolved Solids	mg/L	3	10	0	222	61	187	226	265	-
Hardness (as CaCO3)	mg/L	3	0.5	0	221.4	12.5	210.3	222.0	232.8	-
Total Suspended Solids	mg/L	3	3	1	20	115	4	13.6	189	-
Turbidity	NTU	3	0.1	0	4.7	27.4	1.4	1.5	44.2	50
Ammonia, Total (as Nitrogen)	mg/L	3	0.005	0	0.096	0.387	0.027	0.051	0.641	0.259
Nitrate and Nitrite as N	mg/L	3	0.02	3	0.02	0	0.02	0.02	0.02	-
Total Organic Carbon	mg/L	3	0.5	0	21.2	1.4	19.9	21.6	22.3	-
Total Inorganic Carbon	mg/L	3	1	0	44	3	41	43.4	47	-
Dissolved Organic Carbon	mg/L	3	0.5	0	18.6	2.6	17.1	17.3	21.3	-
Phosphorus, Total	mg/L	3	0.002	0	0.053	0.090	0.021	0.043	0.172	0.01
Total Kjeldahl Nitrogen	mg/L	3	0.05	0	1.55	1.38	1.03	1.05	3.19	-
Chlorophyll a	µg/L	3	0.002 - 0.010	0	9.22	96.69	1.35	8.86	155.69	-
Biological Oxygen Demand	mg/L	3	2	1	5	8	2	3	15	-
Total Coliforms	CFU/100mL	3	1	0	1086	1973	440	800	3680	-
E. Coli	CFU/100mL	3	1	0	28	24	16	25	57	100

[1] Cells containing grey highlights indicate exceedances of the WQG. Note that datum is not flagged as an exceedance if the measured concentration was reported by the laboratory as <RDL where the RDL is greater than or equal to the WQG due to measurement uncertainty.

Appendix A, Table 17

Year 2 Surface Water Chemistry Results – Osprey Wetland Candidate Reference [1]

Parameter	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Radionuclides - Tier 1										
Tritium	Bq/L	3	14.8	3	14.8	0	14.8	14.8	14.8	7000
Carbon-14	Bq/L	3	18.5	3	18.5	0	18.5	18.5	18.5	200
Strontium-90	Bq/L	3	0.037	3	0.037	0	0.037	0.037	0.037	5
Iodine-129	Bq/L	3	0.37	3	0.37	0	0.37	0.37	0.37	1
Cesium-137	Bq/L	3	0.37	3	0.37	0	0.37	0.37	0.37	10
Cobalt-60	Bq/L	3	0.37	3	0.37	0	0.37	0.37	0.37	40
Ruthenium-106	Bq/L	3	3	3	3	0	3	3	3	20
Gross alpha	Bq/L	3	0.111	3	0.111	0	0.111	0.111	0.111	-
Gross beta	Bq/L	3	0.148	3	0.141	0.006	0.138	0.138	0.147	-
Radionuclides - Tier 2 natural										
Uranium-238	Bq/L	3	0.0074	2	0.0039	0.0036	0.0017	0.0074	0.0074	3

Parameter	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Uranium-234	Bq/L	3	0.0074	3	0.0074	0.0000	0.0074	0.0074	0.0074	3
Uranium-235	Bq/L	3	0.0074	2	0.0045	0.0033	0.0023	0.0074	0.0074	3
Potassium-40	Bq/L	3	7.1	3	7.1	0	7.1	7.1	7.1	-
Thorium-228	Bq/L	3	0.0074	3	0.0074	0	0.0074	0.0074	0.0074	2
Thorium-230	Bq/L	3	0.0074	3	0.0074	0	0.0074	0.0074	0.0074	0.6
Thorium-232	Bq/L	3	0.0074	3	0.0074	0	0.0074	0.0074	0.0074	0.6
Radium-226	Bq/L	3	0.037	2	0.029	0.012	0.019	0.037	0.037	0.5
Metals - total										
Aluminum (Al)-Total	mg/L	3	0.003	0	0.043	0.040	0.019	0.074	0.086	1.5
Antimony (Sb)-Total	mg/L	3	0.0001	3	0.0001	0	0.0001	0.0001	0.0001	0.006
Arsenic (As)-Total	mg/L	3	0.0001	0	0.0011	0.0004	0.0008	0.0013	0.0014	0.005
Barium (Ba)-Total	mg/L	3	0.0001	0	0.0067	0.0089	0.0024	0.0135	0.0179	1
Beryllium (Be)-Total	mg/L	3	0.00002	3	0.00002	0	0.00002	0.00002	0.00002	1.1
Bismuth (Bi)-Total	mg/L	3	0.00005	3	0.00006	0.00001	0.00005	0.00006	0.00006	17.5
Boron (B)-Total	mg/L	3	0.01	3	0.01	0.00	0.01	0.01	0.01	1.5
Cadmium (Cd)-Total	mg/L	3	0.000005	1	0.000012	0.000008	0.000006	0.000015	0.000021	0.00021
Calcium (Ca)-Total	mg/L	3	0.05	0	36.43	7.37	29.70	40.50	41.76	1000
Cesium (Cs)-Total	mg/L	3	0.00001	2	0.00001	0.00000	0.00001	0.00001	0.00001	-
Chromium (Cr)-Total	mg/L	3	0.0005	3	0.0006	0.0001	0.0005	0.0006	0.0006	-
Cobalt (Co)-Total	mg/L	3	0.0001	0	0.0004	0.0002	0.0003	0.0003	0.0006	0.0012
Copper (Cu)-Total	mg/L	3	0.0005	1	0.0006	0.0001	0.0005	0.0006	0.0007	0.0031
Iron (Fe)-Total	mg/L	3	0.01	0	2.06	0.47	1.81	1.84	2.56	3.8
Lead (Pb)-Total	mg/L	3	0.00005	0	0.00017	0.00014	0.00008	0.00026	0.00033	0.00477
Lithium (Li)-Total	mg/L	3	0.001	3	0.001	0	0.001	0.001	0.001	2.5
Magnesium (Mg)-Total	mg/L	3	0.005	0	12.566	1.922	10.840	13.000	14.260	82
Manganese (Mn)-Total	mg/L	3	0.0001	0	0.2596	0.1970	0.1410	0.2670	0.4911	0.12
Mercury (Hg)-Total	mg/L	3	0.000005	3	0.000006	0.000001	0.000005	0.000006	0.000006	0.000026
Molybdenum (Mo)-Total	mg/L	3	0.00005	0	0.00008	0.00001	0.00008	0.00009	0.00009	0.073
Nickel (Ni)-Total	mg/L	3	0.0005	1	0.0005	0.00003	0.0005	0.0005	0.0006	0.1217
Phosphorus (P)-Total	mg/L	3	0.05	1	0.08	0.04	0.05	0.10	0.12	-
Potassium (K)-Total	mg/L	3	0.05	0	0.30	0.19	0.16	0.45	0.47	53
Rhodium (Rh)-Total	mg/L	3	0.001	3	0.001	0	0.001	0.001	0.001	0.01
Ruthenium (Ru)-Total	mg/L	3	0.001	3	0.001	0	0.001	0.001	0.001	0.01
Samarium (Sm)-Total	mg/L	3	0.001	3	0.001	0	0.001	0.001	0.001	0.0082
Selenium (Se)-Total	mg/L	3	0.00005	0	0.00011	0.00002	0.00009	0.00011	0.00013	0.001
Silver (Ag)-Total	mg/L	3	0.00001	3	0.00001	0	0.00001	0.00001	0.00001	0.00025
Sodium (Na)-Total	mg/L	3	0.05	0	0.90	0.19	0.81	0.81	1.10	680
Strontium (Sr)-Total	mg/L	3	0.0002	0	0.0418	0.0083	0.0349	0.0422	0.0499	7
Sulfur (S)-Total	mg/L	3	0.5	2	0.6	0.2	0.5	0.6	0.8	-
Thallium (Tl)-Total	mg/L	3	0.00001	3	0.00001	0	0.00001	0.00001	0.00001	0.0008
Tin (Sn)-Total	mg/L	3	0.0001	3	0.0001	0	0.0001	0.0001	0.0001	0.073

Parameter	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Titanium (Ti)-Total	mg/L	3	0.0003	0	0.0010	0.0008	0.0005	0.0017	0.0018	0.076
Tungsten (W)-Total	mg/L	3	0.0001	3	0.0001	0	0.0001	0.0001	0.0001	0.03
Uranium (U)-Total	mg/L	3	0.00001	1	0.00002	0.00001	0.00001	0.00002	0.00002	0.015
Vanadium (V)-Total	mg/L	3	0.0005	2	0.0006	0.0001	0.0005	0.0006	0.0006	0.12
Zinc (Zn)-Total	mg/L	3	0.003	1	0.005	0.003	0.003	0.006	0.009	0.02
Zirconium (Zr)-Total	mg/L	3	0.0002	3	0.0002	0	0.0002	0.0002	0.0002	0.004
Metals - dissolved										
Aluminum	mg/L	3	0.001	0	0.012	0.003	0.009	0.012	0.014	-
Antimony	mg/L	3	0.0001	3	0.0001	0	0.0001	0.0001	0.0001	-
Arsenic	mg/L	3	0.0001	0	0.0007	0.0004	0.0005	0.0006	0.0011	-
Barium	mg/L	3	0.0001	0	0.0102	0.0026	0.0079	0.0114	0.0123	-
Beryllium	mg/L	3	0.00002	3	0.00002	0	0.00002	0.00002	0.00002	-
Bismuth	mg/L	3	0.00005	3	0.00006	0.00001	0.00005	0.00006	0.00006	-
Boron	mg/L	3	0.01	3	0.01	0	0.01	0.01	0.01	-
Cadmium	mg/L	3	0.000005	3	0.000006	0.000001	0.000005	0.000006	0.000006	-
Calcium	mg/L	3	0.05	0	35.97	8.77	28.12	40.00	43.06	-
Chromium	mg/L	3	0.0005	3	0.0006	0.0001	0.0005	0.0006	0.0006	-
Cobalt	mg/L	3	0.0001	0	0.0002	0.0001	0.0001	0.0002	0.0002	-
Copper	mg/L	3	0.0002	0	0.0005	0.0002	0.0004	0.0005	0.0007	0.00611
Iron	mg/L	3	0.01	0	0.31	0.23	0.19	0.28	0.59	-
Lead	mg/L	3	0.00005	3	0.00005	0.00001	0.00005	0.00005	0.00006	0.012
Lithium	mg/L	3	0.001	3	0.001	0	0.001	0.001	0.001	-
Magnesium	mg/L	3	0.005	0	12.375	1.793	10.700	13.400	13.580	-
Manganese	mg/L	3	0.0001	0	0.1014	0.0652	0.0554	0.1220	0.1724	0.26
Mercury	mg/L	3	0.000005	3	0.000006	0.000001	0.000005	0.000006	0.000006	-
Molybdenum	mg/L	3	0.00005	0	0.00007	0.00001	0.00006	0.00006	0.00007	-
Nickel	mg/L	3	0.0005	3	0.0006	0.0001	0.0005	0.0006	0.0006	-
Phosphorus	mg/L	3	0.05	3	0.06	0.01	0.05	0.06	0.06	-
Potassium	mg/L	3	0.05	0	0.31	0.22	0.16	0.40	0.56	-
Rhodium	mg/L	3	0.001	3	0.001	0	0.001	0.001	0.001	-
Ruthenium	mg/L	3	0.001	3	0.001	0	0.001	0.001	0.001	-
Samarium	mg/L	3	0.001	3	0.001	0	0.001	0.001	0.001	-
Selenium	mg/L	3	0.00005	0	0.00010	0.00002	0.00009	0.00009	0.00013	-
Silver	mg/L	3	0.00001	3	0.00001	0	0.00001	0.00001	0.00001	-
Sodium	mg/L	3	0.05	0	0.91	0.16	0.82	0.85	1.08	-
Strontium	mg/L	3	0.0002	0	0.0395	0.0090	0.0320	0.0407	0.0482	2.5
Sulfur	mg/L	3	0.5	2	0.6	0.1	0.5	0.6	0.7	-
Thallium	mg/L	3	0.00001	3	0.00001	0	0.00001	0.00001	0.00001	-
Tin	mg/L	3	0.0001	3	0.0001	0	0.0001	0.0001	0.0001	-
Titanium	mg/L	3	0.0003	3	0.0003	0	0.0003	0.0003	0.0003	-
Tungsten	mg/L	3	0.0001	3	0.0001	0	0.0001	0.0001	0.0001	-

Parameter	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Uranium	mg/L	3	0.00001	2	0.00001	0	0.00001	0.00001	0.00001	-
Vanadium	mg/L	3	0.0005	3	0.0005	0.0001	0.0005	0.0005	0.0006	-
Zinc	mg/L	3	0.001	0	0.005	0.002	0.004	0.005	0.008	0.031
Zirconium	mg/L	3	0.0003	3	0.0003	0	0.0003	0.0003	0.0003	-
Nutrients & General Chemistry										
Alkalinity, Total (as CaCO3)	mg/L	3	1	0	138	23	119	141	160	20
Alkalinity, Bicarbonate (as CaCO3)	mg/L	3	1	0	138	23	119	141	160	-
Bromide (Br)	mg/L	3	0.1	3	0.1	0	0.1	0.1	0.1	-
Alkalinity, Carbonate (as CaCO3)	mg/L	3	1	3	1	0	1	1	1	-
Chloride (Cl)	mg/L	3	0.5	0	2.9	0.9	2.2	2.9	3.9	120
Cyanide, Total	mg/L	3	0.002	3	0.002	0	0.002	0.002	0.002	0.005
Fluoride (F)	mg/L	3	0.02	1	0.03	0.02	0.02	0.02	0.04	0.12
Alkalinity, Hydroxide (as CaCO3)	mg/L	3	1	3	1	0	1	1	1	-
pH	pH units	3	0.1	0	7.8	0.2	7.7	7.7	8.0	6.5 - 9
Conductivity	µS	3	1	0	258	54	210	272	306	-
Ion Balance	%	3	1	0	2	4	-1	0.826	7	-
Total Dissolved Solids	mg/L	3	10	0	146	34	123	136	182	-
Hardness (as CaCO3)	mg/L	3	0.5	0	142.7	25.4	119.3	158.0	159.8	-
Total Suspended Solids	mg/L	3	3	0	63	155	21	45.2	275	-
Turbidity	NTU	3	0.1	0	7.9	30.9	2.8	3.3	51.2	50
Ammonia, Total (as Nitrogen)	mg/L	3	0.005	0	0.087	0.117	0.038	0.077	0.236	0.259
Nitrate and Nitrite as N	mg/L	3	0.02	3	0.02	0	0.02	0.02	0.02	-
Total Organic Carbon	mg/L	3	0.5	0	22.8	4.3	18.8	24.6	26.1	-
Total Inorganic Carbon	mg/L	3	1	0	27	5	23	30.2	31	-
Dissolved Organic Carbon	mg/L	3	0.5	0	18.6	4.0	15.7	18.0	22.7	-
Phosphorus, Total	mg/L	3	0.002	0	0.060	0.027	0.038	0.069	0.086	0.01
Total Kjeldahl Nitrogen	mg/L	3	0.05	0	1.59	0.35	1.28	1.78	1.84	-
Chlorophyll a	µg/L	3	0.002 - 0.010	0	4.51	18.67	1.43	1.97	30.80	-
Biological Oxygen Demand	mg/L	3	2	1	3	1	2	3	4	-
Total Coliforms	CFU/100mL	3	1	0	923	225	802	820	1162	-
E. Coli	CFU/100mL	3	1	0	8	32	2	9	55	100

[1] Cells containing grey highlights indicate exceedances of the WQG. Note that datum is not flagged as an exceedance if the measured concentration was reported by the laboratory as <RDL where the RDL is greater than or equal to the WQG due to measurement uncertainty.

Appendix A, Table 17

Year 2 Surface Water Chemistry Results – Saratoga Wetland Candidate Reference [1]

Parameter	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Radionuclides - Tier 1										
Tritium	Bq/L	3	14.8	3	14.8	0	14.8	14.8	14.8	7000
Carbon-14	Bq/L	3	18.5	3	18.5	0	18.5	18.5	18.5	200

Parameter	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Strontium-90	Bq/L	3	0.037	3	0.037	0	0.037	0.037	0.037	5
Iodine-129	Bq/L	3	0.37	3	0.37	0	0.37	0.37	0.37	1
Cesium-137	Bq/L	3	0.37	3	0.37	0	0.37	0.37	0.37	10
Cobalt-60	Bq/L	3	0.37	3	0.37	0	0.37	0.37	0.37	40
Ruthenium-106	Bq/L	3	3	3	3	0	3	3	3	20
Gross alpha	Bq/L	3	0.111	1	0.134	0.022	0.114	0.139	0.153	-
Gross beta	Bq/L	3	0.148	1	0.219	0.080	0.152	0.276	0.277	-
Radionuclides - Tier 2 natural										
Uranium-238	Bq/L	3	0.0074	2	0.0050	0.0029	0.0028	0.0074	0.0074	3
Uranium-234	Bq/L	3	0.0074	3	0.0074	0	0.0074	0.0074	0.0074	3
Uranium-235	Bq/L	3	0.0074	2	0.0049	0.0031	0.0026	0.0074	0.0074	3
Potassium-40	Bq/L	3	7.1	3	7.1	0	7.1	7.1	7.1	-
Thorium-228	Bq/L	3	0.0074	2	0.0059	0.0021	0.0041	0.0074	0.0074	2
Thorium-230	Bq/L	3	0.0074	2	0.0075	0.0003	0.0074	0.0074	0.0078	0.6
Thorium-232	Bq/L	3	0.0074	2	0.0058	0.0022	0.0039	0.0074	0.0074	0.6
Radium-226	Bq/L	3	0.037	2	0.025	0.015	0.014	0.037	0.037	0.5
Metals - total										
Aluminum (Al)-Total	mg/L	3	0.003	0	0.545	0.847	0.287	0.323	1.625	1.5
Antimony (Sb)-Total	mg/L	3	0.0001	3	0.0001	0	0.0001	0.0001	0.0001	0.006
Arsenic (As)-Total	mg/L	3	0.0001	0	0.0014	0.0006	0.0010	0.0014	0.0021	0.005
Barium (Ba)-Total	mg/L	3	0.0001	0	0.0191	0.0097	0.0116	0.0231	0.0287	1
Beryllium (Be)-Total	mg/L	3	0.00002	2	0.00003	0.00002	0.00002	0.00002	0.00005	1.1
Bismuth (Bi)-Total	mg/L	3	0.00005	3	0.00006	0.00001	0.00005	0.00006	0.00006	17.5
Boron (B)-Total	mg/L	3	0.01	0	0.02	0.01	0.01	0.02	0.03	1.5
Cadmium (Cd)-Total	mg/L	3	0.000005	0	0.000040	0.000082	0.000019	0.000022	0.000149	0.00021
Calcium (Ca)-Total	mg/L	3	0.05	0	42.51	11.96	34.04	40.70	55.10	1000
Cesium (Cs)-Total	mg/L	3	0.00001	0	0.00004	0.00006	0.00003	0.00003	0.00012	-
Chromium (Cr)-Total	mg/L	3	0.0005	0	0.0012	0.0012	0.0008	0.0009	0.0027	-
Cobalt (Co)-Total	mg/L	3	0.0001	0	0.0009	0.0003	0.0007	0.0009	0.0011	0.0012
Copper (Cu)-Total	mg/L	3	0.0005	0	0.0011	0.0006	0.0007	0.0010	0.0017	0.0031
Iron (Fe)-Total	mg/L	3	0.01	0	1.57	0.69	1.11	1.52	2.33	3.8
Lead (Pb)-Total	mg/L	3	0.00005	0	0.00041	0.00030	0.00022	0.00046	0.00075	0.00477
Lithium (Li)-Total	mg/L	3	0.001	2	0.001	0.001	0.001	0.001	0.002	2.5
Magnesium (Mg)-Total	mg/L	3	0.005	0	8.594	4.665	5.308	9.160	13.696	82
Manganese (Mn)-Total	mg/L	3	0.0001	0	0.2183	0.1397	0.1320	0.2130	0.3786	0.12
Mercury (Hg)-Total	mg/L	3	0.000005	1	0.000006	0.000001	0.000006	0.000006	0.000007	0.000026
Molybdenum (Mo)-Total	mg/L	3	0.00005	0	0.00013	0.00015	0.00008	0.00009	0.00031	0.073
Nickel (Ni)-Total	mg/L	3	0.0005	0	0.0013	0.0009	0.0008	0.0011	0.0023	0.1217
Phosphorus (P)-Total	mg/L	3	0.05	0	0.13	0.04	0.10	0.16	0.16	-
Potassium (K)-Total	mg/L	3	0.05	0	2.56	1.81	1.45	2.56	4.67	53
Rhodium (Rh)-Total	mg/L	3	0.001	3	0.001	0	0.001	0.001	0.001	0.01

Parameter	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Ruthenium (Ru)-Total	mg/L	3	0.001	3	0.001	0	0.001	0.001	0.001	0.01
Samarium (Sm)-Total	mg/L	3	0.001	3	0.001	0	0.001	0.001	0.001	0.0082
Selenium (Se)-Total	mg/L	3	0.00005	1	0.00009	0.00005	0.00005	0.00009	0.00014	0.001
Silver (Ag)-Total	mg/L	3	0.00001	3	0.00001	0	0.00001	0.00001	0.00001	0.00025
Sodium (Na)-Total	mg/L	3	0.05	0	0.32	0.10	0.25	0.31	0.43	680
Strontium (Sr)-Total	mg/L	3	0.0002	0	0.0837	0.0217	0.0647	0.0914	0.1027	7
Sulfur (S)-Total	mg/L	3	0.5	2	0.3	0.2	0.2	0.5	0.5	-
Thallium (Tl)-Total	mg/L	3	0.00001	2	0.00001	0.00000	0.00001	0.00001	0.00002	0.0008
Tin (Sn)-Total	mg/L	3	0.0001	3	0.0001	0.0000	0.0001	0.0001	0.0001	0.073
Titanium (Ti)-Total	mg/L	3	0.0003	0	0.0116	0.0128	0.0072	0.0074	0.0272	0.076
Tungsten (W)-Total	mg/L	3	0.0001	3	0.0001	0	0.0001	0.0001	0.0001	0.03
Uranium (U)-Total	mg/L	3	0.00001	0	0.00002	0.00002	0.00001	0.00002	0.00004	0.015
Vanadium (V)-Total	mg/L	3	0.0005	0	0.0015	0.0010	0.0009	0.0015	0.0026	0.12
Zinc (Zn)-Total	mg/L	3	0.003	0	0.010	0.006	0.007	0.007	0.017	0.02
Zirconium (Zr)-Total	mg/L	3	0.0002	1	0.0003	0.0001	0.0002	0.0003	0.0004	0.004
Metals - dissolved										
Aluminum	mg/L	3	0.001	0	0.034	0.034	0.022	0.022	0.075	-
Antimony	mg/L	3	0.0001	3	0.0001	0	0.0001	0.0001	0.0001	-
Arsenic	mg/L	3	0.0001	0	0.0012	0.0005	0.0008	0.0012	0.0017	-
Barium	mg/L	3	0.0001	0	0.0139	0.0058	0.0092	0.0163	0.0194	-
Beryllium	mg/L	3	0.00002	3	0.00002	0	0.00002	0.00002	0.00002	-
Bismuth	mg/L	3	0.00005	3	0.00006	0.00001	0.00005	0.00006	0.00006	-
Boron	mg/L	3	0.01	0	0.02	0.01	0.01	0.02	0.03	-
Cadmium	mg/L	3	0.000005	0	0.000012	0.000027	0.000006	0.000006	0.000048	-
Calcium	mg/L	3	0.05	0	42.41	11.96	33.94	40.60	55.00	-
Chromium	mg/L	3	0.0005	3	0.0005	0.0001	0.0005	0.0005	0.0006	-
Cobalt	mg/L	3	0.0001	0	0.0005	0.0004	0.0002	0.0005	0.0009	-
Copper	mg/L	3	0.0002	0	0.0005	0.0003	0.0004	0.0005	0.0008	0.00611
Iron	mg/L	3	0.01	0	0.51	0.86	0.16	0.74	1.69	-
Lead	mg/L	3	0.00005	0	0.00010	0.00007	0.00006	0.00009	0.00018	0.012
Lithium	mg/L	3	0.001	3	0.001	0	0.001	0.001	0.001	-
Magnesium	mg/L	3	0.005	0	8.141	4.846	4.711	9.220	13.432	-
Manganese	mg/L	3	0.0001	0	0.2014	0.1466	0.1094	0.2150	0.3716	0.26
Mercury	mg/L	3	0.000005	3	0.000006	0.000001	0.000005	0.000006	0.000006	-
Molybdenum	mg/L	3	0.00005	1	0.00011	0.00016	0.00006	0.00006	0.00031	-
Nickel	mg/L	3	0.0005	2	0.0006	0.0001	0.0005	0.0006	0.0006	-
Phosphorus	mg/L	3	0.05	3	0.06	0.01	0.05	0.06	0.06	-
Potassium	mg/L	3	0.05	0	2.38	1.87	1.34	2.24	4.60	-
Rhodium	mg/L	3	0.001	3	0.001	0	0.001	0.001	0.001	-
Ruthenium	mg/L	3	0.001	3	0.001	0	0.001	0.001	0.001	-
Samarium	mg/L	3	0.001	3	0.001	0	0.001	0.001	0.001	-

Parameter	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Water Quality Guideline
Selenium	mg/L	3	0.00005	1	0.00009	0.00005	0.00005	0.00009	0.00014	-
Silver	mg/L	3	0.00001	3	0.00001	0	0.00001	0.00001	0.00001	-
Sodium	mg/L	3	0.05	0	0.31	0.11	0.22	0.32	0.42	-
Strontium	mg/L	3	0.0002	0	0.0843	0.0210	0.0655	0.0942	0.1012	2.5
Sulfur	mg/L	3	0.5	2	0.3	0.3	0.2	0.5	0.6	-
Thallium	mg/L	3	0.00001	3	0.00001	0	0.00001	0.00001	0.00001	-
Tin	mg/L	3	0.0001	3	0.0001	0	0.0001	0.0001	0.0001	-
Titanium	mg/L	3	0.0003	0	0.0019	0.0016	0.0013	0.0014	0.0039	-
Tungsten	mg/L	3	0.0001	3	0.0001	0	0.0001	0.0001	0.0001	-
Uranium	mg/L	3	0.00001	0	0.00002	0.00001	0.00001	0.00001	0.00002	-
Vanadium	mg/L	3	0.0005	1	0.0007	0.0002	0.0005	0.0006	0.0008	-
Zinc	mg/L	3	0.001	0	0.010	0.007	0.005	0.010	0.018	0.031
Zirconium	mg/L	3	0.0003	3	0.0003	0	0.0003	0.0003	0.0003	-
Nutrients & General Chemistry										
Alkalinity, Total (as CaCO3)	mg/L	3	1	0	137	30	111	142	165	20
Alkalinity, Bicarbonate (as CaCO3)	mg/L	3	1	0	137	30	111	142	165	-
Bromide (Br)	mg/L	3	0.1	3	0.2	0.3	0.1	0.1	0.6	-
Alkalinity, Carbonate (as CaCO3)	mg/L	3	1	3	1	0	1	1	1	-
Chloride (Cl)	mg/L	3	0.5	2	0.9	1.2	0.5	0.6	2.4	120
Cyanide, Total	mg/L	3	0.002	3	0.002	0	0.002	0.002	0.002	0.005
Fluoride (F)	mg/L	3	0.02	1	0.05	0.04	0.03	0.05	0.10	0.12
Alkalinity, Hydroxide (as CaCO3)	mg/L	3	1	3	1	0	1	1	1	-
pH	pH units	3	0.1	0	7.4	0.3	7.2	7.5	7.7	6.5 - 9
Conductivity	µS	3	1	0	301	91	222	363	363	-
Ion Balance	%	3	1	0	6	5	2	6.06	11	-
Total Dissolved Solids	mg/L	3	10	0	201	128	142	157	349	-
Hardness (as CaCO3)	mg/L	3	0.5	0	142.0	49.0	106.6	139.0	193.9	-
Total Suspended Solids	mg/L	3	3	0	33	8	26	36.1	39	-
Turbidity	NTU	3	0.1	0	20.4	23.0	7.9	31.6	49.1	50
Ammonia, Total (as Nitrogen)	mg/L	3	0.005	0	0.235	0.376	0.083	0.262	0.738	0.259
Nitrate and Nitrite as N	mg/L	3	0.02	3	0.04	0.05	0.02	0.02	0.10	-
Total Organic Carbon	mg/L	3	0.5	0	28.7	56.5	10.8	22.0	103.9	-
Total Inorganic Carbon	mg/L	3	1	0	23	6	19	23.3	29	-
Dissolved Organic Carbon	mg/L	3	0.5	0	27.8	53.0	9.9	24.0	98.7	-
Phosphorus, Total	mg/L	3	0.002	0	0.102	0.051	0.072	0.091	0.158	0.01
Total Kjeldahl Nitrogen	mg/L	3	0.05	0	1.74	0.77	1.36	1.44	2.59	-
Chlorophyll a	µg/L	3	0.002 - 0.010	0	6.88	11.44	2.68	19.80	21.15	-
Biological Oxygen Demand	mg/L	3	2	1	18	107	3	14.5	175	-
Total Coliforms	CFU/100mL	3	1	0	1931	1572	1010	2000	3800	-
E. Coli	CFU/100mL	3	1	2	18	355	2	10	559	100

[1] Cells containing grey highlights indicate exceedances of the WQG. Note that datum is not flagged as an exceedance if the measured concentration was reported by the laboratory as <RDL where the RDL is greater than

orequal to the WQG due to measurement uncertainty.

Appendix B, Table 1

Year 2 Surface Water Quality QAQC Results – Duplicates[1]

Parameter	Units	RDL	TWR_04	Dup_13	RPD %	> 5 RDL	RDL	TWR_09	Dup_14	RPD %	> 5 RDL	RDL	TWR_04	Dup_21	RPD %	> 5 RDL	RDL	TWR_09	Dup_26	RPD %	> 5 RDL	RDL	TWR_04	Dup_25	RPD %	> 5 RDL
Radionuclides - Tier 1																										
Tritium	Bq/L	14.8	14.8	14.8	0.0	No	14.8	14.8	14.8	0.0	No	14.8	14.8	14.8	0.0	No	14.8	14.8	14.8	0.0	No	14.8	14.8	14.8	0.0	No
Carbon-14	Bq/L	18.5	18.5	18.5	0.0	No	18.5	18.5	18.5	0.0	No	18.5	18.5	18.5	0.0	No	18.5	18.5	18.5	0.0	No	18.5	18.5	18.5	0.0	No
Strontium-90	Bq/L	0.037	0.04	0.04	0.0	No	0.037	0.037	0.037	0.0	No	0.037	0.037	0.037	0.0	No	0.037	0.037	0.037	0.0	No	0.037	0.037	0.037	0.0	No
Iodine 129	Bq/L	0.37	0.37	0.37	0.0	No	0.37	0.37	0.37	0.0	No	0.37	0.37	0.37	0.0	No	0.37	0.37	0.37	0.0	No	0.37	0.37	0.37	0.0	No
Cesium-137	Bq/L	0.37	0.37	0.37	0.0	No	0.37	0.37	0.37	0.0	No	0.37	0.37	0.37	0.0	No	0.37	0.37	0.37	0.0	No	0.37	0.37	0.37	0.0	No
Cobalt-60	Bq/L	0.37	0.37	0.37	0.0	No	0.37	0.37	0.37	0.0	No	0.37	0.37	0.37	0.0	No	0.37	0.37	0.37	0.0	No	0.37	0.37	0.37	0.0	No
Ruthenium-106	Bq/L	3	3.00	3.00	0.0	No	3	3	3	0.0	No	3	3	3	0.0	No	3	3	3	0.0	No	3	3	3	0.0	No
Gross Alpha	Bq/L	0.111	0.11	0.11	0.0	No	0.111	0.111	0.13	15.8	No	0.111	0.111	0.111	0.0	No	0.111	0.111	0.111	0.0	No	0.111	0.118	0.176	39.5	No
Gross Beta	Bq/L	0.148	0.15	0.0857	53.3	No	0.148	0.0923	0.105	12.9	No	0.148	0.103	0.148	35.9	No	0.148	0.148	0.107	32.2	No	0.148	0.0918	0.15	46.9	No
Radionuclides - Tier 2 natural																										
Uranium-238	Bq/L	0.0074	0.0176	0.0173	1.7	No	0.0074	0.0136	0.0206	40.9	No	0.0074	0.0165	0.0135	20.0	No	0.0074	0.0128	0.0192	40.0	No	0.0074	0.0168	0.0103	48.0	No
Uranium-234	Bq/L	0.0074	0.0246	0.0257	4.4	No	0.0074	0.0218	0.019	13.7	No	0.0074	0.0224	0.0226	0.9	No	0.0074	0.0074	0.0074	0.0	No	0.0074	0.017	0.0186	9.0	No
Uranium-235	Bq/L	0.0074	0.00209	0.00740	111.9	No	0.0074	0.0074	0.0074	0.0	No	0.0074	0.00224	0.00287	24.7	No	0.0074	0.0153	0.0191	22.1	No	0.0074	0.0074	0.01	0.0	No
Potassium-40	Bq/L	7.1	7.10	7.10	0.0	No	7.1	7.1	7.1	0.0	No	7.1	7.1	7.1	0.0	No	7.1	7.1	7.1	0.0	No	7.1	7.1	7.10	0.0	No
Thorium-228	Bq/L	0.0074	0.01	0.01	0.0	No	0.0074	0.0074	0.0074	0.0	No	0.0074	0.0074	0.0074	0.0	No	0.0074	0.0074	0.0074	0.0	No	0.0074	0.0074	0.0074	0.0	No
Thorium-230	Bq/L	0.0074	0.01	0.01	0.0	No	0.0074	0.0074	0.0074	0.0	No	0.0074	0.00596	0.0074	21.6	No	0.0074	0.0074	0.0074	0.0	No	0.0074	0.0074	0.01	0.0	No
Thorium-232	Bq/L	0.0074	0.01	0.01	0.0	No	0.0074	0.0074	0.0074	0.0	No	0.0074	0.0074	0.0074	0.0	No	0.0074	0.0074	0.0074	0.0	No	0.0074	0.0074	0.0074	0.0	No
Radium-226	Bq/L	0.037	0.024	0.0287	17.8	No	0.037	0.037	0.037	0.0	No	0.037	0.037	0.037	0.0	No	0.037	0.037	0.0182	68.1	No	0.037	0.0194	0.0178	8.6	No
Radionuclides - Tier 2 artificial																										
Chlorine-36	Bq/L	0.37	0.37	0.37	0.0	No	=	=	=	=	=	0.37	0.37	0.37	0.0	No	=	=	=	=	=	0.37	0.37	0.37	0.0	No
Selenium-79	Bq/L	1.85	1.85	1.85	0.0	No	=	=	=	=	=	1.85	1.85	1.85	0.0	No	=	=	=	=	=	1.85	1.85	1.85	0.0	No
Neptunium-237	Bq/L	0.0037	0.0037	0.0037	0.0	No	=	=	=	=	=	0.0037	0.0037	0.0037	0.0	No	=	=	=	=	=	0.0037	0.0037	0.00	0.0	No
Plutonium-238	Bq/L	0.0037	0.0037	0.0037	0.0	No	=	=	=	=	=	0.0037	0.0037	0.0037	0.0	No	=	=	=	=	=	0.0037	0.0037	0.0037	0.0	No
Plutonium-239	Bq/L	0.0037	0.0037	0.0037	0.0	No	=	=	=	=	=	0.0037	0.0037	0.0037	0.0	No	=	=	=	=	=	0.0037	0.0037	0.00	0.0	No
Metals - Total																										
Aluminum (Al)-Total	mg/L	0.0001	0.0251	0.0225	10.9	Yes	0.003	0.062	0.0506	20.2	Yes	0.003	0.0323	0.0353	8.9	Yes	0.003	0.1	0.102	2.0	Yes	0.003	0.0592	0.0721	19.6	Yes
Antimony (Sb)-Total	mg/L	0.0005	0.00010	0.000100	0.0	No	0.0001	0.0001	0.0001	0.0	No	0.0001	0.0001	0.0001	0.0	No	0.0001	0.0001	0.0001	0.0	No	0.0001	0.0001	0.00	0.0	No
Arsenic (As)-Total	mg/L	0.0001	0.00044	0.0004	9.5	No	0.0001	0.00067	0.00066	1.5	Yes	0.0001	0.00025	0.00025	0.0	No	0.0001	0.00089	0.00086	3.4	Yes	0.0001	0.00059	0.00059	0.0	Yes
Barium (Ba)-Total	mg/L	0.00005	0.0458	0.0476	3.9	Yes	0.0001	0.0325	0.03	8.0	Yes	0.0001	0.0316	0.032	1.3	Yes	0.0001	0.0334	0.0331	0.9	Yes	0.0001	0.0419	0.0406	3.2	Yes
Beryllium (Be)-Total	mg/L	0.00002	0.00002	0.00002	0.0	No	0.00002	0.00002	0.00002	0.0	No	0.00002	0.00002	0.00002	0.0	No	0.00002	0.00002	0.00002	0.0	No	0.00002	0.00002	0.00002	0.0	No
Bismuth (Bi)-Total	mg/L	0.00005	0.00005	0.00005	0.0	No	0.00005	0.00005	0.00005	0.0	No	0.00005	0.00005	0.00005	0.0	No	0.00005	0.00005	0.00005	0.0	No	0.00005	0.00005	0.00	0.0	No
Boron (B)-Total	mg/L	0.0001	0.019	0.018	5.4	Yes	0.01	0.015	0.014	6.9	No	0.01	0.013	0.014	7.4	No	0.01	0.017	0.018	5.7	No	0.01	0.02	0.02	0.0	No
Cadmium (Cd)-Total	mg/L	0.000005	0.0000055	0.00001	9.5	No	5E-06	5E-06	6.8E-06	30.5	No	5E-06	5.9E-06	5.6E-06	5.2	No	5E-06	7.5E-06	5E-06	40.0	No	5E-06	6.7E-06	5.9E-06	12.7	No
Calcium (Ca)-Total	mg/L	0.00005	100	97.6	2.4	Yes	0.05	86.8	81.6	6.2	Yes	0.05	77.8	79	1.5	Yes	0.05	64.3	66	2.6	Yes	0.05	72.6	68.7	5.5	Yes
Cesium (Cs)-Total	mg/L	0.00001	0.00001	0.00001	0.0	No	0.00001	0.00001	0.00001	0.0	No	0.00001	0.00001	0.00001	0.0	No	0.00001	0.00001	1.1E-05	9.5	No	0.00001	0.00001	0.00	0.0	No
Chromium (Cr)-Total	mg/L	0.0005	0.0005	0.0005	0.0	No	0.0005	0.0005	0.0005	0.0	No	0.0005	0.0005	0.0005	0.0	No	0.0005	0.0005	0.0005	0.0	No	0.0005	0.0005	0.0005	0.0	No
Cobalt (Co)-Total	mg/L	0.0005	0.0005	0.0005	0.0	No	0.0001	0.00011	0.0001	9.5	No	0.0001	0.0001	0.0001	0.0	No	0.0001	0.00016	0.00016	0.0	No	0.0001	0.0001	0.0001	0.0	No

Appendix B, Table 1

Year 2 Surface Water Quality QAQC Results – Duplicates[1]

Parameter	Units	RDL	TWR_04	Dup_13	RPD %	> 5 RDL	RDL	TWR_09	Dup_14	RPD %	> 5 RDL	RDL	TWR_04	Dup_21	RPD %	> 5 RDL	RDL	TWR_09	Dup_26	RPD %	> 5 RDL	RDL	TWR_04	Dup_25	RPD %	> 5 RDL
Copper (Cu)-Total	mg/L	0.0005	0.00103	0.00097	6.0	No	0.0005	0.00059	0.00058	1.7	No	0.0005	0.0007	0.00067	4.4	No	0.0005	0.00066	0.00069	4.4	No	0.0005	0.00055	0.00056	1.8	No
Iron (Fe)-Total	mg/L	0.0005	0.093	0.088	5.5	Yes	0.01	0.179	0.164	8.7	Yes	0.01	0.06	0.064	6.5	Yes	0.01	0.176	0.185	5.0	Yes	0.01	0.161	0.182	12.2	Yes
Lead (Pb)-Total	mg/L	0.0005	0.000061	0.000056	8.5	No	0.00005	5.6E-05	0.000051	9.3	No	0.00005	0.000053	0.000053	0.0	No	0.00005	0.000098	0.00011	8.8	No	0.00005	0.000112	0.000127	12.6	No
Lithium (Li)-Total	mg/L	0.0005	0.002	0.002	0.0	No	0.001	0.0015	0.0014	6.9	No	0.001	0.0012	0.0012	0.0	No	0.001	0.0016	0.0016	0.0	No	0.001	0.002	0.002	0.0	No
Magnesium (Mg)-Total	mg/L	0.0005	32.3	32.9	1.8	Yes	0.005	27	25.9	4.2	Yes	0.005	26	26.1	0.4	Yes	0.005	24	23.7	1.3	Yes	0.005	27.7	27.1	2.2	Yes
Manganese (Mn)-Total	mg/L	0.0005	0.011	0.0112	1.8	Yes	0.0001	0.0103	0.00947	8.4	Yes	0.0001	0.00812	0.00819	0.9	Yes	0.0001	0.0144	0.015	4.1	Yes	0.0001	0.0236	0.0243	2.9	Yes
Mercury (Hg)-Total	mg/L	0.0005	0.00	0.00	0.0	No	5E-06	5E-06	0.000005	0.0	No	5E-06	0.000005	0.000005	0.0	No	5E-06	0.000005	5E-06	0.0	No	5E-06	0.000005	0.000005	0.0	No
Molybdenum (Mo)-Total	mg/L	0.0005	0.000649	0.00063	3.0	No	0.00005	0.00046	0.000414	11.4	Yes	0.00005	0.000363	0.000351	3.4	Yes	0.00005	0.000473	0.00048	2.1	Yes	0.00005	0.000634	0.00062	2.2	Yes
Nickel (Ni)-Total	mg/L	0.0005	0.001	0.001	0.0	No	0.0005	0.00051	0.0005	2.0	No	0.0005	0.0005	0.0005	0.0	No	0.0005	0.00056	0.00056	0.0	No	0.0005	0.0005	0.0005	0.0	No
Phosphorus (P)-Total	mg/L	0.0005	0.05	0.05	0.0	Yes	0.05	0.05	0.05	0.0	No	0.05	0.05	0.05	0.0	No	0.05	0.05	0.05	0.0	No	0.05	0.05	0.05	0.0	No
Potassium (K)-Total	mg/L	0.05	2.68	2.69	0.4	Yes	0.05	2.16	2.05	5.2	Yes	0.05	1.86	1.88	1.1	Yes	0.05	2.03	2.02	0.5	Yes	0.05	2.3	2.3	0.0	Yes
Rhodium (Rh)-Total	mg/L	0.001	0.001	0.001	0.0	No	0.001	0.001	0.001	0.0	No	0.001	0.001	0.001	0.0	No	0.001	0.001	0.001	0.0	No	0.001	0.001	0.001	0.0	No
Ruthenium (Ru)-Total	mg/L	0.001	0.001	0.001	0.0	No	0.0002	0.0008	0.00072	10.5	No	0.001	0.001	0.001	0.0	No	0.001	0.001	0.001	0.0	No	0.001	0.001	0.00	0.0	No
Samarium (Sm)-Total	mg/L	0.001	0.001	0.001	0.0	No	0.001	0.001	0.001	0.0	No	0.001	0.001	0.001	0.0	No	0.001	0.001	0.001	0.0	No	0.001	0.001	0.00	0.0	No
Selenium (Se)-Total	mg/L	0.00005	0.000197	0.000243	20.9	No	0.001	0.001	0.001	0.0	No	0.00005	0.000232	0.000263	12.5	No	0.00005	0.000222	0.00027	19.5	No	0.00005	0.000256	0.000203	23.1	No
Silver (Ag)-Total	mg/L	0.00001	0.00001	0.00001	0.0	No	0.00005	0.00022	0.000197	10.1	No	0.00001	0.00001	0.00001	0.0	No	0.00001	0.00001	0.00001	0.0	No	0.00001	0.00001	0.00001	0.0	No
Sodium (Na)-Total	mg/L	0.05	28.2	28.2	0.0	Yes	0.00001	0.00001	0.00001	0.0	No	0.05	17.2	17.6	2.3	Yes	0.05	11.2	11.2	0.0	Yes	0.05	23	22.6	1.8	Yes
Strontium (Sr)-Total	mg/L	0.0002	0.731	0.697	4.8	Yes	0.0002	0.498	0.462	7.5	Yes	0.0002	0.386	0.389	0.8	Yes	0.0002	0.446	0.444	0.4	Yes	0.0002	0.628	0.612	2.6	Yes
Sulfur (S)-Total	mg/L	0.5	19.8	18.5	6.8	Yes	0.5	10.8	10.5	2.8	Yes	0.5	11.6	12.1	4.2	Yes	0.5	9.14	9.11	0.3	Yes	0.5	16.2	16.4	1.2	Yes
Thallium (Tl)-Total	mg/L	0.00001	0.00001	0.00001	0.0	No	0.00001	0.00001	0.00001	0.0	No	0.00001	0.00001	0.00001	0.0	No	0.00001	0.00001	0.00001	0.0	No	0.00001	0.00001	0.00	0.0	No
Tin (Sn)-Total	mg/L	0.0001	0.0001	0.0001	0.0	No	0.0001	0.0001	0.0001	0.0	No	0.0001	0.0001	0.0001	0.0	No	0.0001	0.0001	0.0001	0.0	No	0.0001	0.0001	0.00	0.0	No
Titanium (Ti)-Total	mg/L	0.0003	0.00069	0.00064	7.5	No	0.0003	0.00196	0.0015	26.6	No	0.0003	0.0009	0.00094	4.3	No	0.0003	0.0036	0.003	18.2	Yes	0.0003	0.00182	0.0024	27.5	Yes
Tungsten (W)-Total	mg/L	0.0001	0.0001	0.0001	0.0	No	0.0001	0.0001	0.0001	0.0	No	0.0001	0.0001	0.0001	0.0	No	0.0001	0.0001	0.0001	0.0	No	0.0001	0.0001	0.00	0.0	No
Uranium (U)-Total	mg/L	0.00001	0.00138	0.00131	5.2	Yes	0.00001	0.0015	0.00145	3.4	Yes	0.00001	0.00111	0.00113	1.8	Yes	0.00001	0.00127	0.00125	1.6	Yes	0.00001	0.00106	0.00106	0.0	Yes
Vanadium (V)-Total	mg/L	0.0005	0.0005	0.0005	0.0	No	0.0005	0.00058	0.00055	5.3	No	0.0005	0.0005	0.0005	0.0	No	0.0005	0.00093	0.0009	3.3	No	0.0005	0.00068	0.00066	3.0	No
Zinc (Zn)-Total	mg/L	0.003	0.0030	0.0030	0.0	No	0.003	0.003	0.003	0.0	No	0.003	0.003	0.003	0.0	No	0.003	0.003	0.003	0.0	No	0.003	0.003	0.003	0.0	No
Zirconium (Zr)-Total	mg/L	0.0002	0.0002	0.0002	0.0	No	0.0002	0.0002	0.0002	0.0	No	0.0002	0.0002	0.0002	0.0	No	0.0002	0.0002	0.0002	0.0	No	0.0002	0.0002	0.00	0.0	No
Metals - dissolved																										
Aluminum (Al)-Dissolved	mg/L	0.001	0.0027	0.0037	31.3	No	0.001	0.0141	0.0061	79.2	Yes	0.001	0.0038	0.0036	5.4	No	0.001	0.0073	0.0083	12.8	Yes	0.001	0.0036	0.0036	0.0	No
Antimony (Sb)-Dissolved	mg/L	0.0001	0.0001	0.0001	0.0	No	0.0001	0.0001	0.0001	0.0	No	0.0001	0.0001	0.0001	0.0	No	0.0001	0.0001	0.0001	0.0	No	0.0001	0.0001	0.00	0.0	No
Arsenic (As)-Dissolved	mg/L	0.0001	0.00038	0.00034	11.1	No	0.0001	0.00065	0.00063	3.1	Yes	0.0001	0.00022	0.00021	4.7	No	0.0001	0.00085	0.00082	3.6	Yes	0.0001	0.00055	0.00052	5.6	Yes
Barium (Ba)-Dissolved	mg/L	0.000005	0.043	0.043	0.0	Yes	0.0001	0.0308	0.0313	1.6	Yes	0.0001	0.03	0.0305	1.7	Yes	0.0001	0.0327	0.0342	4.5	Yes	0.0001	0.04	0.0408	2.0	Yes
Beryllium (Be)-Dissolved	mg/L	0.00005	0.00002	0.00002	0.0	No	0.00002	0.00002	0.00002	0.0	No	0.00002	0.00002	0.00002	0.0	No	0.00002	0.00002	0.00002	0.0	No	0.00002	0.00002	0.00002	0.0	No
Bismuth (Bi)-Dissolved	mg/L	0.00005	0.00005	0.00005	0.0	No	0.00005	0.00005	0.00005	0.0	No	0.00005	0.00005	0.00005	0.0	No	0.00005	0.00005	0.00005	0.0	No	0.00005	0.00005	0.00	0.0	No
Boron (B)-Dissolved	mg/L	0.05	0.018	0.017	5.7	No	0.01	0.014	0.014	0.0	No	0.01	0.012	0.012	0.0	No	0.01	0.016	0.017	6.1	No	0.01	0.02	0.02	0.0	No
Cadmium (Cd)-Dissolved	mg/L	0.000005	0.000005	0.000005	0.0	No	5E-06	5E-06	0.000005	0.0	No	5E-06	0.000005	0.000005	0.0	No	5E-06	0.000005	5E-06	0.0	No	5E-06	0.000005	0.00	0.0	No
Calcium (Ca)-Dissolved	mg/L	0.001	99.8	98.8	1.0	Yes	0.05	84.2	84	0.2	Yes	0.05	75.5	76.7	1.6	Yes	0.05	64.2	63.9	0.5	Yes	0.05	69.6	71.4	2.6	Yes
Chromium (Cr)-Dissolved	mg/L	0.001	0.001	0.001	0.0	No	0.0005	0.0005	0.0005	0.0	No	0.0005	0.0005	0.0005	0.0	No	0.0005	0.0005	0.0005	0.0	No	0.0005	0.0005	0.0005	0.0	No
Cobalt (Co)-Dissolved	mg/L	0.0001	0.0001	0.0001	0.0	No	0.0001	0.0001	0.0001	0.0	No	0.0001	0.0001	0.0001	0.0	No	0.0001	0.00011	0.00011	0.0	No	0.0001	0.0001	0.00	0.0	No
Copper (Cu)-Dissolved	mg/L	0.00005	0.0011	0.00092	17.8	Yes	0.0002	0.00065	0.00055	16.7	No	0.0002	0.00064	0.00054	16.9	No	0.0002	0.00083	0.0009	8.1	No	0.0002	0.00055	0.00056	1.8	No
Iron (Fe)-Dissolved	mg/L	0.01	0.035	0.042	18.2	No	0.01	0.09	0.088	2.2	Yes	0.01	0.016	0.016	0.0	No	0.01	0.048	0.05	4.1	No	0.01	0.048	0.051	6.1	No

Appendix B, Table 1

Year 2 Surface Water Quality QAQC Results – Duplicates[1]

Parameter	Units	RDL	TWR_04	Dup_13	RPD %	> 5 RDL	RDL	TWR_09	Dup_14	RPD %	> 5 RDL	RDL	TWR_04	Dup_21	RPD %	> 5 RDL	RDL	TWR_09	Dup_26	RPD %	> 5 RDL	RDL	TWR_04	Dup_25	RPD %	> 5 RDL
Lead (Pb)-Dissolved	mg/L	0.00001	0.00005	0.00005	0.0	No	0.00005	0.00005	0.00005	0.0	No	0.00005	0.00005	0.00005	0.0	No	0.00005	0.00005	0.00005	0.0	No	0.00005	0.00005	0.00005	0.0	No
Lithium (Li)-Dissolved	mg/L	0.001	0.0018	0.0019	5.4	No	0.001	0.0014	0.0014	0.0	No	0.001	0.0012	0.0011	8.7	No	0.001	0.0015	0.0015	0.0	No	0.001	0.0019	0.002	5.1	No
Magnesium (Mg)-Dissolved	mg/L	0.005	30.9	30.9	0.0	Yes	0.005	26.3	26.9	2.3	Yes	0.005	25.2	26.1	3.5	Yes	0.005	23.2	23.5	1.3	Yes	0.005	27.6	27.6	0.0	Yes
Manganese (Mn)-Dissolved	mg/L	0.0001	0.00874	0.00867	0.8	Yes	0.0001	0.00646	0.00678	4.8	Yes	0.0001	0.00635	0.00664	4.5	Yes	0.0001	0.00684	0.00678	0.9	Yes	0.0001	0.0189	0.019	0.5	Yes
Mercury (Hg)-Dissolved	mg/L	0.000005	0.00001	0.00001	0.0	No	5E-06	5E-06	0.000005	0.0	No	5E-06	0.000005	0.000005	0.0	No	5E-06	0.000005	5E-06	0.0	No	5E-06	0.000005	0.000005	0.0	No
Molybdenum (Mo)-Dissolved	mg/L	0.00005	0.000612	0.000621	1.5	Yes	0.00005	0.00046	0.000437	4.0	Yes	0.00005	0.000322	0.000333	3.4	Yes	0.00005	0.000452	0.00044	2.5	Yes	0.00005	0.000587	0.000586	0.2	Yes
Nickel (Ni)-Dissolved	mg/L	0.0005	0.0005	0.0005	0.0	No	0.0005	0.0005	0.0005	0.0	No	0.0005	0.0005	0.0005	0.0	No	0.0005	0.00055	0.0005	9.5	No	0.0005	0.0005	0.0005	0.0	No
Phosphorus (P)-Dissolved	mg/L	0.05	0.05	0.05	0.0	No	0.05	0.05	0.05	0.0	No	0.05	0.05	0.05	0.0	No	0.05	0.05	0.05	0.0	No	0.05	0.05	0.05	0.0	No
Potassium (K)-Dissolved	mg/L	0.05	2.57	2.6	1.2	Yes	0.05	2.13	2.16	1.4	Yes	0.05	1.81	1.86	2.7	Yes	0.05	2.03	2.01	1.0	Yes	0.05	2.31	2.32	0.4	Yes
Rhodium (Rh)-Dissolved	mg/L	0.0001	0.001	0.001	0.0	Yes	0.001	0.001	0.001	0.0	No	0.001	0.001	0.001	0.0	No	0.001	0.001	0.001	0.0	No	0.001	0.001	0.001	0.0	No
Ruthenium (Ru)-Dissolved	mg/L	0.0005	0.001	0.001	0.0	No	0.001	0.001	0.001	0.0	No	0.001	0.001	0.001	0.0	No	0.001	0.001	0.001	0.0	No	0.001	0.001	0.001	0.0	No
Samarium (Sm)-Dissolved	mg/L	0.001	0.001	0.001	0.0	No	0.001	0.001	0.001	0.0	No	0.001	0.001	0.001	0.0	No	0.001	0.001	0.001	0.0	No	0.001	0.001	0.001	0.0	No
Selenium (Se)-Dissolved	mg/L	0.00005	0.00022	0.000237	7.4	No	0.00005	0.00024	0.000208	14.3	No	0.00005	0.00031	0.000264	16.0	Yes	0.00005	0.000298	0.00032	5.5	Yes	0.00005	0.000223	0.000226	1.3	No
Silver (Ag)-Dissolved	mg/L	0.00001	0.00001	0.00001	0.0	No	0.00001	0.00001	0.00001	0.0	No	0.00001	0.00001	0.00001	0.0	No	0.00001	0.00001	0.00001	0.0	No	0.00001	0.00001	0.00001	0.0	No
Sodium (Na)-Dissolved	mg/L	0.05	26.2	26.2	0.0	Yes	0.05	12.8	13.2	3.1	Yes	0.05	16.9	16.2	4.2	Yes	0.05	11.2	11	1.8	Yes	0.05	22.8	22.8	0.0	Yes
Strontium (Sr)-Dissolved	mg/L	0.0002	0.75	0.707	5.9	Yes	0.0002	0.478	0.47	1.7	Yes	0.0002	0.374	0.36	3.8	Yes	0.0002	0.434	0.438	0.9	Yes	0.0002	0.606	0.608	0.3	Yes
Sulfur (S)-Dissolved	mg/L	0.5	20.3	18.9	7.1	Yes	0.5	10.7	10.7	0.0	Yes	0.5	10.9	10.8	0.9	Yes	0.5	8.62	8.66	0.5	Yes	0.5	16.4	16.7	1.8	Yes
Thallium (Tl)-Dissolved	mg/L	0.00001	0.00001	0.00001	0.0	No	0.00001	0.00001	0.00001	0.0	No	0.00001	0.00001	0.00001	0.0	No	0.00001	0.00001	0.00001	0.0	No	0.00001	0.00001	0.00	0.0	No
Tin (Sn)-Dissolved	mg/L	0.0001	0.0001	0.0001	0.0	No	0.0001	0.0001	0.0001	0.0	No	0.0001	0.0001	0.0001	0.0	No	0.0001	0.0001	0.0001	0.0	No	0.0001	0.0001	0.00	0.0	No
Titanium (Ti)-Dissolved	mg/L	0.0003	0.0003	0.0003	0.0	No	0.0003	0.00045	0.00041	9.3	No	0.0003	0.0003	0.0003	0.0	No	0.0003	0.00039	0.0004	2.5	No	0.0003	0.0003	0.0003	0.0	No
Tungsten (W)-Dissolved	mg/L	0.0001	0.0001	0.0001	0.0	No	0.0001	0.0001	0.0001	0.0	No	0.0001	0.0001	0.0001	0.0	No	0.0001	0.0001	0.0001	0.0	No	0.0001	0.0001	0.00	0.0	No
Uranium (U)-Dissolved	mg/L	0.00001	0.00131	0.00133	1.5	Yes	0.00001	0.00147	0.00143	2.8	Yes	0.00001	0.00108	0.00109	0.9	Yes	0.00001	0.00125	0.00124	0.8	Yes	0.00001	0.00105	0.00106	0.9	Yes
Vanadium (V)-Dissolved	mg/L	0.0005	0.0005	0.0005	0.0	No	0.0005	0.0005	0.0005	0.0	No	0.0005	0.0005	0.0005	0.0	No	0.0005	0.00073	0.00071	2.8	No	0.0005	0.00052	0.00054	3.8	No
Zinc (Zn)-Dissolved	mg/L	0.001	0.0022	0.0015	37.8	No	0.001	0.0014	0.001	33.3	No	0.001	0.0015	0.0015	0.0	No	0.001	0.0023	0.0011	70.6	No	0.001	0.0012	0.001	18.2	No
Zirconium (Zr)-Dissolved	mg/L	0.0003	0.0003	0.0003	0.0	No	0.0003	0.0003	0.0003	0.0	No	0.0003	0.0003	0.0003	0.0	No	0.0003	0.0003	0.0003	0.0	No	0.0003	0.0003	0.00	0.0	No
Nutrients & General Chemistry																										
Alkalinity, Total (as CaCO3)	mg/L	1	258	259	0.4	Yes	1	266	268	0.7	Yes	1	275	270	1.8	Yes	1	248	247	0.4	Yes	1	250	256	2.4	Yes
Alkalinity, Bicarbonate (as CaCO3)	mg/L	1	242	244	0.8	Yes	1	251	253	0.8	Yes	1	247	244	1.2	Yes	1	233	230	1.3	Yes	1	232	237	2.1	Yes
Bromide (Br)	mg/L	0.10	0.10	0.10	0.0	No	0.1	0.1	0.1	0.0	No	0.1	0.1	0.1	0.0	No	0.1	0.1	0.1	0.0	No	0.1	0.1	0.10	0.0	No
Alkalinity, Carbonate (as CaCO3)	mg/L	1	15.5	14.7	5.3	Yes	1	15.2	15.4	1.3	Yes	1	28.2	26.7	5.5	Yes	1	15.2	17.2	12.3	Yes	1	18.3	18.9	3.2	Yes
Chloride (Cl)	mg/L	0.5	38.2	39	2.1	Yes	0.5	20.7	20.8	0.5	Yes	0.5	28.6	29.1	1.7	Yes	0.5	19.1	19	0.5	Yes	0.5	33.3	34.1	2.4	Yes
Cyanide, Total	mg/L	0.002	0.002	0.002	0.0	No	0.002	0.002	0.002	0.0	No	0.002	0.002	0.002	0.0	No	0.002	0.002	0.002	0.0	No	0.002	0.002	0.002	0.0	No
Fluoride (F)	mg/L	0.02	0.262	0.265	1.1	Yes	0.02	0.175	0.167	4.7	Yes	0.02	0.193	0.192	0.5	Yes	0.02	0.214	0.208	2.8	Yes	0.02	0.261	0.292	11.2	Yes
Alkalinity, Hydroxide (as CaCO3)	mg/L	1	1.00	1.00	0.0	No	1	1	1	0.0	No	1	1	1	0.0	No	1	1	1	0.0	No	1	1	1.00	0.0	No
pH	pH units	0.1	8.49	8.46	0.4	Yes	0.1	8.54	8.53	0.1	Yes	0.1	8.64	8.59	0.6	Yes	0.1	8.46	8.49	0.4	Yes	0.1	8.64	8.52	1.4	Yes
Conductivity	µS	1	728	720	0.3	Yes	1	610	608	0.3	Yes	0.005	0.0586	0.0327	56.7	Yes	1	548	548	0.0	Yes	1	655	674	2.9	Yes
Ion Balance	%	0.01	8.62	7.77	10.4	Yes	0.01	4.42	1.26	111.3	Yes	0.01	-3.12	-2.06	40.9	No	0.01	-2.55	-1.78	35.6	No	0.01	0.215	-2.89	232.1	No
Total Dissolved Solids	mg/L	0.1	406	405	0.2	Yes	10	372	382	2.7	Yes	10	346	336	2.9	Yes	10	311	296	4.9	Yes	10	371	379	2.1	Yes
Hardness (as CaCO3)	mg/L	0.5	383	379	1.0	Yes	0.5	328	310	5.6	Yes	0.5	301	305	1.3	Yes	0.5	259	262	1.2	Yes	0.5	295	283	4.2	Yes
Total Suspended Solids	mg/L	3	3.00	3.00	0.0	No	3	3	3.4	12.5	No	3	3.3	4.9	39.0	No	3	5.7	4.9	15.1	No	3	3.8	4.1	7.6	No
Turbidity	NTU	0.1	1.01	1	1.0	Yes	0.1	1.64	1.72	4.8	Yes	0.1	1.43	1.1	26.1	Yes	0.1	4.72	5.24	10.4	Yes	0.1	3.73	2.56	37.2	Yes

Appendix B, Table 1

Year 2 Surface Water Quality QAQC Results – Duplicates[1]

Parameter	Units	RDL	TWR_04	Dup_13	RPD %	> 5 RDL	RDL	TWR_09	Dup_14	RPD %	> 5 RDL	RDL	TWR_04	Dup_21	RPD %	> 5 RDL	RDL	TWR_09	Dup_26	RPD %	> 5 RDL	RDL	TWR_04	Dup_25	RPD %	> 5 RDL
Ammonia, Total (as N)	mg/L	0.005	0.066	0.0861	26.4	Yes	0.005	0.0555	0.0476	15.3	Yes	0.005	0.0586	0.0327	56.7	Yes	0.005	0.0634	0.0349	58.0	Yes	0.005	0.344	0.0288	169.1	Yes
Nitrate and Nitrite as N	mg/L	0.3	3.28	3.35	2.1	Yes	0.02	1.79	1.8	0.6	Yes	0.02	4.79	4.8	0.2	Yes	0.02	1.18	1.18	0.0	Yes	0.02	2.19	2.21	0.9	Yes
Total Organic Carbon	mg/L	0.5	4.45	4.9	9.6	Yes	0.5	9.54	9.38	1.7	Yes	0.5	4.04	3.75	7.4	Yes	0.5	10.4	10.5	1.0	Yes	0.5	4.9	4.92	0.4	Yes
Total Inorganic Carbon	mg/L	1	60	60.7	1.2	Yes	1	55.2	53.4	3.3	Yes	1	59.8	60.2	0.7	Yes	1	44.3	48.9	9.9	Yes	1	55.7	55.2	0.9	Yes
Dissolved Organic Carbon	mg/L	0.5	4.78	4.86	1.7	Yes	0.5	10.7	9.61	10.7	Yes	0.5	4.09	4.06	0.7	Yes	0.5	9.39	9.61	2.3	Yes	0.5	4.52	4.71	4.1	Yes
Phosphorus, Total	mg/L	0.002	0.009	0.0094	4.3	No	0.002	0.0106	0.0119	11.6	Yes	0.002	0.0078	0.0078	0.0	No	0.002	0.0177	0.0152	15.2	Yes	0.002	0.0184	0.0172	6.7	Yes
Total Kjeldahl Nitrogen	mg/L	0.05	0.539	0.664	20.8	Yes	0.05	0.874	0.769	12.8	Yes	0.05	0.607	0.564	7.3	Yes	0.05	0.748	0.864	14.4	Yes	0.05	1	0.611	48.3	Yes
Chlorophyll a	µg/L	0.01	2.28	2.12	7.3	Yes	0.01	1.86	1.85	0.5	Yes	0.01	3.57	3.51	1.7	Yes	0.002	0.589	0.597	1.3	Yes	0.002	0.9	0.89	1.1	Yes
Biological Oxygen Demand	mg/L	2	2.00	2.00	0.0	No	2	2	2	0.0	No	2	2	2	0.0	No	2	3	3	0.0	No	2	2	2	0.0	No
Total Coliforms	CFU/100mL	1	150	100.00	40.0	Yes	1	300	200	40.0	Yes	1	110	50	75.0	Yes	1	2500	1300	63.2	Yes	1	1300	1700	26.7	Yes
E. Coli	CFU/100mL	1	32	29	9.8	Yes	1	37	20	59.6	Yes	1	22	18	20.0	Yes	1	27	30	10.5	Yes	1	94	111	16.6	Yes
Organics - Polycyclic Aromatic Hydrocarbons																										
Acenaphthene	µg/L	0.2	0.20	0.20	0.0	No	0.2	0.2	0.2	0.0	No	0.01	0.01	0.01	0.0	No	0.01	0.01	0.01	0.0	No	0.01	0.01	0.01	0.0	No
Acenaphthylene	µg/L	0.2	0.20	0.20	0.0	No	0.2	0.2	0.2	0.0	No	0.01	0.01	0.01	0.0	No	0.01	0.01	0.01	0.0	No	0.01	0.01	0.01	0.0	No
Anthracene	µg/L	0.2	0.20	0.20	0.0	No	0.2	0.2	0.2	0.0	No	0.01	0.01	0.01	0.0	No	0.01	0.01	0.01	0.0	No	0.01	0.01	0.01	0.0	No
Benzo(a)anthracene	µg/L	0.2	0.20	0.20	0.0	No	0.2	0.2	0.2	0.0	No	0.01	0.01	0.01	0.0	No	0.01	0.01	0.01	0.0	No	0.01	0.01	0.01	0.0	No
Benzo(a)pyrene	µg/L	0.04	0.04	0.04	0.0	No	0.044	0.044	0.044	0.0	No	0.005	0.005	0.005	0.0	No	0.005	0.005	0.005	0.0	No	0.005	0.005	0.005	0.0	No
Benzo(b&j)fluoranthene	µg/L	0.1	0.10	0.10	0.0	No	0.1	0.1	0.1	0.0	No	0.01	0.01	0.01	0.0	No	0.01	0.01	0.01	0.0	No	0.01	0.01	0.01	0.0	No
Benzo(g,h,i)perylene	µg/L	0.2	0.20	0.20	0.0	No	0.2	0.2	0.2	0.0	No	0.01	0.01	0.01	0.0	No	0.01	0.01	0.01	0.0	No	0.01	0.01	0.01	0.0	No
Benzo(k)fluoranthene	µg/L	0.1	0.10	0.10	0.0	No	0.1	0.1	0.1	0.0	No	0.01	0.01	0.01	0.0	No	0.01	0.01	0.01	0.0	No	0.01	0.01	0.01	0.0	No
Chrysene	µg/L	0.1	0.10	0.10	0.0	No	0.1	0.1	0.1	0.0	No	0.01	0.01	0.01	0.0	No	0.01	0.01	0.01	0.0	No	0.01	0.01	0.01	0.0	No
Dibenz(a,h)anthracene	µg/L	0.2	0.20	0.20	0.0	No	0.2	0.2	0.2	0.0	No	0.005	0.005	0.005	0.0	No	0.005	0.005	0.005	0.0	No	0.005	0.005	0.01	0.0	No
Fluoranthene	µg/L	0.2	0.20	0.20	0.0	No	0.2	0.2	0.2	0.0	No	0.01	0.01	0.01	0.0	No	0.01	0.01	0.01	0.0	No	0.01	0.01	0.01	0.0	No
Fluorene	µg/L	0.2	0.20	0.20	0.0	No	0.2	0.2	0.2	0.0	No	0.01	0.01	0.01	0.0	No	0.01	0.01	0.01	0.0	No	0.01	0.01	0.01	0.0	No
Indeno(1,2,3-cd)pyrene	µg/L	0.2	0.20	0.20	0.0	No	0.2	0.2	0.2	0.0	No	0.01	0.01	0.01	0.0	No	0.01	0.01	0.01	0.0	No	0.01	0.01	0.01	0.0	No
1+2-Methylnaphthalenes	µg/L	0.6	0.60	0.60	0.0	No	0.6	0.6	0.6	0.0	No	0.015	0.015	0.015	0.0	No	0.015	0.015	0.015	0.0	No	0.015	0.015	0.02	0.0	No
1-Methylnaphthalene	µg/L	0.4	0.40	0.40	0.0	No	0.4	0.4	0.4	0.0	No	0.01	0.01	0.01	0.0	No	0.01	0.01	0.01	0.0	No	0.01	0.01	0.01	0.0	No
2-Methylnaphthalene	µg/L	0.4	0.40	0.40	0.0	No	0.4	0.4	0.4	0.0	No	0.01	0.01	0.01	0.0	No	0.01	0.01	0.01	0.0	No	0.01	0.01	0.01	0.0	No
Naphthalene	µg/L	0.2	0.20	0.20	0.0	No	0.2	0.2	0.2	0.0	No	0.05	0.05	0.05	0.0	No	0.05	0.05	0.05	0.0	No	0.05	0.05	0.05	0.0	No
Phenanthrene	µg/L	0.2	0.20	0.20	0.0	No	0.2	0.24	0.2	18.2	No	0.02	0.02	0.02	0.0	No	0.02	0.02	0.02	0.0	No	0.02	0.02	0.02	0.0	No
Pyrene	µg/L	0.2	0.20	0.20	0.0	No	0.2	0.2	0.2	0.0	No	0.01	0.01	0.01	0.0	No	0.01	0.01	0.01	0.0	No	0.01	0.01	0.01	0.0	No
Organics - Volatile Organic Compounds																										
Acetone	µg/L	20	20.00	20.00	0.0	No	20	20	20	0.0	No	20	20	20	0.0	No	20	20	20	0.0	No	20	20	20	0.0	No
Benzene	µg/L	0.5	0.50	0.50	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.50	0.0	No
Bromodichloromethane	µg/L	0.5	0.50	0.50	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No
Bromoform	µg/L	0.5	0.50	0.50	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.50	0.0	No
Bromomethane	µg/L	0.5	0.50	0.50	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No
Carbon tetrachloride	µg/L	0.2	0.20	0.20	0.0	No	0.2	0.2	0.2	0.0	No	0.2	0.2	0.2	0.0	No	0.2	0.2	0.2	0.0	No	0.2	0.2	0.20	0.0	No
Chlorobenzene	µg/L	0.5	0.50	0.50	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No
Dibromochloromethane	µg/L	0.5	0.50	0.50	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No
Chloroform	µg/L	0.5	0.50	0.50	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.50	0.0	No

Appendix B, Table 1

Year 2 Surface Water Quality QAQC Results – Duplicates[1]

Parameter	Units	RDL	TWR_04	Dup_13	RPD %	> 5 RDL	RDL	TWR_09	Dup_14	RPD %	> 5 RDL	RDL	TWR_04	Dup_21	RPD %	> 5 RDL	RDL	TWR_09	Dup_26	RPD %	> 5 RDL	RDL	TWR_04	Dup_25	RPD %	> 5 RDL
1,2-Dibromoethane	µg/L	0.2	0.20	0.20	0.0	No	0.2	0.2	0.2	0.0	No	0.2	0.2	0.2	0.0	No	0.2	0.2	0.2	0.0	No	0.2	0.2	0.20	0.0	No
1,2-Dichlorobenzene	µg/L	0.5	0.50	0.50	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No
1,3-Dichlorobenzene	µg/L	0.5	0.50	0.50	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.50	0.0	No
1,4-Dichlorobenzene	µg/L	0.5	0.50	0.50	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No
Dichlorodifluoromethane	µg/L	0.5	0.50	0.50	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.50	0.0	No
1,1-Dichloroethane	µg/L	0.5	0.50	0.50	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No
1,2-Dichloroethane	µg/L	0.5	0.50	0.50	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.50	0.0	No
1,1-Dichloroethylene	µg/L	0.5	0.50	0.50	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No
cis-1,2-Dichloroethylene	µg/L	0.5	0.50	0.50	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.50	0.0	No
trans-1,2-Dichloroethylene	µg/L	0.5	0.50	0.50	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No
Methylene Chloride	µg/L	1	1.00	1.00	0.0	No	1	1	1	0.0	No	1	1	1	0.0	No	1	1	1	0.0	No	1	1	1	0.0	No
1,2-Dichloropropane	µg/L	0.5	0.50	0.50	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No
cis-1,3-Dichloropropene	µg/L	0.3	0.30	0.30	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.3	0.5	0.5	0.0	No
trans-1,3-Dichloropropene	µg/L	0.3	0.30	0.30	0.0	No	0.3	0.3	0.3	0.0	No	0.3	0.3	0.3	0.0	No	0.5	0.5	0.5	0.0	No	0.3	0.5	0.5	0.0	No
1,3-Dichloropropene (cis & trans)	µg/L	0.5	0.50	0.50	0.0	No	0.3	0.3	0.3	0.0	No	0.3	0.3	0.3	0.0	No	0.3	0.3	0.3	0.0	No	0.5	0.5	0.5	0.0	No
Ethylbenzene	µg/L	0.5	0.50	0.50	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No
n-Hexane	µg/L	0.5	0.50	0.50	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.50	0.0	No
Methyl Ethyl Ketone	µg/L	20	20	20	0.0	No	20	20	20	0.0	No	20	20	20	0.0	No	20	20	20	0.0	No	20	20	20	0.0	No
Methyl Isobutyl Ketone	µg/L	20	20	20	0.0	No	20	20	20	0.0	No	20	20	20	0.0	No	20	20	20	0.0	No	20	20	20.00	0.0	No
MTBE	µg/L	0.5	0.50	0.50	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No
Styrene	µg/L	0.5	0.50	0.50	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.50	0.0	No
1,1,1,2-Tetrachloroethane	µg/L	0.5	0.50	0.50	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No
1,1,2,2-Tetrachloroethane	µg/L	0.5	0.50	0.50	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.50	0.0	No
Tetrachloroethylene	µg/L	0.5	0.50	0.50	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No
Toluene	µg/L	0.5	0.50	0.50	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.50	0.0	No
1,1,1-Trichloroethane	µg/L	0.5	0.50	0.50	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No
1,1,2-Trichloroethane	µg/L	0.5	0.50	0.50	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.50	0.0	No
Trichloroethylene	µg/L	0.5	0.50	0.50	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No
Trichlorofluoromethane	µg/L	0.5	0.50	0.50	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.50	0.0	No
Vinyl chloride	µg/L	0.5	0.50	0.50	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No
Xylenes (Total)	µg/L	0.5	0.50	0.50	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.50	0.0	No
Organics - Semi-Volatile Organic Compounds																										
Biphenyl	µg/L	0.4	0.40	0.40	0.0	No	0.4	0.4	0.4	0.0	No	0.4	0.4	0.4	0.0	No	0.4	0.4	0.4	0.0	No	0.4	0.4	0.4	0.0	No
4-Chloroaniline	µg/L	0.4	0.40	0.40	0.0	No	0.4	0.4	0.4	0.0	No	0.4	0.4	0.4	0.0	No	0.4	0.4	0.4	0.0	No	0.4	0.4	0.40	0.0	No
Bis(2-chloroethyl)ether	µg/L	0.4	0.40	0.40	0.0	No	0.4	0.4	0.4	0.0	No	0.4	0.4	0.4	0.0	No	0.4	0.4	0.4	0.0	No	0.4	0.4	0.4	0.0	No
2-Chlorophenol	µg/L	0.3	0.30	0.30	0.0	No	0.3	0.3	0.3	0.0	No	0.3	0.6	0.3	66.7	No	0.3	0.3	0.3	0.0	No	0.3	0.3	0.3	0.0	No
3,3-Dichlorobenzidine	µg/L	0.4	0.40	0.40	0.0	No	0.4	0.4	0.4	0.0	No	0.4	0.4	0.4	0.0	No	0.4	0.4	0.4	0.0	No	0.4	0.4	0.4	0.0	No
2,4-Dichlorophenol	µg/L	0.3	0.30	0.30	0.0	No	0.3	0.3	0.3	0.0	No	0.3	0.6	0.3	66.7	No	0.3	0.3	0.3	0.0	No	0.3	0.3	0.30	0.0	No
Diethylphthalate	µg/L	0.2	0.20	0.20	0.0	No	0.2	0.2	0.2	0.0	No	0.2	0.2	0.2	0.0	No	0.2	0.2	0.2	0.0	No	0.2	0.2	0.2	0.0	No
Dimethylphthalate	µg/L	0.2	0.20	0.20	0.0	No	0.2	0.2	0.2	0.0	No	0.2	0.2	0.2	0.0	No	0.2	0.2	0.2	0.0	No	0.2	0.2	0.20	0.0	No
2,4-Dimethylphenol	µg/L	0.5	0.50	0.50	0.0	No	0.5	0.5	0.5	0.0	No	0.5	1	0.5	66.7	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No

Appendix B, Table 1

Year 2 Surface Water Quality QAQC Results – Duplicates[1]

Parameter	Units	RDL	TWR_04	Dup_13	RPD %	> 5 RDL	RDL	TWR_09	Dup_14	RPD %	> 5 RDL	RDL	TWR_04	Dup_21	RPD %	> 5 RDL	RDL	TWR_09	Dup_26	RPD %	> 5 RDL	RDL	TWR_04	Dup_25	RPD %	> 5 RDL
2,4-Dinitrophenol	µg/L	1	1.00	1.00	0.0	No	1	1	1	0.0	No	1	4	2	66.7	No	1	1	1	0.0	No	1	1	1	0.0	No
2,4-Dinitrotoluene	µg/L	0.4	0.40	0.40	0.0	No	0.4	0.4	0.4	0.0	No	0.4	0.4	0.4	0.0	No	0.4	0.4	0.4	0.0	No	0.4	0.4	0.40	0.0	No
2,6-Dinitrotoluene	µg/L	0.4	0.40	0.40	0.0	No	0.4	0.4	0.4	0.0	No	0.4	0.4	0.4	0.0	No	0.4	0.4	0.4	0.0	No	0.4	0.4	0.40	0.0	No
2,4+2,6-Dinitrotoluene	µg/L	0.6	0.60	0.60	0.0	No	0.6	0.6	0.6	0.0	No	0.6	0.6	0.6	0.0	No	0.6	0.6	0.6	0.0	No	0.6	0.6	0.6	0.0	No
Bis(2-ethylhexyl)phthalate	µg/L	2	2.00	2.00	0.0	No	2	2	2	0.0	No	2	2	2	0.0	No	2	2	2	0.0	No	2	2	2	0.0	No
Pentachlorophenol	µg/L	0.5	0.50	0.50	0.0	No	0.5	0.5	0.5	0.0	No	0.5	1	0.5	66.7	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No
Phenol	µg/L	0.5	0.50	0.50	0.0	No	0.5	0.5	0.5	0.0	No	0.5	1	0.6	50.0	No	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No
1,2,4-Trichlorobenzene	µg/L	0.4	0.40	0.40	0.0	No	0.4	0.4	0.4	0.0	No	0.4	0.4	0.4	0.0	No	0.4	0.4	0.4	0.0	No	0.4	0.4	0.40	0.0	No
2,4,5-Trichlorophenol	µg/L	0.2	0.20	0.20	0.0	No	0.2	0.2	0.2	0.0	No	0.2	0.4	0.2	66.7	No	0.2	0.2	0.2	0.0	No	0.2	0.2	0.20	0.0	No
2,4,6-Trichlorophenol	µg/L	0.2	0.20	0.20	0.0	No	0.2	0.2	0.2	0.0	No	0.2	0.4	0.2	66.7	No	0.2	0.2	0.2	0.0	No	0.2	0.2	0.2	0.0	No
Organics - Hydrocarbons																										
F1 (C6-C10)	µg/L	25	25	25	0.0	No	25	25	25	0.0	No	25	25	25	0.0	No	25	25	25	0.0	No	25	25	25.00	0.0	No
F2 (C10-C16)	µg/L	100	100	100	0.0	No	100	100	100	0.0	No	100	100	100	0.0	No	100	100	100	0.0	No	100	100	100	0.0	No
F3 (C16-C34)	µg/L	250	250	250	0.0	No	250	250	250	0.0	No	0.005	250	250	0.0	Yes	250	250	250	0.0	No	250	250	250.00	0.0	No
F4 (C34-C50)	µg/L	250	250	250	0.0	No	250	250	250	0.0	No	0.005	250	250	0.0	Yes	250	250	250	0.0	No	250	250	250	0.0	No
Total Hydrocarbons (C6-C50)	µg/L	370	370	370	0.0	Yes	240	370	370	0.0	No	0.005	370	370	0.0	Yes	240	370	370	0.0	No	240	370	370	0.0	No
Organics - Dioxins and Furans																										
2,3,7,8-TCDD	pg/L	0.53	0.66	0.53	21.8	No	0.41	0.51	0.41	21.7	No	0.16	0.89	0.16	139.0	No	0.13	0.13	0.13	0.0	No	0.13	0.77	0.97	23.0	Yes
1,2,3,7,8-PeCDD	pg/L	0.62	0.62	0.66	6.3	No	0.74	0.7	0.74	5.6	No	0.12	0.14	0.31	75.6	No	0.24	0.21	0.24	13.3	No	0.24	0.73	0.95	26.2	No
1,2,3,4,7,8-HxCDD	pg/L	0.61	0.70	0.61	13.7	No	0.95	0.68	0.95	33.1	No	0.11	0.21	0.11	62.5	No	0.45	0.29	0.45	43.2	No	0.45	0.98	1	2.0	No
1,2,3,6,7,8-HxCDD	pg/L	0.61	0.70	0.62	12.1	No	0.89	0.69	0.89	25.3	No	0.12	0.22	0.19	14.6	No	0.43	0.21	0.43	68.8	No	0.43	1	1	0.0	No
1,2,3,7,8,9-HxCDD	pg/L	0.61	0.70	0.61	13.7	No	0.92	0.68	0.92	30.0	No	0.11	0.21	0.28	28.6	No	0.44	0.95	0.44	73.4	No	0.44	0.99	1	1.0	No
1,2,3,4,6,7,8-HpCDD	pg/L	1.1	1.10	1.10	0.0	No	1.3	0.93	1.3	33.2	No	0.16	0.61	0.72	16.5	No	0.51	3.52	1.89	60.3	No	0.51	1.7	2.0	16.2	No
OCDD	pg/L	3.9	6.20	3.90	45.5	No	9.8	3	9.8	106.3	No	0.37	2.3	3.7	46.7	Yes	2.3	26.5	8.3	104.6	No	3	3	10.0	107.7	No
Total-TCDD	pg/L	0.53	0.66	0.53	21.8	No	0.41	0.51	0.41	21.7	No	0.16	0.89	0.16	139.0	No	0.13	0.13	0.13	0.0	No	0.13	0.77	0.97	23.0	Yes
Total-PeCDD	pg/L	0.62	0.62	0.66	6.3	No	0.74	0.7	0.74	5.6	No	0.12	0.14	0.12	15.4	No	0.24	0.21	0.24	13.3	No	0.24	0.73	0.95	26.2	No
Total-HxCDD	pg/L	0.62	0.700	0.62	12.1	No	0.95	0.69	0.95	31.7	No	0.12	0.22	0.12	58.8	No	0.45	0.22	0.45	68.7	No	0.45	1	1	0.0	No
Total-HpCDD	pg/L	1.1	1.100	1.10	0.0	No	1.3	0.93	1.3	33.2	No	0.16	2.01	1.55	25.8	Yes	0.51	3.52	1.89	60.3	No	0.51	1.7	2.0	16.2	No
2,3,7,8-TCDF	pg/L	0.5	0.520	0.50	3.9	No	0.37	0.55	0.37	39.1	No	0.17	0.15	0.17	12.5	No	0.13	0.13	0.13	0.0	No	0.13	0.87	0.53	48.6	No
1,2,3,7,8-PeCDF	pg/L	0.36	0.440	0.36	20.0	No	0.37	0.34	0.37	8.5	No	0.1	0.15	0.44	98.3	No	0.17	0.27	0.38	33.8	No	0.17	0.49	0.72	38.0	No
2,3,4,7,8-PeCDF	pg/L	0.3	0.370	0.30	20.9	No	0.34	0.3	0.34	12.5	No	0.087	0.14	0.3	72.7	No	0.16	0.15	0.16	6.5	No	0.16	0.43	0.66	42.2	No
1,2,3,4,7,8-HxCDF	pg/L	0.31	0.380	0.31	20.3	No	0.33	0.33	0.33	0.0	No	0.058	0.11	0.19	53.3	No	0.25	0.3	0.25	18.2	No	0.25	0.55	0.47	15.7	No
1,2,3,6,7,8-HxCDF	pg/L	0.31	0.360	0.30	18.2	No	0.32	0.32	0.32	0.0	No	0.061	0.1	0.21	71.0	No	0.24	0.3	0.28	6.9	No	0.24	0.51	0.48	6.1	No
1,2,3,7,8,9-HxCDF	pg/L	0.5	0.62	0.50	21.4	No	0.58	0.52	0.58	10.9	No	0.071	0.13	0.247	62.1	No	0.35	0.44	0.35	22.8	No	0.35	0.82	0.8	2.5	No
2,3,4,6,7,8-HxCDF	pg/L	0.33	0.39	0.33	16.7	No	0.36	0.33	0.36	8.7	No	0.059	0.098	0.273	94.3	No	0.26	0.34	0.43	23.4	No	0.26	0.51	0.47	8.2	No
1,2,3,4,6,7,8-HpCDF	pg/L	0.46	0.75	0.46	47.9	No	0.87	0.46	0.87	61.7	No	0.15	0.22	0.37	50.8	No	0.41	1.5	0.78	63.2	No	0.41	0.51	1	64.9	No
1,2,3,4,7,8,9-HpCDF	pg/L	0.67	1.10	0.67	48.6	No	1.3	0.65	1.3	66.7	No	0.2	0.19	0.2	5.1	No	0.64	0.51	0.64	22.6	No	0.64	0.72	1.5	70.3	No
OCDF	pg/L	2.8	4.00	2.80	35.3	No	4.6	2.2	4.6	70.6	No	0.31	0.57	1.03	57.5	No	1.8	10.2	3.8	91.4	No	1.8	2.4	3.1	25.5	No
Total-TCDF	pg/L	0.5	0.52	0.50	3.9	No	0.37	0.55	0.37	39.1	No	0.17	0.15	0.17	12.5	No	0.13	0.13	0.13	0.0	No	0.13	0.87	0.53	48.6	No
Total-PeCDF	pg/L	0.34	0.44	0.34	25.6	No	0.37	0.34	0.37	8.5	No	0.1	0.15	0.1	40.0	No	0.17	0.15	0.17	12.5	No	0.17	0.49	0.72	38.0	No
Total-HxCDF	pg/L	0.5	0.62	0.50	21.4	No	0.58	0.52	0.58	10.9	No	0.071	0.13	0.52	120.0	No	0.35	0.44	0.35	22.8	No	0.35	0.82	0.8	2.5	No

Appendix B, Table 1

Year 2 Surface Water Quality QAQC Results – Duplicates[1]

Parameter	Units	RDL	TWR_04	Dup_13	RPD %	> 5 RDL	RDL	TWR_09	Dup_14	RPD %	> 5 RDL	RDL	TWR_04	Dup_21	RPD %	> 5 RDL	RDL	TWR_09	Dup_26	RPD %	> 5 RDL	RDL	TWR_04	Dup_25	RPD %	> 5 RDL
Total-HpCDF	pg/L	0.67	1.10	0.67	48.6	No	1.3	0.65	1.3	66.7	No	0.2	0.19	0.2	5.1	No	0.64	0.45	0.78	53.7	No	0.64	0.72	1.5	70.3	No
Organics - Polychlorinated Biphenyls																										
Aroclor 1242	µg/L	0.02	0.02	0.02	0.0	No	0.02	0.02	0.02	0.0	No	0.02	0.02	0.02	0.0	No	0.02	0.021	0.02	4.9	No	0.02	0.02	0.02	0.0	No
Aroclor 1248	µg/L	0.02	0.02	0.02	0.0	No	0.02	0.02	0.02	0.0	No	0.02	0.02	0.02	0.0	No	0.02	0.021	0.02	4.9	No	0.02	0.02	0.02	0.0	No
Aroclor 1254	µg/L	0.02	0.02	0.02	0.0	No	0.02	0.02	0.02	0.0	No	0.02	0.02	0.02	0.0	No	0.02	0.021	0.02	4.9	No	0.02	0.02	0.02	0.0	No
Aroclor 1260	µg/L	0.01	0.02	0.02	0.0	No	0.02	0.02	0.02	0.0	No	0.02	0.02	0.02	0.0	No	0.02	0.021	0.02	4.9	No	0.02	0.02	0.02	0.0	No
Total PCBs	µg/L	0.06	0.06	0.06	0.0	No	0.06	0.06	0.06	0.0	No	0.06	0.06	0.06	0.0	No	0.06	0.063	0.06	4.9	No	0.06	0.06	0.06	0.0	No
Organochlorine Pesticides																										
Aldrin	µg/L	0.008	0.008	0.008	0.0	No	0.008	0.008	0.008	0.0	No	0.008	0.008	0.008	0.0	No	0.008	0.008	0.008	0.0	No	0.008	0.008	0.008	0.0	No
Chlordane (Total)	µg/L	0.011	0.011	0.011	0.0	No	0.011	0.011	0.011	0.0	No	0.011	0.011	0.011	0.0	No	0.011	0.011	0.011	0.0	No	0.011	0.011	0.011	0.0	No
Total DDD	µg/L	0.006	0.006	0.006	0.0	No	0.006	0.006	0.006	0.0	No	0.006	0.006	0.006	0.0	No	0.006	0.006	0.006	0.0	No	0.006	0.006	0.006	0.0	No
Total DDE	µg/L	0.006	0.006	0.006	0.0	No	0.006	0.006	0.006	0.0	No	0.006	0.006	0.006	0.0	No	0.006	0.006	0.006	0.0	No	0.006	0.006	0.01	0.0	No
Total DDT	µg/L	0.006	0.006	0.006	0.0	No	0.006	0.006	0.006	0.0	No	0.006	0.006	0.006	0.0	No	0.006	0.006	0.006	0.0	No	0.006	0.006	0.006	0.0	No
Dieldrin	µg/L	0.008	0.008	0.008	0.0	No	0.008	0.008	0.008	0.0	No	0.008	0.008	0.008	0.0	No	0.008	0.008	0.008	0.0	No	0.008	0.008	0.01	0.0	No
Endosulfan (Total)	µg/L	0.01	0.01	0.01	0.0	No	0.01	0.01	0.01	0.0	No	0.01	0.01	0.01	0.0	No	0.01	0.01	0.01	0.0	No	0.01	0.01	0.01	0.0	No
Endrin	µg/L	0.01	0.01	0.01	0.0	No	0.01	0.01	0.01	0.0	No	0.01	0.01	0.01	0.0	No	0.01	0.01	0.01	0.0	No	0.01	0.01	0.01	0.0	No
Heptachlor	µg/L	0.008	0.008	0.008	0.0	No	0.008	0.008	0.008	0.0	No	0.008	0.008	0.008	0.0	No	0.008	0.008	0.008	0.0	No	0.008	0.008	0.008	0.0	No
Heptachlor Epoxide	µg/L	0.008	0.008	0.008	0.0	No	0.008	0.008	0.008	0.0	No	0.008	0.008	0.008	0.0	No	0.008	0.008	0.008	0.0	No	0.008	0.008	0.01	0.0	No
Hexachlorobenzene	µg/L	0.008	0.008	0.008	0.0	No	0.008	0.008	0.008	0.0	No	0.008	0.008	0.008	0.0	No	0.008	0.008	0.008	0.0	No	0.008	0.008	0.008	0.0	No
Hexachlorobutadiene	µg/L	0.008	0.008	0.008	0.0	No	0.008	0.008	0.008	0.0	No	0.008	0.008	0.008	0.0	No	0.008	0.008	0.008	0.0	No	0.008	0.008	0.01	0.0	No
Hexachloroethane	µg/L	0.008	0.008	0.008	0.0	No	0.008	0.008	0.008	0.0	No	0.008	0.008	0.008	0.0	No	0.008	0.008	0.008	0.0	No	0.008	0.008	0.01	0.0	No
Methoxychlor	µg/L	0.008	0.008	0.008	0.0	No	0.008	0.008	0.008	0.0	No	0.008	0.008	0.008	0.0	No	0.008	0.008	0.008	0.0	No	0.008	0.008	0.008	0.0	No

[1] Cells containing grey highlights indicate parameters which were detected in concentrations above the RDL.

Appendix B, Table 2

Year 2 Surface Water Quality QAQC Results – Duplicate[1]

Parameter	Units	RDL	Greenock_05	Dup_15	RPD %	> 5 RDL	RDL	Gildale	Dup_16	RPD %	> 5 RDL	RDL	TWW_01	Dup_22	RPD %	> 5 RDL	RDL	TWW_03	Dup_23	RPD %	> 5 RDL	RDL	Gildale	Dup_24	RPD %	> 5 RDL	RDL	Greenock_01	Dup_28	RPD %	> 5 RDL
Radionuclides - Tier 1																															
Tritium	Bq/L	14.8	14.8	14.8	0.0	No	14.8	14.8	14.8	0.0	No	14.8	14.8	14.8	0.0	No	14.8	14.8	14.8	0.0	No	14.8	14.8	14.8	0.0	No	14.8	14.8	14.8	0.0	No
Carbon-14	Bq/L	18.5	18.5	18.5	0.0	No	18.5	18.5	18.5	0.0	No	18.5	18.5	18.5	0.0	No	18.5	18.5	18.5	0.0	No	18.5	18.5	18.5	0.0	No	18.5	18.5	18.5	0.0	No
Strontium-90	Bq/L	0.037	0.037	0.037	0.0	No	0.037	0.037	0.037	0.0	No	0.037	0.037	0.037	0.0	No	0.037	0.037	0.037	0.0	No	0.037	0.037	0.037	0.0	No	0.037	0.037	0.037	0.0	No
Iodine 129	Bq/L	0.37	0.37	0.37	0.0	No	0.37	0.37	0.37	0.0	No	0.37	0.37	0.37	0.0	No	0.37	0.37	0.37	0.0	No	0.37	0.37	0.37	0.0	No	0.37	0.37	0.37	0.0	No
Cesium-137	Bq/L	0.37	0.37	0.37	0.0	No	0.37	0.37	0.37	0.0	No	0.37	0.37	0.37	0.0	No	0.37	0.37	0.37	0.0	No	0.37	0.37	0.37	0.0	No	0.37	0.37	0.37	0.0	No
Cobalt-60	Bq/L	0.37	0.37	0.37	0.0	No	0.37	0.37	0.37	0.0	No	0.37	0.37	0.37	0.0	No	0.37	0.37	0.37	0.0	No	0.37	0.37	0.37	0.0	No	0.37	0.37	0.37	0.0	No
Ruthenium-106	Bq/L	3	3	3	0.0	No	3	3	3	0.0	No	3	3	3	0.0	No	3	3	3	0.0	No	3	3	3	0.0	No	3	3	3	0.0	No
Gross Alpha	Bq/L	0.111	0.111	0.111	0.0	No	0.111	0.111	0.111	0.0	No	0.111	0.111	0.105	5.6	No	0.111	0.111	0.111	0.0	No	0.111	0.132	0.111	17.3	No	0.111	0.111	0.111	0.0	No
Gross Beta	Bq/L	0.148	0.148	0.148	0.0	No	0.148	0.0992	0.148	39.5	No	0.148	0.148	0.193	26.4	No	0.148	0.148	0.148	0.0	No	0.148	0.167	0.148	12.1	No	0.148	0.148	0.148	0.0	No
Radionuclides - Tier 2 natural																															
Uranium-238	Bq/L	0.007	0.0074	0.0074	0.0	No	0.007	0.007	0.0074	0.0	No	0.007	0.0114	0.0074	42.6	No	0.007	0.0078	0.0077	1.8	No	0.007	0.0074	0.0114	42.6	No	0.007	0.0047	0.0056	18.5	No

Appendix B, Table 2

Year 2 Surface Water Quality QAQC Results – Duplicate[1]

Parameter	Units	RDL	Greenock_05	Dup_15	RPD %	> 5 RDL	RDL	Gildale	Dup_16	RPD %	> 5 RDL	RDL	TWW_01	Dup_22	RPD %	> 5 RDL	RDL	TWW_03	Dup_23	RPD %	> 5 RDL	RDL	Gildale	Dup_24	RPD %	> 5 RDL	RDL	Greenock_01	Dup_28	RPD %	> 5 RDL
		4					4	4				4					4	6	2			4					4		6		
Uranium-234	Bq/L	0.0074	0.0074	0.0074	0.0	No	0.0074	0.0074	0.0074	0.0	No	0.0074	0.0147	0.0074	66.1	No	0.0074	0.0103	0.00753	31.1	No	0.0074	0.0074	0.0151	68.4	No	0.0074	0.0074	0.0074	0.0	No
Uranium-235	Bq/L	0.0074	0.0074	0.0074	0.0	No	0.0074	0.0074	0.0074	0.0	No	0.0074	0.0074	0.0074	0.0	No	0.0074	0.00405	0.00312	25.9	No	0.0074	0.0074	0.0074	0.0	No	0.0074	0.00761	0.00718	5.8	No
Potassium-40	Bq/L	7.1	7.1	2.38	99.6	No	7.1	7.1	7.1	0.0	No	7.1	7.1	7.1	0.0	No	7.1	7.1	7.1	0.0	No	7.1	7.1	7.1	0.0	No	7.1	7.1	7.1	0.0	No
Thorium-228	Bq/L	0.0074	0.00323	0.0074	78.5	No	0.0074	0.0074	0.0074	0.0	No	0.0074	0.0074	0.0074	0.0	No	0.0074	0.0074	0.0074	0.0	No	0.0074	0.0074	0.0074	0.0	No	0.0074	0.0046	0.0074	46.7	No
Thorium-230	Bq/L	0.0074	0.00526	0.0074	33.8	No	0.0074	0.0074	0.0074	0.0	No	0.0074	0.0122	0.0074	49.0	No	0.0074	0.0074	0.0074	0.0	No	0.0074	0.0074	0.00547	30.0	No	0.0074	0.0039	0.0074	61.9	No
Thorium-232	Bq/L	0.0074	0.0074	0.0074	0.0	No	0.0074	0.00318	0.0074	79.8	No	0.0074	0.0074	0.0074	0.0	No	0.0074	0.0074	0.0074	0.0	No	0.0074	0.0074	0.0074	0.0	No	0.0074	0.00601	0.0074	20.7	No
Radium-226	Bq/L	0.037	0.0152	0.037	83.5	No	0.037	0.0142	0.0143	0.7	No	0.037	0.037	0.037	0.0	No	0.037	0.0528	0.0432	20.0	No	0.037	0.0283	0.037	26.6	No	0.037	0.0193	0.0257	28.4	No
Metals - Total																															
Aluminum (Al)-Total	mg/L	0.0001	0.042	0.0242	53.8	Yes	0.003	0.0257	0.0221	15.1	Yes	0.003	0.0564	0.164	97.6	Yes	0.003	0.0077	0.0092	17.8	No	0.003	0.227	0.0422	137.3	Yes	0.003	0.0198	0.0084	80.9	No
Antimony (Sb)-Total	mg/L	0.0005	0.0001	0.0001	0.0	No	0.0001	0.0001	0.0001	0.0	No	0.0001	0.0001	0.0002	66.7	No	0.0001	0.0001	0.0001	0.0	No	0.0001	0.0002	0.0001	66.7	No	0.0001	0.0001	0.0001	0.0	No
Arsenic (As)-Total	mg/L	0.0001	0.00057	0.00058	1.7	Yes	0.0001	0.00071	0.00072	1.4	Yes	0.0001	0.00016	0.00172	166.0	No	0.0001	0.00028	0.00028	0.0	No	0.0001	0.00186	0.00017	166.5	No	0.0001	0.00034	0.00033	3.0	No
Barium (Ba)-Total	mg/L	0.00005	0.0178	0.0191	7.0	Yes	0.0001	0.01114	0.0108	5.4	Yes	0.0001	0.0333	0.0583	54.6	Yes	0.0001	0.0252	0.0251	0.4	Yes	0.0001	0.0622	0.0343	57.8	Yes	0.0001	0.0283	0.0241	16.0	Yes
Beryllium (Be)-Total	mg/L	0.001	0.00002	0.00002	0.0	No	0.00002	0.00002	0.00002	0.0	No	0.00002	0.00002	0.00004	66.7	No	0.00002	0.00002	0.00002	0.0	No	0.00002	0.00004	0.00002	66.7	No	0.00002	0.00002	0.00002	0.0	No
Bismuth (Bi)-Total	mg/L	0.005	0.00005	0.00005	0.0	No	0.00005	0.00005	0.00005	0.0	No	0.00005	0.00005	0.0001	66.7	No	0.00005	0.00005	0.00005	0.0	No	0.00005	0.0001	0.00005	66.7	No	0.00005	0.00005	0.00005	0.0	No
Boron (B)-Total	mg/L	0.0001	0.01	0.01	0.0	Yes	0.01	0.01	0.01	0.0	No	0.01	0.01	0.02	66.7	No	0.01	0.01	0.01	0.0	No	0.01	0.02	0.01	66.7	No	0.01	0.01	0.01	0.0	No
Cadmium (Cd)-Total	mg/L	5E-06	0.000005	0.000005	0.0	No	5E-06	5E-06	0.000005	0.0	No	5E-06	0.0000091	3.38E-05	115.2	No	5E-06	0.000005	0.000005	0.0	No	5E-06	6.68E-05	6.2E-06	166.0	No	5E-06	0.0000127	6.6E-06	63.2	No
Calcium (Ca)-Total	mg/L	0.00005	87.5	90.9	3.8	Yes	0.05	57	56.2	1.4	Yes	0.05	66.8	52.8	23.4	Yes	0.05	46	45.9	0.2	Yes	0.05	53.4	66.6	22.0	Yes	0.05	75.8	75	1.1	Yes
Cesium (Cs)-Total	mg/L	0.0005	0.00001	0.00001	0.0	No	0.00001	0.00001	0.00001	0.0	No	0.00001	0.00001	0.000021	71.0	No	0.00001	0.00001	0.00001	0.0	No	0.00001	0.000025	0.00001	85.7	No	0.00001	0.00001	0.00001	0.0	No
Chromium (Cr)-Total	mg/L	0.05	0.0005	0.0005	0.0	No	0.0005	0.0005	0.0005	0.0	No	0.0005	0.0005	0.0005	0.0	No	0.0005	0.0005	0.0005	0.0	No	0.0005	0.00054	0.0005	7.7	No	0.0005	0.0005	0.0005	0.0	No
Cobalt (Co)-Total	mg/L	0.05	0.00019	0.00019	0.0	No	0.0001	0.0001	0.0001	0.0	No	0.0001	0.0001	0.00088	159.2	No	0.0001	0.0001	0.0001	0.0	No	0.0001	0.00099	0.0001	163.3	No	0.0001	0.0001	0.0001	0.0	No
Copper (Cu)-Total	mg/L	0.001	0.0005	0.0005	0.0	No	0.0005	0.0005	0.0005	0.0	No	0.0005	0.0005	0.001	66.7	No	0.0005	0.0005	0.0005	0.0	No	0.0005	0.00117	0.0005	80.2	No	0.0005	0.00073	0.0005	37.4	No
Iron (Fe)-Total	mg/L	0.0002	0.972	1.13	15.0	Yes	0.01	0.083	0.079	4.9	Yes	0.01	0.071	5.62	195.0	Yes	0.01	0.023	0.026	12.2	No	0.01	5.86	0.052	196.5	Yes	0.01	0.09	0.058	43.2	Yes
Lead (Pb)-Total	mg/L	0.001	0.000074	0.00005	38.7	No	0.00005	0.00011	0.000057	60.1	No	0.00005	0.000097	0.000703	151.5	No	0.00005	0.000055	0.000074	29.5	No	0.00005	0.00101	0.000076	172.0	No	0.00005	0.000208	0.000131	45.4	No
Lithium (Li)-Total	mg/L	0.001	0.001	0.001	0.0	No	0.001	0.001	0.001	0.0	No	0.001	0.001	0.002	66.7	No	0.001	0.001	0.001	0.0	No	0.001	0.002	0.001	66.7	No	0.001	0.0011	0.001	9.5	No
Magnesium (Mg)-Total	mg/L	0.00005	16.9	17.3	2.3	Yes	0.005	19.3	19	1.6	Yes	0.005	23.8	17.7	29.4	Yes	0.005	16	16.1	0.6	Yes	0.005	18.4	23.8	25.6	Yes	0.005	22.7	21.6	5.0	Yes
Manganese (Mn)-Total	mg/L	0.1	0.0356	0.0366	2.8	No	0.0001	0.0513	0.049	4.6	Yes	0.0001	0.00472	7.78	199.8	Yes	0.0001	0.0103	0.0112	8.4	Yes	0.0001	8.27	0.00361	199.8	Yes	0.0001	0.0336	0.0226	39.1	Yes
Mercury (Hg)-Total	mg/L	0.00001	0.000005	0.000005	0.0	No	5E-06	5E-06	0.000005	0.0	No	5E-06	0.000005	0.000006	18.2	No	5E-06	0.000005	0.000005	0.0	No	5E-06	7.2E-06	0.000005	36.1	No	5E-06	0.000005	5.6E-06	11.3	No
Molybdenum (Mo)-Total	mg/L	0.05	0.000127	0.000108	16.2	No	0.00005	0.00017	0.000187	7.2	No	0.00005	0.000148	0.000235	45.4	No	0.00005	0.000254	0.000255	0.4	No	0.00005	0.00024	0.00014	52.6	No	0.00005	0.000115	0.000098	16.0	No
Nickel (Ni)-Total	mg/L	0.0002	0.0005	0.0005	0.0	No	0.0005	0.0005	0.0005	0.0	No	0.0005	0.0005	0.001	66.7	No	0.0005	0.0005	0.0005	0.0	No	0.0005	0.001	0.0005	66.7	No	0.0005	0.0005	0.0005	0.0	No
Phosphorus (P)-Total	mg/L	0.5	0.05	0.05	0.0	No	0.05	0.05	0.05	0.0	No	0.05	0.05	0.178	112.3	No	0.05	0.05	0.05	0.0	No	0.05	0.21	0.05	123.1	No	0.05	0.077	0.05	42.5	No
Potassium (K)-Total	mg/L	0.0002	0.135	0.084	46.6	Yes	0.05	0.432	0.411	5.0	Yes	0.05	0.65	0.814	22.4	Yes	0.05	1.42	1.4	1.4	Yes	0.05	0.899	0.661	30.5	Yes	0.05	0.487	0.41	17.2	Yes
Rhodium (Rh)-Total	mg/L	0.00001	0.001	0.001	0.0	Yes	0.001	0.001	0.001	0.0	No	0.001	0.001	0.002	66.7	No	0.001	0.001	0.001	0.0	No	0.001	0.002	0.001	66.7	No	0.001	0.001	0.001	0.0	No
Ruthenium (Ru)-Total	mg/L	0.000	0.001	0.001	0.0	Ye	0.001	0.001	0.001	0.0	No	0.001	0.001	0.002	66.7	No	0.001	0.001	0.001	0.0	No	0.001	0.002	0.001	66.7	No	0.001	0.001	0.001	0.0	No

Appendix B, Table 2

Year 2 Surface Water Quality QAQC Results – Duplicate[1]

Parameter	Units	RDL	Greenock_05	Dup_15	RPD %	> 5 RDL	RDL	Gildale	Dup_16	RPD %	> 5 RDL	RDL	TWW_01	Dup_22	RPD %	> 5 RDL	RDL	TWW_03	Dup_23	RPD %	> 5 RDL	RDL	Gildale	Dup_24	RPD %	> 5 RDL	RDL	Greenock_01	Dup_28	RPD %	> 5 RDL
Samarium (Sm)-Total	mg/L	0.0003	0.001	0.001	0.0	No	0.001	0.001	0.001	0.0	No	0.001	0.001	0.002	66.7	No	0.001	0.001	0.001	0.0	No	0.001	0.002	0.001	66.7	No	0.001	0.001	0.001	0.0	No
Selenium (Se)-Total	mg/L	0.0001	0.000132	0.000087	41.1	No	0.00005	0.00012	0.000086	32.2	No	0.00005	0.000155	0.000209	29.7	No	0.00005	0.000065	0.000059	9.7	No	0.00005	0.000164	0.000174	5.9	No	0.00005	0.000158	0.000092	52.8	No
Silver (Ag)-Total	mg/L	0.0005	0.00001	0.00001	0.0	No	0.00001	0.00001	0.00001	0.0	No	0.00001	0.00001	0.00002	66.7	No	0.00001	0.00001	0.00001	0.0	No	0.00001	0.00002	0.00001	66.7	No	0.00001	0.00001	0.00001	0.0	No
Sodium (Na)-Total	mg/L	0.003	7.11	7.36	3.5	Yes	0.05	2.83	2.75	2.9	Yes	0.05	1.58	2.56	47.3	Yes	0.05	3.37	3.38	0.3	Yes	0.05	2.58	1.55	49.9	Yes	0.05	1.28	1.13	12.4	Yes
Strontium (Sr)-Total	mg/L	0.0002	0.0992	0.105	5.7	Yes	0.0002	0.0649	0.0637	1.9	Yes	0.0002	0.16	0.0628	87.3	Yes	0.0002	0.182	0.178	2.2	No	0.0002	0.0614	0.157	87.5	Yes	0.0002	0.111	0.103	7.5	Yes
Sulfur (S)-Total	mg/L	0.5	0.77	0.7	9.5	No	0.5	1.12	1.03	8.4	No	0.5	2.34	1	80.2	No	0.5	5.65	5.4	4.5	Yes	0.5	1	2.11	71.4	No	0.5	1.25	1.05	17.4	No
Thallium (Tl)-Total	mg/L	0.001	0.00001	0.00001	0.0	No	0.00001	0.00001	0.00001	0.0	No	0.00001	0.00001	0.00002	66.7	No	0.00001	0.00001	0.00001	0.0	No	0.00001	0.00002	0.00001	66.7	No	0.00001	0.00001	0.00001	0.0	No
Tin (Sn)-Total	mg/L	0.0001	0.0001	0.0001	0.0	No	0.0001	0.0001	0.0001	0.0	No	0.0001	0.0001	0.0002	66.7	No	0.0001	0.0001	0.0001	0.0	No	0.0001	0.0002	0.0001	66.7	No	0.0001	0.0001	0.0001	0.0	No
Titanium (Ti)-Total	mg/L	0.0001	0.00098	0.00049	66.7	No	0.0003	0.00054	0.00056	3.6	No	0.0003	0.00151	0.00352	79.9	Yes	0.0003	0.0003	0.0003	0.0	No	0.0003	0.00502	0.00118	123.9	No	0.0003	0.00057	0.0003	62.1	No
Tungsten (W)-Total	mg/L	0.00002	0.00016	0.00015	6.5	Yes	0.0001	0.0001	0.0001	0.0	No	0.0001	0.0001	0.0002	66.7	No	0.0001	0.0001	0.0001	0.0	No	0.0001	0.0002	0.0001	66.7	No	0.0001	0.0001	0.0001	0.0	No
Uranium (U)-Total	mg/L	0.00005	0.000147	0.00015	2.0	No	0.00001	0.00013	0.00032	0.8	Yes	0.00001	0.000674	0.00098	149.2	Yes	0.00001	0.00038	0.00038	0.3	No	0.00001	0.00010 4	0.00068 7	147.4	Yes	0.00001	0.000247	0.00021 3	14.8	Yes
Vanadium (V)-Total	mg/L	0.01	0.0005	0.0005	0.0	No	0.0005	0.0005	0.0005	0.0	No	0.0005	0.0005	0.001	66.7	No	0.0005	0.0005	0.0005	0.0	No	0.0005	0.001	0.0005	66.7	No	0.0005	0.0005	0.0005	0.0	No
Zinc (Zn)-Total	mg/L	5E-06	0.0034	0.003	12.5	Yes	0.003	0.003	0.003	0.0	No	0.003	0.003	0.0065	73.7	No	0.003	0.003	0.003	0.0	No	0.003	0.0101	0.003	108.4	No	0.003	0.0045	0.003	40.0	No
Zirconium (Zr)-Total	mg/L	0.05	0.0002	0.0002	0.0	No	0.0002	0.0002	0.0002	0.0	No	0.0002	0.0002	0.0004	66.7	No	0.0002	0.0002	0.0002	0.0	No	0.0002	0.0004	0.0002	66.7	No	0.0002	0.0002	0.0002	0.0	No
Metals - dissolved																															
Aluminum (Al)-Dissolved	mg/L	0.001	0.0047	0.0047	0.0	No	0.001	0.0053	0.0053	0.0	Yes	0.001	0.0029	0.0101	110.8	No	0.001	0.0029	0.0027	7.1	No	0.001	0.0094	0.0035	91.5	No	0.001	0.003	0.0024	22.2	No
Antimony (Sb)-Dissolved	mg/L	0.0001	0.0001	0.0001	0.0	No	0.0001	0.0001	0.0001	0.0	No	0.0001	0.0001	0.0002	66.7	No	0.0001	0.0001	0.0001	0.0	No	0.0001	0.0002	0.0001	66.7	No	0.0001	0.0001	0.0001	0.0	No
Arsenic (As)-Dissolved	mg/L	0.0001	0.00049	0.00045	8.5	No	0.0001	0.00065	0.00064	1.6	Yes	0.0001	0.00015	0.00118	154.9	No	0.0001	0.00028	0.00028	0.0	No	0.0001	0.00116	0.00016	151.5	No	0.0001	0.00031	0.0003	3.3	No
Barium (Ba)-Dissolved	mg/L	0.0001	0.017	0.0169	0.6	Yes	0.0001	0.0103	0.0104	1.0	Yes	0.0001	0.0334	0.045	29.6	Yes	0.0001	0.0248	0.0251	1.2	Yes	0.0001	0.0467	0.0351	28.4	Yes	0.0001	0.0227	0.0228	0.4	Yes
Beryllium (Be)-Dissolved	mg/L	0.00002	0.00002	0.00002	0.0	No	0.00002	0.00002	0.00002	0.0	No	0.00002	0.00002	0.00004	66.7	No	0.00002	0.00002	0.00002	0.0	No	0.00002	0.00004	0.00002	66.7	No	0.00002	0.00002	0.00002	0.0	No
Bismuth (Bi)-Dissolved	mg/L	0.00005	0.00005	0.00005	0.0	No	0.00005	0.00005	0.00005	0.0	No	0.00005	0.00005	0.0001	66.7	No	0.00005	0.00005	0.00005	0.0	No	0.00005	0.0001	0.00005	66.7	No	0.00005	0.00005	0.00005	0.0	No
Boron (B)-Dissolved	mg/L	0.01	0.01	0.01	0.0	No	0.01	0.01	0.01	0.0	No	0.01	0.01	0.02	66.7	No	0.01	0.01	0.01	0.0	No	0.01	0.02	0.01	66.7	No	0.01	0.01	0.01	0.0	No
Cadmium (Cd)-Dissolved	mg/L	5E-06	0.000005	0.000005	0.0	No	5E-06	5E-06	0.000005	0.0	No	5E-06	0.000005	0.00001	66.7	No	5E-06	0.000005	0.000005	0.0	No	5E-06	0.00001	0.000006	50.0	No	5E-06	0.000005	0.000005	0.0	No
Calcium (Ca)-Dissolved	mg/L	0.05	81	81	0.0	Yes	0.05	54.3	54	0.6	Yes	0.05	65.4	50.1	26.5	Yes	0.05	45.6	46.2	1.3	Yes	0.05	51.2	72.9	35.0	Yes	0.05	72.8	70.8	2.8	Yes
Chromium (Cr)-Dissolved	mg/L	0.0005	0.0005	0.0005	0.0	No	0.0005	0.0005	0.0005	0.0	No	0.0005	0.0005	0.0005	0.0	No	0.0005	0.0005	0.0005	0.0	No	0.0005	0.0005	0.0005	0.0	No	0.0005	0.0005	0.0005	0.0	No
Cobalt (Co)-Dissolved	mg/L	0.0001	0.00016	0.00015	6.5	No	0.0001	0.0001	0.0001	0.0	No	0.0001	0.0001	0.00069	149.4	No	0.0001	0.0001	0.0001	0.0	No	0.0001	0.00065	0.0001	146.7	No	0.0001	0.0001	0.0001	0.0	No
Copper (Cu)-Dissolved	mg/L	0.0002	0.0002	0.0002	0.0	No	0.0002	0.00067	0.00147	74.8	No	0.0002	0.00039	0.0004	2.5	No	0.0002	0.00024	0.00022	8.7	No	0.0002	0.0004	0.00033	19.2	No	0.0002	0.00031	0.0003	3.3	No
Iron (Fe)-Dissolved	mg/L	0.01	0.621	0.595	4.3	Yes	0.01	0.039	0.046	16.5	No	0.01	0.012	4.34	198.9	No	0.01	0.01	0.011	9.5	No	0.01	4.14	0.014	198.7	No	0.01	0.047	0.043	8.9	No
Lead (Pb)-Dissolved	mg/L	0.00005	0.00005	0.00005	0.0	No	0.00005	0.00005	0.000062	21.4	No	0.00005	0.00005	0.0001	66.7	No	0.00005	0.00005	0.00005	0.0	No	0.00005	0.0001	0.00005	66.7	No	0.00005	0.000053	0.00005	5.8	No
Lithium (Li)-Dissolved	mg/L	0.001	0.001	0.001	0.0	No	0.001	0.001	0.001	0.0	No	0.001	0.001	0.002	66.7	No	0.001	0.001	0.001	0.0	No	0.001	0.002	0.001	66.7	No	0.001	0.001	0.001	0.0	No
Magnesium (Mg)-Dissolved	mg/L	0.005	15.3	15.5	1.3	Yes	0.005	18.1	17.6	2.8	Yes	0.005	24.3	17.4	33.1	Yes	0.005	15.8	16.1	1.9	Yes	0.005	18	25.4	34.1	Yes	0.005	21.8	21.6	0.9	Yes
Manganese (Mn)-Dissolved	mg/L	0.0001	0.0323	0.0278	15.0	Yes	0.0001	0.0451	0.0748	49.5	Yes	0.0001	0.00176	7.5	199.9	Yes	0.0001	0.00664	0.0063	5.3	No	0.0001	7.53	0.002	199.9	Yes	0.0001	0.019	0.0169	11.7	Yes
Mercury (Hg)-Dissolved	mg/L	5E-06	0.000005	0.0000	0.0	No	5E-06	5E-06	0.0000	0.0	No	5E-06	0.00000	0.0000	0.0	No	5E-06	0.0000	0.0000	0.0	No	5E-06	0.0000	0.0000	0.0	No	5E-06	0.000005	0.0000	0.0	No

Appendix B, Table 2

Year 2 Surface Water Quality QAQC Results – Duplicate[1]

Parameter	Units	RDL	Greenock_05	Dup_15	RPD %	> 5 RDL	RDL	Gildale	Dup_16	RPD %	> 5 RDL	RDL	TWW_01	Dup_22	RPD %	> 5 RDL	RDL	TWW_03	Dup_23	RPD %	> 5 RDL	RDL	Gildale	Dup_24	RPD %	> 5 RDL	RDL	Greenock_01	Dup_28	RPD %	> 5 RDL
				05					05				5	05				05	05				05	05					05			
Molybdenum (Mo)-Dissolved	mg/L	0.00005	0.000103	0.000088	15.7	No	0.00005	0.00019	0.000175	6.6	No	0.00005	0.000134	0.000173	25.4	No	0.00005	0.00025	0.000256	2.4	No	0.00005	0.00018	0.000148	19.5	No	0.00005	0.000092	0.000104	12.2	No
Nickel (Ni)-Dissolved	mg/L	0.0005	0.0005	0.0005	0.0	No	0.0005	0.0005	0.0005	0.0	No	0.0005	0.0005	0.001	66.7	No	0.0005	0.0005	0.0005	0.0	No	0.0005	0.001	0.0005	66.7	No	0.0005	0.0005	0.0005	0.0	No
Phosphorus (P)-Dissolved	mg/L	0.05	0.05	0.05	0.0	No	0.05	0.05	0.05	0.0	No	0.05	0.05	0.1	66.7	No	0.05	0.05	0.05	0.0	No	0.05	0.1	0.05	66.7	No	0.05	0.05	0.05	0.0	No
Potassium (K)-Dissolved	mg/L	0.05	0.142	0.078	58.2	No	0.05	0.372	0.401	7.5	Yes	0.05	0.671	0.753	11.5	Yes	0.05	1.41	1.43	1.4	Yes	0.05	0.783	0.695	11.9	Yes	0.05	0.466	0.466	0.0	Yes
Rhodium (Rh)-Dissolved	mg/L	0.001	0.001	0.001	0.0	No	0.001	0.001	0.001	0.0	No	0.001	0.001	0.002	66.7	No	0.001	0.001	0.001	0.0	No	0.001	0.002	0.001	66.7	No	0.001	0.001	0.001	0.0	No
Ruthenium (Ru)-Dissolved	mg/L	0.001	0.001	0.001	0.0	No	0.001	0.001	0.001	0.0	No	0.001	0.001	0.002	66.7	No	0.001	0.001	0.001	0.0	No	0.001	0.002	0.001	66.7	No	0.001	0.001	0.001	0.0	No
Samarium (Sm)-Dissolved	mg/L	0.001	0.001	0.001	0.0	No	0.001	0.001	0.001	0.0	No	0.001	0.001	0.002	66.7	No	0.001	0.001	0.001	0.0	No	0.001	0.002	0.001	66.7	No	0.001	0.001	0.001	0.0	No
Selenium (Se)-Dissolved	mg/L	0.00005	0.000097	0.00011	12.6	No	0.00005	0.00008	0.000105	27.0	No	0.00005	0.000139	0.0001	32.6	No	0.00005	0.000061	0.00005	19.8	No	0.00005	0.000128	0.000121	5.6	No	0.00005	0.000078	0.000075	3.9	No
Silver (Ag)-Dissolved	mg/L	0.00001	0.00001	0.00001	0.0	No	0.00001	0.00001	0.00001	0.0	No	0.00001	0.00001	0.00002	66.7	No	0.00001	0.00001	0.00001	0.0	No	0.00001	0.00002	0.00001	66.7	No	0.00001	0.00001	0.00001	0.0	No
Sodium (Na)-Dissolved	mg/L	0.05	6.84	6.44	6.0	Yes	0.05	2.58	2.58	0.0	Yes	0.05	1.63	2.51	42.5	Yes	0.05	3.37	3.33	1.2	Yes	0.05	2.54	1.71	39.1	Yes	0.05	2.39	0.988	83.0	Yes
Strontium (Sr)-Dissolved	mg/L	0.0002	0.0962	0.0924	4.0	Yes	0.0002	0.0607	0.0698	13.9	Yes	0.0002	0.153	0.0601	87.2	Yes	0.0002	0.182	0.183	0.5	No	0.0002	0.06	0.165	93.3	Yes	0.0002	0.105	0.104	1.0	Yes
Sulfur (S)-Dissolved	mg/L	0.5	0.5	0.5	0.0	No	0.5	1.15	1.34	15.3	No	0.5	2.07	1	69.7	No	0.5	5.65	5.68	0.5	Yes	0.5	1	2.05	68.9	No	0.5	2.34	1.11	71.3	No
Thallium (Tl)-Dissolved	mg/L	0.00001	0.00001	0.00001	0.0	No	0.00001	0.00001	0.00001	0.0	No	0.00001	0.00001	0.00002	66.7	No	0.00001	0.00001	0.00001	0.0	No	0.00001	0.00002	0.00001	66.7	No	0.00001	0.00001	0.00001	0.0	No
Tin (Sn)-Dissolved	mg/L	0.0001	0.0001	0.0001	0.0	No	0.0001	0.0001	0.0001	0.0	No	0.0001	0.0001	0.0002	66.7	No	0.0001	0.0001	0.0001	0.0	No	0.0001	0.0002	0.0001	66.7	No	0.0001	0.0001	0.0001	0.0	No
Titanium (Ti)-Dissolved	mg/L	0.0003	0.0003	0.0003	0.0	No	0.0003	0.0003	0.0003	0.0	No	0.0003	0.0003	0.0006	66.7	No	0.0003	0.0003	0.0003	0.0	No	0.0003	0.0006	0.0003	66.7	No	0.0003	0.0003	0.0003	0.0	No
Tungsten (W)-Dissolved	mg/L	0.0001	0.0001	0.0001	0.0	No	0.0001	0.0001	0.0001	0.0	No	0.0001	0.0001	0.0002	66.7	No	0.0001	0.0001	0.0001	0.0	No	0.0001	0.0002	0.0001	66.7	No	0.0001	0.0001	0.0001	0.0	No
Uranium (U)-Dissolved	mg/L	0.00001	0.000132	0.000128	3.1	Yes	0.00001	0.000012	0.000135	11.8	Yes	0.00001	0.00067	0.00007	162.2	Yes	0.00001	0.000381	0.000387	1.6	Yes	0.00001	0.000077	0.000688	159.7	Yes	0.00001	0.000225	0.000272	18.9	Yes
Vanadium (V)-Dissolved	mg/L	0.0005	0.0005	0.0005	0.0	No	0.0005	0.0005	0.0005	0.0	No	0.0005	0.0005	0.001	66.7	No	0.0005	0.0005	0.0005	0.0	No	0.0005	0.001	0.0005	66.7	No	0.0005	0.0005	0.0005	0.0	No
Zinc (Zn)-Dissolved	mg/L	0.001	0.0016	0.0021	27.0	No	0.001	0.0029	0.0016	57.8	No	0.001	0.001	0.0031	102.4	No	0.001	0.003	0.0032	6.5	No	0.001	0.0054	0.001	137.5	No	0.001	0.0041	0.0034	18.7	No
Zirconium (Zr)-Dissolved	mg/L	0.0003	0.0003	0.0003	0.0	No	0.0003	0.0003	0.0003	0.0	No	0.0003	0.0003	0.0004	28.6	No	0.0003	0.0002	0.0003	40.0	No	0.0003	0.0004	0.0003	28.6	No	0.0003	0.0003	0.0003	0.0	No
Nutrients & General Chemistry																															
Alkalinity, Total (as CaCO3)	mg/L	1	271	274	1.1	Yes	1	192	189	1.6	Yes	1	263	207	23.8	Yes	1	178	176	1.1	Yes	1	202	260	25.1	Yes	1	279	284	1.8	Yes
Alkalinity, Bicarbonate (as CaCO3)	mg/L	1	271	261	3.8	Yes	1	185	181	2.2	Yes	1	242	207	15.6	Yes	1	170	174	2.3	Yes	1	202	239	16.8	Yes	1	279	284	1.8	Yes
Bromide (Br)	mg/L	0.1	0.1	0.1	0.0	No	0.1	0.1	0.1	0.0	No	0.1	0.1	0.1	0.0	No	0.1	0.1	0.1	0.0	No	0.1	0.1	0.1	0.0	No	0.1	0.1	0.1	0.0	No
Alkalinity, Carbonate (as CaCO3)	mg/L	1	1	12.2	169.7	No	1	7.2	8.3	14.2	Yes	1	20.6	1	181.5	No	1	7	2.4	97.9	Yes	1	1	21.2	182.0	No	1	1	1	0.0	No
Chloride (Cl)	mg/L	0.5	6.11	5.12	17.6	Yes	0.5	6.59	6.86	4.0	Yes	0.5	5.98	9.04	40.7	Yes	0.5	5.94	5.88	1.0	Yes	0.5	9.03	6	40.3	Yes	0.5	3.33	3.34	0.3	Yes
Cyanide, Total	mg/L	0.002	0.002	0.002	0.0	No	0.002	0.002	0.002	0.0	No	0.002	0.002	0.002	0.0	No	0.002	0.002	0.002	0.0	No	0.002	0.002	0.002	0.0	No	0.002	0.002	0.002	0.0	No
Fluoride (F)	mg/L	0.02	0.133	0.137	3.0	Yes	0.02	0.034	0.033	3.0	No	0.02	0.214	0.02	165.8	No	0.02	0.174	0.18	3.4	Yes	0.02	0.031	0.22	150.6	No	0.02	0.052	0.053	1.9	No
Alkalinity, Hydroxide (as CaCO3)	mg/L	1	1	1	0.0	No	1	1	1	0.0	No	1	1	1	0.0	No	1	1	1	0.0	No	1	1	1	0.0	No	1	1	1	0.0	No
pH	pH units	0.1	8.23	8.43	2.4	Yes	0.1	8.42	8.44	0.2	Yes	0.1	8.51	7.83	8.3	Yes	0.1	8.48	8.31	2.0	Yes	0.1	7.76	8.55	9.7	Yes	0.1	8.14	8.2	0.7	Yes
Conductivity	µS	1	507	489	3.6	Yes	1	366	367	0.3	Yes	1	502	384	26.6	Yes	1	377	383	1.6	Yes	1	376	499	28.1	Yes	1	516	540	4.5	Yes
Ion Balance	%	0.002	4.44	5.85	27.4	Yes	0.01	5.9	5.74	2.7	Yes	0.01	-2.95	3.82	1556.3	No	0.01	-3.42	-2.8	19.9	No	0.01	6.41	-2.52	459.1	No	0.01	0.175	-2.02	237.9	No
Total Dissolved Solids	mg/L	10	322	307	4.8	Yes	10	183	190	3.8	Yes	10	277	225	20.7	Yes	10	165	160	3.1	Yes	10	214	268	22.4	Yes	10	273	274	0.4	Yes

Appendix B, Table 2

Year 2 Surface Water Quality QAQC Results – Duplicate[1]

Parameter	Units	RDL	Greenock_05	Dup_15	RPD %	> 5 RDL	RDL	Gildale	Dup_16	RPD %	> 5 RDL	RDL	TWW_01	Dup_22	RPD %	> 5 RDL	RDL	TWW_03	Dup_23	RPD %	> 5 RDL	RDL	Gildale	Dup_24	RPD %	> 5 RDL	RDL	Greenock_01	Dup_28	RPD %	> 5 RDL
Hardness (as CaCO3)	mg/L	0.5	288	298	3.4	Yes	0.5	222	218	1.8	Yes	0.5	265	205	25.5	Yes	0.5	181	181	0.0	Yes	0.5	209	264	23.3	Yes	0.5	283	276	2.5	Yes
Total Suspended Solids	mg/L	3	17.8	7	87.1	No	3	13.6	7.8	54.2	No	3	5.2	99	180.0	No	3	3	3	0.0	No	3	208	5	190.6	No	3	106	57.1	60.0	Yes
Turbidity	NTU	0.1	3.5	1.24	95.4	Yes	0.1	1.4	0.73	62.9	Yes	0.1	1.05	34.1	188.1	Yes	0.1	0.37	0.34	8.5	No	0.1	48.9	2.64	179.5	Yes	0.1	31.6	15.9	66.1	Yes
Ammonia, Total (as N)	mg/L	0.005	0.104	0.0713	37.3	Yes	0.005	0.0598	0.0774	25.7	Yes	0.005	0.477	0.326	37.6	Yes	0.005	0.191	0.345	57.5	Yes	0.005	0.707	0.528	29.0	Yes	0.005	0.0769	0.024	104.9	No
Nitrate and Nitrite as N	mg/L	0.0224	0.02	0.02	0.0	No	0.02	0.0224	0.0224	0.0	No	0.02	2.76	0.0224	196.8	No	0.02	0.271	0.272	0.4	Yes	0.02	0.0224	2.79	196.8	No	0.02	0.0224	0.0224	0.0	No
Total Organic Carbon	mg/L	0.5	20.7	21.1	1.9	Yes	0.5	19.7	17.7	10.7	Yes	0.5	4.43	20	127.5	Yes	0.5	8.41	7.51	11.3	Yes	0.5	21.6	5	124.8	Yes	0.5	18.4	15.6	16.5	Yes
Total Inorganic Carbon	mg/L	1	59.9	57.7	3.7	Yes	1	40.6	39.5	2.7	Yes	1	57.8	43.8	27.6	Yes	1	40	39.6	1.0	Yes	1	43.4	57.7	28.3	Yes	1	55.8	54.1	3.1	Yes
Dissolved Organic Carbon	mg/L	0.5	21.2	20.2	4.8	Yes	0.5	17.1	18	5.1	Yes	0.5	4.73	17.4	114.5	Yes	0.5	7.4	7.18	3.0	Yes	0.5	17.3	4.88	112.0	Yes	0.5	14.2	11.6	20.2	Yes
Phosphorus, Total	mg/L	0.002	0.0368	0.029	23.7	Yes	0.002	0.0431	0.0259	49.9	Yes	0.002	0.0059	0.146	184.5	No	0.002	0.0072	0.0078	8.0	No	0.002	0.186	0.0058	187.9	No	0.002	0.0793	0.0723	9.2	Yes
Total Kjeldahl Nitrogen	mg/L	0.05	1.17	1.14	2.6	Yes	0.05	1.03	0.901	13.4	Yes	0.05	0.911	2.6	96.2	Yes	0.05	0.486	0.645	28.1	Yes	0.05	3.43	1.03	107.6	Yes	0.05	1.58	1.26	22.5	Yes
Chlorophyll a	µg/L	0.01	11.2	8.6	26.3	Yes	0.01	8.86	7.2	20.7	Yes	0.01	1.73	126	194.6	Yes	0.01	0.327	0.306	6.6	Yes	0.01	172	0.187	199.6	Yes	2	3.6	3	18.2	No
Biological Oxygen Demand	mg/L	2	2.2	2	9.5	No	2	2.2	2	9.5	No	2	2	10.9	138.0	No	2	2	2	0.0	No	2	16.2	2	156.0	No	0.002	0.459	5	166.4	Yes
Total Coliforms	CFU/100 mL	1	5800	9900	52.2	Yes	1	400	7000	178.4	Yes	1	250	8000	187.9	Yes	1	170	380	76.4	Yes	1	4000	410	162.8	Yes	1	4000	500	155.6	Yes
E. Coli	CFU/100 mL	1	10	10	0.0	Yes	1	15	5	100.0	No	1	12	70	141.5	Yes	1	8	4	66.7	Yes	1	25	11	77.8	Yes	1	25	36	36.1	Yes

[1] Cells containing grey highlights indicate parameters which were detected in concentrations above the RDL.

Appendix B, Table 3

Year 2 Surface Water Quality QAQC Results – Duplicate[1]

Parameter	Units	RDL	Silver_S	Dup_27	RPD %	> 5 RDL
Radionuclides - Tier 1						
Tritium	Bq/L	14.8	14.8	14.8	0.0	No
Carbon-14	Bq/L	18.5	18.5	18.5	0.0	No
Strontium-90	Bq/L	0.037	0.037	0.037	0.0	No
Iodine-129	Bq/L	0.37	0.37	0.37	0.0	No
Cesium-137	Bq/L	0.37	0.37	0.37	0.0	No
Cobalt-60	Bq/L	0.37	0.37	0.37	0.0	No
Ruthenium-106	Bq/L	3	3	3	0.0	No
Gross alpha	Bq/L	0.111	0.111	0.111	0.0	No
Gross beta	Bq/L	0.148	0.132	0.164	21.6	No
Radionuclides - Tier 2 natural						
Uranium-238	Bq/L	0.0074	0.00887	0.00801	10.2	No
Uranium-234	Bq/L	0.0074	0.00688	0.0074	7.3	No
Uranium-235	Bq/L	0.0074	0.0074	0.0074	0.0	No
Potassium-40	Bq/L	7.1	7.1	7.1	0.0	No
Thorium-228	Bq/L	0.0074	0.0074	0.0074	0.0	No
Thorium-230	Bq/L	0.0074	0.00943	0.00541	54.2	No

Appendix B, Table 3

Year 2 Surface Water Quality QAQC Results – Duplicate[1]

Parameter	Units	RDL	Silver_S	Dup_27	RPD %	> 5 RDL
Thorium-232	Bq/L	0.0074	0.0074	0.0074	0.0	No
Radium-226	Bq/L	0.037	0.0248	0.0228	8.4	No
Metals - total						
Aluminum (Al)-Total	mg/L	0.003	0.0068	0.0051	28.6	No
Antimony (Sb)-Total	mg/L	0.0001	0.0001	0.0001	0.0	No
Arsenic (As)-Total	mg/L	0.0001	0.00056	0.00054	3.6	Yes
Barium (Ba)-Total	mg/L	0.0001	0.0121	0.0119	1.7	Yes
Beryllium (Be)-Total	mg/L	0.00002	0.00002	0.00002	0.0	No
Bismuth (Bi)-Total	mg/L	0.00005	0.00005	0.00005	0.0	No
Boron (B)-Total	mg/L	0.01	0.012	0.012	0.0	No
Cadmium (Cd)-Total	mg/L	0.000005	0.000005	0.000005	0.0	No
Calcium (Ca)-Total	mg/L	0.05	28.4	27.3	3.9	Yes
Cesium (Cs)-Total	mg/L	0.00001	0.00001	0.00001	0.0	No
Chromium (Cr)-Total	mg/L	0.0005	0.0005	0.0005	0.0	No
Cobalt (Co)-Total	mg/L	0.0001	0.0001	0.0001	0.0	No
Copper (Cu)-Total	mg/L	0.0005	0.0005	0.0005	0.0	No
Iron (Fe)-Total	mg/L	0.01	0.018	0.016	11.8	No
Lead (Pb)-Total	mg/L	0.00005	0.00005	0.00005	0.0	No
Lithium (Li)-Total	mg/L	0.001	0.001	0.001	0.0	No
Magnesium (Mg)-Total	mg/L	0.005	15.7	15.6	0.6	Yes
Manganese (Mn)-Total	mg/L	0.0001	0.0105	0.0105	0.0	Yes
Mercury (Hg)-Total	mg/L	0.000005	0.000005	0.000005	0.0	No
Molybdenum (Mo)-Total	mg/L	0.00005	0.000221	0.000213	3.7	No
Nickel (Ni)-Total	mg/L	0.0005	0.0005	0.0005	0.0	No
Phosphorus (P)-Total	mg/L	0.05	0.05	0.05	0.0	No
Potassium (K)-Total	mg/L	0.05	1.78	1.77	0.6	Yes
Rhodium (Rh)-Total	mg/L	0.001	0.001	0.001	0.0	No
Ruthenium (Ru)-Total	mg/L	0.001	0.001	0.001	0.0	No
Samarium (Sm)-Total	mg/L	0.001	0.001	0.001	0.0	No
Selenium (Se)-Total	mg/L	0.00005	0.000124	0.000078	45.5	No
Silver (Ag)-Total	mg/L	0.00001	0.00001	0.00001	0.0	No
Sodium (Na)-Total	mg/L	0.05	5.87	5.9	0.5	Yes
Strontium (Sr)-Total	mg/L	0.0002	0.231	0.232	0.4	Yes
Sulfur (S)-Total	mg/L	0.5	1.67	1.75	4.7	No
Thallium (Tl)-Total	mg/L	0.00001	0.00001	0.00001	0.0	No
Tin (Sn)-Total	mg/L	0.0001	0.0001	0.0001	0.0	No
Titanium (Ti)-Total	mg/L	0.0003	0.0003	0.0003	0.0	No
Tungsten (W)-Total	mg/L	0.0001	0.0001	0.0001	0.0	No
Uranium (U)-Total	mg/L	0.00001	0.000596	0.000566	5.2	Yes
Vanadium (V)-Total	mg/L	0.0005	0.0005	0.0005	0.0	No
Zinc (Zn)-Total	mg/L	0.003	0.003	0.003	0.0	No
Zirconium (Zr)-Total	mg/L	0.0002	0.0002	0.0002	0.0	No

Appendix B, Table 3

Year 2 Surface Water Quality QAQC Results – Duplicate[1]

Parameter	Units	RDL	Silver_S	Dup_27	RPD %	> 5 RDL
Metals - dissolved						
Aluminum	mg/L	0.001	0.002	0.0019	5.1	No
Antimony	mg/L	0.0001	0.0001	0.0001	0.0	No
Arsenic	mg/L	0.0001	0.00055	0.00053	3.7	Yes
Barium	mg/L	0.0001	0.0114	0.0121	6.0	Yes
Beryllium	mg/L	0.00002	0.00002	0.00002	0.0	No
Bismuth	mg/L	0.00005	0.00005	0.00005	0.0	No
Boron	mg/L	0.01	0.012	0.011	8.7	No
Cadmium	mg/L	0.000005	0.000005	0.000005	0.0	No
Calcium	mg/L	0.05	28.9	29	0.3	Yes
Chromium	mg/L	0.0005	0.0005	0.0005	0.0	No
Cobalt	mg/L	0.0001	0.0001	0.0001	0.0	No
Copper	mg/L	0.0002	0.00044	0.0007	45.6	No
Iron	mg/L	0.01	0.01	0.01	0.0	No
Lead	mg/L	0.00005	0.00005	0.00005	0.0	No
Lithium	mg/L	0.001	0.001	0.001	0.0	No
Magnesium	mg/L	0.005	15.2	15.6	2.6	Yes
Manganese	mg/L	0.0001	0.00086	0.00162	61.3	Yes
Mercury	mg/L	0.000005	0.000005	0.000005	0.0	No
Molybdenum	mg/L	0.00005	0.000207	0.000203	2.0	No
Nickel	mg/L	0.0005	0.0005	0.0005	0.0	No
Phosphorus	mg/L	0.05	0.05	0.05	0.0	No
Potassium	mg/L	0.05	1.79	1.83	2.2	Yes
Rhodium	mg/L	0.001	0.001	0.001	0.0	No
Ruthenium	mg/L	0.001	0.001	0.001	0.0	No
Samarium	mg/L	0.001	0.001	0.001	0.0	No
Selenium	mg/L	0.00005	0.000092	0.000106	14.1	No
Silver	mg/L	0.00001	0.00001	0.00001	0.0	No
Sodium	mg/L	0.05	5.75	5.78	0.5	Yes
Strontium	mg/L	0.0002	0.233	0.232	0.4	Yes
Sulfur	mg/L	0.5	1.88	1.74	7.7	No
Thallium	mg/L	0.00001	0.00001	0.00001	0.0	No
Tin	mg/L	0.0001	0.0001	0.0001	0.0	No
Titanium	mg/L	0.0003	0.0003	0.0003	0.0	No
Tungsten	mg/L	0.0001	0.0001	0.0001	0.0	No
Uranium	mg/L	0.00001	0.000614	0.000611	0.5	Yes
Vanadium	mg/L	0.0005	0.0005	0.0005	0.0	No
Zinc	mg/L	0.001	0.001	0.001	0.0	No
Zirconium	mg/L	0.0003	0.0003	0.0003	0.0	No
Nutrients & General Chemistry						
Alkalinity, Total (as CaCO3)	mg/L	1	131	130	0.8	Yes
Alkalinity, Bicarbonate (as CaCO3)	mg/L	1	119	114	4.3	Yes

Appendix B, Table 3

Year 2 Surface Water Quality QAQC Results – Duplicate[1]

Parameter	Units	RDL	Silver_S	Dup_27	RPD %	> 5 RDL
Bromide (Br)	mg/L	0.1	0.1	0.1	0.0	No
Alkalinity, Carbonate (as CaCO3)	mg/L	1	12.2	15.3	22.5	Yes
Chloride (Cl)	mg/L	0.5	11.5	11.5	0.0	Yes
Cyanide, Total	mg/L	0.002	0.002	0.002	0.0	No
Fluoride (F)	mg/L	0.02	1	1	0.0	Yes
Alkalinity, Hydroxide (as CaCO3)	mg/L	1	0.182	0.183	0.5	No
pH	pH units	0.1	8.63	8.8	2.0	Yes
Conductivity	µS	1	301	301	0.0	Yes
Ion Balance	%	0.01	-0.496	-1	67.4	No
Total Dissolved Solids	mg/L	10	144	149	3.4	Yes
Hardness (as CaCO3)	mg/L	0.5	136	132	3.0	Yes
Total Suspended Solids	mg/L	3	3.3	5.2	44.7	No
Turbidity	NTU	0.1	2.57	3.37	26.9	Yes
Ammonia, Total (as Nitrogen)	mg/L	0.005	0.0356	0.0919	88.3	Yes
Nitrate and Nitrite as N	mg/L	0.02	0.0224	0.0224	0.0	No
Total Organic Carbon	mg/L	0.5	7.73	7.63	1.3	Yes
Total Inorganic Carbon	mg/L	1	28.9	28.5	1.4	Yes
Dissolved Organic Carbon	mg/L	0.5	7.52	7.05	6.5	Yes
Phosphorus, Total	mg/L	0.002	0.0193	0.0215	10.8	Yes
Total Kjeldahl Nitrogen	mg/L	0.05	0.725	0.806	10.6	Yes
Chlorophyll a	µg/L	0.01	1.18	2.52	72.4	Yes
Biological Oxygen Demand	mg/L	2	3	3	0.0	No
Total Coliforms	CFU/100mL	1	2000	1400	35.3	Yes
E. Coli	CFU/100mL	1	7	8	13.3	Yes

[1] Cells containing grey highlights indicate parameters that exceed the DQO of 20% and have sample and duplicate results that exceed five times the RDL.

Appendix C. Table 1.

Year 2 Surface Water Quality QAQC Results – Blanks[1]

Parameter	Units	Fieldblank_03		Tripblank_03		Fieldblank_06		Trip_blank_06		Fieldblank_07		Trip_blank_07	
		RDL	Result	RDL	Result	RDL	Result	RDL	Result	RDL	Result	RDL	Result
Radionuclides - Tier 1													
Tritium	Bq/L	14.8	<14.8	<14.8	14.8	14.8	<14.8	<14.8	14.8	14.8	<14.8	14.8	<14.8
Carbon-14	Bq/L	18.5	<18.5	<18.5	18.50	18.5	<18.5	<18.5	18.50	18.5	<18.5	18.5	<18.5
Strontium-90	Bq/L	0.037	<0.0370	<0.0370	0.04	0.0370	<0.0370	<0.0370	0.04	0.0370	<0.0370	0.0370	<0.0370
Iodine 129	Bq/L	0.37	<0.370	<0.370	0.37	0.370	<0.370	<0.370	0.37	0.370	<0.370	0.370	<0.370
Cesium-137	Bq/L	0.37	<0.370	<0.370	0.37	0.370	<0.370	<0.370	0.37	0.370	<0.370	0.370	<0.370
Cobalt-60	Bq/L	0.37	<0.370	<0.370	0.37	0.370	<0.370	<0.370	0.37	0.370	<0.370	0.370	<0.370
Ruthenium-106	Bq/L	3	<3.00	<3.00	3	3	<3.00	<3.00	3	3	<3.00	3	<3.00
Gross Alpha	Bq/L	0.111	<0.111	<0.111	0.111	0.111	<0.111	<0.111	0.111	0.111	<0.111	0.111	<0.111
Gross Beta	Bq/L	0.148	<0.148	<0.148	0.148	0.148	<0.148	<0.148	0.148	0.148	<0.148	0.148	<0.148
Radionuclides - Tier 2 natural													
Uranium-238	Bq/L	0.0074	<0.00740	<0.00740	0.0074	0.0074	0.00139	<0.00740	0.0074	0.00740	<0.00740	0.00740	<0.00740
Uranium-234	Bq/L	0.0074	<0.00740	<0.00740	0.0074	0.0074	<0.00740	<0.00740	0.0074	0.00740	<0.00740	0.00740	<0.00740
Uranium-235	Bq/L	0.0074	<0.00740	<0.00740	0.01	0.00740	0.00	<0.00740	0.01	0.00740	<0.00740	0.00740	<0.00740
Potassium-40	Bq/L	7.1	<7.10	<7.10	7.10	7.10	<7.10	<7.10	7.10	7.10	<7.10	7.10	<7.10
Thorium-228	Bq/L	0.0074	<0.00740	<0.00740	0.0074	0.00740	<0.00740	<0.00740	0.0074	0.00740	<0.00740	0.00740	<0.00740
Thorium-230	Bq/L	0.0074	<0.00740	<0.00740	0.01	0.01	<0.00740	<0.00740	0.01	0.00740	<0.00740	0.00740	<0.00740
Thorium-232	Bq/L	0.0074	<0.00740	<0.00740	0.0074	0.00740	<0.00740	0.00226	0.0074	0.00740	0.00226	0.00740	<0.00740
Radium-226	Bq/L	0.037	0.00820	0.0119	0.04	0.0370	<0.0370	<0.0370	0.04	0.0370	<0.0370	0.0370	<0.0370
Metals - Total													
Aluminum Al-Total	mg/L	0.0030	<0.0030	<0.0030	0.003	0.0030	<0.0030	<0.0030	0.003	0.0030	<0.0030	0.0030	<0.0030
Antimony Sb-Total	mg/L	0.00010	<0.00010	<0.00010	0.0001	0.00010	<0.00010	<0.00010	0.0001	0.00010	<0.00010	0.00010	<0.00010
Arsenic As-Total	mg/L	0.00010	<0.00010	<0.00010	0.0001	0.00010	<0.00010	<0.00010	0.0001	0.00010	<0.00010	0.00010	<0.00010
Barium Ba-Total	mg/L	0.00010	<0.00010	<0.00010	0.0001	0.00010	<0.00010	<0.00010	0.0001	0.00010	<0.00010	0.00010	<0.00010

Appendix C. Table 1.

Year 2 Surface Water Quality QAQC Results – Blanks[1]

Parameter	Units	Fieldblank_03		Tripblank_03		Fieldblank_06		Trip_blank_06		Fieldblank_07		Trip_blank_07	
		RDL	Result	RDL	Result	RDL	Result	RDL	Result	RDL	Result	RDL	Result
Beryllium Be-Total	mg/L	0.000020	<0.000020	<0.000020	0.00002	0.000020	<0.000020	<0.000020	0.00002	0.000020	<0.000020	0.000020	<0.000020
Bismuth Bi-Total	mg/L	0.000050	<0.000050	<0.000050	0.00005	0.000050	<0.000050	<0.000050	0.00005	0.000050	<0.000050	0.000050	<0.000050
Boron B-Total	mg/L	0.010	<0.010	<0.010	0.01	0.010	<0.010	<0.010	0.01	0.010	<0.010	0.010	<0.010
Cadmium Cd-Total	mg/L	0.0000050	<0.0000050	<0.0000050	0.000005	0.0000050	<0.0000050	<0.0000050	0.000005	0.0000050	<0.0000050	0.0000050	<0.0000050
Calcium Ca-Total	mg/L	0.050	<0.050	<0.050	0.05	0.050	<0.050	<0.050	0.05	0.050	<0.050	0.050	<0.050
Cesium Cs-Total	mg/L	0.000010	<0.000010	<0.000010	0.00001	0.000010	<0.000010	<0.000010	0.00001	0.000010	<0.000010	0.000010	<0.000010
Chromium Cr-Total	mg/L	0.00050	<0.00050	<0.00050	0.0005	0.00050	<0.00050	<0.00050	0.0005	0.00050	<0.00050	0.00050	<0.00050
Cobalt Co-Total	mg/L	0.00010	<0.00010	<0.00010	0.0001	0.00010	<0.00010	<0.00010	0.0001	0.00010	<0.00010	0.00010	<0.00010
Copper Cu-Total	mg/L	0.00050	<0.00050	<0.00050	0.0005	0.00050	<0.00050	<0.00050	0.0005	0.00050	<0.00050	0.00050	<0.00050
Iron Fe-Total	mg/L	0.010	<0.010	<0.010	0.01	0.010	<0.010	<0.010	0.01	0.010	<0.010	0.010	<0.010
Lead Pb-Total	mg/L	0.000050	<0.000050	<0.000050	0.00005	0.000050	<0.000050	<0.000050	0.00005	0.000050	<0.000050	0.000050	<0.000050
Lithium Li-Total	mg/L	0.0010	<0.0010	<0.0010	0.001	0.0010	<0.0010	<0.0010	0.001	0.0010	<0.0010	0.0010	<0.0010
Magnesium Mg-Total	mg/L	0.0050	<0.0050	<0.0050	0.005	0.0050	<0.0050	<0.0050	0.005	0.0050	<0.0050	0.0050	<0.0050
Manganese Mn-Total	mg/L	0.00010	<0.00010	<0.00010	0.0001	0.00010	<0.00010	<0.00010	0.0001	0.00010	<0.00010	0.00010	<0.00010
Mercury Hg-Total	mg/L	0.0000050	<0.0000050	<0.0000050	0.000005	0.0000050	<0.0000050	<0.0000050	0.000005	0.0000050	<0.0000050	0.0000050	<0.0000050
Molybdenum Mo-Total	mg/L	0.000050	<0.000050	<0.000050	0.00005	0.000050	<0.000050	<0.000050	0.00005	0.000050	<0.000050	0.000050	<0.000050
Nickel Ni-Total	mg/L	0.00050	<0.00050	<0.00050	0.0005	0.00050	<0.00050	<0.00050	0.0005	0.00050	<0.00050	0.00050	<0.00050
Phosphorus P-Total	mg/L	0.050	<0.050	<0.050	0.05	0.050	<0.050	<0.050	0.05	0.050	<0.050	0.050	<0.050
Potassium K-Total	mg/L	0.050	<0.050	<0.050	0.05	0.050	<0.050	<0.050	0.05	0.050	<0.050	0.050	<0.050
Rhodium Rh-Total	mg/L	0.0010	<0.0010	<0.0010	0.001	0.0010	<0.0010	<0.0010	0.001	0.0010	<0.0010	0.0010	<0.0010
Ruthenium Ru-Total	mg/L	0.0010	<0.0010	<0.0010	0.00	0.0010	<0.0010	<0.0010	0.00	0.0010	<0.0010	0.001	<0.0010
Samarium Sm-Total	mg/L	0.0010	<0.0010	<0.0010	0.00	0.0010	<0.0010	<0.0010	0.00	0.0010	<0.0010	0.0010	<0.0010
Selenium Se-Total	mg/L	0.000050	<0.000050	<0.000050	0.00	0.000050	<0.000050	<0.000050	0.00	0.000050	<0.000050	0.000050	<0.000050
Silver Ag-Total	mg/L	0.000010	<0.000010	<0.000010	0.00001	0.000010	<0.000010	<0.000010	0.00001	0.000010	<0.000010	0.000010	<0.000010
Sodium Na-Total	mg/L	0.050	<0.050	<0.050	0.05	0.0500	<0.050	<0.050	0.05	0.050	<0.050	0.050	<0.050
Strontium Sr-Total	mg/L	0.00020	<0.00020	<0.00020	0.0002	0.00020	<0.00020	<0.00020	0.0002	0.00020	<0.00020	0.00020	<0.00020

Appendix C. Table 1.

Year 2 Surface Water Quality QAQC Results – Blanks[1]

Parameter	Units	Fieldblank_03		Tripblank_03		Fieldblank_06		Trip_blank_06		Fieldblank_07		Trip_blank_07	
		RDL	Result	RDL	Result	RDL	Result	RDL	Result	RDL	Result	RDL	Result
Sulfur S-Total	mg/L	0.50	<0.50	<0.50	0.5	0.50	<0.50	<0.50	0.5	0.50	<0.50	0.50	<0.50
Thallium Tl-Total	mg/L	0.000010	<0.000010	<0.000010	0.00	0.000010	<0.000010	<0.000010	0.00	0.000010	<0.000010	0.000010	<0.000010
Tin Sn-Total	mg/L	0.00010	<0.00010	<0.00010	0.00	0.00010	<0.00010	<0.00010	0.00	0.00010	<0.00010	0.00010	<0.00010
Titanium Ti-Total	mg/L	0.00030	<0.00030	<0.00030	0.00	0.00030	<0.00030	<0.00030	0.00	0.00030	<0.00030	0.00030	<0.00030
Tungsten W-Total	mg/L	0.00010	<0.00010	<0.00010	0.00	0.00010	<0.00010	<0.00010	0.00	0.00010	<0.00010	0.00010	<0.00010
Uranium U-Total	mg/L	0.000010	<0.000010	<0.000010	0.00	0.000010	<0.000010	<0.000010	0.00	0.000010	<0.000010	0.000010	<0.000010
Vanadium V-Total	mg/L	0.00050	<0.00050	<0.00050	0.00	0.00050	<0.00050	<0.00050	0.00	0.00050	<0.00050	0.00050	<0.00050
Zinc Zn-Total	mg/L	0.0030	<0.0030	<0.0030	0.00	0.0030	<0.0030	<0.0030	0.00	0.0030	<0.0030	0.0030	<0.0030
Zirconium Zr-Total	mg/L	0.00020	<0.00020	<0.00020	0.00	0.00020	<0.00020	<0.00020	0.00	0.00020	<0.00020	0.00020	<0.00020
Metals - dissolved													
Aluminum Al-Dissolved	mg/L	0.0010	<0.0010	<0.0010	0.001	0.0010	<0.0010	<0.0010	0.001	0.0010	<0.0010	0.0010	<0.0010
Antimony Sb-Dissolved	mg/L	0.00010	<0.00010	<0.00010	0.0001	0.00010	<0.00010	<0.00010	0.0001	0.00010	<0.00010	0.00010	<0.00010
Arsenic As-Dissolved	mg/L	0.00010	<0.00010	<0.00010	0.0001	0.00010	<0.00010	<0.00010	0.0001	0.00010	<0.00010	0.00010	<0.00010
Barium Ba-Dissolved	mg/L	0.00010	<0.00010	<0.00010	0.0001	0.00010	<0.00010	<0.00010	0.0001	0.00010	<0.00010	0.00010	<0.00010
Beryllium Be-Dissolved	mg/L	0.000020	<0.000020	<0.000020	0.00002	0.000020	<0.000020	<0.000020	0.00002	0.000020	<0.000020	0.000020	<0.000020
Bismuth Bi-Dissolved	mg/L	0.000050	<0.000050	<0.000050	0.00005	0.000050	<0.000050	<0.000050	0.00005	0.000050	<0.000050	0.000050	<0.000050
Boron B-Dissolved	mg/L	0.010	<0.010	<0.010	0.01	0.010	<0.010	<0.010	0.01	0.010	<0.010	0.010	<0.010
Cadmium Cd-Dissolved	mg/L	0.0000050	<0.0000050	<0.0000050	0.000005	0.0000050	<0.0000050	0.000005	0.000005	0.0000050	<0.0000050	0.0000050	<0.0000050
Calcium Ca-Dissolved	mg/L	0.050	<0.050	<0.050	0.05	0.050	<0.050	<0.050	0.05	0.050	<0.050	0.050	<0.050
Chromium Cr-Dissolved	mg/L	0.00050	<0.00050	<0.00050	0.0005	0.00050	<0.00050	<0.00050	0.0005	0.00050	<0.00050	0.00050	<0.00050
Cobalt Co-Dissolved	mg/L	0.00010	<0.00010	<0.00010	0.0001	0.00010	<0.00010	<0.00010	0.0001	0.00010	<0.00010	0.00010	<0.00010
Copper Cu-Dissolved	mg/L	0.00020	<0.00020	<0.00020	0.0002	0.00020	<0.00020	<0.00020	0.0002	0.00020	<0.00020	0.00020	<0.00020
Iron Fe-Dissolved	mg/L	0.010	<0.010	<0.010	0.01	0.010	<0.010	<0.010	0.01	0.010	<0.010	0.010	<0.010
Lead Pb-Dissolved	mg/L	0.000050	<0.000050	<0.000050	0.00005	0.000050	<0.000050	<0.000050	0.00005	0.000050	<0.000050	0.000050	<0.000050
Lithium Li-Dissolved	mg/L	0.0010	<0.0010	<0.0010	0.001	0.0010	<0.0010	<0.0010	0.001	0.0010	<0.0010	0.0010	<0.0010

Appendix C. Table 1.

Year 2 Surface Water Quality QAQC Results – Blanks[1]

Parameter	Units	Fieldblank_03		Tripblank_03		Fieldblank_06		Trip_blank_06		Fieldblank_07		Trip_blank_07	
		RDL	Result	RDL	Result	RDL	Result	RDL	Result	RDL	Result	RDL	Result
Magnesium Mg-Dissolved	mg/L	0.0050	<0.0050	<0.0050	0.005	0.0050	<0.0050	<0.0050	0.005	0.0050	<0.0050	0.0050	<0.0050
Manganese Mn-Dissolved	mg/L	0.00010	<0.00010	<0.00010	0.0001	0.00010	<0.00010	<0.00010	0.0001	0.00010	<0.00010	0.00010	<0.00010
Mercury Hg-Dissolved	mg/L	0.0000050	<0.0000050	<0.0000050	0.000005	0.0000050	<0.0000050	<0.0000050	0.000005	0.0000050	<0.0000050	0.0000050	<0.0000050
Molybdenum Mo-Dissolved	mg/L	0.000050	<0.000050	<0.000050	0.00005	0.000050	<0.000050	<0.000050	0.00005	0.000050	<0.000050	0.000050	<0.000050
Nickel Ni-Dissolved	mg/L	0.00050	<0.00050	<0.00050	0.0005	0.00050	<0.00050	<0.00050	0.0005	0.00050	<0.00050	0.00050	<0.00050
Phosphorus P-Dissolved	mg/L	0.050	<0.050	<0.050	0.05	0.050	<0.050	<0.050	0.05	0.050	<0.050	0.050	<0.050
Potassium K-Dissolved	mg/L	0.050	<0.050	<0.050	0.05	0.050	<0.050	<0.050	0.05	0.050	<0.050	0.050	<0.050
Rhodium Rh-Dissolved	mg/L	0.0010	<0.0010	<0.0010	0.00	0.001	<0.0010	<0.0010	0.00	0.0010	<0.0010	0.0010	<0.0010
Ruthenium Ru-Dissolved	mg/L	0.0010	<0.0010	<0.0010	0.001	0.0010	<0.0010	<0.0010	0.001	0.0010	<0.0010	0.0010	<0.0010
Samarium Sm-Dissolved	mg/L	0.0010	<0.0010	<0.0010	0.001	0.0010	<0.0010	<0.0010	0.001	0.0010	<0.0010	0.0010	<0.0010
Selenium Se-Dissolved	mg/L	0.000050	<0.000050	<0.000050	0.00005	0.000050	<0.000050	<0.000050	0.00005	0.000050	<0.000050	0.000050	<0.000050
Silver Ag-Dissolved	mg/L	0.000010	<0.000010	<0.000010	0.00001	0.000010	<0.000010	<0.000010	0.00001	0.000010	<0.000010	0.000010	<0.000010
Sodium Na-Dissolved	mg/L	0.050	<0.050	<0.050	0.05	0.050	<0.050	<0.050	0.05	0.050	<0.050	0.050	<0.050
Strontium Sr-Dissolved	mg/L	0.00020	<0.00020	<0.00020	0.0002	0.00020	<0.00020	<0.00020	0.0002	0.00020	<0.00020	0.00020	<0.00020
Sulfur S-Dissolved	mg/L	0.50	<0.50	<0.50	0.5	0.50	<0.50	<0.50	0.5	0.50	<0.50	0.50	<0.50
Thallium Tl-Dissolved	mg/L	0.000010	<0.000010	<0.000010	0.00	0.000010	<0.000010	<0.000010	0.00	0.000010	<0.000010	0.000010	<0.000010
Tin Sn-Dissolved	mg/L	0.00010	<0.00010	<0.00010	0.00	0.00010	<0.00010	<0.00010	0.00	0.00010	<0.00010	0.00010	<0.00010
Titanium Ti-Dissolved	mg/L	0.00030	<0.00030	<0.00030	0.00	0.00030	<0.00030	<0.00030	0.00	0.00030	<0.00030	0.00030	<0.00030
Tungsten W-Dissolved	mg/L	0.00010	<0.00010	<0.00010	0.00	0.00010	<0.00010	<0.00010	0.00	0.00010	<0.00010	0.00010	<0.00010
Uranium U-Dissolved	mg/L	0.000010	<0.000010	<0.000010	0.00	0.000010	<0.000010	<0.000010	0.00	0.000010	<0.000010	0.000010	<0.000010
Vanadium V-Dissolved	mg/L	0.00050	<0.00050	<0.00050	0.00	0.00050	<0.00050	<0.00050	0.00	0.00050	<0.00050	0.00050	<0.00050
Zinc Zn-Dissolved	mg/L	0.0010	<0.0010	<0.0010	0.00	0.0010	<0.0010	<0.0010	0.00	0.0010	<0.0010	0.0010	<0.0010
Zirconium Zr-Dissolved	mg/L	0.00030	<0.00030	<0.00030	0.00	0.00030	<0.00030	<0.00030	0.00	0.00030	<0.00030	0.00030	<0.00030
Nutrients & General Chemistry													
Alkalinity, Total as CaCO3	mg/L	1.0	1.1	1.7	1	1	<1.0	1.6	1	1	1.6	1	1.1

Appendix C. Table 1.

Year 2 Surface Water Quality QAQC Results – Blanks[1]

Parameter	Units	Fieldblank_03		Tripblank_03		Fieldblank_06		Trip_blank_06		Fieldblank_07		Trip_blank_07	
		RDL	Result	RDL	Result	RDL	Result	RDL	Result	RDL	Result	RDL	Result
Alkalinity, Bicarbonate as CaCO3	mg/L	1.0	1.1	1.7	1.00	1	<1.0	2	1.00	1	1.60	1	1.1
Bromide Br	mg/L	0.10	<0.10	<0.10	0.10	0.10	<0.10	<0.10	0.10	0.10	<0.10	0.10	<0.10
Alkalinity, Carbonate as CaCO3	mg/L	1.0	<1.0	<1.0	1	1	<1.0	<1.0	1	1	<1.0	1	<1.0
Chloride Cl	mg/L	0.50	<0.50	<0.50	0.5	0.50	<0.50	<0.50	0.5	0.50	<0.50	0.5	<0.50
Cyanide, Total	mg/L	0.0020	<0.0020	<0.0020	0.002	0.0020	<0.0020	<0.0020	0.002	0.0020	<0.0020	0.002	<0.0020
Fluoride F	mg/L	0.020	<0.020	<0.020	0.02	0.020	<0.020	<0.020	0.02	0.020	<0.020	0.02	<0.020
Alkalinity, Hydroxide as CaCO3	mg/L	1.0	<1.0	<1.0	1.00	1.0	<1.0	<1.0	1.00	1	<1.0	1	<1.0
pH	pH units	0.10	6.62	5.81	0.10	0.10	6.01	5.61	0.10	0.10	5.61	0.10	5.54
Conductivity	µS	1.0	<1.0	<1.0	1	1	<1.0	1	1	1	1	1	1.4
Ion Balance	%	0.010	<0.010	<0.010	0.01	0.01	<0.010	<0.010	0.01	0.010	<0.010	0.01	<0.010
Total Dissolved Solids	mg/L	10	<10	35	10	10	<10	<10	10	10	<10	10	<10
Hardness as CaCO3	mg/L	0.50	<0.50	<0.50	0.50	0.50	<0.50	<0.50	0.50	0.50	<0.50	0.50	<0.50
Total Suspended Solids	mg/L	3.0	<3.0	<3.0	3.00	3	<3.0	<3.0	3.00	3	<3.0	3	<3.0
Turbidity	NTU	0.10	0.10	<0.10	0.1	0.1	<0.10	<0.10	0.1	0.10	<0.10	0.1	<0.10
Ammonia, Total as N	mg/L	0.0050	0.212	0.0211	0.005	0.0050	<0.0050	0.4830	0.005	0.0050	0.483	0.005	0.0338
Nitrate and Nitrite as N	mg/L	0.0200	<0.0224	<0.0224	0.02	0.0224	<0.0224	0.0244	0.02	0.0224	<0.0224	0.0224	<0.0224
Total Organic Carbon	mg/L	0.50	<0.50	<0.50	0.5	0.50	<0.50	<0.50	0.5	0.50	<0.50	0.5	<0.50
Total Inorganic Carbon	mg/L	1.0	<1.0	<1.0	1.00	1.00	<1.0	<1.0	1.00	1.00	<1.0	1.00	<1.0
Dissolved Organic Carbon	mg/L	0.50	<0.50	<0.50	0.5	0.5	<0.50	<0.50	0.5	0.50	<0.50	0.50	<0.50
Phosphorus, Total	mg/L	0.0020	0.0024	<0.0020	0.002	0.0020	<0.0020	<0.0020	0.002	0.0020	<0.0020	0.002	0.0256
Total Kjeldahl Nitrogen	mg/L	0.050	0.252	<0.050	0.05	0.050	<0.050	0.507	0.05	0.0500	0.507	0.050	<0.050
Biological Oxygen Demand	mg/L	2.0	<2.0	<2.0	2	2	<2.0	<2.0	2	2	<2.0	2	<2.0
Organics - Polycyclic Aromatic Hydrocarbons													
Acenaphthene	µg/L	0.20	<0.20	<0.20	0.01	0.010	<0.010	<0.010	0.01	0.010	<0.010	0.010	<0.010
Acenaphthylene	µg/L	0.20	<0.20	<0.20	0.01	0.010	<0.010	<0.010	0.01	0.010	<0.010	0.010	<0.010

Appendix C. Table 1.

Year 2 Surface Water Quality QAQC Results – Blanks[1]

Parameter	Units	Fieldblank_03		Tripblank_03		Fieldblank_06		Trip_blank_06		Fieldblank_07		Trip_blank_07	
		RDL	Result	RDL	Result	RDL	Result	RDL	Result	RDL	Result	RDL	Result
Anthracene	µg/L	0.20	<0.20	<0.20	0.01	0.010	<0.010	<0.010	0.01	0.010	<0.010	0.010	<0.010
Benzoaanthracene	µg/L	0.20	<0.20	<0.20	0.01	0.010	<0.010	<0.010	0.01	0.010	<0.010	0.010	<0.010
Benzoapyrene	µg/L	0.020	<0.040	<0.044	0.005	0.0050	<0.0050	<0.0050	0.005	0.0050	<0.0050	0.0050	<0.0050
Benzob&jfluoranthene	µg/L	0.10	<0.10	<0.10	0.01	0.010	<0.010	<0.010	0.01	0.010	<0.010	0.010	<0.010
Benzog,h,iperylene	µg/L	0.20	<0.20	<0.20	0.01	0.010	<0.010	<0.010	0.01	0.010	<0.010	0.010	<0.010
Benzokfluoranthene	µg/L	0.10	<0.10	<0.10	0.01	0.010	<0.010	<0.010	0.01	0.010	<0.010	0.010	<0.010
Chrysene	µg/L	0.10	<0.10	<0.10	0.01	0.010	<0.010	<0.010	0.01	0.010	<0.010	0.010	<0.010
Dibenza,hanthracene	µg/L	0.20	<0.20	<0.20	0.005	0.0050	<0.0050	<0.0050	0.005	0.0050	<0.0050	0.0050	<0.0050
Fluoranthene	µg/L	0.20	<0.20	<0.20	0.01	0.010	<0.010	<0.010	0.01	0.010	<0.010	0.010	<0.010
Fluorene	µg/L	0.20	<0.20	<0.20	0.01	0.010	<0.010	<0.010	0.01	0.010	<0.010	0.010	<0.010
Indeno1,2,3-cdpyrene	µg/L	0.20	<0.20	<0.20	0.01	0.010	<0.010	<0.010	0.01	0.010	<0.010	0.010	<0.010
1+2-Methylnaphthalenes	µg/L	0.40	<0.40	<0.40	0.015	0.015	<0.015	<0.015	0.015	0.015	<0.015	0.015	<0.015
1-Methylnaphthalene	µg/L	0.40	<0.40	<0.40	0.01	0.010	<0.010	<0.010	0.01	0.010	<0.010	0.010	<0.010
2-Methylnaphthalene	µg/L	0.20	<0.20	<0.20	0.01	0.010	<0.010	<0.010	0.01	0.010	<0.010	0.010	<0.010
Naphthalene	µg/L	0.20	<0.20	<0.20	0.05	0.050	<0.050	<0.050	0.05	0.050	<0.050	0.050	<0.050
Phenanthrene	µg/L	0.20	<0.20	<0.20	0.02	0.020	<0.020	<0.020	0.02	0.020	<0.020	0.020	<0.020
Pyrene	µg/L	0.60	<0.60	<0.60	0.01	0.010	<0.010	<0.010	0.01	0.010	<0.010	0.010	<0.010
Organics - Volatile Organic Compounds													
Acetone	µg/L	20	<20	<20	20	20	<20	<20	20	20	<20	20	<20
Benzene	µg/L	0.50	<0.50	<0.50	0.5	0.50	<0.50	<0.50	0.5	0.50	<0.50	0.50	<0.50
Bromodichloromethane	µg/L	0.50	<0.50	<0.50	0.5	0.50	<0.50	<0.50	0.5	0.50	<0.50	0.50	<0.50
Bromoform	µg/L	0.50	<0.50	<0.50	0.5	0.50	<0.50	<0.50	0.5	0.50	<0.50	0.50	<0.50
Bromomethane	µg/L	0.50	<0.50	<0.50	0.5	0.50	<0.50	<0.50	0.5	0.50	<0.50	0.50	<0.50
Carbon tetrachloride	µg/L	0.20	<0.20	<0.20	0.2	0.20	<0.20	<0.20	0.2	0.20	<0.20	0.20	<0.20
Chlorobenzene	µg/L	0.50	<0.50	<0.50	0.5	0.50	<0.50	<0.50	0.5	0.50	<0.50	0.50	<0.50

Appendix C. Table 1.

Year 2 Surface Water Quality QAQC Results – Blanks[1]

Parameter	Units	Fieldblank_03		Tripblank_03		Fieldblank_06		Trip_blank_06		Fieldblank_07		Trip_blank_07	
		RDL	Result	RDL	Result	RDL	Result	RDL	Result	RDL	Result	RDL	Result
Dibromochloromethane	µg/L	0.50	0.60	<0.50	0.5	0.50	<0.50	<0.50	0.5	0.50	<0.50	0.50	<0.50
Chloroform	µg/L	0.50	<0.50	<0.50	0.5	0.50	<0.50	<0.50	0.5	0.50	<0.50	0.50	<0.50
1,2-Dibromoethane	µg/L	0.20	<0.20	<0.20	0.2	0.20	<0.20	<0.20	0.2	0.20	<0.20	0.20	<0.20
1,2-Dichlorobenzene	µg/L	0.50	<0.50	<0.50	0.5	0.50	<0.50	<0.50	0.5	0.50	<0.50	0.50	<0.50
1,3-Dichlorobenzene	µg/L	0.50	<0.50	<0.50	0.5	0.50	<0.50	<0.50	0.5	0.50	<0.50	0.50	<0.50
1,4-Dichlorobenzene	µg/L	0.50	<0.50	<0.50	0.5	0.50	<0.50	<0.50	0.5	0.50	<0.50	0.50	<0.50
Dichlorodifluoromethane	µg/L	0.50	<0.50	<0.50	0.5	0.50	<0.50	<0.50	0.5	0.50	<0.50	0.50	<0.50
1,1-Dichloroethane	µg/L	0.50	<0.50	<0.50	0.5	0.50	<0.50	<0.50	0.5	0.50	<0.50	0.50	<0.50
1,2-Dichloroethane	µg/L	0.50	<0.50	<0.50	0.5	0.50	<0.50	<0.50	0.5	0.50	<0.50	0.50	<0.50
1,1-Dichloroethylene	µg/L	0.50	<0.50	<0.50	0.5	0.50	<0.50	<0.50	0.5	0.50	<0.50	0.50	<0.50
cis-1,2-Dichloroethylene	µg/L	0.50	<0.50	<0.50	0.5	0.50	<0.50	<0.50	0.5	0.50	<0.50	0.50	<0.50
trans-1,2-Dichloroethylene	µg/L	0.50	<0.50	<0.50	0.5	0.50	<0.50	<0.50	0.5	0.50	<0.50	0.50	<0.50
Methylene Chloride	µg/L	1.0	<1.0	<2.5	1	1	<1.0	2.9	1	1	2.9	1	<1.0
1,2-Dichloropropane	µg/L	0.50	<0.50	<0.50	0.5	0.50	<0.50	<0.50	0.5	0.50	<0.50	0.50	<0.50
cis-1,3-Dichloropropene	µg/L	0.50	<0.50	<0.50	0.5	0.50	<0.50	<0.50	0.5	0.50	<0.50	0.50	<0.50
trans-1,3-Dichloropropene	µg/L	0.30	<0.30	<0.30	0.3	0.30	<0.30	<0.30	0.3	0.30	<0.30	0.30	<0.30
1,3-Dichloropropene cis & trans	µg/L	0.30	<0.30	<0.30	0.3	0.30	<0.30	<0.30	0.3	0.30	<0.30	0.30	<0.30
Ethylbenzene	µg/L	0.50	<0.50	<0.50	0.5	0.50	<0.50	<0.50	0.5	0.50	<0.50	0.50	<0.50
n-Hexane	µg/L	0.50	<0.50	<0.50	0.5	0.50	<0.50	<0.50	0.5	0.50	<0.50	0.50	<0.50
Methyl Ethyl Ketone	µg/L	20	<20	<20	20	20	<20	<20	20	20	<20	20	<20
Methyl Isobutyl Ketone	µg/L	20	<20	<20	20	20	<20	<20	20	20	<20	20	<20
MTBE	µg/L	0.50	<0.50	<0.50	0.5	0.50	<0.50	<0.50	0.5	0.50	<0.50	0.50	<0.50
Styrene	µg/L	0.50	<0.50	<0.50	0.5	0.50	<0.50	<0.50	0.5	0.50	<0.50	0.50	<0.50
1,1,1,2-Tetrachloroethane	µg/L	0.50	<0.50	<0.50	0.5	0.50	<0.50	<0.50	0.5	0.50	<0.50	0.50	<0.50
1,1,2,2-Tetrachloroethane	µg/L	0.50	<0.50	<0.50	0.5	0.50	<0.50	<0.50	0.5	0.50	<0.50	0.50	<0.50

Appendix C. Table 1.

Year 2 Surface Water Quality QAQC Results – Blanks[1]

Parameter	Units	Fieldblank_03		Tripblank_03		Fieldblank_06		Trip_blank_06		Fieldblank_07		Trip_blank_07	
		RDL	Result	RDL	Result	RDL	Result	RDL	Result	RDL	Result	RDL	Result
Tetrachloroethylene	µg/L	0.50	<0.50	<0.50	0.5	0.50	<0.50	<0.50	0.5	0.50	<0.50	0.50	<0.50
Toluene	µg/L	0.50	<0.50	<0.50	0.5	0.50	<0.50	<0.50	0.5	0.50	<0.50	0.50	<0.50
1,1,1-Trichloroethane	µg/L	0.50	<0.50	<0.50	0.5	0.50	<0.50	<0.50	0.5	0.50	<0.50	0.50	<0.50
1,1,2-Trichloroethane	µg/L	0.50	<0.50	<0.50	0.5	0.50	<0.50	<0.50	0.5	0.50	<0.50	0.50	<0.50
Trichloroethylene	µg/L	0.50	<0.50	<0.50	0.5	0.50	<0.50	<0.50	0.5	0.50	<0.50	0.50	<0.50
Trichlorofluoromethane	µg/L	0.50	<0.50	<0.50	0.5	0.50	<0.50	<0.50	0.5	0.50	<0.50	0.50	<0.50
Vinyl chloride	µg/L	0.50	<0.50	<0.50	0.5	0.50	<0.50	<0.50	0.5	0.50	<0.50	0.50	<0.50
Xylenes Total	µg/L	0.50	<0.50	<0.50	0.50	0.50	<0.50	<0.50	0.50	0.50	<0.50	0.50	<0.50
Organics - Semi-Volatile Organic Compounds													
Biphenyl	µg/L	0.40	<0.40	<0.40	0.4	0.40	<0.40	<0.40	0.4	0.40	<0.40	0.40	<0.40
4-Chloroaniline	µg/L	0.40	<0.40	<0.40	0.4	0.40	<0.40	<0.40	0.4	0.40	<0.40	0.40	<0.40
Bis2-chloroethylether	µg/L	0.40	<0.40	<0.40	0.4	0.40	<0.40	<0.40	0.4	0.40	<0.40	0.40	<0.40
2-Chlorophenol	µg/L	0.30	<0.30	<0.30	0.3	0.30	<0.30	<0.30	0.3	0.30	<0.30	0.30	<0.30
3,3-Dichlorobenzidine	µg/L	0.40	<0.40	<0.40	0.4	0.40	<0.40	<0.40	0.4	0.40	<0.40	0.40	<0.40
2,4-Dichlorophenol	µg/L	0.30	<0.30	<0.30	0.30	0.30	<0.30	<0.30	0.30	0.30	<0.30	0.30	<0.30
Diethylphthalate	µg/L	0.20	<0.20	<0.20	0.2	0.20	<0.20	<0.20	0.2	0.20	<0.20	0.20	<0.20
Dimethylphthalate	µg/L	0.20	<0.20	<0.20	0.2	0.20	<0.20	<0.20	0.2	0.20	<0.20	0.20	<0.20
2,4-Dimethylphenol	µg/L	0.50	<0.50	<0.50	0.5	0.50	<0.50	<0.50	0.5	0.50	<0.50	0.50	<0.50
2,4-Dinitrophenol	µg/L	1.0	<1.0	<1.0	1.00	1.0	<1.0	<1.0	1.00	1.0	<1.0	1.0	<1.0
2,4-Dinitrotoluene	µg/L	0.40	<0.40	<0.40	0.40	0.40	<0.40	<0.40	0.40	0.40	<0.40	0.40	<0.40
2,6-Dinitrotoluene	µg/L	0.40	<0.40	<0.40	0.40	0.40	<0.40	<0.40	0.40	0.40	<0.40	0.40	<0.40
2,4+2,6-Dinitrotoluene	µg/L	0.60	<0.60	<0.60	0.6	0.6	<0.60	<0.60	0.6	0.6	<0.60	0.6	<0.60
Bis2-ethylhexylphthalate	µg/L	2.0	<2.0	<2.0	2	2	<2.0	<2.0	2	2	<2.0	2.0	<2.0
Pentachlorophenol	µg/L	0.50	<0.50	<0.50	0.5	0.50	<0.50	<0.50	0.5	0.5	<0.50	0.50	<0.50
Phenol	µg/L	0.50	0.86	<0.50	0.5	0.50	<0.55	0.55	0.5	0.50	0.56	0.50	<0.50

Appendix C. Table 1.

Year 2 Surface Water Quality QAQC Results – Blanks[1]

Parameter	Units	Fieldblank_03		Tripblank_03		Fieldblank_06		Trip_blank_06		Fieldblank_07		Trip_blank_07	
		RDL	Result	RDL	Result	RDL	Result	RDL	Result	RDL	Result	RDL	Result
1,2,4-Trichlorobenzene	µg/L	0.40	<0.40	<0.40	0.40	0.40	<0.40	<0.40	0.40	0.40	<0.40	0.40	<0.40
2,4,5-Trichlorophenol	µg/L	0.20	<0.20	<0.20	0.20	0.20	<0.20	<0.20	0.20	0.20	<0.20	0.20	<0.20
2,4,6-Trichlorophenol	µg/L	0.20	<0.20	<0.20	0.2	0.20	<0.20	<0.20	0.2	0.20	<0.20	0.20	<0.20
Organics - Hydrocarbons													
F1 C6-C10	µg/L	25	<25	<25	25.00	25	<25	<25	25.00	25	<25	25	<25
F2 C10-C16	µg/L	100	<100	<100	100	100	<100	<100	100	100	<100	100	<100
F3 C16-C34	µg/L	250	<250	<250	250	250	<250	<250	250	250	<250	250	<250
F4 C34-C50	µg/L	250	<250	<250	250	250	<250	<250	250	250	<250	250	<250
Total Hydrocarbons C6-C50	µg/L	240	<370	<370	240	370	<370	370	240	370	<370	370	<370
Organics - Dioxins and Furans													
2,3,7,8-TCDD	pg/L	0.68	<0.68	<0.63	0.15	0.39	<0.39	<0.75	0.63	0.75	<0.75	0.63	<0.63
1,2,3,7,8-PeCDD	pg/L	0.87	<0.87	<0.32	0.21	0.49	<0.49	<1.2	0.63	1.2	<1.2	0.63	<0.63
1,2,3,4,7,8-HxCDD	pg/L	1.00	<1.0	<0.37	0.11	0.39	<0.39	<0.67	0.47	0.67	<0.67	0.47	<0.47
1,2,3,6,7,8-HxCDD	pg/L	1.00	<1.0	<0.36	0.12	0.41	<0.41	<0.74	0.48	0.74	<0.74	0.48	<0.48
1,2,3,7,8,9-HxCDD	pg/L	1.00	<1.0	<0.37	0.11	0.40	<0.40	<0.69	0.47	0.69	<0.69	0.47	0.65
1,2,3,4,6,7,8-HpCDD	pg/L	3.10	<3.1	0.75	0.18	0.52	<0.52	<0.96	0.53	0.96	<0.96	0.53	<0.53
OCDD	pg/L	10.00	<10	2.40	0.35	1.00	1.10	<2.2	1.30	2.2	<2.2	1.30	1.40
Total-TCDD	pg/L	0.68	<0.68	<0.63	0.15	0.39	<0.39	<0.75	0.63	0.75	<0.75	0.63	<0.63
Total-PeCDD	pg/L	0.87	<0.87	<0.32	0.21	0.49	<0.49	<1.2	0.63	1.2	<1.2	0.63	<0.63
Total-HxCDD	pg/L	1.00	<1.0	<0.37	0.12	0.41	<0.41	<0.74	0.48	0.74	<0.74	0.48	<0.48
Total-HpCDD	pg/L	3.1	<3.1	<0.71	0.18	0.52	<0.52	<0.96	0.53	0.96	<0.96	0.53	<0.53
2,3,7,8-TCDF	pg/L	0.53	<0.53	<0.27	0.12	0.30	<0.30	<0.61	0.73	0.61	<0.61	0.73	<0.73
1,2,3,7,8-PeCDF	pg/L	0.40	<0.40	0.31	0.14	0.39	<0.39	<0.59	0.47	0.59	<0.59	0.47	<0.47
2,3,4,7,8-PeCDF	pg/L	0.37	<0.37	<0.24	0.12	0.35	<0.35	<0.53	0.42	0.53	<0.53	0.42	<0.42
1,2,3,4,7,8-HxCDF	pg/L	0.41	<0.41	<0.20	0.06	0.35	<0.35	<0.49	0.26	0.49	<0.49	0.26	<0.26

Appendix C. Table 1.

Year 2 Surface Water Quality QAQC Results – Blanks[1]

Parameter	Units	Fieldblank_03		Tripblank_03		Fieldblank_06		Trip_blank_06		Fieldblank_07		Trip_blank_07	
		RDL	Result	RDL	Result	RDL	Result	RDL	Result	RDL	Result	RDL	Result
1,2,3,6,7,8-HxCDF	pg/L	0.33	<0.33	<0.18	0.07	0.34	<0.34	<0.47	0.25	0.47	<0.47	0.25	<0.25
1,2,3,7,8,9-HxCDF	pg/L	0.68	<0.68	<0.28	0.08	0.43	<0.43	<0.84	0.35	0.84	<0.84	0.35	<0.35
2,3,4,6,7,8-HxCDF	pg/L	0.45	<0.45	<0.20	0.06	0.33	<0.33	<0.48	0.24	0.48	<0.48	0.24	<0.24
1,2,3,4,6,7,8-HpCDF	pg/L	1.10	<1.1	<0.29	0.10	0.20	<0.20	<1.3	0.18	1.3	<1.3	0.18	<0.18
1,2,3,4,7,8,9-HpCDF	pg/L	1.70	<1.7	<0.43	0.13	0.26	<0.26	<1.9	0.22	1.9	<1.9	0.22	<0.22
OCDF	pg/L	6.50	<6.5	<0.88	0.41	0.81	<0.81	<1.7	0.89	1.7	<1.7	0.89	<0.89
Total-TCDF	pg/L	0.53	0.92	<0.27	0.12	0.30	<0.30	<0.61	0.73	0.61	<0.61	0.73	<0.73
Total-PeCDF	pg/L	0.40	<0.40	<0.26	0.14	0.39	<0.39	<0.59	0.47	0.59	<0.59	0.47	<0.47
Total-HxCDF	pg/L	0.68	<0.68	<0.28	0.08	0.43	<0.43	<0.84	0.35	0.84	<0.84	0.35	<0.35
Total-HpCDF	pg/L	1.7	<1.7	<0.43	0.13	0.26	<0.26	<1.9	0.22	1.9	<1.9	0.22	<0.22
Organics - Polychlorinated Biphenyls													
Aroclor 1242	µg/L	0.020	<0.020	<0.025	0.02	0.020	<0.025	0.025	0.02	0.020	<0.020	0.020	<0.020
Aroclor 1248	µg/L	0.020	<0.020	<0.025	0.02	0.020	<0.025	0.025	0.02	0.020	<0.020	0.020	<0.020
Aroclor 1254	µg/L	0.020	<0.020	<0.025	0.02	0.020	<0.025	0.025	0.02	0.020	<0.020	0.020	<0.020
Aroclor 1260	µg/L	0.020	<0.020	<0.025	0.02	0.020	<0.025	0.025	0.02	0.020	<0.020	0.020	<0.020
Total PCBs	µg/L	0.060	<0.060	<0.075	0.06	0.060	<0.075	0.075	0.06	0.060	<0.060	0.060	<0.060
Organochlorine Pesticides													
Aldrin	µg/L	0.0080	<0.0080	<0.0080	0.008	0.0080	<0.0080	0.008	0.008	0.0080	<0.0080	0.0080	<0.0080
Chlordane Total	µg/L	0.011	<0.011	<0.011	0.011	0.011	<0.011	0.011	0.011	0.011	<0.011	0.011	<0.011
Total DDD	µg/L	0.0060	<0.0060	<0.0071	0.006	0.0060	<0.0071	0.0071	0.006	0.0071	<0.0071	0.0060	<0.0060
Total DDE	µg/L	0.0060	<0.0060	<0.0071	0.01	0.0060	<0.0071	0.01	0.01	0.0071	<0.0071	0.0060	<0.0060
Total DDT	µg/L	0.0060	<0.0060	<0.0071	0.006	0.0060	<0.0071	0.0071	0.006	0.0071	<0.0071	0.0060	<0.0060
Dieldrin	µg/L	0.0080	<0.0080	<0.0080	0.01	0.0080	<0.0080	<0.0080	0.01	0.0080	<0.0080	0.0080	<0.0080
Endosulfan Total	µg/L	0.010	<0.010	<0.010	0.01	0.010	<0.010	<0.010	0.01	0.010	<0.010	0.010	<0.010
Endrin	µg/L	0.010	<0.010	<0.010	0.01	0.010	<0.010	<0.010	0.01	0.010	<0.010	0.010	<0.010

Appendix C. Table 1.

Year 2 Surface Water Quality QAQC Results – Blanks[1]

Parameter	Units	Fieldblank_03		Tripblank_03		Fieldblank_06		Trip_blank_06		Fieldblank_07		Trip_blank_07	
		RDL	Result	RDL	Result	RDL	Result	RDL	Result	RDL	Result	RDL	Result
Heptachlor	µg/L	0.0080	<0.0080	<0.0080	0.01	0.0080	<0.0080	<0.0080	0.01	0.0080	<0.0080	0.0080	<0.0080
Heptachlor Epoxide	µg/L	0.0080	<0.0080	<0.0080	0.01	0.0080	<0.0080	<0.0080	0.01	0.0080	<0.0080	0.0080	<0.0080
Hexachlorobenzene	µg/L	0.0080	<0.0080	<0.0080	0.01	0.0080	<0.0080	<0.0080	0.01	0.0080	<0.0080	0.0080	<0.0080
Hexachlorobutadiene	µg/L	0.0080	<0.0080	<0.0080	0.01	0.0080	<0.0080	<0.0080	0.01	0.0080	<0.0080	0.0080	<0.0080
Hexachloroethane	µg/L	0.0080	<0.0080	<0.0080	0.01	0.0080	<0.0080	<0.0080	0.01	0.0080	<0.0080	0.0080	<0.0080
Methoxychlor	µg/L	0.0080	<0.0080	<0.0080	0.01	0.0080	<0.0080	<0.0080	0.01	0.0080	<0.0080	0.0080	<0.0080

[1] Cells containing grey highlights indicate parameters which were detected in concentrations above the RDL.

Appendix D, Table 1

Year 2 Sediment Chemistry Results- Teeswater Exposure [1,2]

Parameter	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th Percentile	Sediment Quality Benchmark
Radionuclides - Tier 1										
Tritium	Bq/kg	10	37 - 37	9	37	1	35	37	37	10000000
Carbon-14	Bq/kg	10	740 - 740	10	740	0	740	740	740	-
Strontium-90	Bq/kg	10	18.5	10	18.5	0	18.5	18.5	18.5	20000
Iodine-129	Bq/kg	10	370	10	370	0	370	370	370	1000000
Cesium-137	Bq/kg	10	18.5	2	3.7	6.7	1.7	2.7	18.5	100000
Cobalt-60	Bq/kg	10	18.5	9	17.0	3.3	12.8	18.5	18.5	40000
Ruthenium-106	Bq/kg	10	90	10	90	0	90	90	90	-
Gross alpha	Bq/kg	10	111	1	233	107	107	289	387	-
Gross beta	Bq/kg	10	148	0	454	95	338	478	587	-
Radionuclides - Tier 2 natural										
Uranium-238	Bq/kg	10	3.7	0	12.3	3.6	8.0	13.1	17.7	40000
Uranium-234	Bq/kg	10	3.7	4	2.1	1.2	0.9	2.5	3.7	20000
Uranium-235	Bq/kg	10	3.7	4	14.6	9.7	10.4	14.1	32.2	10000
Potassium-40	Bq/kg	10	75	0	384	36	333	385	434	-
Thorium-228	Bq/kg	10	3.7	6	6.8	7.9	3.7	3.7	21.9	-
Thorium-230	Bq/kg	10	3.7	0	17.5	5.1	13.8	16.7	27.0	-
Thorium-232	Bq/kg	10	3.7	1	8.8	4.2	4.3	9.4	15.2	40000
Radium-226	Bq/kg	10	37	0	29	6	20	31	37	600
Metals										
Aluminum	mg/kg	10	50	0	4180	1177	3145	4070	6068	-
Antimony	mg/kg	10	0.1	10	0.1	0.0	0.1	0.1	0.1	3
Arsenic	mg/kg	10	0.1	0	2.4	0.5	1.7	2.4	3.1	5.9
Barium	mg/kg	10	0.5	0	37.3	10.1	28.3	35.9	54.0	-
Beryllium	mg/kg	10	0.1	0	0.2	0	0.1	0.2	0.3	-
Bismuth	mg/kg	10	0.2	10	0.2	0	0.2	0.2	0.2	65000
Boron	mg/kg	10	5	1	7	2	5	6	10	-
Cadmium	mg/kg	10	0.02	0	0.26	0.07	0.19	0.25	0.37	0.6
Calcium	mg/kg	10	50	0	102500	12709	85355	103500	118650	-
Chromium	mg/kg	10	0.5	0	8.8	1.5	7.1	8.8	11.0	26
Cobalt	mg/kg	10	0.1	0	2.7	0.6	2.1	2.7	3.7	50
Copper	mg/kg	10	0.5	0	6.3	1.8	4.8	6.0	8.9	16
Iron	mg/kg	10	50	0	8803	1324	7028	9030	10815	20000
Lead	mg/kg	10	0.5	0	3.9	1.3	2.7	4.0	6.3	31
Lithium	mg/kg	10	2	0	6	2	5	6	9	-

Appendix D, Table 1

Year 2 Sediment Chemistry Results- Teeswater Exposure [1,2]

Parameter	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th Percentile	Sediment Quality Benchmark
Magnesium	mg/kg	10	20	0	31184	8544	21775	32850	43530	-
Manganese	mg/kg	10	1	0	428	165	288	419	710	460
Mercury	mg/kg	10	0.005	0	0.030	0.012	0.020	0.028	0.049	0.17
Molybdenum	mg/kg	10	0.1	0	0.3	0.5	0.2	0.2	1.2	8.3
Nickel	mg/kg	10	0.5	0	5.7	1.0	4.7	5.7	7.0	16
Phosphorus	mg/kg	10	50	0	521	109	391	531	692	600
Potassium	mg/kg	10	100	0	584	268	385	495	1021	-
Rhodium	mg/kg	10	0.1	10	0.1	0	0.1	0.1	0.1	600
Ruthenium	mg/kg	10	0.1	10	0.1	0	0.1	0.1	0.1	390
Samarium	mg/kg	10	0.1	0	1.6	0.3	1.2	1.6	2.0	2500
Selenium	mg/kg	10	0.2	0	0.6	0.1	0.5	0.6	0.7	0.9
Silver	mg/kg	10	0.1	10	0.1	0.0	0.1	0.1	0.1	0.5
Sodium	mg/kg	10	50	0	201	52	160	191	289	-
Strontium	mg/kg	10	0.5	0	137.3	34.1	103.2	129.5	193.7	-
Sulfur	mg/kg	10	1000	0	1925	903	1245	1750	3565	-
Thallium	mg/kg	10	0.05	1	0.08	0.02	0.05	0.08	0.11	-
Tin	mg/kg	10	2	10	2	0	2	2	2	-
Titanium	mg/kg	10	1	0	125	28	87	124	159	-
Tungsten	mg/kg	10	0.5	10	0.5	0.0	0.5	0.5	0.5	960
Uranium	mg/kg	10	0.05	0	0.62	0.50	0.44	0.56	1.45	32
Vanadium	mg/kg	10	0.2	0	10.7	2.7	8.2	9.9	15.0	27
Zinc	mg/kg	10	2	0	28	8	20	28	41	120
Zirconium	mg/kg	10	1	10	1	0	1	1	1	-
Nutrients & General Characterization										
% Moisture	%	10	0.10 - 0.25	0	47.62	9.01	37.77	45.80	62.23	-
Carbon, total organic [TOC]	%	10	0.05	0	4.88	1.11	3.75	4.80	6.73	1
Ammonia, total (as N)	mg/kg	10	20 - 50	0	118	60	73	128	221	-
Nitrate and Nitrite as N	mg/kg	10	1.4	10	1.4	0	1.4	1.4	1.4	-
Nitrate-N	mg/kg	10	1	10	1.0	0	1	1	1	-
Nitrite-N	mg/kg	10	1	10	1.0	0	1	1	1	-
Kjeldahl nitrogen, total [TKN]	µg/g	10	200-1,000	0	1,700	1,100	700	1,900	3,600	500 µg/g
Organics - Polycyclic Aromatic Hydrocarbons										
Acenaphthene	mg/kg	10	0.05 - 0.15	10	0.06	0.02	0.05	0.05	0.09	0.00671
Acenaphthylene	mg/kg	10	0.05 - 0.10	10	0.06	0.02	0.05	0.05	0.09	0.00587
Anthracene	mg/kg	10	0.05 - 0.20	10	0.06	0.02	0.05	0.05	0.09	0.0469
Benz(a)anthracene	mg/kg	10	0.05 - 0.15	10	0.06	0.02	0.05	0.05	0.09	0.0317
Benzo(a)pyrene	mg/kg	10	0.05 - 0.10	10	0.06	0.02	0.05	0.05	0.09	0.0319
Benzo(b+j)fluoranthene	mg/kg	10	0.05 - 0.20	10	0.06	0.02	0.05	0.05	0.09	-
Benzo(g,h,i)perylene	mg/kg	10	0.05 - 0.10	10	0.06	0.02	0.05	0.05	0.09	0.17
Benzo(k)fluoranthene	mg/kg	10	0.05 - 0.10	10	0.06	0.02	0.05	0.05	0.09	0.24
Chrysene	mg/kg	10	0.05 - 0.10	10	0.06	0.02	0.05	0.05	0.09	0.0571

Appendix D, Table 1

Year 2 Sediment Chemistry Results- Teeswater Exposure [1,2]

Parameter	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th Percentile	Sediment Quality Benchmark
Dibenz(a,h)anthracene	mg/kg	10	0.05 - 0.10	10	0.06	0.02	0.05	0.05	0.09	0.00622
Fluoranthene	mg/kg	10	0.05 - 0.10	10	0.06	0.02	0.05	0.05	0.09	0.111
Fluorene	mg/kg	10	0.05 - 0.10	10	0.06	0.02	0.05	0.05	0.09	0.0212
Indeno(1,2,3-c,d)pyrene	mg/kg	10	0.05 - 0.10	10	0.06	0.02	0.05	0.05	0.09	0.2
Methylnaphthalene, 1-	mg/kg	10	0.03 - 0.06	10	0.04	0.01	0.03	0.03	0.05	0.201
Methylnaphthalene, 2-	mg/kg	10	0.03 - 0.06	10	0.04	*0.01*	0.03	0.03	0.05	0.0202
Naphthalene	mg/kg	10	0.05 - 0.10	10	0.06	0.02	0.05	0.05	0.09	0.0346
Phenanthrene	mg/kg	10	0.05 - 0.10	10	0.05	0.01	0.05	0.05	0.08	0.0419
Pyrene	mg/kg	10	0.05 - 0.10	10	0.06	0.02	0.05	0.05	0.09	0.053
Organics - Volatile Organic Compounds										
Acetone	mg/kg	10	0.50 - 1.60	10	0.7	0.4	0.5	0.5	1.4	360.18
Benzene	mg/kg	10	0.01 - 0.02	10	0.0088	0.0050	0.0068	0.0068	0.0183	1.2
Bromodichloromethane	mg/kg	10	0.05 - 0.16	10	0.07	0.04	0.05	0.05	0.14	14.74
Bromoform	mg/kg	10	0.05 - 0.16	10	0.07	0.04	0.05	0.05	0.14	0.65
Bromomethane	mg/kg	10	0.05 - 0.16	10	0.07	0.04	0.05	0.05	0.14	0.46
Carbon tetrachloride	mg/kg	10	0.05 - 0.16	10	0.07	0.04	0.05	0.05	0.14	1.2
Chlorobenzene	mg/kg	10	0.05 - 0.16	10	0.07	0.04	0.05	0.05	0.14	0.41
Chloroform	mg/kg	10	0.05 - 0.16	10	0.07	0.04	0.05	0.05	0.14	0.94
Dibromochloromethane	mg/kg	10	0.05 - 0.16	10	0.07	0.04	0.05	0.05	0.14	5.67
Dibromoethane, 1,2-	mg/kg	10	0.05 - 0.16	10	0.07	0.04	0.05	0.05	0.14	-
Dichlorobenzene, 1,2-	mg/kg	10	0.05 - 0.16	10	0.07	0.04	0.05	0.05	0.14	0.33
Dichlorobenzene, 1,3-	mg/kg	10	0.05 - 0.16	10	0.07	0.04	0.05	0.05	0.14	1.7
Dichlorobenzene, 1,4-	mg/kg	10	0.05 - 0.16	10	0.07	0.04	0.05	0.05	0.14	0.34
Dichlorodifluoromethane	mg/kg	10	0.05 - 0.16	10	0.07	0.04	0.05	0.05	0.14	22.09
Dichloroethane, 1,1-	mg/kg	10	0.05 - 0.16	10	0.07	0.04	0.05	0.05	0.14	13.89
Dichloroethane, 1,2-	mg/kg	10	0.05 - 0.16	10	0.07	0.04	0.05	0.05	0.14	28.68
Dichloroethylene, 1,1-	mg/kg	10	0.05 - 0.16	10	0.07	0.04	0.05	0.05	0.14	0.031
Dichloroethylene, cis-1,2-	mg/kg	10	0.05 - 0.16	10	0.07	0.04	0.05	0.05	0.14	-
Dichloroethylene, trans-1,2-	mg/kg	10	0.05 - 0.16	10	0.07	0.04	0.05	0.05	0.14	1.05
Dichloromethane	mg/kg	10	0.05 - 0.16	10	0.07	0.04	0.05	0.05	0.14	46.52
Dichloropropane, 1,2-	mg/kg	10	0.05 - 0.16	10	0.07	0.04	0.05	0.05	0.14	21.12
Dichloropropylene, cis+trans-1,3-	mg/kg	10	0.03 - 0.16	10	0.04	0.02	0.03	0.03	0.08	0.0000509
Dichloropropylene, cis-1,3-	mg/kg	10	0.03 - 0.16	10	0.04	0.02	0.03	0.03	0.08	-
Dichloropropylene, trans-1,3-	mg/kg	10	0.04 - 0.13	10	0.054	0.031	0.042	0.042	0.112	1.37
Ethylbenzene	mg/kg	10	0.02 - 0.06	10	0.023	0.014	0.018	0.018	0.049	1.2
Hexane, n-	mg/kg	10	0.05 - 0.16	10	0.07	0.04	0.05	0.05	0.14	0.0396
Methyl ethyl ketone [MEK]	mg/kg	10	0.50 - 1.60	10	0.7	0.4	0.5	0.5	1.4	154.26
Methyl isobutyl ketone [MIBK]	mg/kg	10	0.50 - 1.60	10	0.7	0.4	0.5	0.5	1.4	116.59
Methyl-tert-butyl ether [MTBE]	mg/kg	10	0.05 - 0.16	10	0.07	0.04	0.05	0.05	0.14	-
Styrene	mg/kg	10	0.05 - 0.16	10	0.07	0.04	0.05	0.05	0.14	0.559
Tetrachloroethane, 1,1,1,2-	mg/kg	10	0.05 - 0.16	10	0.07	0.04	0.05	0.05	0.14	-

Appendix D, Table 1

Year 2 Sediment Chemistry Results- Teeswater Exposure [1,2]

Parameter	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th Percentile	Sediment Quality Benchmark
Tetrachloroethane, 1,1,2,2-	mg/kg	10	0.05 - 0.16	10	0.07	0.04	0.05	0.05	0.14	1.4
Tetrachloroethylene	mg/kg	10	0.05 - 0.16	10	0.07	0.04	0.05	0.05	0.14	0.41
Toluene	mg/kg	10	0.08 - 0.25	10	0.10	0.06	0.08	0.08	0.21	1.4
Trichloroethane, 1,1,1-	mg/kg	10	0.05 - 0.16	10	0.07	0.04	0.05	0.05	0.14	0.03
Trichloroethane, 1,1,2-	mg/kg	10	0.05 - 0.16	10	0.07	0.04	0.05	0.05	0.14	1.24
Trichloroethylene	mg/kg	10	0.01 - 0.03	10	0.01	0.01	0.01	0.01	0.03	0.22
Trichlorofluoromethane	mg/kg	10	0.05 - 0.16	10	0.07	0.04	0.05	0.05	0.14	10.12
Vinyl chloride	mg/kg	10	0.02 - 0.06	10	0.03	0.02	0.02	0.02	0.05	4.18
Xylene, m+p-	mg/kg	10	0.03 - 0.09	10	0.03	0.02	0.02	0.02	0.05	0.0252
Xylene, o-	mg/kg	10	0.02 - 0.06	10	0.04	0.02	0.03	0.03	0.08	-
Xylenes, total	mg/kg	10	0.05 - 0.11	10	0.06	0.02	0.05	0.05	0.10	1.3
Organics - Semi-volatile Organic Compounds										
Biphenyl	mg/kg	5	-	5	0.05	0.01	0.05	0.05	0.07	1.22
Chloroaniline, 4-	mg/kg	5	-	5	0.11	0.02	0.10	0.10	0.14	-
3,3-Dichlorobenzidine	mg/kg	5	-	5	0.11	0.02	0.10	0.10	0.14	0.127
2,4-Dinitrotoluene	mg/kg	5	-	5	0.11	0.02	0.10	0.10	0.14	0.0416
2,6-Dinitrotoluene	mg/kg	5	-	5	0.11	0.02	0.10	0.10	0.14	-
1,2,4-Trichlorobenzene	mg/kg	5	-	5	0.05	0.01	0.05	0.05	0.07	2.1
bis(2-Chloroethyl) ether	mg/kg	5	-	5	0.11	0.02	0.10	0.10	0.14	-
bis(2-Chloroisopropyl) ether	mg/kg	5	-	5	0.11	0.02	0.10	0.10	0.14	-
Organics - Hydrocarbons										
F1 (C6-C10)	mg/kg	10	5.00 - 16.00	10	6	4	5	5	13	15
F2-Naphthalene	mg/kg	10	10	10	11	1	10	10	14	-
F3-PAH	mg/kg	10	50	8	64	32	50	52	130	-
F1-BTEX	mg/kg	10	5.00 - 16.00	8	6	4	5	5	13	-
F2 (C10-C16)	mg/kg	10	10	4	11	1	10	10	14	25
F3 (C16-C34)	mg/kg	10	50	4	64	32	50	52	130	43
F4 (C34-C50)	mg/kg	10	50	8	53	7	50	50	67	-
Hydrocarbons, total (C6-C50)	mg/kg	10	72	7	89	55	72	72	203	-
Organics - Dioxins & Furans										
2,3,7,8-TCDD	pg/g	10	0.027 - 0.067	8	0.081	0.028	0.055	0.074	0.126	-
1,2,3,7,8-PeCDD	pg/g	10	0.03 - 0.13	4	0.11	0.03	0.09	0.11	0.17	-
1,2,3,4,7,8-HxCDD	pg/g	10	0.04 - 0.08	6	0.11	0.09	0.05	0.09	0.27	-
1,2,3,6,7,8-HxCDD	pg/g	10	0.041 - 0.079	1	0.238	0.167	0.081	0.280	0.488	-
1,2,3,7,8,9-HxCDD	pg/g	10	0.039 - 0.079	0	0.212	0.125	0.100	0.195	0.428	-
1,2,3,4,6,7,8-HpCDD	pg/g	10	0.065 - 0.120	0	4.872	2.588	1.937	6.005	8.664	-
OCDD	pg/g	10	0.09 - 0.28	0	29.01	16.52	11.98	33.75	53.99	-
Total-TCDD	pg/g	10	0.027 - 0.067	1	0.356	0.255	0.128	0.414	0.824	-
Total-PeCDD	pg/g	10	0.034 - 0.130	0	0.795	0.624	0.394	0.606	1.964	-
Total-HxCDD	pg/g	10	0.041 - 0.079	1	0.807	0.967	0.137	1.465	2.724	-
Total-HpCDD	pg/g	10	0.065 - 0.120	0	8.459	5.480	3.900	11.050	16.425	-

Appendix D, Table 1

Year 2 Sediment Chemistry Results- Teeswater Exposure [1,2]

Parameter	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th Percentile	Sediment Quality Benchmark
2,3,7,8-TCDF	pg/g	10	0.042 - 0.098	2	0.162	0.075	0.068	0.182	0.278	-
1,2,3,7,8-PeCDF	pg/g	10	0.029 - 0.052	3	0.130	0.076	0.062	0.150	0.261	-
2,3,4,7,8-PeCDF	pg/g	10	0.027 - 0.051	0	0.187	0.131	0.082	0.195	0.428	-
1,2,3,4,7,8-HxCDF	pg/g	10	0.023 - 0.057	0	0.138	0.051	0.089	0.140	0.227	-
1,2,3,6,7,8-HxCDF	pg/g	10	0.022 - 0.058	0	0.127	0.075	0.053	0.144	0.261	-
1,2,3,7,8,9-HxCDF	pg/g	10	0.034 - 0.098	9	0.092	0.049	0.046	0.093	0.178	-
2,3,4,6,7,8-HxCDF	pg/g	10	0.022 - 0.063	0	0.150	0.079	0.095	0.145	0.304	-
1,2,3,4,6,7,8-HpCDF	pg/g	10	0.034 - 0.079	0	1.604	0.976	0.580	2.170	3.179	-
1,2,3,4,7,8,9-HpCDF	pg/g	10	0.054 - 0.120	7	0.132	0.061	0.069	0.140	0.238	-
OCDF	pg/g	10	0.05 - 0.17	0	3.39	2.67	1.43	3.60	8.16	-
Total-TCDF	pg/g	10	0.042 - 0.098	0	1.174	1.035	0.393	1.355	3.107	-
Total-PeCDF	pg/g	10	0.029 - 0.052	0	1.641	1.128	0.586	1.945	3.750	-
Total-HxCDF	pg/g	10	0.034 - 0.098	0	1.418	1.102	0.413	1.875	3.256	-
Total-HpCDF	pg/g	10	0.054 - 0.120	0	2.326	2.926	0.504	2.755	7.751	-
Organics - Polychlorinated Biphenyls										
Aroclor 1016	mg/kg	0	0.00 - 0.00	0	#NUM!	#DIV/0!	#NUM!	#NUM!	#NUM!	0.007
Aroclor 1242	mg/kg	10	0.01	10	0.01	0.003	0.01	0.01	0.02	-
Aroclor 1248	mg/kg	10	0.01	10	0.01	0.003	0.01	0.01	0.02	0.03
Aroclor 1254	mg/kg	10	0.01	8	0.01	0.002	0.01	0.01	0.01	0.06
Aroclor 1260	mg/kg	10	0.01	10	0.01	0	0.01	0.01	0.01	0.005
Polychlorinated biphenyls [PCBs], total	mg/kg	10	0.02	10	0.02	0	0.02	0.02	0.02	0.0341
Organochlorine Pesticides										
Aldrin	mg/kg	10	0.0006	10	0.0007	0.0002	0.0006	0.0006	0.0011	0.002
Chlordane, total	mg/kg	10	0.0013	10	0.0016	0.0005	0.0013	0.0013	0.0023	0.0045
DDD, total	mg/kg	10	0.0009 - 0.0013	10	0.0016	0.0005	0.0013	0.0013	0.0023	0.00354
DDE, total	mg/kg	10	0.0013 - 0.0025	10	0.0016	0.0005	0.0013	0.0013	0.0023	0.00142
DDT, total	mg/kg	10	0.0009 - 0.0013	8	0.0018	0.0007	0.0013	0.0018	0.0030	0.00119
Dieldrin	mg/kg	10	0.0006 - 0.0009	10	0.0007	0.0002	0.0006	0.0006	0.0011	0.002
Endosulfan, total	mg/kg	10	0.0009 - 0.0013	10	0.0016	0.0005	0.0013	0.0013	0.0023	0.006
Endrin	mg/kg	10	0.0015 - 0.0030	10	0.0019	0.0006	0.0015	0.0015	0.0028	0.00267
Heptachlor	mg/kg	10	0.0006 - 0.0012	10	0.001	0.000	0.001	0.001	0.001	0.001
Heptachlor epoxide	mg/kg	10	0.0006	10	0.0007	0.0002	0.0006	0.0006	0.0011	0.005
Hexachlorobenzene	mg/kg	10	0.0015	10	0.0019	0.0006	0.0015	0.0015	0.0028	0.02
Hexachlorobutadiene	mg/kg	10	0.0015	10	0.0019	0.0006	0.0015	0.0015	0.0028	0.55
Hexachloroethane	mg/kg	10	0.0015	10	0.0019	0.0006	0.0015	0.0015	0.0028	1.027
Methoxychlor	mg/kg	10	0.0015	10	0.0019	0.0006	0.0015	0.0015	0.0028	0.0187

[1] Cells containing grey highlights indicate exceedances of the SQB. Note that datum is not flagged as an exceedance if the measured concentration was reported by the laboratory as <RDL where the RDL is greater than or equal to the SQB due to measurement uncertainty.

[2] Tier 2 artificial radionuclide analysis not available for TWR_04 or TWR_08.

Appendix D, Table 2

Year 2 Sediment Chemistry Results- Teeswater Reference[1]

Parameter	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th Percentile	Sediment Quality Benchmark
Radionuclides - Tier 1										
Tritium	Bq/kg	5	37	5	37	0	37	37	37	10000000
Carbon-14	Bq/kg	5	740	5	740	0	740	740	740	-
Strontium-90	Bq/kg	5	18.50	5	18.5	0	18.5	18.5	18.5	20000
Iodine-129	Bq/kg	5	370.00	5	370.00	0	370.00	370.00	370.00	1000000
Cesium-137	Bq/kg	5	18.50	3	8.40	8.72	2.47	18.50	18.50	100000
Cobalt-60	Bq/kg	5	18.50	5	18.50	0.00	18.50	18.50	18.50	40000
Ruthenium-106	Bq/kg	5	90.00	5	90.00	0.00	90.00	90.00	90.00	-
Gross alpha	Bq/kg	5	111.00	0	161.04	42.73	112.24	170.00	209.40	-
Gross beta	Bq/kg	5	148.00	0	337.32	41.82	313.00	324.00	396.40	-
Radionuclides - Tier 2 natural										
Uranium-238	Bq/kg	5	3.7	0	10.79	2.13	8.54	12.20	12.86	40000
Uranium-234	Bq/kg	5	3.7	0	10.35	3.43	7.48	10.00	15.20	20000
Uranium-235	Bq/kg	5	3.7	1	1.31	1.22	0.77	1.14	3.24	10000
Potassium-40	Bq/kg	5	75	0	302.11	40.67	265.40	289.00	357.20	-
Thorium-228	Bq/kg	5	3.7	5	3.70	0	3.70	3.70	3.70	-
Thorium-230	Bq/kg	5	3.7	1	13.96	8.73	5.82	16.70	25.66	-
Thorium-232	Bq/kg	5	3.7	2	6.27	3.43	3.70	6.77	11.09	40000
Radium-226	Bq/kg	5	37	1	38.24	5.88	32.24	37.00	44.92	600
Metals										
Aluminum	mg/kg	5	50	0	3013	263	2806	2960	3374	-
Antimony	mg/kg	5	0.1	5	0.1	0	0.1	0.1	0.1	3
Arsenic	mg/kg	5	0.1	0	1	0	1	1	1	5.9
Barium	mg/kg	5	0.5	0	39.3	8.2	31.3	37.6	49.7	-
Beryllium	mg/kg	5	0.1	0	0.1	0.0	0.1	0.1	0.1	-
Bismuth	mg/kg	5	0.2	5	0.2	0.0	0.2	0.2	0.2	65000
Boron	mg/kg	5	5	4	5.10	0.22	5.00	5.00	5.40	-
Cadmium	mg/kg	5	0.02	0	0.14	0.02	0.12	0.14	0.17	0.6
Calcium	mg/kg	5	50	0	116536	14498	105800	115000	136600	-
Chromium	mg/kg	5	0.5	0	7.11	0.46	6.70	7.04	7.72	26
Cobalt	mg/kg	5	0.1	0	1.65	0.17	1.53	1.61	1.88	50
Copper	mg/kg	5	0.5	0	2.89	0.32	2.57	2.79	3.29	16
Iron	mg/kg	5	50	0	5030	319	4672	5240	5294	20000
Lead	mg/kg	5	0.5	0	3.44	0.54	2.91	3.44	4.04	31
Lithium	mg/kg	5	2	0	4.23	0.32	3.86	4.20	4.58	-
Magnesium	mg/kg	5	20	0	33154	5364	26680	35100	38520	-
Manganese	mg/kg	5	1	0	266	68	203	259	357	460
Mercury	mg/kg	5	0.005	0	0.03	0.01	0.02	0.03	0.04	0.17
Molybdenum	mg/kg	5	0.1	0	0.16	0.03	0.14	0.15	0.21	8.3
Nickel	mg/kg	5	0.5	0	4.19	0.60	3.73	4.10	5.03	16
Phosphorus	mg/kg	5	50	0	370	61	305	374	436	600

Appendix D, Table 2

Year 2 Sediment Chemistry Results- Teeswater Reference[1]

Parameter	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th Percentile	Sediment Quality Benchmark
Potassium	mg/kg	5	100	0	359	29	340	350	400	-
Rhodium	mg/kg	5	0.1	5	0.10	0.00	0.10	0.10	0.10	600
Ruthenium	mg/kg	5	0.1	5	0.10	0.00	0.10	0.10	0.10	390
Samarium	mg/kg	5	0.1	0	0.99	0.04	0.95	0.98	1.04	2500
Selenium	mg/kg	5	0.2	0	0.45	0.09	0.35	0.48	0.56	0.9
Silver	mg/kg	5	0.1	5	0.10	0.00	0.10	0.10	0.10	0.5
Sodium	mg/kg	5	50	0	169	18	149	168	191	-
Strontium	mg/kg	5	0.5	0	130	29	109	115	165	-
Sulfur	mg/kg	5	1000	5	1000	0	1000	1000	1000	-
Thallium	mg/kg	5	0.05	2	0.06	0.01	0.05	0.06	0.07	-
Tin	mg/kg	5	2	5	2.00	0.00	2.00	2.00	2.00	-
Titanium	mg/kg	5	1	0	143	17	123	141	162	-
Tungsten	mg/kg	5	0.5	5	0.50	0.00	0.50	0.50	0.50	960
Uranium	mg/kg	5	0.05	0	0.49	0.02	0.47	0.48	0.51	32
Vanadium	mg/kg	5	0.2	0	8.73	0.62	8.07	8.75	9.40	27
Zinc	mg/kg	5	2	0	22	2	19	22	25	120
Zirconium	mg/kg	5	1	5	1.00	0.00	1.00	1.00	1.00	-
Nutrients & General Characterization										
% Moisture	%	5	0.25	0	44	5	39	45	50	-
Carbon, total organic [TOC]	%	5	0.05 - 1.30	0	4.95	1.04	3.98	4.95	6.33	1
Ammonia, total (as N)	mg/kg	0	0.00 - 0.00	0	0	0	0	0	0	-
Nitrate and Nitrite as N	mg/kg	5	1.4	5	1.40	0	1.40	1.40	1.40	-
Nitrate-N	mg/kg	5	1	3	1.00	0	1.00	1.00	1.00	-
Nitrite-N	%	5	1	5	1.00	0	1.00	1.00	1.00	-
Kjeldahl nitrogen, total [TKN]	µg/g	5	400	0	2,000	400	1,600	2,100	2,400	500 µg/g
Organics - Polycyclic Aromatic Hydrocarbons										
Acenaphthene	mg/kg	5	0.05 - 0.075	5	0.05	0.01	0.05	0.05	0.07	0.00671
Acenaphthylene	mg/kg	5	0.05 - 0.075	5	0.05	0.01	0.05	0.05	0.07	0.00587
Anthracene	mg/kg	5	0.05 - 0.075	5	0.05	0.01	0.05	0.05	0.07	0.0469
Benz(a)anthracene	mg/kg	5	0.05 - 0.075	4	0.06	0.01	0.05	0.05	0.07	0.0317
Benzo(a)pyrene	mg/kg	5	0.05 - 0.075	4	0.06	0.01	0.05	0.05	0.07	0.0319
Benzo(b+j)fluoranthene	mg/kg	5	0.05 - 0.075	5	0.05	0.01	0.05	0.05	0.07	-
Benzo(g,h,i)perylene	mg/kg	5	0.05 - 0.075	5	0.05	0.01	0.05	0.05	0.07	0.17
Benzo(k)fluoranthene	mg/kg	5	0.05 - 0.075	5	0.05	0.01	0.05	0.05	0.07	0.24
Chrysene	mg/kg	5	0.05 - 0.075	4	0.06	0.01	0.05	0.05	0.07	0.0571
Dibenz(a,h)anthracene	mg/kg	5	0.05 - 0.075	5	0.05	0.01	0.05	0.05	0.07	0.00622
Fluoranthene	mg/kg	5	0.05 - 0.075	4	0.06	0.03	0.05	0.05	0.112	0.111
Fluorene	mg/kg	5	0.05 - 0.075	5	0.05	0.01	0.05	0.05	0.07	0.0212
Indeno(1,2,3-c,d)pyrene	mg/kg	5	0.05 - 0.075	5	0.05	0.01	0.05	0.05	0.07	0.2
Methylnaphthalene, 1-	mg/kg	5	0.03 - 0.075	5	0.03	0.01	0.03	0.03	0.04	0.201

Appendix D, Table 2

Year 2 Sediment Chemistry Results- Teeswater Reference[1]

Parameter	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th Percentile	Sediment Quality Benchmark
Methylnaphthalene, 2-	mg/kg	5	0.03 - 0.045	5	0.03	0.01	0.03	0.03	0.04	0.0202
Naphthalene	mg/kg	5	0.05 - 0.075	5	0.05	0.01	0.05	0.05	0.07	0.0346
Phenanthrene	mg/kg	5	0.05 - 0.075	4	0.06	0.01	0.05	0.05	0.07	0.0419
Pyrene	mg/kg	5	0.05 - 0.075	4	0.06	0.02	0.05	0.05	0.10	0.053
Organics - Volatile Organic Compounds										
Acetone	mg/kg	5	0.5	5	0.57	0.22	0.50	0.50	0.90	360.18
Benzene	mg/kg	5	0.0068	5	0.01	0.00	0.01	0.01	0.01	1.2
Bromodichloromethane	mg/kg	5	0.05	5	0.06	0.02	0.05	0.05	0.09	14.74
Bromoform	mg/kg	5	0.05	5	0.06	0.02	0.05	0.05	0.09	0.65
Bromomethane	mg/kg	5	0.05	5	0.06	0.02	0.05	0.05	0.09	0.46
Carbon tetrachloride	mg/kg	5	0.05	5	0.06	0.02	0.05	0.05	0.09	1.2
Chlorobenzene	mg/kg	5	0.05	5	0.06	0.02	0.05	0.05	0.09	0.41
Chloroform	mg/kg	5	0.05	5	0.06	0.02	0.05	0.05	0.09	0.94
Dibromochloromethane	mg/kg	5	0.05	5	0.06	0.02	0.05	0.05	0.09	5.67
Dibromoethane, 1,2-	mg/kg	5	0.05	5	0.06	0.02	0.05	0.05	0.09	-
Dichlorobenzene, 1,2-	mg/kg	5	0.05	5	0.06	0.02	0.05	0.05	0.09	0.33
Dichlorobenzene, 1,3-	mg/kg	5	0.05	5	0.06	0.02	0.05	0.05	0.09	1.7
Dichlorobenzene, 1,4-	mg/kg	5	0.05	5	0.06	0.02	0.05	0.05	0.09	0.34
Dichlorodifluoromethane	mg/kg	5	0.05	5	0.06	0.02	0.05	0.05	0.09	22.09
Dichloroethane, 1,1-	mg/kg	5	0.05	5	0.06	0.02	0.05	0.05	0.09	13.89
Dichloroethane, 1,2-	mg/kg	5	0.05	5	0.06	0.02	0.05	0.05	0.09	28.68
Dichloroethylene, 1,1-	mg/kg	5	0.05 - 0.10	5	0.06	0.02	0.05	0.05	0.09	0.031
Dichloroethylene, cis-1,2-	mg/kg	5	0.05	5	0.06	0.02	0.05	0.05	0.09	-
Dichloroethylene, trans-1,2-	mg/kg	5	0.05	5	0.06	0.02	0.05	0.05	0.09	1.05
Dichloromethane	mg/kg	5	0.05	5	0.06	0.02	0.05	0.05	0.09	46.52
Dichloropropane, 1,2-	mg/kg	5	0.05	5	0.06	0.02	0.05	0.05	0.09	21.12
Dichloropropylene, cis+trans-1,3-	mg/kg	5	0.042 - 0.088	5	0.059	0.171	0.030	0.030	0.348	0.0000509
Dichloropropylene, cis-1,3-	mg/kg	5	0.03	5	0.03	0.01	0.03	0.03	0.06	-
Dichloropropylene, trans-1,3-	mg/kg	5	0.048	5	0.05	0.02	0.04	0.04	0.08	1.37
Ethylbenzene	mg/kg	5	0.018	5	0.02	0.01	0.02	0.02	0.03	1.2
Hexane, n-	mg/kg	5	0.05 - 0.10	5	0.06	0.02	0.05	0.05	0.09	0.0396
Methyl ethyl ketone [MEK]	mg/kg	5	0.5	5	0.57	0.22	0.50	0.50	0.90	154.26
Methyl isobutyl ketone [MIBK]	mg/kg	5	0.5	5	0.57	0.22	0.50	0.50	0.90	116.59
Methyl-tert-butyl ether [MTBE]	mg/kg	5	0.05	5	0.06	0.02	0.05	0.05	0.09	-
Styrene	mg/kg	5	0.05	5	0.06	0.02	0.05	0.05	0.09	0.559
Tetrachloroethane, 1,1,1,2-	mg/kg	5	0.05	5	0.06	0.02	0.05	0.05	0.09	-
Tetrachloroethane, 1,1,2,2-	mg/kg	5	0.05	5	0.06	0.02	0.05	0.05	0.09	1.4
Tetrachloroethylene	mg/kg	5	0.05	5	0.06	0.02	0.05	0.05	0.09	0.41
Toluene	mg/kg	5	0.08	5	0.09	0.04	0.08	0.08	0.15	1.4
Trichloroethane, 1,1,1-	mg/kg	5	0.05 - 0.10	5	0.06	0.02	0.05	0.05	0.09	0.03
Trichloroethane, 1,1,2-	mg/kg	5	0.05	5	0.06	0.02	0.05	0.05	0.09	1.24

Appendix D, Table 2

Year 2 Sediment Chemistry Results- Teeswater Reference[1]

Parameter	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th Percentile	Sediment Quality Benchmark
Trichloroethylene	mg/kg	5	0.01	5	0.01	0.00	0.01	0.01	0.02	0.22
Trichlorofluoromethane	mg/kg	5	0.05	5	0.06	0.02	0.05	0.05	0.09	10.12
Vinyl chloride	mg/kg	5	0.02	5	0.02	0.01	0.02	0.02	0.04	4.18
Xylene, m+p-	mg/kg	5	0.03 - 0.06	5	0.02	0.01	0.02	0.02	0.04	0.0252
Xylene, o-	mg/kg	5	0.03	5	0.03	0.01	0.03	0.03	0.06	-
Xylenes, total	mg/kg	5	0.05	5	0.05	0.01	0.05	0.05	0.07	1.3
Organics - Semi-volatile Organic Compounds										
Biphenyl	mg/kg	5	0.05	5	0.05	0.01	0.05	0.05	0.07	1.22
Chloroaniline, 4-	mg/kg	5	0.1	5	0.11	0.02	0.10	0.10	0.14	-
3,3-Dichlorobenzidine	mg/kg	5	0.10 - 0.15	5	0.11	0.02	0.10	0.10	0.14	0.127
2,4-Dinitrotoluene	mg/kg	5	0.10 - 0.15	5	0.11	0.02	0.10	0.10	0.14	0.0416
2,6-Dinitrotoluene	mg/kg	5	0.1	5	0.11	0.02	0.10	0.10	0.14	-
1,2,4-Trichlorobenzene	mg/kg	5	0.05	5	0.05	0.01	0.05	0.05	0.07	2.1
bis(2-Chloroethyl) ether	mg/kg	5	0.1	5	0.11	0.02	0.10	0.10	0.14	-
bis(2-Chloroisopropyl) ether	mg/kg	5	0.1	5	0.11	0.02	0.10	0.10	0.14	-
Organics - Hydrocarbons										
F1 (C6-C10)	mg/kg	5	5	5	5.7	2.2	5.0	5.0	9.0	15
F2-Naphthalene	mg/kg	5	5	5	5.7	2.2	5.0	5.0	9.0	-
F3-PAH	mg/kg	5	10	5	10.0	0	10.0	10.0	10.0	-
F1-BTEX	mg/kg	5	10	5	10.0	0	10.0	10.0	10.0	-
F2 (C10-C16)	mg/kg	5	10	4	10.0	0.0	10.0	10.0	10.0	25
F3 (C16-C34)	mg/kg	5	50	4	51.9	4.5	50.0	50.0	58.0	43
F4 (C34-C50)	mg/kg	5	50	5	50.0	0	50.0	50.0	50.0	-
Hydrocarbons, total (C6-C50)	mg/kg	5	72	5	72.0	0	72.0	72.0	72.0	-
Organics - Dioxins & Furans										
2,3,7,8-TCDD	mg/kg	5	0.05 - 0.07	4	0.07	0.03	0.05	0.07	0.11	-
1,2,3,7,8-PeCDD	mg/kg	5	0.03 - 0.07	2	0.07	0.02	0.06	0.08	0.09	-
1,2,3,4,7,8-HxCDD	mg/kg	5	0.04 - 0.05	2	0.08	0.03	0.06	0.07	0.12	-
1,2,3,6,7,8-HxCDD	mg/kg	5	0.04 - 0.06	0	0.17	0.08	0.12	0.13	0.28	-
1,2,3,7,8,9-HxCDD	mg/kg	5	0.04 - 0.06	0	0.17	0.06	0.12	0.16	0.26	-
1,2,3,4,6,7,8-HpCDD	mg/kg	5	0.05 - 0.08	0	2.46	0.64	1.84	2.71	3.20	-
OCDD	mg/kg	5	0.06 - 0.15	0	16.536	7.273	11.260	15.500	27.200	-
Total-TCDD	mg/kg	5	0.05 - 0.07	0	0.26	0.24	0.11	0.28	0.64	-
Total-PeCDD	mg/kg	5	0.03 - 0.07	0	0.31	0.27	0.12	0.32	0.73	-
Total-HxCDD	mg/kg	5	0.04 - 0.06	0	1.124	0.458	0.795	1.000	1.760	-
Total-HpCDD	mg/kg	5	0.05 - 0.08	0	3.130	1.692	1.842	3.270	5.448	-
2,3,7,8-TCDF	mg/kg	5	0.04 - 0.12	2	0.102	0.037	0.070	0.110	0.152	-
1,2,3,7,8-PeCDF	mg/kg	5	0.03 - 0.06	0	0.14	0.06	0.10	0.14	0.24	-
2,3,4,7,8-PeCDF	mg/kg	5	0.02 - 0.04	0	0.159	0.048	0.116	0.149	0.225	-
1,2,3,4,7,8-HxCDF	mg/kg	5	0.02 - 0.03	0	0.181	0.454	0.093	0.130	0.932	-
1,2,3,6,7,8-HxCDF	mg/kg	5	0.02 - 0.03	0	0.123	0.058	0.088	0.113	0.211	-

Appendix D, Table 2

Year 2 Sediment Chemistry Results- Teeswater Reference[1]

Parameter	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th Percentile	Sediment Quality Benchmark
1,2,3,7,8,9-HxCDF	mg/kg	5	0.02 - 0.05	4	0.039	0.010	0.029	0.042	0.051	-
2,3,4,6,7,8-HxCDF	mg/kg	5	0.01 - 0.03	0	0.101	0.037	0.063	0.099	0.148	-
1,2,3,4,6,7,8-HpCDF	mg/kg	5	0.02 - 0.05	0	1.109	1.126	0.681	0.913	2.894	-
1,2,3,4,7,8,9-HpCDF	mg/kg	5	0.03 - 0.05	3	0.075	0.030	0.055	0.066	0.119	-
OCDF	mg/kg	5	0.03 - 0.10	0	2.193	1.404	1.440	1.940	4.334	-
Total-TCDF	mg/kg	5	0.04 - 0.12	1	0.385	0.304	0.159	0.392	0.852	-
Total-PeCDF	mg/kg	5	0.03 - 0.06	0	0.741	0.201	0.557	0.732	1.008	-
Total-HxCDF	mg/kg	5	0.02 - 0.05	0	1.118	0.410	0.776	1.090	1.700	-
Total-HpCDF	mg/kg	5	0.03 - 0.05	0	1.467	1.083	0.739	1.490	3.150	-
Organics - Polychlorinated Biphenyls										
Aroclor 1016	mg/kg	0	0.01 - 0.00	0	0	0	0	0	0	0.007
Aroclor 1242	mg/kg	5	0.01	5	0.010	0	0.010	0.010	0.010	-
Aroclor 1248	mg/kg	5	0.01	5	0.010	0	0.010	0.010	0.010	0.03
Aroclor 1254	mg/kg	5	0.01	5	0.010	0	0.010	0.010	0.010	0.06
Aroclor 1260	mg/kg	5	0.01	5	0.01	0	0.01	0.01	0.01	0.005
Polychlorinated biphenyls [PCBs], total	mg/kg	5	0.02	5	0.02	0	0.02	0.02	0.02	0.0341
Organochlorine Pesticides										
Aldrin	mg/kg	5	0.001	5	0.0010	0	0.0010	0.0010	0.0010	0.002
Chlordane, total	mg/kg	5	0.00 - 0.00	5	0.0020	0.0003	0.0016	0.0021	0.0021	0.0045
DDD, total	mg/kg	5	0.0021	5	0.0021	0	0.0021	0.0021	0.0021	0.00354
DDE, total	mg/kg	5	0.0021	5	0.0021	0	0.0021	0.0021	0.0021	0.00142
DDT, total	mg/kg	5	0.0048	5	0.0042	0	0.0042	0.0042	0.0042	0.00119
Dieldrin	mg/kg	5	0.001	5	0.0010	0	0.0010	0.0010	0.0010	0.002
Endosulfan, total	mg/kg	5	0.0021	5	0.0021	0	0.0021	0.0021	0.0021	0.006
Endrin	mg/kg	5	0.005	5	0.005	0	0.005	0.005	0.005	0.00267
Heptachlor	mg/kg	5	0.001	5	0.0010	0	0.0010	0.0010	0.0010	0.0006
Heptachlor epoxide	mg/kg	5	0.001	5	0.0010	0	0.0010	0.0010	0.0010	0.005
Hexachlorobenzene	mg/kg	5	0.0025	5	0.0025	0	0.0025	0.0025	0.0025	0.02
Hexachlorobutadiene	mg/kg	5	0.0025	5	0.0025	0	0.0025	0.0025	0.0025	0.55
Hexachloroethane	mg/kg	5	0.0025	5	0.0025	0	0.0025	0.0025	0.0025	1.027
Methoxychlor	mg/kg	5	0.005	5	0.01	0	0.01	0.01	0.01	0.0187

[1] Cells containing grey highlights indicate exceedances of the SQB. Note that datum is not flagged as an exceedance if the measured concentration was reported by the laboratory as <RDL where the RDL is greater than or equal to the SQB due to measurement uncertainty.

Appendix D, Table 3

Year 2 Sediment Chemistry Results- Beatty Saugeen Reference [1,2]

Parameter	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Sediment Quality Benchmark
Radionuclides – Tier 1										
Tritium	Bq/kg	5	37	5	37	0	37	37	37	10000000
Carbon-14	Bq/kg	5	740	5	740	0	740	740	740	-
Strontium-90	Bq/kg	5	18.5	5	18.5	0	18.5	18.5	18.5	20000
Iodine-129	Bq/kg	5	370	5	370	0	370	370	370	1000000
Cesium-137	Bq/kg	5	18.5	2	5.4	8.8	1.9	3.5	18.5	100000
Cobalt-60	Bq/kg	5	18.5	5	18.5	0.0	18.5	18.5	18.5	40000
Ruthenium-106	Bq/kg	5	90	5	90	0	90	90	90	-
Gross alpha	Bq/kg	5	111	2	118	34	100	111	167	-
Gross beta	Bq/kg	5	148	0	305	62	230	311	369	-
Radionuclides - Tier 2 natural										
Uranium-238	Bq/kg	5	3.7	0	8.8	2.7	6.7	8.7	12.6	40000
Uranium-234	Bq/kg	5	3.7	0	8.1	1.5	6.7	8.4	10.0	20000
Uranium-235	Bq/kg	5	3.7	3	2.24	1.44	0.92	3.70	3.70	10000
Potassium-40	Bq/kg	5	75	0	297	44	263	293	358	-
Thorium-228	Bq/kg	5	3.7	5	3.70	0	3.70	3.70	3.70	-
Thorium-230	Bq/kg	5	3.7	4	5.51	10.51	3.70	3.70	22.50	-
Thorium-232	Bq/kg	5	3.7	0	17.5	6.8	12.2	14.8	26.2	40000
Radium-226	Bq/kg	5	37	0	36.0	7.1	30.3	33.6	46.0	600
Metals										
Aluminum	mg/kg	5	50	0	2986	1232	1992	3200	4738	-
Antimony	mg/kg	5	0.1	5	0.10	0	0.10	0.10	0.10	3
Arsenic	mg/kg	5	0.1	0	1.9	0.6	1.3	1.8	2.8	5.9
Barium	mg/kg	5	0.5	0	30.3	10.7	21.5	28.8	44.9	-
Beryllium	mg/kg	5	0.1	1	0.14	0.04	0.10	0.13	0.20	-
Bismuth	mg/kg	5	0.2	5	0.20	0	0.20	0.20	0.20	65000
Boron	mg/kg	5	5	2	6.28	1.93	5.00	6.20	9.06	-
Cadmium	mg/kg	5	0.02	0	0.20	0.08	0.13	0.20	0.32	0.6
Calcium	mg/kg	5	50	0	174846	46707	124400	188000	232800	-
Chromium	mg/kg	5	0.5	0	6.3	1.8	4.7	6.8	8.6	26
Cobalt	mg/kg	5	0.1	0	2.1	0.6	1.6	2.1	2.8	50
Copper	mg/kg	5	0.5	0	4.4	2.5	2.5	4.5	7.6	16
Iron	mg/kg	5	50	0	7222	2192	5260	7200	10266	20000
Lead	mg/kg	5	0.5	0	3.9	1.4	2.5	3.8	5.7	31
Lithium	mg/kg	5	2	0	6	1	4	6	7	-
Magnesium	mg/kg	5	20	0	38000	5527	31420	38600	44020	-
Manganese	mg/kg	5	1	0	594	204	399	610	854	460
Mercury	mg/kg	5	0.005	0	0.014	0.008	0.009	0.014	0.025	0.17
Molybdenum	mg/kg	5	0.1	2	0.13	0.04	0.10	0.14	0.18	8.3

Appendix D, Table 3

Year 2 Sediment Chemistry Results- Beatty Saugeen Reference [1,2]

Parameter	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Sediment Quality Benchmark
Nickel	mg/kg	5	0.5	0	3.9	0.9	3.0	4.0	5.0	16
Phosphorus	mg/kg	5	50	0	352	123	257	311	506	600
Potassium	mg/kg	5	100	0	498	210	338	490	806	-
Rhodium	mg/kg	5	0.1	5	0.10	0	0.10	0.10	0.10	600
Ruthenium	mg/kg	5	0.1	5	0.10	0	0.10	0.10	0.10	390
Samarium	mg/kg	5	0.1	0	1.4	0.5	1.0	1.3	2.0	2500
Selenium	mg/kg	5	0.2	2	0.29	0.15	0.20	0.25	0.51	0.9
Silver	mg/kg	5	0.1	5	0.10	0	0.10	0.10	0.10	0.5
Sodium	mg/kg	5	50	0	149	15	132	158	162	-
Strontium	mg/kg	5	0.5	0	353.9	120.4	234.2	358.0	505.6	-
Sulfur	mg/kg	5	1000	0	2231	805	1560	2000	3200	-
Thallium	mg/kg	5	0.05	4	0.05	0.01	0.05	0.05	0.06	-
Tin	mg/kg	5	2	5	2.00	0	2.00	2.00	2.00	-
Titanium	mg/kg	5	1	0	85	30	57	88	120	-
Tungsten	mg/kg	5	0.5	5	0.50	0	0.50	0.50	0.50	960
Uranium	mg/kg	5	0.05	0	0.28	0.04	0.24	0.29	0.32	32
Vanadium	mg/kg	5	0.2	0	8.1	2.4	6.0	8.3	11.3	27
Zinc	mg/kg	5	2	0	22	8	16	22	33	120
Zirconium	mg/kg	5	1	5	1.00	0	1.00	1.00	1.00	-
Nutrients & General Characterization										
% Moisture	%	5	0.1	0	39.8	7.3	33.3	41.1	49.4	-
Carbon, total organic [TOC]	%	5	0.05	0	4.71	0.62	4.00	4.76	5.43	1
Ammonia, total (as N)	mg/kg	5	10	0	76.32168	37.80608	48.4	75	132.4	-
Nitrate and Nitrite as N	mg/kg	5	10	0	76.32	37.81	48.40	75.00	132.40	-
Nitrate-N	mg/kg	5	0.05	0	0.25	0.11	0.17	0.20	0.40	-
Nitrite-N	%	5	0.01	5	0.01	0.004	0.01	0.01	0.02	-
Kjeldahl nitrogen, total [TKN]	µg/g	5	200	0	1,000	600	600	1,000	1,900	500 µg/g
Organics - Polycyclic Aromatic Hydrocarbons										
Acenaphthene	mg/kg	5	0.050 - 0.075	5	0.054	0.011	0.050	0.050	0.070	0.00671
Acenaphthylene	mg/kg	5	0.050 - 0.075	5	0.054	0.011	0.050	0.050	0.070	0.00587
Anthracene	mg/kg	5	0.050 - 0.075	5	0.054	0.011	0.050	0.050	0.070	0.0469
Benz(a)anthracene	mg/kg	5	0.050 - 0.075	5	0.054	0.011	0.050	0.050	0.070	0.0317
Benzo(a)pyrene	mg/kg	5	0.050 - 0.075	5	0.054	0.011	0.050	0.050	0.070	0.0319
Benzo(b+j)fluoranthene	mg/kg	5	0.050 - 0.075	5	0.054	0.011	0.050	0.050	0.070	-
Benzo(g,h,i)perylene	mg/kg	5	0.050 - 0.075	5	0.054	0.011	0.050	0.050	0.070	0.17
Benzo(k)fluoranthene	mg/kg	5	0.050 - 0.075	5	0.054	0.011	0.050	0.050	0.070	0.24
Chrysene	mg/kg	5	0.050 - 0.075	5	0.054	0.011	0.050	0.050	0.070	0.0571

Appendix D, Table 3

Year 2 Sediment Chemistry Results- Beatty Saugeen Reference [1,2]

Parameter	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Sediment Quality Benchmark
Dibenz(a,h)anthracene	mg/kg	5	0.050 - 0.075	5	0.054	0.011	0.050	0.050	0.070	0.00622
Fluoranthene	mg/kg	5	0.050 - 0.075	5	0.054	0.011	0.050	0.050	0.070	0.111
Fluorene	mg/kg	5	0.050 - 0.075	5	0.054	0.011	0.050	0.050	0.070	0.0212
Indeno(1,2,3-c,d)pyrene	mg/kg	5	0.050 - 0.075	5	0.054	0.011	0.050	0.050	0.070	0.2
Methylnaphthalene, 1-	mg/kg	5	0.03 - 0.45	5	0.03	0.01	0.03	0.03	0.04	0.201
Methylnaphthalene, 2-	mg/kg	5	0.03 - 0.45	5	0.03	0.01	0.03	0.03	0.04	0.0202
Naphthalene	mg/kg	5	0.05 - 0.75	5	0.05	0.01	0.05	0.05	0.07	0.0346
Phenanthrene	mg/kg	5	0.05 - 0.75	5	0.05	0.01	0.05	0.05	0.07	0.0419
Pyrene	mg/kg	5	0.05 - 0.75	5	0.05	0.01	0.05	0.05	0.07	0.053
Organics - Volatile Organic Compounds										
Acetone	mg/kg	5	0.5	5	0.66	0.33	0.50	0.50	1.15	360.18
Benzene	mg/kg	5	0.005	5	0.01	0.00	0.01	0.01	0.01	1.2
Bromodichloromethane	mg/kg	5	0.05	5	0.07	0.03	0.05	0.05	0.12	14.74
Bromoform	mg/kg	5	0.05	5	0.07	0.03	0.05	0.05	0.12	0.65
Bromomethane	mg/kg	5	0.05	5	0.07	0.03	0.05	0.05	0.12	0.46
Carbon tetrachloride	mg/kg	5	0.05	5	0.07	0.03	0.05	0.05	0.12	1.2
Chlorobenzene	mg/kg	5	0.05	5	0.07	0.03	0.05	0.05	0.12	0.41
Chloroform	mg/kg	5	0.05	5	0.07	0.03	0.05	0.05	0.12	0.94
Dibromochloromethane	mg/kg	5	0.05	5	0.07	0.03	0.05	0.05	0.12	5.67
Dibromoethane, 1,2-	mg/kg	5	0.05	5	0.07	0.03	0.05	0.05	0.12	-
Dichlorobenzene, 1,2-	mg/kg	5	0.05	5	0.07	0.03	0.05	0.05	0.12	0.33
Dichlorobenzene, 1,3-	mg/kg	5	0.05	5	0.07	0.03	0.05	0.05	0.12	1.7
Dichlorobenzene, 1,4-	mg/kg	5	0.05	5	0.07	0.03	0.05	0.05	0.12	0.34
Dichlorodifluoromethane	mg/kg	5	0.05	5	0.07	0.03	0.05	0.05	0.12	22.09
Dichloroethane, 1,1-	mg/kg	5	0.05	5	0.07	0.03	0.05	0.05	0.12	13.89
Dichloroethane, 1,2-	mg/kg	5	0.05	5	0.07	0.03	0.05	0.05	0.12	28.68
Dichloroethylene, 1,1-	mg/kg	5	0.05 - 0.12	5	0.07	0.03	0.05	0.05	0.12	0.031
Dichloroethylene, cis-1,2-	mg/kg	5	0.05	5	0.07	0.03	0.05	0.05	0.12	-
Dichloroethylene, trans-1,2-	mg/kg	5	0.05	5	0.07	0.03	0.05	0.05	0.12	1.05
Dichloromethane	mg/kg	5	0.045	5	0.06	0.03	0.05	0.05	0.10	46.52
Dichloropropane, 1,2-	mg/kg	5	0.05	5	0.07	0.03	0.05	0.05	0.12	21.12
Dichloropropylene, cis+trans-1,3-	mg/kg	5	0.05 - 0.11	5	0.06	0.02	0.05	0.05	0.10	0.0000509
Dichloropropylene, cis-1,3-	mg/kg	5	0.03	5	0.04	0.02	0.03	0.03	0.07	-
Dichloropropylene, trans-1,3-	mg/kg	5	0.03	5	0.04	0.02	0.03	0.03	0.07	1.37
Ethylbenzene	mg/kg	5	0.015	5	0.02	0.01	0.02	0.02	0.03	1.2
Hexane, n-	mg/kg	5	0.05 - 0.12	5	0.07	0.03	0.05	0.05	0.12	0.0396
Methyl ethyl ketone [MEK]	mg/kg	5	0.5	5	0.66	0.33	0.50	0.50	1.15	154.26
Methyl isobutyl ketone [MIBK]	mg/kg	5	0.5	5	0.66	0.33	0.50	0.50	1.15	116.59
Methyl-tert-butyl ether [MTBE]	mg/kg	5	0.04	5	0.05	0.03	0.04	0.04	0.09	-

Appendix D, Table 3

Year 2 Sediment Chemistry Results- Beatty Saugeen Reference [1,2]

Parameter	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Sediment Quality Benchmark
Styrene	mg/kg	5	0.05	5	0.07	0.03	0.05	0.05	0.12	0.559
Tetrachloroethane, 1,1,1,2-	mg/kg	5	0.05	5	0.07	0.03	0.05	0.05	0.12	-
Tetrachloroethane, 1,1,2,2-	mg/kg	5	0.05	5	0.07	0.03	0.05	0.05	0.12	1.4
Tetrachloroethylene	mg/kg	5	0.05	5	0.07	0.03	0.05	0.05	0.12	0.41
Toluene	mg/kg	5	0.05	5	0.07	0.03	0.05	0.05	0.12	1.4
Trichloroethane, 1,1,1-	mg/kg	5	0.05 - 0.12	5	0.07	0.03	0.05	0.05	0.12	0.03
Trichloroethane, 1,1,2-	mg/kg	5	0.05	5	0.07	0.03	0.05	0.05	0.12	1.24
Trichloroethylene	mg/kg	5	0.01	5	0.01	0.01	0.01	0.01	0.02	0.22
Trichlorofluoromethane	mg/kg	5	0.05	5	0.07	0.03	0.05	0.05	0.12	10.12
Vinyl chloride	mg/kg	5	0.02	5	0.03	0.01	0.02	0.02	0.05	4.18
Xylene, m+p-	mg/kg	5	0.03 - 0.07	5	0.04	0.02	0.03	0.03	0.07	0.0252
Xylene, o-	mg/kg	5	0.03	5	0.04	0.02	0.03	0.03	0.07	-
Xylenes, total	mg/kg	5	0.05	5	0.06	0.02	0.05	0.05	0.10	1.3
Organics - Semi-volatile Organic Compounds										
Biphenyl	mg/kg	5	0.05	5	0.05	0.01	0.05	0.05	0.07	1.22
Chloroaniline, 4-	mg/kg	5	0.1	5	0.11	0.02	0.10	0.10	0.14	-
3,3-Dichlorobenzidine	mg/kg	5	0.10 - 0.15	5	0.11	0.02	0.10	0.10	0.14	0.127
2,4-Dinitrotoluene	mg/kg	5	0.10 - 0.15	5	0.11	0.02	0.10	0.10	0.14	0.0416
2,6-Dinitrotoluene	mg/kg	5	0.1	5	0.11	0.02	0.10	0.10	0.14	-
1,2,4-Trichlorobenzene	mg/kg	5	0.05	5	0.05	0.01	0.05	0.05	0.07	2.1
bis(2-Chloroethyl) ether	mg/kg	5	0.1	5	0.11	0.02	0.10	0.10	0.14	-
bis(2-Chloroisopropyl) ether	mg/kg	5	0.1	5	0.11	0.02	0.10	0.10	0.14	-
Organics - Hydrocarbons										
F1 (C6-C10)	mg/kg	5	5	5	6.6	3.3	5.0	5.0	11.5	15
F2-Naphthalene	mg/kg	5	25	5	25	0	25	25	25	-
F3-PAH	mg/kg	5	50	5	50	0	50	50	50	-
F1-BTEX	mg/kg	5	5	5	7	3	5	5	12	-
F2 (C10-C16)	mg/kg	5	10	5	10	1	10	10	12	25
F3 (C16-C34)	mg/kg	5	50	5	50	0	50	50	50	43
F4 (C34-C50)	mg/kg	5	50	5	50	0	50	50	50	-
Hydrocarbons, total (C6-C50)	mg/kg	5	80	5	80	0	80	80	80	-
Organics - Dioxins & Furans										
2,3,7,8-TCDD	mg/kg	5	0.027 - 0.067	2	0.122	0.054	0.082	0.110	0.201	-
1,2,3,7,8-PeCDD	mg/kg	5	0.03 - 0.06	2	0.07	0.05	0.04	0.06	0.15	-
1,2,3,4,7,8-HxCDD	mg/kg	5	0.03 - 0.04	1	0.07	0.05	0.04	0.05	0.14	-
1,2,3,6,7,8-HxCDD	mg/kg	5	0.028 - 0.039	0	0.160	0.045	0.122	0.144	0.222	-
1,2,3,7,8,9-HxCDD	mg/kg	5	0.028 - 0.040	0	0.151	0.079	0.088	0.167	0.254	-
1,2,3,4,6,7,8-HpCDD	mg/kg	5	0.047 - 0.056	0	3.144	0.933	2.214	3.720	4.070	-

Appendix D, Table 3

Year 2 Sediment Chemistry Results- Beatty Saugeen Reference [1,2]

Parameter	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Sediment Quality Benchmark
OCDD	mg/kg	5	0.08 - 0.11	0	21.40	4.54	16.42	23.00	26.58	-
Total-TCDD	mg/kg	5	0.04 - 0.10	1	0.209	0.155	0.100	0.190	0.449	-
Total-PeCDD	mg/kg	5	0.03 - 0.06	1	0.391	0.420	0.124	0.448	1.087	-
Total-HxCDD	mg/kg	5	0.03 - 0.04	0	1.674	0.822	0.906	1.670	2.748	-
Total-HpCDD	mg/kg	5	0.05 - 0.06	0	5.990	1.657	4.276	6.810	7.826	-
2,3,7,8-TCDF	mg/kg	5	0.05 - 0.09	2	0.131	0.048	0.099	0.120	0.202	-
1,2,3,7,8-PeCDF	mg/kg	5	0.03 - 0.04	1	0.094	0.056	0.063	0.074	0.181	-
2,3,4,7,8-PeCDF	mg/kg	5	0.03 - 0.04	1	0.126	0.099	0.063	0.140	0.281	-
1,2,3,4,7,8-HxCDF	mg/kg	5	0.02 - 0.04	0	0.120	0.058	0.088	0.109	0.208	-
1,2,3,6,7,8-HxCDF	mg/kg	5	0.02 - 0.04	0	0.114	0.046	0.084	0.100	0.181	-
1,2,3,7,8,9-HxCDF	mg/kg	5	0.03 - 0.05	3	0.049	0.014	0.039	0.042	0.068	-
2,3,4,6,7,8-HxCDF	mg/kg	5	0.02 - 0.04	0	0.146	0.063	0.090	0.140	0.236	-
1,2,3,4,6,7,8-HpCDF	mg/kg	5	0.03 - 0.05	0	1.320	0.335	1.060	1.200	1.768	-
1,2,3,4,7,8,9-HpCDF	mg/kg	5	0.04 - 0.06	1	0.115	0.044	0.074	0.110	0.173	-
OCDF	mg/kg	5	0.06 - 0.07	0	5.54	1.57	4.23	5.44	7.73	-
Total-TCDF	mg/kg	5	0.05 - 0.09	0	0.958	1.628	0.241	1.320	3.764	-
Total-PeCDF	mg/kg	5	0.03 - 0.04	1	0.739	1.293	0.112	1.830	2.936	-
Total-HxCDF	mg/kg	5	0.03 - 0.05	0	1.092	0.624	0.521	1.220	1.910	-
Total-HpCDF	mg/kg	5	0.04 - 0.06	0	2.520	1.095	1.550	2.530	3.976	-
Organics - Polychlorinated Biphenyls										
Aroclor 1016	mg/kg	5	0.01 - 0.02	5	0.01	0	0.01	0.01	0.01	0.007
Aroclor 1242	mg/kg	5	0.01 - 0.02	5	0.01	0	0.01	0.01	0.01	-
Aroclor 1248	mg/kg	5	0.01 - 0.02	5	0.01	0	0.01	0.01	0.01	0.03
Aroclor 1254	mg/kg	5	0.01	5	0.01	0	0.01	0.01	0.01	0.06
Aroclor 1260	mg/kg	5	0.01	5	0.01	0	0.01	0.01	0.01	0.005
Polychlorinated biphenyls [PCBs], total	mg/kg	5	0.03 - 0.04	5	0.03	0	0.03	0.03	0.04	0.0341
Organochlorine Pesticides										
Aldrin	mg/kg	5	0.02	5	0.02	0	0.02	0.02	0.02	0.002
Chlordane, total	mg/kg	5	0.03	5	0.03	0	0.03	0.03	0.03	0.0045
DDD, total	mg/kg	5	0.03	5	0.0300	0	0.0300	0.0300	0.0300	0.00354
DDE, total	mg/kg	5	0.03	5	0.0300	0	0.0300	0.0300	0.0300	0.00142
DDT, total	mg/kg	5	0.03	5	0.0300	0	0.0300	0.0300	0.0300	0.00119
Dieldrin	mg/kg	5	0.02	5	0.0200	0	0.0200	0.0200	0.0200	0.002
Endosulfan, total	mg/kg	5	0.03	5	0.0300	0	0.0300	0.0300	0.0300	0.006
Endrin	mg/kg	5	0.02	5	0.0200	0	0.0200	0.0200	0.0200	0.00267
Heptachlor	mg/kg	5	0.02	5	0.02	0	0.02	0.02	0.02	0.0006
Heptachlor epoxide	mg/kg	5	0.02	5	0.02	0	0.02	0.02	0.02	0.005
Hexachlorobenzene	mg/kg	5	0.01	5	0.01	0	0.01	0.01	0.01	0.02
Hexachlorobutadiene	mg/kg	5	0.01	5	0.01	0	0.01	0.01	0.01	0.55

Appendix D, Table 3

Year 2 Sediment Chemistry Results- Beatty Saugeen Reference [1,2]

Parameter	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th percentile	Sediment Quality Benchmark
Hexachloroethane	mg/kg	5	0.01	5	0.01	0	0.01	0.01	0.01	1.027
Methoxychlor	mg/kg	5	0.02	5	0.02	0	0.02	0.02	0.02	0.0187

[1] Cells containing grey highlights indicate exceedances of the SQB. Note that datum is not flagged as an exceedance if the measured concentration was reported by the laboratory as <RDL where the RDL is greater than or equal to the SQB due to measurement uncertainty.

[2] Tier 2 artificial radionuclide analysis not available for Beatty_Saugeen_03..

Appendix D, Table 4

Year 2 Sediment Chemistry Results- Silver Lake Potential Exposure[1]

Parameter	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th Percentile	Sediment Quality Benchmark
Radionuclides - Tier 1										
Strontium-90	Bq/kg	5	18.5	5	18.5	0	18.5	18.5	18.5	20000
Iodine-129	Bq/kg	5	370	5	370	0	370	370	370	1000000
Cesium-137	Bq/kg	2	18.5 - 18.5	0	5.3	0.2	5.2	5.4	5.5	100000
Cobalt-60	Bq/kg	2	18.5 - 18.5	2	18.5	0	18.5	18.5	18.5	40000
Ruthenium-106	Bq/kg	2	90 - 90	2	90	0	90	90	90	-
Gross alpha	Bq/kg	5	111	1	357	189	161	448	576	-
Gross beta	Bq/kg	5	148	1	530	282	235	741	848	-
Radionuclides - Tier 2 natural										
Uranium-238	Bq/kg	5	3.7	0	20.0	12.0	10.2	20.4	37.9	40000
Uranium-234	Bq/kg	5	3.7	0	17.6	9.9	9.8	16.7	30.6	20000
Uranium-235	Bq/kg	5	3.7	2	2.79	1.14	1.57	3.70	3.95	10000
Potassium-40	Bq/kg	4	75 - 75	0	437	194	295	446	671	-
Thorium-228	Bq/kg	5	3.7	2	8.85	10.34	3.70	7.24	24.44	-
Thorium-230	Bq/kg	5	3.7	1	19.54	22.88	5.24	31.50	56.72	-
Thorium-232	Bq/kg	5	3.7	0	15.9	16.2	5.2	15.9	39.2	40000
Radium-226	Bq/kg	4	37 - 37	1	41.79	12.47	35.73	37.35	58.02	600
Metals										
Aluminum	mg/kg	5	50	0	7698	4973	3350	9450	14840	-
Antimony	mg/kg	5	0.1	4	0	0	0	0	1	3
Arsenic	mg/kg	5	0.1	0	12	20	2	23	46	5.9
Barium	mg/kg	5	0.5	0	110.1	64.9	54.6	124.0	204.8	-
Beryllium	mg/kg	5	0.1	1	0.5	0.3	0.4	0.4	0.9	-
Bismuth	mg/kg	5	0.2	5	0.3	0.8	0.2	0.2	1.6	65000
Boron	mg/kg	5	5	1	14.43	17.78	8.16	9.70	43.44	-
Cadmium	mg/kg	5	0.02	1	0.27	0.09	0.20	0.26	0.39	0.6

Appendix D, Table 4

Year 2 Sediment Chemistry Results- Silver Lake Potential Exposure[1]

Parameter	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th Percentile	Sediment Quality Benchmark
Calcium	mg/kg	5	50	0	103477	57222	54220	132000	174800	-
Chromium	mg/kg	5	0.5	1	13.11	6.74	6.70	15.20	22.28	26
Cobalt	mg/kg	5	0.1	0	3.7	2.1	1.7	4.8	6.3	50
Copper	mg/kg	5	0.5	1	10.23	4.12	6.04	10.80	15.60	16
Iron	mg/kg	5	50	0	17211	5254	11980	16400	24020	20000
Lead	mg/kg	5	0.5	1	6.74	2.28	5.11	6.47	10.08	31
Lithium	mg/kg	5	2	1	16.54	5.34	12.36	14.60	24.08	-
Magnesium	mg/kg	5	20	0	11072	6375	5040	13900	19420	-
Manganese	mg/kg	5	1	0	244	75	153	283	312	460
Mercury	mg/kg	5	0.005	0	0.028	0.016	0.013	0.034	0.050	0.17
Molybdenum	mg/kg	5	0.1	0	1.1	1.6	0.3	1.9	3.8	8.3
Nickel	mg/kg	5	0.5	1	10.23	4.12	6.10	10.70	15.62	16
Phosphorus	mg/kg	5	50	1	540	97	464	519	677	600
Potassium	mg/kg	5	100	1	1462	577	1044	1420	2308	-
Rhodium	mg/kg	5	0.1	5	0.16	0.40	0.10	0.10	0.82	600
Ruthenium	mg/kg	5	0.1	5	0.16	0.40	0.10	0.10	0.82	390
Samarium	mg/kg	5	0.1	1	1.75	0.56	1.16	1.82	2.44	2500
Selenium	mg/kg	5	0.2	1	0.74	0.65	0.39	0.66	1.76	0.9
Silver	mg/kg	5	0.1	5	0.16	0.40	0.10	0.10	0.82	0.5
Sodium	mg/kg	5	50	1	260	156	136	296	478	-
Strontium	mg/kg	5	0.5	0	500	462	136	934	1104	-
Sulfur	mg/kg	5	1000	1	7040	8429	1500	14600	19320	-
Thallium	mg/kg	5	0.05	1	0.15	0.18	0.09	0.11	0.43	-
Tin	mg/kg	5	2	5	3.17	8.05	2.00	2.00	16.40	-
Titanium	mg/kg	5	1	0	86	43	43	103	137	-
Tungsten	mg/kg	5	0.5	5	0.79	2.01	0.50	0.50	4.10	960
Uranium	mg/kg	5	0.05	0	1.54	1.26	0.74	1.38	3.53	32
Vanadium	mg/kg	5	0.2	0	14.6	8.1	6.9	16.8	25.6	27
Zinc	mg/kg	5	2	1	38.22	15.27	23.52	39.20	58.92	120
Zirconium	mg/kg	5	1	1	2.17	3.81	1.12	1.60	8.46	-
Nutrients & General Characterization										
% Moisture	%	5	0.25	0	66.58	9.99	53.54	71.70	73.72	-
Carbon, total organic [TOC]	%	5	0.05 - 2.00	0	5.40	1.55	3.92	5.80	7.38	1
Ammonia, total (as N)	mg/kg	5	40 - 100	0	200	79	131	226	300	-
Nitrate and Nitrite as N	mg/kg	5	1.4	5	1.40	0	1.40	1.40	1.40	-
Nitrate-N	mg/kg	5	1	5	1.00	0	1.00	1.00	1.00	-
Nitrite-N	%	5	1	5	1.00	0	1.00	1.00	1.00	-
Kjeldahl nitrogen, total [TKN]	µg/g	5	200-400	0	3,000	1,100	1,900	3,700	4,300	500 µg/g

[1] Cells containing grey highlights indicate exceedances of the SQB. Note that datum is not flagged as an exceedance if the measured concentration was reported by the laboratory as <RDL where the RDL is greater than or equal to the SQB due to measurement uncertainty.

Appendix D, Table 5

Year 2 Sediment Chemistry Results- Clam Lake Potential Exposure[1]

Parameter			Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th Percentile	Sediment Quality Benchmark
Radionuclides - Tier 1												
Tritium	Bq/kg	5	37	5	37	0	37	37	37			10000000
Carbon-14	Bq/kg	5	740	5	740	0	740	740	740			-
Strontium-90	Bq/kg	5	18.5	5	18.5	0	18.5	18.5	18.5			20000
Iodine-129	Bq/kg	5	370	5	370.00	0	370.00	370.00	370.00			1000000
Cesium-137	Bq/kg	5	18.5	1	24.88	14.23	18.26	21.20	46.74			100000
Cobalt-60	Bq/kg	5	18.5	5	18.50	0	18.50	18.50	18.50			40000
Ruthenium-106	Bq/kg	5	90	5	90.00	0	90.00	90.00	90.00			-
Gross alpha	Bq/kg	5	111	0	324	124	185	358	446			-
Gross beta	Bq/kg	5	148	0	680	219	435	721	934			-
Radionuclides - Tier 2 natural												
Uranium-238	Bq/kg	5	3.7	0	37.7	23.8	16.0	58.8	62.7			40000
Uranium-234	Bq/kg	5	3.7	0	38.9	27.2	15.8	60.7	71.9			20000
Uranium-235	Bq/kg	5	3.7	0	3.3	2.1	1.4	3.7	6.0			10000
Potassium-40	Bq/kg	5	75	0	357	36	325	351	405			-
Thorium-228	Bq/kg	5	3.7	3	7.5	10.1	3.7	3.7	23.1			-
Thorium-230	Bq/kg	5	3.7	1	18.1	11.8	6.8	28.9	32.1			-
Thorium-232	Bq/kg	5	3.7	1	16.4	12.8	5.9	21.7	35.4			40000
Radium-226	Bq/kg	5	37	0	31.5	7.7	22.3	32.9	39.3			600
Metals												
Aluminum	mg/kg	5	50	0	10334	828	9536	10100	11380			-
Antimony	mg/kg	5	0.1	0	0	0	0	0	1			3
Arsenic	mg/kg	5	0.1	0	12	3	10	11	16			5.9
Barium	mg/kg	5	0.5	0	92.8	16.2	74.7	96.0	111.8			-
Beryllium	mg/kg	5	0.1	0	0.4	0.029	0.4	0.4	0.5			-
Bismuth	mg/kg	5	0.2	2	0.2	0.048	0.2	0.2	0.3			65000
Boron	mg/kg	5	5	0	13.84	3.46	11.10	13.80	18.70			-
Cadmium	mg/kg	5	0.02	0	1.10	0.33	0.89	0.93	1.56			0.6
Calcium	mg/kg	5	50	0	33096	15161	18580	44100	49880			-
Chromium	mg/kg	5	0.5	0	18.78	0.91	17.88	18.60	19.94			26
Cobalt	mg/kg	5	0.1	0	6.51	0.50	5.94	6.42	7.05			50
Copper	mg/kg	5	0.5	0	29.02	1.78	27.54	28.70	31.42			16
Iron	mg/kg	5	50	0	20438	1064	19580	20000	21900			20000
Lead	mg/kg	5	0.5	0	33.90	13.48	24.64	29.10	51.92			31
Lithium	mg/kg	5	2	0	14.94	1.18	14.08	14.60	16.58			-
Magnesium	mg/kg	5	20	0	10712	2513	7946	12000	13280			-
Manganese	mg/kg	5	1	0	274	67	204	303	342			460
Mercury	mg/kg	5	0.005	0	0.04	0.05	0.01	0.09	0.11			0.17
Molybdenum	mg/kg	5	0.1	0	2.23	0.32	1.91	2.14	2.60			8.3
Nickel	mg/kg	5	0.5	0	20.61	1.59	19.56	19.90	22.86			16

Appendix D, Table 5

Year 2 Sediment Chemistry Results- Clam Lake Potential Exposure[1]

Parameter			Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th Percentile	Sediment Quality Benchmark
Phosphorus	mg/kg	5	50	0	981	103	871	962	1096			600
Potassium	mg/kg	5	100	0	1669	219	1482	1580	1952			-
Rhodium	mg/kg	5	0.1	5	0.10	0	0.10	0.10	0.10			600
Ruthenium	mg/kg	5	0.1	5	0.10	0	0.10	0.10	0.10			390
Samarium	mg/kg	5	0.1	0	2.04	0.19	1.80	2.12	2.20			2500
Selenium	mg/kg	5	0.2	0	2.99	0.63	2.49	2.72	3.80			0.9
Silver	mg/kg	5	0.1	4	0.10	0	0.10	0.10	0.10			0.5
Sodium	mg/kg	5	50	0	342.40	83.51	261.00	375.00	446.40			-
Strontium	mg/kg	5	0.5	0	223.54	61.69	158.40	257.00	293.20			-
Sulfur	mg/kg	5	1000	0	20283.09	3378.61	17460.00	18800.00	24300.00			-
Thallium	mg/kg	5	0.05	0	0.18	0.03	0.15	0.18	0.22			-
Tin	mg/kg	5	2	5	2.00	0	2.00	2.00	2.00			-
Titanium	mg/kg	5	1	0	115.17	45.72	79.14	107.00	181.40			-
Tungsten	mg/kg	5	0.5	5	0.50	0	0.50	0.50	0.50			960
Uranium	mg/kg	5	0.05	0	3.76	0.71	3.06	3.60	4.65			32
Vanadium	mg/kg	5	0.2	0	20.45	1.58	18.64	20.50	22.24			27
Zinc	mg/kg	5	2	0	113.02	13.05	101.20	109.00	130.40			120
Zirconium	mg/kg	5	1	0	5.71	0.70	5.06	5.60	6.64			-
Nutrients & General Characterization												
% Moisture	%	5	0.25	0	94.41	1.23	92.90	94.30	95.64			-
Carbon, total organic [TOC]	%	5	0.05	0	23.11	2.78	20.14	23.20	26.06			1
Ammonia, total (as N)	mg/kg	5	10	0	1514	265	1194	1570	1796			-
Nitrate and Nitrite as N	mg/kg	5	0.05	0	7.55	3.94	4.60	7.17	12.94			-
Nitrate-N	mg/kg	5	0.05	0	7.39	3.72	4.60	6.94	12.46			-
Nitrite-N	%	5	0.01	2	0.40	0.12	0.26	0.49	0.50			-
Kjeldahl nitrogen, total [TKN]	mg/kg	5	0.02	0	2.01	0.38	1.58	2.06	2.43			500 ug/g

[1] Cells containing grey highlights indicate exceedances of the SQB. Note that datum is not flagged as an exceedance if the measured concentration was reported by the laboratory as <RDL where the RDL is greater than or equal to the SQB due to measurement uncertainty.

Appendix D, Table 6

Year 2 Sediment Chemistry Results- Robson Lake Potential Reference[1]

Parameter	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th Percentile	Sediment Quality Benchmark
Radionuclides - Tier 1										
Tritium	Bq/kg	5	37	5	37	0	37	37	37	10000000
Carbon-14	Bq/kg	5	740	5	740	0	740	740	740	-
Strontium-90	Bq/kg	5	18.5	5	18.5	0.0	18.5	18.5	18.5	20000

Appendix D, Table 6

Year 2 Sediment Chemistry Results- Robson Lake Potential Reference[1]

Parameter	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th Percentile	Sediment Quality Benchmark
Iodine-129	Bq/kg	5	370	5	370	0	370	370	370	1000000
Cesium-137	Bq/kg	5	18.5	0	17.9	4.7	14.4	15.6	24.4	100000
Cobalt-60	Bq/kg	5	18.5	5	18.5	0.0	18.5	18.5	18.5	40000
Ruthenium-106	Bq/kg	5	90	5	90	0	90	90	90	-
Gross alpha	Bq/kg	5	111	0	578	126	487	522	746	-
Gross beta	Bq/kg	5	148	0	456	76	398	419	557	-
Radionuclides - Tier 2 natural										
Uranium-238	Bq/kg	5	3.7	0	20.1	7.4	12.1	21.8	29.0	40000
Uranium-234	Bq/kg	5	3.7	0	17.4	4.0	13.5	17.7	22.5	20000
Uranium-235	Bq/kg	5	3.7	2	2.31	1.16	1.21	2.30	3.70	10000
Potassium-40	Bq/kg	5	75	0	133	39	100	135	188	-
Thorium-228	Bq/kg	5	3.7	3	6.46	6.45	3.70	3.70	16.48	-
Thorium-230	Bq/kg	5	3.7	2	9.78	9.53	3.70	13.40	24.04	-
Thorium-232	Bq/kg	5	3.7	0	10.2	2.8	7.1	11.3	13.6	40000
Radium-226	Bq/kg	5	37	0	38	14	24	45	56	600
Metals										
Aluminum	mg/kg	5	50	0	3345	959	2386	3670	4552	-
Antimony	mg/kg	5	0.1	4	0.16	0.01	0.15	0.15	0.17	3
Arsenic	mg/kg	5	0.1	0	2	0	2	2	2	5.9
Barium	mg/kg	5	0.5	0	37.8	3.2	34.1	38.6	41.2	-
Beryllium	mg/kg	5	0.1	4	0.2	0	0.2	0.2	0.2	-
Bismuth	mg/kg	5	0.2	5	0.3	0	0.3	0.3	0.3	65000
Boron	mg/kg	5	5	1	9.00	1.12	7.66	9.50	10.06	-
Cadmium	mg/kg	5	0.02	0	0.63	0.14	0.49	0.65	0.80	0.6
Calcium	mg/kg	5	50	0	209968	48381	164000	208000	275000	-
Chromium	mg/kg	5	0.5	0	11.7	3.0	8.7	12.9	15.4	26
Cobalt	mg/kg	5	0.1	0	2.3	0.5	1.7	2.5	2.8	50
Copper	mg/kg	5	0.5	0	11.9	2.3	9.4	12.9	14.2	16
Iron	mg/kg	5	50	0	5913	1305	4744	5900	7704	20000
Lead	mg/kg	5	0.5	0	14.0	2.1	11.8	14.2	16.5	31
Lithium	mg/kg	5	2	3	3.16	0.41	2.92	3.00	3.74	-
Magnesium	mg/kg	5	20	0	8429	1456	6668	8820	9968	-
Manganese	mg/kg	5	1	0	581	136	459	536	754	460
Mercury	mg/kg	5	0.005	0	0.088	0.020	0.067	0.091	0.113	0.17
Molybdenum	mg/kg	5	0.1	0	0.5	0.1	0.4	0.5	0.6	8.3
Nickel	mg/kg	5	0.5	0	6.4	1.6	4.9	7.1	8.4	16
Phosphorus	mg/kg	5	50	0	711	224	492	832	969	600
Potassium	mg/kg	5	100	0	513	119	384	540	650	-
Rhodium	mg/kg	5	0.1	5	0.10	0	0.10	0.10	0.10	600
Ruthenium	mg/kg	5	0.1	5	0.10	0	0.10	0.10	0.10	390
Samarium	mg/kg	5	0.1	0	0.8	0.2	0.5	0.9	1.0	2500

Appendix D, Table 6

Year 2 Sediment Chemistry Results- Robson Lake Potential Reference[1]

Parameter	Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th Percentile	Sediment Quality Benchmark
Selenium	mg/kg	5	0.2	0	3.9	0.7	3.2	3.8	4.6	0.9
Silver	mg/kg	5	0.1	5	0.15	0.00	0.15	0.15	0.15	0.5
Sodium	mg/kg	5	50	0	128	23	108	125	160	-
Strontium	mg/kg	5	0.5	0	76.6	14.0	64.6	72.5	96.1	-
Sulfur	mg/kg	5	1000	0	4254.7	703.6	3560.0	4300.0	5160.0	-
Thallium	mg/kg	5	0.05	0	0.17	0.03	0.14	0.18	0.20	-
Tin	mg/kg	5	2	5	2.98	0.04	2.92	3.00	3.00	-
Titanium	mg/kg	5	1	0	59.4	10.6	46.4	67.1	67.9	-
Tungsten	mg/kg	5	0.5	5	0.74	0.01	0.73	0.75	0.75	960
Uranium	mg/kg	5	0.05	0	1.27	0.39	0.98	1.31	1.82	32
Vanadium	mg/kg	5	0.2	0	6.0	1.2	4.8	6.7	7.2	27
Zinc	mg/kg	5	2	0	63.71	11.57	52.22	67.70	76.14	120
Zirconium	mg/kg	5	1	3	1.59	0.17	1.50	1.50	1.84	-
Nutrients & General Characterization										
% Moisture	%	5	0.25	0	78	4	74	80	83	-
Carbon, total organic [TOC]	%	5	0.05	0	13	3	11	13	16	1
Ammonia, total (as N)	mg/kg	5	10	0	465	118	359	462	628	-
Nitrate and Nitrite as N	mg/kg	5	10	0	5.41	4.57	2.85	5.10	12.58	-
Nitrate-N	mg/kg	5	0.05	0	5.22	4.51	2.71	5.10	12.28	-
Nitrite-N	%	5	0.02	1	0.16	0.12	0.06	0.28	0.30	-
Kjeldahl nitrogen, total [TKN]	µg/g	5	200	0	9,200	1,600	7,100	10,200	10,500	500 µg/g

[1] Cells containing grey highlights indicate exceedances of the SQB. Note that datum is not flagged as an exceedance if the measured concentration was reported by the laboratory as <RDL where the RDL is greater than or equal to the SQB due to measurement uncertainty.

Appendix D, Table 7

Year 2 Sediment Chemistry Results- Hines Lake Potential Reference[1]

Parameter			Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th Percentile	Sediment Quality Benchmark
Radionuclides - Tier 1												
Tritium	Bq/kg	5	37	5	37	0	37	37	37			10000000
Carbon-14	Bq/kg	5	740	5	740	0	740	740	740			-
Strontium-90	Bq/kg	5	18.5	5	18.5	0.0	18.5	18.5	18.5			20000
Iodine-129	Bq/kg	5	370	5	370	0	370	370	370			1000000
Cesium-137	Bq/kg	5	18.5	0	9.55	1.17	8.13	10.10	10.70			100000
Cobalt-60	Bq/kg	5	18.5	5	18.50	0	18.50	18.50	18.50			40000
Ruthenium-106	Bq/kg	5	90	5	90	0	90	90	90			-
Gross alpha	Bq/kg	5	111	0	466	152	282	569	594			-
Gross beta	Bq/kg	5	148	0	325	168	174	341	563			-
Radionuclides - Tier 2 natural												

Appendix D, Table 7

Year 2 Sediment Chemistry Results- Hines Lake Potential Reference[1]

Parameter			Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th Percentile	Sediment Quality Benchmark
Uranium-238	Bq/kg	5	3.7	0	17.7	5.8	13.1	15.5	25.7			40000
Uranium-234	Bq/kg	5	3.7	0	13.0	4.2	8.8	13.5	18.4			20000
Uranium-235	Bq/kg	5	3.7	4	3.56	0.28	3.20	3.70	3.70			10000
Potassium-40	Bq/kg	5	75	1	50	16	38	43	72			-
Thorium-228	Bq/kg	5	3.7	4	3.78	0.19	3.70	3.70	4.04			-
Thorium-230	Bq/kg	5	3.7	3	6.42	7.95	3.70	3.70	19.55			-
Thorium-232	Bq/kg	5	3.7	1	7.95	9.11	3.59	6.01	22.42			40000
Radium-226	Bq/kg	5	37	0	24	11	13	30	38			600
Metals												
Aluminum	mg/kg	5	50	0	1201	842	710	837	2364			-
Antimony	mg/kg	5	0.1	5	0.3	0.04	0.2	0.3	0.3			3
Arsenic	mg/kg	5	0.1	0	2	0	1	2	2			5.9
Barium	mg/kg	5	0.5	0	33.6	8.6	23.4	39.0	41.8			-
Beryllium	mg/kg	5	0.1	5	0.3	0.037	0.2	0.3	0.3			-
Bismuth	mg/kg	5	0.2	5	0.5	0.1	0.4	0.6	0.6			65000
Boron	mg/kg	5	5	5	13.13	1.84	10.88	14.30	14.68			-
Cadmium	mg/kg	5	0.02	0	0.24	0.14	0.11	0.32	0.41			0.6
Calcium	mg/kg	5	50	0	211052	40015	168000	236000	249800			-
Chromium	mg/kg	5	0.5	0	4.6	1.8	3.4	3.7	6.9			26
Cobalt	mg/kg	5	0.1	0	1.3	0.5	0.9	1.1	1.9			50
Copper	mg/kg	5	0.5	0	5.7	4.4	2.3	7.8	11.2			16
Iron	mg/kg	5	50	0	4013	1972	2840	3040	6682			20000
Lead	mg/kg	5	0.5	0	6.9	6.2	2.4	12.1	15.2			31
Lithium	mg/kg	5	2	3	5.51	0.41	4.98	5.70	5.88			-
Magnesium	mg/kg	5	20	0	14849	23974	6146	6980	51780			-
Manganese	mg/kg	5	1	0	515	149	387	505	724			460
Mercury	mg/kg	5	0.005	1	0.03	0.02	0.01	0.04	0.05			0.17
Molybdenum	mg/kg	5	0.1	2	0.52	0.47	0.22	0.56	1.21			8.3
Nickel	mg/kg	5	0.5	0	3.4	0.5	2.8	3.4	4.0			16
Phosphorus	mg/kg	5	50	0	404	200	250	414	694			600
Potassium	mg/kg	5	100	3	326	62	290	290	414			-
Rhodium	mg/kg	5	0.1	5	0.10	0	0.10	0.10	0.10			600
Ruthenium	mg/kg	5	0.1	5	0.10	0	0.10	0.10	0.10			390
Samarium	mg/kg	5	0.1	0	0.3	0	0.3	0.3	0.3			2500
Selenium	mg/kg	5	0.2	2	0.86	0.53	0.43	1.07	1.54			0.9
Silver	mg/kg	5	0.1	5	0.26	0.04	0.22	0.29	0.29			0.5
Sodium	mg/kg	5	50	0	228	108	151	219	388			-
Strontium	mg/kg	5	0.5	0	178.0	107.7	116.2	134.0	332.4			-
Sulfur	mg/kg	5	1000	2	3919.77	1927.95	2160.00	5100.00	6000.00			-
Thallium	mg/kg	5	0.05	5	0.13	0.02	0.11	0.14	0.15			-
Tin	mg/kg	5	2	5	5.24	0.75	4.32	5.70	5.88			-
Titanium	mg/kg	5	1	0	36.1	44.3	16.9	20.6	101.5			-
Tungsten	mg/kg	5	0.5	5	1.31	0.18	1.09	1.43	1.47			960
Uranium	mg/kg	5	0.05	0	0.63	0.55	0.25	0.80	1.41			32

Appendix D, Table 7

Year 2 Sediment Chemistry Results- Hines Lake Potential Reference[1]

Parameter			Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th Percentile	Sediment Quality Benchmark
Vanadium	mg/kg	5	0.2	0	3.85	1.92	2.36	3.16	6.31			27
Zinc	mg/kg	5	2	0	32.51	21.80	15.76	40.20	60.68			120
Zirconium	mg/kg	5	1	5	2.62	0.37	2.16	2.90	2.90			-
Nutrients & General Characterization												
% Moisture	%	5	0.25	0	86.64	1.98	84.10	87.20	88.56			-
Carbon, total organic [TOC]	%	5	0.05	0	14.18	1.39	12.42	14.40	15.56			1
Ammonia, total (as N)	mg/kg	5	10	0	550.6091	164.0671	366.8	586	740.8			-
Nitrate and Nitrite as N	mg/kg	5	0.05	0	1.85	1.68	0.98	1.54	4.54			-
Nitrate-N	mg/kg	5	0.05	0	1.78	1.63	0.92	1.46	4.40			-
Nitrite-N	%	5	0.01	2	0.08	0.05	0.05	0.08	0.15			-
Kjeldahl nitrogen, total [TKN]	mg/kg	5	0.02	0	0.86	0.18	0.69	0.82	1.10			500 ug/g

[1] Cells containing grey highlights indicate exceedances of the SQB. Note that datum is not flagged as an exceedance if the measured concentration was reported by the laboratory as <RDL where the RDL is greater than or equal to the SQB due to measurement uncertainty.

Appendix D, Table 8

Year 2 Sediment Chemistry Results- Lake Huron Potential Exposure[1]

Parameter			Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th Percentile	Sediment Quality Benchmark
Radionuclides - Tier 1												
Tritium	Bq/kg	5	37	5	37	0	37	37	37			10000000
Carbon-14	Bq/kg	5	740	5	740	0	740	740	740			-
Strontium-90	Bq/kg	5	18.5	4	26.0	36.9	18.5	18.5	84.5			20000
Iodine-129	Bq/kg	5	370	5	370.0	0	370.0	370.0	370.0			1000000
Cesium-137	Bq/kg	5	18.5	3	6.35	9.43	1.20	18.50	18.50			100000
Cobalt-60	Bq/kg	5	18.5	5	18.50	0	18.50	18.50	18.50			40000
Ruthenium-106	Bq/kg	5	90	5	90	0	90	90	90			-
Gross alpha	Bq/kg	5	111	2	198	124	111	211	380			-
Gross beta	Bq/kg	5	148	0	360	149	221	357	537			-
Radionuclides - Tier 2 natural												
Uranium-238	Bq/kg	5	3.7	0	10.0	1.2	8.5	10.2	11.2			40000
Uranium-234	Bq/kg	5	3.7	0	9.8	1.7	7.6	10.2	11.3			20000
Uranium-235	Bq/kg	5	3.7	2	1.68	1.48	0.80	1.38	3.70			10000
Potassium-40	Bq/kg	5	75	0	371	86	271	384	468			-
Thorium-228	Bq/kg	5	3.7	2	10.99	11.13	3.70	18.90	27.08			-
Thorium-230	Bq/kg	5	3.7	0	41.7	26.3	19.5	58.5	75.4			-
Thorium-232	Bq/kg	5	3.7	0	17.2	9.7	10.8	15.7	31.9			40000
Radium-226	Bq/kg	5	37	1	27.85	10.08	17.74	27.40	40.52			600
Metals												

Appendix D, Table 8

Year 2 Sediment Chemistry Results- Lake Huron Potential Exposure[1]

Parameter			Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th Percentile	Sediment Quality Benchmark
Aluminum	mg/kg	5	50	0	5087	1329	4024	4880	6978			-
Antimony	mg/kg	5	0.1	5	0	0	0	0	0			3
Arsenic	mg/kg	5	0.1	0	2	0	2	2	2			5.9
Barium	mg/kg	5	0.5	0	25.5	6.1	21.0	25.6	34.1			-
Beryllium	mg/kg	5	0.1	0	0.2	0.1	0.2	0.2	0.3			-
Bismuth	mg/kg	5	0.2	5	0.2	0	0.2	0.2	0.2			65000
Boron	mg/kg	5	5	0	9	2	8	10	12			-
Cadmium	mg/kg	5	0.02	0	0.08	0.02	0.06	0.08	0.10			0.6
Calcium	mg/kg	5	50	0	167442	8112	158200	167000	176400			-
Chromium	mg/kg	5	0.5	0	9.8	2.0	8.1	9.7	12.5			26
Cobalt	mg/kg	5	0.1	0	3.0	0.6	2.5	3.1	3.8			50
Copper	mg/kg	5	0.5	0	5.4	1.6	4.3	5.4	7.7			16
Iron	mg/kg	5	50	0	8165	1744	6600	7940	10446			20000
Lead	mg/kg	5	0.5	0	3.1	0.6	2.7	2.8	4.0			31
Lithium	mg/kg	5	2	0	8	2	6	8	10			-
Magnesium	mg/kg	5	20	0	47102	4558	41900	47100	52360			-
Manganese	mg/kg	5	1	0	436	50	392	438	502			460
Mercury	mg/kg	5	0.005	0	0.012	0.004	0.009	0.013	0.017			0.17
Molybdenum	mg/kg	5	0.1	0	0.1	0	0.1	0.1	0.2			8.3
Nickel	mg/kg	5	0.5	0	6.8	1.5	5.3	7.0	8.7			16
Phosphorus	mg/kg	5	50	0	360	73	295	342	454			600
Potassium	mg/kg	5	100	0	1028	314	830	940	1488			-
Rhodium	mg/kg	5	0.1	5	0.10	0	0.10	0.10	0.10			600
Ruthenium	mg/kg	5	0.1	5	0.10	0	0.10	0.10	0.10			390
Samarium	mg/kg	5	0.1	0	1.5	0.2	1.3	1.4	1.8			2500
Selenium	mg/kg	5	0.2	4	0.21	0.02	0.20	0.20	0.23			0.9
Silver	mg/kg	5	0.1	5	0.10	0	0.10	0.10	0.10			0.5
Sodium	mg/kg	5	50	0	217	22	199	207	245			-
Strontium	mg/kg	5	0.5	0	242.8	29.7	217.8	232.0	283.0			-
Sulfur	mg/kg	5	1000	3	1039	55	1000	1000	1100			-
Thallium	mg/kg	5	0.05	3	0.05	0.01	0.05	0.05	0.07			-
Tin	mg/kg	5	2	5	2.00	0	2.00	2.00	2.00			-
Titanium	mg/kg	5	1	0	107.3	37.3	70.2	118.0	155.0			-
Tungsten	mg/kg	5	0.5	5	0.50	0	0.50	0.50	0.50			960
Uranium	mg/kg	5	0.05	0	0.31	0.03	0.29	0.30	0.35			32
Vanadium	mg/kg	5	0.2	0	11.4	2.6	8.9	11.2	14.9			27
Zinc	mg/kg	5	2	0	20.62	5.29	16.92	19.40	28.20			120
Zirconium	mg/kg	5	1	5	1.00	0	1.00	1.00	1.00			-
Nutrients & General Characterization												
% Moisture	%	5	0.25	0	36.17	5.10	29.82	37.20	41.16			-
Carbon, total organic [TOC]	%	5	1.50 - 1.60	0	4.59	0.29	4.24	4.70	4.88			1

Appendix D, Table 8

Year 2 Sediment Chemistry Results- Lake Huron Potential Exposure[1]

Parameter			Units	n	DL	n<DL	Geometric Mean	SD	5th percentile	Median	95th Percentile	Sediment Quality Benchmark
Ammonia, total (as N)	mg/kg	5	10	0	75.29	23.82	56.40	79.00	108.40			-
Nitrate and Nitrite as N	mg/kg	5	1.4	5	1.40	0	1.40	1.40	1.40			-
Nitrate-N	mg/kg	5	1	5	1.00	0	1.00	1.00	1.00			-
Nitrite-N	%	5	1	5	1.00	0	1.00	1.00	1.00			-
Kjeldahl nitrogen, total [TKN]	µg/g	5	200	0	1,300	300	1,100	1,200	1,700			500 µg/g

[1] Cells containing grey highlights indicate exceedances of the SQB. Note that datum is not flagged as an exceedance if the measured concentration was reported by the laboratory as <RDL where the RDL is greater than or equal to the SQB due to measurement uncertainty.

Appendix E – Year 2 Sediment Quality QA/QC Results - Duplicates

Appendix E, Table 1

Year 2 Sediment Chemistry QAQC Results [1,2]

Parameter	Units	RDL	Silver_R5	Dup_01	RPD %	> 5 RDL	RDL	Huron_R2	Dup_02	RPD %	> 5 RDL	RDL	Robson_R1	Dup_05	RPD %	> 5 RDL
Radionuclides - Tier 1																
Tritium	ug/g	37	37	37	0.0	No	37	37	37	0.0	No	37	37	37	0.0	No
Carbon-14	ug/g	740	740	740	0.0	No	740	740	740	0.0	No	740	740	740	0.0	No
Strontium-90	ug/g	18.5	18.5	18.5	0.0	No	18.5	18.5	18.5	0.0	No	18.5	18.5	18.5	0.0	No
Iodine-129	ug/g	370	370	370	0.0	No	370	370	370	0.0	No	370	370	370	0.0	No
Cesium-137	ug/g	18.5	5.49	2.85	63.3	No	18.5	1.42	1.82	24.7	No	18.5	15.4	23.9	43.3	No
Cobalt-60	ug/g	18.5	18.5	18.5	0.0	No	18.5	18.5	18.5	0.0	No	18.5	18.5	18.5	0.0	No
Ruthenium-106	ug/g	90	90	90	0.0	No	90	90	90	0.0	No	90	90	90	0.0	No
Gross alpha	ug/g	111	556	548	1.4	Yes	111	111	177	45.8	No	111	680	601	12.3	Yes
Gross beta	ug/g	148	741	581	24.2	Yes	148	204	424	70.1	No	148	409	609	39.3	No
Radionuclides - Tier 2 natural																
Uranium-238	ug/g	3.7	20.4	24.3	17.4	Yes	3.7	11.2	10.5	6.5	No	3.7	20.8	20	3.9	Yes
Uranium-234	ug/g	3.7	16.7	24.9	39.4	No	3.7	10	10.6	5.8	No	3.7	19.9	11.3	55.1	No
Uranium-235	ug/g	3.7	3.7	3.7	0.0	No	3.7	3.7	3.7	0.0	No	3.7	2.17	3.7	52.1	No
Potassium-40	ug/g	75	572	555	3.0	Yes	75	384	358	7.0	Yes	75	135	238	55.2	No
Thorium-228	ug/g	3.7	21.8	20.5	6.1	Yes	3.7	18.9	24.7	26.6	Yes	3.7	3.7	15.1	121.3	No
Thorium-230	ug/g	3.7	34.4	36.6	6.2	Yes	3.7	23.1	22.8	1.3	Yes	3.7	19.4	20.2	4.0	Yes
Thorium-232	ug/g	3.7	38.9	14.5	91.4	No	3.7	10.3	15.7	41.5	No	3.7	11.6	10.4	10.9	No
Radium-226	ug/g	37	37.7	31.6	17.6	No	37	41.4	56.5	30.8	No	37	21.8	51.6	81.2	No

Appendix E, Table 1

Year 2 Sediment Chemistry QAQC Results [1,2]

Parameter	Units	RDL	Silver_R5	Dup_01	RPD %	> 5 RDL	RDL	Huron_R2	Dup_02	RPD %	> 5 RDL	RDL	Robson_R1	Dup_05	RPD %	> 5 RDL
Metals																
Aluminum	mg/kg	50	9450	9810	3.7	Yes	50	3930	4330	9.7	Yes	50	2300	2780	18.9	Yes
Antimony	mg/kg	0.1	0.1	0.1	0.0	No	0.1	0.1	0.1	0.0	No	0.1	0.15	0.16	6.5	No
Arsenic	mg/kg	0.1	2.01	1.93	4.1	Yes	0.1	1.55	2.17	33.3	Yes	0.1	1.64	1.99	19.3	Yes
Barium	mg/kg	0.5	44.6	44.2	0.9	Yes	0.5	25.7	24.3	5.6	Yes	0.5	33.7	37.5	10.7	Yes
Beryllium	mg/kg	0.1	0.37	0.38	2.7	No	0.1	0.14	0.21	40.0	No	0.1	0.15	0.15	0.0	No
Bismuth	mg/kg	0.2	0.2	0.2	0.0	No	0.2	0.2	0.2	0.0	No	0.2	0.3	0.3	0.0	No
Boron	mg/kg	5	9.6	10.3	7.0	No	5	7.8	7	10.8	No	5	7.5	8.5	12.5	No
Cadmium	mg/kg	0.02	0.218	0.217	0.5	Yes	0.02	0.08	0.082	2.5	No	0.02	0.478	0.574	18.3	Yes
Calcium	mg/kg	50	52700	55200	4.6	Yes	50	177000	160000	10.1	Yes	50	219000	255000	15.2	Yes
Chromium	mg/kg	0.5	15.8	16.2	2.5	Yes	0.5	7.94	9.08	13.4	Yes	0.5	8.39	10.4	21.4	Yes
Cobalt	mg/kg	0.1	4.84	4.67	3.6	Yes	0.1	2.5	3.06	20.1	Yes	0.1	1.8	2.16	18.2	Yes
Copper	mg/kg	0.5	10.2	9.6	6.1	Yes	0.5	4.26	6.42	40.4	Yes	0.5	9.32	11.3	19.2	Yes
Iron	mg/kg	50	10900	10900	0.0	Yes	50	6510	8700	28.8	Yes	50	4620	5500	17.4	Yes
Lead	mg/kg	0.5	7.18	6.82	5.1	Yes	0.5	2.69	3.37	22.4	Yes	0.5	14.2	16.6	15.6	Yes
Lithium	mg/kg	2	14.2	14.4	1.4	Yes	2	6.4	7.9	21.0	No	2	3	3	0.0	No
Magnesium	mg/kg	20	20600	22300	7.9	Yes	20	41100	44700	8.4	Yes	20	6340	8140	24.9	Yes
Manganese	mg/kg	1	263	269	2.3	Yes	1	438	422	3.7	Yes	1	767	1040	30.2	Yes
Mercury	mg/kg	0.005	0.0344	0.032	7.2	Yes	0.005	0.0131	0.0131	0.0	No	0.005	0.072	0.0796	10.0	Yes
Molybdenum	mg/kg	0.1	0.19	0.2	5.1	No	0.1	0.1	0.15	40.0	No	0.1	0.51	0.57	11.1	Yes
Nickel	mg/kg	0.5	10.7	10.5	1.9	Yes	0.5	5.16	7.13	32.1	Yes	0.5	4.84	5.94	20.4	Yes
Phosphorus	mg/kg	50	455	468	2.8	Yes	50	313	375	18.0	Yes	50	483	696	36.1	Yes
Potassium	mg/kg	100	1420	1490	4.8	Yes	100	830	770	7.5	Yes	100	370	440	17.3	No
Rhodium	mg/kg	0.1	0.1	0.1	0.0	No	0.1	0.1	0.1	0.0	No	0.1	0.1	0.1	0.0	No
Ruthenium	mg/kg	0.1	0.1	0.1	0.0	No	0.1	0.1	0.1	0.0	No	0.1	0.1	0.1	0.0	No
Samarium	mg/kg	0.1	1.94	1.93	0.5	Yes	0.1	1.33	1.57	16.6	Yes	0.1	0.51	0.61	17.9	Yes
Selenium	mg/kg	0.2	0.33	0.35	5.9	No	0.2	0.2	0.2	0.0	No	0.2	3.59	4.35	19.1	Yes
Silver	mg/kg	0.1	0.1	0.1	0.0	No	0.1	0.1	0.1	0.0	No	0.1	0.15	0.15	0.0	No
Sodium	mg/kg	50	131	143	8.8	No	50	199	169	16.3	No	50	120	127	5.7	No
Strontium	mg/kg	0.5	83.1	81.2	2.3	Yes	0.5	289	223	25.8	Yes	0.5	71.6	81.4	12.8	Yes
Sulfur	mg/kg	1000	1000	1000	0.0	No	1000	1000	1000	0.0	No	1000	3500	4300	20.5	No
Thallium	mg/kg	0.05	0.093	0.091	2.2	No	0.05	0.05	0.051	2.0	No	0.05	0.134	0.158	16.4	No
Tin	mg/kg	2	2	2	0.0	No	2	2	2	0.0	No	2	3	3	0.0	No
Titanium	mg/kg	1	131	161	20.5	Yes	1	86.3	71.8	18.3	Yes	1	44.4	53.2	18.0	Yes
Tungsten	mg/kg	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No	0.5	0.75	0.75	0.0	No
Uranium	mg/kg	0.05	0.606	0.598	1.3	Yes	0.05	0.296	0.305	3.0	Yes	0.05	1.31	1.67	24.2	Yes

Appendix E, Table 1

Year 2 Sediment Chemistry QAQC Results [1,2]

Parameter	Units	RDL	Silver_R5	Dup_01	RPD %	> 5 RDL	RDL	Huron_R2	Dup_02	RPD %	> 5 RDL	RDL	Robson_R1	Dup_05	RPD %	> 5 RDL
Vanadium	mg/kg	0.2	19.4	19.4	0.0	Yes	0.2	8.49	11.3	28.4	Yes	0.2	4.95	6.07	20.3	Yes
Zinc	mg/kg	2	37.6	37.1	1.3	Yes	2	17	20.3	17.7	Yes	2	52.7	64.3	19.8	Yes
Zirconium	mg/kg	1	1.2	1	18.2	No	1	1	1	0.0	No	1	1.5	1.5	0.0	No
Nutrients & General Characterization																
% Moisture	%	0.25	49.7	49.4	0.6	Yes	0.25	40.2	44.5	10.2	Yes	0.25	80	83.3	4.0	Yes
Carbon, total organic [TOC]	%	0.05	3.82	3.81	0.3	Yes	1.5	4.2	5	17.4	No	0.05	11.7	12	2.5	Yes
Ammonia, total (as N)	mg/kg	100	130	160	20.7	No	10	58	93	46.4	Yes	10	502	584	15.1	Yes
Nitrate and Nitrite as N	mg/kg	1.4	1.4	1.4	0.0	No	1.4	1.4	1.4	0.0	No	0.05	5.1	12	80.7	Yes
Nitrate-N	mg/kg	1	1	1	0.0	No	1	1	1	0.0	No	0.05	5.1	4.37	15.4	Yes
Nitrite-N	mg/kg	1	1	1	0.0	No	1	1	1	0.0	No	0.01	0.049	0.279	140.2	No
Kjeldahl nitrogen, total [TKN]	µg/g	200	1,740	1,790	2.8	Yes	200	1,210	1,330	9.4	Yes	200	8,760	9,220	5.1	Yes

Appendix E, Table 1

Year 2 Sediment Quality QAQC Results [1,2]

Parameter	Units	RDL	TWR_04_R1	Dup_03	RPD %	> 5 RDL	RDL	BeattySaugeen_03_R3	Dup_04	RPD %	> 5 RDL
Radionuclides - Tier 1											
Tritium	ug/g	37	37	37	0.0	No	37	37	37	0.0	No
Carbon-14	ug/g	740	740	740	0.0	No	740	740	740	0.0	No
Strontium-90	ug/g	18.5	18.5	18.5	0.0	No	18.5	18.5	18.5	0.0	No
Iodine-129	ug/g	370	370	370	0.0	No	370	370	370	0.0	No
Cesium-137	ug/g	18.5	2.27	18.5	156.3	No	18.5	1.88	1.33	34.3	No
Cobalt-60	ug/g	18.5	18.5	18.5	0.0	No	18.5	18.5	18.5	0.0	No
Ruthenium-106	ug/g	90	90	90	0.0	No	90	90	90	0.0	No
Gross alpha	ug/g	111	111	170	42.0	No	111	181	162	11.1	No
Gross beta	ug/g	148	318	278	13.4	No	148	210	214	1.9	No
Radionuclides - Tier 2 natural											
Uranium-238	ug/g	3.7	11.7	14.1	18.6	No	3.7	8.69	10.5	18.9	No
Uranium-234	ug/g	3.7	14	14.6	4.2	No	3.7	8.43	8.83	4.6	No
Uranium-235	ug/g	3.7	3.7	3.7	0.0	No	3.7	0.811	3.7	128.1	No
Potassium-40	ug/g	75	328	327	0.3	No	75	259	248	43.4	No

Appendix E, Table 1

Year 2 Sediment Quality QAQC Results [1,2]

Parameter	Units	RDL	TWR_04_R1	Dup_03	RPD %	> 5 RDL	RDL	BeattySaugeen_03_R3	Dup_04	RPD %	> 5 RDL
Thorium-228	ug/g	3.7	3.7	3.7	0.0	No	3.7	3.7	3.7	0.0	No
Thorium-230	ug/g	3.7	14.6	22	40.4	No	3.7	3.7	18.6	133.6	No
Thorium-232	ug/g	3.7	9	3.7	83.5	No	3.7	26.4	11.2	80.9	No
Radium-226	ug/g	37	19	19.6	3.1	No	37	32.9	37	11.7	No
Metals											
Aluminum	mg/kg	50	3530	3140	11.7	Yes	50	5090	2940	53.5	Yes
Antimony	mg/kg	0.1	0.1	0.1	0.0	No	0.1	0.1	0.1	0.0	No
Arsenic	mg/kg	0.1	1.83	1.71	6.8	Yes	0.1	2.94	1.54	62.5	Yes
Barium	mg/kg	0.5	31.4	18.9	49.7	Yes	0.5	46.5	25.2	59.4	Yes
Beryllium	mg/kg	0.1	0.15	0.13	14.3	No	0.1	0.21	0.12	54.5	No
Bismuth	mg/kg	0.2	0.2	0.2	0.0	No	0.2	0.2	0.2	0.0	No
Boron	mg/kg	5	6.1	5.9	3.3	No	5	9.7	7	32.3	No
Cadmium	mg/kg	0.02	0.336	0.197	52.2	Yes	0.02	0.343	0.121	95.7	Yes
Calcium	mg/kg	50	87500	91700	4.7	Yes	50	188000	201000	6.7	Yes
Chromium	mg/kg	0.5	7.99	7.61	4.9	Yes	0.5	9.05	6.98	25.8	Yes
Cobalt	mg/kg	0.1	2.25	1.88	17.9	Yes	0.1	2.89	1.87	42.9	Yes
Copper	mg/kg	0.5	4.77	4.12	14.6	Yes	0.5	7.76	2.04	116.7	Yes
Iron	mg/kg	50	8150	7370	10.1	Yes	50	10800	6750	46.2	Yes
Lead	mg/kg	0.5	2.64	2.38	10.4	Yes	0.5	5.74	2.47	79.7	No
Lithium	mg/kg	2	5.2	4.8	8.0	No	2	7.4	8	7.8	No
Magnesium	mg/kg	20	27500	28300	2.9	Yes	20	29700	55000	59.7	Yes
Manganese	mg/kg	1	452	278	47.7	Yes	1	875	582	40.2	Yes
Mercury	mg/kg	0.005	0.0256	0.0227	12.0	Yes	0.005	0.0142	0.0109	26.3	No
Molybdenum	mg/kg	0.1	0.37	0.35	5.6	No	0.1	0.19	0.1	62.1	No
Nickel	mg/kg	0.5	5.23	4.29	19.7	Yes	0.5	5.15	3.97	25.9	Yes
Phosphorus	mg/kg	50	365	370	1.4	Yes	50	509	236	73.3	No
Potassium	mg/kg	100	410	370	10.3	No	100	870	570	41.7	Yes
Rhodium	mg/kg	0.1	0.1	0.1	0.0	No	0.1	0.1	0.1	0.0	No
Ruthenium	mg/kg	0.1	0.1	0.1	0.0	No	0.1	0.1	0.1	0.0	No
Samarium	mg/kg	0.1	1.27	1.28	0.8	Yes	0.1	1.68	1.1	41.7	Yes
Selenium	mg/kg	0.2	0.59	0.62	5.0	No	0.2	0.55	0.2	93.3	No
Silver	mg/kg	0.1	0.1	0.1	0.0	No	0.1	0.1	0.1	0.0	No
Sodium	mg/kg	50	338	334	1.2	Yes	50	158	179	12.5	No
Strontium	mg/kg	0.5	131	130	0.8	Yes	0.5	460	314	37.7	Yes
Sulfur	mg/kg	1000	1300	1000	26.1	No	1000	3200	1000	104.8	No
Thallium	mg/kg	0.05	0.09	0.076	16.9	No	0.05	0.066	0.05	27.6	No

Appendix E, Table 1

Year 2 Sediment Quality QAQC Results [1,2]

Parameter	Units	RDL	TWR_04_R1	Dup_03	RPD %	> 5 RDL	RDL	BeattySaugeen_03_R3	Dup_04	RPD %	> 5 RDL
Tin	mg/kg	2	2	2	0.0	No	2	2	2	0.0	No
Titanium	mg/kg	1	116	127	9.1	Yes	1	120	116	3.4	Yes
Tungsten	mg/kg	0.5	0.5	0.5	0.0	No	0.5	0.5	0.5	0.0	No
Uranium	mg/kg	0.05	0.641	0.642	0.2	Yes	0.05	0.289	0.328	12.6	Yes
Vanadium	mg/kg	0.2	9.67	9.11	6.0	Yes	0.2	11.7	7.71	41.1	Yes
Zinc	mg/kg	2	21.9	19.6	11.1	Yes	2	34.7	16.2	72.7	Yes
Zirconium	mg/kg	1	1	1	0.0	No	1	1	1	0.0	No
Nutrients & General Characterization											
% Moisture	%	0.25	80	83.3	4.0	Yes	0.25	80	83.3	4.0	Yes
Carbon, total organic [TOC]	%	0.05	3.4	3.87	12.9	Yes	0.05	4.87	4.7	3.6	Yes
Ammonia, total (as N)	mg/kg	50	74	64	14.5	No	10	82	48	52.3	No
Nitrate and Nitrite as N	mg/kg	1.4	1.4	1.4	0.0	No	0.5	0.421	0.225	60.7	No
Nitrate-N	mg/kg	1	1	1	0.0	No	0.5	0.421	0.225	60.7	No
Nitrite-N	mg/kg	1	1	1	0.0	No	0.1	0.02	0.01	66.7	No
Kjeldahl nitrogen, total [TKN]	µg/g	400	1,800	1,210	39.2	No	200	1,200	780	42.4	Yes
Organics - Polycyclic Aromatic Hydrocarbons											
Acenaphthene	mg/kg	0.05	0.05	0.05	0.0	No	0.05	0.05	0.05	0.0	No
Acenaphthylene	mg/kg	0.05	0.05	0.05	0.0	No	0.05	0.05	0.05	0.0	No
Anthracene	mg/kg	0.05	0.05	0.05	0.0	No	0.05	0.05	0.05	0.0	No
Benz(a)anthracene	mg/kg	0.05	0.05	0.05	0.0	No	0.05	0.05	0.05	0.0	No
Benzo(a)pyrene	mg/kg	0.05	0.05	0.05	0.0	No	0.05	0.05	0.05	0.0	No
Benzo(b+j)fluoranthene	mg/kg	0.05	0.05	0.05	0.0	No	0.05	0.05	0.05	0.0	No
Benzo(g,h,i)perylene	mg/kg	0.05	0.05	0.05	0.0	No	0.05	0.05	0.05	0.0	No
Benzo(k)fluoranthene	mg/kg	0.05	0.05	0.05	0.0	No	0.05	0.05	0.05	0.0	No
Chrysene	mg/kg	0.05	0.05	0.1	66.7	No	0.05	0.05	0.05	0.0	No
Dibenz(a,h)anthracene	mg/kg	0.05	0.05	0.05	0.0	No	0.05	0.05	0.05	0.0	No
Fluoranthene	mg/kg	0.05	0.05	0.05	0.0	No	0.05	0.05	0.05	0.0	No
Fluorene	mg/kg	0.05	0.05	0.05	0.0	No	0.05	0.05	0.05	0.0	No
Indeno(1,2,3-c,d)pyrene	mg/kg	0.05	0.05	0.05	0.0	No	0.05	0.05	0.05	0.0	No
Methylnaphthalene, 1-	mg/kg	0.03	0.03	0.03	0.0	No	0.03	0.03	0.03	0.0	No
Methylnaphthalene, 2-	mg/kg	0.03	0.03	0.03	0.0	No	0.03	0.03	0.03	0.0	No
Naphthalene	mg/kg	0.05	0.05	0.05	0.0	No	0.05	0.05	0.05	0.0	No
Phenanthrene	mg/kg	0.05	0.05	0.05	0.0	No	0.05	0.05	0.05	0.0	No
Pyrene	mg/kg	0.05	0.05	0.05	0.0	No	0.05	0.05	0.05	0.0	No
Methylnaphthalene, 1+2-	mg/kg	0.042	0.042	0.042	0.0	No	0.03	0.042	0.042	0.0	No
Organics - Volatile Organic Compounds											

Appendix E, Table 1

Year 2 Sediment Quality QAQC Results [1,2]

Parameter	Units	RDL	TWR_04_R1	Dup_03	RPD %	> 5 RDL	RDL	BeattySaugeen_03_R3	Dup_04	RPD %	> 5 RDL
Acetone	mg/kg	0.5	0.5	0.5	0.0	No	0.5	0.81	0.5	47.3	No
Benzene	mg/kg	0.0068	0.0068	0.0068	0.0	No	0.005	0.0081	0.005	47.3	No
Bromodichloromethane	mg/kg	0.05	0.05	0.05	0.0	No	0.05	0.081	0.05	47.3	No
Bromoform	mg/kg	0.05	0.05	0.05	0.0	No	0.05	0.081	0.05	47.3	No
Bromomethane	mg/kg	0.05	0.05	0.05	0.0	No	0.05	0.081	0.05	47.3	No
Carbon tetrachloride	mg/kg	0.05	0.05	0.05	0.0	No	0.05	0.081	0.05	47.3	No
Chlorobenzene	mg/kg	0.05	0.05	0.05	0.0	No	0.05	0.081	0.05	47.3	No
Chloroform	mg/kg	0.05	0.05	0.05	0.0	No	0.05	0.081	0.05	47.3	No
Dibromochloromethane	mg/kg	0.05	0.05	0.05	0.0	No	0.05	0.081	0.05	47.3	No
Dibromoethane, 1,2-	mg/kg	0.05	0.05	0.05	0.0	No	0.05	0.081	0.05	47.3	No
Dichlorobenzene, 1,2-	mg/kg	0.05	0.05	0.05	0.0	No	0.05	0.081	0.05	47.3	No
Dichlorobenzene, 1,3-	mg/kg	0.05	0.05	0.05	0.0	No	0.05	0.081	0.05	47.3	No
Dichlorobenzene, 1,4-	mg/kg	0.05	0.05	0.05	0.0	No	0.05	0.081	0.05	47.3	No
Dichlorodifluoromethane	mg/kg	0.05	0.05	0.05	0.0	No	0.05	0.081	0.05	47.3	No
Dichloroethane, 1,1-	mg/kg	0.05	0.05	0.05	0.0	No	0.05	0.081	0.05	47.3	No
Dichloroethane, 1,2-	mg/kg	0.05	0.05	0.05	0.0	No	0.05	0.081	0.05	47.3	No
Dichloroethylene, 1,1-	mg/kg	0.05	0.05	0.05	0.0	No	0.05	0.081	0.05	47.3	No
Dichloroethylene, cis-1,2-	mg/kg	0.05	0.05	0.05	0.0	No	0.05	0.081	0.05	47.3	No
Dichloroethylene, trans-1,2-	mg/kg	0.05	0.05	0.05	0.0	No	0.05	0.081	0.05	47.3	No
Dichloromethane	mg/kg	0.05	0.05	0.05	0.0	No	0.045	0.073	0.045	47.5	No
Dichloropropane, 1,2-	mg/kg	0.05	0.05	0.05	0.0	No	0.05	0.081	0.05	47.3	No
Dichloropropylene, cis+trans-1,3-	mg/kg	0.03	0.03	0.03	0.0	No	0.05	0.069	0.05	31.9	No
Dichloropropylene, cis-1,3-	mg/kg	0.03	0.03	0.03	0.0	No	0.03	0.049	0.03	48.1	No
Dichloropropylene, trans-1,3-	mg/kg	0.042	0.042	0.042	0.0	No	0.03	0.049	0.03	48.1	No
Ethylbenzene	mg/kg	0.018	0.018	0.018	0.0	No	0.015	0.024	0.015	46.2	No
Hexane, n-	mg/kg	0.05	0.05	0.05	0.0	No	0.05	0.081	0.05	47.3	No
Methyl ethyl ketone [MEK]	mg/kg	0.5	0.5	0.5	0.0	No	0.5	0.81	0.5	47.3	No
Methyl isobutyl ketone [MIBK]	mg/kg	0.5	0.5	0.5	0.0	No	0.5	0.81	0.5	47.3	No
Methyl-tert-butyl ether [MTBE]	mg/kg	0.05	0.05	0.05	0.0	No	0.04	0.065	0.04	47.6	No
Styrene	mg/kg	0.05	0.05	0.05	0.0	No	0.05	0.081	0.05	47.3	No
Tetrachloroethane, 1,1,1,2-	mg/kg	0.05	0.05	0.05	0.0	No	0.05	0.081	0.05	47.3	No
Tetrachloroethane, 1,1,2,2-	mg/kg	0.05	0.05	0.05	0.0	No	0.05	0.081	0.05	47.3	No
Tetrachloroethylene	mg/kg	0.05	0.05	0.05	0.0	No	0.05	0.081	0.05	47.3	No
Toluene	mg/kg	0.08	0.08	0.08	0.0	No	0.05	0.081	0.05	47.3	No
Trichloroethane, 1,1,1-	mg/kg	0.05	0.05	0.05	0.0	No	0.05	0.081	0.05	47.3	No
Trichloroethane, 1,1,2-	mg/kg	0.05	0.05	0.05	0.0	No	0.05	0.081	0.05	47.3	No

Appendix E, Table 1

Year 2 Sediment Quality QAQC Results [1,2]

Parameter	Units	RDL	TWR_04_R1	Dup_03	RPD %	> 5 RDL	RDL	BeattySaugeen_03_R3	Dup_04	RPD %	> 5 RDL
Trichloroethylene	mg/kg	0.01	0.01	0.01	0.0	No	0.01	0.016	0.01	46.2	No
Trichlorofluoromethane	mg/kg	0.05	0.05	0.05	0.0	No	0.05	0.081	0.05	47.3	No
Vinyl chloride	mg/kg	0.02	0.02	0.02	0.0	No	0.02	0.032	0.02	46.2	No
Xylene, m+p-	mg/kg	0.03	0.02	0.02	0.0	No	0.03	0.049	0.03	48.1	No
Xylene, o-	mg/kg	0.02	0.03	0.03	0.0	No	0.03	0.049	0.03	48.1	No
Xylenes, total	mg/kg	0.05	0.05	0.05	0.0	No	0.05	0.069	0.05	31.9	No
Organics - Semi-volatile Organic Compounds											
Biphenyl	mg/kg	-	-	-	-	-	0.05	0.05	0.05	0.0	No
Chloroaniline, 4-	mg/kg	-	-	-	-	-	0.1	0.1	0.1	0.0	No
Dichlorobenzidine, 3,3'-	mg/kg	-	-	-	-	-	0.1	0.1	0.1	0.0	No
Dinitrotoluene, 2,4-	mg/kg	-	-	-	-	-	0.1	0.1	0.1	0.0	No
Dinitrotoluene, 2,6-	mg/kg	-	-	-	-	-	0.1	0.1	0.1	0.0	No
Trichlorobenzene, 1,2,4-	mg/kg	-	-	-	-	-	0.05	0.05	0.05	0.0	No
bis(2-Chloroethyl) ether	mg/kg	-	-	-	-	-	0.1	0.1	0.1	0.0	No
bis(2-Chloroisopropyl) ether	mg/kg	-	-	-	-	-	0.1	0.1	0.1	0.0	No
Organics - Hydrocarbons											
F1 (C6-C10)	mg/kg	5	5	5	0.0	No	5	8.1	5	47.3	No
F2-Naphthalene	mg/kg	5	5	5	0.0	No	25	25	25	0.0	No
F3-PAH	mg/kg	10	10	10	0.0	No	50	50	50	0.0	No
F1-BTEX	mg/kg	10	10	10	0.0	No	5	8.1	5	47.3	No
F2 (C10-C16)	mg/kg	50	50	50	0.0	No	10	10	10	0.0	No
F3 (C16-C34)	mg/kg	50	50	50	0.0	No	50	50	50	0.0	No
F4 (C34-C50)	mg/kg	50	50	50	0.0	No	50	50	50	0.0	No
Hydrocarbons, total (C6-C50)	mg/kg	72	72	72	0.0	No	80	80	80	0.0	No
Organics - Dioxins & Furans											
2,3,7,8-TCDD	pg/g	0.027	0.07	0.041	52.3	No	0.1	0.110	0.11	0.0	No
1,2,3,7,8-PeCDD	pg/g	0.06	0.101	0.06	50.9	No	0.055	0.053	0.055	3.7	No
1,2,3,4,7,8-HxCDD	pg/g	0.04	0.042	0.04	4.9	No	0.034	0.052	0.043	18.9	No
1,2,3,6,7,8-HxCDD	pg/g	0.041	0.076	0.08	5.1	No	0.034	0.140	0.12	15.4	No
1,2,3,7,8,9-HxCDD	pg/g	0.039	0.1	0.056	56.4	No	0.034	0.167	0.044	116.6	No
1,2,3,4,6,7,8-HpCDD	pg/g	0.065	1.82	1.54	16.7	Yes	0.047	3.72	8.97	82.7	Yes
OCDD	pg/g	0.086	10.9	7.02	43.3	Yes	0.11	27.1	142	135.9	Yes
Total-TCDD	pg/g	0.026	0.26	0.07	115.2	No	0.1	0.286	0.11	88.9	No
Total-PeCDD	pg/g	0.06	0.421	0.327	25.1	Yes	0.055	0.756	0.143	136.4	No
Total-HxCDD	pg/g	0.041	0.043	0.226	136.1	No	0.034	1.67	0.434	117.5	Yes
Total-HpCDD	pg/g	0.065	4.07	2.84	35.6	Yes	0.047	6.81	20	98.4	Yes

Appendix E, Table 1

Year 2 Sediment Quality QAQC Results [1,2]

Parameter	Units	RDL	TWR_04_R1	Dup_03	RPD %	> 5 RDL	RDL	BeattySaugeen_03_R3	Dup_04	RPD %	> 5 RDL
2,3,7,8-TCDF	pg/g	0.042	0.062	0.042	38.5	No	0.092	0.094	0.092	2.2	No
1,2,3,7,8-PeCDF	pg/g	0.029	0.075	0.069	8.3	No	0.039	0.062	0.039	45.5	No
2,3,4,7,8-PeCDF	pg/g	0.027	0.032	0.086	91.5	No	0.03	0.140	0.03	129.4	No
1,2,3,4,7,8-HxCDF	pg/g	0.041	0.096	0.041	80.3	No	0.026	0.120	0.06	66.7	No
1,2,3,6,7,8-HxCDF	pg/g	0.038	0.034	0.039	13.7	No	0.024	0.084	0.038	75.4	No
1,2,3,7,8,9-HxCDF	pg/g	0.061	0.034	0.061	56.8	No	0.03	0.062	0.032	63.8	No
2,3,4,6,7,8-HxCDF	pg/g	0.042	0.099	0.042	80.9	No	0.02	0.140	0.083	51.1	No
1,2,3,4,6,7,8-HpCDF	pg/g	0.041	0.53	0.483	9.3	Yes	0.047	1.81	2.5	32.0	Yes
1,2,3,4,7,8,9-HpCDF	pg/g	0.065	0.054	0.065	18.5	No	0.063	0.150	0.317	71.5	No
OCDF	pg/g	0.051	1.7	0.85	66.7	Yes	0.072	8.26	19.5	81.0	Yes
Total-TCDF	pg/g	0.042	0.646	0.373	53.6	Yes	0.092	1.70	0.487	110.9	Yes
Total-PeCDF	pg/g	0.029	0.501	0.65	25.9	Yes	0.039	0.266	0.052	134.6	No
Total-HxCDF	pg/g	0.061	0.601	0.379	45.3	Yes	0.03	1.22	0.898	30.4	Yes
Total-HpCDF	pg/g	0.065	0.546	0.751	31.6	Yes	0.063	4.09	9.53	79.9	Yes
Organics - Polychlorinated Biphenyls											
Aroclor 1016	ug/g	-	-	-	-	-	0.01	0.01	0.01	0.0	No
Aroclor 1242	ug/g	0.01	0.01	0.01	0.0	No	0.01	0.01	0.01	0.0	No
Aroclor 1248	ug/g	0.01	0.01	0.01	0.0	No	0.01	0.01	0.01	0.0	No
Aroclor 1254	ug/g	0.01	0.01	0.01	0.0	No	0.01	0.01	0.01	0.0	No
Aroclor 1260	ug/g	0.01	0.01	0.01	0.0	No	0.01	0.01	0.01	0.0	No
Polychlorinated biphenyls [PCBs], total	ug/g	0.02	0.02	0.02	0.0	No	0.03	0.03	0.03	0.0	No
Organochlorine Pesticides											
Aldrin	ug/g	0.0006	0.0006	0.0006	0.0	No	0.02	0.02	0.02	0.0	No
Chlordane, total	ug/g	0.0013	0.0013	0.0013	0.0	No	0.03	0.03	0.03	0.0	No
DDD, total	ug/g	0.0013	0.0013	0.0013	0.0	No	0.03	0.03	0.03	0.0	No
DDE, total	ug/g	0.0013	0.0013	0.0013	0.0	No	0.03	0.03	0.03	0.0	No
DDT, total	ug/g	0.0013	0.0013	0.0013	0.0	No	0.03	0.03	0.03	0.0	No
Dieldrin	ug/g	0.0006	0.0006	0.0006	0.0	No	0.02	0.02	0.02	0.0	No
Endosulfan, total	ug/g	0.0013	0.0013	0.0013	0.0	No	0.03	0.03	0.03	0.0	No
Endrin	ug/g	0.0015	0.0015	0.0015	0.0	No	0.02	0.02	0.02	0.0	No
Heptachlor	ug/g	0.0006	0.0006	0.0006	0.0	No	0.02	0.02	0.02	0.0	No
Heptachlor epoxide	ug/g	0.0006	0.0006	0.0006	0.0	No	0.02	0.02	0.02	0.0	No
Hexachlorobenzene	ug/g	0.0015	0.0015	0.0015	0.0	No	0.01	0.01	0.01	0.0	No
Hexachlorobutadiene	ug/g	0.0015	0.0015	0.0015	0.0	No	0.01	0.01	0.01	0.0	No
Hexachloroethane	ug/g	0.0015	0.0015	0.0015	0.0	No	0.01	0.01	0.01	0.0	No
Methoxychlor	ug/g	0.0015	0.0015	0.0015	0.0	No	0.02	0.02	0.02	0.0	No

[1] Cells containing grey highlights indicate parameters that exceed the DQO of 40% and have sample and duplicate results that exceed five times the RDL.
[2] Tier 2 artificial radionuclide analysis not available for TWR_04, TWR_08, Duplicate _03, Beattysaugeen_03, or duplicate_04.

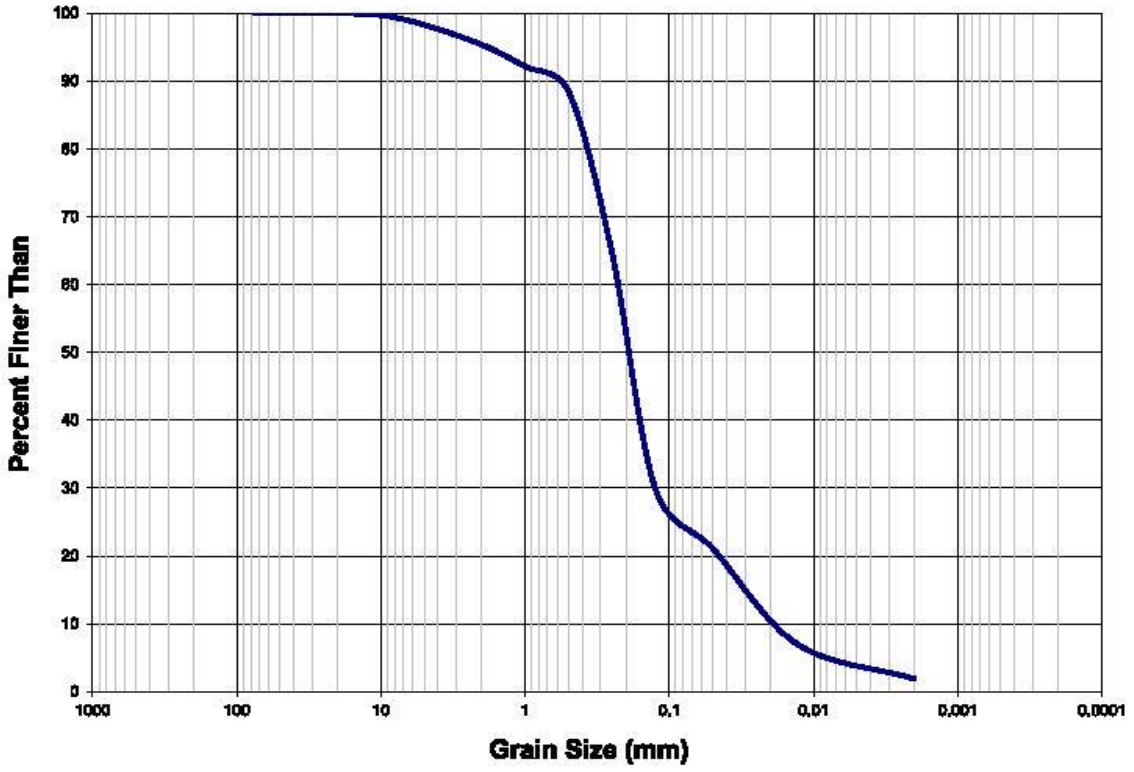
Appendix F - Sediment Particle Size Distribution Curves and Grain Size Analysis

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES
Environmental Division

819-58th Street, Saskatoon, SK S7K 6X5

Client Name: Nuclear Waste Management Organization
Project:
Sample ID: SB_SW_TWR_04_R1
Lab ID: L2736717-1

Particle Size Distribution Curve



Particle Size Distribution

Range (mm)	Wt. (%)	Class	Range (mm)	Wt. (%)	Class
> 2	4.62	Gravel			
2 - 0.2	44.62	Sand			
0.2 - 0.063	26.12	Sand			
0.063 - 0.004	19.80	Silt			
<0.004	2.84	clay			

Texture: Loamy sand

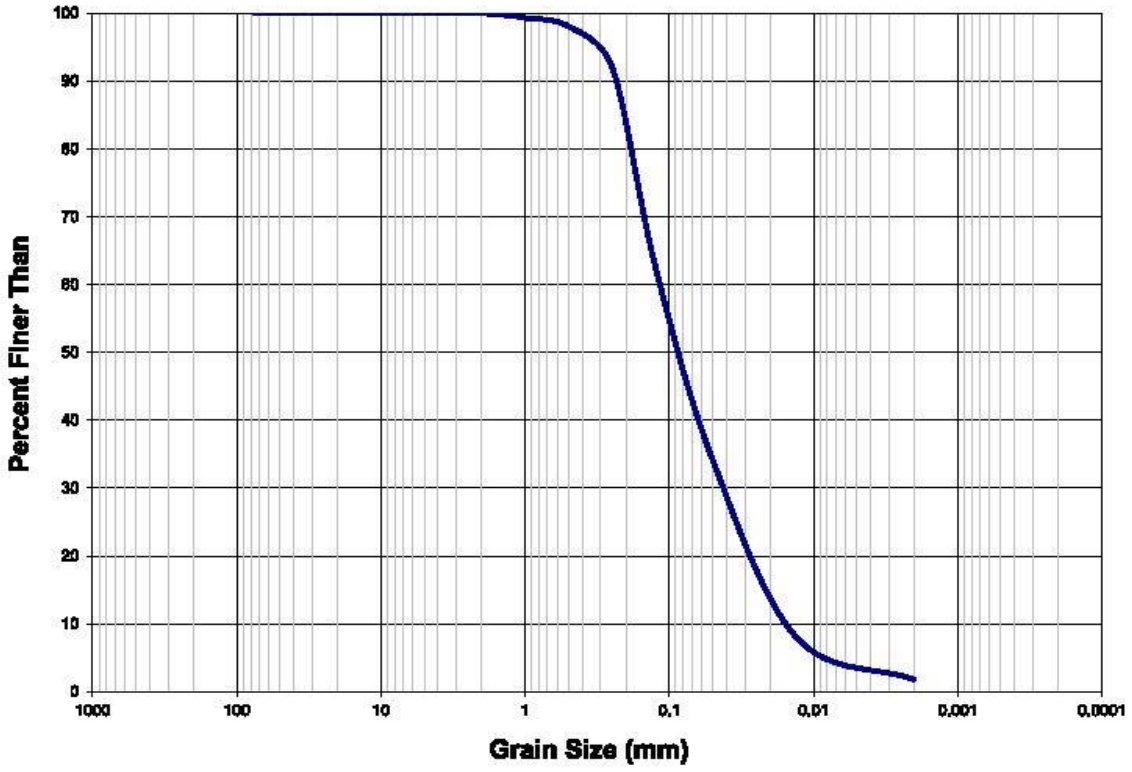
Method Reference: Can. Soc. Soil Sci. (1993) Method 47.2

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES
Environmental Division

819-58th Street, Saskatoon, SK S7K 6X5

Client Name: Nuclear Waste Management Organization
Project:
Sample ID: SB_SW_TWR_04_R2
Lab ID: L2736717-2

Particle Size Distribution Curve



Particle Size Distribution

Range (mm)	Wt. (%)	Class	Range (mm)	Wt. (%)	Class
> 2	0.00	Gravel			
2 - 0.2	19.70	Sand			
0.2 - 0.063	41.22	Sand			
0.063 - 0.004	36.19	Silt			
<0.004	2.89	clay			

Texture: Sandy loam

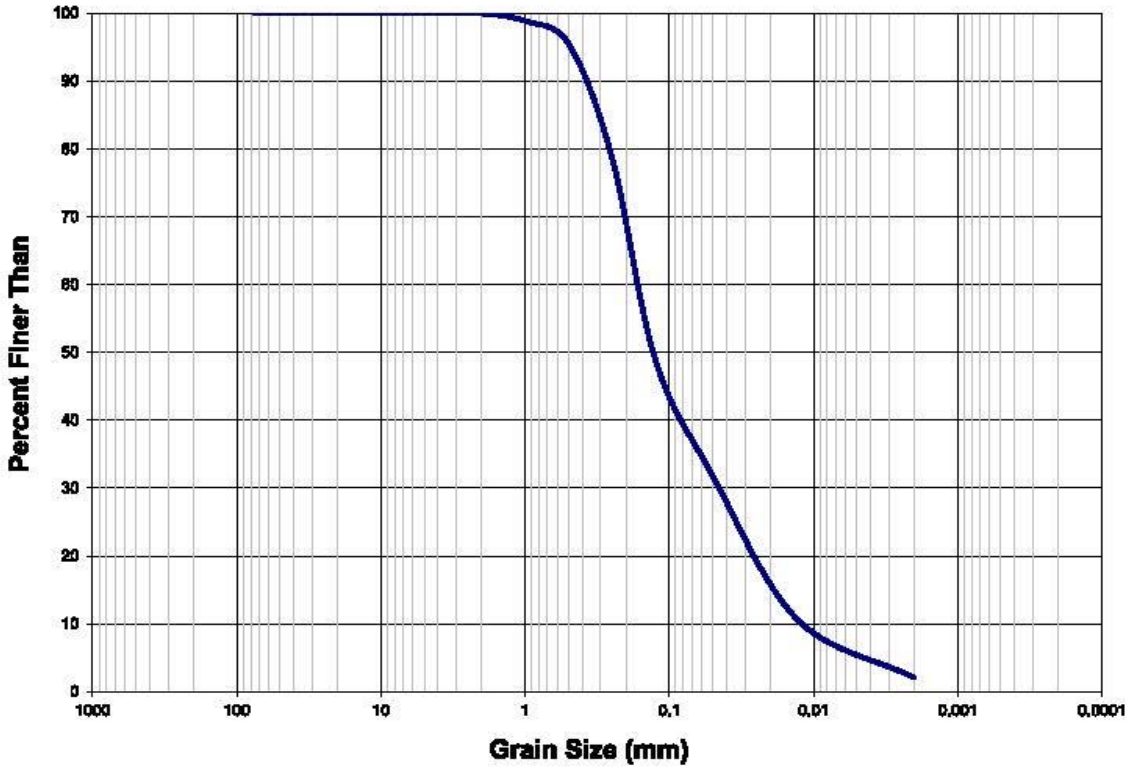
Method Reference: Can. Soc. Soil Sci. (1993) Method 47.2

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES
Environmental Division

819-58th Street, Saskatoon, SK S7K 6X5

Client Name: Nuclear Waste Management Organization
Project:
Sample ID: SB_SW_TWR_04_R3
Lab ID: L2736714-2

Particle Size Distribution Curve



Particle Size Distribution

Range (mm)	Wt. (%)	Class	Range (mm)	Wt. (%)	Class
> 2	0.04	Gravel			
2 - 0.2	33.17	Sand			
0.2 - 0.063	31.99	Sand			
0.063 - 0.004	31.19	Silt			
<0.004	3.60	clay			

Texture: Sandy loam

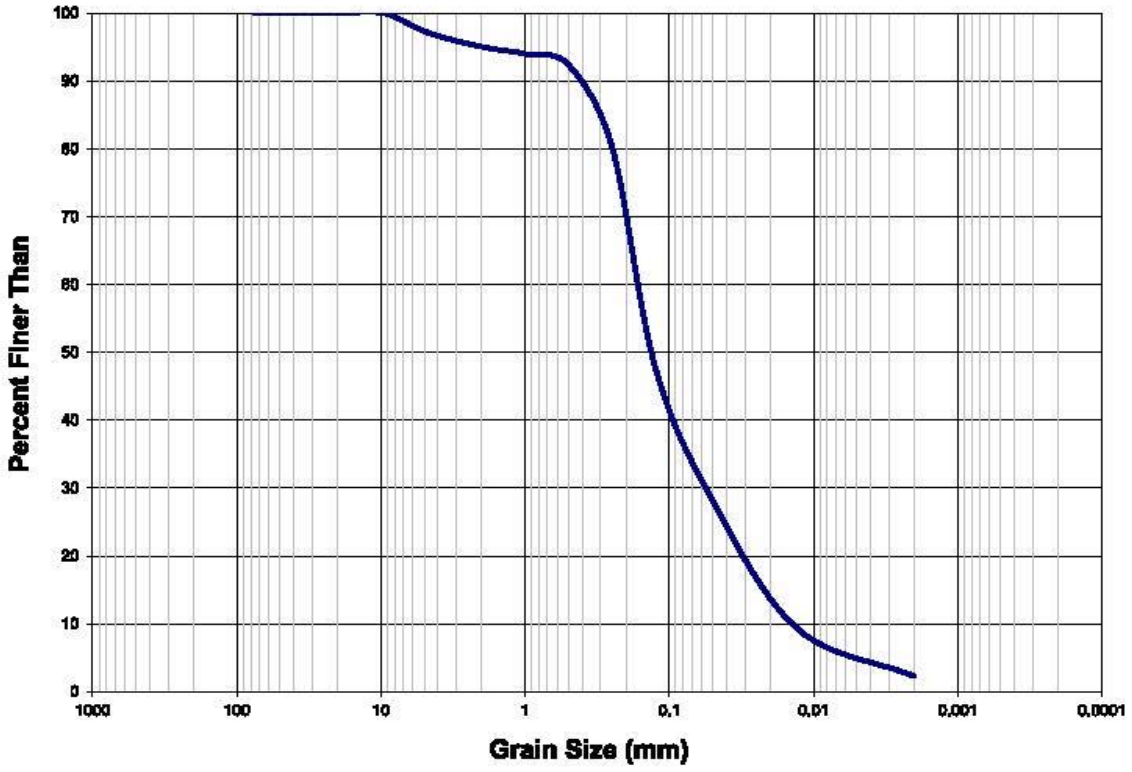
Method Reference: Can. Soc. Soil Sci. (1993) Method 47.2

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES
Environmental Division

819-58th Street, Saskatoon, SK S7K 6X5

Client Name: Nuclear Waste Management Organization
Project:
Sample ID: SB-SW-TWR-04-R4
Lab ID: L2736658-1

Particle Size Distribution Curve



Particle Size Distribution

Range (mm)	Wt. (%)	Class	Range (mm)	Wt. (%)	Class
> 2	4.93	Gravel			
2 - 0.2	27.78	Sand			
0.2 - 0.063	35.74	Sand			
0.063 - 0.004	28.01	Silt			
<0.004	3.54	clay			

Texture: Sandy loam

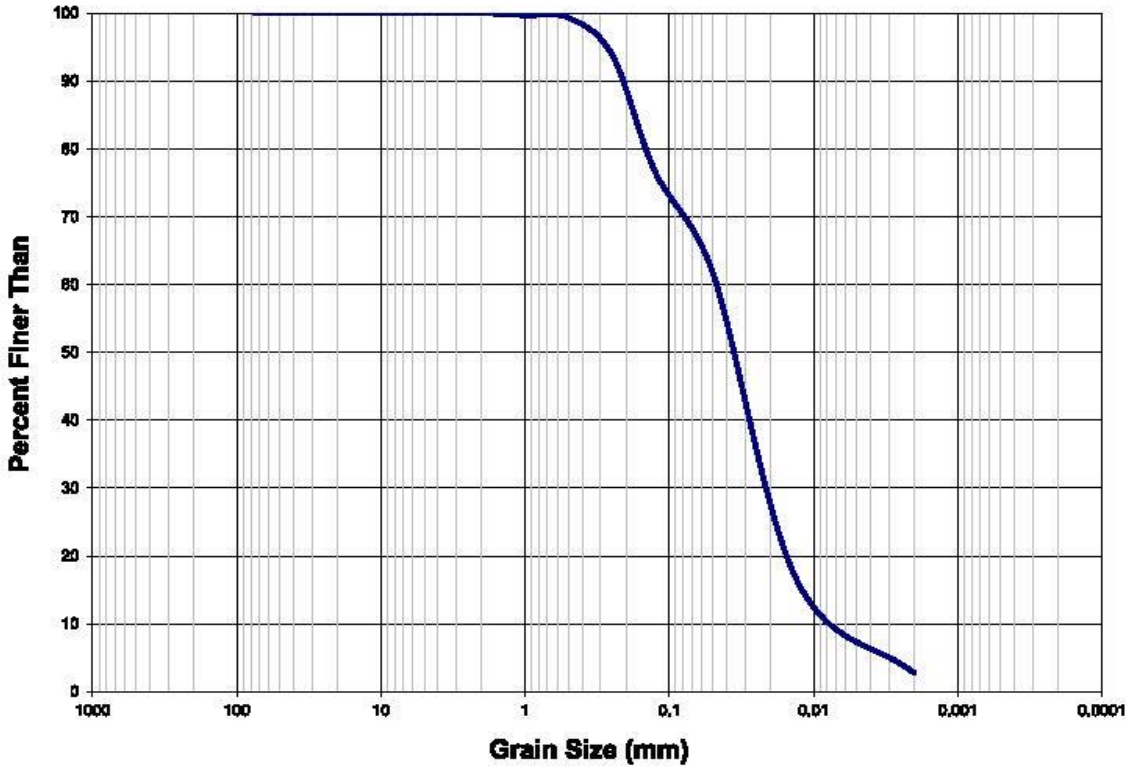
Method Reference: Can. Soc. Soil Sci. (1993) Method 47.2

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES
Environmental Division

819-58th Street, Saskatoon, SK S7K 6X5

Client Name: Nuclear Waste Management Organization
Project:
Sample ID: SB-SW-TWR-04-R6
Lab ID: L2736658-2

Particle Size Distribution Curve



Particle Size Distribution

Range (mm)	Wt. (%)	Class	Range (mm)	Wt. (%)	Class
> 2	0.00	Gravel			
2 - 0.2	13.06	Sand			
0.2 - 0.063	22.62	Sand			
0.063 - 0.004	59.12	Silt			
<0.004	5.21	clay			

Texture: Silt loam

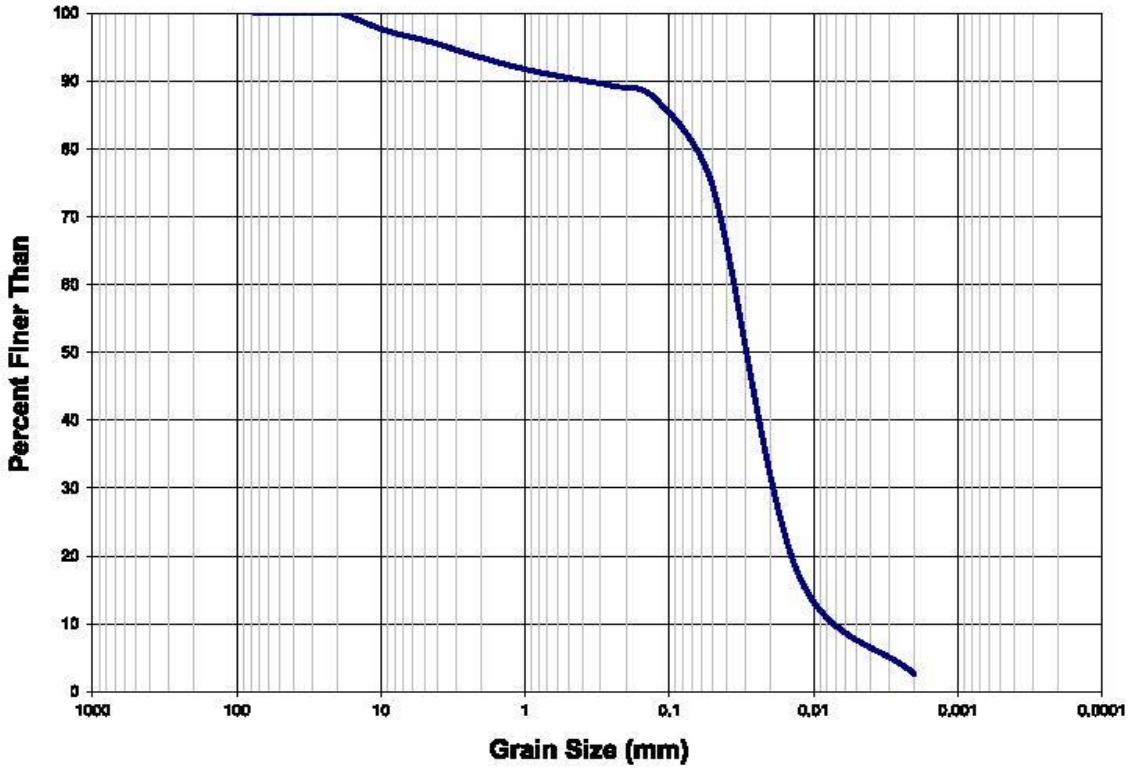
Method Reference: Can. Soc. Soil Sci. (1993) Method 47.2

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES
Environmental Division

Client Name: Nuclear Waste Management Organization
Project:
Sample ID: SB.SW.TWR.09-R1
Lab ID: L2735891-1

819-58th Street, Saskatoon, SK S7K 6X5

Particle Size Distribution Curve



Particle Size Distribution

Range (mm)	Wt. (%)	Class
> 2	6.54	Gravel
2 - 0.2	4.99	Sand
0.2 - 0.063	11.85	Sand
0.063 - 0.004	71.34	Silt
<0.004	5.34	clay

Texture: Silt loam

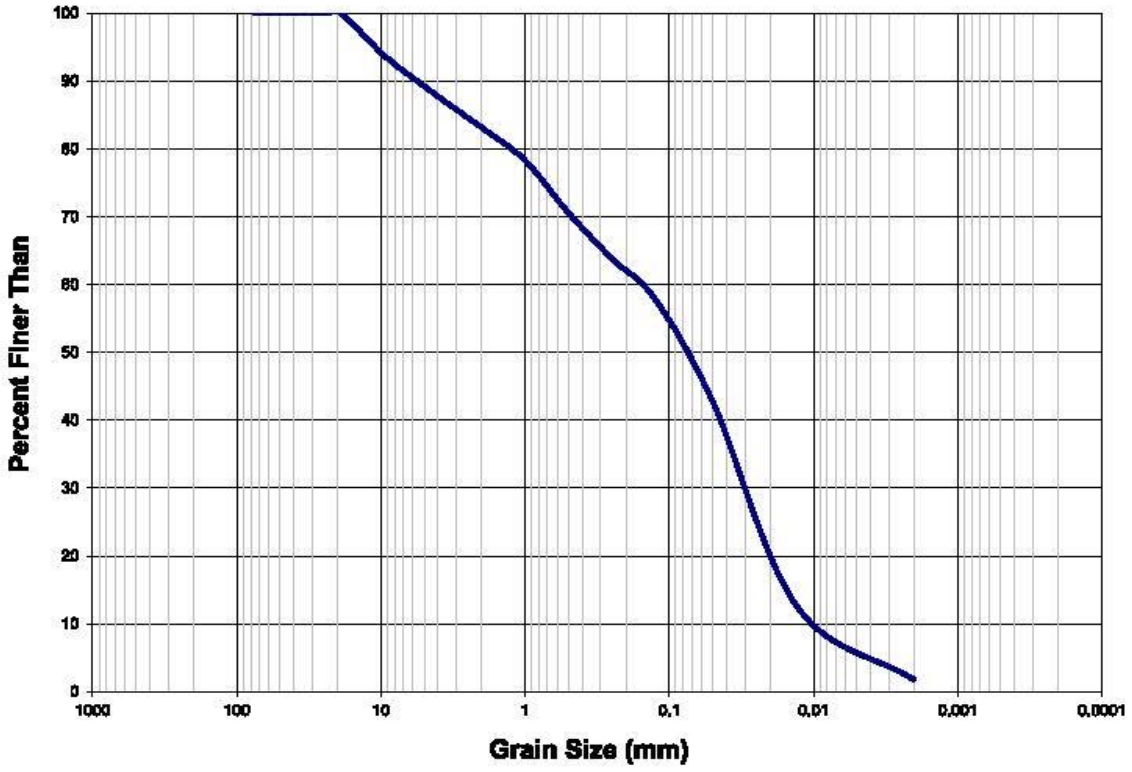
Method Reference: Can. Soc. Soil Sci. (1993) Method 47.2

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES
Environmental Division

819-58th Street, Saskatoon, SK S7K 6X5

Client Name: Nuclear Waste Management Organization
Project:
Sample ID: SB.SW.TWR.06-R2
Lab ID: L2735891-2

Particle Size Distribution Curve



Particle Size Distribution

Range (mm)	Wt. (%)	Class
> 2	16.86	Gravel
2 - 0.2	21.72	Sand
0.2 - 0.063	16.06	Sand
0.063 - 0.004	41.64	Silt
<0.004	3.71	clay

Texture: Silt loam / Sa

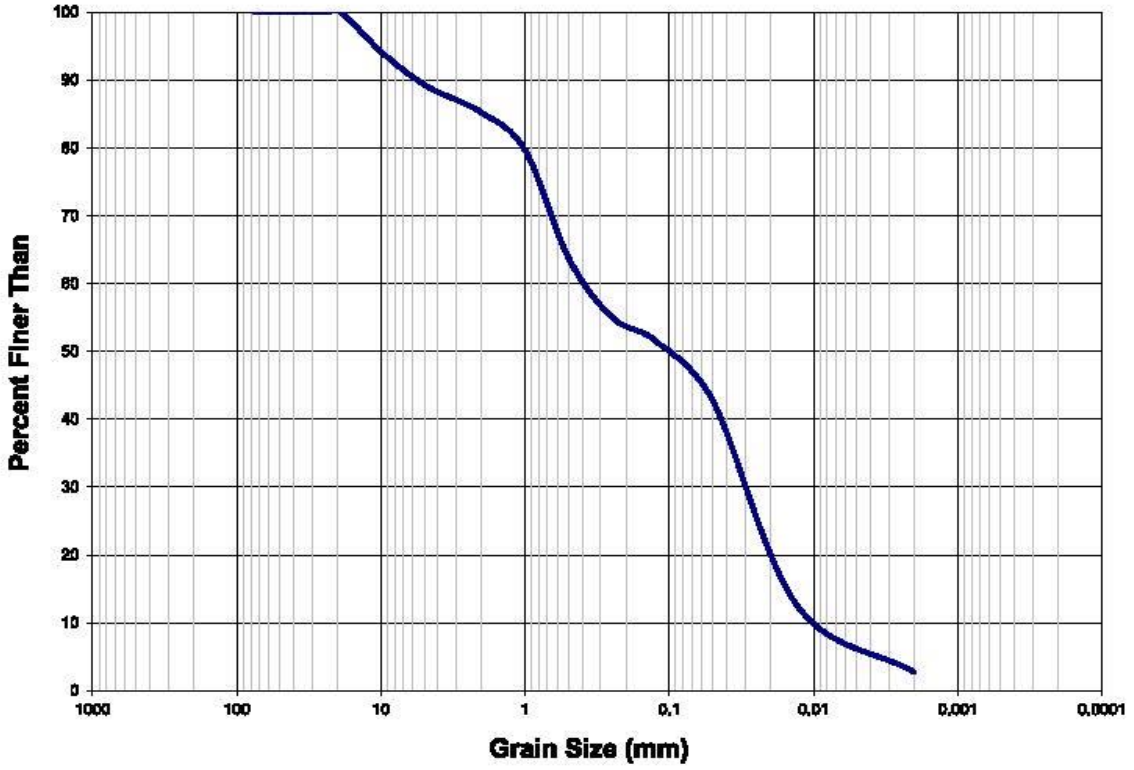
Method Reference: Can. Soc. Soil Sci. (1993) Method 47.2

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES
Environmental Division

819-58th Street, Saskatoon, SK S7K 6X5

Client Name: Nuclear Waste Management Organization
Project:
Sample ID: SB.SW.TWR.66.R3
Lab ID: L2735869-1

Particle Size Distribution Curve



Particle Size Distribution

Range (mm)	Wt. (%)	Class	Range (mm)	Wt. (%)	Class
> 2	14.77	Gravel			
2 - 0.2	31.56	Sand			
0.2 - 0.063	9.36	Sand			
0.063 - 0.004	39.75	Silt			
<0.004	4.50	clay			

Texture: Sandy loam

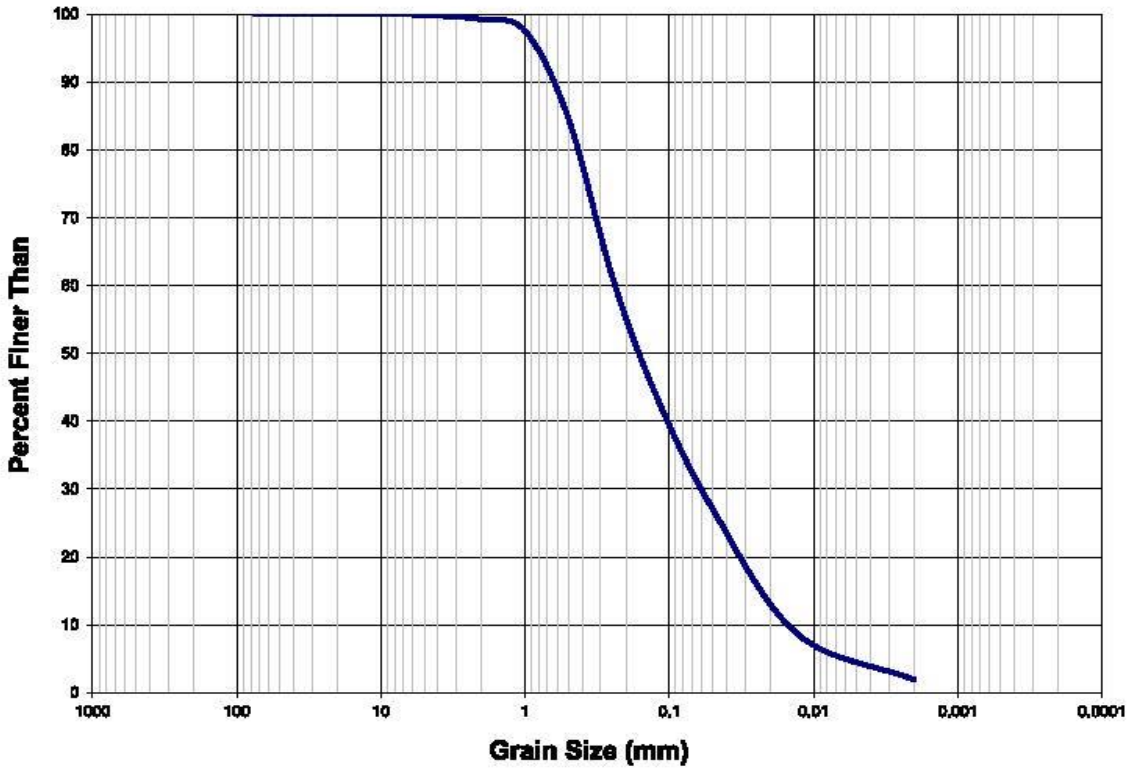
Method Reference: Can. Soc. Soil Sci. (1993) Method 47.2

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES
Environmental Division

819-58th Street, Saskatoon, SK S7K 6X5

Client Name: Nuclear Waste Management Organization
Project:
Sample ID: SB.SW.TWR.66.R4
Lab ID: L2735869-2

Particle Size Distribution Curve



Particle Size Distribution

Range (mm)	Wt. (%)	Class	Range (mm)	Wt. (%)	Class
> 2	0.77	Gravel			
2 - 0.2	44.74	Sand			
0.2 - 0.063	24.49	Sand			
0.063 - 0.004	26.85	Silt			
<0.004	3.15	clay			

Texture: Sandy loam /

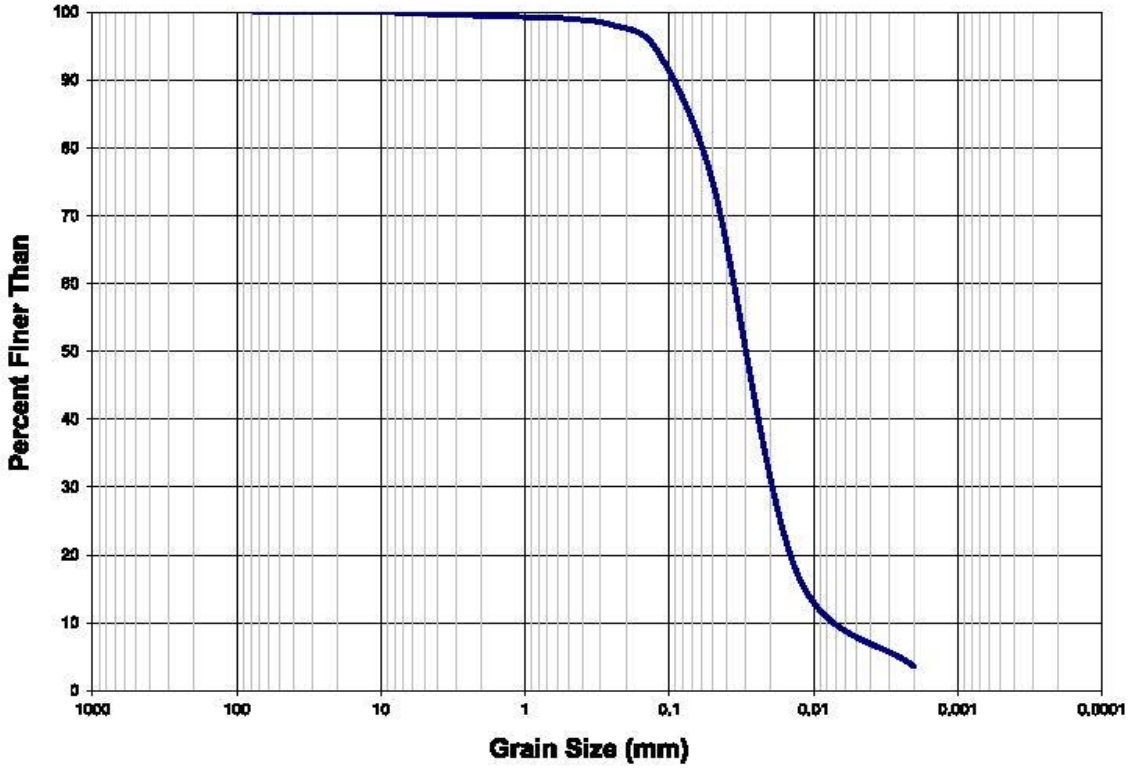
Method Reference: Can. Soc. Soil Sci. (1993) Method 47.2

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES
Environmental Division

819-58th Street, Saskatoon, SK S7K 6X5

Client Name: Nuclear Waste Management Organization
Project:
Sample ID: SB.SW.TWR.06.R5
Lab ID: L2735869-3

Particle Size Distribution Curve



Particle Size Distribution

Range (mm)	Wt. (%)	Class	Range (mm)	Wt. (%)	Class
> 2	0.52	Gravel			
2 - 0.2	2.71	Sand			
0.2 - 0.063	16.39	Sand			
0.063 - 0.004	72.36	Silt			
<0.004	8.02	clay			

Texture: Silt loam

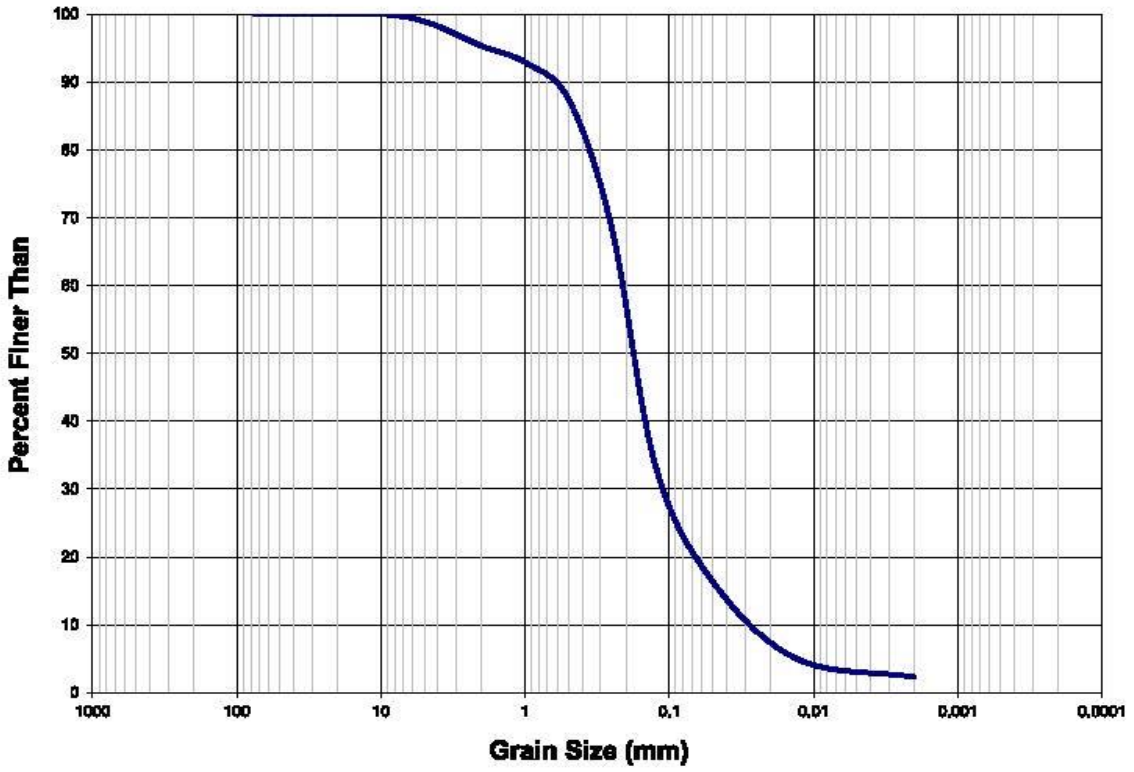
Method Reference: Can. Soc. Soil Sci. (1993) Method 47.2

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES
Environmental Division

819-58th Street, Saskatoon, SK S7K 6X5

Client Name: Nuclear Waste Management Organization
Project:
Sample ID: SB-SW-TWR-03-R1
Lab ID: L2739348-1

Particle Size Distribution Curve



Particle Size Distribution

Range (mm)	Wt. (%)	Class	Range (mm)	Wt. (%)	Class
> 2	4.65	Gravel			
2 - 0.2	40.97	Sand			
0.2 - 0.063	36.03	Sand			
0.063 - 0.004	16.57	Silt			
<0.004	2.79	clay			

Texture: Loamy sand

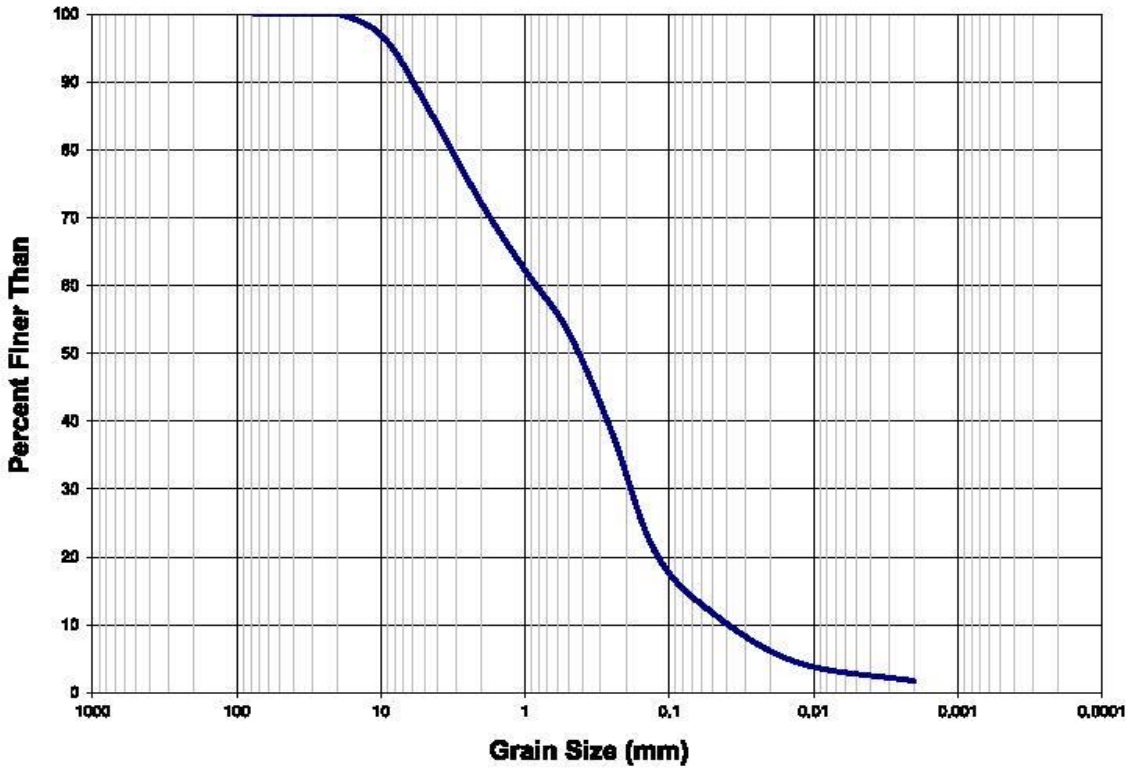
Method Reference: Can. Soc. Soil Sci. (1993) Method 47.2

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES
Environmental Division

819-58th Street, Saskatoon, SK S7K 6X5

Client Name: Nuclear Waste Management Organization
Project:
Sample ID: SB-SW-TWR-03-R2
Lab ID: L2739348-2

Particle Size Distribution Curve



Particle Size Distribution

Range (mm)	Wt. (%)	Class	Range (mm)	Wt. (%)	Class
> 2	27.94	Gravel			
2 - 0.2	40.80	Sand			
0.2 - 0.063	17.98	Sand			
0.063 - 0.004	11.07	Silt			
<0.004	2.21	clay			

Texture: Loamy sand

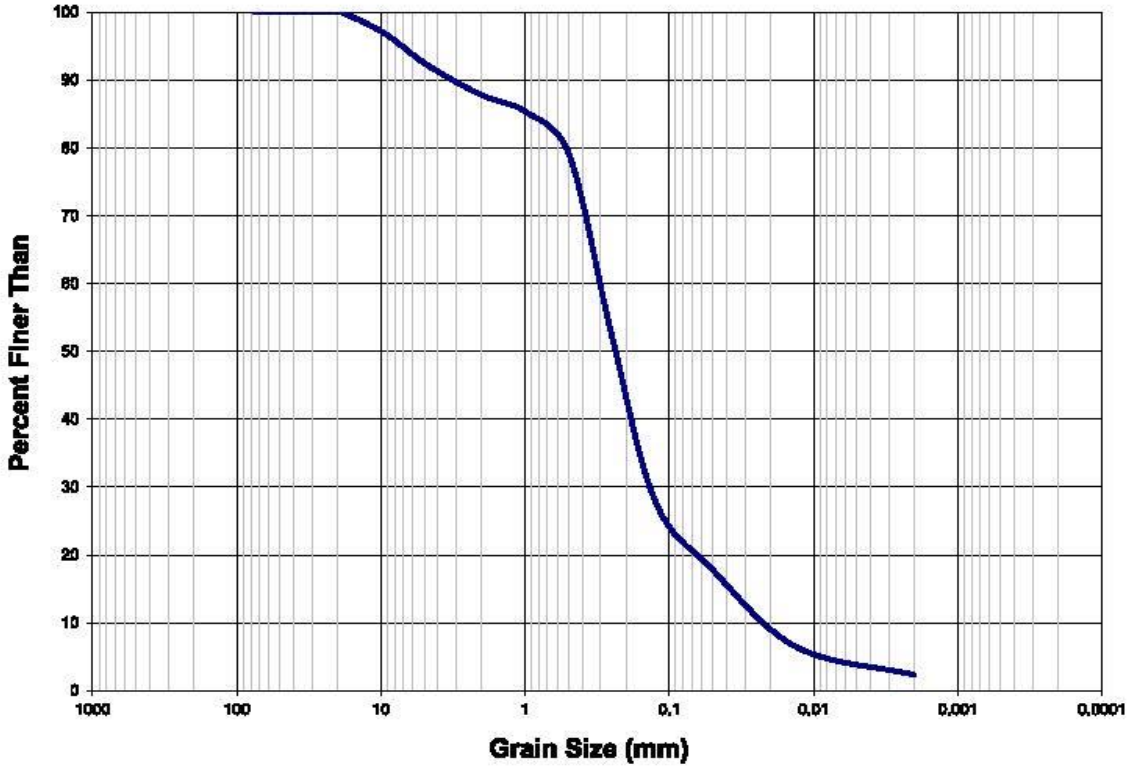
Method Reference: Can. Soc. Soil Sci. (1993) Method 47.2

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES
Environmental Division

819-58th Street, Saskatoon, SK S7K 6X5

Client Name: Nuclear Waste Management Organization
Project:
Sample ID: SB_SW_TWR_03-R3
Lab ID: L2739326-1

Particle Size Distribution Curve



Particle Size Distribution

Range (mm)	Wt. (%)	Class	Range (mm)	Wt. (%)	Class
> 2	12.18	Gravel			
2 - 0.2	45.33	Sand			
0.2 - 0.053	22.95	Sand			
0.053 - 0.004	16.46	Silt			
<0.004	3.07	clay			

Texture: Loamy sand

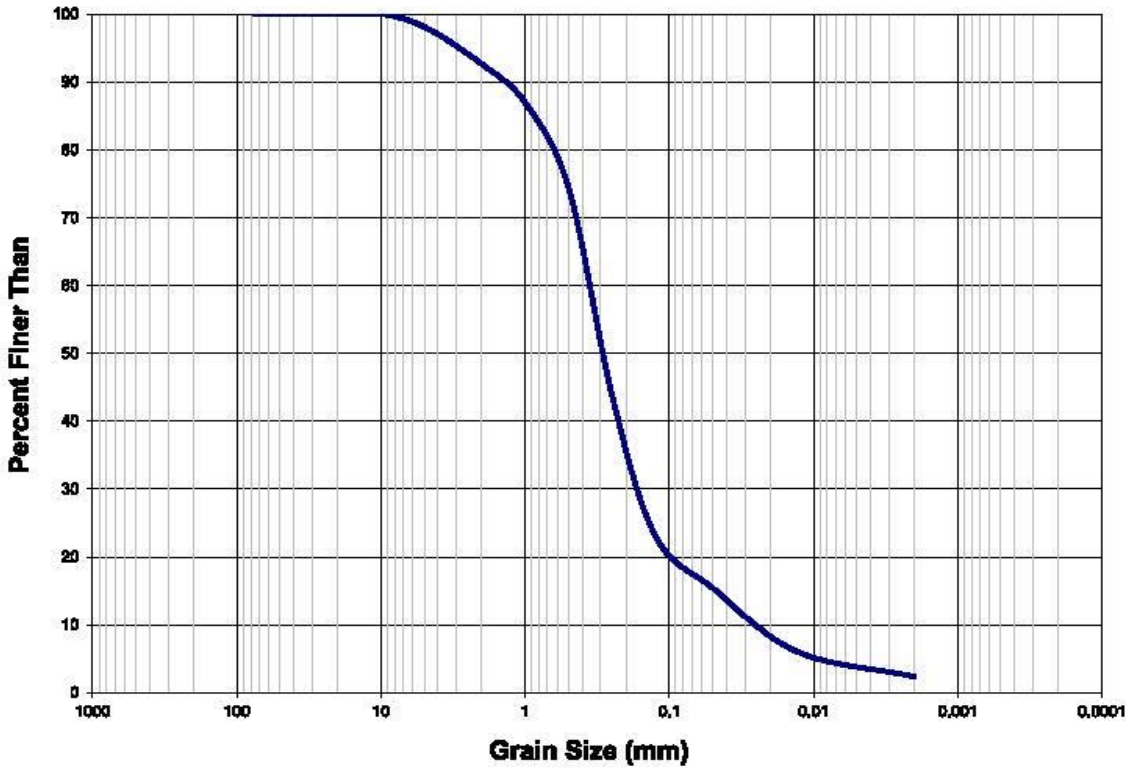
Method Reference: Can. Soc. Soil Sci. (1993) Method 47.2

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES
Environmental Division

819-58th Street, Saskatoon, SK S7K 6X5

Client Name: Nuclear Waste Management Organization
Project:
Sample ID: SB_SW_TWR_03-R4
Lab ID: L2739326-2

Particle Size Distribution Curve



Particle Size Distribution

Range (mm)	Wt. (%)	Class	Range (mm)	Wt. (%)	Class
> 2	7.83	Gravel			
2 - 0.2	57.12	Sand			
0.2 - 0.063	16.81	Sand			
0.063 - 0.004	13.70	Silt			
<0.004	3.04	clay			

Texture: Loamy sand

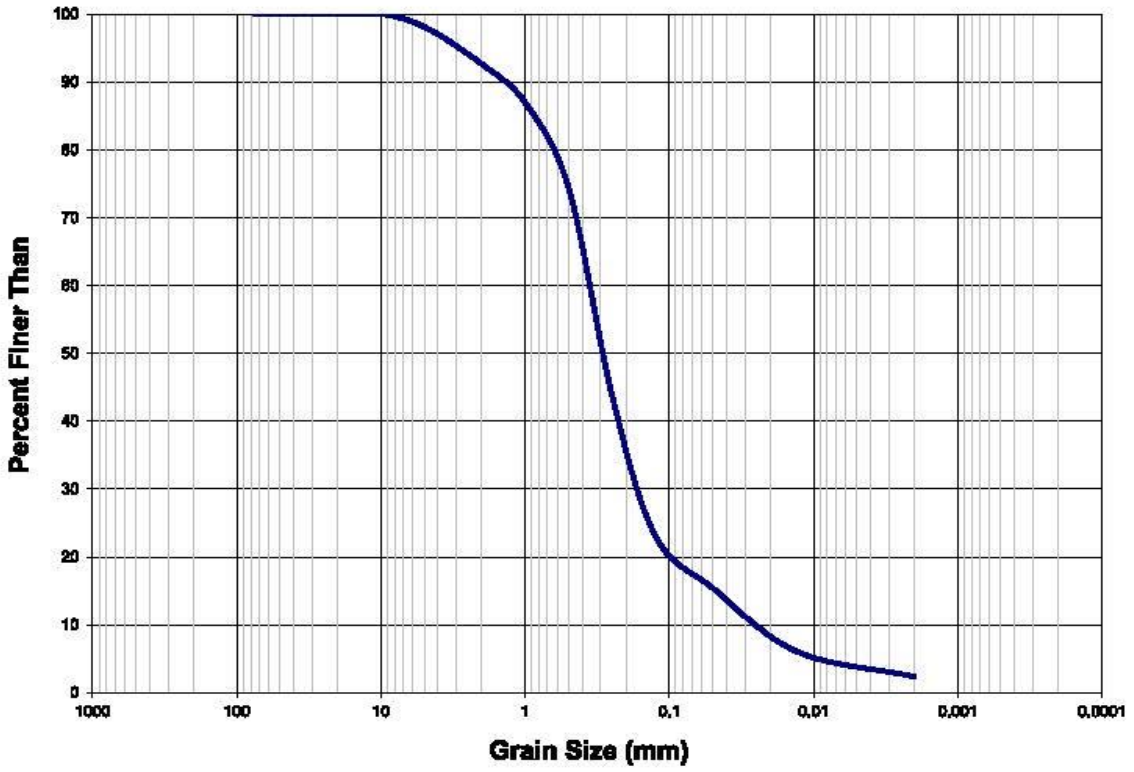
Method Reference: Can. Soc. Soil Sci. (1993) Method 47.2

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES
Environmental Division

819-58th Street, Saskatoon, SK S7K 6X5

Client Name: Nuclear Waste Management Organization
Project:
Sample ID: SB_SW_TWR_03-R4
Lab ID: L2739326-2

Particle Size Distribution Curve



Particle Size Distribution

Range (mm)	Wt. (%)	Class	Range (mm)	Wt. (%)	Class
> 2	7.83	Gravel			
2 - 0.2	57.12	Sand			
0.2 - 0.063	16.81	Sand			
0.063 - 0.004	13.70	Silt			
<0.004	3.04	clay			

Texture: Loamy sand

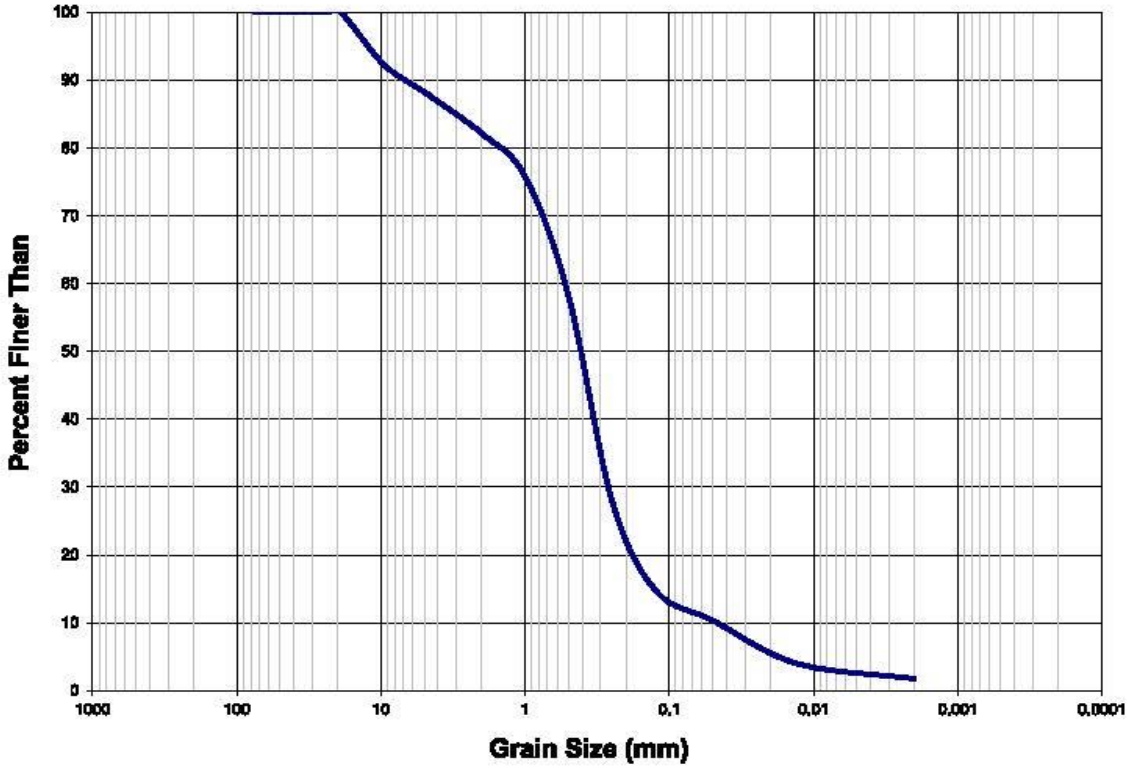
Method Reference: Can. Soc. Soil Sci. (1993) Method 47.2

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES
Environmental Division

819-58th Street, Saskatoon, SK S7K 6X5

Client Name: Nuclear Waste Management Organization
Project:
Sample ID: SB-SW-TWR-03-R6
Lab ID: L2739350-1

Particle Size Distribution Curve



Particle Size Distribution

Range (mm)	Wt. (%)	Class	Range (mm)	Wt. (%)	Class
> 2	17.86	Gravel			
2 - 0.2	59.40	Sand			
0.2 - 0.063	11.62	Sand			
0.063 - 0.004	8.94	Silt			
<0.004	2.17	clay			

Texture: Sand

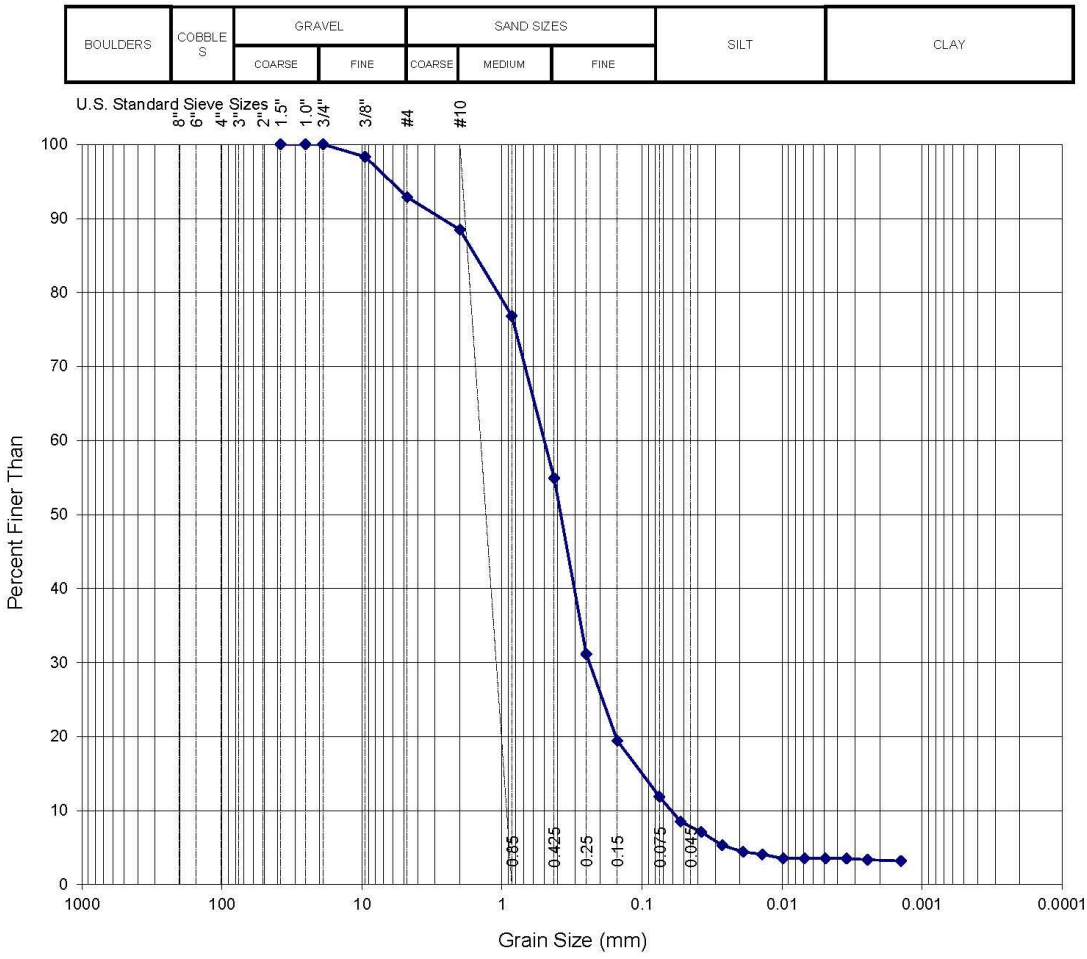
Method Reference: Can. Soc. Soil Sci. (1993) Method 47.2

ALS Laboratory Group

819-58th Street, Saskatoon,SK

PARTICLE SIZE DISTRIBUTION CURVE

Client Name: WT2219664001
Project Number:
Client Sample ID BEATTY SAUGEEN03_R1
Lab Sample ID WT2219664001
Date Sample Received 00-Jan-00
Test Completion Date: 10-Nov-22
Analyst: SIH



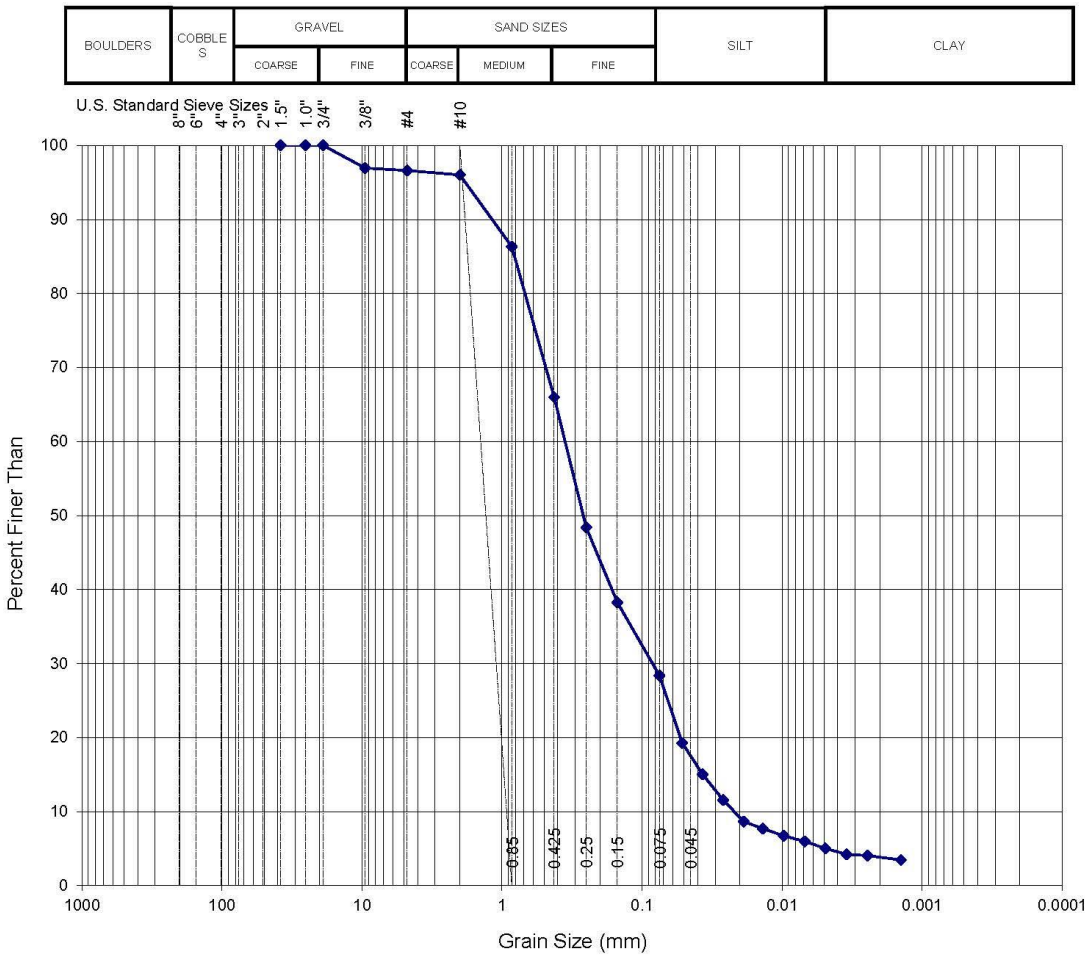
METHOD DESCRIPTION	SUMMARY OF RESULTS		
Method Reference: ASTM D6913 & D7928	GRAIN SIZE	WT %	DIA. RANGE (mm)
Dispersion method: Mechanical	% GRAVEL :	7.13	> 4.75
Dispesion period: 1 minute cm/s	% COARSE SAND :	4.40	2.0 - 4.75
	% MEDIUM SAND :	33.59	0.425 - 2.0
	% FINE SAND :	43.02	0.075 - 0.425
DESCRIPTION OF SAND AND GRAVEL PARTICLES	% SILT :	8.32	0.075 - 0.005
Shape: Angular	% CLAY :	3.54	< 0.005
Hardness: Hard			

ALS Laboratory Group

819-58th Street, Saskatoon,SK

PARTICLE SIZE DISTRIBUTION CURVE

Client Name:	WT2219668002
Project Number:	
Client Sample ID	BEATTY SAUGEEN03_R2
Lab Sample ID	WT2219668002
Date Sample Received	00-Jan-00
Test Completion Date:	10-Nov-22
Analyst:	SIH



METHOD DESCRIPTION

Method Reference: ASTM D6913 & D7928

Dispersion method: Mechanical

Dispesion period: 1 minute cm/s

DESCRIPTION OF SAND AND GRAVEL PARTICLES

Shape: Angular
Hardness: Hard

SUMMARY OF RESULTS

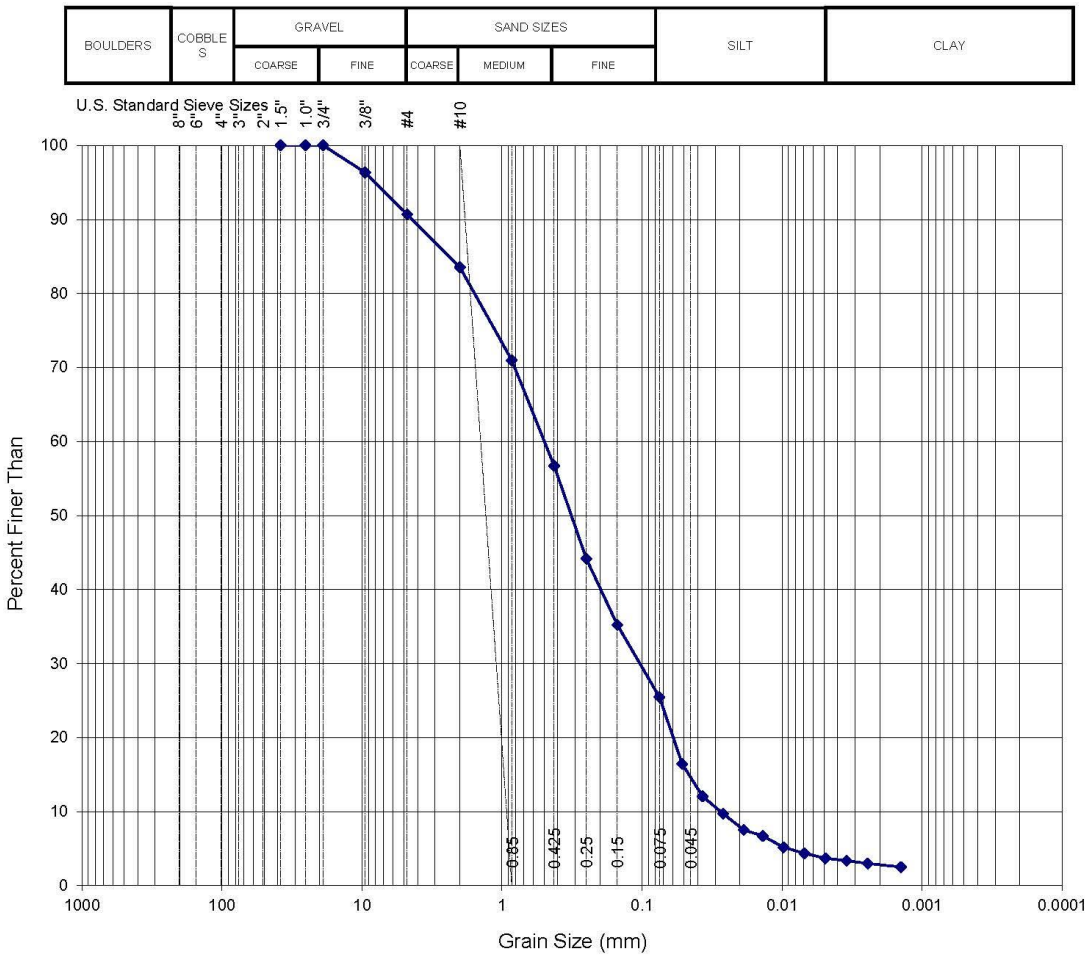
GRAIN SIZE	WT %	DIA. RANGE (mm)
% GRAVEL :	3.41	> 4.75
% COARSE SAND :	<1	2.0 - 4.75
% MEDIUM SAND :	30.03	0.425 - 2.0
% FINE SAND :	37.62	0.075 - 0.425
% SILT :	23.29	0.075 - 0.005
% CLAY :	5.08	< 0.005

ALS Laboratory Group

819-58th Street, Saskatoon,SK

PARTICLE SIZE DISTRIBUTION CURVE

Client Name: WT2219668001
Project Number:
Client Sample ID BEATTY SAUGEEN03_R3
Lab Sample ID WT2219668001
Date Sample Received 00-Jan-00
Test Completion Date: 10-Nov-22
Analyst: SIH



METHOD DESCRIPTION	
Method Reference: ASTM D6913 & D7928	
Dispersion method: Mechanical	
Dispesion period: 1 minute	cm/s

DESCRIPTION OF SAND AND GRAVEL PARTICLES
Shape: Angular
Hardness: Hard

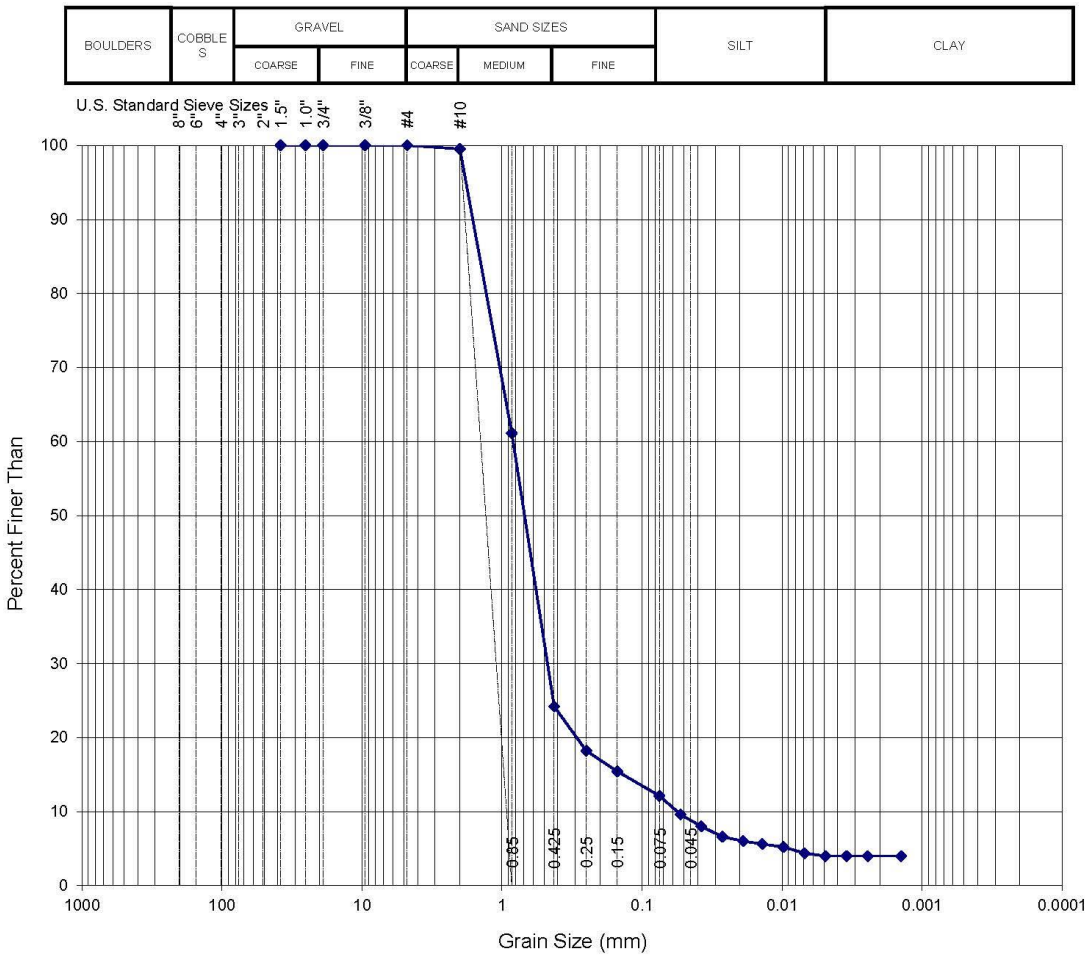
SUMMARY OF RESULTS		
GRAIN SIZE	WT %	DIA. RANGE (mm)
% GRAVEL :	9.33	> 4.75
% COARSE SAND :	7.16	2.0 - 4.75
% MEDIUM SAND :	26.81	0.425 - 2.0
% FINE SAND :	31.25	0.075 - 0.425
% SILT :	21.73	0.075 - 0.005
% CLAY :	3.73	< 0.005

ALS Laboratory Group

819-58th Street, Saskatoon,SK

PARTICLE SIZE DISTRIBUTION CURVE

Client Name:	WT2219670001
Project Number:	
Client Sample ID	BEATTY SAUGEEN03_R4
Lab Sample ID	WT2219670001
Date Sample Received	00-Jan-00
Test Completion Date:	10-Nov-22
Analyst:	SIH



METHOD DESCRIPTION	
Method Reference: ASTM D6913 & D7928	
Dispersion method: Mechanical	
Dispesion period: 1 minute	cm/s

DESCRIPTION OF SAND AND GRAVEL PARTICLES
Shape: Angular
Hardness: Hard

SUMMARY OF RESULTS		
GRAIN SIZE	WT %	DIA. RANGE (mm)
% GRAVEL :	<1	> 4.75
% COARSE SAND :	<1	2.0 - 4.75
% MEDIUM SAND :	75.33	0.425 - 2.0
% FINE SAND :	12.07	0.075 - 0.425
% SILT :	8.09	0.075 - 0.005
% CLAY :	4.03	< 0.005

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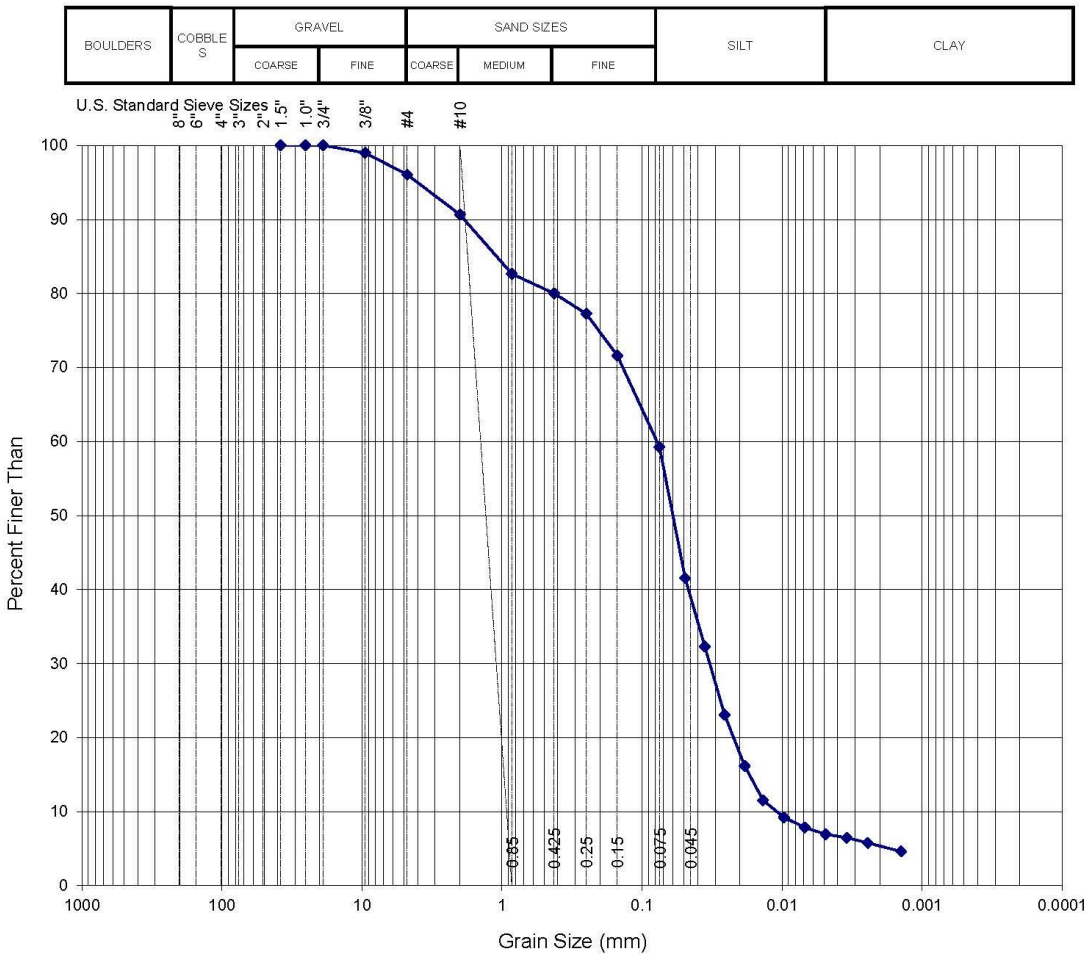
PARTICLE SIZE DISTRIBUTION CURVE

Client Name: WT2219664002
Project Number:
Client Sample ID BEATTY SAUGEEN03_R5
Lab Sample ID WT2219664002
Date Sample Received 00-Jan-00
Test Completion Date: 10-Nov-22
Analyst: SIH



METHOD DESCRIPTION	
Method Reference: ASTM D6913 & D7928	
Dispersion method: Mechanical	
Dispesion period: 1 minute	cm/s

DESCRIPTION OF SAND AND GRAVEL PARTICLES
Shape: Angular
Hardness: Hard

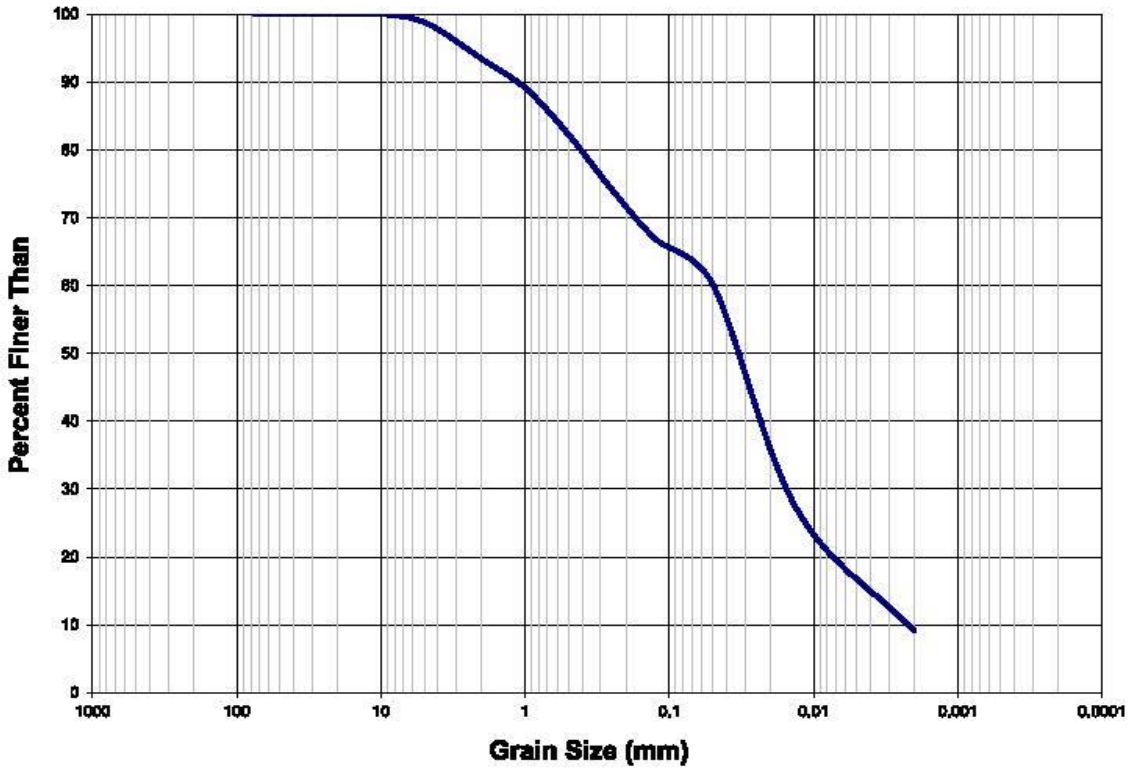
SUMMARY OF RESULTS		
GRAIN SIZE	WT %	DIA. RANGE (mm)
% GRAVEL :	3.97	> 4.75
% COARSE SAND :	5.38	2.0 - 4.75
% MEDIUM SAND :	10.65	0.425 - 2.0
% FINE SAND :	20.74	0.075 - 0.425
% SILT :	52.27	0.075 - 0.005
% CLAY :	6.99	< 0.005

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES
Environmental Division

819-58th Street, Saskatoon, SK S7K 6X5

Client Name: Nuclear Waste Management Organization
Project:
Sample ID: SB.SW.SILVER-R1
Lab ID: L2735893-1

Particle Size Distribution Curve



Particle Size Distribution

Range (mm)	Wt. (%)	Class	Range (mm)	Wt. (%)	Class
> 2	6.56	Gravel			
2 - 0.2	22.19	Sand			
0.2 - 0.063	9.91	Sand			
0.063 - 0.004	48.92	Silt			
<0.004	12.41	clay			

Texture: Silt loam

Method Reference: Can. Soc. Soil Sci. (1993) Method 47.2

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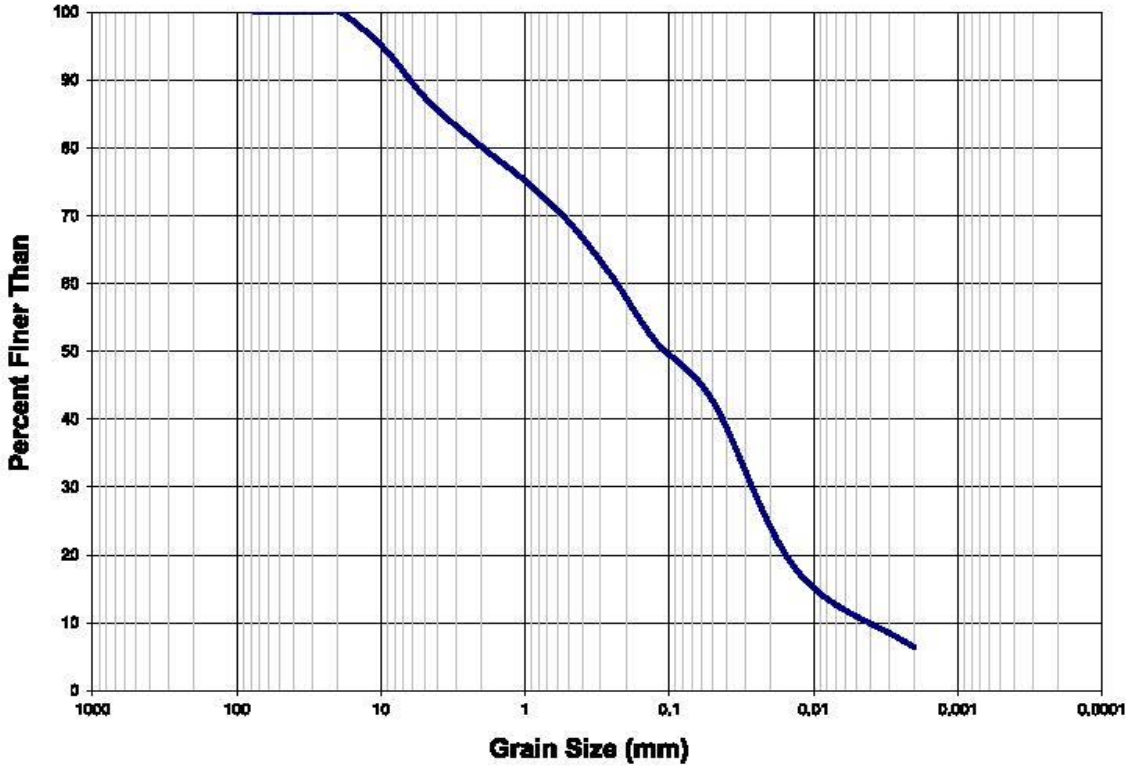
ANALYTICAL CHEMISTRY & TESTING SERVICES
Environmental Division

819-58th Street, Saskatoon, SK S7K 6X5

Client Name: Nuclear Waste Management Organization
Project:
Sample ID: SB.SW.SILVER-R2
Lab ID: L2735893-2

Particle Size Distribution Curve



Particle Size Distribution

Range (mm)	Wt. (%)	Class
> 2	19.84	Gravel
2 - 0.2	22.91	Sand
0.2 - 0.063	13.02	Sand
0.063 - 0.004	35.83	Silt
<0.004	8.41	clay

Texture: Loam / Sandy

Method Reference: Can. Soc. Soil Sci. (1993) Method 47.2

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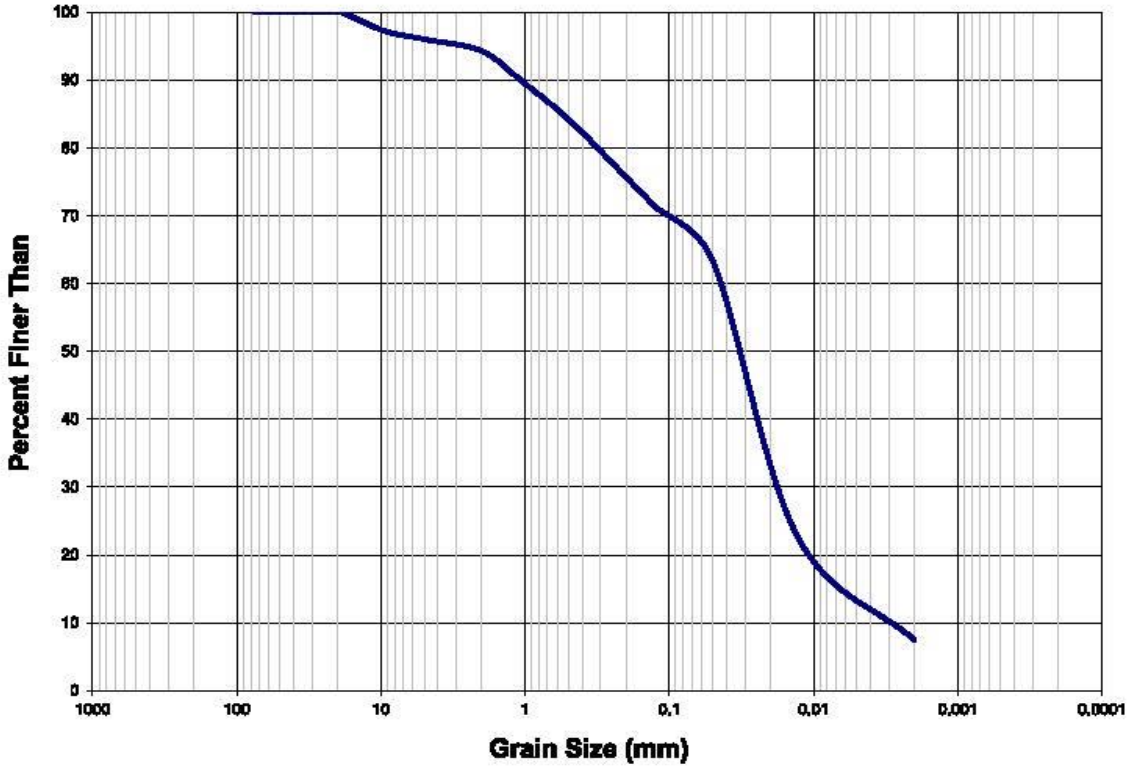
Environmental Division

819-58th Street, Saskatoon, SK S7K 6X5

Client Name: Nuclear Waste Management Organization
Project:
Sample ID: SB.SW.SILVER-R3
Lab ID: L2735893-3

Particle Size Distribution Curve



Particle Size Distribution

Range (mm)	Wt. (%)	Class
> 2	5.72	Gravel
2 - 0.2	19.05	Sand
0.2 - 0.053	10.49	Sand
0.053 - 0.004	54.50	Silt
<0.004	10.25	clay

Texture: Silt loam

Method Reference: Can. Soc. Soil Sci. (1993) Method 47.2

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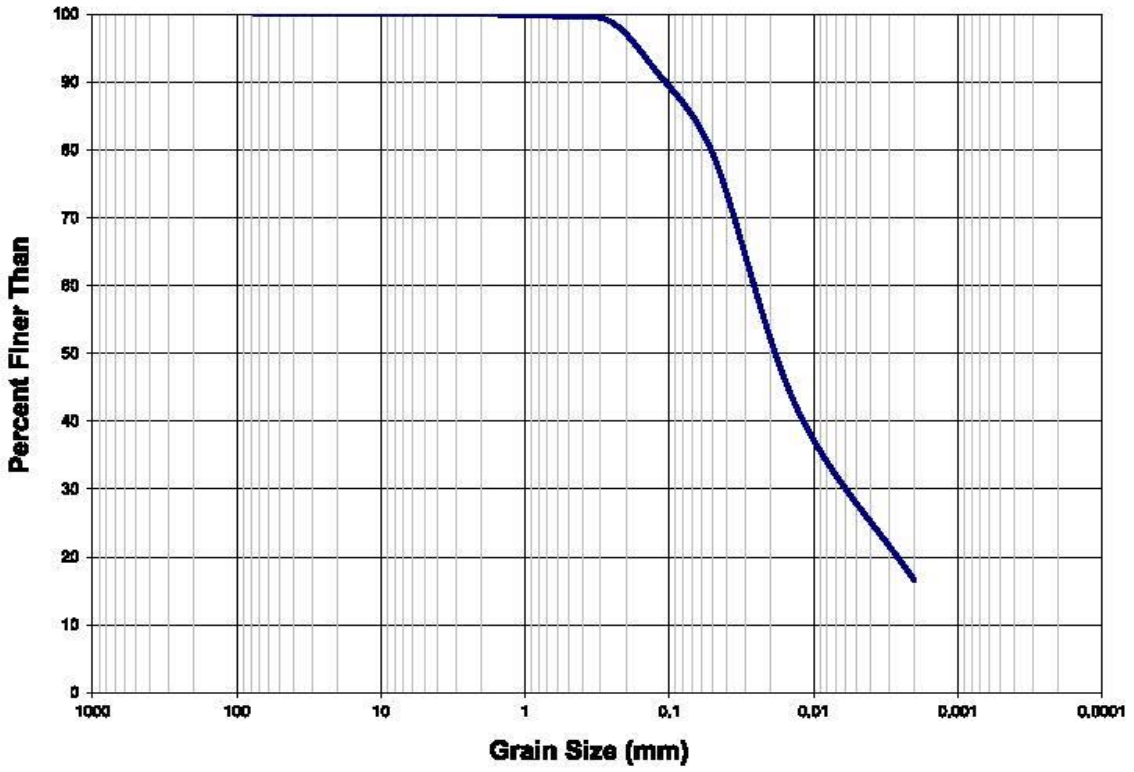
ANALYTICAL CHEMISTRY & TESTING SERVICES
Environmental Division

819-58th Street, Saskatoon, SK S7K 6X5

Client Name: Nuclear Waste Management Organization
Project:
Sample ID: SILVER-R4
Lab ID: L2735892-1

Particle Size Distribution Curve



Particle Size Distribution

Range (mm)	Wt. (%)	Class
> 2	0.01	Gravel
2 - 0.2	4.01	Sand
0.2 - 0.063	14.39	Sand
0.063 - 0.004	60.44	Silt
<0.004	21.15	clay

Texture: Silt loam

Method Reference: Can. Soc. Soil Sci. (1993) Method 47.2

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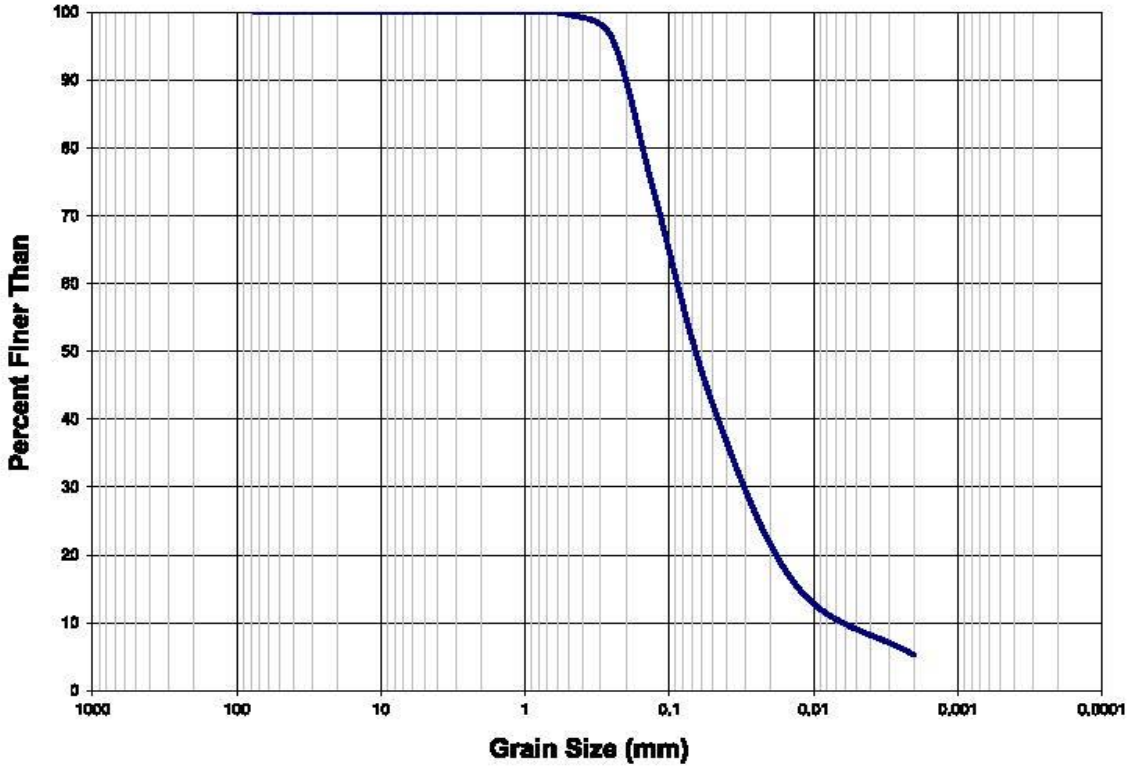
ANALYTICAL CHEMISTRY & TESTING SERVICES
Environmental Division

819-58th Street, Saskatoon, SK S7K 6X5

Client Name: Nuclear Waste Management Organization
Project:
Sample ID: SILVER-R5
Lab ID: L2735892-2

Particle Size Distribution Curve



Particle Size Distribution

Range (mm)	Wt. (%)	Class
> 2	0.00	Gravel
2 - 0.2	13.24	Sand
0.2 - 0.063	39.26	Sand
0.063 - 0.004	40.43	Silt
<0.004	7.07	clay

Texture: Sandy loam

Method Reference: Can. Soc. Soil Sci. (1993) Method 47.2

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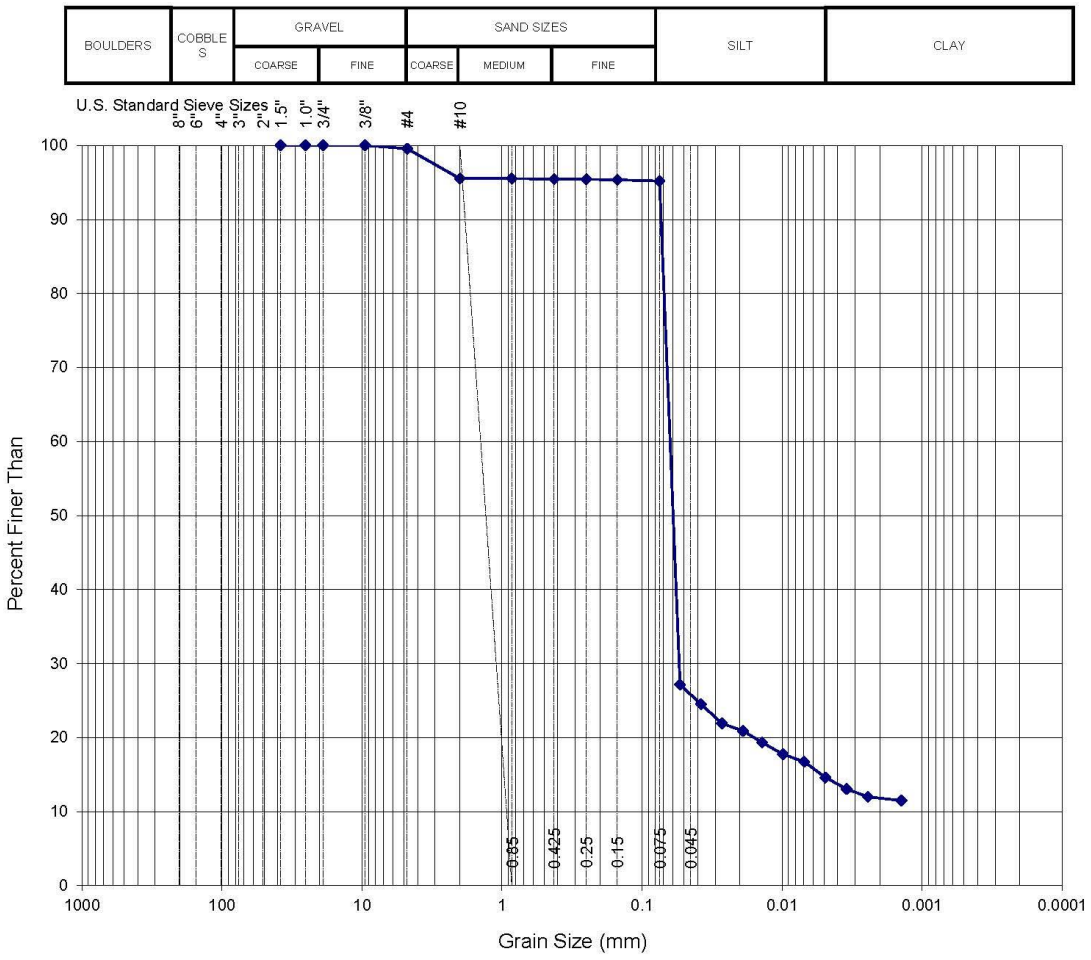
PARTICLE SIZE DISTRIBUTION CURVE

Client Name:	WT2218919001
Project Number:	
Client Sample ID	CLAM-R1
Lab Sample ID	WT2218919001
Date Sample Received	00-Jan-00
Test Completion Date:	08-Nov-22
Analyst:	SIH



METHOD DESCRIPTION	
Method Reference: ASTM D6913 & D7928	
Dispersion method: Mechanical	
Dispesion period: 1 minute	cm/s

DESCRIPTION OF SAND AND GRAVEL PARTICLES
Shape: Angular
Hardness: Hard

SUMMARY OF RESULTS		
GRAIN SIZE	WT %	DIA. RANGE (mm)
% GRAVEL :	<1	> 4.75
% COARSE SAND :	4.03	2.0 - 4.75
% MEDIUM SAND :	<1	0.425 - 2.0
% FINE SAND :	<1	0.075 - 0.425
% SILT :	80.44	0.075 - 0.005
% CLAY :	14.75	< 0.005

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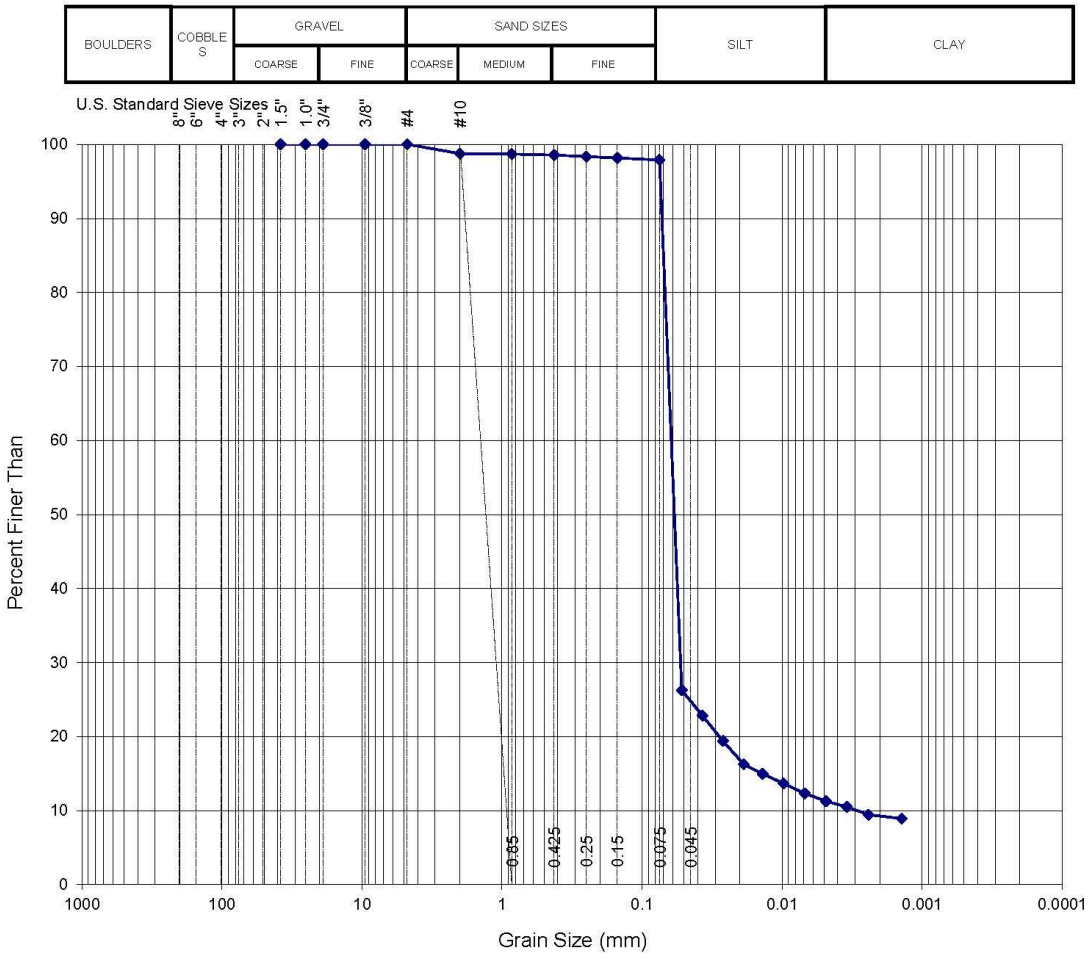
819-58th Street, Saskatoon,SK

PARTICLE SIZE DISTRIBUTION CURVE

Client Name:	WT2218919002
Project Number:	
Client Sample ID	CLAM-R2
Lab Sample ID	WT2218919002
Date Sample Received	00-Jan-00
Test Completion Date:	08-Nov-22
Analyst:	SIH



METHOD DESCRIPTION	
Method Reference: ASTM D6913 & D7928	
Dispersion method: Mechanical	
Dispesion period: 1 minute	cm/s

DESCRIPTION OF SAND AND GRAVEL PARTICLES
Shape: Angular
Hardness: Hard

SUMMARY OF RESULTS		
GRAIN SIZE	WT %	DIA. RANGE (mm)
% GRAVEL :	<1	> 4.75
% COARSE SAND :	1.24	2.0 - 4.75
% MEDIUM SAND :	<1	0.425 - 2.0
% FINE SAND :	<1	0.075 - 0.425
% SILT :	86.53	0.075 - 0.005
% CLAY :	11.37	< 0.005

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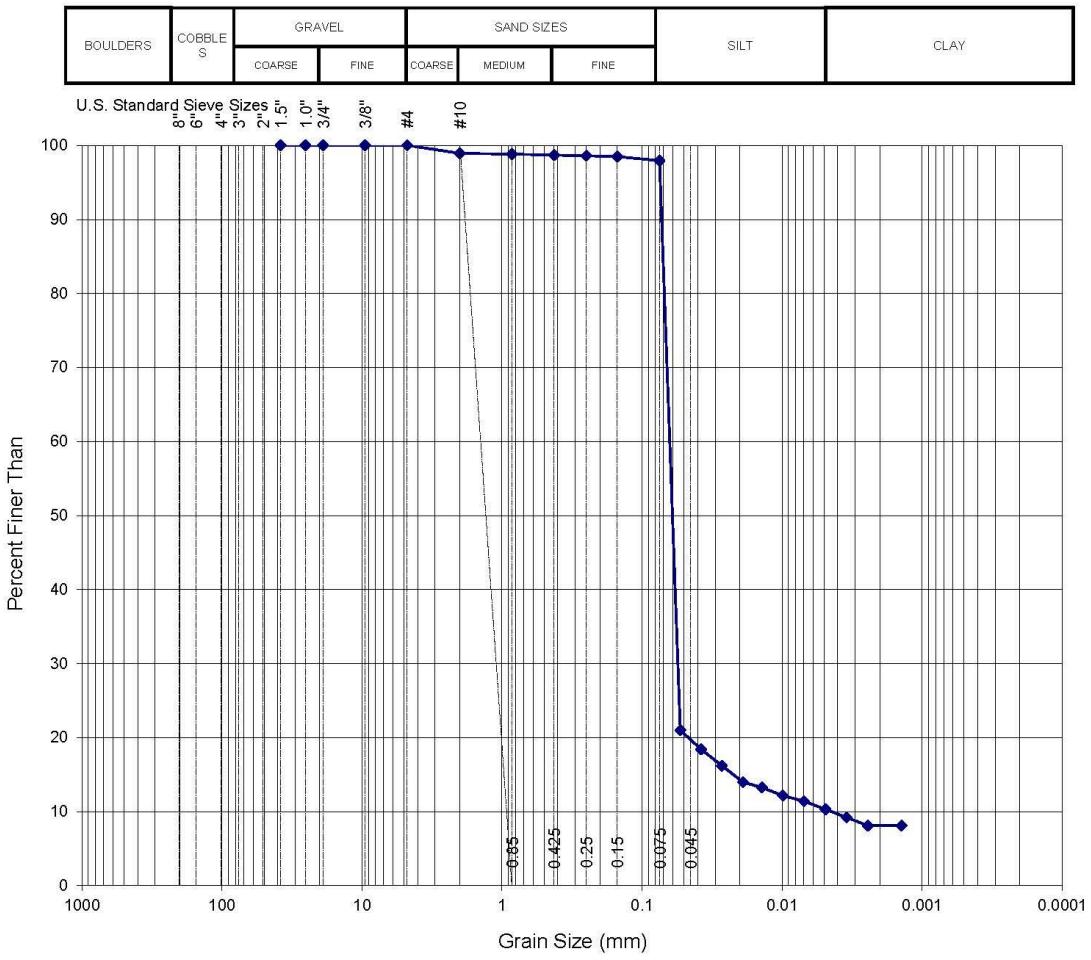
PARTICLE SIZE DISTRIBUTION CURVE

Client Name:	WT2218919003
Project Number:	
Client Sample ID	CLAM-R3
Lab Sample ID	WT2218919003
Date Sample Received	00-Jan-00
Test Completion Date:	08-Nov-22
Analyst:	SIH



METHOD DESCRIPTION	
Method Reference: ASTM D6913 & D7928	
Dispersion method: Mechanical	
Dispesion period: 1 minute	cm/s

DESCRIPTION OF SAND AND GRAVEL PARTICLES
Shape: Angular
Hardness: Hard

SUMMARY OF RESULTS		
GRAIN SIZE	WT %	DIA. RANGE (mm)
% GRAVEL :	<1	> 4.75
% COARSE SAND :	1.08	2.0 - 4.75
% MEDIUM SAND :	<1	0.425 - 2.0
% FINE SAND :	<1	0.075 - 0.425
% SILT :	87.54	0.075 - 0.005
% CLAY :	10.38	< 0.005

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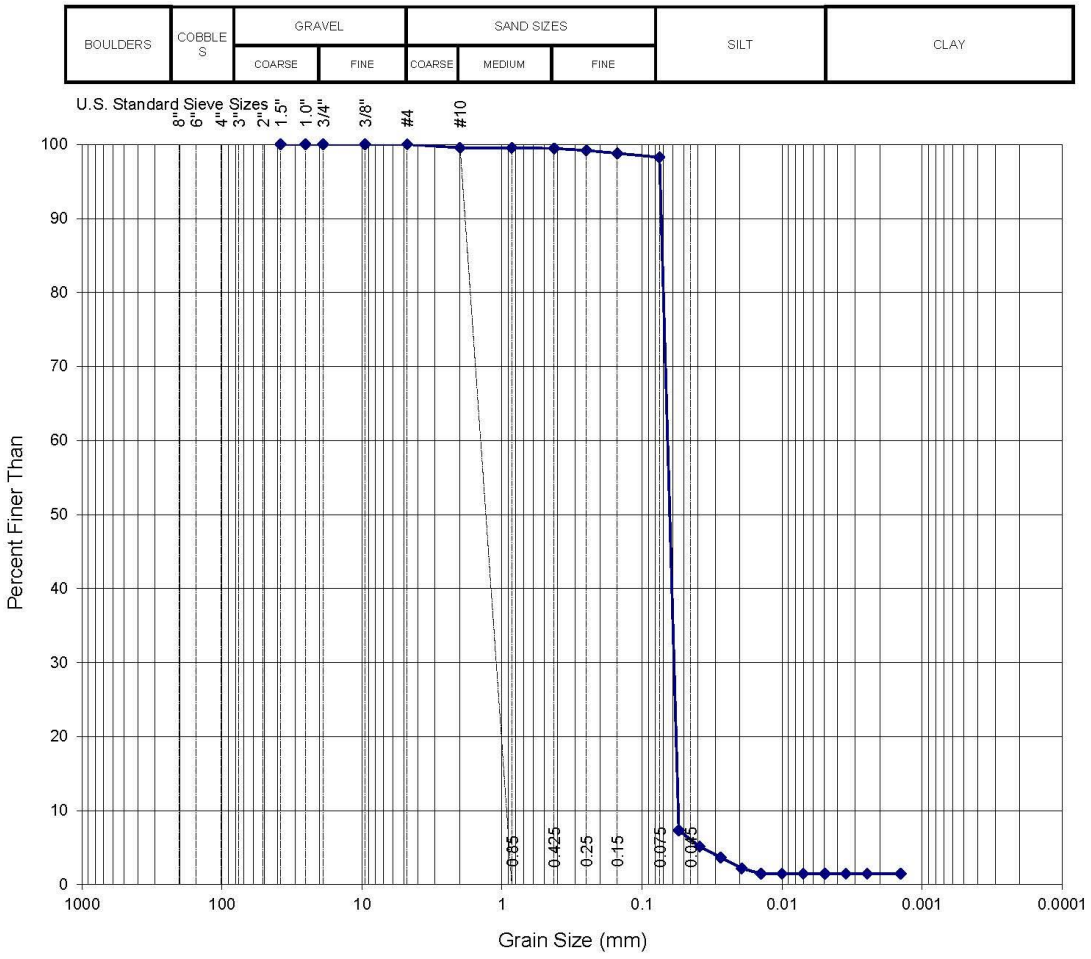
PARTICLE SIZE DISTRIBUTION CURVE

Client Name:	WT2218853001
Project Number:	
Client Sample ID	CLAM-R4
Lab Sample ID	WT2218853001
Date Sample Received	00-Jan-00
Test Completion Date:	08-Nov-22
Analyst:	SIH



METHOD DESCRIPTION	
Method Reference: ASTM D6913 & D7928	
Dispersion method: Mechanical	
Dispesion period: 1 minute	cm/s

DESCRIPTION OF SAND AND GRAVEL PARTICLES
Shape: Angular
Hardness: Hard

SUMMARY OF RESULTS		
GRAIN SIZE	WT %	DIA. RANGE (mm)
% GRAVEL :	<1	> 4.75
% COARSE SAND :	<1	2.0 - 4.75
% MEDIUM SAND :	<1	0.425 - 2.0
% FINE SAND :	1.20	0.075 - 0.425
% SILT :	96.78	0.075 - 0.005
% CLAY :	1.47	< 0.005

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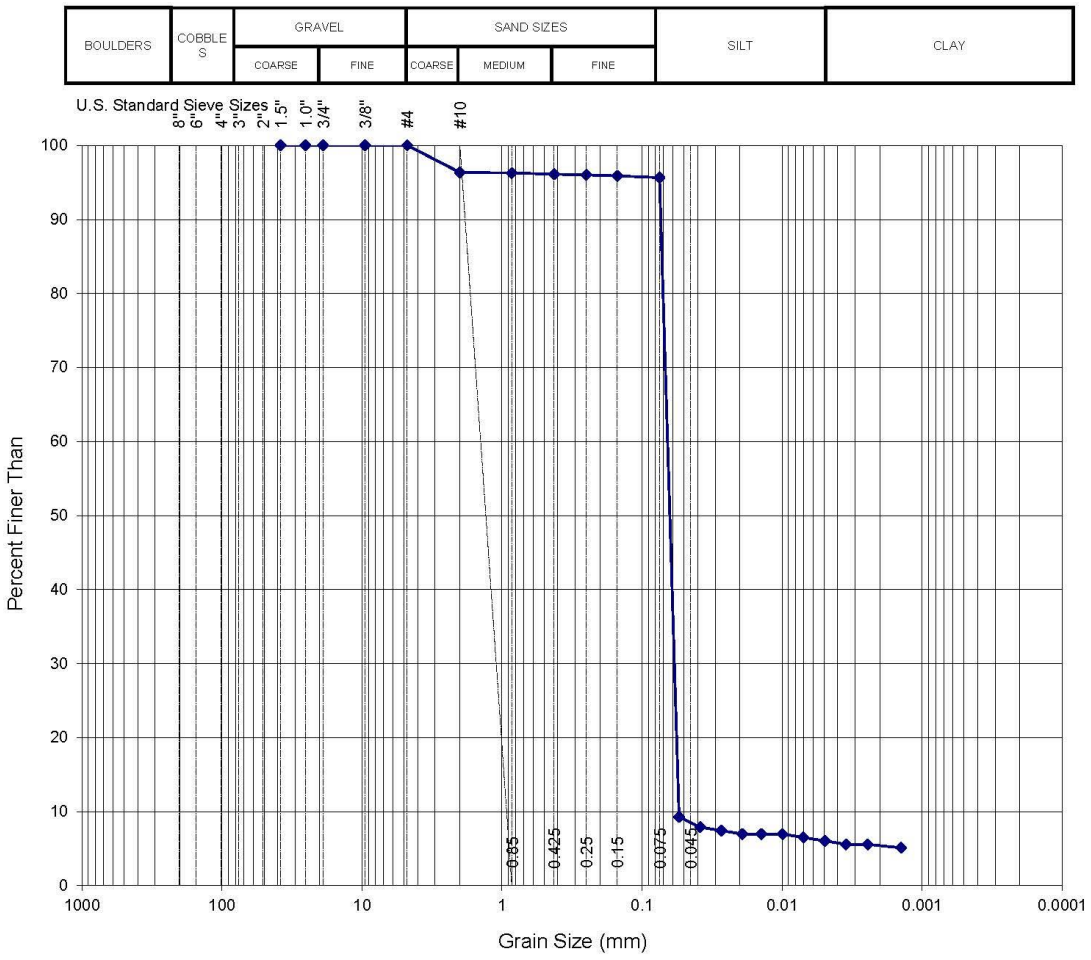
PARTICLE SIZE DISTRIBUTION CURVE

Client Name: WT2218853002
Project Number:
Client Sample ID CLAM-R5
Lab Sample ID WT2218853002
Date Sample Received 00-Jan-00
Test Completion Date: 08-Nov-22
Analyst: SIH



METHOD DESCRIPTION
Method Reference: ASTM D6913 & D7928
Dispersion method: Mechanical
Dispesion period: 1 minute cm/s

DESCRIPTION OF SAND AND GRAVEL PARTICLES
Shape: Angular
Hardness: Hard

SUMMARY OF RESULTS

GRAIN SIZE	WT %	DIA. RANGE (mm)
% GRAVEL :	<1	> 4.75
% COARSE SAND :	3.67	2.0 - 4.75
% MEDIUM SAND :	<1	0.425 - 2.0
% FINE SAND :	<1	0.075 - 0.425
% SILT :	89.59	0.075 - 0.005
% CLAY :	6.05	< 0.005

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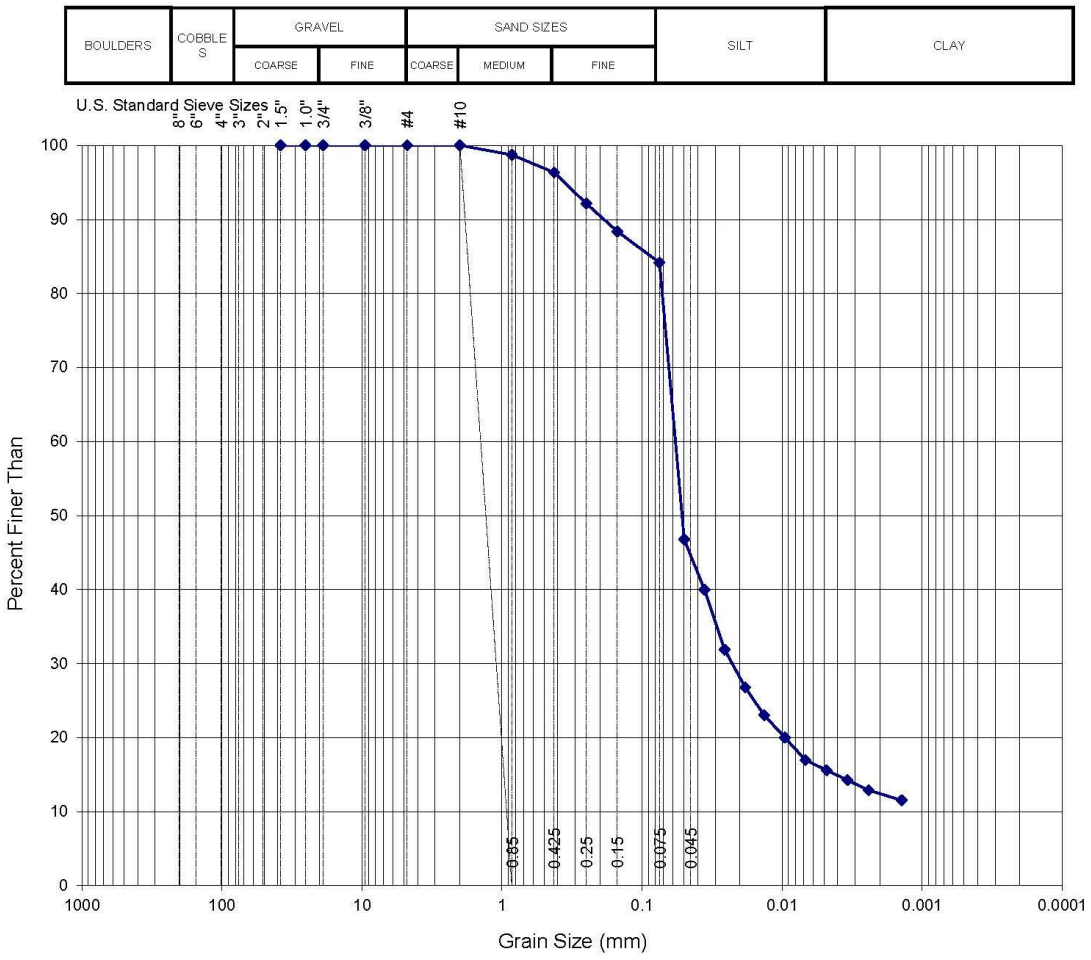
PARTICLE SIZE DISTRIBUTION CURVE

Client Name: WT2222924001
Project Number:
Client Sample ID ROBSON_R1
Lab Sample ID WT2222924001
Date Sample Received 00-Jan-00
Test Completion Date: 30-Nov-22
Analyst: SIH



METHOD DESCRIPTION	SUMMARY OF RESULTS		
Method Reference: ASTM D6913 & D7928	GRAIN SIZE	WT %	DIA. RANGE (mm)
Dispersion method: Mechanical	% GRAVEL :	<1	> 4.75
Dispesion period: 1 minute cm/s	% COARSE SAND :	<1	2.0 - 4.75
	% MEDIUM SAND :	3.68	0.425 - 2.0
	% FINE SAND :	12.15	0.075 - 0.425
DESCRIPTION OF SAND AND GRAVEL PARTICLES	% SILT :	68.43	0.075 - 0.005
Shape: Angular	% CLAY :	15.74	< 0.005
Hardness: Hard			

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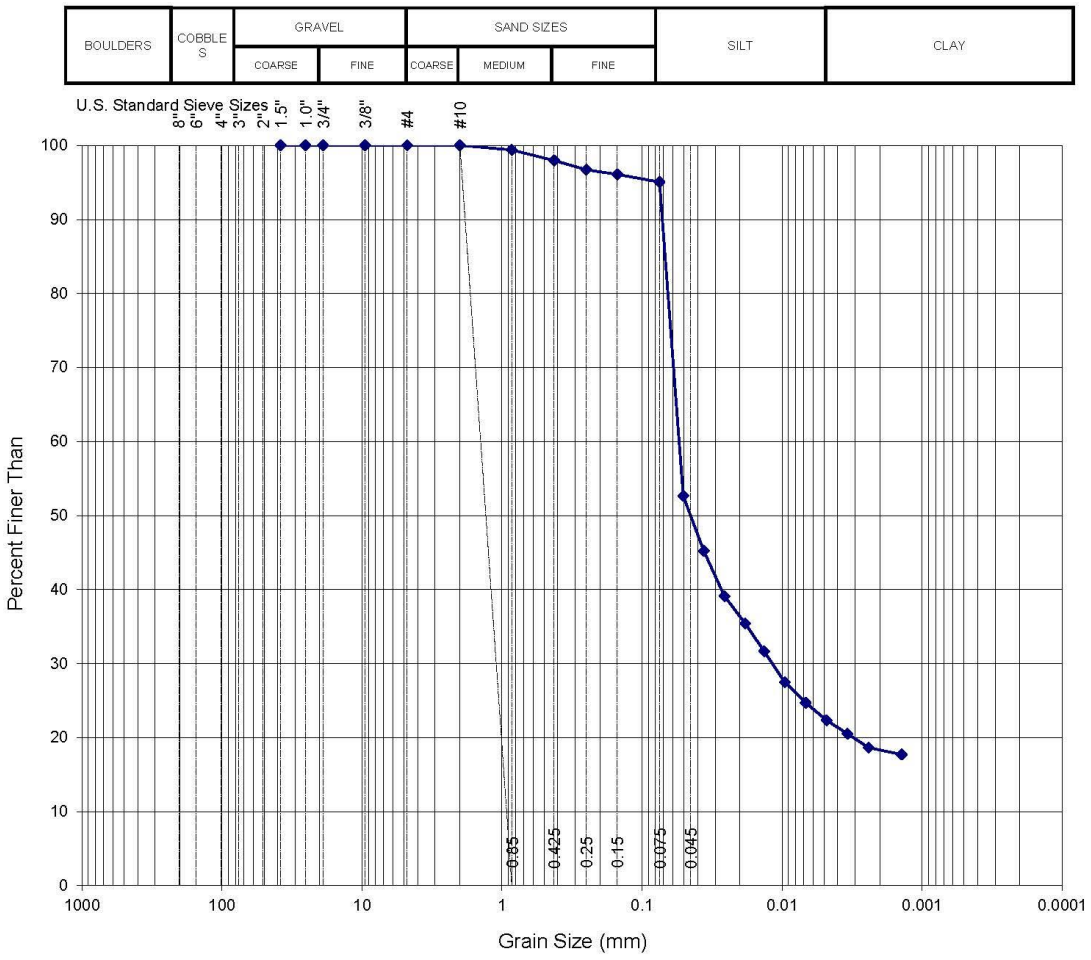
819-58th Street, Saskatoon,SK

PARTICLE SIZE DISTRIBUTION CURVE

Client Name: WT2222924002
Project Number:
Client Sample ID ROBSON_R2
Lab Sample ID WT2222924002
Date Sample Received 00-Jan-00
Test Completion Date: 30-Nov-22
Analyst: SIH



METHOD DESCRIPTION	SUMMARY OF RESULTS		
Method Reference: ASTM D6913 & D7928	GRAIN SIZE	WT %	DIA. RANGE (mm)
Dispersion method: Mechanical	% GRAVEL :	<1	> 4.75
Dispesion period: 1 minute cm/s	% COARSE SAND :	<1	2.0 - 4.75
	% MEDIUM SAND :	2.04	0.425 - 2.0
	% FINE SAND :	2.91	0.075 - 0.425
DESCRIPTION OF SAND AND GRAVEL PARTICLES	% SILT :	72.42	0.075 - 0.005
Shape: Angular	% CLAY :	22.62	< 0.005
Hardness: Hard			

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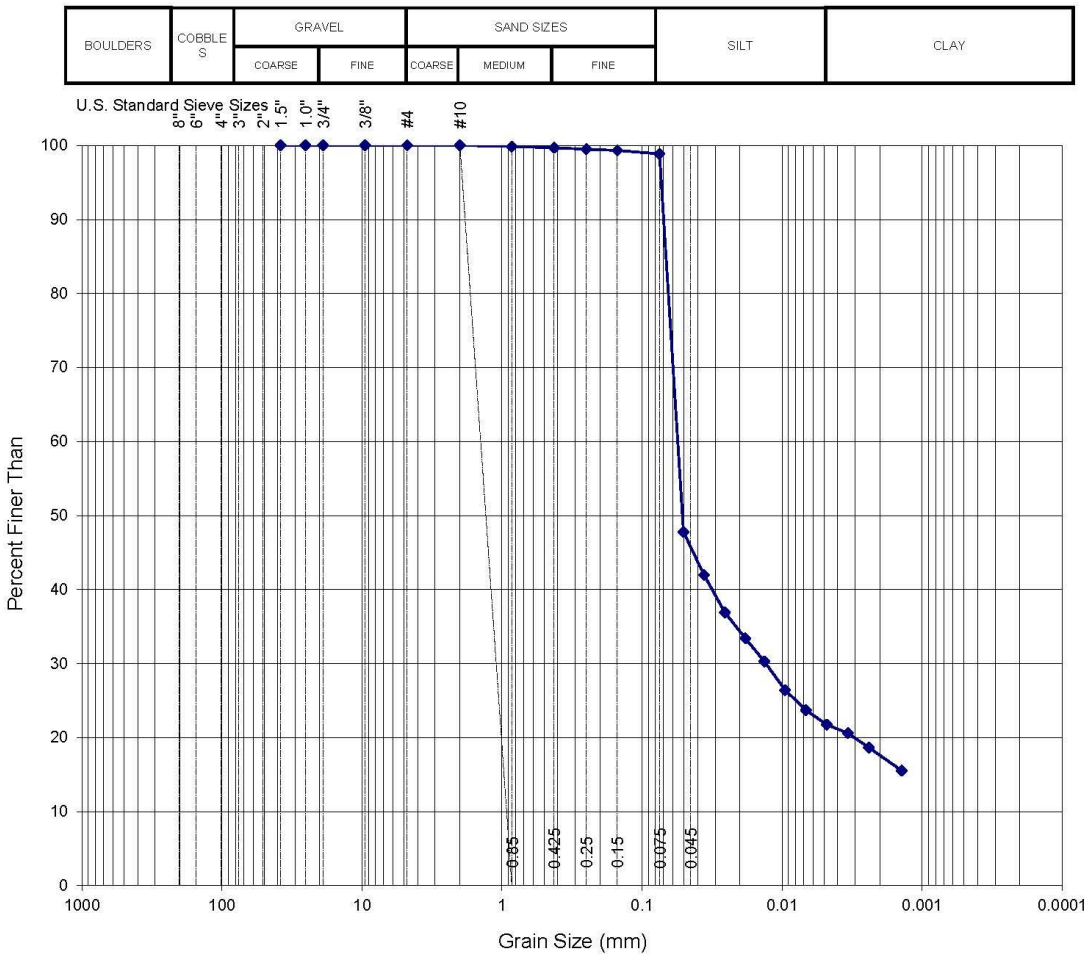
PARTICLE SIZE DISTRIBUTION CURVE

Client Name: WT2222924003
Project Number:
Client Sample ID ROBSON_R3
Lab Sample ID WT2222924003
Date Sample Received 00-Jan-00
Test Completion Date: 30-Nov-22
Analyst: SIH



METHOD DESCRIPTION	
Method Reference: ASTM D6913 & D7928	
Dispersion method: Mechanical	
Dispesion period: 1 minute	cm/s

DESCRIPTION OF SAND AND GRAVEL PARTICLES
Shape: Angular
Hardness: Hard

SUMMARY OF RESULTS		
GRAIN SIZE	WT %	DIA. RANGE (mm)
% GRAVEL :	<1	> 4.75
% COARSE SAND :	<1	2.0 - 4.75
% MEDIUM SAND :	<1	0.425 - 2.0
% FINE SAND :	<1	0.075 - 0.425
% SILT :	76.85	0.075 - 0.005
% CLAY :	22.00	< 0.005

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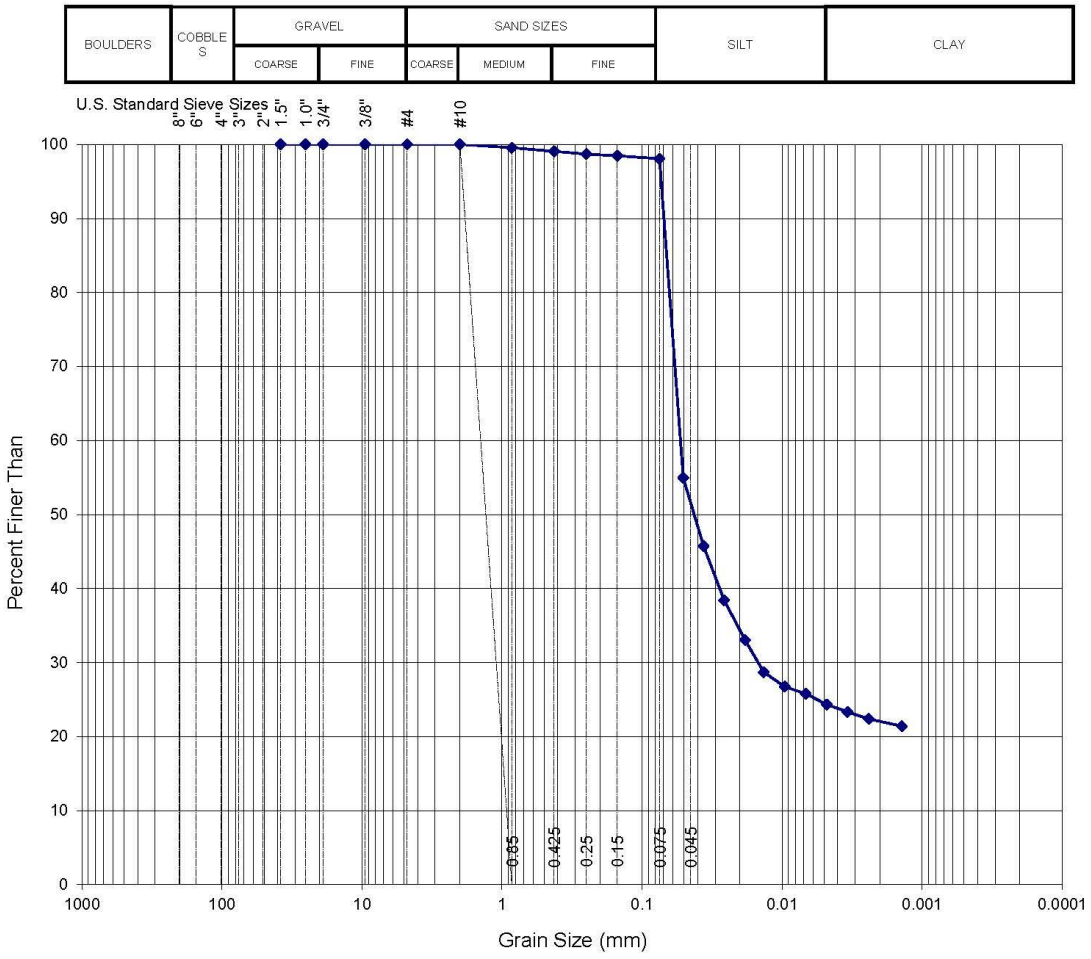
PARTICLE SIZE DISTRIBUTION CURVE

Client Name:	WT2222926001
Project Number:	
Client Sample ID	ROBSON_R4
Lab Sample ID	WT2222926001
Date Sample Received	00-Jan-00
Test Completion Date:	30-Nov-22
Analyst:	SIH



METHOD DESCRIPTION	
Method Reference: ASTM D6913 & D7928	
Dispersion method: Mechanical	
Dispesion period: 1 minute	cm/s

DESCRIPTION OF SAND AND GRAVEL PARTICLES
Shape: Angular
Hardness: Hard

SUMMARY OF RESULTS		
GRAIN SIZE	WT %	DIA. RANGE (mm)
% GRAVEL :	<1	> 4.75
% COARSE SAND :	<1	2.0 - 4.75
% MEDIUM SAND :	<1	0.425 - 2.0
% FINE SAND :	<1	0.075 - 0.425
% SILT :	73.57	0.075 - 0.005
% CLAY :	24.49	< 0.005

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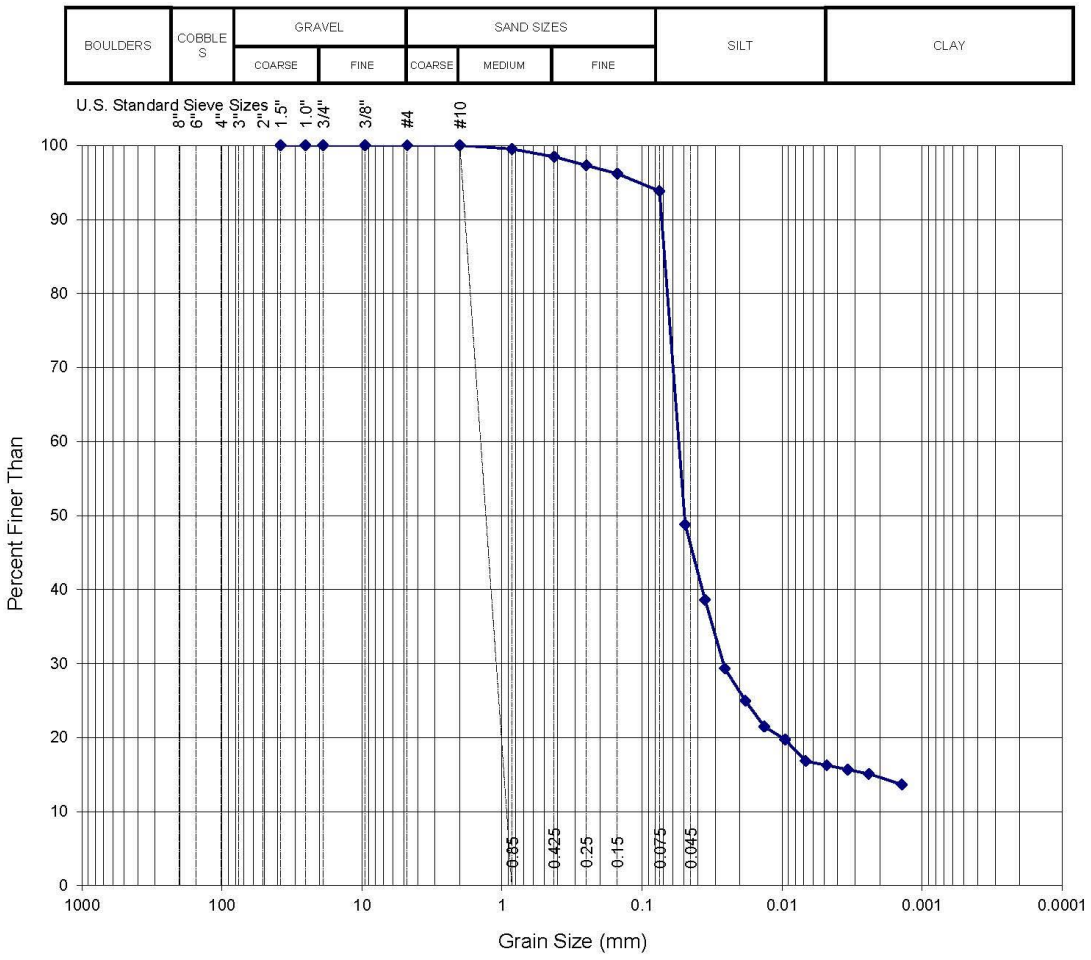
PARTICLE SIZE DISTRIBUTION CURVE

Client Name:	WT2222926002
Project Number:	
Client Sample ID	ROBSON_R5
Lab Sample ID	WT2222926002
Date Sample Received	00-Jan-00
Test Completion Date:	30-Nov-22
Analyst:	SIH



METHOD DESCRIPTION	
Method Reference: ASTM D6913 & D7928	
Dispersion method: Mechanical	
Dispesion period: 1 minute	cm/s

DESCRIPTION OF SAND AND GRAVEL PARTICLES
Shape: Angular
Hardness: Hard

SUMMARY OF RESULTS		
GRAIN SIZE	WT %	DIA. RANGE (mm)
% GRAVEL :	<1	> 4.75
% COARSE SAND :	<1	2.0 - 4.75
% MEDIUM SAND :	1.56	0.425 - 2.0
% FINE SAND :	4.63	0.075 - 0.425
% SILT :	77.48	0.075 - 0.005
% CLAY :	16.33	< 0.005

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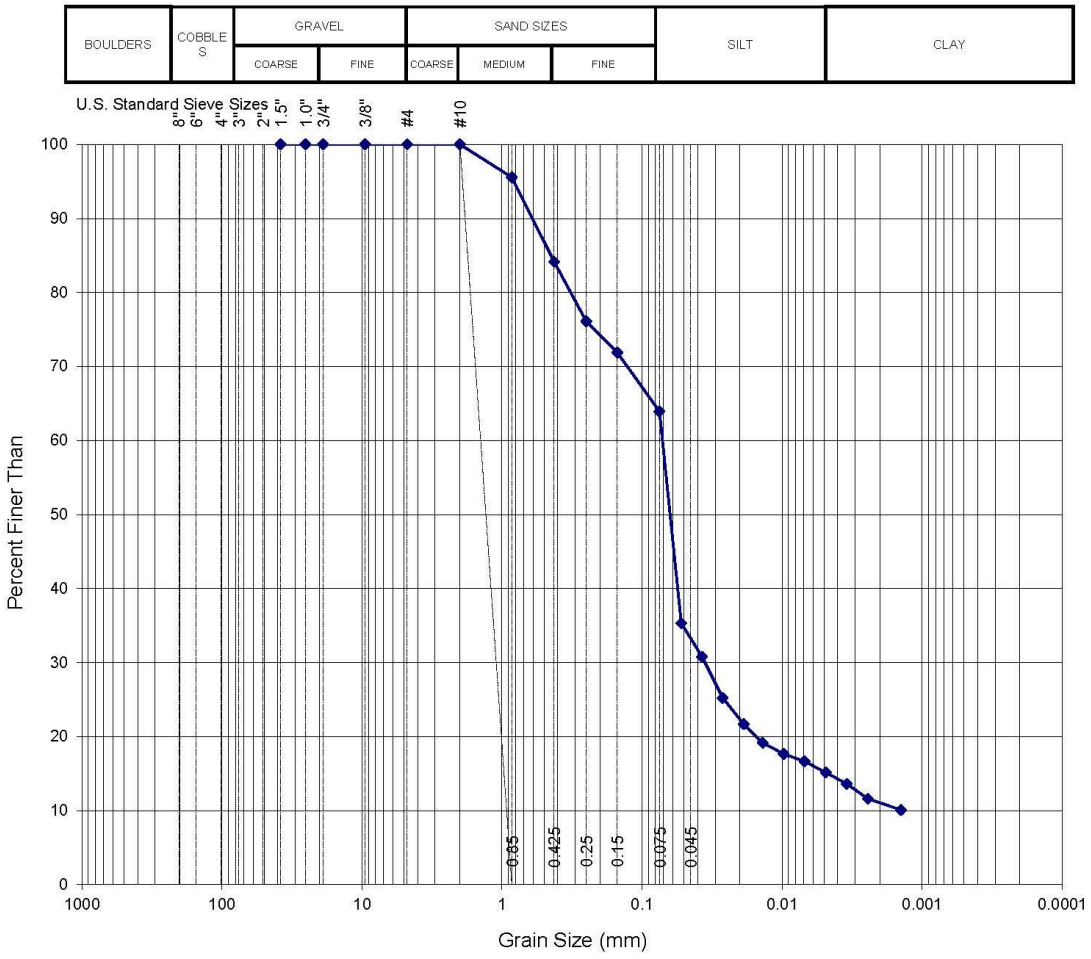
819-58th Street, Saskatoon,SK

PARTICLE SIZE DISTRIBUTION CURVE

Client Name: WT2219844001
Project Number:
Client Sample ID HINES_R1
Lab Sample ID WT2219844001
Date Sample Received 00-Jan-00
Test Completion Date:
Analyst: SIH



METHOD DESCRIPTION	
Method Reference: ASTM D6913 & D7928	
Dispersion method: Mechanical	
Dispesion period: 1 minute	cm/s

DESCRIPTION OF SAND AND GRAVEL PARTICLES
Shape: Angular
Hardness: Hard

SUMMARY OF RESULTS		
GRAIN SIZE	WT %	DIA. RANGE (mm)
% GRAVEL :	<1	> 4.75
% COARSE SAND :	<1	2.0 - 4.75
% MEDIUM SAND :	15.86	0.425 - 2.0
% FINE SAND :	20.22	0.075 - 0.425
% SILT :	48.67	0.075 - 0.005
% CLAY :	15.25	< 0.005

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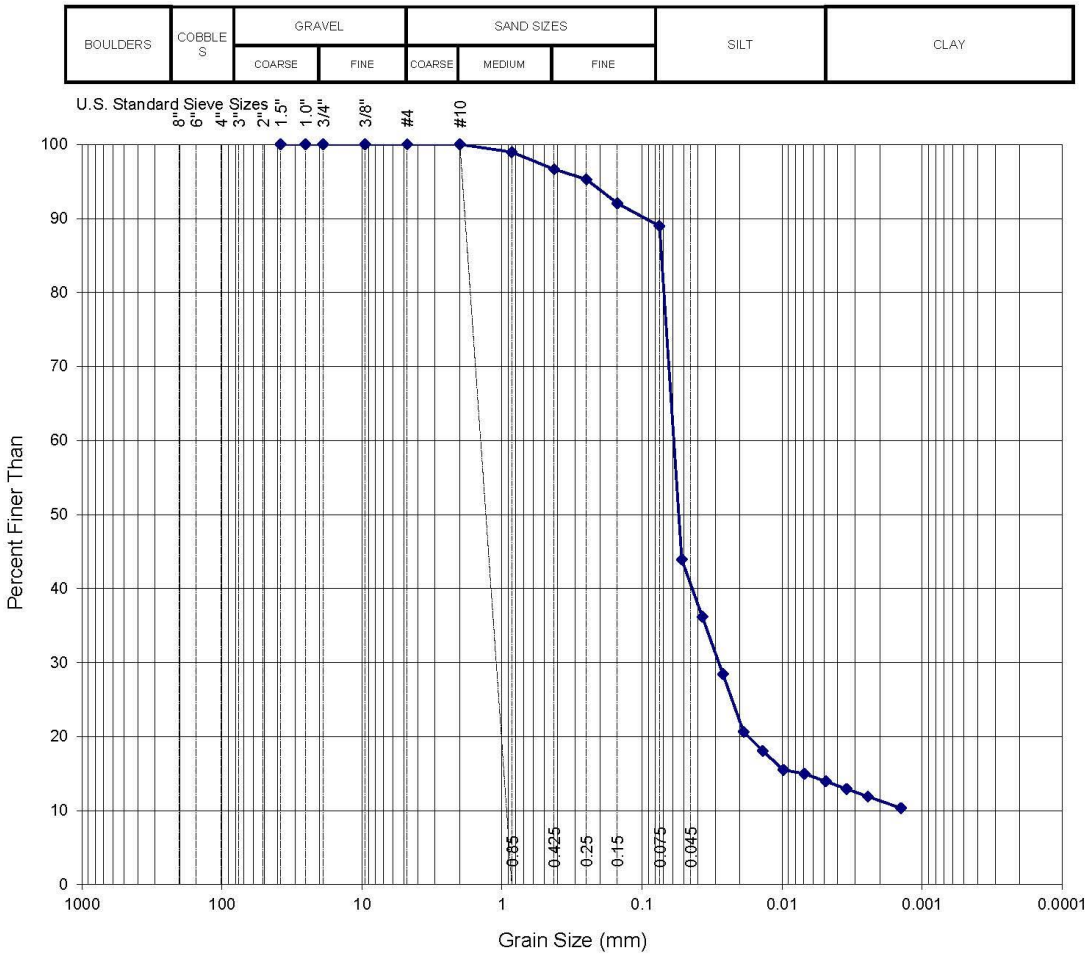
819-58th Street, Saskatoon,SK

PARTICLE SIZE DISTRIBUTION CURVE

Client Name: WT2219844002
Project Number:
Client Sample ID HINES_R2
Lab Sample ID WT2219844002
Date Sample Received 00-Jan-00
Test Completion Date:
Analyst: SIH



METHOD DESCRIPTION	
Method Reference: ASTM D6913 & D7928	
Dispersion method: Mechanical	
Dispesion period: 1 minute	cm/s

DESCRIPTION OF SAND AND GRAVEL PARTICLES
Shape: Angular
Hardness: Hard

SUMMARY OF RESULTS		
GRAIN SIZE	WT %	DIA. RANGE (mm)
% GRAVEL :	<1	> 4.75
% COARSE SAND :	<1	2.0 - 4.75
% MEDIUM SAND :	3.38	0.425 - 2.0
% FINE SAND :	7.66	0.075 - 0.425
% SILT :	74.95	0.075 - 0.005
% CLAY :	14.02	< 0.005

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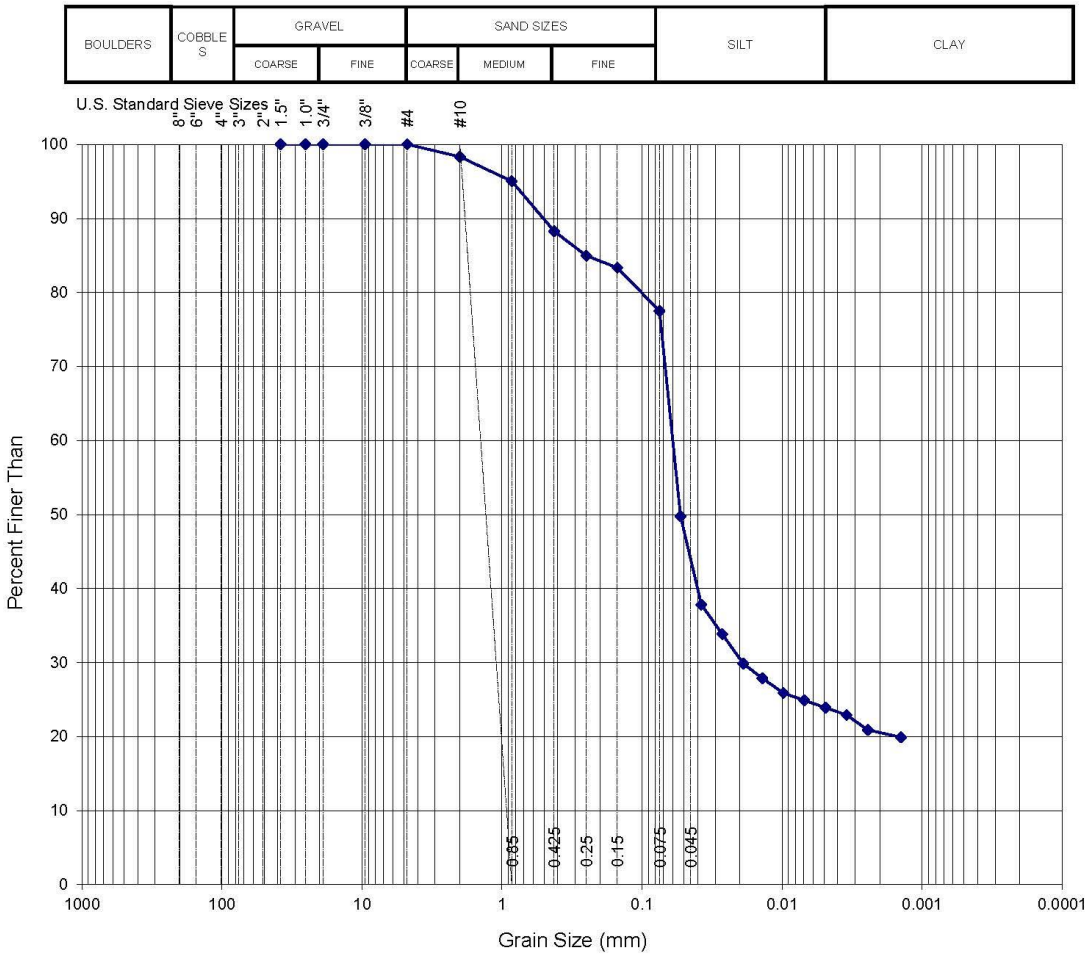
819-58th Street, Saskatoon,SK

PARTICLE SIZE DISTRIBUTION CURVE

Client Name: WT2219844003
Project Number:
Client Sample ID HINES_R3
Lab Sample ID WT2219844003
Date Sample Received 00-Jan-00
Test Completion Date:
Analyst: SIH



METHOD DESCRIPTION	SUMMARY OF RESULTS		
Method Reference: ASTM D6913 & D7928	GRAIN SIZE	WT %	DIA. RANGE (mm)
Dispersion method: Mechanical	% GRAVEL :	<1	> 4.75
Dispesion period: 1 minute cm/s	% COARSE SAND :	1.67	2.0 - 4.75
	% MEDIUM SAND :	10.08	0.425 - 2.0
	% FINE SAND :	10.76	0.075 - 0.425
DESCRIPTION OF SAND AND GRAVEL PARTICLES	% SILT :	53.53	0.075 - 0.005
Shape: Angular	% CLAY :	23.96	< 0.005
Hardness: Hard			

ALS Laboratory Group

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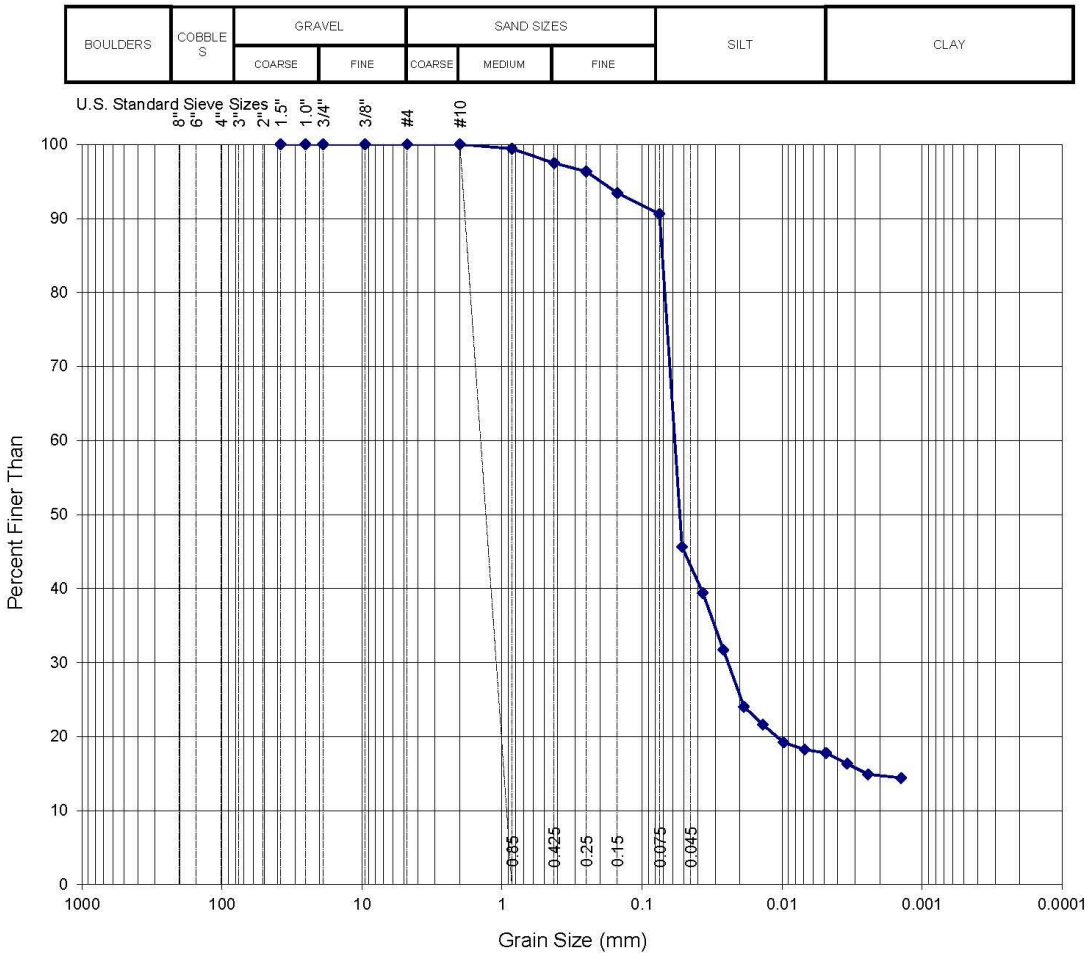
PARTICLE SIZE DISTRIBUTION CURVE

Client Name:	WT2219929001
Project Number:	
Client Sample ID	HINES_R4
Lab Sample ID	WT2219929001
Date Sample Received	00-Jan-00
Test Completion Date:	
Analyst:	SIH



METHOD DESCRIPTION	
Method Reference: ASTM D6913 & D7928	
Dispersion method: Mechanical	
Dispesion period: 1 minute	cm/s

DESCRIPTION OF SAND AND GRAVEL PARTICLES
Shape: Angular
Hardness: Hard

SUMMARY OF RESULTS

GRAIN SIZE	WT %	DIA. RANGE (mm)
% GRAVEL :	<1	> 4.75
% COARSE SAND :	<1	2.0 - 4.75
% MEDIUM SAND :	2.54	0.425 - 2.0
% FINE SAND :	6.83	0.075 - 0.425
% SILT :	72.81	0.075 - 0.005
% CLAY :	17.82	< 0.005

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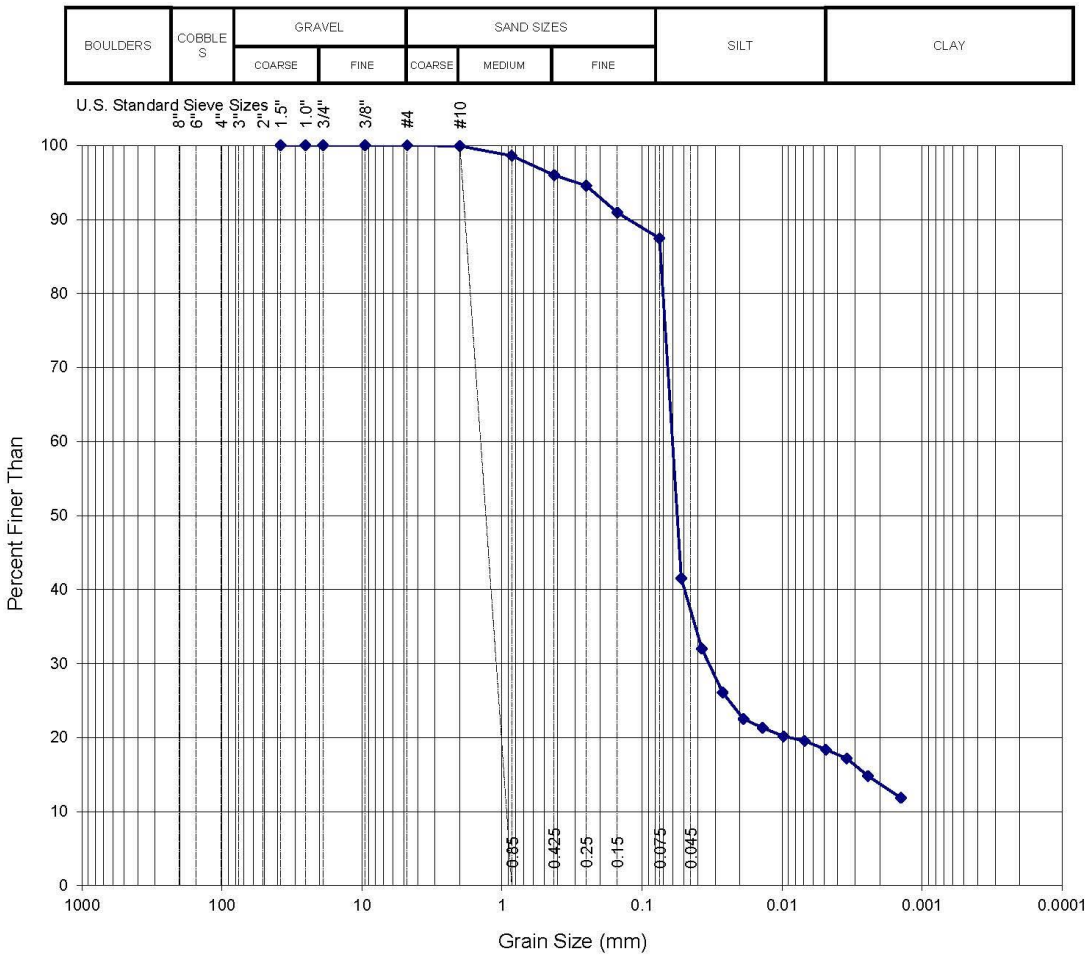
PARTICLE SIZE DISTRIBUTION CURVE

Client Name: WT2219929002
Project Number:
Client Sample ID HINES_R5
Lab Sample ID WT2219929002
Date Sample Received 00-Jan-00
Test Completion Date:
Analyst: SIH



METHOD DESCRIPTION
Method Reference: ASTM D6913 & D7928
Dispersion method: Mechanical
Dispesion period: 1 minute cm/s

DESCRIPTION OF SAND AND GRAVEL PARTICLES
Shape: Angular
Hardness: Hard

SUMMARY OF RESULTS

GRAIN SIZE	WT %	DIA. RANGE (mm)
% GRAVEL :	<1	> 4.75
% COARSE SAND :	<1	2.0 - 4.75
% MEDIUM SAND :	3.92	0.425 - 2.0
% FINE SAND :	8.53	0.075 - 0.425
% SILT :	68.99	0.075 - 0.005
% CLAY :	18.46	< 0.005

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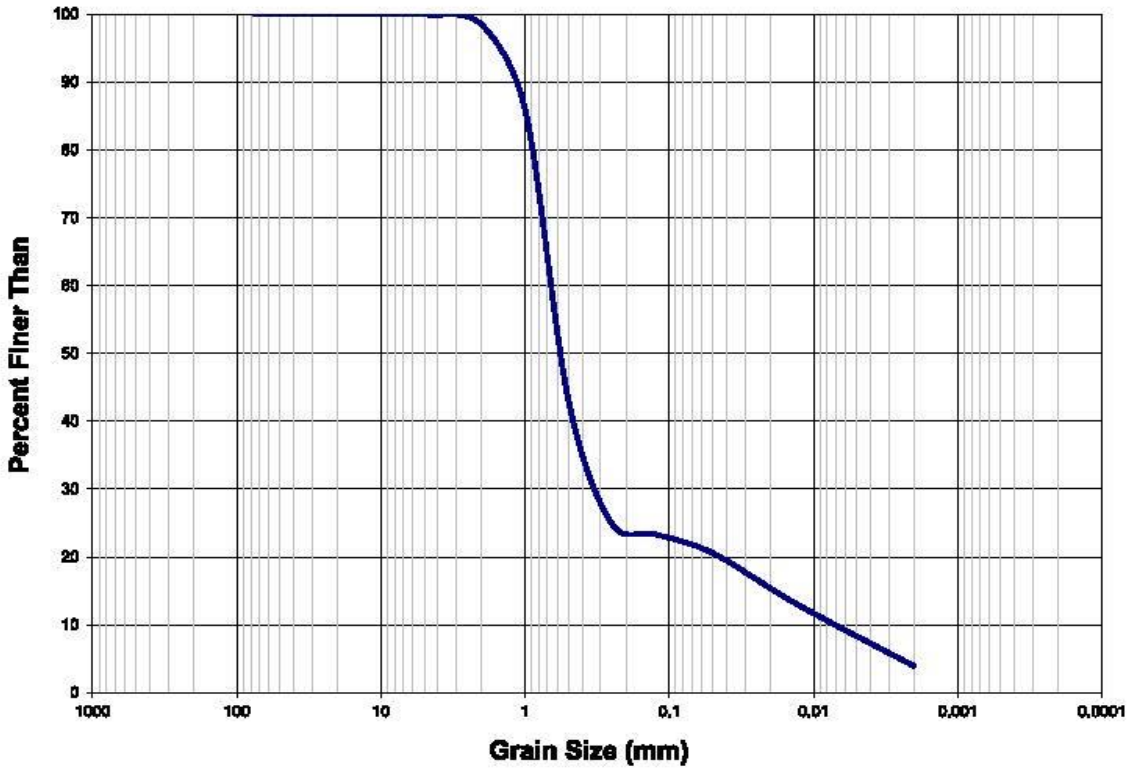
ANALYTICAL CHEMISTRY & TESTING SERVICES
Environmental Division

819-58th Street, Saskatoon, SK S7K 6X5

Client Name: Nuclear Waste Management Organization
Project:
Sample ID: HURON - R1
Lab ID: L2736083-1

Particle Size Distribution Curve



Particle Size Distribution

Range (mm)	Wt. (%)	Class
> 2	1.56	Gravel
2 - 0.2	74.16	Sand
0.2 - 0.063	3.21	Sand
0.063 - 0.004	16.49	Silt
<0.004	5.58	clay

Texture: Loamy sand

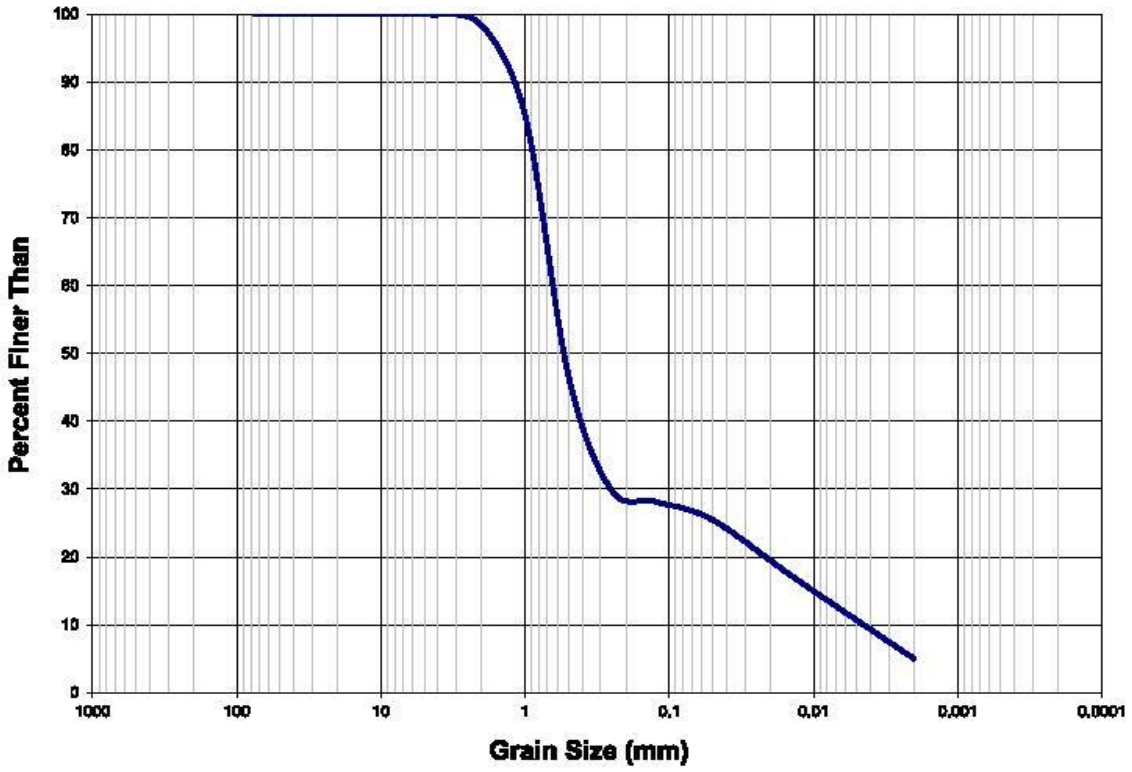
Method Reference: Can. Soc. Soil Sci. (1993) Method 47.2

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES
Environmental Division

819-58th Street, Saskatoon, SK S7K 6X5

Client Name: Nuclear Waste Management Organization
Project:
Sample ID: HURON - Rz
Lab ID: L2736083-2

Particle Size Distribution Curve



Particle Size Distribution

Range (mm)	Wt. (%)	Class
> 2	1.67	Gravel
2 - 0.2	69.23	Sand
0.2 - 0.053	3.19	Sand
0.053 - 0.004	18.81	Silt
<0.004	7.10	clay

Texture: Sandy loam

Method Reference: Can. Soc. Soil Sci. (1993) Method 47.2

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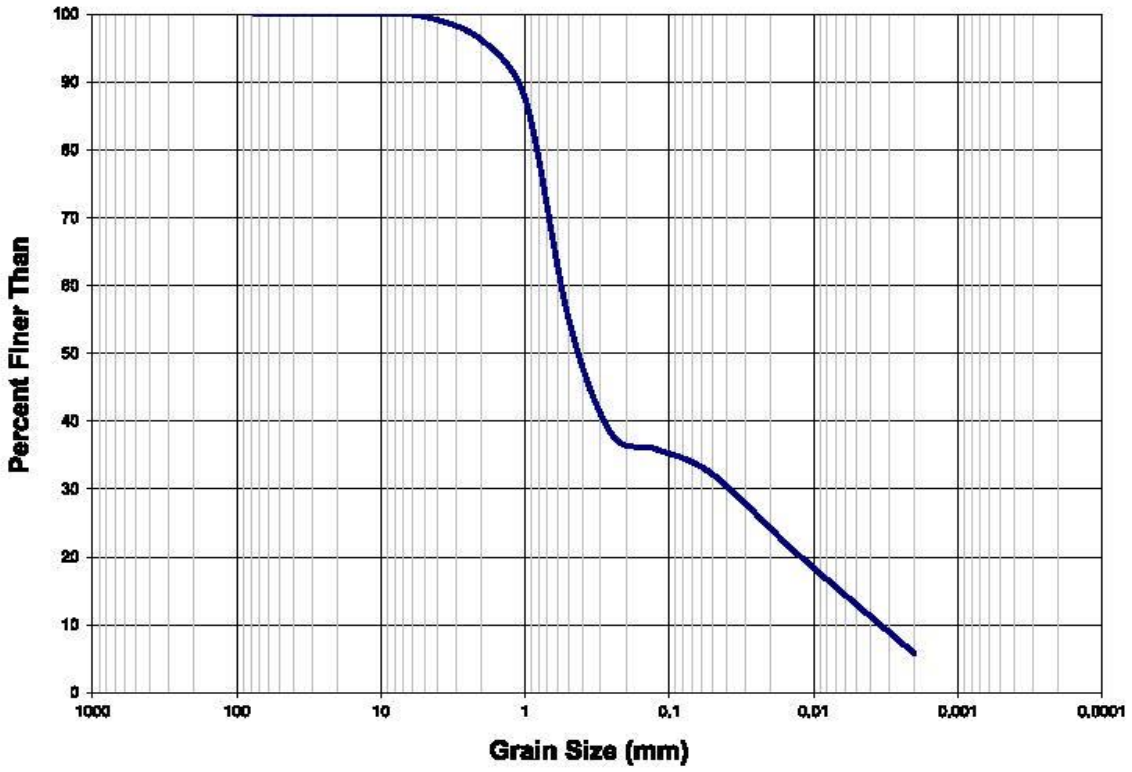
ANALYTICAL CHEMISTRY & TESTING SERVICES
Environmental Division

819-58th Street, Saskatoon, SK S7K 6X5

Client Name: Nuclear Waste Management Organization
Project:
Sample ID: HURON - R3
Lab ID: L2736083-3

Particle Size Distribution Curve



Particle Size Distribution

Range (mm)	Wt. (%)	Class
> 2	3.81	Gravel
2 - 0.2	58.96	Sand
0.2 - 0.063	4.87	Sand
0.063 - 0.004	24.36	Silt
<0.004	8.48	clay

Texture: Sandy loam

Method Reference: Can. Soc. Soil Sci. (1993) Method 47.2

ALS Laboratory Group
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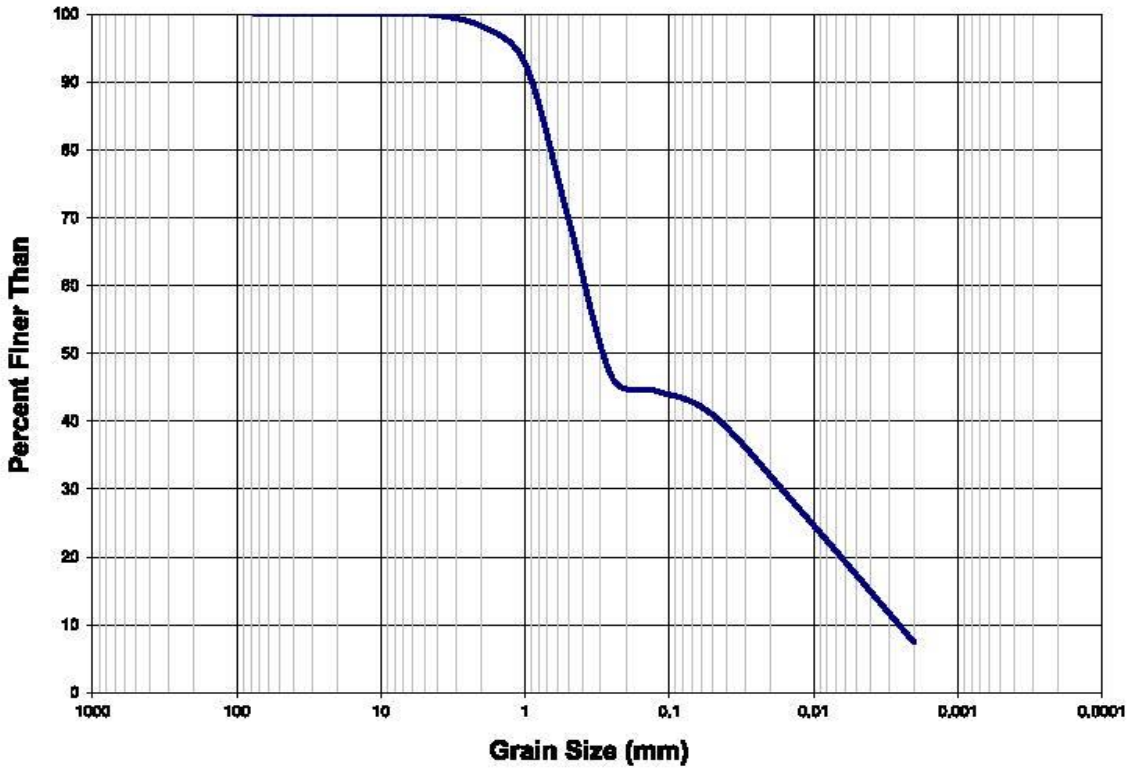
Environmental Division

819-58th Street, Saskatoon, SK S7K 6X5

Client Name: Nuclear Waste Management Organization
Project:
Sample ID: HURON-R4
Lab ID: L2736087-1

Particle Size Distribution Curve



Particle Size Distribution

Range (mm)	Wt. (%)	Class
> 2	1.76	Gravel
2 - 0.2	52.52	Sand
0.2 - 0.063	4.16	Sand
0.063 - 0.004	30.54	Silt
<0.004	11.02	clay

Texture: Sandy loam

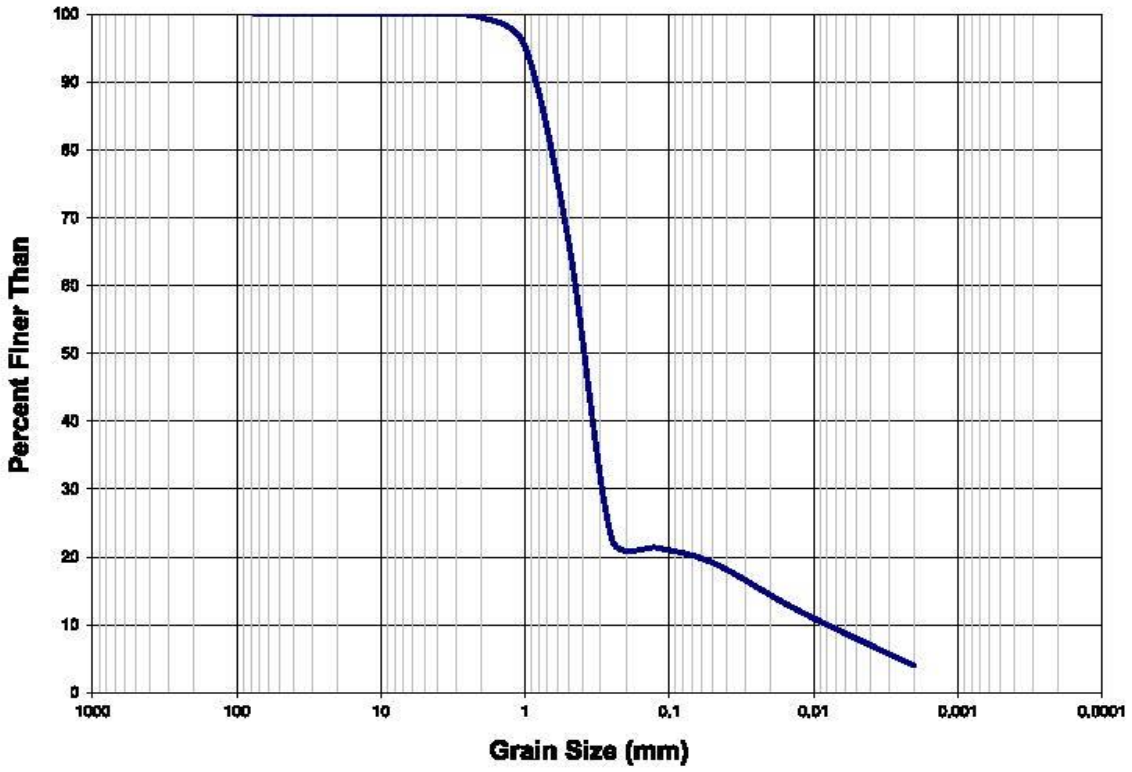
Method Reference: Can. Soc. Soil Sci. (1993) Method 47.2

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES
Environmental Division

819-58th Street, Saskatoon, SK S7K 6X5

Client Name: Nuclear Waste Management Organization
Project:
Sample ID: HURON-R6
Lab ID: L2736087-2

Particle Size Distribution Curve



Particle Size Distribution

Range (mm)	Wt. (%)	Class
> 2	0.48	Gravel
2 - 0.2	77.40	Sand
0.2 - 0.063	2.59	Sand
0.063 - 0.004	14.08	Silt
<0.004	5.45	clay

Texture: Loamy sand

Method Reference: Can. Soc. Soil Sci. (1993) Method 47.2

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Appendix G. Table 1.

Year 2 Phytoplankton Results – lowest practical taxonomic level[1]

Taxon	Silver Lake				Clam Lake		Hines Lake				Robson Lake			
	Fall		Summer		Fall		Fall		Summer		Fall		Summer	
	Orgs/L	%	Orgs/L	%	Orgs/L	%	Orgs/L	%	Orgs/L	%	Orgs/L	%	Orgs/L	%
Achnanthes	5000	0.09	0	0	0	0.00	0	0.00	6,000	0.02	0	0.00	0	0
Amphora	0	0	0	0	0	0.00	0	0.00	0	0.00	0	0.00	10,000	0.04
Anabaena	93000	1.67	460000	2.50	4,000	0.18	15,000	0.25	108,000	0.32	0	0.00	1,000	0.004
Aphanizomenon	70000	1.25	220000	1.20	559,000	24.50	0	0.00	30,000	0.09	0	0.00	2,000	0.01
Aphanocapsa	539000	9.66	860000	4.68	1,000	0.04	1,142,000	18.86	4,690,000	13.94	2,000	0.12	88,000	0.35
Asterionella	0	0	0	0	115,000	5.04	77,000	1.27	0	0.00	20,000	1.23	0	0
Bitrichia	0	0	0	0	0	0	0	0.00	15,000	0.04	0	0	30,000	0.12
Botryococcus	0	0	4000	0.02	0	0	3,000	0.05	0	0	0	0	0	0
Ceratium	1000	0.02	1000	0.01	3,000	0.13	0	0	2,000	0.01	0	0	1,000	0.004
Chlamydomonas	0	0	0	0	0	0	0	0	0	0	0	0	20,000	0.08
Chroococcus	852000	15.27	3943000	21.45	0	0	0	0	265,000	0.79	0	0	40,000	0.16
Closterium	3000	0.05	0	0	0	0	0	0	0	0	0	0	0	0
Coelosphaerium	0	0	93000	0.51	0	0	0	0	0	0	0	0	0	0
Crucigenia	446000	8.00	0	0	0	0	0	0	22,000	0.07	0	0	0	0
Cryptomonas	220000	3.94	353000	1.92	319,000	13.98	397,000	6.56	274,000	0.81	60,000	3.69	348,000	1.37
Cyanodictyon	0	0	3434000	18.68	0	0	0	0.00	4,460,000	13.26	0	0	54,000	0.21
Cyclotella	5000	0.09	0	0	0	0	40,000	0.66	451,000	1.34	94,000	5.79	7,280,000	28.76
Cymbella	0	0	0	0	0	0	0	0	0	0	0	0	1,000	0.004
Dinobryon	0	0	25000	0.14	192,000	8.41	74,000	1.22	28,000	0.08	30,000	1.85	167,000	0.66
Elakatothrix	45000	0.81	20000	0.11	13,000	0.57	2,000	0.03	14,000	0.04	1,000	0.06	40,000	0.16
Eunotia	0	0	0	0	0	0	0	0	0	0	0	0	1,000	0.004
Eucapsis	0	0	0	0	0	0	0	0	2,274,000	6.76	0	0	0	0
Fragilaria	520000	9.32	1505000	8.19	125,000	5.48	60,000	0.99	234,000	0.70	10,000	0.62	32,000	0.13
Geitlerinema	0	0	0	0	0	0	1,000	0.02	0	0.00	0	0	0	0
Gymnodinium	0	0.00	78000	0.42	0	0	3,000	0.05	78,000	0.23	0	0	35,000	0.14
Lyngbya	6000	0.11	22000	0.12	0	0	0	0	0	0	0	0	0	0
Mallomonas	0	0	15000	0.08	49,000	2.15	0	0	20,000	0.06	0	0	20,000	0.08
Melosira	40000	0.72	2000	0.01	6,000	0.26	0	0	0	0	0	0	0	0
Microcystis	15000	0.27	8000	0.04	0	0.00	0	0	0	0	0	0	0	0
Monoraphidium	0	0	0	0	0	0	0	0	0	0	0	0	10,000	0.04

Appendix G. Table 1.

Year 2 Phytoplankton Results – lowest practical taxonomic level[1]

Taxon	Silver Lake				Clam Lake		Hines Lake				Robson Lake			
	Fall		Summer		Fall		Fall		Summer		Fall		Summer	
	Orgs/L	%	Orgs/L	%	Orgs/L	%	Orgs/L	%	Orgs/L	%	Orgs/L	%	Orgs/L	%
Navicula	0	0	5000	0.03	0	0	0	0	0	0	5,000	0.31	4,000	0.02
Nitzschia	0	0	20000	0.11	20,000	0.88	0	0	10,000	0.03	1,000	0.06	0	0
Oocystis	30000	0.54	6000	0.03	0	0	40,000	0.66	0	0	0	0	0	0
Pediastrum	0	0	0	0	1,000	0.04	0	0	0	0	0	0	3,000	0.01
Peridinium	1000	0.02	0	0	0	0	0	0	38,000	0.11	0	0	0	0
Planktolyngbya	0	0	5000	0.03	5,000	0.22	0	0	0	0	0	0	7,000	0.03
Planktosphaeria	0	0	0	0	2,000	0.09	0	0	0	0	0	0	0	0
Pseudanabaena	245000	4.39	388000	2.11	5,000	0.22	1,000	0.02	44,000	0.13	6,000	0.37	0	0
Quadrigula	628000	11.26	48000	0.26	0	0	0	0	0	0	0	0	0	0
Rhizosolenia	0	0	0	0	0	0	0	0	0	0	0	0	6,000	0.02
Schroederia	0	0	0	0	25,000	1.10	27,000	0.45	0	0	0	0	0	0
Scenedesmus	0	0	45000	0.24	0	0	0	0	40,000	0.12	4,000	0.25	14,000	0.06
Schroederia	15000	0.27	0	0	0	0	1,000	0.02	0	0	0	0	0	0
small	547000	9.81	2654000	14.44	60,000	2.63	3,440,000	56.82	19,400,000	57.67	831,000	51.17	14,700,000	58.06
Staurastrum	0	0	0	0	2,000	0.09	0	0	0	0	0	0	0	0
Stichogloea	0	0	1000	0.01	0	0	0	0	0	0	0	0	0	0
Synedra	0	0	0	0	0	0	2,000	0.03	1,000	0.003	3,000	0.18	14,000	0.06
Synura	0	0	0	0	15,000	0.66	0	0	0	0	0	0	0	0
Tetraedron	0	0	5000	0.03	0	0	0	0	0	0	0	0	0	0
Trachelomonas	0	0	0	0	3,000	0.13	0	0	0	0	0	0	0	0
Unidentified	1252000	22.45	4164000	22.65	758,000	33.22	729,000	12.04	1,138,000	3.38	557,000	34.30	2,389,000	9.44

[1] Results are presented at the genus level taxonomic hierarchy. Orgs/L = organisms per liter. % = percent species composition. Both orgs/L and % columns were calculated using the total enumerations from the 3 replicate samples (i.e. fall n=3 and summer n=3).

Appendix G. Table 2.

Year 2 Zooplankton Results – lowest practical taxonomic level [1]

Taxon	Silver Lake				Clam Lake		Hines Lake				Robson Lake			
	Fall		Summer		Fall		Fall		Summer		Fall		Summer	
	Orgs/L	%	Orgs/L	%	Orgs/L	%	Orgs/L	%	Orgs/L	%	Orgs/L	%	Orgs/L	%
Arcella	0	0	50	0.04	0	0	0	0	0	0	13	0.33	0	0
Ascomorpha	1,000	1.11	1,800	1.33	0	0	0	0	16960	8.4	0	0	2,480	3.53
Asplanchna	0	0	1,050	0.77	0	0	0	0	0	0	0	0	40	0.06
Bosmina	50	0.06	50	0.04	250	0.34	0	0	0	0	253	6.24	2,800	3.98
Chaoborus	0	0	50	0.04	0	0	0	0	0	0	0	0	0	0

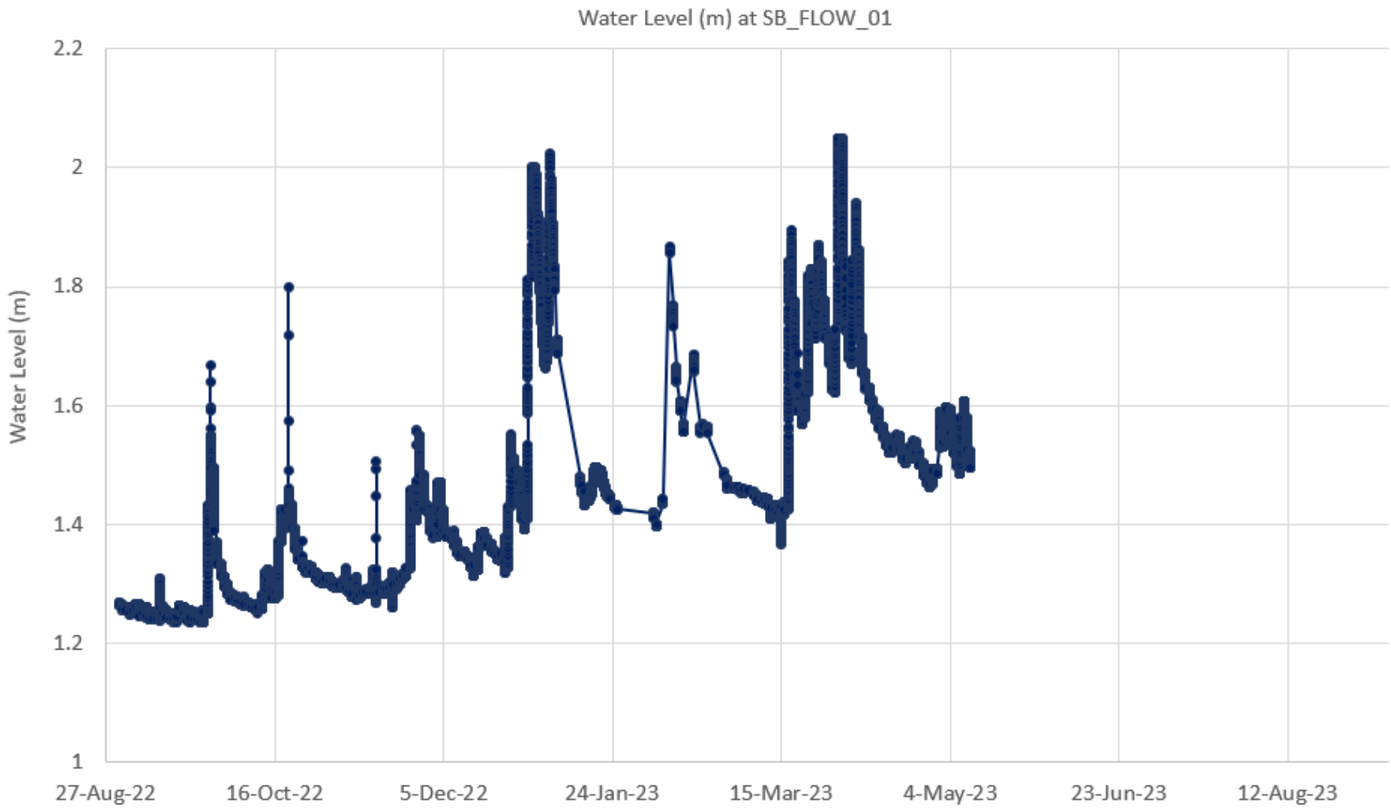
Appendix G. Table 2.

Year 2 Zooplankton Results – lowest practical taxonomic level [1]

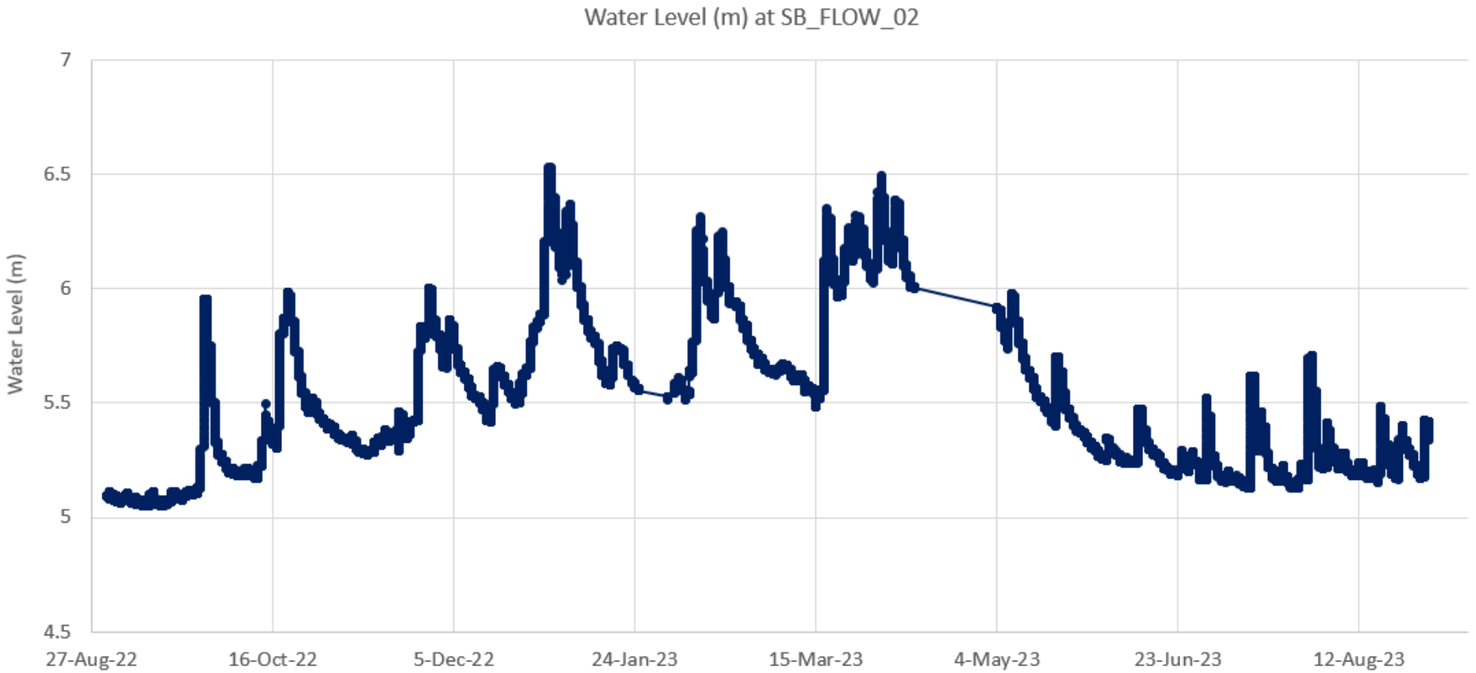
Taxon	Silver Lake				Clam Lake		Hines Lake				Robson Lake			
	Fall		Summer		Fall		Fall		Summer		Fall		Summer	
	Orgs/L	%	Orgs/L	%	Orgs/L	%	Orgs/L	%	Orgs/L	%	Orgs/L	%	Orgs/L	%
Camptocercus	0	0	0	0	50	0.07	0	0	0	0	0	0	0	0
Ceriodaphnia	0	0	0	0	100	0.13	0	0	80	0.04	0	0	1,840	2.62
Chydorus	300	0.33	0	0	0	0	100	0.24	40	0.02	40	0.99	40	0.06
Coleps	0	0	0	0	0	0	0	0	0	0	5	0.12	0	0
Collotheca	0	0	5,200	3.83	0	0	0	0	4480	2.22	0	0	320	0.46
Colurella	0	0	100	0.07	0	0	0	0	0	0	0	0	0	0
Conochilus	200	0.22	37,900	27.91	0	0	100	0.24	160	0.08	7	0.16	0	0
Daphnia	38,100	42.17	7,800	5.74	31500	42.42	7,550	17.93	2560	1.27	57	1.40	1,840	2.62
Diacyclops	0	0	0	0	0	0	5,650	13.42	0	0	0	0	0	0
Diaphanosoma	200	0.22	400	0.29	150	0.20	0	0	2480	1.23	0	0	4,000	5.69
Difflugia	1,300	1.44	200	0.15	0	0	0	0	2480	1.23	8	0.21	5,040	7.17
Eucyclops	0	0	0	0	50	0.07	0	0	0	0	0	0	0	0
Gastropus	300	0.33	500	0.37	1800	2.42	1,500	3.56	2320	1.15	65	1.60	80	0.11
Kellicottia	3,200	3.54	100	0.07	11000	14.81	2,900	6.89	2000	0.99	310	7.64	6,960	9.90
Keratella	2,800	3.10	8,500	6.26	12100	16.30	17,200	40.86	44880	22.22	943	23.25	12,960	18.44
Leptodiaptomus	0	0	1,000	0.74	0	0	0	0	2080	1.03	0	0	640	0.91
Mesocyclops	100	0.11	550	0.41	150	0.20	350	0.83	40	0.02	0	0	0	0
Microcyclops	0	0	0	0	0	0	200	0.48	80	0.04	0	0	0	0
Monostyla	0	0	0	0	0	0	0	0.00	0	0	5	0.12	0	0
Nauplii	10,500	11.62	5,600	4.12	1800	2.42	800	1.90	21440	10.61	457	11.26	13,920	19.81
Notholca	0	0	50	0.04	0	0	0	0	0	0	37	0.90	0	0
Orthocyclops	0	0	0	0	0	0	100	0.24	0	0	0	0	0	0
Platyias	0	0	0	0	0	0	0	0	120	0.06	0	0	0	0
Pleuroxus	0	0	0	0	0	0	50	0.12	0	0	0	0	0	0
Ploesoma	1,100	1.22	350	0.26	0	0	0	0	0	0	0	0	0	0
Polyarthra	3,200	3.54	12,200	8.98	2800	3.77	100	0.24	2000	0.99	857	21.12	4,160	5.92
Skistodiaptomus	0	0	1,850	1.36	1950	2.63	1,150	2.73	2160	1.07	343	8.46	760	1.08
Too young to ID	15,500	17.16	7,300	5.38	8500	11.45	3,300	7.84	8320	4.12	365	9.00	9,840	14.00
Trichocerca	100	0.11	1,800	1.33	150	0.20	0	0	2080	1.03	3	0.08	2,480	3.53
Trichotria	0	0	0	0	50	0.07	0	0	0	0	0	0	0	0
Unidentified	3,500	3.87	20,400	15.02	1850	2.49	1,050	2.49	920	0.46	118	2.92	80	0.11
Vorticella	8,900	9.85	21,000	15.46	0	0	0	0	84320	41.74	170	4.19	0	0

[1] Results are presented at the genus level taxonomic hierarchy. Orgs/L = organisms per liter. % = percent species composition. Both orgs/L and % columns were calculated using the total enumerations from the 3 replicate samples (i.e. fall n=3 and summer n=3).

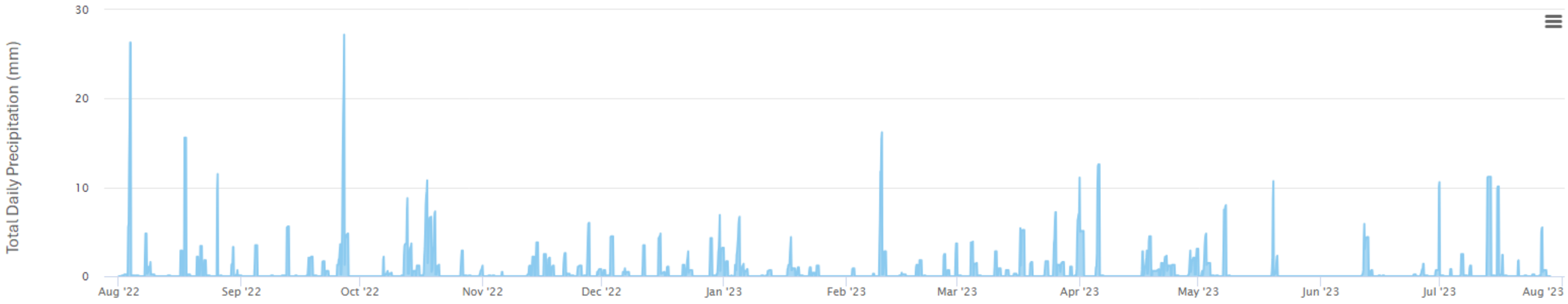
Appendix H. Figure 1.
Graph of continuous water level measurements recorded at SB_SW_FLOW_01 in Year 2.



Appendix H. Figure 2.
Graph of continuous water level measurements recorded at SB_SW_FLOW_02 in Year 2.



Appendix I – Graph of Year 2 Precipitation measured at EMBP meteorology station



APPENDIX B

YEAR 2 DRINKING WATER REPORT

Geosyntec consultants

engineers | scientists | innovators

Year 2 Drinking Water Program Final Report

Nuclear Waste Management Organization Adaptive Phased Management Project – Saugeen Ojibway Nation (SON)-South Bruce Site Environmental Media Baseline Program – Year 2 Baseline Report – Appendix B

Prepared for

Nuclear Waste Management Organization

Prepared by

Geosyntec Consultants, Inc.
130 Stone Road West
Guelph, Ontario N1G 3Z2

Project Number TR0799B1

November 20, 2024

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ACRONYMS AND ABBREVIATIONS

µS/cm	Microsiemens per Centimeter
AOI	Area of Interest
APM	Adaptive Phased Management
CALA	Canadian Association of Laboratory Accreditation
CDWG RP	Canadian Drinking Water Quality Guidelines for Radiological Parameters
DGR	Deep Geological Repository
DO	Dissolved Oxygen
EMBP	Environmental Media Baseline Program
HSM	Historic Saugeen Métis
IA	Impact Assessment
L	Liter
L/min	Liters Per Minute
mbgs	Meters Below Ground Surface
mg/L	Milligrams Per Liter
MNO	Métis Nation of Ontario
mV	Millivolts
NWMO	Nuclear Waste Management Organization
ODWQS	Ontario Drinking Water Quality Standards
ODWQS AO	Ontario Drinking Water Quality Standards for Aesthetic and Operational Objectives
ODWQS MC	Ontario Drinking Water Quality Standards for Microbiological and Chemical Standards
ORP	Oxygen/Reduction Potential
PCBs	Polychlorinated biphenyl
PHCs	Petroleum Hydrocarbons
QA/QC	Quality Assurance/Quality Control
RPD	Relative Percent Differences
SON	Saugeen Ojibway Nation
SVOCs	Semi-volatile Organic Compounds
TDS	Total Dissolved Solids

ACRONYMS AND ABBREVIATIONS (CONT'D)

TULLOCH	Tulloch Engineering
VOCs	Volatile Organic Compounds

1.0 INTRODUCTION

1.1 Overview

The Nuclear Waste Management Organization (NWMO) was established in 2002 with the objective of developing and implementing a plan for the long-term management of Canada's used nuclear fuel. The process has included the adoption of Adaptive Phased Management (APM), undertaking a siting process for the Deep Geological Repository (DGR) and associated infrastructure (hereinafter referred to as the Project), and conducting preliminary studies. From an initial list of 22 potential sites, there are two remaining sites being considered as informed and willing hosts for the Project: the Wabigoon Lake Ojibway Nation (WLON)-Ignace area and the Saugeen Ojibway Nation (SON)-South Bruce area, both in Ontario. The Saugeen Ojibway Nation (SON)-South Bruce area near Teeswater and within the Municipality of South Bruce (Figure 1) is the focus of this report.

The NWMO is actively engaging with local Indigenous Nations, governments, and communities throughout the site selection process to better understand the thoughts and concerns of people who wish to be engaged.

As part of the siting process, an Environmental Media Baseline Program (EMBP; CanNorth et al. 2020) was designed to collect baseline environmental data from within and around the Area of Interest (AOI) to be used to support an Impact Assessment (IA) should the community remain in the process and become the single preferred site for the Project.

The collection of data from the SON-South Bruce siting area under the EMBP commenced in summer 2021 (CanNorth et al., 2023). During Year 2 of the program (September 2022 to August 2023), data were collected to inform the surface water, soil, hydrology, and drinking water components. The objective of this report is to provide a high-level summary of the drinking water data collected in Year 2 as part of the South Bruce Residential Well Water Sampling Program (hereinafter referred to as the drinking water program).

1.2 Scope

The current document provides a simple summary of the Year 2 drinking water program data collected as part of the EMBP. Data collected for the surface water, soil, and hydrology programs are summarized in the accompanying documents. Air, noise, light, and tissues are also components of the EMBP but data collection was not scheduled for Year 2; these components will be reviewed in a future year.

1.3 Land Acknowledgement

It is acknowledged that the lands and communities discussed in this report are situated on the traditional land and treaty territory of the Saugeen Ojibway Nation (SON), which is comprised of Saugeen First Nation and Chippewas of Nawash Unceded First Nation. It is also acknowledged that Metis peoples have rich relationships with the land in this region.

Figure 1 Site location

2.0 DRINKING WATER PROGRAM

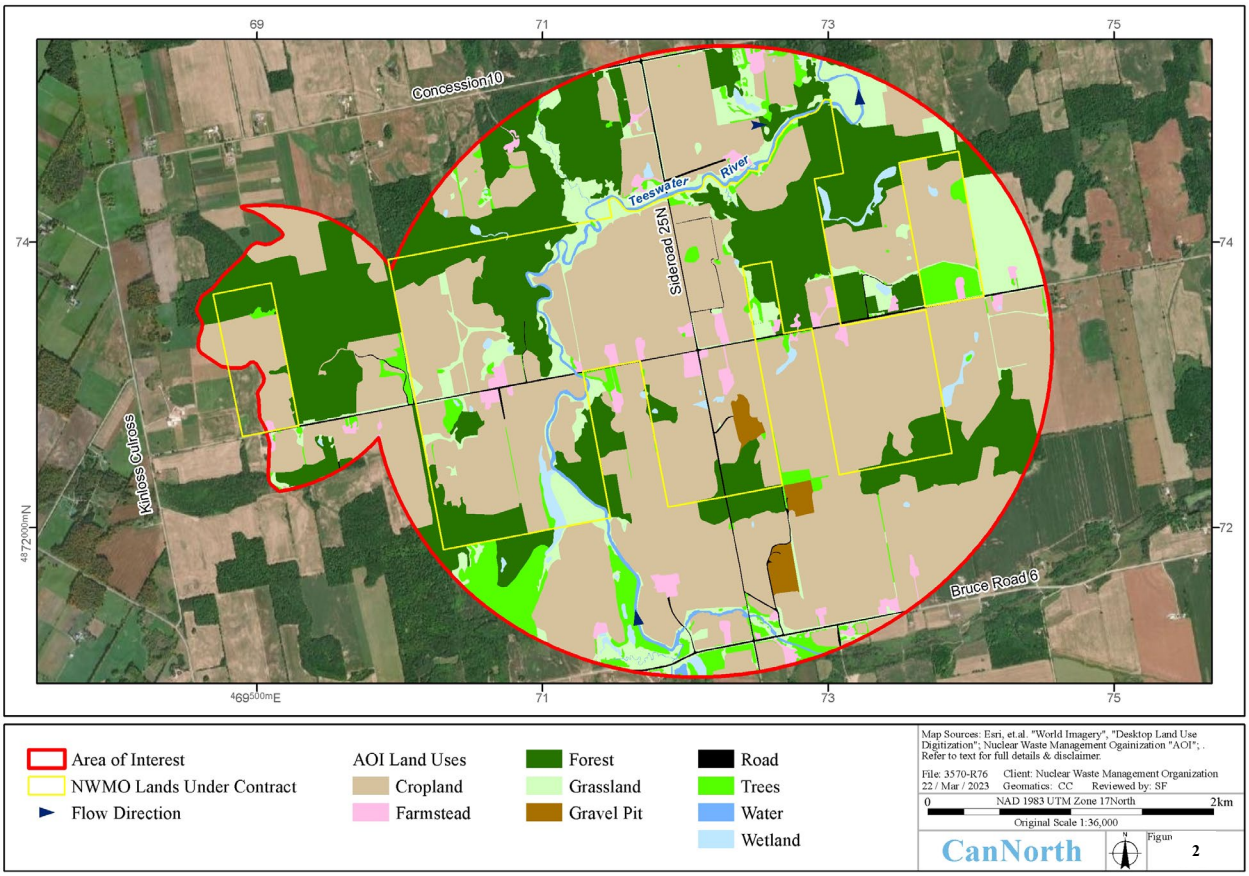
The shallow groundwater (<100 meters below ground surface [mbgs]) is a key component of an EMBP. Concurrent with implementing the EMBP, the NWMO Geoscience team is designing and implementing a shallow groundwater monitoring program that focuses on characterizing the physical hydrogeology in the AOI. The design of the shallow groundwater physical hydrogeology program is built on the current understanding of the regional and local hydrogeology, based on the existing groundwater data[1] to determine the locations of the new and proposed shallow groundwater monitoring wells. The EMBP also included recommendations for a groundwater quality program that is being refined and implemented by the NWMO Geoscience team as the groundwater monitoring well network is established. The shallow groundwater monitoring program is being implemented by others and will be presented in a separate report.

An important component of the shallow groundwater program is the quality of the drinking water in the area surrounding the proposed Project. The drinking water quality portion of the EMBP includes a private water well sampling program co-designed and implemented by community members and the NWMO and focuses on sampling private drinking water wells on lands contracted by the NWMO and on properties adjacent to NWMO contracted lands (Figure 2). The drinking water program involves annual sampling over the three years of the EMBP. The number of wells, parameters analyzed, and frequency of sampling may be adjusted each year depending on the data collected in previous years and the interest of private well owners. The Year 1 drinking water program results were presented in the Year 1 Baseline Report (CanNorth et al., 2023).

The Year 2 drinking water program field event occurred in Nov 2022 with follow-up sampling completed in April 2023. This report outlines the results of the 2022 and 2023 drinking water program (referred herein as Year 2) undertaken at residents that voluntarily participated in the program. Participants who volunteered to have their wells sampled as part of this program had residences located within the AOI (Figure 2). Results were distributed in the summer of 2023 to participants of the program in the form of personalized memos. Results may also be incorporated into a long-term comprehensive baseline monitoring program should the community remain in the process and become the single preferred site for the Project.

[1] From sources such as the Ontario well water information system (WWIS), Ontario Ministry of the Environment, Conservation and Parks (MECP) provincial wells, Ontario Geologic Survey studies, Gao et al. (2006).

Figure 2 Study area boundaries of drinking water program



2.1 Data Objectives and End Uses

The data collected as part of the drinking water program will be used to understand the current drinking water quality, engage with the local community, and help assess cumulative effects. The data would also become a key component of the IA should the community remain in the process and become the single preferred site for the Project. To support an IA, data collected as part of the EMBP, along with other data collected to complete the IA process will be used to:

- identify all domestic, communal, or municipal water wells within the local and regional project areas, including their screened hydrostratigraphic unit and piezometric level; and
- describe their current use, potential for future use, and whether their consumption has any Indigenous cultural importance.

This regulatory requirement will in part be addressed by the current design of the drinking water program, but modifications may be required to address additional data needs in the future.

The drinking water program is designed to evaluate the baseline conditions in private well-drinking water sources near NWMO contracted lands and to provide homeowners within that area an

opportunity to test their drinking water quality. To meet this objective, information has been gathered to:

- Identify existing drinking water wells which may serve as appropriate shallow groundwater monitoring wells should the SON-South Bruce siting area be selected as the single preferred site for the Project
- Document existing conditions against which to measure any environmental change
- Provide interested homeowners with information about their drinking water
- Identify existing drinking water wells that may possibly be included in a long-term comprehensive monitoring program

The program is voluntary for homeowners and it provides participants an opportunity to find out if their well water has any existing issues. The program at this stage is not designed to fully evaluate the environmental baseline conditions for the SON-South Bruce study area or to meet the standards of various permitting processes associated with the program. As drinking water private well samples are collected and results are analyzed, the program will be updated over time to meet these standards.

2.1.1 Study Area and Sampling Locations

The drinking water quality program is designed to evaluate the baseline conditions in private well drinking water sources within the AOI. A total of 12 homeowners volunteered to participate in the Year 2 drinking water program for a total of 14 properties being samples. In order to anonymize the data, locations are simply identified in this report as WW01–WW14 and well locations are not mapped. However, all sampling locations were within the AOI (Figure 2).

The sampling parameters, frequency, and locations of the drinking water program may be altered in future years as data is evaluated and further engagement with the local communities is conducted who may identify specific areas of importance such as lands of cultural importance, those used for commercial purposes (e.g., sand and gravel pits), or those that will be addressing concerns of the local population outside of the study areas.

Tulloch Engineering (TULLOCH) was retained by the NWMO to implement the drinking water program. Homeowners in the vicinity of the SON-South Bruce siting area were contacted by NWMO to inquire about their interest in participating in the residential water well sampling program. Those who were interested notified the NWMO, and subsequently had their wells sampled by TULLOCH in 2022. A second round of well water sampling from select sites occurred in April 2023. The purpose of the 2023 follow up sampling was to confirm results from the initial sampling efforts for sites with elevated gross alpha and beta concentrations (Section 2.3.3).

2.2 Sampling Methods

TULLOCH followed field investigation procedures and data collection and management procedures outlined in the EMBP Design Report (CanNorth et al. 2020). Samples were collected

following provincial drinking water collection guidelines from the Ontario Ministry of Environment (MOE 2009).

Field investigations occurred between November 15 to 18, 2023. Following review of the results, a second round of well water sampling from select sites occurred on April 5 and 6, 2023.

2.2.1 Sampling Time and Locations

A total of 12 homeowners volunteered to have their residential water wells tested from 14 wells (WW01-WW14). To collect data most representative of groundwater used as drinking water, a sample should be collected prior to any water treatment system in the house. If no sample point is available prior to treatment, collection of a sample from a tap or access point may still be conducted with the location of the collection point and type of treatment system noted to qualify the results. For the Year 2 program, all sampling was attempted from outside taps, connected to the well. Four locations did not have outdoor taps. At WW13, the water was sampled from a shallow well adjacent to a spring-fed pond which likely seeps into the well. The homeowner indicated that they do not use the water for drinking but do use it for bathing and washing. At WW03, WW10, and WW12, an outdoor tap was not available. TULLOCH sampled from a tap within the garage at WW03, and from the kitchen sink tap at WW10 and WW12. The homeowners at WW10 and WW12 were unsure whether their kitchen tap water received water treatment. Samples collected at WW01, WW03, and WW06 had elevated gross alpha and/or beta concentrations which indicated that sampling for a full suite of radionuclides may be warranted. These wells were re-sampled for gross alpha and beta concentrations in April 2023. WW02 also had exceeded gross alpha and beta concentrations in November 2022, however, the homeowners did not want to participate in the April 2023 follow-up sampling program. Sampling locations, sampling dates, and property descriptions are summarized in Table 1.

Table 1 Well Water Sampling Descriptions

Sampling Site	Sampling Date (dd-mm-yy)	Area Description
WW01	Initial Sampling: 15-Nov-22 Follow-up Sampling: 05-April-23	The well is located on the southeast side of the house next to a large silo. No contamination sources were observed, however, proximity to farm pastures adjacent to the house, could pose a risk of contamination from livestock or agriculture.
WW02	15-Nov-22	The well is located approximately 9 m from the southeast corner of the house. No sources of likely contamination were observed on the property.
WW03	Initial Sampling: 15-Nov-22 Follow-up Sampling: 06-March-23	The well is located on the east side of the house. Sampling occurred from the tap inside the garage southwest of the house. The homeowner uses insecticides, pesticides, and fungicides to treat the nearby apple farm. Chemicals such as paint and paint thinner were adjacent to the garage tap where sampling took place, along with gas powered machines.
WW04	16-Nov-22	The well is located in the wooded section between the barn and the house. Sampling occurred from the outdoor tap located on the southeast side of the barn.

WW05	16-Nov-22	The well is located on the east side of the house near the barn. Nearby livestock downgradient of the well was a potential source of contamination observed on the property.
WW06	Initial Sampling: 16-Nov-22 Follow-up Sampling 05-Apr-23	The well is located north of the driveway. Sampling occurred from the outdoor tap located to the west of the front entrance adjacent to the deck.
WW07	16-Nov-22	The water was sampled directly from the well using a tap and was located directly beside the deck on the west side of the house.
WW08	16-Nov-22	The well is located in the garden southeast of the house. Sampling occurred from the outdoor tap located on the northeast side of the house.
WW09	16-Nov-22	The well is located behind the house on the northeast side. Sampling occurred from the outdoor tap located on the east side of the house. The well is capped with a concrete lid that was not completely sealed, which may allow surface water seepage into the well.
WW10	17-Nov-22	Sampled from the kitchen sink. Unknown well location. Unknown water treatment system.
WW11	17-Nov-22	Unknown well location. Sampling occurred from the outdoor tap adjacent to the garage on the south side of the house. Proximity of the property to an industrial commercial facility with mobile heavy machinery present could pose a risk of contamination from gas or diesel.
WW12	17-Nov-22	Sampled from kitchen sink. The well is located adjacent to the garage west of the house. Unknown water treatment system.
WW13	18-Nov-22	The well was adjacent to the spring-fed pond. The well was shallow, and water from adjacent spring- fed pond likely seeps into concrete well.
WW14	18-Nov-22	The well is located adjacent to the house on the north side. Sampling occurred from the outdoor tap located on the east side of the house. Nearby livestock and heavy equipment were a potential source of contamination observed on the property.

2.2.2 Field Sampling Methods

Upon arrival to sampling locations, a description of the location and photos of the sampling location were taken and recorded on field datasheets. Well water sampling locations were recorded with UTM (NAD 83) coordinates using handheld GPS units. Also noted were observations of potential sources of impacts to the well, the existing water treatment system (if any), and the known well configuration (i.e., casing depth and type, diameter, pump intake).

For all wells, except for WW13 where no purging occurred, purging was completed for 15 minutes prior to water sample collection. Purging was completed by connecting a hose to the outdoor tap and discharging the water away from any dwellings. When sampling from an indoor tap, water was purged directly from the tap into the drain. During well purging an estimate of the flow rate in litres per minute was calculated. This flow rate was used to estimate the total volume of water

that was purged from the well prior to sample collection. No purging was completed at WW13 because the sample was collected via grab sample directly from the well.

A YSI ProPlus was used to measure field parameters in each water sample. Field measured parameters included pH, temperature (ºC), conductivity (microsiemens per centimeter [µS/cm]), turbidity (NTU), dissolved oxygen (DO; mg/L), and oxygen reduction potential (ORP; millivolts [mV]). During the follow up sampling in April 2023 at WW01, WW03, and WW06, the same field measured parameters were measured except turbidity. Measurements were recorded four times during the purging process: (1) at commencement of purging; (2) five minutes after commencement of purging; (3) 10 minutes after commencement of purging; and (4) immediately prior to sampling. Field measured parameters were collected once at WW13 because no purging was completed.

After 15 minutes of purging, the attached hose used to ensure water was directed away from homeowner residences was detached from the outdoor tap. Wearing nitrile gloves, TULLOCH proceeded to fill all laboratory supplied containers with water from the tap. At WW13, water was sampled directly from the shallow concrete well. All containers were clearly marked with the project number, location identifier, and date and time of the sample collection. Samples were immediately placed on ice and driven to ALS Environmental in Waterloo, ON the same day as sample collection.

2.2.3 QA/QC for Sample Collection and Laboratory Analyses

The quality assurance/quality control (QA/QC) procedures employed during the Year 2 drinking water program include the following:

- All measurement devices required valid calibration certificate following manufacturers specifications.
- Meters used to measure field parameters (e.g., YSI ProPlus) underwent calibration procedures as specified by the manufacturer before each sampling day.
- Water sampling apparatus that was reused between sampling locations was thoroughly cleaned prior to each sampling event and triple rinsed with deionized water between sampling locations.
- Water sampling bottles and deionized water were provided by the laboratory. Preservatives were added to bottles if appropriate.
- Samples were stored in coolers with ice packs and delivered to the laboratory under chain-of-custody procedures.
- Chain-of-custody forms were used in the transportation of samples so the samples could be tracked from the field to the laboratory.

The following set of QA/QC samples were collected to ensure sample quality.

- One field blank was used to check contamination from all potential sources of

contamination in the field. The field blank sample underwent the same sample collection, handling, and processing steps as the test samples. Field blanks were sampled by filling the sampling bottles with laboratory-supplied HPLC grade ultra-pure water to evaluate the adequacy of field and laboratory protocols.

- One trip blank sample was used to check contamination from sample bottles, caps, and preservatives during transport, storage, and analyses. The sample bottles were filled with deionized water in the laboratory and preserved in the same manner as the test samples. The trip blank sample was transported to and from the field without modification and opened at the time of analyses.
- Field duplicate samples were taken at a frequency of 10% of the test samples to ensure that sampling and laboratory analyses produce repeatable results (precision test).

Water samples were submitted to ALS Environmental in Waterloo, ON, which is certified and accredited by the Canadian Association of Laboratory Accreditation (CALA). As such, the laboratory adhered to strict QA/QC standards and protocols and completed internal QA/QC measures, such as method blanks, reference materials, laboratory duplicates, and spiked samples.

2.2.4 Laboratory Analysis

All drinking water samples were delivered on ice to ALS Environmental for analysis. Reported detection limits were provided for each parameter. Detection limits varied depending on the dilution that was necessary to complete the analysis but were below the water quality guidelines.

Water quality analyses included:

- Polycyclic Aromatic Hydrocarbons (PAHs)
- Anions, Nutrients and Alkalinity
- Bacteriological Tests (*E.Coli*, Total Coliforms)
- Extractable Metals (Mercury)
- Herbicides (Glyphosate)
- Pesticides (Diquat, Diuron)
- Petroleum Hydrocarbons (F1-F4 Fractions)
- pH
- Polychlorinated Biphenyls (PCBs)
- Radioactive Elements (Gross alpha & beta)
- Semi-volatile Organic Compounds (SVOCs)
- Total Metals
- Volatile Organic Compounds (VOCs)

If samples exceeded guidelines for gross alpha and/or beta (Section 2.3.3), they were re-tested for gross alpha and beta concentrations in April 2023. Following the April 2023 gross alpha and beta results, samples which exceeded guidelines again were tested for a full suite of

radionuclides. WW01 had exceeded gross beta guidelines in 2021 sampling, so following exceedance again in November 2022, a full suite of radionuclides was run in April 2023. The full radionuclide suite included:

- Tier 1 Radionuclides
  - Tritium
  - Cesium-137
  - Cobalt-60
  - Gross alpha
  - Gross beta
  - Ruthenium-106
  - Carbon-14
  - Iodine-129
  - Strontium-90
- Tier 2 Artificial Radionuclides
  - Selenium-79
  - Chlorine-36
  - Neptunium-237
  - Plutonium-238
  - Plutonium-239
- Tier 2 Natural Radionuclides
  - Uranium-238
  - Uranium-235
  - Uranium-234
  - Potassium-40
  - Thorium-232
  - Thorium-230
  - Thorium-228
  - Radium-226

2.3 Results

Field investigations at homeowner wells occurred initially in November 2022, and follow-up radionuclide testing at select wells occurred in April 2023. The exact sampling locations (UTM NAD 83) were recorded but are not included in this report to maintain anonymity of the data.

2.3.1 Flow Rate and Volume

Flow rates and total volumes of well water purged prior to sampling are summarized for each sampling site in Table 2. As discussed in Section 2.2.2, no purging occurred at WW13. The highest recorded purging rate occurred at WW07 (33.84 L/min) and the slowest occurred at WW10 (5.20 L/min). Water which was purged from indoor taps had slower purge rates (mean = 9.52 L/min) when compared to those purged from the outdoor taps (mean = 21.82 L/min), and therefore wells which were purged using indoor taps had less water purged prior to sampling (mean = 142.84 L) when compared to the wells which were purged using outdoor taps (mean = 327.36 L).

Table 2 Flow Rates and Total Purge Volume During Well Purging

Site	Date	Purging Event	
		Flow Rate (L/min)	Amount of Water Purged (L)
WW01	15-Nov-22	15.49	232.44
	05-Apr-23	12.21	183.15
WW02	15-Nov-22	16.62	249.27
WW03	15-Nov-22	19.54	293.13
	06-Apr-23	8.02	120.23
WW04	16-Nov-22	13.96	209.40
WW05	16-Nov-22	31.29	469.47
WW06	16-Nov-22	22.17	332.61
	05-Apr-23	25.64	384.59
WW07	16-Nov-22	33.84	507.66
WW08	16-Nov-22	19.03	285.45
WW09	16-Nov-22	20.84	312.63
WW10	17-Nov-22	5.20	78.50
WW11	17-Nov-22	30.10	451.40
WW12	17-Nov-22	5.30	79.50
WW13	18-Nov-22	NA*	NA*
WW14	18-Nov-22	20.68	310.20

NA not available as no purging occurred at WW13 (Section 2.2.2.)*

2.3.2 Field Measured Parameters

Field measured parameters recorded during purging of the water sampling are presented in Table 3. Graphs representing the range of field measured parameters during the well sampling events are shown in Figure 3. Field measured parameters, although they can be indicators of water quality, are collected to evaluate if the water samples collected after purging will be representative of the groundwater. Some parameters, such as pH, stabilize quickly and others such as DO can take longer to stabilize. Generally, these field measured parameters indicate that the samples were collected after the conditions had stabilized and were representative samples of the water. There were no consistent increasing or decreasing trends observed during the purging of the wells (measured at start, after 5 and 10 minutes of purging, and prior to sample collection) during the well sampling events.

The mean pH of all wells amongst all sampling times for the November 2022 event was 7.31, ranging from 6.93 (WW01; immediately prior to sampling) to 7.70 (WW02; 5 minutes after commencement of purging). The mean pH of well water amongst all sampling events in April 2023 was 7.49, ranging from 7.16 (WW01; commencement of well purging) to 7.80 (WW06; 5 min after commencement of purging; Figure 3).

During November 2022 sampling, water temperature ranged from 8.60ºC (WW08; 10min after commencement of purging and immediately prior to sampling) to 21.80ºC (WW12; immediately prior to sampling), with a mean temperature of 11.12ºC. During April 2023 sampling, water temperature ranged from 3.80ºC (WW03; 5min after commencement of purging) to 8.90ºC (WW06; 5min and 10min after commencement of purging), with a mean temperature of 7.12ºC.

During November 2022 sampling, the conductivity measurement at WW13 (1.760 mS/cm) was considerably higher compared to other sampling locations (mean conductivity without WW13 = 0.658 mS/cm). This is likely due to the construction of WW13, a shallow concrete well adjacent to a surface water source. It should be noted that sample collection was also different with a grab sample and a single set of field measured parameters collected at this well. Disregarding WW13, conductivity ranged from 0.456 mS/cm (WW05; immediately prior to sampling) to 1.157 mS/cm (WW03; 5min after commencement of purging), with an average of 0.637 mS/cm. During April 2023 sampling, the conductivity ranged from 0.470 mS/cm (WW06; entire sampling event), to 1.070 mS/cm (WW03; 5min after commencement of purging), with an average of 0.689 mS/cm (Figure 2).

The turbidity readings during November 2022 sampling were considered to be unreliable, and were discounted, due to equipment performance in the cold temperatures. Of the reliable turbidity measurements, water sampled from WW02 (commencement of well purging = 7.29 NTU) was considerably higher when compared to other sampling locations (mean turbidity disregarding WW02 = 0.77 NTU). Discoloured water while purging was documented at WW02 although this was noted by the homeowner as normal for that well. Disregarding WW02, turbidity ranged from 0.00 (WW10; commencement of well purging) to 2.17 NTU (WW05; immediately prior to sampling; Figure 3. Turbidity readings were not taken in April 2023.

The mean dissolved oxygen of well water amongst all sampling times in November 2022 was 4.56 mg/L, ranging from 0.60 mg/L (WW02; immediately prior to sampling) to 9.24 mg/L (WW12; commencement of purging). The mean dissolved oxygen of well water amongst all sampling times in April 2023 was 2.39 mg/L, ranging from 0.95 mg/L (WW06; commencement of purging) to 7.60 mg/L (WW03; immediately prior to sampling; Figure 3).

ORP during November 2022 sampling ranged from -201.40 mV (WW02; 5 min after commencement of purging) to 137.20 mV (WW06; commencement of well purging), with a mean of 23.85 mV. ORP readings were not taken in April 2023

There was a greater range in both DO and ORP compared with the other field parameters measured. Sampling from a tap can create aeration of the water which can affect both the DO and ORP readings which may have contributed to some of the variability. DO is affected by both natural and anthropogenic factors. Low DO may indicate the presence of high levels of bacteria that are consuming the oxygen. High DO may indicate that the well is shallow and is affected by infiltration of surface water, especially if combined with detections of coliform. ORP is a measurement of electron activity in the water that relates to the relative amount of oxidant or reductant present. Groundwater age is often related to redox conditions and groundwater age is

also often related to depth. In general, young, recently recharged groundwater is likely to be oxic (contain oxygen and have positive ORP values), and older groundwater, recharged hundreds or thousands of years ago, is more likely to be anoxic (low to no oxygen and negative ORP values). In most aquifers, older groundwater is more likely to be anoxic than younger groundwater because there has been more time for chemical reactions and biological activity that consume dissolved oxygen to occur. However, redox conditions can vary a lot across short distances because of small-scale variability in aquifers such as irregular distribution of organic-rich layers, presence of contamination, or the presence of reduced minerals along fractures (USGS 2019). So some of the variability in ORP between the wells may be due to variability in the depths or geologic materials in which the wells are screened.

Table 3 Field Measured Parameters

Date (*dd-mm-yy*)		*In-situ* Water Quality					
	Sampling Time	pH (pH units)	Temp. (oC)	Turbidity (NTU)	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)
WW01							
15-Nov-22	Commencement of well purging	6.96	14	N/A*	0.481	4.97	110.1
	5min after commencing well purging	7.01	10.1	N/A*	0.758	6.02	104.1
	10min after commencing well purging	7.04	10	N/A*	0.733	5.83	91.3
	Immediately prior to sampling	6.93	9.9	N/A*	0.733	3.37	90.4
5-Apr-2023	Commencement of well purging	7.16	7.7	N/A	0.67	1.99	N/A
	5min after commencing well purging	7.17	5.9	N/A	0.66	2.89	N/A
	10min after commencing well purging	7.24	7.6	N/A	0.66	1.68	N/A
	Immediately prior to sampling	7.33	7.8	N/A	0.68	1.80	N/A
WW02							
15-Nov-22	Commencement of well purging	7.44	9.4	7.29	0.894	1.98	128
	5min after commencing well purging	7.7	10.2	2.35	0.883	0.7	-201.4
	10min after commencing well purging	7.6	10.2	NA*	0.891	0.82	-184.9
	Immediately prior to sampling	7.48	10.5	NA*	0.896	0.60	-175.3
WW03							
15-Nov-22	Commencement of well purging	6.98	10	NA*	0.937	4.41	76.8
	5min after commencing well purging	7.18	12.8	1.52	1.157	3.24	-7
	10min after commencing well purging	7.2	10.1	NA*	1.081	0.97	-75
	Immediately prior to sampling	7.19	10	NA*	1.124	1.17	-78.9
5-Apr-2023	Commencement of well purging	7.45	4.5	N/A	0.94	1.07	N/A
	5min after commencing well purging	7.44	3.8	N/A	1.07	1.44	N/A
	10min after commencing well purging	7.62	6.3	N/A	0.86	1.09	N/A
	Immediately prior to sampling	7.62	6.5	N/A	0.85	7.60	N/A

Date (*dd-mm-yy*)		*In-situ* Water Quality					
	Sampling Time	pH (pH units)	Temp. (oC)	Turbidity (NTU)	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)
WW04							
16-Nov-22	Commencement of well purging	7.52	12.9	NA*	0.554	1.97	11.2
	5min after commencing well purging	7.43	11.4	NA*	0.534	1.43	13.3
	10min after commencing well purging	7.4	10.5	NA*	0.534	0.95	21.1
	Immediately prior to sampling	7.39	10.1	NA*	0.534	1.12	23.5
WW05							
16-Nov-22	Commencement of well purging	7.25	9.6	1.16	0.663	1.93	-49.2
	5min after commencing well purging	7.23	9.3	1.04	0.655	1.16	-48.3
	10min after commencing well purging	7.23	9.2	1.77	0.653	0.98	-40
	Immediately prior to sampling	7.33	9.3	2.17	0.456	4.99	-24.3
WW06							
16-Nov-22	Commencement of well purging	7.42	12.3	1.35	0.522	1.66	137.2
	5min after commencing well purging	7.46	9.2	1.08	0.527	0.84	-153.9
	10min after commencing well purging	7.45	8.8	0.6	0.53	0.81	-153.2
	Immediately prior to sampling	7.44	8.7	N/A*	0.532	0.73	-149.5
5-Apr-2023	Commencement of well purging	7.67	8.7	N/A	0.47	0.95	N/A
	5min after commencing well purging	7.8	8.9	N/A	0.47	2.62	N/A
	10min after commencing well purging	7.6	8.9	N/A	0.47	3.29	N/A
	Immediately prior to sampling	7.75	8.8	N/A	0.47	2.32	N/A
WW07							
16-Nov-22	Commencement of well purging	7.34	8.8	0.49	0.522	2.05	-8.4
	5min after commencing well purging	7.33	9.1	0.22	0.527	4.71	19
	10min after commencing well purging	7.29	9	0.89	0.53	3.66	34.3
	Immediately prior to sampling	7.34	9	0.7	0.532	5.84	44.3

Date (*dd-mm-yy*)		*In-situ* Water Quality					
	Sampling Time	pH (pH units)	Temp. (oC)	Turbidity (NTU)	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)
WW08							
16-Nov-22	Commencement of well purging	7.43	8.8	1.08	0.476	3.97	-114.5
	5min after commencing well purging	7.4	9	0.88	0.474	3.66	-108.7
	10min after commencing well purging	7.33	8.6	0.76	0.474	1.94	-99.2
	Immediately prior to sampling	7.28	8.6	0.64	0.474	0.88	-97.4
WW09							
16-Nov-22	Commencement of well purging	7.18	10.3	NA*	0.54	8.82	89.4
	5min after commencing well purging	7.18	10.1	NA*	0.539	8.5	86.7
	10min after commencing well purging	7.2	9.9	NA*	0.539	8.46	85.4
	Immediately prior to sampling	7.23	9.9	NA*	0.538	9.04	84.3
WW10							
17-Nov-22	Commencement of well purging	7.15	14.4	0	0.638	8.41	101.8
	5min after commencing well purging	7.17	13.8	0.54	0.647	8.49	103.6
	10min after commencing well purging	7.14	13	NA*	0.632	8.62	104.5
	Immediately prior to sampling	7.15	11.9	NA*	0.631	8.8	106.4
WW11							
17-Nov-22	Commencement of well purging	7.19	14.2	0.49	0.679	4.12	119.3
	5min after commencing well purging	7	12.4	0.22	0.688	3.48	119.3
	10min after commencing well purging	7.25	12.3	0.89	0.687	6.3	110.2
	Immediately prior to sampling	7.19	12.2	0.7	0.686	3.33	87.3
WW12							
17-Nov-22	Commencement of well purging	7.32	13.2	N/A*	0.544	9.24	99.5
	5min after commencing well purging	7.32	19.4	N/A*	0.562	8.47	91.8
	10min after commencing well purging	7.35	21.7	N/A*	0.546	8.19	94.8
	Immediately prior to sampling	7.29	21.8	N/A*	0.549	7.95	100.7

Date (*dd-mm-yy*)		*In-situ* Water Quality					
	Sampling Time	pH (pH units)	Temp. (oC)	Turbidity (NTU)	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)
WW13							
18-Nov-22	Commencement of well purging	NA**	NA**	NA**	NA**	NA**	NA**
	5min after commencing well purging	NA**	NA**	NA**	NA**	NA**	NA**
	10min after commencing well purging	NA**	NA**	NA**	NA**	NA**	NA**
	Immediately prior to sampling	7.06	10.7	0.62	1.76	6.48	105.4
WW14							
18-Nov-22	Commencement of well purging	7.3	10.9	0.41	0.546	9.15	104.3
	5min after commencing well purging	7.24	9.4	0.22	0.544	9.07	112.8
	10min after commencing well purging	7.22	9.4	0.16	0.549	8.77	110.3
	Immediately prior to sampling	7.2	9.3	0.2	0.55	8.79	110.8

*NA*Turbidity measurement results removed due to equipment malfunction.*

*NA**No purging occurred at WW13, resulting in one (1) set of YSI measurements being collected immediately prior to sampling*

N/A - not available, not measured in 2023.

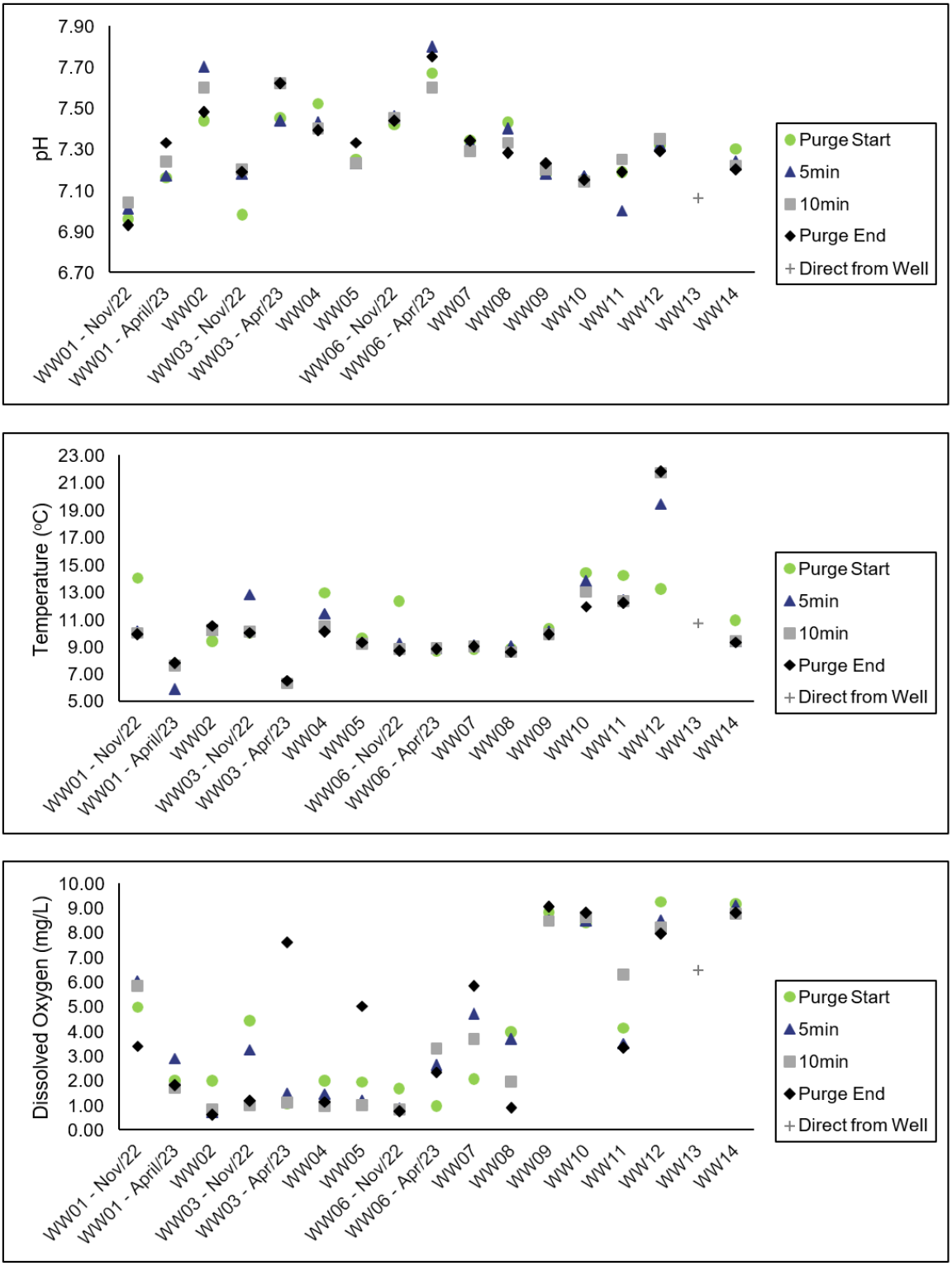


Figure 3 Field Measured Parameters

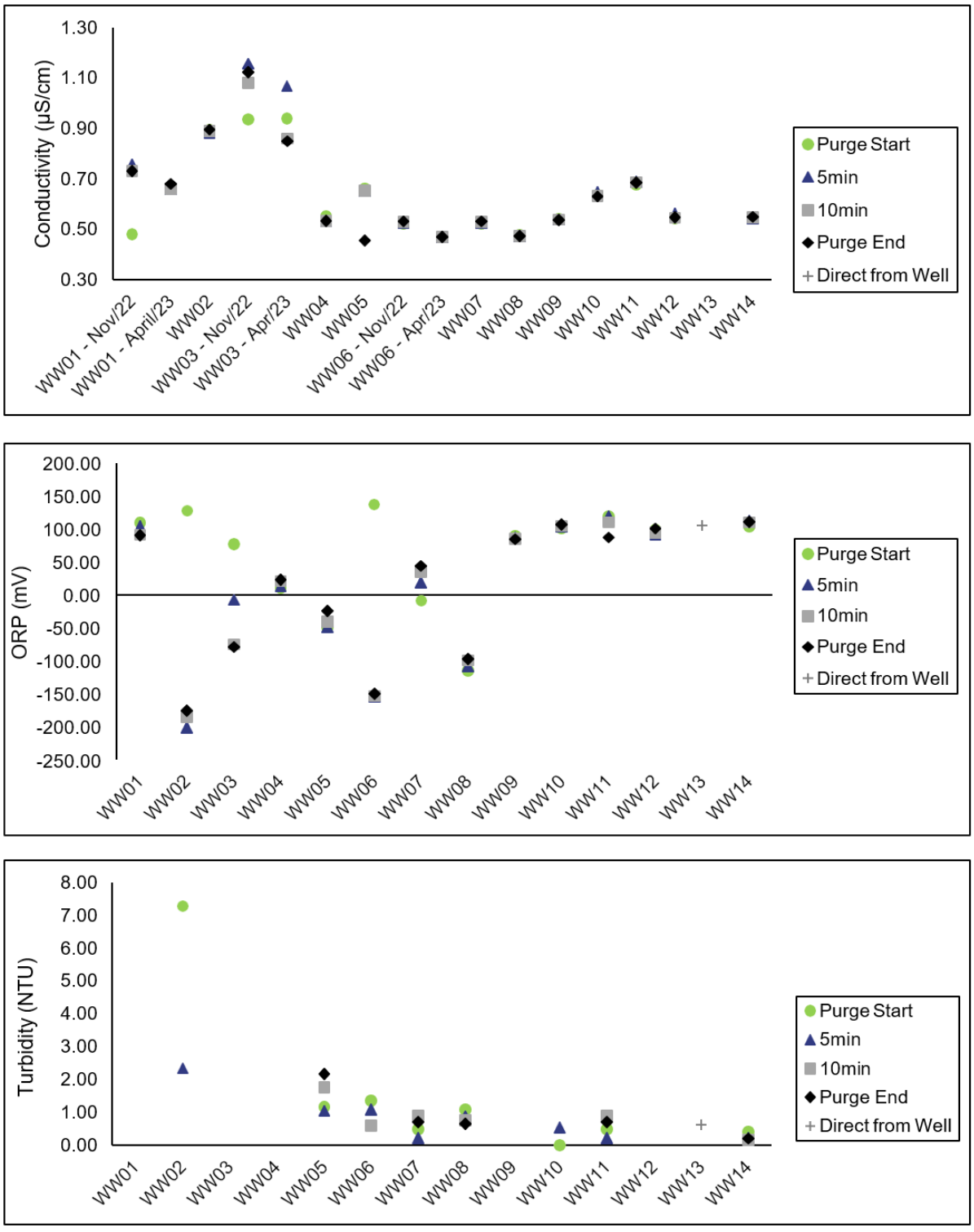


Figure 3 Field Measured Parameters (Continued)

2.3.3 Water Quality

The drinking water samples were compared to Schedule 1 (Microbiological Standards) and Schedule 2 (Chemical Standards) of the Ontario Drinking Water Quality Standards (ODWQS Microbiological and Chemical (MC); Ontario Regulation (O.Reg.) 169/03). Additionally, water samples were compared to the Table 4 (Aesthetic and Operational Objectives; ODWQS AO) of the Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines (MOE 2006). O.Reg 169/03 indicates that the aesthetic objective for sodium in drinking water is 200 mg/L. The local Medical Officer of Health should be notified when the sodium concentration exceeds 20 mg/L so that this information may be communicated to local physicians for their use with patients on sodium restricted diets. TULLOCH flagged where 20 mg/L were exceeded and 200 mg/L as the "ODWQS AO". Drinking water samples were tested for the presence of radioactivity using gross alpha and beta determinations. Gross alpha and beta concentrations were compared to the Canadian Drinking Water Quality Guidelines for Radiological Parameters (CDWG RP).

This summary report presents only the data that had exceedances of one of the drinking water standards or guidelines. Detailed water well data from 2022 and 2023 are provided in Appendix A. Detection limits varied in all samples due to some samples requiring dilution in the laboratory. For the November 2022 samples, reported PAHs, mercury, herbicides, pesticides, PHCs, PCBs, SVOCs, and VOCs (excluding phenols) were below reported detection limits in all samples (non-detect) with the exception of one (1) PAH, benzo(a)pyrene, which had detection limits between 0.038 ug/L and 0.044 ug/L (Section 2.4). Laboratory detection limits were below the applicable guidelines where available. Multiple parameters in the anions and nutrients suite, the bacteriological suite, the metals suite, and the radioactive elements were above the laboratory detection limits but below regulatory guidelines. Exceedances of ODWQS guidelines were measured in five parameters, and exceedances in CDWG RP were measured in two parameters (Figure 4) as outlined below:

- Chloride (1 of 14 locations; ODWQS AO: WW13)
- Total Coliforms (3 of 14 locations; ODWQS MC: WW01, WW10, WW13)
- Iron (5 of 14 locations; ODWQS AO: WW02, WW03, WW05, WW06, WW08)
- Manganese (1 of 14 locations; ODWQS AO: WW02)
- Sodium (3 of 14 locations; exceeded the 20 mg/L: WW04, WW11, WW13)
- Gross alpha (2 of 14 locations; CDWG RP: WW02, WW03)
- Gross beta (2 of 14 locations; CDWG RP: WW01, WW06)

Some of the exceedances may be due to natural conditions of the aquifers in which the wells are screened, such as the exceedances of iron, which can be present in the aquifer materials, and mobilized in groundwater with low ORP/low DO. The exceedance of chloride in WW13, which is a very shallow well that also has the highest sodium concentration, may indicate that this well is impacted by salt (e.g., road salt, water softener, septic). The exceedances of the total coliforms

generally indicate impacts to the well from surface water or runoff. Three of the wells (WW01, WW10 and WW13) with total coliforms exceedances also have positive ORP and higher DO which supports a shallow source of water.

Wells which exceeded CDWG RP guidelines for gross alpha and/or beta concentrations during November 2022 sampling were re-sampled in April 2023 to further investigate the results (WW01, WW03, WW06). Homeowners at WW02 did not wish to partake in the April 2023 sampling program. WW03 and WW06 were re-tested for gross alpha and beta concentrations. Concentrations of both parameters were below CDWG RP guidelines at WW06 (gross alpha = 0.363 Bq/L; gross beta =<0.148 Bq/L), so no further radionuclide testing was completed. Concentrations of gross alpha at WW03 remained above CDWG RP guidelines during April 2023 re-sampling (gross alpha = 1.32 Bq/L), so the full radionuclide suite was analyzed. Following concentrations of gross beta above CDWG RP at WW01 during November 2022 testing (gross beta = 1.11 Bq/L), the full radionuclide suite was run during April 2023 re-sampling, as this well had previously exceeded gross beta CDWG RP guidelines in the 2021 sampling program. Exceedances in CDWG RP at WW01 and WW03 following the analysis of the full radionuclide sampling suite are shown in Figure 3, and are listed below:

- Gross alpha (WW03)
- Gross beta (WW01, WW03)
- Radium-226 (WW03)

Detectable concentrations of Uranium-234, Uranium-235, and Uranium-238 were reported at WW01 and WW03, however all concentrations were well below the guideline of 3 Bq/L.

All exceedances were reported to homeowners and they were referred to their local public health unit if they wanted to follow up on the implications of the results.

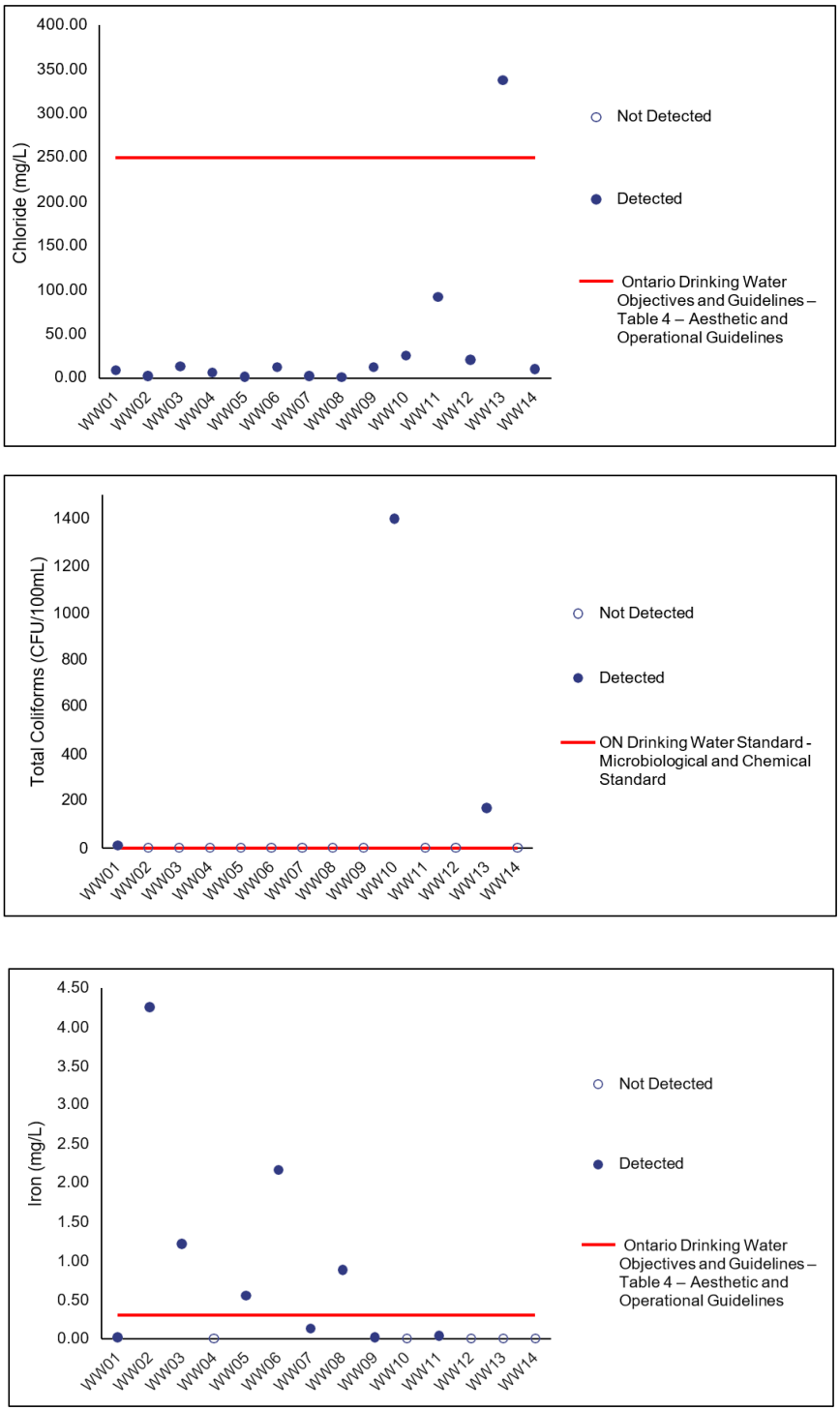
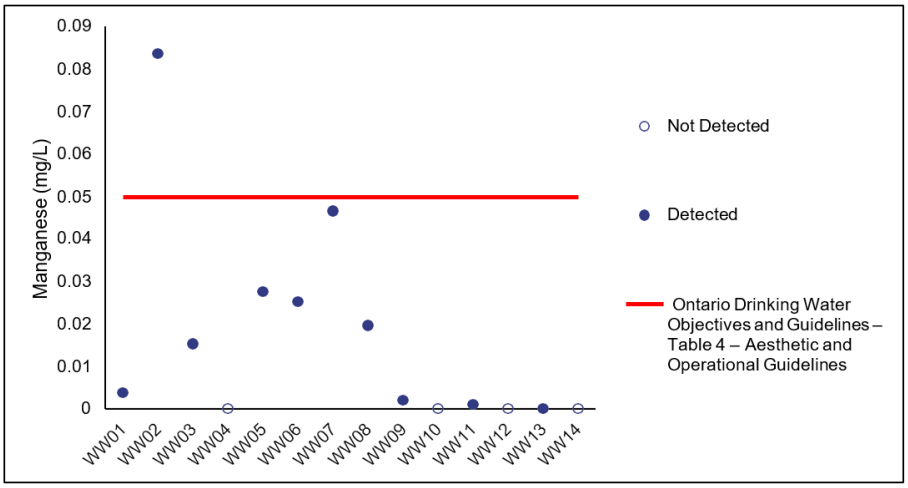
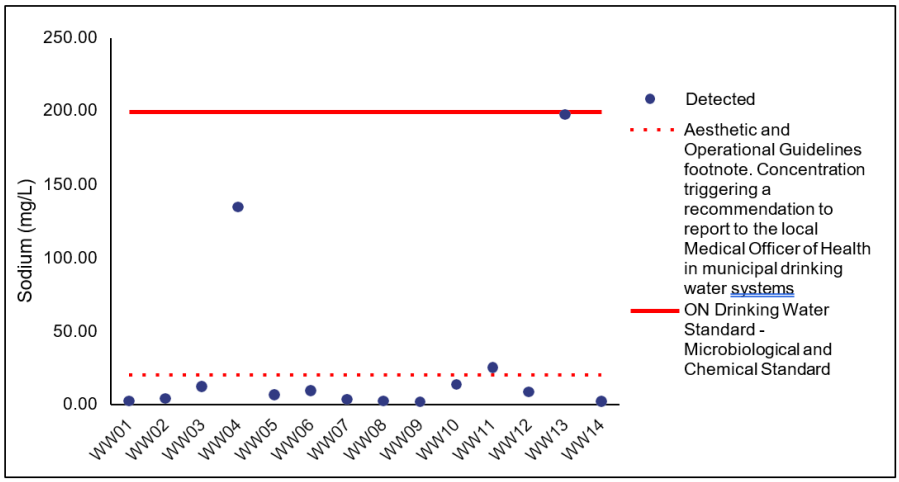


Figure 4 Drinking Water Wells with Exceedances of Drinking Water Standards of Guidelines





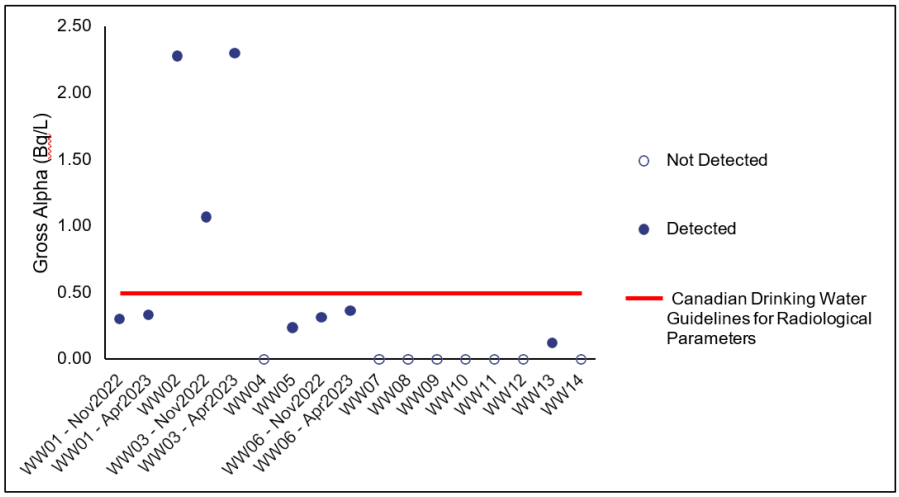


Figure 4 Drinking Water Wells with Exceedances of Drinking Water Standards of Guidelines (Continued)

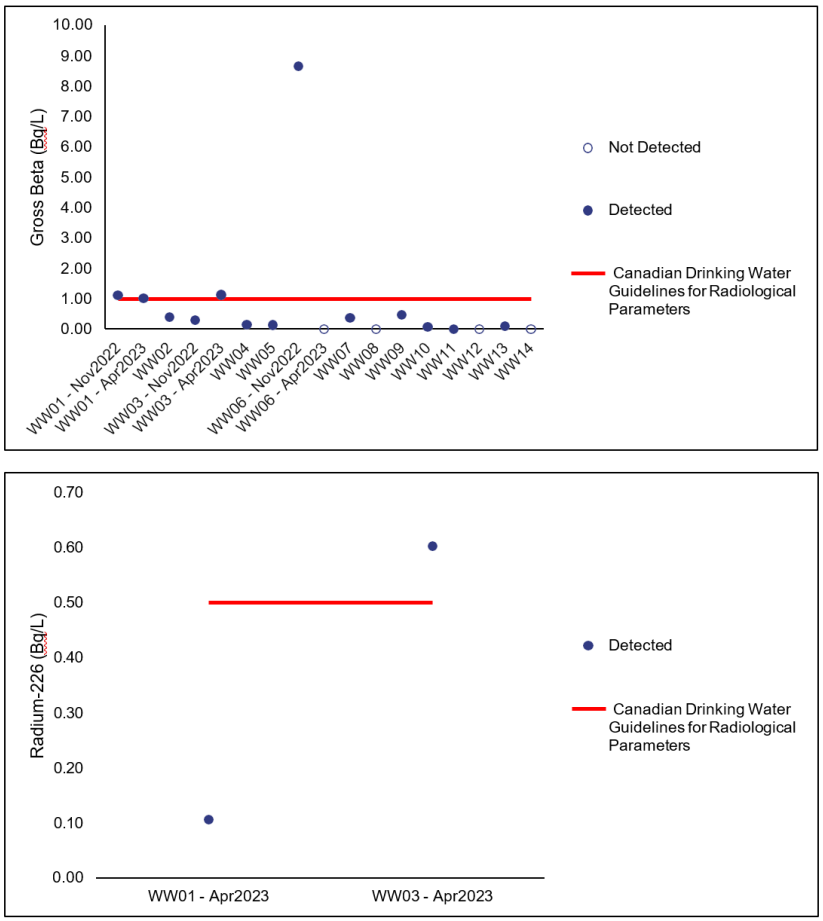


Figure 4 Drinking Water Wells with Exceedances of Drinking Water Standards of Guidelines (Continued)

2.4 Quality Assurance/Quality Control

Trip blanks and field blanks indicated that the handling, transport and shipment of the samples were not a source of contamination during the sampling events.

Duplicates of the same sample were run internally by the laboratory QA/QC measures, as well as by collecting a duplicate sample in the field. Two (2) duplicates were collected during the 2022 sampling, one (1) duplicate was collected at WW04, and one (1) duplicate was collected at WW08. Duplicates were assessed using the guidelines from the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (MOE 2011). Relative Percent Difference (RPD) performance standards were compared between the duplicate and parent sample. In the first duplicate sample (DUP-01), strontium concentrations revealed a 35.3% RPD, which exceeded the Table 5 performance criteria standard of 20% (MOE 2011). No standard or guideline exists for strontium. The strontium concentrations reported for DUP-01 and the parent sample (WW04) were the two (2) lowest reported concentrations of any of the well water samples (DUP-01: 0.00056 mg/L; WW04: 0.00080mg/L). At low concentrations there is more detectable variability in the instrument error, resulting in inflated RPDs. Due to the low

concentrations of strontium detected, and concentrations less than all other sites, the exceedance in 20% RPD is not concerning, and it likely does not suggest any compromise in data quality or reliability.

In the second duplicate sample (DUP-02), copper and iron concentrations revealed a 147.0% and 167.9% RPD respectively, which both exceeded the Table 5 performance criteria standard of 20% (MOE 2011). Copper and Lead were both detected at low concentrations in both the duplicate (DUP-01 Copper: 0.00165 mg/L; DUP-01 Lead: 0.000756 mg/L) and parent sample (WW08 Copper: 0.0108 mg/L; WW08 Lead: 0.000756 mg/L). The low concentrations of both lead and copper in DUP-02 and the parent sample could have resulted in inflated RPD percentages. No well water sample, including DUP-02 and the parent sample (WW-08) exceeded the ODW AO Guideline for copper (1 mg/L), or the ODWQS Standard for lead (0.010 mg/L). The low concentrations of both lead and iron, and the lack of lead or copper exceedances in any well water samples, results in little concern about the exceedance in the 20% RPD, as it likely does not suggest any compromise in data quality or reliability.

All parameters had detection limits which were below associated guidelines or standards for the 2022 sampling event, aside from one (1) PAH, benzo(a)pyrene, which had detection limits between 0.038 ug/L and 0.044 ug/L. The associated ODWQS MC standard is 0.01 ug/L, meaning concentrations between the standard and the detection limit may not have been detected. However, no hydrocarbons (PAHs or PHCs) were detected in any sample, and there were no site-specific concerns identified for benzo(a)pyrene contamination.

A field and trip blank were run for gross alpha and gross beta concentrations for the April 2023 sampling event. The trip blank had concentrations below the detection limit for both gross alpha and beta. In the field blank, gross alpha concentrations were not detected above the minimum detectable concentration, minimum detectable activity, or method detection limit. Concentrations of gross beta were detected (0.203 Bq/L ± 0.0809) in the field blank, which could indicate contamination from handling or ambient air during sampling. The field blank was completed at WW06 which had non-detectable concentrations of gross beta. Additionally, gross beta is an indicator for artificial radionuclide presence, and no artificial radionuclides were detected in either the WW01 or WW03 samples.

A duplicate sample was collected at WW06 in April 2023. No RPDs exist for gross alpha or gross beta concentrations. However, both the gross beta concentration in the duplicate sample and the parent sample were below the reported detection limit (<0.148 Bq/L). Furthermore, gross alpha concentrations were detected in the duplicate (0.280 Bq/L) and parent sample (0.363 Bq/L), but both were below the 0.5 Bq/L CDWG RP guideline.

3.0 SUMMARY

The Year 2 drinking water program was completed in November 2022 with follow up sampling at select locations in April of 2023, to characterize the drinking water in the SON-South Bruce siting area AOI. Participation in the program was voluntary and may be expanded to other homeowners in subsequent years. Results may also be incorporated into a long-term comprehensive baseline monitoring program if the study area is selected as the repository site.

The focus of the Year 2 program was on sampling private wells from homeowners who volunteered to have their wells sampled. The aim is to sample these wells for an additional year to get a baseline drinking water quality assessment. The concentrations of water quality parameters in most wells were low, below the laboratory detection limits, and below applicable drinking water quality standards (ODWQS). There were exceedances of the ODWQS for chloride, iron, manganese, total coliforms, and sodium in a few wells. Two wells exceeded the applicable water quality guideline (CDWG RP) of radioactivity for gross beta and two wells exceeded the applicable water quality guideline (CDWG RP) of radioactivity for gross alpha. One well exceeded the applicable water quality guideline (CDWG RP) for radium-226.

These results illustrate that some parameters are currently detected in the study area, even before development of the Project should it become the single preferred site, which is important to establish during the baseline period. The Year 2 results generally align with the results of the Year 1 sampling event (CanNorth 2023). As additional data become available from the Year 3 sampling campaign, further characterization of the study area will be completed.

4.0 REFERENCES

CanNorth, Geosyntec, IEC, and Z.& A. Inc. (Canada North Environmental Services, Geosyntec Consultants International Inc., Independent Environmental Consultants, Zajdlik & Associates Inc.). 2020. Nuclear Waste Management Organization Adaptive Phased Management Project – South Bruce Site: Environmental Media Baseline Program design. final report, June.

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Appendix A: Detailed water well data 2022 and 2023

Parameter	Unit	Detection Limit					Guidelines			WW01[A]	WW02[B]	WW03[B]	WW04[B]	WW05[C]	WW06[D]	WW07[C]	WW08[C]	WW09[E]	WW10[C]	WW11[C]	WW12[D]	WW13[B]	WW14[B]
		RDL A	RDL B	RDL C	RDL D	RDL E	ODWQS MC	ODWQS AO	CDWG RP	15-11-22	15-11-22	15-11-22	16-11-22	16-11-22	16-11-22	16-11-22	16-11-22	16-11-22	17-11-22	17-11-22	17-11-22	18-11-22	18-11-22
Polycyclic Aromatic Hydrocarbons (PAHs)																							
acenaphthene	µg/L	0.20	0.20	0.20	0.20	0.20				<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
acenaphthylene	µg/L	0.20	0.20	0.20	0.20	0.20				<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
anthracene	µg/L	0.20	0.20	0.20	0.20	0.20				<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
benz(a)anthracene	µg/L	0.20	0.20	0.20	0.20	0.20				<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
benzo(a)pyrene	µg/L	0.044	0.044	0.038	0.040	0.040	0.01			<0.044	<0.044	<0.044	<0.044	<0.038	<0.040	<0.038	<0.038	<0.040	<0.038	<0.038	<0.040	<0.044	<0.044
benzo(b+j)fluoranthene	µg/L	0.10	0.10	0.10	0.10	0.10				<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
benzo(g,h,i)perylene	µg/L	0.20	0.20	0.20	0.20	0.20				<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
benzo(k)fluoranthene	µg/L	0.10	0.10	0.10	0.10	0.10				<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
chrysene	µg/L	0.10	0.10	0.10	0.10	0.10				<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
dibenz(a,h)anthracene	µg/L	0.20	0.20	0.20	0.20	0.20				<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
fluoranthene	µg/L	0.20	0.20	0.20	0.20	0.20				<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
fluorene	µg/L	0.20	0.20	0.20	0.20	0.20				<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
indeno(1,2,3-c,d)pyrene	µg/L	0.20	0.20	0.20	0.20	0.20				<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
methylnaphthalene, 1-	µg/L	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	<0.40	<0.40
methylnaphthalene, 2-	µg/L	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	<0.40	<0.40
naphthalene	µg/L	0.20	0.20	0.20	0.20	0.20				<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
phenanthrene	µg/L	0.20	0.20	0.20	0.20	0.20				<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
pyrene	µg/L	0.20	0.20	0.20	0.20	0.20				<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
methylnaphthalene, 1+2-	µg/L	0.60	0.60	0.60	0.60	0.60				<0.60	<0.60	<0.60	<0.60	<0.60	<0.60	<0.60	<0.60	<0.60	<0.60	<0.60	<0.60	<0.60	<0.60
Anions and Nutrients																							
Alkalinity, Total (as CaCO3)	mg/L	2	2	2	2	2		30 - 500		349	210	198	257	219	234	269	259	245	301	167	240	214	248
Bromide	mg/L	0.10	0.10	0.10	0.1	0.1				<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.47	<0.10	<0.50	<0.10
Chloride	mg/L	0.50	0.50	0.50	0.5	0.5		250		9.06	2.51	13.2	6.35	1.39	12.7	2.36	0.99	12.7	25.6	92.3	20.9	**338**	10.3
Fluoride	mg/L	0.020	0.020	0.020	0.02	0.02	1.5			0.729	1.43	1.38	0.938	1.47	1.45	1.36	1.45	0.421	0.379	0.143	0.724	0.255	0.829
Nitrate	mg/L	0.020	0.020	0.020	0.02	0.02	10			4.42	<0.020	<0.020	0.813	<0.020	<0.020	0.695	<0.020	7.44	1.95	1.74	6.84	5.02	8.72
Nitrite	mg/L	0.010	0.010	0.010	0.01	0.01	1			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.050	<0.010
Dissolved Orthophosphate	mg/L	0.001	0.0010	0.001	0.001	0.001				<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0029	<0.0010	0.0029	0.0072	0.014	0.004	0.0066	0.002
Sulfate	mg/L	0.30	0.30	0.30	0.3	0.3		500		20.7	277	403	19.7	151	27.4	23.3	14.7	12	15.3	48.8	7.91	254	13.6
Bacteriological Tests																							
Escherichia Coli	CFU/100mL	1	1	1	1	1	0			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Total Coliforms	CFU/100mL	10	10	10	10	10	0			**10**	<10	<10	<10	<10	<10	<10	<10	<10	**1400**	<10	<10	**170**	<10
Extractable Metals																							
Mercury	mg/L	0.000005	0.000005	0.000005	0.000005	0.000005	0.001			<0.000005	<0.000005	<0.000005	<0.000005	<0.000005	<0.000005	<0.000005	<0.000005	<0.000005	<0.000005	<0.000005	<0.000005	<0.000005	<0.000005
Herbicides																							
Glyphosate	µg/L	0.20	0.20	0.20	0.20	0.20	280			<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Pesticides																							
Diquat	µg/L	1	1	1	1	1	70			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Diuron	µg/L	1	1	1	1	1	150			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Petroleum Hydrocarbons																							
F1 (C6-C10)	µg/L	25	25	25	25	25				<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
F2 (C10-C16)	µg/L	100	100	100	100	100				<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
F2-naphthalene	µg/L	100	100	100	100	100				<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
F3 (C16-C34)	µg/L	250	250	250	250	250				<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250
F3-PAH	µg/L	250	250	250	250	250				<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250
F4 (C34-C50)	µg/L	250	250	250	250	250				<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250
F1-BTEX	µg/L	25	25	25	25	25				<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
hydrocarbons, total (C6-C50)	µg/L	370	370	370	370	370				<370	<370	<370	<370	<370	<370	<370	<370	<370	<370	<370	<370	<370	<370
Physical Tests																							
pH	pH units	0.10	0.10	0.10	0.1	0.1		6.5 - 8.5		7.95	8.1	7.97	8.26	8.35	8.27	8.28	8.28	8.33	8.34	8.26	8.35	8.21	8.32
Polychlorinated Biphenyls (PCBs)																							
Aroclor 1016	µg/L	0.020	0.020	0.020	0.020	0.020				<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Aroclor 1221	µg/L	0.020	0.020	0.020	0.020	0.020				<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Aroclor 1232	µg/L	0.020	0.020	0.020	0.020	0.020				<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Aroclor 1242	µg/L	0.020	0.020	0.020	0.020	0.020				<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Aroclor 1248	µg/L	0.020	0.020	0.020	0.020	0.020				<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Aroclor 1254	µg/L	0.020	0.020	0.020	0.020	0.020				<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Aroclor 1260	µg/L	0.020	0.020	0.020	0.020	0.020				<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Aroclor 1262	µg/L	0.020	0.020	0.020	0.020	0.020				<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Aroclor 1268	µg/L	0.020	0.020	0.020	0.020	0.020				<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Total PCBs	µg/L	0.060	0.060	0.060	0.060	0.060	3			<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060
Radioactive Elements																							
Gross Alpha[3]	Bq/L	0.111	0.111	0.111	0.111	0.111				0.302	**2.28**	**1.07**	<0.111	0.237	0.317	<0.111	<0.111	<0.111	<0.111	<0.111	<0.111	0.123	<0.111
Gross Beta[3]	Bq/L	0.200	0.148	0.148	0.148	0.148				**1.11**	0.387	0.29	0.144	0.137	**8.65**	0.364	<0.148	0.471	0.0647	0.753	<0.148	0.0969	<0.148
Semi-volatile Organics																							
biphenyl	µg/L	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	<0.40	<0.40
bis(2-chloroethyl) ether	µg/L	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	<0.40	<0.40
bis(2-chloroisopropyl) ether	µg/L	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	<0.40	<0.40
chloroaniline, 4-	µg/L	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	<0.40	<0.40
dichlorobenzidine, 3,3'-	µg/L	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	<0.40	<0.40

Parameter	Unit	Detection Limit					Guidelines			WW01[A]	WW02[B]	WW03[B]	WW04[B]	WW05[C]	WW06[D]	WW07[C]	WW08[C]	WW09[E]	WW10[C]	WW11[C]	WW12[D]	WW13[B]	WW14[B]
		RDL A	RDL B	RDL C	RDL D	RDL E	ODWQS MC	ODWQS AO	CDWG RP	15-11-22	15-11-22	15-11-22	16-11-22	16-11-22	16-11-22	16-11-22	16-11-22	16-11-22	17-11-22	17-11-22	17-11-22	18-11-22	18-11-22
dinitrotoluene, 2,4-	µg/L	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	<0.40	<0.40
dinitrotoluene, 2,6-	µg/L	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	<0.40	<0.40
trichlorobenzene, 1,2,4-	µg/L	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	<0.40	<0.40
dinitrotoluene, 2,4 + 2,6-	µg/L	0.60	0.60	0.60	0.60	0.60				<0.60	<0.60	<0.60	<0.60	<0.60	<0.60	<0.60	<0.60	<0.60	<0.60	<0.60	<0.60	<0.60	<0.60
Total Metals																							
Aluminum	mg/L	0.003	0.003	0.003	0.003	0.003		0.1		0.0037	0.0032	<0.0030	<0.0030	0.0045	<0.0030	<0.0030	0.0082	0.0054	<0.0030	0.0371	<0.0030	0.0034	<0.0030
Antimony	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.006			<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Arsenic	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.01			0.00026	0.00277	0.00143	<0.00010	0.00323	0.00061	0.00146	0.00158	0.00016	0.00023	0.00041	<0.00010	0.00014	0.00022
Barium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	1			0.215	0.011	0.0123	0.0001	0.0213	0.121	0.158	0.197	0.0597	0.0854	0.0426	0.14	0.00728	0.117
Beryllium	mg/L	0.00002	0.00002	0.00002	0.00002	0.00002				<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Bismuth	mg/L	0.00005	0.00005	0.00005	0.00005	0.00005				<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Boron	mg/L	0.01	0.01	0.01	0.01	0.01	5			0.026	0.093	0.131	0.03	0.068	0.023	0.011	<0.010	<0.010	<0.010	0.021	<0.010	0.066	<0.010
Cadmium	mg/L	0.000005	0.000005	0.000005	0.000005	0.000005	0.005			0.0000075	<0.0000050	0.0000163	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	0.0000051	0.000005	0.0000114	<0.0000050	<0.0000050	0.0000088
Calcium	mg/L	0.05	0.05	0.05	0.05	0.05				92.50	115	144	0.052	83.7	58.9	70.2	62.9	77.1	90.1	75.8	73.3	131	73.4
Cesium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001				<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Chromium	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.05			<0.00050	<0.00050	<0.00050	<0.00050	0.00091	<0.00050	<0.00050	0.00051	0.00053	<0.00050	0.00212	<0.00050	<0.00050	0.00062
Cobalt	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001				<0.00010	<0.00010	<0.00010	<0.00010	0.00037	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.00012	<0.00010	<0.00010	<0.00010
Copper	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005		1		0.0542	0.0144	0.00204	0.01	0.0071	0.00275	0.00493	0.0108	0.0138	0.0337	0.0608	0.00425	<0.00050	0.0204
Iron	mg/L	0.01	0.01	0.01	0.01	0.01		0.3		0.018	**4.26**	**1.22**	<0.010	**0.552**	**2.17**	0.131	**0.884**	0.017	<0.010	0.038	<0.010	<0.010	<0.010
Lead	mg/L	0.00005	0.00005	0.00005	0.00005	0.00005	0.01			0.00159	0.000393	0.000215	0.00015	0.000294	0.000137	0.000412	0.000756	0.00059	0.000102	0.00465	0.000192	<0.000050	0.000596
Lithium	mg/L	0.001	0.001	0.001	0.001	0.001				0.0023	0.0109	0.0154	<0.0010	0.0066	0.0044	0.0042	0.0034	<0.0010	0.0013	0.0084	<0.0010	0.0053	<0.0010
Magnesium	mg/L	0.005	0.005	0.005	0.005	0.005				30.30	51.4	67.2	0.0142	38.6	26.5	30.6	27.3	24.9	30	19.1	25.1	34.3	26.8
Manganese	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001		0.05		0.00385	**0.0837**	0.0153	<0.00010	0.0276	0.0252	0.0466	0.0196	0.00198	<0.00010	0.00104	<0.00010	0.00011	<0.00010
Molybdenum	mg/L	0.00005	0.00005	0.00005	0.00005	0.00005				0.00203	0.00195	0.00181	0.000801	0.00339	0.00238	0.000552	0.00062	0.00036	0.000564	0.0035	0.000223	0.00018	0.000358
Nickel	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005				0.00101	0.00147	<0.00050	<0.00050	0.00199	0.00074	<0.00050	<0.00050	<0.00050	<0.00050	0.0052	<0.00050	<0.00050	<0.00050
Phosphorus	mg/L	0.05	0.05	0.05	0.05	0.05				<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
Potassium	mg/L	0.05	0.05	0.05	0.05	0.05				36.40	1.41	1.57	0.271	1.22	0.775	0.756	0.671	0.645	0.913	25.3	0.972	1.23	0.627
Rubidium	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002				0.00556	0.00094	0.00098	<0.00020	0.00053	0.00053	0.00046	<0.00020	0.00023	0.00043	0.0073	0.00088	0.00045	0.00042
Selenium	mg/L	0.00005	0.00005	0.00005	0.00005	0.00005	0.05			0.00108	<0.000050	<0.000050	0.000699	<0.000050	<0.000050	0.000362	<0.000050	0.000233	0.000238	0.000214	0.000222	0.000199	0.000232
Silicon	mg/L	0.1	0.1	0.1	0.1	0.1				4.10	3.77	3.76	5.37	5.74	3.61	5.96	6.02	3.16	4.01	4.22	3.25	3.01	3.82
Silver	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001				0.000018	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Sodium[4]	mg/L	0.05	0.05	0.05	0.05	0.05	20	200		2.31	4.31	12.4	**135**	6.63	9.41	3.4	2.54	1.96	13.7	**25.3**	8.51	**198**	2.02
Strontium	mg/L	0.002	0.002	0.002	0.002	0.002				2.44	6.17	10.2	0.0008	3.85	7.77	0.102	0.118	0.204	0.265	0.571	0.103	2.03	0.223
Sulfur	mg/L	0.5	0.5	0.5	0.5	0.5				8.01	106	155	7.03	55	9.72	8.04	5.51	4.38	5.73	17.3	2.9	89.1	4.98
Tellurium	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002				0.00028	0.00052	0.00103	<0.00020	0.0004	0.00073	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.00021	<0.00020
Thallium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001				0.000282	<0.000010	<0.000010	<0.000010	0.000109	<0.000010	<0.000010	0.00001	0.00002	<0.000010	<0.000010	<0.000010	<0.000010	0.000024
Thorium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001				<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Tin	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001				0.00057	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.00012	<0.00010	<0.00010	0.00022	<0.00010	<0.00010	0.00019
Titanium	mg/L	0.0003	0.0003	0.0003	0.0003	0.0003				<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	0.00146	<0.00030	<0.00030	<0.00030
Tungsten	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001				<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Uranium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.02			0.00315	0.00704	0.00536	0.00135	0.00317	0.000747	0.000698	0.00131	0.000495	0.000953	0.00034	0.000506	0.00064	0.000635
Vanadium	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005				<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Zinc	mg/L	0.003	0.003	0.003	0.003	0.003		5		0.0188	0.0212	0.0116	0.0074	0.0266	0.0086	0.0245	0.0069	0.0136	0.02	0.064	<0.0030	<0.0030	0.0187
Zirconium	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002				<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Volatile Organic Compounds																							
Acetone	µg/L	20	20	20	20	20				<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
Benzene	µg/L	0.50	0.50	0.50	0.50	0.50	1			<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
bromodichloromethane	µg/L	0.50	0.50	0.50	0.50	0.50				<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
bromoform	µg/L	0.50	0.50	0.50	0.50	0.50				<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
bromomethane	µg/L	0.50	0.50	0.50	0.50	0.50				<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
carbon tetrachloride	µg/L	0.20	0.20	0.20	0.20	0.20	2			<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
chlorobenzene	µg/L	0.50	0.50	0.50	0.50	0.50				<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
chloroform	µg/L	0.50	0.50	0.50	0.50	0.50				<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
dibromochloromethane	µg/L	0.50	0.50	0.50	0.50	0.50				<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
dibromoethane, 1,2-	µg/L	0.20	0.20	0.20	0.20	0.20				<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
dichlorobenzene, 1,2-	µg/L	0.50	0.50	0.50	0.50	0.50	200	3		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
dichlorobenzene, 1,3-	µg/L	0.50	0.50	0.50	0.50	0.50				<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
dichlorobenzene, 1,4-	µg/L	0.50	0.50	0.50	0.50	0.50	5	1		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
dichlorodifluoromethane	µg/L	0.50	0.50	0.50	0.50	0.50				<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
dichloroethane, 1,1-	µg/L	0.50	0.50	0.50	0.50	0.50				<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
dichloroethane, 1,2-	µg/L	0.50	0.50	0.50	0.50	0.50	5			<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
dichloroethylene, 1,1-	µg/L	0.50	0.50	0.50	0.50	0.50	14			<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
dichloroethylene, cis-1,2-	µg/L	0.50	0.50	0.50	0.50	0.50				<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
dichloroethylene, trans-1,2-	µg/L	0.50	0.50	0.50	0.50	0.50				<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
dichloromethane	µg/L	1.0	1.0	1.0	1.0	1.0	50			<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
dichloropropane, 1,2-	µg/L	0.50	0.50	0.50	0.50	0.50				<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
dichloropropylene, cis+trans-1,3-	µg/L	0.50	0.50	0.50	0.50	0.50				<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
dichloropropylene, cis-1,3-	µg/L	0.30	0.30	0.30	0.30	0.30				<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
dichloropropylene, trans-1,3-	µg/L	0.30	0.30	0.30	0.30	0.30				<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
ethylbenzene	µg/L	0.50	0.50	0.50	0.50	0.50	140	2.4		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
hexane, n-	µg/L	0.50	0.50	0.50	0.50	0.50				<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50

Parameter	Unit	Detection Limit					Guidelines			WW01[A]	WW02[B]	WW03[B]	WW04[B]	WW05[C]	WW06[D]	WW07[C]	WW08[C]	WW09[E]	WW10[C]	WW11[C]	WW12[D]	WW13[B]	WW14[B]
		RDL A	RDL B	RDL C	RDL D	RDL E	ODWQS MC	ODWQS AO	CDWG RP	15-11-22	15-11-22	15-11-22	16-11-22	16-11-22	16-11-22	16-11-22	16-11-22	16-11-22	17-11-22	17-11-22	17-11-22	18-11-22	18-11-22
methyl ethyl ketone [MEK]	µg/L	20	20	20	20	20				<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
methyl isobutyl ketone [MIBK]	µg/L	20	20	20	20	20				<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
methyl-tert-butyl ether [MTBE]	µg/L	0.50	0.50	0.50	0.50	0.50				<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
styrene	µg/L	0.50	0.50	0.50	0.50	0.50				<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
tetrachloroethane, 1,1,1,2-	µg/L	0.50	0.50	0.50	0.50	0.50				<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
tetrachloroethane, 1,1,2,2-	µg/L	0.50	0.50	0.50	0.50	0.50				<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
tetrachloroethylene	µg/L	0.50	0.50	0.50	0.50	0.50	10			<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
toluene	µg/L	0.50	0.50	0.50	0.50	0.50				<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
trichloroethane, 1,1,1-	µg/L	0.50	0.50	0.50	0.50	0.50				<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
trichloroethane, 1,1,2-	µg/L	0.50	0.50	0.50	0.50	0.50				<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
trichloroethylene	µg/L	0.50	0.50	0.50	0.50	0.50	5			<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
trichlorofluoromethane	µg/L	0.50	0.50	0.50	0.50	0.50				<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
vinyl chloride	µg/L	0.50	0.50	0.50	0.50	0.50	1			<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
xylene, m+p-	µg/L	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	<0.40	<0.40
xylene, o-	µg/L	0.30	0.30	0.30	0.30	0.30				<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
xylenes, total	µg/L	0.50	0.50	0.50	0.50	0.50	90	300		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
BTEX, total	µg/L	1.0	1.0	1.0	1.0	1.0				<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
bis(2-ethylhexyl) phthalate [DEHP]	µg/L	2.0	2.0	2.0	2.0	2.0				<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
diethyl phthalate	µg/L	0.20	0.20	0.20	0.20	0.20				<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
dimethyl phthalate	µg/L	0.20	0.20	0.20	0.20	0.20				<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
chlorophenol, 2-	µg/L	0.30	0.30	0.30	0.30	0.30				<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
dichlorophenol, 2,4-	µg/L	0.30	0.30	0.30	0.30	0.30	900	0.3		<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
pentachlorophenol [PCP]	µg/L	0.50	0.50	0.50	0.50	0.50	60	30		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
trichlorophenol, 2,4,5-	µg/L	0.20	0.20	0.20	0.20	0.20				<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
trichlorophenol, 2,4,6-	µg/L	0.20	0.20	0.20	0.20	0.20	5	2		<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
dimethylphenol, 2,4-	µg/L	0.50	0.50	0.50	0.50	0.50				<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
dinitrophenol, 2,4-	µg/L	1.0	1.0	1.0	1.0	1.0				<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
phenol	µg/L	0.50	0.50	0.50	0.50	0.60				0.65	0.54	0.72	0.89	0.69	0.61	0.57	0.79	<0.6	0.91	1.04	0.78	0.82	0.74

[1]ODWQS MC = O.Reg. 169/03 Ontario Drinking Water Quality Standards Microbiological and Chemical under the Safe Drinking Water Act. 2020.
[2]ODWS AO = Ministry of the Environment. 2006. Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines – Table 4 – Aesthetic and Operational Guidelines
[3]CDWG RP = Canadian Drinking Water Quality Guidelines for Radiological Parameters
[4]The 20mg/L standard does not fall under 169/03. It is within 170/03 and is supplied as a footnote in the Ontario Drinking Water Aesthetic and Operational Guidelines (MoE 2006). The standard should be interpreted as the minimum concentration which would trigger a recommendation to report to the local
Highlighted values are those which exceeded applicable standards or guidelines.
ug/L = microgram per litre
mg/L = milligram per litre
CFU / 100mL = Colony forming units identified within 100mL of water
Bq/L = Becquerel per litre.

Parameter	Unit	Lowest Detection Limit	Guideline	WW01	WW03	WW06	DUP-01	Field Blank	Trip Blank
			CDWG RP	05-Apr-23	06-Apr-23	05-Apr-23	06-Apr-23	06-Apr-23	06-Apr-23
Tier 1									
Tritium	Bq/L	14.8	7000	<14.8	<14.8	NA	NA	NA	NA
Cesium-137	Bq/L	0.37	10	<0.370	<0.370	NA	NA	NA	NA
Cobalt-60	Bq/L	0.37		<0.370	<0.370	NA	NA	NA	NA
Gross alpha	Bq/L	0.111	0.5*	0.335	**2.30**	0.363	0.280	0.0763	<0.111
Gross beta	Bq/L	0.148	1.0*	**1.01**	**1.13**	<0.148	<0.148	0.203	<0.148
Ruthenium-106	Bq/L	3		<3.00	<3.00	NA	NA	NA	NA
Carbon-14	Bq/L	18.5		<18.5	<18.5	NA	NA	NA	NA
Iodine-129	Bq/L	0.37		<0.370	<0.370	NA	NA	NA	NA
Strontium-90	Bq/L	0.037	5	<0.0370	<0.0370	NA	NA	NA	NA
Tier 2 - Artificial									
Selenium-79	Bq/L	1.85		<1.85	<1.85	NA	NA	NA	NA
Chlorine-36	Bq/L	0.37		<0.370	<0.370	NA	NA	NA	NA
Neptunium-237	Bq/L	0.0037		<0.00370	<0.00370	NA	NA	NA	NA
Plutonium-238	Bq/L	0.0037		<0.00370	<0.00370	NA	NA	NA	NA
Plutonium-239	Bq/L	0.0037		<0.00370	<0.00370	NA	NA	NA	NA
Tier 2 - Natural									
Uranium-238	Bq/L	0.0074		0.0526	0.0640	NA	NA	NA	NA
Uranium-235	Bq/L	0.0074		0.00819	0.00554	NA	NA	NA	NA
Uranium-234	Bq/L	0.0074		0.0459	0.242	NA	NA	NA	NA
Potassium-40	Bq/L	7.1		<7.10	<7.10	NA	NA	NA	NA
Thorium-232	Bq/L	0.0074		<0.00740	<0.00740	NA	NA	NA	NA
Thorium-230	Bq/L	0.0074		<0.00740	<0.00740	NA	NA	NA	NA
Thorium-228	Bq/L	0.0074		<0.00740	<0.00740	NA	NA	NA	NA
Radium-226	Bq/L	0.037	0.5	0.103	**0.599**	NA	NA	NA	NA

CDWG RP = Canadian Drinking Water Quality Guidelines for Radiological Parameters

*The guideline for gross alpha and beta activity act as screening levels set by the World Health Organization. If these are exceded, paramater specific testing is recommended to identify the activity concentrations.

Bq/L = Becquerel per litre.

NA = Did not sample because Alpha and Beta results did not indicate exceedances.

APPENDIX C

DETAILED SOILS DATA

Detailed Soil Summary Statistics

Soil Group	Analyte	Units	n	Unique DLs	n<DL	Mean[1]	SD[1]	5th Percentile[1]	Median[1]	95th Percentile[1]	Guideline	# of Detections > Guideline
Anions, Nutrients, Organics, Inorganics & Physical Properties												
Soil Group 2	% Moisture	%	13	0.1	0	21.01	4.27	16.08	20.9	27.56	--	0
Soil Group 3	% Moisture	%	21	0.1	0	23.88	13.98	14.30	20.6	36.1	--	0
Soil Group 5	% Moisture	%	12	0.1	0	20.66	8.63	12.95	18.8	34.94	--	0
Soil Group 6	% Moisture	%	10	0.1	0	26.00	4.59	20.06	24.8	32.88	--	0
Soil Group 2	Ammonia, total (as N)	mg/kg	13	59.0, 116.0, 118.0, 120.0, 123.0, 124.0, 127.0, 133.0, 134.0, 137.0	0	202.46	45.49	147.40	188	268.8	--	0
Soil Group 3	Ammonia, total (as N)	mg/kg	21	114.0, 115.0, 116.0, 120.0, 121.0, 123.0, 124.0, 126.0, 127.0, 128.0, 142.0, 150.0, 151.0, 490.0	0	250.33	250.50	128.00	183	386	--	0
Soil Group 5	Ammonia, total (as N)	mg/kg	12	58.0, 60.0, 61.0, 62.0, 112.0, 122.0, 124.0, 126.0, 136.0, 175.0	1	198.00	100.42	112.00	167	369.5	--	0
Soil Group 6	Ammonia, total (as N)	mg/kg	10	65.0, 118.0, 131.0, 132.0, 133.0, 135.0, 138.0, 142.0, 143.0	0	241.50	85.57	168.45	220.5	396.95	--	0
Soil Group 2	Ammonium, available (as N)	mg/kg	13	1.0	0	5.78	1.19	4.50	5.4	7.32	--	0
Soil Group 3	Ammonium, available (as N)	mg/kg	21	1.0, 2.5	0	7.48	6.72	3.50	5.5	15.4	--	0
Soil Group 5	Ammonium, available (as N)	mg/kg	12	1.0, 2.0	0	7.97	7.27	3.68	5.4	21.82	--	0
Soil Group 6	Ammonium, available (as N)	mg/kg	10	1.0	0	7.51	2.47	4.62	6.9	11.285	--	0
Soil Group 2	Carbon, inorganic [IC]	%	13	0.05	0	0.43	0.36	0.15	0.293	1.164	--	0
Soil Group 3	Carbon, inorganic [IC]	%	21	0.05	0	0.45	0.32	0.064	0.38	0.884	--	0
Soil Group 5	Carbon, inorganic [IC]	%	12	0.05	0	0.45	0.24	0.15	0.4425	0.8	--	0
Soil Group 6	Carbon, inorganic [IC]	%	10	0.05	0	0.28	0.15	0.12	0.2295	0.492	--	0
Soil Group 2	Carbon, inorganic [IC], (as CaCO3 equivalent)	%	13	0.4	0	3.62	2.98	1.28	2.44	9.698	--	0
Soil Group 3	Carbon, inorganic [IC], (as CaCO3 equivalent)	%	21	0.4	0	3.75	2.71	0.53	3.16	7.37	--	0
Soil Group 5	Carbon, inorganic [IC], (as CaCO3 equivalent)	%	12	0.4	0	3.76	1.97	1.25	3.685	6.67	--	0
Soil Group 6	Carbon, inorganic [IC], (as CaCO3 equivalent)	%	10	0.4	0	2.30	1.27	1.05	1.91	4.1	--	0
Soil Group 2	Carbon, total [TC]	%	13	0.05	0	3.23	0.81	2.30	3.22	4.436	--	0
Soil Group 3	Carbon, total [TC]	%	21	0.05	0	5.24	7.01	2.11	3.26	9.76	--	0
Soil Group 5	Carbon, total [TC]	%	12	0.05	0	3.32	1.82	2.10	2.915	6.0285	--	0
Soil Group 6	Carbon, total [TC]	%	10	0.05	0	4.57	1.42	2.78	4.25	6.8275	--	0
Soil Group 2	Carbon, total organic [TOC]	%	13	0.238, 0.241, 0.262, 0.263, 0.265, 0.266, 0.285, 0.328, 0.329, 0.368, 0.381, 0.433, 0.465, 0.466	0	2.80	0.65	2.01	2.93	3.694	--	0
Soil Group 3	Carbon, total organic [TOC]	%	21	0.219, 0.244, 0.252, 0.253, 0.264, 0.3, 0.332, 0.337, 0.34, 0.346, 0.35, 0.359, 0.366, 0.394, 0.444, 0.469, 0.608, 0.642, 0.959, 3.39	0	4.79	6.96	2.05	2.57	9.58	--	0
Soil Group 5	Carbon, total organic [TOC]	%	12	0.196, 0.247, 0.25, 0.255, 0.276, 0.3, 0.306, 0.312, 0.313, 0.321, 0.332, 0.346, 0.359, 0.375, 0.872	0	2.88	1.85	1.73	2.305	5.775	--	0
Soil Group 6	Carbon, total organic [TOC]	%	10	0.24, 0.339, 0.341, 0.397, 0.398, 0.414, 0.442, 0.474, 0.479, 0.525, 0.651, 0.696	0	4.30	1.39	2.52	3.93	6.528	--	0
Soil Group 2	Chloride, leachable	mg/kg	13	20.0	13	20.00	0.0000	20.00	20	20	--	0
Soil Group 3	Chloride, leachable	mg/kg	21	20.0, 24.2	20	20.49	1.58	20.00	20	24.2	--	0
Soil Group 5	Chloride, leachable	mg/kg	12	20.0	12	20.00	0.0000	20.00	20	20	--	0
Soil Group 6	Chloride, leachable	mg/kg	10	20.0	9	21.22	3.86	20.00	20	26.71	--	0
Soil Group 2	Conductivity (1:2 leachate)	mS/cm	13	0.005	0	0.17	0.054	0.11	0.15	0.2658	0.57	0
Soil Group 3	Conductivity (1:2 leachate)	mS/cm	21	0.005, 0.01	0	0.19	0.11	0.10	0.154	0.299	0.57	1
Soil Group 5	Conductivity (1:2 leachate)	mS/cm	12	0.005	0	0.18	0.081	0.10	0.156	0.34375	0.57	0
Soil Group 6	Conductivity (1:2 leachate)	mS/cm	10	0.005	0	0.19	0.10	0.10	0.183	0.33915	0.57	0
Soil Group 2	Kjeldahl nitrogen, total [TKN]	%	13	0.02	0	0.25	0.039	0.19	0.253	0.303	--	0
Soil Group 3	Kjeldahl nitrogen, total [TKN]	%	21	0.02, 0.04, 0.07, 0.1	0	0.36	0.37	0.18	0.256	0.527	--	0
Soil Group 5	Kjeldahl nitrogen, total [TKN]	%	12	0.02, 0.07	0	0.25	0.11	0.12	0.2415	0.4253	--	0
Soil Group 6	Kjeldahl nitrogen, total [TKN]	%	10	0.02, 0.04, 0.07	0	0.34	0.10	0.24	0.338	0.49	--	0
Soil Group 2	Moisture	%	13	0.25	0	20.80	3.88	16.28	20.8	26.66	--	0
Soil Group 3	Moisture	%	21	0.25	0	23.41	14.06	13.80	19.7	34.7	--	0
Soil Group 5	Moisture	%	12	0.25	0	20.29	8.20	13.37	18.65	33.9	--	0
Soil Group 6	Moisture	%	10	0.25	0	25.21	3.90	20.08	24.7	30.77	--	0
Soil Group 2	Nitrate (as N), leachable	mg/kg	13	0.059, 0.06, 0.061, 0.062, 0.063, 0.064, 0.067	0	5.42	4.00	1.12	3.56	13.02	--	0
Soil Group 3	Nitrate (as N), leachable	mg/kg	21	0.057, 0.058, 0.06, 0.061, 0.062, 0.063, 0.07, 0.075, 0.076, 0.242	1	3.22	2.70	0.18	1.98	7.98	--	0
Soil Group 5	Nitrate (as N), leachable	mg/kg	12	0.057, 0.058, 0.059, 0.06, 0.061, 0.062, 0.063, 0.067, 0.088	0	12.63	15.44	1.42	8.61	40.16	--	0
Soil Group 6	Nitrate (as N), leachable	mg/kg	10	0.059, 0.064, 0.065, 0.066, 0.067, 0.068, 0.071, 0.073	0	3.14	3.14	0.25	2.395	8.1605	--	0
Soil Group 2	Nitrate + Nitrite (as N), leachable	mg/kg	13	0.06, 0.061, 0.062, 0.063, 0.064, 0.065, 0.068	0	5.45	3.99	1.18	3.59	13.02	--	0
Soil Group 3	Nitrate + Nitrite (as N), leachable	mg/kg	21	0.058, 0.059, 0.061, 0.062, 0.063, 0.064, 0.071, 0.076, 0.077, 0.247	1	3.24	2.70	0.18	1.98	8.01	--	0
Soil Group 5	Nitrate + Nitrite (as N), leachable	mg/kg	12	0.058, 0.059, 0.06, 0.061, 0.062, 0.063, 0.064, 0.068, 0.09	0	12.65	15.43	1.46	8.64	40.16	--	0
Soil Group 6	Nitrate + Nitrite (as N), leachable	mg/kg	10	0.06, 0.065, 0.066, 0.067, 0.068, 0.069, 0.072, 0.074	0	3.18	3.13	0.28	2.415	8.192	--	0
Soil Group 2	Nitrite (as N), leachable	mg/kg	13	0.012, 0.013	2	0.030	0.014	0.012	0.03	0.0524	--	0
Soil Group 3	Nitrite (as N), leachable	mg/kg	21	0.011, 0.012, 0.013, 0.014, 0.015, 0.048	9	0.033	0.024	0.012	0.023	0.078	--	0
Soil Group 5	Nitrite (as N), leachable	mg/kg	12	0.011, 0.012, 0.013, 0.018	3	0.030	0.021	0.012	0.0235	0.0622	--	0
Soil Group 6	Nitrite (as N), leachable	mg/kg	10	0.012, 0.013, 0.014	1	0.046	0.023	0.014	0.0425	0.08035	--	0
Soil Group 2	Nitrogen, total	%	13	0.02	0	0.24	0.043	0.17	0.23	0.2838	--	0
Soil Group 3	Nitrogen, total	%	21	0.02	0	0.31	0.35	0.15	0.199	0.481	--	0
Soil Group 5	Nitrogen, total	%	12	0.02	0	0.25	0.14	0.13	0.2275	0.4879	--	0
Soil Group 6	Nitrogen, total	%	10	0.02	0	0.30	0.10	0.21	0.279	0.48905	--	0
Soil Group 2	Nitrogen, total organic	%	13	0.03, 0.037, 0.04	0	0.25	0.039	0.19	0.252	0.302	--	0
Soil Group 3	Nitrogen, total organic	%	21	0.03, 0.04, 0.05, 0.06, 0.07, 0.3	0	0.36	0.37	0.18	0.256	0.526	--	0
Soil Group 5	Nitrogen, total organic	%	12	0.02, 0.03, 0.039, 0.04, 0.041, 0.046, 0.05, 0.08	0	0.25	0.11	0.12	0.2395	0.42385	--	0
Soil Group 6	Nitrogen, total organic	%	10	0.03, 0.04, 0.05, 0.06, 0.07	0	0.34	0.10	0.24	0.337	0.489	--	0

Soil Group	Analyte	Units	n	Unique DLs	n<DL	Mean[1]	SD[1]	5th Percentile[1]	Median[1]	95th Percentile[1]	Guideline	# of Detections > Guideline
Soil Group 2	Organic matter	%	13	0.24, 0.26, 0.27, 0.28, 0.33, 0.37, 0.38, 0.43, 0.46, 0.47	0	4.82	1.12	3.46	5.05	6.366	--	0
Soil Group 3	Organic matter	%	21	0.22, 0.24, 0.25, 0.26, 0.3, 0.33, 0.34, 0.35, 0.36, 0.37, 0.39, 0.44, 0.47, 0.61, 0.64, 0.96, 3.39	0	8.26	12.00	3.53	4.43	16.5	--	0
Soil Group 5	Organic matter	%	12	0.2, 0.25, 0.26, 0.28, 0.3, 0.31, 0.32, 0.33, 0.35, 0.36, 0.38, 0.87	0	4.96	3.19	2.97	3.975	9.9525	--	0
Soil Group 6	Organic matter	%	10	0.24, 0.34, 0.4, 0.41, 0.44, 0.47, 0.48, 0.52, 0.65, 0.7	0	7.41	2.39	4.35	6.775	11.265	--	0
Soil Group 2	pH (1:2 soil:CaCl2-aq)	pH units	13	0.1	0	7.11	0.30	6.57	7.15	7.422	6 to 8	0
Soil Group 3	pH (1:2 soil:CaCl2-aq)	pH units	21	0.1	0	6.80	0.57	5.84	7	7.31	6 to 8	0
Soil Group 5	pH (1:2 soil:CaCl2-aq)	pH units	12	0.1	0	7.09	0.24	6.71	7.13	7.33	6 to 8	0
Soil Group 6	pH (1:2 soil:CaCl2-aq)	pH units	10	0.1	0	6.73	0.28	6.35	6.735	7.0875	6 to 8	0
Soil Group 2	Sulfate, leachable	mg/kg	13	12.0, 13.0	13	12.38	0.51	12.00	12	13	--	0
Soil Group 3	Sulfate, leachable	mg/kg	21	11.0, 12.0, 13.0, 14.0, 15.0, 48.0	19	14.86	8.37	11.00	12	28	--	0
Soil Group 5	Sulfate, leachable	mg/kg	12	11.0, 12.0, 13.0, 18.0	10	14.00	4.00	11.55	12	21.15	--	0
Soil Group 6	Sulfate, leachable	mg/kg	10	12.0, 13.0, 14.0	9	13.50	1.35	12.45	13	15.65	--	0
Dioxins and Furans												
Soil Group 2	1,2,3,4,6,7,8-HpCDD	pg/g	13	0.04, 0.065, 0.073, 0.1, 0.11, 0.12, 0.13, 0.14, 0.15	0	7.82	2.82	4.38	7.37	13.18	--	0
Soil Group 3	1,2,3,4,6,7,8-HpCDD	pg/g	21	0.041, 0.042, 0.059, 0.063, 0.068, 0.069, 0.07, 0.081, 0.086, 0.1, 0.11, 0.13, 0.14, 0.15, 0.24, 0.46	0	8.70	6.01	4.65	6.35	13.2	--	0
Soil Group 5	1,2,3,4,6,7,8-HpCDD	pg/g	12	0.058, 0.066, 0.082, 0.088, 0.093, 0.094, 0.11, 0.12, 0.13, 0.14, 0.15, 0.16, 0.43	0	6.37	1.71	4.44	5.96	9.127	--	0
Soil Group 6	1,2,3,4,6,7,8-HpCDD	pg/g	10	0.066, 0.081, 0.086, 0.095, 0.11, 0.12, 0.14, 0.15, 0.27	0	9.06	2.70	5.62	8.47	13.27	--	0
Soil Group 2	1,2,3,4,6,7,8-HpCDF	pg/g	13	0.03, 0.033, 0.043, 0.046, 0.056, 0.061, 0.068, 0.071, 0.074, 0.076, 0.089, 0.11	0	2.30	0.78	1.32	2.21	3.578	--	0
Soil Group 3	1,2,3,4,6,7,8-HpCDF	pg/g	21	0.018, 0.021, 0.026, 0.029, 0.03, 0.033, 0.036, 0.037, 0.041, 0.043, 0.049, 0.05, 0.053, 0.058, 0.059, 0.061, 0.062, 0.079, 0.1, 0.12, 0.16	0	2.46	1.54	1.28	1.92	3.85	--	0
Soil Group 5	1,2,3,4,6,7,8-HpCDF	pg/g	12	0.034, 0.038, 0.043, 0.046, 0.051, 0.063, 0.067, 0.076, 0.084, 0.093, 0.12, 0.15	0	1.84	0.55	1.14	1.845	2.5735	--	0
Soil Group 6	1,2,3,4,6,7,8-HpCDF	pg/g	10	0.032, 0.037, 0.046, 0.047, 0.056, 0.061, 0.07, 0.072, 0.079, 0.086, 0.12, 0.27	0	2.59	0.69	1.63	2.515	3.6315	--	0
Soil Group 2	1,2,3,4,7,8,9-HpCDF	pg/g	13	0.046, 0.047, 0.054, 0.062, 0.064, 0.066, 0.069, 0.086, 0.093, 0.097, 0.1, 0.13, 0.15	1	0.18	0.075	0.094	0.172	0.3198	--	0
Soil Group 3	1,2,3,4,7,8,9-HpCDF	pg/g	21	0.028, 0.033, 0.039, 0.044, 0.048, 0.05, 0.052, 0.057, 0.06, 0.061, 0.063, 0.068, 0.072, 0.073, 0.077, 0.083, 0.11, 0.12, 0.2, 0.27	2	0.22	0.22	0.073	0.16	0.37	--	0
Soil Group 5	1,2,3,4,7,8,9-HpCDF	pg/g	12	0.043, 0.054, 0.06, 0.063, 0.068, 0.07, 0.082, 0.094, 0.099, 0.1, 0.12, 0.13, 0.2, 0.26	1	0.19	0.041	0.14	0.1785	0.2535	--	0
Soil Group 6	1,2,3,4,7,8,9-HpCDF	pg/g	10	0.049, 0.056, 0.061, 0.068, 0.075, 0.085, 0.086, 0.098, 0.12, 0.17, 0.4	2	0.27	0.094	0.11	0.2825	0.373	--	0
Soil Group 2	1,2,3,4,7,8-HxCDD	pg/g	13	0.019, 0.025, 0.032, 0.053, 0.074, 0.076, 0.084, 0.096, 0.099, 0.12, 0.13, 0.14	0	0.27	0.078	0.16	0.27	0.4014	--	0
Soil Group 3	1,2,3,4,7,8-HxCDD	pg/g	21	0.013, 0.021, 0.023, 0.031, 0.032, 0.035, 0.036, 0.037, 0.038, 0.051, 0.052, 0.053, 0.063, 0.079, 0.09, 0.093, 0.11, 0.13, 0.15, 0.22	0	0.35	0.24	0.19	0.282	0.562	--	0
Soil Group 5	1,2,3,4,7,8-HxCDD	pg/g	12	0.025, 0.032, 0.041, 0.049, 0.051, 0.053, 0.063, 0.079, 0.081, 0.098, 0.1, 0.11, 0.12, 0.13, 0.19	0	0.22	0.054	0.15	0.2395	0.2932	--	0
Soil Group 6	1,2,3,4,7,8-HxCDD	pg/g	10	0.044, 0.045, 0.046, 0.052, 0.053, 0.11, 0.12, 0.13, 0.19, 0.27	0	0.42	0.14	0.24	0.39	0.5955	--	0
Soil Group 2	1,2,3,4,7,8-HxCDF	pg/g	13	0.011, 0.015, 0.021, 0.035, 0.041, 0.056, 0.07, 0.075, 0.078, 0.084, 0.089, 0.096, 0.099, 0.13	0	0.37	0.15	0.18	0.357	0.6084	--	0
Soil Group 3	1,2,3,4,7,8-HxCDF	pg/g	21	0.0085, 0.013, 0.022, 0.024, 0.027, 0.028, 0.029, 0.031, 0.034, 0.039, 0.052, 0.055, 0.056, 0.062, 0.068, 0.077, 0.078, 0.13, 0.14, 0.15	0	0.47	0.35	0.23	0.349	0.805	--	0
Soil Group 5	1,2,3,4,7,8-HxCDF	pg/g	12	0.014, 0.025, 0.028, 0.044, 0.047, 0.05, 0.055, 0.062, 0.073, 0.087, 0.09, 0.092, 0.096, 0.12, 0.18	0	0.31	0.089	0.20	0.302	0.455	--	0
Soil Group 6	1,2,3,4,7,8-HxCDF	pg/g	10	0.024, 0.026, 0.039, 0.042, 0.062, 0.067, 0.068, 0.071, 0.076, 0.084, 0.09, 0.11	0	0.46	0.15	0.25	0.4385	0.6654	--	0
Soil Group 2	1,2,3,6,7,8-HxCDD	pg/g	13	0.018, 0.019, 0.025, 0.033, 0.06, 0.072, 0.074, 0.077, 0.088, 0.1, 0.13, 0.14	0	0.80	0.74	0.34	0.62	1.865	--	0
Soil Group 3	1,2,3,6,7,8-HxCDD	pg/g	21	0.013, 0.02, 0.022, 0.029, 0.03, 0.031, 0.032, 0.037, 0.038, 0.044, 0.05, 0.055, 0.065, 0.078, 0.081, 0.095, 0.11, 0.14, 0.15, 0.2	0	0.71	0.55	0.40	0.487	1.04	--	0
Soil Group 5	1,2,3,6,7,8-HxCDD	pg/g	12	0.024, 0.032, 0.033, 0.053, 0.055, 0.061, 0.083, 0.087, 0.094, 0.1, 0.13, 0.14, 0.2	0	0.47	0.11	0.31	0.4715	0.63335	--	0
Soil Group 6	1,2,3,6,7,8-HxCDD	pg/g	10	0.037, 0.04, 0.043, 0.045, 0.054, 0.11, 0.12, 0.13, 0.17, 0.28	0	0.72	0.31	0.39	0.6705	1.207	--	0
Soil Group 2	1,2,3,6,7,8-HxCDF	pg/g	13	0.01, 0.015, 0.02, 0.031, 0.042, 0.051, 0.072, 0.074, 0.078, 0.08, 0.088, 0.089, 0.093, 0.13	0	0.30	0.11	0.18	0.278	0.506	--	0
Soil Group 3	1,2,3,6,7,8-HxCDF	pg/g	21	0.0078, 0.012, 0.021, 0.023, 0.026, 0.027, 0.028, 0.032, 0.036, 0.05, 0.053, 0.059, 0.062, 0.064, 0.076, 0.12, 0.13, 0.16	0	0.34	0.25	0.18	0.23	0.595	--	0
Soil Group 5	1,2,3,6,7,8-HxCDF	pg/g	12	0.014, 0.024, 0.025, 0.038, 0.04, 0.049, 0.051, 0.06, 0.066, 0.082, 0.084, 0.098, 0.12, 0.14	0	0.24	0.080	0.16	0.2155	0.3645	--	0
Soil Group 6	1,2,3,6,7,8-HxCDF	pg/g	10	0.023, 0.035, 0.043, 0.059, 0.064, 0.065, 0.068, 0.073, 0.084, 0.089, 0.091	0	0.38	0.12	0.23	0.36	0.5675	--	0
Soil Group 2	1,2,3,7,8,9-HxCDD	pg/g	13	0.019, 0.025, 0.033, 0.056, 0.072, 0.075, 0.076, 0.084, 0.097, 0.098, 0.12, 0.14	0	0.69	0.42	0.32	0.57	1.354	--	0
Soil Group 3	1,2,3,7,8,9-HxCDD	pg/g	21	0.013, 0.021, 0.023, 0.03, 0.031, 0.034, 0.035, 0.037, 0.039, 0.049, 0.051, 0.053, 0.063, 0.079, 0.085, 0.092, 0.11, 0.13, 0.14, 0.15, 0.21	0	0.69	0.50	0.38	0.506	1.22	--	0
Soil Group 5	1,2,3,7,8,9-HxCDD	pg/g	12	0.025, 0.032, 0.038, 0.051, 0.053, 0.054, 0.063, 0.08, 0.083, 0.097, 0.1, 0.11, 0.12, 0.13, 0.19	0	0.48	0.15	0.28	0.4545	0.7125	--	0
Soil Group 6	1,2,3,7,8,9-HxCDD	pg/g	10	0.041, 0.044, 0.045, 0.048, 0.054, 0.11, 0.12, 0.13, 0.18, 0.27	0	0.73	0.25	0.43	0.728	1.12835	--	0
Soil Group 2	1,2,3,7,8,9-HxCDF	pg/g	13	0.017, 0.023, 0.032, 0.051, 0.058, 0.087, 0.094, 0.11, 0.12, 0.13, 0.18	5	0.12	0.044	0.053	0.12	0.1822	--	0

Soil Group	Analyte	Units	n	Unique DLs	n<DL	Mean[1]	SD[1]	5th Percentile[1]	Median[1]	95th Percentile[1]	Guideline	# of Detections > Guideline
Soil Group 3	1,2,3,7,8,9-HxCDF	pg/g	21	0.013, 0.019, 0.034, 0.035, 0.038, 0.04, 0.043, 0.045, 0.046, 0.059, 0.06, 0.072, 0.08, 0.084, 0.086, 0.091, 0.1, 0.11, 0.2, 0.22	5	0.14	0.10	0.057	0.108	0.22	--	0
Soil Group 5	1,2,3,7,8,9-HxCDF	pg/g	12	0.022, 0.039, 0.043, 0.054, 0.062, 0.073, 0.077, 0.084, 0.11, 0.12, 0.13, 0.14, 0.15, 0.17, 0.23	8	0.11	0.044	0.068	0.1045	0.1805	--	0
Soil Group 6	1,2,3,7,8,9-HxCDF	pg/g	10	0.039, 0.056, 0.063, 0.078, 0.083, 0.085, 0.095, 0.11, 0.12, 0.14	2	0.15	0.047	0.10	0.15	0.22115	--	0
Soil Group 2	1,2,3,7,8-PeCDD	pg/g	13	0.01, 0.012, 0.016, 0.022, 0.041, 0.054, 0.058, 0.069, 0.089, 0.09, 0.12, 0.14, 0.15, 0.21	0	0.32	0.17	0.14	0.313	0.59	--	0
Soil Group 3	1,2,3,7,8-PeCDD	pg/g	21	0.0093, 0.012, 0.013, 0.014, 0.015, 0.016, 0.018, 0.02, 0.029, 0.05, 0.056, 0.059, 0.064, 0.066, 0.069, 0.075, 0.081, 0.085, 0.092, 0.11	0	0.33	0.23	0.17	0.28	0.562	--	0
Soil Group 5	1,2,3,7,8-PeCDD	pg/g	12	0.012, 0.016, 0.033, 0.04, 0.042, 0.044, 0.078, 0.081, 0.089, 0.091, 0.095, 0.12, 0.14, 0.17	0	0.25	0.074	0.18	0.226	0.3715	--	0
Soil Group 6	1,2,3,7,8-PeCDD	pg/g	10	0.017, 0.022, 0.061, 0.062, 0.072, 0.081, 0.1, 0.11, 0.14, 0.21	0	0.37	0.12	0.23	0.3585	0.53295	--	0
Soil Group 2	1,2,3,7,8-PeCDF	pg/g	13	0.024, 0.028, 0.038, 0.043, 0.054, 0.055, 0.061, 0.067, 0.085, 0.086, 0.12, 0.13, 0.16	0	0.29	0.13	0.14	0.25	0.492	--	0
Soil Group 3	1,2,3,7,8-PeCDF	pg/g	21	0.016, 0.023, 0.025, 0.026, 0.031, 0.032, 0.038, 0.042, 0.048, 0.065, 0.069, 0.078, 0.088, 0.089, 0.091, 0.12, 0.18, 0.21	1	0.32	0.28	0.16	0.21	0.659	--	0
Soil Group 5	1,2,3,7,8-PeCDF	pg/g	12	0.022, 0.023, 0.024, 0.03, 0.037, 0.044, 0.077, 0.085, 0.089, 0.11, 0.12, 0.13, 0.22	0	0.21	0.079	0.13	0.194	0.3296	--	0
Soil Group 6	1,2,3,7,8-PeCDF	pg/g	10	0.023, 0.033, 0.037, 0.041, 0.046, 0.049, 0.079, 0.088, 0.098, 0.1, 0.15, 0.16	0	0.41	0.17	0.22	0.3615	0.66315	--	0
Soil Group 2	2,3,4,6,7,8-HxCDF	pg/g	13	0.012, 0.016, 0.023, 0.038, 0.039, 0.06, 0.066, 0.075, 0.076, 0.085, 0.09, 0.093, 0.12	1	0.35	0.13	0.13	0.35	0.5326	--	0
Soil Group 3	2,3,4,6,7,8-HxCDF	pg/g	21	0.0094, 0.013, 0.024, 0.026, 0.03, 0.031, 0.032, 0.034, 0.044, 0.051, 0.057, 0.06, 0.062, 0.067, 0.075, 0.076, 0.14, 0.15, 0.16	0	0.39	0.33	0.19	0.302	0.671	--	0
Soil Group 5	2,3,4,6,7,8-HxCDF	pg/g	12	0.016, 0.029, 0.03, 0.038, 0.044, 0.05, 0.059, 0.061, 0.079, 0.083, 0.093, 0.094, 0.099, 0.12, 0.16	0	0.28	0.070	0.19	0.2715	0.3808	--	0
Soil Group 6	2,3,4,6,7,8-HxCDF	pg/g	10	0.027, 0.028, 0.043, 0.044, 0.062, 0.064, 0.069, 0.078, 0.086, 0.09, 0.1	0	0.45	0.18	0.18	0.461	0.65695	--	0
Soil Group 2	2,3,4,7,8-PeCDF	pg/g	13	0.024, 0.029, 0.04, 0.043, 0.051, 0.053, 0.054, 0.061, 0.064, 0.079, 0.08, 0.11, 0.12, 0.15	0	0.51	0.25	0.23	0.46	0.9108	--	0
Soil Group 3	2,3,4,7,8-PeCDF	pg/g	21	0.016, 0.022, 0.024, 0.026, 0.032, 0.034, 0.04, 0.041, 0.044, 0.046, 0.065, 0.068, 0.07, 0.076, 0.084, 0.087, 0.088, 0.12, 0.18, 0.2	0	0.58	0.60	0.23	0.36	1.48	--	0
Soil Group 5	2,3,4,7,8-PeCDF	pg/g	12	0.022, 0.025, 0.029, 0.036, 0.047, 0.072, 0.075, 0.085, 0.087, 0.096, 0.11, 0.12, 0.2	0	0.41	0.18	0.26	0.3585	0.7245	--	0
Soil Group 6	2,3,4,7,8-PeCDF	pg/g	10	0.023, 0.035, 0.037, 0.042, 0.045, 0.051, 0.078, 0.086, 0.093, 0.096, 0.14, 0.16	0	0.65	0.23	0.30	0.714	0.953	--	0
Soil Group 2	2,3,7,8-TCDD	pg/g	13	0.0098, 0.013, 0.014, 0.016, 0.052, 0.053, 0.056, 0.061, 0.062, 0.073, 0.14, 0.19	3	0.14	0.065	0.064	0.13	0.2478	--	0
Soil Group 3	2,3,7,8-TCDD	pg/g	21	0.01, 0.013, 0.014, 0.015, 0.017, 0.021, 0.024, 0.026, 0.044, 0.05, 0.051, 0.057, 0.059, 0.065, 0.067, 0.07, 0.071, 0.076	2	0.17	0.20	0.042	0.143	0.339	--	0
Soil Group 5	2,3,7,8-TCDD	pg/g	12	0.0079, 0.017, 0.019, 0.032, 0.036, 0.042, 0.049, 0.069, 0.076, 0.08, 0.096, 0.11, 0.14, 0.17, 0.21	3	0.11	0.055	0.056	0.0885	0.2045	--	0
Soil Group 6	2,3,7,8-TCDD	pg/g	10	0.011, 0.017, 0.019, 0.026, 0.03, 0.032, 0.053, 0.066, 0.067, 0.073, 0.11, 0.17	2	0.18	0.080	0.081	0.1775	0.3109	--	0
Soil Group 2	2,3,7,8-TCDF	pg/g	13	0.027, 0.03, 0.031, 0.044, 0.077, 0.082, 0.092, 0.1, 0.11, 0.13, 0.19, 0.24, 0.3	0	0.31	0.13	0.17	0.24	0.5088	--	0
Soil Group 3	2,3,7,8-TCDF	pg/g	21	0.026, 0.027, 0.029, 0.031, 0.034, 0.035, 0.036, 0.037, 0.052, 0.073, 0.076, 0.082, 0.09, 0.1, 0.11, 0.12, 0.13, 0.2	0	0.35	0.37	0.15	0.21	0.76	--	0
Soil Group 5	2,3,7,8-TCDF	pg/g	12	0.022, 0.026, 0.044, 0.046, 0.057, 0.06, 0.062, 0.11, 0.12, 0.15, 0.17, 0.19, 0.23, 0.28, 0.4	1	0.24	0.083	0.17	0.221	0.3755	--	0
Soil Group 6	2,3,7,8-TCDF	pg/g	10	0.026, 0.041, 0.043, 0.048, 0.053, 0.085, 0.11, 0.14, 0.16, 0.2, 0.33	0	0.41	0.15	0.17	0.4285	0.5952	--	0
Soil Group 2	Lower Bound PCDD/F TEQ (WHO 2005)	pg/g	13	0.0	0	0.82	0.40	0.27	0.806	1.424	7	0
Soil Group 3	Lower Bound PCDD/F TEQ (WHO 2005)	pg/g	21	0.0	0	0.88	0.95	0.18	0.7	1.39	7	0
Soil Group 5	Lower Bound PCDD/F TEQ (WHO 2005)	pg/g	12	0.0	0	0.58	0.25	0.28	0.507	0.95285	7	0
Soil Group 6	Lower Bound PCDD/F TEQ (WHO 2005)	pg/g	10	0.0	0	0.98	0.55	0.28	1.09	1.7845	7	0
Soil Group 2	Mid Point PCDD/F TEQ (WHO 2005)	pg/g	13	0.0	0	1.04	0.42	0.56	0.978	1.774	--	0
Soil Group 3	Mid Point PCDD/F TEQ (WHO 2005)	pg/g	21	0.0	0	1.16	0.95	0.57	0.874	1.91	--	0
Soil Group 5	Mid Point PCDD/F TEQ (WHO 2005)	pg/g	12	0.0	0	0.78	0.22	0.55	0.6705	1.1345	--	0
Soil Group 6	Mid Point PCDD/F TEQ (WHO 2005)	pg/g	10	0.0	0	1.25	0.41	0.67	1.245	1.849	--	0
Soil Group 2	OCDD	pg/g	13	0.16, 0.19, 0.21, 0.22, 0.23, 0.24, 0.28, 0.51, 1.1	0	37.70	15.87	22.02	32.4	66.92	--	0
Soil Group 3	OCDD	pg/g	21	0.11, 0.18, 0.2, 0.22, 0.23, 0.24, 0.25, 0.26, 0.27, 0.29, 0.3, 0.33, 0.38, 0.39, 0.4, 0.44, 0.65, 2.2	0	43.21	26.79	22.70	33.3	66	--	0
Soil Group 5	OCDD	pg/g	12	0.12, 0.14, 0.17, 0.18, 0.2, 0.24, 0.25, 0.29, 0.32, 0.39, 0.4, 0.56, 0.61, 1.4	0	30.56	9.35	18.61	28.7	45.27	--	0
Soil Group 6	OCDD	pg/g	10	0.19, 0.22, 0.24, 0.25, 0.26, 0.34, 0.41, 0.5, 0.73	0	44.37	11.92	28.84	43.85	60.66	--	0
Soil Group 2	OCDF	pg/g	13	0.098, 0.1, 0.12, 0.13, 0.14, 0.15, 0.17, 0.18, 0.28, 0.33	0	3.54	1.93	1.59	2.89	6.814	--	0
Soil Group 3	OCDF	pg/g	21	0.097, 0.1, 0.11, 0.12, 0.13, 0.14, 0.15, 0.16, 0.18, 0.19, 0.2, 0.32, 0.39, 0.69, 1.3	0	3.19	2.17	1.50	2.62	6.06	--	0
Soil Group 5	OCDF	pg/g	12	0.046, 0.083, 0.1, 0.11, 0.13, 0.15, 0.16, 0.17, 0.2, 0.24, 0.27, 0.3, 0.37, 0.91	0	2.88	0.86	1.66	2.85	4.003	--	0
Soil Group 6	OCDF	pg/g	10	0.085, 0.096, 0.13, 0.14, 0.15, 0.2, 0.21, 0.27, 0.33, 0.4	0	3.53	0.95	2.51	3.225	5.1705	--	0
Soil Group 2	Total HpCDD # Homologues	-	13	NA	0	2.00	0.0000	2.00	2	2	--	0
Soil Group 3	Total HpCDD # Homologues	-	21	NA	0	2.00	0.0000	2.00	2	2	--	0
Soil Group 5	Total HpCDD # Homologues	-	12	NA	0	1.92	0.29	1.55	2	2	--	0
Soil Group 6	Total HpCDD # Homologues	-	10	NA	0	2.00	0.0000	2.00	2	2	--	0
Soil Group 2	Total HpCDF # Homologues	-	13	NA	0	2.62	0.87	1.00	3	3.4	--	0
Soil Group 3	Total HpCDF # Homologues	-	21	NA	0	2.14	1.06	1.00	2	4	--	0
Soil Group 5	Total HpCDF # Homologues	-	12	NA	0	2.17	1.27	0.55	2	4	--	0
Soil Group 6	Total HpCDF # Homologues	-	10	NA	0	2.60	1.07	1.00	3	4	--	0
Soil Group 2	Total HxCDD # Homologues	-	13	NA	0	5.23	0.83	4.00	5	6.4	--	0
Soil Group 3	Total HxCDD # Homologues	-	21	NA	0	5.29	1.06	4.00	5	7	--	0
Soil Group 5	Total HxCDD # Homologues	-	12	NA	0	5.08	1.31	3.55	5	6.9	--	0
Soil Group 6	Total HxCDD # Homologues	-	10	NA	0	6.00	1.25	4.00	6	7.55	--	0
Soil Group 2	Total HxCDF # Homologues	-	13	NA	0	6.23	2.24	3.00	6	9.8	--	0
Soil Group 3	Total HxCDF # Homologues	-	21	NA	0	6.43	2.64	4.00	6	11	--	0
Soil Group 5	Total HxCDF # Homologues	-	12	NA	0	4.42	2.07	2.00	4	7.25	--	0
Soil Group 6	Total HxCDF # Homologues	-	10	NA	0	5.30	1.64	3.45	5	7.55	--	0

Soil Group	Analyte	Units	n	Unique DLs	n<DL	Mean[1]	SD[1]	5th Percentile[1]	Median[1]	95th Percentile[1]	Guideline	# of Detections > Guideline
Soil Group 2	Total PeCDD # Homologues	-	13	NA	0	3.85	1.91	1.00	4	6.4	--	0
Soil Group 3	Total PeCDD # Homologues	-	21	NA	0	4.33	1.85	1.00	5	7	--	0
Soil Group 5	Total PeCDD # Homologues	-	12	NA	0	4.17	1.95	2.00	4	6.9	--	0
Soil Group 6	Total PeCDD # Homologues	-	10	NA	0	4.10	1.29	2.45	4.5	5.55	--	0
Soil Group 2	Total PeCDF # Homologues	-	13	NA	0	7.85	3.26	3.60	6	12.8	--	0
Soil Group 3	Total PeCDF # Homologues	-	21	NA	0	7.05	2.27	4.00	8	10	--	0
Soil Group 5	Total PeCDF # Homologues	-	12	NA	0	6.92	1.83	4.55	7	9.45	--	0
Soil Group 6	Total PeCDF # Homologues	-	10	NA	0	7.10	2.85	2.45	7.5	10.55	--	0
Soil Group 2	Total TCDD # Homologues	-	13	NA	0	3.00	2.86	0.0000	2	7.6	--	0
Soil Group 3	Total TCDD # Homologues	-	21	NA	0	4.14	2.22	1.00	4	8	--	0
Soil Group 5	Total TCDD # Homologues	-	12	NA	0	1.83	2.04	0.0000	1	5.45	--	0
Soil Group 6	Total TCDD # Homologues	-	10	NA	0	4.00	2.49	0.90	3.5	7.55	--	0
Soil Group 2	Total TCDF # Homologues	-	13	NA	0	8.15	6.39	1.60	5	19	--	0
Soil Group 3	Total TCDF # Homologues	-	21	NA	0	9.48	5.54	3.00	8	19	--	0
Soil Group 5	Total TCDF # Homologues	-	12	NA	0	5.75	3.41	1.55	5.5	11.35	--	0
Soil Group 6	Total TCDF # Homologues	-	10	NA	0	9.00	3.53	3.90	9	13.75	--	0
Soil Group 2	Total-HpCDD	pg/g	13	0.04, 0.065, 0.073, 0.1, 0.11, 0.12, 0.13, 0.14, 0.15	0	15.06	4.95	8.89	15	24.18	--	0
Soil Group 3	Total-HpCDD	pg/g	21	0.041, 0.042, 0.059, 0.063, 0.068, 0.069, 0.07, 0.081, 0.086, 0.1, 0.11, 0.13, 0.14, 0.15, 0.24, 0.46	0	17.16	12.22	9.23	11.9	28.4	--	0
Soil Group 5	Total-HpCDD	pg/g	12	0.058, 0.066, 0.082, 0.088, 0.093, 0.094, 0.11, 0.12, 0.13, 0.14, 0.15, 0.16, 0.43	0	11.83	3.29	7.55	10.95	16.79	--	0
Soil Group 6	Total-HpCDD	pg/g	10	0.066, 0.081, 0.086, 0.095, 0.11, 0.12, 0.14, 0.15, 0.27	0	17.64	5.13	10.74	16.75	25.515	--	0
Soil Group 2	Total-HpCDF	pg/g	13	0.046, 0.047, 0.054, 0.062, 0.064, 0.066, 0.069, 0.086, 0.093, 0.097, 0.1, 0.13, 0.15	0	3.53	1.68	1.88	3.11	6.114	--	0
Soil Group 3	Total-HpCDF	pg/g	21	0.028, 0.033, 0.039, 0.044, 0.048, 0.05, 0.052, 0.057, 0.06, 0.061, 0.063, 0.068, 0.072, 0.073, 0.077, 0.083, 0.11, 0.12, 0.2, 0.27	1	2.99	2.13	0.37	2.31	6.02	--	0
Soil Group 5	Total-HpCDF	pg/g	12	0.043, 0.054, 0.06, 0.063, 0.068, 0.07, 0.082, 0.094, 0.099, 0.1, 0.12, 0.13, 0.2, 0.26	1	2.22	1.29	0.42	2.295	4.015	--	0
Soil Group 6	Total-HpCDF	pg/g	10	0.049, 0.056, 0.061, 0.068, 0.075, 0.085, 0.086, 0.098, 0.12, 0.17, 0.4	0	3.55	1.52	1.48	3.44	5.823	--	0
Soil Group 2	Total-HxCDD	pg/g	13	0.019, 0.025, 0.033, 0.06, 0.074, 0.075, 0.077, 0.088, 0.1, 0.13, 0.14	0	8.51	5.27	3.69	7.72	17	--	0
Soil Group 3	Total-HxCDD	pg/g	21	0.013, 0.021, 0.023, 0.031, 0.032, 0.035, 0.037, 0.039, 0.051, 0.052, 0.055, 0.065, 0.081, 0.09, 0.095, 0.11, 0.14, 0.15, 0.22	0	7.69	7.18	2.83	5.48	11.8	--	0
Soil Group 5	Total-HxCDD	pg/g	12	0.025, 0.032, 0.041, 0.053, 0.054, 0.055, 0.063, 0.083, 0.087, 0.098, 0.1, 0.11, 0.13, 0.14, 0.2	0	5.71	1.47	3.51	5.72	7.2765	--	0
Soil Group 6	Total-HxCDD	pg/g	10	0.044, 0.045, 0.046, 0.052, 0.054, 0.11, 0.12, 0.13, 0.19, 0.28	0	9.72	3.87	4.25	9.96	15.085	--	0
Soil Group 2	Total-HxCDF	pg/g	13	0.017, 0.023, 0.032, 0.051, 0.058, 0.087, 0.094, 0.11, 0.12, 0.13, 0.18	0	3.39	1.85	1.12	3.02	6.292	--	0
Soil Group 3	Total-HxCDF	pg/g	21	0.013, 0.019, 0.034, 0.035, 0.038, 0.04, 0.043, 0.045, 0.046, 0.059, 0.06, 0.072, 0.08, 0.084, 0.086, 0.091, 0.1, 0.11, 0.2, 0.22	0	3.62	4.06	1.45	2.2	7.74	--	0
Soil Group 5	Total-HxCDF	pg/g	12	0.022, 0.039, 0.043, 0.054, 0.062, 0.073, 0.077, 0.084, 0.11, 0.12, 0.13, 0.14, 0.15, 0.17, 0.23	0	2.00	0.81	0.87	2.07	3.0145	--	0
Soil Group 6	Total-HxCDF	pg/g	10	0.039, 0.056, 0.063, 0.078, 0.083, 0.085, 0.095, 0.11, 0.12, 0.14	0	3.56	1.21	1.56	3.855	4.9235	--	0
Soil Group 2	Total-PeCDD	pg/g	13	0.01, 0.012, 0.016, 0.022, 0.041, 0.054, 0.058, 0.069, 0.089, 0.09, 0.12, 0.14, 0.15, 0.21	0	1.84	0.95	0.47	1.87	3.43	--	0
Soil Group 3	Total-PeCDD	pg/g	21	0.0093, 0.012, 0.013, 0.014, 0.015, 0.016, 0.018, 0.02, 0.029, 0.05, 0.056, 0.059, 0.064, 0.066, 0.069, 0.075, 0.081, 0.085, 0.092, 0.11	0	1.97	1.89	0.45	1.49	3.12	--	0
Soil Group 5	Total-PeCDD	pg/g	12	0.012, 0.016, 0.033, 0.04, 0.042, 0.044, 0.078, 0.081, 0.089, 0.091, 0.095, 0.12, 0.14, 0.17	0	1.20	0.53	0.58	1.285	1.91	--	0
Soil Group 6	Total-PeCDD	pg/g	10	0.017, 0.022, 0.061, 0.062, 0.072, 0.081, 0.1, 0.11, 0.14, 0.21	0	2.68	1.17	1.16	2.75	4.325	--	0
Soil Group 2	Total-PeCDF	pg/g	13	0.024, 0.029, 0.04, 0.043, 0.054, 0.055, 0.061, 0.067, 0.085, 0.086, 0.12, 0.13, 0.16	0	3.83	2.18	0.92	3.26	6.71	--	0
Soil Group 3	Total-PeCDF	pg/g	21	0.016, 0.023, 0.024, 0.026, 0.032, 0.034, 0.041, 0.042, 0.048, 0.068, 0.069, 0.07, 0.078, 0.088, 0.089, 0.091, 0.12, 0.18, 0.21	0	3.36	2.87	1.31	2.23	6.4	--	0
Soil Group 5	Total-PeCDF	pg/g	12	0.022, 0.023, 0.025, 0.03, 0.037, 0.047, 0.077, 0.087, 0.089, 0.11, 0.12, 0.13, 0.22	0	2.95	1.12	1.44	3.12	4.556	--	0
Soil Group 6	Total-PeCDF	pg/g	10	0.023, 0.035, 0.037, 0.042, 0.046, 0.051, 0.079, 0.088, 0.098, 0.1, 0.15, 0.16	0	4.30	2.70	1.38	3.86	8.7865	--	0
Soil Group 2	Total-TCDD	pg/g	13	0.0098, 0.013, 0.014, 0.016, 0.052, 0.053, 0.056, 0.061, 0.062, 0.073, 0.14, 0.19	3	0.72	0.70	0.054	0.61	1.862	--	0
Soil Group 3	Total-TCDD	pg/g	21	0.01, 0.013, 0.014, 0.015, 0.017, 0.021, 0.024, 0.026, 0.044, 0.05, 0.051, 0.057, 0.059, 0.065, 0.067, 0.07, 0.071, 0.076	0	1.48	1.93	0.20	0.953	5.07	--	0
Soil Group 5	Total-TCDD	pg/g	12	0.0079, 0.017, 0.019, 0.032, 0.036, 0.042, 0.049, 0.069, 0.076, 0.08, 0.096, 0.11, 0.14, 0.17, 0.21	3	0.39	0.28	0.092	0.329	0.83685	--	0
Soil Group 6	Total-TCDD	pg/g	10	0.011, 0.017, 0.019, 0.026, 0.03, 0.032, 0.053, 0.066, 0.067, 0.073, 0.11, 0.17	1	1.77	1.59	0.12	1.4	4.256	--	0
Soil Group 2	Total-TCDF	pg/g	13	0.027, 0.03, 0.031, 0.044, 0.077, 0.082, 0.092, 0.1, 0.11, 0.13, 0.19, 0.24, 0.3	0	3.60	2.81	0.65	2.78	8.262	--	0
Soil Group 3	Total-TCDF	pg/g	21	0.026, 0.027, 0.029, 0.031, 0.034, 0.035, 0.036, 0.037, 0.052, 0.073, 0.076, 0.082, 0.09, 0.1, 0.11, 0.12, 0.13, 0.2	0	5.03	7.11	0.89	2.43	15.6	--	0
Soil Group 5	Total-TCDF	pg/g	12	0.022, 0.026, 0.044, 0.046, 0.057, 0.06, 0.062, 0.11, 0.12, 0.15, 0.17, 0.19, 0.23, 0.28, 0.4	0	2.19	0.97	0.74	2.3	3.6535	--	0
Soil Group 6	Total-TCDF	pg/g	10	0.026, 0.041, 0.043, 0.048, 0.053, 0.085, 0.11, 0.14, 0.16, 0.2, 0.33	0	5.09	2.38	1.82	4.8	8.2745	--	0
Soil Group 2	Upper Bound PCDD/F TEQ (WHO 2005)	pg/g	13	0.0	0	1.06	0.43	0.56	1.03	1.802	--	0
Soil Group 3	Upper Bound PCDD/F TEQ (WHO 2005)	pg/g	21	0.0	0	1.16	0.95	0.58	0.874	1.92	--	0
Soil Group 5	Upper Bound PCDD/F TEQ (WHO 2005)	pg/g	12	0.0	0	0.81	0.23	0.57	0.706	1.1895	--	0
Soil Group 6	Upper Bound PCDD/F TEQ (WHO 2005)	pg/g	10	0.0	0	1.26	0.41	0.69	1.245	1.849	--	0
Hydrocarbons												
Soil Group 2	F1 (C6-C10)	mg/kg	13	5.0	12	5.02	0.055	5.00	5	5.08	25	0
Soil Group 3	F1 (C6-C10)	mg/kg	21	5.0, 17.9	20	5.70	2.82	5.00	5	6.7	25	0
Soil Group 5	F1 (C6-C10)	mg/kg	12	5.0	12	5.00	0.0000	5.00	5	5	25	0
Soil Group 6	F1 (C6-C10)	mg/kg	10	5.0	10	5.00	0.0000	5.00	5	5	25	0
Soil Group 2	F1-BTEX	mg/kg	13	5.0	12	5.02	0.055	5.00	5	5.08	25	0
Soil Group 3	F1-BTEX	mg/kg	21	5.0, 17.9	20	5.70	2.82	5.00	5	6.7	25	0

Soil Group	Analyte	Units	n	Unique DLs	n<DL	Mean[1]	SD[1]	5th Percentile[1]	Median[1]	95th Percentile[1]	Guideline	# of Detections > Guideline
Soil Group 5	F1-BTEX	mg/kg	12	5.0	12	5.00	0.0000	5.00	5	5	25	0
Soil Group 6	F1-BTEX	mg/kg	10	5.0	10	5.00	0.0000	5.00	5	5	25	0
Soil Group 2	F2 (C10-C16)	mg/kg	13	10.0	13	10.00	0.0000	10.00	10	10	10	0
Soil Group 3	F2 (C10-C16)	mg/kg	21	10.0, 30.0	21	**10.95**	4.36	10.00	10	10	10	0
Soil Group 5	F2 (C10-C16)	mg/kg	12	10.0, 11.0	12	**10.08**	0.29	10.00	10	**10.45**	10	0
Soil Group 6	F2 (C10-C16)	mg/kg	10	10.0	9	**10.10**	0.32	10.00	10	**10.55**	10	1
Soil Group 2	F3 (C16-C34)	mg/kg	13	50.0	13	50.00	0.0000	50.00	50	50	240	0
Soil Group 3	F3 (C16-C34)	mg/kg	21	50.0, 89.0	19	63.95	47.79	50.00	50	138	240	1
Soil Group 5	F3 (C16-C34)	mg/kg	12	50.0	11	71.83	75.63	50.00	50	167.9	240	1
Soil Group 6	F3 (C16-C34)	mg/kg	10	50.0	9	63.90	43.96	50.00	50	126.45	240	0
Soil Group 2	F4 (C34-C50)	mg/kg	13	50.0	13	50.00	0.0000	50.00	50	50	120	0
Soil Group 3	F4 (C34-C50)	mg/kg	21	50.0, 89.0	19	65.95	51.18	50.00	50	**189**	120	2
Soil Group 5	F4 (C34-C50)	mg/kg	12	50.0	11	66.75	58.02	50.00	50	**140.45**	120	1
Soil Group 6	F4 (C34-C50)	mg/kg	10	50.0	7	60.30	29.19	50.00	50	105.2	120	1
Soil Group 3	F4G-sg	mg/kg	1	250.0	0	590.00	NA	590.00	590	590	--	0
Soil Group 5	F4G-sg	mg/kg	1	250.0	0	780.00	NA	780.00	780	780	--	0
Soil Group 6	F4G-sg	mg/kg	1	250.0	0	460.00	NA	460.00	460	460	--	0
Soil Group 2	Hydrocarbons, total (C6-C50)	mg/kg	13	80.0	13	80.00	0.0000	80.00	80	80	--	0
Soil Group 3	Hydrocarbons, total (C6-C50)	mg/kg	21	80.0, 131.0	19	111.81	100.91	80.00	80	384	--	0
Soil Group 5	Hydrocarbons, total (C6-C50)	mg/kg	12	80.0	11	120.25	139.43	80.00	80	297.35	--	0
Soil Group 6	Hydrocarbons, total (C6-C50)	mg/kg	10	80.0	9	105.20	79.69	80.00	80	218.6	--	0
Inorganics and Metals												
Soil Group 2	Cyanide, strong acid dissociable (Total)	mg/kg	13	0.059, 0.06, 0.061, 0.063, 0.064, 0.065, 0.067, 0.068, 0.07	6	**0.078**	0.019	**0.060**	**0.072**	**0.1136**	0.051	7
Soil Group 3	Cyanide, strong acid dissociable (Total)	mg/kg	21	0.057, 0.059, 0.06, 0.061, 0.062, 0.063, 0.064, 0.065, 0.066, 0.072, 0.078, 0.079, 0.264	12	**0.091**	0.049	**0.059**	**0.067**	**0.148**	0.051	9
Soil Group 5	Cyanide, strong acid dissociable (Total)	mg/kg	12	0.058, 0.06, 0.062, 0.063, 0.064, 0.065, 0.067, 0.092	2	**0.88**	2.77	**0.061**	**0.076**	**4.4174**	0.051	10
Soil Group 6	Cyanide, strong acid dissociable (Total)	mg/kg	10	0.062, 0.066, 0.067, 0.068, 0.071, 0.073, 0.074, 0.337	2	**0.094**	0.028	**0.065**	**0.0865**	**0.13465**	0.051	8
Soil Group 2	Aluminum	mg/kg	13	50.0	0	**13828.46**	2478.65	**10728.00**	**13500**	**17520**	50	13
Soil Group 3	Aluminum	mg/kg	21	50.0	0	**11326.67**	3123.54	**7820.00**	**11800**	**16400**	50	21
Soil Group 5	Aluminum	mg/kg	12	50.0	0	**13150.00**	2034.92	**10530.00**	**13500**	**15570**	50	12
Soil Group 6	Aluminum	mg/kg	10	50.0	0	**14448.00**	2580.77	**10979.00**	**14100**	**17750**	50	10
Soil Group 2	Antimony	mg/kg	13	0.1	0	0.17	0.031	0.12	0.17	0.218	1	0
Soil Group 3	Antimony	mg/kg	21	0.1	1	0.17	0.061	0.11	0.16	0.24	1	0
Soil Group 5	Antimony	mg/kg	12	0.1	0	0.16	0.030	0.12	0.165	0.2	1	0
Soil Group 6	Antimony	mg/kg	10	0.1	0	0.19	0.047	0.15	0.18	0.2665	1	0
Soil Group 2	Arsenic	mg/kg	13	0.1	0	4.63	0.60	3.65	4.84	5.448	11	0
Soil Group 3	Arsenic	mg/kg	21	0.1	0	3.74	1.01	2.45	3.57	5.42	11	0
Soil Group 5	Arsenic	mg/kg	12	0.1	0	4.43	0.90	3.41	4.34	6.03	11	0
Soil Group 6	Arsenic	mg/kg	10	0.1	0	5.26	2.61	3.36	4.28	9.3965	11	1
Soil Group 2	Barium	mg/kg	13	0.5	0	61.60	9.76	47.64	61.2	74.94	210	0
Soil Group 3	Barium	mg/kg	21	0.5	0	54.36	14.31	38.10	52.8	78.7	210	0
Soil Group 5	Barium	mg/kg	12	0.5	0	62.34	17.11	41.97	60.5	85.215	210	0
Soil Group 6	Barium	mg/kg	10	0.5	0	59.20	11.31	43.34	62.5	72.17	210	0
Soil Group 2	Beryllium	mg/kg	13	0.1	0	0.52	0.11	0.39	0.51	0.696	2.5	0
Soil Group 3	Beryllium	mg/kg	21	0.1	0	0.39	0.13	0.23	0.37	0.59	2.5	0
Soil Group 5	Beryllium	mg/kg	12	0.1	0	0.48	0.071	0.37	0.495	0.56	2.5	0
Soil Group 6	Beryllium	mg/kg	10	0.1	0	0.48	0.15	0.31	0.46	0.7255	2.5	0
Soil Group 2	Bismuth	mg/kg	13	0.2	13	0.20	0.0000	0.20	0.2	0.2	20	0
Soil Group 3	Bismuth	mg/kg	21	0.2	21	0.20	0.0000	0.20	0.2	0.2	20	0
Soil Group 5	Bismuth	mg/kg	12	0.2	12	0.20	0.0000	0.20	0.2	0.2	20	0
Soil Group 6	Bismuth	mg/kg	10	0.2	9	0.20	0.0000	0.20	0.2	0.2	20	0
Soil Group 2	Boron	mg/kg	13	5.0	0	**8.98**	2.80	**5.96**	**8.4**	**14.12**	1.5	13
Soil Group 3	Boron	mg/kg	21	5.0	5	**7.49**	3.22	**5.00**	**6.2**	**15**	1.5	16
Soil Group 5	Boron	mg/kg	12	5.0	0	**8.14**	1.63	**6.20**	**8.25**	**10.635**	1.5	12
Soil Group 6	Boron	mg/kg	10	5.0	0	**8.01**	3.53	**5.28**	**6.15**	**14.155**	1.5	10
Soil Group 2	Cadmium	mg/kg	13	0.02	0	0.35	0.064	0.26	0.351	0.4156	1	0
Soil Group 3	Cadmium	mg/kg	21	0.02	0	0.37	0.18	0.24	0.321	0.478	1	1
Soil Group 5	Cadmium	mg/kg	12	0.02	0	0.36	0.11	0.26	0.352	0.5206	1	0
Soil Group 6	Cadmium	mg/kg	10	0.02	0	0.40	0.15	0.24	0.38	0.6571	1	0
Soil Group 2	Calcium	mg/kg	13	50.0	0	12880.77	10431.85	5394.00	9440	35460	--	0
Soil Group 3	Calcium	mg/kg	21	50.0	0	14435.24	12284.53	2270.00	9180	32800	--	0
Soil Group 5	Calcium	mg/kg	12	50.0	0	13840.83	8125.14	4671.50	14750	25070	--	0
Soil Group 6	Calcium	mg/kg	10	50.0	0	9378.00	4816.00	5012.50	7585	16550	--	0
Soil Group 2	Calcium, soluble ion content	mg/L	13	0.5	0	8.32	2.64	5.42	7.86	12.2	--	0
Soil Group 3	Calcium, soluble ion content	mg/L	21	0.5	0	9.05	6.13	2.67	8.55	14.5	--	0
Soil Group 5	Calcium, soluble ion content	mg/L	12	0.5	0	14.09	11.43	6.13	10.7	35.39	--	0
Soil Group 6	Calcium, soluble ion content	mg/L	10	0.5	0	11.33	8.35	6.06	7.545	25.66	--	0
Soil Group 2	Chromium	mg/kg	13	0.5	0	**20.57**	3.22	**16.06**	**20.2**	**25.82**	0.4	13
Soil Group 3	Chromium	mg/kg	21	0.5	0	**17.10**	3.39	**12.50**	**16.7**	**23.9**	0.4	21
Soil Group 5	Chromium	mg/kg	12	0.5	0	**19.61**	2.27	**17.06**	**19.1**	**22.27**	0.4	12

Soil Group	Analyte	Units	n	Unique DLs	n<DL	Mean[1]	SD[1]	5th Percentile[1]	Median[1]	95th Percentile[1]	Guideline	# of Detections > Guideline
Soil Group 6	Chromium	mg/kg	10	0.5	0	**21.39**	6.89	**15.09**	**19.45**	**32.46**	0.4	10
Soil Group 2	Chromium, hexavalent [Cr VI]	mg/kg	13	0.1	13	0.10	0.0000	0.10	0.1	0.1	0.4	0
Soil Group 3	Chromium, hexavalent [Cr VI]	mg/kg	21	0.1	19	0.16	0.27	0.10	0.1	0.2	0.4	1
Soil Group 5	Chromium, hexavalent [Cr VI]	mg/kg	12	0.1	11	0.11	0.020	0.10	0.1	0.1315	0.4	0
Soil Group 6	Chromium, hexavalent [Cr VI]	mg/kg	10	0.1	9	0.11	0.022	0.10	0.1	0.1385	0.4	0
Soil Group 2	Cobalt	mg/kg	13	0.1	0	6.51	1.16	5.12	6.74	8.228	19	0
Soil Group 3	Cobalt	mg/kg	21	0.1	0	4.97	1.52	2.95	4.94	7.45	19	0
Soil Group 5	Cobalt	mg/kg	12	0.1	0	6.14	1.15	4.45	6.215	7.7085	19	0
Soil Group 6	Cobalt	mg/kg	10	0.1	0	6.04	2.23	3.98	5.425	9.914	19	0
Soil Group 2	Copper	mg/kg	13	0.5	0	11.27	2.53	8.21	10.8	15.96	62	0
Soil Group 3	Copper	mg/kg	21	0.5	0	8.39	2.83	5.08	7.6	13.6	62	0
Soil Group 5	Copper	mg/kg	12	0.5	0	17.77	19.28	7.94	12.35	46.485	62	1
Soil Group 6	Copper	mg/kg	10	0.5	0	10.40	5.34	5.43	8.19	19.16	62	0
Soil Group 2	Iron	mg/kg	13	50.0	0	**17992.31**	2537.21	**14720.00**	**18100**	**22180**	200	13
Soil Group 3	Iron	mg/kg	21	50.0	0	**14638.10**	3817.92	**10000.00**	**15000**	**21000**	200	21
Soil Group 5	Iron	mg/kg	12	50.0	0	**16633.33**	1927.00	**13985.00**	**17000**	**19050**	200	12
Soil Group 6	Iron	mg/kg	10	50.0	0	**18000.00**	3800.29	**13905.00**	**16600**	**23615**	200	10
Soil Group 2	Lead	mg/kg	13	0.5	0	12.77	2.32	9.74	12.6	16.34	45	0
Soil Group 3	Lead	mg/kg	21	0.5	0	12.86	3.92	8.99	12.3	19.4	45	0
Soil Group 5	Lead	mg/kg	12	0.5	0	11.94	2.33	9.24	11.75	15.515	45	0
Soil Group 6	Lead	mg/kg	10	0.5	0	15.01	3.11	10.77	14.7	19.74	45	0
Soil Group 2	Lithium	mg/kg	13	2.0	0	**13.35**	3.07	**10.02**	**12.3**	**18.58**	2	13
Soil Group 3	Lithium	mg/kg	21	2.0	1	**10.62**	3.86	**5.30**	**10.3**	**16**	2	20
Soil Group 5	Lithium	mg/kg	12	2.0	0	**12.99**	1.31	**11.43**	**12.8**	**15.225**	2	12
Soil Group 6	Lithium	mg/kg	10	2.0	0	**13.53**	3.58	**10.30**	**12.45**	**19.97**	2	10
Soil Group 2	Magnesium	mg/kg	13	20.0	0	7855.38	4555.61	3588.00	6780	17180	--	0
Soil Group 3	Magnesium	mg/kg	21	20.0	0	7273.33	5297.94	2700.00	4720	15800	--	0
Soil Group 5	Magnesium	mg/kg	12	20.0	0	8615.83	3828.51	4101.50	8505	14120	--	0
Soil Group 6	Magnesium	mg/kg	10	20.0	0	5871.00	2626.79	3233.50	5565	9653.5	--	0
Soil Group 2	Magnesium, soluble ion content	mg/L	13	0.5	0	3.31	1.07	2.12	2.76	4.904	--	0
Soil Group 3	Magnesium, soluble ion content	mg/L	21	0.5	0	3.17	1.45	1.61	2.86	6	--	0
Soil Group 5	Magnesium, soluble ion content	mg/L	12	0.5	0	5.43	3.10	2.96	4.905	10.4775	--	0
Soil Group 6	Magnesium, soluble ion content	mg/L	10	0.5	0	4.38	2.16	1.99	3.93	8.0385	--	0
Soil Group 2	Manganese	mg/kg	13	1.0	0	**745.38**	197.45	**396.00**	**755**	**1000**	100	13
Soil Group 3	Manganese	mg/kg	21	1.0	0	**598.52**	239.72	**264.00**	**632**	**966**	100	21
Soil Group 5	Manganese	mg/kg	12	1.0	0	**681.00**	212.39	**296.60**	**720.5**	**923.25**	100	12
Soil Group 6	Manganese	mg/kg	10	1.0	0	**590.40**	346.24	**210.25**	**561.5**	**1067.5**	100	10
Soil Group 2	Mercury	mg/kg	13	0.005	0	0.053	0.012	0.038	0.0491	0.06974	0.16	0
Soil Group 3	Mercury	mg/kg	21	0.005	0	0.058	0.039	0.032	0.0488	0.0822	0.16	1
Soil Group 5	Mercury	mg/kg	12	0.005	0	0.048	0.017	0.032	0.0424	0.075755	0.16	0
Soil Group 6	Mercury	mg/kg	10	0.005	0	0.075	0.025	0.045	0.074	0.1093	0.16	0
Soil Group 2	Molybdenum	mg/kg	13	0.1	0	0.46	0.15	0.32	0.43	0.718	2	0
Soil Group 3	Molybdenum	mg/kg	21	0.1	0	0.43	0.10	0.31	0.44	0.59	2	0
Soil Group 5	Molybdenum	mg/kg	12	0.1	0	0.42	0.093	0.30	0.415	0.53	2	0
Soil Group 6	Molybdenum	mg/kg	10	0.1	0	0.56	0.18	0.41	0.5	0.8875	2	0
Soil Group 2	Nickel	mg/kg	13	0.5	0	13.95	2.73	10.68	13.8	18.3	37	0
Soil Group 3	Nickel	mg/kg	21	0.5	0	10.72	3.13	7.34	10.5	15.8	37	0
Soil Group 5	Nickel	mg/kg	12	0.5	0	13.79	2.09	10.79	13.9	16.1	37	0
Soil Group 6	Nickel	mg/kg	10	0.5	0	13.30	5.48	9.01	11.15	22.295	37	0
Soil Group 2	Phosphorus	mg/kg	13	50.0	0	672.85	215.12	380.80	683	965.8	--	0
Soil Group 3	Phosphorus	mg/kg	21	50.0	0	496.29	198.11	292.00	444	765	--	0
Soil Group 5	Phosphorus	mg/kg	12	50.0	0	758.42	207.64	522.35	726	1074.8	--	0
Soil Group 6	Phosphorus	mg/kg	10	50.0	0	486.30	309.24	214.10	368.5	973.6	--	0
Soil Group 2	Potassium	mg/kg	13	100.0	0	1376.15	520.76	808.00	1210	2334	--	0
Soil Group 3	Potassium	mg/kg	21	100.0	0	884.29	389.48	360.00	790	1440	--	0
Soil Group 5	Potassium	mg/kg	12	100.0	0	1316.67	223.42	1001.00	1340	1559	--	0
Soil Group 6	Potassium	mg/kg	10	100.0	0	1055.00	659.43	624.50	720	2249.5	--	0
Soil Group 2	Selenium	mg/kg	13	0.2	0	0.33	0.066	0.24	0.36	0.412	1	0
Soil Group 3	Selenium	mg/kg	21	0.2	1	0.58	1.08	0.22	0.34	0.6	1	1
Soil Group 5	Selenium	mg/kg	12	0.2	0	0.33	0.18	0.22	0.285	0.5875	1	0
Soil Group 6	Selenium	mg/kg	10	0.2	0	0.51	0.22	0.31	0.395	0.874	1	0
Soil Group 2	Silver	mg/kg	13	0.1	13	0.10	0.0000	0.10	0.1	0.1	0.5	0
Soil Group 3	Silver	mg/kg	21	0.1	21	0.10	0.0000	0.10	0.1	0.1	0.5	0
Soil Group 5	Silver	mg/kg	12	0.1	12	0.10	0.0000	0.10	0.1	0.1	0.5	0
Soil Group 6	Silver	mg/kg	10	0.1	10	0.10	0.0000	0.10	0.1	0.1	0.5	0
Soil Group 2	Sodium	mg/kg	13	50.0	1	68.31	14.31	51.20	69	90	--	0
Soil Group 3	Sodium	mg/kg	21	50.0	9	61.81	16.04	50.00	51	96	--	0
Soil Group 5	Sodium	mg/kg	12	50.0	0	71.25	9.17	58.85	68	84.45	--	0
Soil Group 6	Sodium	mg/kg	10	50.0	2	77.70	36.18	50.00	62.5	144.3	--	0

Soil Group	Analyte	Units	n	Unique DLs	n<DL	Mean[1]	SD[1]	5th Percentile[1]	Median[1]	95th Percentile[1]	Guideline	# of Detections > Guideline
Soil Group 2	Sodium adsorption ratio [SAR]	-	13	0.1	13	0.10	0.0000	0.10	0.1	0.1	2.4	0
Soil Group 3	Sodium adsorption ratio [SAR]	-	21	0.1	19	0.12	0.066	0.10	0.1	0.3	2.4	0
Soil Group 5	Sodium adsorption ratio [SAR]	-	12	0.1	11	0.11	0.020	0.10	0.1	0.1315	2.4	0
Soil Group 6	Sodium adsorption ratio [SAR]	-	10	0.1	8	0.19	0.25	0.10	0.1	0.5785	2.4	0
Soil Group 2	Sodium, soluble ion content	mg/L	13	0.5	6	0.73	0.34	0.50	0.51	1.334	--	0
Soil Group 3	Sodium, soluble ion content	mg/L	21	0.5	9	1.00	1.13	0.50	0.56	3.57	--	0
Soil Group 5	Sodium, soluble ion content	mg/L	12	0.5	2	1.18	0.96	0.50	0.93	2.7965	--	0
Soil Group 6	Sodium, soluble ion content	mg/L	10	0.5	1	2.16	3.44	0.50	0.65	8.444	--	0
Soil Group 2	Strontium	mg/kg	13	0.5	0	15.51	5.13	10.29	15	24.9	33000	0
Soil Group 3	Strontium	mg/kg	21	0.5	0	15.62	10.03	7.60	10.3	37.6	33000	0
Soil Group 5	Strontium	mg/kg	12	0.5	0	13.95	4.30	9.32	12.5	21.59	33000	0
Soil Group 6	Strontium	mg/kg	10	0.5	0	29.93	38.62	7.67	13.65	103.475	33000	0
Soil Group 2	Sulfur	mg/kg	13	1000.0	13	**1000.00**	0.0000	**1000.00**	**1000**	**1000**	500	0
Soil Group 3	Sulfur	mg/kg	21	1000.0	20	**1100.00**	458.26	**1000.00**	**1000**	**1000**	500	1
Soil Group 5	Sulfur	mg/kg	12	1000.0	12	**1000.00**	0.0000	**1000.00**	**1000**	**1000**	500	0
Soil Group 6	Sulfur	mg/kg	10	1000.0	9	**1000.00**	0.0000	**1000.00**	**1000**	**1000**	500	1
Soil Group 2	Thallium	mg/kg	13	0.05	0	0.13	0.021	0.10	0.131	0.1628	1	0
Soil Group 3	Thallium	mg/kg	21	0.05	0	0.11	0.029	0.077	0.1	0.165	1	0
Soil Group 5	Thallium	mg/kg	12	0.05	0	0.12	0.023	0.090	0.116	0.1499	1	0
Soil Group 6	Thallium	mg/kg	10	0.05	0	0.14	0.037	0.11	0.115	0.1988	1	0
Soil Group 2	Tin	mg/kg	13	2.0	13	2.00	0.0000	2.00	2	2	5	0
Soil Group 3	Tin	mg/kg	21	2.0	21	2.00	0.0000	2.00	2	2	5	0
Soil Group 5	Tin	mg/kg	12	2.0	12	2.00	0.0000	2.00	2	2	5	0
Soil Group 6	Tin	mg/kg	10	2.0	10	2.00	0.0000	2.00	2	2	5	0
Soil Group 2	Titanium	mg/kg	13	1.0	0	208.46	35.84	168.40	192	267.2	1000	0
Soil Group 3	Titanium	mg/kg	21	1.0	0	208.55	52.31	135.00	212	271	1000	0
Soil Group 5	Titanium	mg/kg	12	1.0	0	211.17	33.74	157.55	223	243.3	1000	0
Soil Group 6	Titanium	mg/kg	10	1.0	0	218.20	29.67	183.00	218.5	259.05	1000	0
Soil Group 2	Tungsten	mg/kg	13	0.5	13	0.50	0.0000	0.50	0.5	0.5	400	0
Soil Group 3	Tungsten	mg/kg	21	0.5	21	0.50	0.0000	0.50	0.5	0.5	400	0
Soil Group 5	Tungsten	mg/kg	12	0.5	12	0.50	0.0000	0.50	0.5	0.5	400	0
Soil Group 6	Tungsten	mg/kg	10	0.5	10	0.50	0.0000	0.50	0.5	0.5	400	0
Soil Group 2	Uranium	mg/kg	13	0.05	0	0.70	0.21	0.46	0.662	1.054	1.9	0
Soil Group 3	Uranium	mg/kg	21	0.05	0	0.89	1.32	0.32	0.629	0.962	1.9	1
Soil Group 5	Uranium	mg/kg	12	0.05	0	0.80	0.32	0.60	0.7085	1.2707	1.9	0
Soil Group 6	Uranium	mg/kg	10	0.05	0	1.03	1.21	0.40	0.6685	**2.952**	1.9	1
Soil Group 2	Vanadium	mg/kg	13	0.2	0	31.80	5.53	25.38	30.6	39.74	86	0
Soil Group 3	Vanadium	mg/kg	21	0.2	0	27.06	6.47	20.00	27.8	35.7	86	0
Soil Group 5	Vanadium	mg/kg	12	0.2	0	30.52	3.58	25.17	31.2	35.16	86	0
Soil Group 6	Vanadium	mg/kg	10	0.2	0	32.37	4.70	26.81	31	39.04	86	0
Soil Group 2	Zinc	mg/kg	13	2.0	0	49.15	8.45	37.72	50.5	60	200	0
Soil Group 3	Zinc	mg/kg	21	2.0	0	45.65	13.39	33.40	42.7	60.5	200	0
Soil Group 5	Zinc	mg/kg	12	2.0	0	52.88	10.31	34.67	54	64.47	200	0
Soil Group 6	Zinc	mg/kg	10	2.0	0	52.03	14.18	33.75	51	69.57	200	0
Soil Group 2	Zirconium	mg/kg	13	1.0	8	1.10	0.17	1.00	1	1.44	97	0
Soil Group 3	Zirconium	mg/kg	21	1.0	19	1.01	0.044	1.00	1	1	97	0
Soil Group 5	Zirconium	mg/kg	12	1.0	10	1.13	0.40	1.00	1	1.685	97	0
Soil Group 6	Zirconium	mg/kg	10	1.0	6	1.29	0.49	1.00	1	2.175	97	0
Organochlorine Pesticides												
Soil Group 2	Aldrin	mg/kg	13	0.02	13	0.020	0.0000	0.020	0.02	0.02	0.05	0
Soil Group 3	Aldrin	mg/kg	21	0.02	21	0.020	0.0000	0.020	0.02	0.02	0.05	0
Soil Group 5	Aldrin	mg/kg	12	0.02	12	0.020	0.0000	0.020	0.02	0.02	0.05	0
Soil Group 6	Aldrin	mg/kg	10	0.02	10	0.020	0.0000	0.020	0.02	0.02	0.05	0
Soil Group 2	Chlordane, cis- (alpha)	mg/kg	13	0.02	13	0.020	0.0000	0.020	0.02	0.02	--	0
Soil Group 3	Chlordane, cis- (alpha)	mg/kg	21	0.02	21	0.020	0.0000	0.020	0.02	0.02	--	0
Soil Group 5	Chlordane, cis- (alpha)	mg/kg	12	0.02	12	0.020	0.0000	0.020	0.02	0.02	--	0
Soil Group 6	Chlordane, cis- (alpha)	mg/kg	10	0.02	10	0.020	0.0000	0.020	0.02	0.02	--	0
Soil Group 2	Chlordane, total	mg/kg	13	0.03	13	0.030	0.0000	0.030	0.03	0.03	0.05	0
Soil Group 3	Chlordane, total	mg/kg	21	0.03	21	0.030	0.0000	0.030	0.03	0.03	0.05	0
Soil Group 5	Chlordane, total	mg/kg	12	0.03	12	0.030	0.0000	0.030	0.03	0.03	0.05	0
Soil Group 6	Chlordane, total	mg/kg	10	0.03	10	0.030	0.0000	0.030	0.03	0.03	0.05	0
Soil Group 2	Chlordane, trans- (gamma)	mg/kg	13	0.02	13	0.020	0.0000	0.020	0.02	0.02	--	0
Soil Group 3	Chlordane, trans- (gamma)	mg/kg	21	0.02	21	0.020	0.0000	0.020	0.02	0.02	--	0
Soil Group 5	Chlordane, trans- (gamma)	mg/kg	12	0.02	12	0.020	0.0000	0.020	0.02	0.02	--	0
Soil Group 6	Chlordane, trans- (gamma)	mg/kg	10	0.02	10	0.020	0.0000	0.020	0.02	0.02	--	0
Soil Group 2	DDD, 2,4'-	mg/kg	13	0.02	13	0.020	0.0000	0.020	0.02	0.02	--	0
Soil Group 3	DDD, 2,4'-	mg/kg	21	0.02	21	0.020	0.0000	0.020	0.02	0.02	--	0
Soil Group 5	DDD, 2,4'-	mg/kg	12	0.02	12	0.020	0.0000	0.020	0.02	0.02	--	0
Soil Group 6	DDD, 2,4'-	mg/kg	10	0.02	10	0.020	0.0000	0.020	0.02	0.02	--	0

Soil Group	Analyte	Units	n	Unique DLs	n<DL	Mean[1]	SD[1]	5th Percentile[1]	Median[1]	95th Percentile[1]	Guideline	# of Detections > Guideline
Soil Group 2	DDD, 4,4'-	mg/kg	13	0.02	13	0.020	0.0000	0.020	0.02	0.02	--	0
Soil Group 3	DDD, 4,4'-	mg/kg	21	0.02	21	0.020	0.0000	0.020	0.02	0.02	--	0
Soil Group 5	DDD, 4,4'-	mg/kg	12	0.02	12	0.020	0.0000	0.020	0.02	0.02	--	0
Soil Group 6	DDD, 4,4'-	mg/kg	10	0.02	10	0.020	0.0000	0.020	0.02	0.02	--	0
Soil Group 2	DDD, total	mg/kg	13	0.03	13	0.030	0.0000	0.030	0.03	0.03	0.05	0
Soil Group 3	DDD, total	mg/kg	21	0.03	21	0.030	0.0000	0.030	0.03	0.03	0.05	0
Soil Group 5	DDD, total	mg/kg	12	0.03	12	0.030	0.0000	0.030	0.03	0.03	0.05	0
Soil Group 6	DDD, total	mg/kg	10	0.03	10	0.030	0.0000	0.030	0.03	0.03	0.05	0
Soil Group 2	DDE, 2,4'-	mg/kg	13	0.02	13	0.020	0.0000	0.020	0.02	0.02	--	0
Soil Group 3	DDE, 2,4'-	mg/kg	21	0.02	21	0.020	0.0000	0.020	0.02	0.02	--	0
Soil Group 5	DDE, 2,4'-	mg/kg	12	0.02	12	0.020	0.0000	0.020	0.02	0.02	--	0
Soil Group 6	DDE, 2,4'-	mg/kg	10	0.02	10	0.020	0.0000	0.020	0.02	0.02	--	0
Soil Group 2	DDE, 4,4'-	mg/kg	13	0.02	13	0.020	0.0000	0.020	0.02	0.02	--	0
Soil Group 3	DDE, 4,4'-	mg/kg	21	0.02	21	0.020	0.0000	0.020	0.02	0.02	--	0
Soil Group 5	DDE, 4,4'-	mg/kg	12	0.02	12	0.020	0.0000	0.020	0.02	0.02	--	0
Soil Group 6	DDE, 4,4'-	mg/kg	10	0.02	10	0.020	0.0000	0.020	0.02	0.02	--	0
Soil Group 2	DDE, total	mg/kg	13	0.03	13	0.030	0.0000	0.030	0.03	0.03	0.05	0
Soil Group 3	DDE, total	mg/kg	21	0.03	21	0.030	0.0000	0.030	0.03	0.03	0.05	0
Soil Group 5	DDE, total	mg/kg	12	0.03	12	0.030	0.0000	0.030	0.03	0.03	0.05	0
Soil Group 6	DDE, total	mg/kg	10	0.03	10	0.030	0.0000	0.030	0.03	0.03	0.05	0
Soil Group 2	DDT, 2,4'-	mg/kg	13	0.02	13	0.020	0.0000	0.020	0.02	0.02	--	0
Soil Group 3	DDT, 2,4'-	mg/kg	21	0.02	21	0.020	0.0000	0.020	0.02	0.02	--	0
Soil Group 5	DDT, 2,4'-	mg/kg	12	0.02	12	0.020	0.0000	0.020	0.02	0.02	--	0
Soil Group 6	DDT, 2,4'-	mg/kg	10	0.02	10	0.020	0.0000	0.020	0.02	0.02	--	0
Soil Group 2	DDT, 4,4'-	mg/kg	13	0.02	13	0.020	0.0000	0.020	0.02	0.02	--	0
Soil Group 3	DDT, 4,4'-	mg/kg	21	0.02	21	0.020	0.0000	0.020	0.02	0.02	--	0
Soil Group 5	DDT, 4,4'-	mg/kg	12	0.02	12	0.020	0.0000	0.020	0.02	0.02	--	0
Soil Group 6	DDT, 4,4'-	mg/kg	10	0.02	10	0.020	0.0000	0.020	0.02	0.02	--	0
Soil Group 2	DDT, total	mg/kg	13	0.03	13	0.030	0.0000	0.030	0.03	0.03	0.078	0
Soil Group 3	DDT, total	mg/kg	21	0.03	21	0.030	0.0000	0.030	0.03	0.03	0.078	0
Soil Group 5	DDT, total	mg/kg	12	0.03	12	0.030	0.0000	0.030	0.03	0.03	0.078	0
Soil Group 6	DDT, total	mg/kg	10	0.03	10	0.030	0.0000	0.030	0.03	0.03	0.078	0
Soil Group 2	Dieldrin	mg/kg	13	0.02	13	0.020	0.0000	0.020	0.02	0.02	0.05	0
Soil Group 3	Dieldrin	mg/kg	21	0.02	21	0.020	0.0000	0.020	0.02	0.02	0.05	0
Soil Group 5	Dieldrin	mg/kg	12	0.02	12	0.020	0.0000	0.020	0.02	0.02	0.05	0
Soil Group 6	Dieldrin	mg/kg	10	0.02	10	0.020	0.0000	0.020	0.02	0.02	0.05	0
Soil Group 2	Endosulfan, alpha-	mg/kg	13	0.02	13	0.020	0.0000	0.020	0.02	0.02	--	0
Soil Group 3	Endosulfan, alpha-	mg/kg	21	0.02	21	0.020	0.0000	0.020	0.02	0.02	--	0
Soil Group 5	Endosulfan, alpha-	mg/kg	12	0.02	12	0.020	0.0000	0.020	0.02	0.02	--	0
Soil Group 6	Endosulfan, alpha-	mg/kg	10	0.02	10	0.020	0.0000	0.020	0.02	0.02	--	0
Soil Group 2	Endosulfan, beta-	mg/kg	13	0.02	13	0.020	0.0000	0.020	0.02	0.02	--	0
Soil Group 3	Endosulfan, beta-	mg/kg	21	0.02	21	0.020	0.0000	0.020	0.02	0.02	--	0
Soil Group 5	Endosulfan, beta-	mg/kg	12	0.02	12	0.020	0.0000	0.020	0.02	0.02	--	0
Soil Group 6	Endosulfan, beta-	mg/kg	10	0.02	10	0.020	0.0000	0.020	0.02	0.02	--	0
Soil Group 2	Endosulfan, total	mg/kg	13	0.03	13	0.030	0.0000	0.030	0.03	0.03	0.04	0
Soil Group 3	Endosulfan, total	mg/kg	21	0.03	21	0.030	0.0000	0.030	0.03	0.03	0.04	0
Soil Group 5	Endosulfan, total	mg/kg	12	0.03	12	0.030	0.0000	0.030	0.03	0.03	0.04	0
Soil Group 6	Endosulfan, total	mg/kg	10	0.03	10	0.030	0.0000	0.030	0.03	0.03	0.04	0
Soil Group 2	Endrin	mg/kg	13	0.02	13	0.020	0.0000	0.020	0.02	0.02	0.04	0
Soil Group 3	Endrin	mg/kg	21	0.02	21	0.020	0.0000	0.020	0.02	0.02	0.04	0
Soil Group 5	Endrin	mg/kg	12	0.02	12	0.020	0.0000	0.020	0.02	0.02	0.04	0
Soil Group 6	Endrin	mg/kg	10	0.02	10	0.020	0.0000	0.020	0.02	0.02	0.04	0
Soil Group 2	Endrin aldehyde	mg/kg	13	0.01	13	**0.010**	0.0000	**0.010**	**0.01**	**0.01**	0	0
Soil Group 3	Endrin aldehyde	mg/kg	21	0.01	21	**0.010**	0.0000	**0.010**	**0.01**	**0.01**	0	0
Soil Group 5	Endrin aldehyde	mg/kg	12	0.01	12	**0.010**	0.0000	**0.010**	**0.01**	**0.01**	0	0
Soil Group 6	Endrin aldehyde	mg/kg	10	0.01	10	**0.010**	0.0000	**0.010**	**0.01**	**0.01**	0	0
Soil Group 2	Heptachlor	mg/kg	13	0.02	13	0.020	0.0000	0.020	0.02	0.02	0.05	0
Soil Group 3	Heptachlor	mg/kg	21	0.02	21	0.020	0.0000	0.020	0.02	0.02	0.05	0
Soil Group 5	Heptachlor	mg/kg	12	0.02	12	0.020	0.0000	0.020	0.02	0.02	0.05	0
Soil Group 6	Heptachlor	mg/kg	10	0.02	10	0.020	0.0000	0.020	0.02	0.02	0.05	0
Soil Group 2	Heptachlor epoxide	mg/kg	13	0.02	13	0.020	0.0000	0.020	0.02	0.02	0.05	0
Soil Group 3	Heptachlor epoxide	mg/kg	21	0.02	21	0.020	0.0000	0.020	0.02	0.02	0.05	0
Soil Group 5	Heptachlor epoxide	mg/kg	12	0.02	12	0.020	0.0000	0.020	0.02	0.02	0.05	0
Soil Group 6	Heptachlor epoxide	mg/kg	10	0.02	10	0.020	0.0000	0.020	0.02	0.02	0.05	0
Soil Group 2	Hexachlorobenzene	mg/kg	13	0.01	13	0.010	0.0000	0.010	0.01	0.01	0.01	0
Soil Group 3	Hexachlorobenzene	mg/kg	21	0.01	21	0.010	0.0000	0.010	0.01	0.01	0.01	0
Soil Group 5	Hexachlorobenzene	mg/kg	12	0.01	12	0.010	0.0000	0.010	0.01	0.01	0.01	0
Soil Group 6	Hexachlorobenzene	mg/kg	10	0.01	10	0.010	0.0000	0.010	0.01	0.01	0.01	0
Soil Group 2	Hexachlorobutadiene	mg/kg	13	0.01	13	0.010	0.0000	0.010	0.01	0.01	0.01	0

Soil Group	Analyte	Units	n	Unique DLs	n<DL	Mean[1]	SD[1]	5th Percentile[1]	Median[1]	95th Percentile[1]	Guideline	# of Detections > Guideline
Soil Group 3	Hexachlorobutadiene	mg/kg	21	0.01	21	0.010	0.0000	0.010	0.01	0.01	0.01	0
Soil Group 5	Hexachlorobutadiene	mg/kg	12	0.01	12	0.010	0.0000	0.010	0.01	0.01	0.01	0
Soil Group 6	Hexachlorobutadiene	mg/kg	10	0.01	10	0.010	0.0000	0.010	0.01	0.01	0.01	0
Soil Group 2	Hexachlorocyclohexane, gamma-	mg/kg	13	0.01	13	0.010	0.0000	0.010	0.01	0.01	0.01	0
Soil Group 3	Hexachlorocyclohexane, gamma-	mg/kg	21	0.01	21	0.010	0.0000	0.010	0.01	0.01	0.01	0
Soil Group 5	Hexachlorocyclohexane, gamma-	mg/kg	12	0.01	12	0.010	0.0000	0.010	0.01	0.01	0.01	0
Soil Group 6	Hexachlorocyclohexane, gamma-	mg/kg	10	0.01	10	0.010	0.0000	0.010	0.01	0.01	0.01	0
Soil Group 2	Hexachloroethane	mg/kg	13	0.01	13	0.010	0.0000	0.010	0.01	0.01	0.01	0
Soil Group 3	Hexachloroethane	mg/kg	21	0.01	21	0.010	0.0000	0.010	0.01	0.01	0.01	0
Soil Group 5	Hexachloroethane	mg/kg	12	0.01	12	0.010	0.0000	0.010	0.01	0.01	0.01	0
Soil Group 6	Hexachloroethane	mg/kg	10	0.01	10	0.010	0.0000	0.010	0.01	0.01	0.01	0
Soil Group 2	Methoxychlor	mg/kg	13	0.02	13	0.020	0.0000	0.020	0.02	0.02	0.05	0
Soil Group 3	Methoxychlor	mg/kg	21	0.02	21	0.020	0.0000	0.020	0.02	0.02	0.05	0
Soil Group 5	Methoxychlor	mg/kg	12	0.02	12	0.020	0.0000	0.020	0.02	0.02	0.05	0
Soil Group 6	Methoxychlor	mg/kg	10	0.02	10	0.020	0.0000	0.020	0.02	0.02	0.05	0
Percent Passing												
Soil Group 2	Passing (0.002mm)	%	13	1.0	0	10.88	3.32	6.76	10.3	16.02	--	0
Soil Group 3	Passing (0.002mm)	%	21	1.0	0	7.55	2.61	4.00	7.8	11.3	--	0
Soil Group 5	Passing (0.002mm)	%	12	1.0	0	9.95	2.46	7.70	9.45	14.125	--	0
Soil Group 6	Passing (0.002mm)	%	10	1.0	0	11.03	3.12	7.90	10.05	15.79	--	0
Soil Group 2	Passing (0.004mm)	%	13	1.0	0	15.69	4.42	10.56	14.8	23.04	--	0
Soil Group 3	Passing (0.004mm)	%	21	1.0	0	10.72	3.77	4.80	11	15.1	--	0
Soil Group 5	Passing (0.004mm)	%	12	1.0	0	14.43	3.48	11.16	13.95	20.195	--	0
Soil Group 6	Passing (0.004mm)	%	10	1.0	0	15.50	4.84	10.14	14.75	23.23	--	0
Soil Group 2	Passing (0.005mm)	%	13	1.0	0	17.65	4.69	12.28	16.4	25.56	--	0
Soil Group 3	Passing (0.005mm)	%	21	1.0	0	12.17	4.26	5.50	12.8	16.8	--	0
Soil Group 5	Passing (0.005mm)	%	12	1.0	0	16.36	3.77	12.52	16.2	22.29	--	0
Soil Group 6	Passing (0.005mm)	%	10	1.0	0	17.37	5.50	11.09	16.95	26.08	--	0
Soil Group 2	Passing (0.020mm)	%	13	1.0	0	36.33	7.56	26.60	35.2	48.66	--	0
Soil Group 3	Passing (0.020mm)	%	21	1.0	0	25.22	8.48	12.40	26.9	37	--	0
Soil Group 5	Passing (0.020mm)	%	12	1.0	0	32.53	7.85	22.69	31.45	43.965	--	0
Soil Group 6	Passing (0.020mm)	%	10	1.0	0	32.13	10.04	22.19	27.8	46.74	--	0
Soil Group 2	Passing (0.0312mm)	%	13	1.0	0	47.05	8.68	35.94	48.2	60.84	--	0
Soil Group 3	Passing (0.0312mm)	%	21	1.0	0	32.36	10.37	17.50	33.4	45.5	--	0
Soil Group 5	Passing (0.0312mm)	%	12	1.0	0	41.72	10.34	28.49	40.9	57.515	--	0
Soil Group 6	Passing (0.0312mm)	%	10	1.0	0	39.91	11.85	28.48	34.05	56.435	--	0
Soil Group 2	Passing (0.05mm)	%	13	1.0	0	60.15	10.12	45.70	61.6	74.38	--	0
Soil Group 3	Passing (0.05mm)	%	21	1.0	0	42.72	12.36	26.50	43.8	60.7	--	0
Soil Group 5	Passing (0.05mm)	%	12	1.0	0	52.19	11.98	35.88	51.2	69.345	--	0
Soil Group 6	Passing (0.05mm)	%	10	1.0	0	50.31	14.04	34.95	43.95	71.48	--	0
Soil Group 2	Passing (0.063mm)	%	13	1.0	0	66.76	10.74	49.38	69.2	79.94	--	0
Soil Group 3	Passing (0.063mm)	%	21	1.0	0	52.46	11.54	37.10	52.3	69.4	--	0
Soil Group 5	Passing (0.063mm)	%	12	1.0	0	57.89	13.07	38.72	58.5	74.25	--	0
Soil Group 6	Passing (0.063mm)	%	10	1.0	0	59.11	14.71	42.18	54.25	81.61	--	0
Soil Group 2	Passing (0.075mm)	%	13	1.0	0	72.86	12.09	52.02	75.2	87.36	--	0
Soil Group 3	Passing (0.075mm)	%	21	1.0	0	61.78	15.12	43.80	60.7	83.4	--	0
Soil Group 5	Passing (0.075mm)	%	12	1.0	0	63.18	14.63	41.40	65	80.59	--	0
Soil Group 6	Passing (0.075mm)	%	10	1.0	0	67.22	15.74	48.57	62.25	91.18	--	0
Soil Group 2	Passing (0.125mm)	%	13	1.0	0	77.06	12.09	55.90	80.8	90.66	--	0
Soil Group 3	Passing (0.125mm)	%	21	1.0	0	69.17	12.50	51.40	67.3	87.7	--	0
Soil Group 5	Passing (0.125mm)	%	12	1.0	0	67.88	12.98	48.43	69.35	83.21	--	0
Soil Group 6	Passing (0.125mm)	%	10	1.0	0	72.26	14.43	53.13	71.9	92.77	--	0
Soil Group 2	Passing (0.149mm)	%	13	1.0	0	79.09	12.14	57.76	82.7	92.26	--	0
Soil Group 3	Passing (0.149mm)	%	21	1.0	0	72.73	11.55	55.10	73.2	89.8	--	0
Soil Group 5	Passing (0.149mm)	%	12	1.0	0	70.13	12.21	51.88	72	84.465	--	0
Soil Group 6	Passing (0.149mm)	%	10	1.0	0	74.68	14.05	55.32	76.05	93.56	--	0
Soil Group 2	Passing (0.250mm)	%	13	1.0	0	84.27	11.20	63.76	88.4	95.14	--	0
Soil Group 3	Passing (0.250mm)	%	21	1.0	0	83.43	8.36	71.50	84.6	94.3	--	0
Soil Group 5	Passing (0.250mm)	%	12	1.0	0	78.82	8.28	66.95	81.3	88.97	--	0
Soil Group 6	Passing (0.250mm)	%	10	1.0	0	81.99	12.12	63.43	85.8	95.52	--	0
Soil Group 2	Passing (0.420mm)	%	13	1.0	0	89.57	7.97	73.88	92.3	97.16	--	0
Soil Group 3	Passing (0.420mm)	%	21	1.0	0	91.07	5.73	79.20	92.3	97.1	--	0
Soil Group 5	Passing (0.420mm)	%	12	1.0	0	87.99	5.57	78.87	89.25	93.38	--	0
Soil Group 6	Passing (0.420mm)	%	10	1.0	0	88.40	9.67	72.13	93.15	97.07	--	0
Soil Group 2	Passing (0.50mm)	%	13	1.0	0	90.44	7.23	76.40	92.8	97.36	--	0
Soil Group 3	Passing (0.50mm)	%	21	1.0	0	91.99	5.27	82.00	93.1	97.5	--	0
Soil Group 5	Passing (0.50mm)	%	12	1.0	0	89.30	5.16	80.70	90.5	94.245	--	0
Soil Group 6	Passing (0.50mm)	%	10	1.0	0	89.35	9.11	73.94	94	97.36	--	0
Soil Group 2	Passing (0.841mm)	%	13	1.0	0	93.70	4.66	86.46	95	98.34	--	0

Soil Group	Analyte	Units	n	Unique DLs	n<DL	Mean[1]	SD[1]	5th Percentile[1]	Median[1]	95th Percentile[1]	Guideline	# of Detections > Guideline
Soil Group 3	Passing (0.841mm)	%	21	1.0	0	95.10	3.67	87.30	96	99	--	0
Soil Group 5	Passing (0.841mm)	%	12	1.0	0	93.96	3.52	87.80	94.75	97.69	--	0
Soil Group 6	Passing (0.841mm)	%	10	1.0	0	92.66	6.99	80.68	96.75	98.455	--	0
Soil Group 2	Passing (1.0mm)	%	13	1.0	0	94.15	4.35	87.32	95.3	98.44	--	0
Soil Group 3	Passing (1.0mm)	%	21	1.0	0	95.47	3.49	88.00	96.4	99.1	--	0
Soil Group 5	Passing (1.0mm)	%	12	1.0	0	94.43	3.32	88.64	95.15	97.99	--	0
Soil Group 6	Passing (1.0mm)	%	10	1.0	0	93.12	6.63	81.74	97.05	98.545	--	0
Soil Group 2	Passing (19mm)	%	13	1.0	0	100.00	0.0000	100.00	100	100	--	0
Soil Group 3	Passing (19mm)	%	21	1.0	0	100.00	0.0000	100.00	100	100	--	0
Soil Group 5	Passing (19mm)	%	12	1.0	0	100.00	0.0000	100.00	100	100	--	0
Soil Group 6	Passing (19mm)	%	10	1.0	0	100.00	0.0000	100.00	100	100	--	0
Soil Group 2	Passing (2.0mm)	%	13	1.0	0	96.46	2.86	92.02	97.5	99.22	--	0
Soil Group 3	Passing (2.0mm)	%	21	1.0	0	97.33	2.60	92.30	97.9	99.9	--	0
Soil Group 5	Passing (2.0mm)	%	12	1.0	0	96.97	2.28	93.15	97.1	99.525	--	0
Soil Group 6	Passing (2.0mm)	%	10	1.0	0	95.61	4.60	87.70	98.35	99.395	--	0
Soil Group 2	Passing (25.4mm)	%	13	1.0	0	100.00	0.0000	100.00	100	100	--	0
Soil Group 3	Passing (25.4mm)	%	21	1.0	0	100.00	0.0000	100.00	100	100	--	0
Soil Group 5	Passing (25.4mm)	%	12	1.0	0	100.00	0.0000	100.00	100	100	--	0
Soil Group 6	Passing (25.4mm)	%	10	1.0	0	100.00	0.0000	100.00	100	100	--	0
Soil Group 2	Passing (38.1mm)	%	13	1.0	0	100.00	0.0000	100.00	100	100	--	0
Soil Group 3	Passing (38.1mm)	%	21	1.0	0	100.00	0.0000	100.00	100	100	--	0
Soil Group 5	Passing (38.1mm)	%	12	1.0	0	100.00	0.0000	100.00	100	100	--	0
Soil Group 6	Passing (38.1mm)	%	10	1.0	0	100.00	0.0000	100.00	100	100	--	0
Soil Group 2	Passing (4.75mm)	%	13	1.0	0	98.28	1.56	95.64	98.8	99.64	--	0
Soil Group 3	Passing (4.75mm)	%	21	1.0	0	98.60	1.59	95.70	99.1	100	--	0
Soil Group 5	Passing (4.75mm)	%	12	1.0	0	98.53	1.34	96.57	98.6	99.945	--	0
Soil Group 6	Passing (4.75mm)	%	10	1.0	0	97.57	2.68	93.42	99.1	99.865	--	0
Soil Group 2	Passing (50.8mm)	%	13	1.0	0	100.00	0.0000	100.00	100	100	--	0
Soil Group 3	Passing (50.8mm)	%	21	1.0	0	100.00	0.0000	100.00	100	100	--	0
Soil Group 5	Passing (50.8mm)	%	12	1.0	0	100.00	0.0000	100.00	100	100	--	0
Soil Group 6	Passing (50.8mm)	%	10	1.0	0	100.00	0.0000	100.00	100	100	--	0
Soil Group 2	Passing (76.2mm)	%	13	1.0	0	100.00	0.0000	100.00	100	100	--	0
Soil Group 3	Passing (76.2mm)	%	21	1.0	0	100.00	0.0000	100.00	100	100	--	0
Soil Group 5	Passing (76.2mm)	%	12	1.0	0	100.00	0.0000	100.00	100	100	--	0
Soil Group 6	Passing (76.2mm)	%	10	1.0	0	100.00	0.0000	100.00	100	100	--	0
Soil Group 2	Passing (9.5mm)	%	13	1.0	0	99.78	0.42	99.00	100	100	--	0
Soil Group 3	Passing (9.5mm)	%	21	1.0	0	99.55	0.93	98.30	100	100	--	0
Soil Group 5	Passing (9.5mm)	%	12	1.0	0	99.64	0.41	99.06	99.8	100	--	0
Soil Group 6	Passing (9.5mm)	%	10	1.0	0	99.34	1.06	97.45	99.9	100	--	0
Polychlorinated Biphenyls												
Soil Group 2	Aroclor 1016	mg/kg	13	0.01	13	0.010	0.0000	0.010	0.01	0.01	--	0
Soil Group 3	Aroclor 1016	mg/kg	21	0.01	21	0.010	0.0000	0.010	0.01	0.01	--	0
Soil Group 5	Aroclor 1016	mg/kg	12	0.01	12	0.010	0.0000	0.010	0.01	0.01	--	0
Soil Group 6	Aroclor 1016	mg/kg	10	0.01	10	0.010	0.0000	0.010	0.01	0.01	--	0
Soil Group 2	Aroclor 1221	mg/kg	13	0.01	13	0.010	0.0000	0.010	0.01	0.01	--	0
Soil Group 3	Aroclor 1221	mg/kg	21	0.01	21	0.010	0.0000	0.010	0.01	0.01	--	0
Soil Group 5	Aroclor 1221	mg/kg	12	0.01	12	0.010	0.0000	0.010	0.01	0.01	--	0
Soil Group 6	Aroclor 1221	mg/kg	10	0.01	10	0.010	0.0000	0.010	0.01	0.01	--	0
Soil Group 2	Aroclor 1232	mg/kg	13	0.01	13	0.010	0.0000	0.010	0.01	0.01	--	0
Soil Group 3	Aroclor 1232	mg/kg	21	0.01	21	0.010	0.0000	0.010	0.01	0.01	--	0
Soil Group 5	Aroclor 1232	mg/kg	12	0.01	12	0.010	0.0000	0.010	0.01	0.01	--	0
Soil Group 6	Aroclor 1232	mg/kg	10	0.01	10	0.010	0.0000	0.010	0.01	0.01	--	0
Soil Group 2	Aroclor 1242	mg/kg	13	0.01	13	0.010	0.0000	0.010	0.01	0.01	--	0
Soil Group 3	Aroclor 1242	mg/kg	21	0.01	21	0.010	0.0000	0.010	0.01	0.01	--	0
Soil Group 5	Aroclor 1242	mg/kg	12	0.01	12	0.010	0.0000	0.010	0.01	0.01	--	0
Soil Group 6	Aroclor 1242	mg/kg	10	0.01	10	0.010	0.0000	0.010	0.01	0.01	--	0
Soil Group 2	Aroclor 1248	mg/kg	13	0.01	13	0.010	0.0000	0.010	0.01	0.01	--	0
Soil Group 3	Aroclor 1248	mg/kg	21	0.01	21	0.010	0.0000	0.010	0.01	0.01	--	0
Soil Group 5	Aroclor 1248	mg/kg	12	0.01	12	0.010	0.0000	0.010	0.01	0.01	--	0
Soil Group 6	Aroclor 1248	mg/kg	10	0.01	10	0.010	0.0000	0.010	0.01	0.01	--	0
Soil Group 2	Aroclor 1254	mg/kg	13	0.01	13	0.010	0.0000	0.010	0.01	0.01	--	0
Soil Group 3	Aroclor 1254	mg/kg	21	0.01	21	0.010	0.0000	0.010	0.01	0.01	--	0
Soil Group 5	Aroclor 1254	mg/kg	12	0.01	12	0.010	0.0000	0.010	0.01	0.01	--	0
Soil Group 6	Aroclor 1254	mg/kg	10	0.01	10	0.010	0.0000	0.010	0.01	0.01	--	0
Soil Group 2	Aroclor 1260	mg/kg	13	0.01	13	0.010	0.0000	0.010	0.01	0.01	--	0
Soil Group 3	Aroclor 1260	mg/kg	21	0.01	21	0.010	0.0000	0.010	0.01	0.01	--	0
Soil Group 5	Aroclor 1260	mg/kg	12	0.01	12	0.010	0.0000	0.010	0.01	0.01	--	0
Soil Group 6	Aroclor 1260	mg/kg	10	0.01	10	0.010	0.0000	0.010	0.01	0.01	--	0
Soil Group 2	Aroclor 1262	mg/kg	13	0.01	13	0.010	0.0000	0.010	0.01	0.01	--	0

Summary of Year 1 Soil Results

Soil Group	Analyte	Units	n	Unique DLs	n<DL	Mean[1]	SD[1]	5th Percentile[1]	Median[1]	95th Percentile[1]	Guideline	# of Detections > Guideline
Soil Group 3	Aroclor 1262	mg/kg	21	0.01	21	0.010	0.0000	0.010	0.01	0.01	--	0
Soil Group 5	Aroclor 1262	mg/kg	12	0.01	12	0.010	0.0000	0.010	0.01	0.01	--	0
Soil Group 6	Aroclor 1262	mg/kg	10	0.01	10	0.010	0.0000	0.010	0.01	0.01	--	0
Soil Group 2	Aroclor 1268	mg/kg	13	0.01	13	0.010	0.0000	0.010	0.01	0.01	--	0
Soil Group 3	Aroclor 1268	mg/kg	21	0.01	21	0.010	0.0000	0.010	0.01	0.01	--	0
Soil Group 5	Aroclor 1268	mg/kg	12	0.01	12	0.010	0.0000	0.010	0.01	0.01	--	0
Soil Group 6	Aroclor 1268	mg/kg	10	0.01	10	0.010	0.0000	0.010	0.01	0.01	--	0
Soil Group 2	Polychlorinated biphenyls [PCBs], total	mg/kg	13	0.03	13	0.030	0.0000	0.030	0.03	0.03	0.3	0
Soil Group 3	Polychlorinated biphenyls [PCBs], total	mg/kg	21	0.03	21	0.030	0.0000	0.030	0.03	0.03	0.3	0
Soil Group 5	Polychlorinated biphenyls [PCBs], total	mg/kg	12	0.03	12	0.030	0.0000	0.030	0.03	0.03	0.3	0
Soil Group 6	Polychlorinated biphenyls [PCBs], total	mg/kg	10	0.03	10	0.030	0.0000	0.030	0.03	0.03	0.3	0

Soil Group	Analyte	Units	n	Unique DLs	n<DL	Mean[1]	SD[1]	5th Percentile[1]	Median[1]	95th Percentile[1]	Guideline	# of Detections > Guideline
Polycyclic Aromatic Hydrocarbons												
Soil Group 2	Acenaphthene	mg/kg	13	0.05	13	0.050	0.0000	0.050	0.05	0.05	0.072	0
Soil Group 3	Acenaphthene	mg/kg	21	0.05, 0.095	21	0.052	0.010	0.050	0.05	0.05	0.072	0
Soil Group 5	Acenaphthene	mg/kg	12	0.05	12	0.050	0.0000	0.050	0.05	0.05	0.072	0
Soil Group 6	Acenaphthene	mg/kg	10	0.05	10	0.050	0.0000	0.050	0.05	0.05	0.072	0
Soil Group 2	Acenaphthylene	mg/kg	13	0.05	13	0.050	0.0000	0.050	0.05	0.05	0.093	0
Soil Group 3	Acenaphthylene	mg/kg	21	0.05, 0.095	21	0.052	0.010	0.050	0.05	0.05	0.093	0
Soil Group 5	Acenaphthylene	mg/kg	12	0.05	12	0.050	0.0000	0.050	0.05	0.05	0.093	0
Soil Group 6	Acenaphthylene	mg/kg	10	0.05	10	0.050	0.0000	0.050	0.05	0.05	0.093	0
Soil Group 2	Anthracene	mg/kg	13	0.05	13	0.050	0.0000	0.050	0.05	0.05	0.16	0
Soil Group 3	Anthracene	mg/kg	21	0.05, 0.095	21	0.052	0.010	0.050	0.05	0.05	0.16	0
Soil Group 5	Anthracene	mg/kg	12	0.05	12	0.050	0.0000	0.050	0.05	0.05	0.16	0
Soil Group 6	Anthracene	mg/kg	10	0.05	10	0.050	0.0000	0.050	0.05	0.05	0.16	0
Soil Group 2	Benz(a)anthracene	mg/kg	13	0.05	13	0.050	0.0000	0.050	0.05	0.05	0.36	0
Soil Group 3	Benz(a)anthracene	mg/kg	21	0.05, 0.095, 0.1	21	0.055	0.014	0.050	0.05	0.095	0.36	0
Soil Group 5	Benz(a)anthracene	mg/kg	12	0.05	12	0.050	0.0000	0.050	0.05	0.05	0.36	0
Soil Group 6	Benz(a)anthracene	mg/kg	10	0.05, 0.11	10	0.056	0.019	0.050	0.05	0.083	0.36	0
Soil Group 2	Benzo(a)pyrene	mg/kg	13	0.05	13	0.050	0.0000	0.050	0.05	0.05	0.3	0
Soil Group 3	Benzo(a)pyrene	mg/kg	21	0.05, 0.095	21	0.052	0.010	0.050	0.05	0.05	0.3	0
Soil Group 5	Benzo(a)pyrene	mg/kg	12	0.05	12	0.050	0.0000	0.050	0.05	0.05	0.3	0
Soil Group 6	Benzo(a)pyrene	mg/kg	10	0.05	10	0.050	0.0000	0.050	0.05	0.05	0.3	0
Soil Group 2	Benzo(b+j)fluoranthene	mg/kg	13	0.05	13	0.050	0.0000	0.050	0.05	0.05	0.47	0
Soil Group 3	Benzo(b+j)fluoranthene	mg/kg	21	0.05, 0.095	21	0.052	0.010	0.050	0.05	0.05	0.47	0
Soil Group 5	Benzo(b+j)fluoranthene	mg/kg	12	0.05	12	0.050	0.0000	0.050	0.05	0.05	0.47	0
Soil Group 6	Benzo(b+j)fluoranthene	mg/kg	10	0.05	10	0.050	0.0000	0.050	0.05	0.05	0.47	0
Soil Group 2	Benzo(g,h,i)perylene	mg/kg	13	0.05	13	0.050	0.0000	0.050	0.05	0.05	0.68	0
Soil Group 3	Benzo(g,h,i)perylene	mg/kg	21	0.05, 0.095	21	0.052	0.010	0.050	0.05	0.05	0.68	0
Soil Group 5	Benzo(g,h,i)perylene	mg/kg	12	0.05	12	0.050	0.0000	0.050	0.05	0.05	0.68	0
Soil Group 6	Benzo(g,h,i)perylene	mg/kg	10	0.05	10	0.050	0.0000	0.050	0.05	0.05	0.68	0
Soil Group 2	Benzo(k)fluoranthene	mg/kg	13	0.05	13	0.050	0.0000	0.050	0.05	0.05	0.48	0
Soil Group 3	Benzo(k)fluoranthene	mg/kg	21	0.05, 0.095	21	0.052	0.010	0.050	0.05	0.05	0.48	0
Soil Group 5	Benzo(k)fluoranthene	mg/kg	12	0.05	12	0.050	0.0000	0.050	0.05	0.05	0.48	0
Soil Group 6	Benzo(k)fluoranthene	mg/kg	10	0.05	10	0.050	0.0000	0.050	0.05	0.05	0.48	0
Soil Group 2	Chrysene	mg/kg	13	0.05	13	0.050	0.0000	0.050	0.05	0.05	2.8	0
Soil Group 3	Chrysene	mg/kg	21	0.05, 0.095, 0.1	21	0.055	0.014	0.050	0.05	0.095	2.8	0
Soil Group 5	Chrysene	mg/kg	12	0.05	12	0.050	0.0000	0.050	0.05	0.05	2.8	0
Soil Group 6	Chrysene	mg/kg	10	0.05	9	0.052	0.0054	0.050	0.05	0.05935	2.8	0
Soil Group 2	Dibenz(a,h)anthracene	mg/kg	13	0.05	13	0.050	0.0000	0.050	0.05	0.05	0.1	0
Soil Group 3	Dibenz(a,h)anthracene	mg/kg	21	0.05, 0.095	21	0.052	0.010	0.050	0.05	0.05	0.1	0
Soil Group 5	Dibenz(a,h)anthracene	mg/kg	12	0.05	12	0.050	0.0000	0.050	0.05	0.05	0.1	0
Soil Group 6	Dibenz(a,h)anthracene	mg/kg	10	0.05	10	0.050	0.0000	0.050	0.05	0.05	0.1	0
Soil Group 2	Fluoranthene	mg/kg	13	0.05	13	0.050	0.0000	0.050	0.05	0.05	0.56	0
Soil Group 3	Fluoranthene	mg/kg	21	0.05, 0.095	21	0.052	0.010	0.050	0.05	0.05	0.56	0
Soil Group 5	Fluoranthene	mg/kg	12	0.05	12	0.050	0.0000	0.050	0.05	0.05	0.56	0
Soil Group 6	Fluoranthene	mg/kg	10	0.05	10	0.050	0.0000	0.050	0.05	0.05	0.56	0
Soil Group 2	Fluorene	mg/kg	13	0.05	13	0.050	0.0000	0.050	0.05	0.05	0.12	0
Soil Group 3	Fluorene	mg/kg	21	0.05, 0.095	21	0.052	0.010	0.050	0.05	0.05	0.12	0
Soil Group 5	Fluorene	mg/kg	12	0.05	12	0.050	0.0000	0.050	0.05	0.05	0.12	0
Soil Group 6	Fluorene	mg/kg	10	0.05	10	0.050	0.0000	0.050	0.05	0.05	0.12	0
Soil Group 2	Indeno(1,2,3-c,d)pyrene	mg/kg	13	0.05	13	0.050	0.0000	0.050	0.05	0.05	0.23	0
Soil Group 3	Indeno(1,2,3-c,d)pyrene	mg/kg	21	0.05, 0.095	21	0.052	0.010	0.050	0.05	0.05	0.23	0
Soil Group 5	Indeno(1,2,3-c,d)pyrene	mg/kg	12	0.05	12	0.050	0.0000	0.050	0.05	0.05	0.23	0
Soil Group 6	Indeno(1,2,3-c,d)pyrene	mg/kg	10	0.05	10	0.050	0.0000	0.050	0.05	0.05	0.23	0
Soil Group 2	Methylnaphthalene, 1-	mg/kg	13	0.03	13	0.030	0.0000	0.030	0.03	0.03	0.59	0
Soil Group 3	Methylnaphthalene, 1-	mg/kg	21	0.03, 0.095	21	0.033	0.014	0.030	0.03	0.03	0.59	0
Soil Group 5	Methylnaphthalene, 1-	mg/kg	12	0.03	12	0.030	0.0000	0.030	0.03	0.03	0.59	0
Soil Group 6	Methylnaphthalene, 1-	mg/kg	10	0.03	10	0.030	0.0000	0.030	0.03	0.03	0.59	0
Soil Group 2	Methylnaphthalene, 1+2-	mg/kg	13	0.042	13	0.042	0.0000	0.042	0.042	0.042	--	0
Soil Group 3	Methylnaphthalene, 1+2-	mg/kg	21	0.042, 0.134	21	0.046	0.020	0.042	0.042	0.042	--	0
Soil Group 5	Methylnaphthalene, 1+2-	mg/kg	12	0.042	12	0.042	0.0000	0.042	0.042	0.042	--	0
Soil Group 6	Methylnaphthalene, 1+2-	mg/kg	10	0.042	10	0.042	0.0000	0.042	0.042	0.042	--	0
Soil Group 2	Methylnaphthalene, 2-	mg/kg	13	0.03	13	0.030	0.0000	0.030	0.03	0.03	0.59	0
Soil Group 3	Methylnaphthalene, 2-	mg/kg	21	0.03, 0.095	21	0.033	0.014	0.030	0.03	0.03	0.59	0
Soil Group 5	Methylnaphthalene, 2-	mg/kg	12	0.03	12	0.030	0.0000	0.030	0.03	0.03	0.59	0
Soil Group 6	Methylnaphthalene, 2-	mg/kg	10	0.03	10	0.030	0.0000	0.030	0.03	0.03	0.59	0
Soil Group 2	Naphthalene	mg/kg	13	0.05	13	0.050	0.0000	0.050	0.05	0.05	0.09	0
Soil Group 3	Naphthalene	mg/kg	21	0.05, 0.095	21	0.052	0.010	0.050	0.05	0.05	0.09	0
Soil Group 5	Naphthalene	mg/kg	12	0.05	12	0.050	0.0000	0.050	0.05	0.05	0.09	0
Soil Group 6	Naphthalene	mg/kg	10	0.05	10	0.050	0.0000	0.050	0.05	0.05	0.09	0

Soil Group	Analyte	Units	n	Unique DLs	n<DL	Mean[1]	SD[1]	5th Percentile[1]	Median[1]	95th Percentile[1]	Guideline	# of Detections > Guideline
Soil Group 2	Phenanthrene	mg/kg	13	0.05	13	0.050	0.0000	0.050	0.05	0.05	0.69	0
Soil Group 3	Phenanthrene	mg/kg	21	0.05, 0.095	21	0.052	0.010	0.050	0.05	0.05	0.69	0
Soil Group 5	Phenanthrene	mg/kg	12	0.05	12	0.050	0.0000	0.050	0.05	0.05	0.69	0
Soil Group 6	Phenanthrene	mg/kg	10	0.05	10	0.050	0.0000	0.050	0.05	0.05	0.69	0
Soil Group 2	Pyrene	mg/kg	13	0.05	13	0.050	0.0000	0.050	0.05	0.05	1	0
Soil Group 3	Pyrene	mg/kg	21	0.05, 0.095	21	0.052	0.010	0.050	0.05	0.05	1	0
Soil Group 5	Pyrene	mg/kg	12	0.05	12	0.050	0.0000	0.050	0.05	0.05	1	0
Soil Group 6	Pyrene	mg/kg	10	0.05	10	0.050	0.0000	0.050	0.05	0.05	1	0
Radiological Parameters												
Soil Group 2	Carbon-14	Bq/kg	13	740.0	13	740.00	0.0000	740.00	740	740	--	0
Soil Group 3	Carbon-14	Bq/kg	18	740.0	18	740.00	0.0000	740.00	740	740	--	0
Soil Group 5	Carbon-14	Bq/kg	11	740.0	11	740.00	0.0000	740.00	740	740	--	0
Soil Group 6	Carbon-14	Bq/kg	8	740.0	8	740.00	0.0000	740.00	740	740	--	0
Soil Group 2	Cesium-137	Bq/kg	13	18.5	0	6.42	1.92	4.07	6.62	9.394	--	0
Soil Group 3	Cesium-137	Bq/kg	18	18.5	1	10.80	8.62	4.56	8.535	21.95	--	0
Soil Group 5	Cesium-137	Bq/kg	11	18.5	1	6.98	4.36	3.36	5.66	14.65	--	0
Soil Group 6	Cesium-137	Bq/kg	8	18.5	0	10.02	2.01	6.96	10.85	11.925	--	0
Soil Group 2	Chlorine-36	Bq/kg	1	370.0	1	370.00	NA	370.00	370	370	--	0
Soil Group 5	Chlorine-36	Bq/kg	4	370.0	4	370.00	0.0000	370.00	370	370	--	0
Soil Group 6	Chlorine-36	Bq/kg	2	370.0	2	370.00	0.0000	370.00	370	370	--	0
Soil Group 2	Cobalt-60	Bq/kg	13	18.5	13	18.50	0.0000	18.50	18.5	18.5	--	0
Soil Group 3	Cobalt-60	Bq/kg	18	18.5	18	18.50	0.0000	18.50	18.5	18.5	--	0
Soil Group 5	Cobalt-60	Bq/kg	11	18.5	11	18.50	0.0000	18.50	18.5	18.5	--	0
Soil Group 6	Cobalt-60	Bq/kg	8	18.5	8	18.50	0.0000	18.50	18.5	18.5	--	0
Soil Group 2	Gross alpha	Bq/kg	13	111.0	0	318.92	64.65	234.00	312	414.4	--	0
Soil Group 3	Gross alpha	Bq/kg	18	111.0	0	250.28	101.67	131.30	232	431.6	--	0
Soil Group 5	Gross alpha	Bq/kg	11	111.0	0	311.09	48.25	254.50	322	379	--	0
Soil Group 6	Gross alpha	Bq/kg	8	111.0	0	314.25	158.12	195.90	251.5	566.3	--	0
Soil Group 2	Gross beta	Bq/kg	13	148.0	0	831.92	124.18	643.40	851	996.2	--	0
Soil Group 3	Gross beta	Bq/kg	18	148.0	0	715.28	151.52	546.30	754	902.5	--	0
Soil Group 5	Gross beta	Bq/kg	11	148.0	0	858.00	96.66	723.00	831	995	--	0
Soil Group 6	Gross beta	Bq/kg	8	148.0	0	755.63	92.62	640.75	748	887.4	--	0
Soil Group 2	Iodine-129	Bq/kg	13	370.0	13	370.00	0.0000	370.00	370	370	--	0
Soil Group 3	Iodine-129	Bq/kg	18	370.0	18	370.00	0.0000	370.00	370	370	--	0
Soil Group 5	Iodine-129	Bq/kg	11	370.0	11	370.00	0.0000	370.00	370	370	--	0
Soil Group 6	Iodine-129	Bq/kg	8	370.0	8	370.00	0.0000	370.00	370	370	--	0
Soil Group 2	Neptunium-237	Bq/kg	1	3.7	1	3.70	NA	3.70	3.7	3.7	--	0
Soil Group 5	Neptunium-237	Bq/kg	4	3.7	4	3.70	0.0000	3.70	3.7	3.7	--	0
Soil Group 6	Neptunium-237	Bq/kg	2	3.7	2	3.70	0.0000	3.70	3.7	3.7	--	0
Soil Group 2	Plutonium-238	Bq/kg	1	1.85	1	1.85	NA	1.85	1.85	1.85	--	0
Soil Group 5	Plutonium-238	Bq/kg	4	1.85, 68.5	4	1.85	0.0000	1.85	1.85	1.85	--	0
Soil Group 6	Plutonium-238	Bq/kg	2	1.85, 68.5	2	1.85	0.0000	1.85	1.85	1.85	--	0
Soil Group 2	Plutonium-239	Bq/kg	1	1.85	1	1.85	NA	1.85	1.85	1.85	--	0
Soil Group 5	Plutonium-239	Bq/kg	4	1.85, 68.5	4	1.85	0.0000	1.85	1.85	1.85	--	0
Soil Group 6	Plutonium-239	Bq/kg	2	1.85, 68.5	2	1.85	0.0000	1.85	1.85	1.85	--	0
Soil Group 2	Potassium-40	Bq/kg	13	75.0	0	686.62	104.17	531.80	683	825	--	0
Soil Group 3	Potassium-40	Bq/kg	18	75.0	1	571.61	139.56	414.15	593	691.5	--	0
Soil Group 5	Potassium-40	Bq/kg	11	75.0	0	620.82	68.86	536.00	625	722	--	0
Soil Group 6	Potassium-40	Bq/kg	8	75.0	0	589.75	86.04	498.70	564.5	716.3	--	0
Soil Group 2	Radium-226	Bq/kg	13	37.0	0	59.55	19.91	35.30	58.5	89.58	--	0
Soil Group 3	Radium-226	Bq/kg	18	37.0	0	53.28	19.17	30.30	54	77.985	--	0
Soil Group 5	Radium-226	Bq/kg	11	37.0	0	43.25	25.09	19.15	36.6	80.7	--	0
Soil Group 6	Radium-226	Bq/kg	8	37.0	0	54.20	12.90	35.68	53.4	70.165	--	0
Soil Group 2	Ruthenium-106	Bq/kg	13	90.0	13	90.00	0.0000	90.00	90	90	--	0
Soil Group 3	Ruthenium-106	Bq/kg	18	90.0	18	90.00	0.0000	90.00	90	90	--	0
Soil Group 5	Ruthenium-106	Bq/kg	11	90.0	11	90.00	0.0000	90.00	90	90	--	0
Soil Group 6	Ruthenium-106	Bq/kg	8	90.0	8	90.00	0.0000	90.00	90	90	--	0
Soil Group 2	Selenium-79	Bq/kg	1	370.0	1	370.00	NA	370.00	370	370	--	0
Soil Group 5	Selenium-79	Bq/kg	4	370.0	4	370.00	0.0000	370.00	370	370	--	0
Soil Group 6	Selenium-79	Bq/kg	2	370.0	1	328.50	58.69	291.15	328.5	365.85	--	0
Soil Group 2	Strontium-90	Bq/kg	13	18.5	13	18.50	0.0000	18.50	18.5	18.5	--	0
Soil Group 3	Strontium-90	Bq/kg	18	18.5	18	18.50	0.0000	18.50	18.5	18.5	--	0
Soil Group 5	Strontium-90	Bq/kg	11	18.5	11	18.50	0.0000	18.50	18.5	18.5	--	0
Soil Group 6	Strontium-90	Bq/kg	8	18.5	8	18.50	0.0000	18.50	18.5	18.5	--	0
Soil Group 2	Thorium-228	Bq/kg	13	3.7	0	27.31	5.25	20.00	26.4	35.1	--	0
Soil Group 3	Thorium-228	Bq/kg	18	3.7	1	20.87	7.34	12.54	20.35	29.445	--	0
Soil Group 5	Thorium-228	Bq/kg	11	3.7	0	24.95	7.22	14.50	23.3	35.95	--	0
Soil Group 6	Thorium-228	Bq/kg	8	3.7	0	23.90	3.40	19.73	23.4	28.53	--	0
Soil Group 2	Thorium-230	Bq/kg	13	3.7	0	39.08	7.45	31.68	37.9	49.64	--	0

Soil Group	Analyte	Units	n	Unique DLs	n<DL	Mean[1]	SD[1]	5th Percentile[1]	Median[1]	95th Percentile[1]	Guideline	# of Detections > Guideline
Soil Group 3	Thorium-230	Bq/kg	18	3.7	1	35.23	12.95	18.83	34.05	55.89	--	0
Soil Group 5	Thorium-230	Bq/kg	11	3.7	0	39.65	5.23	33.75	38	48	--	0
Soil Group 6	Thorium-230	Bq/kg	8	3.7	0	41.88	11.32	31.76	37.65	59.69	--	0
Soil Group 2	Thorium-232	Bq/kg	13	3.7	0	24.45	4.91	16.86	25.4	30.74	--	0
Soil Group 3	Thorium-232	Bq/kg	18	3.7	0	19.71	6.43	7.95	20.5	26.84	--	0
Soil Group 5	Thorium-232	Bq/kg	11	3.7	0	23.19	5.60	16.15	24.8	30.95	--	0
Soil Group 6	Thorium-232	Bq/kg	8	3.7	0	23.71	5.84	15.15	25.2	30.24	--	0
Soil Group 2	Tritium	Bq/kg	13	37.0	13	37.00	0.0000	37.00	37	37	--	0
Soil Group 3	Tritium	Bq/kg	18	37.0	18	37.00	0.0000	37.00	37	37	--	0
Soil Group 5	Tritium	Bq/kg	11	37.0	9	39.34	5.45	37.00	37	49.85	--	0
Soil Group 6	Tritium	Bq/kg	8	37.0	7	38.01	2.86	37.00	37	42.265	--	0
Soil Group 2	Uranium-234	Bq/kg	13	3.7	0	23.27	4.53	16.76	23.4	29.24	--	0
Soil Group 3	Uranium-234	Bq/kg	18	3.7	0	23.89	24.13	12.05	18.65	41.65	--	0
Soil Group 5	Uranium-234	Bq/kg	11	3.7	0	23.04	6.72	17.20	22.6	32.8	--	0
Soil Group 6	Uranium-234	Bq/kg	8	3.7	0	34.64	44.34	15.18	19.25	102.49	--	0
Soil Group 2	Uranium-235	Bq/kg	13	3.7	6	2.81	1.19	1.01	3.7	3.908	--	0
Soil Group 3	Uranium-235	Bq/kg	18	3.7	9	3.04	1.51	1.12	3.7	4.2295	--	0
Soil Group 5	Uranium-235	Bq/kg	11	3.7	2	1.89	1.02	0.94	1.47	3.7	--	0
Soil Group 6	Uranium-235	Bq/kg	8	3.7	2	2.46	1.54	0.92	1.815	4.662	--	0
Soil Group 2	Uranium-238	Bq/kg	13	3.7	0	23.56	3.87	16.98	23.6	28.78	--	0
Soil Group 3	Uranium-238	Bq/kg	18	3.7	0	24.77	21.83	12.62	21.1	40.895	--	0
Soil Group 5	Uranium-238	Bq/kg	11	3.7	0	25.75	5.99	20.50	23.7	36.45	--	0
Soil Group 6	Uranium-238	Bq/kg	8	3.7	0	28.49	20.01	17.61	21.75	60.365	--	0
Semi-Volatile Organics												
Soil Group 2	Biphenyl	mg/kg	13	0.05	13	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 3	Biphenyl	mg/kg	21	0.05, 0.095	21	**0.052**	0.010	0.050	0.05	0.05	0.05	0
Soil Group 5	Biphenyl	mg/kg	12	0.05	12	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 6	Biphenyl	mg/kg	10	0.05	10	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 2	bis(2-Chloro-1-methylethyl) ether	mg/kg	13	0.1	13	0.10	0.0000	0.10	0.1	0.1	0.5	0
Soil Group 3	bis(2-Chloro-1-methylethyl) ether	mg/kg	21	0.1	21	0.10	0.0000	0.10	0.1	0.1	0.5	0
Soil Group 5	bis(2-Chloro-1-methylethyl) ether	mg/kg	12	0.1	12	0.10	0.0000	0.10	0.1	0.1	0.5	0
Soil Group 6	bis(2-Chloro-1-methylethyl) ether	mg/kg	10	0.1	10	0.10	0.0000	0.10	0.1	0.1	0.5	0
Soil Group 2	bis(2-Chloroethyl) ether	mg/kg	13	0.1, 3.0	13	0.32	0.80	0.10	0.1	**1.26**	0.5	0
Soil Group 3	bis(2-Chloroethyl) ether	mg/kg	21	0.1, 1.2, 2.4	21	0.26	0.55	0.10	0.1	**1.2**	0.5	0
Soil Group 5	bis(2-Chloroethyl) ether	mg/kg	12	0.1	12	0.10	0.0000	0.10	0.1	0.1	0.5	0
Soil Group 6	bis(2-Chloroethyl) ether	mg/kg	10	0.1	10	0.10	0.0000	0.10	0.1	0.1	0.5	0
Soil Group 2	bis(2-Ethylhexyl) phthalate [DEHP]	mg/kg	13	0.1	13	0.10	0.0000	0.10	0.1	0.1	5	0
Soil Group 3	bis(2-Ethylhexyl) phthalate [DEHP]	mg/kg	21	0.1, 0.19	21	0.10	0.020	0.10	0.1	0.1	5	0
Soil Group 5	bis(2-Ethylhexyl) phthalate [DEHP]	mg/kg	12	0.1	12	0.10	0.0000	0.10	0.1	0.1	5	0
Soil Group 6	bis(2-Ethylhexyl) phthalate [DEHP]	mg/kg	10	0.1	10	0.10	0.0000	0.10	0.1	0.1	5	0
Soil Group 2	Chloroaniline, 4-	mg/kg	13	0.1	13	0.10	0.0000	0.10	0.1	0.1	0.5	0
Soil Group 3	Chloroaniline, 4-	mg/kg	21	0.1	21	0.10	0.0000	0.10	0.1	0.1	0.5	0
Soil Group 5	Chloroaniline, 4-	mg/kg	12	0.1	12	0.10	0.0000	0.10	0.1	0.1	0.5	0
Soil Group 6	Chloroaniline, 4-	mg/kg	10	0.1	10	0.10	0.0000	0.10	0.1	0.1	0.5	0
Soil Group 2	Chlorophenol, 2-	mg/kg	13	0.1	13	0.10	0.0000	0.10	0.1	0.1	0.1	0
Soil Group 3	Chlorophenol, 2-	mg/kg	21	0.1, 0.19, 0.2	21	**0.11**	0.029	0.10	0.1	**0.19**	0.1	0
Soil Group 5	Chlorophenol, 2-	mg/kg	12	0.1, 0.2	12	0.10	0.0000	0.10	0.1	0.1	0.1	0
Soil Group 6	Chlorophenol, 2-	mg/kg	10	0.1	10	0.10	0.0000	0.10	0.1	0.1	0.1	0
Soil Group 2	Dichlorobenzidine, 3,3'-	mg/kg	13	0.1	13	0.10	0.0000	0.10	0.1	0.1	1	0
Soil Group 3	Dichlorobenzidine, 3,3'-	mg/kg	21	0.1	21	0.10	0.0000	0.10	0.1	0.1	1	0
Soil Group 5	Dichlorobenzidine, 3,3'-	mg/kg	12	0.1	12	0.10	0.0000	0.10	0.1	0.1	1	0
Soil Group 6	Dichlorobenzidine, 3,3'-	mg/kg	10	0.1	10	0.10	0.0000	0.10	0.1	0.1	1	0
Soil Group 2	Dichlorophenol, 2,4-	mg/kg	13	0.1	13	0.10	0.0000	0.10	0.1	0.1	0.1	0
Soil Group 3	Dichlorophenol, 2,4-	mg/kg	21	0.1, 0.19	21	**0.10**	0.020	0.10	0.1	0.1	0.1	0
Soil Group 5	Dichlorophenol, 2,4-	mg/kg	12	0.1	12	0.10	0.0000	0.10	0.1	0.1	0.1	0
Soil Group 6	Dichlorophenol, 2,4-	mg/kg	10	0.1	10	0.10	0.0000	0.10	0.1	0.1	0.1	0
Soil Group 2	Diethyl phthalate	mg/kg	13	0.1	13	0.10	0.0000	0.10	0.1	0.1	0.5	0
Soil Group 3	Diethyl phthalate	mg/kg	21	0.1, 0.19	21	0.10	0.020	0.10	0.1	0.1	0.5	0
Soil Group 5	Diethyl phthalate	mg/kg	12	0.1	12	0.10	0.0000	0.10	0.1	0.1	0.5	0
Soil Group 6	Diethyl phthalate	mg/kg	10	0.1	10	0.10	0.0000	0.10	0.1	0.1	0.5	0
Soil Group 2	Dimethyl phthalate	mg/kg	13	0.1	13	0.10	0.0000	0.10	0.1	0.1	0.5	0
Soil Group 3	Dimethyl phthalate	mg/kg	21	0.1, 0.19	21	0.10	0.020	0.10	0.1	0.1	0.5	0
Soil Group 5	Dimethyl phthalate	mg/kg	12	0.1	12	0.10	0.0000	0.10	0.1	0.1	0.5	0
Soil Group 6	Dimethyl phthalate	mg/kg	10	0.1	10	0.10	0.0000	0.10	0.1	0.1	0.5	0
Soil Group 2	Dimethylphenol, 2,4-	mg/kg	13	0.1	13	0.10	0.0000	0.10	0.1	0.1	0.2	0
Soil Group 3	Dimethylphenol, 2,4-	mg/kg	21	0.1, 0.19	21	0.10	0.020	0.10	0.1	0.1	0.2	0
Soil Group 5	Dimethylphenol, 2,4-	mg/kg	12	0.1	12	0.10	0.0000	0.10	0.1	0.1	0.2	0
Soil Group 6	Dimethylphenol, 2,4-	mg/kg	10	0.1	10	0.10	0.0000	0.10	0.1	0.1	0.2	0
Soil Group 2	Dinitrophenol, 2,4-	mg/kg	13	1.0	13	1.00	0.0000	1.00	1	1	2	0

Soil Group	Analyte	Units	n	Unique DLs	n<DL	Mean[1]	SD[1]	5th Percentile[1]	Median[1]	95th Percentile[1]	Guideline	# of Detections > Guideline
Soil Group 3	Dinitrophenol, 2,4-	mg/kg	21	1.0, 3.0	21	1.10	0.44	1.00	1	1	2	0
Soil Group 5	Dinitrophenol, 2,4-	mg/kg	12	1.0	12	1.00	0.0000	1.00	1	1	2	0
Soil Group 6	Dinitrophenol, 2,4-	mg/kg	10	1.0	10	1.00	0.0000	1.00	1	1	2	0
Soil Group 2	Dinitrotoluene, 2,4-	mg/kg	13	0.1	13	0.10	0.0000	0.10	0.1	0.1	0.5	0
Soil Group 3	Dinitrotoluene, 2,4-	mg/kg	21	0.1	21	0.10	0.0000	0.10	0.1	0.1	0.5	0
Soil Group 5	Dinitrotoluene, 2,4-	mg/kg	12	0.1	12	0.10	0.0000	0.10	0.1	0.1	0.5	0
Soil Group 6	Dinitrotoluene, 2,4-	mg/kg	10	0.1	10	0.10	0.0000	0.10	0.1	0.1	0.5	0
Soil Group 2	Dinitrotoluene, 2,4 + 2,6-	mg/kg	13	0.2	13	0.20	0.0000	0.20	0.2	0.2	0.5	0
Soil Group 3	Dinitrotoluene, 2,4 + 2,6-	mg/kg	21	0.2	21	0.20	0.0000	0.20	0.2	0.2	0.5	0
Soil Group 5	Dinitrotoluene, 2,4 + 2,6-	mg/kg	12	0.2	12	0.20	0.0000	0.20	0.2	0.2	0.5	0
Soil Group 6	Dinitrotoluene, 2,4 + 2,6-	mg/kg	10	0.2	10	0.20	0.0000	0.20	0.2	0.2	0.5	0
Soil Group 2	Dinitrotoluene, 2,6-	mg/kg	13	0.1	13	0.10	0.0000	0.10	0.1	0.1	0.5	0
Soil Group 3	Dinitrotoluene, 2,6-	mg/kg	21	0.1	21	0.10	0.0000	0.10	0.1	0.1	0.5	0
Soil Group 5	Dinitrotoluene, 2,6-	mg/kg	12	0.1	12	0.10	0.0000	0.10	0.1	0.1	0.5	0
Soil Group 6	Dinitrotoluene, 2,6-	mg/kg	10	0.1	10	0.10	0.0000	0.10	0.1	0.1	0.5	0
Soil Group 2	Pentachlorophenol [PCP]	mg/kg	13	0.1	13	0.10	0.0000	0.10	0.1	0.1	0.1	0
Soil Group 3	Pentachlorophenol [PCP]	mg/kg	21	0.1, 0.24	21	**0.11**	0.031	0.10	0.1	0.1	0.1	0
Soil Group 5	Pentachlorophenol [PCP]	mg/kg	12	0.1	12	0.10	0.0000	0.10	0.1	0.1	0.1	0
Soil Group 6	Pentachlorophenol [PCP]	mg/kg	10	0.1	10	0.10	0.0000	0.10	0.1	0.1	0.1	0
Soil Group 2	Phenol	mg/kg	13	0.1, 0.3	13	0.12	0.055	0.10	0.1	0.18	0.5	0
Soil Group 3	Phenol	mg/kg	21	0.1, 0.19, 0.2	21	0.11	0.029	0.10	0.1	0.19	0.5	0
Soil Group 5	Phenol	mg/kg	12	0.1, 0.2, 0.3	12	0.10	0.0000	0.10	0.1	0.1	0.5	0
Soil Group 6	Phenol	mg/kg	10	0.1	10	0.10	0.0000	0.10	0.1	0.1	0.5	0
Soil Group 2	Trichlorobenzene, 1,2,4-	mg/kg	13	0.05	13	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 3	Trichlorobenzene, 1,2,4-	mg/kg	21	0.05, 0.095	21	**0.052**	0.010	0.050	0.05	0.05	0.05	0
Soil Group 5	Trichlorobenzene, 1,2,4-	mg/kg	12	0.05	12	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 6	Trichlorobenzene, 1,2,4-	mg/kg	10	0.05	10	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 2	Trichlorophenol, 2,4,5-	mg/kg	13	0.1	13	0.10	0.0000	0.10	0.1	0.1	0.1	0
Soil Group 3	Trichlorophenol, 2,4,5-	mg/kg	21	0.1, 0.19	21	**0.10**	0.020	0.10	0.1	0.1	0.1	0
Soil Group 5	Trichlorophenol, 2,4,5-	mg/kg	12	0.1	12	0.10	0.0000	0.10	0.1	0.1	0.1	0
Soil Group 6	Trichlorophenol, 2,4,5-	mg/kg	10	0.1	10	0.10	0.0000	0.10	0.1	0.1	0.1	0
Soil Group 2	Trichlorophenol, 2,4,6-	mg/kg	13	0.1	13	0.10	0.0000	0.10	0.1	0.1	0.1	0
Soil Group 3	Trichlorophenol, 2,4,6-	mg/kg	21	0.1, 0.19	21	**0.10**	0.020	0.10	0.1	0.1	0.1	0
Soil Group 5	Trichlorophenol, 2,4,6-	mg/kg	12	0.1	12	0.10	0.0000	0.10	0.1	0.1	0.1	0
Soil Group 6	Trichlorophenol, 2,4,6-	mg/kg	10	0.1	10	0.10	0.0000	0.10	0.1	0.1	0.1	0
Volatile Organic Compounds												
Soil Group 2	Acetone	mg/kg	13	0.5	13	0.50	0.0000	0.50	0.5	0.5	0.5	0
Soil Group 3	Acetone	mg/kg	21	0.5, 0.54, 1.79	18	**0.57**	0.28	0.50	0.5	**0.64**	0.5	3
Soil Group 5	Acetone	mg/kg	12	0.5	12	0.50	0.0000	0.50	0.5	0.5	0.5	0
Soil Group 6	Acetone	mg/kg	10	0.5	10	0.50	0.0000	0.50	0.5	0.5	0.5	0
Soil Group 2	Benzene	mg/kg	13	0.005	13	0.0050	0.0000	0.0050	0.005	0.005	0.02	0
Soil Group 3	Benzene	mg/kg	21	0.005, 0.0179	21	0.0056	0.0028	0.0050	0.005	0.005	0.02	0
Soil Group 5	Benzene	mg/kg	12	0.005	12	0.0050	0.0000	0.0050	0.005	0.005	0.02	0
Soil Group 6	Benzene	mg/kg	10	0.005	10	0.0050	0.0000	0.0050	0.005	0.005	0.02	0
Soil Group 2	Bromodichloromethane	mg/kg	13	0.05	13	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 3	Bromodichloromethane	mg/kg	21	0.05, 0.179	21	**0.056**	0.028	0.050	0.05	0.05	0.05	0
Soil Group 5	Bromodichloromethane	mg/kg	12	0.05	12	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 6	Bromodichloromethane	mg/kg	10	0.05	10	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 2	Bromoform	mg/kg	13	0.05	13	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 3	Bromoform	mg/kg	21	0.05, 0.179	21	**0.056**	0.028	0.050	0.05	0.05	0.05	0
Soil Group 5	Bromoform	mg/kg	12	0.05	12	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 6	Bromoform	mg/kg	10	0.05	10	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 2	Bromomethane	mg/kg	13	0.05	13	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 3	Bromomethane	mg/kg	21	0.05, 0.179	21	**0.056**	0.028	0.050	0.05	0.05	0.05	0
Soil Group 5	Bromomethane	mg/kg	12	0.05	12	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 6	Bromomethane	mg/kg	10	0.05	10	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 2	BTEX, total	mg/kg	13	0.1	13	0.10	0.0000	0.10	0.1	0.1	--	0
Soil Group 3	BTEX, total	mg/kg	21	0.1, 0.24	21	0.11	0.031	0.10	0.1	0.1	--	0
Soil Group 5	BTEX, total	mg/kg	12	0.1	12	0.10	0.0000	0.10	0.1	0.1	--	0
Soil Group 6	BTEX, total	mg/kg	10	0.1	10	0.10	0.0000	0.10	0.1	0.1	--	0
Soil Group 2	Carbon tetrachloride	mg/kg	13	0.05	13	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 3	Carbon tetrachloride	mg/kg	21	0.05, 0.179	21	**0.056**	0.028	0.050	0.05	0.05	0.05	0
Soil Group 5	Carbon tetrachloride	mg/kg	12	0.05	12	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 6	Carbon tetrachloride	mg/kg	10	0.05	10	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 2	Chlorobenzene	mg/kg	13	0.05	13	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 3	Chlorobenzene	mg/kg	21	0.05, 0.179	21	**0.056**	0.028	0.050	0.05	0.05	0.05	0
Soil Group 5	Chlorobenzene	mg/kg	12	0.05	12	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 6	Chlorobenzene	mg/kg	10	0.05	10	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 2	Chloroform	mg/kg	13	0.05	13	0.050	0.0000	0.050	0.05	0.05	0.05	0

Soil Group	Analyte	Units	n	Unique DLs	n<DL	Mean[1]	SD[1]	5th Percentile[1]	Median[1]	95th Percentile[1]	Guideline	# of Detections > Guideline
Soil Group 3	Chloroform	mg/kg	21	0.05, 0.179	21	**0.056**	0.028	0.050	0.05	0.05	0.05	0
Soil Group 5	Chloroform	mg/kg	12	0.05	12	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 6	Chloroform	mg/kg	10	0.05	10	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 2	Dibromochloromethane	mg/kg	13	0.05	13	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 3	Dibromochloromethane	mg/kg	21	0.05, 0.179	21	**0.056**	0.028	0.050	0.05	0.05	0.05	0
Soil Group 5	Dibromochloromethane	mg/kg	12	0.05	12	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 6	Dibromochloromethane	mg/kg	10	0.05	10	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 2	Dibromoethane, 1,2-	mg/kg	13	0.05	13	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 3	Dibromoethane, 1,2-	mg/kg	21	0.05, 0.179	21	**0.056**	0.028	0.050	0.05	0.05	0.05	0
Soil Group 5	Dibromoethane, 1,2-	mg/kg	12	0.05	12	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 6	Dibromoethane, 1,2-	mg/kg	10	0.05	10	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 2	Dichlorobenzene, 1,2-	mg/kg	13	0.05	13	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 3	Dichlorobenzene, 1,2-	mg/kg	21	0.05, 0.179	21	**0.056**	0.028	0.050	0.05	0.05	0.05	0
Soil Group 5	Dichlorobenzene, 1,2-	mg/kg	12	0.05	12	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 6	Dichlorobenzene, 1,2-	mg/kg	10	0.05	10	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 2	Dichlorobenzene, 1,3-	mg/kg	13	0.05	13	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 3	Dichlorobenzene, 1,3-	mg/kg	21	0.05, 0.179	21	**0.056**	0.028	0.050	0.05	0.05	0.05	0
Soil Group 5	Dichlorobenzene, 1,3-	mg/kg	12	0.05	12	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 6	Dichlorobenzene, 1,3-	mg/kg	10	0.05	10	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 2	Dichlorobenzene, 1,4-	mg/kg	13	0.05	13	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 3	Dichlorobenzene, 1,4-	mg/kg	21	0.05, 0.179	21	**0.056**	0.028	0.050	0.05	0.05	0.05	0
Soil Group 5	Dichlorobenzene, 1,4-	mg/kg	12	0.05	12	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 6	Dichlorobenzene, 1,4-	mg/kg	10	0.05	10	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 2	Dichlorodifluoromethane	mg/kg	13	0.05	13	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 3	Dichlorodifluoromethane	mg/kg	21	0.05, 0.179	21	**0.056**	0.028	0.050	0.05	0.05	0.05	0
Soil Group 5	Dichlorodifluoromethane	mg/kg	12	0.05	12	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 6	Dichlorodifluoromethane	mg/kg	10	0.05	10	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 2	Dichloroethane, 1,1-	mg/kg	13	0.05	13	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 3	Dichloroethane, 1,1-	mg/kg	21	0.05, 0.179	21	**0.056**	0.028	0.050	0.05	0.05	0.05	0
Soil Group 5	Dichloroethane, 1,1-	mg/kg	12	0.05	12	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 6	Dichloroethane, 1,1-	mg/kg	10	0.05	10	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 2	Dichloroethane, 1,2-	mg/kg	13	0.05	13	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 3	Dichloroethane, 1,2-	mg/kg	21	0.05, 0.179	21	**0.056**	0.028	0.050	0.05	0.05	0.05	0
Soil Group 5	Dichloroethane, 1,2-	mg/kg	12	0.05	12	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 6	Dichloroethane, 1,2-	mg/kg	10	0.05	10	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 2	Dichloroethylene, 1,1-	mg/kg	13	0.05	13	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 3	Dichloroethylene, 1,1-	mg/kg	21	0.05, 0.179	21	**0.056**	0.028	0.050	0.05	0.05	0.05	0
Soil Group 5	Dichloroethylene, 1,1-	mg/kg	12	0.05	12	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 6	Dichloroethylene, 1,1-	mg/kg	10	0.05	10	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 2	Dichloroethylene, cis-1,2-	mg/kg	13	0.05	13	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 3	Dichloroethylene, cis-1,2-	mg/kg	21	0.05, 0.179	21	**0.056**	0.028	0.050	0.05	0.05	0.05	0
Soil Group 5	Dichloroethylene, cis-1,2-	mg/kg	12	0.05	12	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 6	Dichloroethylene, cis-1,2-	mg/kg	10	0.05	10	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 2	Dichloroethylene, trans-1,2-	mg/kg	13	0.05	13	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 3	Dichloroethylene, trans-1,2-	mg/kg	21	0.05, 0.179	21	**0.056**	0.028	0.050	0.05	0.05	0.05	0
Soil Group 5	Dichloroethylene, trans-1,2-	mg/kg	12	0.05	12	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 6	Dichloroethylene, trans-1,2-	mg/kg	10	0.05	10	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 2	Dichloromethane	mg/kg	13	0.045	13	0.045	0.0000	0.045	0.045	0.045	--	0
Soil Group 3	Dichloromethane	mg/kg	21	0.045, 0.047, 0.161	21	0.051	0.025	0.045	0.045	0.047	--	0
Soil Group 5	Dichloromethane	mg/kg	12	0.045	12	0.045	0.0000	0.045	0.045	0.045	--	0
Soil Group 6	Dichloromethane	mg/kg	10	0.045	9	0.045	0.0013	0.045	0.045	0.0472	--	0
Soil Group 2	Dichloropropane, 1,2-	mg/kg	13	0.05	13	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 3	Dichloropropane, 1,2-	mg/kg	21	0.05, 0.179	21	**0.056**	0.028	0.050	0.05	0.05	0.05	0
Soil Group 5	Dichloropropane, 1,2-	mg/kg	12	0.05	12	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 6	Dichloropropane, 1,2-	mg/kg	10	0.05	10	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 2	Dichloropropylene, cis+trans-1,3-	mg/kg	13	0.05	13	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 3	Dichloropropylene, cis+trans-1,3-	mg/kg	21	0.05, 0.151	21	**0.055**	0.022	0.050	0.05	0.05	0.05	0
Soil Group 5	Dichloropropylene, cis+trans-1,3-	mg/kg	12	0.05	12	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 6	Dichloropropylene, cis+trans-1,3-	mg/kg	10	0.05	10	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 2	Dichloropropylene, cis-1,3-	mg/kg	13	0.03	13	0.030	0.0000	0.030	0.03	0.03	0.05	0
Soil Group 3	Dichloropropylene, cis-1,3-	mg/kg	21	0.03, 0.107	21	0.034	0.017	0.030	0.03	0.03	0.05	0
Soil Group 5	Dichloropropylene, cis-1,3-	mg/kg	12	0.03	12	0.030	0.0000	0.030	0.03	0.03	0.05	0
Soil Group 6	Dichloropropylene, cis-1,3-	mg/kg	10	0.03	10	0.030	0.0000	0.030	0.03	0.03	0.05	0
Soil Group 2	Dichloropropylene, trans-1,3-	mg/kg	13	0.03	13	0.030	0.0000	0.030	0.03	0.03	0.05	0
Soil Group 3	Dichloropropylene, trans-1,3-	mg/kg	21	0.03, 0.107	21	0.034	0.017	0.030	0.03	0.03	0.05	0
Soil Group 5	Dichloropropylene, trans-1,3-	mg/kg	12	0.03	12	0.030	0.0000	0.030	0.03	0.03	0.05	0
Soil Group 6	Dichloropropylene, trans-1,3-	mg/kg	10	0.03	10	0.030	0.0000	0.030	0.03	0.03	0.05	0
Soil Group 2	Ethylbenzene	mg/kg	13	0.015	13	0.015	0.0000	0.015	0.015	0.015	0.05	0
Soil Group 3	Ethylbenzene	mg/kg	21	0.015, 0.054	21	0.017	0.0085	0.015	0.015	0.015	0.05	0

Soil Group	Analyte	Units	n	Unique DLs	n<DL	Mean[1]	SD[1]	5th Percentile[1]	Median[1]	95th Percentile[1]	Guideline	# of Detections > Guideline
Soil Group 5	Ethylbenzene	mg/kg	12	0.015	12	0.015	0.0000	0.015	0.015	0.015	0.05	0
Soil Group 6	Ethylbenzene	mg/kg	10	0.015	10	0.015	0.0000	0.015	0.015	0.015	0.05	0
Soil Group 2	Hexane, n-	mg/kg	13	0.05	13	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 3	Hexane, n-	mg/kg	21	0.05, 0.179	21	**0.056**	0.028	0.050	0.05	0.05	0.05	0
Soil Group 5	Hexane, n-	mg/kg	12	0.05	12	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 6	Hexane, n-	mg/kg	10	0.05	10	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 2	Methyl ethyl ketone [MEK]	mg/kg	13	0.5	13	0.50	0.0000	0.50	0.5	0.5	0.5	0
Soil Group 3	Methyl ethyl ketone [MEK]	mg/kg	21	0.5, 0.54, 1.79	21	**0.56**	0.28	0.50	0.5	**0.54**	0.5	0
Soil Group 5	Methyl ethyl ketone [MEK]	mg/kg	12	0.5	12	0.50	0.0000	0.50	0.5	0.5	0.5	0
Soil Group 6	Methyl ethyl ketone [MEK]	mg/kg	10	0.5	10	0.50	0.0000	0.50	0.5	0.5	0.5	0
Soil Group 2	Methyl isobutyl ketone [MIBK]	mg/kg	13	0.5	13	0.50	0.0000	0.50	0.5	0.5	0.5	0
Soil Group 3	Methyl isobutyl ketone [MIBK]	mg/kg	21	0.5, 1.79	21	**0.56**	0.28	0.50	0.5	0.5	0.5	0
Soil Group 5	Methyl isobutyl ketone [MIBK]	mg/kg	12	0.5	12	0.50	0.0000	0.50	0.5	0.5	0.5	0
Soil Group 6	Methyl isobutyl ketone [MIBK]	mg/kg	10	0.5	10	0.50	0.0000	0.50	0.5	0.5	0.5	0
Soil Group 2	Methyl-tert-butyl ether [MTBE]	mg/kg	13	0.04	13	0.040	0.0000	0.040	0.04	0.04	0.05	0
Soil Group 3	Methyl-tert-butyl ether [MTBE]	mg/kg	21	0.04, 0.143	21	0.045	0.022	0.040	0.04	0.04	0.05	0
Soil Group 5	Methyl-tert-butyl ether [MTBE]	mg/kg	12	0.04	12	0.040	0.0000	0.040	0.04	0.04	0.05	0
Soil Group 6	Methyl-tert-butyl ether [MTBE]	mg/kg	10	0.04	10	0.040	0.0000	0.040	0.04	0.04	0.05	0
Soil Group 2	Styrene	mg/kg	13	0.05	13	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 3	Styrene	mg/kg	21	0.05, 0.179	21	**0.056**	0.028	0.050	0.05	0.05	0.05	0
Soil Group 5	Styrene	mg/kg	12	0.05	12	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 6	Styrene	mg/kg	10	0.05	10	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 2	Tetrachloroethane, 1,1,1,2-	mg/kg	13	0.05	13	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 3	Tetrachloroethane, 1,1,1,2-	mg/kg	21	0.05, 0.179	21	**0.056**	0.028	0.050	0.05	0.05	0.05	0
Soil Group 5	Tetrachloroethane, 1,1,1,2-	mg/kg	12	0.05	12	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 6	Tetrachloroethane, 1,1,1,2-	mg/kg	10	0.05	10	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 2	Tetrachloroethane, 1,1,2,2-	mg/kg	13	0.05	13	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 3	Tetrachloroethane, 1,1,2,2-	mg/kg	21	0.05, 0.179	21	**0.056**	0.028	0.050	0.05	0.05	0.05	0
Soil Group 5	Tetrachloroethane, 1,1,2,2-	mg/kg	12	0.05	12	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 6	Tetrachloroethane, 1,1,2,2-	mg/kg	10	0.05	10	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 2	Tetrachloroethylene	mg/kg	13	0.05	13	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 3	Tetrachloroethylene	mg/kg	21	0.05, 0.179	21	**0.056**	0.028	0.050	0.05	0.05	0.05	0
Soil Group 5	Tetrachloroethylene	mg/kg	12	0.05	12	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 6	Tetrachloroethylene	mg/kg	10	0.05	10	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 2	Toluene	mg/kg	13	0.05	13	0.050	0.0000	0.050	0.05	0.05	0.2	0
Soil Group 3	Toluene	mg/kg	21	0.05, 0.179	21	0.056	0.028	0.050	0.05	0.05	0.2	0
Soil Group 5	Toluene	mg/kg	12	0.05	12	0.050	0.0000	0.050	0.05	0.05	0.2	0
Soil Group 6	Toluene	mg/kg	10	0.05	10	0.050	0.0000	0.050	0.05	0.05	0.2	0
Soil Group 2	Trichloroethane, 1,1,1-	mg/kg	13	0.05	13	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 3	Trichloroethane, 1,1,1-	mg/kg	21	0.05, 0.179	21	**0.056**	0.028	0.050	0.05	0.05	0.05	0
Soil Group 5	Trichloroethane, 1,1,1-	mg/kg	12	0.05	12	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 6	Trichloroethane, 1,1,1-	mg/kg	10	0.05	10	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 2	Trichloroethane, 1,1,2-	mg/kg	13	0.05	13	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 3	Trichloroethane, 1,1,2-	mg/kg	21	0.05, 0.179	21	**0.056**	0.028	0.050	0.05	0.05	0.05	0
Soil Group 5	Trichloroethane, 1,1,2-	mg/kg	12	0.05	12	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 6	Trichloroethane, 1,1,2-	mg/kg	10	0.05	10	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 2	Trichloroethylene	mg/kg	13	0.01	13	0.010	0.0000	0.010	0.01	0.01	0.05	0
Soil Group 3	Trichloroethylene	mg/kg	21	0.01, 0.011, 0.036	21	0.011	0.0057	0.010	0.01	0.011	0.05	0
Soil Group 5	Trichloroethylene	mg/kg	12	0.01	12	0.010	0.0000	0.010	0.01	0.01	0.05	0
Soil Group 6	Trichloroethylene	mg/kg	10	0.01	10	0.010	0.0000	0.010	0.01	0.01	0.05	0
Soil Group 2	Trichlorofluoromethane	mg/kg	13	0.05	13	0.050	0.0000	0.050	0.05	0.05	0.25	0
Soil Group 3	Trichlorofluoromethane	mg/kg	21	0.05, 0.179	21	0.056	0.028	0.050	0.05	0.05	0.25	0
Soil Group 5	Trichlorofluoromethane	mg/kg	12	0.05	12	0.050	0.0000	0.050	0.05	0.05	0.25	0
Soil Group 6	Trichlorofluoromethane	mg/kg	10	0.05	10	0.050	0.0000	0.050	0.05	0.05	0.25	0
Soil Group 2	Vinyl chloride	mg/kg	13	0.02	13	0.020	0.0000	0.020	0.02	0.02	0.02	0
Soil Group 3	Vinyl chloride	mg/kg	21	0.02, 0.071	21	**0.022**	0.011	0.020	0.02	0.02	0.02	0
Soil Group 5	Vinyl chloride	mg/kg	12	0.02	12	0.020	0.0000	0.020	0.02	0.02	0.02	0
Soil Group 6	Vinyl chloride	mg/kg	10	0.02	10	0.020	0.0000	0.020	0.02	0.02	0.02	0
Soil Group 2	Xylene, m+p-	mg/kg	13	0.03	13	0.030	0.0000	0.030	0.03	0.03	0.05	0
Soil Group 3	Xylene, m+p-	mg/kg	21	0.03, 0.107	21	0.034	0.017	0.030	0.03	0.03	0.05	0
Soil Group 5	Xylene, m+p-	mg/kg	12	0.03	12	0.030	0.0000	0.030	0.03	0.03	0.05	0
Soil Group 6	Xylene, m+p-	mg/kg	10	0.03	10	0.030	0.0000	0.030	0.03	0.03	0.05	0
Soil Group 2	Xylene, o-	mg/kg	13	0.03	13	0.030	0.0000	0.030	0.03	0.03	0.05	0
Soil Group 3	Xylene, o-	mg/kg	21	0.03, 0.107	21	0.034	0.017	0.030	0.03	0.03	0.05	0
Soil Group 5	Xylene, o-	mg/kg	12	0.03	12	0.030	0.0000	0.030	0.03	0.03	0.05	0
Soil Group 6	Xylene, o-	mg/kg	10	0.03	10	0.030	0.0000	0.030	0.03	0.03	0.05	0
Soil Group 2	Xylenes, total	mg/kg	13	0.05	13	0.050	0.0000	0.050	0.05	0.05	0.05	0
Soil Group 3	Xylenes, total	mg/kg	21	0.05, 0.151	21	**0.055**	0.022	0.050	0.05	0.05	0.05	0
Soil Group 5	Xylenes, total	mg/kg	12	0.05	12	0.050	0.0000	0.050	0.05	0.05	0.05	0

Soil Group	Analyte	Units	n	Unique DLs	n<DL	Mean[1]	SD[1]	5th Percentile[1]	Median[1]	95th Percentile[1]	Guideline	# of Detections > Guideline
Soil Group 6	Xylenes, total	mg/kg	10	0.05	10	0.050	0.0000	0.050	0.05	0.05	0.05	0

Detailed Soil QA/QC Samples

Appendix II Table 1: Soil quality parameters for a subset of soil samples collected during the August 2023 surficial soil sampling program. Samples included in this table are SB_SS_01, SB_SS_02, SB_SS_03, SB_SS_04, SB_SS_05, SB_SS_06, and SB_SS_09. Also noted is the unit that the parameter was measured in and the reported detection limit (RDL). Any highlighted values indicate they are above the MECP Table 1 Background Site Condition Standards for Agricultural Use (MECP 2011). Detection limits changed between sites and are indicated by a superscript letter beside the site identification.

Parameter	Unit	Lowest Detection Limit							Benchmarks	SB_SS_01[A]	SB_SS_02[AN]	SB_SS_03[AT]	SB_SS_04[AY]	SB_SS_05[Z]	SB_SS_06[O]	SB_SS_09[AX]
		RDL U	RDL X	RDL Z	RDL AN	RDL AT	RDL AX	RDL AY	MECP Table 1 Standards[1]	16-Aug-23	18-Aug-23	19-Aug-23	29-Aug-23	16-Aug-23	16-Aug-23	18-Aug-23
Dioxins and Furans																
2,3,7,8-TCDD	pg/g	0.017	0.014	0.010	0.030	0.056	0.032	0.019		0.069	0.186	0.130	0.100	0.174	0.055	0.110
1,2,3,7,8-PeCDD	pg/g	0.012	0.022	0.015	0.022	0.089	0.040	0.062		0.130	0.363	0.314	0.190	0.310	0.204	0.258
1,2,3,4,7,8-HxCDD	pg/g	0.025	0.019	0.036	0.044	0.099	0.041	0.044		0.130	0.483	0.312	0.290	0.320	0.239	0.286
1,2,3,6,7,8-HxCDD	pg/g	0.024	0.018	0.037	0.045	0.100	0.033	0.037		0.262	0.675	0.560	0.528	0.660	0.421	0.521
1,2,3,7,8,9-HxCDD	pg/g	0.025	0.019	0.037	0.045	0.098	0.038	0.041		0.292	0.612	0.430	0.460	0.578	0.387	0.594
1,2,3,4,6,7,8-HpCDD	pg/g	0.09	0.04	0.07	0.15	0.11	0.07	0.10		3.28	9.73	6.37	6.31	10.60	5.01	6.77
OCDD	pg/g	0.40	0.21	0.39	0.73	0.19	0.17	0.22		13.80	51.30	27.70	31.20	59.20	25.10	32.40
Total-TCDD	pg/g	0.017	0.014	0.010	0.030	0.056	0.032	0.019		0.441	5.480	0.108	0.074	1.260	0.446	1.020
Total TCDD # Homologues	-									3.00	6.00	1.00	2.00	6.00	6.00	4.00
Total-PeCDD	pg/g	0.012	0.022	0.015	0.022	0.089	0.040	0.062		0.511	3.060	1.870	1.290	1.780	1.530	1.910
Total PeCDD # Homologues	-									3.00	5.00	5.00	3.00	6.00	6.00	8.00
Total-HxCDD	pg/g	0.025	0.019	0.037	0.045	0.100	0.041	0.044		2.630	11.400	6.850	4.870	8.890	5.860	6.520
Total HxCDD # Homologues	-									5.00	8.00	5.00	6.00	7.00	8.00	6.00
Total-HpCDD	pg/g	0.094	0.040	0.070	0.150	0.110	0.066	0.095		6.620	19.300	12.700	11.700	20.300	10.400	13.400
Total HpCDD # Homologues	-									2.00	2.00	2.00	2.00	2.00	2.00	2.00
2,3,7,8-TCDF	pg/g	0.044	0.031	0.035	0.053	0.130	0.046	0.026		0.201	0.463	0.280	0.191	0.308	0.189	0.223
1,2,3,7,8-PeCDF	pg/g	0.022	0.055	0.023	0.041	0.130	0.085	0.033		0.117	0.343	0.250	0.261	0.298	0.150	0.271
2,3,4,7,8-PeCDF	pg/g	0.022	0.053	0.022	0.042	0.120	0.087	0.035		0.189	0.636	0.460	0.360	0.449	0.360	0.357
1,2,3,4,7,8-HxCDF	pg/g	0.014	0.011	0.009	0.039	0.078	0.062	0.042		0.170	0.430	0.290	0.240	0.461	0.220	0.370
1,2,3,6,7,8-HxCDF	pg/g	0.014	0.010	0.008	0.035	0.080	0.060	0.043		0.145	0.360	0.270	0.220	0.316	0.220	0.313
1,2,3,7,8,9-HxCDF	pg/g	0.022	0.017	0.013	0.063	0.110	0.077	0.056		0.045	0.154	<0.11	0.120	0.115	0.087	0.099
2,3,4,6,7,8-HxCDF	pg/g	0.016	0.012	0.009	0.043	0.076	0.061	0.044		0.178	0.456	0.379	0.160	0.427	0.257	0.265
1,2,3,4,6,7,8-HpCDF	pg/g	0.03	0.03	0.04	0.07	0.07	0.03	0.08		0.92	2.57	2.38	1.79	2.84	1.46	2.33
1,2,3,4,7,8,9-HpCDF	pg/g	0.05	0.05	0.06	0.12	0.09	0.04	0.10		0.07	0.32	0.17	0.14	0.29	0.08	0.20
OCDF	pg/g	0.10	0.12	0.16	0.21	0.10	0.05	0.13		1.12	3.62	2.60	3.20	6.06	1.80	2.76
Total-TCDF	pg/g	0.044	0.031	0.035	0.053	0.130	0.046	0.026		0.888	8.170	2.200	2.380	4.000	1.970	2.740
Total TCDF # Homologues	-									9.00	16.00	4.00	9.00	18.00	8.00	7.00
Total-PeCDF	pg/g	0.022	0.055	0.023	0.042	0.130	0.087	0.035		1.890	3.800	2.830	3.050	4.140	2.380	3.100
Total PeCDF # Homologues	-									10.00	8.00	6.00	6.00	8.00	8.00	7.00
Total-HxCDF	pg/g	0.022	0.017	0.013	0.063	0.110	0.077	0.056		1.310	4.090	2.600	1.690	4.800	2.190	2.620
Total HxCDF # Homologues	-									7.00	7.00	5.00	4.00	11.00	6.00	5.00
Total-HpCDF	pg/g	0.054	0.046	0.060	0.120	0.093	0.043	0.098		1.420	4.390	3.550	1.790	5.830	2.160	3.470
Total HpCDF # Homologues	-									3.00	4.00	3.00	1.00	4.00	3.00	3.00
13C12-2,3,7,8-TCDD	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		79.0	75.0	77.0	71.0	81.0	79.0	79.0
13C12-1,2,3,7,8-PeCDD	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		78.0	64.0	76.0	64.0	73.0	70.0	79.0
13C12-1,2,3,4,7,8-HxCDD	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		80.0	78.0	80.0	73.0	82.0	78.0	77.0
13C12-1,2,3,6,7,8-HxCDD	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		81.0	79.0	76.0	71.0	82.0	81.0	77.0
13C12-1,2,3,4,6,7,8-HpCDD	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		71.0	61.0	82.0	76.0	68.0	69.0	91.0
13C12-OCDD	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		52.0	45.0	64.0	63.0	49.0	45.0	81.0
13C12-2,3,7,8-TCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		86.0	79.0	79.0	66.0	80.0	85.0	79.0
13C12-1,2,3,7,8-PeCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		96.0	72.0	88.0	67.0	78.0	85.0	84.0
13C12-2,3,4,7,8-PeCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		85.0	62.0	83.0	61.0	70.0	77.0	77.0
13C12-1,2,3,4,7,8-HxCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		93.0	85.0	87.0	75.0	85.0	92.0	78.0
13C12-1,2,3,6,7,8-HxCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		101.0	93.0	82.0	76.0	92.0	99.0	79.0
13C12-2,3,4,6,7,8-HxCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		92.0	85.0	90.0	78.0	84.0	92.0	83.0
13C12-1,2,3,7,8,9-HxCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		87.0	77.0	82.0	73.0	78.0	85.0	80.0
13C12-1,2,3,4,6,7,8-HpCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		76.0	67.0	88.0	69.0	70.0	74.0	86.0
13C12-1,2,3,4,7,8,9-HpCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		72.0	58.0	94.0	65.0	66.0	69.0	76.0
37Cl4-2,3,7,8-TCDD (Cleanup)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		75.0	77.0	79.0	70.0	82.0	78.0	79.0
Lower Bound PCDD/F TEQ (WHO 2005)	pg/g	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0	0.2	1.2	0.7	0.3	1.1	0.6	0.7
Mid Point PCDD/F TEQ (WHO 2005)	pg/g	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.4	1.3	0.9	0.7	1.1	0.6	0.9
Upper Bound PCDD/F TEQ (WHO 2005)	pg/g	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.4	1.3	1.0	0.7	1.1	0.6	0.9
Moisture	%	0.25	0.25	0.25	0.25	0.25	0.25	0.25		16.50	34.50	24.60	17.50	20.70	11.90	19.60

Parameter	Unit	Lowest Detection Limit							Benchmarks	SB_SS_01[AX]	SB_SS_02[AN]	SB_SS_03[AT]	SB_SS_04[AT]	SB_SS_05[AZ]	SB_SS_06[O]	SB_SS_09[AX]
		RDL U	RDL X	RDL Z	RDL AN	RDL AT	RDL AX	RDL AY	MECP Table 1 Standards[1]	16-Aug-23	18-Aug-23	19-Aug-23	29-Aug-23	16-Aug-23	16-Aug-23	18-Aug-23
Physical Test																
% Moisture	%	0.10	0.10	0.10	0.25	0.25	0.10	0.10		16.70	31.40	26.00	17.20	20.40	12.60	19.50
Conductivity	mS/cm	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.47	0.1490	0.4170	0.1500	0.1180	0.1720	0.1400	0.1930
pH	pH units	0.10	0.10	0.10	0.10	0.10	0.10	0.10		7.47	7.11	7.15	6.92	7.20	7.28	7.01
Particle Size - Percent Passing																
Passing (0.0312mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		61.2	32.3	60.6	57.2	44.2	28.7	37.0
Passing (9.5mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		100.0	100.0	100.0	100.0	98.3	98.4	99.6
Passing (0.020mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		51.3	26.4	46.9	47.1	34.9	23.0	29.8
Passing (1.0mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		97.5	97.5	98.8	97.2	87.1	86.5	92.9
Passing (4.75mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		99.6	99.3	99.5	99.3	95.1	95.8	97.8
Passing (0.005mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		28.8	14.5	23.4	25.2	15.0	13.1	16.8
Passing (0.841mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		97.3	97.3	98.7	96.9	86.3	85.5	92.4
Passing (19mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		100.0	100.0	100.0	100.0	100.0	100.0	100.0
Passing (0.004mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		26.4	12.8	20.8	21.8	13.1	12.1	14.4
Passing (0.50mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		95.3	95.4	97.9	95.6	80.1	77.9	89.0
Passing (25.4mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		100.0	100.0	100.0	100.0	100.0	100.0	100.0
Passing (0.002mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		19.2	10.1	13.9	13.7	8.0	8.4	10.1
Passing (0.420mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		94.7	94.8	97.7	95.2	78.5	75.9	88.0
Passing (38.1mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		100.0	100.0	100.0	100.0	100.0	100.0	100.0
Passing (0.250mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		89.1	88.7	96.4	93.1	71.5	64.8	82.0
Passing (50.8mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		100.0	100.0	100.0	100.0	100.0	100.0	100.0
Passing (0.149mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		82.7	76.7	94.9	90.7	66.1	52.6	74.6
Passing (76.2mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		100.0	100.0	100.0	100.0	100.0	100.0	100.0
Passing (0.125mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		80.8	71.1	93.9	89.8	64.6	49.6	71.9
Passing (2.0mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		98.5	98.5	99.4	98.7	91.2	91.6	96.0
Passing (0.075mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		77.0	59.4	91.8	88.1	61.3	43.5	66.4
Passing (0.063mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		74.4	51.3	85.4	80.4	57.4	39.9	58.0
Passing (0.05mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		71.7	42.6	78.4	72.2	53.2	36.1	48.9
Anions and Nutrients																
Ammonia, total (as N)	mg/kg	112	116	123	143	134	124	118		142	239	250	193	196	<112	183
Nitrate + Nitrite (as N), leachable	mg/kg	0.058	0.060	0.063	0.074	0.068	0.063	0.060		3.500	0.109	3.090	11.000	9.110	9.530	28.100
Nitrogen, total	%	0.020	0.020	0.020	0.020	0.020	0.020	0.020		0.160	0.223	0.283	0.198	0.257	0.132	0.209
Nitrogen, total organic	%	0.030	0.030	0.050	0.040	0.040	0.030	0.030		0.207	0.253	0.314	0.230	0.329	0.196	0.226
Ammonium	mg/kg	1.0	1.0	1.0	1.0	1.0	1.0	1.0		5.4	6.7	6.3	3.4	6.6	3.4	4.2
Chloride, leachable	mg/kg	20	20	20	20	20	20	20		<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0
Kjeldahl nitrogen, total [TKN]	%	0.020	0.020	0.020	0.020	0.020	0.020	0.020		0.208	0.254	0.315	0.230	0.330	0.196	0.226
Nitrate (as N), leachable	mg/kg	0.057	0.059	0.062	0.073	0.067	0.062	0.059		3.500	0.094	3.060	11.000	9.110	9.530	28.100
Nitrite (as N), leachable	mg/kg	0.011	0.012	0.012	0.014	0.013	0.012	0.012		<0.012	0.015	0.027	0.043	<0.012	<0.011	0.046
Sulfate, leachable	mg/kg	11	12	12	14	13	12	12		<12	17	<13	<12	<12	<11	25
Cyanides																
Cyanide	mg/kg	0.058	0.061	0.064	0.074	0.068	0.064	0.062	0.051	<0.061	**0.085**	<0.068	<0.062	<0.064	<0.058	<0.064
Organic / Inorganic Carbons																
Carbon, inorganic [IC]	%	0.050	0.050	0.050	0.050	0.050	0.050	0.050		0.366	0.394	0.619	0.155	0.473	0.998	0.570
Carbon, total [TC]	%	0.050	0.050	0.050	0.050	0.050	0.050	0.050		2.260	4.390	3.710	2.320	3.380	2.770	3.090
Carbon, total organic [TOC]	%	0.31	0.24	0.35	0.44	0.38	0.32	0.24		1.89	4.00	3.09	2.16	2.91	1.77	2.52
Carbon, inorganic [IC], (as CaCO3 equivalent)	%	0.40	0.40	0.40	0.40	0.40	0.40	0.40		3.05	3.28	5.16	1.29	3.94	8.32	4.75
Organic matter	%	0.31	0.24	0.35	0.44	0.38	0.32	0.24		3.26	6.90	5.33	3.72	5.02	3.05	4.34
Metals																
Calcium	mg/L	0.500	0.500	0.500	0.500	0.500	0.500	0.500		9.410	6.730	9.080	6.160	10.900	7.760	14.800
Magnesium	mg/L	0.500	0.500	0.500	0.500	0.500	0.500	0.500		2.640	3.090	3.760	3.960	4.880	2.940	5.310
Sodium	mg/L	0.500	0.500	0.500	0.500	0.500	0.500	0.500		0.640	11.000	1.340	0.540	0.570	0.540	0.790
Aluminum	mg/kg	50.000	50.000	50.000	50.000	50.000	50.000	50.000		17700.000	13300.000	13100.000	18200.000	17300.000	10200.000	14400.000
Antimony	mg/kg	0.100	0.100	0.100	0.100	0.100	0.100	0.100	1.0	0.170	0.160	0.160	0.190	0.210	0.130	0.170
Arsenic	mg/kg	0.100	0.100	0.100	0.100	0.100	0.100	0.100	11	5.550	**12.200**	4.500	5.670	5.420	3.910	4.620
Barium	mg/kg	0.500	0.500	0.500	0.500	0.500	0.500	0.500	210	69.700	67.000	57.700	75.500	78.700	47.500	64.800
Beryllium	mg/kg	0.100	0.100	0.100	0.100	0.100	0.100	0.100	2.5	0.720	0.460	0.600	0.720	0.590	0.380	0.520
Bismuth	mg/kg	0.200	0.200	0.200	0.200	0.200	0.200	0.200		<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Boron	mg/kg	5.00	5.00	5.00	5.00	5.00	5.00	5.00	36	14.30	7.90	14.00	11.90	7.10	8.20	8.50
Cadmium	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	1.0	0.395	0.386	0.418	0.374	0.431	0.358	0.426
Calcium	mg/kg	50	50	50	50	50	50	50		11400	12300	13200	5040	10700	35300	16700
Chromium	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50	67	27.20	19.10	22.90	38.40	24.20	17.80	21.90
Cobalt	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	19	9.32	5.62	7.50	11.30	7.45	5.22	6.60

Parameter	Unit	Lowest Detection Limit							Benchmarks	SB_SS_01[X]	SB_SS_02[AN]	SB_SS_03[AI]	SB_SS_04[AJ]	SB_SS_05[Z]	SB_SS_06[O]	SB_SS_09[AX]
		RDL U	RDL X	RDL Z	RDL AN	RDL AT	RDL AX	RDL AY	MECP Table 1 Standards[1]	16-Aug-23	18-Aug-23	19-Aug-23	29-Aug-23	16-Aug-23	16-Aug-23	18-Aug-23
Copper	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50	62	16.20	5.22	15.80	18.50	11.20	12.50	11.50
Iron	mg/kg	50	50	50	50	50	50	50		23200	21500	18700	25100	21000	14600	18000
Lead	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50	45	11.90	13.60	12.40	14.30	15.40	9.75	13.00
Lithium	mg/kg	2.0	2.0	2.0	2.0	2.0	2.0	2.0		19.9	14.0	17.7	19.2	16.0	11.1	12.6
Magnesium	mg/kg	20	20	20	20	20	20	20		9270	6980	9120	6940	8410	17200	10800
Manganese	mg/kg	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1000.0	998.0	930.0	1090.0	921.0	768.0	829.0
Mercury	mg/kg	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.16	0.0587	0.0950	0.0682	0.0411	0.0568	0.0339	0.0529
Molybdenum	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	2.0	0.36	0.91	0.36	0.49	0.59	0.36	0.42
Nickel	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50	37	20.70	10.50	16.70	27.20	15.80	12.90	15.50
Phosphorus	mg/kg	50	50	50	50	50	50	50		683	456	733	868	765	698	943
Potassium	mg/kg	100	100	100	100	100	100	100		2400	750	2290	2380	1260	1140	1550
Selenium	mg/kg	0.20	0.20	0.20	0.20	0.20	0.20	0.20	1.2	0.30	0.66	0.34	0.33	0.34	<0.20	0.32
Silver	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Sodium	mg/kg	50	50	50	50	50	50	50		82	147	74	71	<50	65	74
Strontium	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50		15.00	95.50	17.60	13.60	9.80	23.90	14.90
Sulfur	mg/kg	1000	1000	1000	1000	1000	1000	1000		<1000	<1000	<1000	<1000	<1000	<1000	<1000
Thallium	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	1.0	0.145	0.114	0.130	0.155	0.147	0.087	0.131
Tin	mg/kg	2.0	2.0	2.0	2.0	2.0	2.0	2.0		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Titanium	mg/kg	1.0	1.0	1.0	1.0	1.0	1.0	1.0		232.0	210.0	170.0	231.0	196.0	194.0	251.0
Tungsten	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Uranium	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	1.9	0.781	0.781	0.662	0.707	0.950	0.635	0.714
Vanadium	mg/kg	0.20	0.20	0.20	0.20	0.20	0.20	0.20	86	37.70	28.40	27.60	37.70	41.40	24.90	32.40
Zinc	mg/kg	2.0	2.0	2.0	2.0	2.0	2.0	2.0	290	56.5	41.0	58.2	63.7	60.5	49.0	56.7
Zirconium	mg/kg	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.5	<1.0	1.4	1.2	<1.0	<1.0	<1.0
Sodium adsorption ratio [SAR]		0.10	0.10	0.10	0.10	0.10	0.10	0.10	1.0	<0.10	0.88	<0.10	<0.10	<0.10	<0.10	<0.10
Chromium, hexavalent [Cr VI]	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	1.0	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Volatile Organic Compounds																
Acetone	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Benzene	mg/kg	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.020	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Bromodichloromethane	mg/kg	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
Bromoform	mg/kg	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
Bromomethane	mg/kg	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
Carbon tetrachloride	mg/kg	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
Chlorobenzene	mg/kg	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
Chloroform	mg/kg	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
Dibromochloromethane	mg/kg	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
Dibromoethane, 1,2-	mg/kg	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
Dichlorobenzene, 1,2-	mg/kg	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
Dichlorobenzene, 1,3-	mg/kg	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
Dichlorobenzene, 1,4-	mg/kg	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
Dichlorodifluoromethane	mg/kg	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
Dichloroethane, 1,1-	mg/kg	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
Dichloroethane, 1,2-	mg/kg	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
Dichloroethylene, 1,1-	mg/kg	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
Dichloroethylene, cis-1,2-	mg/kg	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
Dichloroethylene, trans-1,2-	mg/kg	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
Dichloromethane	mg/kg	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.050	<0.045	<0.045	<0.045	<0.045	<0.045	<0.045	<0.045
Dichloropropane, 1,2-	mg/kg	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
Dichloropropylene, cis+trans-1,3-	mg/kg	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
Dichloropropylene, cis-1,3-	mg/kg	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
Dichloropropylene, trans-1,3-	mg/kg	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
Ethylbenzene	mg/kg	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.050	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Hexane, n-	mg/kg	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
Methyl ethyl ketone [MEK]	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methyl isobutyl ketone [MIBK]	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methyl-tert-butyl ether [MTBE]	mg/kg	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.050	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Styrene	mg/kg	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
Tetrachloroethane, 1,1,1,2-	mg/kg	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
Tetrachloroethane, 1,1,2,2-	mg/kg	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
Tetrachloroethylene	mg/kg	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
Toluene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.20	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Trichloroethane, 1,1,1-	mg/kg	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

Parameter	Unit	Lowest Detection Limit							Benchmarks	SB_SS_01[X]	SB_SS_02[AN]	SB_SS_03[AT]	SB_SS_04[AT]	SB_SS_05[Z]	SB_SS_06[O]	SB_SS_09[AX]
		RDL U	RDL X	RDL Z	RDL AN	RDL AT	RDL AX	RDL AY	MECP Table 1 Standards[1]	16-Aug-23	18-Aug-23	19-Aug-23	29-Aug-23	16-Aug-23	16-Aug-23	18-Aug-23
Trichloroethane, 1,1,2-	mg/kg	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
Trichloroethylene	mg/kg	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.050	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Trichlorofluoromethane	mg/kg	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
Vinyl chloride	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Xylene, m+p-	mg/kg	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
Xylene, o-	mg/kg	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
Xylenes, total	mg/kg	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
BTEX, total	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Hydrocarbons																
F1 (C6-C10)	mg/kg	5.0	5.0	5.0	5.0	5.0	5.0	5.0	17	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
F1-BTEX	mg/kg	5.0	5.0	5.0	5.0	5.0	5.0	5.0		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
F2 (C10-C16)	mg/kg	10	10	10	10	10	10	10	10	<10	<10	<10	<10	<10	<10	<10
F3 (C16-C34)	mg/kg	50	50	50	50	50	50	50	240	<50	<50	<50	189	<50	<50	**312**
F4 (C34-C50)	mg/kg	50	50	50	50	50	50	50	120	<50	51	<50	**143**	<50	<50	**251**
Hydrocarbons, total (C6-C50)	mg/kg	80	80	80	80	80	80	80		<80	<80	<80	332	<80	<80	563
Polycyclic Aromatic Hydrocarbons																
Acenaphthene	mg/kg	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
Acenaphthylene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.093	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Anthracene	mg/kg	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
Benz(a)anthracene	mg/kg	0.050	0.050	0.050	0.110	0.050	0.050	0.050	0.095	<0.050	<0.110	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(a)pyrene	mg/kg	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
Benzo(b+j)fluoranthene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.30	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(g,h,i)perylene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.20	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(k)fluoranthene	mg/kg	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
Chrysene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.18	<0.050	0.067	<0.050	<0.050	<0.050	<0.050	<0.050
Dibenz(a,h)anthracene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fluoranthene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.24	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fluorene	mg/kg	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
Indeno(1,2,3-c,d)pyrene	mg/kg	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
Methylnaphthalene, 1-	mg/kg	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
Methylnaphthalene, 2-	mg/kg	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
Naphthalene	mg/kg	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
Phenanthrene	mg/kg	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
Pyrene	mg/kg	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
Methylnaphthalene, 1+2-	mg/kg	0.042	0.042	0.042	0.042	0.042	0.042	0.042		<0.042	<0.042	<0.042	<0.042	<0.042	<0.042	<0.042
Phthalate Esters																
Diethyl phthalate	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dimethyl phthalate	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
bis(2-Ethylhexyl) phthalate [DEHP]	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Semi-volatile Organics																
Biphenyl	mg/kg	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
Chloroaniline, 4-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dichlorobenzidine, 3,3'-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dinitrotoluene, 2,4-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dinitrotoluene, 2,6-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Trichlorobenzene, 1,2,4-	mg/kg	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
bis(2-Chloro-1-methylethyl) ether	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
bis(2-Chloroethyl) ether	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dinitrotoluene, 2,4 + 2,6-	mg/kg	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.50	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Phenolics																
Chlorophenol, 2-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dichlorophenol, 2,4-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Pentachlorophenol [PCP]	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Trichlorophenol, 2,4,5-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Trichlorophenol, 2,4,6-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dimethylphenol, 2,4-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dinitrophenol, 2,4-	mg/kg	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Phenol	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Polychlorinated Biphenyls																
Aroclor 1016	mg/kg	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
Aroclor 1221	mg/kg	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
Aroclor 1232	mg/kg	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

Parameter	Unit	Lowest Detection Limit							Benchmarks	SB_SS_01[X]	SB_SS_02[AN]	SB_SS_03[AI]	SB_SS_04[AT]	SB_SS_05[Z]	SB_SS_06[O]	SB_SS_09[AX]
		RDL U	RDL X	RDL Z	RDL AN	RDL AT	RDL AX	RDL AY	MECP Table 1 Standards[1]	16-Aug-23	18-Aug-23	19-Aug-23	29-Aug-23	16-Aug-23	16-Aug-23	18-Aug-23
Aroclor 1242	mg/kg	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
Aroclor 1248	mg/kg	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
Aroclor 1254	mg/kg	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
Aroclor 1260	mg/kg	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
Aroclor 1262	mg/kg	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
Aroclor 1268	mg/kg	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
Polychlorinated biphenyls [PCBs], total	mg/kg	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.300	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Organochlorine Pesticides																
Aldrin	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.050	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Chlordane, cis- (alpha)	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Chlordane, total	mg/kg	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.050	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Chlordane, trans- (gamma)	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
DDD, 2,4'-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
DDD, 4,4'-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
DDD, total	mg/kg	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.050	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
DDE, 2,4'-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
DDE, 4,4'-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
DDE, total	mg/kg	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.050	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
DDT, 2,4'-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
DDT, 4,4'-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
DDT, total	mg/kg	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.078	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Dieldrin	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.050	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Endosulfan, alpha-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Endosulfan, beta-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Endosulfan, total	mg/kg	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.040	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Endrin	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.040	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Endrin aldehyde	mg/kg	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
Heptachlor	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.050	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Heptachlor epoxide	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.050	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Hexachlorobenzene	mg/kg	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
Hexachlorobutadiene	mg/kg	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
Hexachlorocyclohexane, gamma-	mg/kg	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
Hexachloroethane	mg/kg	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
Methoxychlor	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.050	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Radiological Parameters																
Cesium-137	Bq/kg	18.5	18.5	18.5	18.5	18.5	18.5	18.5		4.1	11.1	7.8	6.2	7.6	5.7	4.5
Cobalt-60	Bq/kg	18.5	18.5	18.5	18.5	18.5	18.5	18.5		<18.5	<18.5	<18.5	<18.5	<18.5	<18.5	<18.5
Gross alpha	Bq/kg	111	111	111	111	111	111	111		312	205	442	410	349	268	342
Gross beta	Bq/kg	148	148	148	148	148	148	148		928	657	1010	796	781	737	638
Iodine-129	Bq/kg	370	370	370	370	370	370	370		<370	<370	<370	<370	<370	<370	<370
Neptunium-237	Bq/kg	3.7	---	---	---	---	---	---		---	---	---	---	---	<3.7	---
Potassium-40	Bq/kg	75	75	75	75	75	75	75		828	563	766	709	606	556	635
Radium-226	Bq/kg	37	37	37	37	37	37	37		43	33	79	39	100	46	65
Ruthenium-106	Bq/kg	90	90	90	90	90	90	90		<90	<90	<90	<90	<90	<90	<90
Strontium-90	Bq/kg	18.5	18.5	18.5	18.5	18.5	18.5	18.5		<18.5	<18.5	<18.5	<18.5	<18.5	<18.5	<18.5
Thorium-228	Bq/kg	3.7	3.7	3.7	3.7	3.7	3.7	3.7		20.0	24.7	36.6	40.8	26.0	21.7	20.5
Thorium-230	Bq/kg	3.7	3.7	3.7	3.7	3.7	3.7	3.7		37.9	44.4	42.2	45.3	58.1	49.3	37.0
Thorium-232	Bq/kg	3.7	3.7	3.7	3.7	3.7	3.7	3.7		30.1	27.9	31.7	37.5	29.9	16.0	23.7
Uranium-234	Bq/kg	3.7	3.7	3.7	3.7	3.7	3.7	3.7		26.5	14.9	27.7	25.9	28.0	16.6	19.4
Uranium-235	Bq/kg	3.7	3.7	3.7	3.7	3.7	3.7	3.7		1.5	<3.7	<3.7	<3.7	2.3	1.8	2.0
Uranium-238	Bq/kg	3.7	3.7	3.7	3.7	3.7	3.7	3.7		30.7	17.5	23.1	25.4	28.7	23.2	23.4
Carbon-14	Bq/kg	740	740	740	740	740	740	740		<740	<740	<740	<740	<740	<740	<740
Chlorine-36	Bq/kg	370	---	---	---	---	---	---		---	---	---	---	---	<370	---

Parameter	Unit	Lowest Detection Limit							Benchmarks	SB_SS_01[X]	SB_SS_02[AN]	SB_SS_03[AT]	SB_SS_04[AT]	SB_SS_05[Z]	SB_SS_06[O]	SB_SS_09[AX]
		RDL U	RDL X	RDL Z	RDL AN	RDL AT	RDL AX	RDL AY	MECP Table 1 Standards[1]	16-Aug-23	18-Aug-23	19-Aug-23	29-Aug-23	16-Aug-23	16-Aug-23	18-Aug-23
Plutonium-238	Bq/kg	1.85	---	---	---	---	---	---		---	---	---	---	---	<1.85	---
Plutonium-239	Bq/kg	1.85	---	---	---	---	---	---		---	---	---	---	---	<1.85	---
Selenium-79	Bq/kg	370	---	---	---	---	---	---		---	---	---	---	---	<370	---
Tritium	Bq/kg	37	37	37	37	37	37	37		<37	<37	<37	<37	<37	<37	<37

[1]MECP Table 1 Standards: Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011, Table 1, Full Depth Background Site Condition Standards, for Agricultural Property Use.
pg/g = picogram per gram
Bq/L = Becquerel per litre.
mg/kg = milligram per kilogram
mS/cm = MilliSiemens per centimetre
mg/L = milligram per litre
--- not sampled or not provided by the laboratory

Appendix II Table 2: Soil quality parameters for a subset of soil samples collected during the August 2023 surficial soil sampling program. Samples included in this table are SB_SS_10, SB_SS_11, SB_SS_13, SB_SS_14, SB_SS_15, SB_SS_16, and SB_SS_17. Also noted is the unit that the parameter was measured in and the reported detection limit (RDL). Any highlighted values indicate they are above the MECP Table 1 Background Site Condition Standards for Agricultural Use (MECP 2011). Detection limits changed between sites and are indicated by a superscript letter beside the site identification.

Parameter	Unit	Lowest Detection Limit							Benchmarks	SB_SS_10[AI]	SB_SS_11[BH]	SB_SS_13[AS]	SB_SS_14[A]	SB_SS_15[B]	SB_SS_16[C]	SB_SS_17[O]
		RDL A	RDL B	RDL C	RDL O	RDL AI	RDL AS	RDL BH	MECP Table 1 Standards[1]	17-Aug-23	18-Aug-23	19-Aug-23	14-Aug-23	14-Aug-23	14-Aug-23	15-Aug-23
Dioxins and Furans																
2,3,7,8-TCDD	pg/g	0.049	0.053	0.042	0.076	0.070	0.059	0.015		0.160	0.066	0.225	0.064	0.180	0.063	0.099
1,2,3,7,8-PeCDD	pg/g	0.033	0.081	0.044	0.091	0.059	0.066	0.016		0.410	0.207	0.330	0.190	0.270	0.227	0.323
1,2,3,4,7,8-HxCDD	pg/g	0.098	0.130	0.051	0.190	0.130	0.079	0.023		0.340	0.200	0.284	0.248	0.330	0.245	0.240
1,2,3,6,7,8-HxCDD	pg/g	0.094	0.130	0.053	0.200	0.150	0.081	0.022		0.950	0.407	0.669	0.440	0.480	0.320	0.690
1,2,3,7,8,9-HxCDD	pg/g	0.097	0.130	0.053	0.190	0.140	0.079	0.023		0.920	0.370	0.617	0.463	0.720	0.370	0.530
1,2,3,4,6,7,8-HpCDD	pg/g	0.12	0.15	0.09	0.15	0.11	0.15	0.06		8.45	5.61	7.88	5.88	7.90	5.36	9.01
OCDD	pg/g	0.56	0.50	0.39	0.32	0.22	0.44	0.27		40.60	29.10	44.10	28.10	44.90	28.60	47.80
Total-TCDD	pg/g	0.049	0.053	0.042	0.076	0.070	0.059	0.015		1.110	0.690	0.351	0.230	1.200	0.298	0.596
Total TCDD # Homologues	-									4.00	6.00	2.00	1.00	3.00	1.00	1.00
Total-PeCDD	pg/g	0.033	0.081	0.044	0.091	0.059	0.066	0.016		2.570	1.210	1.530	0.692	1.840	1.420	1.150
Total PeCDD # Homologues	-									5.00	6.00	3.00	2.00	2.00	5.00	5.00
Total-HxCDD	pg/g	0.098	0.130	0.053	0.200	0.150	0.081	0.023		8.410	5.480	6.960	5.370	8.120	4.690	7.110
Total HxCDD # Homologues	-									5.00	4.00	6.00	4.00	6.00	4.00	6.00
Total-HpCDD	pg/g	0.120	0.150	0.093	0.150	0.110	0.150	0.059		16.600	11.200	16.100	11.500	16.000	10.400	16.700
Total HpCDD # Homologues	-									2.00	2.00	2.00	2.00	2.00	2.00	2.00
2,3,7,8-TCDF	pg/g	0.060	0.160	0.057	0.150	0.100	0.100	0.027		0.210	0.181	0.380	0.212	0.380	0.149	0.240
1,2,3,7,8-PeCDF	pg/g	0.044	0.049	0.030	0.089	0.180	0.078	0.038		0.210	0.160	0.301	0.148	0.310	0.110	0.272
2,3,4,7,8-PeCDF	pg/g	0.047	0.051	0.029	0.085	0.180	0.076	0.041		0.570	0.308	0.360	0.284	0.720	0.259	0.549
1,2,3,4,7,8-HxCDF	pg/g	0.050	0.076	0.028	0.096	0.052	0.150	0.029		0.497	0.280	0.520	0.304	0.402	0.180	0.300
1,2,3,6,7,8-HxCDF	pg/g	0.049	0.068	0.025	0.098	0.053	0.160	0.027		0.280	0.221	0.360	0.211	0.350	0.150	0.325
1,2,3,7,8,9-HxCDF	pg/g	0.084	0.110	0.043	0.130	0.072	0.200	0.045		<0.072	0.074	<0.20	<0.084	0.150	0.119	<0.13
2,3,4,6,7,8-HxCDF	pg/g	0.059	0.078	0.030	0.094	0.051	0.150	0.032		0.359	0.240	0.380	0.266	0.430	0.180	0.349
1,2,3,4,6,7,8-HpCDF	pg/g	0.12	0.27	0.06	0.06	0.10	0.06	0.02		2.26	1.80	2.63	1.20	2.46	1.68	2.21
1,2,3,4,7,8,9-HpCDF	pg/g	0.20	0.40	0.09	0.08	0.12	0.08	0.03		0.19	0.14	0.18	<0.20	<0.40	0.18	0.17
OCDF	pg/g	0.37	0.40	0.24	0.16	0.19	0.15	0.39		2.93	1.80	3.64	2.10	2.90	1.70	3.70
Total-TCDF	pg/g	0.060	0.160	0.057	0.150	0.100	0.100	0.027		2.390	1.360	3.220	2.280	6.630	1.510	2.320
Total TCDF # Homologues	-									4.00	8.00	5.00	8.00	8.00	5.00	4.00
Total-PeCDF	pg/g	0.047	0.051	0.030	0.089	0.180	0.078	0.041		1.250	2.230	1.690	3.210	3.920	1.690	3.720
Total PeCDF # Homologues	-									3.00	8.00	4.00	9.00	3.00	5.00	5.00
Total-HxCDF	pg/g	0.084	0.110	0.043	0.130	0.072	0.200	0.045		2.480	2.090	2.280	2.180	3.070	1.370	1.540
Total HxCDF # Homologues	-									4.00	7.00	6.00	5.00	3.00	4.00	4.00
Total-HpCDF	pg/g	0.200	0.400	0.094	0.082	0.120	0.083	0.028		3.500	1.800	4.060	0.690	3.450	1.870	2.210
Total HpCDF # Homologues	-									2.00	1.00	3.00	1.00	2.00	2.00	1.00
13C12-2,3,7,8-TCDD	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		69.0	69.0	73.0	62.0	51.0	64.0	66.0
13C12-1,2,3,7,8-PeCDD	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		64.0	65.0	73.0	45.0	48.0	61.0	62.0
13C12-1,2,3,4,7,8-HxCDD	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		76.0	72.0	77.0	67.0	69.0	81.0	73.0
13C12-1,2,3,6,7,8-HxCDD	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		68.0	74.0	74.0	69.0	68.0	81.0	67.0
13C12-1,2,3,4,6,7,8-HpCDD	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		74.0	65.0	82.0	55.0	55.0	69.0	73.0
13C12-OCDD	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		49.0	51.0	63.0	41.0	44.0	51.0	54.0
13C12-2,3,7,8-TCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		72.0	71.0	76.0	64.0	51.0	60.0	66.0
13C12-1,2,3,7,8-PeCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		78.0	73.0	82.0	53.0	54.0	66.0	73.0
13C12-2,3,4,7,8-PeCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		71.0	65.0	77.0	44.0	47.0	63.0	67.0
13C12-1,2,3,4,7,8-HxCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		80.0	77.0	86.0	74.0	72.0	82.0	79.0
13C12-1,2,3,6,7,8-HxCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		75.0	88.0	79.0	81.0	78.0	95.0	74.0
13C12-2,3,4,6,7,8-HxCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		82.0	78.0	86.0	70.0	73.0	86.0	82.0
13C12-1,2,3,7,8,9-HxCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		77.0	72.0	82.0	64.0	65.0	76.0	75.0
13C12-1,2,3,4,6,7,8-HpCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		76.0	66.0	86.0	57.0	56.0	68.0	77.0
13C12-1,2,3,4,7,8,9-HpCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		87.0	63.0	92.0	50.0	53.0	62.0	82.0
37Cl4-2,3,7,8-TCDD (Cleanup)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		73.0	74.0	80.0	63.0	50.0	62.0	68.0
Lower Bound PCDD/F TEQ (WHO 2005)	pg/g	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0	0.9	0.5	1.0	0.3	0.3	0.5	0.8
Mid Point PCDD/F TEQ (WHO 2005)	pg/g	0.0	0.0	0.0	0.0	0.0	0.0	0.0		1.2	0.7	1.1	0.6	1.1	0.6	1.0
Upper Bound PCDD/F TEQ (WHO 2005)	pg/g	0.0	0.0	0.0	0.0	0.0	0.0	0.0		1.2	0.7	1.1	0.6	1.1	0.6	1.0
Moisture	%	0.25	0.25	0.25	0.25	0.25	0.25	0.25		18.60	19.60	22.70	17.20	24.80	18.70	20.10

Parameter	Unit	Lowest Detection Limit							Benchmarks	SB_SS_10[AI]	SB_SS_11[BH]	SB_SS_13[AS]	SB_SS_14[A]	SB_SS_15[B]	SB_SS_16[C]	SB_SS_17[O]
		RDL A	RDL B	RDL C	RDL O	RDL AI	RDL AS	RDL BH	MECP Table 1 Standards[1]	17-Aug-23	18-Aug-23	19-Aug-23	14-Aug-23	14-Aug-23	14-Aug-23	15-Aug-23
Physical Test																
% Moisture	%	0.10	0.10	0.10	0.10	0.25	0.25	0.25		19.00	19.50	22.40	16.80	23.80	18.80	19.90
Conductivity	mS/cm	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.47	0.1730	0.2990	0.0992	0.1470	0.1140	0.1710	0.1460
pH	pH units	0.10	0.10	0.10	0.10	0.10	0.10	0.10		6.36	7.44	6.72	6.89	6.54	7.13	7.29
Particle Size - Percent Passing																
Passing (0.0312mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		45.5	40.9	36.2	36.2	35.8	31.4	43.0
Passing (9.5mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		100.0	96.3	100.0	99.5	97.0	100.0	99.0
Passing (0.020mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		34.1	34.0	27.8	29.1	29.2	24.6	33.1
Passing (1.0mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		98.8	92.7	97.6	95.5	91.9	94.5	89.9
Passing (4.75mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		99.8	95.7	99.6	99.0	95.5	98.2	96.7
Passing (0.005mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		15.0	16.8	15.1	16.4	18.6	13.6	14.8
Passing (0.841mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		98.6	92.3	97.2	95.1	91.4	94.1	89.2
Passing (19mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		100.0	100.0	100.0	100.0	100.0	100.0	100.0
Passing (0.004mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		12.6	15.1	13.7	14.2	16.7	11.7	12.8
Passing (0.50mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		97.5	90.1	94.0	91.6	87.6	90.0	82.9
Passing (25.4mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		100.0	100.0	100.0	100.0	100.0	100.0	100.0
Passing (0.002mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		8.1	10.8	9.4	9.9	12.5	8.6	8.1
Passing (0.420mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		97.1	89.4	93.0	90.6	86.4	88.6	81.3
Passing (38.1mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		100.0	100.0	100.0	100.0	100.0	100.0	100.0
Passing (0.250mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		94.3	85.0	84.6	80.6	75.8	73.4	73.8
Passing (50.8mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		100.0	100.0	100.0	100.0	100.0	100.0	100.0
Passing (0.149mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		89.8	78.9	74.8	69.4	66.4	57.2	68.3
Passing (76.2mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		100.0	100.0	100.0	100.0	100.0	100.0	100.0
Passing (0.125mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		87.7	76.1	71.4	66.1	64.2	54.0	66.8
Passing (2.0mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		99.4	94.8	99.3	97.6	94.2	96.6	93.6
Passing (0.075mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		83.4	70.2	64.3	59.2	59.5	47.2	63.6
Passing (0.063mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		73.0	63.0	56.2	52.9	52.5	43.5	59.0
Passing (0.05mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		61.7	55.1	47.5	46.1	44.9	39.6	54.0
Anions and Nutrients																
Ammonia, total (as N)	mg/kg	61	65	61	122	121	127	123		233	143	244	164	212	168	217
Nitrate + Nitrite (as N), leachable	mg/kg	0.062	0.066	0.062	0.063	0.062	0.064	0.063		1.110	8.010	0.326	11.000	3.790	18.200	8.560
Nitrogen, total	%	0.020	0.020	0.020	0.020	0.020	0.020	0.020		0.268	0.212	0.266	0.237	0.303	0.229	0.254
Nitrogen, total organic	%	0.040	0.050	0.040	0.030	0.040	0.050	0.040		0.309	0.256	0.318	0.272	0.353	0.286	0.208
Ammonium	mg/kg	1.0	1.0	1.0	1.0	1.0	1.0	1.0		8.1	4.6	8.0	4.2	6.1	3.9	6.8
Chloride, leachable	mg/kg	20	20	20	20	20	20	20		<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0
Kjeldahl nitrogen, total [TKN]	%	0.020	0.020	0.020	0.020	0.020	0.020	0.020		0.310	0.256	0.319	0.273	0.354	0.286	0.209
Nitrate (as N), leachable	mg/kg	0.061	0.065	0.061	0.062	0.061	0.063	0.062		1.050	7.980	0.292	11.000	3.750	18.200	8.540
Nitrite (as N), leachable	mg/kg	0.012	0.013	0.012	0.012	0.012	0.013	0.012		0.059	0.034	0.034	<0.012	0.039	0.014	0.022
Sulfate, leachable	mg/kg	12	13	12	12	12	13	12		<12	<12	<13	<12	<13	<12	<12
Cyanides																
Cyanide	mg/kg	0.060	0.066	0.062	0.063	0.063	0.066	0.063	0.051	**0.125**	<0.063	<0.066	**0.076**	**0.136**	**0.079**	**9.660**
Organic / Inorganic Carbons																
Carbon, inorganic [IC]	%	0.050	0.050	0.050	0.050	0.050	0.050	0.050		0.095	0.840	0.380	0.213	0.293	0.486	0.453
Carbon, total [TC]	%	0.050	0.050	0.050	0.050	0.050	0.050	0.050		3.640	3.210	4.680	2.470	4.110	2.630	3.230
Carbon, total organic [TOC]	%	0.26	0.41	0.28	0.33	0.37	0.47	0.34		3.54	2.37	4.30	2.26	3.82	2.14	2.78
Carbon, inorganic [IC], (as CaCO3 equivalent)	%	0.40	0.40	0.40	0.40	0.40	0.40	0.40		0.79	7.00	3.16	1.78	2.44	4.05	3.77
Organic matter	%	0.26	0.41	0.28	0.33	0.37	0.47	0.34		6.10	4.08	7.41	3.90	6.58	3.69	4.79
Metals																
Calcium	mg/L	0.500	0.500	0.500	0.500	0.500	0.500	0.500		5.250	11.700	7.980	7.960	5.980	10.800	11.700
Magnesium	mg/L	0.500	0.500	0.500	0.500	0.500	0.500	0.500		1.990	4.420	3.670	3.590	3.290	3.200	5.860
Sodium	mg/L	0.500	0.500	0.500	0.500	0.500	0.500	0.500		<0.50	0.690	0.610	1.240	<0.50	1.390	0.560
Aluminum	mg/kg	50.000	50.000	50.000	50.000	50.000	50.000	50.000		11800.000	13300.000	13000.000	11400.000	12200.000	10800.000	15300.000
Antimony	mg/kg	0.100	0.100	0.100	0.100	0.100	0.100	0.100	1.0	0.180	0.150	0.170	0.130	0.150	0.110	0.180
Arsenic	mg/kg	0.100	0.100	0.100	0.100	0.100	0.100	0.100	11	3.570	4.120	3.960	3.810	3.260	3.260	4.710
Barium	mg/kg	0.500	0.500	0.500	0.500	0.500	0.500	0.500	210	50.300	63.300	58.000	44.400	43.500	39.000	74.300
Beryllium	mg/kg	0.100	0.100	0.100	0.100	0.100	0.100	0.100	2.5	0.410	0.500	0.390	0.440	0.340	0.430	0.560
Bismuth	mg/kg	0.200	0.200	0.200	0.200	0.200	0.200	0.200		<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Boron	mg/kg	5.00	5.00	5.00	5.00	5.00	5.00	5.00	36	<5.0	11.00	5.80	8.30	5.50	6.90	10.50
Cadmium	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	1.0	0.296	0.356	0.269	0.279	0.196	0.245	0.436
Calcium	mg/kg	50	50	50	50	50	50	50		4630	22300	5980	5780	4990	10600	15000
Chromium	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50	67	15.90	19.90	17.70	18.00	15.70	17.20	22.00
Cobalt	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	19	5.43	6.34	5.03	5.34	3.86	4.20	7.47

Parameter	Unit	Lowest Detection Limit							Benchmarks	SB_SS_10[AI]	SB_SS_11[BH]	SB_SS_13[AS]	SB_SS_14[A]	SB_SS_15[B]	SB_SS_16[C]	SB_SS_17[O]
		RDL A	RDL B	RDL C	RDL O	RDL AI	RDL AS	RDL BH	MECP Table 1 Standards[1]	17-Aug-23	18-Aug-23	19-Aug-23	14-Aug-23	14-Aug-23	14-Aug-23	15-Aug-23
Copper	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50	62	7.04	11.30	7.60	9.09	5.68	6.54	12.10
Iron	mg/kg	50	50	50	50	50	50	50		15600	17100	15800	15000	14400	14300	18400
Lead	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50	45	13.00	10.20	14.00	10.20	11.10	9.16	14.00
Lithium	mg/kg	2.0	2.0	2.0	2.0	2.0	2.0	2.0		9.7	13.6	11.7	13.3	12.3	12.4	15.0
Magnesium	mg/kg	20	20	20	20	20	20	20		2700	14200	3500	4340	3250	6510	10300
Manganese	mg/kg	1.0	1.0	1.0	1.0	1.0	1.0	1.0		632.0	776.0	264.0	528.0	199.0	320.0	876.0
Mercury	mg/kg	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.16	0.0557	0.0435	0.0560	0.0420	0.0589	0.0428	0.0405
Molybdenum	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	2.0	0.41	0.36	0.54	0.31	0.43	0.30	0.49
Nickel	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50	37	9.76	14.40	11.30	11.80	9.20	9.79	15.80
Phosphorus	mg/kg	50	50	50	50	50	50	50		382	622	334	658	188	557	821
Potassium	mg/kg	100	100	100	100	100	100	100		750	1440	740	1250	690	880	1550
Selenium	mg/kg	0.20	0.20	0.20	0.20	0.20	0.20	0.20	1.2	0.37	0.29	0.35	0.27	0.35	0.27	0.31
Silver	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Sodium	mg/kg	50	50	50	50	50	50	50		67	80	<50	68	<50	66	76
Strontium	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50		9.70	17.00	9.83	11.20	7.64	11.30	14.60
Sulfur	mg/kg	1000	1000	1000	1000	1000	1000	1000		<1000	<1000	<1000	<1000	<1000	<1000	<1000
Thallium	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	1.0	0.121	0.135	0.119	0.110	0.109	0.090	0.140
Tin	mg/kg	2.0	2.0	2.0	2.0	2.0	2.0	2.0		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Titanium	mg/kg	1.0	1.0	1.0	1.0	1.0	1.0	1.0		222.0	224.0	193.0	227.0	273.0	231.0	219.0
Tungsten	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Uranium	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	1.9	0.480	0.832	0.503	0.703	0.399	0.615	0.854
Vanadium	mg/kg	0.20	0.20	0.20	0.20	0.20	0.20	0.20	86	28.40	30.20	30.20	27.30	29.80	28.90	33.90
Zinc	mg/kg	2.0	2.0	2.0	2.0	2.0	2.0	2.0	290	42.8	47.3	36.9	37.1	30.2	31.7	61.8
Zirconium	mg/kg	1.0	1.0	1.0	1.0	1.0	1.0	1.0		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Sodium adsorption ratio [SAR]		0.10	0.10	0.10	0.10	0.10	0.10	0.10	1.0	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Chromium, hexavalent [Cr VI]	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	1.0	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Volatile Organic Compounds																
Acetone	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	<0.50	<0.50	**0.64**	<0.50	<0.50	<0.50	<0.50
Benzene	mg/kg	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.020	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Bromodichloromethane	mg/kg	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
Bromoform	mg/kg	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
Bromomethane	mg/kg	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
Carbon tetrachloride	mg/kg	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
Chlorobenzene	mg/kg	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
Chloroform	mg/kg	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
Dibromochloromethane	mg/kg	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
Dibromoethane, 1,2-	mg/kg	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
Dichlorobenzene, 1,2-	mg/kg	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
Dichlorobenzene, 1,3-	mg/kg	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
Dichlorobenzene, 1,4-	mg/kg	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
Dichlorodifluoromethane	mg/kg	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
Dichloroethane, 1,1-	mg/kg	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
Dichloroethane, 1,2-	mg/kg	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
Dichloroethylene, 1,1-	mg/kg	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
Dichloroethylene, cis-1,2-	mg/kg	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
Dichloroethylene, trans-1,2-	mg/kg	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
Dichloromethane	mg/kg	0.045	0.045	0.045	0.045	0.047	0.045	0.045	0.050	<0.047	<0.045	<0.045	<0.045	<0.045	<0.045	<0.045
Dichloropropane, 1,2-	mg/kg	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
Dichloropropylene, cis+trans-1,3-	mg/kg	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
Dichloropropylene, cis-1,3-	mg/kg	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
Dichloropropylene, trans-1,3-	mg/kg	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
Ethylbenzene	mg/kg	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.050	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Hexane, n-	mg/kg	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
Methyl ethyl ketone [MEK]	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methyl isobutyl ketone [MIBK]	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methyl-tert-butyl ether [MTBE]	mg/kg	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.050	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Styrene	mg/kg	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
Tetrachloroethane, 1,1,1,2-	mg/kg	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
Tetrachloroethane, 1,1,2,2-	mg/kg	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
Tetrachloroethylene	mg/kg	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
Toluene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.20	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Trichloroethane, 1,1,1-	mg/kg	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

Parameter	Unit	Lowest Detection Limit							Benchmarks	SB_SS_10[AI]	SB_SS_11[BH]	SB_SS_13[AS]	SB_SS_14[A]	SB_SS_15[B]	SB_SS_16[C]	SB_SS_17[O]
		RDL A	RDL B	RDL C	RDL O	RDL AI	RDL AS	RDL BH	MECP Table 1 Standards[1]	17-Aug-23	18-Aug-23	19-Aug-23	14-Aug-23	14-Aug-23	14-Aug-23	15-Aug-23
Trichloroethane, 1,1,2-	mg/kg	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
Trichloroethylene	mg/kg	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.050	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Trichlorofluoromethane	mg/kg	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
Vinyl chloride	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Xylene, m+p-	mg/kg	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
Xylene, o-	mg/kg	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
Xylenes, total	mg/kg	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
BTEX, total	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Hydrocarbons																
F1 (C6-C10)	mg/kg	5.0	5.0	5.0	5.0	5.0	5.0	5.0	17	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
F1-BTEX	mg/kg	5.0	5.0	5.0	5.0	5.0	5.0	5.0		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
F2 (C10-C16)	mg/kg	10	10	10	10	10	10	10	10	<10	<10	<10	<10	<10	<10	<10
F3 (C16-C34)	mg/kg	50	50	50	50	50	50	50	240	<50	<50	<50	<50	<50	<50	<50
F4 (C34-C50)	mg/kg	50	50	50	50	50	50	50	120	<50	<50	<50	<50	<50	<50	<50
Hydrocarbons, total (C6-C50)	mg/kg	80	80	80	80	80	80	80		<80	<80	<80	<80	<80	<80	<80
Polycyclic Aromatic Hydrocarbons																
Acenaphthene	mg/kg	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
Acenaphthylene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.093	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Anthracene	mg/kg	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
Benz(a)anthracene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.095	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(a)pyrene	mg/kg	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
Benzo(b+j)fluoranthene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.30	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(g,h,i)perylene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.20	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(k)fluoranthene	mg/kg	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
Chrysene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.18	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dibenz(a,h)anthracene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fluoranthene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.24	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fluorene	mg/kg	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
Indeno(1,2,3-c,d)pyrene	mg/kg	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
Methylnaphthalene, 1-	mg/kg	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
Methylnaphthalene, 2-	mg/kg	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
Naphthalene	mg/kg	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
Phenanthrene	mg/kg	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
Pyrene	mg/kg	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
Methylnaphthalene, 1+2-	mg/kg	0.042	0.042	0.042	0.042	0.042	0.042	0.042		<0.042	<0.042	<0.042	<0.042	<0.042	<0.042	<0.042
Phthalate Esters																
Diethyl phthalate	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dimethyl phthalate	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
bis(2-Ethylhexyl) phthalate [DEHP]	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Semi-volatile Organics																
Biphenyl	mg/kg	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
Chloroaniline, 4-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dichlorobenzidine, 3,3'-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dinitrotoluene, 2,4-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dinitrotoluene, 2,6-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Trichlorobenzene, 1,2,4-	mg/kg	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
bis(2-Chloro-1-methylethyl) ether	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
bis(2-Chloroethyl) ether	mg/kg	0.10	0.10	0.10	0.10	0.10	2.40	0.10	0.50	<0.10	<0.10	<2.40	<0.10	<0.10	<0.10	<0.10
Dinitrotoluene, 2,4 + 2,6-	mg/kg	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.50	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Phenolics																
Chlorophenol, 2-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dichlorophenol, 2,4-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Pentachlorophenol [PCP]	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Trichlorophenol, 2,4,5-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Trichlorophenol, 2,4,6-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dimethylphenol, 2,4-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dinitrophenol, 2,4-	mg/kg	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Phenol	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Polychlorinated Biphenyls																
Aroclor 1016	mg/kg	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
Aroclor 1221	mg/kg	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
Aroclor 1232	mg/kg	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

Parameter	Unit	Lowest Detection Limit							Benchmarks	SB_SS_10[AI]	SB_SS_11[BH]	SB_SS_13[AS]	SB_SS_14[A]	SB_SS_15[B]	SB_SS_16[C]	SB_SS_17[O]
		RDL A	RDL B	RDL C	RDL O	RDL AI	RDL AS	RDL BH	MECP Table 1 Standards[1]	17-Aug-23	18-Aug-23	19-Aug-23	14-Aug-23	14-Aug-23	14-Aug-23	15-Aug-23
Aroclor 1242	mg/kg	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
Aroclor 1248	mg/kg	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
Aroclor 1254	mg/kg	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
Aroclor 1260	mg/kg	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
Aroclor 1262	mg/kg	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
Aroclor 1268	mg/kg	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
Polychlorinated biphenyls [PCBs], total	mg/kg	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.300	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Organochlorine Pesticides																
Aldrin	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.050	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Chlordane, cis- (alpha)	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Chlordane, total	mg/kg	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.050	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Chlordane, trans- (gamma)	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
DDD, 2,4'-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
DDD, 4,4'-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
DDD, total	mg/kg	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.050	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
DDE, 2,4'-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
DDE, 4,4'-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
DDE, total	mg/kg	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.050	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
DDT, 2,4'-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
DDT, 4,4'-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
DDT, total	mg/kg	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.078	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Dieldrin	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.050	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Endosulfan, alpha-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Endosulfan, beta-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Endosulfan, total	mg/kg	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.040	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Endrin	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.040	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Endrin aldehyde	mg/kg	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
Heptachlor	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.050	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Heptachlor epoxide	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.050	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Hexachlorobenzene	mg/kg	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
Hexachlorobutadiene	mg/kg	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
Hexachlorocyclohexane, gamma-	mg/kg	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
Hexachloroethane	mg/kg	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
Methoxychlor	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.050	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Radiological Parameters																
Cesium-137	Bq/kg	18.5	18.5	18.5	18.5	18.5	18.5	18.5		12.8	5.1	8.8	4.8	8.4	4.5	5.3
Cobalt-60	Bq/kg	18.5	18.5	18.5	18.5	18.5	18.5	18.5		<18.5	<18.5	<18.5	<18.5	<18.5	<18.5	<18.5
Gross alpha	Bq/kg	111	111	111	111	111	111	111		185	503	313	381	191	336	322
Gross beta	Bq/kg	148	148	148	148	148	148	148		763	768	588	964	632	815	887
Iodine-129	Bq/kg	370	370	370	370	370	370	370		<370	<370	<370	<370	<370	<370	<370
Neptunium-237	Bq/kg	---	3.7	---	---	---	---	---		---	---	---	---	<3.7	---	---
Potassium-40	Bq/kg	75	75	75	75	75	75	75		717	657	577	625	513	559	633
Radium-226	Bq/kg	37	37	37	37	37	37	37		54	74	54	34	71	21	49
Ruthenium-106	Bq/kg	90	90	90	90	90	90	90		<90	<90	<90	<90	<90	<90	<90
Strontium-90	Bq/kg	18.5	18.5	18.5	18.5	18.5	18.5	18.5		<18.5	<18.5	<18.5	<18.5	<18.5	<18.5	<18.5
Thorium-228	Bq/kg	3.7	3.7	3.7	3.7	3.7	3.7	3.7		19.3	26.5	24.0	23.3	18.5	14.9	38.4
Thorium-230	Bq/kg	3.7	3.7	3.7	3.7	3.7	3.7	3.7		28.6	49.5	37.1	33.2	30.6	38.2	34.3
Thorium-232	Bq/kg	3.7	3.7	3.7	3.7	3.7	3.7	3.7		22.1	22.4	18.7	21.3	16.9	17.6	28.0
Uranium-234	Bq/kg	3.7	3.7	3.7	3.7	3.7	3.7	3.7		20.9	18.4	22.1	23.0	16.7	20.1	22.6
Uranium-235	Bq/kg	3.7	3.7	3.7	3.7	3.7	3.7	3.7		2.5	<3.7	<3.7	1.5	<3.7	1.4	0.9
Uranium-238	Bq/kg	3.7	3.7	3.7	3.7	3.7	3.7	3.7		22.2	17.2	22.2	23.7	21.7	21.0	31.7
Carbon-14	Bq/kg	740	740	740	740	740	740	740		<740	<740	<740	<740	<740	<740	<740

Parameter	Unit	Lowest Detection Limit							Benchmarks	SB_SS_10[AI]	SB_SS_11[BH]	SB_SS_13[AS]	SB_SS_14[A]	SB_SS_15[B]	SB_SS_16[C]	SB_SS_17[O]
		RDL A	RDL B	RDL C	RDL O	RDL AI	RDL AS	RDL BH	MECP Table 1 Standards[1]	17-Aug-23	18-Aug-23	19-Aug-23	14-Aug-23	14-Aug-23	14-Aug-23	15-Aug-23
Chlorine-36	Bq/kg	---	370	---	---	---	---	---		---	---	---	---	<370	---	---
Plutonium-238	Bq/kg	---	1.85	---	---	---	---	---		---	---	---	---	<1.85	---	---
Plutonium-239	Bq/kg	---	1.85	---	---	---	---	---		---	---	---	---	<1.85	---	---
Selenium-79	Bq/kg	---	370	---	---	---	---	---		---	---	---	---	<370	---	---
Tritium	Bq/kg	37	37	37	37	37	37	37		<37	<37	<37	46	45	54	<37

[1]MECP Table 1 Standards: Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011, Table 1, Full Depth Background Site Condition Standards, for Agricultural Property Use.
pg/g = picogram per gram
Bq/L = Becquerel per litre.
mg/kg = milligram per kilogram
mS/cm = MilliSiemens per centimetre
mg/L = milligram per litre
--- not sampled or not provided by the laboratory

Appendix II Table 3: Soil quality parameters for a subset of soil samples collected during the August 2023 surficial soil sampling program. Samples included in this table are SB_SS_18, SB_SS_19, SB_SS_20, SB_SS_21, SB_SS_22, SB_SS_23, and SB_SS_24. Also noted is the unit that the parameter was measured in and the reported detection limit (RDL). Any highlighted values indicate they are above the MECP Table 1 Background Site Condition Standards for Agricultural Use (MECP 2011). Detection limits changed between sites and are indicated by a superscript letter beside the site identification.

Parameter	Unit								Benchmarks	SB_SS_18[P]	SB_SS_19[M]	SB_SS_20[J]	SB_SS_21[AZ]	SB_SS_22[R]	SB_SS_23[Q]	SB_SS_24[AB]
		RDL J	RDL M	RDL P	RDL Q	RDL R	RDL AB	RDL AZ	MECP Table 1 Standards[1]	16-Aug-23	15-Aug-23	15-Aug-23	29-Aug-23	16-Aug-23	16-Aug-23	17-Aug-23
Dioxins and Furans																
2,3,7,8-TCDD	pg/g	0.140	0.210	0.017	0.014	0.019	0.057	0.044		0.175	<0.21	<0.14	0.220	0.047	0.122	0.143
1,2,3,7,8-PeCDD	pg/g	0.210	0.170	0.017	0.012	0.012	0.085	0.056		0.354	0.340	0.770	0.562	0.181	0.219	0.290
1,2,3,4,7,8-HxCDD	pg/g	0.096	0.120	0.045	0.032	0.053	0.130	0.037		0.390	0.270	0.240	0.520	0.157	0.194	0.230
1,2,3,6,7,8-HxCDD	pg/g	0.100	0.130	0.043	0.030	0.053	0.140	0.031		0.740	0.490	3.170	0.720	0.306	0.455	0.470
1,2,3,7,8,9-HxCDD	pg/g	0.097	0.120	0.045	0.031	0.054	0.130	0.035		0.644	0.690	1.900	0.866	0.270	0.420	0.440
1,2,3,4,6,7,8-HpCDD	pg/g	0.14	0.14	0.07	0.06	0.09	0.10	0.10		7.87	7.03	8.89	11.20	3.82	5.30	5.82
OCDD	pg/g	0.22	0.25	0.50	0.29	0.61	0.33	0.26		42.80	28.80	31.00	55.60	16.30	26.40	30.40
Total-TCDD	pg/g	0.140	0.210	0.017	0.014	0.019	0.057	0.044		1.600	<0.21	0.610	2.930	0.559	1.100	0.954
Total TCDD # Homologues	-									7.00	0.00	2.00	2.00	5.00	6.00	3.00
Total-PeCDD	pg/g	0.210	0.170	0.017	0.012	0.012	0.085	0.056		2.710	0.650	2.170	2.850	1.490	1.390	1.300
Total PeCDD # Homologues	-									5.00	2.00	2.00	5.00	6.00	6.00	3.00
Total-HxCDD	pg/g	0.100	0.130	0.045	0.032	0.054	0.140	0.037		9.940	6.860	24.200	10.400	4.770	2.830	5.350
Total HxCDD # Homologues	-									7.00	4.00	5.00	5.00	5.00	4.00	5.00
Total-HpCDD	pg/g	0.140	0.140	0.066	0.063	0.088	0.100	0.100		15.500	7.030	16.900	20.300	7.980	10.500	11.300
Total HpCDD # Homologues	-									2.00	1.00	2.00	2.00	2.00	2.00	2.00
2,3,7,8-TCDF	pg/g	0.190	0.400	0.048	0.034	0.022	0.120	0.052		0.414	0.480	0.240	0.350	0.216	0.271	0.180
1,2,3,7,8-PeCDF	pg/g	0.120	0.220	0.023	0.031	0.037	0.091	0.065		0.426	0.400	0.270	0.512	0.150	0.204	0.272
2,3,4,7,8-PeCDF	pg/g	0.110	0.200	0.023	0.032	0.036	0.087	0.068		0.714	0.840	0.680	0.687	0.280	0.388	0.275
1,2,3,4,7,8-HxCDF	pg/g	0.084	0.180	0.024	0.022	0.073	0.062	0.052		0.410	0.510	0.383	0.512	0.220	0.362	0.260
1,2,3,6,7,8-HxCDF	pg/g	0.072	0.140	0.023	0.021	0.066	0.062	0.050		0.320	0.370	0.290	0.408	0.170	0.230	0.230
1,2,3,7,8,9-HxCDF	pg/g	0.120	0.230	0.039	0.034	0.110	0.084	0.060		0.159	<0.23	<0.12	0.192	<0.11	0.110	0.108
2,3,4,6,7,8-HxCDF	pg/g	0.076	0.160	0.027	0.024	0.079	0.062	0.051		0.429	0.360	0.340	0.330	0.200	0.294	0.207
1,2,3,4,6,7,8-HpCDF	pg/g	0.05	0.08	0.03	0.03	0.04	0.06	0.05		2.43	2.01	2.57	3.19	1.06	1.73	1.83
1,2,3,4,7,8,9-HpCDF	pg/g	0.06	0.12	0.05	0.04	0.05	0.08	0.07		0.27	0.27	0.18	0.33	0.15	0.06	<0.077
OCDF	pg/g	0.18	0.20	0.21	0.13	0.27	0.16	0.10		2.94	3.94	5.75	4.32	1.62	1.76	2.62
Total-TCDF	pg/g	0.190	0.400	0.048	0.034	0.022	0.120	0.052		3.910	0.480	4.850	4.550	2.000	2.970	1.720
Total TCDF # Homologues	-									7.00	1.00	8.00	5.00	10.00	10.00	4.00
Total-PeCDF	pg/g	0.120	0.220	0.023	0.032	0.037	0.091	0.068		4.670	5.150	6.340	5.780	2.370	3.010	2.060
Total PeCDF # Homologues	-									11.00	6.00	6.00	10.00	8.00	10.00	6.00
Total-HxCDF	pg/g	0.120	0.230	0.039	0.034	0.110	0.084	0.060		4.310	3.240	1.940	2.360	1.150	1.450	1.650
Total HxCDF # Homologues	-									7.00	4.00	3.00	6.00	2.00	4.00	4.00
Total-HpCDF	pg/g	0.064	0.120	0.049	0.044	0.054	0.077	0.068		3.880	3.060	4.290	5.000	1.210	1.890	2.910
Total HpCDF # Homologues	-									4.00	2.00	3.00	3.00	2.00	2.00	2.00
13C12-2,3,7,8-TCDD	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		79.0	36.0	44.0	73.0	77.0	85.0	63.0
13C12-1,2,3,7,8-PeCDD	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		71.0	58.0	67.0	73.0	64.0	75.0	62.0
13C12-1,2,3,4,7,8-HxCDD	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		82.0	69.0	81.0	72.0	78.0	83.0	68.0
13C12-1,2,3,6,7,8-HxCDD	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		84.0	63.0	73.0	72.0	78.0	85.0	65.0
13C12-1,2,3,4,6,7,8-HpCDD	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		72.0	75.0	83.0	81.0	56.0	73.0	69.0
13C12-OCDD	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		48.0	59.0	60.0	67.0	33.0	56.0	50.0
13C12-2,3,7,8-TCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		87.0	37.0	44.0	71.0	73.0	86.0	64.0
13C12-1,2,3,7,8-PeCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		85.0	63.0	78.0	77.0	68.0	83.0	72.0
13C12-2,3,4,7,8-PeCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		76.0	65.0	77.0	72.0	61.0	74.0	67.0
13C12-1,2,3,4,7,8-HxCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		97.0	78.0	92.0	71.0	82.0	85.0	74.0
13C12-1,2,3,6,7,8-HxCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		105.0	90.0	100.0	73.0	87.0	97.0	71.0
13C12-2,3,4,6,7,8-HxCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		97.0	90.0	99.0	76.0	79.0	87.0	76.0
13C12-1,2,3,7,8,9-HxCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		89.0	80.0	86.0	76.0	73.0	81.0	70.0
13C12-1,2,3,4,6,7,8-HpCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		75.0	94.0	101.0	83.0	58.0	75.0	73.0
13C12-1,2,3,4,7,8,9-HpCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		72.0	93.0	101.0	69.0	58.0	72.0	79.0
37Cl4-2,3,7,8-TCDD (Cleanup)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		80.0	40.0	46.0	72.0	78.0	83.0	68.0
Lower Bound PCDD/F TEQ (WHO 2005)	pg/g	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0	1.2	0.9	1.7	1.2	0.4	0.7	0.4
Mid Point PCDD/F TEQ (WHO 2005)	pg/g	0.0	0.0	0.0	0.0	0.0	0.0	0.0		1.2	1.1	1.8	1.6	0.5	0.8	0.8
Upper Bound PCDD/F TEQ (WHO 2005)	pg/g	0.0	0.0	0.0	0.0	0.0	0.0	0.0		1.2	1.3	1.9	1.6	0.5	0.8	0.8
Moisture	%	0.25	0.25	0.25	0.25	0.25	0.25	0.25		24.80	45.50	15.60	36.10	17.00	20.60	19.70
Physical Test																
% Moisture	%	0.10	0.10	0.10	0.10	0.10	0.25	0.10		24.30	43.80	15.80	33.40	15.80	20.60	19.50
Conductivity	mS/cm	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.47	0.1320	0.3370	0.1260	0.1320	0.3520	0.0957	0.2180
pH	pH units	0.10	0.10	0.10	0.10	0.10	0.10	0.10		6.54	6.94	7.04	6.79	7.14	6.39	7.18

Parameter	Unit								Benchmarks	SB_SS_18[P]	SB_SS_19[M]	SB_SS_20[J]	SB_SS_21[AZ]	SB_SS_22[R]	SB_SS_23[Q]	SB_SS_24[AB]
		RDL J	RDL M	RDL P	RDL Q	RDL R	RDL AB	RDL AZ	MECP Table 1 Standards[1]	16-Aug-23	15-Aug-23	15-Aug-23	29-Aug-23	16-Aug-23	16-Aug-23	17-Aug-23
Particle Size - Percent Passing																
Passing (0.0312mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		26.9	43.7	31.2	23.5	38.8	24.2	33.4
Passing (9.5mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		98.0	100.0	99.4	100.0	99.3	100.0	99.6
Passing (0.020mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		20.8	37.2	24.2	18.1	29.0	17.8	26.9
Passing (1.0mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		78.8	97.9	90.7	99.0	92.8	99.3	96.4
Passing (4.75mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		89.0	100.0	98.0	99.8	97.3	100.0	98.9
Passing (0.005mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		9.5	18.6	11.8	8.6	15.6	8.5	12.8
Passing (0.841mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		77.9	97.6	89.6	98.8	92.2	99.2	96.0
Passing (19mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		100.0	100.0	100.0	100.0	100.0	100.0	100.0
Passing (0.004mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		8.5	17.0	10.5	7.2	13.8	8.1	11.0
Passing (0.50mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		71.7	94.1	76.8	96.7	84.9	96.9	93.1
Passing (25.4mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		100.0	100.0	100.0	100.0	100.0	100.0	100.0
Passing (0.002mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		5.8	12.1	6.4	4.2	8.8	6.2	7.8
Passing (0.420mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		70.1	93.0	73.4	96.0	83.0	96.1	92.2
Passing (38.1mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		100.0	100.0	100.0	100.0	100.0	100.0	100.0
Passing (0.250mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		61.2	84.8	55.6	88.7	70.7	83.6	84.1
Passing (50.8mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		100.0	100.0	100.0	100.0	100.0	100.0	100.0
Passing (0.149mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		52.6	80.2	48.4	74.0	61.8	62.7	73.2
Passing (76.2mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		100.0	100.0	100.0	100.0	100.0	100.0	100.0
Passing (0.125mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		50.2	79.4	46.9	69.6	59.8	56.7	69.0
Passing (2.0mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		83.3	99.3	95.4	99.7	95.5	99.9	98.4
Passing (0.075mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		45.3	77.6	43.8	60.7	55.8	44.3	60.2
Passing (0.063mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		40.0	66.0	41.4	47.6	52.4	38.6	52.3
Passing (0.05mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		34.3	53.5	38.8	33.7	48.7	32.3	43.8
Anions and Nutrients																
Ammonia, total (as N)	mg/kg	59	175	132	126	122	124	151		229	474	151	256	166	202	204
Nitrate + Nitrite (as N), leachable	mg/kg	0.060	0.090	0.066	0.063	0.061	0.062	0.076		2.570	8.720	12.900	1.070	54.900	1.980	1.970
Nitrogen, total	%	0.020	0.020	0.020	0.020	0.020	0.020	0.020		0.290	0.632	0.230	0.368	0.194	0.178	0.199
Nitrogen, total organic	%	0.030	0.080	0.050	0.040	0.040	0.040	0.060		0.370	0.552	0.169	0.389	0.253	0.241	0.267
Ammonium	mg/kg	1.0	1.0	1.0	1.0	1.0	1.0	1.0		12.5	16.6	5.1	5.6	5.1	6.7	5.3
Chloride, leachable	mg/kg	20	20	20	20	20	20	20		<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	26
Kjeldahl nitrogen, total [TKN]	%	0.020	0.070	0.020	0.020	0.020	0.020	0.070		0.371	0.554	0.170	0.390	0.254	0.242	0.268
Nitrate (as N), leachable	mg/kg	0.059	0.088	0.065	0.062	0.060	0.061	0.075		2.570	8.680	12.900	1.070	54.900	1.980	1.930
Nitrite (as N), leachable	mg/kg	0.012	0.018	0.013	0.012	0.012	0.012	0.015		<0.013	0.041	0.032	<0.015	<0.012	<0.012	0.038
Sulfate, leachable	mg/kg	12	18	13	12	12	12	15		<13	<18	<12	28	16	<12	<12
Cyanides																
Cyanide	mg/kg	0.060	0.092	0.337	0.064	0.058	0.062	0.078	0.051	<0.337	**0.128**	**0.080**	<0.078	**0.075**	<0.064	**0.071**
Organic / Inorganic Carbons																
Carbon, inorganic [IC]	%	0.050	0.050	0.050	0.050	0.050	0.050	0.050		0.143	0.378	0.293	0.395	0.382	0.108	0.843
Carbon, total [TC]	%	0.050	0.050	0.050	0.050	0.050	0.050	0.050		4.800	8.850	2.770	6.470	2.390	2.460	3.410
Carbon, total organic [TOC]	%	0.29	0.87	0.48	0.25	0.25	0.36	0.64		4.66	8.47	2.48	6.08	2.01	2.35	2.57
Carbon, inorganic [IC], (as CaCO3 equivalent)	%	0.40	0.40	0.40	0.40	0.40	0.40	0.40		1.19	3.16	2.44	3.29	3.18	0.90	7.03
Organic matter	%	0.28	0.87	0.48	0.25	0.25	0.36	0.64		8.03	14.60	4.28	10.50	3.46	4.05	4.43
Metals																
Calcium	mg/L	0.500	0.500	0.500	0.500	0.500	0.500	0.500		8.430	45.400	7.860	6.210	27.200	4.890	10.500
Magnesium	mg/L	0.500	0.500	0.500	0.500	0.500	0.500	0.500		3.770	14.300	3.920	2.720	7.350	2.420	3.120
Sodium	mg/L	0.500	0.500	0.500	0.500	0.500	0.500	0.500		0.980	1.910	0.860	3.570	3.880	<0.50	4.910
Aluminum	mg/kg	50.000	50.000	50.000	50.000	50.000	50.000	50.000		9110.000	15900.000	13500.000	9770.000	12000.000	9760.000	12500.000
Antimony	mg/kg	0.100	0.100	0.100	0.100	0.100	0.100	0.100	1.0	0.240	0.140	0.170	0.220	0.170	0.160	0.110
Arsenic	mg/kg	0.100	0.100	0.100	0.100	0.100	0.100	0.100	11	3.950	3.900	4.840	3.030	4.150	3.120	3.990
Barium	mg/kg	0.500	0.500	0.500	0.500	0.500	0.500	0.500	210	40.200	77.700	61.200	40.400	48.100	46.600	66.500
Beryllium	mg/kg	0.100	0.100	0.100	0.100	0.100	0.100	0.100	2.5	0.270	0.560	0.440	0.360	0.460	0.330	0.430
Bismuth	mg/kg	0.200	0.200	0.200	0.200	0.200	0.200	0.200		<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Boron	mg/kg	5.00	5.00	5.00	5.00	5.00	5.00	5.00	36	5.20	10.80	6.80	6.40	6.70	6.20	9.30
Cadmium	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	1.0	0.304	0.624	0.393	0.322	0.281	0.321	0.322
Calcium	mg/kg	50	50	50	50	50	50	50		4930	15200	9440	7380	14500	4180	21500
Chromium	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50	67	13.80	22.60	20.20	15.20	18.00	15.40	18.50
Cobalt	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	19	3.63	6.23	6.01	3.90	5.78	4.63	5.18
Copper	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50	62	6.27	20.70	10.70	5.08	12.10	7.60	7.86
Iron	mg/kg	50	50	50	50	50	50	50		13500	17400	16800	12300	16000	13600	15000
Lead	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50	45	13.60	15.20	13.70	13.70	10.40	12.80	9.15
Lithium	mg/kg	2.0	2.0	2.0	2.0	2.0	2.0	2.0		10.4	15.5	12.9	9.0	11.7	13.5	11.8
Magnesium	mg/kg	20	20	20	20	20	20	20		2980	8360	6780	3210	5550	3350	14200
Manganese	mg/kg	1.0	1.0	1.0	1.0	1.0	1.0	1.0		472.0	268.0	754.0	375.0	672.0	966.0	636.0
Mercury	mg/kg	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.16	0.0689	0.0878	0.0439	0.0822	0.0348	0.0750	0.0488
Molybdenum	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	2.0	0.48	0.41	0.50	0.48	0.53	0.38	0.46

Parameter	Unit								Benchmarks	SB_SS_18[P]	SB_SS_19[M]	SB_SS_20[J]	SB_SS_21[AZ]	SB_SS_22[R]	SB_SS_23[Q]	SB_SS_24[AB]
		RDL J	RDL M	RDL P	RDL Q	RDL R	RDL AB	RDL AZ	MECP Table 1 Standards[1]	16-Aug-23	15-Aug-23	15-Aug-23	29-Aug-23	16-Aug-23	16-Aug-23	17-Aug-23
Nickel	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50	37	8.27	16.10	13.60	7.34	12.80	9.55	10.90
Phosphorus	mg/kg	50	50	50	50	50	50	50		240	956	897	457	1220	335	559
Potassium	mg/kg	100	100	100	100	100	100	100		550	1500	1280	590	1310	790	1060
Selenium	mg/kg	0.20	0.20	0.20	0.20	0.20	0.20	0.20	1.2	0.39	0.89	0.36	0.60	0.29	0.34	0.32
Silver	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Sodium	mg/kg	50	50	50	50	50	50	50		<50	85	61	80	68	<50	98
Strontium	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50		6.70	19.70	12.80	45.70	12.70	7.58	23.40
Sulfur	mg/kg	1000	1000	1000	1000	1000	1000	1000		<1000	<1000	<1000	<1000	<1000	<1000	<1000
Thallium	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	1.0	0.092	0.104	0.118	0.092	0.105	0.100	0.096
Tin	mg/kg	2.0	2.0	2.0	2.0	2.0	2.0	2.0		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Titanium	mg/kg	1.0	1.0	1.0	1.0	1.0	1.0	1.0		167.0	124.0	182.0	188.0	193.0	219.0	212.0
Tungsten	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Uranium	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	1.9	0.360	1.780	0.677	0.962	0.663	0.324	0.692
Vanadium	mg/kg	0.20	0.20	0.20	0.20	0.20	0.20	0.20	86	23.70	31.60	30.60	23.30	28.50	22.50	27.90
Zinc	mg/kg	2.0	2.0	2.0	2.0	2.0	2.0	2.0	290	37.2	61.3	62.7	37.6	64.8	42.7	35.4
Zirconium	mg/kg	1.0	1.0	1.0	1.0	1.0	1.0	1.0		<1.0	2.4	<1.0	<1.0	<1.0	<1.0	<1.0
Sodium adsorption ratio [SAR]		0.10	0.10	0.10	0.10	0.10	0.10	0.10	1.0	<0.10	<0.10	<0.10	0.30	0.17	<0.10	0.34
Chromium, hexavalent [Cr VI]	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	1.0	<0.10	0.17	<0.10	0.30	0.17	<0.10	<0.10
Volatile Organic Compounds																
Acetone	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	<0.50	<0.50	<0.50	**0.52**	<0.50	<0.50	<0.50
Benzene	mg/kg	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.020	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Bromodichloromethane	mg/kg	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
Bromoform	mg/kg	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
Bromomethane	mg/kg	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
Carbon tetrachloride	mg/kg	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
Chlorobenzene	mg/kg	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
Chloroform	mg/kg	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
Dibromochloromethane	mg/kg	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
Dibromoethane, 1,2-	mg/kg	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
Dichlorobenzene, 1,2-	mg/kg	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
Dichlorobenzene, 1,3-	mg/kg	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
Dichlorobenzene, 1,4-	mg/kg	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
Dichlorodifluoromethane	mg/kg	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
Dichloroethane, 1,1-	mg/kg	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
Dichloroethane, 1,2-	mg/kg	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
Dichloroethylene, 1,1-	mg/kg	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
Dichloroethylene, cis-1,2-	mg/kg	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
Dichloroethylene, trans-1,2-	mg/kg	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
Dichloromethane	mg/kg	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.050	<0.045	<0.045	<0.045	<0.045	<0.045	<0.045	<0.045
Dichloropropane, 1,2-	mg/kg	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
Dichloropropylene, cis+trans-1,3-	mg/kg	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
Dichloropropylene, cis-1,3-	mg/kg	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
Dichloropropylene, trans-1,3-	mg/kg	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
Ethylbenzene	mg/kg	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.050	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Hexane, n-	mg/kg	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
Methyl ethyl ketone [MEK]	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methyl isobutyl ketone [MIBK]	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methyl-tert-butyl ether [MTBE]	mg/kg	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.050	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Styrene	mg/kg	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
Tetrachloroethane, 1,1,1,2-	mg/kg	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
Tetrachloroethane, 1,1,2,2-	mg/kg	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
Tetrachloroethylene	mg/kg	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
Toluene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.20	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Trichloroethane, 1,1,1-	mg/kg	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
Trichloroethane, 1,1,2-	mg/kg	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
Trichloroethylene	mg/kg	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.050	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Trichlorofluoromethane	mg/kg	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
Vinyl chloride	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Xylene, m+p-	mg/kg	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
Xylene, o-	mg/kg	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
Xylenes, total	mg/kg	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
BTEX, total	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Hydrocarbons																
F1 (C6-C10)	mg/kg	5.0	5.0	5.0	5.0	5.0	5.0	5.0	17	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
F1-BTEX	mg/kg	5.0	5.0	5.0	5.0	5.0	5.0	5.0		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
F2 (C10-C16)	mg/kg	10	11	10	10	10	10	10	10	<10	<11	<10	<10	<10	<10	<10

Parameter	Unit								Benchmarks	SB_SS_18[P]	SB_SS_19[M]	SB_SS_20[J]	SB_SS_21[AZ]	SB_SS_22[R]	SB_SS_23[Q]	SB_SS_24[AB]
		RDL J	RDL M	RDL P	RDL Q	RDL R	RDL AB	RDL AZ	MECP Table 1 Standards[1]	16-Aug-23	15-Aug-23	15-Aug-23	29-Aug-23	16-Aug-23	16-Aug-23	17-Aug-23
F3 (C16-C34)	mg/kg	50	50	50	50	50	50	50	240	<50	<50	<50	255	<50	<50	<50
F4 (C34-C50)	mg/kg	50	50	50	50	50	50	50	120	<50	<50	<50	189	<50	<50	<50
Hydrocarbons, total (C6-C50)	mg/kg	80	80	80	80	80	80	80		<80	<80	<80	444	<80	<80	<80
Polycyclic Aromatic Hydrocarbons																
Acenaphthene	mg/kg	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
Acenaphthylene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.093	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Anthracene	mg/kg	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
Benz(a)anthracene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.100	0.095	<0.050	<0.050	<0.050	<0.100	<0.050	<0.050	<0.050
Benzo(a)pyrene	mg/kg	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
Benzo(b+j)fluoranthene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.30	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(g,h,i)perylene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.20	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(k)fluoranthene	mg/kg	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
Chrysene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.100	0.18	<0.050	<0.050	<0.050	<0.100	<0.050	<0.050	<0.050
Dibenz(a,h)anthracene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fluoranthene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.24	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fluorene	mg/kg	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
Indeno(1,2,3-c,d)pyrene	mg/kg	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
Methylnaphthalene, 1-	mg/kg	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
Methylnaphthalene, 2-	mg/kg	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
Naphthalene	mg/kg	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
Phenanthrene	mg/kg	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
Pyrene	mg/kg	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
Methylnaphthalene, 1+2-	mg/kg	0.042	0.042	0.042	0.042	0.042	0.042	0.042		<0.042	<0.042	<0.042	<0.042	<0.042	<0.042	<0.042
Phthalate Esters																
Diethyl phthalate	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dimethyl phthalate	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
bis(2-Ethylhexyl) phthalate [DEHP]	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Semi-volatile Organics																
Biphenyl	mg/kg	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
Chloroaniline, 4-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dichlorobenzidine, 3,3'-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dinitrotoluene, 2,4-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dinitrotoluene, 2,6-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Trichlorobenzene, 1,2,4-	mg/kg	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
bis(2-Chloro-1-methylethyl) ether	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
bis(2-Chloroethyl) ether	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dinitrotoluene, 2,4 + 2,6-	mg/kg	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.50	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Phenolics																
Chlorophenol, 2-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dichlorophenol, 2,4-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Pentachlorophenol [PCP]	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Trichlorophenol, 2,4,5-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Trichlorophenol, 2,4,6-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dimethylphenol, 2,4-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dinitrophenol, 2,4-	mg/kg	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Phenol	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Polychlorinated Biphenyls																
Aroclor 1016	mg/kg	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
Aroclor 1221	mg/kg	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
Aroclor 1232	mg/kg	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
Aroclor 1242	mg/kg	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
Aroclor 1248	mg/kg	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
Aroclor 1254	mg/kg	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
Aroclor 1260	mg/kg	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
Aroclor 1262	mg/kg	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
Aroclor 1268	mg/kg	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
Polychlorinated biphenyls [PCBs], total	mg/kg	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.300	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Organochlorine Pesticides																
Aldrin	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.050	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Chlordane, cis- (alpha)	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Chlordane, total	mg/kg	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.050	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Chlordane, trans- (gamma)	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
DDD, 2,4'-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
DDD, 4,4'-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
DDD, total	mg/kg	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.050	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
DDE, 2,4'-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020

Parameter	Unit								Benchmarks	SB_SS_18[P]	SB_SS_19[M]	SB_SS_20[J]	SB_SS_21[AZ]	SB_SS_22[R]	SB_SS_23[Q]	SB_SS_24[AB]
		RDL J	RDL M	RDL P	RDL Q	RDL R	RDL AB	RDL AZ	MECP Table 1 Standards[1]	16-Aug-23	15-Aug-23	15-Aug-23	29-Aug-23	16-Aug-23	16-Aug-23	17-Aug-23
DDE, 4,4'-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
DDE, total	mg/kg	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.050	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
DDT, 2,4'-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
DDT, 4,4'-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
DDT, total	mg/kg	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.078	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Dieldrin	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.050	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Endosulfan, alpha-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Endosulfan, beta-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Endosulfan, total	mg/kg	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.040	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Endrin	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.040	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Endrin aldehyde	mg/kg	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
Heptachlor	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.050	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Heptachlor epoxide	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.050	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Hexachlorobenzene	mg/kg	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
Hexachlorobutadiene	mg/kg	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
Hexachlorocyclohexane, gamma-	mg/kg	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
Hexachloroethane	mg/kg	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
Methoxychlor	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.050	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Radiological Parameters																
Cesium-137	Bq/kg	18.5	18.5	18.5	18.5	18.5	18.5	18.5		11.1	10.8	5.0	8.2	3.2	9.3	6.4
Cobalt-60	Bq/kg	18.5	18.5	18.5	18.5	18.5	18.5	18.5		<18.5	<18.5	<18.5	<18.5	<18.5	<18.5	<18.5
Gross alpha	Bq/kg	111	111	111	111	111	111	111		229	342	236	319	342	152	164
Gross beta	Bq/kg	148	148	148	148	148	148	148		893	823	657	592	815	745	836
Iodine-129	Bq/kg	370	370	370	370	370	370	370		<370	<370	<370	<370	<370	<370	<370
Neptunium-237	Bq/kg	---	---	3.7	---	---	---	---		<3.7	---	---	---	---	---	---
Potassium-40	Bq/kg	75	75	75	75	75	75	75		485	528	537	519	624	687	566
Radium-226	Bq/kg	37	37	37	37	37	37	37		41	32	24	54	17	33	42
Ruthenium-106	Bq/kg	90	90	90	90	90	90	90		<90	<90	<90	<90	<90	<90	<90
Strontium-90	Bq/kg	18.5	18.5	18.5	18.5	18.5	18.5	18.5		<18.5	<18.5	<18.5	<18.5	<18.5	<18.5	<18.5
Thorium-228	Bq/kg	3.7	3.7	3.7	3.7	3.7	3.7	3.7		16.9	22.4	26.7	24.5	23.1	14.1	26.9
Thorium-230	Bq/kg	3.7	3.7	3.7	3.7	3.7	3.7	3.7		33.0	39.3	35.1	28.9	37.4	24.5	41.7
Thorium-232	Bq/kg	3.7	3.7	3.7	3.7	3.7	3.7	3.7		14.2	25.5	20.3	24.4	16.3	17.1	23.5
Uranium-234	Bq/kg	3.7	3.7	3.7	3.7	3.7	3.7	3.7		14.6	41.7	15.5	29.7	21.2	13.7	17.9
Uranium-235	Bq/kg	3.7	3.7	3.7	3.7	3.7	3.7	3.7		1.6	1.5	<3.7	<3.7	1.1	<3.7	<3.7
Uranium-238	Bq/kg	3.7	3.7	3.7	3.7	3.7	3.7	3.7		18.7	41.2	17.1	25.4	22.7	11.6	21.2
Carbon-14	Bq/kg	740	740	740	740	740	740	740		<740	<740	<740	<740	<740	<740	<740
Chlorine-36	Bq/kg	---	---	370	---	---	---	---		<370	---	---	---	---	---	---
Plutonium-238	Bq/kg	---	---	1.85	---	---	---	---		<1.85	---	---	---	---	---	---
Plutonium-239	Bq/kg	---	---	1.85	---	---	---	---		<1.85	---	---	---	---	---	---
Selenium-79	Bq/kg	---	---	370	---	---	---	---		<370	---	---	---	---	---	---
Tritium	Bq/kg	37	37	37	37	37	37	37		<37	<37	<37	<37	<37	<37	<37

[1]MECP Table 1 Standards: Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011, Table 1, Full Depth Background Site Condition Standards, for Agricultural Property Use.
pg/g = picogram per gram
Bq/L = Becquerel per litre.
mg/kg = milligram per kilogram
mS/cm = MilliSiemens per centimetre
mg/L = milligram per litre
--- not sampled or not provided by the laboratory

Appendix II Table 4: Soil quality parameters for a subset of soil samples collected during the August 2023 surficial soil sampling program. Samples included in this table are SB_SS_25, SB_SS_26, SB_SS_27, SB_SS_28, SB_SS_30, SB_SS_31, and SB_SS_32. Also noted is the unit that the parameter was measured in and the reported detection limit (RDL). Any highlighted values indicate they are above the MECP Table 1 Background Site Condition Standards for Agricultural Use (MECP 2011). Detection limits changed between sites and are indicated by a superscript letter beside the site identification.

Parameter	Unit	Lowest Detection Limit							Benchmarks	SB_SS_25[L]	SB_SS_26[K]	SB_SS_27[F]	SB_SS_28[AP]	SB_SS_30[AE]	SB_SS_31[T]	SB_SS_32[S]
		RDL F	RDL K	RDL L	RDL S	RDL Y	RDL AE	RDL AF	MECP Table 1 Standards[1]	15-Aug-23	15-Aug-23	15-Aug-23	17-Aug-23	17-Aug-23	16-Aug-23	16-Aug-23
Dioxins and Furans																
2,3,7,8-TCDD	pg/g	0.069	0.140	0.096	0.014	0.015	0.056	0.050		0.148	<0.14	<0.069	<0.050	<0.056	0.034	0.042
1,2,3,7,8-PeCDD	pg/g	0.095	0.150	0.120	0.018	0.009	0.069	0.069		0.410	0.260	0.192	0.190	0.313	0.160	0.170
1,2,3,4,7,8-HxCDD	pg/g	0.079	0.120	0.100	0.021	0.013	0.074	0.093		0.160	0.270	0.223	0.160	0.265	0.238	0.282
1,2,3,6,7,8-HxCDD	pg/g	0.083	0.130	0.100	0.020	0.013	0.072	0.095		0.520	0.620	0.467	0.457	0.616	0.450	0.399
1,2,3,7,8,9-HxCDD	pg/g	0.080	0.120	0.100	0.021	0.013	0.072	0.092		0.550	0.800	0.290	0.384	0.514	0.475	0.413
1,2,3,4,6,7,8-HpCDD	pg/g	0.11	0.10	0.11	0.07	0.04	0.11	0.11		9.27	7.37	4.94	4.27	7.93	6.12	5.48
OCDD	pg/g	0.12	0.16	0.20	0.20	0.24	0.23	0.18		43.20	35.30	22.10	22.70	35.10	33.30	25.30
Total-TCDD	pg/g	0.069	0.140	0.096	0.014	0.015	0.056	0.050		0.148	<0.14	<0.069	0.264	<0.056	0.562	0.256
Total TCDD # Homologues	-									1.00	0.00	0.00	2.00	0.00	5.00	3.00
Total-PeCDD	pg/g	0.095	0.150	0.120	0.018	0.009	0.069	0.069		0.620	1.670	0.521	0.939	1.320	0.657	1.150
Total PeCDD # Homologues	-									3.00	4.00	2.00	2.00	4.00	4.00	5.00
Total-HxCDD	pg/g	0.083	0.130	0.100	0.021	0.013	0.074	0.095		6.810	7.800	2.060	5.100	6.680	4.910	2.510
Total HxCDD # Homologues	-									5.00	5.00	3.00	6.00	6.00	5.00	4.00
Total-HpCDD	pg/g	0.110	0.100	0.110	0.068	0.041	0.110	0.110		16.900	15.000	9.640	8.530	14.300	11.800	10.800
Total HpCDD # Homologues	-									2.00	2.00	2.00	2.00	2.00	2.00	2.00
2,3,7,8-TCDF	pg/g	0.110	0.240	0.190	0.031	0.026	0.110	0.090		0.280	0.440	0.180	0.110	0.180	0.148	0.173
1,2,3,7,8-PeCDF	pg/g	0.077	0.085	0.130	0.016	0.023	0.061	0.089		0.170	0.392	0.188	0.140	0.155	0.164	0.161
2,3,4,7,8-PeCDF	pg/g	0.072	0.080	0.110	0.016	0.024	0.061	0.088		0.630	0.654	0.255	0.310	0.270	0.240	0.268
1,2,3,4,7,8-HxCDF	pg/g	0.047	0.096	0.087	0.024	0.013	0.089	0.068		0.310	0.349	0.250	0.278	0.180	0.279	0.242
1,2,3,6,7,8-HxCDF	pg/g	0.040	0.089	0.082	0.023	0.012	0.088	0.064		0.275	0.240	0.160	0.180	0.210	0.176	0.199
1,2,3,7,8,9-HxCDF	pg/g	0.062	0.130	0.120	0.038	0.019	0.120	0.091		<0.12	0.150	<0.062	0.099	<0.12	0.077	0.064
2,3,4,6,7,8-HxCDF	pg/g	0.044	0.093	0.083	0.026	0.013	0.085	0.067		0.379	0.392	0.268	0.210	0.267	0.254	0.246
1,2,3,4,6,7,8-HpCDF	pg/g	0.08	0.07	0.05	0.03	0.02	0.08	0.06		2.19	2.21	1.50	1.28	1.58	1.46	1.54
1,2,3,4,7,8,9-HpCDF	pg/g	0.10	0.10	0.06	0.05	0.03	0.10	0.07		0.24	0.22	0.13	<0.073	0.21	0.09	0.15
OCDF	pg/g	0.15	0.13	0.11	0.13	0.12	0.15	0.14		3.60	3.87	2.94	1.50	3.00	1.50	1.60
Total-TCDF	pg/g	0.110	0.240	0.190	0.031	0.026	0.110	0.090		3.460	3.220	0.950	1.210	1.500	1.620	2.110
Total TCDF # Homologues	-									6.00	3.00	3.00	4.00	5.00	12.00	12.00
Total-PeCDF	pg/g	0.077	0.085	0.130	0.016	0.024	0.061	0.089		2.630	2.640	1.140	1.750	0.671	2.280	2.300
Total PeCDF # Homologues	-									7.00	6.00	4.00	5.00	4.00	8.00	10.00
Total-HxCDF	pg/g	0.062	0.130	0.120	0.038	0.019	0.120	0.091		1.960	3.940	0.536	0.573	1.940	2.110	2.200
Total HxCDF # Homologues	-									5.00	6.00	3.00	2.00	4.00	7.00	6.00
Total-HpCDF	pg/g	0.099	0.100	0.063	0.048	0.033	0.100	0.073		3.790	2.210	<0.099	1.960	2.950	2.480	2.310
Total HpCDF # Homologues	-									3.00	1.00	0.00	2.00	3.00	4.00	2.00
13C12-2,3,7,8-TCDD	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		49.0	42.0	65.0	71.0	67.0	84.0	71.0
13C12-1,2,3,7,8-PeCDD	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		68.0	66.0	66.0	68.0	68.0	79.0	67.0
13C12-1,2,3,4,7,8-HxCDD	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		78.0	81.0	78.0	77.0	72.0	83.0	73.0
13C12-1,2,3,6,7,8-HxCDD	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		72.0	72.0	70.0	71.0	70.0	87.0	74.0
13C12-1,2,3,4,6,7,8-HpCDD	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		83.0	81.0	74.0	76.0	74.0	73.0	62.0
13C12-OCDD	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		64.0	62.0	51.0	54.0	57.0	54.0	46.0
13C12-2,3,7,8-TCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		50.0	40.0	73.0	72.0	69.0	84.0	71.0
13C12-1,2,3,7,8-PeCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		78.0	73.0	81.0	79.0	80.0	86.0	72.0
13C12-2,3,4,7,8-PeCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		77.0	74.0	77.0	73.0	74.0	77.0	66.0
13C12-1,2,3,4,7,8-HxCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		89.0	93.0	88.0	85.0	79.0	87.0	76.0
13C12-1,2,3,6,7,8-HxCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		91.0	94.0	91.0	79.0	79.0	94.0	84.0
13C12-2,3,4,6,7,8-HxCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		97.0	98.0	90.0	84.0	83.0	90.0	77.0
13C12-1,2,3,7,8,9-HxCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		86.0	88.0	81.0	79.0	75.0	82.0	70.0
13C12-1,2,3,4,6,7,8-HpCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		102.0	100.0	89.0	77.0	80.0	74.0	64.0
13C12-1,2,3,4,7,8,9-HpCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		104.0	101.0	94.0	88.0	83.0	69.0	60.0
37Cl4-2,3,7,8-TCDD (Cleanup)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		52.0	46.0	70.0	74.0	64.0	82.0	70.0
Lower Bound PCDD/F TEQ (WHO 2005)	pg/g	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0	1.1	0.8	0.5	0.2	0.6	0.3	0.4
Mid Point PCDD/F TEQ (WHO 2005)	pg/g	0.0	0.0	0.0	0.0	0.0	0.0	0.0		1.1	1.0	0.6	0.6	0.8	0.6	0.6
Upper Bound PCDD/F TEQ (WHO 2005)	pg/g	0.0	0.0	0.0	0.0	0.0	0.0	0.0		1.1	1.1	0.6	0.6	0.8	0.6	0.6
Moisture	%	0.25	0.25	0.25	0.25	0.25	0.25	0.25		18.90	18.30	13.80	13.40	18.80	14.30	15.80

Parameter	Unit	Lowest Detection Limit							Benchmarks	SB_SS_25[L]	SB_SS_26[K]	SB_SS_27[F]	SB_SS_28[AF]	SB_SS_30[AE]	SB_SS_31[T]	SB_SS_32[S]
		RDL F	RDL K	RDL L	RDL S	RDL Y	RDL AE	RDL AF	MECP Table 1 Standards[1]	15-Aug-23	15-Aug-23	15-Aug-23	17-Aug-23	17-Aug-23	16-Aug-23	16-Aug-23
Physical Test																
% Moisture	%	0.10	0.10	0.10	0.10	0.10	0.25	0.25		18.50	19.70	14.00	13.30	18.30	14.00	15.40
Conductivity	mS/cm	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.47	0.1670	0.1520	0.0978	0.2520	0.2730	0.1450	0.1490
pH	pH units	0.10	0.10	0.10	0.10	0.10	0.10	0.10		7.33	6.99	7.27	7.20	7.08	7.31	7.29
Particle Size - Percent Passing																
Passing (0.0312mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		47.8	41.5	28.0	44.3	39.4	28.3	37.0
Passing (9.5mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		100.0	99.2	99.1	100.0	99.8	98.8	100.0
Passing (0.020mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		36.5	31.9	22.3	37.0	31.7	19.7	27.0
Passing (1.0mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		95.6	83.3	94.8	95.6	91.4	95.3	96.5
Passing (4.75mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		99.9	94.2	97.7	98.7	96.6	98.0	98.9
Passing (0.005mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		16.4	15.8	11.8	20.1	16.4	7.9	14.0
Passing (0.841mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		95.1	82.2	94.4	95.2	90.8	95.0	96.2
Passing (19mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		100.0	100.0	100.0	100.0	100.0	100.0	100.0
Passing (0.004mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		14.1	13.9	10.5	17.8	14.8	6.9	12.6
Passing (0.50mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		91.0	75.8	87.7	93.4	88.2	93.1	93.1
Passing (25.4mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		100.0	100.0	100.0	100.0	100.0	100.0	100.0
Passing (0.002mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		9.4	8.5	7.2	12.6	10.9	4.8	9.0
Passing (0.420mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		89.9	74.2	85.7	92.8	87.5	92.5	92.1
Passing (38.1mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		100.0	100.0	100.0	100.0	100.0	100.0	100.0
Passing (0.250mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		82.4	69.2	68.7	88.7	82.3	87.8	80.8
Passing (50.8mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		100.0	100.0	100.0	100.0	100.0	100.0	100.0
Passing (0.149mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		75.2	64.0	51.0	83.5	76.4	73.0	66.1
Passing (76.2mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		100.0	100.0	100.0	100.0	100.0	100.0	100.0
Passing (0.125mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		73.2	61.9	47.0	81.1	73.9	66.4	63.0
Passing (2.0mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		98.5	89.2	96.4	97.4	94.3	97.3	97.9
Passing (0.075mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		69.1	57.5	38.7	76.0	68.8	52.6	56.5
Passing (0.063mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		64.9	54.7	36.9	65.7	59.9	46.4	52.3
Passing (0.05mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		60.3	51.6	35.0	54.6	50.3	39.8	47.8
Anions and Nutrients																
Ammonia, total (as N)	mg/kg	58	123	62	120	116	124	114		158	260	116	153	179	141	125
Nitrate + Nitrite (as N), leachable	mg/kg	0.059	0.063	0.062	0.059	0.059	0.062	0.058		3.680	13.200	1.580	1.300	0.286	4.540	4.020
Nitrogen, total	%	0.020	0.020	0.020	0.020	0.020	0.020	0.020		0.208	0.270	0.134	0.208	0.230	0.172	0.163
Nitrogen, total organic	%	0.020	0.030	0.030	0.030	0.030	0.040	0.030		0.207	0.221	0.116	0.235	0.270	0.216	0.226
Ammonium	mg/kg	1.0	1.0	1.0	1.0	1.0	1.0	1.0		5.9	7.0	4.4	6.6	7.2	4.8	4.4
Chloride, leachable	mg/kg	20	20	20	20	20	20	20		<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0
Kjeldahl nitrogen, total [TKN]	%	0.020	0.020	0.020	0.020	0.020	0.020	0.020		0.208	0.222	0.117	0.236	0.271	0.216	0.227
Nitrate (as N), leachable	mg/kg	0.058	0.062	0.061	0.058	0.058	0.061	0.057		3.630	13.200	1.570	1.220	0.243	4.540	4.020
Nitrite (as N), leachable	mg/kg	0.012	0.012	0.012	0.012	0.012	0.012	0.011		0.045	0.048	0.013	0.076	0.043	<0.012	<0.012
Sulfate, leachable	mg/kg	12	12	12	12	12	12	11		<12	<12	<12	<11	<12	<12	13
Cyanides																
Cyanide	mg/kg	0.058	0.063	0.062	0.060	0.059	0.061	0.057	0.051	**0.067**	**0.092**	**0.086**	<0.057	**0.110**	<0.059	<0.060
Organic / Inorganic Carbons																
Carbon, inorganic [IC]	%	0.050	0.050	0.050	0.050	0.050	0.050	0.050		0.534	0.291	0.566	0.847	1.080	0.981	0.330
Carbon, total [TC]	%	0.050	0.050	0.050	0.050	0.050	0.050	0.050		2.880	3.220	2.300	3.790	4.490	3.260	2.420
Carbon, total organic [TOC]	%	0.25	0.33	0.30	0.25	0.35	0.47	0.39		2.35	2.93	1.73	2.94	3.41	2.28	2.09
Carbon, inorganic [IC], (as CaCO3 equivalent)	%	0.40	0.40	0.40	0.40	0.40	0.40	0.40		4.45	2.43	4.72	7.06	9.03	8.18	2.75
Organic matter	%	0.25	0.33	0.30	0.25	0.35	0.47	0.39		4.05	5.05	2.98	5.07	5.88	3.93	3.60
Metals																
Calcium	mg/L	0.500	0.500	0.500	0.500	0.500	0.500	0.500		13.700	10.400	6.370	8.550	10.000	9.150	10.100
Magnesium	mg/L	0.500	0.500	0.500	0.500	0.500	0.500	0.500		4.960	5.030	4.120	3.200	2.590	1.640	2.560
Sodium	mg/L	0.500	0.500	0.500	0.500	0.500	0.500	0.500		1.120	1.230	<0.50	<0.50	<0.50	<0.50	0.690
Aluminum	mg/kg	50.000	50.000	50.000	50.000	50.000	50.000	50.000		13600.000	16100.000	10800.000	16400.000	17400.000	7820.000	12600.000
Antimony	mg/kg	0.100	0.100	0.100	0.100	0.100	0.100	0.100	1.0	0.200	0.210	0.120	0.200	0.170	<0.10	0.110
Arsenic	mg/kg	0.100	0.100	0.100	0.100	0.100	0.100	0.100	11	5.500	5.380	3.530	5.310	4.960	2.610	3.460
Barium	mg/kg	0.500	0.500	0.500	0.500	0.500	0.500	0.500	210	56.200	70.700	48.700	63.100	66.400	38.100	40.300
Beryllium	mg/kg	0.100	0.100	0.100	0.100	0.100	0.100	0.100	2.5	0.530	0.620	0.340	0.750	0.680	0.280	0.370
Bismuth	mg/kg	0.200	0.200	0.200	0.200	0.200	0.200	0.200		<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Boron	mg/kg	5.00	5.00	5.00	5.00	5.00	5.00	5.00	36	10.10	8.40	6.20	15.00	10.40	5.50	6.10
Cadmium	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	1.0	0.314	0.413	0.302	0.360	0.313	0.242	0.234
Calcium	mg/kg	50	50	50	50	50	50	50		16100	10700	15300	32000	36900	24500	11900
Chromium	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50	67	19.80	22.20	16.90	23.90	24.90	12.90	17.10
Cobalt	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	19	6.72	6.53	4.66	7.89	6.96	3.36	4.94

Parameter	Unit	Lowest Detection Limit							Benchmarks	SB_SS_25[L]	SB_SS_26[K]	SB_SS_27[F]	SB_SS_28[AF]	SB_SS_30[AE]	SB_SS_31[T]	SB_SS_32[S]
		RDL F	RDL K	RDL L	RDL S	RDL Y	RDL AE	RDL AF	MECP Table 1 Standards[1]	15-Aug-23	15-Aug-23	15-Aug-23	17-Aug-23	17-Aug-23	16-Aug-23	16-Aug-23
Copper	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50	62	12.90	10.90	**78.00**	13.60	11.00	6.44	7.84
Iron	mg/kg	50	50	50	50	50	50	50		17400	18600	13600	22200	21500	10800	15000
Lead	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50	45	12.90	15.70	9.31	12.90	12.60	6.72	9.12
Lithium	mg/kg	2.0	2.0	2.0	2.0	2.0	2.0	2.0		14.0	16.0	11.8	20.1	15.2	5.3	9.3
Magnesium	mg/kg	20	20	20	20	20	20	20		9990	7220	11600	17800	16900	12400	7270
Manganese	mg/kg	1.0	1.0	1.0	1.0	1.0	1.0	1.0		737.0	755.0	714.0	710.0	393.0	577.0	327.0
Mercury	mg/kg	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.16	0.0659	0.0530	0.0356	0.0430	0.0468	0.0261	0.0324
Molybdenum	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	2.0	0.49	0.63	0.30	0.49	0.46	0.25	0.31
Nickel	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50	37	14.50	14.70	11.60	18.10	15.30	7.50	10.50
Phosphorus	mg/kg	50	50	50	50	50	50	50		647	859	480	648	625	621	461
Potassium	mg/kg	100	100	100	100	100	100	100		1360	1340	1110	1980	1160	710	940
Selenium	mg/kg	0.20	0.20	0.20	0.20	0.20	0.20	0.20	1.2	0.28	0.36	0.21	0.35	0.40	<0.20	0.22
Silver	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Sodium	mg/kg	50	50	50	50	50	50	50		82	61	67	96	99	59	52
Strontium	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50		16.10	15.80	12.10	22.40	27.00	13.30	10.30
Sulfur	mg/kg	1000	1000	1000	1000	1000	1000	1000		<1000	<1000	<1000	<1000	<1000	<1000	<1000
Thallium	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	1.0	0.142	0.160	0.092	0.169	0.140	0.061	0.090
Tin	mg/kg	2.0	2.0	2.0	2.0	2.0	2.0	2.0		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Titanium	mg/kg	1.0	1.0	1.0	1.0	1.0	1.0	1.0		223.0	192.0	215.0	255.0	262.0	175.0	207.0
Tungsten	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Uranium	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	1.9	0.843	1.030	0.573	0.840	0.954	0.431	0.529
Vanadium	mg/kg	0.20	0.20	0.20	0.20	0.20	0.20	0.20	86	31.50	35.90	25.40	35.70	39.80	20.00	27.30
Zinc	mg/kg	2.0	2.0	2.0	2.0	2.0	2.0	2.0	290	53.2	55.5	54.1	48.1	40.8	33.4	32.7
Zirconium	mg/kg	1.0	1.0	1.0	1.0	1.0	1.0	1.0		<1.0	<1.0	<1.0	1.0	1.2	<1.0	<1.0
Sodium adsorption ratio [SAR]		0.10	0.10	0.10	0.10	0.10	0.10	0.10	1.0	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Chromium, hexavalent [Cr VI]	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	1.0	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Volatile Organic Compounds																
Acetone	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	<0.50	<0.50	<0.50	**0.54**	<0.50	<0.50	<0.50
Benzene	mg/kg	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.020	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Bromodichloromethane	mg/kg	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
Bromoform	mg/kg	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
Bromomethane	mg/kg	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
Carbon tetrachloride	mg/kg	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
Chlorobenzene	mg/kg	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
Chloroform	mg/kg	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
Dibromochloromethane	mg/kg	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
Dibromoethane, 1,2-	mg/kg	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
Dichlorobenzene, 1,2-	mg/kg	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
Dichlorobenzene, 1,3-	mg/kg	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
Dichlorobenzene, 1,4-	mg/kg	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
Dichlorodifluoromethane	mg/kg	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
Dichloroethane, 1,1-	mg/kg	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
Dichloroethane, 1,2-	mg/kg	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
Dichloroethylene, 1,1-	mg/kg	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
Dichloroethylene, cis-1,2-	mg/kg	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
Dichloroethylene, trans-1,2-	mg/kg	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
Dichloromethane	mg/kg	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.050	<0.045	<0.045	<0.045	<0.045	<0.045	<0.045	<0.045
Dichloropropane, 1,2-	mg/kg	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
Dichloropropylene, cis+trans-1,3-	mg/kg	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
Dichloropropylene, cis-1,3-	mg/kg	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
Dichloropropylene, trans-1,3-	mg/kg	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
Ethylbenzene	mg/kg	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.050	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Hexane, n-	mg/kg	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
Methyl ethyl ketone [MEK]	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methyl isobutyl ketone [MIBK]	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methyl-tert-butyl ether [MTBE]	mg/kg	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.050	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Styrene	mg/kg	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
Tetrachloroethane, 1,1,1,2-	mg/kg	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
Tetrachloroethane, 1,1,2,2-	mg/kg	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
Tetrachloroethylene	mg/kg	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
Toluene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.20	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Trichloroethane, 1,1,1-	mg/kg	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

Parameter	Unit	Lowest Detection Limit							Benchmarks	SB_SS_25[L]	SB_SS_26[K]	SB_SS_27[F]	SB_SS_28[AF]	SB_SS_30[AE]	SB_SS_31[T]	SB_SS_32[S]
		RDL F	RDL K	RDL L	RDL S	RDL Y	RDL AE	RDL AF	MECP Table 1 Standards[1]	15-Aug-23	15-Aug-23	15-Aug-23	17-Aug-23	17-Aug-23	16-Aug-23	16-Aug-23
Trichloroethane, 1,1,2-	mg/kg	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
Trichloroethylene	mg/kg	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.050	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Trichlorofluoromethane	mg/kg	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
Vinyl chloride	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Xylene, m+p-	mg/kg	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
Xylene, o-	mg/kg	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
Xylenes, total	mg/kg	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
BTEX, total	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Hydrocarbons																
F1 (C6-C10)	mg/kg	5.0	5.0	5.0	5.0	5.0	5.0	5.0	17	<5.0	<5.0	<5.0	6.7	5.2	<5.0	<5.0
F1-BTEX	mg/kg	5.0	5.0	5.0	5.0	5.0	5.0	5.0		<5.0	<5.0	<5.0	6.7	5.2	<5.0	<5.0
F2 (C10-C16)	mg/kg	10	10	10	10	10	10	10	10	<10	<10	<10	<10	<10	<10	<10
F3 (C16-C34)	mg/kg	50	50	50	50	50	50	50	240	<50	<50	<50	<50	<50	<50	<50
F4 (C34-C50)	mg/kg	50	50	50	50	50	50	50	120	<50	<50	<50	<50	<50	<50	<50
Hydrocarbons, total (C6-C50)	mg/kg	80	80	80	80	80	80	80		<80	<80	<80	<80	<80	<80	<80
Polycyclic Aromatic Hydrocarbons																
Acenaphthene	mg/kg	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
Acenaphthylene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.093	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Anthracene	mg/kg	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
Benz(a)anthracene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.095	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(a)pyrene	mg/kg	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
Benzo(b+j)fluoranthene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.30	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(g,h,i)perylene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.20	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(k)fluoranthene	mg/kg	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
Chrysene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.18	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dibenz(a,h)anthracene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fluoranthene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.24	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fluorene	mg/kg	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
Indeno(1,2,3-c,d)pyrene	mg/kg	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
Methylnaphthalene, 1-	mg/kg	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
Methylnaphthalene, 2-	mg/kg	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
Naphthalene	mg/kg	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
Phenanthrene	mg/kg	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
Pyrene	mg/kg	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
Methylnaphthalene, 1+2-	mg/kg	0.042	0.042	0.042	0.042	0.042	0.042	0.042		<0.042	<0.042	<0.042	<0.042	<0.042	<0.042	<0.042
Phthalate Esters																
Diethyl phthalate	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dimethyl phthalate	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
bis(2-Ethylhexyl) phthalate [DEHP]	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Semi-volatile Organics																
Biphenyl	mg/kg	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
Chloroaniline, 4-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dichlorobenzidine, 3,3'-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dinitrotoluene, 2,4-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dinitrotoluene, 2,6-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Trichlorobenzene, 1,2,4-	mg/kg	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
bis(2-Chloro-1-methylethyl) ether	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
bis(2-Chloroethyl) ether	mg/kg	0.10	0.10	0.10	0.10	0.10	3.00	1.20	0.50	<0.10	<0.10	<0.10	<1.20	<3.00	<0.10	<0.10
Dinitrotoluene, 2,4 + 2,6-	mg/kg	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.50	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Phenolics																
Chlorophenol, 2-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dichlorophenol, 2,4-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Pentachlorophenol [PCP]	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Trichlorophenol, 2,4,5-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Trichlorophenol, 2,4,6-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dimethylphenol, 2,4-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dinitrophenol, 2,4-	mg/kg	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Phenol	mg/kg	0.10	0.30	0.10	0.10	0.10	0.10	0.10	0.50	<0.10	<0.30	<0.10	<0.10	<0.10	<0.10	<0.10
Polychlorinated Biphenyls																
Aroclor 1016	mg/kg	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
Aroclor 1221	mg/kg	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
Aroclor 1232	mg/kg	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

Parameter	Unit	Lowest Detection Limit							Benchmarks	SB_SS_25[L]	SB_SS_26[K]	SB_SS_27[F]	SB_SS_28[AF]	SB_SS_30[AE]	SB_SS_31[T]	SB_SS_32[S]
		RDL F	RDL K	RDL L	RDL S	RDL Y	RDL AE	RDL AF	MECP Table 1 Standards[1]	15-Aug-23	15-Aug-23	15-Aug-23	17-Aug-23	17-Aug-23	16-Aug-23	16-Aug-23
Aroclor 1242	mg/kg	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
Aroclor 1248	mg/kg	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
Aroclor 1254	mg/kg	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
Aroclor 1260	mg/kg	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
Aroclor 1262	mg/kg	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
Aroclor 1268	mg/kg	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
Polychlorinated biphenyls [PCBs], total	mg/kg	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.300	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Organochlorine Pesticides																
Aldrin	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.050	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Chlordane, cis- (alpha)	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Chlordane, total	mg/kg	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.050	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Chlordane, trans- (gamma)	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
DDD, 2,4'-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
DDD, 4,4'-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
DDD, total	mg/kg	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.050	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
DDE, 2,4'-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
DDE, 4,4'-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
DDE, total	mg/kg	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.050	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
DDT, 2,4'-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
DDT, 4,4'-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
DDT, total	mg/kg	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.078	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Dieldrin	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.050	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Endosulfan, alpha-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Endosulfan, beta-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Endosulfan, total	mg/kg	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.040	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Endrin	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.040	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Endrin aldehyde	mg/kg	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
Heptachlor	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.050	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Heptachlor epoxide	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.050	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Hexachlorobenzene	mg/kg	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
Hexachlorobutadiene	mg/kg	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
Hexachlorocyclohexane, gamma-	mg/kg	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
Hexachloroethane	mg/kg	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
Methoxychlor	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.050	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Radiological Parameters																
Cesium-137	Bq/kg	18.5	18.5	18.5	18.5	18.5	18.5	18.5		5.4	8.8	3.5	<18.5	5.6	7.1	2.6
Cobalt-60	Bq/kg	18.5	18.5	18.5	18.5	18.5	18.5	18.5		<18.5	<18.5	<18.5	<18.5	<18.5	<18.5	<18.5
Gross alpha	Bq/kg	111	111	111	111	111	111	111		270	263	263	419	326	196	300
Gross beta	Bq/kg	148	148	148	148	148	148	148		763	820	709	1030	798	781	798
Iodine-129	Bq/kg	370	370	370	370	370	370	370		<370	<370	<370	<370	<370	<370	<370
Neptunium-237	Bq/kg	---	---	---	---	---	3.7	---		---	---	---	---	<3.7	---	---
Potassium-40	Bq/kg	75	75	75	75	75	75	75		680	596	544	644	638	522	595
Radium-226	Bq/kg	37	37	37	37	37	37	37		<37.0	102	31	57	49	63	33
Ruthenium-106	Bq/kg	90	90	90	90	90	90	90		<90	<90	<90	<90	<90	<90	<90
Strontium-90	Bq/kg	18.5	18.5	18.5	18.5	18.5	18.5	18.5		<18.5	<18.5	<18.5	<18.5	<18.5	<18.5	<18.5
Thorium-228	Bq/kg	3.7	3.7	3.7	3.7	3.7	3.7	3.7		26.3	22.8	14.1	28.8	30.7	15.6	14.6
Thorium-230	Bq/kg	3.7	3.7	3.7	3.7	3.7	3.7	3.7		40.9	60.8	37.4	44.6	37.5	33.7	27.8
Thorium-232	Bq/kg	3.7	3.7	3.7	3.7	3.7	3.7	3.7		25.8	24.3	19.3	26.1	15.6	8.8	17.3
Uranium-234	Bq/kg	3.7	3.7	3.7	3.7	3.7	3.7	3.7		18.0	26.8	15.6	24.6	23.4	14.3	19.9
Uranium-235	Bq/kg	3.7	3.7	3.7	3.7	3.7	3.7	3.7		<3.7	2.6	<3.7	1.4	2.0	<3.7	<3.7
Uranium-238	Bq/kg	3.7	3.7	3.7	3.7	3.7	3.7	3.7		27.0	27.5	20.0	27.5	24.6	14.9	17.9
Carbon-14	Bq/kg	740	740	740	740	740	740	740		<740	<740	<740	<740	<740	<740	<740

Parameter	Unit	Lowest Detection Limit							Benchmarks	SB_SS_25[L]	SB_SS_26[K]	SB_SS_27[F]	SB_SS_28[AF]	SB_SS_30[AE]	SB_SS_31[T]	SB_SS_32[S]
		RDL F	RDL K	RDL L	RDL S	RDL Y	RDL AE	RDL AF	MECP Table 1 Standards[1]	15-Aug-23	15-Aug-23	15-Aug-23	17-Aug-23	17-Aug-23	16-Aug-23	16-Aug-23
Chlorine-36	Bq/kg	---	---	---	---	---	370	---		---	---	---	---	<370	---	---
Plutonium-238	Bq/kg	---	---	---	---	---	1.85	---		---	---	---	---	<1.85	---	---
Plutonium-239	Bq/kg	---	---	---	---	---	1.85	---		---	---	---	---	<1.85	---	---
Selenium-79	Bq/kg	---	---	---	---	---	370	---		---	---	---	---	<370	---	---
Tritium	Bq/kg	37	37	37	37	37	37	37		<37	<37	<37	<37	<37	<37	<37

[1]MECP Table 1 Standards: Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011, Table 1, Full Depth Background Site Condition Standards, for Agricultural Property Use.
pg/g = picogram per gram
Bq/L = Becquerel per litre.
mg/kg = milligram per kilogram
mS/cm = MilliSiemens per centimetre
mg/L = milligram per litre
--- not sampled or not provided by the laboratory

Appendix II Table 5: Soil quality parameters for a subset of soil samples collected during the August 2023 surficial soil sampling program. Samples included in this table are SB_SS_33, SB_SS_36, SB_SS_37, SB_SS_38, SB_SS_39, SB_SS_40, and SB_SS_41. Also noted is the unit that the parameter was measured in and the reported detection limit (RDL). Any highlighted values indicate they are above the MECP Table 1 Background Site Condition Standards for Agricultural Use (MECP 2011). Detection limits changed between sites and are indicated by a superscript letter beside the site identification.

Parameter	Unit	Lowest Detection Limit							Benchmarks	SB_SS_33[AD]	SB_SS_36[AL]	SB_SS_37[AR]	SB_SS_38[AK]	SB_SS_39[AM]	SB_SS_40[G]	SB_SS_41[H]
		RDL G	RDL H	RDL AD	RDL AK	RDL AL	RDL AM	RDL AR	MECP Table 1 Standards[1]	17-Aug-23	18-Aug-23	19-Aug-23	18-Aug-23	18-Aug-23	15-Aug-23	15-Aug-23
Dioxins and Furans																
2,3,7,8-TCDD	pg/g	0.110	0.190	0.065	0.016	0.010	0.015	0.051		0.214	0.130	0.151	0.189	0.149	<0.11	0.300
1,2,3,7,8-PeCDD	pg/g	0.078	0.140	0.069	0.016	0.010	0.014	0.050		0.414	0.350	0.280	0.406	0.248	0.250	0.470
1,2,3,4,7,8-HxCDD	pg/g	0.130	0.140	0.110	0.032	0.025	0.035	0.053		0.410	0.300	0.282	0.280	0.267	0.270	0.420
1,2,3,6,7,8-HxCDD	pg/g	0.140	0.140	0.110	0.033	0.025	0.032	0.055		0.690	0.839	0.539	0.641	0.468	0.570	0.710
1,2,3,7,8,9-HxCDD	pg/g	0.130	0.140	0.110	0.033	0.025	0.034	0.053		0.740	0.691	0.550	0.632	0.490	0.740	0.990
1,2,3,4,6,7,8-HpCDD	pg/g	0.15	0.15	0.15	0.11	0.07	0.07	0.14		9.13	13.60	7.62	7.88	5.47	7.75	12.90
OCDD	pg/g	0.20	0.24	0.38	0.51	0.28	0.30	0.18		45.90	73.70	45.50	46.90	30.80	35.50	62.40
Total-TCDD	pg/g	0.110	0.190	0.065	0.016	0.010	0.015	0.051		1.930	1.040	0.151	2.540	0.953	<0.11	0.850
Total TCDD # Homologues	-									3.00	5.00	1.00	10.00	5.00	0.00	2.00
Total-PeCDD	pg/g	0.078	0.140	0.069	0.016	0.010	0.014	0.050		3.000	2.220	1.640	3.640	1.300	1.750	1.400
Total PeCDD # Homologues	-									6.00	6.00	5.00	5.00	4.00	3.00	1.00
Total-HxCDD	pg/g	0.140	0.140	0.110	0.033	0.025	0.035	0.055		10.600	7.720	6.570	9.430	3.450	7.480	12.200
Total HxCDD # Homologues	-									7.00	5.00	6.00	7.00	5.00	5.00	4.00
Total-HpCDD	pg/g	0.150	0.150	0.150	0.110	0.073	0.069	0.140		18.200	23.500	15.100	16.100	10.700	15.800	25.200
Total HpCDD # Homologues	-									2.00	2.00	2.00	2.00	2.00	2.00	2.00
2,3,7,8-TCDF	pg/g	0.170	0.300	0.110	0.044	0.030	0.035	0.073		0.480	0.310	0.250	0.508	0.306	0.270	0.450
1,2,3,7,8-PeCDF	pg/g	0.120	0.160	0.210	0.043	0.028	0.025	0.088		<0.21	0.386	0.234	0.480	0.268	0.230	0.510
2,3,4,7,8-PeCDF	pg/g	0.120	0.150	0.200	0.043	0.029	0.026	0.084		0.680	0.678	0.426	0.838	0.430	0.460	1.020
1,2,3,4,7,8-HxCDF	pg/g	0.120	0.099	0.056	0.035	0.021	0.039	0.077		0.695	0.420	0.393	0.550	0.349	0.410	0.696
1,2,3,6,7,8-HxCDF	pg/g	0.120	0.093	0.059	0.031	0.020	0.036	0.076		0.529	0.370	0.294	0.454	0.258	0.360	0.584
1,2,3,7,8,9-HxCDF	pg/g	0.170	0.130	0.080	0.051	0.032	0.059	0.100		0.163	0.177	<0.10	0.169	0.126	<0.17	0.190
2,3,4,6,7,8-HxCDF	pg/g	0.120	0.090	0.057	0.038	0.023	0.044	0.076		0.477	0.501	0.374	0.521	0.302	0.370	0.550
1,2,3,4,6,7,8-HpCDF	pg/g	0.05	0.11	0.08	0.06	0.05	0.03	0.06		3.08	3.77	2.40	2.70	1.70	2.81	3.45
1,2,3,4,7,8,9-HpCDF	pg/g	0.07	0.15	0.11	0.09	0.07	0.05	0.07		0.31	0.32	0.16	0.32	0.15	0.20	0.20
OCDF	pg/g	0.16	0.13	0.19	0.28	0.13	0.20	0.11		4.15	8.41	2.53	4.08	2.05	4.08	4.96
Total-TCDF	pg/g	0.170	0.300	0.110	0.044	0.030	0.035	0.073		8.630	4.180	0.592	8.730	3.250	2.190	7.140
Total TCDF # Homologues	-									8.00	17.00	3.00	22.00	13.00	2.00	4.00
Total-PeCDF	pg/g	0.120	0.160	0.210	0.043	0.029	0.026	0.088		5.650	6.980	1.890	6.530	2.130	4.070	4.770
Total PeCDF # Homologues	-									9.00	12.00	5.00	11.00	7.00	7.00	6.00
Total-HxCDF	pg/g	0.170	0.130	0.080	0.051	0.032	0.059	0.100		4.790	6.040	1.860	5.790	3.180	1.540	6.670
Total HxCDF # Homologues	-									6.00	9.00	7.00	11.00	7.00	4.00	7.00
Total-HpCDF	pg/g	0.068	0.150	0.110	0.086	0.066	0.048	0.072		3.390	8.040	3.310	4.720	<0.048	4.290	4.830
Total HpCDF # Homologues	-									2.00	3.00	2.00	4.00	0.00	3.00	2.00
13C12-2,3,7,8-TCDD	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		71.0	81.0	79.0	76.0	75.0	53.0	36.0
13C12-1,2,3,7,8-PeCDD	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		72.0	73.0	76.0	62.0	68.0	67.0	57.0
13C12-1,2,3,4,7,8-HxCDD	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		82.0	82.0	85.0	74.0	72.0	83.0	71.0
13C12-1,2,3,6,7,8-HxCDD	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		72.0	82.0	77.0	71.0	74.0	75.0	65.0
13C12-1,2,3,4,6,7,8-HpCDD	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		80.0	70.0	85.0	54.0	59.0	82.0	73.0
13C12-OCDD	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		57.0	47.0	65.0	33.0	37.0	65.0	57.0
13C12-2,3,7,8-TCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		73.0	82.0	78.0	76.0	77.0	52.0	35.0
13C12-1,2,3,7,8-PeCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		83.0	83.0	87.0	70.0	78.0	81.0	64.0
13C12-2,3,4,7,8-PeCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		78.0	73.0	80.0	61.0	69.0	78.0	63.0
13C12-1,2,3,4,7,8-HxCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		86.0	87.0	90.0	77.0	76.0	95.0	83.0
13C12-1,2,3,6,7,8-HxCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		84.0	91.0	84.0	82.0	87.0	97.0	80.0
13C12-2,3,4,6,7,8-HxCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		88.0	85.0	91.0	74.0	76.0	100.0	89.0
13C12-1,2,3,7,8,9-HxCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		82.0	80.0	85.0	69.0	73.0	92.0	80.0
13C12-1,2,3,4,6,7,8-HpCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		84.0	70.0	89.0	53.0	59.0	101.0	91.0
13C12-1,2,3,4,7,8,9-HpCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		89.0	68.0	98.0	55.0	60.0	104.0	92.0
37Cl4-2,3,7,8-TCDD (Cleanup)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		74.0	82.0	76.0	76.0	82.0	54.0	43.0
Lower Bound PCDD/F TEQ (WHO 2005)	pg/g	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0	1.4	1.1	0.9	1.3	0.9	0.4	1.0
Mid Point PCDD/F TEQ (WHO 2005)	pg/g	0.0	0.0	0.0	0.0	0.0	0.0	0.0		1.4	1.3	1.0	1.4	0.9	0.9	1.7
Upper Bound PCDD/F TEQ (WHO 2005)	pg/g	0.0	0.0	0.0	0.0	0.0	0.0	0.0		1.4	1.3	1.0	1.4	0.9	0.9	1.7
Moisture	%	0.25	0.25	0.25	0.25	0.25	0.25	0.25		22.50	21.70	22.50	28.40	22.00	21.10	27.00
Physical Test																
% Moisture	%	0.10	0.10	0.25	0.25	0.25	0.25	0.25		22.20	20.80	20.80	26.50	21.60	21.20	26.90
Conductivity	mS/cm	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.47	0.2650	0.2610	0.0746	0.2310	0.2410	0.1420	0.1130
pH	pH units	0.10	0.10	0.10	0.10	0.10	0.10	0.10		7.05	7.35	7.13	7.23	7.08	7.13	6.70

Parameter	Unit	Lowest Detection Limit							Benchmarks	SB_SS_33[AD]	SB_SS_36[AL]	SB_SS_37[AR]	SB_SS_38[AK]	SB_SS_39[AM]	SB_SS_40[G]	SB_SS_41[H]
		RDL G	RDL H	RDL AD	RDL AK	RDL AL	RDL AM	RDL AR	MECP Table 1 Standards[1]	17-Aug-23	18-Aug-23	19-Aug-23	18-Aug-23	18-Aug-23	15-Aug-23	15-Aug-23
Particle Size - Percent Passing																
Passing (0.0312mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		30.8	48.2	23.6	49.0	20.8	54.5	52.4
Passing (9.5mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		100.0	100.0	98.4	100.0	100.0	100.0	100.0
Passing (0.020mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		24.4	39.2	18.0	35.2	16.7	39.6	41.3
Passing (1.0mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		94.0	96.6	92.7	95.1	97.1	98.1	90.0
Passing (4.75mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		99.1	99.7	96.0	98.9	99.9	99.9	97.8
Passing (0.005mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		12.0	21.0	8.7	15.7	9.2	16.4	18.5
Passing (0.841mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		93.4	96.3	92.4	94.7	96.6	97.8	89.3
Passing (19mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		100.0	100.0	100.0	100.0	100.0	100.0	100.0
Passing (0.004mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		10.6	18.7	7.5	13.6	8.2	15.0	16.6
Passing (0.50mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		88.8	94.2	88.9	92.8	93.4	94.2	84.3
Passing (25.4mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		100.0	100.0	100.0	100.0	100.0	100.0	100.0
Passing (0.002mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		8.4	13.2	5.5	10.2	6.0	10.7	11.2
Passing (0.420mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		87.6	93.6	87.8	92.3	92.3	93.2	83.0
Passing (38.1mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		100.0	100.0	100.0	100.0	100.0	100.0	100.0
Passing (0.250mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		78.8	89.6	77.7	88.9	79.6	86.4	77.2
Passing (50.8mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		100.0	100.0	100.0	100.0	100.0	100.0	100.0
Passing (0.149mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		70.2	83.9	63.5	84.2	56.7	81.9	73.2
Passing (76.2mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		100.0	100.0	100.0	100.0	100.0	100.0	100.0
Passing (0.125mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		67.3	81.1	58.4	82.1	51.2	80.6	72.2
Passing (2.0mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		97.0	98.4	94.2	97.5	99.2	99.8	93.9
Passing (0.075mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		61.4	75.2	48.0	77.7	39.6	77.8	70.1
Passing (0.063mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		51.2	69.4	40.6	71.6	35.5	73.8	66.0
Passing (0.05mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		40.1	63.1	32.7	65.0	31.1	69.4	61.6
Anions and Nutrients																
Ammonia, total (as N)	mg/kg	126	137	128	133	124	126	126		307	164	168	209	166	205	282
Nitrate + Nitrite (as N), leachable	mg/kg	0.064	0.068	0.064	0.068	0.063	0.064	0.064		1.510	5.280	0.406	3.390	1.900	2.160	2.690
Nitrogen, total	%	0.020	0.020	0.020	0.020	0.020	0.020	0.020		0.400	0.203	0.172	0.255	0.185	0.279	0.285
Nitrogen, total organic	%	0.030	0.040	0.070	0.040	0.040	0.040	0.040		0.526	0.248	0.246	0.279	0.286	0.221	0.252
Ammonium	mg/kg	1.0	1.0	1.0	1.0	1.0	1.0	1.0		9.8	4.5	4.5	6.5	4.0	6.5	7.5
Chloride, leachable	mg/kg	20	20	20	20	20	20	20		<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0
Kjeldahl nitrogen, total [TKN]	%	0.020	0.020	0.040	0.020	0.020	0.020	0.020		0.527	0.249	0.246	0.280	0.286	0.222	0.253
Nitrate (as N), leachable	mg/kg	0.063	0.067	0.063	0.067	0.062	0.063	0.063		1.430	5.260	0.382	3.360	1.880	2.130	2.660
Nitrite (as N), leachable	mg/kg	0.013	0.013	0.013	0.013	0.012	0.013	0.012		0.078	0.020	0.024	0.030	0.015	0.031	0.028
Sulfate, leachable	mg/kg	13	13	13	13	12	13	12		<13	<12	<12	<13	<13	<13	<13
Cyanides																
Cyanide	mg/kg	0.064	0.070	0.065	0.070	0.063	0.064	0.064	0.051	**0.080**	<0.063	<0.064	**0.072**	<0.064	**0.086**	**0.119**
Organic / Inorganic Carbons																
Carbon, inorganic [IC]	%	0.050	0.050	0.050	0.050	0.050	0.050	0.050		0.647	0.331	0.133	0.210	0.281	0.432	0.228
Carbon, total [TC]	%	0.050	0.050	0.050	0.050	0.050	0.050	0.050		6.090	2.560	2.570	3.640	2.930	3.520	4.320
Carbon, total organic [TOC]	%	0.36	0.43	0.61	0.37	0.27	0.30	0.26		5.44	2.23	2.44	3.43	2.65	3.09	4.09
Carbon, inorganic [IC], (as CaCO3 equivalent)	%	0.40	0.40	0.40	0.40	0.40	0.40	0.40		5.39	2.76	1.10	1.75	2.34	3.60	1.90
Organic matter	%	0.36	0.43	0.61	0.37	0.27	0.30	0.26		9.38	3.84	4.21	5.91	4.57	5.33	7.05
Metals																
Calcium	mg/L	0.500	0.500	0.500	0.500	0.500	0.500	0.500		9.150	5.720	4.650	5.990	5.240	10.600	9.240
Magnesium	mg/L	0.500	0.500	0.500	0.500	0.500	0.500	0.500		3.950	2.340	2.680	1.900	1.770	4.850	4.820
Sodium	mg/L	0.500	0.500	0.500	0.500	0.500	0.500	0.500		0.560	<0.50	0.510	<0.50	<0.50	1.070	<0.50
Aluminum	mg/kg	50.000	50.000	50.000	50.000	50.000	50.000	50.000		13100.000	12600.000	10800.000	14000.000	8930.000	15200.000	14800.000
Antimony	mg/kg	0.100	0.100	0.100	0.100	0.100	0.100	0.100	1.0	0.240	0.170	0.150	0.180	0.120	0.180	0.230
Arsenic	mg/kg	0.100	0.100	0.100	0.100	0.100	0.100	0.100	11	4.630	4.900	4.030	4.990	2.450	6.360	4.390
Barium	mg/kg	0.500	0.500	0.500	0.500	0.500	0.500	0.500	210	52.800	63.600	44.100	81.300	42.200	74.300	57.000
Beryllium	mg/kg	0.100	0.100	0.100	0.100	0.100	0.100	0.100	2.5	0.460	0.510	0.370	0.460	0.250	0.500	0.370
Bismuth	mg/kg	0.200	0.200	0.200	0.200	0.200	0.200	0.200		<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Boron	mg/kg	5.00	5.00	5.00	5.00	5.00	5.00	5.00	36	8.80	10.50	<5.0	7.20	<5.0	8.30	5.90
Cadmium	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	1.0	0.394	0.289	0.284	0.414	0.298	0.423	0.351
Calcium	mg/kg	50	50	50	50	50	50	50		16800	11200	4140	5670	9180	11100	7250
Chromium	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50	67	19.60	18.60	16.70	19.30	13.70	21.90	20.20
Cobalt	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	19	5.68	6.75	4.84	6.82	3.56	7.11	5.27
Copper	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50	62	9.31	13.00	7.44	10.80	4.54	14.50	7.12
Iron	mg/kg	50	50	50	50	50	50	50		17500	18200	15300	17200	11100	19600	18100
Lead	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50	45	16.90	11.00	11.90	14.30	8.99	14.30	17.30
Lithium	mg/kg	2.0	2.0	2.0	2.0	2.0	2.0	2.0		12.4	12.3	9.8	10.9	6.5	12.5	11.9
Magnesium	mg/kg	20	20	20	20	20	20	20		8800	6650	3130	3860	4720	8650	4710
Manganese	mg/kg	1.0	1.0	1.0	1.0	1.0	1.0	1.0		500.0	830.0	400.0	1000.0	703.0	981.0	539.0

Parameter	Unit	Lowest Detection Limit							Benchmarks	SB_SS_33[AD]	SB_SS_36[AL]	SB_SS_37[AR]	SB_SS_38[AK]	SB_SS_39[AM]	SB_SS_40[G]	SB_SS_41[H]
		RDL G	RDL H	RDL AD	RDL AK	RDL AL	RDL AM	RDL AR	MECP Table 1 Standards[1]	17-Aug-23	18-Aug-23	19-Aug-23	18-Aug-23	18-Aug-23	15-Aug-23	15-Aug-23
Mercury	mg/kg	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.16	0.0629	0.0474	0.0328	0.0612	0.0471	0.0468	0.0693
Molybdenum	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	2.0	0.56	0.42	0.35	0.43	0.33	0.48	0.85
Nickel	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50	37	11.80	14.20	10.50	13.80	7.86	15.30	10.80
Phosphorus	mg/kg	50	50	50	50	50	50	50		532	979	356	957	292	795	271
Potassium	mg/kg	100	100	100	100	100	100	100		900	1930	670	970	360	1470	760
Selenium	mg/kg	0.20	0.20	0.20	0.20	0.20	0.20	0.20	1.2	0.47	0.24	0.27	0.37	0.28	0.30	0.43
Silver	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Sodium	mg/kg	50	50	50	50	50	50	50		65	71	<50	61	<50	84	<50
Strontium	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50		14.50	15.30	7.88	11.10	9.78	11.60	11.10
Sulfur	mg/kg	1000	1000	1000	1000	1000	1000	1000		<1000	<1000	<1000	<1000	<1000	<1000	<1000
Thallium	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	1.0	0.155	0.127	0.098	0.131	0.077	0.143	0.167
Tin	mg/kg	2.0	2.0	2.0	2.0	2.0	2.0	2.0		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Titanium	mg/kg	1.0	1.0	1.0	1.0	1.0	1.0	1.0		256.0	189.0	241.0	223.0	221.0	230.0	275.0
Tungsten	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Uranium	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	1.9	0.629	0.722	0.448	0.508	0.320	0.718	0.597
Vanadium	mg/kg	0.20	0.20	0.20	0.20	0.20	0.20	0.20	86	33.50	28.60	28.40	33.30	21.00	36.70	39.70
Zinc	mg/kg	2.0	2.0	2.0	2.0	2.0	2.0	2.0	290	56.2	50.5	38.2	51.9	37.6	64.2	54.6
Zirconium	mg/kg	1.0	1.0	1.0	1.0	1.0	1.0	1.0		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Sodium adsorption ratio [SAR]		0.10	0.10	0.10	0.10	0.10	0.10	0.10	1.0	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Chromium, hexavalent [Cr VI]	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	1.0	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Volatile Organic Compounds																
Acetone	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Benzene	mg/kg	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.020	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Bromodichloromethane	mg/kg	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
Bromoform	mg/kg	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
Bromomethane	mg/kg	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
Carbon tetrachloride	mg/kg	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
Chlorobenzene	mg/kg	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
Chloroform	mg/kg	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
Dibromochloromethane	mg/kg	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
Dibromoethane, 1,2-	mg/kg	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
Dichlorobenzene, 1,2-	mg/kg	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
Dichlorobenzene, 1,3-	mg/kg	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
Dichlorobenzene, 1,4-	mg/kg	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
Dichlorodifluoromethane	mg/kg	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
Dichloroethane, 1,1-	mg/kg	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
Dichloroethane, 1,2-	mg/kg	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
Dichloroethylene, 1,1-	mg/kg	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
Dichloroethylene, cis-1,2-	mg/kg	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
Dichloroethylene, trans-1,2-	mg/kg	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
Dichloromethane	mg/kg	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.050	<0.045	<0.045	<0.045	<0.045	<0.045	<0.045	<0.045
Dichloropropane, 1,2-	mg/kg	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
Dichloropropylene, cis+trans-1,3-	mg/kg	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
Dichloropropylene, cis-1,3-	mg/kg	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
Dichloropropylene, trans-1,3-	mg/kg	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
Ethylbenzene	mg/kg	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.050	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Hexane, n-	mg/kg	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
Methyl ethyl ketone [MEK]	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methyl isobutyl ketone [MIBK]	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methyl-tert-butyl ether [MTBE]	mg/kg	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.050	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Styrene	mg/kg	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
Tetrachloroethane, 1,1,1,2-	mg/kg	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
Tetrachloroethane, 1,1,2,2-	mg/kg	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
Tetrachloroethylene	mg/kg	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
Toluene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.20	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Trichloroethane, 1,1,1-	mg/kg	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
Trichloroethane, 1,1,2-	mg/kg	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
Trichloroethylene	mg/kg	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.050	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Trichlorofluoromethane	mg/kg	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
Vinyl chloride	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Xylene, m+p-	mg/kg	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
Xylene, o-	mg/kg	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
Xylenes, total	mg/kg	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
BTEX, total	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10

Parameter	Unit	Lowest Detection Limit							Benchmarks	SB_SS_33[AD]	SB_SS_36[AL]	SB_SS_37[AR]	SB_SS_38[AK]	SB_SS_39[AM]	SB_SS_40[G]	SB_SS_41[H]
		RDL G	RDL H	RDL AD	RDL AK	RDL AL	RDL AM	RDL AR	MECP Table 1 Standards[1]	17-Aug-23	18-Aug-23	19-Aug-23	18-Aug-23	18-Aug-23	15-Aug-23	15-Aug-23
Hydrocarbons																
F1 (C6-C10)	mg/kg	5.0	5.0	5.0	5.0	5.0	5.0	5.0	17	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
F1-BTEX	mg/kg	5.0	5.0	5.0	5.0	5.0	5.0	5.0		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
F2 (C10-C16)	mg/kg	10	10	10	10	10	10	10	10	<10	<10	<10	<10	<10	<10	<10
F3 (C16-C34)	mg/kg	50	50	50	50	50	50	50	240	<50	<50	<50	<50	<50	<50	<50
F4 (C34-C50)	mg/kg	50	50	50	50	50	50	50	120	<50	<50	<50	<50	<50	<50	<50
Hydrocarbons, total (C6-C50)	mg/kg	80	80	80	80	80	80	80		<80	<80	<80	<80	<80	<80	<80
Polycyclic Aromatic Hydrocarbons																
Acenaphthene	mg/kg	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
Acenaphthylene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.093	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Anthracene	mg/kg	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
Benz(a)anthracene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.095	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(a)pyrene	mg/kg	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
Benzo(b+j)fluoranthene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.30	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(g,h,i)perylene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.20	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(k)fluoranthene	mg/kg	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
Chrysene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.18	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dibenz(a,h)anthracene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fluoranthene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.24	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fluorene	mg/kg	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
Indeno(1,2,3-c,d)pyrene	mg/kg	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
Methylnaphthalene, 1-	mg/kg	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
Methylnaphthalene, 2-	mg/kg	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
Naphthalene	mg/kg	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
Phenanthrene	mg/kg	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
Pyrene	mg/kg	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
Methylnaphthalene, 1+2-	mg/kg	0.042	0.042	0.042	0.042	0.042	0.042	0.042		<0.042	<0.042	<0.042	<0.042	<0.042	<0.042	<0.042
Phthalate Esters																
Diethyl phthalate	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dimethyl phthalate	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
bis(2-Ethylhexyl) phthalate [DEHP]	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Semi-volatile Organics																
Biphenyl	mg/kg	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
Chloroaniline, 4-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dichlorobenzidine, 3,3'-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dinitrotoluene, 2,4-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dinitrotoluene, 2,6-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Trichlorobenzene, 1,2,4-	mg/kg	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
bis(2-Chloro-1-methylethyl) ether	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
bis(2-Chloroethyl) ether	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dinitrotoluene, 2,4 + 2,6-	mg/kg	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.50	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Phenolics																
Chlorophenol, 2-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	**86.30**	<0.10
Dichlorophenol, 2,4-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	**107.00**	<0.10
Pentachlorophenol [PCP]	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	**99.20**	<0.10
Trichlorophenol, 2,4,5-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Trichlorophenol, 2,4,6-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dimethylphenol, 2,4-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dinitrophenol, 2,4-	mg/kg	0.1	1.0	1.0	1.0	1.0	1.0	1.0	2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.10	<1.0
Phenol	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Polychlorinated Biphenyls																
Aroclor 1016	mg/kg	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
Aroclor 1221	mg/kg	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
Aroclor 1232	mg/kg	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
Aroclor 1242	mg/kg	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
Aroclor 1248	mg/kg	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
Aroclor 1254	mg/kg	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
Aroclor 1260	mg/kg	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
Aroclor 1262	mg/kg	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
Aroclor 1268	mg/kg	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
Polychlorinated biphenyls [PCBs], total	mg/kg	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.300	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Organochlorine Pesticides																
Aldrin	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.050	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Chlordane, cis- (alpha)	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020

Parameter	Unit	Lowest Detection Limit							Benchmarks	SB_SS_33[AD]	SB_SS_36[AL]	SB_SS_37[AR]	SB_SS_38[AK]	SB_SS_39[AM]	SB_SS_40[G]	SB_SS_41[H]
		RDL G	RDL H	RDL AD	RDL AK	RDL AL	RDL AM	RDL AR	MECP Table 1 Standards[1]	17-Aug-23	18-Aug-23	19-Aug-23	18-Aug-23	18-Aug-23	15-Aug-23	15-Aug-23
Chlordane, total	mg/kg	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.050	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Chlordane, trans- (gamma)	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
DDD, 2,4'-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
DDD, 4,4'-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
DDD, total	mg/kg	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.050	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
DDE, 2,4'-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
DDE, 4,4'-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
DDE, total	mg/kg	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.050	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
DDT, 2,4'-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
DDT, 4,4'-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
DDT, total	mg/kg	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.078	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Dieldrin	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.050	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Endosulfan, alpha-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Endosulfan, beta-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Endosulfan, total	mg/kg	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.040	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Endrin	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.040	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Endrin aldehyde	mg/kg	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
Heptachlor	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.050	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Heptachlor epoxide	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.050	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Hexachlorobenzene	mg/kg	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
Hexachlorobutadiene	mg/kg	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
Hexachlorocyclohexane, gamma-	mg/kg	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
Hexachloroethane	mg/kg	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
Methoxychlor	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.050	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Radiological Parameters																
Cesium-137	Bq/kg	18.5	18.5	18.5	18.5	18.5	18.5	18.5		12.9	4.2	9.9	7.1	8.2	6.6	10.3
Cobalt-60	Bq/kg	18.5	18.5	18.5	18.5	18.5	18.5	18.5		<18.5	<18.5	<18.5	<18.5	<18.5	<18.5	<18.5
Gross alpha	Bq/kg	111	111	111	111	111	111	111		134	339	200	292	241	246	265
Gross beta	Bq/kg	148	148	148	148	148	148	148		670	851	694	687	599	867	749
Iodine-129	Bq/kg	370	370	370	370	370	370	370		<370	<370	<370	<370	<370	<370	<370
Neptunium-237	Bq/kg	3.7	---	---	---	---	---	---		---	---	---	---	---	<3.7	---
Potassium-40	Bq/kg	75	75	75	75	75	75	75		503	817	666	665	547	606	524
Radium-226	Bq/kg	37	37	37	37	37	37	37		73	53	62	68	46	39	60
Ruthenium-106	Bq/kg	90	90	90	90	90	90	90		<90	<90	<90	<90	<90	<90	<90
Strontium-90	Bq/kg	18.5	18.5	18.5	18.5	18.5	18.5	18.5		<18.5	<18.5	<18.5	<18.5	<18.5	<18.5	<18.5
Thorium-228	Bq/kg	3.7	3.7	3.7	3.7	3.7	3.7	3.7		28.0	25.5	21.4	23.3	14.9	23.4	25.7
Thorium-230	Bq/kg	3.7	3.7	3.7	3.7	3.7	3.7	3.7		43.9	33.9	34.4	30.3	30.0	39.2	41.1
Thorium-232	Bq/kg	3.7	3.7	3.7	3.7	3.7	3.7	3.7		22.9	27.8	19.6	25.4	18.5	22.2	29.6
Uranium-234	Bq/kg	3.7	3.7	3.7	3.7	3.7	3.7	3.7		18.9	29.0	17.3	29.6	11.2	23.3	21.7
Uranium-235	Bq/kg	3.7	3.7	3.7	3.7	3.7	3.7	3.7		1.2	<3.7	<3.7	<3.7	<3.7	<3.7	<3.7
Uranium-238	Bq/kg	3.7	3.7	3.7	3.7	3.7	3.7	3.7		25.5	25.9	16.2	24.7	13.3	23.8	23.0
Carbon-14	Bq/kg	740	740	740	740	740	740	740		<740	<740	<740	<740	<740	<740	<740
Chlorine-36	Bq/kg	370	---	---	---	---	---	---		---	---	---	---	---	<370	---
Plutonium-238	Bq/kg	1.85	---	---	---	---	---	---		---	---	---	---	---	<1.85	---
Plutonium-239	Bq/kg	1.85	---	---	---	---	---	---		---	---	---	---	---	<1.85	---
Selenium-79	Bq/kg	370	---	---	---	---	---	---		---	---	---	---	---	<370	---
Tritium	Bq/kg	37	37	37	37	37	37	37		<37	<37	<37	<37	<37	<37	<37

[1]MECP Table 1 Standards: Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011, Table 1, Full Depth Background Site Condition Standards, for Agricultural Property Use.

pg/g = picogram per gram

Bq/L = Becquerel per litre.

mg/kg = milligram per kilogram

mS/cm = MilliSiemens per centimetre

mg/L = milligram per litre

--- not sampled or not provided by the laboratory

Appendix II Table 6: Soil quality parameters for a subset of soil samples collected during the August 2023 surficial soil sampling program. Samples included in this table are SB_SS_42, SB_SS_43, SB_SS_44, SB_SS_45, SB_SS_46, SB_SS_47, and SB_SS_48. Also noted is the unit that the parameter was measured in and the reported detection limit (RDL). Any highlighted values indicate they are above the MECP Table 1 Background Site Condition Standards for Agricultural Use (MECP 2011). Detection limits changed between sites and are indicated by a superscript letter beside the site identification.

Parameter	Unit	Lowest Detection Limit							Benchmarks	SB_SS_42[I]	SB_SS_43[AH]	SB_SS_44[AJ]	SB_SS_45[BB]	SB_SS_46[BC]	SB_SS_47[BA]	SB_SS_48[V]
		RDL I	RDL V	RDL AH	RDL AJ	RDL BA	RDL BB	RDL BC	MECP Table 1 Standards[1]	15-Aug-23	17-Aug-23	17-Aug-23	30-Aug-23	30-Aug-23	30-Aug-23	16-Aug-23
Dioxins and Furans																
2,3,7,8-TCDD	pg/g	0.170	0.017	0.071	0.110	0.032	0.021	0.024		<0.17	<0.071	0.290	0.061	0.056	0.328	0.051
1,2,3,7,8-PeCDD	pg/g	0.210	0.029	0.064	0.110	0.061	0.081	0.075		0.410	0.288	0.600	0.180	0.230	0.451	0.221
1,2,3,4,7,8-HxCDD	pg/g	0.270	0.031	0.063	0.110	0.046	0.090	0.052		0.390	0.300	0.600	0.230	0.250	0.558	0.266
1,2,3,6,7,8-HxCDD	pg/g	0.280	0.029	0.065	0.110	0.040	0.078	0.044		0.910	1.040	1.450	0.367	0.423	0.810	0.487
1,2,3,7,8,9-HxCDD	pg/g	0.270	0.030	0.063	0.110	0.044	0.085	0.049		0.760	1.220	1.280	0.430	0.390	0.943	0.506
1,2,3,4,6,7,8-HpCDD	pg/g	0.27	0.04	0.11	0.12	0.12	0.09	0.08		12.50	10.70	13.90	6.35	5.93	10.50	4.65
OCDD	pg/g	0.34	0.23	0.25	0.19	0.24	0.11	0.18		60.00	43.30	61.20	32.50	26.70	51.30	18.30
Total-TCDD	pg/g	0.170	0.017	0.071	0.110	0.032	0.021	0.024		<0.17	0.202	1.970	0.483	0.424	2.620	0.360
Total TCDD # Homologues	-									0.00	1.00	5.00	3.00	4.00	8.00	3.00
Total-PeCDD	pg/g	0.210	0.029	0.064	0.110	0.061	0.081	0.075		2.790	0.764	4.910	0.445	0.446	3.450	1.770
Total PeCDD # Homologues	-									3.00	3.00	6.00	1.00	1.00	5.00	7.00
Total-HxCDD	pg/g	0.280	0.031	0.065	0.110	0.046	0.090	0.052		12.500	9.540	17.200	4.620	3.770	11.500	3.500
Total HxCDD # Homologues	-									6.00	6.00	6.00	6.00	4.00	7.00	6.00
Total-HpCDD	pg/g	0.270	0.042	0.110	0.120	0.120	0.086	0.081		24.800	19.600	26.100	11.900	11.100	20.000	9.230
Total HpCDD # Homologues	-									2.00	2.00	2.00	2.00	2.00	2.00	2.00
2,3,7,8-TCDF	pg/g	0.330	0.036	0.082	0.200	0.048	0.035	0.037		0.520	0.160	0.560	0.160	0.160	0.624	0.208
1,2,3,7,8-PeCDF	pg/g	0.150	0.042	0.069	0.098	0.100	0.048	0.048		0.380	0.162	0.623	0.200	0.210	0.570	0.175
2,3,4,7,8-PeCDF	pg/g	0.140	0.040	0.065	0.096	0.093	0.044	0.046		0.810	0.230	0.739	0.220	0.337	1.070	0.254
1,2,3,4,7,8-HxCDF	pg/g	0.110	0.028	0.078	0.071	0.068	0.034	0.027		0.650	0.280	0.678	0.284	0.229	0.622	0.230
1,2,3,6,7,8-HxCDF	pg/g	0.091	0.026	0.076	0.073	0.064	0.032	0.026		0.389	0.210	0.540	0.230	0.190	0.480	0.160
1,2,3,7,8,9-HxCDF	pg/g	0.140	0.043	0.110	0.095	0.083	0.040	0.035		0.150	<0.11	0.263	0.100	0.057	0.170	0.093
2,3,4,6,7,8-HxCDF	pg/g	0.100	0.030	0.075	0.069	0.064	0.031	0.026		0.670	0.310	0.641	0.170	0.190	0.520	0.200
1,2,3,4,6,7,8-HpCDF	pg/g	0.12	0.03	0.05	0.06	0.06	0.04	0.05		3.01	2.12	3.78	1.92	1.79	3.45	1.00
1,2,3,4,7,8,9-HpCDF	pg/g	0.17	0.04	0.06	0.08	0.07	0.05	0.06		0.32	0.19	0.34	0.13	0.15	0.22	0.12
OCDF	pg/g	0.20	0.16	0.14	0.14	0.09	0.32	0.10		5.31	2.86	5.00	2.64	2.10	3.80	1.10
Total-TCDF	pg/g	0.330	0.036	0.082	0.200	0.048	0.035	0.037		4.270	1.180	5.330	0.892	1.260	8.360	2.430
Total TCDF # Homologues	-									3.00	5.00	10.00	3.00	5.00	11.00	15.00
Total-PeCDF	pg/g	0.150	0.042	0.069	0.098	0.100	0.048	0.048		1.370	1.910	6.570	1.690	1.310	10.600	1.630
Total PeCDF # Homologues	-									2.00	5.00	7.00	4.00	7.00	10.00	8.00
Total-HxCDF	pg/g	0.140	0.043	0.110	0.095	0.083	0.040	0.035		4.210	2.040	5.090	2.000	1.840	4.720	1.490
Total HxCDF # Homologues	-									5.00	4.00	7.00	5.00	5.00	5.00	5.00
Total-HpCDF	pg/g	0.170	0.039	0.063	0.075	0.068	0.050	0.061		3.210	2.120	5.940	2.040	1.790	5.680	0.560
Total HpCDF # Homologues	-									2.00	1.00	3.00	2.00	1.00	3.00	2.00
13C12-2,3,7,8-TCDD	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		28.0	74.0	65.0	76.0	64.0	73.0	75.0
13C12-1,2,3,7,8-PeCDD	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		40.0	70.0	69.0	70.0	58.0	64.0	70.0
13C12-1,2,3,4,7,8-HxCDD	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		46.0	78.0	72.0	71.0	63.0	70.0	75.0
13C12-1,2,3,6,7,8-HxCDD	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		42.0	73.0	66.0	76.0	66.0	72.0	77.0
13C12-1,2,3,4,6,7,8-HpCDD	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		46.0	80.0	78.0	86.0	69.0	80.0	68.0
13C12-OCDD	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		34.0	61.0	61.0	81.0	60.0	61.0	47.0
13C12-2,3,7,8-TCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		28.0	73.0	68.0	70.0	62.0	68.0	81.0
13C12-1,2,3,7,8-PeCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		46.0	80.0	79.0	71.0	62.0	65.0	85.0
13C12-2,3,4,7,8-PeCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		45.0	76.0	75.0	68.0	58.0	61.0	76.0
13C12-1,2,3,4,7,8-HxCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		52.0	86.0	79.0	74.0	66.0	75.0	87.0
13C12-1,2,3,6,7,8-HxCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		57.0	80.0	71.0	76.0	68.0	75.0	94.0
13C12-2,3,4,6,7,8-HxCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		55.0	87.0	80.0	79.0	69.0	77.0	89.0
13C12-1,2,3,7,8,9-HxCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		51.0	81.0	77.0	80.0	67.0	77.0	82.0
13C12-1,2,3,4,6,7,8-HpCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		57.0	84.0	80.0	79.0	64.0	75.0	71.0
13C12-1,2,3,4,7,8,9-HpCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		58.0	91.0	90.0	71.0	62.0	69.0	69.0
37Cl4-2,3,7,8-TCDD (Cleanup)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		56.0	77.0	70.0	72.0	64.0	72.0	81.0
Lower Bound PCDD/F TEQ (WHO 2005)	pg/g	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0	1.1	0.7	1.9	0.2	0.3	1.7	0.5
Mid Point PCDD/F TEQ (WHO 2005)	pg/g	0.0	0.0	0.0	0.0	0.0	0.0	0.0		1.4	0.9	1.9	0.6	0.7	1.8	0.6
Upper Bound PCDD/F TEQ (WHO 2005)	pg/g	0.0	0.0	0.0	0.0	0.0	0.0	0.0		1.5	0.9	1.9	0.6	0.7	1.8	0.6
Moisture	%	0.25	0.25	0.25	0.25	0.25	0.25	0.25		23.20	15.60	30.90	19.40	18.20	24.50	14.30
Physical Test																
% Moisture	%	0.10	0.10	0.25	0.25	0.10	0.10	0.10		24.10	14.90	30.00	19.00	17.20	23.60	13.80
Conductivity	mS/cm	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.47	0.0959	0.1230	0.2000	0.1470	0.1540	0.1660	0.1570
pH	pH units	0.10	0.10	0.10	0.10	0.10	0.10	0.10		6.34	5.84	6.37	6.97	7.00	6.74	7.27

Parameter	Unit	Lowest Detection Limit							Benchmarks	SB_SS_42[I]	SB_SS_43[AH]	SB_SS_44[AJ]	SB_SS_45[BB]	SB_SS_46[BC]	SB_SS_47[BA]	SB_SS_48[V]
		RDL I	RDL V	RDL AH	RDL AJ	RDL BA	RDL BB	RDL BC	MECP Table 1 Standards[1]	15-Aug-23	17-Aug-23	17-Aug-23	30-Aug-23	30-Aug-23	30-Aug-23	16-Aug-23
Particle Size - Percent Passing																
Passing (0.0312mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		45.6	17.5	55.5	23.9	28.1	28.3	35.0
Passing (9.5mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		98.8	100.0	100.0	100.0	100.0	99.8	99.2
Passing (0.020mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		37.0	12.4	42.1	20.4	23.0	25.0	27.8
Passing (1.0mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		89.9	98.5	99.4	93.7	93.6	81.2	88.0
Passing (4.75mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		96.5	99.8	100.0	98.0	99.6	95.4	96.0
Passing (0.005mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		19.4	5.5	19.0	11.9	13.0	15.3	13.4
Passing (0.841mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		89.2	98.3	99.4	93.2	92.7	80.0	87.3
Passing (19mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		100.0	100.0	100.0	100.0	100.0	100.0	100.0
Passing (0.004mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		17.9	4.8	16.0	10.6	11.2	13.5	11.9
Passing (0.50mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		84.4	96.8	98.8	88.4	82.0	72.9	83.4
Passing (25.4mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		100.0	100.0	100.0	100.0	100.0	100.0	100.0
Passing (0.002mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		13.1	4.0	9.3	6.7	7.5	10.0	8.2
Passing (0.420mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		83.0	96.3	98.6	86.9	79.2	71.0	82.3
Passing (38.1mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		100.0	100.0	100.0	100.0	100.0	100.0	100.0
Passing (0.250mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		74.4	90.6	97.5	72.1	64.0	62.8	74.3
Passing (50.8mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		100.0	100.0	100.0	100.0	100.0	100.0	100.0
Passing (0.149mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		66.0	74.8	95.9	55.1	54.5	55.7	64.1
Passing (76.2mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		100.0	100.0	100.0	100.0	100.0	100.0	100.0
Passing (0.125mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		64.6	66.3	95.2	51.4	52.1	53.9	60.6
Passing (2.0mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		93.8	99.4	99.8	96.3	97.8	88.3	92.3
Passing (0.075mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		61.6	48.6	93.7	43.8	47.1	50.0	53.4
Passing (0.063mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		57.6	37.9	82.6	37.1	41.1	42.4	49.0
Passing (0.05mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		53.1	26.5	70.6	30.0	34.6	34.0	44.4
Anions and Nutrients																
Ammonia, total (as N)	mg/kg	133	115	115	142	131	123	121		233	183	428	149	130	169	134
Nitrate + Nitrite (as N), leachable	mg/kg	0.066	0.058	0.059	0.072	0.066	0.062	0.061		2.260	<0.059	3.790	5.180	3.950	1.010	6.630
Nitrogen, total	%	0.020	0.020	0.020	0.020	0.020	0.020	0.020		0.272	0.151	0.494	0.189	0.186	0.286	0.181
Nitrogen, total organic	%	0.040	0.030	0.030	0.070	0.050	0.030	0.030		0.248	0.184	0.467	0.234	0.199	0.364	0.216
Ammonium	mg/kg	1.0	1.0	1.0	1.0	1.0	1.0	1.0		9.0	4.8	9.8	3.5	3.4	7.1	5.5
Chloride, leachable	mg/kg	20	20	20	20	20	20	20		<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0
Kjeldahl nitrogen, total [TKN]	%	0.020	0.020	0.020	0.040	0.020	0.020	0.020		0.249	0.184	0.468	0.234	0.199	0.365	0.217
Nitrate (as N), leachable	mg/kg	0.065	0.057	0.058	0.071	0.065	0.061	0.060		2.220	<0.058	3.730	5.100	3.890	0.958	6.630
Nitrite (as N), leachable	mg/kg	0.013	0.011	0.012	0.014	0.013	0.012	0.012		0.037	<0.012	0.060	0.079	0.060	0.056	<0.011
Sulfate, leachable	mg/kg	13	11	12	14	13	12	12		<13	<12	<14	<12	<12	<13	<11
Cyanides																
Cyanide	mg/kg	0.100	0.059	0.060	0.073	0.067	0.063	0.061	0.051	<0.10	**0.109**	**0.125**	**0.077**	**0.067**	**0.095**	<0.059
Organic / Inorganic Carbons																
Carbon, inorganic [IC]	%	0.050	0.050	0.050	0.050	0.050	0.050	0.050		0.111	0.057	0.142	0.275	0.884	0.546	0.868
Carbon, total [TC]	%	0.050	0.050	0.050	0.050	0.050	0.050	0.050		3.970	2.110	6.580	2.340	3.160	5.230	3.110
Carbon, total organic [TOC]	%	0.40	0.33	0.22	0.65	0.53	0.24	0.34		3.86	2.05	6.44	2.06	2.28	4.68	2.24
Carbon, inorganic [IC], (as CaCO3 equivalent)	%	0.40	0.40	0.40	0.40	0.40	0.40	0.40		0.93	0.47	1.19	2.29	7.37	4.55	7.24
Organic matter	%	0.40	0.33	0.22	0.65	0.52	0.24	0.34		6.65	3.53	11.10	3.55	3.93	8.07	3.86
Metals																
Calcium	mg/L	0.500	0.500	0.500	0.500	0.500	0.500	0.500		7.830	2.670	6.740	8.100	9.510	14.300	9.620
Magnesium	mg/L	0.500	0.500	0.500	0.500	0.500	0.500	0.500		4.470	1.050	1.790	3.580	2.860	5.140	2.900
Sodium	mg/L	0.500	0.500	0.500	0.500	0.500	0.500	0.500		0.510	<0.50	0.510	<0.50	0.830	0.640	0.640
Aluminum	mg/kg	50.000	50.000	50.000	50.000	50.000	50.000	50.000		16700.000	9450.000	17200.000	10400.000	10900.000	14900.000	13700.000
Antimony	mg/kg	0.100	0.100	0.100	0.100	0.100	0.100	0.100	1.0	0.280	0.150	0.250	0.130	0.130	0.190	0.210
Arsenic	mg/kg	0.100	0.100	0.100	0.100	0.100	0.100	0.100	11	5.540	2.830	5.970	3.380	3.550	4.370	5.970
Barium	mg/kg	0.500	0.500	0.500	0.500	0.500	0.500	0.500	210	64.600	54.600	68.100	47.300	43.400	67.600	59.900
Beryllium	mg/kg	0.100	0.100	0.100	0.100	0.100	0.100	0.100	2.5	0.480	0.270	0.730	0.360	0.340	0.410	0.500
Bismuth	mg/kg	0.200	0.200	0.200	0.200	0.200	0.200	0.200		<0.20	<0.20	0.200	<0.20	<0.20	<0.20	<0.20
Boron	mg/kg	5.00	5.00	5.00	5.00	5.00	5.00	5.00	36	6.20	<5.0	9.60	6.10	6.40	6.00	10.00
Cadmium	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	1.0	0.464	0.301	0.676	0.276	0.286	0.392	0.432
Calcium	mg/kg	50	50	50	50	50	50	50		5040	2270	9350	6950	22900	16000	32800
Chromium	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50	67	21.80	14.30	25.20	15.70	18.10	19.80	21.50
Cobalt	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	19	6.51	3.95	8.22	4.23	4.68	5.23	6.20
Copper	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50	62	8.80	5.57	19.70	7.23	7.22	6.39	10.70
Iron	mg/kg	50	50	50	50	50	50	50		19600	13600	21800	13400	12500	16300	18400
Lead	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50	45	18.20	12.30	21.00	10.40	10.90	16.60	12.00
Lithium	mg/kg	2.0	2.0	2.0	2.0	2.0	2.0	2.0		13.2	7.0	12.6	9.8	12.0	10.9	12.1
Magnesium	mg/kg	20	20	20	20	20	20	20		3480	1780	4190	5030	14500	9230	15800
Manganese	mg/kg	1.0	1.0	1.0	1.0	1.0	1.0	1.0		620.0	832.0	1040.0	523.0	429.0	254.0	982.0

Parameter	Unit	Lowest Detection Limit							Benchmarks	SB_SS_42[I]	SB_SS_43[AH]	SB_SS_44[AJ]	SB_SS_45[BB]	SB_SS_46[BC]	SB_SS_47[BA]	SB_SS_48[V]
		RDL I	RDL V	RDL AH	RDL AJ	RDL BA	RDL BB	RDL BC	MECP Table 1 Standards[1]	15-Aug-23	17-Aug-23	17-Aug-23	30-Aug-23	30-Aug-23	30-Aug-23	16-Aug-23
Mercury	mg/kg	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.16	0.0835	0.0361	0.1060	0.0364	0.0354	0.0674	0.0364
Molybdenum	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	2.0	0.86	0.44	0.54	0.33	0.34	0.51	0.48
Nickel	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50	37	13.90	7.46	16.30	9.72	11.50	11.80	14.20
Phosphorus	mg/kg	50	50	50	50	50	50	50		313	315	798	378	434	246	692
Potassium	mg/kg	100	100	100	100	100	100	100		760	560	1330	930	890	630	1400
Selenium	mg/kg	0.20	0.20	0.20	0.20	0.20	0.20	0.20	1.2	0.59	0.35	0.91	0.24	0.24	0.40	0.33
Silver	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Sodium	mg/kg	50	50	50	50	50	50	50		56	<50	80	<50	74	59	76
Strontium	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50		10.10	8.17	15.70	8.68	17.40	13.80	18.40
Sulfur	mg/kg	1000	1000	1000	1000	1000	1000	1000		<1000	<1000	<1000	<1000	<1000	<1000	<1000
Thallium	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	1.0	0.179	0.100	0.215	0.098	0.088	0.116	0.125
Tin	mg/kg	2.0	2.0	2.0	2.0	2.0	2.0	2.0		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Titanium	mg/kg	1.0	1.0	1.0	1.0	1.0	1.0	1.0		242.0	282.0	184.0	211.0	198.0	214.0	271.0
Tungsten	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Uranium	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	1.9	0.742	0.388	1.170	0.530	0.655	0.617	0.837
Vanadium	mg/kg	0.20	0.20	0.20	0.20	0.20	0.20	0.20	86	39.40	25.40	38.60	25.40	24.10	32.10	33.70
Zinc	mg/kg	2.0	2.0	2.0	2.0	2.0	2.0	2.0	290	64.3	37.6	72.0	37.7	37.2	47.4	53.6
Zirconium	mg/kg	1.0	1.0	1.0	1.0	1.0	1.0	1.0		<1.0	<1.0	1.9	<1.0	<1.0	1.4	<1.0
Sodium adsorption ratio [SAR]		0.10	0.10	0.10	0.10	0.10	0.10	0.10	1.0	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Chromium, hexavalent [Cr VI]	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	1.0	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Volatile Organic Compounds																
Acetone	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Benzene	mg/kg	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.020	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Bromodichloromethane	mg/kg	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
Bromoform	mg/kg	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
Bromomethane	mg/kg	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
Carbon tetrachloride	mg/kg	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
Chlorobenzene	mg/kg	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
Chloroform	mg/kg	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
Dibromochloromethane	mg/kg	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
Dibromoethane, 1,2-	mg/kg	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
Dichlorobenzene, 1,2-	mg/kg	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
Dichlorobenzene, 1,2-	mg/kg	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
Dichlorobenzene, 1,3-	mg/kg	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
Dichlorobenzene, 1,4-	mg/kg	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
Dichlorodifluoromethane	mg/kg	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
Dichloroethane, 1,1-	mg/kg	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
Dichloroethane, 1,2-	mg/kg	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
Dichloroethylene, 1,1-	mg/kg	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
Dichloroethylene, cis-1,2-	mg/kg	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
Dichloroethylene, trans-1,2-	mg/kg	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
Dichloromethane	mg/kg	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.050	<0.045	<0.045	<0.045	<0.045	<0.045	<0.045	<0.045
Dichloropropane, 1,2-	mg/kg	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
Dichloropropylene, cis+trans-1,3-	mg/kg	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
Dichloropropylene, cis-1,3-	mg/kg	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
Dichloropropylene, trans-1,3-	mg/kg	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
Ethylbenzene	mg/kg	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.050	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Hexane, n-	mg/kg	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
Methyl ethyl ketone [MEK]	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methyl isobutyl ketone [MIBK]	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methyl-tert-butyl ether [MTBE]	mg/kg	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.050	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Styrene	mg/kg	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
Tetrachloroethane, 1,1,1,2-	mg/kg	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
Tetrachloroethane, 1,1,2,2-	mg/kg	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
Tetrachloroethylene	mg/kg	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
Toluene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.20	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Trichloroethane, 1,1,1-	mg/kg	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
Trichloroethane, 1,1,2-	mg/kg	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
Trichloroethylene	mg/kg	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.050	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Trichlorofluoromethane	mg/kg	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
Vinyl chloride	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Xylene, m+p-	mg/kg	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
Xylene, o-	mg/kg	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
Xylenes, total	mg/kg	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
BTEX, total	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10

Parameter	Unit	Lowest Detection Limit							Benchmarks	SB_SS_42[I]	SB_SS_43[AH]	SB_SS_44[AJ]	SB_SS_45[BB]	SB_SS_46[BC]	SB_SS_47[BA]	SB_SS_48[V]
		RDL I	RDL V	RDL AH	RDL AJ	RDL BA	RDL BB	RDL BC	MECP Table 1 Standards[1]	15-Aug-23	17-Aug-23	17-Aug-23	30-Aug-23	30-Aug-23	30-Aug-23	16-Aug-23
Hydrocarbons																
F1 (C6-C10)	mg/kg	5.0	5.0	5.0	5.0	5.0	5.0	5.0	17	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
F1-BTEX	mg/kg	5.0	5.0	5.0	5.0	5.0	5.0	5.0		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
F2 (C10-C16)	mg/kg	10	10	10	10	10	10	10	10	<10	<10	<10	<10	<10	11	<10
F3 (C16-C34)	mg/kg	50	50	50	50	50	50	50	240	<50	<50	<50	<50	<50	<50	<50
F4 (C34-C50)	mg/kg	50	50	50	50	50	50	50	120	<50	<50	<50	<50	<50	59	<50
Hydrocarbons, total (C6-C50)	mg/kg	80	80	80	80	80	80	80		<80	<80	<80	<80	<80	<80	<80
Polycyclic Aromatic Hydrocarbons																
Acenaphthene	mg/kg	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
Acenaphthylene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.093	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Anthracene	mg/kg	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
Benz(a)anthracene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.095	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(a)pyrene	mg/kg	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
Benzo(b+j)fluoranthene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.30	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(g,h,i)perylene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.20	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(k)fluoranthene	mg/kg	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
Chrysene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.18	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dibenz(a,h)anthracene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fluoranthene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.24	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fluorene	mg/kg	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
Indeno(1,2,3-c,d)pyrene	mg/kg	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
Methylnaphthalene, 1-	mg/kg	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
Methylnaphthalene, 2-	mg/kg	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
Naphthalene	mg/kg	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
Phenanthrene	mg/kg	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
Pyrene	mg/kg	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
Methylnaphthalene, 1+2-	mg/kg	0.042	0.042	0.042	0.042	0.042	0.042	0.042		<0.042	<0.042	<0.042	<0.042	<0.042	<0.042	<0.042
Phthalate Esters																
Diethyl phthalate	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dimethyl phthalate	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
bis(2-Ethylhexyl) phthalate [DEHP]	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Semi-volatile Organics																
Biphenyl	mg/kg	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
Chloroaniline, 4-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dichlorobenzidine, 3,3'-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dinitrotoluene, 2,4-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dinitrotoluene, 2,6-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Trichlorobenzene, 1,2,4-	mg/kg	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
bis(2-Chloro-1-methylethyl) ether	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
bis(2-Chloroethyl) ether	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dinitrotoluene, 2,4 + 2,6-	mg/kg	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.50	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Phenolics																
Chlorophenol, 2-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dichlorophenol, 2,4-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Pentachlorophenol [PCP]	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Trichlorophenol, 2,4,5-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Trichlorophenol, 2,4,6-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dimethylphenol, 2,4-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dinitrophenol, 2,4-	mg/kg	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Phenol	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Polychlorinated Biphenyls																
Aroclor 1016	mg/kg	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
Aroclor 1221	mg/kg	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
Aroclor 1232	mg/kg	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
Aroclor 1242	mg/kg	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
Aroclor 1248	mg/kg	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
Aroclor 1254	mg/kg	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
Aroclor 1260	mg/kg	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
Aroclor 1262	mg/kg	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
Aroclor 1268	mg/kg	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
Polychlorinated biphenyls [PCBs], total	mg/kg	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.300	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Organochlorine Pesticides																
Aldrin	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.050	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Chlordane, cis- (alpha)	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020

Parameter	Unit	Lowest Detection Limit							Benchmarks	SB_SS_42[I]	SB_SS_43[AH]	SB_SS_44[AJ]	SB_SS_45[BB]	SB_SS_46[BC]	SB_SS_47[BA]	SB_SS_48[V]
		RDL I	RDL V	RDL AH	RDL AJ	RDL BA	RDL BB	RDL BC	MECP Table 1 Standards[1]	15-Aug-23	17-Aug-23	17-Aug-23	30-Aug-23	30-Aug-23	30-Aug-23	16-Aug-23
Chlordane, total	mg/kg	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.050	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Chlordane, trans- (gamma)	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
DDD, 2,4'-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
DDD, 4,4'-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
DDD, total	mg/kg	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.050	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
DDE, 2,4'-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
DDE, 4,4'-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
DDE, total	mg/kg	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.050	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
DDT, 2,4'-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
DDT, 4,4'-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
DDT, total	mg/kg	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.078	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Dieldrin	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.050	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Endosulfan, alpha-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Endosulfan, beta-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Endosulfan, total	mg/kg	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.040	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Endrin	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.040	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Endrin aldehyde	mg/kg	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
Heptachlor	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.050	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Heptachlor epoxide	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.050	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Hexachlorobenzene	mg/kg	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
Hexachlorobutadiene	mg/kg	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
Hexachlorocyclohexane, gamma-	mg/kg	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
Hexachloroethane	mg/kg	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
Methoxychlor	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.050	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Radiological Parameters																
Cesium-137	Bq/kg	18.5	18.5	18.5	18.5	18.5	18.5	18.5		10.6	6.6	11.2	8.1	4.2	10.3	4.9
Cobalt-60	Bq/kg	18.5	18.5	18.5	18.5	18.5	18.5	18.5		<18.5	<18.5	<18.5	<18.5	<18.5	<18.5	<18.5
Gross alpha	Bq/kg	111	111	111	111	111	111	111		370	116	268	286	275	276	176
Gross beta	Bq/kg	148	148	148	148	148	148	148		763	606	763	730	648	484	629
Iodine-129	Bq/kg	370	370	370	370	370	370	370		<370	<370	<370	<370	<370	<370	<370
Neptunium-237	Bq/kg	---	---	---	---	---	---	---		---	---	---	---	---	---	---
Potassium-40	Bq/kg	75	75	75	75	75	75	75		491	591	715	559	573	485	590
Radium-226	Bq/kg	37	37	37	37	37	37	37		53	29	69	66	<37.0	67	32
Ruthenium-106	Bq/kg	90	90	90	90	90	90	90		<90	<90	<90	<90	<90	<90	<90
Strontium-90	Bq/kg	18.5	18.5	18.5	18.5	18.5	18.5	18.5		<18.5	<18.5	<18.5	<18.5	<18.5	<18.5	<18.5
Thorium-228	Bq/kg	3.7	3.7	3.7	3.7	3.7	3.7	3.7		22.0	16.7	28.6	18.2	10.7	27.8	18.1
Thorium-230	Bq/kg	3.7	3.7	3.7	3.7	3.7	3.7	3.7		54.1	21.5	34.6	38.0	35.9	62.6	55.5
Thorium-232	Bq/kg	3.7	3.7	3.7	3.7	3.7	3.7	3.7		27.1	14.4	26.6	20.7	17.9	22.3	25.1
Uranium-234	Bq/kg	3.7	3.7	3.7	3.7	3.7	3.7	3.7		21.5	12.2	25.4	15.2	24.4	17.5	19.6
Uranium-235	Bq/kg	3.7	3.7	3.7	3.7	3.7	3.7	3.7		1.1	0.6	1.9	<3.7	<3.7	<3.7	1.6
Uranium-238	Bq/kg	3.7	3.7	3.7	3.7	3.7	3.7	3.7		22.8	12.8	29.1	21.6	23.9	21.8	21.0
Carbon-14	Bq/kg	740	740	740	740	740	740	740		<740	<740	<740	<740	<740	<740	<740
Chlorine-36	Bq/kg	---	---	---	---	---	---	---		---	---	---	---	---	---	---
Plutonium-238	Bq/kg	---	---	---	---	---	---	---		---	---	---	---	---	---	---
Plutonium-239	Bq/kg	---	---	---	---	---	---	---		---	---	---	---	---	---	---
Selenium-79	Bq/kg	---	---	---	---	---	---	---		---	---	---	---	---	---	---
Tritium	Bq/kg	37	37	37	37	37	37	37		<37	<37	<37	<37	<37	<37	<37

[1]MECP Table 1 Standards: Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011, Table 1, Full Depth Background Site Condition Standards, for Agricultural Property Use.
pg/g = picogram per gram
Bq/L = Becquerel per litre.
mg/kg = milligram per kilogram
mS/cm = MilliSiemens per centimetre
mg/L = milligram per litre
--- not sampled or not provided by the laboratory

Appendix II Table 7: Soil quality parameters for a subset of soil samples collected during the August 2023 surficial soil sampling program. Samples included in this table are SB_SS_49, SB_SS_50, SB_SS_51, SB_SS_52, SB_SS_53, SB_SS_55, and SB_SS_56. Also noted is the unit that the parameter was measured in and the reported detection limit (RDL). Any highlighted values indicate they are above the MECP Table 1 Background Site Condition Standards for Agricultural Use (MECP 2011). Detection limits changed between sites and are indicated by a superscript letter beside the site identification.

Parameter	Unit	Lowest Detection Limit							Benchmarks	SB_SS_49[W]	SB_SS_50[AW]	SB_SS_51[AG]	SB_SS_52[BD]	SB_SS_53[BE]	SB_SS_55[AQ]	SB_SS_56[AO]
		RDL W	RDL AG	RDL AO	RDL AQ	RDL AW	RDL BD	RDL BE	MECP Table 1 Standards[1]	16-Aug-23	15-Aug-23	17-Aug-23	28-Aug-23	28-Aug-23	18-Aug-23	18-Aug-23
Dioxins and Furans																
2,3,7,8-TCDD	pg/g	0.076	0.061	0.013	0.026	0.067	0.073	0.026		0.941	0.330	0.100	0.200	0.120	0.339	0.072
1,2,3,7,8-PeCDD	pg/g	0.092	0.058	0.013	0.020	0.110	0.072	0.061		1.190	0.440	0.313	0.450	0.283	0.460	0.180
1,2,3,4,7,8-HxCDD	pg/g	0.220	0.084	0.038	0.051	0.150	0.190	0.052		1.270	0.510	0.389	0.590	0.373	0.562	0.224
1,2,3,6,7,8-HxCDD	pg/g	0.200	0.088	0.038	0.050	0.140	0.170	0.043		2.940	0.930	0.995	0.610	0.666	0.950	0.415
1,2,3,7,8,9-HxCDD	pg/g	0.210	0.084	0.039	0.051	0.150	0.180	0.048		2.610	0.720	0.837	0.790	0.736	0.964	0.407
1,2,3,4,6,7,8-HpCDD	pg/g	0.46	0.13	0.06	0.13	0.24	0.14	0.08		32.20	13.20	7.61	9.04	7.76	12.10	4.66
OCDD	pg/g	2.20	0.23	0.22	0.40	0.65	0.26	0.25		143.00	64.40	28.80	42.80	31.30	66.00	24.40
Total-TCDD	pg/g	0.076	0.061	0.013	0.026	0.067	0.073	0.026		8.050	5.070	0.250	2.760	1.100	3.030	0.954
Total TCDD # Homologues	-									8.00	4.00	1.00	3.00	4.00	9.00	7.00
Total-PeCDD	pg/g	0.092	0.058	0.013	0.020	0.110	0.072	0.061		9.440	3.120	3.290	3.610	2.060	2.590	1.490
Total PeCDD # Homologues	-									6.00	2.00	6.00	5.00	4.00	7.00	4.00
Total-HxCDD	pg/g	0.220	0.088	0.039	0.051	0.150	0.190	0.052		36.600	6.980	8.790	9.980	7.930	11.800	3.150
Total HxCDD # Homologues	-									6.00	3.00	6.00	4.00	6.00	6.00	5.00
Total-HpCDD	pg/g	0.460	0.130	0.063	0.130	0.240	0.140	0.081		65.100	28.400	7.610	17.500	15.500	24.000	9.660
Total HpCDD # Homologues	-									2.00	2.00	1.00	2.00	2.00	2.00	2.00
2,3,7,8-TCDF	pg/g	0.130	0.077	0.029	0.076	0.200	0.085	0.043		1.800	0.760	0.228	0.443	0.315	0.635	0.200
1,2,3,7,8-PeCDF	pg/g	0.120	0.086	0.026	0.032	0.065	0.088	0.037		1.410	0.470	0.243	0.696	0.290	0.659	0.269
2,3,4,7,8-PeCDF	pg/g	0.120	0.079	0.026	0.034	0.070	0.086	0.037		2.840	1.480	0.413	0.714	0.500	0.990	0.359
1,2,3,4,7,8-HxCDF	pg/g	0.140	0.075	0.031	0.055	0.130	0.067	0.062		1.810	0.730	0.230	0.460	0.447	0.805	0.270
1,2,3,6,7,8-HxCDF	pg/g	0.130	0.078	0.028	0.053	0.120	0.065	0.059		1.280	0.520	0.316	0.590	0.360	0.595	0.208
1,2,3,7,8,9-HxCDF	pg/g	0.220	0.110	0.046	0.086	0.220	0.085	0.078		0.500	<0.22	<0.11	0.150	<0.078	0.210	0.055
2,3,4,6,7,8-HxCDF	pg/g	0.160	0.075	0.034	0.060	0.140	0.064	0.062		1.710	0.580	0.272	0.640	0.340	0.671	0.296
1,2,3,4,6,7,8-HpCDF	pg/g	0.16	0.04	0.04	0.04	0.12	0.05	0.05		8.25	3.60	1.92	2.60	2.35	3.85	1.35
1,2,3,4,7,8,9-HpCDF	pg/g	0.27	0.05	0.06	0.05	0.20	0.06	0.09		1.10	0.37	0.17	0.28	0.29	0.25	0.17
OCDF	pg/g	1.30	0.17	0.18	0.13	0.69	0.15	0.10		10.60	4.30	2.68	3.15	2.43	5.33	1.53
Total-TCDF	pg/g	0.130	0.077	0.029	0.076	0.200	0.085	0.043		31.200	15.600	0.606	6.820	3.510	11.900	3.500
Total TCDF # Homologues	-									19.00	13.00	4.00	11.00	9.00	20.00	13.00
Total-PeCDF	pg/g	0.120	0.086	0.026	0.034	0.070	0.088	0.037		13.700	5.500	3.260	4.600	3.050	6.400	2.290
Total PeCDF # Homologues	-									9.00	4.00	6.00	8.00	7.00	9.00	9.00
Total-HxCDF	pg/g	0.220	0.110	0.046	0.086	0.220	0.085	0.078		19.400	7.420	2.850	3.380	3.620	7.740	2.260
Total HxCDF # Homologues	-									11.00	7.00	5.00	4.00	6.00	13.00	8.00
Total-HpCDF	pg/g	0.270	0.054	0.057	0.052	0.200	0.061	0.085		9.210	0.370	2.090	1.220	3.430	6.020	2.250
Total HpCDF # Homologues	-									2.00	1.00	2.00	1.00	3.00	3.00	4.00
13C12-2,3,7,8-TCDD	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		83.0	46.0	67.0	52.0	79.0	82.0	73.0
13C12-1,2,3,7,8-PeCDD	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		62.0	38.0	64.0	47.0	68.0	72.0	67.0
13C12-1,2,3,4,7,8-HxCDD	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		85.0	60.0	72.0	52.0	76.0	85.0	77.0
13C12-1,2,3,6,7,8-HxCDD	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		89.0	63.0	64.0	53.0	80.0	85.0	77.0
13C12-1,2,3,4,6,7,8-HpCDD	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		69.0	45.0	73.0	59.0	81.0	68.0	65.0
13C12-OCDD	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		47.0	35.0	56.0	50.0	74.0	49.0	45.0
13C12-2,3,7,8-TCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		91.0	41.0	67.0	50.0	74.0	84.0	77.0
13C12-1,2,3,7,8-PeCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		81.0	40.0	74.0	48.0	71.0	83.0	77.0
13C12-2,3,4,7,8-PeCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		68.0	34.0	68.0	45.0	67.0	73.0	68.0
13C12-1,2,3,4,7,8-HxCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		106.0	63.0	77.0	54.0	80.0	89.0	83.0
13C12-1,2,3,6,7,8-HxCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		113.0	66.0	73.0	56.0	83.0	98.0	88.0
13C12-2,3,4,6,7,8-HxCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		103.0	60.0	79.0	58.0	82.0	91.0	82.0
13C12-1,2,3,7,8,9-HxCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		95.0	50.0	72.0	57.0	80.0	81.0	76.0
13C12-1,2,3,4,6,7,8-HpCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		78.0	50.0	76.0	55.0	99.0	71.0	67.0
13C12-1,2,3,4,7,8,9-HpCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		71.0	41.0	83.0	49.0	63.0	68.0	63.0
37Cl4-2,3,7,8-TCDD (Cleanup)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		82.0	42.0	69.0	50.0	81.0	80.0	77.0
Lower Bound PCDD/F TEQ (WHO 2005)	pg/g	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0	4.7	0.8	0.9	1.0	0.7	1.3	0.3
Mid Point PCDD/F TEQ (WHO 2005)	pg/g	0.0	0.0	0.0	0.0	0.0	0.0	0.0		4.9	1.9	1.0	1.5	1.0	1.8	0.6
Upper Bound PCDD/F TEQ (WHO 2005)	pg/g	0.0	0.0	0.0	0.0	0.0	0.0	0.0		4.9	1.9	1.0	1.5	1.0	1.8	0.6
Moisture	%	0.25	0.25	0.25	0.25	0.10	0.25	0.25		79.10	34.40	17.90	28.60	24.80	28.90	23.00
Physical Test																
% Moisture	%	0.10	0.25	0.25	0.10	0.10	0.10	0.10		79.30	34.70	17.40	27.30	24.00	29.50	22.00
Conductivity	mS/cm	0.0100	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.47	**0.5980**	0.1420	0.1780	0.2440	0.2220	0.2660	0.0957
pH	pH units	0.10	0.10	0.10	0.10	0.10	0.10	0.10		6.73	5.91	7.10	6.94	6.73	6.77	5.22

Parameter	Unit	Lowest Detection Limit							Benchmarks	SB_SS_49[W]	SB_SS_50[AW]	SB_SS_51[AG]	SB_SS_52[BD]	SB_SS_53[BE]	SB_SS_55[AQ]	SB_SS_56[AO]
		RDL W	RDL AG	RDL AO	RDL AQ	RDL AW	RDL BD	RDL BE	MECP Table 1 Standards[1]	16-Aug-23	15-Aug-23	17-Aug-23	28-Aug-23	28-Aug-23	18-Aug-23	18-Aug-23
Particle Size - Percent Passing																
Passing (0.0312mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		10.7	39.7	39.1	53.8	31.3	47.1	44.8
Passing (9.5mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		100.0	100.0	99.3	100.0	100.0	100.0	100.0
Passing (0.020mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		7.6	29.6	28.2	46.3	23.8	37.5	35.0
Passing (1.0mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		98.9	93.0	96.6	97.4	96.9	98.0	99.1
Passing (4.75mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		99.9	98.2	98.6	99.7	98.9	99.7	100.0
Passing (0.005mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		2.3	12.4	12.6	26.8	12.6	16.8	16.6
Passing (0.841mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		98.9	92.8	96.4	97.1	96.6	97.7	99.0
Passing (19mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		100.0	100.0	100.0	100.0	100.0	100.0	100.0
Passing (0.004mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		2.2	10.4	10.6	24.4	11.5	15.0	14.6
Passing (0.50mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		98.8	90.2	94.3	95.6	93.2	95.7	97.4
Passing (25.4mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		100.0	100.0	100.0	100.0	100.0	100.0	100.0
Passing (0.002mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		2.2	7.2	7.0	17.5	8.3	10.6	11.3
Passing (0.420mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		98.7	89.5	93.7	95.2	92.2	95.2	97.0
Passing (38.1mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		100.0	100.0	100.0	100.0	100.0	100.0	100.0
Passing (0.250mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		98.5	85.7	87.9	91.8	84.0	90.5	91.1
Passing (50.8mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		100.0	100.0	100.0	100.0	100.0	100.0	100.0
Passing (0.149mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		98.3	82.1	81.6	87.6	75.4	84.5	81.4
Passing (76.2mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		100.0	100.0	100.0	100.0	100.0	100.0	100.0
Passing (0.125mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		98.2	80.8	79.4	85.9	72.7	82.2	78.4
Passing (2.0mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		99.0	94.1	97.8	98.9	98.2	99.4	100.0
Passing (0.075mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		98.0	78.2	74.6	82.5	67.1	77.4	72.3
Passing (0.063mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		56.2	65.3	65.0	73.8	55.1	69.4	65.8
Passing (0.05mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		17.3	51.3	54.6	64.4	42.2	60.7	58.9
Anions and Nutrients																
Ammonia, total (as N)	mg/kg	490	123	127	142	150	138	132		1300	386	182	359	168	309	128
Nitrate + Nitrite (as N), leachable	mg/kg	0.247	0.061	0.064	0.071	0.077	0.069	0.065		5.710	0.184	7.580	4.760	0.485	5.940	3.190
Nitrogen, total	%	0.020	0.020	0.020	0.020	0.020	0.020	0.020		1.790	0.481	0.226	0.483	0.230	0.321	0.148
Nitrogen, total organic	%	0.300	0.040	0.030	0.050	0.070	0.070	0.040		1.930	0.479	0.272	0.507	0.259	0.352	0.184
Ammonium	mg/kg	2.5	1.0	1.0	1.0	1.0	1.0	1.0		34.3	15.4	4.6	6.7	7.7	7.5	3.6
Chloride, leachable	mg/kg	24	20	20	20	20	20	20		<24.2	<20.0	<20.0	32	<20.0	<20.0	<20.0
Kjeldahl nitrogen, total [TKN]	%	0.100	0.020	0.020	0.020	0.070	0.070	0.070		1.930	0.481	0.273	0.508	0.260	0.353	0.184
Nitrate (as N), leachable	mg/kg	0.242	0.060	0.063	0.070	0.076	0.068	0.064		5.710	0.184	7.560	4.690	0.443	5.920	3.170
Nitrite (as N), leachable	mg/kg	0.048	0.012	0.013	0.014	0.015	0.014	0.013		<0.048	<0.015	0.021	0.071	0.042	0.023	0.019
Sulfate, leachable	mg/kg	48	12	13	14	15	14	13		<48	<15	<12	<14	<13	<14	<13
Cyanides																
Cyanide	mg/kg	0.264	0.060	0.064	0.072	0.079	0.071	0.067	0.051	<0.264	**0.130**	**0.070**	**0.076**	**0.072**	**0.148**	**0.135**
Organic / Inorganic Carbons																
Carbon, inorganic [IC]	%	0.050	0.050	0.050	0.050	0.050	0.426	0.050		0.653	0.179	0.152	0.050	0.166	0.113	0.064
Carbon, total [TC]	%	0.050	0.050	0.050	0.050	0.050	7.030	0.050		34.800	9.760	2.580	0.050	3.950	4.440	2.110
Carbon, total organic [TOC]	%	3.39	0.27	0.22	0.44	0.96	6.60	0.40		34.10	9.58	2.43	0.70	3.78	4.33	2.05
Carbon, inorganic [IC], (as CaCO3 equivalent)	%	0.40	0.40	0.40	0.40	0.40	3.55	0.40		5.45	1.49	1.26	0.40	1.38	0.94	0.53
Organic matter	%	3.39	0.26	0.22	0.44	0.96	11.40	0.40		58.80	16.50	4.19	0.70	6.52	7.46	3.53
Metals																
Calcium	mg/L	0.500	0.500	0.500	0.500	0.500	0.500	0.500		32.300	14.500	6.360	32.500	17.300	6.490	2.520
Magnesium	mg/L	0.500	0.500	0.500	0.500	0.500	0.500	0.500		6.000	6.910	2.270	8.790	7.120	2.630	1.610
Sodium	mg/L	0.500	0.500	0.500	0.500	0.500	0.500	0.500		1.570	1.310	<0.50	5.320	0.660	<0.50	<0.50
Aluminum	mg/kg	50.000	50.000	50.000	50.000	50.000	50.000	50.000		2280.000	9450.000	16200.000	16000.000	12800.000	12300.000	12300.000
Antimony	mg/kg	0.100	0.100	0.100	0.100	0.100	0.100	0.100	1.0	0.370	0.160	0.190	0.150	0.170	0.230	0.140
Arsenic	mg/kg	0.100	0.100	0.100	0.100	0.100	0.100	0.100	11	2.130	2.740	4.940	4.190	3.960	4.340	3.920
Barium	mg/kg	0.500	0.500	0.500	0.500	0.500	0.500	0.500	210	38.000	94.600	62.500	49.000	60.400	54.400	64.900
Beryllium	mg/kg	0.100	0.100	0.100	0.100	0.100	0.100	0.100	2.5	0.150	0.230	0.600	0.530	0.340	0.420	0.400
Bismuth	mg/kg	0.200	0.200	0.200	0.200	0.200	0.200	0.200		<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Boron	mg/kg	5.00	5.00	5.00	5.00	5.00	5.00	5.00	36	16.20	<5.0	8.30	16.00	5.10	7.20	5.20
Cadmium	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	1.0	**1.080**	0.478	0.388	0.634	0.290	0.405	0.280
Calcium	mg/kg	50	50	50	50	50	50	50		47900	7970	7220	17000	5820	5020	2140
Chromium	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50	67	11.90	12.50	21.90	24.10	17.20	18.10	16.40
Cobalt	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	19	1.50	2.95	6.82	5.85	4.96	6.72	5.81
Copper	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50	62	15.90	5.52	9.91	14.10	7.58	9.09	8.15
Iron	mg/kg	50	50	50	50	50	50	50		4900	10000	19800	16900	15500	16700	15600
Lead	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50	45	23.90	16.20	12.50	15.40	14.70	19.40	10.20
Lithium	mg/kg	2.0	2.0	2.0	2.0	2.0	2.0	2.0		<2.0	8.1	12.2	20.6	9.8	13.1	10.3
Magnesium	mg/kg	20	20	20	20	20	20	20		3110	2790	5310	10000	3600	3330	2710
Manganese	mg/kg	1.0	1.0	1.0	1.0	1.0	1.0	1.0		382.0	118.0	824.0	600.0	224.0	719.0	797.0
Mercury	mg/kg	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.16	**0.2150**	0.0618	0.0415	0.1120	0.0512	0.0760	0.0559
Molybdenum	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	2.0	0.64	0.40	0.45	0.55	0.47	0.55	0.44

Parameter	Unit	Lowest Detection Limit							Benchmarks	SB_SS_49[W]	SB_SS_50[AW]	SB_SS_51[AG]	SB_SS_52[BD]	SB_SS_53[BE]	SB_SS_55[AQ]	SB_SS_56[AO]
		RDL W	RDL AG	RDL AO	RDL AQ	RDL AW	RDL BD	RDL BE	MECP Table 1 Standards[1]	16-Aug-23	15-Aug-23	17-Aug-23	28-Aug-23	28-Aug-23	18-Aug-23	18-Aug-23
Nickel	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50	37	5.36	7.36	13.80	14.80	10.30	11.90	12.40
Phosphorus	mg/kg	50	50	50	50	50	50	50		1110	280	715	1060	262	444	405
Potassium	mg/kg	100	100	100	100	100	100	100		320	500	1120	2090	650	1000	780
Selenium	mg/kg	0.20	0.20	0.20	0.20	0.20	0.20	0.20	1.2	**5.29**	0.48	0.38	0.83	0.34	0.52	0.30
Silver	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Sodium	mg/kg	50	50	50	50	50	50	50		<50	<50	79	141	57	51	50
Strontium	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50		37.60	18.70	12.30	110.00	11.60	10.20	7.60
Sulfur	mg/kg	1000	1000	1000	1000	1000	1000	1000		3100	<1000	<1000	1000	<1000	<1000	<1000
Thallium	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	1.0	0.092	0.096	0.140	0.137	0.109	0.165	0.112
Tin	mg/kg	2.0	2.0	2.0	2.0	2.0	2.0	2.0		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Titanium	mg/kg	1.0	1.0	1.0	1.0	1.0	1.0	1.0		32.6	135.0	247.0	183.0	223.0	237.0	204.0
Tungsten	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Uranium	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	1.9	**6.580**	0.652	1.090	**4.410**	0.448	0.662	0.418
Vanadium	mg/kg	0.20	0.20	0.20	0.20	0.20	0.20	0.20	86	10.60	21.50	35.90	32.50	29.90	30.00	27.80
Zinc	mg/kg	2.0	2.0	2.0	2.0	2.0	2.0	2.0	290	92.0	49.8	45.0	66.6	42.4	56.4	44.9
Zirconium	mg/kg	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.2	<1.0	<1.0	2.4	<1.0	<1.0	<1.0
Sodium adsorption ratio [SAR]		0.10	0.10	0.10	0.10	0.10	0.10	0.10	1.0	<0.10	<0.10	<0.10	0.21	<0.10	<0.10	<0.10
Chromium, hexavalent [Cr VI]	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	1.0	**1.33**	0.20	<0.10	<0.10	<0.10	<0.10	<0.10
Volatile Organic Compounds																
Acetone	mg/kg	1.79	0.50	0.50	0.50	0.54	0.50	0.50	0.50	<1.79	<0.54	<0.50	<0.50	<0.50	<0.50	<0.50
Benzene	mg/kg	0.0179	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.020	<0.0179	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Bromodichloromethane	mg/kg	0.179	0.050	0.050	0.050	0.050	0.050	0.050	0.050	<0.179	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bromoform	mg/kg	0.179	0.050	0.050	0.050	0.050	0.050	0.050	0.050	<0.179	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bromomethane	mg/kg	0.179	0.050	0.050	0.050	0.050	0.050	0.050	0.050	<0.179	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Carbon tetrachloride	mg/kg	0.179	0.050	0.050	0.050	0.050	0.050	0.050	0.050	<0.179	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chlorobenzene	mg/kg	0.179	0.050	0.050	0.050	0.050	0.050	0.050	0.050	<0.179	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chloroform	mg/kg	0.179	0.050	0.050	0.050	0.050	0.050	0.050	0.050	<0.179	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dibromochloromethane	mg/kg	0.179	0.050	0.050	0.050	0.050	0.050	0.050	0.050	<0.179	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dibromoethane, 1,2-	mg/kg	0.179	0.050	0.050	0.050	0.050	0.050	0.050	0.050	<0.179	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichlorobenzene, 1,2-	mg/kg	0.179	0.050	0.050	0.050	0.050	0.050	0.050	0.050	<0.179	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichlorobenzene, 1,3-	mg/kg	0.179	0.050	0.050	0.050	0.050	0.050	0.050	0.050	<0.179	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichlorobenzene, 1,4-	mg/kg	0.179	0.050	0.050	0.050	0.050	0.050	0.050	0.050	<0.179	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichlorodifluoromethane	mg/kg	0.179	0.050	0.050	0.050	0.050	0.050	0.050	0.050	<0.179	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichloroethane, 1,1-	mg/kg	0.179	0.050	0.050	0.050	0.050	0.050	0.050	0.050	<0.179	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichloroethane, 1,2-	mg/kg	0.179	0.050	0.050	0.050	0.050	0.050	0.050	0.050	<0.179	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichloroethylene, 1,1-	mg/kg	0.179	0.050	0.050	0.050	0.050	0.050	0.050	0.050	<0.179	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichloroethylene, cis-1,2-	mg/kg	0.179	0.050	0.050	0.050	0.050	0.050	0.050	0.050	<0.179	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichloroethylene, trans-1,2-	mg/kg	0.179	0.050	0.050	0.050	0.050	0.050	0.050	0.050	<0.179	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichloromethane	mg/kg	0.161	0.045	0.045	0.045	0.045	0.045	0.045	0.050	<0.161	<0.045	<0.045	<0.045	<0.045	<0.045	<0.045
Dichloropropane, 1,2-	mg/kg	0.179	0.050	0.050	0.050	0.050	0.050	0.050	0.050	<0.179	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichloropropylene, cis+trans-1,3-	mg/kg	0.151	0.050	0.050	0.050	0.050	0.050	0.050	0.050	<0.151	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichloropropylene, cis-1,3-	mg/kg	0.107	0.030	0.030	0.030	0.030	0.030	0.030		<0.107	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Dichloropropylene, trans-1,3-	mg/kg	0.107	0.030	0.030	0.030	0.030	0.030	0.030		<0.107	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Ethylbenzene	mg/kg	0.054	0.015	0.015	0.015	0.015	0.015	0.015	0.050	<0.054	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Hexane, n-	mg/kg	0.179	0.050	0.050	0.050	0.050	0.050	0.050	0.050	<0.179	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Methyl ethyl ketone [MEK]	mg/kg	1.79	0.50	0.50	0.50	0.54	0.50	0.50	0.50	<1.79	<0.54	<0.50	<0.50	<0.50	<0.50	<0.50
Methyl isobutyl ketone [MIBK]	mg/kg	1.79	0.50	0.50	0.50	0.50	0.50	0.50	0.50	<1.79	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methyl-tert-butyl ether [MTBE]	mg/kg	0.143	0.040	0.040	0.040	0.040	0.040	0.040	0.050	<0.143	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Styrene	mg/kg	0.179	0.050	0.050	0.050	0.050	0.050	0.050	0.050	<0.179	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Tetrachloroethane, 1,1,1,2-	mg/kg	0.179	0.050	0.050	0.050	0.050	0.050	0.050	0.050	<0.179	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Tetrachloroethane, 1,1,2,2-	mg/kg	0.179	0.050	0.050	0.050	0.050	0.050	0.050	0.050	<0.179	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Tetrachloroethylene	mg/kg	0.179	0.050	0.050	0.050	0.050	0.050	0.050	0.050	<0.179	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Toluene	mg/kg	0.179	0.050	0.050	0.050	0.050	0.050	0.050	0.20	<0.179	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Trichloroethane, 1,1,1-	mg/kg	0.179	0.050	0.050	0.050	0.050	0.050	0.050	0.050	<0.179	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Trichloroethane, 1,1,2-	mg/kg	0.179	0.050	0.050	0.050	0.050	0.050	0.050	0.050	<0.179	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Trichloroethylene	mg/kg	0.036	0.010	0.010	0.010	0.011	0.010	0.010	0.050	<0.036	<0.011	<0.010	<0.010	<0.010	<0.010	<0.010
Trichlorofluoromethane	mg/kg	0.179	0.050	0.050	0.050	0.050	0.050	0.050	0.050	<0.179	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Vinyl chloride	mg/kg	0.071	0.020	0.020	0.020	0.020	0.020	0.020	0.020	<0.071	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Xylene, m+p-	mg/kg	0.107	0.030	0.030	0.030	0.030	0.030	0.030		<0.107	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Xylene, o-	mg/kg	0.107	0.030	0.030	0.030	0.030	0.030	0.030		<0.107	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Xylenes, total	mg/kg	0.151	0.050	0.050	0.050	0.050	0.050	0.050	0.050	<0.151	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
BTEX, total	mg/kg	0.24	0.10	0.10	0.10	0.10	0.10	0.10		<0.24	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Hydrocarbons																
F1 (C6-C10)	mg/kg	17.9	5.0	5.0	5.0	5.0	5.0	5.0	17	<17.9	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
F1-BTEX	mg/kg	17.9	5.0	5.0	5.0	5.0	5.0	5.0		<17.9	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
F2 (C10-C16)	mg/kg	30	10	10	10	10	10	10	10	<30	<10	<10	<10	<10	<10	<10

Parameter	Unit	Lowest Detection Limit							Benchmarks	SB_SS_49[W]	SB_SS_50[AW]	SB_SS_51[AG]	SB_SS_52[BD]	SB_SS_53[BE]	SB_SS_55[AQ]	SB_SS_56[AO]
		RDL W	RDL AG	RDL AO	RDL AQ	RDL AW	RDL BD	RDL BE	MECP Table 1 Standards[1]	16-Aug-23	15-Aug-23	17-Aug-23	28-Aug-23	28-Aug-23	18-Aug-23	18-Aug-23
F3 (C16-C34)	mg/kg	89	50	50	50	50	50	50	240	138	<50	<50	<50	<50	<50	<50
F4 (C34-C50)	mg/kg	89	50	50	50	50	50	50	120	246	<50	<50	<50	<50	<50	<50
Hydrocarbons, total (C6-C50)	mg/kg	131	80	80	80	80	80	80		384	<80	<80	<80	<80	<80	<80
Polycyclic Aromatic Hydrocarbons																
Acenaphthene	mg/kg	0.095	0.050	0.050	0.050	0.050	0.050	0.050	0.050	<0.095	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Acenaphthylene	mg/kg	0.095	0.050	0.050	0.050	0.050	0.050	0.050	0.093	<0.095	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Anthracene	mg/kg	0.095	0.050	0.050	0.050	0.050	0.050	0.050	0.050	<0.095	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benz(a)anthracene	mg/kg	0.095	0.050	0.050	0.050	0.050	0.050	0.050	0.095	<0.095	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(a)pyrene	mg/kg	0.095	0.050	0.050	0.050	0.050	0.050	0.050	0.050	<0.095	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(b+j)fluoranthene	mg/kg	0.095	0.050	0.050	0.050	0.050	0.050	0.050	0.30	<0.095	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(g,h,i)perylene	mg/kg	0.095	0.050	0.050	0.050	0.050	0.050	0.050	0.20	<0.095	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(k)fluoranthene	mg/kg	0.095	0.050	0.050	0.050	0.050	0.050	0.050	0.050	<0.095	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chrysene	mg/kg	0.095	0.050	0.050	0.050	0.050	0.050	0.050	0.18	<0.095	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dibenz(a,h)anthracene	mg/kg	0.095	0.050	0.050	0.050	0.050	0.050	0.050	0.10	<0.095	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fluoranthene	mg/kg	0.095	0.050	0.050	0.050	0.050	0.050	0.050	0.24	<0.095	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fluorene	mg/kg	0.095	0.050	0.050	0.050	0.050	0.050	0.050		<0.095	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Indeno(1,2,3-c,d)pyrene	mg/kg	0.095	0.050	0.050	0.050	0.050	0.050	0.050		<0.095	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Methylnaphthalene, 1-	mg/kg	0.095	0.030	0.030	0.030	0.030	0.030	0.030		<0.095	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Methylnaphthalene, 2-	mg/kg	0.095	0.030	0.030	0.030	0.030	0.030	0.030		<0.095	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Naphthalene	mg/kg	0.095	0.050	0.050	0.050	0.050	0.050	0.050		<0.095	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Phenanthrene	mg/kg	0.095	0.050	0.050	0.050	0.050	0.050	0.050		<0.095	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Pyrene	mg/kg	0.095	0.050	0.050	0.050	0.050	0.050	0.050		<0.095	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Methylnaphthalene, 1+2-	mg/kg	0.134	0.042	0.042	0.042	0.042	0.042	0.042		<0.134	<0.042	<0.042	<0.042	<0.042	<0.042	<0.042
Phthalate Esters																
Diethyl phthalate	mg/kg	0.19	0.10	0.10	0.10	0.10	0.10	<0.10		<0.19	<0.10	<0.10	<0.10	0.10	<0.10	<0.10
Dimethyl phthalate	mg/kg	0.19	0.10	0.10	0.10	0.10	0.10	<0.10		<0.19	<0.10	<0.10	<0.10	0.10	<0.10	<0.10
bis(2-Ethylhexyl) phthalate [DEHP]	mg/kg	0.19	0.10	0.10	0.10	0.10	0.10	<0.10		<0.19	<0.10	<0.10	<0.10	0.10	<0.10	<0.10
Semi-volatile Organics																
Biphenyl	mg/kg	0.095	0.050	0.050	0.050	0.050	0.050	0.050		<0.095	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chloroaniline, 4-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dichlorobenzidine, 3,3'-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dinitrotoluene, 2,4-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dinitrotoluene, 2,6-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Trichlorobenzene, 1,2,4-	mg/kg	0.095	0.050	0.050	0.050	0.050	0.050	0.050	0.050	<0.095	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
bis(2-Chloro-1-methylethyl) ether	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
bis(2-Chloroethyl) ether	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dinitrotoluene, 2,4 + 2,6-	mg/kg	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.50	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Phenolics																
Chlorophenol, 2-	mg/kg	0.19	0.10	0.10	0.10	0.20	0.10	0.10	0.10	<0.19	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10
Dichlorophenol, 2,4-	mg/kg	0.19	0.10	0.10	0.10	0.10	0.10	0.10	0.10	<0.19	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Pentachlorophenol [PCP]	mg/kg	0.24	0.10	0.10	0.10	0.10	0.10	0.10	0.10	<0.24	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Trichlorophenol, 2,4,5-	mg/kg	0.19	0.10	0.10	0.10	0.10	0.10	0.10	0.10	<0.19	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Trichlorophenol, 2,4,6-	mg/kg	0.19	0.10	0.10	0.10	0.10	0.10	0.10	0.10	<0.19	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dimethylphenol, 2,4-	mg/kg	0.19	0.10	0.10	0.10	0.10	0.10	0.10	0.20	<0.19	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dinitrophenol, 2,4-	mg/kg	3.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	<3.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Phenol	mg/kg	0.19	0.10	0.10	0.10	0.20	0.10	0.10	0.50	<0.19	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10
Polychlorinated Biphenyls																
Aroclor 1016	mg/kg	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
Aroclor 1221	mg/kg	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
Aroclor 1232	mg/kg	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
Aroclor 1242	mg/kg	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
Aroclor 1248	mg/kg	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
Aroclor 1254	mg/kg	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
Aroclor 1260	mg/kg	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
Aroclor 1262	mg/kg	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
Aroclor 1268	mg/kg	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
Polychlorinated biphenyls [PCBs], total	mg/kg	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.300	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Organochlorine Pesticides																
Aldrin	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.050	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Chlordane, cis- (alpha)	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Chlordane, total	mg/kg	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.050	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Chlordane, trans- (gamma)	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
DDD, 2,4'-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
DDD, 4,4'-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
DDD, total	mg/kg	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.050	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
DDE, 2,4'-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020

Parameter	Unit	Lowest Detection Limit							Benchmarks	SB_SS_49[W]	SB_SS_50[AW]	SB_SS_51[AG]	SB_SS_52[BD]	SB_SS_53[BE]	SB_SS_55[AQ]	SB_SS_56[AO]
		RDL W	RDL AG	RDL AO	RDL AQ	RDL AW	RDL BD	RDL BE	MECP Table 1 Standards[1]	16-Aug-23	15-Aug-23	17-Aug-23	28-Aug-23	28-Aug-23	18-Aug-23	18-Aug-23
DDE, 4,4'-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
DDE, total	mg/kg	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.050	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
DDT, 2,4'-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
DDT, 4,4'-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
DDT, total	mg/kg	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.078	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Dieldrin	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.050	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Endosulfan, alpha-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Endosulfan, beta-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Endosulfan, total	mg/kg	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.040	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Endrin	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.040	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Endrin aldehyde	mg/kg	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
Heptachlor	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.050	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Heptachlor epoxide	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.050	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Hexachlorobenzene	mg/kg	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
Hexachlorobutadiene	mg/kg	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
Hexachlorocyclohexane, gamma-	mg/kg	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
Hexachloroethane	mg/kg	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
Methoxychlor	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.050	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Radiological Parameters																
Cesium-137	Bq/kg	18.5	18.5	18.5	18.5	18.5	18.5	18.5		41.5	14.8	7.1	9.0	12.1	11.8	5.5
Cobalt-60	Bq/kg	18.5	18.5	18.5	18.5	18.5	18.5	18.5		<18.5	<18.5	<18.5	<18.5	<18.5	<18.5	<18.5
Gross alpha	Bq/kg	111	111	111	111	111	111	111		270	223	247	672	345	275	289
Gross beta	Bq/kg	148	148	148	148	148	148	148		310	775	802	877	733	880	622
Iodine-129	Bq/kg	370	370	370	370	370	370	370		<370	<370	<370	<370	<370	<370	<370
Neptunium-237	Bq/kg	---	---	---	---	---	---	---		---	---	---	---	---	---	---
Potassium-40	Bq/kg	75	75	75	75	75	75	75		<75.0	474	683	717	566	620	652
Radium-226	Bq/kg	37	37	37	37	37	37	37		31	45	81	41	54	70	63
Ruthenium-106	Bq/kg	90	90	90	90	90	90	90		<90	<90	<90	<90	<90	<90	<90
Strontium-90	Bq/kg	18.5	18.5	18.5	18.5	18.5	18.5	18.5		<18.5	<18.5	<18.5	<18.5	<18.5	<18.5	<18.5
Thorium-228	Bq/kg	3.7	3.7	3.7	3.7	3.7	3.7	3.7		<3.70	15.9	31.9	28.4	22.2	33.1	28.1
Thorium-230	Bq/kg	3.7	3.7	3.7	3.7	3.7	3.7	3.7		<3.70	29.6	31.7	62.7	33.9	39.8	30.2
Thorium-232	Bq/kg	3.7	3.7	3.7	3.7	3.7	3.7	3.7		3.0	17.6	25.9	31.5	21.7	21.4	26.3
Uranium-234	Bq/kg	3.7	3.7	3.7	3.7	3.7	3.7	3.7		119.0	20.6	19.1	144.0	17.0	18.2	13.2
Uranium-235	Bq/kg	3.7	3.7	3.7	3.7	3.7	3.7	3.7		7.2	1.5	1.9	5.2	0.8	<3.7	3.1
Uranium-238	Bq/kg	3.7	3.7	3.7	3.7	3.7	3.7	3.7		110.0	22.8	23.7	77.2	17.8	18.8	22.1
Carbon-14	Bq/kg	740	740	740	740	740	740	740		<740	<740	<740	<740	<740	<740	<740
Chlorine-36	Bq/kg	---	---	---	---	---	---	---		---	---	---	---	---	---	---
Plutonium-238	Bq/kg	---	---	---	---	---	---	---		---	---	---	---	---	---	---
Plutonium-239	Bq/kg	---	---	---	---	---	---	---		---	---	---	---	---	---	---
Selenium-79	Bq/kg	---	---	---	---	---	---	---		---	---	---	---	---	---	---
Tritium	Bq/kg	37	37	37	37	37	37	37		<37	<37	<37	<37	<37	<37	<37

[1]MECP Table 1 Standards: Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011, Table 1, Full Depth Background Site Condition Standards, for Agricultural Property Use.
pg/g = picogram per gram
Bq/L = Becquerel per litre.
mg/kg = milligram per kilogram
mS/cm = MilliSiemens per centimetre
mg/L = milligram per litre
--- not sampled or not provided by the laboratory

Appendix II Table 8: Soil quality parameters for a subset of soil samples collected during the August 2023 surficial soil sampling program. Samples included in this table are SB_SS_57, SB_SS_58, SB_SS_61, SB_SS_62, SB_SS_63, SB_SS_64, and SB_SS_67. Also noted is the unit that the parameter was measured in and the reported detection limit (RDL). Any highlighted values indicate they are above the MECP Table 1 Background Site Condition Standards for Agricultural Use (MECP 2011). Detection limits changed between sites and are indicated by a superscript letter beside the site identification.

Parameter	Unit	Lowest Detection Limit							Benchmarks	SB_SS_57[AA]	SB_SS_58[AV]	SB_SS_61[D]	SB_SS_62[E]	SB_SS_63[BG]	SB_SS_64[AU]	SB_SS_67[I]
		RDL D	RDL E	RDL T	RDL AA	RDL AU	RDL AV	RDL BG	MECP Table 1 Standards[1]	17-Aug-23	19-Aug-23	14-Aug-23	14-Aug-23	15-Aug-23	19-Aug-23	16-Aug-23
Dioxins and Furans																
2,3,7,8-TCDD	pg/g	0.036	0.053	0.013	0.066	0.073	0.052	0.140		<0.066	0.110	0.078	0.213	<0.14	0.137	0.082
1,2,3,7,8-PeCDD	pg/g	0.042	0.054	0.012	0.100	0.120	0.090	0.081		0.200	0.170	0.225	0.270	0.170	0.140	0.251
1,2,3,4,7,8-HxCDD	pg/g	0.063	0.074	0.019	0.120	0.130	0.076	0.049		0.140	0.179	0.150	0.295	0.159	0.210	0.269
1,2,3,6,7,8-HxCDD	pg/g	0.061	0.074	0.019	0.120	0.140	0.077	0.055		0.260	0.395	0.445	0.652	0.340	0.420	0.576
1,2,3,7,8,9-HxCDD	pg/g	0.063	0.075	0.019	0.120	0.140	0.076	0.051		0.340	0.340	0.446	0.550	0.410	0.410	0.570
1,2,3,4,6,7,8-HpCDD	pg/g	0.16	0.10	0.07	0.14	0.13	0.11	0.08		5.06	5.12	6.04	7.31	5.25	6.17	6.58
OCDD	pg/g	0.29	1.10	0.22	0.26	0.22	0.21	0.14		26.90	27.50	35.80	44.40	20.50	31.60	28.30
Total-TCDD	pg/g	0.036	0.053	0.013	0.066	0.073	0.052	0.140		<0.066	<0.052	0.400	1.410	0.360	0.290	0.895
Total TCDD # Homologues	-									0.00	0.00	2.00	4.00	1.00	2.00	6.00
Total-PeCDD	pg/g	0.042	0.054	0.012	0.100	0.120	0.090	0.081		0.770	0.973	0.809	2.240	1.910	0.410	2.160
Total PeCDD # Homologues	-									2.00	3.00	3.00	3.00	5.00	1.00	7.00
Total-HxCDD	pg/g	0.063	0.075	0.019	0.120	0.140	0.077	0.055		2.560	5.090	5.400	7.950	5.580	4.400	6.940
Total HxCDD # Homologues	-									2.00	5.00	6.00	5.00	5.00	4.00	6.00
Total-HpCDD	pg/g	0.160	0.100	0.065	0.140	0.130	0.110	0.082		9.960	10.400	11.400	15.200	10.400	11.700	12.900
Total HpCDD # Homologues	-									2.00	2.00	2.00	2.00	2.00	2.00	2.00
2,3,7,8-TCDF	pg/g	0.062	0.100	0.027	0.140	0.092	0.082	0.230		<0.14	0.160	0.219	0.510	<0.23	0.238	0.225
1,2,3,7,8-PeCDF	pg/g	0.024	0.038	0.024	0.079	0.067	0.054	0.089		0.120	0.184	0.185	0.380	0.268	0.150	0.214
2,3,4,7,8-PeCDF	pg/g	0.025	0.040	0.024	0.078	0.064	0.054	0.075		0.247	0.271	0.297	0.549	0.375	0.249	0.359
1,2,3,4,7,8-HxCDF	pg/g	0.090	0.056	0.015	0.084	0.070	0.041	0.044		0.260	0.274	0.276	0.496	0.351	0.264	0.357
1,2,3,6,7,8-HxCDF	pg/g	0.082	0.051	0.015	0.084	0.074	0.042	0.038		0.180	0.254	0.170	0.300	0.210	0.201	0.278
1,2,3,7,8,9-HxCDF	pg/g	0.140	0.087	0.023	0.120	0.094	0.058	0.054		<0.12	<0.058	<0.14	0.141	0.088	0.126	0.074
2,3,4,6,7,8-HxCDF	pg/g	0.093	0.060	0.016	0.086	0.066	0.039	0.038		0.200	0.303	0.210	0.381	0.280	<0.066	0.305
1,2,3,4,6,7,8-HpCDF	pg/g	0.07	0.09	0.03	0.09	0.06	0.05	0.05		1.38	1.68	2.38	2.92	1.30	1.85	2.01
1,2,3,4,7,8,9-HpCDF	pg/g	0.10	0.13	0.05	0.12	0.07	0.06	0.07		<0.12	0.11	0.14	<0.13	0.17	0.11	0.16
OCDF	pg/g	0.30	0.33	0.14	0.27	0.14	0.10	0.08		2.61	2.38	3.37	2.50	2.43	2.57	1.90
Total-TCDF	pg/g	0.062	0.100	0.027	0.140	0.092	0.082	0.230		0.840	0.855	1.660	7.950	3.890	0.334	2.780
Total TCDF # Homologues	-									3.00	1.00	6.00	12.00	4.00	2.00	14.00
Total-PeCDF	pg/g	0.025	0.040	0.024	0.079	0.067	0.054	0.089		1.270	2.730	1.890	6.530	3.580	1.080	3.560
Total PeCDF # Homologues	-									5.00	9.00	9.00	9.00	6.00	3.00	14.00
Total-HxCDF	pg/g	0.140	0.087	0.023	0.120	0.094	0.058	0.054		1.160	0.831	1.340	4.290	2.540	2.640	3.040
Total HxCDF # Homologues	-									2.00	3.00	2.00	6.00	5.00	7.00	7.00
Total-HpCDF	pg/g	0.100	0.130	0.047	0.120	0.069	0.062	0.070		2.470	2.540	2.380	2.920	1.120	3.110	2.190
Total HpCDF # Homologues	-									3.00	3.00	1.00	1.00	3.00	3.00	2.00
13C12-2,3,7,8-TCDD	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		68.0	73.0	72.0	55.0	35.0	67.0	83.0
13C12-1,2,3,7,8-PeCDD	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		63.0	74.0	62.0	51.0	60.0	65.0	74.0
13C12-1,2,3,4,7,8-HxCDD	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		72.0	81.0	81.0	79.0	78.0	72.0	80.0
13C12-1,2,3,6,7,8-HxCDD	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		69.0	74.0	85.0	78.0	66.0	64.0	81.0
13C12-1,2,3,4,6,7,8-HpCDD	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		73.0	81.0	68.0	65.0	81.0	75.0	67.0
13C12-OCDD	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		54.0	66.0	53.0	52.0	67.0	60.0	40.0
13C12-2,3,7,8-TCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		68.0	74.0	71.0	53.0	34.0	68.0	86.0
13C12-1,2,3,7,8-PeCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		73.0	85.0	70.0	59.0	63.0	76.0	87.0
13C12-2,3,4,7,8-PeCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		68.0	80.0	61.0	51.0	66.0	71.0	78.0
13C12-1,2,3,4,7,8-HxCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		81.0	87.0	87.0	83.0	83.0	76.0	89.0
13C12-1,2,3,6,7,8-HxCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		77.0	81.0	92.0	90.0	91.0	72.0	93.0
13C12-2,3,4,6,7,8-HxCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		81.0	89.0	86.0	84.0	98.0	80.0	89.0
13C12-1,2,3,7,8,9-HxCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		76.0	82.0	78.0	74.0	86.0	74.0	81.0
13C12-1,2,3,4,6,7,8-HpCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		78.0	88.0	69.0	66.0	102.0	79.0	65.0
13C12-1,2,3,4,7,8,9-HpCDF	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		82.0	93.0	62.0	58.0	100.0	85.0	68.0
37Cl4-2,3,7,8-TCDD (Cleanup)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		71.0	79.0	71.0	51.0	35.0	70.0	80.0
Lower Bound PCDD/F TEQ (WHO 2005)	pg/g	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0	0.1	0.3	0.6	0.7	0.2	0.4	0.8
Mid Point PCDD/F TEQ (WHO 2005)	pg/g	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.5	0.6	0.7	1.1	0.6	0.6	0.8
Upper Bound PCDD/F TEQ (WHO 2005)	pg/g	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.6	0.6	0.7	1.1	0.7	0.6	0.8
Moisture	%	0.25	0.25	0.25	0.25	0.25	0.25	0.25		26.40	20.90	26.30	21.30	17.30	24.60	16.40
Physical Test																
% Moisture	%	0.10	0.10	0.10	0.25	0.25	0.25	0.10		25.10	21.10	25.80	21.60	16.20	23.00	16.60
Conductivity	mS/cm	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.47	0.2390	0.1170	0.1650	0.1160	0.1050	0.1580	0.1480
pH	pH units	0.10	0.10	0.10	0.10	0.10	0.10	0.10		6.99	7.32	6.49	6.38	7.09	7.39	7.18

Parameter	Unit	Lowest Detection Limit							Benchmarks	SB_SS_57[AA]	SB_SS_58[AV]	SB_SS_61[D]	SB_SS_62[E]	SB_SS_63[BG]	SB_SS_64[AO]	SB_SS_67[I]
		RDL D	RDL E	RDL T	RDL AA	RDL AU	RDL AV	RDL BG	MECP Table 1 Standards[1]	17-Aug-23	19-Aug-23	14-Aug-23	14-Aug-23	15-Aug-23	19-Aug-23	16-Aug-23
Particle Size - Percent Passing																
Passing (0.0312mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		25.6	53.0	50.1	45.0	61.2	41.2	49.9
Passing (9.5mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		99.8	100.0	100.0	98.7	100.0	100.0	100.0
Passing (0.020mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		19.5	41.1	36.9	32.0	49.3	31.9	37.4
Passing (1.0mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		97.4	98.2	96.9	93.3	97.2	96.5	95.3
Passing (4.75mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		99.3	99.4	99.6	97.2	99.9	99.3	98.7
Passing (0.005mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		9.0	19.8	16.0	14.4	26.8	14.6	16.6
Passing (0.841mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		97.2	98.1	96.6	93.0	96.9	96.2	95.0
Passing (19mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		100.0	100.0	100.0	100.0	100.0	100.0	100.0
Passing (0.004mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		8.3	17.8	13.5	12.3	24.1	13.2	14.8
Passing (0.50mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		94.8	97.0	94.3	91.4	93.9	94.4	92.7
Passing (25.4mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		100.0	100.0	100.0	100.0	100.0	100.0	100.0
Passing (0.002mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		6.5	12.0	9.5	8.7	16.6	10.0	10.3
Passing (0.420mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		94.1	96.8	93.6	91.0	93.1	93.9	92.0
Passing (38.1mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		100.0	100.0	100.0	100.0	100.0	100.0	100.0
Passing (0.250mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		87.2	94.3	90.4	87.8	87.8	91.3	85.4
Passing (50.8mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		100.0	100.0	100.0	100.0	100.0	100.0	100.0
Passing (0.149mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		76.6	90.5	87.6	83.5	81.8	88.1	76.6
Passing (76.2mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		100.0	100.0	100.0	100.0	100.0	100.0	100.0
Passing (0.125mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		71.8	88.5	86.4	81.0	79.7	86.1	74.0
Passing (2.0mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		98.5	99.1	98.7	95.0	99.0	98.2	96.9
Passing (0.075mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		62.0	84.4	84.0	75.8	75.2	81.9	68.6
Passing (0.063mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		51.6	76.3	74.8	69.2	72.3	69.6	65.0
Passing (0.05mm)	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0		40.4	67.4	64.9	61.9	69.3	56.3	61.2
Anions and Nutrients																
Ammonia, total (as N)	mg/kg	136	127	118	132	127	124	58		175	188	284	237	112	230	158
Nitrate + Nitrite (as N), leachable	mg/kg	0.068	0.065	0.061	0.067	0.065	0.064	0.060		1.710	5.690	1.320	3.590	3.700	1.770	7.820
Nitrogen, total	%	0.020	0.020	0.020	0.020	0.020	0.020	0.020		0.240	0.184	0.370	0.281	0.154	0.273	0.184
Nitrogen, total organic	%	0.050	0.040	0.030	0.050	0.040	0.030	0.020		0.320	0.234	0.319	0.254	0.120	0.294	0.226
Ammonium	mg/kg	1.0	1.0	1.0	1.0	1.0	1.0	1.0		6.1	4.8	6.4	4.6	5.7	7.2	4.5
Chloride, leachable	mg/kg	20	20	20	20	20	20	20		<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0
Kjeldahl nitrogen, total [TKN]	%	0.020	0.020	0.020	0.020	0.020	0.020	0.020		0.321	0.234	0.320	0.254	0.121	0.295	0.226
Nitrate (as N), leachable	mg/kg	0.067	0.064	0.060	0.066	0.064	0.063	0.059		1.620	5.670	1.240	3.560	3.670	1.710	7.820
Nitrite (as N), leachable	mg/kg	0.013	0.013	0.012	0.013	0.013	0.012	0.012		0.088	0.019	0.082	0.030	0.025	0.059	<0.012
Sulfate, leachable	mg/kg	13	13	12	13	13	12	12		<13	<12	<13	<13	<12	<13	<12
Cyanides																
Cyanide	mg/kg	0.067	0.065	0.059	0.067	0.067	0.064	0.060	0.051	**0.088**	<0.064	**0.076**	**0.082**	**0.068**	<0.067	<0.059
Organic / Inorganic Carbons																
Carbon, inorganic [IC]	%	0.050	0.050	0.050	0.050	0.050	0.050	0.050		0.363	0.419	0.154	0.146	0.145	1.290	0.217
Carbon, total [TC]	%	0.050	0.050	0.050	0.050	0.050	0.050	0.050		3.330	2.510	3.720	3.250	1.860	4.400	2.320
Carbon, total organic [TOC]	%	0.38	0.33	0.24	0.34	0.47	0.26	0.20		2.97	2.09	3.57	3.10	1.72	3.11	2.10
Carbon, inorganic [IC], (as CaCO3 equivalent)	%	0.40	0.40	0.40	0.40	0.40	0.40	0.40		3.03	3.49	1.28	1.22	1.21	10.70	1.81
Organic matter	%	0.38	0.33	0.24	0.34	0.46	0.26	0.20		5.12	3.60	6.15	5.34	2.96	5.36	3.62
Metals																
Calcium	mg/L	0.500	0.500	0.500	0.500	0.500	0.500	0.500		7.100	7.180	5.840	4.970	6.930	14.900	6.990
Magnesium	mg/L	0.500	0.500	0.500	0.500	0.500	0.500	0.500		2.230	4.050	2.970	2.440	5.710	4.520	2.760
Sodium	mg/L	0.500	0.500	0.500	0.500	0.500	0.500	0.500		0.890	0.600	0.600	<0.50	<0.50	1.330	0.510
Aluminum	mg/kg	50.000	50.000	50.000	50.000	50.000	50.000	50.000		13200.000	11800.000	13000.000	11300.000	14800.000	9870.000	11400.000
Antimony	mg/kg	0.100	0.100	0.100	0.100	0.100	0.100	0.100	1.0	0.150	0.120	0.170	0.180	0.160	0.120	0.140
Arsenic	mg/kg	0.100	0.100	0.100	0.100	0.100	0.100	0.100	11	3.480	4.070	4.530	4.310	4.670	3.540	3.730
Barium	mg/kg	0.500	0.500	0.500	0.500	0.500	0.500	0.500	210	53.100	50.200	94.400	61.000	76.700	43.800	52.600
Beryllium	mg/kg	0.100	0.100	0.100	0.100	0.100	0.100	0.100	2.5	0.460	0.510	0.550	0.420	0.470	0.440	0.410
Bismuth	mg/kg	0.200	0.200	0.200	0.200	0.200	0.200	0.200		<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Boron	mg/kg	5.00	5.00	5.00	5.00	5.00	5.00	5.00	36	6.00	9.20	6.20	6.00	7.00	9.70	6.00
Cadmium	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	1.0	0.306	0.287	0.383	0.348	0.274	0.208	0.302
Calcium	mg/kg	50	50	50	50	50	50	50		12900	8850	4820	4980	4490	34500	6140
Chromium	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50	67	18.00	19.10	17.20	16.10	21.60	16.00	18.80
Cobalt	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	19	4.73	6.74	6.20	5.20	8.00	4.99	5.58
Copper	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50	62	11.40	12.00	9.35	8.93	13.60	10.40	9.60
Iron	mg/kg	50	50	50	50	50	50	50		15400	17000	16600	15000	18600	14300	15300
Lead	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50	45	10.50	10.40	12.80	14.50	10.70	9.35	10.00
Lithium	mg/kg	2.0	2.0	2.0	2.0	2.0	2.0	2.0		11.2	13.1	13.0	11.6	12.5	11.1	8.7
Magnesium	mg/kg	20	20	20	20	20	20	20		7820	6920	3810	3180	5370	17600	4600
Manganese	mg/kg	1.0	1.0	1.0	1.0	1.0	1.0	1.0		356.0	732.0	720.0	799.0	721.0	398.0	736.0

Parameter	Unit	Lowest Detection Limit							Benchmarks	SB_SS_57[AA]	SB_SS_58[AV]	SB_SS_61[D]	SB_SS_62[E]	SB_SS_63[BG]	SB_SS_64[AO]	SB_SS_67[I]
		RDL D	RDL E	RDL T	RDL AA	RDL AU	RDL AV	RDL BG	MECP Table 1 Standards[1]	17-Aug-23	19-Aug-23	14-Aug-23	14-Aug-23	15-Aug-23	19-Aug-23	16-Aug-23
Mercury	mg/kg	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.16	0.0506	0.0491	0.0589	0.0704	0.0280	0.0456	0.0336
Molybdenum	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	2.0	0.39	0.32	0.51	0.53	0.33	0.38	0.31
Nickel	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50	37	10.10	14.20	13.00	10.50	16.10	11.30	11.80
Phosphorus	mg/kg	50	50	50	50	50	50	50		424	508	563	454	656	469	581
Potassium	mg/kg	100	100	100	100	100	100	100		650	1480	1100	840	1570	1110	1210
Selenium	mg/kg	0.20	0.20	0.20	0.20	0.20	0.20	0.20	1.2	0.29	0.26	0.29	0.36	0.23	0.24	0.24
Silver	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Sodium	mg/kg	50	50	50	50	50	50	50		65	69	55	52	62	72	52
Strontium	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50		13.70	12.60	9.38	9.08	9.24	23.50	18.40
Sulfur	mg/kg	1000	1000	1000	1000	1000	1000	1000		<1000	<1000	<1000	<1000	<1000	<1000	<1000
Thallium	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	1.0	0.112	0.114	0.149	0.135	0.122	0.108	0.092
Tin	mg/kg	2.0	2.0	2.0	2.0	2.0	2.0	2.0		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Titanium	mg/kg	1.0	1.0	1.0	1.0	1.0	1.0	1.0		208.0	178.0	185.0	192.0	228.0	166.0	202.0
Tungsten	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Uranium	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	1.9	0.630	0.601	0.671	0.422	0.744	0.492	0.530
Vanadium	mg/kg	0.20	0.20	0.20	0.20	0.20	0.20	0.20	86	29.80	27.00	30.80	27.20	33.00	23.40	26.70
Zinc	mg/kg	2.0	2.0	2.0	2.0	2.0	2.0	2.0	290	46.0	42.4	49.3	46.0	48.9	33.1	41.3
Zirconium	mg/kg	1.0	1.0	1.0	1.0	1.0	1.0	1.0		<1.0	1.2	1.1	<1.0	<1.0	1.0	<1.0
Sodium adsorption ratio [SAR]		0.10	0.10	0.10	0.10	0.10	0.10	0.10	1.0	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Chromium, hexavalent [Cr VI]	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	1.0	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Volatile Organic Compounds																
Acetone	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Benzene	mg/kg	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.020	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Bromodichloromethane	mg/kg	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
Bromoform	mg/kg	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
Bromomethane	mg/kg	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
Carbon tetrachloride	mg/kg	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
Chlorobenzene	mg/kg	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
Chloroform	mg/kg	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
Dibromochloromethane	mg/kg	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
Dibromoethane, 1,2-	mg/kg	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
Dichlorobenzene, 1,2-	mg/kg	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
Dichlorobenzene, 1,3-	mg/kg	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
Dichlorobenzene, 1,4-	mg/kg	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
Dichlorodifluoromethane	mg/kg	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
Dichloroethane, 1,1-	mg/kg	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
Dichloroethane, 1,2-	mg/kg	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
Dichloroethylene, 1,1-	mg/kg	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
Dichloroethylene, cis-1,2-	mg/kg	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
Dichloroethylene, trans-1,2-	mg/kg	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
Dichloromethane	mg/kg	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.050	0.049	<0.045	<0.045	<0.045	<0.045	<0.045	<0.045
Dichloropropane, 1,2-	mg/kg	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
Dichloropropylene, cis+trans-1,3-	mg/kg	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
Dichloropropylene, cis-1,3-	mg/kg	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
Dichloropropylene, trans-1,3-	mg/kg	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
Ethylbenzene	mg/kg	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.050	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Hexane, n-	mg/kg	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
Methyl ethyl ketone [MEK]	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methyl isobutyl ketone [MIBK]	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methyl-tert-butyl ether [MTBE]	mg/kg	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.050	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Styrene	mg/kg	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
Tetrachloroethane, 1,1,1,2-	mg/kg	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
Tetrachloroethane, 1,1,2,2-	mg/kg	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
Tetrachloroethylene	mg/kg	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
Toluene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.20	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Trichloroethane, 1,1,1-	mg/kg	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
Trichloroethane, 1,1,2-	mg/kg	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
Trichloroethylene	mg/kg	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.050	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Trichlorofluoromethane	mg/kg	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
Vinyl chloride	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Xylene, m+p-	mg/kg	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
Xylene, o-	mg/kg	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
Xylenes, total	mg/kg	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
BTEX, total	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10

Parameter	Unit	Lowest Detection Limit							Benchmarks	SB_SS_57[AA]	SB_SS_58[AV]	SB_SS_61[D]	SB_SS_62[E]	SB_SS_63[BG]	SB_SS_64[AO]	SB_SS_67[I]
		RDL D	RDL E	RDL T	RDL AA	RDL AU	RDL AV	RDL BG	MECP Table 1 Standards[1]	17-Aug-23	19-Aug-23	14-Aug-23	14-Aug-23	15-Aug-23	19-Aug-23	16-Aug-23
Hydrocarbons																
F1 (C6-C10)	mg/kg	5.0	5.0	5.0	5.0	5.0	5.0	5.0	17	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
F1-BTEX	mg/kg	5.0	5.0	5.0	5.0	5.0	5.0	5.0		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
F2 (C10-C16)	mg/kg	10	10	10	10	10	10	10	10	<10	<10	<10	<10	<10	<10	<10
F3 (C16-C34)	mg/kg	50	50	50	50	50	50	50	240	<50	<50	<50	<50	<50	<50	<50
F4 (C34-C50)	mg/kg	50	50	50	50	50	50	50	120	<50	<50	<50	<50	<50	<50	<50
Hydrocarbons, total (C6-C50)	mg/kg	80	80	80	80	80	80	80		<80	<80	<80	<80	<80	<80	<80
Polycyclic Aromatic Hydrocarbons																
Acenaphthene	mg/kg	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
Acenaphthylene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.093	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Anthracene	mg/kg	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
Benz(a)anthracene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.095	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(a)pyrene	mg/kg	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
Benzo(b+j)fluoranthene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.30	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(g,h,i)perylene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.20	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(k)fluoranthene	mg/kg	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
Chrysene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.18	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dibenz(a,h)anthracene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fluoranthene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.24	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fluorene	mg/kg	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
Indeno(1,2,3-c,d)pyrene	mg/kg	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
Methylnaphthalene, 1-	mg/kg	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
Methylnaphthalene, 2-	mg/kg	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
Naphthalene	mg/kg	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
Phenanthrene	mg/kg	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
Pyrene	mg/kg	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
Methylnaphthalene, 1+2-	mg/kg	0.042	0.042	0.042	0.042	0.042	0.042	0.042		<0.042	<0.042	<0.042	<0.042	<0.042	<0.042	<0.042
Phthalate Esters																
Diethyl phthalate	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dimethyl phthalate	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
bis(2-Ethylhexyl) phthalate [DEHP]	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Semi-volatile Organics																
Biphenyl	mg/kg	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
Chloroaniline, 4-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dichlorobenzidine, 3,3'-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dinitrotoluene, 2,4-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dinitrotoluene, 2,6-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Trichlorobenzene, 1,2,4-	mg/kg	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
bis(2-Chloro-1-methylethyl) ether	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
bis(2-Chloroethyl) ether	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dinitrotoluene, 2,4 + 2,6-	mg/kg	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.50	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Phenolics																
Chlorophenol, 2-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dichlorophenol, 2,4-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Pentachlorophenol [PCP]	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Trichlorophenol, 2,4,5-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Trichlorophenol, 2,4,6-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dimethylphenol, 2,4-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dinitrophenol, 2,4-	mg/kg	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Phenol	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Polychlorinated Biphenyls																
Aroclor 1016	mg/kg	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
Aroclor 1221	mg/kg	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
Aroclor 1232	mg/kg	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
Aroclor 1242	mg/kg	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
Aroclor 1248	mg/kg	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
Aroclor 1254	mg/kg	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
Aroclor 1260	mg/kg	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
Aroclor 1262	mg/kg	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
Aroclor 1268	mg/kg	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
Polychlorinated biphenyls [PCBs], total	mg/kg	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.300	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Organochlorine Pesticides																
Aldrin	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.050	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Chlordane, cis- (alpha)	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020

Parameter	Unit	Lowest Detection Limit							Benchmarks	SB_SS_57[AA]	SB_SS_58[AV]	SB_SS_61[D]	SB_SS_62[E]	SB_SS_63[BG]	SB_SS_64[AO]	SB_SS_67[I]
		RDL D	RDL E	RDL T	RDL AA	RDL AU	RDL AV	RDL BG	MECP Table 1 Standards[1]	17-Aug-23	19-Aug-23	14-Aug-23	14-Aug-23	15-Aug-23	19-Aug-23	16-Aug-23
Chlordane, total	mg/kg	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.050	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Chlordane, trans- (gamma)	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
DDD, 2,4'-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
DDD, 4,4'-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
DDD, total	mg/kg	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.050	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
DDE, 2,4'-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
DDE, 4,4'-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
DDE, total	mg/kg	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.050	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
DDT, 2,4'-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
DDT, 4,4'-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
DDT, total	mg/kg	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.078	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Dieldrin	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.050	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Endosulfan, alpha-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Endosulfan, beta-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Endosulfan, total	mg/kg	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.040	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Endrin	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.040	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Endrin aldehyde	mg/kg	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
Heptachlor	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.050	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Heptachlor epoxide	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.050	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Hexachlorobenzene	mg/kg	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
Hexachlorobutadiene	mg/kg	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
Hexachlorocyclohexane, gamma-	mg/kg	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
Hexachloroethane	mg/kg	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
Methoxychlor	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.050	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Radiological Parameters																
Cesium-137	Bq/kg	18.5	18.5	18.5	18.5	18.5	18.5	18.5		4.0	4.0	7.2	7.4	<18.5	5.5	6.6
Cobalt-60	Bq/kg	18.5	18.5	18.5	18.5	18.5	18.5	18.5		<18.5	<18.5	<18.5	<18.5	<18.5	<18.5	<18.5
Gross alpha	Bq/kg	111	111	111	111	111	111	111		110	231	377	387	275	396	294
Gross beta	Bq/kg	148	148	148	148	148	148	148		610	924	970	987	1020	623	912
Iodine-129	Bq/kg	370	370	370	370	370	370	370		<370	<370	<370	<370	<370	<370	<370
Neptunium-237	Bq/kg	3.7	---	---	---	---	---	3.7		---	---	<3.7	---	<3.7	---	---
Potassium-40	Bq/kg	75	75	75	75	75	75	75		540	823	634	698	742	612	739
Radium-226	Bq/kg	37	37	37	37	37	37	37		60	59	111	46	48	61	49
Ruthenium-106	Bq/kg	90	90	90	90	90	90	90		<90	<90	<90	<90	<90	<90	<90
Strontium-90	Bq/kg	18.5	18.5	18.5	18.5	18.5	18.5	18.5		<18.5	<18.5	<18.5	<18.5	<18.5	<18.5	<18.5
Thorium-228	Bq/kg	3.7	3.7	3.7	3.7	3.7	3.7	3.7		24.4	31.3	28.9	26.4	27.8	34.1	20.0
Thorium-230	Bq/kg	3.7	3.7	3.7	3.7	3.7	3.7	3.7		36.0	42.0	36.6	38.1	38.0	32.6	36.8
Thorium-232	Bq/kg	3.7	3.7	3.7	3.7	3.7	3.7	3.7		18.2	26.0	26.6	20.1	24.8	23.3	17.7
Uranium-234	Bq/kg	3.7	3.7	3.7	3.7	3.7	3.7	3.7		21.9	20.3	23.5	17.6	23.9	18.6	21.4
Uranium-235	Bq/kg	3.7	3.7	3.7	3.7	3.7	3.7	3.7		1.8	<3.7	<3.7	0.5	2.6	4.2	1.3
Uranium-238	Bq/kg	3.7	3.7	3.7	3.7	3.7	3.7	3.7		21.8	16.8	24.7	23.6	23.4	21.9	21.0
Carbon-14	Bq/kg	740	740	740	740	740	740	740		<740	<740	<740	<740	<740	<740	<740
Chlorine-36	Bq/kg	370	---	---	---	---	---	370		---	---	<370	---	<370	---	---
Plutonium-238	Bq/kg	1.85	---	---	---	---	---	1.85		---	---	<1.85	---	<1.85	---	---
Plutonium-239	Bq/kg	1.85	---	---	---	---	---	1.85		---	---	<1.85	---	<1.85	---	---
Selenium-79	Bq/kg	370	---	---	---	---	---	370		---	---	<370	---	<370	---	---
Tritium	Bq/kg	37	37	37	37	37	37	37		<37	<37	<37	<37	<37	<37	<37

[1]MECP Table 1 Standards: Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011, Table 1, Full Depth Background Site Condition Standards, for Agricultural Property Use.

pg/g = picogram per gram

Bq/L = Becquerel per litre.

mg/kg = milligram per kilogram

mS/cm = MilliSiemens per centimetre

mg/L = milligram per litre

--- not sampled or not provided by the laboratory

Appendix II Table 9: Soil quality parameters for a all duplicate soil samples collected during the August 2023 surficial soil sampling program. Duplicate samples are SB_SS_100, SB_SS_200, SB_SS_300, SB_SS_400, SB_SS_500, and SB_SS_66. Also noted is the unit that the parameter was measured in and the reported detection limit (RDL). Any highlighted values indicate they are above the MECP Table 1 Background Site Condition Standards for Agricultural Use (MECP 2011). Detection limits changed between sites and are indicated by a superscript letter beside the site identification.

Parameter	Unit	Lowest Detection Limit						Benchmarks	SB_SS_100[A]	SB_SS_200[C]	SB_SS_300[D]	SB_SS_400[E]	SB_SS_500[F]	SB_SS_66[AC]
		RDL A	RDL C	RDL D	RDL E	RDL F	RDL AC	MECP Table 1 Standards[1]	15-Aug-23	15-Aug-23	15-Aug-23	16-Aug-23	17-Aug-23	17-Aug-23
Dioxins and Furans														
2,3,7,8-TCDD	pg/g	0.080	0.170	0.011	0.008	0.062	0.067		<0.080	0.200	0.159	0.0720	0.109	<0.067
1,2,3,7,8-PeCDD	pg/g	0.089	0.14	0.022	0.016	0.041	0.14		0.22	0.21	0.287	0.190	0.329	0.30
1,2,3,4,7,8-HxCDD	pg/g	0.11	0.081	0.053	0.032	0.053	0.11		0.13	0.302	0.240	0.185	0.301	0.19
1,2,3,6,7,8-HxCDD	pg/g	0.10	0.09	0.05	0.03	0.06	0.11		0.48	0.59	0.516	0.476	0.971	0.31
1,2,3,7,8,9-HxCDD	pg/g	0.11	0.083	0.054	0.032	0.056	0.11		0.37	0.62	0.525	0.370	0.879	0.40
1,2,3,4,6,7,8-HpCDD	pg/g	0.43	0.13	0.086	0.058	0.12	0.11		6.36	8.11	7.20	5.01	8.27	4.54
OCDD	pg/g	1.4	0.18	0.41	0.24	0.23	0.26		26	38	37.8	23.5	32.4	25.7
Total-TCDD	pg/g	0.080	0.170	0.011	0.008	0.062	0.067		0.113	<0.17	1.19	0.687	0.984	0.705
Total TCDD # Homologues	-								1	0	5	6	4	2
Total-PeCDD	pg/g	0.089	0.14	0.022	0.016	0.041	0.14		0.178	1.61	1.20	1.38	1.04	1.05
Total PeCDD # Homologues	-								1	2	4	5	4	3
Total-HxCDD	pg/g	0.11	0.087	0.054	0.032	0.06	0.11		2.66	7.04	7.69	2.98	8.53	3.74
Total HxCDD # Homologues	-								3	4	6	5	6	4
Total-HpCDD	pg/g	0.43	0.13	0.086	0.058	0.12	0.11		12.1	16.1	14.0	10.5	15.2	8.96
Total HpCDD # Homologues	-								2	2	2	2	2	2
2,3,7,8-TCDF	pg/g	0.12	0.28	0.041	0.026	0.1	0.11		0.17	0.29	0.366	0.216	0.18	0.16
1,2,3,7,8-PeCDF	pg/g	0.11	0.11	0.046	0.023	0.054	0.16		0.2	0.22	0.368	0.150	0.215	0.19
2,3,4,7,8-PeCDF	pg/g	0.12	0.096	0.045	0.022	0.051	0.16		0.62	0.4	0.630	0.304	0.401	0.18
1,2,3,4,7,8-HxCDF	pg/g	0.092	0.055	0.026	0.025	0.13	0.09		0.28	0.395	0.399	0.269	0.39	0.190
1,2,3,6,7,8-HxCDF	pg/g	0.084	0.051	0.023	0.024	0.13	0.089		0.21	0.27	0.326	0.192	0.27	0.233
1,2,3,7,8,9-HxCDF	pg/g	0.15	0.073	0.039	0.039	0.18	0.12		<0.15	<0.073	0.135	0.079	<0.18	<0.12
2,3,4,6,7,8-HxCDF	pg/g	0.099	0.05	0.028	0.029	0.12	0.09		0.288	0.383	0.466	0.275	0.35	0.191
1,2,3,4,6,7,8-HpCDF	pg/g	0.15	0.093	0.037	0.043	0.071	0.07		1.79	2.35	2.24	1.46	1.92	1.49
1,2,3,4,7,8,9-HpCDF	pg/g	0.26	0.13	0.056	0.06	0.097	0.086		<0.26	0.18	0.174	0.160	0.160	<0.086
OCDF	pg/g	0.91	0.13	0.33	0.17	0.15	0.21		2.4	3.7	3.25	2.34	2.89	2.21
Total-TCDF	pg/g	0.12	0.28	0.041	0.026	0.1	0.11		3.15	2.61	4.02	2.39	2.16	1.37
Total TCDF # Homologues	-								5	1	8	13	5	5
Total-PeCDF	pg/g	0.12	0.11	0.046	0.023	0.054	0.16		3.14	1.85	2.75	2.37	3.11	1.39
Total PeCDF # Homologues	-								5	3	5	10	6	9
Total-HxCDF	pg/g	0.15	0.073	0.039	0.039	0.18	0.12		0.9	2.83	4.05	2.64	3.02	1.45
Total HxCDF # Homologues	-								3	4	8	10	6	4
Total-HpCDF	pg/g	0.26	0.13	0.056	0.06	0.097	0.086		1.79	3.95	2.41	2.42	3.17	1.49
Total HpCDF # Homologues	-								1	4	2	4	3	1
13C12-2,3,7,8-TCDD	%	1.0	1.0	1.0	1.0	1.0	1.0		58.0	34.0	84.0	84.0	62.0	71.0
13C12-1,2,3,7,8-PeCDD	%	1.0	1.0	1.0	1.0	1.0	1.0		42.0	63.0	72.0	74.0	63.0	67.0
13C12-1,2,3,4,7,8-HxCDD	%	1.0	1.0	1.0	1.0	1.0	1.0		72.0	77.0	86.0	84.0	71.0	75.0
13C12-1,2,3,6,7,8-HxCDD	%	1.0	1.0	1.0	1.0	1.0	1.0		76.0	68.0	86.0	84.0	63.0	72.0
13C12-1,2,3,4,6,7,8-HpCDD	%	1.0	1.0	1.0	1.0	1.0	1.0		53.0	83.0	62.0	68.0	69.0	82.0
13C12-OCDD	%	1.0	1.0	1.0	1.0	1.0	1.0		33.0	71.0	42.0	41.0	50.0	64.0
13C12-2,3,7,8-TCDF	%	1.0	1.0	1.0	1.0	1.0	1.0		48.0	33.0	78.0	90.0	62.0	74.0
13C12-1,2,3,7,8-PeCDF	%	1.0	1.0	1.0	1.0	1.0	1.0		46.0	68.0	74.0	92.0	72.0	82.0
13C12-2,3,4,7,8-PeCDF	%	1.0	1.0	1.0	1.0	1.0	1.0		39.0	71.0	64.0	81.0	68.0	74.0
13C12-1,2,3,4,7,8-HxCDF	%	1.0	1.0	1.0	1.0	1.0	1.0		75.0	84.0	89.0	97.0	74.0	85.0
13C12-1,2,3,6,7,8-HxCDF	%	1.0	1.0	1.0	1.0	1.0	1.0		84.0	88.0	98.0	102.0	70.0	79.0

Parameter	Unit	Lowest Detection Limit						Benchmarks	SB_SS_100[A]	SB_SS_200[C]	SB_SS_300[D]	SB_SS_400[E]	SB_SS_500[F]	SB_SS_66[AC]
		RDL A	RDL C	RDL D	RDL E	RDL F	RDL AC	MECP Table 1 Standards[1]	15-Aug-23	15-Aug-23	15-Aug-23	16-Aug-23	17-Aug-23	17-Aug-23
13C12-2,3,4,6,7,8-HxCDF	%	1.0	1.0	1.0	1.0	1.0	1.0		73.0	97.0	86.0	94.0	75.0	86.0
13C12-1,2,3,7,8,9-HxCDF	%	1.0	1.0	1.0	1.0	1.0	1.0		64.0	87.0	80.0	87.0	70.0	82.0
13C12-1,2,3,4,6,7,8-HpCDF	%	1.0	1.0	1.0	1.0	1.0	1.0		56.0	102.0	66.0	70.0	75.0	86.0
13C12-1,2,3,4,7,8,9-HpCDF	%	1.0	1.0	1.0	1.0	1.0	1.0		49.0	105.0	63.0	71.0	79.0	97.0
37Cl4-2,3,7,8-TCDD (Cleanup)	%	1.0	1.0	1.0	1.0	1.0	1.0		57.0	35.0	86.0	80.0	60.0	74.0
Lower Bound PCDD/F TEQ (WHO 2005)	pg/g	0.0	0.0	0.0	0.0	0.0	0.0		0.4	0.3	0.839	0.334	1.01	0.449
Mid Point PCDD/F TEQ (WHO 2005)	pg/g	0.0	0.0	0.0	0.0	0.0	0.0		0.7	0.9	1.05	0.638	1.02	0.633
Upper Bound PCDD/F TEQ (WHO 2005)	pg/g	0.0	0.0	0.0	0.0	0.0	0.0		0.8	0.9	1.05	0.638	1.03	0.673
Moisture	%	0.10	0.10	0.10	0.10	0.10	0.25		17.4	21.60	24.80	11.90	17.6	26.10
Physical Test														
% Moisture	%	0.10	0.10	0.10	0.10	0.25	0.25		17.90	21.80	25.3	12.1	16.7	25.4
Conductivity	mS/cm	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.47	0.158	0.1400	0.1290	0.135	0.164	0.156
pH	pH units	0.1	0.1	0.1	0.1	0.1	0.1		7.27	7.12	6.51	7.33	6.97	7.06
Particle Size - Percent Passing														
Passing (0.0312mm)	%	1.0	1.0	1.0	1.0	1.0	1.0		40.4	50.3	28.7	28.9	34.8	30.6
Passing (9.5mm)	%	1.0	1.0	1.0	1.0	1.0	1.0		99.6	99.7	96.7	99.2	100	99.3
Passing (0.020mm)	%	1.0	1.0	1.0	1.0	1.0	1.0		30.8	34.8	22.3	22.8	26.6	22.1
Passing (1.0mm)	%	1.0	1.0	1.0	1.0	1.0	1.0		91.5	96.0	82.4	87.1	97.2	97.1
Passing (4.75mm)	%	1.0	1.0	1.0	1.0	1.0	1.0		98.3	98.8	91.8	96.4	98.8	98.9
Passing (0.005mm)	%	1.0	1.0	1.0	1.0	1.0	1.0		13.6	13.2	11.7	12.2	11.2	10.6
Passing (0.841mm)	%	1.0	1.0	1.0	1.0	1.0	1.0		91.0	95.6	81.5	86.1	96.9	96.8
Passing (19mm)	%	1.0	1.0	1.0	1.0	1.0	1.0		100	100	100	100	100	100
Passing (0.004mm)	%	1.0	1.0	1.0	1.0	1.0	1.0		11.7	11.1	10.8	11.0	9.5	9.6
Passing (0.50mm)	%	1.0	1.0	1.0	1.0	1.0	1.0		87.7	92.4	75.2	78.0	94.9	94.6
Passing (25.4mm)	%	1.0	1.0	1.0	1.0	1.0	1.0		100	100	100	100	100	100
Passing (0.002mm)	%	1.0	1.0	1.0	1.0	1.0	1.0		7.8	7.1	7.9	7.3	6.8	7.9
Passing (0.420mm)	%	1.0	1.0	1.0	1.0	1.0	1.0		86.8	91.5	73.5	75.8	94.3	94.0
Passing (38.1mm)	%	1.0	1.0	1.0	1.0	1.0	1.0		100	100	100	100	100	100
Passing (0.250mm)	%	1.0	1.0	1.0	1.0	1.0	1.0		80.0	84.7	64.2	64.7	88.4	87.6
Passing (50.8mm)	%	1.0	1.0	1.0	1.0	1.0	1.0		100	100	100	100	100	100
Passing (0.149mm)	%	1.0	1.0	1.0	1.0	1.0	1.0		72.9	80.2	55.0	52.5	81.8	77.4
Passing (76.2mm)	%	1.0	1.0	1.0	1.0	1.0	1.0		100	100	100	100	100	100
Passing (0.125mm)	%	1.0	1.0	1.0	1.0	1.0	1.0		70.9	78.8	52.5	49.6	79.4	72.7
Passing (2.0mm)	%	1.0	1.0	1.0	1.0	1.0	1.0		94.2	97.7	87.2	92.6	98.2	98.4
Passing (0.075mm)	%	1.0	1.0	1.0	1.0	1.0	1.0		66.6	75.8	47.4	43.6	74.5	62.9
Passing (0.063mm)	%	1.0	1.0	1.0	1.0	1.0	1.0		59.6	70.7	42.0	40.2	63.3	53.4
Passing (0.05mm)	%	1.0	1.0	1.0	1.0	1.0	1.0		52.0	65.2	36.1	36.6	51.1	43.0
Anions and Nutrients														
Ammonia, total (as N)	mg/kg	60	126	131	112	120	135		147	222	213	<112	181	185
Nitrate + Nitrite (as N), leachable	mg/kg	0.061	0.064	0.068	0.058	0.061	0.068		1.71	1.74	2.28	9.85	7.09	2.00
Nitrogen, total	%	0.020	0.020	0.020	0.020	0.020	0.020		0.226	0.271	0.279	0.132	0.218	0.244
Nitrogen, total organic	%	0.030	0.040	0.060	0.030	0.040	0.050		0.226	0.266	0.383	0.202	0.278	0.321
Ammonium	mg/kg	2.0	1.0	1.0	1.0	1.0	1.0		28.2	6.7	8.7	3.2	4.6	6.0
Chloride, leachable	mg/kg	20	20	20	20	20	20		<20.0	<20.0	<20.0	<20.0	<20.0	<20.0
Kjeldahl nitrogen, total [TKN]	%	0.020	0.020	0.020	0.020	0.020	0.020		0.229	0.267	0.384	0.202	0.278	0.322
Nitrate (as N), leachable	mg/kg	0.060	0.063	0.067	0.057	0.060	0.067		1.68	1.70	2.28	9.85	7.06	1.96
Nitrite (as N), leachable	mg/kg	0.012	0.013	0.013	0.011	0.012	0.013		0.027	0.037	<0.013	<0.011	0.034	0.037
Sulfate, leachable	mg/kg	12	13	13	11	12	13		<12	<13	<13	<11	<12	<13
Cyanides														
Cyanide	mg/kg	0.062	0.065	0.068	0.058	0.061	0.068	0.051	**0.075**	**0.094**	<0.068	<0.058	**0.081**	<0.068

Parameter	Unit	Lowest Detection Limit						Benchmarks	SB_SS_100[A]	SB_SS_200[C]	SB_SS_300[D]	SB_SS_400[E]	SB_SS_500[F]	SB_SS_66[AC]
		RDL A	RDL C	RDL D	RDL E	RDL F	RDL AC	MECP Table 1 Standards[1]	15-Aug-23	15-Aug-23	15-Aug-23	16-Aug-23	17-Aug-23	17-Aug-23
Organic / Inorganic Carbons														
Carbon, inorganic [IC]	%	0.050	0.050	0.050	0.050	0.050	0.050		0.638	0.387	0.137	0.978	0.158	0.382
Carbon, total [TC]	%	0.050	0.050	0.050	0.050	0.050	0.050		2.97	3.39	4.76	2.86	2.54	3.34
Carbon, total organic [TOC]	%	0.312	0.346	0.474	0.313	0.262	0.341		2.33	3.00	4.62	1.88	2.38	2.96
Carbon, inorganic [IC], (as CaCO3 equivalent)	%	0.40	0.40	0.40	0.40	0.40	0.40		5.32	3.22	1.14	8.15	1.32	3.18
Organic matter	%	0.31	0.35	0.47	0.31	0.26	0.34		4.02	5.17	7.96	3.24	4.10	5.10
Metals														
Calcium	mg/L	0.50	0.50	0.50	0.50	0.50	0.50		12.7	10.4	8.53	7.49	5.72	7.26
Magnesium	mg/L	0.50	0.50	0.50	0.50	0.50	0.50		4.65	4.65	3.90	2.81	2.16	2.19
Sodium	mg/L	0.50	0.50	0.50	0.50	0.50	0.50		1.21	0.88	0.72	0.52	<0.50	0.83
Aluminum	mg/kg	50.00	50.00	50.00	50.00	50.00	50.00		14000	14100	9980	10200	14300	11800
Antimony	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	1	0.18	0.20	0.20	0.14	0.19	0.11
Arsenic	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	11	5.76	5.89	3.74	3.76	4.98	3.15
Barium	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	210	56.2	70.3	43.2	49.5	65.6	46.8
Beryllium	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	2.5	0.48	0.52	0.28	0.39	0.58	0.39
Bismuth	mg/kg	0.20	0.20	0.20	0.20	0.20	0.20		<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Boron	mg/kg	5.0	5.0	5.0	5.0	5.0	5.0	36	9.4	7.6	5.8	7.9	8.1	6.1
Cadmium	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	1	0.326	0.396	0.320	0.378	0.373	0.261
Calcium	mg/kg	50	50	50	50	50	50		15400	12300	5340	32100	6880	10600
Chromium	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	67	20.2	19.6	14.6	16.5	21.3	16.7
Cobalt	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	19	6.83	6.86	4.12	5.18	6.96	4.36
Copper	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	62	13.2	14.1	6.67	12.6	10.0	7.95
Iron	mg/kg	50	50	50	50	50	50		17500	18400	13000	14300	20000	13900
Lead	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	45	12.3	15.9	14.7	9.66	12.8	8.55
Lithium	mg/kg	2.0	2.0	2.0	2.0	2.0	2.0		13.4	13.0	11.5	10.4	11.7	9.3
Magnesium	mg/kg	20	20	20	20	20	20		10900	8520	3220	17000	4790	6630
Manganese	mg/kg	1.0	1.0	1.0	1.0	1.0	1.0		746	963	523	797	783	310
Mercury	mg/kg	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.16	0.0648	0.0484	0.0806	0.0367	0.0404	0.0436
Molybdenum	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	2	0.45	0.53	0.49	0.32	0.46	0.31
Nickel	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	37	14.8	14.4	8.86	11.7	13.8	9.09
Phosphorus	mg/kg	50	50	50	50	50	50		682	763	248	770	731	376
Potassium	mg/kg	100	100	100	100	100	100		1370	1260	620	1120	1110	650
Selenium	mg/kg	0.20	0.20	0.20	0.20	0.20	0.20	1.2	0.25	0.34	0.35	0.22	0.36	0.28
Silver	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.5	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Sodium	mg/kg	50	50	50	50	50	50		78	73	<50	68	84	66
Strontium	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50		15.0	12.3	7.70	19.1	12.1	12.6
Sulfur	mg/kg	1000	1000	1000	1000	1000	1000		<1000	<1000	<1000	<1000	<1000	<1000
Thallium	mg/kg	0.05	0.05	0.05	0.05	0.05	0.05	1	0.133	0.151	0.104	0.089	0.142	0.096
Tin	mg/kg	2.0	2.0	2.0	2.0	2.0	2.0		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Titanium	mg/kg	1.0	1.0	1.0	1.0	1.0	1.0		237	173	183	177	243	239
Tungsten	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Uranium	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	1.9	0.815	0.795	0.392	0.632	1.02	0.524
Vanadium	mg/kg	0.20	0.20	0.20	0.20	0.20	0.20	86	32.8	33.0	25.5	23.9	35.7	26.8
Zinc	mg/kg	2.0	2.0	2.0	2.0	2.0	2.0	290	53.9	60.9	38.1	50.7	45.4	54.6
Zirconium	mg/kg	1.0	1.0	1.0	1.0	1.0	1.0		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Sodium adsorption ratio [SAR]		0.10	0.10	0.10	0.10	0.10	0.10	1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Chromium, hexavalent [Cr VI]	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.66	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Volatile Organic Compounds														
Acetone	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Benzene	mg/kg	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.02	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Bromodichloromethane	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050

Parameter	Unit	Lowest Detection Limit						Benchmarks	SB_SS_100[A]	SB_SS_200[C]	SB_SS_300[D]	SB_SS_400[E]	SB_SS_500[F]	SB_SS_66[AC]
		RDL A	RDL C	RDL D	RDL E	RDL F	RDL AC	MECP Table 1 Standards[1]	15-Aug-23	15-Aug-23	15-Aug-23	16-Aug-23	17-Aug-23	17-Aug-23
Bromoform	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bromomethane	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Carbon tetrachloride	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chlorobenzene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chloroform	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dibromochloromethane	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dibromoethane, 1,2-	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichlorobenzene, 1,2-	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichlorobenzene, 1,3-	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichlorobenzene, 1,4-	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichlorodifluoromethane	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichloroethane, 1,1-	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichloroethane, 1,2-	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichloroethylene, 1,1-	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichloroethylene, cis-1,2-	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichloroethylene, trans-1,2-	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichloromethane	mg/kg	0.045	0.045	0.045	0.045	0.045	0.045	0.05	<0.045	<0.045	<0.045	<0.045	<0.045	<0.045
Dichloropropane, 1,2-	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichloropropylene, cis+trans-1,3-	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichloropropylene, cis-1,3-	mg/kg	0.030	0.030	0.030	0.030	0.030	0.030		<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Dichloropropylene, trans-1,3-	mg/kg	0.030	0.030	0.030	0.030	0.030	0.030		<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Ethylbenzene	mg/kg	0.015	0.015	0.015	0.015	0.015	0.015	0.05	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Hexane, n-	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Methyl ethyl ketone [MEK]	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methyl isobutyl ketone [MIBK]	mg/kg	0.50	0.50	0.50	0.50	0.50	0.50	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methyl-tert-butyl ether [MTBE]	mg/kg	0.040	0.040	0.040	0.040	0.040	0.040	0.05	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Styrene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Tetrachloroethane, 1,1,1,2-	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Tetrachloroethane, 1,1,2,2-	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Tetrachloroethylene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Toluene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.20	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Trichloroethane, 1,1,1-	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Trichloroethane, 1,1,2-	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Trichloroethylene	mg/kg	0.010	0.010	0.010	0.010	0.010	0.010	0.05	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Trichlorofluoromethane	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Vinyl chloride	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.02	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Xylene, m+p-	mg/kg	0.030	0.030	0.030	0.030	0.030	0.030		<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Xylene, o-	mg/kg	0.030	0.030	0.030	0.030	0.030	0.030		<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Xylenes, total	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
BTEX, total	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Hydrocarbons														
F1 (C6-C10)	mg/kg	5.0	5.0	5.0	5.0	5.0	5.0	17	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
F1-BTEX	mg/kg	5.0	5.0	5.0	5.0	5.0	5.0		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
F2 (C10-C16)	mg/kg	10	10	10	10	10	10	10	<10	<10	<10	<10	<10	<10
F3 (C16-C34)	mg/kg	50	50	50	50	50	50	240	<50	<50	<50	<50	<50	<50
F4 (C34-C50)	mg/kg	50	50	50	50	50	50	120	<50	<50	<50	<50	<50	<50
Hydrocarbons, total (C6-C50)	mg/kg	80	80	80	80	80	80		<80	<80	<80	<80	<80	<80
Polycyclic Aromatic Hydrocarbons														
Acenaphthene	mg/kg	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
Acenaphthylene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.093	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Anthracene	mg/kg	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

Parameter	Unit	Lowest Detection Limit						Benchmarks	SB_SS_100[A]	SB_SS_200[C]	SB_SS_300[D]	SB_SS_400[E]	SB_SS_500[F]	SB_SS_66[AC]
		RDL A	RDL C	RDL D	RDL E	RDL F	RDL AC	MECP Table 1 Standards[1]	15-Aug-23	15-Aug-23	15-Aug-23	16-Aug-23	17-Aug-23	17-Aug-23
Benz(a)anthracene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.095	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(a)pyrene	mg/kg	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
Benzo(b+j)fluoranthene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.300	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(g,h,i)perylene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.200	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(k)fluoranthene	mg/kg	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
Chrysene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.180	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dibenz(a,h)anthracene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.100	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fluoranthene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.240	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fluorene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Indeno(1,2,3-c,d)pyrene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Methylnaphthalene, 1-	mg/kg	0.030	0.030	0.030	0.030	0.030	0.030		<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Methylnaphthalene, 2-	mg/kg	0.030	0.030	0.030	0.030	0.030	0.030		<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Naphthalene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Phenanthrene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Pyrene	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Methylnaphthalene, 1+2-	mg/kg	0.042	0.042	0.042	0.042	0.042	0.042		<0.042	<0.042	<0.042	<0.042	<0.042	<0.042
Phthalate Esters														
Diethyl phthalate	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dimethyl phthalate	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
bis(2-Ethylhexyl) phthalate [DEHP]	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Semi-volatile Organics														
Biphenyl	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chloroaniline, 4-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dichlorobenzidine, 3,3'-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dinitrotoluene, 2,4-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dinitrotoluene, 2,6-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Trichlorobenzene, 1,2,4-	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
bis(2-Chloro-1-methylethyl) ether	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.5	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
bis(2-Chloroethyl) ether	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.5	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dinitrotoluene, 2,4 + 2,6-	mg/kg	0.20	0.20	0.20	0.20	0.20	0.20	0.5	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Phenolics														
Chlorophenol, 2-	mg/kg	0.20	0.10	0.10	0.10	0.10	0.10	0.1	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10
Dichlorophenol, 2,4-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Pentachlorophenol [PCP]	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Trichlorophenol, 2,4,5-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Trichlorophenol, 2,4,6-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dimethylphenol, 2,4-	mg/kg	0.10	0.10	0.10	0.10	0.10	0.10	0.2	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dinitrophenol, 2,4-	mg/kg	1.0	1.0	1.0	1.0	1.0	1.0	2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Phenol	mg/kg	0.20	0.30	0.10	0.10	0.10	0.10	0.5	<0.20	<0.30	<0.10	<0.10	<0.10	<0.10
Polychlorinated Biphenyls														
Aroclor 1016	mg/kg	0.010	0.010	0.010	0.010	0.010	0.010		0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Aroclor 1221	mg/kg	0.010	0.010	0.010	0.010	0.010	0.010		0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Aroclor 1232	mg/kg	0.010	0.010	0.010	0.010	0.010	0.010		0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Aroclor 1242	mg/kg	0.010	0.010	0.010	0.010	0.010	0.010		0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Aroclor 1248	mg/kg	0.010	0.010	0.010	0.010	0.010	0.010		0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Aroclor 1254	mg/kg	0.010	0.010	0.010	0.010	0.010	0.010		0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Aroclor 1260	mg/kg	0.010	0.010	0.010	0.010	0.010	0.010		0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Aroclor 1262	mg/kg	0.010	0.010	0.010	0.010	0.010	0.010		0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Aroclor 1268	mg/kg	0.010	0.010	0.010	0.010	0.010	0.010		0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Polychlorinated biphenyls [PCBs], total	mg/kg	0.030	0.030	0.030	0.030	0.030	0.030	0.3	0.030	<0.030	<0.030	<0.030	<0.030	<0.030

Parameter	Unit	Lowest Detection Limit						Benchmarks	SB_SS_100[A]	SB_SS_200[C]	SB_SS_300[D]	SB_SS_400[E]	SB_SS_500[F]	SB_SS_66[AC]
		RDL A	RDL C	RDL D	RDL E	RDL F	RDL AC	MECP Table 1 Standards[1]	15-Aug-23	15-Aug-23	15-Aug-23	16-Aug-23	17-Aug-23	17-Aug-23
Organochlorine Pesticides														
Aldrin	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.05	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Chlordane, cis- (alpha)	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Chlordane, total	mg/kg	0.030	0.030	0.030	0.030	0.030	0.030	0.05	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Chlordane, trans- (gamma)	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
DDD, 2,4'-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
DDD, 4,4'-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
DDD, total	mg/kg	0.030	0.030	0.030	0.030	0.030	0.030	0.05	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
DDE, 2,4'-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
DDE, 4,4'-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
DDE, total	mg/kg	0.030	0.030	0.030	0.030	0.030	0.030	0.05	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
DDT, 2,4'-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
DDT, 4,4'-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
DDT, total	mg/kg	0.030	0.030	0.030	0.030	0.030	0.030	0.078	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Dieldrin	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.05	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Endosulfan, alpha-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Endosulfan, beta-	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Endosulfan, total	mg/kg	0.030	0.030	0.030	0.030	0.030	0.030	0.04	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Endrin	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.04	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Endrin aldehyde	mg/kg	0.010	0.010	0.010	0.010	0.010	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Heptachlor	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.05	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Heptachlor epoxide	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.05	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Hexachlorobenzene	mg/kg	0.010	0.010	0.010	0.010	0.010	0.010	0.01	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Hexachlorobutadiene	mg/kg	0.010	0.010	0.010	0.010	0.010	0.010	0.01	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Hexachlorocyclohexane, gamma-	mg/kg	0.010	0.010	0.010	0.010	0.010	0.010	0.01	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Hexachloroethane	mg/kg	0.010	0.010	0.010	0.010	0.010	0.010	0.01	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Methoxychlor	mg/kg	0.020	0.020	0.020	0.020	0.020	0.020	0.05	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Radiological Parameters														
Cesium-137	Bq/kg	18.5	18.5	18.5	18.5	18.5	18.5		6.8	4.24	11.6	5.06	4.31	6.17
Cobalt-60	Bq/kg	18.5	18.5	18.5	18.5	18.5	18.5		<18.5	<18.5	<18.5	<18.5	<18.5	<18.5
Gross alpha	Bq/kg	111	111	111	111	111	111		226	196	235	257	363	228
Gross beta	Bq/kg	148	148	148	148	148	148		831	811	744	722	869	727
Iodine-129	Bq/kg	370	370	370	370	370	370		<370	<370	<370	<370	<370	<370
Neptunium-237	Bq/kg	---	---	---	---	---	---		---	---	---	---	---	---
Potassium-40	Bq/kg	75	75	75	75	75	75		663	702	613	558	679	538
Radium-226	Bq/kg	37	37	37	37	37	37		36.6	50.4	52.9	44.1	41.2	33.4
Ruthenium-106	Bq/kg	90	90	90	90	90	90		<90	<90	<90	<90	<90	<90
Strontium-90	Bq/kg	18.5	18.5	18.5	18.5	18.5	18.5		<18.5	<18.5	<18.5	<18.5	<18.5	<18.5
Thorium-228	Bq/kg	3.7	3.7	3.7	3.7	3.7	3.7		21.9	33.5	22.4	21.3	27.2	23.3
Thorium-230	Bq/kg	3.7	3.7	3.7	3.7	3.7	3.7		46.7	45.7	34.0	42.1	39.7	40.7
Thorium-232	Bq/kg	3.7	3.7	3.7	3.7	3.7	3.7		16.4	33.9	13.1	15.2	22.4	23.8
Uranium-234	Bq/kg	3.7	3.7	3.7	3.7	3.7	3.7		19.1	23.9	15.7	18.8	24.4	18.5
Uranium-235	Bq/kg	3.7	3.7	3.7	3.7	3.7	3.7		0.998	1.44	1.54	2.09	2.09	1.40
Uranium-238	Bq/kg	3.7	3.7	3.7	3.7	3.7	3.7		21.9	24.7	20.00	21.9	26.4	20.1
Carbon-14	Bq/kg	740	740	740	740	740	740		<740	<740	<740	<740	<740	<740
Chlorine-36	Bq/kg	---	---	---	---	---	---		---	---	---	---	---	---
Plutonium-238	Bq/kg	---	---	---	---	---	---		---	---	---	---	---	---
Plutonium-239	Bq/kg	---	---	---	---	---	---		---	---	---	---	---	---

Parameter	Unit	Lowest Detection Limit						Benchmarks	SB_SS_100[A]	SB_SS_200[C]	SB_SS_300[D]	SB_SS_400[E]	SB_SS_500[F]	SB_SS_66[AC]
		RDL A	RDL C	RDL D	RDL E	RDL F	RDL AC	MECP Table 1 Standards[1]	15-Aug-23	15-Aug-23	15-Aug-23	16-Aug-23	17-Aug-23	17-Aug-23
Selenium-79	Bq/kg	---	---	---	---	---	---		---	---	---	---	---	---
Tritium	Bq/kg	37	37	37	37	37	37		<37	<37	<37	<37	<37	<37

[1]MECP Table 1 Standards: Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011, Table 1, Full Depth Background Site Condition Standards, for Agricultural Property Use.
pg/g = picogram per gram
Bq/L = Becquerel per litre.
mg/kg = milligram per kilogram
mS/cm = MilliSiemens per centimetre
mg/L = milligram per litre
--- not sampled or not provided by the laboratory

Appendix II Table 10: Results from the trip blanks completed during the August 2023 surficial soil sampling program. Samples were tested for volatile organic compounds. Also noted is the unit that the parameter was measured in and the reported detection limit (RDL). Any highlighted values indicate they are above the MECP Table 1 Background Site Condition Standards for Agricultural Use (MECP 2011).

Parameter	Unit	Lowest Detection Limit	Benchmarks	SB_SS_TRIP_01	SB_SS_TRIP_02	SB_SS_TRIP_03	SB_SS_TRIP_04	SB_SS_TRIP_05	SB_SS_TRIP_06	SB_SS_TRIP_07	SB_SS_TRIP_08	SB_SS_TRIP_09
		RDL	MECP Table 1 Standards[1]	18-Aug-23	15-Aug-23	19-Aug-23	29-Aug-23	28-Aug-23	30-Aug-23	17-Aug-23	16-Aug-23	14-Aug-23
Volatile Organic Compounds												
Acetone	mg/kg	0.50	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Benzene	mg/kg	0.0050	0.02	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Bromodichloromethane	mg/kg	0.050	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bromoform	mg/kg	0.050	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bromomethane	mg/kg	0.050	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Carbon tetrachloride	mg/kg	0.050	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chlorobenzene	mg/kg	0.050	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chloroform	mg/kg	0.050	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dibromochloromethane	mg/kg	0.050	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dibromoethane, 1,2-	mg/kg	0.050	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichlorobenzene, 1,2-	mg/kg	0.050	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichlorobenzene, 1,3-	mg/kg	0.050	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichlorobenzene, 1,4-	mg/kg	0.050	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichlorodifluoromethane	mg/kg	0.050	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichloroethane, 1,1-	mg/kg	0.050	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichloroethane, 1,2-	mg/kg	0.050	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichloroethylene, 1,1-	mg/kg	0.050	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichloroethylene, cis-1,2-	mg/kg	0.050	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichloroethylene, trans-1,2-	mg/kg	0.050	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichloromethane	mg/kg	0.045	0.05	<0.045	<0.045	<0.045	<0.045	<0.045	<0.045	<0.045	<0.045	<0.045
Dichloropropane, 1,2-	mg/kg	0.050	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichloropropylene, cis+trans-1,3-	mg/kg	0.050	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichloropropylene, cis-1,3-	mg/kg	0.030		<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Dichloropropylene, trans-1,3-	mg/kg	0.030		<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Ethylbenzene	mg/kg	0.015	0.05	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Hexane, n-	mg/kg	0.050	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Methyl ethyl ketone [MEK]	mg/kg	0.50	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methyl isobutyl ketone [MIBK]	mg/kg	0.50	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methyl-tert-butyl ether [MTBE]	mg/kg	0.040	0.05	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Styrene	mg/kg	0.050	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Tetrachloroethane, 1,1,1,2-	mg/kg	0.050	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Tetrachloroethane, 1,1,2,2-	mg/kg	0.050	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Tetrachloroethylene	mg/kg	0.050	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Toluene	mg/kg	0.050	0.2	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Trichloroethane, 1,1,1-	mg/kg	0.050	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Trichloroethane, 1,1,2-	mg/kg	0.050	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Trichloroethylene	mg/kg	0.010	0.05	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Trichlorofluoromethane	mg/kg	0.050	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Vinyl chloride	mg/kg	0.020	0.02	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Xylene, m+p-	mg/kg	0.030		<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Xylene, o-	mg/kg	0.030		<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Xylenes, total	mg/kg	0.050	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
BTEX, total	mg/kg	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10

[1]MECP Table 1 Standards: Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011, Table 1, Full Depth Background Site Condition Standards, for Agricultural Property Use.

mg/kg = milligram per kilogram

Parameter	Unit	Lowest Detection Limit									SB-SS-RINSE-02[B]	SB-SS-RINSE-03[C]	SB-SS-RINSE-04[I]	SB-SS-RINSE-05[C]	SB-SS-RINSE-06[G]	SB-SS-RINSE-07[J]	SB-SS-RINSE-08[F]	SB-SS-RINSE-09[H]	SB-SS-RINSE-10[A]
		RDL A	RDL B	RDL C	RDL D	RDL E	RDL F	RDL G	RDL H	RDL I	15-Aug-23	16-Aug-23	18-Aug-23	19-Aug-23	30-Aug-23	28-Aug-23	29-Aug-23	17-Aug-23	14-Aug-23
Dioxins and Furans																			
2,3,7,8-TCDD	pg/L	0.14	0.72	0.62	0.76	0.22	1.10	1.10	0.29	0.14	<0.72	<0.22	<0.14	<0.62	<1.1	<0.76	<1.1	<0.29	<0.14
1,2,3,7,8-PeCDD	pg/L	0.21	0.53	0.62	0.89	0.35	1.20	0.99	0.71	0.45	<0.53	0.42	<0.45	<0.62	<0.99	<0.89	<1.2	<0.71	<0.21
1,2,3,4,7,8-HxCDD	pg/L	0.28	0.70	0.53	0.80	0.55	0.89	1.10	0.62	0.44	<0.70	<0.55	<0.44	<0.53	<1.1	<0.80	<0.89	<0.62	<0.28
1,2,3,6,7,8-HxCDD	pg/L	0.28	0.74	0.54	0.81	0.49	0.97	1.20	0.58	0.43	<0.74	<0.49	<0.43	<0.54	<1.2	<0.81	<0.97	<0.58	<0.28
1,2,3,7,8,9-HxCDD	pg/L	0.28	0.71	0.53	0.790	0.500	0.910	1.100	0.580	0.420	<0.71	<0.50	0.54	<0.53	<1.1	<0.79	<0.91	<0.58	<0.28
1,2,3,4,6,7,8-HpCDD	pg/L	0.46	0.62	0.48	1.20	0.42	1.40	1.30	0.66	0.54	0.68	0.54	1.15	0.72	<1.3	<1.2	<1.4	<0.66	0.7
OCDD	pg/L	3.5	1.40	1.30	2.10	1.10	2.60	2.70	1.40	1.60	2	4.6	6.2	<1.3	<2.7	<2.1	<2.6	4.8	5.2
Total-TCDD	pg/L	0.14	0.72	0.62	0.76	0.22	1.10	1.10	0.29	0.14	<0.72	<0.22	<0.14	<0.62	<1.1	<0.76	<1.1	<0.29	<0.14
Total TCDD # Homologues	-										0	0	0	0	0	0	0	0	0
Total-PeCDD	pg/L	0.21	0.53	0.62	0.89	0.35	1.20	0.99	0.71	0.45	<0.53	<0.35	<0.45	<0.62	<0.99	<0.89	<1.2	<0.71	<0.21
Total PeCDD # Homologues	-										0	0	0	0	0	0	0	0	0
Total-HxCDD	pg/L	0.28	0.74	0.54	0.81	0.55	0.97	1.20	0.62	0.44	<0.74	<0.55	0.54	<0.54	<1.2	<0.81	<0.97	<0.62	0.85
Total HxCDD # Homologues	-										0	0	1	0	0	0	0	0	1
Total-HpCDD	pg/L	0.46	0.62	0.48	1.20	0.42	1.40	1.30	0.66	0.54	1.28	<0.42	1.15	0.72	<1.3	<1.2	<1.4	<0.66	<0.46
Total HpCDD # Homologues	-										2	0	1	1	0	0	0	0	0
2,3,7,8-TCDF	pg/L	0.12	0.64	0.49	0.56	0.30	0.95	0.86	0.30	0.17	<0.64	<0.30	<0.17	<0.49	<0.86	<0.56	<0.95	<0.30	<0.12
1,2,3,7,8-PeCDF	pg/L	0.23	0.36	0.39	0.51	0.36	0.71	0.59	0.46	0.31	0.81	<0.36	<0.31	<0.39	<0.59	<0.51	<0.71	<0.46	0.27
2,3,4,7,8-PeCDF	pg/L	0.24	0.33	0.38	0.51	0.33	0.68	0.55	0.50	0.31	<0.33	<0.33	<0.31	<0.38	<0.55	<0.51	<0.68	<0.50	<0.24
1,2,3,4,7,8-HxCDF	pg/L	0.17	0.46	0.34	0.44	0.27	1.00	0.59	0.24	0.53	<0.46	<0.27	<0.53	<0.34	<0.59	<0.44	<1.0	<0.24	0.3
1,2,3,6,7,8-HxCDF	pg/L	0.16	0.43	0.34	0.47	0.29	1.1	0.53	0.25	0.57	<0.43	<0.29	<0.57	<0.34	<0.53	<0.47	<1.1	<0.25	<0.16
1,2,3,7,8,9-HxCDF	pg/L	0.26	0.61	0.49	0.62	0.39	1.5	0.83	0.35	0.89	<0.61	<0.39	<0.89	<0.49	<0.83	<0.62	<1.5	<0.35	<0.26
2,3,4,6,7,8-HxCDF	pg/L	0.17	0.42	0.33	0.46	0.29	1	0.55	0.26	0.62	<0.42	<0.29	<0.62	<0.33	<0.55	<0.46	<1.0	<0.26	0.22
1,2,3,4,6,7,8-HpCDF	pg/L	0.29	0.480	0.510	0.56	1.1	0.94	0.61	0.51	0.6	<0.48	<1.1	<0.60	<0.51	<0.61	<0.56	<0.94	<0.51	0.41
1,2,3,4,7,8,9-HpCDF	pg/L	0.46	0.610	0.690	0.73	1.5	1.3	0.78	0.71	0.85	<0.61	<1.5	<0.85	<0.69	<0.78	<0.73	<1.3	<0.71	<0.46
OCDF	pg/L	2.1	1.200	1.000	1.6	0.66	2.8	2.2	2.3	1.3	2.4	3.68	6.8	<1.0	<2.2	<1.6	<2.8	<2.3	4.4
Total-TCDF	pg/L	0.12	0.6400	0.49	0.56	0.3	0.95	0.86	0.3	0.17	<0.64	<0.30	<0.17	<0.49	<0.86	<0.56	<0.95	<0.30	<0.12
Total TCDF # Homologues	-										0	0	0	0	0	0	0	0	0
Total-PeCDF	pg/L	0.24	0.36	0.39	0.51	0.36	0.71	0.59	0.5	0.31	0.81	<0.36	<0.31	<0.39	<0.59	0.57	<0.71	<0.50	<0.24
Total PeCDF # Homologues	-										1	0	0	0	0	1	0	0	0
Total-HxCDF	pg/L	0.26	0.61	0.49	0.62	0.39	1.5	0.83	0.35	0.89	<0.61	<0.39	<0.89	<0.49	<0.83	<0.62	<1.5	<0.35	0.3
Total HxCDF # Homologues	-										0	0	0	0	0	0	0	0	1
Total-HpCDF	pg/L	0.46	0.61	0.69	0.73	1.5	1.3	0.78	0.71	0.85	<0.61	<1.5	<0.85	<0.69	<0.78	<0.73	<1.3	<0.71	<0.46
Total HpCDF # Homologues	-										0	0	0	0	0	0	0	0	0
13C12-2,3,7,8-TCDD	%		1	1	1	1	1	1	1	1	78	53.0	63.0	67.0	83.0	86.0	83.0	50.0	89
13C12-1,2,3,7,8-PeCDD	%		1	1	1	1	1	1	1	1	86	58.0	63.0	76.0	82.0	80.0	81.0	57.0	69
13C12-1,2,3,4,7,8-HxCDD	%		1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	91	59.0	70.0	83.0	90.0	88.0	90.0	59.0	99
13C12-1,2,3,6,7,8-HxCDD	%		1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	84	65.0	72.0	78.0	79.0	83.0	78.0	59.0	100
13C12-1,2,3,4,6,7,8-HpCDD	%		1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	104	57.0	60.0	91.0	87.0	88.0	88.0	60.0	69
13C12-OCDD	%		1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	90	48.0	45.0	75.0	56.0	66.0	61.0	53.0	44
13C12-2,3,7,8-TCDF	%		1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	81	50.0	60.0	69.0	90.0	86.0	89.0	46.0	88
13C12-1,2,3,7,8-PeCDF	%		1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	102	53.0	61.0	84.0	97.0	93.0	97.0	53.0	76
13C12-2,3,4,7,8-PeCDF	%		1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	96	55.0	57.0	81.0	92.0	87.0	93.0	49.0	67
13C12-1,2,3,4,7,8-HxCDF	%		1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	98	63.0	81.0	89.0	98.0	95.0	99.0	58.0	109
13C12-1,2,3,6,7,8-HxCDF	%		1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	97	57.0	71.0	87.0	105.0	87.0	91.0	55.0	111
13C12-2,3,4,6,7,8-HxCDF	%		1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	103	59.0	70.0	92.0	103.0	97.0	100.0	58.0	107
13C12-1,2,3,7,8,9-HxCDF	%		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	97	54.0	62.0	84.0	93.0	91.0	91.0	52.0	96
13C12-1,2,3,4,6,7,8-HpCDF	%		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	100	50.0	55.0	89.0	92.0	94.0	95.0	52.0	78
13C12-1,2,3,4,7,8,9-HpCDF	%		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	109	44.0	49.0	92.0	97.0	101.0	97.0	50.0	72
37Cl4-2,3,7,8-TCDD (Cleanup)	%		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	72	57.0	61.0	74.0	85.0	85.0	88.0	48.0	84
Lower Bound PCDD/F TEQ (WHO 2005)	pg/L		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0323	0.00110	0.0651	0.00717	0.00	0.00	0.00	0.00144	0.0314
Mid Point PCDD/F TEQ (WHO 2005)	pg/L		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.948	0.760	0.605	0.876	1.49	1.17	1.70	0.752	0.356
Upper Bound PCDD/F TEQ (WHO 2005)	pg/L		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.86	1.09	1.14	1.74	2.98	2.34	3.40	1.50	0.639
Physical Tests																			
Conductivity	µS/cm	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	<2.0	<2.0	<2.0	11.1	2.1	<2.0	<2.0	<2.0	<2.0
Physical Tests	pH units	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	5.74	5.84	5.79	5.94	6.33	6.20	6.12	6.48	6.17
Nutrients																			
Ammonia, total (as N)	mg/L	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0087	0.0121	0.0136	<0.0050	<0.0050	0.0075	<0.0050	0.0097	0.0160
Chloride	mg/L	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Kjeldahl nitrogen, total [TKN]	mg/L	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	0.100	<0.050	<0.050	<0.050	<0.050
Nitrate (as N)	mg/L	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Nitrate + Nitrite (as N)	mg/L	0.0224	0.0224	0.0224	0.0224	0.0224	0.0224	0.0224	0.0224	0.0224	<0.0224	<0.0224	<0.0224	<0.0224	<0.0224	<0.0224	<0.0224	<0.0224	<0.0224
Nitrite (as N)	mg/L	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	<0.010
Nitrogen, total	mg/L	0.055	0.055	0.055	0.055	0.055	0.055	0.055	0.055	0.055	<0.055	<0.055	<0.055	<0.055	0.100	<0.055	<0.055	<0.055	<0.055
Nitrogen, total organic	mg/L	0.121	0.120	0.120	0.120	0.120	0.120	0.122	0.120	0.120	<0.120	<0.120	<0.120	<0.120	<0.122	<0.120	<0.120	<0.120	<0.121
Phosphorus, total	mg/L	0.0020	0.0020	0.0020	0.0020	0.0020	0.0020	0.0020	0.0020	0.0020	0.0345	0.0025	0.0024	0.0172	0.0098	0.0102	<0.0020	0.0028	0.0024
Sulfate (as SO4)	mg/L	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Cyanides																			
Cyanide	mg/L	0.0020	0.0020	0.0020	0.0020	0.0020	0.0020	0.0020	0.0020	0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Carbons																			
Carbon, dissolved organic [DOC]	mg/L	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	<0.50	<0.50	1.67	1.06	0.79	<0.50	0.71	<0.50	<0.50
Carbon, total inorganic [TIC]	mg/L	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Carbon, total organic [TOC]	mg/L	0.5	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.58	0.62	1.22	1.16	1.11	<0.50	0.66	1.20	0.58
Metals																			
Sodium adsorption ratio [SAR]		0.1	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Aluminum, total	mg/L	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0138	0.0107	0.0256	0.0500	0.135	0.0473	0.0427	0.0494	0.0445
Antimony, total	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.00010	0.00010	0.00010	0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Arsenic, total	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.00010	0.00010	0.00010	0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Barium, total	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.00010	0.00010	0.00010	0.00010	0.00018	0.00016	0.00035	0.00090	0.00163	0.00069	0.00232	0.00060	0.00082
Beryllium, total	mg/L	0.000020	0.000020	0.000020	0.000020	0.000020	0.000020	0.000020	0.000020	0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Bismuth, total	mg/L	0.000050	0.000050	0.000050	0.000050	0.000050	0.000050	0.000050	0.000050	0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050

Parameter	Unit	Lowest Detection Limit									SB-SS-RINSE-02[B]	SB-SS-RINSE-03[C]	SB-SS-RINSE-04[I]	SB-SS-RINSE-05[C]	SB-SS-RINSE-06[D]	SB-SS-RINSE-07[D]	SB-SS-RINSE-08[F]	SB-SS-RINSE-09[H]	SB-SS-RINSE-10[A]
		RDL A	RDL B	RDL C	RDL D	RDL E	RDL F	RDL G	RDL H	RDL I	15-Aug-23	16-Aug-23	18-Aug-23	19-Aug-23	30-Aug-23	28-Aug-23	29-Aug-23	17-Aug-23	14-Aug-23
Boron, total	mg/L	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	<0.010
Cadmium, total	mg/L	0.0000050	0.0000050	0.0000050	0.0000050	0.0000050	0.0000050	0.0000050	0.0000050	0.0000050	<0.0000050	<0.0000050	0.0000750	0.0000052	0.0000178	0.0000290	0.0000607	<0.0000050	0.0000054
Calcium, total	mg/L	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.247	0.065	0.144	0.144	0.331	0.738	0.126	0.110	0.105
Cesium, total	mg/L	0.000010	0.000010	0.000010	0.000010	0.000010	0.000010	0.000010	0.000010	0.000010	<0.000010	<0.000010	<0.000010	<0.000010	0.000013	<0.000010	<0.000010	<0.000010	<0.000010
Chromium, total	mg/L	0.00050	0.00050	0.00050	0.00050	0.00050	0.00050	0.00050	0.00050	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt, total	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.00010	0.00010	0.00010	0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Copper, total	mg/L	0.00050	0.00050	0.00050	0.00050	0.00050	0.00050	0.00050	0.00050	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Iron, total	mg/L	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.013	0.011	0.032	0.048	0.145	0.058	0.039	0.047	0.045
Lead, total	mg/L	0.000050	0.000050	0.000050	0.000050	0.000050	0.000050	0.000050	0.000050	0.000050	<0.000050	<0.000050	0.000203	0.000089	0.000579	0.000363	0.000236	0.000062	0.000095
Lithium, total	mg/L	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0018	<0.0010	<0.0010	<0.0010
Magnesium, total	mg/L	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0874	0.0148	0.0190	0.0469	0.140	0.254	0.0316	0.0310	0.0284
Manganese, total	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.00010	0.00010	0.00010	0.00010	0.00239	0.00208	0.00324	0.00587	0.00528	0.00325	0.00337	0.00288	0.00334
Mercury, total	mg/L	0.0000050	0.0000050	0.0000050	0.0000050	0.0000050	0.0000050	0.0000050	0.0000050	0.0000050	<0.0000050	<0.0000050	0.0000085	0.0000284	0.0000213	<0.0000050	0.0000224	<0.0000050	0.0000299
Molybdenum, total	mg/L	0.000050	0.000050	0.000050	0.000050	0.000050	0.000050	0.000050	0.000050	0.000050	<0.000050	<0.000050	<0.000050	<0.000050	0.000084	<0.000050	0.000222	<0.000050	<0.000050
Nickel, total	mg/L	0.00050	0.00050	0.00050	0.00050	0.00050	0.00050	0.00050	0.00050	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Phosphorus, total	mg/L	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	<0.050
Potassium, total	mg/L	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.053	<0.050	<0.050	<0.050	0.053	0.085	0.066	<0.050	0.079
Rubidium, total	mg/L	0.00020	0.00020	0.00020	0.00020	0.00020	0.00020	0.00020	0.00020	0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.00023	<0.00020	<0.00020	<0.00020	<0.00020
Selenium, total	mg/L	0.000050	0.000050	0.000050	0.000050	0.000050	0.000050	0.000050	0.000050	0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Silicon, total	mg/L	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.25	0.23	0.24	0.25	0.41	0.29	0.25	0.29	0.26
Silver, total	mg/L	0.000010	0.000010	0.000010	0.000010	0.000010	0.000010	0.000010	0.000010	0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Sodium, total	mg/L	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.062	<0.050	0.051	0.072	0.057	0.107	0.087	0.080	0.113
Strontium, total	mg/L	0.00020	0.00020	0.00020	0.00020	0.00020	0.00020	0.00020	0.00020	0.00020	<0.00020	<0.00020	0.00020	0.00041	0.00050	0.00059	0.00034	<0.00020	0.00023
Sulfur, total	mg/L	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Tellurium, total	mg/L	0.00020	0.00020	0.00020	0.00020	0.00020	0.00020	0.00020	0.00020	0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Thallium, total	mg/L	0.000010	0.000010	0.000010	0.000010	0.000010	0.000010	0.000010	0.000010	0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Thorium, total	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.00010	0.00010	0.00010	0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Tin, total	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.00010	0.00010	0.00010	0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.00037	0.00031	0.00014	<0.00010	<0.00010
Titanium, total	mg/L	0.00030	0.00030	0.00030	0.00030	0.00030	0.00030	0.00030	0.00030	0.00030	0.00036	0.00038	0.00082	0.00115	0.00470	0.00183	0.00128	0.00162	0.00119
Tungsten, total	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.00010	0.00010	0.00010	0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Uranium, total	mg/L	0.000010	0.000010	0.000010	0.000010	0.000010	0.000010	0.000010	0.000010	0.000010	<0.000010	<0.000010	<0.000010	<0.000010	0.000013	<0.000010	<0.000010	<0.000010	<0.000010
Vanadium, total	mg/L	0.00050	0.00050	0.00050	0.00050	0.00050	0.00050	0.00050	0.00050	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Zinc, total	mg/L	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	<0.0030	<0.0030	<0.0030	<0.0030	0.0059	0.0124	0.0042	0.0036	<0.0030
Zirconium, total	mg/L	0.00020	0.00020	0.00020	0.00020	0.00020	0.00020	0.00020	0.00020	0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Hexavalent Chromium	mg/L	0.00050	0.00050	0.00050	0.00050	0.00050	0.00050	0.00050	0.00050	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Volatile Organic Compounds																			
Acetone	µg/L	20	20	---	20	20	---	---	20	20	<20	<20	<20	---	---	<20	---	<20	<20
Benzene	µg/L	0.50	0.50	---	0.50	0.50	---	---	0.50	0.50	<0.50	<0.50	<0.50	---	---	<0.50	---	<0.50	<0.50
Bromodichloromethane	µg/L	0.50	0.50	---	0.50	0.50	---	---	0.50	0.50	<0.50	<0.50	<0.50	---	---	<0.50	---	<0.50	<0.50
Bromoform	µg/L	0.50	0.50	---	0.50	0.50	---	---	0.50	0.50	<0.50	<0.50	<0.50	---	---	<0.50	---	<0.50	<0.50
Bromomethane	µg/L	0.50	0.50	---	0.50	0.50	---	---	0.50	0.50	<0.50	<0.50	<0.50	---	---	<0.50	---	<0.50	<0.50
Carbon tetrachloride	µg/L	0.20	0.20	---	0.20	0.20	---	---	0.20	0.20	<0.20	<0.20	<0.20	---	---	<0.20	---	<0.20	<0.20
Chlorobenzene	µg/L	0.50	0.50	---	0.50	0.50	---	---	0.50	0.50	<0.50	<0.50	<0.50	---	---	<0.50	---	<0.50	<0.50
Chloroform	µg/L	0.50	0.50	---	0.50	0.50	---	---	0.50	0.50	<0.50	<0.50	<0.50	---	---	<0.50	---	<0.50	<0.50
Dibromochloromethane	µg/L	0.50	0.50	---	0.50	0.50	---	---	0.50	0.50	<0.50	<0.50	<0.50	---	---	<0.50	---	<0.50	<0.50
Dibromoethane, 1,2-	µg/L	0.20	0.20	---	0.20	0.20	---	---	0.20	0.20	<0.20	<0.20	<0.20	---	---	<0.20	---	<0.20	<0.20
Dichlorobenzene, 1,2-	µg/L	0.50	0.50	---	0.50	0.50	---	---	0.50	0.50	<0.50	<0.50	<0.50	---	---	<0.50	---	<0.50	<0.50
Dichlorobenzene, 1,3-	µg/L	0.50	0.50	---	0.50	0.50	---	---	0.50	0.50	<0.50	<0.50	<0.50	---	---	<0.50	---	<0.50	<0.50
Dichlorobenzene, 1,4-	µg/L	0.50	0.50	---	0.50	0.50	---	---	0.50	0.50	<0.50	<0.50	<0.50	---	---	<0.50	---	<0.50	<0.50
Dichlorodifluoromethane	µg/L	0.50	0.50	---	0.50	0.50	---	---	0.50	0.50	<0.50	<0.50	<0.50	---	---	<0.50	---	<0.50	<0.50
Dichloroethane, 1,1-	µg/L	0.50	0.50	---	0.50	0.50	---	---	0.50	0.50	<0.50	<0.50	<0.50	---	---	<0.50	---	<0.50	<0.50
Dichloroethane, 1,2-	µg/L	0.50	0.50	---	0.50	0.50	---	---	0.50	0.50	<0.50	<0.50	<0.50	---	---	<0.50	---	<0.50	<0.50
Dichloroethylene, 1,1-	µg/L	0.50	0.50	---	0.50	0.50	---	---	0.50	0.50	<0.50	<0.50	<0.50	---	---	<0.50	---	<0.50	<0.50
Dichloroethylene, cis-1,2-	µg/L	0.50	0.50	---	0.50	0.50	---	---	0.50	0.50	<0.50	<0.50	<0.50	---	---	<0.50	---	<0.50	<0.50
Dichloroethylene, trans-1,2-	µg/L	0.50	0.50	---	0.50	0.50	---	---	0.50	0.50	<0.50	<0.50	<0.50	---	---	<0.50	---	<0.50	<0.50
Dichloromethane	µg/L	1.0	1.0	---	1.0	1.0	---	---	1.0	1.0	<1.0	<1.0	<1.0	---	---	<1.0	---	<1.0	<1.0
Dichloropropane, 1,2-	µg/L	0.50	0.50	---	0.50	0.50	---	---	0.50	0.50	<0.50	<0.50	<0.50	---	---	<0.50	---	<0.50	<0.50
Dichloropropylene, cis+trans-1,3-	µg/L	0.50	0.50	---	0.50	0.50	---	---	0.50	0.50	<0.50	<0.50	<0.50	---	---	<0.50	---	<0.50	<0.50
Dichloropropylene, cis-1,3-	µg/L	0.30	0.30	---	0.30	0.30	---	---	0.30	0.30	<0.30	<0.30	<0.30	---	---	<0.30	---	<0.30	<0.30
Dichloropropylene, trans-1,3-	µg/L	0.30	0.30	---	0.30	0.30	---	---	0.30	0.30	<0.30	<0.30	<0.30	---	---	<0.30	---	<0.30	<0.30
Ethylbenzene	µg/L	0.50	0.50	---	0.50	0.50	---	---	0.50	0.50	<0.50	<0.50	<0.50	---	---	<0.50	---	<0.50	<0.50
Hexane, n-	µg/L	0.50	0.50	---	0.50	0.50	---	---	0.50	0.50	<0.50	<0.50	<0.50	---	---	<0.50	---	<0.50	<0.50
Methyl ethyl ketone [MEK]	µg/L	20	20	---	20	20	---	---	20	20	<20	<20	<20	---	---	<20	---	<20	<20
Methyl isobutyl ketone [MIBK]	µg/L	20	20	---	20	20	---	---	20	20	<20	<20	<20	---	---	<20	---	<20	<20
Methyl-tert-butyl ether [MTBE]	µg/L	0.50	0.50	---	0.50	0.50	---	---	0.50	0.50	<0.50	<0.50	<0.50	---	---	<0.50	---	<0.50	<0.50
Styrene	µg/L	0.50	0.50	---	0.50	0.50	---	---	0.50	0.50	<0.50	<0.50	<0.50	---	---	<0.50	---	<0.50	<0.50
Tetrachloroethane, 1,1,1,2-	µg/L	0.50	0.50	---	0.50	0.50	---	---	0.50	0.50	<0.50	<0.50	<0.50	---	---	<0.50	---	<0.50	<0.50
Tetrachloroethane, 1,1,2,2-	µg/L	0.50	0.50	---	0.50	0.50	---	---	0.50	0.50	<0.50	<0.50	<0.50	---	---	<0.50	---	<0.50	<0.50
Tetrachloroethylene	µg/L	0.50	0.50	---	0.50	0.50	---	---	0.50	0.50	<0.50	<0.50	<0.50	---	---	<0.50	---	<0.50	<0.50
Toluene	µg/L	0.50	0.50	---	0.50	0.50	---	---	0.50	0.50	<0.50	<0.50	<0.50	---	---	<0.50	---	<0.50	<0.50
Trichloroethane, 1,1,1-	µg/L	0.50	0.50	---	0.50	0.50	---	---	0.50	0.50	<0.50	<0.50	<0.50	---	---	<0.50	---	<0.50	<0.50
Trichloroethane, 1,1,2-	µg/L	0.50	0.50	---	0.50	0.50	---	---	0.50	0.50	<0.50	<0.50	<0.50	---	---	<0.50	---	<0.50	<0.50
Trichloroethylene	µg/L	0.50	0.50	---	0.50	0.50	---	---	0.50	0.50	<0.50	<0.50	<0.50	---	---	<0.50	---	<0.50	<0.50
Trichlorofluoromethane	µg/L	0.50	0.50	---	0.50	0.50	---	---	0.50	0.50	<0.50	<0.50	<0.50	---	---	<0.50	---	<0.50	<0.50
Vinyl chloride	µg/L	0.50	0.50	---	0.50	0.50	---	---	0.50	0.50	<0.50	<0.50	<0.50	---	---	<0.50	---	<0.50	<0.50
Xylene, m+p-	µg/L	0.40	0.40	---	0.40	0.40	---	---	0.40	0.40	<0.40	<0.40	<0.40	---	---	<0.40	---	<0.40	<0.40
Xylene, o-	µg/L	0.30	0.30	---	0.30	0.30	---	---	0.30	0.30	<0.30	<0.30	<0.30	---	---	<0.30	---	<0.30	<0.30
Xylenes, total	µg/L	0.50	0.50	---	0.50	0.50	---	---	0.50	0.50	<0.50	<0.50	<0.50	---	---	<0.50	---	<0.50	<0.50
BTEX, total	µg/L	1.0	1.0	---	1.0	1.0	---	---	1.0	1.0	<1.0	<1.0	<1.0	---	---	<1.0	---	<1.0	<1.0
Hydrocarbons																			
F1 (C6-C10)	µg/L	25	25	---	25	25	---	100	25	25	<25	<25	<25	---	<100	<25	---	<25	<25
F2 (C10-C16)	µg/L	100	100	100	100	100	100	250	100	100	<100	<100	<100	<100	<250	<100	<100	<100	<100

Parameter	Unit	Lowest Detection Limit									SB-SS-RINSE-02[B]	SB-SS-RINSE-03[C]	SB-SS-RINSE-04[I]	SB-SS-RINSE-05[C]	SB-SS-RINSE-06[D]	SB-SS-RINSE-07[D]	SB-SS-RINSE-08[F]	SB-SS-RINSE-09[H]	SB-SS-RINSE-10[A]
		RDL A	RDL B	RDL C	RDL D	RDL E	RDL F	RDL G	RDL H	RDL I	15-Aug-23	16-Aug-23	18-Aug-23	19-Aug-23	30-Aug-23	28-Aug-23	29-Aug-23	17-Aug-23	14-Aug-23
F3 (C16-C34)	µg/L	250	250	250	250	250	250	250	250	250	4740	<250	<250	<250	<250	<250	<250	<250	<250
F4 (C34-C50)	µg/L	250	250	250	250	250	250	---	250	250	13100	<250	<250	<250	---	<250	<250	<250	<250
F1-BTEX	µg/L	25	25	400	25	25	---	---	25	25	<25	<25	<25	<400	---	<25	---	<25	<25
Hydrocarbons, total (C6-C50)	µg/L	370	370	350	370	370	---	---	370	370	17800	<370	<370	<350	---	<370	---	<370	<370
Polycyclic Aromatic Hydrocarbons																			
Acenaphthene	µg/L	0.010	0.042	0.010	0.010	0.010	0.010	0.010	0.010	0.010	<0.042	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Acenaphthylene	µg/L	0.010	0.042	0.010	0.010	0.010	0.010	0.010	0.010	0.010	<0.042	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Anthracene	µg/L	0.010	0.042	0.010	0.010	0.010	0.010	0.010	0.010	0.010	<0.042	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Benz(a)anthracene	µg/L	0.010	0.074	0.010	0.010	0.010	0.010	0.010	0.010	0.010	<0.074	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Benzo(a)pyrene	µg/L	0.0050	0.0421	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.298	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Benzo(b+j)fluoranthene	µg/L	0.010	0.365	0.010	0.010	0.010	0.010	0.010	0.010	0.010	<0.365	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Benzo(g,h,i)perylene	µg/L	0.010	0.042	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.628	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Benzo(k)fluoranthene	µg/L	0.010	0.086	0.010	0.010	0.010	0.010	0.010	0.010	0.010	<0.086	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Chrysene	µg/L	0.010	0.141	0.010	0.010	0.010	0.010	0.010	0.010	0.010	<0.141	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Dibenz(a,h)anthracene	µg/L	0.0050	0.138	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	<0.138	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Fluoranthene	µg/L	0.010	0.131	0.010	0.010	0.010	0.010	0.010	0.010	0.010	<0.131	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Fluorene	µg/L	0.010	0.042	0.010	0.010	0.010	0.010	0.010	0.010	0.010	<0.042	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Indeno(1,2,3-c,d)pyrene	µg/L	0.010	0.042	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.260	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Methylnaphthalene, 1+2-	µg/L	0.015	0.128	0.015	0.015	0.015	0.015	0.015	0.015	0.015	<0.128	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Methylnaphthalene, 1-	µg/L	0.010	0.078	0.010	0.010	0.010	0.010	0.010	0.010	0.010	<0.078	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Methylnaphthalene, 2-	µg/L	0.010	0.101	0.010	0.010	0.010	0.010	0.010	0.010	0.010	<0.101	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Naphthalene	µg/L	0.050	0.425	0.050	0.050	0.050	0.050	0.050	0.050	0.050	<0.425	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Phenanthrene	µg/L	0.020	0.042	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.061	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Pyrene	µg/L	0.010	0.042	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.315	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Phthalate Esters																			
Diethyl phthalate	µg/L	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Dimethyl phthalate	µg/L	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
bis(2-Ethylhexyl) phthalate [DEHP]	µg/L	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Semi-volatile Organic Compounds																			
Biphenyl	µg/L	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	<0.40
Chloroaniline, 4-	µg/L	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	<0.40
Dichlorobenzidine, 3,3'-	µg/L	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	<0.40
Dinitrotoluene, 2,4-	µg/L	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	<0.40
Dinitrotoluene, 2,6-	µg/L	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	<0.40
Trichlorobenzene, 1,2,4-	µg/L	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	<0.40
bis(2-Chloro-1-methylethyl) ether	µg/L	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	<0.40
bis(2-Chloroethyl) ether	µg/L	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	<0.40
Dinitrotoluene, 2,4 + 2,6-	µg/L	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	<0.60	<0.60	<0.60	<0.60	<0.60	<0.60	<0.60	<0.60	<0.60
Phenolics																			
Chlorophenol, 2-	µg/L	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Dichlorophenol, 2,4-	µg/L	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Pentachlorophenol [PCP]	µg/L	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Trichlorophenol, 2,4,5-	µg/L	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Trichlorophenol, 2,4,6-	µg/L	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Dimethylphenol, 2,4-	µg/L	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dinitrophenol, 2,4-	µg/L	1.0	1.0	1.0	1.0	1.0	1.0	2.0	1.0	1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
Phenol	µg/L	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.93	0.86	0.68	0.74	0.80	0.76	0.86	0.84	0.63
Polychlorinated Biphenyls																			
Aroclor 1016	µg/L	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.021	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.021	<0.020
Aroclor 1221	µg/L	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.021	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.021	<0.020
Aroclor 1232	µg/L	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.021	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.021	<0.020
Aroclor 1242	µg/L	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.021	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.021	<0.020
Aroclor 1248	µg/L	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.021	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.021	<0.020
Aroclor 1254	µg/L	0.020	0.020	0.020	0.020	0.020	0.040	0.020	0.021	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.040	<0.021	<0.020
Aroclor 1260	µg/L	0.020	0.020	0.020	0.020	0.020	0.060	0.020	0.021	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.060	<0.021	<0.020
Aroclor 1262	µg/L	0.020	0.020	0.020	0.020	0.020	0.060	0.020	0.021	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.060	<0.021	<0.020
Aroclor 1268	µg/L	0.020	0.020	0.020	0.020	0.020	0.060	0.020	0.021	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.060	<0.021	<0.020
Polychlorinated biphenyls [PCBs], total	µg/L	0.060	0.060	0.060	0.060	0.060	0.120	0.060	0.063	0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.120	<0.063	<0.060
Organochlorine Pesticides																			
Aldrin	µg/L	0.0080	0.0080	0.0080	0.0080	0.0080	0.0080	0.0080	0.0080	0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080
Chlordane, cis- (alpha)	µg/L	0.0080	0.0080	0.0080	0.0080	0.0080	0.0080	0.0080	0.0080	0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080
Chlordane, total	µg/L	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011
Chlordane, trans- (gamma)	µg/L	0.0080	0.0080	0.0080	0.0080	0.0080	0.0080	0.0080	0.0080	0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080
DDD, 2,4'-	µg/L	0.0050	0.0050	0.0040	0.0040	0.0042	0.0042	0.0040	0.0042	0.0040	<0.0050	<0.0042	<0.0040	<0.0040	<0.0040	<0.0040	<0.0042	<0.0042	<0.0050
DDD, 4,4'-	µg/L	0.0050	0.0050	0.0040	0.0040	0.0042	0.0042	0.0040	0.0042	0.0040	<0.0050	<0.0042	<0.0040	<0.0040	<0.0040	<0.0040	<0.0042	<0.0042	<0.0050
DDD, total	µg/L	0.0071	0.0071	0.0060	0.0060	0.0060	0.0060	0.0060	0.0060	0.0060	<0.0071	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0071
DDE, 2,4'-	µg/L	0.0050	0.0050	0.0040	0.0040	0.0042	0.0042	0.0040	0.0042	0.0040	<0.0050	<0.0042	<0.0040	<0.0040	<0.0040	<0.0040	<0.0042	<0.0042	<0.0050
DDE, 4,4'-	µg/L	0.0050	0.0050	0.0040	0.0040	0.0042	0.0042	0.0040	0.0042	0.0040	<0.0050	<0.0042	<0.0040	<0.0040	<0.0040	<0.0040	<0.0042	<0.0042	<0.0050
DDE, total	µg/L	0.0071	0.0071	0.0060	0.0060	0.0060	0.0060	0.0060	0.0060	0.0060	<0.0071	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0071
DDT, 2,4'-	µg/L	0.0050	0.0050	0.0040	0.0040	0.0042	0.0042	0.0040	0.0042	0.0040	<0.0050	<0.0042	<0.0040	<0.0040	<0.0040	<0.0040	<0.0042	<0.0042	<0.0050
DDT, 4,4'-	µg/L	0.0050	0.0050	0.0040	0.0040	0.0042	0.0042	0.0040	0.0042	0.0040	<0.0050	<0.0042	<0.0040	<0.0040	<0.0040	<0.0040	<0.0042	<0.0042	<0.0050
DDT, total	µg/L	0.0071	0.0071	0.0060	0.0060	0.0060	0.0060	0.0060	0.0060	0.0060	<0.0071	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0071
Dieldrin	µg/L	0.0080	0.0080	0.0080	0.0080	0.0080	0.0080	0.0080	0.0080	0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080
Endosulfan, alpha-	µg/L	0.0070	0.0070	0.0070	0.0070	0.0070	0.0070	0.0070	0.0070	0.0070	<0.0070	<0.0070	<0.0070	<0.0070	<0.0070	<0.0070	<0.0070	<0.0070	<0.0070
Endosulfan, beta-	µg/L	0.0070	0.0070	0.0070	0.0070	0.0070	0.0070	0.0070	0.0070	0.0070	<0.0070	<0.0070	<0.0070	<0.0070	<0.0070	<0.0070	<0.0070	<0.0070	<0.0070
Endosulfan, total	µg/L	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	<0.010
Endrin	µg/L	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	<0.010
Heptachlor	µg/L	0.0080	0.0080	0.0080	0.0080	0.0080	0.0080	0.0080	0.0080	0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080
Heptachlor epoxide	µg/L	0.0080	0.0080	0.0080	0.0080	0.0080	0.0080	0.0080	0.0080	0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080
Hexachlorobenzene	µg/L	0.0080	0.0080	0.0080	0.0080	0.0080	0.0080	0.0080	0.0080	0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080
Hexachlorobutadiene	µg/L	0.0080	0.0080	0.0080	0.0080	0.0080	0.0080	0.0080	0.0080	0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080
Hexachlorocyclohexane, gamma-	µg/L	0.0080	0.0080	0.0080	0.0080	0.0080	0.0080	0.0080	0.0080	0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080

Parameter	Unit	Lowest Detection Limit									SB-SS-RINSE-02[B]	SB-SS-RINSE-03[C]	SB-SS-RINSE-04[I]	SB-SS-RINSE-05[C]	SB-SS-RINSE-06[D]	SB-SS-RINSE-07[D]	SB-SS-RINSE-08[F]	SB-SS-RINSE-09[H]	SB-SS-RINSE-10[A]
		RDL A	RDL B	RDL C	RDL D	RDL E	RDL F	RDL G	RDL H	RDL I	15-Aug-23	16-Aug-23	18-Aug-23	19-Aug-23	30-Aug-23	28-Aug-23	29-Aug-23	17-Aug-23	14-Aug-23
Hexachloroethane	µg/L	0.0080	0.0080	0.0080	0.0080	0.0080	0.0080	0.0080	0.0080	0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080
Methoxychlor	µg/L	0.0080	0.0080	0.0080	0.0080	0.0080	0.0080	0.0080	0.0080	0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080
Radiological Parameters																			
Cesium-137	Bq/L	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	<0.370	<0.370	<0.370	<0.370	<0.370	<0.37	<0.370	<0.370	<0.370
Cobalt-60	Bq/L	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	<0.370	<0.370	<0.370	<0.370	<0.370	<0.37	<0.370	<0.370	<0.370
Gross alpha	Bq/L	0.111	0.111	0.111	0.111	0.111	0.111	0.111	0.111	0.111	<0.111	<0.111	0.0638	0.0833	<0.111	<0.111	<0.111	<0.111	<0.111
Gross beta	Bq/L	0.148	0.148	0.148	0.148	0.148	0.148	0.148	0.148	0.148	<0.148	<0.148	0.0930	<0.148	<0.148	<0.148	<0.148	<0.148	0.126
Ruthenium-106	Bq/L	3	3	3	3	3	3	3	3	3	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00
Selenium-79	Bq/L	1.85	1.85	---	---	1.85	---	---	1.85	---	<1.85	<1.85	---	---	---	---	---	<1.85	<1.85
Carbon-14	Bq/L	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	<18.5	<18.5	<18.5	<18.5	<18.5	<18.5	<18.5	<18.5	<18.5
Chlorine-36	Bq/L	0.37	0.37	---	---	0.37	---	---	0.37	---	<0.370	<0.370	---	---	---	---	---	<0.370	<0.370
Neptunium-237	Bq/L	0.0037	0.0037	---	---	0.0037	---	---	0.0037	---	<0.00370	<0.00370	---	---	---	---	---	<0.00370	<0.00370
Plutonium-238	Bq/L	0.0037	0.0037	---	---	0.0037	---	---	0.0037	---	<0.00370	<0.00370	---	---	---	---	---	<0.00370	<0.00370
Plutonium-239	Bq/L	0.0037	0.0037	---	---	0.0037	---	---	0.0037	---	<0.00370	<0.00370	---	---	---	---	---	<0.00370	<0.00370
Strontium-90	Bq/L	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	<0.0370	<0.0370	<0.0370	<0.0370	<0.0370	<0.0370	<0.0370	<0.0370	<0.0370
Tritium	Bq/L	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8	<14.8	<14.8	<14.8	<14.8	<14.8	<14.8	<14.8	<14.8	<14.8
Uranium-238	Bq/L	0.0074	0.0074	0.0074	0.0074	0.0074	0.0074	0.0074	0.0074	0.0074	<0.00740	<0.00740	<0.00740	<0.00740	<0.00740	<0.00740	<0.00740	<0.00740	<0.00740
Uranium-235	Bq/L	0.0074	0.0074	0.0074	0.0074	0.0074	0.0074	0.0074	0.0074	0.0074	<0.00740	<0.00740	<0.00740	<0.00740	<0.00740	<0.00740	<0.00740	<0.00740	<0.00740
Uranium-234	Bq/L	0.0074	0.0074	0.0074	0.0074	0.0074	0.0074	0.0074	0.0074	0.0074	<0.00740	<0.00740	<0.00740	<0.00740	<0.00740	<0.00740	<0.00740	<0.00740	<0.00740
Potassium-40	Bq/L	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	<7.10	<7.10	<7.10	<7.10	<7.10	<7.10	<7.10	<7.10	<7.10
Thorium-232	Bq/L	0.0074	0.0074	0.0074	0.0074	0.0074	0.0074	0.0074	0.0074	0.0074	<0.00740	<0.00740	<0.00740	<0.00740	<0.00740	<0.00740	<0.00740	<0.00740	<0.00740
Thorium-230	Bq/L	0.0074	0.0074	0.0074	0.0074	0.0074	0.0074	0.0074	0.0074	0.0074	0.00525	<0.00740	0.00364	0.00470	<0.00740	<0.00740	<0.00740	<0.00740	0.00549
Thorium-228	Bq/L	0.0074	0.0074	0.0074	0.0074	0.0074	0.0074	0.0074	0.0074	0.0074	<0.00740	<0.00740	<0.00740	<0.00740	<0.00740	<0.00740	<0.00740	<0.00740	<0.00740
Radium-226	Bq/L	0.037	0.037	0.037	0.01	0.037	0.037	0.037	0.037	0.037	0.0139	<0.0370	<0.0370	0.0199	<0.0370	<0.0370	<0.0370	0.0239	0.0133

pg/L = picogram per litre
Bq/L = Becquerel per litre.
µg/L = micrograms per litre
mS/cm = MilliSiemens per centimetre
mg/L = milligram per litre
--- not sampled or not provided by the laboratory