

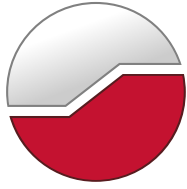


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**Hydrology Baseline Report
New Found Gold Corporation
Queensway North Gold Project
Appleton, NL**

GEMTEC Project: 1100424.003 - R2



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Submitted to:

New Found Gold Corp.
300 Garrett Drive
Gander, Newfoundland
A1V 0H5

**Hydrology Baseline Report
New Found Gold Corporation
Queensway North Gold Project
Appleton, NL**

July 18, 2023

GEMTEC Project: 100424.003 - R2

GEMTEC Consulting Engineers and Scientists Limited
19 Dundee Avenue
Mount Pearl, NL, Canada
A1N 4R6

July 18, 2023

File: 100424.003 - R2

New Found Gold Corp.
300 Garrett Drive
Gander, Newfoundland
A1V 0H5

Attention: Mr. Ron Hampton, Chief Development Officer

Re: Hydrology Baseline Report, New Found Gold Corp.'s Queensway North Gold Project, Appleton, NL

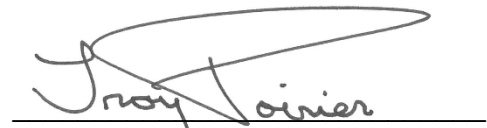
Please find enclosed the Hydrology Baseline Report in support of New Found Gold Corp.'s proposed Gold Mine Project, located near Appleton, Newfoundland and Labrador. GEMTEC Consulting Engineers and Scientists Limited was retained by New Found Gold to conduct environmental baseline studies and associated reporting for the Project. The field components relative to these studies were conducted in 2021, 2022 and will continue in 2023.

Please do not hesitate to contact the undersigned if you have any questions regarding this draft report.

Sincerely,



Darrol Rice, B. Tech. (Env.), P.Tech., EP, PMP
NL Office Manager & Senior Project Manager
GEMTEC Consulting Engineers and Scientists Limited



Troy Poirier, P.Eng.
Senior Hydrologist

Enclosures
Hydrology Baseline Report

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1.0 INTRODUCTION

1.1 Background

GEMTEC Consulting Engineers and Scientists Limited (GEMTEC) was retained by New Found Gold Corp. (NFG) to conduct a hydrology (including surface water and sediment quality) baseline study in support of the Queensway North Property located near the town of Appleton, Newfoundland and Labrador (NL), approximately 10 kilometres (km) west of Gander, NL (Figure 1-1).

The hydrology baseline study examined climate characteristics, hydrological conditions, surface water flow and surface water and sediment quality within two Project study areas, as indicated in Figure 1-2. This report describes the baseline conditions that will both inform Project development and a Project Registration document that will be submitted to the Environmental Assessment Division of the NL Department of Municipal Affairs and Environment. This report provides a summary of information gathered during field programs completed in 2021 and 2022 for this hydrology baseline study.

1.2 Local Water Bodies

The Project area is bounded to the south by Gander Lake and bounded to the west and north by Gander River. Gander River flows northwest and discharges to the ocean. The Project watershed is roughly divided by the Trans-Canada Highway (Highway 1). Streams on the southern side of the highway flow to Gander Lake or west to Gander River, while streams on northern side of the highway flow north to Gander River. There are many ponds in the Project area; the largest being Joe Batts Pond, which has a 151.7 ha catchment area.

1.3 Scope of Work

The objective of the hydrology baseline study was to characterize the existing climate, hydrology, and surface water quality in the Project area. The scope of the study included the following:

- collection, review and analysis of publicly available climate and hydrological data;
- completion of a seasonal baseline hydrology and surface water and sediment quality field programs;
- analysis of baseline hydrologic conditions;
- analysis of surface water quality chemistry and regulatory exceedances; and,
- preparation of this baseline report.

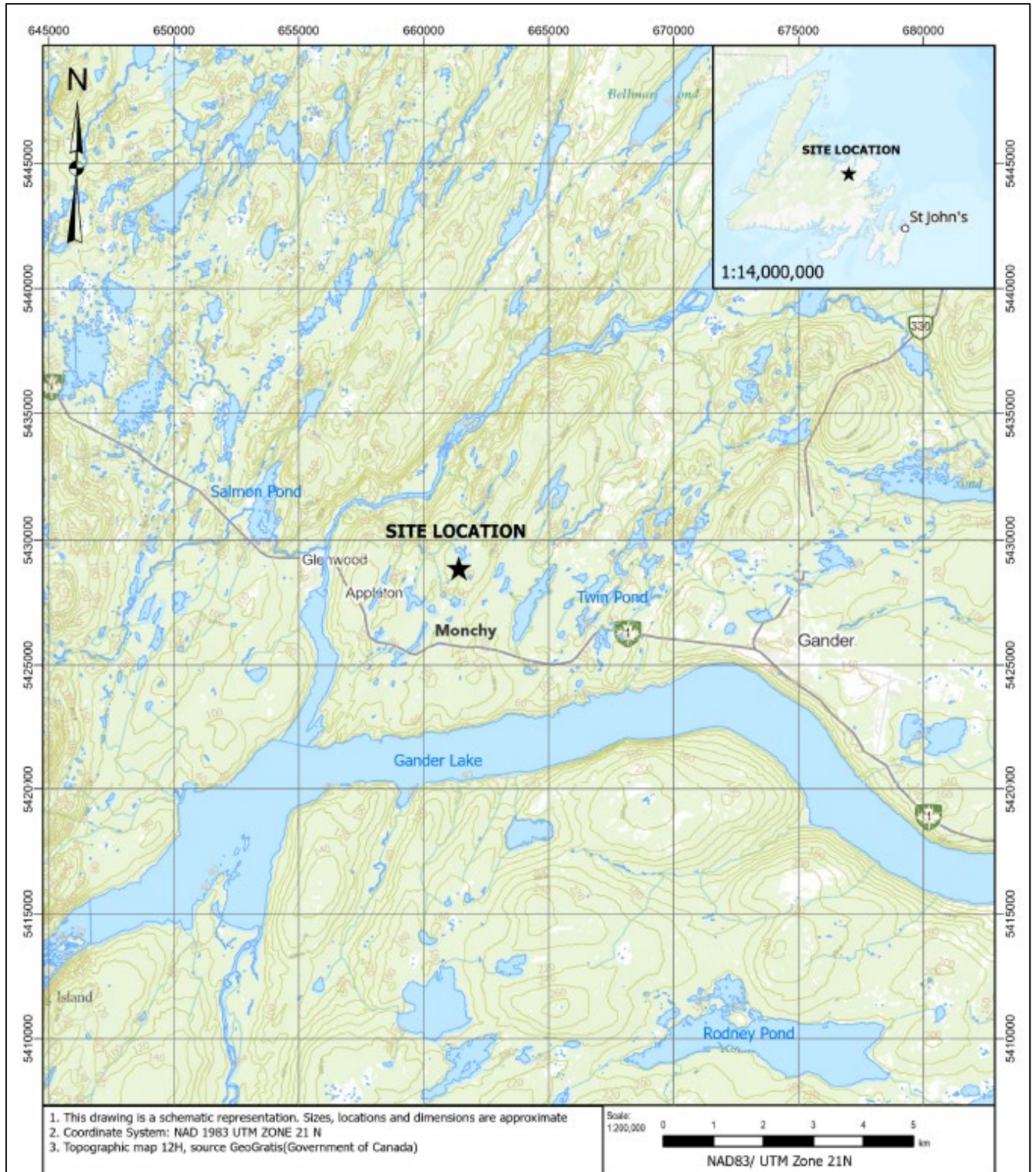


Figure 1-1: Project Location

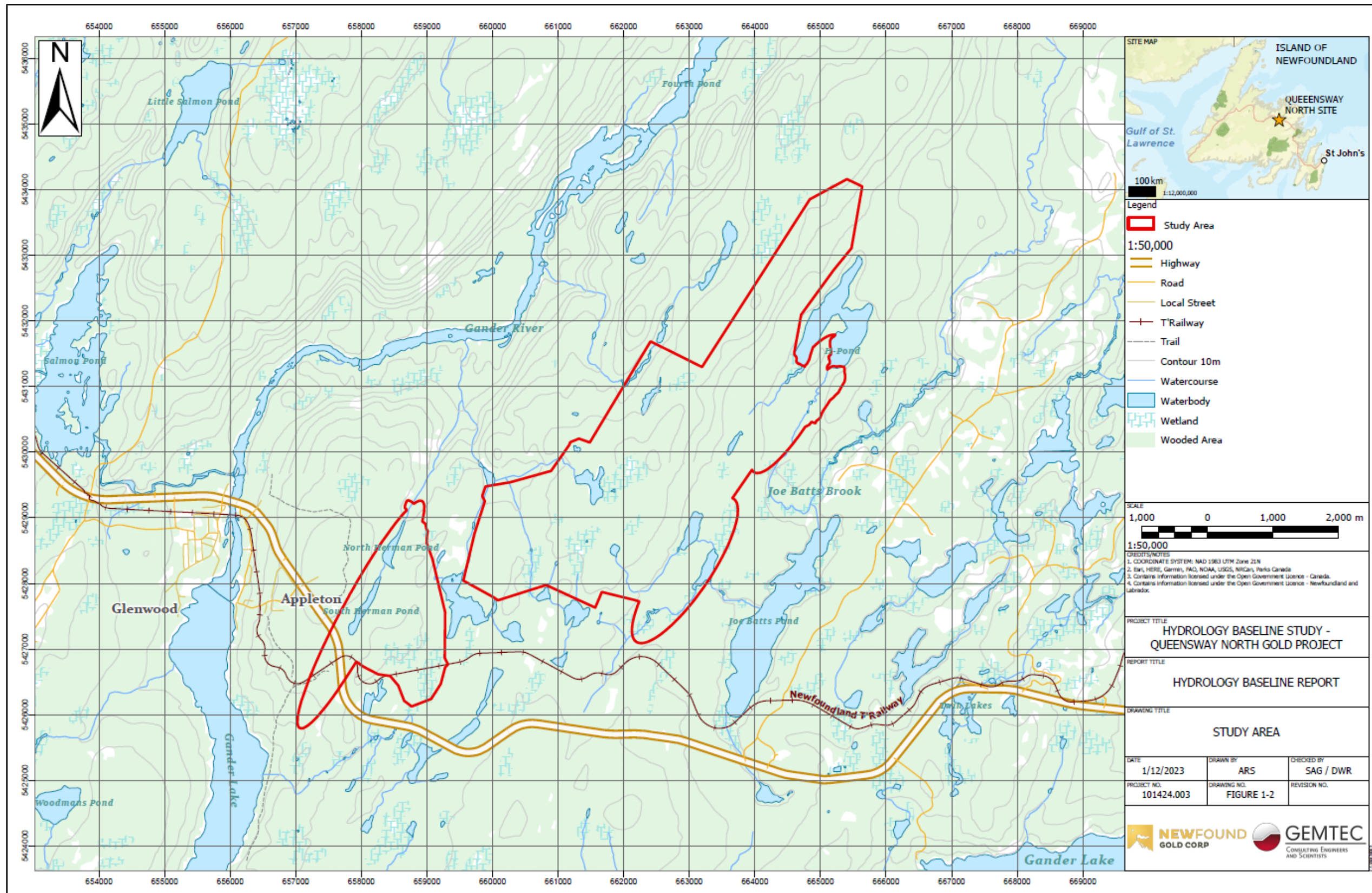


Figure 1-2: Project Study Areas

2.0 HYDROLOGY DESKTOP ASSESSMENT

2.1 Climate and Hydrological Data Sources

The desktop assessment used long-term regional climate and hydrology records to characterize local climate and hydrology conditions in the Project area. The primary sources of regional climate and hydrological data sets are listed below.

- Historical weather and Canadian Climate Normals data available through Environment and Climate Change Canada (EC, 2019a). This includes detailed records of historical weather, and climate data, including temperature, precipitation, and monthly summaries and Climate Normals for various meteorological stations in the region.
- Hydrometric data available through Environment and Climate Change Canada (wateroffice.ec.gc.ca) for a number of streamflow gauging stations in the region. The hydrometric data includes historical and real-time water level and flow data.
- Water Resources Atlas of Newfoundland (NLDMAE, 1992). This provides mean annual estimates of various climatic parameters, including temperature, precipitation, runoff, evaporation, etc. Although this is an old publication, and is based on datasets obtained pre-1990, it is considered to provide reasonable estimates of various climatic parameters for the purposes of this study.

2.2 Climate Normals

The Project site is located approximately 10 km to the west of Gander, NL. This area has a cool to cold humid continental climate (en.wikipedia.org). It combines moderately warm and rainy summers with cold and very snowy winters. Due to the maritime influence from the Atlantic Ocean, seasonal changes are slightly less pronounced than in Canada's interior, but still substantial given its near-coastal position.

Climate normals were used to summarize average climatic conditions of the study area. The 1981-2010 climate normals data for the Gander International Airport (Station ID: 8401700) are presented in Figure 2-1 and Table 2-1. Average monthly precipitation at the Project site ranges from 88.3 mm to 114.8 mm between May to October and between 94.8 mm to 126.7 mm during November to April. Monthly average snowfall ranges from 37.3 cm to 95.8 cm between November to April (typical winter conditions). The normals data shows average annual precipitation (rainfall + snowfall) to be 1270.2 mm.

The annual average temperature at the Project site is 4.2°C, while average monthly temperatures for November to April range from -7.1°C to 1.6°C, and from 6.3°C to 16.3°C for May to October.

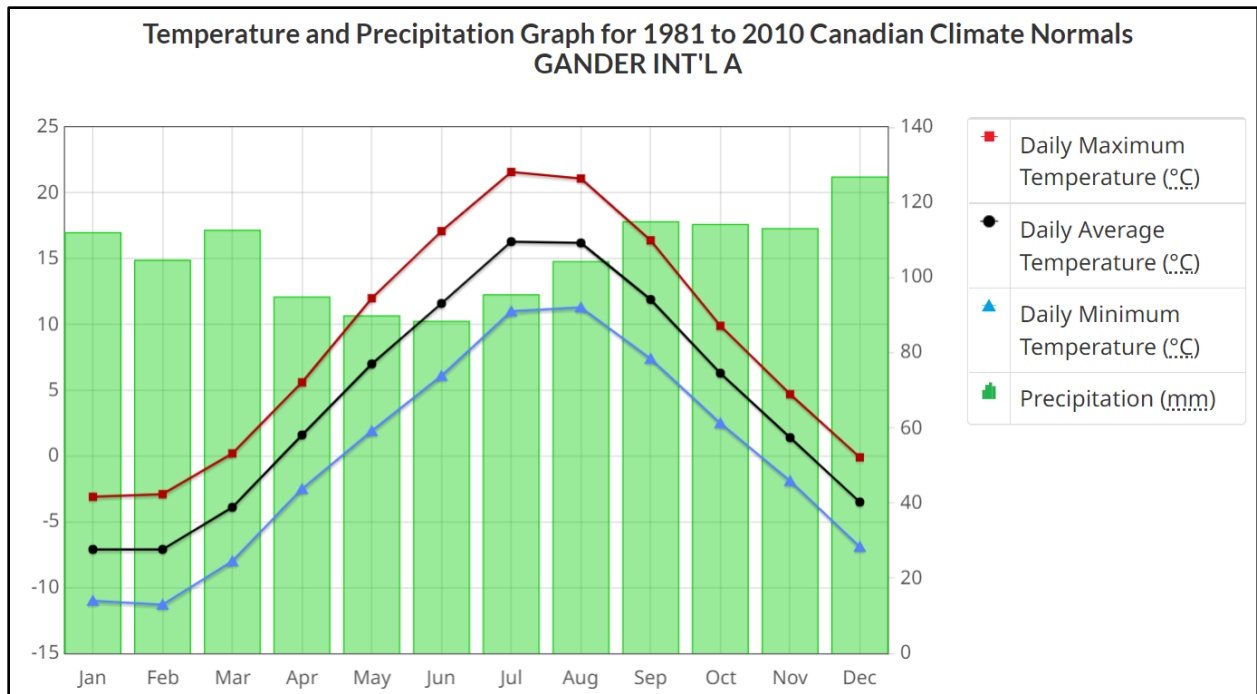


Figure 2-1: Climate Normals for Gander International Airport (ID8401700) 1981-2010

Table 2-1 Climate Normals - Gander International Airport – 1981-2010

| Parameters | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Year |
|--------------------|-------|-------|-------|------|------|------|------|-------|-------|-------|------|-------|--------|
| Daily Avg. (°C) | -7.1 | -7.1 | -3.9 | 1.6 | 7 | 11.6 | 16.3 | 16.2 | 11.9 | 6.3 | 1.4 | -3.5 | 4.2 |
| Daily Max. (°C) | -3.1 | -2.9 | 0.2 | 5.6 | 12 | 17.1 | 21.6 | 21.1 | 16.4 | 9.9 | 4.7 | -0.1 | 8.6 |
| Daily Min. (°C) | -11 | -11.3 | -8 | -2.5 | 1.9 | 6.1 | 11 | 11.3 | 7.4 | 2.5 | -1.9 | -6.9 | -0.1 |
| Rainfall (mm) | 26.7 | 26.4 | 29.5 | 51 | 77.9 | 85.7 | 95.4 | 104.2 | 114.7 | 102.3 | 75.2 | 48.9 | 837.8 |
| Snowfall (cm) | 95.8 | 84.3 | 85.9 | 42.2 | 10.7 | 2 | 0 | 0 | 0 | 11.2 | 37.3 | 82.4 | 451.9 |
| Precipitation (mm) | 111.9 | 104.6 | 112.6 | 94.8 | 89.8 | 88.3 | 95.4 | 104.2 | 114.8 | 114.1 | 113 | 126.7 | 1270.2 |

2.3 Intensity-Duration-Frequency Curves

Rainfall intensity is also important for Project design and engineering (i.e., culvert design). Storm events of various return periods are often characterized by Intensity-Duration-Frequency (IDF) curves. With IDF defined rainfall intensities, stormwater management for the Project can be properly designed to withstand extreme storm events. For this study, IDF statistics were also obtained for the Gander International Airport climate station data and are presented in Figure 2-2.



Figure 2-3: Location of Nearby Hydrometric Stations

Ten years of historical flow data were analysed for all hydrometric stations and monthly runoff depth (mm) was calculated, as summarized in Table 2-3. Flow data of 2011-2020 were analysed for the four active stations, while flow data of 02YQ003 was analysed for the period of 2001-2010.

Hydrometric station data was also analysed for the years 2021 and 2022 for comparison to field measurements (discussed in Section 3). Tables 2-4a and 2-4b present summaries of monthly runoff depth in 2021 (4 hydrometric active stations) and 2022 (3 hydrometric stations; 02YQ005 was discontinued), respectively. Figure 2-4 depicts the averaged monthly runoff depth in 2021 and 2022, along with long-term historical data.

Table 2-3 Historical Monthly Runoff Depth (mm) of Hydrometric Stations

| Station | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Year |
|---------------------|--------------|--------------|--------------|--------------|--------------|-------------|-------------|--------------|--------------|--------------|-------------|--------------|---------------|
| 02YO012 | 63.1 | 56.5 | 71.5 | 149.2 | 122.6 | 53.8 | 31.6 | 23.4 | 38.4 | 65.5 | 83.3 | 68.0 | 826.9 |
| 02YQ001 | 54.3 | 57.2 | 64.1 | 142.9 | 140.8 | 61.7 | 44.5 | 28.4 | 45.7 | 62.3 | 89.6 | 84.9 | 876.4 |
| 02YQ003 | 78.9 | 58.6 | 55.4 | 80.6 | 102.0 | 80.3 | 65.2 | 42.2 | 32.5 | 47.6 | 60.3 | 80.0 | 783.7 |
| 02YQ005 | 75.0 | 65.6 | 89.9 | 220.3 | 152.7 | 53.2 | 31.9 | 34.8 | 48.2 | 85.3 | 99.7 | 82.6 | 1039.1 |
| 02YR001 | 60.9 | 53.5 | 62.4 | 124.6 | 128.9 | 59.5 | 39.8 | 22.5 | 35.8 | 51.9 | 77.7 | 71.3 | 789.1 |
| Average | 66.5 | 58.3 | 68.7 | 143.5 | 129.4 | 61.7 | 42.6 | 30.3 | 40.1 | 62.5 | 82.1 | 77.4 | 863.0 |
| Precip. (mm) | 111.9 | 104.6 | 112.6 | 94.8 | 89.8 | 88.3 | 95.4 | 104.2 | 114.8 | 114.1 | 113 | 126.7 | 1270.2 |

Table 2-4a Average Monthly Runoff Depth (mm) of Hydrometric Stations

| Station | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Year |
|---------------------|-------------|--------------|-------------|--------------|-------------|-------------|-------------|-------------|--------------|-------------|-------------|--------------|---------------|
| 02YO012 | 53.9 | 47.6 | 42.8 | 246.6 | 49.9 | 12.9 | 3.7 | 3.4 | 20.3 | 86.2 | 52.6 | 71.5 | 691.3 |
| 02YQ001 | 67.4 | 37.6 | 51.8 | 240.5 | 49.2 | 18.9 | 7.5 | 6.5 | 29.6 | 46.9 | 55.2 | 109.5 | 720.8 |
| 02YQ005 | 57.2 | 45.7 | 69.8 | 291.3 | 38.0 | 7.2 | 4.7 | 9.6 | 65.3 | 101.8 | 58.5 | 83.4 | 832.4 |
| 02YR001 | 72.6 | 48.1 | 77.8 | 235.1 | 64.0 | 19.9 | 7.7 | 2.9 | 3.5 | 14.2 | 44.3 | 104.4 | 694.5 |
| Average | 62.8 | 44.8 | 60.6 | 253.3 | 50.3 | 14.7 | 5.9 | 5.6 | 29.7 | 62.3 | 52.6 | 92.2 | 734.7 |
| Precip. (mm) | 73.4 | 139.5 | 79.6 | 124.1 | 29.3 | 30.4 | 46.3 | 52.0 | 131.5 | 91.6 | 87.1 | 126.6 | 1011.4 |

Table 2-4b Average Monthly Runoff Depth (mm) of Hydrometric Stations

| Station | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Year |
|---------------------|--------------|--------------|-------------|--------------|--------------|-------------|-------------|-------------|-------------|-------------|--------------|-------------|--------------|
| 02YO012 | 117.6 | 95.1 | 56.7 | 177.9 | 179.7 | 154.9 | 108.9 | 47.0 | 33.3 | 12.5 | 36.9 | 16.3 | 876.4 |
| 02YQ001 | 142.2 | 130.6 | 106.2 | 169.3 | 76.9 | 46.2 | 15.9 | 6.7 | 9.0 | 15.4 | 36.2 | 112.3 | 1039.1 |
| 02YR001 | 112.7 | 123.0 | 91.2 | 156.6 | 84.5 | 47.3 | 14.2 | 6.1 | 5.3 | 3.6 | 22.5 | 132.2 | 826.9 |
| Average | 124.2 | 116.3 | 84.7 | 167.9 | 113.7 | 82.8 | 46.4 | 19.9 | 15.9 | 10.5 | 31.9 | 87.0 | 914.1 |
| Precip. (mm) | 105.0 | 86.5 | 66.9 | 98.3 | 66.1 | 58.2 | 64.8 | 69.9 | 55.9 | 28.0 | 128.7 | 97.9 | 926.2 |

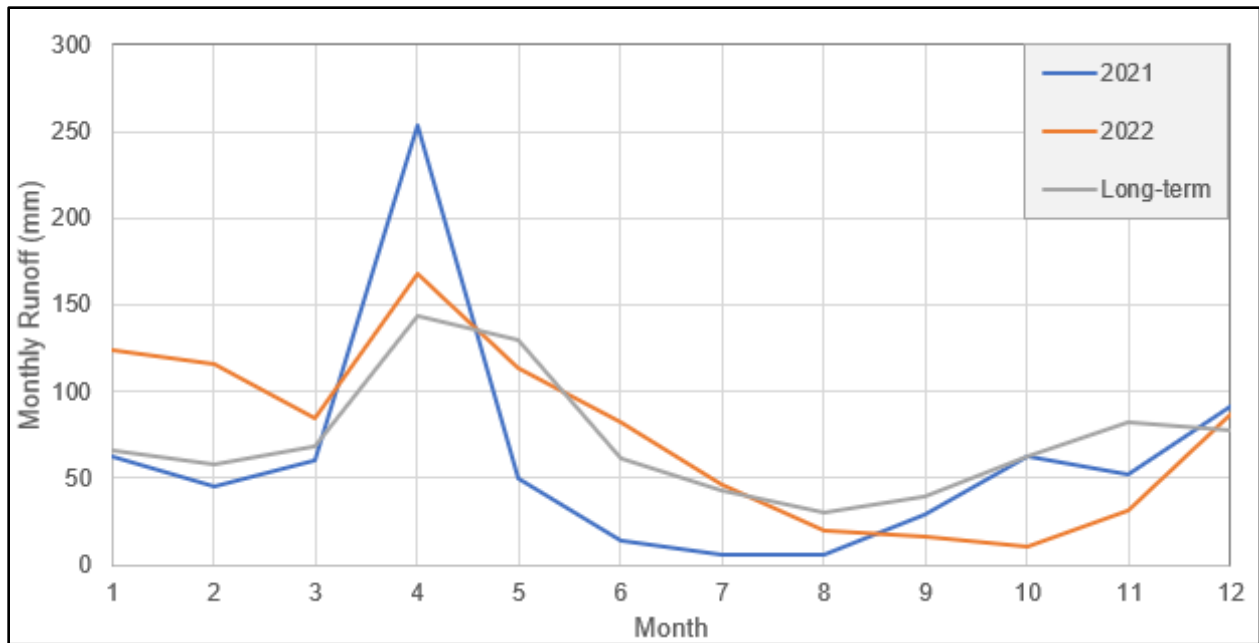


Figure 2-4: Average Monthly Runoff Depth for Nearby Hydrometric Stations.

The historical data in Table 2-3 and recent data in Tables 2-4a and 2-4b indicate the following:

Runoff is typically high during April and May, corresponding to the spring snowmelt period, with historical average depths of 143.5 mm and 129.4 mm, respectively. In 2021 the majority of this occurred in April (253.3 mm), while 2022 was consistent with historical trends.

July to September is the typically a dry period with low runoff depths. This was also reflected in the 2021 and 2022 data.

The historical average annual runoff depth is 863 mm, with 2021 and 2022 being slightly lower (734.7 mm) and higher (914.1 mm), respectively.

2.5 Runoff Coefficient

Runoff coefficient is a dimensionless value relating depth of runoff to depth of precipitation. Table 2-5 presents a summary of the runoff coefficients, and it shows the difference between Project area and Gander Lake (large water body). Runoff coefficients in the Project area are derived from runoff data in Table 2-3 and precipitation data in Table 2-1.

Runoff data for Gander Lake has been taken from the Gander River dataset at Big Chute (EDM, 1996). A comparison of flows from the Project area and Gander Lake shows that runoff is higher from Gander Lake during the spring period, and much lower during typical dry periods (e.g., August – October). This implies that for large water bodies, evaporation is likely higher than inflow during the dry season, such that there is very little outflow. It also demonstrates attenuation in the

lake, as runoff is stored during the low flow periods. Total annual runoff for the Project area and Gander Lake are similar, however, on an annual basis.

Table 2-5 Runoff Coefficient Comparison for Project Area and Gander Lake

| Area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Year |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Project Area | 0.59 | 0.56 | 0.61 | 1.51 | 1.44 | 0.70 | 0.45 | 0.29 | 0.35 | 0.55 | 0.73 | 0.61 | 0.68 |
| Gander Lake | 0.24 | 0.19 | 0.82 | 1.97 | 2.86 | 0.91 | 0.69 | 0.17 | 0.08 | 0.18 | 0.4 | 0.8 | 0.68 |

2.6 Potential Evapotranspiration

Evaporation is the process which transforms water from the land and water masses of the earth into atmospheric water vapour by solar radiation. Transpiration is the process by which soil moisture and groundwater absorbed by roots of plants are released to the atmosphere as water vapour through the pores in leaves. The maximum amount of water which can evaporate and be transpired will be limited by the amount of water available. Figure 2-5 demonstrates potential evapotranspiration of Newfoundland and Labrador. It shows average annual potential evapotranspiration in the Project area to be between 475 and 500 mm.

The nearest available evaporation measurements are from the Stephenville Airport for the period of 1942 to 2007. The average annual potential and actual evapotranspiration depths were reported as 522 and 515 mm (Table 2-6) and are in agreement with data on Figure 2-5. These evapotranspiration depths are slightly greater than expected for the Project area but should be representative of the monthly trends.

Table 2-6 Mean Monthly Evapotranspiration (mm) Measured at Stephenville Airport

| Evapotranspiration | Unit | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Year |
|--------------------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| Potential | mm | 2 | 2 | 5 | 19 | 55 | 87 | 115 | 107 | 72 | 40 | 15 | 3 | 522 |
| Actual | mm | 2 | 2 | 5 | 19 | 55 | 87 | 114 | 102 | 71 | 40 | 15 | 3 | 515 |

POTENTIAL EVAPOTRANSPIRATION Newfoundland and Labrador

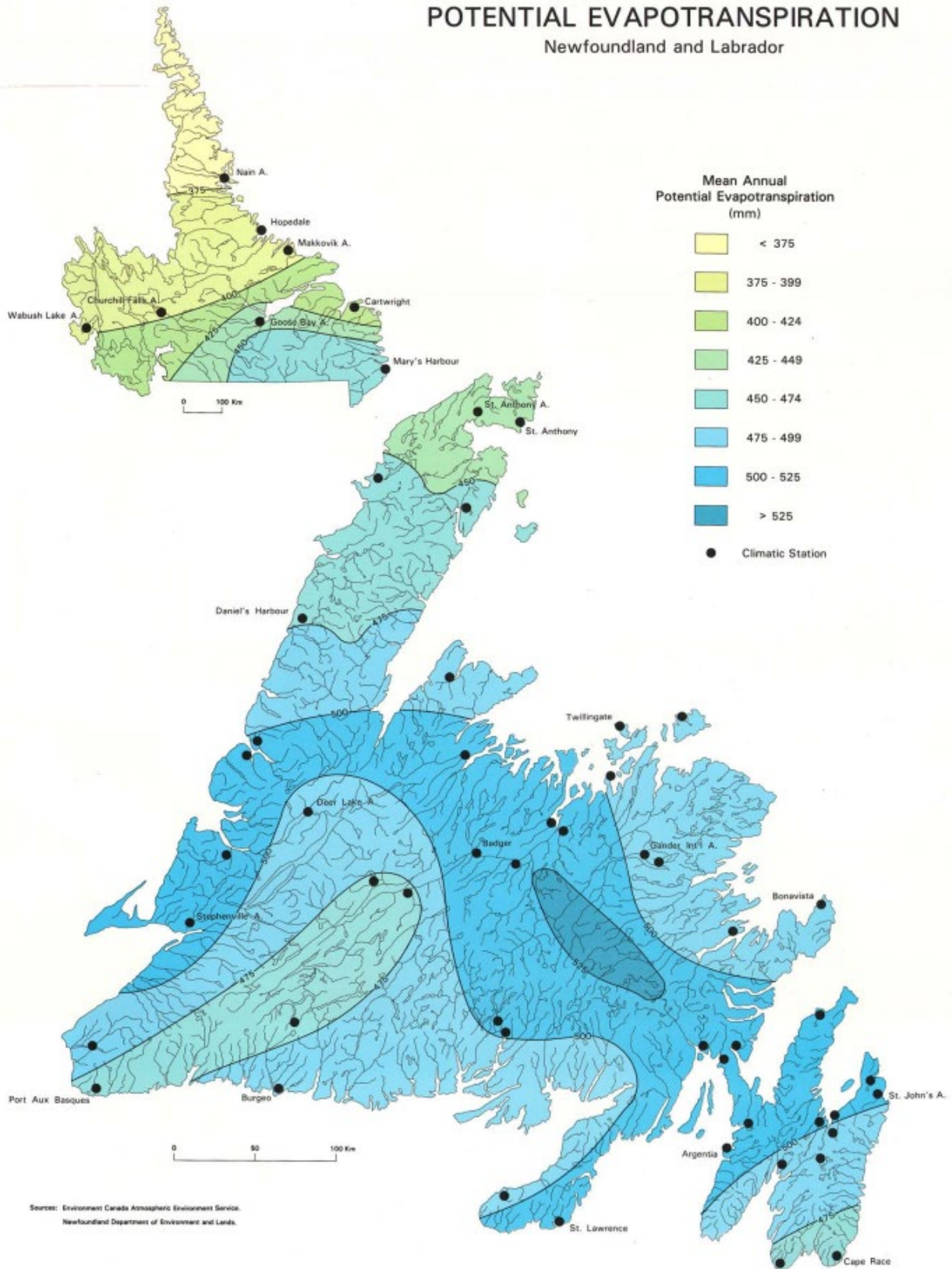


Figure 2-5: Potential Evapotranspiration of Newfoundland and Labrador

3.0 HYDROLOGY AND SURFACE WATER AND SEDIMENT QUALITY FIELD PROGRAMS

3.1 Field Programs

Field programs were carried out in 2021 and 2022 (and will continue in 2023) in support of the hydrology baseline study. The programs consisted of collecting flow and water level measurements, and the collection surface water and sediment samples from surface water features both within and downstream of the Project on a seasonal basis over the two-year program period. The surface water field locations are shown on Figure 3-1, and included the sites with the following catchments:

- Gander Lake: Sites 11, 12, 13, and 14;
- Gander River: Sites 1, 2, 3, 4, 8, 18, 19, 22, 23, and 24;
- North Herman Pond: Site 6;
- South Herman Pond: Site 7;
- North Pocket Pond: Site 5;
- South Pocket Pond: Site 9;
- H Pond: Site 16;
- Joe Batts Pond: Sites 10, 20, 15, and 21; and,
- Unnamed Watershed: Site 17.

Water level measurements were collected at five long-term (LT) monitoring stations (Sites 3, 4, 10, 15, and 21) using dedicated Solinst® Levelloggers®. Spot flow measurements were collected by streaming gauging to calibrate and confirm these measurements.

3.2 Drainage Area

Topographic data was used to estimate the drainage area for each of the field sampling and measurement sites presented on Figure 3-1. Drainage connectivity and catchment areas are summarized in Table 3-1. The following should be noted for the flow measurement sites:

- Site 4 (480 ha) is located within the catchment for Site 3 (1344 ha);
- Site 10 (779 ha) is located on a stream that drains to Joe Batts Pond (152 ha surface area);
- Site 15 (1988 ha) is located on watercourse that discharges from Joe Batts Pond; and,
- Site 15 is located within the catchment for Site 21(3068 ha).

Table 3-1 Drainage Areas and Connectivity of Field Sample Sites

| Most Downstream Site | Subcatchment of Most Downstream Site | Drainage Area (ha) |
|----------------------|--------------------------------------|--------------------|
| Site 1 | | 519 |
| | Site 2 | 361 |
| Site 8 | | 817 |
| Site 11 | | 415 |
| Site 12 | | 86.6 |
| Site 13 | | 69.0 |
| Site 14 | | 197.6 |
| Site 18 | | 5,283 |
| | Site 17 | 4,359 |
| | Site 21 | 3,068 |
| | Site 16 | 189 |
| | Site 15 | 1,988 |
| | Site 20 | 201 |
| | Site 10 | 779 |
| | Site 5 | 80.8 |
| | Site 9 | 395 |
| Site 23 | | 1,344 |
| | Site 3 | 775 |
| | Site 19 | 59.6 |
| | Site 4 | 480 |
| | Site 6 | 85.2 |
| | Site 22 | 85.2 |
| | Site 7 | 4.67 |
| Site 24 | | 212.5 |

* Connectivity example: Sites 3 and Site 4 are subcatchments of Site 23; Site 6 is a sub-catchment of Site 4.

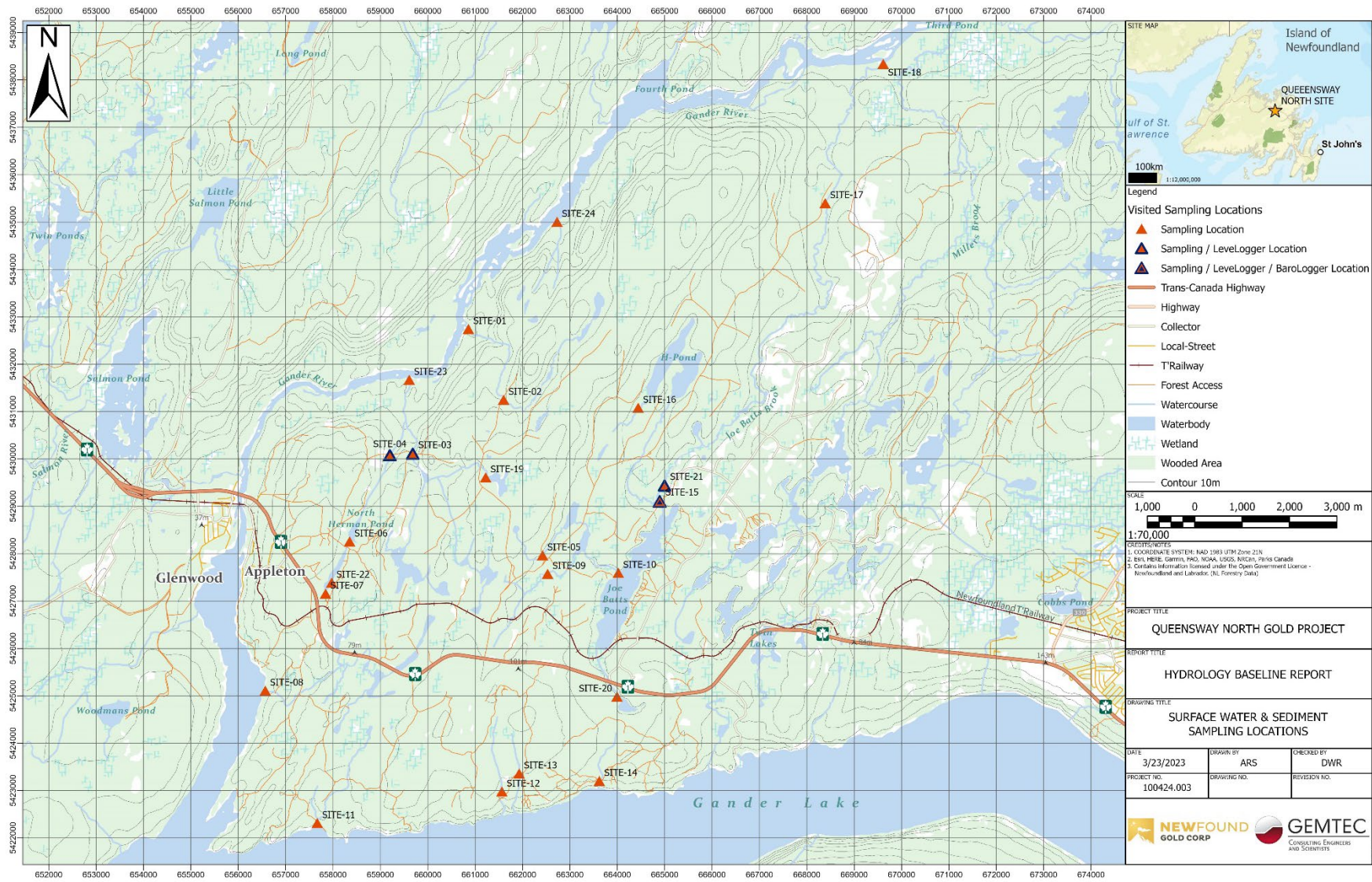


Figure 3-1: Field Sampling and Flow Measurement Sites.

3.3 Hydrology Field Program

3.3.1 2021 Field Program

Water level and discharge were recorded during the 2021 field program. Level-loggers were deployed, and water levels were recorded continuously from May 06 to December 06, 2022, for Sites 3, 4, 10, 15, and 21. Discharge was measured during three of the 2021 site visits (May 05–07, August 03-05, and December 03-05) at the above five site locations to calibrate and confirm the continuous flow measurements.

Figures 3-2a and Figure 3-2b present water levels recorded at the five field locations. During the site visits, stream gauging was performed with velocity and water depths measured at several points along watercourse cross-sections to discharge. The stream gauging results are presented in Table 3-2.

Data in Figures 3-2a and 3-2b show summertime water levels to be relatively low, before increasing from late of September through December. During the August site visit, measured discharge was very low, with Site 15 having no flow. Site 15 has a large catchment area (1,988 ha) but is located downstream of Joe Batts Pond which was likely experiencing decreased water levels due to low summer rainfall and high evaporation rates.

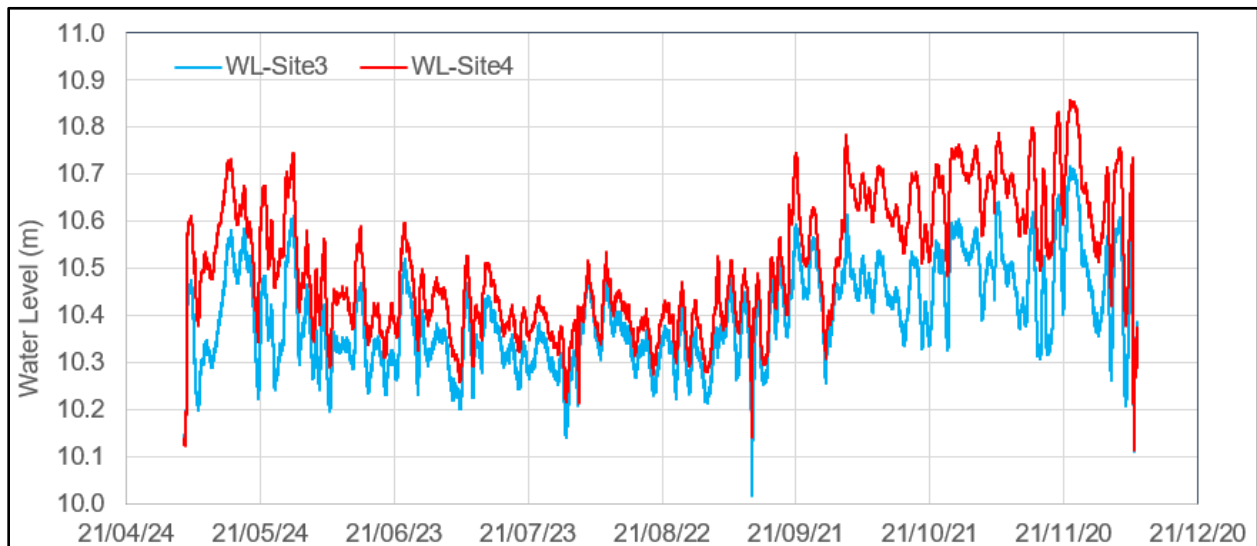


Figure 3-2a: Continuous Water Level Measurements (2021) - Sites 3 and 4

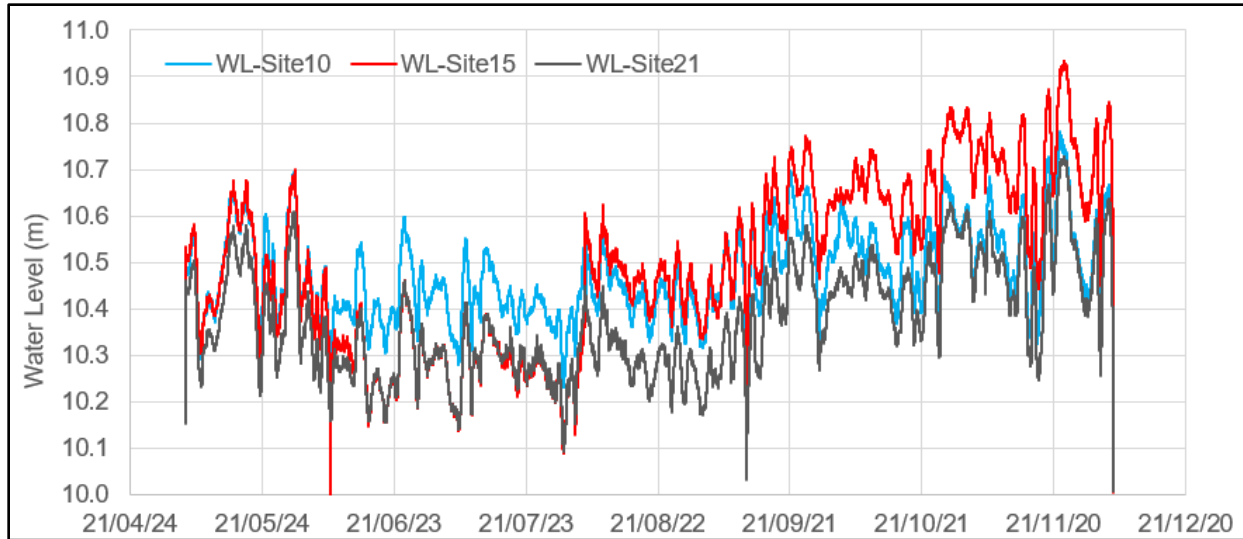


Figure 3-2b: Continuous Water Level Measurements (2021) - Sites 10, 15, and 21

Table 3-2 Field Discharge Measurements - 2021

| Site | Drainage Area (ha) | Discharge (m ³ /s) | | |
|---------|--------------------|-------------------------------|-----------|-----------|
| | | May 05-07 | Aug 03-05 | Dec 03-05 |
| Site 3 | 1,344 | 0.112 | 0.030 | 0.198 |
| Site 4 | 480 | 0.033 | 0.025 | 0.053 |
| Site 10 | 779 | 0.235 | 0.011 | 0.318 |
| Site 15 | 1,988 | 0.564* | 0.000 | 0.717 |
| Site 21 | 3,068 | 0.611 | 0.031 | 0.850 |

Rating curves were developed for each site using water level and discharge measurements collected during the site visits (see Figure 3-3). These rating curves were used to convert the long-term continuous water level measurements to flow rates.

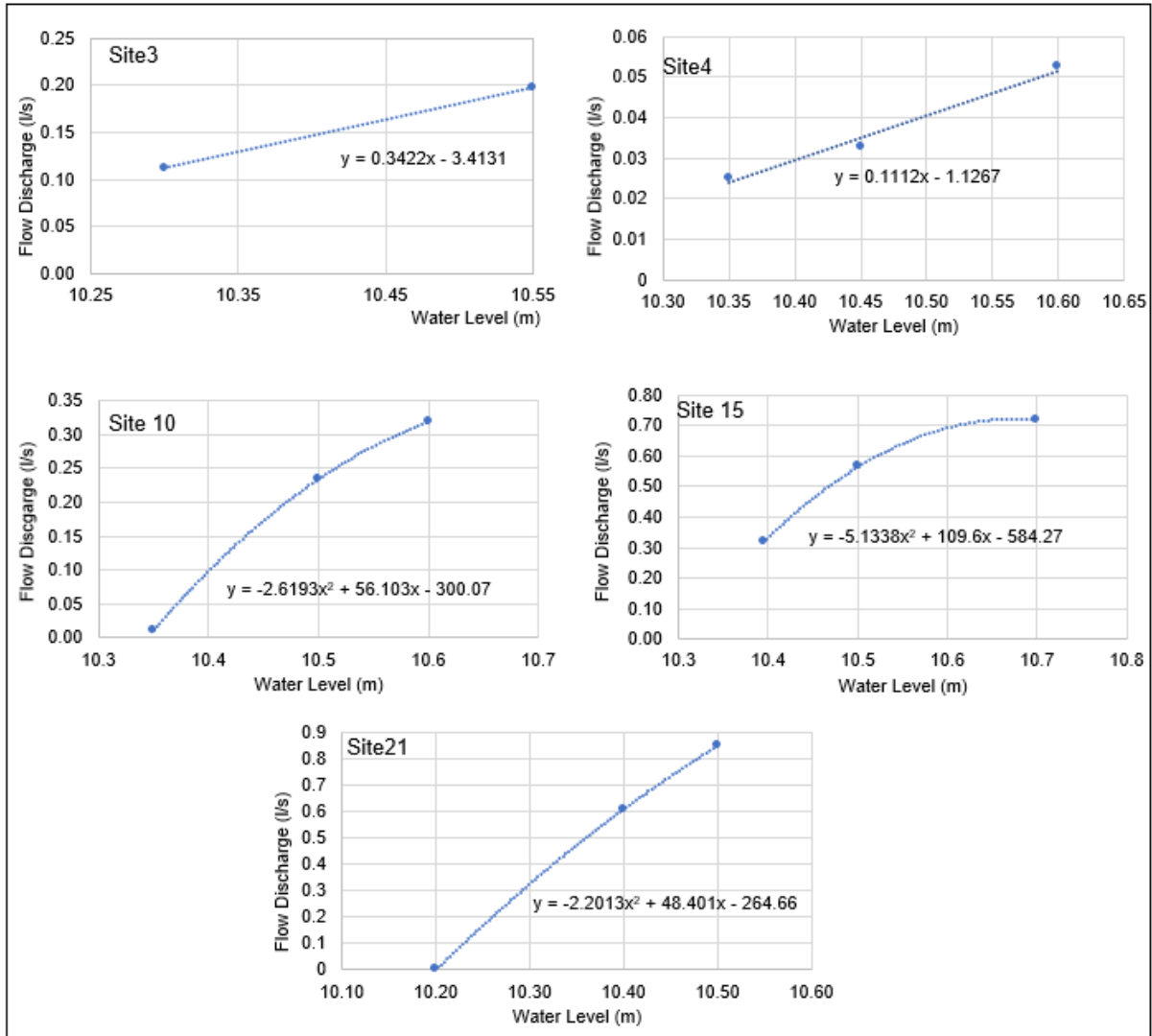


Figure 3-3: Rating Curves – 2021 Field Program

Table 3-3 Runoff Depth (mm) During the 2021 Field Program (May to November)

| Month | Site3 | Site4 | Site 10 | Site 15 | Site 21 |
|-------------------|-------|-------|---------|---------|---------|
| May | 27.0 | 26.4 | 71.6 | 57.9 | 56.3 |
| June | 21.9 | 18.3 | 41.9 | 11.4 | 26.1 |
| July | 19.8 | 15.7 | 39.4 | 0.4 | 24.1 |
| August | 21.5 | 15.4 | 44.6 | 47.7 | 34.6 |
| September | 25.8 | 19.6 | 71.9 | 69.4 | 50.0 |
| October | 34.4 | 32.4 | 87.9 | 86.1 | 69.4 |
| November | 33.8 | 31.9 | 81.1 | 79.5 | 71.2 |
| Total Runoff (mm) | 184.1 | 159.6 | 438.4 | 352.3 | 331.7 |

3.3.2 2022 Field Program

The 2021 field work was repeated in 2022 to collect additional hydrologic baseline data. Continuous water level measurements were recorded from March 29 to October 16, 2022, for Sites 3, 4, 15, and 21. Data logging at Site 10 started later than the other sites (June 19). It should also be noted the level-logger at Site 3 was damaged, and no useful data was recovered.

Stream gauging was performed on March 29-30, June 18-21, and October 15-16, 2022, at the five continuous monitoring sites to develop updated rating curves for flow estimation.

The stream gauging results for 2022 are summarized in Table 3-4. It should be noted flow rates at the end of March represent the spring freshet and are much higher than in May 2021, as the previous years measurements had missed the peak snowmelt. Further, there was no flow at Sites 3, 4, 15 and 21 during the October 2022 site visit, following an extended dry summer.

Table 3-4 Field Discharge Measurements - 2022

| Site | Drainage Area (ha) | Discharge (m ³ /s) | | |
|---------|--------------------|-------------------------------|-----------|--------|
| | | Mar 29-30 | Jun 18-21 | 15-Oct |
| Site 3 | 1,344 | 0.845 | 0.030 | 0 |
| Site 4 | 480 | 0.173 | 0.003 | 0 |
| Site 10 | 779 | 0.607 | 0.018 | 0.003 |
| Site 15 | 1,988 | 1.180 | 0.118 | 0 |
| Site 21 | 3,068 | 1.225 | 0.187 | 0 |

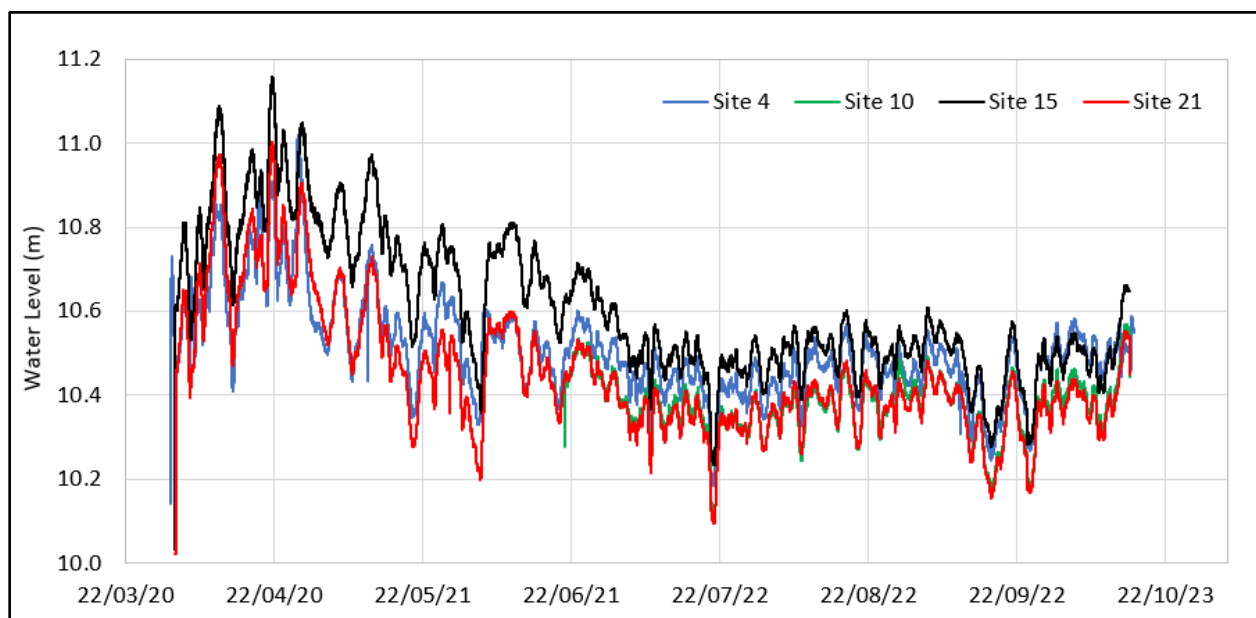


Figure 3-4: Continuous Water Level Measurements (2022) – Sites 4, 10, 15 and 21

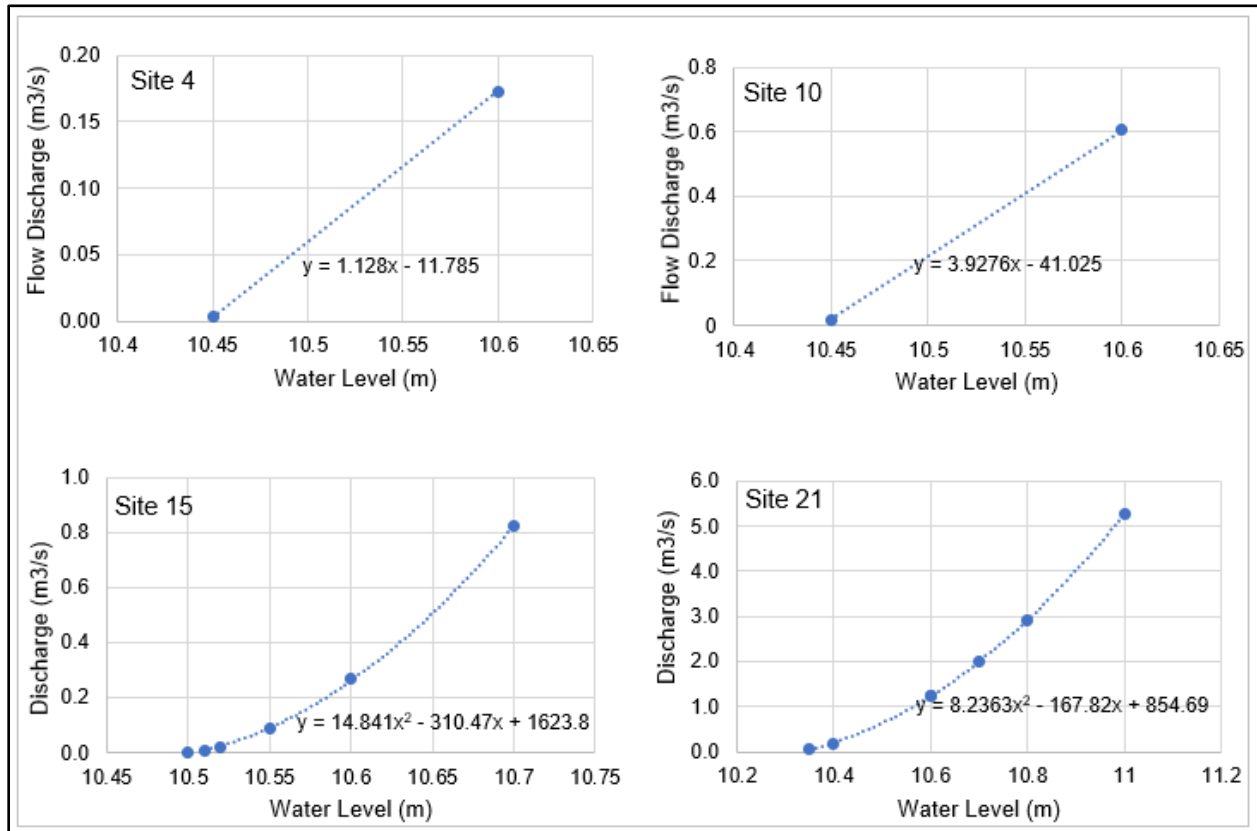


Figure 3-5: Rating Curves – 2022 Field Program

Data presented in Table 3-5 shows runoff depth was highest in April 2022, as snowmelt was still contributing to runoff. Water levels and flow were extremely low from July until October, with field measurement showing the flow at Sites 3, 4, 15 and 21 was too low to measure (Table 3-4).

Table 3-5 Runoff Depth (mm) During the 2022 Field Program (April to September)

| Month | Site 4 | Site 10 | Site 15 | Site 21 |
|-------------------|--------|---------|---------|---------|
| April | 142.9 | | 255 | 192 |
| May | 72.9 | | 169 | 64.7 |
| June | 44.1 | | 94.2 | 45.3 |
| July | 4.5 | 6.9 | 2.3 | 4.1 |
| August | 15.7 | 7.8 | 5.3 | 14.3 |
| September | 15.0 | 8.1 | 4.2 | 10.8 |
| Total Runoff (mm) | 295 | | 530 | 331 |

3.3.3 Discussion of the Hydrology 2021-2022 Field Program Data

During the 2021 and 2022 field programs, water level, velocity and depth measurements were collected and used to estimate discharge and runoff depth. The field data is limited to the time of year when the sites were accessible but provides important insight into local baseline hydrologic conditions. The following observations are based on our review of the field data:

- The 2021 field data indicated runoff was very low during June to August, while the 2022 data showed runoff was very low during July to October. Although the extended summer dry period can shift a bit, runoff during this time of year was very low and there were times with no flow to be measured in the watercourses.
- During summer period, lake (large water body) evaporation appeared to be greater than inflow. This was evident during the August 2021 site visit when there was a small inflow (Site 10) to Joe Batts Pond but no outflow (Site 15) to be measured immediately downstream.
- Runoff was high during the spring freshet window from March to May and again during the late fall (November and December).
- There is no field flow data for the winter period, but low flow conditions are expected, with the smaller watercourses likely to be partially to completely frozen.
- Field data, derived rating curves and discharge estimates typically come with uncertainties and inaccuracies (Hamilton, 2008). For example, level-logger gauges could be moved/impacted by streamflow, weeds or debris. This was the case for level-logger Site 3 (2022), which was damaged in-stream and did not yield useful data.

3.4 Surface Water and Sediment Quality Sampling Program

3.4.1 Sampling Program Overview

Surface water and sediment quality sampling has been carried out at a generally regular seasonal basis since March 2021, and covering all significant catchment areas of Gander Lake and Gander River in the Project study areas. The geographic coordinates of the water quality sampling stations are provided in Table 3-6 for the locations previously shown in Figure 3-1. Sample sites SW/SED-19 and SW/SED-20 are background sample locations, while the remainder of the locations are in the area of, or downstream of, NFG’s exploration activities. To date a total of eight quarterly sampling events have been completed including in March 2021, May 2021, August 2021, December 2021, March 2022, June 2022, October 2022, and January 2023.

Table 3-6 GPS Coordinates of Surface Water and Sediment Sampling Locations

| Sample ID | GPS Coordinates (UTM NAD83 Zone 21 N) | |
|--|---------------------------------------|----------|
| | Easting | Northing |
| Site 1 - SW / SED | 660787 | 5432824 |
| Site 2 - SW / SED | 661586 | 5431308 |
| Site 3 - SW / SED | 659585 | 5431695 |
| Site 4 - SW / SED | 659218 | 5430105 |
| Site 5 - SW / SED | 662423 | 5427983 |
| Site 6 - SW / SED | 658359 | 5428317 |
| Site 7 - SW / SED | 657853 | 5427178 |
| Site 8 - SW / SED | 656525 | 5425133 |
| Site 9 - SW / SED | 662529 | 5427592 |
| Site 10 - SW / SED | 664021 | 5427614 |
| Site 11 - SW / SED | 657667 | 5422333 |
| Site 12 - SW / SED | 661564 | 5422997 |
| Site 13 - SW / SED* | 661850 | 5422551 |
| Site 14 - SW / SED | 663620 | 5423220 |
| Site 15 - SW / SED | 664895 | 5429124 |
| Site 16 - SW / SED | 664445 | 5431080 |
| Site 17 - SW / SED | 668388 | 5435416 |
| Site 18 - SW / SED* | 669671 | 5438385 |
| Site 19 - SW / SED | 661222 | 5429628 |
| Site 20 - SW / SED | 664053 | 5424994 |
| Site 21 - SW / SED | 664997 | 5429455 |
| Site 22 – SW / SED | 657971 | 5427406 |
| Site 23 – SW/ SED | 659608 | 5431687 |
| Site 24 – SW/SED | 662728 | 5435021 |
| Notes: SED – Sediment; SW - Surface Water; *No Samples Collected | | |

Throughout the sampling events there were several sites that could not be accessed due to low flow or safety concerns. Sites 23 and 24 (added in the June 2022 sampling event) and Site 1 (following the October 2022 sampling event) required a boat for access. Due to complications acquiring the boat, samples at Sites 1, 23 and 24 could not be taken during the October 2022 sampling event. No samples could be taken at Site 22 due to mining activity altering the river system.

Sediment samples could not be collected at certain sites during various sampling events due to the following reasons: 1) thick layers of organics and/or peat along the stream beds and banks, 2) fast flowing water, 3) unsafe ice conditions, and 4) lack of sediment.

At the time of sample collection for each event, in-situ measurements of field water quality parameters temperature, pH, dissolved oxygen (DO), electrical conductivity, and oxidation-reduction potential (ORP) were taken with a YSI Model 556 MPS multi-parameter meter at each sample location with results provided on Table A.1 in Appendix A. The surface water and sediment samples were collected according to approved methods for grab sampling and were submitted to AGAT Laboratories in St. John's, NL for laboratory analysis following appropriate Quality Assurance/Quality Control (QA/QC) protocols. Surface water samples were analysed for general chemistry, total suspended solids, total metals, and petroleum hydrocarbons, while sediment samples were analysed for available metals and petroleum hydrocarbons. Analytical results for the surface water and sediment samples collected during the eight sampling events are presented on Tables A.2 to A.6 in Appendix A.

Analytical results for surface water and sediment samples collected as part of this study were compared to the Atlantic RBCA (Risk-Based Corrective Action) Environmental Quality Standards (Atlantic Partnership in RBCA Implementation (PIRI), 2022).

3.4.2 Quality Assurance/Quality Control (QA/QC) Measures

GEMTEC followed a QA/QC program during the field surface water and sediment sampling program to ensure that sampling provided consistent, representative data of high quality. A summary of the specifics of the QA/QC program is provided below:

- Field personnel wore disposable, nitrile gloves during sampling, and these gloves were replaced between each sampling location;
- All surface water and sediment samples collected for laboratory analysis were collected in appropriate new sample containers provided by the laboratory.
- Samples were stored in coolers equipped with ice and/or refrigerated until submission to the laboratory.
- Samples submitted to the laboratory were accompanied by a signed and dated Chain of Custody form and were packaged and shipped in cooler(s) containing bags of ice.

- Field duplicate samples were collected to check for natural sample variance, and the consistency of field techniques and laboratory analysis. The initial sample bottles for a particular parameter or set of parameters were filled first and then the duplicate sample bottles were filled. The duplicate sample was handled in the same manner as the initial sample. A total number of duplicate samples, equal to approximately 10% of the total number of samples analysed, were assigned a QA/QC identification number, stored in an iced cooler, and shipped to the laboratory with the other samples. Field duplicate samples were collected at the following sample locations as follows:
 - Site 10 - March 2021, May 2021, June 2022, October 2022, January 2023
 - Site 17 – October 2022
 - Site 19 – August 2021, December 2021, March 2022, June 2022, January 2023

3.4.3 Results of Surface Water and Sediment Sampling Program

Data was analyzed to identify trends between sampling events, spurious or suspect data, and the overall quality of surface water and sediment at the site. No statistical data analysis was done.

Exceedances above guidelines were grouped into two categories:

- Strong: exceedance 10 times or more greater than guideline, or pH 0.5 units or more outside of acceptable range.
- Mild: exceedance less than above.

These two categories were used to identify parameters with the strongest exceedance, and in assessing their distribution in the spatial and temporal analysis. Please note for analysis of beryllium, cadmium, cobalt, lead, mercury, and selenium in surface water in some samples for some sampling events, the reportable detection limit was higher than the referenced guideline, preventing environmental evaluation of these metals.

3.4.3.1 Surface Water Quality

Field Parameters

Table A-1 in Appendix A presents field parameters temperature (°C), pH (unitless), dissolved oxygen (DO; % saturated), electrical conductivity (EC; uS/cm), and Oxidation-Reduction Potential (ORP; mV). Key observations are presented below:

- Temperature: ranged from -0.2 to 26.8°C for the eight (8) events. A -0.2°C value would be freezing conditions (ice), so this is attributed to imprecision of the field instrument.
- pH: ranged from 5.03 to 8.06 range (slightly basic to moderately acidic), and in general agreement (typically within ½ pH unit) of lab-based measurements.

- DO: ranged typically from 75 to near 100% saturation, indicating healthy oxygenated surface water. Systematic lower readings for the May 2021 event (24-46%) are anomalous and attributed to calibration error (disregarded).
- EC: ranged typically from 20 – 100 uS/cm, indicating dilute water. EC values were typically higher in summer, attributed to higher-EC groundwater discharging as baseflow to streams during summer recession conditions.
- ORP: ranged mostly from +100 to +200 mV, indicating an oxidizing healthy water environment and consistent with the near saturation DO values. Systematic higher readings for the October 2022 event (400-800), as well as the one negative ORP reading (Site 7, August 2021, -55.7 mV) is anomalous and attributed to calibration error (disregarded).

General Surface Water Characterization

By inspection, surface water in the study area can be characterized as follows:

- Sodium-calcium-bicarbonate type water.
- Slightly basic to moderately acidic (pH generally from 5 to 8).
- Dilute and soft water (low EC and low hardness, typically <15 mg/L).
- Undersaturated with respect to CaCO₃ (Langlier Index typically -3 to -4), which indicates slightly corrosive water.

Guideline Exceedances in Surface Water Quality

Strong exceedances were detected in water samples for the following parameters and locations for at least one of the sampling events (please note asterisk (*) denotes background sample locations - Sites 19 and 20):

- Aluminum (Al) – all stations.
- Mercury (Hg) (only for May 2021 event) – Sites 1-11, 14-17, 19*, 20*, and 21
- pH – Sites 5, 7, 9, 11, 12, 13, 16 and 19*.

Mild exceedances were detected in water samples for the following parameters and locations for at least one of the sampling events:

- pH – all stations
- Arsenic (As) – Site 5, 6, 9 and 16
- Cobalt (Co) only once – Site 1 (Dec 2021)
- Selenium (Se) – Sites 3, 5, 7, 9, 10, 11, 16, 17, 19* and 20*
- Silver (Ag)– Sites 1, 17
- Iron (Fe) – All except sites 12, 13, 23 and 24

- Copper (Cu) – Sites 4, 5, 6, 7, 9, 10, 11, 14, 15, 17, 19 and 21
- Nitrite (NO₂) – Sites 3, 5, 9 and 23
- Manganese (Mn) – Sites 4, 5, 7, 9, 10, 12, 17, 19* and 20
- Nickel (Ni) – Sites 11 and 15
- Cadmium (Cd) – Sites 8, and 19
- Zinc (Zn) – Sites 5, 10, 12, 13, and 16
- Modified Total Petroleum Hydrocarbons (TPH) – Sites 2, 4, 5, 6, 9, 10, 11, 15, 16, 17 (all weathered fuel oil or lube range fraction; all only during Mar 2021 event)

The total number of metals exceeding guidelines in surface waters was 13; total inorganic parameters was two (pH, NO₂); and TPH parameters was one (modified TPH).

The principal metals exceeding guidelines in surface waters in the study area are Al, Hg, and Se. The fact that Hg exceeded guidelines only for the May 2021 event suggests that this is not a persistent and valid result. These results may be due to inadvertent contamination during sampling or handling, or during laboratory testing. Similarly, the detection of modified TPH during the March 2021 event might suggest that these results are due to inadvertent contamination during sampling, handling, or lab analysis. However, as presented below, TPH was detected in multiple sediment sampling events, which argues against a contamination source for one single event. The source of TPH in the March 2021 surface water samples is not known; however, despite a reported weathered fuel oil or lube oil resemblance, it is possible that the hydrocarbon content is biogenic in nature and not derived from a petroleum hydrocarbon product; similar to that identified in the sediment samples.

Background Sites 19 and 20 also showed a wide variety of exceedances for the surface water analyses, as follows:

- Site 19: Strong exceedances for pH, Al, and Hg; mild exceedances for Al, TPH, Cd, Fe, Mn, and Se.
- Site 20: Strong exceedances for Al and Hg; mild exceedances for Al, TPH, Cu, Fe, Mn, and Se.

Spatial Analysis of Exceedances in Surface Water

Individual plots (not shown here) were made to explore possible spatial clustering of exceedances in surface water analyses for pH, Cu, Se and Modified TPH. Widely detected parameters (Al, Hg and Fe) were not plotted since they appeared in nearly all stations throughout the sampled areas.

Inspection showed that most parameters had a widespread and dispersed distribution with no marked clusters in any particular area, and no distinct differences in water quality between site sample locations and background sample locations.

Based on these results GEMTEC infers that the concentrations of various elevated metals detected in the surface water samples reflect natural geochemical signatures influenced by the local geology, similar to that concluded by Serpa, et al. (2009) for till, lake sediment and groundwater in the region, and further discussed in Section 3.4.3.2.

3.4.3.2 Sediment Quality

Guideline Exceedances in Sediment Quality

Strong exceedances were detected in sediment samples for the following parameters and locations for at least one of the sampling events:

- Arsenic (As) – Sites 3, 4 and 5.
- Mn – Sites 3, 8, 11, 12, 13, 15, 17, and 21.
- Modified TPH – Sites 5, 6, and 7

Mild exceedances were detected in sediment samples for the following parameters and locations for at least one of the sampling events:

- As – all sites (except 22); including 19* and 20*.
- Mn – all sites (except 6, 18 and 22); including 19* and 20*.
- Fe – all sites (except 1, 6, 7, 22, 23 and 24); including 19* and 20*
- Ni – Sites 3, 5, 8, 9, 10, 11, 12, 14, 15, 16, 20* and 21.
- Chromium (Cr) – Sites 5, 14 and 20*.
- Zn only once – Site 5 (Mar 2021 and Dec 2021).
- Modified TPH.
 - Aug 2021 – Sites 6, 7, 11 and 20*.
 - Dec 2021 – Site 1, 2, 5, 17, 19*.
 - March 2022 – Site 9, 15.
 - June 2022 – Site 19*.

The total number of metals exceeding guidelines in sediments was six; total petroleum hydrocarbon parameters was one (modified TPH).

The principal metals exceeding guidelines in sediments in the study area are As, Mn, Fe, and Ni. Modified TPH was detected in a total of 13 sediment samples and was generally reported as resembling a non-petrogenic unidentified compound possibly derived from a biogenic (organic matter) source.

Background Sites 19 and 20 also showed a wide variety of exceedances for the sediment analyses, as follows:

- Site 19: no strong exceedances; mild exceedances for Fe, Mn, As and TPH.
- Site 20: no strong exceedances; mild exceedances for Mn, Ni, As, Cr, Fe and TPH.

Spatial Analysis of Exceedances in Sediment

Individual plots (not shown here) were made for exploring possible spatial clustering of exceedances in sediment analyses for As, Mn, Ni, Cr and Modified TPH.

Inspection showed that most parameters (as with surface water) had widespread distribution with no marked clusters in any particular area, and no distinct differences in sediment quality between site sample locations and background sample locations.

Based on these results GEMTEC infers that the concentrations of various elevated metals detected in the sediment samples reflect natural geochemical signatures influenced by the local geology (study area underlain by siliciclastic sedimentary rocks belonging to the Ordovician-aged Davidsville group) and are not a result of site exploration activities.

The regional occurrence of elevated concentrations of various metals, and in particular arsenic, in till, lake sediment, groundwater and bedrock samples collected within the Davidsville Group has been described by Serpa, et al. (2009) and others. Based on compilation and analysis of lake sediment and till data from the provincial geological survey databases, Serpa et al. (2009) reported concentrations of arsenic in lake sediments within the Davidsville Group ranging from 0.2 mg/kg to 1,550 mg/kg, and in till ranging from 0.20 mg/kg to 480 mg/kg. The concentrations of arsenic (ranging from 3 mg/kg to 213 mg/kg) determined for sediments as part of this project fall within the ranges of these regional datasets, supporting the concept of a natural geological source for arsenic as well as possibly other metals in sediments in the study area.

4.0 CONCLUSIONS

In this study, a baseline hydrology study was conducted for Queens North Gold Project near Appleton, NL. This study includes two components: 1) collection and review of available hydrological information; and 2) analysis of the 2021 and 2022 field program data.

Collection and review of hydrologic data included climate normals (temperature, precipitation, wind speed etc.), nearby hydrometric station flow data, monthly and annual runoff depth and potential evapotranspiration. These parameters are based on long-term statistics and can be taken as general hydrologic conditions for Project and nearby area.

A field program was conducted for 2021 and 2022, and this includes 24 sites where water and sediment samples were collected, water levels were recorded at five locations, and flow measurement were conducted during several sites visits. Drainage areas were calculated for five streamflow measurement locations as well as the contributing subcatchments at sampling

locations. Field data was analysed to provide a better understanding of the hydrological conditions to the Project area specific.

Field data indicated monthly runoff depths could vary from the long-term statics derived from nearby hydrometric stations. Runoff was very low during the summer dry period between June to October, with little to no flow observed in some watercourses. This was evident in the outflow from Joe Batts Pond (surface area 151.7 ha) which experienced low water levels during dry conditions and high evaporation rates.

Runoff was elevated during the March to May spring freshet due to snowmelt contributions as well as during the fall as precipitation increases and evapotranspiration rates decline.

It should be noted the field flow measurements may contain some uncertainties, but the measured data provides good understanding of the hydrological condition for the Project area.

Laboratory analytical results indicate levels of pH and concentrations of select metals in surface waters and concentrations of select metals in sediment that exceed applicable regulatory guidelines, and are inferred to represent pre-mine development, natural baseline conditions in the Project area.

5.0 CLOSURE

This report has been prepared for the sole benefit of our client, New Found Gold Corp. The report may not be relied upon by any other person or entity without the express written consent of GEMTEC Consulting Engineers and Scientist Limited and our client, New Found Gold Corp.

Any use that a third party makes of this report, or any reliance or decisions made based on it, is the responsibility of such third parties. GEMTEC Consulting Engineers and Scientist Limited accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

The information presented in this report represents the best judgment of our trained professionals and technical staff based on current standards, site and project information known at the time and Project area conditions observed by staff at the time the work was performed.

Should additional information become available, GEMTEC Consulting Engineers and Scientists Limited requests that this information be brought to our attention so that we may review the conclusions presented herein.

If you have any questions concerning this report or require further details, please do not hesitate to contact us.

6.0 REFERENCES

- Atlantic Partnership in Risk-Based Corrective Action (RBCA) Implementation (PIRI), 2022. Environmental Quality Standards: Rationale and Guidance Document.
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APPENDIX A

Surface Water and Sediment Quality Analytical Results

Table A-1
Field Water Quality Parameter Measurements

Table A-1 - Field Water Quality Parameter Measurements

| Location | Sample Event | Temperature (°C) | pH (Unitless) | Dissolved Oxygen (%) | Conductivity (µS/cm) | ORP (mV) |
|-------------------|--------------|------------------|---------------|----------------------|----------------------|----------|
| Site 1 - SW / SED | 13-Mar-21 | - | - | - | - | - |
| | 1-May-21 | 7.5 | 6.85 | 36.1 | 19.6 | 162.5 |
| | 6-Aug-21 | 19.2 | 7.04 | 90.0 | 41.1 | 98.7 |
| | 8-Dec-21 | 0.8 | 6.29 | 92.7 | 16.7 | 157.8 |
| | 31-Mar-22 | 1.3 | 5.94 | 95.0 | 13.4 | 182.1 |
| | 19-Jun-22 | 15.9 | 6.64 | 88.1 | 26.8 | 169.9 |
| | 15-Oct-22 | - | - | - | - | - |
| | 27-Jan-23 | 0.5 | 6.32 | 98.9 | 26.7 | 187.8 |
| Site 2 - SW / SED | 14-Mar-21 | 0.0 | 6.29 | 89.9 | 16.1 | 183.0 |
| | 8-May-21 | 8.6 | 6.73 | 36.4 | 19.1 | 167.1 |
| | 6-Aug-21 | 21.5 | 6.91 | 83.3 | 43.0 | 97.8 |
| | 8-Dec-21 | 0.8 | 6.27 | 87.0 | 16.8 | 169.5 |
| | 31-Mar-22 | 1.7 | 5.78 | 97.7 | 15.5 | 181.2 |
| | 17-Jun-22 | 26.7 | 6.53 | 76.0 | 33.1 | 160.7 |
| | 15-Oct-22 | 12.4 | 6.67 | 99.3 | 42.9 | 505.7 |
| | 25-Jan-23 | 0.4 | 5.94 | 98.7 | 26.4 | 197.7 |
| Site 3 - SW / SED | 14-Mar-21 | - | - | - | - | - |
| | 7-May-21 | 9.4 | 6.73 | 38.8 | 18.3 | 196.5 |
| | 3-Aug-21 | 19.8 | 6.91 | 84.0 | 28.5 | 134.6 |
| | 5-Dec-21 | 0.7 | 6.74 | 88.1 | 15.2 | 158.4 |
| | 29-Mar-22 | 1.3 | 5.82 | 87.3 | 14.2 | 188.8 |
| | 18-Jun-22 | 18.7 | 6.33 | 98.1 | 27.2 | 167.2 |
| | 16-Oct-22 | 7.5 | 6.94 | 80.7 | 80.6 | 476.0 |
| | 25-Jan-23 | 0.4 | 6.28 | 96.2 | 28.1 | 193.8 |
| Site 4 - SW / SED | 12-Mar-21 | 0.6 | 7.83 | 97.4 | 36.7 | 126.4 |
| | 7-May-21 | 7.3 | 7.03 | 33.3 | 46.7 | 185.3 |
| | 3-Aug-21 | 16.4 | 7.53 | 72.2 | - | 119.4 |
| | 5-Dec-21 | 0.3 | 6.59 | 81.7 | 42.4 | 148.0 |
| | 29-Mar-22 | 1.9 | 6.31 | 88.7 | 42.1 | 201.3 |
| | 18-Jun-22 | 14.2 | 6.85 | 98.4 | 58.2 | 148.1 |
| | 16-Oct-22 | 8.4 | 6.85 | 88.8 | 45.1 | 623.7 |
| | 25-Jan-23 | 0.9 | 6.62 | 96.2 | 50.8 | 193.8 |
| Site 5 - SW / SED | 14-Mar-21 | 0.8 | 6.46 | 82.3 | 18.5 | 166.2 |
| | 5-May-21 | 9.6 | 6.26 | 40.3 | 22.7 | 155.0 |
| | 4-Aug-21 | 16.4 | 6.22 | 54.6 | - | 85.5 |
| | 8-Dec-21 | 2.1 | 6.04 | 74.1 | 18.5 | 178.5 |
| | 30-Mar-22 | 0.3 | 5.32 | 80.5 | 17.2 | 207.3 |
| | 20-Jun-22 | - | - | - | - | - |
| | 15-Oct-22 | 9.2 | 6.5 | 71.6 | 65.5 | 696.9 |
| | 25-Jan-23 | 0.6 | 5.86 | 93.4 | 30.3 | 202.2 |
| Site 6 - SW / SED | 12-Mar-21 | 0.5 | 8.06 | 97.7 | 71.3 | 63.6 |
| | 6-May-21 | 10.3 | 6.94 | 37.2 | 102.4 | 193.0 |
| | 3-Aug-21 | 20.9 | 6.11 | 68.5 | 88.0 | 92.7 |
| | 13-Dec-21 | 1.1 | 6.17 | 99.7 | 75.7 | 246.0 |
| | 31-Mar-22 | 1.8 | 5.96 | 98.1 | 56.1 | 187.7 |
| | 20-Jun-22 | 20.5 | 6.18 | 96.8 | 161.2 | 153.2 |
| | 16-Oct-22 | 11.0 | 6.76 | 85.0 | 212.0 | 686.0 |
| | 25-Jan-23 | 1.3 | 6.54 | 89.1 | 78.2 | 200.9 |

Table A-1 - Field Water Quality Parameter Measurements

| Location | Sample Event | Temperature (°C) | pH (Unitless) | Dissolved Oxygen (%) | Conductivity (µS/cm) | ORP (mV) |
|--------------------|--------------|------------------|---------------|----------------------|----------------------|----------|
| Site 7 - SW / SED | 12-Mar-21 | 2.6 | 7.22 | 67.4 | 22.1 | 148.9 |
| | 6-May-21 | 8.0 | 6.28 | 24.0 | 22.8 | 40.8 |
| | 3-Aug-21 | 18.9 | 6.07 | 35.7 | 105.7 | -55.7 |
| | 13-Dec-21 | 0.3 | 5.35 | 87.1 | 19.0 | 270.8 |
| | 31-Mar-22 | 0.1 | 5.05 | 75.1 | 22.8 | 225.1 |
| | 18-Jun-22 | 14.2 | 6.85 | 198.4 | 73.3 | 148.1 |
| | 16-Oct-22 | - | - | - | - | - |
| | 25-Jan-23 | -0.2 | 5.79 | 81.6 | 39.9 | 208.7 |
| Site 8 - SW / SED | 12-Mar-21 | 0.1 | 7.10 | 104.4 | 92.1 | 136.1 |
| | 8-May-21 | 9.5 | 6.96 | 37.9 | 98.2 | 185.7 |
| | 4-Aug-21 | 16.1 | 7.34 | 88.5 | 161.7 | 124.4 |
| | 13-Dec-21 | 0.3 | 6.28 | 98.0 | 48.2 | 137.3 |
| | 29-Mar-22 | 0.3 | 6.14 | 92.9 | 58.3 | 202.2 |
| | 20-Jun-22 | 17.7 | 6.47 | 98.0 | 138.7 | 160.3 |
| | 16-Oct-22 | 8.3 | 6.87 | 97.9 | 194.0 | 592.8 |
| | 27-Jan-23 | 0.1 | 6.59 | 98.4 | 106.3 | 193.3 |
| Site 9 - SW / SED | 14-Mar-21 | -0.1 | 6.09 | 81.3 | 190.0 | 196.5 |
| | 5-May-21 | 10.9 | 6.25 | 44.4 | 41.3 | 169.9 |
| | 6-Aug-21 | 24.8 | 7.08 | 78.4 | 117.9 | 93.0 |
| | 5-Dec-21 | 0.1 | 6.24 | 93.9 | 29.6 | 170.2 |
| | 28-Mar-22 | 0.2 | 6.11 | 86.4 | 55.7 | 144.2 |
| | 17-Jun-22 | 26.8 | 6.43 | 78.3 | 67.5 | 146.2 |
| | 15-Oct-22 | 10.8 | 7.03 | 92.8 | 104.2 | 528.3 |
| | 25-Jan-23 | 0.0 | 5.60 | 93.7 | 82.0 | 206.7 |
| Site 10 - SW / SED | 14-Mar-21 | 0.4 | 6.51 | 89.2 | 81.4 | 177.8 |
| | 5-May-21 | 13.8 | 6.51 | 42.1 | 35.2 | 184.6 |
| | 5-Aug-21 | 22.4 | 6.75 | 86.9 | 53.8 | 104.0 |
| | 3-Dec-21 | 5.5 | 6.13 | 90.0 | 29.2 | 191.3 |
| | 30-Mar-22 | 1.3 | 5.67 | 93.6 | 30.0 | 187.3 |
| | 19-Jun-22 | 18.4 | 6.12 | 99.3 | 42.7 | 174.4 |
| | 15-Oct-22 | 8.3 | 6.74 | 92.9 | 68.6 | 631.0 |
| | 23-Jan-23 | 0.2 | 5.92 | 89.4 | 43.8 | 160.9 |
| SW / SED SD* | 14-Mar-21 | 0.4 | 6.51 | 89.2 | 81.4 | 177.8 |
| | 5-May-21 | 13.7 | 6.52 | 42.4 | 35.1 | 180.2 |
| SW / SED SD - 01 | 15-Oct-22 | 8.3 | 6.74 | 92.9 | 68.6 | 631.0 |
| | 23-Jan-23 | 0.2 | 5.92 | 89.4 | 43.8 | 160.9 |
| | 17-Jun-22 | 24.5 | 6.66 | 77.1 | 19.3 | 146.5 |
| SW / SED SD - 02 | 19-Jun-22 | 18.4 | 6.12 | 99.3 | 48.9 | 174.4 |
| Site 11 - SW / SED | 15-Mar-21 | -0.1 | 7.17 | 91.0 | 13.0 | 183.2 |
| | 6-May-21 | 7.0 | 7.06 | 34.0 | 15.1 | 166.9 |
| | 4-Aug-21 | 15.1 | 6.45 | 77.7 | 38.6 | 152.9 |
| | 13-Dec-21 | 0.6 | 5.46 | 95.9 | 12.9 | 238.3 |
| | 29-Mar-22 | 0.0 | 5.67 | 90.6 | 11.6 | 206.0 |
| | 20-Jun-22 | 14.2 | 6.36 | 98.6 | 21.8 | 174.7 |
| | 16-Oct-22 | 8.4 | 6.03 | 66.5 | 32.6 | 720.6 |
| | 24-Jan-23 | 0.3 | 6.54 | 88.5 | 25.8 | 165.2 |
| Site 12 - SW / SED | 15-Mar-21 | - | - | - | - | - |
| | 6-May-21 | - | - | - | - | - |
| | 4-Aug-21 | 16.3 | 6.40 | 58.1 | 30.6 | 154.0 |
| | 14-Dec-21 | 0.7 | 5.89 | 93.4 | 13.0 | 219.9 |
| | 29-Mar-22 | 0.0 | 5.2 | 89.5 | 12.6 | 232.4 |
| | 21-Jun-22 | 12.2 | 5.88 | 85.5 | 20.5 | 192.4 |
| | 16-Oct-22 | 9.7 | 5.97 | 54.7 | 42.8 | 764.0 |
| | 24-Jan-23 | 0.3 | 5.63 | 91.1 | 27.7 | 197.1 |

Table A-1 - Field Water Quality Parameter Measurements

| Location | Sample Event | Temperature (°C) | pH (Unitless) | Dissolved Oxygen (%) | Conductivity (µS/cm) | ORP (mV) |
|--------------------|--------------|------------------|---------------|----------------------|----------------------|----------|
| Site 13 - SW / SED | 15-Mar-21 | - | - | - | - | - |
| | 6-May-21 | - | - | - | - | - |
| | 5-Aug-21 | - | - | - | - | - |
| | 14-Dec-21 | - | - | - | - | - |
| | 29-Mar-22 | - | - | - | - | - |
| | 21-Jun-22 | 13.4 | 6.15 | 83.4 | 16.8 | 184.2 |
| | 15-Oct-22 | - | - | - | - | - |
| | 24-Jan-23 | 0.0 | 5.23 | 92.5 | 26.2 | 207.4 |
| Site 14 - SW / SED | 15-Mar-21 | - | - | - | - | - |
| | 9-May-21 | 8.3 | 7.21 | 36.4 | 39.6 | 174.4 |
| | 4-Aug-21 | 16.2 | 7.05 | 66.3 | 112.2 | 135.5 |
| | 14-Dec-21 | 0.5 | 6.76 | 98.6 | 22.6 | 168.4 |
| | 29-Mar-22 | 0.4 | 5.82 | 86.6 | 20.6 | 198.8 |
| | 21-Jun-22 | 13.2 | 6.1 | 99.9 | 66.6 | 183.5 |
| | 16-Oct-22 | 8.8 | 7.19 | 87.7 | 139.9 | 606.9 |
| | 24-Jan-23 | 0.3 | 6.58 | 96.6 | 41.2 | 194.5 |
| Site 15 - SW / SED | 13-Mar-21 | 1.0 | 7.76 | 82.4 | 38.9 | 110.8 |
| | 5-May-21 | 9.1 | 6.88 | 42.0 | 46.5 | 196.7 |
| | 5-Aug-21 | 17.7 | 6.92 | 89.7 | 58.1 | 125.0 |
| | 3-Dec-21 | 5.2 | 6.26 | 80.0 | 41.0 | 170.0 |
| | 30-Mar-22 | 3.1 | 5.7 | 96.8 | 45.6 | 192.3 |
| | 21-Jun-22 | 21.0 | 6.16 | 82.7 | 50.0 | 168.9 |
| | 15-Oct-22 | 6.8 | 6.66 | 86.9 | 69.7 | 697.2 |
| | 23-Jan-01 | 1.6 | 7.19 | 89.3 | 52.8 | 149.3 |
| Site 16 - SW / SED | 14-Mar-21 | -0.1 | 6.95 | 83.1 | 17.4 | 181.3 |
| | 8-May-21 | 8.7 | 6.57 | 36.4 | 20.7 | 161.3 |
| | 5-Aug-21 | 19.5 | 6.81 | 84.2 | 49.1 | 78.9 |
| | 8-Dec-21 | 0.8 | 5.58 | 82.4 | 16.6 | 226.5 |
| | 30-Mar-22 | 1.3 | 5.27 | 89.6 | 13.3 | 212.3 |
| | 20-Jun-22 | 17.7 | 6.44 | 98.1 | 36.3 | 158.0 |
| | 16-Oct-22 | 9.6 | 6.45 | 72.4 | 58.6 | 592.7 |
| | 25-Jan-23 | -0.1 | 5.03 | 91.4 | 31.6 | 215.7 |
| Site 17 - SW / SED | 13-Mar-21 | -0.1 | 7.31 | 80.1 | 25.6 | 144.8 |
| | 8-May-21 | 9.0 | 6.65 | 36.9 | 36.3 | 189.8 |
| | 5-Aug-21 | 23.9 | 7.21 | 90.1 | 55.3 | 103.4 |
| | 8-Dec-21 | 1.3 | 6.15 | 88.3 | 25.1 | 199.2 |
| | 30-Mar-22 | 3.3 | 5.88 | 97.0 | 27.0 | 179.4 |
| | 20-Jun-22 | 20.8 | 6.27 | 95.4 | 48.7 | 161.4 |
| | 16-Oct-22 | 11.0 | 7.2 | 99.5 | 67.0 | 464.8 |
| | 24-Jan-23 | 1.3 | 6.37 | 93.9 | 48.1 | 178.1 |
| SW / SED - SD - 02 | 16-Oct-22 | 11.0 | 7.20 | 99.5 | 67.0 | 464.8 |
| Site 18 - SW / SED | 13-Mar-21 | - | - | - | - | - |
| | 8-May-21 | - | - | - | - | - |
| | 5-Aug-21 | - | - | - | - | - |
| | 8-Dec-21 | - | - | - | - | - |
| | 29-Mar-22 | - | - | - | - | - |
| | 19-Jun-22 | 16.9 | 6.76 | 95.1 | 44.5 | 153.3 |
| | 15-Oct-22 | - | - | - | - | - |
| | 27-Jan-23 | -0.1 | 6.06 | 92.2 | 22.2 | 195.4 |
| Site 19 - SW / SED | 14-Mar-21 | 1.1 | 5.80 | 72.5 | 14.4 | 208.5 |
| | 8-May-21 | 8.8 | 6.27 | 35.5 | 12.3 | 202.8 |
| | 5-Aug-21 | 18.4 | 5.76 | 34.5 | 21.9 | 142.9 |
| | 8-Dec-21 | 1.6 | 6.35 | 89.0 | 13.4 | 179.2 |
| | 31-Mar-22 | 3.0 | 5.19 | 97.3 | 14.7 | 216.4 |
| | 17-Jun-22 | 24.5 | 6.66 | 77.1 | 19.3 | 146.5 |

Table A-1 - Field Water Quality Parameter Measurements

| Location | Sample Event | Temperature (°C) | pH (Unitless) | Dissolved Oxygen (%) | Conductivity (µS/cm) | ORP (mV) |
|--------------------|--------------|------------------|---------------|----------------------|----------------------|----------|
| Site 19 - SW / SED | 15-Oct-22 | 12.2 | 6.32 | 97.2 | 24.3 | 696.2 |
| | 25-Jan-23 | 1.9 | 5.50 | 85.0 | 21.3 | 201.8 |
| SW / SED - SD* | 5-Aug-21 | 18.4 | 5.76 | 34.5 | 21.9 | 142.9 |
| | 8-Dec-21 | 1.6 | 6.35 | 89.0 | 13.4 | 179.2 |
| | 31-Mar-22 | 3.0 | 5.19 | 97.3 | 14.7 | 216.4 |
| SW / SED - SD - 01 | 17-Jun-22 | 24.5 | 6.66 | 77.1 | 19.3 | 146.5 |
| SW / SED - SD - 02 | 25-Jan-23 | 1.9 | 5.5 | 85.0 | 21.3 | 201.8 |
| Site 20 - SW / SED | 15-Mar-21 | 0.7 | 6.55 | 60.2 | 44.2 | 198.7 |
| | 5-May-21 | 9.8 | 7.08 | 38.8 | 44.7 | 203.4 |
| | 4-Aug-21 | 23.1 | 6.60 | 79.0 | 69.2 | 101.4 |
| | 3-Dec-21 | 6.7 | 6.81 | 90.4 | 43.7 | 162.0 |
| | 28-Mar-22 | 3.0 | 6.13 | 83.4 | 42.4 | 148.2 |
| | 18-Jun-22 | 18.9 | 6.43 | 85.6 | 57.8 | 163.0 |
| | 15-Oct-22 | 9.8 | 6.89 | 87.2 | 85.1 | 709.1 |
| | 23-Jan-23 | 0.7 | 6.64 | 79.6 | 57.1 | 143.7 |
| Site 21 - SW / SED | 15-Mar-21 | - | - | - | - | - |
| | 6-May-21 | 9.2 | 6.71 | 35.3 | 39.1 | 189.9 |
| | 4-Aug-21 | 20.8 | 6.34 | 77.9 | 55.1 | 129.4 |
| | 3-Dec-21 | 5.2 | 6.24 | 98.6 | 33.8 | 178.5 |
| | 30-Mar-22 | 2.6 | 5.9 | 93.7 | 34.0 | 179.1 |
| | 21-Jun-22 | 20.5 | 6.12 | 99.7 | 57.0 | 164.8 |
| | 15-Oct-22 | 8.6 | 6.7 | 83.3 | 67.4 | 618.9 |
| | 23-Jan-23 | 1.2 | 6.94 | 82.4 | 56.5 | 143.2 |
| Site 22 - SW / SED | 15-Mar-21 | - | - | - | - | - |
| | 6-May-21 | - | - | - | - | - |
| | 4-Aug-21 | - | - | - | - | - |
| | 3-Dec-21 | - | - | - | - | - |
| | 30-Mar-22 | - | - | - | - | - |
| | 20-Jun-22 | - | - | - | - | - |
| | 15-Oct-22 | - | - | - | - | - |
| | 25-Jan-23 | - | - | - | - | - |
| Site 23 - SW / SED | 15-Mar-21 | - | - | - | - | - |
| | 6-May-21 | - | - | - | - | - |
| | 4-Aug-21 | - | - | - | - | - |
| | 3-Dec-21 | - | - | - | - | - |
| | 30-Mar-22 | - | - | - | - | - |
| | 19-Jun-22 | 16.5 | 6.23 | 88.8 | 30.7 | 183.3 |
| | 15-Oct-22 | - | - | - | - | - |
| | 27-Jan-23 | 0.9 | 6.42 | 97.7 | 33.6 | 190.9 |
| Site 24 - SW / SED | 15-Mar-21 | - | - | - | - | - |
| | 6-May-21 | - | - | - | - | - |
| | 4-Aug-21 | - | - | - | - | - |
| | 3-Dec-21 | - | - | - | - | - |
| | 30-Mar-22 | - | - | - | - | - |
| | 19-Jun-22 | 14.6 | 6.47 | 94.9 | 33.1 | 179.8 |
| | 15-Oct-22 | - | - | - | - | - |
| | 27-Jan-23 | 0.0 | 6.28 | 94.2 | 29.3 | 185.0 |

Notes:

SW = Surface Water, SED = Sediment

SD-SW / SED = Field Duplicate Sample of Site 10 SW / SED during Winter and Spring, and of Site 19 SW / SED during Summer and Fall.

- = Not sampled during this event

No samples were collected at location Site 13 - SW / SED or Site 18 - SW / SED due to access restrictions

°C = Degrees Celsius

µS/cm = micro siemens per centimeter

mV = millivolts

ORP = Oxidation-Reduction Potential

Table A-2

Analytical Results for Inorganic Parameters in Surface Water

Table A-2 - Analytical Results for Inorganic Parameters in Surface Water

| Parameter | RDL ¹ | Units | Guideline ² | Site 1-SW | | | | | | | | | Site 2-SW | | | | | | | Site 3-SW | | | | | | | |
|--|------------------|---------|-------------------------|-----------|-------------|----------|-------------|-------------|-----------|-----------|-------------|-------------|-------------|----------|-------------|-------------|-----------|-------------|-------------|-----------|-------------|-------------|-------------|-------------|-----------|-------------|-------------|
| | | | | 14-Mar-21 | 7-May-21 | 6-Aug-21 | 8-Dec-21 | 31-Mar-22 | 19-Jun-22 | 15-Oct-22 | 27-Jan-23 | 14-Mar-21 | 8-May-21 | 6-Aug-21 | 8-Dec-21 | 31-Mar-22 | 17-Jun-22 | 15-Oct-22 | 25-Jan-23 | 14-Mar-21 | 7-May-21 | 3-Aug-21 | 5-Dec-21 | 29-Mar-22 | 18-Jun-22 | 16-Oct-22 | 25-Jan-23 |
| Field-measured pH | | | | - | 6.85 | 7.04 | 6.29 | 5.94 | 6.64 | - | 6.32 | 6.29 | 6.73 | 6.92 | 6.27 | 5.78 | 6.53 | 6.67 | 5.94 | - | 6.73 | 6.91 | 6.74 | 5.82 | 6.33 | 6.94 | 6.28 |
| Field measured temperature (°C) | | | | - | 7.5 | 19.2 | 0.8 | 1.3 | 15.9 | - | 0.5 | 0.0 | 8.6 | 21.5 | 0.8 | 1.7 | 26.7 | 12.4 | 0.4 | - | 9.4 | 19.8 | 0.7 | 1.3 | 18.7 | 7.5 | 0.4 |
| Ammonia guideline (mg/L as N) ³ | | | | - | 8.5 | 1.3 | 39.7 | 125.8 | 4.0 | - | 48.3 | 60.0 | 8.5 | 2.8 | 39.7 | 125.8 | 2.0 | 7.0 | 153 | - | 8.5 | 4.0 | 12.6 | 125.8 | 12.5 | 10.3 | 48.3 |
| pH | NA | UNITS | 6.5-9.0 | - | 6.46 | 6.66 | 6.46 | 6.33 | 6.70 | - | 6.11 | 6.20 | 6.34 | 6.65 | 6.38 | 6.17 | 6.79 | 6.35 | 6.04 | - | 6.38 | 6.39 | 6.48 | 6.19 | 6.67 | 6.34 | 6.16 |
| Reactive Silica | 0.5 | mg/L | - | - | 1.6 | 3.5 | 1.4 | 2.3 | 1.4 | - | 3.0 | 4.1 | 1.1 | 3.5 | 1.3 | 2.4 | 2.1 | 2.1 | 2.9 | - | 0.7 | 3.0 | <0.5 | 1.9 | <0.5 | 3.1 | 2.8 |
| Chloride | 1 | mg/L | 120 | - | 2 | 3 | 4 | 3 | 3 | - | 10 | 3 | 2 | 3 | 5 | 3 | 3 | 4 | 4 | - | 2 | 2 | 4 | 3 | 3 | 4 | 4 |
| Fluoride | 0.24/0.12 | mg/L | 0.12 | - | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | - | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.24 | - | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.24 |
| Sulphate | 2 | mg/L | 128 | - | <2 | <2 | <2 | <2 | <2 | - | 2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <4 | - | <2 | <2 | <2 | <2 | <2 | <2 | <4 |
| Alkalinity | 5 | mg/L | - | - | 7 | 13 | <5 | 5 | 9 | - | <5 | 6 | 5 | 13 | <5 | <5 | 8 | 11 | <5 | - | <5 | 8 | <5 | <5 | 9 | 11 | <5 |
| True Color | 5.00 | TCU | - | - | 52.2 | 25.0 | 43.0 | 34.8 | 19.3 | - | 47.8 | 44.8 | 67.0 | 37.3 | 44.1 | 35.5 | 34.3 | 15.6 | 44.8 | - | 46.3 | 14.8 | 29.4 | 32.8 | 22.4 | 15.7 | 40.5 |
| Turbidity | 0.5 | NTU | - | - | 0.6 | 0.6 | 2.5 | 2.1 | 4.1 | - | 2.7 | 0.8 | 0.7 | 0.7 | 0.9 | 1.4 | <0.5 | 0.9 | 0.8 | - | 0.6 | 1.1 | 0.7 | 0.8 | 5.4 | 1.1 | 0.9 |
| Electrical Conductivity | 1 | umho/cm | - | - | 28 | 45 | 32 | 23 | 32 | - | 23 | 29 | 26 | 45 | 31 | 23 | 31 | 46 | 28 | - | 25 | 31 | 28 | 21 | 30 | 48 | 28 |
| Nitrate + Nitrite as N | 0.05 | mg/L | - | - | <0.05 | <0.05 | 0.06 | 0.05 | 0.10 | - | 0.50 | 0.15 | <0.05 | <0.05 | 0.06 | <0.05 | <0.05 | <0.05 | <0.05 | - | <0.05 | 0.11 | 0.06 | <0.05 | <0.05 | 0.08 | <0.05 |
| Nitrate as N | 0.10/0.05 | mg/L | 13 | - | <0.05 | <0.05 | 0.06 | 0.05 | 0.10 | - | 1 | 0.15 | <0.05 | <0.05 | 0.06 | <0.05 | <0.05 | <0.05 | <0.10 | - | <0.05 | 0.05 | 0.06 | <0.05 | <0.05 | 0.08 | <0.10 |
| Nitrite as N | 0.10/0.05 | mg/L | 0.06 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.10 | - | <0.05 | 0.06 | <0.05 | <0.05 | <0.05 | <0.05 | <0.10 |
| Ammonia as N | 0.03 | mg/L | Calculated ² | - | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | - | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | 0.13 | <0.03 | <0.03 | - | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 |
| Total Organic Carbon | 0.5/1 | mg/L | - | - | 7.0 | 5.4 | 8.4 | 8.6 | 5.8 | - | 12.5 | 8.4 | 8.6 | 7.9 | 8.7 | 8.2 | 8.0 | 6.6 | 8.7 | - | 6.4 | 3.9 | 8 | 6.9 | 8.0 | 5.4 | 10.9 |
| Ortho-phosphate as P | 0.01 | mg/L | - | - | <0.01 | <0.01 | <0.01 | 0.02 | <0.01 | - | 0.02 | 0.02 | <0.01 | <0.01 | <0.01 | 0.01 | <0.01 | <0.01 | 0.02 | - | <0.01 | <0.01 | <0.01 | 0.01 | <0.01 | <0.01 | 0.02 |
| Total Sodium | 0.1/0.22/0.45/1 | mg/L | - | - | 2.6 | 3 | 2.79 | 2.5 | 2.9 | - | 2.5 | 2.8 | 2.5 | 2.94 | 2.98 | 2.5 | 2.6 | 8.3 | 2.7 | - | 2.3 | 2.32 | 2.76 | 2.4 | 2.5 | 6.7 | 2.6 |
| Total Potassium | 0.1/0.58/1.15 | mg/L | - | - | 0.3 | <0.58 | <1.15 | 0.4 | 0.3 | - | 0.2 | 0.3 | 0.4 | <0.58 | <1.15 | 0.5 | 0.3 | 0.2 | 0.3 | - | 0.3 | <0.58 | <1.15 | 0.3 | 0.2 | 0.3 | 0.2 |
| Total Calcium | 0.1/0.16/0.32 | mg/L | - | - | 1.8 | 3.42 | 2.10 | 1.4 | 2.1 | - | 1.3 | 1.8 | 1.8 | 3.69 | 2.07 | 1.4 | 2.2 | 2 | 1.4 | - | 1.8 | 2.08 | 1.86 | 1.4 | 2.4 | 2.4 | 1.5 |
| Total Magnesium | 0.1 /0.17/0.34 | mg/L | - | - | 0.9 | 1.51 | 0.85 | 0.8 | 1.0 | - | 0.7 | 0.8 | 0.8 | 1.56 | 0.85 | 0.8 | 0.9 | 1.9 | 0.8 | - | 0.8 | 1.04 | 0.96 | 0.7 | 1.1 | 2.3 | 0.9 |
| Total Phosphorous | 0.02/0.10 | mg/L | - | - | 0.03 | <0.10 | <0.10 | <0.02 | <0.02 | - | <0.4 | <0.02 | 0.03 | <0.10 | <0.10 | <0.02 | <0.02 | 0.03 | 0.5 | - | 0.03 | <0.10 | <0.10 | <0.02 | <0.02 | 0.04 | 0.5 |
| Bicarbonate Alkalinity CaCO ₃ | 5 | mg/L | - | - | 7 | 13 | <5 | 5 | 9 | - | <5 | 6 | 5 | 13 | <5 | <5 | 8 | 11 | <5 | - | <5 | 8 | <5 | <5 | 9 | 11 | <5 |
| Carbonate Alkalinity CaCO ₃ | 10 | mg/L | - | - | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| Hydroxide | 5 | mg/L | - | - | <5 | <5 | <5 | <5 | <5 | - | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| Calculated TDS | 1 | mg/L | - | - | 12 | 19 | 10 | 12 | 15 | - | 19 | 13 | 11 | 19 | 12 | 9 | 14 | 23 | 9 | - | 7 | 13 | 10 | 8 | 15 | 23 | 9 |
| Hardness | 0.5 | mg/L | - | - | 8.2 | 14.8 | 8.7 | 6.8 | 9.4 | - | 6.1 | 7.8 | 7.8 | 15.6 | 8.7 | 6.8 | 9.2 | 12.8 | 6.80 | - | 7.8 | 9.5 | 8.6 | 6.4 | 10.5 | 15.5 | 7.5 |
| Langelier Index (@20C) | NA | mg/L | - | - | -3.94 | -3.21 | -4.03 | -4.32 | -3.53 | - | -4.6 | -4.27 | -4.20 | -3.18 | -4.12 | -4.49 | -3.47 | -3.83 | -4.62 | - | -4.16 | -3.88 | -4.06 | -4.46 | -3.50 | -3.76 | -4.47 |
| Langelier Index (@ 4C) | NA | NA | - | - | -4.26 | -3.53 | -4.35 | -4.64 | -3.85 | - | -4.92 | -4.59 | -4.52 | -3.50 | -4.44 | -4.81 | -3.79 | -4.15 | -4.94 | - | -4.48 | -4.2 | -4.38 | -4.78 | -3.82 | -4.08 | -4.79 |
| Saturation pH (@ 20C) | NA | NA | - | - | 10.4 | 9.87 | 10.5 | 10.6 | 10.2 | - | 10.7 | 10.5 | 10.5 | 9.83 | 10.5 | 10.7 | 10.3 | 10.2 | 10.7 | - | 10.5 | 10.3 | 10.5 | 10.7 | 10.2 | 10.1 | 10.6 |
| Saturation pH (@ 4C) | NA | NA | - | - | 10.7 | 10.2 | 10.8 | 11.0 | 10.5 | - | 11 | 10.8 | 10.9 | 10.2 | 10.8 | 11.0 | 10.6 | 10.5 | 11.0 | - | 10.9 | 10.6 | 10.9 | 11.0 | 10.5 | 10.4 | 11.0 |
| Anion Sum | NA | me/L | - | - | 0.20 | 0.34 | 0.12 | 0.19 | 0.27 | - | 0.36 | 0.22 | 0.16 | 0.34 | 0.15 | 0.08 | 0.24 | 0.33 | 0.11 | - | 0.06 | 0.22 | 0.12 | 0.08 | 0.26 | 0.34 | 0.11 |
| Cation sum | NA | me/L | - | - | 0.30 | 0.44 | 0.32 | 0.28 | 0.33 | - | 0.26 | 0.31 | 0.29 | 0.46 | 0.32 | 0.29 | 0.33 | 0.62 | 0.28 | - | 0.28 | 0.30 | 0.31 | 0.26 | 0.33 | 0.62 | 0.29 |
| % Difference/ Ion Balance | NA | % | - | - | 21.5 | 12.1 | 46.2 | 18.8 | 9.1 | - | 16.4 | 18.4 | 30.6 | 14.3 | 38.0 | 54.3 | 14.2 | 30.4 | 42.3 | - | 66.2 | 14.3 | 44.5 | 50.7 | 11.6 | 29 | 43.4 |
| Total Suspended Solids | 5 | mg/L | - | - | <5 | <5 | <5 | <5 | <5 | - | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | <5 | <5 | <5 | <5 | <5 | <5 | <5 |

Notes:
1. RDL = Reported Detection Limit; for all events unless otherwise noted
- Total organic carbon RDL 0.5 mg/L for all samples; except December 2021 samples at Sites 3, 4, 6 to 12, 14, 15, 20 and 21 (RDL 1 mg/L)
RDLs for fluoride, nitrate and nitrite (January 2023 / all other events)
- RDL for sodium (March and May 2021, March 2022 samples at Sites 1 to 5, 7, 10 to 21, June 2022 samples at Sites 1 to 5, 7, and 9 to 24, October 2022 / August 2021 / December 2021 / March 2022 samples at Sites 6, 8 and 9, and June 2022 samples at Sites 6 and 8)
- RDLs for potassium, calcium and magnesium (March and May 2021, March, June and October 2022 / August 2021 / December 2021)
- RDL for phosphorous (March and May 2021, March June and October 2022 / August and December 2021)

2. Atlantic Risk-Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Surface Water [Freshwater] (2022)

3. The guideline for Ammonia decreases as pH and temperature increase. For guideline selection for each sample, field-measured pH rounded up to the next 0.5 pH unit, and field-measured temperature rounded up to the nearest 5 degrees Celsius. Highest ammonia guideline value conservatively referenced for samples with pH less than 6.

"-" = no applicable guideline or not analyzed

NA = Not applicable

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Table A-2 - Analytical Results for Inorganic Parameters in Surface Water

| Parameter | RDL ¹ | Units | Guideline ² | Site 4-SW | | | | | | | | | Site 5-SW | | | | | | Site 6-SW | | | | | | | | |
|--|------------------|---------|-------------------------|-----------|----------|-------------|----------|-----------|-----------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-----------|-------------|-------------|-----------|----------|-------------|-----------|-----------|-----------|-----------|-------------|
| | | | | 12-Mar-21 | 7-May-21 | 3-Aug-21 | 5-Dec-21 | 29-Mar-22 | 18-Jun-22 | 16-Oct-22 | 25-Jan-23 | 14-Mar-21 | 5-May-21 | 4-Aug-21 | 8-Dec-21 | 30-Mar-22 | 18-Jun-22 | 15-Oct-22 | 25-Jan-23 | 12-Mar-21 | 6-May-21 | 3-Aug-21 | 13-Dec-21 | 31-Mar-22 | 20-Jun-22 | 16-Oct-22 | 25-Jan-23 |
| Field-measured pH | | | | 7.83 | 7.03 | 7.53 | 6.59 | 6.31 | 6.85 | 6.85 | 6.62 | 6.46 | 6.26 | 6.22 | 6.04 | 5.32 | - | 6.45 | 5.86 | 8.06 | 6.94 | 6.11 | 6.17 | 5.96 | 6.18 | 6.76 | 6.54 |
| Field measured temperature (°C) | | | | 0.6 | 7.3 | 16.4 | 0.3 | 1.9 | 14.2 | 8.4 | 0.9 | 0.8 | 9.6 | 16.4 | 2.1 | 0.3 | - | 9.2 | 0.6 | 0.5 | 10.3 | 20.9 | 1.1 | 1.8 | 20.5 | 11.0 | 1.3 |
| Ammonia guideline (mg/L as N) ³ | | | | 1.3 | 2.7 | 0.4 | 12.6 | 39.5 | 5.7 | 10.3 | 18.9 | 39.7 | 26.6 | 12.5 | 39.7 | 125.8 | - | 32.4 | 153.0 | 0.4 | 5.7 | 8.7 | 39.7 | 125.8 | 8.7 | 7.0 | 15.3 |
| pH | NA | UNITS | 6.5-9.0 | 6.62 | 6.63 | 6.00 | 6.82 | 6.55 | 6.83 | 6.41 | 6.28 | 6.18 | 6.30 | 6.46 | 6.29 | 6.19 | - | 6.49 | 5.92 | 6.73 | 6.79 | 6.46 | 7.00 | 6.54 | 6.86 | 6.51 | 6.40 |
| Reactive Silica | 0.5 | mg/L | - | 4.3 | 1.8 | 5.9 | <0.5 | 2.7 | 2.7 | 5 | 3.6 | 5.0 | 2.6 | 6.8 | <0.5 | 2.9 | - | 5.80 | 3.3 | 3.1 | <0.5 | 2.5 | 2.8 | 2.7 | 0.7 | 0.7 | 3.3 |
| Chloride | 1 | mg/L | 120 | 9 | 10 | 4 | 14 | 13 | 9 | 8 | 8 | 3 | 2 | 3 | 4 | 4 | - | 4.00 | 5 | 25 | 27 | 11 | 27 | 17 | 38 | 48 | 14 |
| Fluoride | 0.24/0.12 | mg/L | 0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.24 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | - | <0.12 | <0.24 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.24 |
| Sulphate | 2 | mg/L | 128 | 2 | <2 | <2 | 2 | <2 | <2 | 4 | <4 | <2 | <2 | 2 | <2 | <2 | - | <2 | <4 | 4 | 4 | <2 | 4 | 2 | 4 | 3 | <4 |
| Alkalinity | 5 | mg/L | - | 9 | 9 | 6 | 10 | 6 | 16 | 15 | 6 | 6 | 7 | 16 | <5 | 5 | - | 23.00 | <5 | 12 | 11 | 14 | 9 | 8 | 16 | 17 | 11 |
| True Color | 5.00 | TCU | - | 14.9 | 44.2 | 40.0 | 49.3 | 23.2 | 19.6 | 12.6 | 32.5 | 70.8 | 71.7 | 120 | 114 | <5.00 | - | 29.60 | 59.8 | 22.3 | 42.1 | 40.6 | 33.2 | 91.1 | 27.5 | 9.82 | 47.8 |
| Turbidity | 0.5 | NTU | - | 1.2 | 0.7 | 0.8 | 3.4 | 4.2 | 2.2 | 14.5 | 7 | 0.8 | <0.5 | 2.6 | 0.8 | 1.3 | - | 12.50 | 1.6 | 1.7 | 2.4 | 2.2 | 10.7 | 15.8 | 2.2 | 0.6 | 14.7 |
| Electrical Conductivity | 1 | umho/cm | - | 64 | 66 | 59 | 78 | 66 | 71 | 80 | 52 | 32 | 30 | 68 | 34 | 26 | - | 66.00 | 31 | 125 | 136 | 80 | 140 | 81 | 174 | 224 | 75 |
| Nitrate + Nitrite as N | 0.05 | mg/L | - | 0.55 | 0.13 | 0.19 | 0.22 | 0.25 | 0.11 | 0.37 | <0.05 | 0.44 | 0.12 | 0.44 | 0.24 | 0.13 | - | 0.09 | <0.05 | 0.40 | <0.05 | <0.05 | 0.25 | 0.27 | 0.05 | <0.05 | <0.05 |
| Nitrate as N | 0.10/0.05 | mg/L | 13 | 0.55 | 0.13 | 0.19 | 0.22 | 0.25 | 0.11 | 0.37 | <0.10 | 0.44 | 0.12 | 0.06 | 0.24 | 0.13 | - | 0.09 | <0.10 | 0.40 | <0.05 | <0.05 | 0.25 | 0.27 | 0.05 | <0.05 | <0.10 |
| Nitrite as N | 0.10/0.05 | mg/L | 0.06 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.10 | <0.05 | <0.05 | 0.38 | <0.05 | <0.05 | - | <0.05 | <0.10 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.10 |
| Ammonia as N | 0.03 | mg/L | Calculated ² | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | 0.08 | <0.03 | 0.57 | <0.03 | <0.03 | - | <0.03 | <0.03 | <0.03 | <0.03 | 0.13 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 |
| Total Organic Carbon | 0.5/1 | mg/L | - | 5.5 | 6.5 | 6.5 | 7 | 7.8 | 5.5 | 4.4 | 8.3 | 8.2 | 8 | 33.4 | 11.9 | 7.2 | - | 5.00 | 9.3 | 7.4 | 7.2 | 8.7 | 14.0 | 7.4 | 14.9 | 7.4 | 8.1 |
| Ortho-phosphate as P | 0.01 | mg/L | - | <0.01 | <0.01 | 0.01 | 0.01 | <0.01 | 0.01 | <0.01 | 0.02 | 0.01 | <0.01 | <0.01 | <0.01 | 0.01 | - | <0.01 | 0.02 | <0.01 | <0.01 | <0.01 | <0.01 | 0.01 | <0.01 | <0.01 | 0.02 |
| Total Sodium | 0.1/0.22/0.45/1 | mg/L | - | 6.6 | 7.4 | 4.18 | 12.1 | 9.0 | 7.5 | 5 | 4.8 | 2.5 | 2.6 | 3.05 | 2.71 | 2.4 | - | 25.00 | 2.9 | 15.1 | 16.2 | 7.6 | 17.5 | 10 | 23 | 24 | 7.6 |
| Total Potassium | 0.1/0.58/1.15 | mg/L | - | 0.3 | 0.4 | <0.58 | <1.15 | 0.5 | 0.4 | 0.1 | 0.5 | 0.2 | 0.3 | 1.91 | <1.15 | 0.2 | - | 0.70 | 0.2 | 0.3 | 0.5 | <0.58 | <1.15 | 0.6 | 0.7 | 0.3 | 0.6 |
| Total Calcium | 0.1/0.16/0.32 | mg/L | - | 4.2 | 3.6 | 5.21 | 5.87 | 4.1 | 5.2 | 4.1 | 2.9 | 2.0 | 2.4 | 5.24 | 2.51 | 1.5 | - | 8.30 | 1.7 | 6.7 | 6.0 | 5.02 | 6.89 | 4.8 | 7.8 | 6.1 | 3.7 |
| Total Magnesium | 0.1/0.17/0.34 | mg/L | - | 1.2 | 1.0 | 1.38 | 2.06 | 1.3 | 1.4 | 5.5 | 1.1 | 1.1 | 1.2 | 2.80 | 1.30 | 0.9 | - | 2.30 | 1.1 | 1.6 | 1.2 | 1.19 | 2.01 | 1.5 | 1.9 | 1.9 | 1.3 |
| Total Phosphorous | 0.02/0.10 | mg/L | - | <0.02 | 0.03 | <0.10 | <0.10 | <0.02 | <0.02 | 0.05 | 0.8 | <0.02 | 0.03 | <0.10 | <0.10 | <0.02 | - | 0.06 | 0.6 | <0.02 | 0.03 | <0.10 | <0.10 | 0.02 | 0.03 | 0.03 | 0.7 |
| Bicarbonate Alkalinity CaCO ₃ | 5 | mg/L | - | 9 | 9 | 6 | 10 | 6 | 16 | 15 | 6 | 6 | 7 | 16 | <5 | 5 | - | 23.00 | <5 | 12 | 11 | 14 | 9 | 8 | 16 | 17 | 11 |
| Carbonate Alkalinity CaCO ₃ | 10 | mg/L | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| Hydroxide | 5 | mg/L | - | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| Calculated TDS | 1 | mg/L | - | 31 | 29 | 20 | 44 | 33 | 34 | 39 | 22 | 15 | 14 | 32 | 12 | 13 | - | 56.00 | 11 | 62 | 62 | 34 | 65 | 43 | 86 | 94 | 35 |
| Hardness | 0.5 | mg/L | - | 15.4 | 13.1 | 18.7 | 23.1 | 15.6 | 18.7 | 32.9 | 11.8 | 9.5 | 10.9 | 24.6 | 11.6 | 7.5 | - | 30.20 | 8.8 | 23.3 | 19.9 | 17.4 | 25.5 | 18.2 | 27.3 | 6.51 | 14.6 |
| Langelier Index (@20C) | NA | mg/L | - | -3.34 | -3.39 | -4.02 | -2.96 | -3.60 | -2.79 | -3.35 | -4.00 | -4.25 | -3.98 | -3.16 | -4.13 | -4.43 | - | -2.79 | -4.67 | -2.93 | -2.96 | -3.23 | -2.78 | -3.43 | -2.62 | -3.06 | -3.53 |
| Langelier Index (@ 4C) | NA | NA | - | -3.66 | -3.71 | -4.34 | -3.28 | -3.92 | -3.11 | -3.67 | -4.32 | -4.57 | -4.30 | -3.48 | -4.45 | -4.75 | - | -3.11 | -4.99 | -3.25 | -3.28 | -3.55 | -3.10 | -3.75 | -2.94 | -3.38 | -3.85 |
| Saturation pH (@ 20C) | NA | NA | - | 9.96 | 10.0 | 10.0 | 9.78 | 10.1 | 9.62 | 9.76 | 10.3 | 10.4 | 10.3 | 9.62 | 10.4 | 10.6 | - | 9.28 | 10.6 | 9.66 | 9.75 | 9.69 | 9.78 | 9.97 | 9.48 | 9.57 | 9.93 |
| Saturation pH (@ 4C) | NA | NA | - | 10.3 | 10.3 | 10.3 | 10.1 | 10.5 | 9.94 | 10.1 | 10.6 | 10.7 | 10.6 | 9.94 | 10.7 | 10.9 | - | 9.60 | 10.9 | 9.98 | 10.1 | 10.00 | 10.1 | 10.3 | 9.80 | 9.89 | 10.3 |
| Anion Sum | NA | me/L | - | 0.51 | 0.47 | 0.25 | 0.65 | 0.50 | 0.58 | 0.64 | 0.35 | 0.24 | 0.20 | 0.48 | 0.13 | 0.22 | - | 0.58 | 0.14 | 1.06 | 1.06 | 0.59 | 1.04 | 0.70 | 1.48 | 1.76 | 0.61 |
| Cation sum | NA | me/L | - | 0.62 | 0.61 | 0.58 | 1.02 | 0.75 | 0.72 | 0.94 | 0.51 | 0.34 | 0.37 | 0.80 | 0.38 | 0.28 | - | 1.79 | 0.34 | 1.15 | 1.14 | 0.70 | 1.33 | 0.87 | 1.58 | 1.52 | 0.72 |
| % Difference/ Ion Balance | NA | % | - | 9.0 | 12.8 | 40.6 | 22.0 | 19.7 | 10.6 | 19.2 | 18.8 | 17.6 | 28.3 | 25.3 | 49 | 10.9 | - | 51.10 | 41 | 4.3 | 3.4 | 8.8 | 12.1 | 10.9 | 3.3 | 7.2 | 8.1 |
| Total Suspended Solids | 5 | mg/L | - | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | 8 | <5 | <5 | - | <5 | <5 | <5 | <5 | 16 | <5 | 7 | <5 | <5 | <5 |

Notes:
1. RDL = Reported Detection Limit; for all events unless otherwise noted
- Total organic carbon RDL 0.5 mg/L for all samples; except December 2021 samples at Sites 3, 4, 6 to 12, 14, 15, 20 and 21 (RDL 1 mg/L)
RDLs for fluoride, nitrate and nitrite (January 2023 / all other events)
- RDL for sodium (March and May 2021, March 2022 samples at Sites 1 to 5, 7, 10 to 21, June 2022 samples at Sites 1 to 5, 7, and 9 to 24, October 2022 / August 2021 / December 2021 / March 2022 samples at Sites 6, 8 and 9, and June 2022 samples at Sites 6 and 8)
- RDLs for potassium, calcium and magnesium (March and May 2021, March, June and October 2022 / August 2021 / December 2021)
- RDL for phosphorous (March and May 2021, March June and October 2022 / August and December 2021)
2. Atlantic Risk-Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Surface Water [Freshwater] (2022)
3. The guideline for Ammonia decreases as pH and temperature increase. For guideline selection for each sample, field-measured pH rounded up to the next 0.5 pH unit, and field-measured temperature rounded up to the nearest 5 degrees Celsius. Highest ammonia guideline value conservatively referenced for samples with pH less than 6.

"-" = no applicable guideline or not analyzed

NA = Not applicable

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Table A-2 - Analytical Results for Inorganic Parameters in Surface Water

| Parameter | RDL ¹ | Units | Guideline ² | Site 10-SW | | | | | | | | | SW-SD* | | | | | Site 11-SW | | | | | | |
|--|------------------|---------|-------------------------|-------------|-------------|----------|-------------|-------------|-----------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-----------|-------------|-------------|
| | | | | 14-Mar-21 | 5-May-21 | 5-Aug-21 | 3-Dec-21 | 30-Mar-22 | 19-Jun-22 | 15-Oct-22 | 23-Jan-23 | 12-Mar-21 | 5-May-21 | 19-Jun-22 | 15-Oct-22 | 23-Jan-23 | 15-Mar-21 | 6-May-21 | 4-Aug-21 | 13-Dec-21 | 29-Mar-22 | 20-Jun-22 | 16-Oct-22 | 24-Jan-23 |
| Field-measured pH | | | | 6.51 | 6.51 | 6.75 | 6.13 | 5.67 | 6.12 | 6.74 | 5.92 | 6.51 | 6.51 | 6.12 | 6.74 | 5.92 | 7.17 | 7.06 | 6.45 | 5.46 | 5.67 | 6.36 | 6.03 | 6.54 |
| Field measured temperature (°C) | | | | 0.4 | 13.8 | 22.4 | 5.5 | 1.3 | 18.4 | 8.3 | 0.2 | 0.4 | 13.8 | 18.4 | 8.3 | 0.2 | -0.1 | 7.0 | 15.1 | 0.6 | 0.0 | 14.2 | 8.4 | 0.3 |
| Ammonia guideline (mg/L as N) ³ | | | | 12.6 | 5.7 | 2.8 | 26.6 | 125.8 | 12.5 | 10.3 | 153.0 | 12.6 | 5.7 | 12.5 | 10.3 | 153.0 | 6.0 | 2.7 | 3.5 | 125.8 | 125.8 | 18.1 | 48.3 | 15.3 |
| pH | NA | UNITS | 6.5-9.0 | 6.32 | 6.31 | 6.58 | 6.40 | 6.17 | 6.70 | 6.42 | 6.14 | 6.38 | 6.37 | 6.70 | 6.57 | 6.11 | 5.94 | 6.40 | 6.23 | 5.92 | 5.94 | 6.64 | 6.24 | 6.07 |
| Reactive Silica | 0.5 | mg/L | - | 4.3 | <0.5 | 2.4 | 6.0 | 2.2 | 0.8 | 2.1 | 3.2 | 4.4 | 0.8 | 0.8 | 4.3 | 2.9 | 3.2 | 1.5 | 3.3 | 2.5 | 1.8 | 1.6 | 1.8 | 2.5 |
| Chloride | 1 | mg/L | 120 | 35 | 7 | 7 | 8 | 10 | 7 | 10 | 6 | 35 | 7 | 7 | 9 | 8 | 3 | 2 | 2 | 3 | 3 | 2 | 3 | 4 |
| Fluoride | 0.24/0.12 | mg/L | 0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.24 |
| Sulphate | 2 | mg/L | 128 | 2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | 2 | <2 | <2 | <2 | <4 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <4 |
| Alkalinity | 5 | mg/L | - | 5 | 5 | 11 | <5 | <5 | 8 | 12 | 14 | 6 | 6 | 9 | 18 | <5 | <5 | 5 | <5 | <5 | <5 | 8 | 7 | <5 |
| True Color | 5.00 | TCU | - | 30.7 | 44.0 | 50.1 | 60.0 | 37.2 | 35.2 | 13.2 | 59.1 | 42.6 | 57.7 | 48.9 | 21.9 | 48.5 | 41.4 | 42.8 | 6.08 | 67.6 | 48.5 | 16.0 | 6.6 | 32.4 |
| Turbidity | 0.5 | NTU | - | 1.6 | 0.7 | 0.6 | 1.3 | 1.4 | 1.9 | 6.8 | 0.7 | 1.0 | 0.8 | 2.5 | 0.6 | 0.5 | 1.6 | <0.5 | <0.5 | 1.8 | 0.8 | 2.7 | 0.5 | <0.5 |
| Electrical Conductivity | 1 | umho/cm | - | 140 | 42 | 55 | 46 | 48 | 48 | 73 | 44 | 142 | 43 | 49 | 71 | 44 | 23 | 22 | 48 | 25 | 19 | 27 | 34 | 26 |
| Nitrate + Nitrite as N | 0.05 | mg/L | - | 0.42 | <0.05 | <0.05 | 0.12 | 0.07 | <0.05 | <0.05 | 0.20 | 0.42 | <0.05 | <0.05 | <0.05 | <0.05 | 0.22 | <0.05 | 2.61 | 0.13 | 0.05 | 0.19 | 0.06 | <0.05 |
| Nitrate as N | 0.10/0.05 | mg/L | 13 | 0.42 | <0.05 | <0.05 | 0.12 | 0.07 | <0.05 | <0.05 | 0.20 | 0.42 | <0.05 | <0.05 | <0.05 | <0.10 | 0.22 | <0.05 | 2.61 | 0.13 | 0.05 | 0.19 | 0.06 | <0.10 |
| Nitrite as N | 0.10/0.05 | mg/L | 0.06 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.10 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.10 |
| Ammonia as N | 0.03 | mg/L | Calculated ² | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | 0.04 | <0.03 | <0.03 | <0.03 | 0.23 | <0.03 | <0.03 | <0.03 | <0.03 |
| Total Organic Carbon | 0.5/1 | mg/L | - | 7.5 | 7.9 | 4.2 | 9 | 7.1 | 14.7 | 5.8 | 14.1 | 7.7 | 8.0 | 8.7 | 7.8 | 10.8 | 7.3 | 5.5 | 1.3 | 14 | 9.5 | 8.3 | 3.7 | 7.9 |
| Ortho-phosphate as P | 0.01 | mg/L | - | 0.01 | <0.01 | <0.01 | <0.01 | 0.01 | <0.01 | <0.01 | 0.02 | 0.02 | <0.01 | <0.01 | <0.01 | 0.02 | 0.01 | <0.01 | <0.01 | 0.01 | <0.01 | <0.01 | <0.01 | 0.02 |
| Total Sodium | 0.1/0.22/0.45/1 | mg/L | - | 17.5 | 5.5 | 5.64 | 6.52 | 6 | 5.8 | 6.1 | 5.6 | 18.0 | 5.8 | 5.8 | 7.8 | 5.4 | 2.1 | 2.2 | 2.87 | 5.13 | 1.9 | 2.7 | 3.5 | 2.4 |
| Total Potassium | 0.1/0.58/1.15 | mg/L | - | 0.3 | 0.3 | <0.58 | <1.15 | 0.2 | 0.2 | 0.4 | 0.2 | 0.3 | 0.3 | 0.2 | 0.3 | 0.1 | 0.1 | 0.1 | <0.58 | 3.54 | 0.2 | 0.2 | 0.3 | <0.1 |
| Total Calcium | 0.1/0.16/0.32 | mg/L | - | 3.4 | 1.6 | 2.30 | 2.23 | 1.4 | 2.2 | 3.3 | 1.8 | 3.6 | 1.7 | 2.1 | 2.7 | 1.4 | 1.4 | 1.4 | 3.05 | 6.22 | 1.1 | 1.9 | 5.2 | 1.5 |
| Total Magnesium | 0.1 /0.17/0.34 | mg/L | - | 1.8 | 0.9 | 1.63 | 1.38 | 0.8 | 1.3 | 2.6 | 1.0 | 1.8 | 0.9 | 1.3 | 2.2 | 1.0 | 0.6 | 0.7 | 1.20 | 5.73 | 0.5 | 1.0 | 2.6 | 0.8 |
| Total Phosphorous | 0.02/0.10 | mg/L | - | <0.02 | 0.03 | <0.10 | <0.10 | <0.02 | <0.02 | 0.04 | 0.5 | <0.02 | 0.04 | 0.02 | 0.06 | 0.4 | <0.02 | 0.02 | <0.10 | <0.10 | <0.02 | <0.02 | 0.05 | 0.48 |
| Bicarbonate Alkalinity CaCO ₃ | 5 | mg/L | - | 5 | 5 | 11 | <5 | <5 | 8 | 12 | 14 | 6 | 6 | 9 | 18 | <5 | <5 | 5 | <5 | <5 | <5 | 8 | 7 | <5 |
| Carbonate Alkalinity CaCO ₃ | 10 | mg/L | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| Hydroxide | 5 | mg/L | - | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| Calculated TDS | 1 | mg/L | - | 66 | 19 | 23 | 19 | 19 | 22 | 30 | 24 | 67 | 20 | 22 | 36 | 16 | 9 | 10 | 21 | 25 | 7 | 14 | 21 | 9 |
| Hardness | 0.5 | mg/L | - | 15.9 | 7.7 | 12.5 | 11.3 | 6.8 | 10.8 | 18.9 | 8.6 | 16.4 | 8.0 | 10.6 | 15.8 | 7.6 | 6.0 | 6.4 | 12.6 | 39.1 | 4.8 | 8.9 | 23.7 | 7 |
| Langelier Index (@20C) | NA | mg/L | - | -4.02 | -4.30 | -3.54 | -4.08 | -4.51 | -3.58 | -3.52 | -3.98 | -3.86 | -4.14 | -3.55 | -3.29 | -4.57 | -4.72 | -4.24 | -4.11 | -4.12 | -4.82 | -3.68 | -3.72 | -4.56 |
| Langelier Index (@ 4C) | NA | NA | - | -4.34 | -4.62 | -3.86 | -4.40 | -4.83 | -3.9 | -3.84 | -4.30 | -4.18 | -4.46 | -3.87 | -3.61 | -4.89 | -5.04 | -4.56 | -4.43 | -4.44 | -5.14 | -4.00 | -4.04 | -4.88 |
| Saturation pH (@ 20C) | NA | NA | - | 10.3 | 10.6 | 10.1 | 10.5 | 10.7 | 10.3 | 9.94 | 10.1 | 10.2 | 10.5 | 10.2 | 9.9 | 10.7 | 10.7 | 10.6 | 10.3 | 10.0 | 10.8 | 10.3 | 9.96 | 10.6 |
| Saturation pH (@ 4C) | NA | NA | - | 10.7 | 10.9 | 10.4 | 10.8 | 11.0 | 10.6 | 10.3 | 10.4 | 10.6 | 10.8 | 10.6 | 10.2 | 11.0 | 11.0 | 11.0 | 10.7 | 10.4 | 11.1 | 10.6 | 10.3 | 11.0 |
| Anion Sum | NA | me/L | - | 1.16 | 0.30 | 0.42 | 0.23 | 0.29 | 0.36 | 0.52 | 0.46 | 1.18 | 0.32 | 0.38 | 0.61 | 0.23 | 0.10 | 0.16 | 0.24 | 0.09 | 0.09 | 0.23 | 0.23 | 0.11 |
| Cation sum | NA | me/L | - | 1.12 | 0.42 | 0.50 | 0.53 | 0.43 | 0.49 | 0.67 | 0.44 | 1.15 | 0.44 | 0.49 | 0.83 | 0.41 | 0.23 | 0.24 | 0.38 | 1.14 | 0.22 | 0.31 | 0.72 | 0.26 |
| % Difference/ Ion Balance | NA | % | - | 1.8 | 17.3 | 9.1 | 39.0 | 19.4 | 15.7 | 12.1 | 2.2 | 1.1 | 16.3 | 12.5 | 14.8 | 29.3 | 39.5 | 21.2 | 22.6 | 84.8 | 42 | 14.2 | 51.7 | 39.9 |
| Total Suspended Solids | 5 | mg/L | - | <5 | <5 | <5 | <5 | <5 | <5 | 42 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |

Notes:
1. RDL = Reported Detection Limit; for all events unless otherwise noted
- Total organic carbon RDL 0.5 mg/L for all samples; except December 2021 samples at Sites 3, 4, 6 to 12, 14, 15, 20 and 21 (RDL 1 mg/L)
RDLs for fluoride, nitrate and nitrite (January 2023 / all other events)
- RDL for sodium (March and May 2021, March 2022 samples at Sites 1 to 5, 7, 10 to 21, June 2022 samples at Sites 1 to 5, 7, and 9 to 24, October 2022 / August 2021 / December 2021 / March 2022 samples at Sites 6, 8 and 9, and June 2022 samples at Sites 6 and 8)
- RDLs for potassium, calcium and magnesium (March and May 2021, March, June and October 2022 / August 2021 / December 2021)
- RDL for phosphorous (March and May 2021, March June and October 2022 / August and December 2021)
2. Atlantic Risk-Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Surface Water [Freshwater] (2022)
3. The guideline for Ammonia decreases as pH and temperature increase. For guideline selection for each sample, field-measured pH rounded up to the next 0.5 pH unit, and field-measured temperature rounded up to the nearest 5 degrees Celsius. Highest ammonia guideline value conservatively referenced for samples with pH less than 6.

"-" = no applicable guideline or not analyzed
NA = Not applicable
Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Table A-2 - Analytical Results for Inorganic Parameters in Surface Water

| Parameter | RDL ¹ | Units | Guideline ² | Site 12-SW | | | | | | | | Site 13-SW | | | | | | | | Site 14-SW | | | | | | | |
|--|------------------|---------|-------------------------|------------|----------|-------------|-------------|-------------|-------------|-------------|-------------|------------|----------|----------|-----------|-----------|-----------|-----------|-------------|------------|----------|----------|-----------|-----------|-----------|-----------|-------------|
| | | | | 15-Mar-21 | 6-May-21 | 4-Aug-21 | 14-Dec-21 | 29-Mar-22 | 21-Jun-22 | 16-Oct-22 | 24-Jan-23 | 15-Mar-21 | 6-May-21 | 4-Aug-21 | 14-Dec-21 | 29-Mar-22 | 21-Jun-22 | 15-Oct-22 | 24-Jan-23 | 15-Mar-21 | 9-May-21 | 4-Aug-21 | 14-Dec-21 | 29-Mar-22 | 21-Jun-22 | 16-Oct-22 | 24-Jan-23 |
| Field-measured pH | | | | - | - | 6.4 | 5.89 | 5.2 | 5.88 | 5.97 | 5.63 | - | - | - | - | - | 6.15 | - | 5.23 | - | 7.21 | 7.05 | 6.76 | 5.82 | 6.1 | 7.19 | 6.58 |
| Field measured temperature (°C) | | | | - | - | 16.3 | 0.7 | 0 | 12.2 | 9.7 | 0.3 | - | - | - | - | - | 13.4 | - | 0.0 | - | 8.3 | 16.2 | 0.5 | 0.4 | 13.2 | 8.8 | 0.3 |
| Ammonia guideline (mg/L as N) ³ | | | | - | - | 4.0 | 125.8 | 125.8 | 57.3 | 102.0 | 153.0 | - | - | - | - | - | 18.1 | - | 231.0 | - | 2.7 | 1.3 | 12.6 | 125.8 | 18.1 | 4.8 | 15.3 |
| pH | NA | UNITS | 6.5-9.0 | - | - | 6.17 | 5.96 | 5.88 | 6.48 | 6.33 | 5.79 | - | - | - | - | - | 6.52 | - | 5.84 | - | 7.00 | 7.48 | 6.83 | 6.61 | 7.27 | 7.05 | 6.39 |
| Reactive Silica | 0.5 | mg/L | - | - | - | 5.4 | 3.9 | 2.3 | 2.5 | 5.4 | 2.2 | - | - | - | - | - | 1.2 | - | 1.8 | - | 4.2 | 15.3 | 7.2 | 4.4 | 7.2 | 13.5 | 5.2 |
| Chloride | 1 | mg/L | 120 | - | - | 3 | 4 | 3 | 3 | 5 | 5 | - | - | - | - | - | 2 | - | 4 | - | 3 | 4 | 4 | 3 | 3 | 4 | 5 |
| Fluoride | 0.24/0.12 | mg/L | 0.12 | - | - | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.24 | - | - | - | - | - | <0.12 | - | <0.24 | - | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.24 |
| Sulphate | 2 | mg/L | 128 | - | - | 3 | <2 | <2 | <2 | <2 | <4 | - | - | - | - | - | <2 | - | <4 | - | <2 | <2 | <2 | <2 | <2 | <2 | <4 |
| Alkalinity | 5 | mg/L | - | - | - | <5 | <5 | <5 | 6 | 10 | <5 | - | - | - | - | - | 5 | - | <5 | - | 22 | 62 | 10 | 6 | 44 | 68 | 10 |
| True Color | 5.00 | TCU | - | - | - | 9.10 | 65.4 | 46.8 | 23.0 | 8.29 | 28.7 | - | - | - | - | - | 17.9 | - | 22.4 | - | 166 | 57.5 | 91.9 | 44.6 | 79.9 | 29.9 | 69.1 |
| Turbidity | 0.5 | NTU | - | - | - | 0.5 | 0.6 | 1 | 2.2 | 1.4 | <0.5 | - | - | - | - | - | 2.0 | - | 0.8 | - | 0.6 | 0.6 | 0.8 | 1.2 | 1.4 | <0.5 | 0.8 |
| Electrical Conductivity | 1 | umho/cm | - | - | - | 36 | 26 | 19 | 26 | 45 | 28 | - | - | - | - | - | 22 | - | 26 | - | 55 | 134 | 44 | 32 | 87 | 147 | 42 |
| Nitrate + Nitrite as N | 0.05 | mg/L | - | - | - | 0.56 | 0.13 | 0.06 | 0.08 | 0.05 | <0.05 | - | - | - | - | - | 0.05 | - | <0.05 | - | <0.05 | 0.08 | 0.16 | 0.08 | <0.05 | <0.05 | <0.05 |
| Nitrate as N | 0.10/0.05 | mg/L | 13 | - | - | 0.56 | 0.13 | 0.06 | 0.08 | 0.05 | <0.10 | - | - | - | - | - | 0.05 | - | <0.10 | - | <0.05 | 0.08 | 0.16 | 0.08 | <0.05 | <0.05 | <0.10 |
| Nitrite as N | 0.10/0.05 | mg/L | 0.06 | - | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.10 | - | - | - | - | - | <0.05 | - | <0.10 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.10 |
| Ammonia as N | 0.03 | mg/L | Calculated ² | - | - | <0.03 | 0.15 | <0.03 | <0.03 | <0.03 | <0.03 | - | - | - | - | - | <0.03 | - | <0.03 | - | <0.03 | <0.03 | 0.16 | <0.03 | 0.04 | <0.03 | <0.03 |
| Total Organic Carbon | 0.5/1 | mg/L | - | - | - | 2.8 | 12 | 8.5 | 8.4 | 2.3 | 9.3 | - | - | - | - | - | 9.1 | - | 7.2 | - | 12.6 | <0.5 | 19 | 8 | 18.4 | 6.3 | 11.9 |
| Ortho-phosphate as P | 0.01 | mg/L | - | - | - | <0.01 | <0.01 | 0.02 | <0.01 | <0.01 | 0.02 | - | - | - | - | - | <0.01 | - | 0.02 | - | <0.01 | 0.01 | 0.01 | 0.02 | <0.01 | <0.01 | 0.02 |
| Total Sodium | 0.1/0.22/0.45/1 | mg/L | - | - | - | 2.67 | 2.46 | 2.3 | 2.8 | 3.4 | 2.9 | - | - | - | - | - | 2.7 | - | 2.4 | - | 2.8 | 2.85 | 2.27 | 2.0 | 2.9 | 2.2 | 2.8 |
| Total Potassium | 0.1/0.58/1.15 | mg/L | - | - | - | <0.58 | <1.15 | 0.2 | 0.1 | 0.2 | <0.1 | - | - | - | - | - | 0.1 | - | <0.1 | - | 0.3 | <0.58 | <1.15 | 0.2 | 0.2 | 0.2 | <0.1 |
| Total Calcium | 0.1/0.16/0.32 | mg/L | - | - | - | 1.86 | 1.23 | 0.9 | 1.4 | 2.8 | 1.0 | - | - | - | - | - | 1.0 | - | 0.8 | - | 2.3 | 4.89 | 1.38 | 0.9 | 3.5 | 1.4 | 1.2 |
| Total Magnesium | 0.1/0.17/0.34 | mg/L | - | - | - | 1.24 | 0.90 | 0.6 | 0.9 | 1.4 | 0.9 | - | - | - | - | - | 0.8 | - | 0.8 | - | 5.1 | 12.2 | 3.27 | 2.4 | 8.8 | 0.6 | 3.2 |
| Total Phosphorous | 0.02/0.10 | mg/L | - | - | - | <0.10 | <0.10 | <0.02 | 0.02 | 0.03 | 0.5 | - | - | - | - | - | 0.02 | - | 0.37 | - | 0.06 | <0.10 | <0.10 | <0.02 | 0.02 | 0.04 | 1.0 |
| Bicarbonate Alkalinity CaCO ₃ | 5 | mg/L | - | - | - | <5 | <5 | <5 | 6 | 10 | <5 | - | - | - | - | - | 5 | - | <5 | - | 22 | 62 | 10 | 6 | 44 | 68 | 10 |
| Carbonate Alkalinity CaCO ₃ | 10 | mg/L | - | - | - | <10 | <10 | <10 | <10 | <10 | <10 | - | - | - | - | - | <10 | - | <10 | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| Hydroxide | 5 | mg/L | - | - | - | <5 | <5 | <5 | <5 | <5 | <5 | - | - | - | - | - | <5 | - | <5 | - | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| Calculated TDS | 1 | mg/L | - | - | - | 16 | 10 | 8 | 12 | 19 | 10 | - | - | - | - | - | 10 | - | 8 | - | 27 | 62 | 18 | 13 | 45 | 50 | 19 |
| Hardness | 0.5 | mg/L | - | - | - | 9.8 | 6.8 | 4.7 | 7.2 | 12.8 | 6.2 | - | - | - | - | - | 5.8 | - | 5.3 | - | 26.7 | 62.4 | 16.9 | 12.1 | 45.0 | 6 | 16.2 |
| Langelier Index (@20C) | NA | mg/L | - | - | - | -4.37 | -4.76 | -4.97 | -4.09 | -3.74 | -5.02 | - | - | - | - | - | -4.27 | - | -5.06 | - | -2.83 | -1.60 | -3.54 | -4.16 | -2.10 | -2.53 | -4.05 |
| Langelier Index (@ 4C) | NA | NA | - | - | - | -4.69 | -5.08 | -5.29 | -4.41 | -4.06 | -5.34 | - | - | - | - | - | -4.59 | - | -5.38 | - | -3.15 | -1.92 | -3.86 | -4.48 | -2.42 | -2.85 | -4.37 |
| Saturation pH (@ 20C) | NA | NA | - | - | - | 10.5 | 10.7 | 10.8 | 10.6 | 10.1 | 10.8 | - | - | - | - | - | 10.8 | - | 10.9 | - | 9.83 | 9.08 | 10.4 | 10.8 | 9.37 | 9.58 | 10.4 |
| Saturation pH (@ 4C) | NA | NA | - | - | - | 10.9 | 11.0 | 11.2 | 10.9 | 10.4 | 11.1 | - | - | - | - | - | 11.1 | - | 11.2 | - | 10.1 | 9.40 | 10.7 | 11.1 | 9.69 | 9.9 | 10.8 |
| Anion Sum | NA | me/L | - | - | - | 0.19 | 0.12 | 0.09 | 0.21 | 0.34 | 0.14 | - | - | - | - | - | 0.16 | - | 0.11 | - | 0.52 | 1.36 | 0.32 | 0.21 | 0.96 | 1.47 | 0.34 |
| Cation sum | NA | me/L | - | - | - | 0.37 | 0.27 | 0.23 | 0.28 | 0.42 | 0.27 | - | - | - | - | - | 0.25 | - | 0.23 | - | 0.71 | 1.39 | 0.47 | 0.36 | 1.05 | 0.24 | 0.48 |
| % Difference/ Ion Balance | NA | % | - | - | - | 32.4 | 38.3 | 44.3 | 14.5 | 9.5 | 30.7 | - | - | - | - | - | 21.9 | - | 33.5 | - | 15.1 | 1.1 | 18.7 | 26.5 | 4.0 | 72.1 | 17.1 |
| Total Suspended Solids | 5 | mg/L | - | - | - | <5 | <5 | <5 | <5 | <5 | <5 | - | - | - | - | - | <5 | - | <5 | - | <5 | <5 | <5 | <5 | <5 | <5 | <5 |

Notes:
1. RDL = Reported Detection Limit; for all events unless otherwise noted
- Total organic carbon RDL 0.5 mg/L for all samples; except December 2021 samples at Sites 3, 4, 6 to 12, 14, 15, 20 and 21 (RDL 1 mg/L)
RDLs for fluoride, nitrate and nitrite (January 2023 / all other events)
- RDL for sodium (March and May 2021, March 2022 samples at Sites 1 to 5, 7, 10 to 21, June 2022 samples at Sites 1 to 5, 7, and 9 to 24, October 2022 / August 2021 / December 2021 / March 2022 samples at Sites 6, 8 and 9, and June 2022 samples at Sites 6 and 8)
- RDLs for potassium, calcium and magnesium (March and May 2021, March, June and October 2022 / August 2021 / December 2021)
- RDL for phosphorous (March and May 2021, March June and October 2022 / August and December 2021)

2. Atlantic Risk-Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Surface Water [Freshwater] (2022)

3. The guideline for Ammonia decreases as pH and temperature increase. For guideline selection for each sample, field-measured pH rounded up to the next 0.5 pH unit, and field-measured temperature rounded up to the nearest 5 degrees Celsius. Highest ammonia guideline value conservatively referenced for samples with pH less than 6.

"-" = no applicable guideline or not analyzed

NA = Not applicable

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Table A-2 - Analytical Results for Inorganic Parameters in Surface Water

| Parameter | RDL ¹ | Units | Guideline ² | Site 18-SW | | | | | | | | Site 19-SW | | | | | | | | SW-SD** | | | | | |
|--|------------------|---------|-------------------------|------------|----------|----------|----------|-----------|-----------|-----------|-----------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| | | | | 15-Mar-21 | 6-May-21 | 5-Aug-21 | 8-Dec-21 | 30-Mar-22 | 19-Jun-22 | 15-Oct-22 | 27-Jan-23 | 14-Mar-21 | 8-May-21 | 6-Aug-21 | 8-Dec-21 | 29-Mar-22 | 17-Jun-22 | 15-Oct-22 | 25-Jan-23 | 6-Aug-21 | 8-Dec-21 | 31-Mar-22 | 17-Jun-22 | 25-Jan-23 | |
| Sampling Event | | | | - | - | - | - | - | - | 6.76 | - | 6.06 | 5.80 | 6.27 | 5.76 | 6.35 | 5.19 | 6.66 | 6.32 | 5.50 | 5.76 | 6.35 | 5.19 | 6.66 | 5.50 |
| Field-measured pH | | | | - | - | - | - | - | - | 6.76 | - | 6.06 | 5.80 | 6.27 | 5.76 | 6.35 | 5.19 | 6.66 | 6.32 | 5.50 | 5.76 | 6.35 | 5.19 | 6.66 | 5.50 |
| Field measured temperature (°C) | | | | - | - | - | - | - | - | 16.9 | - | -0.1 | 1.1 | 8.8 | 18.4 | 1.6 | 3.0 | 24.5 | 12.2 | 1.9 | 18.4 | 1.6 | 3.0 | 24.5 | 1.9 |
| Ammonia guideline (mg/L as N) ³ | | | | - | - | - | - | - | - | 4.0 | - | 73.0 | 125.8 | 26.6 | 39.5 | 39.7 | 125.8 | 2.8 | 22.0 | 153.0 | 39.5 | 39.7 | 125.8 | 2.8 | 153.0 |
| pH | NA | UNITS | 6.5-9.0 | - | - | - | - | - | - | 6.72 | - | 6.44 | 5.90 | 5.92 | 5.98 | 6.28 | 5.92 | 6.29 | 6.19 | 5.88 | 6.03 | 6.26 | 5.97 | 6.11 | 5.95 |
| Reactive Silica | 0.5 | mg/L | - | - | - | - | - | - | - | 1.0 | - | 3.5 | 2.2 | <0.5 | 1.1 | 1.1 | 1.2 | <0.5 | 1.3 | 2.0 | 1.3 | <0.5 | 1.1 | <0.5 | 1.9 |
| Chloride | 1 | mg/L | 120 | - | - | - | - | - | - | 8 | - | 5 | 3 | 2 | 3 | 3 | 3 | 2 | 3 | 3 | 3 | 4 | 3 | 3 | 3 |
| Fluoride | 0.24/0.12 | mg/L | 0.12 | - | - | - | - | - | - | <0.12 | - | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.24 | <0.12 | <0.12 | <0.12 | <0.12 | <0.24 | |
| Sulphate | 2 | mg/L | 128 | - | - | - | - | - | - | <2 | - | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <4 | <2 | <2 | <2 | <2 | <4 | |
| Alkalinity | 5 | mg/L | - | - | - | - | - | - | - | 9.95 | - | 7 | <5 | <5 | 6 | <5 | <5 | 5 | <5 | <5 | <5 | <5 | <5 | <5 | |
| True Color | 5.00 | TCU | - | - | - | - | - | - | - | 35.7 | - | 50.1 | 27.5 | 50.0 | 9.89 | 34.7 | 39.0 | 25.0 | 12.3 | 53.6 | 18.8 | 33.6 | 35.2 | 19.6 | 44.9 |
| Turbidity | 0.5 | NTU | - | - | - | - | - | - | - | 2.0 | - | 0.7 | 0.8 | 0.5 | 0.8 | 3.5 | 0.9 | <0.5 | 0.5 | 1.6 | 0.8 | 1.4 | 1.2 | 2.4 | 0.8 |
| Electrical Conductivity | 1 | umho/cm | - | - | - | - | - | - | - | 52 | - | 37 | 25 | 16 | 25 | 24 | 22 | 19 | 24 | 24 | 24 | 24 | 22 | 21 | 24 |
| Nitrate + Nitrite as N | 0.05 | mg/L | - | - | - | - | - | - | - | <0.05 | - | 0.57 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | |
| Nitrate as N | 0.10/0.05 | mg/L | 13 | - | - | - | - | - | - | <0.05 | - | 0.57 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.10 | <0.05 | <0.05 | <0.05 | <0.05 | <0.10 | |
| Nitrite as N | 0.10/0.05 | mg/L | 0.06 | - | - | - | - | - | - | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.10 | <0.05 | <0.05 | <0.05 | <0.05 | <0.10 | |
| Ammonia as N | 0.03 | mg/L | Calculated ² | - | - | - | - | - | - | 0.04 | - | <0.03 | <0.03 | <0.03 | <0.03 | 0.5 | <0.03 | <0.03 | 0.05 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | |
| Total Organic Carbon | 0.5/1 | mg/L | - | - | - | - | - | - | - | 10.6 | - | 11.2 | 7.8 | 6.7 | 4.1 | 8.2 | 9.0 | 8.1 | 4.9 | 10.1 | 4.4 | 7.9 | 9.0 | 8.5 | 13.4 |
| Ortho-phosphate as P | 0.01 | mg/L | - | - | - | - | - | - | - | <0.01 | - | 0.02 | 0.01 | <0.01 | <0.01 | <0.01 | 0.01 | <0.01 | <0.01 | 0.03 | <0.01 | <0.01 | 0.01 | <0.01 | |
| Total Sodium | 0.1/0.22/0.45/1 | mg/L | - | - | - | - | - | - | - | 6.0 | - | 4.5 | 2.5 | 1.8 | 1.88 | 2.37 | 2.2 | 1.9 | 6.1 | 2.4 | 1.89 | 2.43 | 2.3 | 2.1 | 2.3 |
| Total Potassium | 0.1/0.58/1.15 | mg/L | - | - | - | - | - | - | - | 0.2 | - | 0.1 | 0.3 | 0.3 | <0.58 | <1.15 | 0.3 | 0.3 | 0.4 | 0.2 | <0.58 | <1.15 | 0.4 | 0.3 | 0.2 |
| Total Calcium | 0.1/0.16/0.32 | mg/L | - | - | - | - | - | - | - | 2.1 | - | 1.4 | 1.3 | 1.0 | 1.38 | 1.63 | 1.3 | 1 | 3.3 | 1.3 | 1.45 | 1.69 | 1.3 | 1.1 | 1.2 |
| Total Magnesium | 0.1 /0.17/0.34 | mg/L | - | - | - | - | - | - | - | 1.5 | - | 1.3 | 0.6 | 0.4 | 0.47 | 0.54 | 0.6 | 0.4 | 2.5 | 0.7 | 0.44 | 0.66 | 0.6 | 0.5 | 0.6 |
| Total Phosphorous | 0.02/0.10 | mg/L | - | - | - | - | - | - | - | 0.02 | - | 0.50 | <0.02 | 0.03 | <0.10 | <0.10 | <0.02 | <0.02 | 0.04 | 0.41 | <0.10 | <0.10 | <0.02 | 0.02 | 0.38 |
| Bicarbonate Alkalinity CaCO ₃ | 5 | mg/L | - | - | - | - | - | - | - | 9.95 | - | 7 | <5 | <5 | 6 | <5 | <5 | 5 | <5 | <5 | <5 | <5 | <5 | <5 | 25 |
| Carbonate Alkalinity CaCO ₃ | 10 | mg/L | - | - | - | - | - | - | - | <10 | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | |
| Hydroxide | 5 | mg/L | - | - | - | - | - | - | - | <5 | - | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | |
| Calculated TDS | 1 | mg/L | - | - | - | - | - | - | - | 24 | - | 19 | 8 | 6 | 11 | 8 | 9 | 16 | 8 | 8 | 8 | 9 | 8 | 7 | 8 |
| Hardness | 0.5 | mg/L | - | - | - | - | - | - | 44849.0 | 11.4 | - | 8.8 | 5.7 | 4.1 | 5.4 | 6.3 | 5.7 | 4.1 | 18.5 | 6.1 | 5.4 | 6.9 | 5.7 | 4.8 | 5.5 |
| Langelier Index (@20C) | NA | mg/L | - | - | - | - | - | - | - | -3.49 | - | -4.08 | -4.79 | -4.87 | -4.59 | -4.31 | -4.77 | -4.49 | -4.11 | -4.81 | -4.59 | -4.32 | -4.72 | -4.65 | -4.78 |
| Langelier Index (@ 4C) | NA | NA | - | - | - | - | - | - | - | -3.81 | - | -4.40 | -5.11 | -5.19 | -4.91 | -4.63 | -5.09 | -4.81 | -4.43 | -5.13 | -4.91 | -4.64 | -5.04 | -4.97 | -5.1 |
| Saturation pH (@ 20C) | NA | NA | - | - | - | - | - | - | - | 10.2 | - | 10.5 | 10.7 | 10.8 | 10.6 | 10.60 | 10.7 | 10.8 | 10.3 | 10.7 | 10.6 | 10.60 | 10.7 | 10.80 | 10.7 |
| Saturation pH (@ 4C) | NA | NA | - | - | - | - | - | - | - | 10.5 | - | 10.8 | 11.0 | 11.1 | 10.9 | 10.9 | 11.0 | 11.1 | 10.6 | 11.0 | 10.9 | 10.9 | 11.0 | 11.1 | 11 |
| Anion Sum | NA | me/L | - | - | - | - | - | - | - | 0.42 | - | 0.32 | 0.08 | 0.06 | 0.20 | 0.08 | 0.08 | 0.16 | 0.08 | 0.08 | 0.08 | 0.11 | 0.08 | 0.08 | 0.08 |
| Cation sum | NA | me/L | - | - | - | - | - | - | - | 0.52 | - | 0.40 | 0.25 | 0.18 | 0.24 | 0.28 | 0.24 | 0.18 | 0.66 | 0.25 | 0.23 | 0.26 | 0.24 | 0.21 | 0.23 |
| % Difference/ Ion Balance | NA | % | - | - | - | - | - | - | - | 10.1 | - | 10.2 | 48.9 | 52.9 | 7 | 53.7 | 47.4 | 8.2 | 77.3 | 50.0 | 46.8 | 39.6 | 48.5 | 41.9 | 46.8 |
| Total Suspended Solids | 5 | mg/L | - | - | - | - | - | - | - | <5 | - | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | |

Notes:
1. RDL = Reported Detection Limit; for all events unless otherwise noted
- Total organic carbon RDL 0.5 mg/L for all samples; except December 2021 samples at Sites 3, 4, 6 to 12, 14, 15, 20 and 21 (RDL 1 mg/L)
RDLs for fluoride, nitrate and nitrite (January 2023 / all other events)
- RDL for sodium (March and May 2021, March 2022 samples at Sites 1 to 5, 7, 10 to 21, June 2022 samples at Sites 1 to 5, 7, and 9 to 24, October 2022 / August 2021 / December 2021 / March 2022 samples at Sites 6, 8 and 9, and June 2022 samples at Sites 6 and 8)
- RDLs for potassium, calcium and magnesium (March and May 2021, March, June and October 2022 / August 2021 / December 2021)
- RDL for phosphorous (March and May 2021, March June and October 2022 / August and December 2021)

2. Atlantic Risk-Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Surface Water [Freshwater] (2022)

3. The guideline for Ammonia decreases as pH and temperature increase. For guideline selection for each sample, field-measured pH rounded up to the next 0.5 pH unit, and field-measured temperature rounded up to the nearest 5 degrees Celsius. Highest ammonia guideline value conservatively referenced for samples with pH less than 6.

"-" = no applicable guideline or not analyzed

NA = Not applicable

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Table A-2 - Analytical Results for Inorganic Parameters in Surface Water

| Parameter | RDL ¹ | Units | Guideline ² | Site 20-SW | | | | | | | | Site 21-SW | | | | | | | | Site 22-SW | | | | | | | |
|--|------------------|---------|-------------------------|------------|----------|----------|----------|-----------|-----------|-----------|-------------|------------|-------------|----------|----------|-------------|-----------|-------------|-------------|------------|----------|----------|----------|-----------|-----------|-----------|-----------|
| | | | | 15-Mar-21 | 5-May-21 | 4-Aug-21 | 3-Dec-21 | 28-Mar-22 | 18-Jun-22 | 15-Oct-22 | 23-Jan-23 | 15-Mar-21 | 6-May-21 | 5-Aug-21 | 3-Dec-21 | 30-Mar-22 | 21-Jun-22 | 15-Oct-22 | 23-Jan-23 | 15-Mar-21 | 6-May-21 | 4-Aug-21 | 3-Dec-21 | 30-Mar-22 | 21-Jun-22 | 15-Oct-22 | 25-Jan-23 |
| Field-measured pH | | | | 6.55 | 7.08 | 6.60 | 6.81 | 6.13 | 6.43 | 6.89 | 6.64 | - | 6.71 | 6.34 | 6.24 | 5.9 | 6.12 | 6.7 | 6.94 | - | - | - | - | - | - | - | - |
| Field measured temperature (°C) | | | | 0.7 | 9.8 | 23.1 | 6.7 | 3.0 | 18.9 | 9.8 | 0.7 | - | 9.2 | 20.8 | 5.2 | 2.6 | 20.5 | 8.6 | 1.2 | - | - | - | - | - | - | - | - |
| Ammonia guideline (mg/L as N) ³ | | | | 12.6 | 2.7 | 2.8 | 8.5 | 39.7 | 12.5 | 10.3 | 15.3 | - | 8.5 | 8.7 | 26.6 | 125.8 | 8.7 | 15.3 | 15.3 | - | - | - | - | - | - | - | - |
| pH | NA | UNITS | 6.5-9.0 | 6.65 | 6.91 | 6.71 | 7.05 | 6.74 | 6.96 | 6.64 | 6.42 | - | 6.29 | 6.54 | 6.61 | 6.34 | 6.7 | 6.38 | 6.29 | - | - | - | - | - | - | - | - |
| Reactive Silica | 0.5 | mg/L | - | 7.8 | 3.1 | 1.5 | 2.7 | 1.8 | 0.7 | 4.7 | 4.9 | - | 2.0 | 2.8 | 4.0 | 2.7 | 1.1 | 2.3 | 2.8 | - | - | - | - | - | - | - | - |
| Chloride | 1 | mg/L | 120 | 9 | 6 | 8 | 8 | 9 | 5 | 6 | 5 | - | 9 | 7 | 9 | 10 | 12 | 9 | 7 | - | - | - | - | - | - | - | - |
| Fluoride | 0.24/0.12 | mg/L | 0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | - | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | - | - | - | - | - | - | - | - |
| Sulphate | 2 | mg/L | 128 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | - | <2 | <2 | <2 | <2 | <2 | <2 | <2 | - | - | - | - | - | - | - | - |
| Alkalinity | 5 | mg/L | - | 16 | 14 | 16 | 20 | 15 | 23 | 29 | 11 | - | <5 | 13 | 5 | <5 | 7 | 12 | 9 | - | - | - | - | - | - | - | - |
| True Color | 5.00 | TCU | - | 54.1 | 65.6 | 35.9 | 37.1 | 30.8 | 59.3 | 17.3 | 56.2 | - | 94.6 | 28.6 | 27.0 | 40.1 | 26 | 12.4 | 51.3 | - | - | - | - | - | - | - | - |
| Turbidity | 0.5 | NTU | - | 1.0 | 1.1 | 0.9 | 10.8 | 0.6 | 4.3 | 8 | 1.0 | - | 0.8 | 1.6 | 1.0 | 0.9 | 2.4 | 0.9 | 0.8 | - | - | - | - | - | - | - | - |
| Electrical Conductivity | 1 | umho/cm | - | 77 | 60 | 70 | 67 | 68 | 64 | 88 | 56 | - | 53 | 59 | 56 | 50 | 63 | 68 | 55 | - | - | - | - | - | - | - | - |
| Nitrate + Nitrite as N | 0.05 | mg/L | - | 0.38 | <0.05 | 0.06 | 0.09 | 0.06 | <0.05 | 0.16 | 0.22 | - | 0.14 | <0.05 | <0.05 | 0.11 | <0.05 | 0.2 | 0.23 | - | - | - | - | - | - | - | - |
| Nitrate as N | 0.10/0.05 | mg/L | 13 | 0.38 | <0.05 | 0.06 | 0.09 | 0.06 | <0.05 | 0.16 | 0.22 | - | 0.14 | <0.05 | <0.05 | 0.11 | <0.05 | 0.2 | 0.23 | - | - | - | - | - | - | - | - |
| Nitrite as N | 0.10/0.05 | mg/L | 0.06 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - |
| Ammonia as N | 0.03 | mg/L | Calculated ² | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | 0.05 | <0.03 | 0.09 | - | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | 1.48 | - | - | - | - | - | - | - | - |
| Total Organic Carbon | 0.5/1 | mg/L | - | 9.9 | 10.7 | 9.6 | 11.0 | 6.5 | 12.6 | 8.8 | 11.1 | - | 8.8 | 3.9 | 8.0 | 7.3 | 12.1 | 5.5 | 9.4 | - | - | - | - | - | - | - | - |
| Ortho-phosphate as P | 0.01 | mg/L | - | 0.01 | <0.01 | <0.01 | <0.01 | 0.02 | <0.01 | <0.01 | 0.02 | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 0.02 | - | - | - | - | - | - | - | - |
| Total Sodium | 0.1/0.22/0.45/1 | mg/L | - | 5.4 | 5.6 | 5.94 | 5.81 | 6.3 | 4.4 | 3.2 | 5.2 | - | 6.7 | 5.86 | 7.75 | 6.9 | 8.2 | 3.3 | 6.6 | - | - | - | - | - | - | - | - |
| Total Potassium | 0.1/0.58/1.15 | mg/L | - | 0.2 | 0.3 | <0.58 | <1.15 | 0.2 | 0.2 | 0.2 | <0.1 | - | 0.3 | <0.58 | <1.15 | 0.2 | 0.2 | 0.3 | 0.2 | - | - | - | - | - | - | - | - |
| Total Calcium | 0.1/0.16/0.32 | mg/L | - | 3.1 | 3.1 | 2.51 | 4.12 | 3.1 | 3.5 | 2.2 | 2.2 | - | 1.7 | 2.57 | 2.23 | 1.8 | 1.7 | 5.2 | 1.7 | - | - | - | - | - | - | - | - |
| Total Magnesium | 0.1 /0.17/0.34 | mg/L | - | 3.7 | 3.1 | 3.40 | 4.75 | 3.5 | 3.6 | 1.7 | 2.9 | - | 1.3 | 1.99 | 2.10 | 1.5 | 1.5 | 12.2 | 1.6 | - | - | - | - | - | - | - | - |
| Total Phosphorous | 0.02/0.10 | mg/L | - | 0.02 | 0.04 | <0.10 | 0.11 | <0.02 | <0.02 | 0.04 | 0.8 | - | 0.03 | <0.10 | <0.10 | <0.02 | 0.02 | 0.03 | 0.4 | - | - | - | - | - | - | - | - |
| Bicarbonate Alkalinity CaCO ₃ | 5 | mg/L | - | 16 | 14 | 16 | 20 | 15 | 23 | 29 | 11 | - | <5 | 13 | 5 | <5 | 7 | 12 | 9 | - | - | - | - | - | - | - | - |
| Carbonate Alkalinity CaCO ₃ | 10 | mg/L | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | - | - | - | - | - | - | - |
| Hydroxide | 5 | mg/L | - | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | - | - | - | - | - | - | - |
| Calculated TDS | 1 | mg/L | - | 33 | 27 | 30 | 36 | 32 | 31 | 32 | 23 | - | 20 | 26 | 24 | 21 | 28 | 38 | 26 | - | - | - | - | - | - | - | - |
| Hardness | 0.5 | mg/L | - | 23.0 | 20.5 | 20.3 | 29.8 | 22.2 | 23.6 | 12.5 | 17.4 | - | 9.6 | 14.6 | 14.2 | 10.7 | 10.4 | 63.2 | 10.8 | - | - | - | - | - | - | - | - |
| Langelier Index (@20C) | NA | mg/L | - | -3.19 | -2.98 | -3.22 | -2.58 | -3.13 | -2.67 | -3.09 | -3.72 | - | -4.31 | -3.46 | -3.87 | -4.23 | -3.76 | -3.37 | -4.05 | - | - | - | - | - | - | - | - |
| Langelier Index (@ 4C) | NA | NA | - | -3.51 | -3.30 | -3.54 | -2.90 | -3.45 | -2.99 | -3.41 | -4.04 | - | -4.63 | -3.78 | -4.19 | -4.55 | -4.08 | -3.69 | -4.37 | - | - | - | - | - | - | - | - |
| Saturation pH (@ 20C) | NA | NA | - | 9.84 | 9.89 | 9.93 | 9.63 | 9.87 | 9.63 | 9.73 | 10.1 | - | 10.6 | 10.0 | 10.5 | 10.6 | 10.5 | 9.75 | 10.3 | - | - | - | - | - | - | - | - |
| Saturation pH (@ 4C) | NA | NA | - | 10.2 | 10.2 | 10.3 | 9.95 | 10.2 | 9.95 | 10.1 | 10.5 | - | 10.9 | 10.3 | 10.8 | 10.9 | 10.8 | 10.1 | 10.7 | - | - | - | - | - | - | - | - |
| Anion Sum | NA | me/L | - | 0.60 | 0.45 | 0.55 | 0.63 | 0.56 | 0.60 | 0.76 | 0.38 | - | 0.26 | 0.46 | 0.35 | 0.29 | 0.48 | 0.51 | 0.39 | - | - | - | - | - | - | - | - |
| Cation sum | NA | me/L | - | 0.73 | 0.69 | 0.67 | 0.90 | 0.74 | 0.69 | 0.42 | 0.60 | - | 0.51 | 0.57 | 0.63 | 0.54 | 0.58 | 1.42 | 0.63 | - | - | - | - | - | - | - | - |
| % Difference/ Ion Balance | NA | % | - | 9.5 | 20.9 | 10.2 | 17.7 | 13.9 | 7.0 | 28.4 | 22.9 | - | 31.9 | 11.2 | 28.3 | 29.7 | 9.5 | 47.3 | 23.0 | - | - | - | - | - | - | - | - |
| Total Suspended Solids | 5 | mg/L | - | <5 | <5 | <5 | 17 | <5 | <5 | <5 | <5 | - | <5 | 8 | <5 | <5 | <5 | <5 | <5 | - | - | - | - | - | - | - | - |

Notes:
1. RDL = Reported Detection Limit; for all events unless otherwise noted
- Total organic carbon RDL 0.5 mg/L for all samples; except December 2021 samples at Sites 3, 4, 6 to 12, 14, 15, 20 and 21 (RDL 1 mg/L)
RDLs for fluoride, nitrate and nitrite (January 2023 / all other events)
- RDL for sodium (March and May 2021, March 2022 samples at Sites 1 to 5, 7, 10 to 21, June 2022 samples at Sites 1 to 5, 7, and 9 to 24, October 2022 / August 2021 / December 2021 / March 2022 samples at Sites 6, 8 and 9, and June 2022 samples at Sites 6 and 8)
- RDLs for potassium, calcium and magnesium (March and May 2021, March, June and October 2022 / August 2021 / December 2021)
- RDL for phosphorous (March and May 2021, March June and October 2022 / August and December 2021)

2. Atlantic Risk-Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Surface Water [Freshwater] (2022)

3. The guideline for Ammonia decreases as pH and temperature increase. For guideline selection for each sample, field-measured pH rounded up to the next 0.5 pH unit, and field-measured temperature rounded up to the nearest 5 degrees Celsius. Highest ammonia guideline value conservatively referenced for samples with pH less than 6.

"-" = no applicable guideline or not analyzed

NA = Not applicable

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Table A-2 - Analytical Results for Inorganic Parameters in Surface Water

| Parameter | RDL ¹ | Units | Guideline ² | Site 23-SW | | | | | | | | Site 24-SW | | | | | | | | |
|--|------------------|---------|-------------------------|------------|----------|----------|----------|-----------|-----------|-----------|-----------|-------------|----------|----------|----------|-----------|-----------|-----------|-----------|-------------|
| | | | | 15-Mar-21 | 6-May-21 | 4-Aug-21 | 3-Dec-21 | 30-Mar-22 | 19-Jun-22 | 15-Oct-22 | 27-Jan-23 | 15-Mar-21 | 6-May-21 | 4-Aug-21 | 3-Dec-21 | 30-Mar-22 | 19-Jun-22 | 15-Oct-22 | 27-Jan-23 | |
| Sampling Event | | | | - | - | - | - | - | - | 6.23 | - | 6.42 | - | - | - | - | - | 6.47 | - | 6.28 |
| Field-measured pH | | | | - | - | - | - | - | - | 6.23 | - | 6.42 | - | - | - | - | - | 6.47 | - | 6.28 |
| Field measured temperature (°C) | | | | - | - | - | - | - | - | 16.5 | - | 0.90 | - | - | - | - | - | 14.6 | - | 0.0 |
| Ammonia guideline (mg/L as N) ³ | | | | - | - | - | - | - | - | 12.5 | - | 48.3 | - | - | - | - | - | 18.1 | - | 73.0 |
| pH | NA | UNITS | 6.5-9.0 | - | - | - | - | - | - | 6.68 | - | 6.17 | - | - | - | - | - | 6.82 | - | 6.15 |
| Reactive Silica | 0.5 | mg/L | - | - | - | - | - | - | - | 0.8 | - | 3.1 | - | - | - | - | - | 2.8 | - | 3.5 |
| Chloride | 1 | mg/L | 120 | - | - | - | - | - | - | 4 | - | 29 | - | - | - | - | - | 3 | - | 8 |
| Fluoride | 0.24/0.12 | mg/L | 0.12 | - | - | - | - | - | - | <0.12 | - | <0.12 | - | - | - | - | - | <0.12 | - | <0.12 |
| Sulphate | 2 | mg/L | 128 | - | - | - | - | - | - | <2 | - | 3 | - | - | - | - | - | <2 | - | 2 |
| Alkalinity | 5 | mg/L | - | - | - | - | - | - | - | 10 | - | 6 | - | - | - | - | - | 13 | - | 8 |
| True Color | 5.00 | TCU | - | - | - | - | - | - | - | 17.8 | - | 26.8 | - | - | - | - | - | 22.7 | - | 33.3 |
| Turbidity | 0.5 | NTU | - | - | - | - | - | - | - | 4.7 | - | 3.2 | - | - | - | - | - | 4.3 | - | 0.9 |
| Electrical Conductivity | 1 | umho/cm | - | - | - | - | - | - | - | 37 | - | 29 | - | - | - | - | - | 41 | - | 26 |
| Nitrate + Nitrite as N | 0.05 | mg/L | - | - | - | - | - | - | - | 0.08 | - | 0.26 | - | - | - | - | - | 0.14 | - | 0.44 |
| Nitrate as N | 0.10/0.05 | mg/L | 13 | - | - | - | - | - | - | 0.08 | - | 0.19 | - | - | - | - | - | 0.14 | - | 0.44 |
| Nitrite as N | 0.10/0.05 | mg/L | 0.06 | - | - | - | - | - | - | <0.05 | - | 0.07 | - | - | - | - | - | <0.05 | - | <0.05 |
| Ammonia as N | 0.03 | mg/L | Calculated ² | - | - | - | - | - | - | <0.03 | - | <0.03 | - | - | - | - | - | <0.03 | - | <0.03 |
| Total Organic Carbon | 0.5/1 | mg/L | - | - | - | - | - | - | - | 6.0 | - | 11.0 | - | - | - | - | - | 5.7 | - | 11.3 |
| Ortho-phosphate as P | 0.01 | mg/L | - | - | - | - | - | - | - | <0.01 | - | 0.02 | - | - | - | - | - | <0.01 | - | 0.02 |
| Total Sodium | 0.1/0.22/0.45/1 | mg/L | - | - | - | - | - | - | - | 3.3 | - | 3.4 | - | - | - | - | - | 3.3 | - | 2.7 |
| Total Potassium | 0.1/0.58/1.15 | mg/L | - | - | - | - | - | - | - | 0.3 | - | 0.6 | - | - | - | - | - | 0.3 | - | 0.2 |
| Total Calcium | 0.1/0.16/0.32 | mg/L | - | - | - | - | - | - | - | 2.4 | - | 1.8 | - | - | - | - | - | 3.0 | - | 1.5 |
| Total Magnesium | 0.1 /0.17/0.34 | mg/L | - | - | - | - | - | - | - | 1.0 | - | 0.9 | - | - | - | - | - | 1.3 | - | 0.8 |
| Total Phosphorous | 0.02/0.10 | mg/L | - | - | - | - | - | - | - | 0.04 | - | <0.4 | - | - | - | - | - | <0.02 | - | 0.5 |
| Bicarbonate Alkalinity CaCO ₃ | 5 | mg/L | - | - | - | - | - | - | - | 10 | - | 6 | - | - | - | - | - | 13 | - | 8 |
| Carbonate Alkalinity CaCO ₃ | 10 | mg/L | - | - | - | - | - | - | - | <10 | - | <10 | - | - | - | - | - | <10 | - | <10 |
| Hydroxide | 5 | mg/L | - | - | - | - | - | - | - | <5 | - | <5 | - | - | - | - | - | <5 | - | <5 |
| Calculated TDS | 1 | mg/L | - | - | - | - | - | - | - | 17 | - | 44 | - | - | - | - | - | 19 | - | 22 |
| Hardness | 0.5 | mg/L | - | - | - | - | - | - | - | 10.1 | - | 8.2 | - | - | - | - | - | 12.8 | - | 7.0 |
| Langelier Index (@20C) | NA | mg/L | - | - | - | - | - | - | - | -3.45 | - | -4.35 | - | - | - | - | - | -3.10 | - | -4.29 |
| Langelier Index (@ 4C) | NA | NA | - | - | - | - | - | - | - | -3.77 | - | -4.67 | - | - | - | - | - | -3.42 | - | -4.61 |
| Saturation pH (@ 20C) | NA | NA | - | - | - | - | - | - | - | 10.1 | - | 10.5 | - | - | - | - | - | 9.92 | - | 10.4 |
| Saturation pH (@ 4C) | NA | NA | - | - | - | - | - | - | - | 10.5 | - | 10.8 | - | - | - | - | - | 10.2 | - | 10.8 |
| Anion Sum | NA | me/L | - | - | - | - | - | - | - | 0.32 | - | 1.02 | - | - | - | - | - | 0.35 | - | 0.46 |
| Cation sum | NA | me/L | - | - | - | - | - | - | - | 0.36 | - | 0.36 | - | - | - | - | - | 0.41 | - | 0.29 |
| % Difference/ Ion Balance | NA | % | - | - | - | - | - | - | - | 5.9 | - | 48.1 | - | - | - | - | - | 7.4 | - | 23.0 |
| Total Suspended Solids | 5 | mg/L | - | - | - | - | - | - | - | <5 | - | <5 | - | - | - | - | - | <5 | - | <5 |

Notes:
1. RDL = Reported Detection Limit; for all events unless otherwise noted
- Total organic carbon RDL 0.5 mg/L for all samples; except December 2021 samples at Sites 3, 4, 6 to 12, 14, 15, 20 and 21 (RDL 1 mg/L)
RDLs for fluoride, nitrate and nitrite (January 2023 / all other events)
- RDL for sodium (March and May 2021, March 2022 samples at Sites 1 to 5, 7, 10 to 21, June 2022 samples at Sites 1 to 5, 7, and 9 to 24, October 2022 / August 2021 / December 2021 / March 2022 samples at Sites 6, 8 and 9, and June 2022 samples at Sites 6 and 8)
- RDLs for potassium, calcium and magnesium (March and May 2021, March, June and October 2022 / August 2021 / December 2021)
- RDL for phosphorous (March and May 2021, March June and October 2022 / August and December 2021)
2. Atlantic Risk-Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Surface Water [Freshwater] (2022)
3. The guideline for Ammonia decreases as pH and temperature increase. For guideline selection for each sample, field-measured pH rounded up to the next 0.5 pH unit, and field-measured temperature rounded up to the nearest 5 degrees Celsius. Highest ammonia guideline value conservatively referenced for samples with pH less than 6.

"-" = no applicable guideline or not analyzed

NA = Not applicable

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Table A-3

Analytical Results for Total Metals in Surface Water

Table A-3 - Analytical Results for Total Metals in Surface Water

| Parameter | RDL ¹ | Units | Guideline ¹ | Site 1-SW | | | | | | | | Site 2-SW | | | | | | | Site 3-SW | | | | | | | | |
|------------------------|------------------|-------|------------------------|-----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|----------|----------|----------|-----------|-----------|-----------|-----------|
| | | | | 14-Mar-21 | 7-May-21 | 6-Aug-21 | 8-Dec-21 | 31-Mar-22 | 19-Jun-22 | 15-Oct-22 | 27-Jan-23 | 14-Mar-21 | 8-May-21 | 6-Aug-21 | 8-Dec-21 | 31-Mar-22 | 17-Jun-22 | 15-Oct-22 | 25-Jan-23 | 14-Mar-21 | 7-May-21 | 3-Aug-21 | 5-Dec-21 | 29-Mar-22 | 18-Jun-22 | 16-Oct-22 | 25-Jan-23 |
| Aluminum ² | 5/10 | µg/L | 5 | - | 73 | 33.1 | 113 | 104 | 23 | - | 123 | 111 | 85 | 43.2 | 109 | 140 | 35 | 8 | 95 | - | 56 | 31.8 | 67.9 | 95 | 32 | 12 | 105 |
| Antimony | 2/3.00 | µg/L | 9 | - | <2 | <3.0 | <3.0 | <2 | <2 | - | <2 | <2 | <2 | <3.0 | <3.0 | <2 | <2 | <2 | <2 | - | <2 | <3.0 | <3.0 | <2 | <2 | <2 | <2 |
| Arsenic | 2/3.00 | µg/L | 5 | - | <2 | <3.0 | <3.0 | <2 | <2 | - | <2 | <2 | <2 | <3.0 | <3.0 | <2 | <2 | <2 | <2 | - | <2 | <3.0 | <3.0 | <2 | <2 | <2 | <2 |
| Barium | 5/2.00 | µg/L | 1000 | - | <5 | <2.0 | <2.0 | <5 | <5 | - | <5 | <5 | <5 | <2.0 | <2.0 | <5 | <5 | <5 | <5 | - | <5 | <2.0 | <2.0 | <5 | <5 | <5 | <5 |
| Beryllium ³ | 2/0.50 | µg/L | 0.15 | - | <2 | <0.50 | <0.50 | <2 | <2 | - | <2 | <2 | <2 | <0.50 | <0.50 | <2 | <2 | <5 | <2 | - | <2 | <0.50 | <0.50 | <2 | <2 | <2 | <2 |
| Bismuth | 2 | µg/L | - | - | <2 | <2.0 | <2.0 | <2 | <2 | - | <2 | <2 | <2 | <2.0 | <2.0 | <2 | <2 | <2 | <2 | - | <2 | <2.0 | <2.0 | <2 | <2 | <2 | <2 |
| Boron | 5/10 | µg/L | 1500 | - | <5 | <10 | <10 | <5 | <5 | - | <5 | <5 | <5 | <10 | <10 | <5 | 5 | <5 | <5 | - | <5 | <10 | <10 | <5 | <5 | <5 | <5 |
| Cadmium ⁴ | 0.09/0.017/0.10 | µg/L | 0.09 | - | <0.09 | <0.10 | <0.10 | <0.09 | <0.09 | - | <0.09 | <0.017 | <0.09 | <0.10 | <0.10 | <0.09 | <0.09 | <0.09 | <0.09 | - | <0.09 | <0.10 | <0.10 | <0.09 | <0.09 | <0.09 | <0.09 |
| Chromium | 1/3.0 | µg/L | 8.9 | - | <1 | <3.0 | <3.0 | <1 | <1 | - | <1 | <1 | <1 | <3.0 | <3.0 | <1 | <1 | <1 | <1 | - | <1 | <3.0 | <3.0 | <1 | <1 | <1 | <1 |
| Cobalt | 1/0.5 | µg/L | 1 | - | <1 | <0.50 | 1.04 | <1 | <1 | - | <1 | <1 | <1 | <0.50 | <0.50 | <1 | <1 | <1 | <1 | - | <1 | <0.50 | <0.50 | <1 | <1 | <1 | <1 |
| Copper | 1 | µg/L | 2 | - | <1 | 1.0 | 1.1 | <1 | <1 | - | <1 | <1 | <1 | <1.0 | <1.0 | <1 | <1 | <1 | <1 | - | <1 | 1.1 | <1.0 | <1 | <1 | <1 | <1 |
| Iron | 5 | µg/L | 300 | - | 217 | 171 | 192 | 163 | <50 | - | 158 | 316 | 206 | 252 | 194 | 232 | 153 | <50 | 135 | - | 176 | 96 | 139 | 147 | 111 | 129 | 147 |
| Lead | 0.5/1.0 | µg/L | 1 | - | <0.5 | <1.0 | <1.0 | <0.5 | <0.5 | - | <0.5 | <0.5 | <0.5 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | - | <0.5 | <1.0 | <1.0 | <0.5 | <0.5 | <10 | <0.5 |
| Manganese | 2 | µg/L | 430 | - | 90 | 166 | 71.0 | 77 | 83 | - | 45 | 85 | 62 | 88.2 | 40.7 | 119 | 60 | 12 | 34 | - | 40 | 125 | 20.2 | 69 | 60 | 37 | 35 |
| Mercury ⁶ | 0.026 | µg/L | 0.026 | - | 0.648 | <0.026 | <0.026 | <0.026 | <0.026 | - | <0.026 | <0.026 | 0.630 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | - | 0.647 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 |
| Molybdenum | 2 | µg/L | 73 | - | <2 | <2.0 | <2.0 | <2 | <2 | - | <2 | <2 | <2 | <2.0 | <2.0 | <2 | <2 | <2 | <2 | - | <2 | <2.0 | <2.0 | <2 | <2 | <2 | <2 |
| Nickel | 2/3.0 | µg/L | 25 | - | <2 | <3.0 | <3.0 | <2 | <2 | - | <2 | <2 | <2 | <3.0 | <3.0 | <2 | <2 | <2 | <2 | - | <2 | <3.0 | <3.0 | <2 | <2 | <2 | <2 |
| Phosphorous | 0.02 | mg/L | - | 0.03 | <0.10 | <0.10 | <0.02 | <0.02 | - | <0.4 | <0.02 | 0.03 | <0.10 | <0.10 | <0.02 | 0.02 | 0.03 | 0.05 | - | 0.03 | <0.10 | <0.10 | <0.02 | <0.02 | 0.04 | 0.05 | |
| Selenium | 1 | µg/L | 1 | - | <1 | <1.0 | <1.0 | <1 | <1 | - | <1 | <1 | <1 | <1.0 | <1.0 | <1 | <1 | <1 | <1 | - | <1 | <1.0 | 1.8 | <1 | <1 | <1 | <1 |
| Silver | 0.1 | µg/L | 0.25 | - | <0.1 | <0.10 | 0.28 | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.10 | <0.10 | <0.1 | <0.1 | <0.1 | <0.1 |
| Strontium | 5 | µg/L | 21000 | - | 13 | 25.6 | 15.9 | 9 | 15 | - | 10 | 10 | 13 | 31.2 | 12.1 | 9 | 16 | 15 | 12 | - | 13 | 17.6 | 11.5 | 9 | 16 | 17 | 13 |
| Thallium | 0.1/0.3/2 | µg/L | 0.8 | - | <0.1 | <0.30 | <0.30 | <0.1 | <2 | - | <0.1 | <0.1 | <0.1 | <0.30 | <0.30 | <0.1 | <0.1 | <0.1 | <2 | - | <0.1 | <0.30 | <0.30 | <0.1 | <2 | <0.1 | <2 |
| Tin | 2 | µg/L | - | - | <2 | <2.0 | <2.0 | <2 | <2 | - | <2 | <2 | <2 | <2.0 | <2.0 | <2 | <2 | <2 | <2 | - | <2 | <2.0 | <2.0 | <2 | <2 | <2 | <2 |
| Titanium | 2/10.0 | µg/L | - | - | <2 | <2.0 | <10.0 | <2 | <2 | - | <2 | <2 | <2 | 3.5 | <10.0 | <2 | <2 | <2 | <2 | - | <2 | 3.5 | <10.0 | <2 | <2 | <2 | <2 |
| Uranium | 0.2/0.50 | µg/L | 15 | - | <0.2 | <0.50 | <0.50 | <0.2 | <0.2 | - | <0.2 | <0.2 | <0.2 | <0.50 | <0.50 | <0.2 | <0.2 | <0.2 | <0.2 | - | <0.2 | <0.50 | <0.50 | <0.2 | <0.2 | <0.2 | <0.2 |
| Vanadium | 2 | µg/L | 120 | - | <2 | <2.0 | 2.3 | <2 | <2 | - | <2 | <2 | <2 | <2.0 | <2.0 | <2 | <2 | <2 | <2 | - | <2 | <2.0 | <2.0 | <2 | <2 | <2 | <2 |
| Zinc ⁵ | 5/20 | ug/L | 7.0 | - | <5 | <5.0 | <20 | <5 | <5 | - | <5 | 5 | <5 | <5.0 | <20 | <5 | <5 | <5 | <5 | - | 6 | <5.0 | <20 | <5 | <5 | <5 | <5 |

Notes:
1. Atlantic Risk-Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Surface Water [Freshwater] (2022)
2. RDL for aluminum was higher than the guideline during August 2021 and December 2021 sampling event.
3. RDLs for beryllium were higher than the guideline for all events.
4. RDLs for cadmium for August and December 2021 events were higher than guideline
5. RDL for zinc for December 2021 event was higher than guideline
6. Mercury exceeded guideline in all samples only for the May 2021 event suggesting that this is not a persistent and valid result and may be due to inadvertent contamination during sampling or handling, or during laboratory testing.
"-" = no applicable guideline or not analyzed
NA = Not applicable
RDL = Reported Detection Limit; for all events unless otherwise noted
- RDL for aluminum, antimony, arsenic, barium, beryllium, boron, chromium, cobalt, lead, nickel, and uranium (all events except August and December 2021/August and December 2021/and beryllium (October 2022)
- RDL for cadmium (all events except for March, August and December, 2021/March 2021/August and December 2021)
- RDL for titanium and zinc (all events except for December, 2021/March 2021/December 2021)
- RDL for thallium (all events except for August 2021, December 2021/August 2021 and December 2021/January 2023)

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Table A-3 - Analytical Results for Total Metals in Surface Water

| Parameter | RDL ¹ | Units | Guideline ¹ | Site 4-SW | | | | | | | | Site 5-SW | | | | | | | | Site 6-SW | | | | | | | |
|------------------------|------------------|-------|------------------------|-----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|----------|----------|-----------|-----------|-----------|-----------|-----------|
| | | | | 12-Mar-21 | 7-May-21 | 3-Aug-21 | 5-Dec-21 | 29-Mar-22 | 18-Jun-22 | 16-Oct-22 | 25-Jan-23 | 14-Mar-21 | 5-May-21 | 4-Aug-21 | 8-Dec-21 | 30-Mar-22 | 20-Jun-22 | 15-Oct-22 | 25-Jan-23 | 12-Mar-21 | 6-May-21 | 3-Aug-21 | 13-Dec-21 | 31-Mar-22 | 20-Jun-22 | 16-Oct-22 | 25-Jan-23 |
| Aluminum ² | 5/10 | µg/L | 5 | 52 | 82 | 89.6 | 177 | 230 | 31 | 129 | 326 | 84 | 95 | 155 | 111 | 83 | - | 280 | 125 | 118 | 142 | 77.4 | 308 | 390 | 62 | 22 | 565 |
| Antimony | 2/3.00 | µg/L | 9 | <2 | <2 | <3.0 | <3.0 | <2 | <2 | <2 | <2 | <2 | <2 | <3.0 | <3.0 | <2 | - | <2 | <2 | <2 | <2 | <3.0 | <3.0 | <2 | <2 | <2 | <2 |
| Arsenic | 2/3.00 | µg/L | 5 | <2 | <2 | 3.3 | <3.0 | <2 | <2 | 3 | <2 | <2 | <2 | 7.9 | <3.0 | <2 | - | 7 | <2 | <2 | 2 | 3.4 | 3.9 | 3 | 4 | <2 | 5 |
| Barium | 5/2.00 | µg/L | 1000 | <5 | <5 | 2.5 | 2.4 | <5 | <5 | 6 | <5 | <5 | <5 | 7.7 | 2.5 | <5 | - | 11 | <5 | <5 | <5 | 2.4 | 3.9 | <5 | <5 | <5 | 5 |
| Beryllium ³ | 2/0.50 | µg/L | 0.15 | <2 | <2 | <0.50 | <0.50 | <2 | <2 | <2 | <2 | <2 | <2 | <0.50 | <0.50 | <2 | - | <2 | <2 | <2 | <2 | <0.50 | <0.50 | <2 | <2 | <2 | <2 |
| Bismuth | 2 | µg/L | - | <2 | <2 | <2.0 | <2.0 | <2 | <2 | <2 | <2 | <2 | <2 | <2.0 | <2.0 | <2 | - | <2 | <2 | <2 | <2 | <2.0 | <2.0 | <2 | <2 | <2 | <2 |
| Boron | 5/10 | µg/L | 1500 | <5 | <5 | <10 | <10 | <5 | <5 | 7 | <5 | <5 | <5 | 12 | <10 | <5 | - | <5 | <5 | <5 | <5 | <10 | <10 | <5 | <5 | <5 | <5 |
| Cadmium ⁴ | 0.09/0.017/0.10 | µg/L | 0.09 | <0.017 | <0.09 | <0.10 | <0.10 | <0.09 | <0.09 | <0.09 | <0.09 | <0.017 | <0.09 | <0.10 | <0.10 | <0.09 | - | <0.09 | <0.09 | <0.017 | <0.09 | <0.10 | <0.10 | <0.09 | <0.09 | <0.09 | <0.09 |
| Chromium | 1/3.0 | µg/L | 8.9 | <1 | <1 | <3.0 | <3.0 | <1 | <1 | 3 | <1 | <1 | <1 | <3.0 | <3.0 | <1 | - | <1 | <1 | <1 | <1 | <3.0 | <3.0 | <1 | <1 | <1 | 1 |
| Cobalt | 1/0.5 | µg/L | 1 | <1 | <1 | <0.50 | <0.50 | <1 | <1 | <1 | <1 | <1 | <1 | 0.59 | <0.50 | <1 | - | <1 | <1 | <1 | <1 | <0.50 | <0.50 | <1 | <1 | <1 | <1 |
| Copper | 1 | µg/L | 2 | 4 | 1 | 1.8 | <1.0 | <1 | <1 | 1 | 1 | <1 | 1 | 1.8 | <1.0 | <1 | - | 1.0 | 2 | <1 | 1 | 1.2 | 1.9 | 2 | <1 | <1 | 1 |
| Iron | 50 | µg/L | 300 | 155 | 150 | 341 | 256 | 246 | 70 | 773 | 330 | 424 | 344 | 1320 | 395 | 179 | - | 753 | 346 | 172 | 197 | 206 | 451 | 332 | 179 | 93 | 592 |
| Lead | 0.5/1.0 | µg/L | 1 | <0.5 | <0.5 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | 0.6 | <0.5 | <0.5 | <1.0 | <1.0 | <0.5 | - | <0.5 | <0.5 | <0.5 | <0.5 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 |
| Manganese | 2 | µg/L | 430 | 38 | 30 | 95.3 | 62.7 | 52 | 49 | 542 | 19 | 54 | 102 | 635 | 72.1 | 56 | - | 638 | 82 | 48 | 34 | 238 | 20.5 | 96 | 82 | 33 | 38 |
| Mercury ⁵ | 0.026 | µg/L | 0.026 | <0.026 | 0.659 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | 0.630 | <0.026 | <0.026 | <0.026 | - | <0.026 | <0.026 | <0.026 | 0.565 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 |
| Molybdenum | 2 | µg/L | 73 | <2 | <2 | <2.0 | <2.0 | <2 | <2 | <2 | <2 | <2 | <2 | <2.0 | <2.0 | <2 | - | <2 | <2 | <2 | <2 | <2.0 | 3.5 | <2 | <2 | <2 | <2 |
| Nickel | 2/3.0 | µg/L | 25 | 2 | <2 | <3.0 | <3.0 | <2 | <2 | 6 | <2 | <2 | <2 | <3.0 | <3.0 | <2 | - | 2 | <2 | <2 | <2 | <3.0 | <3.0 | <2 | <2 | <2 | <2 |
| Phosphorous | 0.02 | mg/L | | <0.02 | 0.03 | <0.10 | <0.10 | <0.02 | <0.02 | 0.05 | 0.8 | <0.02 | 0.03 | <0.10 | <0.10 | <0.02 | | 0.06 | 0.6 | <0.02 | 0.03 | <0.10 | <0.10 | 0.02 | 0.03 | 0.03 | 0.7 |
| Selenium | 1 | µg/L | 1 | <1 | <1 | <1.0 | <1.0 | <1 | <1 | <1 | <1 | <1 | <1 | <1.0 | 1.8 | <1 | - | <1 | <1 | <1 | <1 | <1.0 | <1.0 | <1 | <1 | <1 | <1 |
| Silver | 0.1 | µg/L | 0.25 | <0.1 | <0.1 | <0.10 | <0.10 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | 0.1 | - | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.1 | <0.1 | <0.1 | <0.1 |
| Strontium | 5 | µg/L | 21000 | 21 | 26 | 39.7 | 33.4 | 22 | 33 | 22 | 22 | 11 | 18 | 51.8 | 17.1 | 10 | - | 64 | 14 | 33 | 38 | 38.3 | 48.3 | 25 | 54 | 42 | 27 |
| Thallium | 0.1/0.3/2 | µg/L | 0.8 | <0.1 | <0.1 | <0.30 | <0.30 | <0.1 | <2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.30 | <0.30 | <0.1 | - | <0.1 | <0.1 | <0.1 | <0.1 | <0.30 | <0.30 | <0.1 | <0.1 | <0.1 | <0.1 |
| Tin | 2 | µg/L | - | <2 | <2 | <2.0 | <2.0 | <2 | <2 | <2 | <2 | <2 | <2 | <2.0 | <2.0 | <2 | - | <2 | <2 | <2 | <2 | <2.0 | <2.0 | <2 | <2 | <2 | <2 |
| Titanium | 2/10.0 | µg/L | - | <2 | <2 | 4.0 | <10.0 | 3 | <2 | <2 | 5 | <2 | <2 | <2.0 | <10.0 | <2 | - | 3 | <2 | <2 | <2 | <2 | <10.0 | 4 | <2 | <2 | 8 |
| Uranium | 0.2/0.50 | µg/L | 15 | <0.2 | <0.2 | <0.50 | <0.50 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.50 | <0.50 | <0.2 | - | <0.2 | <0.2 | <0.2 | <0.2 | <0.50 | <0.50 | <0.2 | <0.2 | <0.2 | <0.2 |
| Vanadium | 2 | µg/L | 120 | <2 | <2 | <2.0 | <2.0 | <2 | <2 | <2 | <2 | <2 | <2 | <2.0 | <2.0 | <2 | - | <2 | <2 | <2 | <2 | <2.0 | <2.0 | <2 | <2 | <2 | <2 |
| Zinc ⁵ | 5/20 | ug/L | 7.0 | <5 | <5 | <5.0 | <20 | <5 | <5 | <5 | <5 | <5 | 8 | 5.2 | <20 | <5 | - | 5.0 | <5 | <5 | 6 | 5.8 | <20 | <5 | <5 | <5 | <5 |

Notes:

- Atlantic Risk-Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Surface Water [Freshwater] (2022)
 - RDL for aluminum was higher than the guideline during August 2021 and December 2021 sampling event.
 - RDLs for beryllium were higher than the guideline for all events.
 - RDLs for cadmium for August and December 2021 events were higher than guideline
 - RDL for zinc for December 2021 event was higher than guideline
 - Mercury exceeded guideline in all samples only for the May 2021 event suggesting that this is not a persistent and valid result and may be due to inadvertent contamination during sampling or handling, or during laboratory testing.
- "-" = no applicable guideline or not analyzed
NA = Not applicable
- RDL = Reported Detection Limit; for all events unless otherwise noted
 - RDL for aluminum, antimony, arsenic, barium, beryllium, boron, chromium, cobalt, lead, nickel, and uranium (all events except August and December 2021/August and December 2021/and beryllium (October 2022)
 - RDL for cadmium (all events except for March, August and December, 2021/March 2021/August and December 2021)
 - RDL for titanium and zinc (all events except for December, 2021/March 2021/December 2021)
 - RDL for thallium (all events except for August 2021, December 2021/August 2021 and December 2021/January 2023)

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Table A-3 - Analytical Results for Total Metals in Surface Water

| Parameter | RDL ¹ | Units | Guideline ¹ | Site 7-SW | | | | | | | | Site 8-SW | | | | | | | Site 9-SW | | | | | | | | |
|------------------------|------------------|-------|------------------------|-----------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|----------|----------|-----------|-----------|-----------|-----------|
| | | | | 12-Mar-21 | 6-May-21 | 3-Aug-21 | 13-Dec-21 | 31-Mar-22 | 20-Jun-22 | 15-Oct-22 | 23-Jan-23 | 12-Mar-21 | 8-May-21 | 4-Aug-21 | 13-Dec-21 | 29-Mar-22 | 20-Jun-22 | 16-Oct-22 | 27-Jan-23 | 14-Mar-21 | 5-May-21 | 6-Aug-21 | 5-Dec-21 | 28-Mar-22 | 17-Jun-22 | 15-Oct-22 | 23-Jan-23 |
| Aluminum ² | 5/10 | µg/L | 5 | 134 | 137 | 147 | 384 | 307 | 99 | - | 249 | 36 | 44 | 40.4 | 117 | 94 | 37 | 37 | 86 | 103 | 123 | 101 | 104 | 198 | 77 | 59 | 115 |
| Antimony | 2/3.00 | µg/L | 9 | <2 | <2 | <3.0 | <3.0 | <2 | <2 | - | <2 | <2 | <2 | <3.0 | <3.0 | <2 | <2 | <2 | <2 | <2 | <2 | <3.0 | <3.0 | <2 | <2 | <2 | <2 |
| Arsenic | 2/3.00 | µg/L | 5 | <2 | <2 | <3.0 | <3.0 | <2 | 2 | - | <2 | <2 | <2 | <3.0 | <3.0 | <2 | <2 | <2 | <2 | 3 | <2 | 4.1 | <3.0 | <2 | 3 | 7 | <2 |
| Barium | 5/2.00 | µg/L | 1000 | <5 | <5 | 5.2 | 2.3 | <5 | <5 | - | <5 | <5 | <5 | 2.3 | <2.0 | <5 | <5 | <5 | <5 | <5 | <5 | <2.0 | <2.0 | <5 | <5 | <5 | <5 |
| Beryllium ³ | 2/0.50 | µg/L | 0.15 | <2 | <2 | <0.50 | <0.50 | <2 | <2 | - | <2 | <2 | <2 | <0.50 | <0.50 | <2 | <2 | <2 | <2 | <2 | <2 | <0.50 | <0.50 | <2 | <2 | <2 | <2 |
| Bismuth | 2 | µg/L | - | <2 | <2 | <2.0 | <2.0 | <2 | <2 | - | <2 | <2 | <2 | <2.0 | <2.0 | <2 | <2 | <2 | <2 | <2 | <2 | <2.0 | <2.0 | <2 | <2 | <2 | <2 |
| Boron | 5/10 | µg/L | 1500 | <5 | <5 | <10 | <10 | <5 | <5 | - | <5 | <5 | <5 | <10 | <10 | <5 | <5 | <5 | <5 | <5 | <5 | <10 | <10 | <5 | <5 | <5 | <5 |
| Cadmium ⁴ | 0.09/0.017/0.10 | µg/L | 0.09 | <0.017 | <0.09 | <0.10 | <0.10 | <0.09 | <0.09 | - | <0.09 | 0.021 | <0.09 | <0.10 | <0.10 | <0.09 | <0.09 | <0.09 | <0.09 | <0.017 | <0.09 | <0.10 | <0.10 | <0.09 | <0.09 | <0.09 | <0.09 |
| Chromium | 1/3.0 | µg/L | 8.9 | <1 | <1 | <3.0 | <3.0 | <1 | <1 | - | <1 | <1 | <1 | <3.0 | <3.0 | <1 | <1 | <1 | <1 | <1 | <1 | <3.0 | <3.0 | <1 | <1 | <1 | <1 |
| Cobalt | 1/0.5 | µg/L | 1 | <1 | <1 | <0.50 | <0.50 | <1 | <1 | - | <1 | <1 | <1 | <0.50 | <0.50 | <1 | <1 | <1 | <1 | <1 | <1 | <0.50 | <0.50 | <1 | <1 | <1 | <1 |
| Copper | 1 | µg/L | 2 | <1 | 4 | <1.0 | 1.2 | 1 | 1 | - | 1 | <1 | <1 | <1.0 | <1.0 | <1 | <1 | <1 | <1 | <1 | <1 | <1.0 | <1.0 | <1 | <1 | <1 | <1 |
| Iron | 50 | µg/L | 300 | 175 | 241 | 357 | 414 | 621 | 464 | - | 286 | 158 | 163 | 122 | 211 | 169 | 254 | 352 | 120 | 450 | 432 | 950 | 314 | 325 | 891 | 1970 | 210 |
| Lead | 0.5/1.0 | µg/L | 1 | <0.5 | <0.5 | <1.0 | <1.0 | <0.5 | <0.5 | - | <0.5 | <0.5 | <0.5 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 |
| Manganese | 2 | µg/L | 430 | 44 | 357 | 646 | 162 | 129 | 1070 | - | 31 | 28 | 21 | 26 | 41.6 | 68 | 70 | 197 | 26 | 390 | 131 | 326 | 53.3 | 206 | 852 | 1460 | 67 |
| Mercury ⁶ | 0.026 | µg/L | 0.026 | <0.026 | 0.625 | <0.026 | <0.026 | <0.026 | <0.026 | - | <0.026 | <0.026 | 0.638 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | 0.645 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 |
| Molybdenum | 2 | µg/L | 73 | <2 | <2 | <2.0 | <2.0 | <2 | <2 | - | <2 | <2 | <2 | <2.0 | <2.0 | <2 | <2 | <2 | <2 | <2 | <2 | <2.0 | <2.0 | <2 | <2 | <2 | <2 |
| Nickel | 2/3.0 | µg/L | 25 | <2 | 3 | <3.0 | <3.0 | <2 | 2 | - | <2 | <2 | <2 | <3.0 | <3.0 | <2 | <2 | <2 | <2 | <2 | <2 | <3.0 | <3.0 | <2 | <2 | 2 | <2 |
| Phosphorous | 0.02 | mg/L | | <0.02 | 0.03 | <0.10 | <0.10 | <0.02 | 0.02 | | 0.7 | <0.02 | 0.03 | <0.10 | <0.10 | <0.02 | 0.02 | 0.03 | 0.46 | <0.02 | 0.03 | <0.10 | <0.10 | <0.02 | 0.02 | 0.06 | 0.6 |
| Selenium | 1 | µg/L | 1 | <1 | <1 | <1.0 | 1.1 | <1 | <1 | - | <1 | <1 | <1 | <1.0 | <1.0 | <1 | <1 | <1 | <1 | <1 | <1 | <1.0 | 2.5 | <1 | <1 | <1 | <1 |
| Silver | 0.1 | µg/L | 0.25 | <0.1 | <0.1 | <0.10 | <0.10 | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | 0.4 | <0.1 | <0.1 | <0.1 |
| Strontium | 5 | µg/L | 21000 | 11 | 16 | 39.3 | 11.9 | 12 | 29 | - | 13 | 24 | 26 | 51.6 | 18.6 | 17 | 37 | 25 | 19 | 28 | 13 | 32.0 | 14.6 | 13 | 22 | 28 | 15 |
| Thallium | 0.1/0.3/2 | µg/L | 0.8 | <0.1 | <0.1 | <0.30 | <0.30 | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | <0.30 | <0.30 | <2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.30 | <0.30 | <0.1 | <0.1 | <0.1 | <2 |
| Tin | 2 | µg/L | - | <2 | <2 | <2.0 | <2.0 | <2 | <2 | - | <2 | <2 | <2 | <2.0 | <2.0 | <2 | <2 | <2 | <2 | <2 | <2 | <2.0 | <2.0 | <2 | <2 | <2 | <2 |
| Titanium | 2/10.0 | µg/L | - | <2 | <2 | 4.5 | 11.2 | 3 | <2 | - | <2 | <2 | <2 | 3.5 | <10.0 | <2 | <2 | <2 | <2 | <2 | <2 | <2.0 | <2.0 | 3 | <2 | <2 | <2 |
| Uranium | 0.2/0.50 | µg/L | 15 | <0.2 | <0.2 | <0.50 | <0.50 | <0.2 | <0.2 | - | <0.2 | <0.2 | <0.2 | <0.50 | <0.50 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.50 | <0.50 | <0.2 | <0.2 | <0.2 | <0.2 |
| Vanadium | 2 | µg/L | 120 | <2 | <2 | <2.0 | <2.0 | <2 | <2 | - | <2 | <2 | <2 | <2.0 | <2.0 | <2 | <2 | <2 | <2 | 4 | <2 | <2.0 | <2.0 | <2 | <2 | <2 | <2 |
| Zinc ⁵ | 5/20 | ug/L | 7.0 | <5 | 6 | 5.9 | <20 | <5 | 6 | - | <5 | <5 | <5 | <5.0 | <20 | <5 | <5 | <5 | <5 | <5 | <5 | <5.0 | <20 | <5 | <5 | <5 | <5 |

Notes:

- Atlantic Risk-Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Surface Water [Freshwater] (2022)
- RDL for aluminum was higher than the guideline during August 2021 and December 2021 sampling event.
- RDLs for beryllium were higher than the guideline for all events.
- RDLs for cadmium for August and December 2021 events were higher than guideline
- RDL for zinc for December 2021 event was higher than guideline
- Mercury exceeded guideline in all samples only for the May 2021 event suggesting that this is not a persistent and valid result and may be due to inadvertent contamination during sampling or handling, or during laboratory testing.

"-" = no applicable guideline or not analyzed
NA = Not applicable

RDL = Reported Detection Limit; for all events unless otherwise noted
 - RDL for aluminum, antimony, arsenic, barium, beryllium, boron, chromium, cobalt, lead, nickel, and uranium (all events except August and December 2021/August and December 2021/and beryllium (October 2022)
 - RDL for cadmium (all events except for March, August and December, 2021/March 2021/August and December 2021)
 - RDL for titanium and zinc (all events except for December, 2021/March 2021/December 2021)
 - RDL for thallium (all events except for August 2021, December 2021/August 2021 and December 2021/January 2023)

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Table A-3 - Analytical Results for Total Metals in Surface Water

| Parameter | RDL ¹ | Units | Guideline ¹ | Site 10-SW | | | | | | | | SW-SD* | | | | | Site 11-SW | | | | | | | |
|------------------------|------------------|-------|------------------------|------------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|----------|-----------|-----------|-----------|------------|----------|----------|-----------|-----------|-----------|-----------|-----------|
| | | | | 14-Mar-21 | 5-May-21 | 5-Aug-21 | 3-Dec-21 | 30-Mar-22 | 19-Jun-22 | 15-Oct-22 | 23-Jan-23 | 12-Mar-21 | 5-May-21 | 19-Jun-22 | 15-Oct-22 | 23-Jan-23 | 15-Mar-21 | 6-May-21 | 4-Aug-21 | 13-Dec-21 | 29-Mar-22 | 20-Jun-22 | 16-Oct-22 | 24-Jan-23 |
| Aluminum ² | 5/10 | µg/L | 5 | 95 | 81 | 39.4 | 137 | 96 | 33 | 14 | 121 | 101 | 90 | 32 | 621 | 110 | 74 | 64 | 34.7 | 159 | 154 | 53 | 134 | 100 |
| Antimony | 2/3.00 | µg/L | 9 | <2 | <2 | <3.0 | <3.0 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <3.0 | <3.0 | <2 | <2 | <2 | <2 |
| Arsenic | 2/3.00 | µg/L | 5 | <2 | <2 | <3.0 | <3.0 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | 3 | <2 | <2 | <2 | <3.0 | <3.0 | <2 | <2 | 6 | <2 |
| Barium | 5/2.00 | µg/L | 1000 | <5 | <5 | <2.0 | <2.0 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | 9 | <5 | <5 | <5 | 2.2 | 2.2 | <5 | <5 | 9 | <5 |
| Beryllium ³ | 2/0.50 | µg/L | 0.15 | <2 | <2 | <0.50 | <0.50 | <2 | <2 | <5 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <0.50 | <0.50 | <2 | <2 | <2 | <2 |
| Bismuth | 2 | µg/L | - | <2 | <2 | <2.0 | <2.0 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2.0 | <2.0 | <2 | <2 | <2 | <2 |
| Boron | 5/10 | µg/L | 1500 | <5 | <5 | <10 | <10 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <10 | <10 | <5 | <5 | <5 | <5 |
| Cadmium ⁴ | 0.09/0.017/0.10 | µg/L | 0.09 | <0.017 | <0.09 | <0.10 | <0.10 | <0.09 | <0.09 | <0.09 | <0.09 | <0.017 | <0.09 | <0.09 | <0.09 | <0.09 | <0.017 | <0.09 | <0.10 | <0.10 | <0.09 | <0.09 | <0.09 | <0.09 |
| Chromium | 1/3.0 | µg/L | 8.9 | <1 | <1 | <3.0 | <3.0 | <1 | <1 | <1 | 1 | <1 | <1 | <1 | 1 | <1 | <1 | <1 | <3.0 | <3.0 | <1 | <1 | <1 | <1 |
| Cobalt | 1/0.5 | µg/L | 1 | <1 | <1 | <0.50 | <0.50 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | 1 | <1 | <1 | <1 | <0.50 | <0.50 | <1 | <1 | <1 | <1 |
| Copper | 1 | µg/L | 2 | 1 | <1 | <1.0 | <1.0 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | 2 | <1 | <1 | <1 | 4.5 | <1.0 | <1 | <1 | 1 | <1 |
| Iron | 50 | µg/L | 300 | 322 | 273 | 131 | 235 | 220 | 265 | 266 | 202 | 349 | 289 | 263 | 1,550 | 171 | 230 | 195 | <50 | 282 | 284 | <50 | 1590 | 131 |
| Lead | 0.5/1.0 | µg/L | 1 | <0.5 | <0.5 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 0.8 | <0.5 | <0.5 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 |
| Manganese | 2 | µg/L | 430 | 265 | 54 | 57.3 | 33.7 | 122 | 90 | 39 | 41 | 284 | 56 | 90 | 1120 | 32 | 23 | 10 | 8.6 | 69.7 | 98 | 11 | 356 | 23 |
| Mercury ⁵ | 0.026 | µg/L | 0.026 | <0.026 | 0.604 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | 0.569 | <0.026 | <0.026 | <0.026 | <0.026 | 0.550 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 |
| Molybdenum | 2 | µg/L | 73 | <2 | <2 | <2.0 | <2.0 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2.0 | <2.0 | <2 | <2 | <2 | <2 |
| Nickel | 2/3.0 | µg/L | 25 | 3 | <2 | <3.0 | <3.0 | <2 | <2 | <2 | <2 | 12 | <2 | <2 | 3 | <2 | <2 | 69 | 28.7 | 4.6 | <2 | <2 | <2 | <2 |
| Phosphorous | 0.02 | mg/L | | <0.02 | 0.03 | <0.10 | <0.10 | <0.02 | <0.02 | 0.04 | 0.5 | <0.02 | 0.04 | 0.02 | 0.06 | 0.4 | <0.02 | 0.02 | <0.10 | <0.10 | <0.02 | <0.02 | | 0.48 |
| Selenium | 1 | µg/L | 1 | <1 | <1 | <1.0 | 1.7 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | 1.1 | <1.0 | <1 | <1 | <1 | <1 |
| Silver | 0.1 | µg/L | 0.25 | <0.1 | <0.1 | <0.10 | <0.10 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.1 | <0.1 | <0.1 | <0.1 |
| Strontium | 5 | µg/L | 21000 | 19 | 12 | 17.7 | 12.9 | 9 | 16 | 21 | 14 | 20 | 12 | 15 | 20 | 12 | 9 | 12 | 28.8 | 12.0 | 8 | 16 | 50 | 13 |
| Thallium | 0.1/0.3/2 | µg/L | 0.8 | <0.1 | <0.1 | <0.30 | <0.30 | <2 | <2 | <0.1 | <2 | <0.1 | <0.1 | <2 | <0.1 | <2 | <0.1 | <0.1 | <0.30 | <0.30 | <0.1 | <2 | <0.1 | <2 |
| Tin | 2 | µg/L | - | <2 | <2 | <2.0 | <2.0 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2.0 | <2.0 | <2 | <2 | <2 | <2 |
| Titanium | 2/10.0 | µg/L | - | <2 | <2 | <2.0 | <10.0 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | 5 | <2 | <2 | <2 | <2.0 | <10.0 | <2 | <2 | <2 | <2 |
| Uranium | 0.2/0.50 | µg/L | 15 | <0.2 | <0.2 | <0.50 | <0.50 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.50 | <0.50 | <0.2 | <0.2 | <0.2 | <0.2 |
| Vanadium | 2 | µg/L | 120 | <2 | <2 | <2.0 | <2.0 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2.0 | <2.0 | <2 | <2 | <2 | <2 |
| Zinc ⁵ | 5/20 | ug/L | 7.0 | 7 | <5 | <5.0 | <20 | <5 | <5 | <5 | <5 | 8 | <5 | <5 | <5 | <5 | <5 | <5 | <5.0 | <20 | <5 | <5 | <5 | <5 |

Notes:

1. Atlantic Risk-Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Surface Water [Freshwater] (2022)

2. RDL for aluminum was higher than the guideline during August 2021 and December 2021 sampling event.

3. RDLs for beryllium were higher than the guideline for all events.

4. RDLs for cadmium for August and December 2021 events were higher than guideline

5. RDL for zinc for December 2021 event was higher than guideline

6. Mercury exceeded guideline in all samples only for the May 2021 event suggesting that this is not a persistent and valid result and may be due to inadvertent contamination during sampling or handling, or during laboratory testing.

"-" = no applicable guideline or not analyzed

NA = Not applicable

RDL = Reported Detection Limit; for all events unless otherwise noted

- RDL for aluminum, antimony, arsenic, barium, beryllium, boron, chromium, cobalt, lead, nickel, and uranium (all events except August and December 2021/August and December 2021/and beryllium (October 2022)

- RDL for cadmium (all events except for March, August and December, 2021/March 2021/August and December 2021)

- RDL for titanium and zinc (all events except for December, 2021/March 2021/December 2021)

- RDL for thallium (all events except for August 2021, December 2021/August 2021 and December 2021/January 2023)

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Table A-3 - Analytical Results for Total Metals in Surface Water

| Parameter | RDL ¹ | Units | Guideline ¹ | Site 12-SW | | | | | | | | Site 13-SW | | | | | | | | Site 14-SW | | | | | | | |
|------------------------|------------------|-------|------------------------|------------|----------|-------------|------------|------------|-----------|-----------|-----------|------------|----------|----------|-----------|-----------|-----------|-----------|-----------|------------|--------------|-------------|------------|------------|-----------|-----------|------------|
| | | | | 15-Mar-21 | 6-May-21 | 4-Aug-21 | 14-Dec-21 | 29-Mar-22 | 21-Jun-22 | 16-Oct-22 | 24-Jan-23 | 15-Mar-21 | 6-May-21 | 4-Aug-21 | 14-Dec-21 | 29-Mar-22 | 21-Jun-22 | 15-Oct-22 | 24-Jan-23 | 15-Mar-21 | 9-May-21 | 4-Aug-21 | 14-Dec-21 | 29-Mar-22 | 21-Jun-22 | 16-Oct-22 | 24-Jan-23 |
| Aluminum ² | 5/10 | µg/L | 5 | - | - | 77.6 | 108 | 101 | 63 | 17 | 87 | - | - | - | - | - | 46 | - | 73 | - | 286 | 67.3 | 176 | 153 | 61 | 26 | 216 |
| Antimony | 2/3.00 | µg/L | 9 | - | - | <3.0 | <3.0 | <2 | <2 | <2 | <2 | - | - | - | - | - | <2 | - | <2 | - | <2 | <3.0 | <3.0 | <2 | <2 | <2 | <2 |
| Arsenic | 2/3.00 | µg/L | 5 | - | - | <3.0 | <3.0 | <2 | <2 | <2 | <2 | - | - | - | - | - | <2 | - | <2 | - | <2 | <3.0 | <3.0 | <2 | <2 | <2 | <2 |
| Barium | 5/2.00 | µg/L | 1000 | - | - | 3.3 | <2.0 | <5 | <5 | <5 | <5 | - | - | - | - | - | <5 | - | <5 | - | <5 | 2.2 | <2.0 | <5 | <5 | <5 | <5 |
| Beryllium ³ | 2/0.50 | µg/L | 0.15 | - | - | <0.50 | <0.50 | <2 | <2 | <2 | <2 | - | - | - | - | - | <2 | - | <2 | - | <2 | <0.50 | <0.50 | <2 | <2 | <2 | <2 |
| Bismuth | 2 | µg/L | - | - | - | <2.0 | <2.0 | <2 | <2 | <2 | <2 | - | - | - | - | - | <2 | - | <2 | - | <2 | <2.0 | <2.0 | <2 | <2 | <2 | <2 |
| Boron | 5/10 | µg/L | 1500 | - | - | <10 | <10 | <5 | <5 | <5 | <5 | - | - | - | - | - | <5 | - | <5 | - | <5 | <10 | <10 | <5 | 6 | <5 | <5 |
| Cadmium ⁴ | 0.09/0.017/0.10 | µg/L | 0.09 | - | - | <0.10 | <0.10 | <0.09 | <0.09 | <0.80 | <0.09 | - | - | - | - | - | <0.09 | - | <0.09 | - | <0.09 | <0.10 | <0.10 | <0.09 | <0.09 | <0.09 | <0.09 |
| Chromium | 1/3.0 | µg/L | 8.9 | - | - | <3.0 | <3.0 | <1 | <1 | <1 | <1 | - | - | - | - | - | <1 | - | <1 | - | 5 | 3.6 | 3.1 | 2 | 4 | <1 | 4 |
| Cobalt | 1/0.5 | µg/L | 1 | - | - | <0.50 | <0.50 | <1 | <1 | <1 | <1 | - | - | - | - | - | <1 | - | <1 | - | <1 | <0.50 | <0.50 | <1 | <1 | <1 | <1 |
| Copper | 1 | µg/L | 2 | - | - | <1.0 | <1.0 | <1 | <1 | <1 | <1 | - | - | - | - | - | <1 | - | <1 | - | 3 | 1.2 | 1.4 | <1 | <1 | <1 | 2 |
| Iron | 50 | µg/L | 300 | - | - | 275 | 170 | 218 | 74 | 134 | 94 | - | - | - | - | - | 178 | - | 121 | - | 449 | 282 | 171 | 247 | 227 | 271 | 307 |
| Lead | 0.5/1.0 | µg/L | 1 | - | - | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | - | - | - | - | - | <0.5 | - | <0.5 | - | <0.5 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 |
| Manganese | 2 | µg/L | 430 | - | - | 970 | 44.6 | 291 | 98 | 61 | 36 | - | - | - | - | - | 69 | - | 45 | - | 35 | 24.1 | 7.0 | 64 | 18 | 177 | 60 |
| Mercury ⁶ | 0.026 | µg/L | 0.026 | - | - | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | - | - | - | - | - | <0.026 | - | <0.026 | - | 0.609 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 |
| Molybdenum | 2 | µg/L | 73 | - | - | <2.0 | <2.0 | <2 | <2 | <2 | <2 | - | - | - | - | - | <2 | - | <2 | - | <2 | <2.0 | <2.0 | <2 | <2 | <2 | <2 |
| Nickel | 2/3.0 | µg/L | 25 | - | - | <3.0 | <3.0 | <2 | <2 | <2 | <2 | - | - | - | - | - | <2 | - | <2 | - | 8 | 5.4 | 6.9 | 4 | 6 | <2 | 7 |
| Phosphorous | 0.02 | mg/L | - | - | - | <0.10 | <0.10 | <0.02 | 0.02 | 0.03 | 0.50 | - | - | - | - | - | 0.02 | - | 0.37 | - | 0.06 | <0.10 | <0.10 | <0.02 | 0.02 | 0.04 | 1.0 |
| Selenium | 1 | µg/L | 1 | - | - | <1.0 | <1.0 | <1 | <1 | <1 | <1 | - | - | - | - | - | <1 | - | <1 | - | <1 | <1.0 | <1.0 | <1 | <1 | <1 | <1 |
| Silver | 0.1 | µg/L | 0.25 | - | - | <0.10 | <0.10 | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | <0.1 | - | <0.1 | - | <0.1 | <0.10 | <0.10 | <0.1 | <2 | <0.1 | <0.1 |
| Strontium | 5 | µg/L | 21000 | - | - | 24.5 | 11.4 | 9 | 16 | 20 | 14 | - | - | - | - | - | 6 | - | 6 | - | 19 | 40.4 | 9.2 | 7 | 26 | 11 | 11 |
| Thallium | 0.1/0.3/2 | µg/L | 0.8 | - | - | <0.30 | <0.30 | <2 | <2 | <0.1 | <2 | - | - | - | - | - | <2 | - | <2 | - | <0.1 | <0.30 | <0.30 | <0.1 | <0.1 | <0.1 | <2 |
| Tin | 2 | µg/L | - | - | - | <2.0 | <2.0 | <2 | <2 | <2 | <2 | - | - | - | - | - | <2 | - | <2 | - | <2 | <2.0 | <2.0 | <2 | <2 | <2 | <2 |
| Titanium | 2/10.0 | µg/L | - | - | - | 3.7 | <10.0 | <2 | <2 | <2 | <2 | - | - | - | - | - | <2 | - | <2 | - | 3 | 3.6 | <10.0 | <2 | <2 | <2 | <2 |
| Uranium | 0.2/0.50 | µg/L | 15 | - | - | <0.50 | <0.50 | <0.2 | <0.2 | <0.2 | <0.2 | - | - | - | - | - | <0.2 | - | <0.2 | - | <0.2 | <0.50 | <0.50 | <0.2 | <0.2 | <0.2 | <0.2 |
| Vanadium | 2 | µg/L | 120 | - | - | <2.0 | <2.0 | <2 | <2 | <2 | <2 | - | - | - | - | - | <2 | - | <2 | - | <2 | <2.0 | <2.0 | <2 | <2 | <2 | <2 |
| Zinc ⁵ | 5/20 | ug/L | 7.0 | - | - | 25.9 | <20 | <5 | <5 | <5 | <5 | - | - | - | - | - | <5 | - | 33 | - | <5 | <5.0 | <20 | <5 | <5 | <5 | <5 |

Notes:

- Atlantic Risk-Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Surface Water [Freshwater] (2022)
 - RDL for aluminum was higher than the guideline during August 2021 and December 2021 sampling event.
 - RDLs for beryllium were higher than the guideline for all events.
 - RDLs for cadmium for August and December 2021 events were higher than guideline
 - RDL for zinc for December 2021 event was higher than guideline
 - Mercury exceeded guideline in all samples only for the May 2021 event suggesting that this is not a persistent and valid result and may be due to inadvertent contamination during sampling or handling, or during laboratory testing.
- "-" = no applicable guideline or not analyzed
NA = Not applicable

RDL = Reported Detection Limit; for all events unless otherwise noted
 - RDL for aluminum, antimony, arsenic, barium, beryllium, boron, chromium, cobalt, lead, nickel, and uranium (all events except August and December 2021/August and December 2021/and beryllium (October 2022)
 - RDL for cadmium (all events except for March, August and December, 2021/March 2021/August and December 2021)
 - RDL for titanium and zinc (all events except for December, 2021/March 2021/December 2021)
 - RDL for thallium (all events except for August 2021, December 2021/August 2021 and December 2021/January 2023)

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Table A-3 - Analytical Results for Total Metals in Surface Water

| Parameter | RDL ¹ | Units | Guideline ¹ | Site 15-SW | | | | | | | | Site 16-SW | | | | | | | | Site 17-SW | | | | | | | | SW-SD*** | | |
|------------------------|------------------|-------|------------------------|------------|----------|----------|----------|-----------|-----------|-----------|-----------|------------|----------|----------|----------|-----------|-----------|-----------|-----------|------------|----------|----------|----------|-----------|-----------|-----------|-----------|----------|-------|-----------|
| | | | | 13-Mar-21 | 5-May-21 | 5-Aug-21 | 3-Dec-21 | 30-Mar-22 | 21-Jun-22 | 15-Oct-22 | 23-Jan-23 | 14-Mar-21 | 8-May-21 | 5-Aug-21 | 8-Dec-21 | 30-Mar-22 | 20-Jun-22 | 16-Oct-22 | 25-Jan-23 | 13-Mar-21 | 8-May-21 | 5-Aug-21 | 8-Dec-21 | 30-Mar-22 | 20-Jun-22 | 16-Oct-22 | 24-Jan-23 | | | 16-Oct-22 |
| Aluminum ² | 5/10 | µg/L | 5 | 116 | 94 | 38.5 | 93.9 | 70 | 38 | 70 | 65 | 120 | 111 | 56.9 | 187 | 90 | 83 | 18 | 122 | 98 | 88 | 28 | 68.0 | 75 | 29 | 305 | 85 | 384.00 | - | |
| Antimony | 2/3.00 | µg/L | 9 | <2 | <2 | <3.0 | <3.0 | <2 | <2 | <2 | <2 | <2 | <2 | <3.0 | <3.0 | <2 | <2 | <2 | <2 | <2 | <2 | <3.0 | <3.0 | <2 | <2 | <2 | <2 | <2 | - | |
| Arsenic | 2/3.00 | µg/L | 5 | <2 | <2 | <3.0 | <3.0 | <2 | <2 | <2 | <2 | <2 | 2 | 4.7 | <3.0 | <2 | 5 | <2 | <2 | <2 | <2 | <3.0 | <3.0 | <2 | <2 | 4 | <2 | 2.00 | - | |
| Barium | 5/2.00 | µg/L | 1000 | <5 | <5 | <2.0 | <2.0 | <5 | <5 | <5 | <5 | <5 | <5 | <2.0 | <2.0 | <5 | <5 | <5 | <5 | <5 | <5 | <2.0 | <2.0 | <5 | <5 | 6 | <5 | 6.00 | - | |
| Beryllium ³ | 2/0.50 | µg/L | 0.15 | <2 | <2 | <0.50 | <0.50 | <2 | <2 | <2 | <2 | <2 | <2 | <0.50 | <0.50 | <2 | <2 | <5 | <2 | <2 | <2 | <0.50 | <0.50 | <2 | <2 | <2 | <2 | <2 | - | |
| Bismuth | 2 | µg/L | - | <2 | <2 | <2.0 | <2.0 | <2 | <2 | <2 | <2 | <2 | <2 | <2.0 | <2.0 | <2 | <2 | <2 | <2 | <2 | <2 | <2.0 | <2.0 | <2 | <2 | <2 | <2 | <2 | - | |
| Boron | 5/10 | µg/L | 1500 | <5 | <5 | <10 | <10 | <5 | <5 | <5 | <5 | <5 | <5 | <10 | <10 | <5 | <5 | <5 | <5 | <5 | <5 | <10 | <10 | <5 | <5 | <5 | <5 | <5 | - | |
| Cadmium ⁴ | 0.09/0.017/0.10 | µg/L | 0.09 | <0.017 | <0.09 | <0.10 | <0.10 | <0.09 | <0.09 | <0.09 | <0.09 | <0.017 | <0.09 | <0.10 | <0.10 | <0.09 | <0.09 | <0.09 | <0.09 | <0.09 | <0.017 | <0.09 | <0.10 | <0.10 | <0.09 | <0.09 | <0.09 | <0.09 | <0.09 | - |
| Chromium | 1/3.0 | µg/L | 8.9 | <1 | <1 | <3.0 | <3.0 | <1 | <1 | <1 | <1 | <1 | <1 | <3.0 | <3.0 | <1 | <1 | <1 | <1 | <1 | <1 | <3.0 | <3.0 | <1 | <1 | <1 | <1 | <1 | - | |
| Cobalt | 1/0.5 | µg/L | 1 | <1 | <1 | <0.50 | <0.50 | <1 | <1 | <1 | <1 | <1 | <1 | <0.50 | <0.50 | <1 | <1 | <1 | <1 | <1 | <1 | <0.50 | <0.50 | <1 | <1 | <1 | <1 | <1 | - | |
| Copper | 1 | µg/L | 2 | 1 | 1 | 1.1 | <1.0 | 1 | <1 | 2 | <1 | <1 | <1 | <1.0 | <1.0 | <1 | <1 | <1 | 1 | 1 | <1 | <1.0 | <1.0 | <1 | <1 | 2 | <1 | 1 | - | |
| Iron | 5 | µg/L | 300 | 335 | 217 | 86 | 142 | 161 | 222 | 124 | 113 | 447 | 483 | 1000 | 356 | 182 | 1200 | <50 | 297 | 326 | 279 | 186 | 225 | 160 | 322 | 645 | 144 | 976 | - | |
| Lead | 0.5/1.0 | µg/L | 1 | <0.5 | <0.5 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | 0.60 | - | |
| Manganese | 2 | µg/L | 430 | 41 | 17 | 19.7 | 27.4 | 50 | 238 | 138 | 32 | 84 | 95 | 117 | 59.5 | 88 | 228 | 43 | 114 | 66 | 50 | 16.1 | 63.3 | 57 | 80 | 257 | 33 | 733 | - | |
| Mercury ⁶ | 0.026 | µg/L | 0.026 | <0.026 | 0.628 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | 0.590 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | 0.613 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | - | |
| Molybdenum | 2 | µg/L | 73 | <2 | <2 | <2.0 | <2.0 | <2 | <2 | <2 | <2 | <2 | <2 | <2.0 | <2.0 | <2 | <2 | <2 | <2 | <2 | <2 | <2.0 | <2.0 | <2 | <2 | <2 | <2 | <2 | - | |
| Nickel | 2/3.0 | µg/L | 25 | 33 | <2 | <3.0 | <3.0 | <2 | <2 | <2 | <2 | 13 | <2 | <3.0 | <3.0 | <2 | <2 | <2 | 3 | <2 | <2 | <3.0 | <3.0 | <2 | <2 | <2 | <2 | 2.00 | - | |
| Phosphorous | 0.02 | mg/L | | <0.02 | 0.03 | <0.10 | <0.10 | <0.02 | 0.02 | 0.04 | 0.5 | <0.02 | 0.03 | <0.10 | <0.10 | <0.02 | 0.03 | 0.04 | 0.6 | <0.02 | 0.03 | <0.10 | <0.10 | <0.02 | 0.02 | 0.05 | 0.5 | | | |
| Selenium | 1 | µg/L | 1 | <1 | <1 | <1.0 | <1.0 | <1 | <1 | <1 | <1 | <1 | <1 | <1.0 | 1.3 | <1 | <1 | <1 | <1 | <1 | <1 | <1.0 | 1.1 | <1 | <1 | <1 | <1 | <1 | - | |
| Silver | 0.1 | µg/L | 0.25 | <0.1 | <0.1 | <0.10 | <0.10 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | 0.30 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | |
| Strontium | 5 | µg/L | 21000 | 12 | 13 | 16.5 | 15.9 | 13 | 14 | 19 | 15 | 10 | 14 | 33.2 | 11.9 | 7 | 25 | 19 | 13 | 10 | 13 | 20.5 | 11.0 | 10 | 15 | 45 | 13 | 19 | - | |
| Thallium | 0.1/0.3/2 | µg/L | 0.8 | <0.1 | <0.1 | <0.30 | <0.30 | <0.1 | <2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.30 | <0.30 | <0.1 | <0.1 | <0.1 | <2 | <0.1 | <0.1 | <0.30 | <0.30 | <0.1 | <0.1 | <0.1 | <2 | <0.1 | - | |
| Tin | 2 | µg/L | - | <2 | <2 | <2.0 | <2.0 | <2 | <2 | <2 | <2 | <2 | <2 | <2.0 | <2.0 | <2 | <2 | <2 | <2 | <2 | <2 | <2.0 | <2.0 | <2 | <2 | <2 | <2 | <2 | - | |
| Titanium | 2/10.0 | µg/L | - | <2 | <2 | 3.6 | <10.0 | <2 | <2 | <2 | <2 | <2 | <2 | 2.6 | <10.0 | <2 | <2 | <2 | <2 | <2 | <2 | <2.0 | <10.0 | <2 | <2 | 4 | <2 | 3 | - | |
| Uranium | 0.2/0.50 | µg/L | 15 | <0.2 | <0.2 | <0.50 | <0.50 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.50 | <0.50 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.50 | <0.50 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | - | |
| Vanadium | 2 | µg/L | 120 | <2 | <2 | <2.0 | <2.0 | <2 | <2 | <2 | <2 | <2 | <2 | <2.0 | <2.0 | <2 | <2 | <2 | <2 | <2 | <2 | <2.0 | <2.0 | <2 | <2 | <2 | <2 | <2 | - | |
| Zinc ⁵ | 5/20 | ug/L | 7.0 | <5 | <5 | <5.0 | <20 | <5 | <5 | <5 | <5 | <5 | <5 | <5.0 | <20 | <5 | <5 | <5 | 44.00 | <5 | <5 | <5.0 | <20 | <5 | <5 | <5 | <5 | <5 | - | |

Notes:

- Atlantic Risk-Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Surface Water [Freshwater] (2022)
 - RDL for aluminum was higher than the guideline during August 2021 and December 2021 sampling event.
 - RDLs for beryllium were higher than the guideline for all events.
 - RDLs for cadmium for August and December 2021 events were higher than guideline
 - RDL for zinc for December 2021 event was higher than guideline
 - Mercury exceeded guideline in all samples only for the May 2021 event suggesting that this is not a persistent and valid result and may be due to inadvertent contamination during sampling or handling, or during laboratory testing.
- "-" = no applicable guideline or not analyzed
NA = Not applicable
- RDL = Reported Detection Limit; for all events unless otherwise noted
 - RDL for aluminum, antimony, arsenic, barium, beryllium, boron, chromium, cobalt, lead, nickel, and uranium (all events except August and December 2021/August and December 2021/and beryllium (October 2022)
 - RDL for cadmium (all events except for March, August and December, 2021/March 2021/August and December 2021)
 - RDL for titanium and zinc (all events except for December, 2021/March 2021/December 2021)
 - RDL for thallium (all events except for August 2021, December 2021/August 2021 and December 2021/January 2023)

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Table A-3 - Analytical Results for Total Metals in Surface Water

| Parameter | RDL ¹ | Units | Guideline ¹ | Site 18-SW | | | | | | | Site 19-SW | | | | | | | SW-SD** | | | | | |
|------------------------|------------------|-------|------------------------|------------|----------|----------|-----------|-----------|-----------|-----------|------------|----------|----------|----------|-----------|-----------|-----------|-----------|----------|----------|-----------|-----------|-----------|
| | | | | 6-May-21 | 5-Aug-21 | 8-Dec-21 | 29-Mar-22 | 19-Jun-22 | 15-Oct-22 | 27-Jan-23 | 14-Mar-21 | 8-May-21 | 5-Aug-21 | 8-Dec-21 | 29-Mar-22 | 17-Jun-22 | 15-Oct-22 | 25-Jan-23 | 5-Aug-21 | 8-Dec-21 | 29-Mar-22 | 17-Jun-22 | 25-Jan-23 |
| Aluminum ² | 5/10 | µg/L | 5 | - | - | - | - | 42 | - | 109 | 44 | 72 | 45.9 | 71.5 | 81 | 42 | 12 | 101 | 50.8 | 72.5 | 82 | 48 | 88 |
| Antimony | 2/3.00 | µg/L | 9 | - | - | - | - | <2 | - | <2 | <2 | <2 | <3.0 | <3.0 | <2 | <2 | <2 | <2 | <3.0 | <3.0 | <2 | <2 | <2 |
| Arsenic | 2/3.00 | µg/L | 5 | - | - | - | - | <2 | - | <2 | <2 | <2 | <3.0 | <3.0 | <2 | <2 | <2 | <2 | <3.0 | <3.0 | <2 | <2 | <2 |
| Barium | 5/2.00 | µg/L | 1000 | - | - | - | - | <5 | - | <5 | <5 | <5 | <2.0 | <2.0 | <5 | <5 | <5 | <5 | <2.0 | <2.0 | <5 | <5 | <5 |
| Beryllium ³ | 2/0.50 | µg/L | 0.15 | - | - | - | - | <2 | - | <2 | <2 | <2 | <0.50 | <0.50 | <2 | <2 | <5 | <2 | <0.50 | <0.50 | <2 | <2 | <2 |
| Bismuth | 2 | µg/L | - | - | - | - | - | <2 | - | <2 | <2 | <2 | <2.0 | <2.0 | <2 | <2 | <2 | <2 | <2.0 | <2.0 | <2 | <2 | <2 |
| Boron | 5/10 | µg/L | 1500 | - | - | - | - | <5 | - | <5 | <5 | <5 | <10 | <10 | <5 | <5 | <5 | <5 | <10 | <10 | <5 | <5 | <5 |
| Cadmium ⁴ | 0.09/0.017/0.10 | µg/L | 0.09 | - | - | - | - | <0.09 | - | <0.09 | <0.017 | 0.13 | <0.10 | <0.10 | <0.09 | <0.09 | <0.80 | <0.09 | <0.10 | 0.13 | <0.09 | <0.09 | <0.09 |
| Chromium | 1/3.0 | µg/L | 8.9 | - | - | - | - | 1 | - | <1 | <1 | <1 | <3.0 | <3.0 | <1 | <1 | <1 | <1 | <3.0 | <3.0 | <1 | <1 | <1 |
| Cobalt | 1/0.5 | µg/L | 1 | - | - | - | - | <1 | - | <1 | <1 | <1 | <0.50 | <0.50 | <1 | <1 | <1 | <1 | <0.50 | <0.50 | <1 | <1 | <1 |
| Copper | 1 | µg/L | 2 | - | - | - | - | 1 | - | <1 | <1 | <1 | <1.0 | <1.0 | 3 | <1 | <1 | <1 | <1.0 | <1.0 | <1 | <1 | <1 |
| Iron | 50 | µg/L | 300 | - | - | - | - | 356 | - | 174 | 205 | 115 | 436 | 149 | 182 | 90 | 251 | 196 | 454 | 143 | 175 | 90 | 166 |
| Lead | 0.5/1.0 | µg/L | 1 | - | - | - | - | <0.5 | - | <0.5 | <0.5 | <0.5 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 |
| Manganese | 2 | µg/L | 430 | - | - | - | - | 145 | - | 39 | 64 | 30 | 553 | 63.1 | 84 | 75 | 27 | 66 | 564 | 78.3 | 86 | 65 | 64 |
| Mercury ⁵ | 0.026 | µg/L | 0.026 | - | - | - | - | <0.026 | - | <0.026 | <0.026 | 0.591 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 |
| Molybdenum | 2 | µg/L | 73 | - | - | - | - | <2 | - | <2 | <2 | <2 | <2.0 | <2.0 | <2 | <2 | <2 | <2 | <2.0 | <2.0 | <2 | <2 | <2 |
| Nickel | 2/3.0 | µg/L | 25 | - | - | - | - | <2 | - | <2 | <2 | <2 | <3.0 | <3.0 | <2 | <2 | <2 | <2 | <3.0 | <3.0 | <2 | <2 | <2 |
| Phosphorous | 0.02 | mg/L | | | | | | 0.02 | | 0.5 | <0.02 | 0.03 | <0.10 | <0.10 | <0.02 | <0.02 | 0.04 | 0.41 | | | <0.02 | 0.02 | 0.38 |
| Selenium | 1 | µg/L | 1 | - | - | - | - | <1 | - | <1 | <1 | <1 | <1.0 | 4.6 | <1 | <1 | <1 | <1 | <1.0 | 1.1 | <1 | <1 | <1 |
| Silver | 0.1 | µg/L | 0.25 | - | - | - | - | <0.1 | - | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.1 | <0.1 | <0.1 |
| Strontium | 5 | µg/L | 21000 | - | - | - | - | 15 | - | 11 | 8 | 7 | 11.2 | 10 | 8 | 7 | 20 | 11 | 14.6 | 8.8 | 8 | 8 | 10 |
| Thallium | 0.1/0.3/2 | µg/L | 0.8 | - | - | - | - | <0.1 | - | <0.1 | <0.1 | <0.1 | <0.30 | <0.30 | <0.1 | <0.1 | <0.1 | <0.1 | <0.30 | <0.30 | <0.1 | <0.1 | <2 |
| Tin | 2 | µg/L | - | - | - | - | - | <2 | - | <2 | <2 | <2 | <2.0 | <2.0 | <2 | <2 | <2 | <2 | <2.0 | <2.0 | <2 | <2 | <2 |
| Titanium | 2/10.0 | µg/L | - | - | - | - | - | <2 | - | <2 | <2 | <2 | 2.0 | <10.0 | <2 | <2 | <2 | <2 | 4.4 | <10.0 | <2 | <2 | <2 |
| Uranium | 0.2/0.50 | µg/L | 15 | - | - | - | - | <0.2 | - | <0.2 | <0.2 | <0.2 | <0.50 | <0.50 | <0.2 | <0.2 | <0.2 | <0.2 | <0.50 | <0.50 | <0.2 | <0.2 | <0.2 |
| Vanadium | 2 | µg/L | 120 | - | - | - | - | <2 | - | <2 | <2 | <2 | <2.0 | <2.0 | <2 | <2 | <2 | <2 | <2.0 | <2.0 | <2 | <2 | <2 |
| Zinc ⁵ | 5/20 | ug/L | 7.0 | - | - | - | - | <5 | - | 6 | <5 | <5 | <5.0 | <20 | <5 | 6 | <5 | <5 | <5.0 | <20 | <5 | <5 | <5 |

Notes:

- Atlantic Risk-Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Surface Water [Freshwater] (2022)
 - RDL for aluminum was higher than the guideline during August 2021 and December 2021 sampling event.
 - RDLs for beryllium were higher than the guideline for all events.
 - RDLs for cadmium for August and December 2021 events were higher than guideline
 - RDL for zinc for December 2021 event was higher than guideline
 - Mercury exceeded guideline in all samples only for the May 2021 event suggesting that this is not a persistent and valid result and may be due to inadvertent contamination during sampling or handling, or during laboratory testing.
- * = no applicable guideline or not analyzed
NA = Not applicable
- RDL = Reported Detection Limit; for all events unless otherwise noted
 - RDL for aluminum, antimony, arsenic, barium, beryllium, boron, chromium, cobalt, lead, nickel, and uranium (all events except August and December 2021/August and December 2021/and beryllium (October 2022)
 - RDL for cadmium (all events except for March, August and December, 2021/March 2021/August and December 2021)
 - RDL for titanium and zinc (all events except for December, 2021/March 2021/December 2021)
 - RDL for thallium (all events except for August 2021, December 2021/August 2021 and December 2021/January 2023)

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Table A-3 - Analytical Results for Total Metals in Surface Water

| Parameter | RDL ¹ | Units | Guideline ¹ | Site 20-SW | | | | | | | | Site 21 - SW | | | | | | | | Site 22 - SW | | | | | | | |
|------------------------|------------------|-------|------------------------|------------|----------|----------|----------|-----------|-----------|-----------|-----------|--------------|----------|----------|----------|-----------|-----------|-----------|-----------|--------------|----------|----------|----------|-----------|-----------|-----------|-----------|
| | | | | 15-Mar-21 | 5-May-21 | 4-Aug-21 | 3-Dec-21 | 28-Mar-22 | 18-Jun-22 | 15-Oct-22 | 23-Jan-23 | 15-Mar-21 | 6-May-21 | 4-Aug-21 | 3-Dec-21 | 30-Mar-22 | 22-Jun-22 | 15-Oct-22 | 23-Jan-23 | 15-Mar-21 | 6-May-21 | 4-Aug-21 | 3-Dec-21 | 30-Mar-22 | 22-Jun-22 | 15-Oct-22 | 25-Jan-23 |
| Aluminum ² | 5/10 | µg/L | 5 | 120 | 111 | 53.3 | 217 | 85 | 39 | 33 | 130 | - | 95 | 47.4 | 61.4 | 83 | 39.0 | 26 | 80 | - | - | - | - | - | - | - | |
| Antimony | 2/3.00 | µg/L | 9 | <2 | <2 | <3.0 | <3.0 | <2 | <2 | <2 | <2 | - | <2 | <3.0 | <3.0 | <2 | <2 | <2 | <2 | - | - | - | - | - | - | - | |
| Arsenic | 2/3.00 | µg/L | 5 | <2 | <2 | <3.0 | <3.0 | <2 | <2 | <2 | <2 | - | <2 | <3.0 | <3.0 | <2 | <2 | <2 | <2 | - | - | - | - | - | - | - | |
| Barium | 5/2.00 | µg/L | 1000 | <5 | <5 | <2.0 | 4.5 | <5 | <5 | <5 | <5 | - | <5 | <2.0 | <2.0 | <5 | <5 | <5 | <5 | - | - | - | - | - | - | - | |
| Beryllium ³ | 2/0.50 | µg/L | 0.15 | <2 | <2 | <0.50 | <0.50 | <2 | <2 | <2 | <2 | - | <2 | <0.50 | <0.50 | <2 | <2 | <2 | <2 | - | - | - | - | - | - | - | |
| Bismuth | 2 | µg/L | - | <2 | <2 | <2.0 | <2.0 | <2 | <2 | <2 | <2 | - | <2 | <2.0 | <2.0 | <2 | <2 | <2 | <2 | - | - | - | - | - | - | - | |
| Boron | 5/10 | µg/L | 1500 | <5 | 5 | <10 | <10 | <5 | 6 | <5 | <5 | - | <5 | <10 | <10 | <5 | <5 | 7 | <5 | - | - | - | - | - | - | - | |
| Cadmium ⁴ | 0.09/0.017/0.10 | µg/L | 0.09 | <0.017 | <0.09 | <0.10 | <0.10 | <0.09 | <0.09 | <0.09 | <0.09 | - | <0.09 | <0.10 | <0.10 | <0.09 | <0.09 | <0.09 | <0.09 | - | - | - | - | - | - | - | - |
| Chromium | 1/3.0 | µg/L | 8.9 | 2 | 3 | <3.0 | <3.0 | 2 | 2 | <1 | 2 | - | <1 | <3.0 | <3.0 | <1 | <1 | 2 | <1 | - | - | - | - | - | - | - | |
| Cobalt | 1/0.5 | µg/L | 1 | <1 | <1 | <0.50 | <0.50 | <1 | <1 | <1 | <1 | - | <1 | <0.50 | <0.50 | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | |
| Copper | 1 | µg/L | 2 | 1 | 1 | 1.7 | 1.3 | <1 | 1 | <1 | 1 | - | <1 | 1.4 | <1.0 | <1 | 2 | 3 | 1 | - | - | - | - | - | - | - | |
| Iron | 5 | µg/L | 300 | 299 | 325 | 200 | 683 | 166 | 264 | 290 | 154 | - | 225 | 378 | 133 | 162 | 82 | 126 | 129 | - | - | - | - | - | - | - | |
| Lead | 0.5/1.0 | µg/L | 1 | <0.5 | <0.5 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | - | <0.5 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | - | - | - | - | - | - | - | |
| Manganese | 2 | µg/L | 430 | 148 | 48 | 23.8 | 218 | 47 | 210 | 449 | 13 | - | 33 | 100 | 22.3 | 46 | 37 | 43 | 28 | - | - | - | - | - | - | - | |
| Mercury ⁶ | 0.026 | µg/L | 0.026 | <0.026 | 0.593 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | - | 0.586 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | - | - | - | - | - | - | - | |
| Molybdenum | 2 | µg/L | 73 | <2 | <2 | <2.0 | <2.0 | <2 | <2 | <2 | <2 | - | <2 | <2.0 | <2.0 | <2 | <2 | <2 | <2 | - | - | - | - | - | - | - | |
| Nickel | 2/3.0 | µg/L | 25 | 7 | 4 | <3.0 | 7.5 | 4 | 5 | <2 | 5 | - | <2 | <3.0 | <3.0 | <2 | <2 | 4 | <2 | - | - | - | - | - | - | - | |
| Phosphorous | 0.02 | mg/L | | <0.02 | 0.04 | <0.10 | 0.11 | <0.20 | <0.20 | 0.04 | 0.8 | | 0.03 | <0.10 | <0.10 | <0.02 | 0.02 | 0.03 | 0.4 | | | | | | | | |
| Selenium | 1 | µg/L | 1 | <1 | <1 | 2.8 | 1.6 | <1 | <1 | <1 | <1 | - | <1 | <1.0 | <1.0 | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | |
| Silver | 0.1 | µg/L | 0.25 | <0.1 | <0.1 | <0.10 | <0.10 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.10 | <0.10 | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | |
| Strontium | 5 | µg/L | 21000 | 12 | 14 | 16.0 | 17.9 | 12 | 18 | 23 | 12 | - | 13 | 23.6 | 11.2 | 11 | 12 | 39 | 14 | - | - | - | - | - | - | - | |
| Thallium | 0.1/0.3/2 | µg/L | 0.8 | <0.1 | <0.1 | <0.30 | <0.30 | <0.1 | <2 | <0.1 | <2 | - | <0.1 | <0.30 | <0.30 | <0.1 | <2 | <0.1 | <2 | - | - | - | - | - | - | - | |
| Tin | 2 | µg/L | - | <2 | <2 | <2.0 | <2.0 | <2 | <2 | <2 | <2 | - | <2 | <2.0 | <2.0 | <2 | <2 | <2 | <2 | - | - | - | - | - | - | - | |
| Titanium | 2/10.0 | µg/L | - | <2 | <2 | <2.0 | <10.0 | <2 | <2 | <2 | <2 | - | <2 | <2.0 | <10.0 | <2 | <2 | <2 | <2 | - | - | - | - | - | - | - | |
| Uranium | 0.2/0.50 | µg/L | 15 | <0.2 | <0.2 | <0.50 | <0.50 | <0.2 | <0.2 | <0.2 | <0.2 | - | <0.2 | <0.50 | <0.50 | <0.2 | <0.2 | <0.2 | <0.2 | - | - | - | - | - | - | - | |
| Vanadium | 2 | µg/L | 120 | <2 | <2 | <2.0 | <2.0 | <2 | <2 | <2 | <2 | - | <2 | <2.0 | <2.0 | <2 | <2 | <2 | <2 | - | - | - | - | - | - | - | |
| Zinc ⁵ | 5/20 | ug/L | 7.0 | <5 | <5 | <5.0 | <20 | <5 | <5 | <5 | <5 | - | <5 | <5.0 | <20 | <5 | <5 | <5 | <5 | - | - | - | - | - | - | - | |

Notes:

- Atlantic Risk-Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Surface Water [Freshwater] (2022)
 - RDL for aluminum was higher than the guideline during August 2021 and December 2021 sampling event.
 - RDLs for beryllium were higher than the guideline for all events.
 - RDLs for cadmium for August and December 2021 events were higher than guideline
 - RDL for zinc for December 2021 event was higher than guideline
 - Mercury exceeded guideline in all samples only for the May 2021 event suggesting that this is not a persistent and valid result and may be due to inadvertent contamination during sampling or handling, or during laboratory testing.
- "-" = no applicable guideline or not analyzed
NA = Not applicable
- RDL = Reported Detection Limit; for all events unless otherwise noted
 - RDL for aluminum, antimony, arsenic, barium, beryllium, boron, chromium, cobalt, lead, nickel, and uranium (all events except August and December 2021/August and December 2021/and beryllium (October 2022)
 - RDL for cadmium (all events except for March, August and December, 2021/March 2021/August and December 2021)
 - RDL for titanium and zinc (all events except for December, 2021/March 2021/December 2021)
 - RDL for thallium (all events except for August 2021, December 2021/August 2021 and December 2021/January 2023)

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Table A-3 - Analytical Results for Total Metals in Surface Water

| Parameter | RDL ¹ | Units | Guideline ¹ | Site 23 - SW | | | | | | | | Site 24 - SW | | | | | | | |
|------------------------|------------------|-------|------------------------|--------------|----------|----------|----------|-----------|-----------|-----------|-----------|--------------|----------|----------|----------|-----------|-----------|-----------|-----------|
| | | | | 15-Mar-21 | 6-May-21 | 4-Aug-21 | 3-Dec-21 | 30-Mar-22 | 19-Jun-22 | 15-Oct-22 | 27-Jan-23 | 15-Mar-21 | 6-May-21 | 4-Aug-21 | 3-Dec-21 | 30-Mar-22 | 19-Jun-22 | 15-Oct-22 | 27-Jan-23 |
| Aluminum ² | 5/10 | µg/L | 5 | - | - | - | - | - | 39 | - | 189 | - | - | - | - | - | 25 | - | 136 |
| Antimony | 2/3.00 | µg/L | 9 | - | - | - | - | - | <2 | - | <2 | - | - | - | - | - | <2 | - | <2 |
| Arsenic | 2/3.00 | µg/L | 5 | - | - | - | - | - | <2 | - | <2 | - | - | - | - | - | <2 | - | <2 |
| Barium | 5/2.00 | µg/L | 1000 | - | - | - | - | - | <5 | - | <5 | - | - | - | - | - | <5 | - | <5 |
| Beryllium ³ | 2/0.50 | µg/L | 0.15 | - | - | - | - | - | <2 | - | <2 | - | - | - | - | - | <2 | - | <2 |
| Bismuth | 2 | µg/L | - | - | - | - | - | - | <2 | - | <2 | - | - | - | - | - | <2 | - | <2 |
| Boron | 5/10 | µg/L | 1500 | - | - | - | - | - | <5 | - | <5 | - | - | - | - | - | <5 | - | <5 |
| Cadmium ⁴ | 0.09/0.017/0.10 | µg/L | 0.09 | - | - | - | - | - | <0.80 | - | <0.09 | - | - | - | - | - | <0.09 | - | <0.09 |
| Chromium | 1/3.0 | µg/L | 8.9 | - | - | - | - | - | <1 | - | <1 | - | - | - | - | - | <1 | - | <1 |
| Cobalt | 1/0.5 | µg/L | 1 | - | - | - | - | - | <1 | - | <1 | - | - | - | - | - | <1 | - | <1 |
| Copper | 1 | µg/L | 2 | - | - | - | - | - | <1 | - | <1 | - | - | - | - | - | <1 | - | <1 |
| Iron | 50 | µg/L | 300 | - | - | - | - | - | <50 | - | 197 | - | - | - | - | - | <50 | - | 171 |
| Lead | 0.5/1.0 | µg/L | 1 | - | - | - | - | - | <0.5 | - | <0.5 | - | - | - | - | - | <0.5 | - | <0.5 |
| Manganese | 2 | µg/L | 430 | - | - | - | - | - | 28 | - | 31 | - | - | - | - | - | 20 | - | 66 |
| Mercury ⁶ | 0.026 | µg/L | 0.026 | - | - | - | - | - | <0.026 | - | <0.026 | - | - | - | - | - | <0.026 | - | <0.026 |
| Molybdenum | 2 | µg/L | 73 | - | - | - | - | - | <2 | - | <2 | - | - | - | - | - | <2 | - | <2 |
| Nickel | 2/3.0 | µg/L | 25 | - | - | - | - | - | <2 | - | <2 | - | - | - | - | - | <2 | - | <2 |
| Phosphorous | 0.02 | mg/L | | | | | | | 0.04 | | <0.4 | | | | | | <0.02 | | 0.5 |
| Selenium | 1 | µg/L | 1 | - | - | - | - | - | <1 | - | <1 | - | - | - | - | - | <1 | - | <1 |
| Silver | 0.1 | µg/L | 0.25 | - | - | - | - | - | <0.1 | - | <0.1 | - | - | - | - | - | <0.1 | - | <0.1 |
| Strontium | 5 | µg/L | 21000 | - | - | - | - | - | 17 | - | 14 | - | - | - | - | - | 20 | - | 11 |
| Thallium | 0.1/0.3/2 | µg/L | 0.8 | - | - | - | - | - | <2 | - | <0.1 | - | - | - | - | - | <2 | - | <0.1 |
| Tin | 2 | µg/L | - | - | - | - | - | - | <2 | - | <2 | - | - | - | - | - | <2 | - | <2 |
| Titanium | 2/10.0 | µg/L | - | - | - | - | - | - | <2 | - | <2 | - | - | - | - | - | <2 | - | <2 |
| Uranium | 0.2/0.50 | µg/L | 15 | - | - | - | - | - | <0.2 | - | <0.2 | - | - | - | - | - | <0.2 | - | <0.2 |
| Vanadium | 2 | µg/L | 120 | - | - | - | - | - | <2 | - | <2 | - | - | - | - | - | <2 | - | <2 |
| Zinc ⁵ | 5/20 | ug/L | 7.0 | - | - | - | - | - | <5 | - | <5 | - | - | - | - | - | <5 | - | <5 |

Notes:

- Atlantic Risk-Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Surface Water [Freshwater] (2022)
 - RDL for aluminum was higher than the guideline during August 2021 and December 2021 sampling event.
 - RDLs for beryllium were higher than the guideline for all events.
 - RDLs for cadmium for August and December 2021 events were higher than guideline
 - RDL for zinc for December 2021 event was higher than guideline
 - Mercury exceeded guideline in all samples only for the May 2021 event suggesting that this is not a persistent and valid result and may be due to inadvertent contamination during sampling or handling, or during laboratory testing.
- “-” = no applicable guideline or not analyzed
NA = Not applicable

RDL = Reported Detection Limit; for all events unless otherwise noted
 - RDL for aluminum, antimony, arsenic, barium, beryllium, boron, chromium, cobalt, lead, nickel, and uranium (all events except August and December 2021/August and December 2021/and beryllium (October 2022)
 - RDL for cadmium (all events except for March, August and December, 2021/March 2021/August and December 2021)
 - RDL for titanium and zinc (all events except for December, 2021/March 2021/December 2021)
 - RDL for thallium (all events except for August 2021, December 2021/August 2021 and December 2021/January 2023)

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Table A-4

Results of Laboratory Analysis of Petroleum Hydrocarbons in Surface Water

Table A-4 - Results of Laboratory Analysis of Petroleum Hydrocarbons in Surface Water

| Parameters | RDL ¹ | Units | Guideline ¹ | Site 1-SW | | | | | | | | |
|------------------------------------|------------------|-------|------------------------|-----------|----------|----------|----------|-----------|-----------|-----------|-----------|--------|
| | | | | 14-Mar-21 | 7-May-21 | 6-Aug-21 | 8-Dec-21 | 31-Mar-22 | 19-Jun-22 | 15-Oct-22 | 27-Jan-23 | |
| Benzene | 0.001 | mg/L | 2.1 | - | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.001 |
| Toluene | 0.001 | mg/L | 0.77 | - | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.001 |
| Ethylbenzene | 0.001 | mg/L | 0.32 | - | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.001 |
| Xylenes | 0.002 | mg/L | 0.33 | - | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | - | <0.002 |
| C6-C10 (less BTEX) | 0.01 | mg/L | - | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | <0.01 |
| >C10-C16 Hydrocarbons | 0.05 | mg/L | - | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | <0.05 |
| >C16-C21 Hydrocarbons | 0.10/0.05 | mg/L | - | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | <0.05 |
| >C21-C32 Hydrocarbons | 0.1 | mg/L | - | - | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 |
| Modified TPH - Tier I ² | 0.1 | mg/L | 1.5/0.1/0.1 | - | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 |
| Sediment | - | - | - | - | NO | TRACE | TRACE | TRACE | TRACE | TRACE | - | NO |
| Resemblance Comment | - | - | - | - | NR | NR | NR | NR | NR | NR | - | NR |
| Return to Baseline at C323 | - | - | - | - | YES | YES | YES | YES | YES | YES | - | YES |
| Isobutylbenzene - EPH | - | % | - | - | 94 | 105 | 111 | 105 | 116 | 116 | - | 101 |
| Isobutylbenzene - VPH | - | % | - | - | 78 | 70 | 86 | 93 | 94 | 94 | - | 92 |
| n-Dotriacontane - EPH | - | % | - | - | 97 | 108 | 114 | 104 | 117 | 117 | - | 101 |

Notes:

1. Atlantic Risk-Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Surface Water [Freshwater] (2022). Screening level for Gas/Diesel #2/#6 oil_lube.

2. Modified TPH = TPH C₆ - C₃₂ (excluding BTEX)

3. Atlantic PIRI analytical method does not analyze for >C32. Laboratory certificate indicates (Yes or No) whether chromatogram for each sample returns to baseline after C32. Samples are considered to have returned to baseline if the area from C32-C36 is less than 10% of the area from C10-C32.

"-" = no applicable guideline or not analyzed

RDL = Reported Detection Limit; for all events unless otherwise noted (!)

- RDL for >C16-C21 Hydrocarbons (March 2021/all other events)

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Resemblance

WFOF/R - Weathered Fuel Oil Fraction/Range

NR - No resemblance

LR - Lube Range

Table A-4 - Results of Laboratory Analysis of Petroleum Hydrocarbons in Surface Water

| Parameters | RDL ¹ | Units | Guideline ¹ | Site 2-SW | | | | | | | | |
|------------------------------------|------------------|-------|------------------------|------------|----------|----------|----------|-----------|-----------|-----------|-----------|--------|
| | | | | 14-Mar-21 | 8-May-21 | 6-Aug-21 | 8-Dec-21 | 31-Mar-22 | 17-Jun-22 | 15-Oct-22 | 25-Jan-23 | |
| Benzene | 0.001 | mg/L | 2.1 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Toluene | 0.001 | mg/L | 0.77 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Ethylbenzene | 0.001 | mg/L | 0.32 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Xylenes | 0.002 | mg/L | 0.33 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| C6-C10 (less BTEX) | 0.01 | mg/L | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| >C10-C16 Hydrocarbons | 0.05 | mg/L | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C16-C21 Hydrocarbons | 0.10/0.05 | mg/L | - | 0.11 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C21-C32 Hydrocarbons | 0.1 | mg/L | - | 0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Modified TPH - Tier I ² | 0.1 | mg/L | 1.5/0.1/0.1 | 0.3 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Sediment | - | - | - | NO | NO | NO | NO | NO | NO | TRACE | NO | NO |
| Resemblance Comment | - | - | - | WFOR, LR | NR | NR | NR | NR | NR | NR | NR | NR |
| Return to Baseline at C323 | - | - | - | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| Isobutylbenzene - EPH | - | % | - | 99 | 104 | 104 | 109 | 101 | 103 | 103 | 104 | 104 |
| Isobutylbenzene - VPH | - | % | - | 102 | 91 | 73 | 83 | 92 | 72 | 84 | 78 | 78 |
| n-Dotriacontane - EPH | - | % | - | 92 | 102 | 108 | 109 | 98 | 109 | 108 | 105 | 105 |

Notes:

1. Atlantic Risk-Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Surface Water [Freshwater] (2022). Screening level for Gas/Diesel_#2/#6 oil_lube.

2. Modified TPH = TPH C₆ - C₃₂ (excluding BTEX)

3. Atlantic PIRI analytical method does not analyze for >C32. Laboratory certificate indicates (Yes or No) whether chromatogram for each sample returns to baseline after C32. Samples are considered to have returned to baseline if the area from C32-C36 is less than 10% of the area from C10-C32.

"-" = no applicable guideline or not analyzed

RDL = Reported Detection Limit; for all events unless otherwise noted (!)

- RDL for >C16-C21 Hydrocarbons (March 2021/all other events)

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Resemblance

WFOR/R - Weathered Fuel Oil Fraction/Range

NR - No resemblance

LR - Lube Range

Table A-4 - Results of Laboratory Analysis of Petroleum Hydrocarbons in Surface Water

| Parameters | RDL ¹ | Units | Guideline ¹ | Site 3-SW | | | | | | | | |
|------------------------------------|------------------|-------|------------------------|-----------|----------|----------|----------|-----------|-----------|-----------|-----------|--------|
| | | | | 14-Mar-21 | 7-May-21 | 3-Aug-21 | 5-Dec-21 | 29-Mar-22 | 18-Jun-22 | 16-Oct-22 | 25-Jan-23 | |
| Benzene | 0.001 | mg/L | 2.1 | - | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Toluene | 0.001 | mg/L | 0.77 | - | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Ethylbenzene | 0.001 | mg/L | 0.32 | - | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Xylenes | 0.002 | mg/L | 0.33 | - | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| C6-C10 (less BTEX) | 0.01 | mg/L | - | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| >C10-C16 Hydrocarbons | 0.05 | mg/L | - | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C16-C21 Hydrocarbons | 0.10/0.05 | mg/L | - | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C21-C32 Hydrocarbons | 0.1 | mg/L | - | - | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Modified TPH - Tier I ² | 0.1 | mg/L | 1.5/0.1/0.1 | - | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Sediment | - | - | - | - | NO | TRACE | NO | TRACE | TRACE | TRACE | TRACE | NO |
| Resemblance Comment | - | - | - | - | NR | NR | NR | NR | NR | NR | NR | NR |
| Return to Baseline at C323 | - | - | - | - | YES | YES | YES | YES | YES | YES | YES | YES |
| Isobutylbenzene - EPH | - | % | - | - | 104 | 105 | 110 | 103 | 103 | 106 | 105 | 105 |
| Isobutylbenzene - VPH | - | % | - | - | 99 | 70 | 108 | 87 | 93 | 84 | 88 | 88 |
| n-Dotriacontane - EPH | - | % | - | - | 100 | 108 | 110 | 101 | 103 | 113 | 106 | 106 |

Notes:

1. Atlantic Risk-Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Surface Water [Freshwater] (2022). Screening level for Gas/Diesel_#2/#6 oil_lube.

2. Modified TPH = TPH C₆ - C₃₂ (excluding BTEX)

3. Atlantic PIRI analytical method does not analyze for >C32. Laboratory certificate indicates (Yes or No) whether chromatogram for each sample returns to baseline after C32. Samples are considered to have returned to baseline if the area from C32-C36 is less than 10% of the area from C10-C32.

"-" = no applicable guideline or not analyzed

RDL = Reported Detection Limit; for all events unless otherwise noted (!)

- RDL for >C16-C21 Hydrocarbons (March 2021/all other events)

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Resemblance

WFOF/R - Weathered Fuel Oil Fraction/Range

NR - No resemblance

LR - Lube Range

Table A-4 - Results of Laboratory Analysis of Petroleum Hydrocarbons in Surface Water

| Parameters | RDL ¹ | Units | Guideline ¹ | Site 4-SW | | | | | | | | |
|------------------------------------|------------------|-------|------------------------|------------|----------|----------|----------|-----------|-----------|-----------|-----------|--------|
| | | | | 12-Mar-21 | 7-May-21 | 3-Aug-21 | 5-Dec-21 | 29-Mar-22 | 18-Jun-22 | 16-Oct-22 | 25-Jan-23 | |
| Benzene | 0.001 | mg/L | 2.1 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Toluene | 0.001 | mg/L | 0.77 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Ethylbenzene | 0.001 | mg/L | 0.32 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Xylenes | 0.002 | mg/L | 0.33 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| C6-C10 (less BTEX) | 0.01 | mg/L | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| >C10-C16 Hydrocarbons | 0.05 | mg/L | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C16-C21 Hydrocarbons | 0.10/0.05 | mg/L | - | <0.10 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C21-C32 Hydrocarbons | 0.1 | mg/L | - | 0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Modified TPH - Tier I ² | 0.1 | mg/L | 1.5/0.1/0.1 | 0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Sediment | - | - | - | NO | NO | TRACE | NO | TRACE | NO | TRACE | NO | NO |
| Resemblance Comment | - | - | - | LR | NR | NR | NR | NR | NR | NR | NR | NR |
| Return to Baseline at C323 | - | - | - | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| Isobutylbenzene - EPH | - | % | - | 110 | 98 | 102 | 107 | 101 | 105 | 103 | 103 | 98 |
| Isobutylbenzene - VPH | - | % | - | 105 | 97 | 71 | 108 | 81 | 98 | 80 | 80 | 83 |
| n-Dotriacontane - EPH | - | % | - | 103 | 101 | 106 | 106 | 100 | 103 | 108 | 108 | 102 |

Notes:

1. Atlantic Risk-Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Surface Water [Freshwater] (2022). Screening level for Gas/Diesel_#2/#6 oil_lube.

2. Modified TPH = TPH C₆ - C₃₂ (excluding BTEX)

3. Atlantic PIRI analytical method does not analyze for >C32. Laboratory certificate indicates (Yes or No) whether chromatogram for each sample returns to baseline after C32. Samples are considered to have returned to baseline if the area from C32-C36 is less than 10% of the area from C10-C32.

"-" = no applicable guideline or not analyzed

RDL = Reported Detection Limit; for all events unless otherwise noted (!)

- RDL for >C16-C21 Hydrocarbons (March 2021/all other events)

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Resemblance

WFOF/R - Weathered Fuel Oil Fraction/Range

NR - No resemblance

LR - Lube Range

Table A-4 - Results of Laboratory Analysis of Petroleum Hydrocarbons in Surface Water

| Parameters | RDL ¹ | Units | Guideline ¹ | Site 5-SW | | | | | | | |
|------------------------------------|------------------|-------|------------------------|------------|----------|----------|----------|-----------|-----------|-----------|-----------|
| | | | | 14-Mar-21 | 5-May-21 | 4-Aug-21 | 8-Dec-21 | 30-Mar-22 | 18-Jun-22 | 15-Oct-22 | 25-Jan-23 |
| Benzene | 0.001 | mg/L | 2.1 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.001 | <0.001 |
| Toluene | 0.001 | mg/L | 0.77 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.001 | <0.001 |
| Ethylbenzene | 0.001 | mg/L | 0.32 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.001 | <0.001 |
| Xylenes | 0.002 | mg/L | 0.33 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | - | <0.002 | <0.002 |
| C6-C10 (less BTEX) | 0.01 | mg/L | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 |
| >C10-C16 Hydrocarbons | 0.05 | mg/L | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | <0.05 | <0.05 |
| >C16-C21 Hydrocarbons | 0.10/0.05 | mg/L | - | 0.1 | <0.05 | <0.05 | <0.05 | <0.05 | - | <0.05 | <0.05 |
| >C21-C32 Hydrocarbons | 0.1 | mg/L | - | 0.2 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 |
| Modified TPH - Tier I ² | 0.1 | mg/L | 1.5/0.1/0.1 | 0.3 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 |
| Sediment | - | - | - | TRACE | TRACE | TRACE | NO | TRACE | - | TRACE | TRACE |
| Resemblance Comment | - | - | - | WFOF, LR | NR | NR | NR | NR | - | NR | NR |
| Return to Baseline at C323 | - | - | - | YES | YES | YES | YES | YES | - | YES | YES |
| Isobutylbenzene - EPH | - | % | - | 119 | 98 | 105 | 99 | 95 | - | 101 | 104 |
| Isobutylbenzene - VPH | - | % | - | 98 | 76 | 76 | 83 | 84 | - | 85 | 74 |
| n-Dotriacontane - EPH | - | % | - | 107 | 100 | 107 | 100 | 93 | - | 106 | 104 |

Notes:

1. Atlantic Risk-Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Surface Water [Freshwater] (2022). Screening level for Gas/Diesel_#2/#6 oil_lube.

2. Modified TPH = TPH C₆ - C₃₂ (excluding BTEX)

3. Atlantic PIRI analytical method does not analyze for >C32. Laboratory certificate indicates (Yes or No) whether chromatogram for each sample returns to baseline after C32. Samples are considered to have returned to baseline if the area from C32-C36 is less than 10% of the area from C10-C32.

"-" = no applicable guideline or not analyzed

RDL = Reported Detection Limit; for all events unless otherwise noted (!)

- RDL for >C16-C21 Hydrocarbons (March 2021/all other events)

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Resemblance

WFOF/R - Weathered Fuel Oil Fraction/Range

NR - No resemblance

LR - Lube Range

Table A-4 - Results of Laboratory Analysis of Petroleum Hydrocarbons in Surface Water

| Parameters | RDL ¹ | Units | Guideline ¹ | Site 6-SW | | | | | | | | |
|------------------------------------|------------------|-------|------------------------|------------|----------|----------|-----------|-----------|-----------|-----------|-----------|--------|
| | | | | 12-Mar-21 | 6-May-21 | 3-Aug-21 | 13-Dec-21 | 31-Mar-22 | 20-Jun-22 | 16-Oct-22 | 25-Jan-23 | |
| Benzene | 0.001 | mg/L | 2.1 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Toluene | 0.001 | mg/L | 0.77 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Ethylbenzene | 0.001 | mg/L | 0.32 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Xylenes | 0.002 | mg/L | 0.33 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| C6-C10 (less BTEX) | 0.01 | mg/L | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| >C10-C16 Hydrocarbons | 0.05 | mg/L | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C16-C21 Hydrocarbons | 0.10/0.05 | mg/L | - | <0.10 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C21-C32 Hydrocarbons | 0.1 | mg/L | - | 0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Modified TPH - Tier I ² | 0.1 | mg/L | 1.5/0.1/0.1 | 0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Sediment | - | - | - | NO | NO | TRACE | TRACE | TRACE | TRACE | TRACE | TRACE | TRACE |
| Resemblance Comment | - | - | - | LR | NR | NR | NR | NR | NR | NR | NR | NR |
| Return to Baseline at C323 | - | - | - | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| Isobutylbenzene - EPH | - | % | - | 108 | 99 | 106 | 95 | 100 | 96 | 100 | 103 | 103 |
| Isobutylbenzene - VPH | - | % | - | 109 | 75 | 72 | 81 | 87 | 107 | 80 | 90 | 90 |
| n-Dotriacontane - EPH | - | % | - | 103 | 100 | 108 | 97 | 97 | 99 | 101 | 104 | 104 |

Notes:

1. Atlantic Risk-Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Surface Water [Freshwater] (2022). Screening level for Gas/Diesel #2/#6 oil_lube.

2. Modified TPH = TPH C₆ - C₃₂ (excluding BTEX)

3. Atlantic PIRI analytical method does not analyze for >C32. Laboratory certificate indicates (Yes or No) whether chromatogram for each sample returns to baseline after C32. Samples are considered to have returned to baseline if the area from C32-C36 is less than 10% of the area from C10-C32.

"-" = no applicable guideline or not analyzed

RDL = Reported Detection Limit; for all events unless otherwise noted (!)

- RDL for >C16-C21 Hydrocarbons (March 2021/all other events)

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Resemblance

WFOF/R - Weathered Fuel Oil Fraction/Range

NR - No resemblance

LR - Lube Range

Table A-4 - Results of Laboratory Analysis of Petroleum Hydrocarbons in Surface Water

| Parameters | RDL ¹ | Units | Guideline ¹ | Site 7-SW | | | | | | | |
|------------------------------------|------------------|-------|------------------------|-----------|----------|----------|-----------|-----------|-----------|-----------|-----------|
| | | | | 12-Mar-21 | 6-May-21 | 3-Aug-21 | 13-Dec-21 | 31-Mar-22 | 20-Jun-22 | 15-Oct-22 | 23-Jan-23 |
| Benzene | 0.001 | mg/L | 2.1 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.001 |
| Toluene | 0.001 | mg/L | 0.77 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.001 |
| Ethylbenzene | 0.001 | mg/L | 0.32 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.001 |
| Xylenes | 0.002 | mg/L | 0.33 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | - | <0.002 |
| C6-C10 (less BTEX) | 0.01 | mg/L | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | <0.01 |
| >C10-C16 Hydrocarbons | 0.05 | mg/L | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | <0.05 |
| >C16-C21 Hydrocarbons | 0.10/0.05 | mg/L | - | <0.10 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | <0.05 |
| >C21-C32 Hydrocarbons | 0.1 | mg/L | - | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 |
| Modified TPH - Tier I ² | 0.1 | mg/L | 1.5/0.1/0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 |
| Sediment | - | - | - | NO | NO | TRACE | TRACE | TRACE | TRACE | - | TRACE |
| Resemblance Comment | - | - | - | NR | NR | NR | NR | NR | NR | - | NR |
| Return to Baseline at C323 | - | - | - | YES | YES | YES | YES | YES | YES | - | Y |
| Isobutylbenzene - EPH | - | % | - | 113 | 97 | 104 | 92 | 101 | 102 | - | 102 |
| Isobutylbenzene - VPH | - | % | - | 101 | 84 | 73 | 83 | 75 | 98 | - | 122 |
| n-Dotriacontane - EPH | - | % | - | 108 | 100 | 106 | 95 | 99 | 104 | - | 105 |

Notes:

1. Atlantic Risk-Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Surface Water [Freshwater] (2022). Screening level for Gas/Diesel_#2/#6 oil_lube.

2. Modified TPH = TPH C₆ - C₃₂ (excluding BTEX)

3. Atlantic PIRI analytical method does not analyze for >C32. Laboratory certificate indicates (Yes or No) whether chromatogram for each sample returns to baseline after C32. Samples are considered to have returned to baseline if the area from C32-C36 is less than 10% of the area from C10-C32.

"-" = no applicable guideline or not analyzed

RDL = Reported Detection Limit; for all events unless otherwise noted (!)

- RDL for >C16-C21 Hydrocarbons (March 2021/all other events)

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Resemblance

WFOF/R - Weathered Fuel Oil Fraction/Range

NR - No resemblance

LR - Lube Range

Table A-4 - Results of Laboratory Analysis of Petroleum Hydrocarbons in Surface Water

| Parameters | RDL ¹ | Units | Guideline ¹ | Site 8-SW | | | | | | | | |
|------------------------------------|------------------|-------|------------------------|-----------|----------|----------|-----------|-----------|-----------|-----------|-----------|--------|
| | | | | 12-Mar-21 | 8-May-21 | 4-Aug-21 | 13-Dec-21 | 29-Mar-22 | 20-Jun-22 | 15-Oct-22 | 27-Jan-23 | |
| Benzene | 0.001 | mg/L | 2.1 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Toluene | 0.001 | mg/L | 0.77 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Ethylbenzene | 0.001 | mg/L | 0.32 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Xylenes | 0.002 | mg/L | 0.33 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| C6-C10 (less BTEX) | 0.01 | mg/L | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| >C10-C16 Hydrocarbons | 0.05 | mg/L | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C16-C21 Hydrocarbons | 0.10/0.05 | mg/L | - | <0.10 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C21-C32 Hydrocarbons | 0.1 | mg/L | - | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Modified TPH - Tier I ² | 0.1 | mg/L | 1.5/0.1/0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Sediment | - | - | - | NO | NO | TRACE | NO | TRACE | TRACE | NO | NO | NO |
| Resemblance Comment | - | - | - | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| Return to Baseline at C323 | - | - | - | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| Isobutylbenzene - EPH | - | % | - | 117 | 86 | 106 | 97 | 103 | 104 | 102 | 101 | 101 |
| Isobutylbenzene - VPH | - | % | - | 106 | 89 | 74 | 86 | 84 | 89 | 82 | 113 | 113 |
| n-Dotriacontane - EPH | - | % | - | 117 | 88 | 109 | 99 | 100 | 108 | 107 | 101 | 101 |

Notes:

1. Atlantic Risk-Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Surface Water [Freshwater] (2022). Screening level for Gas/Diesel_#2/#6 oil_lube.

2. Modified TPH = TPH C₆ - C₃₂ (excluding BTEX)

3. Atlantic PIRI analytical method does not analyze for >C32. Laboratory certificate indicates (Yes or No) whether chromatogram for each sample returns to baseline after C32. Samples are considered to have returned to baseline if the area from C32-C36 is less than 10% of the area from C10-C32.

"-" = no applicable guideline or not analyzed

RDL = Reported Detection Limit; for all events unless otherwise noted (!)

- RDL for >C16-C21 Hydrocarbons (March 2021/all other events)

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Resemblance

WFOF/R - Weathered Fuel Oil Fraction/Range

NR - No resemblance

LR - Lube Range

Table A-4 - Results of Laboratory Analysis of Petroleum Hydrocarbons in Surface Water

| Parameters | RDL ¹ | Units | Guideline ¹ | Site 9-SW | | | | | | | | |
|------------------------------------|------------------|-------|------------------------|------------|----------|----------|----------|-----------|-----------|-----------|-----------|--------|
| | | | | 14-Mar-21 | 5-May-21 | 6-Aug-21 | 5-Dec-21 | 28-Mar-22 | 17-Jun-22 | 15-Oct-22 | 25-Jan-23 | |
| Benzene | 0.001 | mg/L | 2.1 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Toluene | 0.001 | mg/L | 0.77 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Ethylbenzene | 0.001 | mg/L | 0.32 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Xylenes | 0.002 | mg/L | 0.33 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| C6-C10 (less BTEX) | 0.01 | mg/L | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| >C10-C16 Hydrocarbons | 0.05 | mg/L | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C16-C21 Hydrocarbons | 0.10/0.05 | mg/L | - | <0.10 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C21-C32 Hydrocarbons | 0.1 | mg/L | - | 0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Modified TPH - Tier I ² | 0.1 | mg/L | 1.5/0.1/0.1 | 0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Sediment | - | - | - | TRACE | TRACE | TRACE | NO | TRACE | TRACE | TRACE | TRACE | TRACE |
| Resemblance Comment | - | - | - | LR | NR | NR | NR | NR | NR | NR | NR | NR |
| Return to Baseline at C323 | - | - | - | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| Isobutylbenzene - EPH | - | % | - | 119 | 100 | 105 | 108 | 103 | 99 | 108 | 100 | 100 |
| Isobutylbenzene - VPH | - | % | - | 104 | 98 | 72 | 104 | 96 | 76 | 89 | 75 | 75 |
| n-Dotriacontane - EPH | - | % | - | 113 | 104 | 109 | 107 | 101 | 100 | 111 | 104 | 104 |

Notes:

1. Atlantic Risk-Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Surface Water [Freshwater] (2022). Screening level for Gas/Diesel_#2/#6 oil_lube.

2. Modified TPH = TPH C₆ - C₃₂ (excluding BTEX)

3. Atlantic PIRI analytical method does not analyze for >C32. Laboratory certificate indicates (Yes or No) whether chromatogram for each sample returns to baseline after C32. Samples are considered to have returned to baseline if the area from C32-C36 is less than 10% of the area from C10-C32.

"-" = no applicable guideline or not analyzed

RDL = Reported Detection Limit; for all events unless otherwise noted (!)

- RDL for >C16-C21 Hydrocarbons (March 2021/all other events)

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Resemblance

WFOF/R - Weathered Fuel Oil Fraction/Range

NR - No resemblance

LR - Lube Range

Table A-4 - Results of Laboratory Analysis of Petroleum Hydrocarbons in Surface Water

| Parameters | RDL ¹ | Units | Guideline ¹ | Site 10-SW | | | | | | | | |
|------------------------------------|------------------|-------|------------------------|------------|----------|----------|----------|-----------|-----------|-----------|-----------|--------|
| | | | | 14-Mar-21 | 5-May-21 | 5-Aug-21 | 3-Dec-21 | 30-Mar-22 | 19-Jun-22 | 15-Oct-22 | 23-Jan-23 | |
| Benzene | 0.001 | mg/L | 2.1 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Toluene | 0.001 | mg/L | 0.77 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Ethylbenzene | 0.001 | mg/L | 0.32 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Xylenes | 0.002 | mg/L | 0.33 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| C6-C10 (less BTEX) | 0.01 | mg/L | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| >C10-C16 Hydrocarbons | 0.05 | mg/L | - | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C16-C21 Hydrocarbons | 0.10/0.05 | mg/L | - | 0.14 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C21-C32 Hydrocarbons | 0.1 | mg/L | - | 0.3 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Modified TPH - Tier I ² | 0.1 | mg/L | 1.5/0.1/0.1 | 0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Sediment | - | - | - | TRACE | NO | TRACE | NO | TRACE | TRACE | TRACE | TRACE | NO |
| Resemblance Comment | - | - | - | WFOF, LR | NR | NR | NR | NR | NR | NR | NR | NR |
| Return to Baseline at C323 | - | - | - | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| Isobutylbenzene - EPH | - | % | - | 95 | 93 | 104 | 107 | 95 | 112 | 103 | 100 | 100 |
| Isobutylbenzene - VPH | - | % | - | 99 | 78 | 77 | 114 | 82 | 101 | 86 | 123 | 123 |
| n-Dotriacontane - EPH | - | % | - | 84 | 96 | 106 | 106 | 93 | 112 | 108 | 104 | 104 |

Notes:

1. Atlantic Risk-Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Surface Water [Freshwater] (2022). Screening level for Gas/Diesel_#2/#6 oil_lube.

2. Modified TPH = TPH C₆ - C₃₂ (excluding BTEX)

3. Atlantic PIRI analytical method does not analyze for >C32. Laboratory certificate indicates (Yes or No) whether chromatogram for each sample returns to baseline after C32. Samples are considered to have returned to baseline if the area from C32-C36 is less than 10% of the area from C10-C32.

"-" = no applicable guideline or not analyzed

RDL = Reported Detection Limit; for all events unless otherwise noted (!)

- RDL for >C16-C21 Hydrocarbons (March 2021/all other events)

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Resemblance

WFOF/R - Weathered Fuel Oil Fraction/Range

NR - No resemblance

LR - Lube Range

Table A-4 - Results of Laboratory Analysis of Petroleum Hydrocarbons in Surface Water

| Parameters | RDL ¹ | Units | Guideline ¹ | SD-SW* | | | | |
|------------------------------------|------------------|-------|------------------------|------------|----------|-----------|-----------|-----------|
| | | | | 12-Mar-21 | 5-May-21 | 19-Jun-22 | 19-Oct-22 | 23-Jan-23 |
| Benzene | 0.001 | mg/L | 2.1 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Toluene | 0.001 | mg/L | 0.77 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Ethylbenzene | 0.001 | mg/L | 0.32 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Xylenes | 0.002 | mg/L | 0.33 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| C6-C10 (less BTEX) | 0.01 | mg/L | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| >C10-C16 Hydrocarbons | 0.05 | mg/L | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C16-C21 Hydrocarbons | 0.10/0.05 | mg/L | - | <0.10 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C21-C32 Hydrocarbons | 0.1 | mg/L | - | 0.2 | <0.1 | <0.1 | <0.1 | <0.1 |
| Modified TPH - Tier I ² | 0.1 | mg/L | 1.5/0.1/0.1 | 0.2 | <0.1 | <0.1 | <0.1 | <0.1 |
| Sediment | - | - | - | TRACE | NO | NO | TRACE | NO |
| Resemblance Comment | - | - | - | LR | NR | NR | NR | NR |
| Return to Baseline at C323 | - | - | - | YES | YES | YES | YES | YES |
| Isobutylbenzene - EPH | - | % | - | 102 | 94 | 101 | 98 | 107 |
| Isobutylbenzene - VPH | - | % | - | 101 | 74 | 98 | 80 | 128 |
| n-Dotriacontane - EPH | - | % | - | 95 | 93 | 106 | 104 | 107 |

Notes:

1. Atlantic Risk-Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Surface Water [Freshwater] (2022). Screening level for Gas/Diesel_#2/#6 oil_lube.

2. Modified TPH = TPH C₆ - C₃₂ (excluding BTEX)

3. Atlantic PIRI analytical method does not analyze for >C32. Laboratory certificate indicates (Yes or No) whether chromatogram for each sample returns to baseline after C32. Samples are considered to have returned to baseline if the area from C32-C36 is less than 10% of the area from C10-C32.

"-" = no applicable guideline or not analyzed

RDL = Reported Detection Limit; for all events unless otherwise noted (!)

- RDL for >C16-C21 Hydrocarbons (March 2021/all other events)

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Resemblance

WFOF/R - Weathered Fuel Oil Fraction/Range

NR - No resemblance

LR - Lube Range

Table A-4 - Results of Laboratory Analysis of Petroleum Hydrocarbons in Surface Water

| Parameters | RDL ¹ | Units | Guideline ¹ | Site 11-SW | | | | | | | | |
|------------------------------------|------------------|-------|------------------------|------------|----------|----------|-----------|-----------|-----------|-----------|-----------|--------|
| | | | | 15-Mar-21 | 6-May-21 | 4-Aug-21 | 13-Dec-21 | 29-Mar-22 | 20-Jun-22 | 16-Oct-22 | 24-Jan-23 | |
| Benzene | 0.001 | mg/L | 2.1 | <0.001 | - | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Toluene | 0.001 | mg/L | 0.77 | <0.001 | - | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Ethylbenzene | 0.001 | mg/L | 0.32 | <0.001 | - | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Xylenes | 0.002 | mg/L | 0.33 | <0.002 | - | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| C6-C10 (less BTEX) | 0.01 | mg/L | - | <0.01 | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| >C10-C16 Hydrocarbons | 0.05 | mg/L | - | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C16-C21 Hydrocarbons | 0.10/0.05 | mg/L | - | 0.14 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C21-C32 Hydrocarbons | 0.1 | mg/L | - | 0.3 | - | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Modified TPH - Tier I ² | 0.1 | mg/L | 1.5/0.1/0.1 | 0.4 | - | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Sediment | - | - | - | NO | - | NO | NO | TRACE | TRACE | TRACE | NO | NO |
| Resemblance Comment | - | - | - | WFOF, LR | - | NR | NR | NR | NR | NR | NR | NR |
| Return to Baseline at C323 | - | - | - | YES | - | YES | YES | YES | YES | YES | YES | YES |
| Isobutylbenzene - EPH | - | % | - | 115 | - | 104 | 93 | 106 | 102 | 102 | 100 | 100 |
| Isobutylbenzene - VPH | - | % | - | 104 | - | 73 | 83 | 84 | 103 | 77 | 121 | 121 |
| n-Dotriacontane - EPH | - | % | - | 92 | - | 108 | 97 | 106 | 105 | 102 | 101 | 101 |

Notes:

1. Atlantic Risk-Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Surface Water [Freshwater] (2022). Screening level for Gas/Diesel_#2/#6 oil_lube.

2. Modified TPH = TPH C₆ - C₃₂ (excluding BTEX)

3. Atlantic PIRI analytical method does not analyze for >C32. Laboratory certificate indicates (Yes or No) whether chromatogram for each sample returns to baseline after C32. Samples are considered to have returned to baseline if the area from C32-C36 is less than 10% of the area from C10-C32.

"-" = no applicable guideline or not analyzed

RDL = Reported Detection Limit; for all events unless otherwise noted (!)

- RDL for >C16-C21 Hydrocarbons (March 2021/all other events)

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Resemblance

WFOF/R - Weathered Fuel Oil Fraction/Range

NR - No resemblance

LR - Lube Range

Table A-4 - Results of Laboratory Analysis of Petroleum Hydrocarbons in Surface Water

| Parameters | RDL ¹ | Units | Guideline ¹ | Site 12-SW | | | | | | | |
|------------------------------------|------------------|-------|------------------------|------------|----------|----------|-----------|-----------|-----------|-----------|-----------|
| | | | | 15-Mar-21 | 6-May-21 | 4-Aug-21 | 14-Dec-21 | 29-Mar-22 | 21-Jun-22 | 16-Oct-22 | 24-Jan-23 |
| Benzene | 0.001 | mg/L | 2.1 | - | - | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Toluene | 0.001 | mg/L | 0.77 | - | - | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Ethylbenzene | 0.001 | mg/L | 0.32 | - | - | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Xylenes | 0.002 | mg/L | 0.33 | - | - | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| C6-C10 (less BTEX) | 0.01 | mg/L | - | - | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| >C10-C16 Hydrocarbons | 0.05 | mg/L | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C16-C21 Hydrocarbons | 0.10/0.05 | mg/L | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C21-C32 Hydrocarbons | 0.1 | mg/L | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Modified TPH - Tier I ² | 0.1 | mg/L | 1.5/0.1/0.1 | - | - | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Sediment | - | - | - | - | - | TRACE | NO | TRACE | TRACE | TRACE | NO |
| Resemblance Comment | - | - | - | - | - | NR | NR | NR | NR | NR | NR |
| Return to Baseline at C323 | - | - | - | - | - | YES | YES | YES | YES | YES | YES |
| Isobutylbenzene - EPH | - | % | - | - | - | 103 | 95 | 100 | 107 | 96 | 98 |
| Isobutylbenzene - VPH | - | % | - | - | - | 71 | 76 | 90 | 103 | 79 | 118 |
| n-Dotriacontane - EPH | - | % | - | - | - | 106 | 98 | 100 | 103 | 102 | 99 |

Notes:

1. Atlantic Risk-Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Surface Water [Freshwater] (2022). Screening level for Gas/Diesel_#2/#6 oil_lube.

2. Modified TPH = TPH C₆ - C₃₂ (excluding BTEX)

3. Atlantic PIRI analytical method does not analyze for >C32. Laboratory certificate indicates (Yes or No) whether chromatogram for each sample returns to baseline after C32. Samples are considered to have returned to baseline if the area from C32-C36 is less than 10% of the area from C10-C32.

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RDL = Reported Detection Limit; for all events unless otherwise noted (!)

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Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

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LR - Lube Range

Table A-4 - Results of Laboratory Analysis of Petroleum Hydrocarbons in Surface Water

| Parameters | RDL ¹ | Units | Guideline ¹ | Site 13-SW | | | | | | | |
|------------------------------------|------------------|-------|------------------------|------------|----------|----------|-----------|-----------|-----------|-----------|-----------|
| | | | | 15-Mar-21 | 6-May-21 | 4-Aug-21 | 14-Dec-21 | 29-Mar-22 | 21-Jun-22 | 15-Oct-22 | 24-Jan-23 |
| Benzene | 0.001 | mg/L | 2.1 | - | - | - | - | - | <0.001 | - | <0.001 |
| Toluene | 0.001 | mg/L | 0.77 | - | - | - | - | - | <0.001 | - | <0.001 |
| Ethylbenzene | 0.001 | mg/L | 0.32 | - | - | - | - | - | <0.001 | - | <0.001 |
| Xylenes | 0.002 | mg/L | 0.33 | - | - | - | - | - | <0.002 | - | <0.002 |
| C6-C10 (less BTEX) | 0.01 | mg/L | - | - | - | - | - | - | <0.01 | - | <0.01 |
| >C10-C16 Hydrocarbons | 0.05 | mg/L | - | - | - | - | - | - | <0.05 | - | <0.05 |
| >C16-C21 Hydrocarbons | 0.10/0.05 | mg/L | - | - | - | - | - | - | <0.05 | - | <0.05 |
| >C21-C32 Hydrocarbons | 0.1 | mg/L | - | - | - | - | - | - | <0.1 | - | <0.1 |
| Modified TPH - Tier I ² | 0.1 | mg/L | 1.5/0.1/0.1 | - | - | - | - | - | <0.1 | - | <0.1 |
| Sediment | - | - | - | - | - | - | - | - | TRACE | - | NO |
| Resemblance Comment | - | - | - | - | - | - | - | - | NR | - | NR |
| Return to Baseline at C323 | - | - | - | - | - | - | - | - | YES | - | YES |
| Isobutylbenzene - EPH | - | % | - | - | - | - | - | - | 113 | - | 103 |
| Isobutylbenzene - VPH | - | % | - | - | - | - | - | - | 103 | - | 122 |
| n-Dotriacontane - EPH | - | % | - | - | - | - | - | - | 116 | - | 106 |

Notes:

1. Atlantic Risk-Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Surface Water [Freshwater] (2022). Screening level for Gas/Diesel_#2/#6 oil_lube.

2. Modified TPH = TPH C₆ - C₃₂ (excluding BTEX)

3. Atlantic PIRI analytical method does not analyze for >C32. Laboratory certificate indicates (Yes or No) whether chromatogram for each sample returns to baseline after C32. Samples are considered to have returned to baseline if the area from C32-C36 is less than 10% of the area from C10-C32.

"-" = no applicable guideline or not analyzed

RDL = Reported Detection Limit; for all events unless otherwise noted (!)

- RDL for >C16-C21 Hydrocarbons (March 2021/all other events)

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Resemblance

WFOF/R - Weathered Fuel Oil Fraction/Range

NR - No resemblance

LR - Lube Range

Table A-4 - Results of Laboratory Analysis of Petroleum Hydrocarbons in Surface Water

| Parameters | RDL ¹ | Units | Guideline ¹ | Site 14-SW | | | | | | | | |
|------------------------------------|------------------|-------|------------------------|------------|----------|----------|-----------|-----------|-----------|-----------|-----------|--------|
| | | | | 15-Mar-21 | 9-May-21 | 4-Aug-21 | 14-Dec-21 | 29-Mar-22 | 21-Jun-22 | 16-Oct-22 | 24-Jan-23 | |
| Benzene | 0.001 | mg/L | 2.1 | - | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Toluene | 0.001 | mg/L | 0.77 | - | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Ethylbenzene | 0.001 | mg/L | 0.32 | - | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Xylenes | 0.002 | mg/L | 0.33 | - | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| C6-C10 (less BTEX) | 0.01 | mg/L | - | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| >C10-C16 Hydrocarbons | 0.05 | mg/L | - | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C16-C21 Hydrocarbons | 0.10/0.05 | mg/L | - | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C21-C32 Hydrocarbons | 0.1 | mg/L | - | - | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Modified TPH - Tier I ² | 0.1 | mg/L | 1.5/0.1/0.1 | - | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Sediment | - | - | - | - | TRACE | TRACE | TRACE | TRACE | TRACE | TRACE | TRACE | NO |
| Resemblance Comment | - | - | - | - | NR | NR | NR | NR | NR | NR | NR | NR |
| Return to Baseline at C323 | - | - | - | - | YES | YES | YES | YES | YES | YES | YES | YES |
| Isobutylbenzene - EPH | - | % | - | - | 96 | 105 | 103 | 106 | 99 | 96 | 102 | |
| Isobutylbenzene - VPH | - | % | - | - | 72 | 75 | 75 | 84 | 104 | 81 | 119 | |
| n-Dotriacontane - EPH | - | % | - | - | 93 | 107 | 104 | 108 | 102 | 100 | 103 | |

Notes:

1. Atlantic Risk-Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Surface Water [Freshwater] (2022). Screening level for Gas/Diesel #2/#6 oil_lube.

2. Modified TPH = TPH C₆ - C₃₂ (excluding BTEX)

3. Atlantic PIRI analytical method does not analyze for >C32. Laboratory certificate indicates (Yes or No) whether chromatogram for each sample returns to baseline after C32. Samples are considered to have returned to baseline if the area from C32-C36 is less than 10% of the area from C10-C32.

"-" = no applicable guideline or not analyzed

RDL = Reported Detection Limit; for all events unless otherwise noted (!)

- RDL for >C16-C21 Hydrocarbons (March 2021/all other events)

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Resemblance

WFOF/R - Weathered Fuel Oil Fraction/Range

NR - No resemblance

LR - Lube Range

Table A-4 - Results of Laboratory Analysis of Petroleum Hydrocarbons in Surface Water

| Parameters | RDL ¹ | Units | Guideline ¹ | Site 15-SW | | | | | | | | |
|------------------------------------|------------------|-------|------------------------|------------|----------|----------|----------|-----------|-----------|-----------|-----------|--------|
| | | | | 13-Mar-21 | 5-May-21 | 5-Aug-21 | 3-Dec-21 | 30-Mar-22 | 21-Jun-22 | 15-Oct-22 | 23-Jan-23 | |
| Benzene | 0.001 | mg/L | 2.1 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Toluene | 0.001 | mg/L | 0.77 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Ethylbenzene | 0.001 | mg/L | 0.32 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Xylenes | 0.002 | mg/L | 0.33 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| C6-C10 (less BTEX) | 0.01 | mg/L | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| >C10-C16 Hydrocarbons | 0.05 | mg/L | - | 0.06 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C16-C21 Hydrocarbons | 0.10/0.05 | mg/L | - | 0.17 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C21-C32 Hydrocarbons | 0.1 | mg/L | - | 0.3 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Modified TPH - Tier I ² | 0.1 | mg/L | 1.5/0.1/0.1 | 0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Sediment | - | - | - | NO | NO | NO | NO | TRACE | TRACE | NO | NO | NO |
| Resemblance Comment | - | - | - | WFOF, LR | NR | NR | NR | NR | NR | NR | NR | NR |
| Return to Baseline at C323 | - | - | - | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| Isobutylbenzene - EPH | - | % | - | 106 | 97 | 104 | 107 | 92 | 99 | 104 | 95 | 95 |
| Isobutylbenzene - VPH | - | % | - | 103 | 76 | 80 | 111 | 86 | 97 | 84 | 75 | 75 |
| n-Dotriacontane - EPH | - | % | - | 100 | 100 | 106 | 110 | 90 | 103 | 105 | 100 | 100 |

Notes:

1. Atlantic Risk-Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Surface Water [Freshwater] (2022). Screening level for Gas/Diesel_#2/#6 oil_lube.

2. Modified TPH = TPH C₆ - C₃₂ (excluding BTEX)

3. Atlantic PIRI analytical method does not analyze for >C32. Laboratory certificate indicates (Yes or No) whether chromatogram for each sample returns to baseline after C32. Samples are considered to have returned to baseline if the area from C32-C36 is less than 10% of the area from C10-C32.

"-" = no applicable guideline or not analyzed

RDL = Reported Detection Limit; for all events unless otherwise noted (!)

- RDL for >C16-C21 Hydrocarbons (March 2021/all other events)

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Resemblance

WFOF/R - Weathered Fuel Oil Fraction/Range

NR - No resemblance

LR - Lube Range

Table A-4 - Results of Laboratory Analysis of Petroleum Hydrocarbons in Surface Water

| Parameters | RDL ¹ | Units | Guideline ¹ | Site 16-SW | | | | | | | | |
|------------------------------------|------------------|-------|------------------------|------------|----------|----------|----------|-----------|-----------|-----------|-----------|--------|
| | | | | 14-Mar-21 | 8-May-21 | 5-Aug-21 | 8-Dec-21 | 30-Mar-22 | 20-Jun-22 | 16-Oct-22 | 25-Jan-23 | |
| Benzene | 0.001 | mg/L | 2.1 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Toluene | 0.001 | mg/L | 0.77 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Ethylbenzene | 0.001 | mg/L | 0.32 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Xylenes | 0.002 | mg/L | 0.33 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| C6-C10 (less BTEX) | 0.01 | mg/L | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| >C10-C16 Hydrocarbons | 0.05 | mg/L | - | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C16-C21 Hydrocarbons | 0.10/0.05 | mg/L | - | 0.15 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C21-C32 Hydrocarbons | 0.1 | mg/L | - | 0.3 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Modified TPH - Tier I ² | 0.1 | mg/L | 1.5/0.1/0.1 | 0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Sediment | - | - | - | TRACE | NO | TRACE | NO | TRACE | TRACE | TRACE | NO | NO |
| Resemblance Comment | - | - | - | WFOF, LR | NR | NR | NR | NR | NR | NR | NR | NR |
| Return to Baseline at C323 | - | - | - | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| Isobutylbenzene - EPH | - | % | - | 100 | 100 | 105 | 105 | 105 | 101 | 97 | 103 | 103 |
| Isobutylbenzene - VPH | - | % | - | 100 | 87 | 76 | 85 | 78 | 91 | 79 | 104 | 104 |
| n-Dotriacontane - EPH | - | % | - | 88 | 98 | 107 | 102 | 105 | 104 | 103 | 106 | 106 |

Notes:

1. Atlantic Risk-Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Surface Water [Freshwater] (2022). Screening level for Gas/Diesel_#2/#6 oil_lube.

2. Modified TPH = TPH C₆ - C₃₂ (excluding BTEX)

3. Atlantic PIRI analytical method does not analyze for >C32. Laboratory certificate indicates (Yes or No) whether chromatogram for each sample returns to baseline after C32. Samples are considered to have returned to baseline if the area from C32-C36 is less than 10% of the area from C10-C32.

"-" = no applicable guideline or not analyzed

RDL = Reported Detection Limit; for all events unless otherwise noted (!)

- RDL for >C16-C21 Hydrocarbons (March 2021/all other events)

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Resemblance

WFOF/R - Weathered Fuel Oil Fraction/Range

NR - No resemblance

LR - Lube Range

Table A-4 - Results of Laboratory Analysis of Petroleum Hydrocarbons in Surface Water

| Parameters | RDL ¹ | Units | Guideline ¹ | Site 17-SW | | | | | | | | SW-SD*** | |
|------------------------------------|------------------|-------|------------------------|------------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|--------|
| | | | | 13-Mar-21 | 8-May-21 | 5-Aug-21 | 8-Dec-21 | 30-Mar-22 | 20-Jun-22 | 16-Oct-22 | 24-Jan-23 | 16-Oct-22 | |
| Benzene | 0.001 | mg/L | 2.1 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Toluene | 0.001 | mg/L | 0.77 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Ethylbenzene | 0.001 | mg/L | 0.32 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Xylenes | 0.002 | mg/L | 0.33 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| C6-C10 (less BTEX) | 0.01 | mg/L | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| >C10-C16 Hydrocarbons | 0.05 | mg/L | - | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C16-C21 Hydrocarbons | 0.10/0.05 | mg/L | - | 0.14 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C21-C32 Hydrocarbons | 0.1 | mg/L | - | 0.3 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Modified TPH - Tier I ² | 0.1 | mg/L | 1.5/0.1/0.1 | 0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Sediment | - | - | - | TRACE | NO | NO | NO | TRACE | TRACE | NO | NO | NO | NO |
| Resemblance Comment | - | - | - | WFOF, LR | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| Return to Baseline at C323 | - | - | - | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| Isobutylbenzene - EPH | - | % | - | 100 | 98 | 103 | 99 | 103 | 96 | 97 | 102 | 107 | 107 |
| Isobutylbenzene - VPH | - | % | - | 101 | 74 | 79 | 85 | 83 | 94 | 80 | 118 | 80 | 80 |
| n-Dotriacontane - EPH | - | % | - | 91 | 97 | 104 | 98 | 100 | 97 | 101 | 104 | 110 | 110 |

Notes:

1. Atlantic Risk-Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Surface Water [Freshwater] (2022). Screening level for Gas/Diesel #2/#6 oil_lube.

2. Modified TPH = TPH C₆ - C₃₂ (excluding BTEX)

3. Atlantic PIRI analytical method does not analyze for >C32. Laboratory certificate indicates (Yes or No) whether chromatogram for each sample returns to baseline after C32. Samples are considered to have returned to baseline if the area from C32-C36 is less than 10% of the area from C10-C32.

"-" = no applicable guideline or not analyzed

RDL = Reported Detection Limit; for all events unless otherwise noted (!)

- RDL for >C16-C21 Hydrocarbons (March 2021/all other events)

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Resemblance

WFOF/R - Weathered Fuel Oil Fraction/Range

NR - No resemblance

LR - Lube Range

Table A-4 - Results of Laboratory Analysis of Petroleum Hydrocarbons in Surface Water

| Parameters | RDL ¹ | Units | Guideline ¹ | Site 18-SW | | | | | | | |
|------------------------------------|------------------|-------|------------------------|------------|----------|----------|----------|-----------|-----------|-----------|-----------|
| | | | | 15-Mar-21 | 6-May-21 | 5-Aug-21 | 8-Dec-21 | 31-Mar-22 | 19-Jun-22 | 15-Oct-22 | 27-Jan-23 |
| Benzene | 0.001 | mg/L | 2.1 | - | - | - | - | - | <0.001 | - | <0.001 |
| Toluene | 0.001 | mg/L | 0.77 | - | - | - | - | - | <0.001 | - | <0.001 |
| Ethylbenzene | 0.001 | mg/L | 0.32 | - | - | - | - | - | <0.001 | - | <0.001 |
| Xylenes | 0.002 | mg/L | 0.33 | - | - | - | - | - | <0.002 | - | <0.002 |
| C6-C10 (less BTEX) | 0.01 | mg/L | - | - | - | - | - | - | <0.01 | - | <0.01 |
| >C10-C16 Hydrocarbons | 0.05 | mg/L | - | - | - | - | - | - | <0.05 | - | <0.05 |
| >C16-C21 Hydrocarbons | 0.10/0.05 | mg/L | - | - | - | - | - | - | <0.05 | - | <0.05 |
| >C21-C32 Hydrocarbons | 0.1 | mg/L | - | - | - | - | - | - | <0.1 | - | <0.1 |
| Modified TPH - Tier I ² | 0.1 | mg/L | 1.5/0.1/0.1 | - | - | - | - | - | <0.1 | - | <0.1 |
| Sediment | - | - | - | - | - | - | - | - | NO | - | NO |
| Resemblance Comment | - | - | - | - | - | - | - | - | NR | - | NR |
| Return to Baseline at C323 | - | - | - | - | - | - | - | - | YES | - | YES |
| Isobutylbenzene - EPH | - | % | - | - | - | - | - | - | 97 | - | 99 |
| Isobutylbenzene - VPH | - | % | - | - | - | - | - | - | 95 | - | 103 |
| n-Dotriacontane - EPH | - | % | - | - | - | - | - | - | 96 | - | 100 |

Notes:

1. Atlantic Risk-Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Surface Water [Freshwater] (2022). Screening level for Gas/Diesel_#2/#6 oil_lube.

2. Modified TPH = TPH C₆ - C₃₂ (excluding BTEX)

3. Atlantic PIRI analytical method does not analyze for >C32. Laboratory certificate indicates (Yes or No) whether chromatogram for each sample returns to baseline after C32. Samples are considered to have returned to baseline if the area from C32-C36 is less than 10% of the area from C10-C32.

"-" = no applicable guideline or not analyzed

RDL = Reported Detection Limit; for all events unless otherwise noted (!)

- RDL for >C16-C21 Hydrocarbons (March 2021/all other events)

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Resemblance

WFOF/R - Weathered Fuel Oil Fraction/Range

NR - No resemblance

LR - Lube Range

Table A-4 - Results of Laboratory Analysis of Petroleum Hydrocarbons in Surface Water

| Parameters | RDL ¹ | Units | Guideline ¹ | Site 19-SW | | | | | | | | |
|------------------------------------|------------------|-------|------------------------|------------|----------|----------|----------|-----------|-----------|-----------|-----------|--------|
| | | | | 14-Mar-21 | 8-May-21 | 5-Aug-21 | 8-Dec-21 | 31-Mar-22 | 17-Jun-22 | 15-Oct-22 | 25-Jan-23 | |
| Benzene | 0.001 | mg/L | 2.1 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Toluene | 0.001 | mg/L | 0.77 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Ethylbenzene | 0.001 | mg/L | 0.32 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Xylenes | 0.002 | mg/L | 0.33 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| C6-C10 (less BTEX) | 0.01 | mg/L | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| >C10-C16 Hydrocarbons | 0.05 | mg/L | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C16-C21 Hydrocarbons | 0.10/0.05 | mg/L | - | 0.14 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C21-C32 Hydrocarbons | 0.1 | mg/L | - | 0.3 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Modified TPH - Tier I ² | 0.1 | mg/L | 1.5/0.1/0.1 | 0.4 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Sediment | - | - | - | NO | NO | TRACE | NO | TRACE | TRACE | NO | TRACE | TRACE |
| Resemblance Comment | - | - | - | WFOF, LR | NR | NR | NR | NR | NR | NR | NR | NR |
| Return to Baseline at C323 | - | - | - | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| Isobutylbenzene - EPH | - | % | - | 88 | 100 | 107 | 111 | 103 | 105 | 104 | 105 | 105 |
| Isobutylbenzene - VPH | - | % | - | 100 | 90 | 70 | 80 | 95 | 70 | 87 | 80 | 80 |
| n-Dotriacontane - EPH | - | % | - | 80 | 98 | 110 | 111 | 100 | 104 | 107 | 107 | 107 |

Notes:

1. Atlantic Risk-Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Surface Water [Freshwater] (2022). Screening level for Gas/Diesel #2/#6 oil_lube.

2. Modified TPH = TPH C₆ - C₃₂ (excluding BTEX)

3. Atlantic PIRI analytical method does not analyze for >C32. Laboratory certificate indicates (Yes or No) whether chromatogram for each sample returns to baseline after C32. Samples are considered to have returned to baseline if the area from C32-C36 is less than 10% of the area from C10-C32.

"-" = no applicable guideline or not analyzed

RDL = Reported Detection Limit; for all events unless otherwise noted (!)

- RDL for >C16-C21 Hydrocarbons (March 2021/all other events)

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Resemblance

WFOF/R - Weathered Fuel Oil Fraction/Range

NR - No resemblance

LR - Lube Range

Table A-4 - Results of Laboratory Analysis of Petroleum Hydrocarbons in Surface Water

| Parameters | RDL ¹ | Units | Guideline ¹ | SD-SW** | | | | |
|------------------------------------|------------------|-------|------------------------|----------|----------|-----------|-----------|-----------|
| | | | | 5-Aug-21 | 8-Dec-21 | 29-Mar-22 | 17-Jun-22 | 25-Jan-23 |
| Benzene | 0.001 | mg/L | 2.1 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Toluene | 0.001 | mg/L | 0.77 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Ethylbenzene | 0.001 | mg/L | 0.32 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Xylenes | 0.002 | mg/L | 0.33 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| C6-C10 (less BTEX) | 0.01 | mg/L | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| >C10-C16 Hydrocarbons | 0.05 | mg/L | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C16-C21 Hydrocarbons | 0.10/0.05 | mg/L | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C21-C32 Hydrocarbons | 0.1 | mg/L | - | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Modified TPH - Tier I ² | 0.1 | mg/L | 1.5/0.1/0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Sediment | - | - | - | NO | TRACE | NO | TRACE | TRACE |
| Resemblance Comment | - | - | - | NR | NR | NR | NR | NR |
| Return to Baseline at C323 | - | - | - | YES | YES | YES | YES | YES |
| Isobutylbenzene - EPH | - | % | - | 104 | 103 | 101 | 99 | 100 |
| Isobutylbenzene - VPH | - | % | - | 70 | 80 | 81 | 100 | 129 |
| n-Dotriacontane - EPH | - | % | - | 107 | 103 | 101 | 101 | 105 |

Notes:

1. Atlantic Risk-Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Surface Water [Freshwater] (2022). Screening level for Gas/Diesel #2/#6 oil_lube.

2. Modified TPH = TPH C₆ - C₃₂ (excluding BTEX)

3. Atlantic PIRI analytical method does not analyze for >C32. Laboratory certificate indicates (Yes or No) whether chromatogram for each sample returns to baseline after C32. Samples are considered to have returned to baseline if the area from C32-C36 is less than 10% of the area from C10-C32.

"-" = no applicable guideline or not analyzed

RDL = Reported Detection Limit; for all events unless otherwise noted (!)

- RDL for >C16-C21 Hydrocarbons (March 2021/all other events)

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Resemblance

WFOF/R - Weathered Fuel Oil Fraction/Range

NR - No resemblance

LR - Lube Range

Table A-4 - Results of Laboratory Analysis of Petroleum Hydrocarbons in Surface Water

| Parameters | RDL ¹ | Units | Guideline ¹ | Site 20-SW | | | | | | | | |
|------------------------------------|------------------|-------|------------------------|------------|----------|----------|----------|-----------|-----------|-----------|-----------|--------|
| | | | | 15-Mar-21 | 5-May-21 | 4-Aug-21 | 3-Dec-21 | 28-Mar-22 | 18-Jun-22 | 15-Oct-22 | 23-Jan-23 | |
| Benzene | 0.001 | mg/L | 2.1 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Toluene | 0.001 | mg/L | 0.77 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Ethylbenzene | 0.001 | mg/L | 0.32 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Xylenes | 0.002 | mg/L | 0.33 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| C6-C10 (less BTEX) | 0.01 | mg/L | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| >C10-C16 Hydrocarbons | 0.05 | mg/L | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C16-C21 Hydrocarbons | 0.10/0.05 | mg/L | - | 0.12 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C21-C32 Hydrocarbons | 0.1 | mg/L | - | 0.3 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Modified TPH - Tier I ² | 0.1 | mg/L | 1.5/0.1/0.1 | 0.4 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Sediment | - | - | - | TRACE | TRACE | TRACE | TRACE | TRACE | TRACE | TRACE | TRACE | NO |
| Resemblance Comment | - | - | - | WFOF, LR | NR | NR | NR | NR | NR | NR | NR | NR |
| Return to Baseline at C323 | - | - | - | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| Isobutylbenzene - EPH | - | % | - | 85 | 97 | 104 | 109 | 105 | 101 | 106 | 103 | |
| Isobutylbenzene - VPH | - | % | - | 99 | 98 | 72 | 109 | 94 | 103 | 87 | 128 | |
| n-Dotriacontane - EPH | - | % | - | 81 | 102 | 106 | 109 | 101 | 100 | 108 | 103 | |

Notes:

1. Atlantic Risk-Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Surface Water [Freshwater] (2022). Screening level for Gas/Diesel_#2/#6 oil_lube.

2. Modified TPH = TPH C₆ - C₃₂ (excluding BTEX)

3. Atlantic PIRI analytical method does not analyze for >C32. Laboratory certificate indicates (Yes or No) whether chromatogram for each sample returns to baseline after C32. Samples are considered to have returned to baseline if the area from C32-C36 is less than 10% of the area from C10-C32.

"-" = no applicable guideline or not analyzed

RDL = Reported Detection Limit; for all events unless otherwise noted (!)

- RDL for >C16-C21 Hydrocarbons (March 2021/all other events)

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Resemblance

WFOF/R - Weathered Fuel Oil Fraction/Range

NR - No resemblance

LR - Lube Range

Table A-4 - Results of Laboratory Analysis of Petroleum Hydrocarbons in Surface Water

| Parameters | RDL ¹ | Units | Guideline ¹ | Site 21-SW | | | | | | | | |
|------------------------------------|------------------|-------|------------------------|------------|----------|----------|----------|-----------|-----------|-----------|-----------|--------|
| | | | | 15-Mar-21 | 6-May-21 | 4-Aug-21 | 3-Dec-21 | 28-Mar-22 | 21-Jun-22 | 15-Oct-22 | 23-Jan-23 | |
| Benzene | 0.001 | mg/L | 2.1 | - | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Toluene | 0.001 | mg/L | 0.77 | - | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Ethylbenzene | 0.001 | mg/L | 0.32 | - | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Xylenes | 0.002 | mg/L | 0.33 | - | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| C6-C10 (less BTEX) | 0.01 | mg/L | - | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| >C10-C16 Hydrocarbons | 0.05 | mg/L | - | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C16-C21 Hydrocarbons | 0.10/0.05 | mg/L | - | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C21-C32 Hydrocarbons | 0.1 | mg/L | - | - | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Modified TPH - Tier I ² | 0.1 | mg/L | 1.5/0.1/0.1 | - | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Sediment | - | - | - | - | NO | NO | NO | TRACE | TRACE | TRACE | NO | NO |
| Resemblance Comment | - | - | - | - | NR | NR | NR | NR | NR | NR | NR | NR |
| Return to Baseline at C323 | - | - | - | - | YES | YES | YES | YES | YES | YES | YES | YES |
| Isobutylbenzene - EPH | - | % | - | - | 92 | 104 | 107 | 103 | 99 | 107 | 104 | 104 |
| Isobutylbenzene - VPH | - | % | - | - | 98 | 80 | 112 | 90 | 97 | 80 | 126 | 126 |
| n-Dotriacontane - EPH | - | % | - | - | 96 | 105 | 107 | 101 | 102 | 110 | 109 | 109 |

Notes:

1. Atlantic Risk-Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Surface Water [Freshwater] (2022). Screening level for Gas/Diesel_#2/#6 oil_lube.

2. Modified TPH = TPH C₆ - C₃₂ (excluding BTEX)

3. Atlantic PIRI analytical method does not analyze for >C32. Laboratory certificate indicates (Yes or No) whether chromatogram for each sample returns to baseline after C32. Samples are considered to have returned to baseline if the area from C32-C36 is less than 10% of the area from C10-C32.

"-" = no applicable guideline or not analyzed

RDL = Reported Detection Limit; for all events unless otherwise noted (!)

- RDL for >C16-C21 Hydrocarbons (March 2021/all other events)

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Resemblance

WFOF/R - Weathered Fuel Oil Fraction/Range

NR - No resemblance

LR - Lube Range

Table A-4 - Results of Laboratory Analysis of Petroleum Hydrocarbons in Surface Water

| Parameters | RDL ¹ | Units | Guideline ¹ | Site 22-SW | | | | | | | | |
|------------------------------------|------------------|-------|------------------------|------------|----------|----------|----------|-----------|-----------|-----------|-----------|---|
| | | | | 15-Mar-21 | 6-May-21 | 4-Aug-21 | 3-Dec-21 | 28-Mar-22 | 18-Jun-22 | 15-Oct-22 | 25-Jan-23 | |
| Benzene | 0.001 | mg/L | 2.1 | - | - | - | - | - | - | - | - | - |
| Toluene | 0.001 | mg/L | 0.77 | - | - | - | - | - | - | - | - | - |
| Ethylbenzene | 0.001 | mg/L | 0.32 | - | - | - | - | - | - | - | - | - |
| Xylenes | 0.002 | mg/L | 0.33 | - | - | - | - | - | - | - | - | - |
| C6-C10 (less BTEX) | 0.01 | mg/L | - | - | - | - | - | - | - | - | - | - |
| >C10-C16 Hydrocarbons | 0.05 | mg/L | - | - | - | - | - | - | - | - | - | - |
| >C16-C21 Hydrocarbons | 0.10/0.05 | mg/L | - | - | - | - | - | - | - | - | - | - |
| >C21-C32 Hydrocarbons | 0.1 | mg/L | - | - | - | - | - | - | - | - | - | - |
| Modified TPH - Tier I ² | 0.1 | mg/L | 1.5/0.1/0.1 | - | - | - | - | - | - | - | - | - |
| Sediment | - | - | - | - | - | - | - | - | - | - | - | - |
| Resemblance Comment | - | - | - | - | - | - | - | - | - | - | - | - |
| Return to Baseline at C323 | - | - | - | - | - | - | - | - | - | - | - | - |
| Isobutylbenzene - EPH | - | % | - | - | - | - | - | - | - | - | - | - |
| Isobutylbenzene - VPH | - | % | - | - | - | - | - | - | - | - | - | - |
| n-Dotriacontane - EPH | - | % | - | - | - | - | - | - | - | - | - | - |

Notes:

1. Atlantic Risk-Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Surface Water [Freshwater] (2022). Screening level for Gas/Diesel_#2/#6 oil_lube.

2. Modified TPH = TPH C₆ - C₃₂ (excluding BTEX)

3. Atlantic PIRI analytical method does not analyze for >C32. Laboratory certificate indicates (Yes or No) whether chromatogram for each sample returns to baseline after C32. Samples are considered to have returned to baseline if the area from C32-C36 is less than 10% of the area from C10-C32.

"-" = no applicable guideline or not analyzed

RDL = Reported Detection Limit; for all events unless otherwise noted (!)

- RDL for >C16-C21 Hydrocarbons (March 2021/all other events)

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Resemblance

WFOF/R - Weathered Fuel Oil Fraction/Range

NR - No resemblance

LR - Lube Range

Table A-4 - Results of Laboratory Analysis of Petroleum Hydrocarbons in Surface Water

| Parameters | RDL ¹ | Units | Guideline ¹ | Site 23-SW | | | | | | | |
|------------------------------------|------------------|-------|------------------------|------------|----------|----------|----------|-----------|-----------|-----------|-----------|
| | | | | 15-Mar-21 | 6-May-21 | 4-Aug-21 | 3-Dec-21 | 28-Mar-22 | 19-Jun-22 | 15-Oct-22 | 27-Jan-23 |
| Benzene | 0.001 | mg/L | 2.1 | - | - | - | - | - | <0.001 | - | <0.001 |
| Toluene | 0.001 | mg/L | 0.77 | - | - | - | - | - | <0.001 | - | <0.001 |
| Ethylbenzene | 0.001 | mg/L | 0.32 | - | - | - | - | - | <0.001 | - | <0.001 |
| Xylenes | 0.002 | mg/L | 0.33 | - | - | - | - | - | <0.002 | - | <0.002 |
| C6-C10 (less BTEX) | 0.01 | mg/L | - | - | - | - | - | - | <0.01 | - | <0.01 |
| >C10-C16 Hydrocarbons | 0.05 | mg/L | - | - | - | - | - | - | <0.05 | - | <0.05 |
| >C16-C21 Hydrocarbons | 0.10/0.05 | mg/L | - | - | - | - | - | - | <0.05 | - | <0.05 |
| >C21-C32 Hydrocarbons | 0.1 | mg/L | - | - | - | - | - | - | <0.1 | - | <0.1 |
| Modified TPH - Tier I ² | 0.1 | mg/L | 1.5/0.1/0.1 | - | - | - | - | - | <0.1 | - | <0.1 |
| Sediment | - | - | - | - | - | - | - | - | TRACE | - | TRACE |
| Resemblance Comment | - | - | - | - | - | - | - | - | NR | - | NR |
| Return to Baseline at C323 | - | - | - | - | - | - | - | - | YES | - | YES |
| Isobutylbenzene - EPH | - | % | - | - | - | - | - | - | 120 | - | 103 |
| Isobutylbenzene - VPH | - | % | - | - | - | - | - | - | 93 | - | 128 |
| n-Dotriacontane - EPH | - | % | - | - | - | - | - | - | 121 | - | 103 |

Notes:

1. Atlantic Risk-Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Surface Water [Freshwater] (2022). Screening level for Gas/Diesel_#2/#6 oil_lube.

2. Modified TPH = TPH C₆ - C₃₂ (excluding BTEX)

3. Atlantic PIRI analytical method does not analyze for >C32. Laboratory certificate indicates (Yes or No) whether chromatogram for each sample returns to baseline after C32. Samples are considered to have returned to baseline if the area from C32-C36 is less than 10% of the area from C10-C32.

"-" = no applicable guideline or not analyzed

RDL = Reported Detection Limit; for all events unless otherwise noted (!)

- RDL for >C16-C21 Hydrocarbons (March 2021/all other events)

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Resemblance

WFOF/R - Weathered Fuel Oil Fraction/Range

NR - No resemblance

LR - Lube Range

Table A-4 - Results of Laboratory Analysis of Petroleum Hydrocarbons in Surface Water

| Parameters | RDL ¹ | Units | Guideline ¹ | Site 24-SW | | | | | | | |
|------------------------------------|------------------|-------|------------------------|------------|----------|----------|----------|-----------|-----------|-----------|-----------|
| | | | | 15-Mar-21 | 6-May-21 | 4-Aug-21 | 3-Dec-21 | 28-Mar-22 | 19-Jun-22 | 15-Oct-22 | 27-Jan-23 |
| Benzene | 0.001 | mg/L | 2.1 | - | - | - | - | - | <0.001 | - | <0.001 |
| Toluene | 0.001 | mg/L | 0.77 | - | - | - | - | - | <0.001 | - | <0.001 |
| Ethylbenzene | 0.001 | mg/L | 0.32 | - | - | - | - | - | <0.001 | - | <0.001 |
| Xylenes | 0.002 | mg/L | 0.33 | - | - | - | - | - | <0.002 | - | <0.002 |
| C6-C10 (less BTEX) | 0.01 | mg/L | - | - | - | - | - | - | <0.01 | - | <0.01 |
| >C10-C16 Hydrocarbons | 0.05 | mg/L | - | - | - | - | - | - | <0.05 | - | <0.05 |
| >C16-C21 Hydrocarbons | 0.10/0.05 | mg/L | - | - | - | - | - | - | <0.05 | - | <0.05 |
| >C21-C32 Hydrocarbons | 0.1 | mg/L | - | - | - | - | - | - | <0.1 | - | <0.1 |
| Modified TPH - Tier I ² | 0.1 | mg/L | 1.5/0.1/0.1 | - | - | - | - | - | <0.1 | - | <0.1 |
| Sediment | - | - | - | - | - | - | - | - | TRACE | - | NO |
| Resemblance Comment | - | - | - | - | - | - | - | - | NR | - | NR |
| Return to Baseline at C323 | - | - | - | - | - | - | - | - | YES | - | YES |
| Isobutylbenzene - EPH | - | % | - | - | - | - | - | - | 113 | - | 105 |
| Isobutylbenzene - VPH | - | % | - | - | - | - | - | - | 99 | - | 124 |
| n-Dotriacontane - EPH | - | % | - | - | - | - | - | - | 112 | - | 103 |

Notes:

1. Atlantic Risk-Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Surface Water [Freshwater] (2022). Screening level for Gas/Diesel_#2/#6 oil_lube.

2. Modified TPH = TPH C₆ - C₃₂ (excluding BTEX)

3. Atlantic PIRI analytical method does not analyze for >C32. Laboratory certificate indicates (Yes or No) whether chromatogram for each sample returns to baseline after C32. Samples are considered to have returned to baseline if the area from C32-C36 is less than 10% of the area from C10-C32.

"-" = no applicable guideline or not analyzed

RDL = Reported Detection Limit; for all events unless otherwise noted (!)

- RDL for >C16-C21 Hydrocarbons (March 2021/all other events)

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Resemblance

WFOF/R - Weathered Fuel Oil Fraction/Range

NR - No resemblance

LR - Lube Range

Table A-5

Analytical Results for Available Metals in Sediment

Table A-5 - Analytical Results for Available Metals in Sediment

| Parameter | RDL | Units | Guideline ¹ | Site 1-SED | | | | | | | | Site 2-SED | | | | | | | |
|------------|-------------------|-------|------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-----------|-------------|--------------|-------------|-------------|--------------|--------------|--------------|--------------|-----------|
| | | | | Sample Date | 14-Mar-21 | 7-May-21 | 6-Aug-21 | 8-Dec-21 | 31-Mar-22 | 19-Jun-22 | 15-Oct-22 | 27-Jan-23 | 14-Mar-21 | 8-May-21 | 6-Aug-21 | 8-Dec-21 | 31-Mar-22 | 17-Jun-22 | 16-Oct-22 |
| Aluminum | 10/8740/10/1000 | mg/kg | - | - | 11100 | 11100 | 12900 | 10300 | 12200 | - | 11700 | 22600 | 14600 | 15300 | 20600 | 17000 | 16600 | 17000 | - |
| Antimony | 0.8/1 | mg/kg | 25 | - | <1 | <1 | 1.1 | <1 | <1 | - | 1 | <1 | <1 | <1 | <0.8 | <1 | <1 | <1 | - |
| Arsenic | 1 | mg/kg | 17 | - | 52 | 59 | 49 | 30 | 48 | - | 53 | 91 | 75 | 51 | 79 | 71 | 90 | 82 | - |
| Barium | 2/1/5 | mg/kg | - | - | 22 | 20 | 30.3 | 15 | 34 | - | 20 | 41 | 41 | 36 | 88.6 | 62 | 74 | 46 | - |
| Beryllium | 0.4/1/2 | mg/kg | - | - | <2 | <2 | 0.5 | <2 | <1 | - | <2 | <2 | <2 | <2 | 0.5 | <2 | <1 | <2 | - |
| Boron | 5/2 | mg/kg | - | - | <2 | <2 | <5 | <2 | 4 | - | <2 | <2 | <2 | 3 | <5 | <2 | 12 | <2 | - |
| Cadmium | 0.5/0.3 | mg/kg | 3.5 | - | <0.3 | <0.3 | <0.5 | <0.3 | <0.3 | - | <0.3 | <0.3 | <0.3 | <0.3 | <0.5 | <0.3 | <0.3 | <0.3 | - |
| Chromium | 5/2 | mg/kg | 90 | - | 19 | 22 | 25 | 18 | 25 | - | 22 | 30 | 32 | 32 | 33 | 27 | 35 | 29 | - |
| Cobalt | 0.5/1 | mg/kg | - | - | 13 | 15 | 14.2 | 11 | 17 | - | 14 | 25 | 28 | 22 | 18.9 | 19 | 26 | 25 | - |
| Copper | 1/2 | mg/kg | 197 | - | 18 | 14 | 12.9 | 12 | 14 | - | 16 | 7 | 9 | 8 | 8.3 | 8 | 8 | 7 | - |
| Iron | 50/24400/500/5000 | mg/kg | 43766 | - | 29900 | 34100 | 36100 | 25900 | 36200 | - | 31700 | 53600 | 43200 | 36500 | 54200 | 48800 | 51800 | 52500 | - |
| Lead | 1/0.5 | mg/kg | 91.3 | - | 7.6 | 8.0 | 11 | 8.5 | 14.2 | - | 8.1 | 6.2 | 6.3 | 6.7 | 9 | 8.5 | 10.5 | 10.7 | - |
| Lithium | 0.5/5 | mg/kg | - | - | 21 | 21 | 22.8 | 26 | 23 | - | 23 | 53 | 38 | 33 | 40.6 | 42 | 37 | 43 | - |
| Manganese | 2/780/50/20 | mg/kg | 1100 | - | 2510 | 2590 | 2400 | 1200 | 2370 | - | 1960 | 7430 | 2870 | 4340 | 1320 | 1500 | 7600 | 5400 | - |
| Mercury | 0.05/0.03 | mg/kg | 0.486 | - | <0.05 | <0.03 | 0.05 | <0.03 | 0.03 | - | <0.03 | <0.05 | <0.05 | <0.03 | 0.04 | <0.03 | <0.03 | <0.03 | - |
| Molybdenum | 0.5/2 | mg/kg | - | - | <2 | <2 | 1.6 | <2 | 2 | - | <2 | 5 | 5 | 3 | 5.2 | 4 | 5 | 4 | - |
| Nickel | 1/2 | mg/kg | 75 | - | 33 | 35 | 35 | 32 | 41 | - | 35 | 59 | 53 | 52 | 54 | 51 | 60 | 53 | - |
| Selenium | 0.8/1 | mg/kg | 2 | - | <1 | <1 | <0.8 | <1 | <1 | - | <1 | <1 | <1 | <1 | <0.8 | <1 | <1 | <1 | - |
| Silver | 0.5 | mg/kg | 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 | <0.5 | - |
| Strontium | 50/5 | mg/kg | - | - | 8 | 8 | 10 | 6 | <50 | - | 6 | 12 | 9 | 12 | 7 | 5 | <50 | 9 | - |
| Thallium | 0.5/0.1 | mg/kg | - | - | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.1 | 0.1 | <0.1 | - |
| Tin | 1/2 | mg/kg | - | - | 3 | 2 | <1 | 3 | 3 | - | <2 | 3 | 3 | 3 | <1 | 4 | 4 | 4 | - |
| Uranium | 0.5/0.1 | mg/kg | - | - | 0.6 | 0.6 | 1.02 | 0.5 | 1 | - | 0.6 | 0.5 | 0.6 | 0.5 | 0.97 | 0.7 | 0.9 | 0.5 | - |
| Vanadium | 0.4/2 | mg/kg | - | - | 20 | 23 | 24.1 | 21 | 26 | - | 20 | 32 | 30 | 24 | 30.9 | 29 | 34 | 32 | - |
| Zinc | 5 | mg/kg | 315 | - | 57 | 63 | 65 | 54 | 72 | - | 62 | 120 | 109 | 98 | 117 | 105 | 132 | 110 | - |

Notes:

1. Atlantic Risk Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Sediment [Freshwater Sediment] (2022)

"-" = no applicable guideline or not analyzed

NA = Not applicable

RDL = Reported Detection Limit; for all events unless otherwise noted:

- RDL for aluminium (March 2021 and December 2021/Site 11-SED for May 2021/August 2021/October 2022 and March 2022/June 2022)
- RDL for antimony, boron, cadmium, chromium, cobalt, copper, lead, lithium, molybdenum, nickel, selenium, thallium, tin, uranium, vanadium (December 2021/all other events)
- RDL for barium and beryllium (December 2021/June 2022/all other events)
- RDL for iron and manganese (March 2021, August 2021, March 2022 and October 2022/Site 11-SED for May 2021/December 2021/June 2022)
- RDL for mercury (March 2021 and May 2021/all other events)
- RDL for strontium (June 2022/all other events)

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Table A-5 - Analytical Results for Available Metals in Sediment

| Parameter | RDL | Units | Guideline ¹ | Site 3-SED | | | | | | | | Site 4-SED | | | | | | | |
|------------|-------------------|-------|------------------------|-------------|--------------|-------------|--------------|-------------|--------------|--------------|-----------|-------------|--------------|--------------|-------------|-------------|--------------|--------------|-------------|
| | | | | Sample Date | 14-Mar-21 | 7-May-21 | 3-Aug-21 | 5-Dec-21 | 29-Mar-22 | 18-Jun-22 | 16-Oct-22 | 25-Jan-23 | 12-Mar-21 | 7-May-21 | 3-Aug-21 | 5-Dec-21 | 29-Mar-22 | 18-Jun-22 | 16-Oct-22 |
| Aluminum | 10/8740/10/1000 | mg/kg | - | - | 14400 | 16100 | 20100 | 11500 | 13100 | 11700 | 8340 | 15200 | 15400 | 19200 | 20400 | 9800 | 14000 | 13000 | 18500 |
| Antimony | 0.8/1 | mg/kg | 25 | - | <1 | <1 | 1 | 1 | <1 | <1 | 3 | <1 | 1 | <1 | 2 | 1 | <1 | <1 | 2 |
| Arsenic | 1 | mg/kg | 17 | - | 114 | 18 | 79 | 56 | 213 | 65 | 87 | 80 | 192 | 101 | 174 | 82 | 64 | 93 | 109 |
| Barium | 2/1/5 | mg/kg | - | - | 680 | 39 | 204 | 105 | 57 | 65 | 252 | 29 | 114 | 68 | 73 | 33 | 160 | 42 | 67 |
| Beryllium | 0.4/1/2 | mg/kg | - | - | <2 | <2 | 0.6 | <2 | <1 | <2 | <2 | <2 | <2 | <2 | 0.7 | <2 | <1 | <2 | <2 |
| Boron | 5/2 | mg/kg | - | - | <2 | <2 | <5 | <2 | 21 | <2 | <2 | <2 | <2 | <2 | <5 | <2 | 9 | <2 | <2 |
| Cadmium | 0.5/0.3 | mg/kg | 3.5 | - | 1.1 | <0.3 | <0.5 | <0.3 | <0.3 | <0.3 | 0.3 | <0.3 | <0.3 | <0.3 | <0.5 | <0.3 | <0.3 | <0.3 | <0.3 |
| Chromium | 5/2 | mg/kg | 90 | - | 27 | 29 | 33 | 20 | 26 | 24 | 30 | 21 | 29 | 30 | 27 | 15 | 29 | 23 | 23 |
| Cobalt | 0.5/1 | mg/kg | - | - | 59 | 12 | 20 | 15 | 15 | 11 | 24 | 12 | 24 | 18 | 15 | 9 | 17 | 12 | 12 |
| Copper | 1/2 | mg/kg | 197 | - | 15 | 11 | 15 | 13 | 7 | 15 | 19 | 6 | 10 | 11 | 9 | 7 | 17 | 7 | 7 |
| Iron | 50/24400/500/5000 | mg/kg | 43766 | - | 46100 | 33500 | 45000 | 36500 | 46200 | 41300 | 8550 | 31000 | 48100 | 52500 | 43500 | 23100 | 47700 | 33900 | 34000 |
| Lead | 1/0.5 | mg/kg | 91.3 | - | 14.1 | 6.3 | 13.0 | 11.0 | 9.6 | 10.1 | 14.4 | 5.4 | 10.2 | 7.5 | 10.0 | 5.3 | 15.6 | 6.7 | 6.6 |
| Lithium | 0.5/5 | mg/kg | - | - | 26 | 30 | 34 | 25 | 29 | 25 | 36 | 36 | 28 | 31 | 35 | 21 | 26 | 31 | 35 |
| Manganese | 2/780/50/20 | mg/kg | 1100 | - | 55900 | 5360 | 10400 | 8290 | 3570 | 5620 | 302 | 2410 | 8340 | 8310 | 4030 | 2790 | 9930 | 3400 | 2810 |
| Mercury | 0.05/0.03 | mg/kg | 0.486 | - | <0.05 | <0.03 | 0.05 | 0.03 | <0.03 | <0.03 | <0.03 | <0.05 | <0.05 | <0.03 | 0.06 | <0.03 | <0.03 | <0.03 | <0.03 |
| Molybdenum | 0.5/2 | mg/kg | - | - | 6 | <2 | 2.8 | 3 | 4 | 3 | 4 | 2 | 5 | 4 | 4 | 2 | 3 | 3 | 3 |
| Nickel | 1/2 | mg/kg | 75 | - | 88 | 41 | 56 | 28 | 50 | 38 | 51 | 43 | 58 | 49 | 55 | 30 | 48 | 50 | 46 |
| Selenium | 0.8/1 | mg/kg | 2 | - | <1 | <1 | <0.8 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <0.8 | <1 | <1 | <1 | <1 |
| Silver | 0.5 | mg/kg | 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 | <0.5 | <0.5 | <0.5 |
| Strontium | 50/5 | mg/kg | - | - | 50 | 8 | 15 | 7 | <50 | 8 | 13 | 17 | 16 | 11 | 19 | 9 | <50 | 9 | 8 |
| Thallium | 0.5/0.1 | mg/kg | - | - | 0.4 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | 0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.1 | 0.2 | <0.1 | <0.1 |
| Tin | 1/2 | mg/kg | - | - | 5 | 3 | <1 | 3 | 4 | 4 | 3 | 4 | 4 | 3 | <1 | 3 | 4 | 4 | 3 |
| Uranium | 0.5/0.1 | mg/kg | - | - | 0.6 | 0.5 | 0.9 | 0.7 | 1 | 0.6 | 0.8 | 0.7 | 1.0 | 1.1 | 1.3 | 0.6 | 1.1 | 0.7 | 0.7 |
| Vanadium | 0.4/2 | mg/kg | - | - | 30 | 96 | 28 | 30 | 31 | 23 | 42 | 23 | 27 | 109 | 25 | 15 | 30 | 22 | 24 |
| Zinc | 5 | mg/kg | 315 | - | 190 | 72 | 115 | 51 | 113 | 80 | 95 | 80 | 120 | 120 | 131 | 71 | 83 | 91 | 93 |

Notes:

1. Atlantic Risk Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Sediment [Freshwater Sediment] (2022)

"-" = no applicable guideline or not analyzed

NA = Not applicable

RDL = Reported Detection Limit; for all events unless otherwise noted:

- RDL for aluminium (March 2021 and December 2021/Site 11-SED for May 2021/August 2021/October 2022 and March 2022/June 2022)
- RDL for antimony, boron, cadmium, chromium, cobalt, copper, lead, lithium, molybdenum, nickel, selenium, thallium, tin, uranium, vanadium (December 2021/all other events)
- RDL for barium and beryllium (December 2021/June 2022/all other events)
- RDL for iron and manganese (March 2021, August 2021, March 2022 and October 2022/Site 11-SED for May 2021/December 2021/June 2022)
- RDL for mercury (March 2021 and May 2021/all other events)
- RDL for strontium (June 2022/all other events)

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Table A-5 - Analytical Results for Available Metals in Sediment

| Parameter | RDL | Units | Guideline ¹ | Site 5-SED | | | | | | | | Site 6-SED | | | | | | |
|------------|-------------------|-------|------------------------|-------------|---------------|--------------|---------------|----------|-----------|-----------|-----------|------------|-----------|-----------|----------|-----------|-----------|-----------|
| | | | | Sample Date | 14-Mar-21 | 5-May-21 | 4-Aug-21 | 8-Dec-21 | 28-Mar-22 | 18-Jun-22 | 15-Oct-22 | 25-Jan-23 | 12-Mar-21 | 6-May-21 | 3-Aug-21 | 13-Dec-21 | 28-Mar-22 | 18-Jun-22 |
| Aluminum | 10/8740/10/1000 | mg/kg | - | - | 23600 | 8160 | 28200 | - | - | - | - | - | - | 13700 | - | - | - | - |
| Antimony | 0.8/1 | mg/kg | 25 | - | <1 | <1 | 1.4 | - | - | - | - | - | - | <1 | - | - | - | - |
| Arsenic | 1 | mg/kg | 17 | - | 293 | 68 | 397 | - | - | - | - | - | - | 44 | - | - | - | - |
| Barium | 2/1/5 | mg/kg | - | - | 37 | 91 | 193 | - | - | - | - | - | - | 81 | - | - | - | - |
| Beryllium | 0.4/1/2 | mg/kg | - | - | <2 | <2 | 2.2 | - | - | - | - | - | - | <2 | - | - | - | - |
| Boron | 5/2 | mg/kg | - | - | <2 | <2 | <5 | - | - | - | - | - | - | <2 | - | - | - | - |
| Cadmium | 0.5/0.3 | mg/kg | 3.5 | - | <0.3 | 0.3 | <0.5 | - | - | - | - | - | - | 0.8 | - | - | - | - |
| Chromium | 5/2 | mg/kg | 90 | - | 113 | 33 | 54 | - | - | - | - | - | - | 16 | - | - | - | - |
| Cobalt | 0.5/1 | mg/kg | - | - | 35 | 12 | 22.3 | - | - | - | - | - | - | 10 | - | - | - | - |
| Copper | 1/2 | mg/kg | 197 | - | 37 | 46 | 50.6 | - | - | - | - | - | - | 12 | - | - | - | - |
| Iron | 50/24400/500/5000 | mg/kg | 43766 | - | 126000 | 54000 | 155000 | - | - | - | - | - | - | 12300 | - | - | - | - |
| Lead | 1/0.5 | mg/kg | 91.3 | - | 6.4 | 7.1 | 19 | - | - | - | - | - | - | 8.9 | - | - | - | - |
| Lithium | 0.5/5 | mg/kg | - | - | 62 | <5 | 27.8 | - | - | - | - | - | - | 11 | - | - | - | - |
| Manganese | 2/780/50/20 | mg/kg | 1100 | - | 3100 | 3320 | 3170 | - | - | - | - | - | - | 1100 | - | - | - | - |
| Mercury | 0.05/0.03 | mg/kg | 0.486 | - | <0.05 | 0.15 | 0.19 | - | - | - | - | - | - | 0.08 | - | - | - | - |
| Molybdenum | 0.5/2 | mg/kg | - | - | 9 | 6 | 19.8 | - | - | - | - | - | - | 2 | - | - | - | - |
| Nickel | 1/2 | mg/kg | 75 | - | 113 | 27 | 68 | - | - | - | - | - | - | 39 | - | - | - | - |
| Selenium | 0.8/1 | mg/kg | 2 | - | <1 | <1 | 2.9 | - | - | - | - | - | - | <1 | - | - | - | - |
| Silver | 0.5 | mg/kg | 0.5 | - | <0.5 | <0.5 | <0.5 | - | - | - | - | - | - | <0.5 | - | - | - | - |
| Strontium | 50/5 | mg/kg | - | - | 10 | 16 | 17 | - | - | - | - | - | - | 49 | - | - | - | - |
| Thallium | 0.5/0.1 | mg/kg | - | - | <0.1 | <0.1 | <0.5 | - | - | - | - | - | - | 0.1 | - | - | - | - |
| Tin | 1/2 | mg/kg | - | - | 3 | 7 | 2 | - | - | - | - | - | - | 2 | - | - | - | - |
| Uranium | 0.5/0.1 | mg/kg | - | - | 0.8 | 2.6 | 3.89 | - | - | - | - | - | - | 1.6 | - | - | - | - |
| Vanadium | 0.4/2 | mg/kg | - | - | 54 | 78 | 36.8 | - | - | - | - | - | - | 89 | - | - | - | - |
| Zinc | 5 | mg/kg | 315 | - | 467 | 244 | 443 | - | - | - | - | - | - | 107 | - | - | - | - |

Notes:

1. Atlantic Risk Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Sediment [Freshwater Sediment] (2022)

"-" = no applicable guideline or not analyzed

NA = Not applicable

RDL = Reported Detection Limit; for all events unless otherwise noted:

- RDL for aluminium (March 2021 and December 2021/Site 11-SED for May 2021/August 2021/October 2022 and March 2022/June 2022)
- RDL for antimony, boron, cadmium, chromium, cobalt, copper, lead, lithium, molybdenum, nickel, selenium, thallium, tin, uranium, vanadium (December 2021/all other events)
- RDL for barium and beryllium (December 2021/June 2022/all other events)
- RDL for iron and manganese (March 2021, August 2021, March 2022 and October 2022/Site 11-SED for May 2021/December 2021/June 2022)
- RDL for mercury (March 2021 and May 2021/all other events)
- RDL for strontium (June 2022/all other events)

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Table A-5 - Analytical Results for Available Metals in Sediment

| Parameter | RDL | Units | Guideline ¹ | Site 7-SED | | | | | | | | Site 8-SED | | | | | | | | |
|------------|-------------------|-------|------------------------|-------------|-----------|-------------|----------|-----------|-----------|-----------|-----------|------------|-------------|--------------|-------------|-------------|-----------|--------------|--------------|-------------|
| | | | | Sample Date | 12-Mar-21 | 6-May-21 | 3-Aug-21 | 13-Dec-21 | 28-Mar-22 | 18-Jun-22 | 15-Oct-22 | 23-Jan-23 | 12-Mar-21 | 8-May-21 | 4-Aug-21 | 13-Dec-21 | 28-Mar-22 | 20-Jun-22 | 16-Oct-22 | 27-Jan-23 |
| Aluminum | 10/8740/10/1000 | mg/kg | - | - | - | 6340 | - | - | - | - | - | - | 15500 | 15400 | 15700 | 17500 | - | 15700 | 10600 | 15400 |
| Antimony | 0.8/1 | mg/kg | 25 | - | - | <1 | - | - | - | - | - | - | <1 | <1 | <1 | <0.8 | - | <1 | <1 | 1 |
| Arsenic | 1 | mg/kg | 17 | - | - | 47 | - | - | - | - | - | - | 69 | 102 | 27 | 49 | - | 92 | 61 | 67 |
| Barium | 2/1/5 | mg/kg | - | - | - | 81 | - | - | - | - | - | - | 109 | 188 | 67 | 46.8 | - | 148 | 222 | 78 |
| Beryllium | 0.4/1/2 | mg/kg | - | - | - | <2 | - | - | - | - | - | - | <2 | <2 | <2 | 0.5 | - | <1 | <2 | <2 |
| Boron | 5/2 | mg/kg | - | - | - | <2 | - | - | - | - | - | - | <2 | 3 | <2 | <5 | - | 26 | <2 | <2 |
| Cadmium | 0.5/0.3 | mg/kg | 3.5 | - | - | 1.0 | - | - | - | - | - | - | <0.3 | 0.5 | <0.3 | <0.5 | - | <0.3 | 0.5 | <0.3 |
| Chromium | 5/2 | mg/kg | 90 | - | - | 11 | - | - | - | - | - | - | 23 | 29 | 25 | 29 | - | 26 | 13 | 21 |
| Cobalt | 0.5/1 | mg/kg | - | - | - | 8 | - | - | - | - | - | - | 20 | 42 | 15 | 13.3 | - | 22 | 26 | 18 |
| Copper | 1/2 | mg/kg | 197 | - | - | 16 | - | - | - | - | - | - | 16 | 23 | 15 | 11.5 | - | 21 | 13 | 18 |
| Iron | 50/24400/500/5000 | mg/kg | 43766 | - | - | 8310 | - | - | - | - | - | - | 36600 | 41700 | 38400 | 40800 | - | 45600 | 28400 | 41500 |
| Lead | 1/0.5 | mg/kg | 91.3 | - | - | 16.3 | - | - | - | - | - | - | 8.3 | 12.8 | 8.1 | 11 | - | 17.5 | 9.2 | 10.5 |
| Lithium | 0.5/5 | mg/kg | - | - | - | 5 | - | - | - | - | - | - | 33 | 34 | 30 | 26.1 | - | 28 | 22 | 28 |
| Manganese | 2/780/50/20 | mg/kg | 1100 | - | - | 3980 | - | - | - | - | - | - | 7680 | 15200 | 5050 | 2640 | - | 8570 | 15400 | 6780 |
| Mercury | 0.05/0.03 | mg/kg | 0.486 | - | - | 0.12 | - | - | - | - | - | - | <0.05 | <0.05 | <0.03 | 0.03 | - | 0.03 | <0.03 | <0.03 |
| Molybdenum | 0.5/2 | mg/kg | - | - | - | 3 | - | - | - | - | - | - | 2 | 4 | <2 | 1.6 | - | 2 | 3 | 2 |
| Nickel | 1/2 | mg/kg | 75 | - | - | 51 | - | - | - | - | - | - | 52 | 83 | 37 | 40 | - | 61 | 49 | 53 |
| Selenium | 0.8/1 | mg/kg | 2 | - | - | 2 | - | - | - | - | - | - | <1 | <1 | <1 | <0.8 | - | <1 | <1 | <1 |
| Silver | 0.5 | mg/kg | 0.5 | - | - | <0.5 | - | - | - | - | - | - | <0.5 | <0.5 | <0.5 | <0.5 | - | <0.5 | <0.5 | <0.5 |
| Strontium | 50/5 | mg/kg | - | - | - | 77 | - | - | - | - | - | - | 13 | 26 | 7 | 8 | - | <50 | 21 | 11 |
| Thallium | 0.5/0.1 | mg/kg | - | - | - | <0.1 | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.5 | - | 0.1 | 0.1 | <0.1 |
| Tin | 1/2 | mg/kg | - | - | - | 2 | - | - | - | - | - | - | 3 | 3 | 3 | <1 | - | 4 | 4 | <2 |
| Uranium | 0.5/0.1 | mg/kg | - | - | - | 1.9 | - | - | - | - | - | - | 0.6 | 0.6 | 0.7 | 0.8 | - | 1 | 0.5 | 0.5 |
| Vanadium | 0.4/2 | mg/kg | - | - | - | 83 | - | - | - | - | - | - | 25 | 34 | 106 | 27.4 | - | 27 | 14 | 22 |
| Zinc | 5 | mg/kg | 315 | - | - | 79 | - | - | - | - | - | - | 112 | 208 | 77 | 69 | - | 156 | 130 | 118 |

Notes:

1. Atlantic Risk Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Sediment [Freshwater Sediment] (2022)

"-" = no applicable guideline or not analyzed

NA = Not applicable

RDL = Reported Detection Limit; for all events unless otherwise noted:

- RDL for aluminium (March 2021 and December 2021/Site 11-SED for May 2021/August 2021/October 2022 and March 2022/June 2022)
- RDL for antimony, boron, cadmium, chromium, cobalt, copper, lead, lithium, molybdenum, nickel, selenium, thallium, tin, uranium, vanadium (December 2021/all other events)
- RDL for barium and beryllium (December 2021/June 2022/all other events)
- RDL for iron and manganese (March 2021, August 2021, March 2022 and October 2022/Site 11-SED for May 2021/December 2021/June 2022)
- RDL for mercury (March 2021 and May 2021/all other events)
- RDL for strontium (June 2022/all other events)

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Table A-5 - Analytical Results for Available Metals in Sediment

| Parameter | RDL | Units | Guideline ¹ | Site 9-SED | | | | | | | | Site 10-SED | | | | | | | |
|------------|-------------------|-------|------------------------|-------------|-------------|-------------|-------------|-----------|-------------|-------------|--------------|-------------|-----------|-------------|--------------|-------------|--------------|--------------|--------------|
| | | | | Sample Date | 14-Mar-21 | 5-May-21 | 6-Aug-21 | 5-Dec-21 | 28-Mar-22 | 17-Jun-22 | 15-Oct-22 | 23-Jan-23 | 14-Mar-21 | 5-May-21 | 5-Aug-21 | 3-Dec-21 | 30-Mar-22 | 19-Jun-22 | 15-Oct-22 |
| Aluminum | 10/8740/10/1000 | mg/kg | - | 24100 | 18000 | 20300 | 24200 | 23500 | 18800 | 17600 | 29100 | 22700 | 8260 | 21100 | 25900 | 19500 | 21300 | 22500 | 30400 |
| Antimony | 0.8/1 | mg/kg | 25 | <1 | <1 | <1 | <0.8 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <0.8 | <1 | <1 | <1 | <1 |
| Arsenic | 1 | mg/kg | 17 | 9 | 16 | 13 | 20 | 20 | 12 | 12 | 25 | 16 | 23 | 10 | 12 | 22 | 44 | 38 | 29 |
| Barium | 2/1/5 | mg/kg | - | 8 | 13 | 8 | 33.4 | 37 | 26 | 11 | 16 | 13 | 22 | 16 | 51 | 27 | 43 | 19 | 28 |
| Beryllium | 0.4/1/2 | mg/kg | - | <2 | <2 | <2 | <0.4 | <2 | <1 | <2 | <2 | <2 | <2 | <2 | 1 | <2 | <1 | <2 | <2 |
| Boron | 5/2 | mg/kg | - | <2 | <2 | <2 | <5 | <2 | 11 | <2 | <2 | <2 | <2 | <2 | <5 | <2 | <2 | <2 | <2 |
| Cadmium | 0.5/0.3 | mg/kg | 3.5 | <0.3 | <0.3 | <0.3 | <0.5 | <0.3 | <0.3 | <0.3 | <0.3 | <0.3 | <0.3 | <0.3 | <0.5 | <0.3 | <0.3 | <0.3 | <0.3 |
| Chromium | 5/2 | mg/kg | 90 | 42 | 46 | 47 | 48 | 53 | 47 | 47 | 55 | 37 | 38 | 35 | 58 | 40 | 54 | 43 | 42 |
| Cobalt | 0.5/1 | mg/kg | - | 19 | 21 | 19 | 21.6 | 19 | 23 | 17 | 20 | 23 | 26 | 18 | 31 | 21 | 34 | 24 | 24 |
| Copper | 1/2 | mg/kg | 197 | 8 | 8 | 8 | 9 | 32 | 8 | 7 | 11 | 14 | 43 | 10 | 55 | 9 | 15 | 35 | 16 |
| Iron | 50/24400/500/5000 | mg/kg | 43766 | 39800 | 37900 | 40900 | 41800 | 34600 | 42300 | 37000 | 45300 | 38100 | 21300 | 39900 | 47700 | 42100 | 56200 | 50900 | 46300 |
| Lead | 1/0.5 | mg/kg | 91.3 | 3.6 | 3.3 | 4.1 | 7.0 | 14.5 | 5.6 | 4.2 | 5.7 | 8.0 | 7.5 | 4.3 | 17.0 | 6.1 | 12.6 | 7.1 | 7.7 |
| Lithium | 0.5/5 | mg/kg | - | 64 | 54 | 50 | 64.8 | 50 | 46 | 45 | 65 | 68 | 49 | 47 | 89 | 61 | 55 | 62 | 72 |
| Manganese | 2/780/50/20 | mg/kg | 1100 | 1110 | 2290 | 2690 | 3220 | 652 | 3960 | 1370 | 1380 | 2000 | 478 | 2510 | 1020 | 2720 | 4110 | 2720 | 3130 |
| Mercury | 0.05/0.03 | mg/kg | 0.486 | <0.05 | <0.05 | <0.03 | 0.04 | 0.06 | <0.03 | <0.03 | <0.03 | <0.05 | <0.05 | <0.03 | 0.06 | <0.03 | <0.03 | <0.03 | <0.03 |
| Molybdenum | 0.5/2 | mg/kg | - | <2 | <2 | <2 | 1.3 | 4 | <2 | <2 | <2 | <2 | 3 | <2 | 2.4 | <2 | 2 | 2 | <2 |
| Nickel | 1/2 | mg/kg | 75 | 66 | 66 | 64 | 74 | 87 | 71 | 61 | 68 | 71 | 74 | 53 | 97 | 73 | 92 | 78 | 77 |
| Selenium | 0.8/1 | mg/kg | 2 | <1 | <1 | <1 | <0.8 | 1 | <1 | <1 | <1 | <1 | <1 | <1 | <0.8 | <1 | <1 | <1 | <1 |
| Silver | 0.5 | mg/kg | 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 | <0.5 | <0.5 | <0.5 | <0.5 |
| Strontium | 50/5 | mg/kg | - | 8 | 9 | 8 | 11 | 7 | <50 | 8 | <5 | 7 | 9 | <5 | 10 | 6 | <50 | 6 | 6 |
| Thallium | 0.5/0.1 | mg/kg | - | <0.1 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 |
| Tin | 1/2 | mg/kg | - | 3 | 3 | 3 | <1 | 3 | 3 | 4 | 3 | 3 | 3 | 2 | <1 | 3 | 4 | 3 | 3 |
| Uranium | 0.5/0.1 | mg/kg | - | 0.3 | 0.4 | 0.4 | 1.2 | 0.9 | 0.8 | 0.4 | 0.5 | 0.4 | 1.2 | 0.5 | 3.3 | 0.4 | 0.9 | 0.6 | 0.5 |
| Vanadium | 0.4/2 | mg/kg | - | 31 | 31 | 31 | 33.5 | 34 | 33 | 26 | 35 | 27 | 25 | 91 | 43 | 29 | 38 | 29 | 32 |
| Zinc | 5 | mg/kg | 315 | 90 | 97 | 94 | 133 | 91 | 106 | 82 | 106 | 93 | 78 | 86 | 115 | 110 | 145 | 114 | 109 |

Notes:

1. Atlantic Risk Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Sediment [Freshwater Sediment] (2022)

"-" = no applicable guideline or not analyzed

NA = Not applicable

RDL = Reported Detection Limit; for all events unless otherwise noted:

- RDL for aluminium (March 2021 and December 2021/Site 11-SED for May 2021/August 2021/October 2022 and March 2022/June 2022)
- RDL for antimony, boron, cadmium, chromium, cobalt, copper, lead, lithium, molybdenum, nickel, selenium, thallium, tin, uranium, vanadium (December 2021/all other events)
- RDL for barium and beryllium (December 2021/June 2022/all other events)
- RDL for iron and manganese (March 2021, August 2021, March 2022 and October 2022/Site 11-SED for May 2021/December 2021/June 2022)
- RDL for mercury (March 2021 and May 2021/all other events)
- RDL for strontium (June 2022/all other events)

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Table A-5 - Analytical Results for Available Metals in Sediment

| Parameter | RDL | Units | Guideline ¹ | SW-SD* | | | | | Site 11-SED | | | | | | | |
|------------|-------------------|-------|------------------------|-------------|--------------|--------------|--------------|-----------|-------------|--------------|-------------|-------------|-------------|--------------|--------------|--------------|
| | | | | Sample Date | 15-Mar-21 | 5-May-21 | 19-Jun-22 | 16-Oct-22 | 23-Jan-23 | 15-Mar-21 | 6-May-21 | 4-Aug-21 | 13-Dec-21 | 29-Mar-22 | 20-Jun-22 | 16-Oct-22 |
| Aluminum | 10/8740/10/1000 | mg/kg | - | 23100 | 21800 | 19600 | 16400 | 34300 | 17600 | 18300 | 20800 | 16800 | 13500 | 19600 | 16100 | 23800 |
| Antimony | 0.8/1 | mg/kg | 25 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | 1.2 | 1 | <1 | <1 | 2 |
| Arsenic | 1 | mg/kg | 17 | 16 | 34 | 32 | 54 | 22 | 35 | 101 | 16 | 33 | 34 | 157 | 72 | 62 |
| Barium | 2/1/5 | mg/kg | - | 13 | 21 | 35 | 34 | 25 | 24 | 350 | 45 | 21.9 | 19 | 233 | 46 | 70 |
| Beryllium | 0.4/1/2 | mg/kg | - | <2 | <2 | <1 | <2 | <2 | <2 | <2 | <2 | 0.5 | <2 | <1 | <2 | <2 |
| Boron | 5/2 | mg/kg | - | <2 | <2 | 7 | <2 | <2 | <2 | <2 | <2 | <5 | <2 | 39 | <2 | <2 |
| Cadmium | 0.5/0.3 | mg/kg | 3.5 | <0.3 | <0.3 | <0.3 | <0.3 | <0.3 | <0.3 | 1.3 | <0.3 | <0.5 | <0.3 | 0.4 | <0.3 | <0.3 |
| Chromium | 5/2 | mg/kg | 90 | 38 | 51 | 48 | 36 | 38 | 24 | 31 | 28 | 24 | 23 | 33 | 27 | 23 |
| Cobalt | 0.5/1 | mg/kg | - | 23 | 32 | 28 | 16 | 21 | 18 | 119 | 21 | 12.4 | 13 | 58 | 28 | 23 |
| Copper | 1/2 | mg/kg | 197 | 17 | 48 | 17 | 13 | 10 | 24 | 39 | 26 | 23.5 | 24 | 21 | 22 | 21 |
| Iron | 50/24400/500/5000 | mg/kg | 43766 | 37900 | 45500 | 46800 | 44700 | 52100 | 38800 | 43400 | 32200 | 43200 | 42700 | 78200 | 50400 | 55300 |
| Lead | 1/0.5 | mg/kg | 91.3 | 7.1 | 7.2 | 10 | 9.0 | 6 | 9.7 | 14.5 | 11.2 | 13 | 10.7 | 26.9 | 11.9 | 13.0 |
| Lithium | 0.5/5 | mg/kg | - | 66 | 76 | 55 | 41 | 65 | 39 | 45 | 33 | 25.8 | 35 | 33 | 35 | 34 |
| Manganese | 2/780/50/20 | mg/kg | 1100 | 1950 | 1120 | 3100 | 3450 | 3640 | 2430 | 44300 | 4060 | 1220 | 1760 | 16300 | 6700 | 9460 |
| Mercury | 0.05/0.03 | mg/kg | 0.486 | <0.05 | <0.05 | <0.03 | <0.03 | <0.03 | <0.05 | <0.05 | 0.04 | 0.05 | <0.03 | 0.03 | <0.03 | <0.03 |
| Molybdenum | 0.5/2 | mg/kg | - | <2 | <2 | <2 | <2 | <2 | <2 | 7 | <2 | 1.3 | <2 | 7 | 4 | 3 |
| Nickel | 1/2 | mg/kg | 75 | 77 | 90 | 83 | 53 | 68 | 38 | 131 | 37 | 39 | 39 | 72 | 67 | 41 |
| Selenium | 0.8/1 | mg/kg | 2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <0.8 | <1 | <1 | <1 | <1 |
| Silver | 0.5 | mg/kg | 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 | <0.5 |
| Strontium | 50/5 | mg/kg | - | 7 | 8 | <50 | 9 | 6 | 6 | 34 | 9 | 5 | <5 | <50 | 8 | 5 |
| Thallium | 0.5/0.1 | mg/kg | - | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | 0.2 | <0.1 | <0.5 | <0.1 | 0.2 | <0.1 | <0.1 |
| Tin | 1/2 | mg/kg | - | 3 | 3 | 3 | 4 | 3 | 3 | 3 | 3 | <1 | 4 | 4 | 4 | 3 |
| Uranium | 0.5/0.1 | mg/kg | - | 0.4 | 1.0 | 0.9 | 0.4 | 0.4 | 0.6 | 0.5 | 0.7 | 1.15 | 0.8 | 1.4 | 0.7 | 0.7 |
| Vanadium | 0.4/2 | mg/kg | - | 27 | 32 | 32 | 27 | 28 | 25 | 41 | 110 | 24.2 | 25 | 32 | 24 | 26 |
| Zinc | 5 | mg/kg | 315 | 95 | 99 | 130 | 84 | 100 | 64 | 215 | 66 | 76 | 67 | 144 | 108 | 74 |

Notes:

1. Atlantic Risk Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Sediment [Freshwater Sediment] (2022)

"-" = no applicable guideline or not analyzed

NA = Not applicable

RDL = Reported Detection Limit; for all events unless otherwise noted:

- RDL for aluminium (March 2021 and December 2021/Site 11-SED for May 2021/August 2021/October 2022 and March 2022/June 2022)
- RDL for antimony, boron, cadmium, chromium, cobalt, copper, lead, lithium, molybdenum, nickel, selenium, thallium, tin, uranium, vanadium (December 2021/all other events)
- RDL for barium and beryllium (December 2021/June 2022/all other events)
- RDL for iron and manganese (March 2021, August 2021, March 2022 and October 2022/Site 11-SED for May 2021/December 2021/June 2022)
- RDL for mercury (March 2021 and May 2021/all other events)
- RDL for strontium (June 2022/all other events)

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Table A-5 - Analytical Results for Available Metals in Sediment

| Parameter | RDL | Units | Guideline ¹ | Site 12-SED | | | | | | | | Site 13-SED | | | | | | | |
|------------|-------------------|-------|------------------------|-------------|-----------|--------------|---------------|--------------|--------------|--------------|--------------|-------------|-----------|----------|----------|-----------|--------------|-----------|--------------|
| | | | | Sample Date | 15-Mar-21 | 6-May-21 | 4-Aug-21 | 14-Dec-21 | 29-Mar-22 | 21-Jun-22 | 16-Oct-22 | 24-Jan-23 | 15-Mar-21 | 6-May-21 | 4-Aug-21 | 14-Dec-21 | 29-Mar-22 | 21-Jun-22 | 15-Oct-22 |
| Aluminum | 10/8740/10/1000 | mg/kg | - | - | - | 27800 | 26700 | 15800 | 18700 | 23300 | 26200 | - | - | - | - | - | 17800 | - | 22000 |
| Antimony | 0.8/1 | mg/kg | 25 | - | - | <1 | <0.8 | <1 | <1 | <1 | <1 | - | - | - | - | - | <1 | - | 1 |
| Arsenic | 1 | mg/kg | 17 | - | - | 10 | 51 | 27 | 33 | 10 | 22 | - | - | - | - | - | 31 | - | 26 |
| Barium | 2/1/5 | mg/kg | - | - | - | 247 | 364 | 536 | 142 | 37 | 109 | - | - | - | - | - | 133 | - | 87 |
| Beryllium | 0.4/1/2 | mg/kg | - | - | - | <2 | 0.9 | <2 | <1 | <2 | <2 | - | - | - | - | - | <1 | - | <2 |
| Boron | 5/2 | mg/kg | - | - | - | <2 | <5 | <2 | 30 | <2 | <2 | - | - | - | - | - | 52 | - | <2 |
| Cadmium | 0.5/0.3 | mg/kg | 3.5 | - | - | 0.8 | 0.6 | 1.1 | <0.3 | <0.3 | <0.3 | - | - | - | - | - | <0.3 | - | <0.3 |
| Chromium | 5/2 | mg/kg | 90 | - | - | 44 | 40 | 26 | 42 | 40 | 34 | - | - | - | - | - | 38 | - | 34 |
| Cobalt | 0.5/1 | mg/kg | - | - | - | 88 | 63.0 | 89 | 38 | 25 | 31 | - | - | - | - | - | 59 | - | 46 |
| Copper | 1/2 | mg/kg | 197 | - | - | 27 | 12.6 | 10 | 8 | 20 | 6 | - | - | - | - | - | 10 | - | 10 |
| Iron | 50/24400/500/5000 | mg/kg | 43766 | - | - | 95800 | 144000 | 83300 | 83000 | 53800 | 67500 | - | - | - | - | - | 84800 | - | 74400 |
| Lead | 1/0.5 | mg/kg | 91.3 | - | - | 20.0 | 33.0 | 20.5 | 28.5 | 15.4 | 13.9 | - | - | - | - | - | 24.6 | - | 15.5 |
| Lithium | 0.5/5 | mg/kg | - | - | - | 47 | 36.3 | 38 | 41 | 54 | 54 | - | - | - | - | - | 35 | - | 46 |
| Manganese | 2/780/50/20 | mg/kg | 1100 | - | - | 87800 | 38200 | 92500 | 18700 | 4460 | 22100 | - | - | - | - | - | 29800 | - | 27600 |
| Mercury | 0.05/0.03 | mg/kg | 0.486 | - | - | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | - | - | - | - | - | <0.03 | - | <0.03 |
| Molybdenum | 0.5/2 | mg/kg | - | - | - | 7 | 6.8 | 5 | 5 | 4 | 3 | - | - | - | - | - | 3 | - | 3 |
| Nickel | 1/2 | mg/kg | 75 | - | - | 98 | 74 | 98 | 67 | 67 | 61 | - | - | - | - | - | 73 | - | 68 |
| Selenium | 0.8/1 | mg/kg | 2 | - | - | <1 | 1.2 | <1 | <1 | <1 | <1 | - | - | - | - | - | <1 | - | <1 |
| Silver | 0.5 | mg/kg | 0.5 | - | - | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | - | - | - | - | - | <0.5 | - | <0.5 |
| Strontium | 50/5 | mg/kg | - | - | - | 50 | 33 | 92 | <50 | 11 | 22 | - | - | - | - | - | <50 | - | 13 |
| Thallium | 0.5/0.1 | mg/kg | - | - | - | 0.1 | <0.5 | 0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | <0.1 | - | <0.1 |
| Tin | 1/2 | mg/kg | - | - | - | 3 | <1 | 3 | 4 | 3 | 3 | - | - | - | - | - | 5 | - | 3 |
| Uranium | 0.5/0.1 | mg/kg | - | - | - | 0.5 | 0.94 | 0.4 | 0.7 | 0.5 | 0.4 | - | - | - | - | - | 0.7 | - | 0.4 |
| Vanadium | 0.4/2 | mg/kg | - | - | - | 147 | 48.4 | 35 | 44 | 34 | 36 | - | - | - | - | - | 38 | - | 36 |
| Zinc | 5 | mg/kg | 315 | - | - | 198 | 139 | 228 | 121 | 112 | 119 | - | - | - | - | - | 170 | - | 138 |

Notes:

1. Atlantic Risk Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Sediment [Freshwater Sediment] (2022)

"-" = no applicable guideline or not analyzed

NA = Not applicable

RDL = Reported Detection Limit; for all events unless otherwise noted:

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- RDL for antimony, boron, cadmium, chromium, cobalt, copper, lead, lithium, molybdenum, nickel, selenium, thallium, tin, uranium, vanadium (December 2021/all other events)
- RDL for barium and beryllium (December 2021/June 2022/all other events)
- RDL for iron and manganese (March 2021, August 2021, March 2022 and October 2022/Site 11-SED for May 2021/December 2021/June 2022)
- RDL for mercury (March 2021 and May 2021/all other events)
- RDL for strontium (June 2022/all other events)

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Table A-5 - Analytical Results for Available Metals in Sediment

| Parameter | RDL | Units | Guideline ¹ | Site 14-SED | | | | | | | | Site 15-SED | | | | | | | |
|------------|-------------------|-------|------------------------|-------------|-------------|-------------|--------------|--------------|--------------|--------------|-------------|--------------|--------------|--------------|--------------|--------------|-------------|--------------|--------------|
| | | | | Sample Date | 15-Mar-21 | 9-May-21 | 4-Aug-21 | 14-Dec-21 | 29-Mar-22 | 21-Jun-22 | 16-Oct-22 | 24-Jan-23 | 13-Mar-21 | 5-May-21 | 5-Aug-21 | 3-Dec-21 | 30-Mar-22 | 21-Jun-22 | 15-Oct-22 |
| Aluminum | 10/8740/10/1000 | mg/kg | - | - | 14300 | 18100 | 23100 | 19500 | 22200 | 20300 | 23900 | 24900 | 21400 | 19700 | 29800 | 20800 | 17000 | 18800 | 31200 |
| Antimony | 0.8/1 | mg/kg | 25 | - | <1 | <1 | <0.8 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <0.8 | <1 | <1 | <1 | <1 |
| Arsenic | 1 | mg/kg | 17 | - | 57 | 15 | 48 | 34 | 24 | 31 | 38 | 30 | 70 | 30 | 49 | 66 | 24 | 54 | 23 |
| Barium | 2/1/5 | mg/kg | - | - | 36 | 18 | 42.7 | 36 | 40 | 27 | 42 | 8 | 105 | 196 | 84.2 | 63 | 30 | 57 | 29 |
| Beryllium | 0.4/1/2 | mg/kg | - | - | <2 | <2 | 0.4 | <2 | <1 | <2 | <2 | <2 | <2 | <2 | 0.7 | <2 | <1 | <2 | <2 |
| Boron | 5/2 | mg/kg | - | - | <2 | 4 | <5 | <2 | 22 | <2 | <2 | <2 | <2 | <2 | <5 | <2 | 16 | <2 | <2 |
| Cadmium | 0.5/0.3 | mg/kg | 3.5 | - | <0.3 | <0.3 | <0.5 | <0.3 | <0.3 | <0.3 | <0.3 | <0.3 | 0.6 | 0.4 | <0.5 | <0.3 | <0.3 | <0.3 | <0.3 |
| Chromium | 5/2 | mg/kg | 90 | - | 111 | 855 | 240 | 145 | 118 | 142 | 171 | 41 | 59 | 36 | 54 | 58 | 32 | 49 | 43 |
| Cobalt | 0.5/1 | mg/kg | - | - | 43 | 51 | 36.9 | 38 | 41 | 33 | 33 | 16 | 30 | 39 | 26.9 | 28 | 12 | 18 | 23 |
| Copper | 1/2 | mg/kg | 197 | - | 27 | 43 | 25.0 | 26 | 26 | 27 | 20 | 18 | 26 | 28 | 44 | 40 | 6 | 18 | 33 |
| Iron | 50/24400/500/5000 | mg/kg | 43766 | - | 32000 | 40900 | 57800 | 46100 | 54200 | 48900 | 40100 | 53900 | 55100 | 44600 | 59800 | 54300 | 40800 | 46100 | 49100 |
| Lead | 1/0.5 | mg/kg | 91.3 | - | 9.1 | 12.3 | 16 | 12.9 | 16.7 | 11.8 | 11.3 | 12.2 | 9.1 | 10.8 | 14 | 16.7 | 4.8 | 9.6 | 9.7 |
| Lithium | 0.5/5 | mg/kg | - | - | 53 | 27 | 32.3 | 45 | 42 | 45 | 46 | 73 | 68 | 44 | 65.5 | 54 | 29 | 54 | 70 |
| Manganese | 2/780/50/20 | mg/kg | 1100 | - | 1970 | 1910 | 2770 | 2730 | 2430 | 2350 | 2720 | 916 | 10600 | 23100 | 4250 | 9040 | 2680 | 5160 | 2480 |
| Mercury | 0.05/0.03 | mg/kg | 0.486 | - | <0.05 | <0.03 | 0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.05 | <0.05 | <0.03 | 0.07 | 0.05 | <0.03 | <0.03 | <0.03 |
| Molybdenum | 0.5/2 | mg/kg | - | - | 4 | 4 | 3.7 | 3 | 2 | 3 | 3 | <2 | 2 | 2 | 2.2 | 4 | <2 | <2 | <2 |
| Nickel | 1/2 | mg/kg | 75 | - | 263 | 314 | 238 | 245 | 228 | 210 | 205 | 58 | 153 | 88 | 102 | 92 | 48 | 86 | 86 |
| Selenium | 0.8/1 | mg/kg | 2 | - | <1 | <1 | <0.8 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <0.8 | 1 | <1 | <1 | <1 |
| Silver | 0.5 | mg/kg | 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 | <0.5 | <0.5 | <0.5 |
| Strontium | 50/5 | mg/kg | - | - | 11 | 6 | 12 | 10 | <50 | 11 | 10 | 6 | 17 | 34 | 13 | 10 | <50 | 9 | 8 |
| Thallium | 0.5/0.1 | mg/kg | - | - | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | 0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 |
| Tin | 1/2 | mg/kg | - | - | 3 | 3 | <1 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | <1 | 3 | 3 | 3 | 3 |
| Uranium | 0.5/0.1 | mg/kg | - | - | 0.5 | 0.7 | 0.97 | 0.6 | 0.9 | 0.6 | 0.5 | 0.4 | 0.5 | 0.5 | 0.99 | 0.8 | 0.3 | 0.4 | 0.5 |
| Vanadium | 0.4/2 | mg/kg | - | - | 46 | 229 | 34.2 | 35 | 39 | 38 | 39 | 31 | 38 | 90 | 31.3 | 32 | 21 | 28 | 33 |
| Zinc | 5 | mg/kg | 315 | - | 111 | 66 | 81 | 88 | 91 | 89 | 88 | 84 | 193 | 100 | 132 | 68 | 76 | 117 | 91 |

Notes:

1. Atlantic Risk Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Sediment [Freshwater Sediment] (2022)

"-" = no applicable guideline or not analyzed

NA = Not applicable

RDL = Reported Detection Limit; for all events unless otherwise noted:

- RDL for aluminium (March 2021 and December 2021/Site 11-SED for May 2021/August 2021/October 2022 and March 2022/June 2022)
- RDL for antimony, boron, cadmium, chromium, cobalt, copper, lead, lithium, molybdenum, nickel, selenium, thallium, tin, uranium, vanadium (December 2021/all other events)
- RDL for barium and beryllium (December 2021/June 2022/all other events)
- RDL for iron and manganese (March 2021, August 2021, March 2022 and October 2022/Site 11-SED for May 2021/December 2021/June 2022)
- RDL for mercury (March 2021 and May 2021/all other events)
- RDL for strontium (June 2022/all other events)

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Table A-5 - Analytical Results for Available Metals in Sediment

| Parameter | RDL | Units | Guideline ¹ | Site 16-SED | | | | | | | | Site 17-SED | | | | | | | | SW-SD*** |
|------------|-------------------|-------|------------------------|--------------|-------------|----------|--------------|-------------|--------------|--------------|-------------|-------------|-------------|--------------|--------------|-------------|--------------|--------------|-----------|--------------|
| | | | | Sample Date | 14-Mar-21 | 8-May-21 | 5-Aug-21 | 8-Dec-21 | 30-Mar-22 | 20-Jun-22 | 16-Oct-22 | 25-Jan-23 | 13-Mar-21 | 8-May-21 | 5-Aug-21 | 8-Dec-21 | 30-Mar-22 | 20-Jun-22 | 16-Oct-22 | |
| Aluminum | 10/8740/10/1000 | mg/kg | - | 21900 | 18800 | 19100 | 22200 | 18300 | 19200 | 18400 | 23800 | - | 18100 | 15200 | 22600 | 16900 | 15600 | 16600 | - | 16400 |
| Antimony | 0.8/1 | mg/kg | 25 | <1 | <1 | <1 | <0.8 | <1 | <1 | <1 | <1 | - | <1 | <1 | <0.8 | <1 | <1 | <1 | - | <1 |
| Arsenic | 1 | mg/kg | 17 | 41 | 31 | 11 | 51 | 33 | 40 | 36 | 37 | - | 30 | 15 | 38 | 26 | 55 | 35 | - | 54 |
| Barium | 2/1/5 | mg/kg | - | 22 | 43 | 14 | 50 | 28 | 32 | 38 | 30 | - | 29 | 126 | 54.3 | 24 | 182 | 38 | - | 34 |
| Beryllium | 0.4/1/2 | mg/kg | - | <2 | <2 | <2 | 0.5 | <2 | <1 | <2 | <2 | - | <2 | <2 | 0.5 | <2 | <1 | <2 | - | <2 |
| Boron | 5/2 | mg/kg | - | <2 | <2 | <2 | <5 | <2 | 8 | <2 | <2 | - | <2 | <2 | <5 | 2 | 35 | <2 | - | <2 |
| Cadmium | 0.5/0.3 | mg/kg | 3.5 | <0.3 | <0.3 | <0.3 | <0.5 | <0.3 | <0.3 | <0.3 | <0.3 | - | <0.3 | <0.3 | <0.5 | <0.3 | <0.3 | <0.3 | - | <0.3 |
| Chromium | 5/2 | mg/kg | 90 | 60 | 57 | 47 | 59 | 50 | 55 | 51 | 68 | - | 44 | 31 | 50 | 35 | 45 | 34 | - | 36 |
| Cobalt | 0.5/1 | mg/kg | - | 24 | 27 | 15 | 24.8 | 21 | 24 | 24 | 24 | - | 21 | 119 | 20.5 | 17 | 23 | 17 | - | 16 |
| Copper | 1/2 | mg/kg | 197 | 12 | 15 | 7 | 11.0 | 10 | 12 | 11 | 12 | - | 14 | 21 | 10.5 | 11 | 15 | 10 | - | 13 |
| Iron | 50/24400/500/5000 | mg/kg | 43766 | 43800 | 43200 | 34000 | 52300 | 39600 | 49100 | 41400 | 38000 | - | 42900 | 52000 | 51400 | 39500 | 47500 | 40900 | - | 44700 |
| Lead | 1/0.5 | mg/kg | 91.3 | 6.7 | 5.4 | 4.3 | 10 | 7.3 | 9.7 | 7.5 | 7.9 | - | 6.9 | 24.7 | 11 | 6.9 | 12.1 | 8.5 | - | 9 |
| Lithium | 0.5/5 | mg/kg | - | 79 | 67 | 50 | 57.5 | 64 | 55 | 61 | 81 | - | 49 | 27 | 47 | 49 | 38 | 44 | - | 41 |
| Manganese | 2/780/50/20 | mg/kg | 1100 | 3460 | 5250 | 891 | 4360 | 3330 | 3140 | 9330 | 3200 | - | 3110 | 18900 | 4850 | 2690 | 6420 | 3710 | - | 3450 |
| Mercury | 0.05/0.03 | mg/kg | 0.486 | <0.05 | <0.05 | <0.03 | 0.03 | <0.03 | <0.03 | <0.03 | <0.03 | - | <0.05 | <0.03 | 0.05 | <0.03 | <0.03 | <0.03 | - | <0.03 |
| Molybdenum | 0.5/2 | mg/kg | - | <2 | <2 | <2 | 1.8 | <2 | <2 | <2 | <2 | - | <2 | <2 | 2.4 | <2 | 2 | <2 | - | <2 |
| Nickel | 1/2 | mg/kg | 75 | 77 | 77 | 49 | 74 | 67 | 73 | 75 | 82 | - | 64 | 40 | 68 | 69 | 61 | 55 | - | 53 |
| Selenium | 0.8/1 | mg/kg | 2 | <1 | <1 | <1 | <0.8 | <1 | <1 | <1 | <1 | - | <1 | <1 | <0.8 | <1 | <1 | <1 | - | <1 |
| Silver | 0.5 | mg/kg | 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 | <0.5 | <0.5 | - | <0.5 |
| Strontium | 50/5 | mg/kg | - | 10 | 12 | 6 | 11 | 8 | <50 | 16 | 9 | - | 10 | 11 | 7 | 6 | <50 | 9 | - | 9 |
| Thallium | 0.5/0.1 | mg/kg | - | <0.1 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | 0.1 | <0.5 | <0.1 | 0.1 | <0.1 | - | <0.1 |
| Tin | 1/2 | mg/kg | - | 3 | 3 | 2 | <1 | 3 | 3 | 3 | 3 | - | 3 | 3 | <1 | 3 | 4 | 3 | - | 4 |
| Uranium | 0.5/0.1 | mg/kg | - | 0.5 | 0.6 | 0.5 | 1.03 | 0.5 | 0.8 | 0.5 | 0.6 | - | 0.4 | 0.5 | 0.92 | 0.5 | 0.7 | 0.4 | - | 0.4 |
| Vanadium | 0.4/2 | mg/kg | - | 29 | 29 | 84 | 28.6 | 25 | 29 | 25 | 33 | - | 34 | 110 | 34.6 | 29 | 32 | 26 | - | 27 |
| Zinc | 5 | mg/kg | 315 | 107 | 112 | 78 | 110 | 94 | 111 | 103 | 109 | - | 92 | 68 | 101 | 92 | 96 | 84 | - | 84 |

Notes:

1. Atlantic Risk Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Sediment [Freshwater Sediment] (2022)

"-" = no applicable guideline or not analyzed

NA = Not applicable

RDL = Reported Detection Limit; for all events unless otherwise noted:

- RDL for aluminium (March 2021 and December 2021/Site 11-SED for May 2021/August 2021/October 2022 and March 2022/June 2022)
- RDL for antimony, boron, cadmium, chromium, cobalt, copper, lead, lithium, molybdenum, nickel, selenium, thallium, tin, uranium, vanadium (December 2021/all other events)
- RDL for barium and beryllium (December 2021/June 2022/all other events)
- RDL for iron and manganese (March 2021, August 2021, March 2022 and October 2022/Site 11-SED for May 2021/December 2021/June 2022)
- RDL for mercury (March 2021 and May 2021/all other events)
- RDL for strontium (June 2022/all other events)

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Table A-5 - Analytical Results for Available Metals in Sediment

| Parameter | RDL | Units | Guideline ¹ | Site 18-SED | | | | | | | | Site 19-SED | | | | | | | | |
|------------|-------------------|-------|------------------------|-------------|-----------|----------|----------|----------|-----------|-----------|-----------|-------------|--------------|--------------|----------|--------------|-------------|--------------|--------------|-------------|
| | | | | Sample Date | 15-Mar-21 | 6-May-21 | 5-Aug-21 | 8-Dec-21 | 31-Mar-22 | 19-Jun-22 | 15-Oct-22 | 27-Jan-23 | 14-Mar-21 | 8-May-21 | 6-Aug-21 | 8-Dec-21 | 31-Mar-22 | 17-Jun-22 | 15-Oct-22 | 25-Jan-23 |
| Aluminum | 10/8740/10/1000 | mg/kg | - | - | - | - | - | - | - | 15100 | - | - | 28400 | 20200 | 15000 | 30200 | 18900 | 22500 | 21300 | 27200 |
| Antimony | 0.8/1 | mg/kg | 25 | - | - | - | - | - | - | <1 | - | - | <1 | <1 | <1 | <0.8 | <1 | <1 | <1 | <1 |
| Arsenic | 1 | mg/kg | 17 | - | - | - | - | - | - | 19 | - | - | 16 | 25 | 9 | 5 | 34 | 3 | 18 | 8 |
| Barium | 2/1/5 | mg/kg | - | - | - | - | - | - | - | 16 | - | - | 14 | 26 | 7 | 16.4 | 56 | 14 | 23 | 17 |
| Beryllium | 0.4/1/2 | mg/kg | - | - | - | - | - | - | - | <1 | - | - | <2 | <2 | <2 | <0.4 | <2 | <1 | <2 | <2 |
| Boron | 5/2 | mg/kg | - | - | - | - | - | - | - | 14 | - | - | <2 | <2 | <2 | <5 | <2 | 7 | <2 | <2 |
| Cadmium | 0.5/0.3 | mg/kg | 3.5 | - | - | - | - | - | - | <0.3 | - | - | <0.3 | <0.3 | <0.3 | <0.5 | <0.3 | <0.3 | <0.3 | <0.3 |
| Chromium | 5/2 | mg/kg | 90 | - | - | - | - | - | - | 36 | - | - | 41 | 36 | 25 | 50 | 30 | 43 | 36 | 38 |
| Cobalt | 0.5/1 | mg/kg | - | - | - | - | - | - | - | 15 | - | - | 19 | 25 | 10 | 16.7 | 20 | 15 | 15 | 14 |
| Copper | 1/2 | mg/kg | 197 | - | - | - | - | - | - | 9 | - | - | 6 | 5 | 4 | 9.8 | 4 | 13 | 5 | 8 |
| Iron | 50/24400/500/5000 | mg/kg | 43766 | - | - | - | - | - | - | 37300 | - | - | 44500 | 41700 | 28700 | 52200 | 42500 | 45600 | 42200 | 35200 |
| Lead | 1/0.5 | mg/kg | 91.3 | - | - | - | - | - | - | 6.7 | - | - | 3.5 | 3.1 | 2.2 | 8 | 4.6 | 11.5 | 4.0 | 5.0 |
| Lithium | 0.5/5 | mg/kg | - | - | - | - | - | - | - | 36 | - | - | 84 | 56 | 40 | 72.2 | 57 | 55 | 59 | 74 |
| Manganese | 2/780/50/20 | mg/kg | 1100 | - | - | - | - | - | - | 1080 | - | - | 3080 | 3170 | 637 | 711 | 6530 | 700 | 1850 | 1300 |
| Mercury | 0.05/0.03 | mg/kg | 0.486 | - | - | - | - | - | - | <2 | - | - | <0.05 | <0.05 | <0.03 | <0.03 | <0.03 | 0.04 | <0.03 | <0.03 |
| Molybdenum | 0.5/2 | mg/kg | - | - | - | - | - | - | - | 49 | - | - | <2 | <2 | <2 | 0.6 | <2 | <2 | <2 | 3 |
| Nickel | 1/2 | mg/kg | 75 | - | - | - | - | - | - | <1 | - | - | 59 | 51 | 34 | 62 | 53 | 58 | 52 | 56 |
| Selenium | 0.8/1 | mg/kg | 2 | - | - | - | - | - | - | <0.5 | - | - | <1 | <1 | <1 | <0.8 | <1 | <1 | <1 | <1 |
| Silver | 0.5 | mg/kg | 0.5 | - | - | - | - | - | - | <50 | - | - | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Strontium | 50/5 | mg/kg | - | - | - | - | - | - | - | <0.1 | - | - | 9 | 5 | <5 | 7 | 8 | <50 | <5 | 5 |
| Thallium | 0.5/0.1 | mg/kg | - | - | - | - | - | - | - | 3 | - | - | <0.1 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 |
| Tin | 1/2 | mg/kg | - | - | - | - | - | - | - | 0.6 | - | - | 3 | 3 | <2 | <1 | 4 | 4 | 3 | 2 |
| Uranium | 0.5/0.1 | mg/kg | - | - | - | - | - | - | - | 27 | - | - | 0.4 | 0.4 | 0.3 | 1.01 | 0.5 | 0.7 | 0.4 | 0.4 |
| Vanadium | 0.4/2 | mg/kg | - | - | - | - | - | - | - | 72 | - | - | 33 | 29 | 20 | 37.3 | 25 | 33 | 28 | 31 |
| Zinc | 5 | mg/kg | 315 | - | - | - | - | - | - | <0.03 | - | - | 98 | 89 | 60 | 107 | 94 | 92 | 92 | 94 |

Notes:

1. Atlantic Risk Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Sediment [Freshwater Sediment] (2022)

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NA = Not applicable

RDL = Reported Detection Limit; for all events unless otherwise noted:

- RDL for aluminium (March 2021 and December 2021/Site 11-SED for May 2021/August 2021/October 2022 and March 2022/June 2022)
- RDL for antimony, boron, cadmium, chromium, cobalt, copper, lead, lithium, molybdenum, nickel, selenium, thallium, tin, uranium, vanadium (December 2021/all other events)
- RDL for barium and beryllium (December 2021/June 2022/all other events)
- RDL for iron and manganese (March 2021, August 2021, March 2022 and October 2022/Site 11-SED for May 2021/December 2021/June 2022)
- RDL for mercury (March 2021 and May 2021/all other events)
- RDL for strontium (June 2022/all other events)

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Table A-5 - Analytical Results for Available Metals in Sediment

| Parameter | RDL | Units | Guideline ¹ | SW-SD** | | | | | Site 20-SED | | | | | | | |
|------------|-------------------|-------|------------------------|-------------|--------------|-------------|--------------|-----------|-------------|--------------|------------|-------------|-------------|-------------|-------------|--------------|
| | | | | Sample Date | 6-Aug-21 | 8-Dec-21 | 31-Mar-22 | 17-Jun-22 | 25-Jan-23 | 15-Mar-21 | 5-May-21 | 4-Aug-21 | 3-Dec-21 | 28-Mar-22 | 18-Jun-22 | 15-Oct-22 |
| Aluminum | 10/8740/10/1000 | mg/kg | - | 21800 | 30100 | 19400 | 25900 | 27700 | 2400 | 19600 | 17800 | 25900 | 19000 | 16700 | 19500 | 31800 |
| Antimony | 0.8/1 | mg/kg | 25 | <1 | <0.8 | <1 | <1 | <1 | <1 | <1 | <1 | <0.8 | <1 | <1 | <1 | <1 |
| Arsenic | 1 | mg/kg | 17 | 19 | 5 | 20 | 3 | 7 | 11 | 73 | 5 | 21 | 17 | 34 | 17 | 15 |
| Barium | 2/1/5 | mg/kg | - | 16 | 13.9 | 26 | 14 | 14 | 18 | 13 | 20 | 73.1 | 50 | 45 | 56 | 55 |
| Beryllium | 0.4/1/2 | mg/kg | - | <2 | <0.4 | <2 | <1 | <2 | <2 | <2 | <2 | <0.4 | <2 | <1 | <2 | <2 |
| Boron | 5/2 | mg/kg | - | <2 | <5 | <2 | 13 | <2 | <2 | 3 | <2 | <5 | <2 | 29 | <2 | <2 |
| Cadmium | 0.5/0.3 | mg/kg | 3.5 | <0.3 | <0.5 | <0.3 | <0.3 | <0.3 | <0.3 | <0.3 | <0.3 | <0.5 | <0.3 | <0.3 | <0.3 | <0.3 |
| Chromium | 5/2 | mg/kg | 90 | 36 | 51 | 32 | 43 | 37 | 78 | 823 | 136 | 128 | 112 | 138 | 125 | 110 |
| Cobalt | 0.5/1 | mg/kg | - | 17 | 16.8 | 16 | 14 | 14 | 20 | 54 | 21 | 28.9 | 21 | 29 | 22 | 21 |
| Copper | 1/2 | mg/kg | 197 | 5 | 9.2 | 5 | 10 | 5 | 11 | 58 | 20 | 11.5 | 8 | 11 | 9 | 12 |
| Iron | 50/24400/500/5000 | mg/kg | 43766 | 42100 | 53800 | 40900 | 49000 | 36700 | 39800 | 56900 | 26900 | 43600 | 38400 | 43200 | 37100 | 51300 |
| Lead | 1/0.5 | mg/kg | 91.3 | 3.1 | 9 | 3.9 | 10.4 | 4.0 | 3.9 | 13.4 | 8.8 | 6 | 4.6 | 10.5 | 5.4 | 9.5 |
| Lithium | 0.5/5 | mg/kg | - | 58 | 73.8 | 57 | 51 | 81 | 64 | 48 | 34 | 50.3 | 51 | 43 | 49 | 62 |
| Manganese | 2/780/50/20 | mg/kg | 1100 | 2540 | 714 | 2960 | 804 | 782 | 1380 | 925 | 825 | 3230 | 1490 | 1940 | 3090 | 5250 |
| Mercury | 0.05/0.03 | mg/kg | 0.486 | <0.03 | 0.04 | <0.03 | 0.04 | <0.03 | <0.05 | <0.05 | 0.07 | 0.05 | <0.03 | <0.03 | <0.03 | <0.03 |
| Molybdenum | 0.5/2 | mg/kg | - | <2 | 0.6 | <2 | <2 | <2 | <2 | 4 | <2 | 0.8 | <2 | <2 | <2 | <2 |
| Nickel | 1/2 | mg/kg | 75 | 51 | 63 | 50 | 54 | 55 | 122 | 443 | 165 | 253 | 136 | 129 | 160 | 135 |
| Selenium | 0.8/1 | mg/kg | 2 | <1 | <0.8 | <1 | <1 | <1 | <1 | <1 | <1 | <0.8 | <1 | <1 | <1 | <1 |
| Silver | 0.5 | mg/kg | 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 | <0.5 |
| Strontium | 50/5 | mg/kg | - | 5 | 7 | <5 | <50 | <5 | 11 | 13 | 6 | 13 | 10 | <50 | 11 | 13 |
| Thallium | 0.5/0.1 | mg/kg | - | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 |
| Tin | 1/2 | mg/kg | - | 3 | <1 | 3 | 4 | 2 | 3 | 3 | 3 | <1 | 3 | 3 | 4 | 3 |
| Uranium | 0.5/0.1 | mg/kg | - | 0.4 | 0.86 | 0.4 | 0.6 | 0.4 | 0.5 | 0.7 | 0.7 | 0.72 | 0.5 | 1.1 | 0.5 | 0.5 |
| Vanadium | 0.4/2 | mg/kg | - | 29 | 38.3 | 27 | 32 | 31 | 31 | 49 | 99 | 27.7 | 28 | 32 | 28 | 32 |
| Zinc | 5 | mg/kg | 315 | 91 | 108 | 89 | 88 | 89 | 93 | 86 | 62 | 109 | 88 | 96 | 91 | 91 |

Notes:

1. Atlantic Risk Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Sediment [Freshwater Sediment] (2022)

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- RDL for antimony, boron, cadmium, chromium, cobalt, copper, lead, lithium, molybdenum, nickel, selenium, thallium, tin, uranium, vanadium (December 2021/all other events)
- RDL for barium and beryllium (December 2021/June 2022/all other events)
- RDL for iron and manganese (March 2021, August 2021, March 2022 and October 2022/Site 11-SED for May 2021/December 2021/June 2022)
- RDL for mercury (March 2021 and May 2021/all other events)
- RDL for strontium (June 2022/all other events)

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Table A-5 - Analytical Results for Available Metals in Sediment

| Parameter | RDL | Units | Guideline ¹ | Site 21-SED | | | | | | | | Site 22-SED | | | | | | | |
|------------|-------------------|-------|------------------------|-------------|--------------|--------------|--------------|----------|--------------|--------------|-----------|-------------|-----------|----------|----------|----------|-----------|-----------|-----------|
| | | | | Sample Date | 15-Mar-21 | 6-May-21 | 4-Aug-21 | 3-Dec-21 | 28-Mar-22 | 21-Jun-22 | 15-Oct-22 | 23-Jan-23 | 15-Mar-21 | 6-May-21 | 4-Aug-21 | 3-Dec-21 | 28-Mar-22 | 18-Jun-22 | 15-Oct-22 |
| Aluminum | 10/8740/10/1000 | mg/kg | - | - | 20800 | 28500 | 29900 | - | 19600 | 20500 | - | - | - | - | - | - | - | - | |
| Antimony | 0.8/1 | mg/kg | 25 | - | <1 | <1 | <0.8 | - | <1 | <1 | - | - | - | - | - | - | - | - | |
| Arsenic | 1 | mg/kg | 17 | - | 32 | 18 | 57 | - | 52 | 56 | - | - | - | - | - | - | - | - | |
| Barium | 2/1/5 | mg/kg | - | - | 45 | 62 | 41.7 | - | 39 | 97 | - | - | - | - | - | - | - | - | |
| Beryllium | 0.4/1/2 | mg/kg | - | - | <2 | <2 | 0.4 | - | <1 | <2 | - | - | - | - | - | - | - | - | |
| Boron | 5/2 | mg/kg | - | - | <2 | <2 | <5 | - | 28 | <2 | - | - | - | - | - | - | - | - | |
| Cadmium | 0.5/0.3 | mg/kg | 3.5 | - | <0.3 | <0.3 | <0.5 | - | <0.3 | 0.4 | - | - | - | - | - | - | - | - | |
| Chromium | 5/2 | mg/kg | 90 | - | 44 | 51 | 55 | - | 52 | 44 | - | - | - | - | - | - | - | - | |
| Cobalt | 0.5/1 | mg/kg | - | - | 21 | 24 | 19.9 | - | 20 | 26 | - | - | - | - | - | - | - | - | |
| Copper | 1/2 | mg/kg | 197 | - | 11 | 12 | 11.3 | - | 13 | 13 | - | - | - | - | - | - | - | - | |
| Iron | 50/24400/500/5000 | mg/kg | 43766 | - | 46300 | 54400 | 57200 | - | 46500 | 50600 | - | - | - | - | - | - | - | - | |
| Lead | 1/0.5 | mg/kg | 91.3 | - | 4.5 | 4.5 | 8.0 | - | 9.1 | 7.0 | - | - | - | - | - | - | - | - | |
| Lithium | 0.5/5 | mg/kg | - | - | 50 | 61 | 49.4 | - | 49 | 52 | - | - | - | - | - | - | - | - | |
| Manganese | 2/780/50/20 | mg/kg | 1100 | - | 4130 | 7000 | 3450 | - | 3030 | 12300 | - | - | - | - | - | - | - | - | |
| Mercury | 0.05/0.03 | mg/kg | 0.486 | - | <0.05 | <0.03 | 0.07 | - | <0.03 | <0.03 | - | - | - | - | - | - | - | - | |
| Molybdenum | 0.5/2 | mg/kg | - | - | <2 | <2 | 1.9 | - | <2 | 2 | - | - | - | - | - | - | - | - | |
| Nickel | 1/2 | mg/kg | 75 | - | 78 | 74 | 73 | - | 88 | 93 | - | - | - | - | - | - | - | - | |
| Selenium | 0.8/1 | mg/kg | 2 | - | <1 | <1 | <0.8 | - | <1 | <1 | - | - | - | - | - | - | - | - | |
| Silver | 0.5 | mg/kg | 0.5 | - | <0.5 | <0.5 | <0.5 | - | <0.5 | <0.5 | - | - | - | - | - | - | - | - | |
| Strontium | 50/5 | mg/kg | - | - | 5 | 8 | 7 | - | <50 | 10 | - | - | - | - | - | - | - | - | |
| Thallium | 0.5/0.1 | mg/kg | - | - | <0.1 | <0.1 | <0.5 | - | <0.1 | <0.1 | - | - | - | - | - | - | - | - | |
| Tin | 1/2 | mg/kg | - | - | 3 | 3 | <1 | - | 5 | 4 | - | - | - | - | - | - | - | - | |
| Uranium | 0.5/0.1 | mg/kg | - | - | 0.4 | 0.6 | 0.8 | - | 0.8 | 0.4 | - | - | - | - | - | - | - | - | |
| Vanadium | 0.4/2 | mg/kg | - | - | 31 | 121 | 29 | - | 34 | 28 | - | - | - | - | - | - | - | - | |
| Zinc | 5 | mg/kg | 315 | - | 130 | 134 | 130 | - | 116 | 142 | - | - | - | - | - | - | - | - | |

Notes:

1. Atlantic Risk Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Sediment [Freshwater Sediment] (2022)

"-" = no applicable guideline or not analyzed

NA = Not applicable

RDL = Reported Detection Limit; for all events unless otherwise noted:

- RDL for aluminium (March 2021 and December 2021/Site 11-SED for May 2021/August 2021/October 2022 and March 2022/June 2022)
- RDL for antimony, boron, cadmium, chromium, cobalt, copper, lead, lithium, molybdenum, nickel, selenium, thallium, tin, uranium, vanadium (December 2021/all other events)
- RDL for barium and beryllium (December 2021/June 2022/all other events)
- RDL for iron and manganese (March 2021, August 2021, March 2022 and October 2022/Site 11-SED for May 2021/December 2021/June 2022)
- RDL for mercury (March 2021 and May 2021/all other events)
- RDL for strontium (June 2022/all other events)

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Table A-5 - Analytical Results for Available Metals in Sediment

| Parameter | RDL | Units | Guideline ¹ | Site 23-SED | | | | | | | | Site 24-SED | | | | | | | |
|------------|-------------------|-------|------------------------|-------------|-----------|----------|----------|----------|-----------|-------------|-----------|-------------|-----------|----------|----------|----------|-------------|-----------|-------------|
| | | | | Sample Date | 15-Mar-21 | 6-May-21 | 4-Aug-21 | 3-Dec-21 | 28-Mar-22 | 19-Jun-22 | 15-Oct-22 | 27-Jan-23 | 15-Mar-21 | 6-May-21 | 4-Aug-21 | 3-Dec-21 | 28-Mar-22 | 19-Jun-22 | 15-Oct-22 |
| Aluminum | 10/8740/10/1000 | mg/kg | - | - | - | - | - | - | - | 16800 | - | 16000 | - | - | - | - | 14400 | - | 10700 |
| Antimony | 0.8/1 | mg/kg | 25 | - | - | - | - | - | - | <1 | - | 2 | - | - | - | - | <1 | - | <1 |
| Arsenic | 1 | mg/kg | 17 | - | - | - | - | - | - | 53 | - | 59 | - | - | - | - | 35 | - | 22 |
| Barium | 2/1/5 | mg/kg | - | - | - | - | - | - | - | 36 | - | 27 | - | - | - | - | 48 | - | 22 |
| Beryllium | 0.4/1/2 | mg/kg | - | - | - | - | - | - | - | <1 | - | <2 | - | - | - | - | <1 | - | <2 |
| Boron | 5/2 | mg/kg | - | - | - | - | - | - | - | 3 | - | <2 | - | - | - | - | 3 | - | <2 |
| Cadmium | 0.5/0.3 | mg/kg | 3.5 | - | - | - | - | - | - | <0.3 | - | <0.3 | - | - | - | - | <0.3 | - | <0.3 |
| Chromium | 5/2 | mg/kg | 90 | - | - | - | - | - | - | 35 | - | 30 | - | - | - | - | 33 | - | 18 |
| Cobalt | 0.5/1 | mg/kg | - | - | - | - | - | - | - | 14 | - | 13 | - | - | - | - | 17 | - | 8 |
| Copper | 1/2 | mg/kg | 197 | - | - | - | - | - | - | 17 | - | 18 | - | - | - | - | 18 | - | 10 |
| Iron | 50/24400/500/5000 | mg/kg | 43766 | - | - | - | - | - | - | 39700 | - | 33800 | - | - | - | - | 39500 | - | 18900 |
| Lead | 1/0.5 | mg/kg | 91.3 | - | - | - | - | - | - | 13.0 | - | 9.4 | - | - | - | - | 15.2 | - | 8.1 |
| Lithium | 0.5/5 | mg/kg | - | - | - | - | - | - | - | 32 | - | 33 | - | - | - | - | 31 | - | 20 |
| Manganese | 2/780/50/20 | mg/kg | 1100 | - | - | - | - | - | - | 1790 | - | 2410 | - | - | - | - | 3380 | - | 1920 |
| Mercury | 0.05/0.03 | mg/kg | 0.486 | - | - | - | - | - | - | <0.03 | - | <0.03 | - | - | - | - | 0.03 | - | 0.04 |
| Molybdenum | 0.5/2 | mg/kg | - | - | - | - | - | - | - | <2 | - | <2 | - | - | - | - | 3 | - | <2 |
| Nickel | 1/2 | mg/kg | 75 | - | - | - | - | - | - | 53 | - | 46 | - | - | - | - | 45 | - | 24 |
| Selenium | 0.8/1 | mg/kg | 2 | - | - | - | - | - | - | <1 | - | <1 | - | - | - | - | <1 | - | <1 |
| Silver | 0.5 | mg/kg | 0.5 | - | - | - | - | - | - | <0.5 | - | <0.5 | - | - | - | - | <0.5 | - | <0.5 |
| Strontium | 50/5 | mg/kg | - | - | - | - | - | - | - | <50 | - | 6 | - | - | - | - | <50 | - | 9 |
| Thallium | 0.5/0.1 | mg/kg | - | - | - | - | - | - | - | <0.1 | - | <0.1 | - | - | - | - | <0.1 | - | <0.1 |
| Tin | 1/2 | mg/kg | - | - | - | - | - | - | - | 5 | - | <2 | - | - | - | - | 4 | - | <2 |
| Uranium | 0.5/0.1 | mg/kg | - | - | - | - | - | - | - | 0.9 | - | 0.6 | - | - | - | - | 1.7 | - | 0.6 |
| Vanadium | 0.4/2 | mg/kg | - | - | - | - | - | - | - | 33 | - | 24 | - | - | - | - | 33 | - | 17 |
| Zinc | 5 | mg/kg | 315 | - | - | - | - | - | - | 80 | - | 66 | - | - | - | - | 75 | - | 42 |

Notes:

1. Atlantic Risk Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Sediment [Freshwater Sediment] (2022)

"-" = no applicable guideline or not analyzed

NA = Not applicable

RDL = Reported Detection Limit; for all events unless otherwise noted:

- RDL for aluminium (March 2021 and December 2021/Site 11-SED for May 2021/August 2021/October 2022 and March 2022/June 2022)
- RDL for antimony, boron, cadmium, chromium, cobalt, copper, lead, lithium, molybdenum, nickel, selenium, thallium, tin, uranium, vanadium (December 2021/all other events)
- RDL for barium and beryllium (December 2021/June 2022/all other events)
- RDL for iron and manganese (March 2021, August 2021, March 2022 and October 2022/Site 11-SED for May 2021/December 2021/June 2022)
- RDL for mercury (March 2021 and May 2021/all other events)
- RDL for strontium (June 2022/all other events)

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Table A-6

Results of Laboratory Analysis of Petroleum Hydrocarbons in Sediment

Table A-6 - Results of Laboratory Analysis of Petroleum Hydrocarbons in Sediment

| Parameters | RDL ¹ | Units | Guideline ¹ | Site 1-SED | | | | | | | | Site 2-SED | | | | | | | |
|------------------------------------|------------------|-------|------------------------|------------|----------|----------|-----------|-----------|-----------|-----------|-----------|------------|----------|----------|-----------|-----------|-----------|-----------|-----------|
| | | | | 14-Mar-21 | 7-May-21 | 6-Aug-21 | 8-Dec-21 | 31-Mar-22 | 19-Jun-22 | 15-Oct-22 | 27-Jan-23 | 14-Mar-21 | 8-May-21 | 6-Aug-21 | 8-Dec-21 | 31-Mar-22 | 17-Jun-22 | 15-Oct-22 | 25-Jan-23 |
| Benzene | 0.03/0.02 | mg/kg | 1.2 | - | <0.03 | <0.03 | <0.02 | <0.02 | <0.02 | - | <0.02 | <0.03 | <0.03 | <0.03 | <0.02 | <0.02 | <0.02 | <0.02 | - |
| Toluene | 0.04 | mg/kg | 1.4 | - | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | - | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | - |
| Ethylbenzene | 0.03 | mg/kg | 1.2 | - | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | - | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | - |
| Xylenes | 0.05 | mg/kg | 1.3 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - |
| C6-C10 (less BTEX) | 3 | mg/kg | - | - | <3 | <3 | <3 | <3 | <3 | - | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | - |
| >C10-C16 Hydrocarbons | 15 | mg/kg | - | - | <15 | <15 | <15 | <15 | <15 | - | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | - |
| >C16-C21 Hydrocarbons | 15 | mg/kg | - | - | <15 | <15 | <15 | <15 | <15 | - | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | - |
| >C21-C32 Hydrocarbons | 15 | mg/kg | - | - | <15 | <15 | 26 | <15 | <15 | - | <15 | <15 | <15 | <15 | 28 | <15 | <15 | <15 | - |
| Modified TPH - Tier I ² | 15 | mg/kg | 15/25/43 | - | <15 | <15 | 26 | <15 | <15 | - | <15 | <15 | <15 | <15 | 28 | <15 | <15 | <15 | - |
| Silica Gel Clean-up ³ | - | - | - | - | - | Yes | - | - | - | - | - | Yes | - | Yes | - | - | - | - | - |
| Resemblance Comment | - | - | - | - | NR | NR | UC | NR | NR | - | NR | NR | NR | NR | UC | NR | NR | NR | - |
| Return to Baseline at C324 | - | - | - | - | Yes | Yes | Yes | Yes | Yes | - | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | - |
| Isobutylbenzene - EPH | - | % | - | - | 98 | 113 | 84 | 99 | 95 | - | 99 | 104 | 97 | 107 | 84 | 95 | 94 | 96 | |
| Isobutylbenzene - VPH | - | % | - | - | 78 | 89 | 94 | 83 | 74 | - | 72 | 97 | 77 | 88 | 90 | 92 | 74 | 96 | |
| n-Dotriacontane - EPH | - | % | - | - | 105 | 125 | 89 | 100 | 95 | - | 104 | 126 | 105 | 118 | 87 | 94 | 95 | 88 | |

- Notes:**
- Atlantic Risk-Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Surface Water [Freshwater] (2022). Screening level for Gas/Diesel_#2/#6 oil_lube.
 - Modified TPH = TPH C₆ - C₃₂ (excluding BTEX)
 - Silica gel cleanup was used to remove organic interferences from sample extract during March, August 2021 events
 - Atlantic PIRI analytical method does not analyze for >C32. Laboratory certificate indicates (Yes or No) whether chromatogram for each sample returns to baseline after C32. Samples are considered to have returned to baseline if the area from C32-C36 is less than 10% of the area from C10-C32.

"-" = no applicable guideline or not analyzed

RDL = Reported Detection Limit; for all events unless otherwise noted
- RDL for benzene (March, May and August 2021/all other events)

RDL - Reportable Detection Limit

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Resemblance

UC - Unidentified Compounds (identified concentrations of hydrocarbons do not resemble petroleum products; inferred to have a biogenic source.

NR - No resemblance

LOF - Lube Oil Fraction

LR - Lube Range

Table A-6 - Results of Laboratory Analysis of Petroleum Hydrocarbons in Sediment

| Parameters | RDL ¹ | Units | Guideline ¹ | Site 3-SED | | | | | | | | Site 4-SED | | | | | | | |
|------------------------------------|------------------|-------|------------------------|------------|----------|----------|----------|-----------|-----------|-----------|-----------|------------|----------|----------|----------|-----------|-----------|-----------|-----------|
| | | | | 14-Mar-21 | 7-May-21 | 3-Aug-21 | 5-Dec-21 | 29-Mar-22 | 18-Jun-22 | 16-Oct-22 | 25-Jan-23 | 12-Mar-21 | 7-May-21 | 3-Aug-21 | 5-Dec-21 | 29-Mar-22 | 18-Jun-22 | 16-Oct-22 | 25-Jan-23 |
| Benzene | 0.03/0.02 | mg/kg | 1.2 | - | <0.03 | <0.03 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.03 | <0.03 | <0.03 | <0.02 | <0.02 | <0.02 | <0.02 |
| Toluene | 0.04 | mg/kg | 1.4 | - | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 |
| Ethylbenzene | 0.03 | mg/kg | 1.2 | - | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 |
| Xylenes | 0.05 | mg/kg | 1.3 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| C6-C10 (less BTEX) | 3 | mg/kg | - | - | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 |
| >C10-C16 Hydrocarbons | 15 | mg/kg | - | - | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| >C16-C21 Hydrocarbons | 15 | mg/kg | - | - | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| >C21-C32 Hydrocarbons | 15 | mg/kg | - | - | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| Modified TPH - Tier I ² | 15 | mg/kg | 15/25/43 | - | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| Silica Gel Clean-up ³ | - | - | - | - | - | Yes | - | - | - | - | - | - | Yes | - | Yes | - | - | - | - |
| Resemblance Comment | - | - | - | - | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| Return to Baseline at C324 | - | - | - | - | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Isobutylbenzene - EPH | - | % | - | - | 99 | 110 | 100 | 94 | 94 | 97 | 98 | 105 | 99 | 117 | 99 | 99 | 93 | 97 | 97 |
| Isobutylbenzene - VPH | - | % | - | - | 77 | 92 | 115 | 80 | 82 | 104 | 67 | 101 | 80 | 90 | 115 | 81 | 81 | 100 | 69 |
| n-Dotriacontane - EPH | - | % | - | - | 104 | 119 | 104 | 93 | 94 | 88 | 103 | 125 | 104 | 128 | 104 | 100 | 94 | 88 | 100 |

Notes:

1. Atlantic Risk-Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Surface Water [Freshwater] (2022). Screening level for Gas/Diesel_#2/#6 oil_lube.

2. Modified TPH = TPH C₆ - C₃₂ (excluding BTEX)

3. Silica gel cleanup was used to remove organic interferences from sample extract during March, August 2021 events

4. Atlantic PIRI analytical method does not analyze for >C32. Laboratory certificate indicates (Yes or No) whether chromatogram for each sample returns to baseline after C32. Samples are considered to have returned to baseline if the area from C32-C36 is less than 10% of the area from C10-C32.

"-" = no applicable guideline or not analyzed

RDL = Reported Detection Limit; for all events unless otherwise noted

- RDL for benzene (March, May and August 2021/all other events)

RDL - Reportable Detection Limit

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Resemblance

UC - Unidentified Compounds (identified concentrations of hydrocarbons do not resemble petroleum products; inferred to have a biogenic source).

NR - No resemblance

LOF - Lube Oil Fraction

LR - Lube Range

Table A-6 - Results of Laboratory Analysis of Petroleum Hydrocarbons in Sediment

| Parameters | RDL ¹ | Units | Guideline ¹ | Site 5-SED | | | | | | | | Site 6-SED | | | | | | | |
|------------------------------------|------------------|-------|------------------------|------------|----------|-------------|------------|-----------|-----------|-----------|-----------|------------|----------|------------|-----------|-----------|-----------|-----------|-----------|
| | | | | 14-Mar-21 | 5-May-21 | 4-Aug-21 | 8-Dec-21 | 30-Mar-22 | 20-Jun-22 | 15-Oct-22 | 25-Jan-23 | 12-Mar-21 | 6-May-21 | 3-Aug-21 | 13-Dec-21 | 31-Mar-22 | 20-Jun-22 | 16-Oct-22 | 25-Jan-23 |
| Benzene | 0.03/0.02 | mg/kg | 1.2 | - | <0.03 | <0.03 | <0.02 | - | - | - | - | - | - | <0.03 | - | * | * | - | - |
| Toluene | 0.04 | mg/kg | 1.4 | - | <0.04 | <0.04 | <0.04 | - | - | - | - | - | - | <0.04 | - | * | * | - | - |
| Ethylbenzene | 0.03 | mg/kg | 1.2 | - | <0.03 | <0.03 | <0.03 | - | - | - | - | - | - | <0.03 | - | * | * | - | - |
| Xylenes | 0.05 | mg/kg | 1.3 | - | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | <0.05 | - | * | * | - | - |
| C6-C10 (less BTEX) | 3 | mg/kg | - | - | <3 | <3 | <3 | - | - | - | - | - | - | <3 | - | * | * | - | - |
| >C10-C16 Hydrocarbons | 15 | mg/kg | - | - | <15 | 678 | <15 | - | - | - | - | - | - | 33 | - | * | * | - | - |
| >C16-C21 Hydrocarbons | 15 | mg/kg | - | - | <15 | 283 | 41 | - | - | - | - | - | - | 58 | - | * | * | - | - |
| >C21-C32 Hydrocarbons | 15 | mg/kg | - | - | <15 | 363 | 205 | - | - | - | - | - | - | 105 | - | * | * | - | - |
| Modified TPH - Tier I ² | 15 | mg/kg | 15/25/43 | - | <15 | 1320 | 246 | - | - | - | - | - | - | 196 | - | * | * | - | - |
| Silica Gel Clean-up ³ | - | - | - | - | - | Yes | - | - | - | - | - | - | - | Yes | - | * | * | - | - |
| Resemblance Comment | - | - | - | - | NR | UC | UC | - | - | - | - | - | - | NR | - | * | * | - | - |
| Return to Baseline at C324 | - | - | - | - | Yes | Yes | Yes | - | - | - | - | - | - | Yes | - | * | * | - | - |
| Isobutylbenzene - EPH | - | % | - | - | 100 | 107 | 97 | - | - | - | - | - | - | 109 | - | * | * | - | - |
| Isobutylbenzene - VPH | - | % | - | - | 73 | 95 | 93 | - | - | - | - | - | - | 89 | - | * | * | - | - |
| n-Dotriacontane - EPH | - | % | - | - | 105 | 124 | 104 | - | - | - | - | - | - | 121 | - | * | * | - | - |

Notes:

1. Atlantic Risk-Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Surface Water [Freshwater] (2022). Screening level for Gas/Diesel_#2/#6 oil_lube.

2. Modified TPH = TPH C₆ - C₃₂ (excluding BTEX)

3. Silica gel cleanup was used to remove organic interferences from sample extract during March, August 2021 events

4. Atlantic PIRI analytical method does not analyze for >C32. Laboratory certificate indicates (Yes or No) whether chromatogram for each sample returns to baseline after C32. Samples are considered to have returned to baseline if the area from C32-C36 is less than 10% of the area from C10-C32.

"-" = no applicable guideline or not analyzed

RDL = Reported Detection Limit; for all events unless otherwise noted
- RDL for benzene (March, May and August 2021/all other events)

RDL - Reportable Detection Limit

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Resemblance

UC - Unidentified Compounds (identified concentrations of hydrocarbons do not resemble petroleum products; inferred to have a biogenic source.

NR - No resemblance

LOF - Lube Oil Fraction

LR - Lube Range

Table A-6 - Results of Laboratory Analysis of Petroleum Hydrocarbons in Sediment

| Parameters | RDL ¹ | Units | Guideline ¹ | Site 7-SED | | | | | | | | Site 8-SED | | | | | | | |
|------------------------------------|------------------|-------|------------------------|------------|----------|------------|-----------|-----------|-----------|-----------|-----------|------------|----------|----------|-----------|-----------|-----------|-----------|-----------|
| | | | | 12-Mar-21 | 6-May-21 | 3-Aug-21 | 13-Dec-21 | 31-Mar-22 | 20-Jun-22 | 15-Oct-22 | 23-Jan-23 | 12-Mar-21 | 8-May-21 | 4-Aug-21 | 13-Dec-21 | 29-Mar-22 | 20-Jun-22 | 16-Oct-22 | 27-Jan-23 |
| Benzene | 0.03/0.02 | mg/kg | 1.2 | - | - | <0.03 | - | - | - | - | - | <0.03 | <0.03 | <0.03 | <0.02 | - | <0.02 | <0.02 | <0.02 |
| Toluene | 0.04 | mg/kg | 1.4 | - | - | <0.04 | - | - | - | - | - | <0.04 | <0.04 | <0.04 | <0.04 | - | <0.04 | <0.04 | <0.04 |
| Ethylbenzene | 0.03 | mg/kg | 1.2 | - | - | <0.03 | - | - | - | - | - | <0.03 | <0.03 | <0.03 | 0.03 | - | <0.03 | <0.03 | <0.03 |
| Xylenes | 0.05 | mg/kg | 1.3 | - | - | <0.05 | - | - | - | - | - | <0.05 | <0.05 | <0.05 | 0.09 | - | <0.05 | <0.05 | 0.22 |
| C6-C10 (less BTEX) | 3 | mg/kg | - | - | - | <3 | - | - | - | - | - | <3 | <3 | <3 | <3 | - | <3 | <3 | <3 |
| >C10-C16 Hydrocarbons | 15 | mg/kg | - | - | - | 47 | - | - | - | - | - | <15 | <15 | <15 | <15 | - | <15 | <15 | <15 |
| >C16-C21 Hydrocarbons | 15 | mg/kg | - | - | - | 107 | - | - | - | - | - | <15 | <15 | <15 | <15 | - | <15 | <15 | <15 |
| >C21-C32 Hydrocarbons | 15 | mg/kg | - | - | - | 233 | - | - | - | - | - | <15 | <15 | <15 | <15 | - | <15 | <15 | <15 |
| Modified TPH - Tier I ² | 15 | mg/kg | 15/25/43 | - | - | 387 | - | - | - | - | - | <15 | <15 | <15 | <15 | - | <15 | <15 | <15 |
| Silica Gel Clean-up ³ | - | - | - | - | - | Yes | - | - | - | - | - | Yes | - | Yes | - | - | - | - | - |
| Resemblance Comment | - | - | - | - | - | UC | - | - | - | - | - | NR | NR | NR | NR | - | NR | NR | NR |
| Return to Baseline at C324 | - | - | - | - | - | Yes | - | - | - | - | - | Yes | Yes | Yes | Yes | - | Yes | Yes | Yes |
| Isobutylbenzene - EPH | - | % | - | - | - | 107 | - | - | - | - | - | 104 | 100 | 97 | 99 | - | 94 | 98 | 98 |
| Isobutylbenzene - VPH | - | % | - | - | - | 87 | - | - | - | - | - | 104 | 76 | 91 | 110 | - | 82 | 105 | 80 |
| n-Dotriacontane - EPH | - | % | - | - | - | 121 | - | - | - | - | - | 127 | 106 | 98 | 92 | - | 93 | 88 | 102 |

- Notes:**
1. Atlantic Risk-Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Surface Water [Freshwater] (2022). Screening level for Gas/Diesel_#2/#6 oil_lube.
 2. Modified TPH = TPH C₆ - C₃₂ (excluding BTEX)
 3. Silica gel cleanup was used to remove organic interferences from sample extract during March, August 2021 events
 4. Atlantic PIRI analytical method does not analyze for >C32. Laboratory certificate indicates (Yes or No) whether chromatogram for each sample returns to baseline after C32. Samples are considered to have returned to baseline if the area from C32-C36 is less than 10% of the area from C10-C32.

"-" = no applicable guideline or not analyzed

RDL = Reported Detection Limit; for all events unless otherwise noted
- RDL for benzene (March, May and August 2021/all other events)

RDL - Reportable Detection Limit

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Resemblance

UC - Unidentified Compounds (identified concentrations of hydrocarbons do not resemble petroleum products; inferred to have a biogenic source.

NR - No resemblance

LOF - Lube Oil Fraction

LR - Lube Range

Table A-6 - Results of Laboratory Analysis of Petroleum Hydrocarbons in Sediment

| Parameters | RDL ¹ | Units | Guideline ¹ | Site 9-SED | | | | | | | | Site 10-SED | | | | | | | | |
|------------------------------------|------------------|-------|------------------------|------------|----------|----------|----------|-----------|-----------|-----------|-----------|-------------|----------|----------|----------|-----------|-----------|-----------|-----------|-------|
| | | | | 14-Mar-21 | 5-May-21 | 6-Aug-21 | 5-Dec-21 | 28-Mar-22 | 17-Jun-22 | 15-Oct-22 | 25-Jan-23 | 14-Mar-21 | 5-May-21 | 5-Aug-21 | 3-Dec-21 | 30-Mar-22 | 19-Jun-22 | 15-Oct-22 | 23-Jan-23 | |
| Benzene | 0.03/0.02 | mg/kg | 1.2 | <0.03 | <0.03 | <0.03 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.03 | <0.03 | <0.03 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| Toluene | 0.04 | mg/kg | 1.4 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 |
| Ethylbenzene | 0.03 | mg/kg | 1.2 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 |
| Xylenes | 0.05 | mg/kg | 1.3 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| C6-C10 (less BTEX) | 3 | mg/kg | - | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 |
| >C10-C16 Hydrocarbons | 15 | mg/kg | - | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| >C16-C21 Hydrocarbons | 15 | mg/kg | - | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| >C21-C32 Hydrocarbons | 15 | mg/kg | - | <15 | <15 | <15 | <15 | 21 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| Modified TPH - Tier I ² | 15 | mg/kg | 15/25/43 | <15 | <15 | <15 | <15 | 21 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| Silica Gel Clean-up ³ | - | - | - | Yes | - | Yes | - | - | - | - | - | - | Yes | - | Yes | - | - | - | - | - |
| Resemblance Comment | - | - | - | NR | NR | NR | NR | LR | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| Return to Baseline at C324 | - | - | - | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Isobutylbenzene - EPH | - | % | - | 106 | 100 | 112 | 99 | 95 | 94 | 98 | 97 | 105 | 100 | 114 | 99 | 96 | 95 | 97 | 95 | 95 |
| Isobutylbenzene - VPH | - | % | - | 96 | 80 | 85 | 119 | 96 | 78 | 104 | 119 | 102 | 82 | 90 | 121 | 78 | 81 | 103 | 66 | 66 |
| n-Dotriacontane - EPH | - | % | - | 128 | 104 | 123 | 103 | 96 | 94 | 90 | 102 | 132 | 103 | 123 | 104 | 94 | 94 | 87 | 99 | 99 |

- Notes:**
- Atlantic Risk-Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Surface Water [Freshwater] (2022). Screening level for Gas/Diesel_#2/#6 oil_lube.
 - Modified TPH = TPH C₆ - C₃₂ (excluding BTEX)
 - Silica gel cleanup was used to remove organic interferences from sample extract during March, August 2021 events
 - Atlantic PIRI analytical method does not analyze for >C32. Laboratory certificate indicates (Yes or No) whether chromatogram for each sample returns to baseline after C32. Samples are considered to have returned to baseline if the area from C32-C36 is less than 10% of the area from C10-C32.

"-" = no applicable guideline or not analyzed

RDL = Reported Detection Limit; for all events unless otherwise noted
- RDL for benzene (March, May and August 2021/all other events)

RDL - Reportable Detection Limit

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Resemblance

UC - Unidentified Compounds (identified concentrations of hydrocarbons do not resemble petroleum products; inferred to have a biogenic source).

NR - No resemblance

LOF - Lube Oil Fraction

LR - Lube Range

Table A-6 - Results of Laboratory Analysis of Petroleum Hydrocarbons in Sediment

| Parameters | RDL ¹ | Units | Guideline ¹ | SW-SD* | | | | | Site 11-SED | | | | | | | |
|------------------------------------|------------------|-------|------------------------|-----------|----------|-----------|-----------|-----------|-------------|----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | | | | 15-Mar-21 | 5-May-21 | 15-Oct-22 | 23-Jan-23 | 19-Jun-22 | 15-Mar-21 | 6-May-21 | 4-Aug-21 | 13-Dec-21 | 29-Mar-22 | 20-Jun-22 | 16-Oct-22 | 24-Jan-23 |
| Benzene | 0.03/0.02 | mg/kg | 1.2 | <0.03 | <0.03 | <0.001 | <0.02 | <0.02 | <0.03 | <0.03 | <0.03 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| Toluene | 0.04 | mg/kg | 1.4 | <0.04 | <0.04 | <0.001 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 |
| Ethylbenzene | 0.03 | mg/kg | 1.2 | <0.03 | <0.03 | <0.001 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 |
| Xylenes | 0.05 | mg/kg | 1.3 | <0.05 | <0.05 | <0.002 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| C6-C10 (less BTEX) | 3 | mg/kg | - | <3 | <3 | <0.01 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 |
| >C10-C16 Hydrocarbons | 15 | mg/kg | - | <15 | <15 | <0.05 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| >C16-C21 Hydrocarbons | 15 | mg/kg | - | <15 | <15 | <0.05 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| >C21-C32 Hydrocarbons | 15 | mg/kg | - | <15 | <15 | <0.1 | <15 | <15 | <15 | <15 | 41 | <15 | <15 | <15 | <15 | <15 |
| Modified TPH - Tier I ² | 15 | mg/kg | 15/25/43 | <15 | <15 | <0.1 | <15 | <15 | <15 | <15 | 41 | <15 | <15 | <15 | <15 | <15 |
| Silica Gel Clean-up ³ | - | - | - | Yes | - | - | - | - | Yes | - | Yes | - | - | - | - | - |
| Resemblance Comment | - | - | - | NR | NR | NR | NR | NR | NR | NR | UC | NR | NR | NR | NR | NR |
| Return to Baseline at C324 | - | - | - | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Isobutylbenzene - EPH | - | % | - | 106 | 98 | 99 | 99 | 94 | 104 | 96 | 104 | 99 | 93 | 94 | 98 | 99 |
| Isobutylbenzene - VPH | - | % | - | 97 | 75 | 92 | 65 | 83 | 103 | 74 | 94 | 114 | 83 | 85 | 97 | 64 |
| n-Dotriacontane - EPH | - | % | - | 127 | 105 | 92 | 104 | 94 | 125 | 103 | 121 | 92 | 90 | 94 | 90 | 102 |

- Notes:**
- Atlantic Risk-Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Surface Water [Freshwater] (2022). Screening level for Gas/Diesel_#2/#6 oil_lube.
 - Modified TPH = TPH C₆ - C₃₂ (excluding BTEX)
 - Silica gel cleanup was used to remove organic interferences from sample extract during March, August 2021 events
 - Atlantic PIRI analytical method does not analyze for >C32. Laboratory certificate indicates (Yes or No) whether chromatogram for each sample returns to baseline after C32. Samples are considered to have returned to baseline if the area from C32-C36 is less than 10% of the area from C10-C32.

"-" = no applicable guideline or not analyzed

RDL = Reported Detection Limit; for all events unless otherwise noted
- RDL for benzene (March, May and August 2021/all other events)

RDL - Reportable Detection Limit

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Resemblance

UC - Unidentified Compounds (identified concentrations of hydrocarbons do not resemble petroleum products; inferred to have a biogenic source.

NR - No resemblance

LOF - Lube Oil Fraction

LR - Lube Range

Table A-6 - Results of Laboratory Analysis of Petroleum Hydrocarbons in Sediment

| Parameters | RDL ¹ | Units | Guideline ¹ | Site 12-SED | | | | | | | | Site 13-SED | | | | | | | |
|------------------------------------|------------------|-------|------------------------|-------------|----------|----------|-----------|-----------|-----------|-----------|-----------|-------------|----------|----------|-----------|-----------|-----------|-----------|-----------|
| | | | | 15-Mar-21 | 6-May-21 | 4-Aug-21 | 14-Dec-21 | 29-Mar-22 | 21-Jun-22 | 16-Oct-22 | 25-Jan-23 | 15-Mar-21 | 6-May-21 | 4-Aug-21 | 14-Dec-21 | 29-Mar-22 | 21-Jun-22 | 15-Oct-22 | 24-Jan-23 |
| Benzene | 0.03/0.02 | mg/kg | 1.2 | - | - | <0.03 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | - | - | - | - | - | <0.02 | - | <0.02 |
| Toluene | 0.04 | mg/kg | 1.4 | - | - | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | - | - | - | - | - | <0.04 | - | <0.04 |
| Ethylbenzene | 0.03 | mg/kg | 1.2 | - | - | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | - | - | - | - | - | <0.03 | - | <0.03 |
| Xylenes | 0.05 | mg/kg | 1.3 | - | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | <0.05 | - | <0.05 |
| C6-C10 (less BTEX) | 3 | mg/kg | - | - | - | <3 | <3 | <3 | <3 | <3 | <3 | - | - | - | - | - | <3 | - | <3 |
| >C10-C16 Hydrocarbons | 15 | mg/kg | - | - | - | <15 | <15 | <15 | <15 | <15 | <15 | - | - | - | - | - | <15 | - | <15 |
| >C16-C21 Hydrocarbons | 15 | mg/kg | - | - | - | <15 | <15 | <15 | <15 | <15 | <15 | - | - | - | - | - | <15 | - | <15 |
| >C21-C32 Hydrocarbons | 15 | mg/kg | - | - | - | <15 | <15 | <15 | <15 | <15 | <15 | - | - | - | - | - | <15 | - | <15 |
| Modified TPH - Tier I ² | 15 | mg/kg | 15/25/43 | - | - | <15 | <15 | <15 | <15 | <15 | <15 | - | - | - | - | - | <15 | - | <15 |
| Silica Gel Clean-up ³ | - | - | - | - | - | Yes | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Resemblance Comment | - | - | - | - | - | NR | NR | NR | NR | NR | NR | - | - | - | - | - | NR | - | NR |
| Return to Baseline at C324 | - | - | - | - | - | Yes | Yes | Yes | Yes | Yes | Yes | - | - | - | - | - | Yes | - | Yes |
| Isobutylbenzene - EPH | - | % | - | - | - | 98 | 133 | 99 | 95 | 98 | 97 | - | - | - | - | - | 95 | - | 98 |
| Isobutylbenzene - VPH | - | % | - | - | - | 93 | 112 | 78 | 77 | 99 | 133 | - | - | - | - | - | 84 | - | 83 |
| n-Dotriacontane - EPH | - | % | - | - | - | 98 | 130 | 98 | 94 | 92 | 100 | - | - | - | - | - | 95 | - | 102 |

- Notes:**
1. Atlantic Risk-Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Surface Water [Freshwater] (2022). Screening level for Gas/Diesel_#2/#6 oil_lube.
 2. Modified TPH = TPH C₆ - C₃₂ (excluding BTEX)
 3. Silica gel cleanup was used to remove organic interferences from sample extract during March, August 2021 events
 4. Atlantic PIRI analytical method does not analyze for >C32. Laboratory certificate indicates (Yes or No) whether chromatogram for each sample returns to baseline after C32. Samples are considered to have returned to baseline if the area from C32-C36 is less than 10% of the area from C10-C32.

"-" = no applicable guideline or not analyzed

RDL = Reported Detection Limit; for all events unless otherwise noted
- RDL for benzene (March, May and August 2021/all other events)

RDL - Reportable Detection Limit

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Resemblance

UC - Unidentified Compounds (identified concentrations of hydrocarbons do not resemble petroleum products; inferred to have a biogenic source).

NR - No resemblance

LOF - Lube Oil Fraction

LR - Lube Range

Table A-6 - Results of Laboratory Analysis of Petroleum Hydrocarbons in Sediment

| Parameters | RDL ¹ | Units | Guideline ¹ | Site 14-SED | | | | | | | | Site 15-SED | | | | | | | |
|------------------------------------|------------------|-------|------------------------|-------------|----------|----------|-----------|-----------|-----------|-----------|-----------|-------------|----------|----------|----------|-----------|-----------|-----------|-----------|
| | | | | 15-Mar-21 | 9-May-21 | 4-Aug-21 | 14-Dec-21 | 29-Mar-22 | 21-Jun-22 | 16-Oct-22 | 23-Jan-23 | 13-Mar-21 | 5-May-21 | 5-Aug-21 | 3-Dec-21 | 30-Mar-22 | 21-Jun-22 | 15-Oct-22 | 23-Jan-23 |
| Benzene | 0.03/0.02 | mg/kg | 1.2 | - | <0.03 | <0.03 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.03 | <0.03 | <0.03 | <0.02 | <0.02 | <0.02 | <0.02 |
| Toluene | 0.04 | mg/kg | 1.4 | - | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 |
| Ethylbenzene | 0.03 | mg/kg | 1.2 | - | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 |
| Xylenes | 0.05 | mg/kg | 1.3 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| C6-C10 (less BTEX) | 3 | mg/kg | - | - | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 |
| >C10-C16 Hydrocarbons | 15 | mg/kg | - | - | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| >C16-C21 Hydrocarbons | 15 | mg/kg | - | - | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| >C21-C32 Hydrocarbons | 15 | mg/kg | - | - | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | 52 | <15 | <15 |
| Modified TPH - Tier I ² | 15 | mg/kg | 15/25/43 | - | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | 52 | <15 | <15 |
| Silica Gel Clean-up ³ | - | - | - | - | - | Yes | - | - | - | - | - | - | Yes | - | Yes | - | - | - | - |
| Resemblance Comment | - | - | - | - | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR | LOF | NR | NR |
| Return to Baseline at C324 | - | - | - | - | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Isobutylbenzene - EPH | - | % | - | - | 98 | 97 | 99 | 93 | 95 | 98 | 98 | 104 | 99 | 114 | 99 | 96 | 87 | 96 | 97 |
| Isobutylbenzene - VPH | - | % | - | - | 79 | 93 | 115 | 82 | 81 | 106 | 105 | 101 | 77 | 93 | 126 | 90 | 84 | 110 | 118 |
| n-Dotriacontane - EPH | - | % | - | - | 107 | 96 | 96 | 91 | 94 | 90 | 104 | 129 | 105 | 122 | 105 | 97 | 89 | 92 | 102 |

- Notes:**
1. Atlantic Risk-Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Surface Water [Freshwater] (2022). Screening level for Gas/Diesel_#2/#6 oil_lube.
 2. Modified TPH = TPH C₆ - C₃₂ (excluding BTEX)
 3. Silica gel cleanup was used to remove organic interferences from sample extract during March, August 2021 events
 4. Atlantic PIRI analytical method does not analyze for >C32. Laboratory certificate indicates (Yes or No) whether chromatogram for each sample returns to baseline after C32. Samples are considered to have returned to baseline if the area from C32-C36 is less than 10% of the area from C10-C32.

"-" = no applicable guideline or not analyzed

RDL = Reported Detection Limit; for all events unless otherwise noted
- RDL for benzene (March, May and August 2021/all other events)

RDL - Reportable Detection Limit

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Resemblance

UC - Unidentified Compounds (identified concentrations of hydrocarbons do not resemble petroleum products; inferred to have a biogenic source).

NR - No resemblance

LOF - Lube Oil Fraction

LR - Lube Range

Table A-6 - Results of Laboratory Analysis of Petroleum Hydrocarbons in Sediment

| Parameters | RDL ¹ | Units | Guideline ¹ | Site 16-SED | | | | | | | | | Site 17-SED | | | | | | | SW-SD*** | |
|------------------------------------|------------------|-------|------------------------|-------------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|-------------|----------|----------|-----------|-----------|-----------|-----------|----------|-----------|
| | | | | 14-Mar-21 | 8-May-21 | 5-Aug-21 | 8-Dec-21 | 30-Mar-22 | 20-Jun-22 | 16-Oct-22 | 25-Jan-23 | 13-Mar-21 | 8-May-21 | 5-Aug-21 | 8-Dec-21 | 30-Mar-22 | 20-Jun-22 | 16-Oct-22 | 24-Jan-23 | | 16-Oct-22 |
| Benzene | 0.03/0.02 | mg/kg | 1.2 | <0.03 | <0.03 | <0.03 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | - | <0.03 | <0.03 | <0.02 | <0.02 | <0.02 | <0.02 | - | <0.001 |
| Toluene | 0.04 | mg/kg | 1.4 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | - | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | - | <0.001 |
| Ethylbenzene | 0.03 | mg/kg | 1.2 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | - | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | - | <0.001 |
| Xylenes | 0.05 | mg/kg | 1.3 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | <0.002 |
| C6-C10 (less BTEX) | 3 | mg/kg | - | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | - | <3 | <3 | <3 | <3 | <3 | <3 | - | <0.01 |
| >C10-C16 Hydrocarbons | 15 | mg/kg | - | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | - | <15 | <15 | <15 | <15 | <15 | <15 | - | <0.05 |
| >C16-C21 Hydrocarbons | 15 | mg/kg | - | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | - | <15 | <15 | <15 | <15 | <15 | <15 | - | <0.05 |
| >C21-C32 Hydrocarbons | 15 | mg/kg | - | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | - | <15 | <15 | 35 | <15 | <15 | <15 | - | <0.1 |
| Modified TPH - Tier I ² | 15 | mg/kg | 15/25/43 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | - | <15 | <15 | 35 | <15 | <15 | <15 | - | <0.1 |
| Silica Gel Clean-up ³ | - | - | - | Yes | - | Yes | - | - | - | - | - | - | - | - | Yes | - | - | - | - | - | - |
| Resemblance Comment | - | - | - | NR | NR | NR | NR | NR | NR | NR | NR | NR | - | NR | NR | UC | NR | NR | NR | - | NR |
| Return to Baseline at C324 | - | - | - | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | - | Yes | Yes | Yes | Yes | Yes | Yes | - | Yes |
| Isobutylbenzene - EPH | - | % | - | 116 | 101 | 101 | 89 | 93 | 95 | 94 | 98 | - | 98 | 118 | 87 | 96 | 96 | 96 | 96 | - | 98 |
| Isobutylbenzene - VPH | - | % | - | 98 | 76 | 91 | 92 | 76 | 76 | 106 | 114 | - | 77 | 91 | 91 | 80 | 80 | 110 | 110 | - | 103 |
| n-Dotriacontane - EPH | - | % | - | 140 | 105 | 112 | 90 | 91 | 95 | 81 | 102 | - | 104 | 127 | 87 | 95 | 96 | 89 | 89 | - | 93 |

- Notes:**
1. Atlantic Risk-Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Surface Water [Freshwater] (2022). Screening level for Gas/Diesel_#2/#6 oil_lube.
 2. Modified TPH = TPH C₆ - C₃₂ (excluding BTEX)
 3. Silica gel cleanup was used to remove organic interferences from sample extract during March, August 2021 events
 4. Atlantic PIRI analytical method does not analyze for >C32. Laboratory certificate indicates (Yes or No) whether chromatogram for each sample returns to baseline after C32. Samples are considered to have returned to baseline if the area from C32-C36 is less than 10% of the area from C10-C32.

"-" = no applicable guideline or not analyzed

RDL = Reported Detection Limit; for all events unless otherwise noted
- RDL for benzene (March, May and August 2021/all other events)

RDL - Reportable Detection Limit

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Resemblance

UC - Unidentified Compounds (identified concentrations of hydrocarbons do not resemble petroleum products; inferred to have a biogenic source).

NR - No resemblance

LOF - Lube Oil Fraction

LR - Lube Range

Table A-6 - Results of Laboratory Analysis of Petroleum Hydrocarbons in Sediment

| Parameters | RDL ¹ | Units | Guideline ¹ | Site 18-SED | | | | | | | | Site 19-SED | | | | | | | |
|------------------------------------|------------------|-------|------------------------|-------------|----------|----------|----------|-----------|-----------|-----------|-----------|-------------|----------|----------|-----------|-----------|-----------|-----------|-----------|
| | | | | 15-Mar-21 | 6-May-21 | 5-Aug-21 | 8-Dec-21 | 29-Mar-22 | 19-Jun-22 | 15-Oct-22 | 27-Jan-23 | 14-Mar-21 | 8-May-21 | 5-Aug-21 | 8-Dec-21 | 29-Mar-22 | 17-Jun-22 | 15-Oct-22 | 25-Jan-23 |
| Benzene | 0.03/0.02 | mg/kg | 1.2 | - | - | - | - | - | <0.02 | - | - | <0.03 | <0.03 | <0.03 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| Toluene | 0.04 | mg/kg | 1.4 | - | - | - | - | - | <0.04 | - | - | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 |
| Ethylbenzene | 0.03 | mg/kg | 1.2 | - | - | - | - | - | <0.03 | - | - | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 |
| Xylenes | 0.05 | mg/kg | 1.3 | - | - | - | - | - | <0.05 | - | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| C6-C10 (less BTEX) | 3 | mg/kg | - | - | - | - | - | - | <3 | - | - | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 |
| >C10-C16 Hydrocarbons | 15 | mg/kg | - | - | - | - | - | - | <15 | - | - | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| >C16-C21 Hydrocarbons | 15 | mg/kg | - | - | - | - | - | - | <15 | - | - | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| >C21-C32 Hydrocarbons | 15 | mg/kg | - | - | - | - | - | - | <15 | - | - | <15 | <15 | <15 | 30 | <15 | 59 | <15 | <15 |
| Modified TPH - Tier I ² | 15 | mg/kg | 15/25/43 | - | - | - | - | - | <15 | - | - | <15 | <15 | <15 | 30 | <15 | 59 | <15 | <15 |
| Silica Gel Clean-up ³ | - | - | - | - | - | - | - | - | - | - | - | Yes | - | Yes | - | - | - | - | - |
| Resemblance Comment | - | - | - | - | - | - | - | - | NR | - | - | NR | NR | NR | UC | NR | LR,UC | NR | NR |
| Return to Baseline at C324 | - | - | - | - | - | - | - | - | Yes | - | - | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Isobutylbenzene - EPH | - | % | - | - | - | - | - | - | 94 | - | - | 105 | 102 | 102 | 93 | 94 | 95 | 98 | 97 |
| Isobutylbenzene - VPH | - | % | - | - | - | - | - | - | 76 | - | - | 98 | 78 | 86 | 120 | 75 | 79 | 95 | 121 |
| n-Dotriacontane - EPH | - | % | - | - | - | - | - | - | 93 | - | - | 131 | 107 | 112 | 99 | 93 | 103 | 93 | 102 |

- Notes:**
1. Atlantic Risk-Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Surface Water [Freshwater] (2022). Screening level for Gas/Diesel_#2/#6 oil_lube.
 2. Modified TPH = TPH C₆ - C₃₂ (excluding BTEX)
 3. Silica gel cleanup was used to remove organic interferences from sample extract during March, August 2021 events
 4. Atlantic PIRI analytical method does not analyze for >C32. Laboratory certificate indicates (Yes or No) whether chromatogram for each sample returns to baseline after C32. Samples are considered to have returned to baseline if the area from C32-C36 is less than 10% of the area from C10-C32.

"-" = no applicable guideline or not analyzed

RDL = Reported Detection Limit; for all events unless otherwise noted
- RDL for benzene (March, May and August 2021/all other events)

RDL - Reportable Detection Limit

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Resemblance

UC - Unidentified Compounds (identified concentrations of hydrocarbons do not resemble petroleum products; inferred to have a biogenic source.

NR - No resemblance

LOF - Lube Oil Fraction

LR - Lube Range

Table A-6 - Results of Laboratory Analysis of Petroleum Hydrocarbons in Sediment

| Parameters | RDL ¹ | Units | Guideline ¹ | SW-SD** | | | | | Site 20-SED | | | | | | | |
|------------------------------------|------------------|-------|------------------------|----------|-----------|-----------|-----------|-----------|-------------|----------|------------|----------|-----------|-----------|-----------|-----------|
| | | | | 5-Aug-21 | 8-Dec-21 | 31-Mar-22 | 17-Jun-22 | 25-Jan-23 | 15-Mar-21 | 5-May-21 | 4-Aug-21 | 3-Dec-21 | 28-Mar-22 | 18-Jun-22 | 15-Oct-22 | 23-Jan-23 |
| Benzene | 0.03/0.02 | mg/kg | 1.2 | <0.03 | <0.02 | <0.02 | <0.02 | <0.02 | <0.03 | <0.03 | <0.03 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| Toluene | 0.04 | mg/kg | 1.4 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 |
| Ethylbenzene | 0.03 | mg/kg | 1.2 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 |
| Xylenes | 0.05 | mg/kg | 1.3 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| C6-C10 (less BTEX) | 3 | mg/kg | - | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 |
| >C10-C16 Hydrocarbons | 15 | mg/kg | - | <15 | <15 | <15 | <15 | <15 | <15 | <15 | 35 | <15 | <15 | <15 | <15 | <15 |
| >C16-C21 Hydrocarbons | 15 | mg/kg | - | <15 | <15 | <15 | <15 | <15 | <15 | <15 | 32 | <15 | <15 | <15 | <15 | <15 |
| >C21-C32 Hydrocarbons | 15 | mg/kg | - | <15 | 44 | <15 | 73 | <15 | <15 | <15 | 37 | <15 | <15 | <15 | <15 | <15 |
| Modified TPH - Tier I ² | 15 | mg/kg | 15/25/43 | <15 | 44 | <15 | 73 | <15 | <15 | <15 | 104 | <15 | <15 | <15 | <15 | <15 |
| Silica Gel Clean-up ³ | - | - | - | Yes | - | - | - | - | Yes | - | Yes | - | - | - | - | - |
| Resemblance Comment | - | - | - | NR | UC | NR | LR,UC | NR | NR | NR | UC | NR | NR | NR | NR | NR |
| Return to Baseline at C324 | - | - | - | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Isobutylbenzene - EPH | - | % | - | 106 | 92 | 95 | 91 | 95 | 105 | 96 | 106 | 98 | 94 | 95 | 97 | 97 |
| Isobutylbenzene - VPH | - | % | - | 92 | 121 | 85 | 81 | 66 | 102 | 82 | 99 | 121 | 80 | 76 | 100 | 66 |
| n-Dotriacontane - EPH | - | % | - | 114 | 99 | 95 | 100 | 100 | 137 | 101 | 121 | 103 | 92 | 95 | 88 | 101 |

- Notes:**
1. Atlantic Risk-Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Surface Water [Freshwater] (2022). Screening level for Gas/Diesel_#2/#6 oil_lube.
 2. Modified TPH = TPH C₆ - C₃₂ (excluding BTEX)
 3. Silica gel cleanup was used to remove organic interferences from sample extract during March, August 2021 events
 4. Atlantic PIRI analytical method does not analyze for >C32. Laboratory certificate indicates (Yes or No) whether chromatogram for each sample returns to baseline after C32. Samples are considered to have returned to baseline if the area from C32-C36 is less than 10% of the area from C10-C32.

"-" = no applicable guideline or not analyzed

RDL = Reported Detection Limit; for all events unless otherwise noted
- RDL for benzene (March, May and August 2021/all other events)

RDL - Reportable Detection Limit

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Resemblance

UC - Unidentified Compounds (identified concentrations of hydrocarbons do not resemble petroleum products; inferred to have a biogenic source).

NR - No resemblance

LOF - Lube Oil Fraction

LR - Lube Range

Table A-6 - Results of Laboratory Analysis of Petroleum Hydrocarbons in Sediment

| Parameters | RDL ¹ | Units | Guideline ¹ | Site 21-SED | | | | | | | | Site 22-SED | | | | | | | |
|------------------------------------|------------------|-------|------------------------|-------------|----------|----------|----------|-----------|-----------|-----------|-----------|-------------|----------|----------|----------|-----------|-----------|-----------|-----------|
| | | | | 15-Mar-21 | 6-May-21 | 4-Aug-21 | 3-Dec-21 | 30-Mar-22 | 21-Jun-22 | 15-Oct-22 | 23-Jan-23 | 15-Mar-21 | 6-May-21 | 4-Aug-21 | 3-Dec-21 | 30-Mar-22 | 21-Jun-22 | 15-Oct-22 | 25-Jan-23 |
| Benzene | 0.03/0.02 | mg/kg | 1.2 | - | <0.03 | <0.03 | <0.02 | - | <0.02 | <0.02 | - | - | - | - | - | - | - | - | - |
| Toluene | 0.04 | mg/kg | 1.4 | - | <0.04 | <0.04 | <0.04 | - | <0.04 | <0.04 | - | - | - | - | - | - | - | - | - |
| Ethylbenzene | 0.03 | mg/kg | 1.2 | - | <0.03 | <0.03 | <0.03 | - | <0.03 | <0.03 | - | - | - | - | - | - | - | - | - |
| Xylenes | 0.05 | mg/kg | 1.3 | - | <0.05 | <0.05 | <0.05 | - | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - |
| C6-C10 (less BTEX) | 3 | mg/kg | - | - | <3 | <3 | <3 | - | <3 | <3 | - | - | - | - | - | - | - | - | - |
| >C10-C16 Hydrocarbons | 15 | mg/kg | - | - | <15 | <15 | <15 | - | <15 | <15 | - | - | - | - | - | - | - | - | - |
| >C16-C21 Hydrocarbons | 15 | mg/kg | - | - | <15 | <15 | <15 | - | <15 | <15 | - | - | - | - | - | - | - | - | - |
| >C21-C32 Hydrocarbons | 15 | mg/kg | - | - | <15 | <15 | <15 | - | <15 | <15 | - | - | - | - | - | - | - | - | - |
| Modified TPH - Tier I ² | 15 | mg/kg | 15/25/43 | - | <15 | <15 | <15 | - | <15 | <15 | - | - | - | - | - | - | - | - | - |
| Silica Gel Clean-up ³ | - | - | - | - | - | Yes | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Resemblance Comment | - | - | - | - | NR | NR | NR | - | NR | NR | - | - | - | - | - | - | - | - | - |
| Return to Baseline at C324 | - | - | - | - | Yes | Yes | Yes | - | Yes | Yes | - | - | - | - | - | - | - | - | - |
| Isobutylbenzene - EPH | - | % | - | - | 100 | 109 | 97 | - | 94 | 96 | - | - | - | - | - | - | - | - | - |
| Isobutylbenzene - VPH | - | % | - | - | 74 | 92 | 123 | - | 79 | 90 | - | - | - | - | - | - | - | - | - |
| n-Dotriacontane - EPH | - | % | - | - | 105 | 120 | 103 | - | 94 | 89 | - | - | - | - | - | - | - | - | - |

Notes:

1. Atlantic Risk-Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Surface Water [Freshwater] (2022). Screening level for Gas/Diesel_#2/#6 oil_lube.

2. Modified TPH = TPH C₆ - C₃₂ (excluding BTEX)

3. Silica gel cleanup was used to remove organic interferences from sample extract during March, August 2021 events

4. Atlantic PIRI analytical method does not analyze for >C32. Laboratory certificate indicates (Yes or No) whether chromatogram for each sample returns to baseline after C32. Samples are considered to have returned to baseline if the area from C32-C36 is less than 10% of the area from C10-C32.

"-" = no applicable guideline or not analyzed

RDL = Reported Detection Limit; for all events unless otherwise noted

- RDL for benzene (March, May and August 2021/all other events)

RDL - Reportable Detection Limit

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Resemblance

UC - Unidentified Compounds (identified concentrations of hydrocarbons do not resemble petroleum products; inferred to have a biogenic source.

NR - No resemblance

LOF - Lube Oil Fraction

LR - Lube Range

Table A-6 - Results of Laboratory Analysis of Petroleum Hydrocarbons in Sediment

| Parameters | RDL ¹ | Units | Guideline ¹ | Site 23-SED | | | | | | | | Site 24-SED | | | | | | | |
|------------------------------------|------------------|-------|------------------------|-------------|----------|----------|----------|-----------|-----------|-----------|-----------|-------------|----------|----------|----------|-----------|-----------|-----------|-----------|
| | | | | 15-Mar-21 | 6-May-21 | 4-Aug-21 | 3-Dec-21 | 30-Mar-22 | 19-Jun-22 | 15-Oct-22 | 27-Jan-23 | 15-Mar-21 | 6-May-21 | 4-Aug-21 | 3-Dec-21 | 30-Mar-22 | 19-Jun-22 | 15-Oct-22 | 27-Jan-23 |
| Benzene | 0.03/0.02 | mg/kg | 1.2 | - | - | - | - | - | <0.02 | - | <0.02 | - | - | - | - | - | <0.02 | - | <0.02 |
| Toluene | 0.04 | mg/kg | 1.4 | - | - | - | - | - | <0.04 | - | <0.04 | - | - | - | - | - | <0.04 | - | <0.04 |
| Ethylbenzene | 0.03 | mg/kg | 1.2 | - | - | - | - | - | <0.03 | - | 0.09 | - | - | - | - | - | <0.03 | - | <0.03 |
| Xylenes | 0.05 | mg/kg | 1.3 | - | - | - | - | - | <0.05 | - | 0.42 | - | - | - | - | - | <0.05 | - | <0.05 |
| C6-C10 (less BTEX) | 3 | mg/kg | - | - | - | - | - | - | <3 | - | <3 | - | - | - | - | - | <3 | - | <3 |
| >C10-C16 Hydrocarbons | 15 | mg/kg | - | - | - | - | - | - | <15 | - | <15 | - | - | - | - | - | <15 | - | <15 |
| >C16-C21 Hydrocarbons | 15 | mg/kg | - | - | - | - | - | - | <15 | - | <15 | - | - | - | - | - | <15 | - | <15 |
| >C21-C32 Hydrocarbons | 15 | mg/kg | - | - | - | - | - | - | <15 | - | <15 | - | - | - | - | - | <15 | - | 56 |
| Modified TPH - Tier I ² | 15 | mg/kg | 15/25/43 | - | - | - | - | - | <15 | - | <15 | - | - | - | - | - | <15 | - | 56 |
| Silica Gel Clean-up ³ | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Resemblance Comment | - | - | - | - | - | - | - | - | NR | - | NR | - | - | - | - | - | NR | - | LOF |
| Return to Baseline at C324 | - | - | - | - | - | - | - | - | Yes | - | Yes | - | - | - | - | - | Yes | - | No |
| Isobutylbenzene - EPH | - | % | - | - | - | - | - | - | 93 | - | 100 | - | - | - | - | - | 96 | - | 97 |
| Isobutylbenzene - VPH | - | % | - | - | - | - | - | - | 85 | - | 70 | - | - | - | - | - | 78 | - | 73 |
| n-Dotriacontane - EPH | - | % | - | - | - | - | - | - | 93 | - | 104 | - | - | - | - | - | 97 | - | 104 |

Notes:

1. Atlantic Risk-Based Corrective Action (ARBCA) - Ecological Tier I Environmental Quality Standards (EQS) for Surface Water [Freshwater] (2022). Screening level for Gas/Diesel_#2/#6 oil_lube.

2. Modified TPH = TPH C₆ - C₃₂ (excluding BTEX)

3. Silica gel cleanup was used to remove organic interferences from sample extract during March, August 2021 events

4. Atlantic PIRI analytical method does not analyze for >C32. Laboratory certificate indicates (Yes or No) whether chromatogram for each sample returns to baseline after C32. Samples are considered to have returned to baseline if the area from C32-C36 is less than 10% of the area from C10-C32.

"-" = no applicable guideline or not analyzed

RDL = Reported Detection Limit; for all events unless otherwise noted

- RDL for benzene (March, May and August 2021/all other events)

RDL - Reportable Detection Limit

Site 10 field duplicate samples SW-SD* (for events March 2021 and May 2021, duplicate sample referred to as SD-SW in laboratory certificate, events June 2022 and October 2022 referred to as SW-SD-02 and January 2023 referred to as SW-SW-01 in laboratory certificates). Site 19 field duplicate samples SW-SD** (for August and December 2021 and March 2022, duplicate samples referred to as SD-SW in laboratory certificate, for June 2022 duplicate sample referred to as SW-SD-01 and for January 2023, duplicate sample referred to as SW-SD-02 in laboratory reports). Site 17 field duplicate samples SW-SD*** (for October 2023 event, duplicate sample referred to as SW-SD-01 in laboratory certificate).

Bolded/Shaded = Value exceeds guideline

Resemblance

UC - Unidentified Compounds (identified concentrations of hydrocarbons do not resemble petroleum products; inferred to have a biogenic source.

NR - No resemblance

LOF - Lube Oil Fraction

LR - Lube Range



APPENDIX B

Laboratory Analytical Certificates

CLIENT NAME: GEMTEC LIMITED
10 Maverick Place
Paradise, NL A1L 1Y8
709722-2275

ATTENTION TO: Darrol Rice

PROJECT: 100424.001

AGAT WORK ORDER: 21K723100

SOIL ANALYSIS REVIEWED BY: Marta Manka, Data Reporter

TRACE ORGANICS REVIEWED BY: Amy Hunter, Trace Organics Supervisor, B.Sc.

WATER ANALYSIS REVIEWED BY: Marta Manka, Data Reporter

DATE REPORTED: Mar 29, 2021

PAGES (INCLUDING COVER): 33

VERSION*: 1

Should you require any information regarding this analysis please contact your client services representative at (709)747-8573

*Notes

Disclaimer:

- All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.
- All samples will be disposed of within 30 days following analysis, unless expressly agreed otherwise in writing. Please contact your Client Project Manager if you require additional sample storage time.
- AGAT's liability in connection with any delay, performance or non-performance of these services is only to the Client and does not extend to any other third party. Unless expressly agreed otherwise in writing, AGAT's liability is limited to the actual cost of the specific analysis or analyses included in the services.
- This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
- The test results reported herewith relate only to the samples as received by the laboratory.
- Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to, warranties of merchantability, fitness for a particular purpose, or non-infringement. AGAT assumes no responsibility for any errors or omissions in the guidelines contained in this document.
- All reportable information as specified by ISO/IEC 17025:2017 is available from AGAT Laboratories upon request.



Certificate of Analysis

AGAT WORK ORDER: 21K723100

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Available Metals in Soil

DATE RECEIVED: 2021-03-18

DATE REPORTED: 2021-03-29

| Parameter | Unit | SAMPLE DESCRIPTION: | | SITE 4-SED | SITE 8-SED | SITE 15-SED | SITE 16-SED | SITE 10-SED | SITE 9-SED | SITE 2-SED | SITE 19-SED | |
|------------|-------|---------------------|-------|------------|------------|-------------|-------------|-------------------|------------|------------|-------------|------------|
| | | SAMPLE TYPE: | | Soil | Soil | Soil | Soil | (NOT IN SHIPMENT) | Soil | Soil | Soil | |
| | | DATE SAMPLED: | | 2021-03-12 | 2021-03-12 | 2021-03-13 | 2021-03-14 | 2021-03-14 | 2021-03-14 | 2021-03-14 | 2021-03-14 | 2021-03-14 |
| | | G / S | RDL | 2234713 | 2234715 | 2234716 | 2234718 | 2234719 | 2234720 | 2234722 | 2234723 | |
| Aluminum | mg/kg | 10 | 15200 | 15500 | 24900 | 21900 | 22700 | 24100 | 22600 | 28400 | | |
| Antimony | mg/kg | 1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | | |
| Arsenic | mg/kg | 1 | 80 | 69 | 30 | 41 | 16 | 9 | 91 | 16 | | |
| Barium | mg/kg | 5 | 29 | 109 | 8 | 22 | 13 | 8 | 41 | 14 | | |
| Beryllium | mg/kg | 2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | | |
| Boron | mg/kg | 2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | | |
| Cadmium | mg/kg | 0.3 | <0.3 | <0.3 | <0.3 | <0.3 | <0.3 | <0.3 | <0.3 | <0.3 | | |
| Chromium | mg/kg | 2 | 21 | 23 | 41 | 60 | 37 | 42 | 30 | 41 | | |
| Cobalt | mg/kg | 1 | 12 | 20 | 16 | 24 | 23 | 19 | 25 | 19 | | |
| Copper | mg/kg | 2 | 6 | 16 | 18 | 12 | 14 | 8 | 7 | 6 | | |
| Iron | mg/kg | 50 | 31000 | 36600 | 53900 | 43800 | 38100 | 39800 | 53600 | 44500 | | |
| Lead | mg/kg | 0.5 | 5.4 | 8.3 | 12.2 | 6.7 | 8.0 | 3.6 | 6.2 | 3.5 | | |
| Lithium | mg/kg | 5 | 36 | 33 | 73 | 79 | 68 | 64 | 53 | 84 | | |
| Manganese | mg/kg | 2 | 2410 | 7680 | 916 | 3460 | 2000 | 1110 | 7430 | 3080 | | |
| Molybdenum | mg/kg | 2 | 2 | 2 | <2 | <2 | <2 | <2 | 5 | <2 | | |
| Nickel | mg/kg | 2 | 43 | 52 | 58 | 77 | 71 | 66 | 59 | 59 | | |
| Selenium | mg/kg | 1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | | |
| Silver | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | | |
| Strontium | mg/kg | 5 | 17 | 13 | 6 | 10 | 7 | 8 | 12 | 9 | | |
| Thallium | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | | |
| Tin | mg/kg | 2 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | |
| Uranium | mg/kg | 0.1 | 0.7 | 0.6 | 0.4 | 0.5 | 0.4 | 0.3 | 0.5 | 0.4 | | |
| Vanadium | mg/kg | 2 | 23 | 25 | 31 | 29 | 27 | 31 | 32 | 33 | | |
| Zinc | mg/kg | 5 | 80 | 112 | 84 | 107 | 93 | 90 | 120 | 98 | | |

Certified By:

Marla Manka



Certificate of Analysis

AGAT WORK ORDER: 21K723100

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Available Metals in Soil

DATE RECEIVED: 2021-03-18

DATE REPORTED: 2021-03-29

| Parameter | Unit | SAMPLE DESCRIPTION: | | SITE 11-SED | SITE 20-SED | SD-SED |
|------------|-------|---------------------|-------|-------------|-------------|------------|
| | | SAMPLE TYPE: | | Soil | Soil | Soil |
| | | DATE SAMPLED: | | 2021-03-15 | 2021-03-15 | 2021-03-15 |
| | | G / S | RDL | 2234724 | 2234725 | 2235034 |
| Aluminum | mg/kg | 10 | 17600 | 2400 | 23100 | |
| Antimony | mg/kg | 1 | <1 | <1 | <1 | |
| Arsenic | mg/kg | 1 | 35 | 11 | 16 | |
| Barium | mg/kg | 5 | 24 | 18 | 13 | |
| Beryllium | mg/kg | 2 | <2 | <2 | <2 | |
| Boron | mg/kg | 2 | <2 | <2 | <2 | |
| Cadmium | mg/kg | 0.3 | <0.3 | <0.3 | <0.3 | |
| Chromium | mg/kg | 2 | 24 | 78 | 38 | |
| Cobalt | mg/kg | 1 | 18 | 20 | 23 | |
| Copper | mg/kg | 2 | 24 | 11 | 17 | |
| Iron | mg/kg | 50 | 38800 | 39800 | 37900 | |
| Lead | mg/kg | 0.5 | 9.7 | 3.9 | 7.1 | |
| Lithium | mg/kg | 5 | 39 | 64 | 66 | |
| Manganese | mg/kg | 2 | 2430 | 1380 | 1950 | |
| Molybdenum | mg/kg | 2 | <2 | <2 | <2 | |
| Nickel | mg/kg | 2 | 38 | 122 | 77 | |
| Selenium | mg/kg | 1 | <1 | <1 | <1 | |
| Silver | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | |
| Strontium | mg/kg | 5 | 6 | 11 | 7 | |
| Thallium | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | |
| Tin | mg/kg | 2 | 3 | 3 | 3 | |
| Uranium | mg/kg | 0.1 | 0.6 | 0.5 | 0.4 | |
| Vanadium | mg/kg | 2 | 25 | 31 | 27 | |
| Zinc | mg/kg | 5 | 64 | 93 | 95 | |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

2234713-2235034 Results are based on the dry weight of the sample.

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:

Marla Manka



Certificate of Analysis

AGAT WORK ORDER: 21K723100

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
 St. John's, NL
 CANADA A1E 6A8
 TEL (709)747-8573
 FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Mercury in Soil

DATE RECEIVED: 2021-03-18

DATE REPORTED: 2021-03-29

| Parameter | Unit | SITE 10-SED (NOT IN SHIPMENT) | | | | | | | | | |
|-----------|-------|-------------------------------|-------|------------|------------|-------------|-------------|------------|------------|-------------|---------|
| | | SAMPLE DESCRIPTION: | | SITE 4-SED | SITE 8-SED | SITE 15-SED | SITE 16-SED | SITE 9-SED | SITE 2-SED | SITE 19-SED | |
| | | SAMPLE TYPE: | | Soil | Soil | Soil | Soil | Soil | Soil | Soil | |
| | | G / S | RDL | 2234713 | 2234715 | 2234716 | 2234718 | 2234719 | 2234720 | 2234722 | 2234723 |
| Mercury | mg/kg | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |

| Parameter | Unit | SITE 11-SED | | | SITE 20-SED | | SD-SED |
|-----------|-------|---------------------|-------|---------|-------------|---------|--------|
| | | SAMPLE DESCRIPTION: | | Soil | Soil | Soil | |
| | | SAMPLE TYPE: | | Soil | Soil | Soil | |
| | | G / S | RDL | 2234724 | 2234725 | 2235034 | |
| Mercury | mg/kg | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard
 2234713-2235034 Results are based on the dry weight of the soil.
 Analysis performed at AGAT Halifax (unless marked by *)

Certified By:

Marla Manka



Certificate of Analysis

AGAT WORK ORDER: 21K723100

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Soil (Version 3.0) + 1X Silica Gel

DATE RECEIVED: 2021-03-18

DATE REPORTED: 2021-03-29

| Parameter | Unit | SITE 10-SED (NOT IN SHIPMENT) | |
|---------------------------------------|-------|----------------------------------|---------|
| | | G / S | RDL |
| | | | 2234719 |
| Benzene | mg/kg | 0.03 | <0.03 |
| Toluene | mg/kg | 0.04 | <0.04 |
| Ethylbenzene | mg/kg | 0.03 | <0.03 |
| Xylene (Total) | mg/kg | 0.05 | <0.05 |
| C6-C10 (less BTEX) | mg/kg | 3 | <3 |
| >C10-C16 Hydrocarbons - 1X silica gel | mg/kg | 15 | <15 |
| >C16-C21 Hydrocarbons - 1X silica gel | mg/kg | 15 | <15 |
| >C21-C32 Hydrocarbons - 1X silica gel | mg/kg | 15 | <15 |
| Modified TPH (Tier 1) - 1X silica gel | mg/kg | 15 | <15 |
| Resemblance Comment | | | NR |
| Return to Baseline at C32 | | | Y |
| Silica Gel Cleanup | | | Y |
| Surrogate | Unit | Acceptable Limits | |
| Isobutylbenzene - EPH | % | 60-140 | 105 |
| Isobutylbenzene - VPH | % | 60-140 | 102 |
| n-Dotriacontane - EPH | % | 60-140 | 132 |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K723100

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709)747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Soil (Version 3.0) + 1X Silica Gel

DATE RECEIVED: 2021-03-18

DATE REPORTED: 2021-03-29

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard
2234719 Modified TPH, Xylene(Total)and C6-C10(less BTEX) are calculated parameters. The calculated parameter is non-accredited. The component parameters of the calculation are accredited.

Sample was not field preserved for VPH when received at the laboratory. Analytical results for VPH parameters should be regarded as minimum values.

Results are based on the dry weight of the soil.

- Resemblance Comment Key:
- GF - Gasoline Fraction
 - WGF - Weathered Gasoline Fraction
 - GR - Product in Gasoline Range
 - FOF - Fuel Oil Fraction
 - WFOF - Weathered Fuel Oil Fraction
 - FR - Product in Fuel Oil Range
 - LOF - Lube Oil Fraction
 - LR - Lube Range
 - UC - Unidentified Compounds
 - NR - No Resemblance
 - NA - Not Applicable

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K723100

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Soil (Version 3.1) - Field Preserved + 1X Silica Gel

DATE RECEIVED: 2021-03-18

DATE REPORTED: 2021-03-29

| Parameter | Unit | SAMPLE DESCRIPTION: | | SITE 4-SED | SITE 8-SED | SITE 15-SED | SITE 16-SED | SITE 9-SED | SITE 2-SED | SITE 19-SED | SITE 11-SED | |
|---------------------------------------|-------|---------------------|-------|------------|------------|-------------|-------------|------------|------------|-------------|-------------|------------|
| | | SAMPLE TYPE: | | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | |
| | | DATE SAMPLED: | | 2021-03-12 | 2021-03-12 | 2021-03-13 | 2021-03-14 | 2021-03-14 | 2021-03-14 | 2021-03-14 | 2021-03-14 | 2021-03-15 |
| | | G / S | RDL | 2234713 | 2234715 | 2234716 | 2234718 | 2234720 | 2234722 | 2234723 | 2234724 | |
| Benzene | mg/kg | 0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | |
| Toluene | mg/kg | 0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | |
| Ethylbenzene | mg/kg | 0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | |
| Xylene (Total) | mg/kg | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | |
| C6-C10 (less BTEX) | mg/kg | 3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | |
| >C10-C16 Hydrocarbons - 1X silica gel | mg/kg | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | |
| >C16-C21 Hydrocarbons - 1X silica gel | mg/kg | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | |
| >C21-C32 Hydrocarbons - 1X silica gel | mg/kg | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | |
| Modified TPH (Tier 1) - 1X silica gel | mg/kg | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | |
| Resemblance Comment | | | NR | NR | NR | NR | NR | NR | NR | NR | NR | |
| Return to Baseline at C32 | | | Y | Y | Y | Y | Y | Y | Y | Y | Y | |
| Silica Gel Cleanup | | | Y | Y | Y | Y | Y | Y | Y | Y | Y | |
| Surrogate | Unit | Acceptable Limits | | | | | | | | | | |
| Isobutylbenzene - EPH | % | 60-140 | | 105 | 104 | 104 | 116 | 106 | 104 | 105 | 104 | |
| Isobutylbenzene - VPH | % | 60-140 | | 101 | 104 | 101 | 98 | 96 | 97 | 98 | 103 | |
| n-Dotriacontane - EPH | % | 60-140 | | 125 | 127 | 129 | 140 | 128 | 126 | 131 | 125 | |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K723100

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
 St. John's, NL
 CANADA A1E 6A8
 TEL (709)747-8573
 FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Soil (Version 3.1) - Field Preserved + 1X Silica Gel

DATE RECEIVED: 2021-03-18

DATE REPORTED: 2021-03-29

| Parameter | Unit | SAMPLE DESCRIPTION: | | SITE 20-SED | SD-SED |
|---------------------------------------|-------|---------------------|-------|-------------|------------|
| | | G / S | RDL | 2021-03-15 | 2021-03-15 |
| Benzene | mg/kg | 0.03 | <0.03 | <0.03 | <0.03 |
| Toluene | mg/kg | 0.04 | <0.04 | <0.04 | <0.04 |
| Ethylbenzene | mg/kg | 0.03 | <0.03 | <0.03 | <0.03 |
| Xylene (Total) | mg/kg | 0.05 | <0.05 | <0.05 | <0.05 |
| C6-C10 (less BTEX) | mg/kg | 3 | <3 | <3 | <3 |
| >C10-C16 Hydrocarbons - 1X silica gel | mg/kg | 15 | <15 | <15 | <15 |
| >C16-C21 Hydrocarbons - 1X silica gel | mg/kg | 15 | <15 | <15 | <15 |
| >C21-C32 Hydrocarbons - 1X silica gel | mg/kg | 15 | <15 | <15 | <15 |
| Modified TPH (Tier 1) - 1X silica gel | mg/kg | 15 | <15 | <15 | <15 |
| Resemblance Comment | | | NR | NR | |
| Return to Baseline at C32 | | | Y | Y | |
| Silica Gel Cleanup | | | Y | Y | |
| Surrogate | Unit | Acceptable Limits | | | |
| Isobutylbenzene - EPH | % | 60-140 | 105 | 106 | |
| Isobutylbenzene - VPH | % | 60-140 | 102 | 97 | |
| n-Dotriacontane - EPH | % | 60-140 | 137 | 127 | |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K723100

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Soil (Version 3.1) - Field Preserved + 1X Silica Gel

DATE RECEIVED: 2021-03-18

DATE REPORTED: 2021-03-29

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

2234713-2235034 Modified TPH, Xylene(Total)and C6-C10(less BTEX) are calculated parameters. The calculated parameter is non-accredited. The component parameters of the calculation are accredited.

Results are based on the dry weight of the soil.

- Resemblance Comment Key:
- GF - Gasoline Fraction
- WGF - Weathered Gasoline Fraction
- GR - Product in Gasoline Range
- FOF - Fuel Oil Fraction
- WFOF - Weathered Fuel Oil Fraction
- FR - Product in Fuel Oil Range
- LOF - Lube Oil Fraction
- LR - Lube Range
- UC - Unidentified Compounds
- NR - No Resemblance
- NA - Not Applicable

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K723100

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Water (Version 3.1)

DATE RECEIVED: 2021-03-18

DATE REPORTED: 2021-03-29

| Parameter | Unit | SAMPLE DESCRIPTION: | | Site 6-SW | Site 4-SW | Site 7-SW | Site 8-SW | Site 15-SW | Site 17-SW | Site 16-SW | Site 10-SW |
|---------------------------|------|---------------------|--------|------------|------------|------------|------------|------------|------------|------------|------------|
| | | SAMPLE TYPE: | | Water | Water | Water | Water | Water | Water | Water | Water |
| | | DATE SAMPLED: | | 2021-03-12 | 2021-03-12 | 2021-03-12 | 2021-03-12 | 2021-03-13 | 2021-03-13 | 2021-03-14 | 2021-03-14 |
| | | G / S | RDL | 2234379 | 2234671 | 2234672 | 2234673 | 2234674 | 2234675 | 2234676 | 2234677 |
| Benzene | mg/L | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Toluene | mg/L | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Ethylbenzene | mg/L | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Xylene (Total) | mg/L | 0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| C6-C10 (less BTEX) | mg/L | 0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| >C10-C16 Hydrocarbons | mg/L | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | 0.06 | 0.05 | 0.05 | 0.05 |
| >C16-C21 Hydrocarbons | mg/L | 0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | 0.17 | 0.14 | 0.15 | 0.14 |
| >C21-C32 Hydrocarbons | mg/L | 0.1 | 0.2 | 0.2 | <0.1 | <0.1 | <0.1 | 0.3 | 0.3 | 0.3 | 0.3 |
| Modified TPH (Tier 1) | mg/L | 0.1 | 0.2 | 0.2 | <0.1 | <0.1 | <0.1 | 0.5 | 0.5 | 0.5 | 0.5 |
| Sediment | | | NO | NO | NO | NO | NO | NO | TRACE | TRACE | TRACE |
| Resemblance Comment | | | LR | LR | NR | NR | NR | WFOF, LR | WFOF, LR | WFOF, LR | WFOF, LR |
| Return to Baseline at C32 | | | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| Surrogate | Unit | Acceptable Limits | | | | | | | | | |
| Isobutylbenzene - EPH | % | 70-130 | | 108 | 110 | 113 | 117 | 106 | 100 | 100 | 95 |
| Isobutylbenzene - VPH | % | 70-130 | | 109 | 105 | 101 | 106 | 103 | 101 | 100 | 99 |
| n-Dotriacontane - EPH | % | 70-130 | | 103 | 103 | 108 | 117 | 100 | 91 | 88 | 84 |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K723100

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Water (Version 3.1)

DATE RECEIVED: 2021-03-18

DATE REPORTED: 2021-03-29

| Parameter | Unit | SAMPLE DESCRIPTION: | | Site 9-SW | Site 5-SW | Site 2-SW | Site 19-SW | Site 11-SW | Site 20-SW | SD-SW |
|---------------------------|------|---------------------|--------|------------|------------|------------|------------|------------|------------|------------|
| | | SAMPLE TYPE: | | Water | Water | Water | Water | Water | Water | Water |
| | | DATE SAMPLED: | | 2021-03-14 | 2021-03-14 | 2021-03-14 | 2021-03-14 | 2021-03-15 | 2021-03-15 | 2021-03-12 |
| | | G / S | RDL | 2234678 | 2234679 | 2234680 | 2234681 | 2234682 | 2234683 | 2235032 |
| Benzene | mg/L | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Toluene | mg/L | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Ethylbenzene | mg/L | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Xylene (Total) | mg/L | 0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| C6-C10 (less BTEX) | mg/L | 0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| >C10-C16 Hydrocarbons | mg/L | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C16-C21 Hydrocarbons | mg/L | 0.10 | <0.10 | 0.10 | 0.11 | 0.14 | 0.14 | 0.12 | <0.10 | <0.10 |
| >C21-C32 Hydrocarbons | mg/L | 0.1 | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 | 0.3 | 0.2 | 0.2 |
| Modified TPH (Tier 1) | mg/L | 0.1 | 0.2 | 0.3 | 0.3 | 0.4 | 0.4 | 0.4 | 0.2 | 0.2 |
| Sediment | | | TRACE | TRACE | NO | NO | NO | TRACE | TRACE | TRACE |
| Resemblance Comment | | | LR | WFOF, LR | WFOF, LR | WFOF, LR | WFOF, LR | WFOF, LR | LR | LR |
| Return to Baseline at C32 | | | Y | Y | Y | Y | Y | Y | Y | Y |
| Surrogate | Unit | Acceptable Limits | | | | | | | | |
| Isobutylbenzene - EPH | % | 70-130 | | 119 | 119 | 99 | 88 | 115 | 85 | 102 |
| Isobutylbenzene - VPH | % | 70-130 | | 104 | 98 | 102 | 100 | 104 | 99 | 101 |
| n-Dotriacontane - EPH | % | 70-130 | | 113 | 107 | 92 | 80 | 92 | 81 | 95 |

Certified By:



AGAT Laboratories

Certificate of Analysis

AGAT WORK ORDER: 21K723100

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Water (Version 3.1)

DATE RECEIVED: 2021-03-18

DATE REPORTED: 2021-03-29

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

2234379-2235032 Modified TPH, Xylene(Total)and C6-C10(less BTEX) are calculated parameters. The calculated parameter is non-accredited. The component parameters of the calculation are accredited.

Sediment parameter is comment only based on visual inspection of the sample prior to extraction and is not an accredited test.

- Resemblance Comment Key:
- GF - Gasoline Fraction
 - WGF - Weathered Gasoline Fraction
 - GR - Product in Gasoline Range
 - FOF - Fuel Oil Fraction
 - WFOF - Weathered Fuel Oil Fraction
 - FR - Product in Fuel Oil Range
 - LOF - Lube Oil Fraction
 - LR - Lube Range
 - UC - Unidentified Compounds
 - NR - No Resemblance
 - NA - Not Applicable

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K723100

PROJECT: 100424.001

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 CANADA A1E 6A8
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 FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Moisture

DATE RECEIVED: 2021-03-18

DATE REPORTED: 2021-03-29

| Parameter | Unit | SITE 10-SED (NOT IN SHIPMENT) | | | | | | | | | |
|------------|------|-------------------------------|-----|------------|-------------|-------------|-------------|------------|------------|-------------|------------|
| | | SAMPLE DESCRIPTION: | | SITE 4-SED | SITE 8-SED | SITE 15-SED | SITE 16-SED | SITE 9-SED | SITE 2-SED | SITE 19-SED | |
| | | SAMPLE TYPE: | | Soil | Soil | Soil | Soil | Soil | Soil | Soil | |
| | | DATE SAMPLED: | | 2021-03-12 | 2021-03-12 | 2021-03-13 | 2021-03-14 | 2021-03-14 | 2021-03-14 | 2021-03-14 | 2021-03-14 |
| | | G / S | RDL | 2234713 | 2234715 | 2234716 | 2234718 | 2234719 | 2234720 | 2234722 | 2234723 |
| % Moisture | % | | 0.5 | 9.0 | 18 | 16 | 11 | 11 | 19 | 28 | 36 |
| Parameter | Unit | SAMPLE DESCRIPTION: | | | SITE 11-SED | SITE 20-SED | SD-SED | | | | |
| | | SAMPLE TYPE: | | | Soil | Soil | Soil | | | | |
| | | DATE SAMPLED: | | | 2021-03-15 | 2021-03-15 | 2021-03-15 | | | | |
| | | | | | 2234724 | 2234725 | 2235034 | | | | |
| % Moisture | % | | 0.5 | 24 | 27 | 11 | | | | | |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard
 Analysis performed at AGAT Halifax (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K723100

PROJECT: 100424.001

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 St. John's, NL
 CANADA A1E 6A8
 TEL (709)747-8573
 FAX (709 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Mercury Analysis in Water (Total)

DATE RECEIVED: 2021-03-18

DATE REPORTED: 2021-03-29

| Parameter | Unit | SAMPLE DESCRIPTION: | | Site 6-SW | Site 4-SW | Site 7-SW | Site 8-SW | Site 15-SW | Site 17-SW | Site 16-SW | Site 10-SW |
|---------------|------|---------------------|--------|------------|------------|------------|------------|------------|------------|------------|------------|
| | | G / S | RDL | Water | Water | Water | Water | Water | Water | Water | Water |
| | | DATE SAMPLED: | | 2021-03-12 | 2021-03-12 | 2021-03-12 | 2021-03-12 | 2021-03-13 | 2021-03-13 | 2021-03-14 | 2021-03-14 |
| Total Mercury | ug/L | 0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 |
| Parameter | Unit | SAMPLE DESCRIPTION: | | Site 9-SW | Site 5-SW | Site 2-SW | Site 19-SW | Site 11-SW | Site 20-SW | SD-SW | |
| | | G / S | RDL | Water | Water | Water | Water | Water | Water | Water | |
| | | DATE SAMPLED: | | 2021-03-14 | 2021-03-14 | 2021-03-14 | 2021-03-14 | 2021-03-15 | 2021-03-15 | 2021-03-12 | |
| Total Mercury | ug/L | 0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard
 Analysis performed at AGAT Halifax (unless marked by *)

Certified By:

Marla Manka



Certificate of Analysis

AGAT WORK ORDER: 21K723100

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals

DATE RECEIVED: 2021-03-18

DATE REPORTED: 2021-03-29

| Parameter | Unit | SAMPLE DESCRIPTION: | | Site 6-SW | Site 4-SW | Site 7-SW | Site 8-SW | Site 15-SW | Site 17-SW | Site 16-SW | Site 10-SW |
|-------------------------------|---------|---------------------|------|------------|------------|------------|------------|------------|------------|------------|------------|
| | | SAMPLE TYPE: | | Water | Water | Water | Water | Water | Water | Water | Water |
| | | DATE SAMPLED: | | 2021-03-12 | 2021-03-12 | 2021-03-12 | 2021-03-12 | 2021-03-13 | 2021-03-13 | 2021-03-14 | 2021-03-14 |
| | | G / S | RDL | 2234379 | 2234671 | 2234672 | 2234673 | 2234674 | 2234675 | 2234676 | 2234677 |
| pH | | | | 6.73 | 6.62 | 5.70 | 6.67 | 6.42 | 6.23 | 5.72 | 6.32 |
| Reactive Silica as SiO2 | mg/L | | 0.5 | 3.1 | 4.3 | 3.6 | 3.5 | 3.7 | 4.4 | 4.8 | 4.3 |
| Chloride | mg/L | | 1 | 25 | 9 | 4 | 40 | 12 | 7 | 3 | 35 |
| Fluoride | mg/L | | 0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 |
| Sulphate | mg/L | | 2 | 4 | 2 | <2 | 3 | <2 | <2 | <2 | 2 |
| Alkalinity | mg/L | | 5 | 12 | 9 | <5 | 8 | 7 | 6 | <5 | 5 |
| True Color | TCU | | 5.00 | 22.3 | 14.9 | 25.5 | 17.7 | 38.1 | 62.4 | 78.8 | 30.7 |
| Turbidity | NTU | | 0.5 | 1.7 | 1.2 | 0.8 | 0.9 | 0.8 | 1.8 | 0.8 | 1.6 |
| Electrical Conductivity | umho/cm | | 1 | 125 | 64 | 33 | 158 | 66 | 46 | 31 | 140 |
| Nitrate + Nitrite as N | mg/L | | 0.05 | 0.40 | 0.55 | 0.44 | 0.16 | 0.23 | 0.34 | 0.58 | 0.42 |
| Nitrate as N | mg/L | | 0.05 | 0.40 | 0.55 | 0.44 | 0.16 | 0.23 | 0.34 | 0.58 | 0.42 |
| Nitrite as N | mg/L | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Ammonia as N | mg/L | | 0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 |
| Total Organic Carbon | mg/L | | 0.5 | 7.4 | 5.5 | 8.7 | 6.1 | 8.3 | 11.4 | 8.2 | 7.5 |
| Ortho-Phosphate as P | mg/L | | 0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 0.01 | 0.01 | 0.01 |
| Total Sodium | mg/L | | 0.1 | 15.1 | 6.6 | 3.0 | 28.5 | 8.2 | 4.8 | 2.6 | 17.5 |
| Total Potassium | mg/L | | 0.1 | 0.3 | 0.3 | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 | 0.3 |
| Total Calcium | mg/L | | 0.1 | 6.7 | 4.2 | 2.4 | 4.8 | 2.1 | 1.8 | 1.7 | 3.4 |
| Total Magnesium | mg/L | | 0.1 | 1.6 | 1.2 | 0.7 | 1.4 | 1.8 | 1.4 | 1.0 | 1.8 |
| Bicarb. Alkalinity (as CaCO3) | mg/L | | 5 | 12 | 9 | <5 | 8 | 7 | 6 | <5 | 5 |
| Carb. Alkalinity (as CaCO3) | mg/L | | 10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| Hydroxide | mg/L | | 5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| Calculated TDS | mg/L | | 1 | 62 | 31 | 13 | 84 | 30 | 21 | 12 | 66 |
| Hardness | mg/L | | | 23.3 | 15.4 | 8.9 | 17.8 | 12.7 | 10.3 | 8.4 | 15.9 |
| Langelier Index (@20C) | NA | | | -2.93 | -3.34 | -4.73 | -3.33 | -3.95 | -4.26 | -4.86 | -4.02 |
| Langelier Index (@ 4C) | NA | | | -3.25 | -3.66 | -5.05 | -3.65 | -4.27 | -4.58 | -5.18 | -4.34 |
| Saturation pH (@ 20C) | NA | | | 9.66 | 9.96 | 10.4 | 10.0 | 10.4 | 10.5 | 10.6 | 10.3 |
| Saturation pH (@ 4C) | NA | | | 9.98 | 10.3 | 10.8 | 10.3 | 10.7 | 10.8 | 10.9 | 10.7 |
| Anion Sum | me/L | | | 1.06 | 0.51 | 0.14 | 1.36 | 0.49 | 0.34 | 0.13 | 1.16 |
| Cation sum | me/L | | | 1.15 | 0.62 | 0.34 | 1.61 | 0.64 | 0.45 | 0.32 | 1.12 |

Certified By:

Marla Manka



Certificate of Analysis

AGAT WORK ORDER: 21K723100

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals

DATE RECEIVED: 2021-03-18

DATE REPORTED: 2021-03-29

| Parameter | Unit | SAMPLE DESCRIPTION: | | Site 6-SW | Site 4-SW | Site 7-SW | Site 8-SW | Site 15-SW | Site 17-SW | Site 16-SW | Site 10-SW |
|---------------------------|------|---------------------|-----|------------|------------|------------|------------|------------|------------|------------|------------|
| | | SAMPLE TYPE: | | Water | Water | Water | Water | Water | Water | Water | Water |
| | | DATE SAMPLED: | | 2021-03-12 | 2021-03-12 | 2021-03-12 | 2021-03-12 | 2021-03-13 | 2021-03-13 | 2021-03-14 | 2021-03-14 |
| | | G / S | RDL | 2234379 | 2234671 | 2234672 | 2234673 | 2234674 | 2234675 | 2234676 | 2234677 |
| % Difference/ Ion Balance | % | | | 4.3 | 9.0 | 40.1 | 8.3 | 12.9 | 13.3 | 43.7 | 1.8 |
| Total Aluminum | ug/L | 5 | | 118 | 52 | 134 | 36 | 116 | 98 | 120 | 95 |
| Total Antimony | ug/L | 2 | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Total Arsenic | ug/L | 2 | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Total Barium | ug/L | 5 | | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| Total Beryllium | ug/L | 2 | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Total Bismuth | ug/L | 2 | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Total Boron | ug/L | 5 | | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| Total Cadmium | ug/L | 0.017 | | <0.017 | <0.017 | <0.017 | 0.021 | <0.017 | <0.017 | <0.017 | <0.017 |
| Total Chromium | ug/L | 1 | | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| Total Cobalt | ug/L | 1 | | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| Total Copper | ug/L | 1 | | <1 | 4 | <1 | <1 | 1 | 1 | <1 | 1 |
| Total Iron | ug/L | 50 | | 172 | 155 | 175 | 158 | 335 | 326 | 447 | 322 |
| Total Lead | ug/L | 0.5 | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Total Manganese | ug/L | 2 | | 48 | 38 | 44 | 28 | 41 | 66 | 84 | 265 |
| Total Molybdenum | ug/L | 2 | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Total Nickel | ug/L | 2 | | <2 | 2 | <2 | <2 | 33 | <2 | 13 | 3 |
| Total Phosphorous | mg/L | 0.02 | | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| Total Selenium | ug/L | 1 | | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| Total Silver | ug/L | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Total Strontium | ug/L | 5 | | 33 | 21 | 11 | 24 | 12 | 10 | 10 | 19 |
| Total Thallium | ug/L | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Total Tin | ug/L | 2 | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Total Titanium | ug/L | 2 | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Total Uranium | ug/L | 0.2 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Total Vanadium | ug/L | 2 | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Total Zinc | ug/L | 5 | | <5 | <5 | <5 | <5 | <5 | <5 | <5 | 7 |

Certified By:

Marla Manka



Certificate of Analysis

AGAT WORK ORDER: 21K723100

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals

DATE RECEIVED: 2021-03-18

DATE REPORTED: 2021-03-29

| Parameter | Unit | SAMPLE DESCRIPTION: | | Site 9-SW | Site 5-SW | Site 2-SW | Site 19-SW | Site 11-SW | Site 20-SW | SD-SW |
|-------------------------------|---------|---------------------|------|------------|------------|------------|------------|------------|------------|------------|
| | | SAMPLE TYPE: | | Water | Water | Water | Water | Water | Water | Water |
| | | DATE SAMPLED: | | 2021-03-14 | 2021-03-14 | 2021-03-14 | 2021-03-14 | 2021-03-15 | 2021-03-15 | 2021-03-12 |
| | | G / S | RDL | 2234678 | 2234679 | 2234680 | 2234681 | 2234682 | 2234683 | 2235032 |
| pH | | | | 6.10 | 6.18 | 6.20 | 5.90 | 5.94 | 6.65 | 6.38 |
| Reactive Silica as SiO2 | mg/L | | 0.5 | 4.1 | 5.0 | 4.1 | 2.2 | 3.2 | 7.8 | 4.4 |
| Chloride | mg/L | | 1 | 91 | 3 | 3 | 3 | 3 | 9 | 35 |
| Fluoride | mg/L | | 0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 |
| Sulphate | mg/L | | 2 | 5 | <2 | <2 | <2 | <2 | <2 | 2 |
| Alkalinity | mg/L | | 5 | <5 | 6 | 6 | <5 | <5 | 16 | 6 |
| True Color | TCU | | 5.00 | 44.5 | 70.8 | 44.8 | 27.5 | 41.4 | 54.1 | 42.6 |
| Turbidity | NTU | | 0.5 | 1.6 | 0.8 | 0.8 | 0.8 | 1.6 | 1.0 | 1.0 |
| Electrical Conductivity | umho/cm | | 1 | 326 | 32 | 29 | 25 | 23 | 77 | 142 |
| Nitrate + Nitrite as N | mg/L | | 0.05 | 0.46 | 0.44 | 0.15 | <0.05 | 0.22 | 0.38 | 0.42 |
| Nitrate as N | mg/L | | 0.05 | 0.38 | 0.44 | 0.15 | <0.05 | 0.22 | 0.38 | 0.42 |
| Nitrite as N | mg/L | | 0.05 | 0.08 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Ammonia as N | mg/L | | 0.03 | <0.03 | 0.08 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 |
| Total Organic Carbon | mg/L | | 0.5 | 7.7 | 8.2 | 8.4 | 7.8 | 7.3 | 9.9 | 7.7 |
| Ortho-Phosphate as P | mg/L | | 0.01 | 0.01 | 0.01 | 0.02 | 0.01 | 0.01 | 0.01 | 0.02 |
| Total Sodium | mg/L | | 0.1 | 57.5 | 2.5 | 2.8 | 2.5 | 2.1 | 5.4 | 18.0 |
| Total Potassium | mg/L | | 0.1 | 0.3 | 0.2 | 0.3 | 0.3 | 0.1 | 0.2 | 0.3 |
| Total Calcium | mg/L | | 0.1 | 5.8 | 2.0 | 1.8 | 1.3 | 1.4 | 3.1 | 3.6 |
| Total Magnesium | mg/L | | 0.1 | 1.9 | 1.1 | 0.8 | 0.6 | 0.6 | 3.7 | 1.8 |
| Bicarb. Alkalinity (as CaCO3) | mg/L | | 5 | <5 | 6 | 6 | <5 | <5 | 16 | 6 |
| Carb. Alkalinity (as CaCO3) | mg/L | | 10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| Hydroxide | mg/L | | 5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| Calculated TDS | mg/L | | 1 | 164 | 15 | 13 | 8 | 9 | 33 | 67 |
| Hardness | mg/L | | | 22.3 | 9.5 | 7.8 | 5.7 | 6.0 | 23.0 | 16.4 |
| Langelier Index (@20C) | NA | | | -4.05 | -4.25 | -4.27 | -4.79 | -4.72 | -3.19 | -3.86 |
| Langelier Index (@ 4C) | NA | | | -4.37 | -4.57 | -4.59 | -5.11 | -5.04 | -3.51 | -4.18 |
| Saturation pH (@ 20C) | NA | | | 10.1 | 10.4 | 10.5 | 10.7 | 10.7 | 9.84 | 10.2 |
| Saturation pH (@ 4C) | NA | | | 10.5 | 10.7 | 10.8 | 11.0 | 11.0 | 10.2 | 10.6 |
| Anion Sum | me/L | | | 2.70 | 0.24 | 0.22 | 0.08 | 0.10 | 0.60 | 1.18 |
| Cation sum | me/L | | | 3.00 | 0.34 | 0.31 | 0.25 | 0.23 | 0.73 | 1.15 |

Certified By:

Marla Manka



Certificate of Analysis

AGAT WORK ORDER: 21K723100

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals

DATE RECEIVED: 2021-03-18

DATE REPORTED: 2021-03-29

| Parameter | Unit | SAMPLE DESCRIPTION: | | Site 9-SW | Site 5-SW | Site 2-SW | Site 19-SW | Site 11-SW | Site 20-SW | SD-SW |
|---------------------------|------|---------------------|-------|------------|------------|------------|------------|------------|------------|------------|
| | | SAMPLE TYPE: | | Water | Water | Water | Water | Water | Water | Water |
| | | DATE SAMPLED: | | 2021-03-14 | 2021-03-14 | 2021-03-14 | 2021-03-14 | 2021-03-15 | 2021-03-15 | 2021-03-12 |
| | | G / S | RDL | 2234678 | 2234679 | 2234680 | 2234681 | 2234682 | 2234683 | 2235032 |
| % Difference/ Ion Balance | % | | | 5.1 | 17.6 | 18.4 | 48.9 | 39.5 | 9.5 | 1.1 |
| Total Aluminum | ug/L | | 5 | 103 | 84 | 111 | 44 | 74 | 120 | 101 |
| Total Antimony | ug/L | | 2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Total Arsenic | ug/L | | 2 | 3 | <2 | <2 | <2 | <2 | <2 | <2 |
| Total Barium | ug/L | | 5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| Total Beryllium | ug/L | | 2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Total Bismuth | ug/L | | 2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Total Boron | ug/L | | 5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| Total Cadmium | ug/L | | 0.017 | <0.017 | <0.017 | <0.017 | <0.017 | <0.017 | <0.017 | <0.017 |
| Total Chromium | ug/L | | 1 | <1 | <1 | <1 | <1 | <1 | 2 | <1 |
| Total Cobalt | ug/L | | 1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| Total Copper | ug/L | | 1 | <1 | <1 | <1 | <1 | <1 | 1 | <1 |
| Total Iron | ug/L | | 50 | 450 | 424 | 316 | 205 | 230 | 299 | 349 |
| Total Lead | ug/L | | | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Total Manganese | ug/L | | 2 | 390 | 54 | 85 | 64 | 23 | 148 | 284 |
| Total Molybdenum | ug/L | | 2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Total Nickel | ug/L | | 2 | <2 | <2 | <2 | <2 | <2 | 7 | 12 |
| Total Phosphorous | mg/L | | | 0.02 | <0.02 | <0.02 | <0.02 | <0.02 | 0.02 | <0.02 |
| Total Selenium | ug/L | | 1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| Total Silver | ug/L | | | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Total Strontium | ug/L | | | 5 | 28 | 11 | 10 | 8 | 9 | 12 |
| Total Thallium | ug/L | | | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Total Tin | ug/L | | 2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Total Titanium | ug/L | | 2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Total Uranium | ug/L | | | 0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Total Vanadium | ug/L | | 2 | 4 | <2 | <2 | <2 | <2 | <2 | <2 |
| Total Zinc | ug/L | | 5 | <5 | <5 | 5 | <5 | <5 | <5 | 8 |

Certified By:

Marla Manka



Certificate of Analysis

AGAT WORK ORDER: 21K723100

PROJECT: 100424.001

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St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals

DATE RECEIVED: 2021-03-18

DATE REPORTED: 2021-03-29

- Comments:** RDL - Reported Detection Limit; G / S - Guideline / Standard
- 2234379** % Difference / Ion Balance, Hardness, Langelier Index, Nitrate + Nitrite, Hydroxide and Saturation pH are calculated parameters. The calculated parameters are non-accredited. The component parameters of the calculations are accredited.
- 2234671-2234672** % Difference / Ion Balance, Hardness, Langelier Index, Nitrate + Nitrite, Hydroxide and Saturation pH are calculated parameters. The calculated parameters are non-accredited. The component parameters of the calculations are accredited.
- The cation and anion sums are at, or below, 1 me/L, therefore the acceptable criteria is a difference of less than 0.3me/L.
- 2234673** % Difference / Ion Balance, Hardness, Langelier Index, Nitrate + Nitrite, Hydroxide and Saturation pH are calculated parameters. The calculated parameters are non-accredited. The component parameters of the calculations are accredited.
- 2234674-2234676** % Difference / Ion Balance, Hardness, Langelier Index, Nitrate + Nitrite, Hydroxide and Saturation pH are calculated parameters. The calculated parameters are non-accredited. The component parameters of the calculations are accredited.
- The cation and anion sums are at, or below, 1 me/L, therefore the acceptable criteria is a difference of less than 0.3me/L.
- 2234677-2234678** % Difference / Ion Balance, Hardness, Langelier Index, Nitrate + Nitrite, Hydroxide and Saturation pH are calculated parameters. The calculated parameters are non-accredited. The component parameters of the calculations are accredited.
- 2234679-2234683** % Difference / Ion Balance, Hardness, Langelier Index, Nitrate + Nitrite, Hydroxide and Saturation pH are calculated parameters. The calculated parameters are non-accredited. The component parameters of the calculations are accredited.
- The cation and anion sums are at, or below, 1 me/L, therefore the acceptable criteria is a difference of less than 0.3me/L.
- 2235032** % Difference / Ion Balance, Hardness, Langelier Index, Nitrate + Nitrite, Hydroxide and Saturation pH are calculated parameters. The calculated parameters are non-accredited. The component parameters of the calculations are accredited.

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K723100

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
 St. John's, NL
 CANADA A1E 6A8
 TEL (709)747-8573
 FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

TSS

DATE RECEIVED: 2021-03-18

DATE REPORTED: 2021-03-29

| Parameter | Unit | SAMPLE DESCRIPTION: | | Site 6-SW | Site 4-SW | Site 7-SW | Site 8-SW | Site 15-SW | Site 17-SW | Site 16-SW | Site 10-SW |
|------------------------|------|---------------------|-----|------------|------------|------------|------------|------------|------------|------------|------------|
| | | G / S | RDL | Water | Water | Water | Water | Water | Water | Water | Water |
| | | DATE SAMPLED: | | 2021-03-12 | 2021-03-12 | 2021-03-12 | 2021-03-12 | 2021-03-13 | 2021-03-13 | 2021-03-14 | 2021-03-14 |
| Total Suspended Solids | mg/L | 5 | <5 | <5 | 85 | <5 | <5 | <5 | <5 | <5 | <5 |
| Parameter | Unit | SAMPLE DESCRIPTION: | | Site 9-SW | Site 5-SW | Site 2-SW | Site 19-SW | Site 11-SW | Site 20-SW | SD-SW | |
| | | G / S | RDL | Water | Water | Water | Water | Water | Water | Water | |
| | | DATE SAMPLED: | | 2021-03-14 | 2021-03-14 | 2021-03-14 | 2021-03-14 | 2021-03-15 | 2021-03-15 | 2021-03-12 | |
| Total Suspended Solids | mg/L | 5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard
 Analysis performed at AGAT St John's (unless marked by *)

Certified By:

Marla Manka

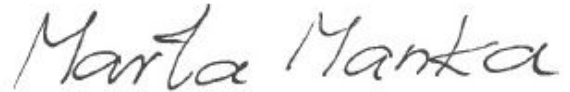
Quality Assurance

CLIENT NAME: GEMTEC LIMITED
AGAT WORK ORDER: 21K723100
PROJECT: 100424.001
ATTENTION TO: Darrol Rice
SAMPLING SITE:
SAMPLED BY:

| Soil Analysis | | | | | | | | | | | | | | | |
|------------------------|-------|-----------|-----------|--------|-----|----------------|--------------|--------------------|-------|----------|--------------------|-------|--------------|-------------------|-------|
| RPT Date: Mar 29, 2021 | | | DUPLICATE | | | | Method Blank | REFERENCE MATERIAL | | | METHOD BLANK SPIKE | | MATRIX SPIKE | | |
| PARAMETER | Batch | Sample Id | Dup #1 | Dup #2 | RPD | Measured Value | | Acceptable Limits | | Recovery | Acceptable Limits | | Recovery | Acceptable Limits | |
| | | | | | | | | Lower | Upper | | Lower | Upper | | Lower | Upper |

Available Metals in Soil

| | | | | | | | | | | | | | | | |
|------------|---------|---------|-------|-------|-------|-------|------|-----|------|------|-----|------|------|-----|------|
| Aluminum | 2235034 | 2235034 | 23100 | 24200 | 4.7% | < 10 | 118% | 80% | 120% | 117% | 80% | 120% | 103% | 70% | 130% |
| Antimony | 2235034 | 2235034 | <1 | <1 | NA | < 1 | 101% | 80% | 120% | 101% | 80% | 120% | NA | 70% | 130% |
| Arsenic | 2235034 | 2235034 | 16 | 16 | 4.5% | < 1 | 105% | 80% | 120% | 101% | 80% | 120% | NA | 70% | 130% |
| Barium | 2235034 | 2235034 | 13 | 13 | NA | < 5 | 103% | 80% | 120% | 99% | 80% | 120% | 83% | 70% | 130% |
| Beryllium | 2235034 | 2235034 | <2 | <2 | NA | < 2 | 118% | 80% | 120% | 113% | 80% | 120% | 126% | 70% | 130% |
| Boron | 2235034 | 2235034 | <2 | <2 | NA | < 2 | 120% | 80% | 120% | 113% | 80% | 120% | 115% | 70% | 130% |
| Cadmium | 2235034 | 2235034 | <0.3 | <0.3 | NA | < 0.3 | 105% | 80% | 120% | 94% | 80% | 120% | 97% | 70% | 130% |
| Chromium | 2235034 | 2235034 | 38 | 41 | 8.1% | < 2 | 100% | 80% | 120% | 93% | 80% | 120% | NA | 70% | 130% |
| Cobalt | 2235034 | 2235034 | 23 | 25 | 6.2% | < 1 | 100% | 80% | 120% | 94% | 80% | 120% | NA | 70% | 130% |
| Copper | 2235034 | 2235034 | 17 | 14 | 16.7% | < 2 | 100% | 80% | 120% | 96% | 80% | 120% | NA | 70% | 130% |
| Iron | 2235034 | 2235034 | 37900 | 40000 | 5.4% | < 50 | 99% | 80% | 120% | 95% | 80% | 120% | 105% | 70% | 130% |
| Lead | 2235034 | 2235034 | 7.1 | 8.5 | 18.0% | < 0.5 | 107% | 80% | 120% | 106% | 80% | 120% | 70% | 70% | 130% |
| Lithium | 2235034 | 2235034 | 66 | 72 | 8.8% | < 5 | 121% | 70% | 130% | 118% | 70% | 130% | NA | 70% | 130% |
| Manganese | 2235034 | 2235034 | 1950 | 1900 | 2.6% | < 2 | 99% | 80% | 120% | 96% | 80% | 120% | 103% | 70% | 130% |
| Molybdenum | 2235034 | 2235034 | <2 | <2 | NA | < 2 | 99% | 80% | 120% | 94% | 80% | 120% | 104% | 70% | 130% |
| Nickel | 2235034 | 2235034 | 77 | 74 | 4.0% | < 2 | 98% | 80% | 120% | 97% | 80% | 120% | NA | 70% | 130% |
| Selenium | 2235034 | 2235034 | <1 | <1 | NA | < 1 | 103% | 80% | 120% | 102% | 80% | 120% | 83% | 70% | 130% |
| Silver | 2235034 | 2235034 | <0.5 | <0.5 | NA | < 0.5 | 103% | 80% | 120% | 98% | 80% | 120% | 89% | 70% | 130% |
| Strontium | 2235034 | 2235034 | 7 | 7 | NA | < 5 | 100% | 80% | 120% | 98% | 80% | 120% | 113% | 70% | 130% |
| Thallium | 2235034 | 2235034 | <0.1 | <0.1 | NA | < 0.1 | 108% | 80% | 120% | 105% | 80% | 120% | NA | 70% | 130% |
| Tin | 2235034 | 2235034 | 3 | 4 | NA | < 2 | 104% | 80% | 120% | 98% | 80% | 120% | 117% | 70% | 130% |
| Uranium | 2235034 | 2235034 | 0.4 | 0.4 | NA | < 0.1 | 105% | 80% | 120% | 103% | 80% | 120% | 76% | 70% | 130% |
| Vanadium | 2235034 | 2235034 | 27 | 27 | 3.3% | < 2 | 99% | 80% | 120% | 92% | 80% | 120% | NA | 70% | 130% |
| Zinc | 2235034 | 2235034 | 95 | 98 | 4.0% | < 5 | 99% | 80% | 120% | 95% | 80% | 120% | NA | 70% | 130% |

Certified By:


Quality Assurance

CLIENT NAME: GEMTEC LIMITED
PROJECT: 100424.001
SAMPLING SITE:

AGAT WORK ORDER: 21K723100
ATTENTION TO: Darrol Rice
SAMPLED BY:

Trace Organics Analysis

| RPT Date: Mar 29, 2021 | | | DUPLICATE | | | | Method Blank | REFERENCE MATERIAL | | | METHOD BLANK SPIKE | | | MATRIX SPIKE | | |
|------------------------|-------|-----------|-----------|--------|-----|----------------|--------------|--------------------|-------|----------|--------------------|-------|----------|-------------------|-------|--|
| PARAMETER | Batch | Sample Id | Dup #1 | Dup #2 | RPD | Measured Value | | Acceptable Limits | | Recovery | Acceptable Limits | | Recovery | Acceptable Limits | | |
| | | | | | | | | Lower | Upper | | Lower | Upper | | Lower | Upper | |

Atlantic RBCA Tier 1 Hydrocarbons in Water (Version 3.1)

| | | | | | | | | | | | | | | | |
|-----------------------|---|---------|--------|--------|----|--------|------|-----|------|-----|-----|------|-----|-----|------|
| >C10-C16 Hydrocarbons | 1 | 2234672 | < 0.05 | < 0.05 | NA | < 0.05 | 101% | 70% | 130% | 97% | 70% | 130% | 99% | 70% | 130% |
| >C16-C21 Hydrocarbons | 1 | 2234672 | < 0.10 | < 0.10 | NA | < 0.10 | 97% | 70% | 130% | 97% | 70% | 130% | 99% | 70% | 130% |
| >C21-C32 Hydrocarbons | 1 | 2234672 | < 0.1 | < 0.1 | NA | < 0.1 | 96% | 70% | 130% | 97% | 70% | 130% | 99% | 70% | 130% |

Comments: If Matrix spike value is NA, the spiked analyte concentration was lower than that of the matrix contribution. Matrix spike performed on a different sample than the duplicate.

If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Atlantic RBCA Tier 1 Hydrocarbons in Water (Version 3.1)

| | | | | | | | | | | | | | | | |
|--------------------|---|---------|---------|---------|----|---------|------|-----|------|------|-----|------|------|-----|------|
| Benzene | 1 | 2225722 | < 0.001 | < 0.001 | NA | < 0.001 | 114% | 70% | 130% | 109% | 70% | 130% | | | |
| Toluene | 1 | 2225722 | < 0.001 | < 0.001 | NA | < 0.001 | 108% | 70% | 130% | 98% | 70% | 130% | | | |
| Ethylbenzene | 1 | 2225722 | < 0.001 | < 0.001 | NA | < 0.001 | 105% | 70% | 130% | 94% | 70% | 130% | | | |
| Xylene (Total) | 1 | 2225722 | < 0.002 | < 0.002 | NA | < 0.002 | 106% | 70% | 130% | 99% | 70% | 130% | | | |
| C6-C10 (less BTEX) | 1 | 2225722 | < 0.01 | < 0.01 | NA | < 0.01 | 112% | 70% | 130% | 98% | 70% | 130% | 102% | 70% | 130% |

Comments: If Matrix spike value is NA, the spiked analyte concentration was lower than that of the matrix contribution. Matrix spike performed on a different sample than the duplicate.

If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Atlantic RBCA Tier 1 Hydrocarbons in Soil (Version 3.1) - Field Preserved + 1X Silica Gel

| | | | | | | | | | | | | | | | |
|---------------------------------------|---|---------|------|------|----|------|-----|-----|------|------|-----|------|------|-----|------|
| >C10-C16 Hydrocarbons - 1X silica gel | 1 | 2234724 | < 15 | < 15 | NA | < 15 | 99% | 60% | 140% | 101% | 60% | 140% | 106% | 30% | 130% |
| >C16-C21 Hydrocarbons - 1X silica gel | 1 | 2234724 | < 15 | < 15 | NA | < 15 | 93% | 60% | 140% | 101% | 60% | 140% | 106% | 30% | 130% |
| >C21-C32 Hydrocarbons - 1X silica gel | 1 | 2234724 | < 15 | < 15 | NA | < 15 | 91% | 60% | 140% | 101% | 60% | 140% | 106% | 30% | 130% |

Comments: If Matrix spike value is NA, the spiked analyte concentration was lower than that of the matrix contribution.

If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Atlantic RBCA Tier 1 Hydrocarbons in Soil (Version 3.1) - Field Preserved + 1X Silica Gel

| | | | | | | | | | | | | | | | |
|--------------------|---|---------|--------|--------|----|--------|-----|-----|------|-----|-----|------|------|-----|------|
| Benzene | 1 | 2234713 | < 0.03 | < 0.03 | NA | < 0.03 | 88% | 60% | 140% | 97% | 60% | 140% | | | |
| Toluene | 1 | 2234713 | < 0.04 | < 0.04 | NA | < 0.04 | 83% | 60% | 140% | 85% | 60% | 140% | | | |
| Ethylbenzene | 1 | 2234713 | < 0.03 | < 0.03 | NA | < 0.03 | 83% | 60% | 140% | 83% | 60% | 140% | | | |
| Xylene (Total) | 1 | 2234713 | < 0.05 | < 0.05 | NA | < 0.05 | 86% | 60% | 140% | 90% | 60% | 140% | | | |
| C6-C10 (less BTEX) | 1 | 2234713 | < 3 | < 3 | NA | < 3 | 99% | 60% | 140% | 98% | 60% | 140% | 101% | 30% | 130% |

Comments: If Matrix spike value is NA, the spiked analyte concentration was lower than that of the matrix contribution.

If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Certified By: _____



Quality Assurance

CLIENT NAME: GEMTEC LIMITED
AGAT WORK ORDER: 21K723100
PROJECT: 100424.001
ATTENTION TO: Darrol Rice
SAMPLING SITE:
SAMPLED BY:

| Water Analysis | | | | | | | | | | | | | | | |
|------------------------|-------|-----------|-----------|--------|-----|----------------|--------------|--------------------|-------|----------|--------------------|-------|--------------|-------------------|-------|
| RPT Date: Mar 29, 2021 | | | DUPLICATE | | | | Method Blank | REFERENCE MATERIAL | | | METHOD BLANK SPIKE | | MATRIX SPIKE | | |
| PARAMETER | Batch | Sample Id | Dup #1 | Dup #2 | RPD | Measured Value | | Acceptable Limits | | Recovery | Acceptable Limits | | Recovery | Acceptable Limits | |
| | | | | | | | | Lower | Upper | | Lower | Upper | | Lower | Upper |

Standard Water Analysis + Total Metals

| | | | | | | | | | | | | | | | |
|-------------------------------|---------|---------|--------|--------|------|---------|------|-----|------|------|-----|------|------|-----|------|
| pH | 2231030 | | 4.03 | 3.84 | 4.8% | < | 100% | 80% | 120% | NA | | | NA | | |
| Reactive Silica as SiO2 | 2234379 | 2234379 | 3.1 | 3.1 | 0.5% | < 0.5 | 111% | 80% | 120% | 103% | 80% | 120% | 115% | 80% | 120% |
| Chloride | 2235032 | 2235032 | 35 | 36 | 1.6% | < 1 | 98% | 80% | 120% | NA | 80% | 120% | 75% | 70% | 130% |
| Fluoride | 2235032 | 2235032 | <0.12 | <0.12 | NA | < 0.12 | 114% | 80% | 120% | NA | 80% | 120% | 107% | 70% | 130% |
| Sulphate | 2235032 | 2235032 | 2 | 2 | NA | < 2 | 106% | 80% | 120% | NA | 80% | 120% | 105% | 70% | 130% |
| Alkalinity | 2231030 | | <5 | <5 | NA | < 5 | 94% | 80% | 120% | NA | | | NA | | |
| True Color | 2234379 | 2234379 | 22.3 | 26.2 | NA | < 5 | 88% | 80% | 120% | 102% | 80% | 120% | NA | | |
| Turbidity | 2234379 | 2234379 | 1.7 | 1.7 | NA | < 0.5 | 99% | 80% | 120% | NA | | | NA | | |
| Electrical Conductivity | 2231030 | | 874 | 892 | 2.0% | < 1 | 103% | 90% | 110% | NA | | | NA | | |
| Nitrate as N | 2235032 | 2235032 | 0.42 | 0.42 | 0.5% | < 0.05 | 101% | 80% | 120% | NA | 80% | 120% | 87% | 70% | 130% |
| Nitrite as N | 2235032 | 2235032 | <0.05 | <0.05 | NA | < 0.05 | 106% | 80% | 120% | NA | 80% | 120% | 106% | 70% | 130% |
| Ammonia as N | 2246450 | | <0.03 | <0.03 | NA | < 0.03 | 101% | 80% | 120% | 95% | 80% | 120% | 103% | 70% | 130% |
| Total Organic Carbon | 2230896 | | 5.9 | 6.0 | 1.5% | < 0.5 | 89% | 80% | 120% | NA | 80% | 120% | 97% | 80% | 120% |
| Ortho-Phosphate as P | 2234379 | 2234379 | <0.01 | <0.01 | NA | < 0.01 | 88% | 80% | 120% | 98% | 80% | 120% | 88% | 80% | 120% |
| Total Sodium | 2235032 | 2235032 | 21.7 | 20.7 | 4.7% | < 0.1 | 115% | 80% | 120% | 116% | 80% | 120% | 102% | 70% | 130% |
| Total Potassium | 2235032 | 2235032 | 0.3 | 0.3 | NA | < 0.1 | 109% | 80% | 120% | 102% | 80% | 120% | 109% | 70% | 130% |
| Total Calcium | 2235032 | 2235032 | 3.6 | 3.5 | 2.3% | < 0.1 | 104% | 80% | 120% | 100% | 80% | 120% | NA | 70% | 130% |
| Total Magnesium | 2235032 | 2235032 | 1.8 | 1.8 | 0.9% | < 0.1 | 107% | 80% | 120% | 98% | 80% | 120% | NA | 70% | 130% |
| Bicarb. Alkalinity (as CaCO3) | 2231030 | | <5 | <5 | NA | < 5 | NA | 80% | 120% | NA | | | NA | | |
| Carb. Alkalinity (as CaCO3) | 2231030 | | <10 | <10 | NA | < 10 | NA | 80% | 120% | NA | | | NA | | |
| Hydroxide | 2231030 | | <5 | <5 | NA | < 5 | NA | 80% | 120% | NA | | | NA | | |
| Total Aluminum | 2235032 | 2235032 | 101 | 94 | 7.6% | < 5 | 106% | 80% | 120% | 102% | 80% | 120% | 107% | 70% | 130% |
| Total Antimony | 2235032 | 2235032 | <2 | <2 | NA | < 2 | 105% | 80% | 120% | 103% | 80% | 120% | 96% | 70% | 130% |
| Total Arsenic | 2235032 | 2235032 | <2 | <2 | NA | < 2 | 104% | 80% | 120% | 102% | 80% | 120% | 101% | 70% | 130% |
| Total Barium | 2235032 | 2235032 | <5 | <5 | NA | < 5 | 78% | 80% | 120% | 74% | 80% | 120% | 85% | 70% | 130% |
| Total Beryllium | 2235032 | 2235032 | <2 | <2 | NA | < 2 | 107% | 80% | 120% | 104% | 80% | 120% | 96% | 70% | 130% |
| Total Bismuth | 2235032 | 2235032 | <2 | <2 | NA | < 2 | 100% | 80% | 120% | 96% | 80% | 120% | 98% | 70% | 130% |
| Total Boron | 2235032 | 2235032 | <5 | <5 | NA | < 5 | 107% | 80% | 120% | 102% | 80% | 120% | 97% | 70% | 130% |
| Total Cadmium | 2235032 | 2235032 | <0.017 | <0.017 | NA | < 0.017 | 105% | 80% | 120% | 103% | 80% | 120% | 97% | 70% | 130% |
| Total Chromium | 2235032 | 2235032 | <1 | <1 | NA | < 1 | 102% | 80% | 120% | 103% | 80% | 120% | 104% | 70% | 130% |
| Total Cobalt | 2235032 | 2235032 | <1 | <1 | NA | < 1 | 105% | 80% | 120% | 103% | 80% | 120% | 105% | 70% | 130% |
| Total Copper | 2235032 | 2235032 | <1 | <1 | NA | < 1 | 106% | 80% | 120% | 103% | 80% | 120% | 107% | 70% | 130% |
| Total Iron | 2235032 | 2235032 | 349 | 353 | 1.2% | < 50 | 98% | 80% | 120% | 104% | 80% | 120% | NA | 70% | 130% |
| Total Lead | 2235032 | 2235032 | <0.5 | <0.5 | NA | < 0.5 | 98% | 80% | 120% | 95% | 80% | 120% | 100% | 70% | 130% |
| Total Manganese | 2235032 | 2235032 | 284 | 275 | 3.2% | < 2 | 101% | 80% | 120% | 100% | 80% | 120% | NA | 70% | 130% |
| Total Molybdenum | 2235032 | 2235032 | <2 | <2 | NA | < 2 | 103% | 80% | 120% | 103% | 80% | 120% | 105% | 70% | 130% |
| Total Nickel | 2235032 | 2235032 | 12 | 4 | NA | < 2 | 105% | 80% | 120% | 120% | 80% | 120% | NA | 70% | 130% |
| Total Phosphorous | 2235032 | 2235032 | <0.02 | <0.02 | NA | < 0.02 | 112% | 80% | 120% | 104% | 80% | 120% | 90% | 70% | 130% |
| Total Selenium | 2235032 | 2235032 | <1 | <1 | NA | < 1 | 107% | 80% | 120% | 105% | 80% | 120% | 90% | 70% | 130% |

Quality Assurance

CLIENT NAME: GEMTEC LIMITED
PROJECT: 100424.001
SAMPLING SITE:

AGAT WORK ORDER: 21K723100
ATTENTION TO: Darrol Rice
SAMPLED BY:

Water Analysis (Continued)

| RPT Date: Mar 29, 2021 | | | DUPLICATE | | | | Method Blank | REFERENCE MATERIAL | | | METHOD BLANK SPIKE | | | MATRIX SPIKE | | |
|------------------------|---------|-----------|-----------|--------|-----|----------------|--------------|--------------------|-------|----------|--------------------|-------|----------|-------------------|-------|--|
| PARAMETER | Batch | Sample Id | Dup #1 | Dup #2 | RPD | Measured Value | | Acceptable Limits | | Recovery | Acceptable Limits | | Recovery | Acceptable Limits | | |
| | | | | | | | | Lower | Upper | | Lower | Upper | | Lower | Upper | |
| Total Silver | 2235032 | 2235032 | <0.1 | <0.1 | NA | < 0.1 | 106% | 80% | 120% | 102% | 80% | 120% | 102% | 70% | 130% | |
| Total Strontium | 2235032 | 2235032 | 20 | 20 | NA | < 5 | 77% | 80% | 120% | 77% | 80% | 120% | 86% | 70% | 130% | |
| Total Thallium | 2235032 | 2235032 | <0.1 | <0.1 | NA | < 0.1 | 95% | 80% | 120% | 91% | 80% | 120% | 98% | 70% | 130% | |
| Total Tin | 2235032 | 2235032 | <2 | <2 | NA | < 2 | 107% | 80% | 120% | 105% | 80% | 120% | 104% | 70% | 130% | |
| Total Titanium | 2235032 | 2235032 | <2 | <2 | NA | < 2 | 103% | 80% | 120% | 100% | 80% | 120% | 105% | 70% | 130% | |
| Total Uranium | 2235032 | 2235032 | <0.2 | <0.2 | NA | < 0.2 | 101% | 80% | 120% | 98% | 80% | 120% | 105% | 70% | 130% | |
| Total Vanadium | 2235032 | 2235032 | <2 | <2 | NA | < 2 | 104% | 80% | 120% | 104% | 80% | 120% | 109% | 70% | 130% | |
| Total Zinc | 2235032 | 2235032 | 8 | 8 | NA | < 5 | 103% | 80% | 120% | 102% | 80% | 120% | 95% | 70% | 130% | |

Comments: If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.
 Reference Material: Less than 10% of elements not within acceptance limits.
 Blank spike: Less than 10% of elements not within acceptance limits.

Mercury Analysis in Water (Total)

| | | | | | | | | | | | | | | | |
|---------------|---------|---------|--------|--------|----|---------|-----|-----|------|-----|-----|------|-----|-----|------|
| Total Mercury | 2234379 | 2234379 | <0.026 | <0.026 | NA | < 0.026 | 94% | 80% | 120% | 86% | 80% | 120% | 97% | 70% | 130% |
|---------------|---------|---------|--------|--------|----|---------|-----|-----|------|-----|-----|------|-----|-----|------|

Comments: If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Standard Water Analysis + Total Metals

| | | | | | | | | | | | | | | | |
|-------------------------|---------|--|----|----|----|-------|------|-----|------|------|-----|------|----|-----|------|
| Reactive Silica as SiO2 | 2234671 | | NA | NA | NA | < 0.5 | 111% | 80% | 120% | 103% | 80% | 120% | NA | 80% | 120% |
|-------------------------|---------|--|----|----|----|-------|------|-----|------|------|-----|------|----|-----|------|

Comments: If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

TSS

| | | | | | | | | | | | | | | | |
|------------------------|---------|--|----|----|----|-----|------|-----|------|--|--|--|-----|-----|------|
| Total Suspended Solids | 2224712 | | 12 | 12 | NA | < 5 | 104% | 80% | 120% | | | | 96% | 80% | 120% |
|------------------------|---------|--|----|----|----|-----|------|-----|------|--|--|--|-----|-----|------|

Certified By: 

QA Violation

CLIENT NAME: GEMTEC LIMITED
AGAT WORK ORDER: 21K723100
PROJECT: 100424.001
ATTENTION TO: Darrol Rice

| RPT Date: Mar 29, 2021 | | | REFERENCE MATERIAL | | | METHOD BLANK SPIKE | | | MATRIX SPIKE | | |
|-------------------------------|-----------|--------------------|---------------------------|-------------------|-------|---------------------------|-------------------|-------|---------------------|-------------------|-------|
| PARAMETER | Sample Id | Sample Description | Measured Value | Acceptable Limits | | Recovery | Acceptable Limits | | Recovery | Acceptable Limits | |
| | | | | Lower | Upper | | Lower | Upper | | Lower | Upper |

Standard Water Analysis + Total Metals

| | | | | | | | | | | | |
|-----------------|---------|-----------|-----|-----|------|-----|-----|------|-----|-----|------|
| Total Barium | 2235032 | Site 6-SW | 78% | 80% | 120% | 74% | 80% | 120% | 85% | 70% | 130% |
| Total Strontium | 2235032 | Site 6-SW | 77% | 80% | 120% | 77% | 80% | 120% | 86% | 70% | 130% |

Comments: If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Reference Material: Less than 10% of elements not within acceptance limits.

Blank spike: Less than 10% of elements not within acceptance limits.

Method Summary

CLIENT NAME: GEMTEC LIMITED
AGAT WORK ORDER: 21K723100
PROJECT: 100424.001
ATTENTION TO: Darrol Rice
SAMPLING SITE:
SAMPLED BY:

| PARAMETER | AGAT S.O.P | LITERATURE REFERENCE | ANALYTICAL TECHNIQUE |
|----------------------|----------------------------------|-------------------------------------|----------------------|
| Soil Analysis | | | |
| Aluminum | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Antimony | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Arsenic | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Barium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Beryllium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Boron | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Cadmium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Chromium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Cobalt | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Copper | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Iron | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Lead | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP-MS |
| Lithium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP-MS |
| Manganese | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Molybdenum | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Nickel | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Selenium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Silver | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Strontium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Thallium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Tin | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Uranium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Vanadium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Zinc | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Mercury | INOR-121-6101 & INOR-121-6107 | Based on EPA 245.5 & SM 3112B | CV/AA |

Method Summary

CLIENT NAME: GEMTEC LIMITED
PROJECT: 100424.001
SAMPLING SITE:
AGAT WORK ORDER: 21K723100
ATTENTION TO: Darrol Rice
SAMPLED BY:

| PARAMETER | AGAT S.O.P | LITERATURE REFERENCE | ANALYTICAL TECHNIQUE |
|---------------------------------------|--------------|--|----------------------|
| Trace Organics Analysis | | | |
| Benzene | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| Toluene | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| Ethylbenzene | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| Xylene (Total) | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| C6-C10 (less BTEX) | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS/FID |
| >C10-C16 Hydrocarbons - 1X silica gel | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| >C16-C21 Hydrocarbons - 1X silica gel | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS/FID |
| >C21-C32 Hydrocarbons - 1X silica gel | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS/FID |
| Modified TPH (Tier 1) - 1X silica gel | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | CALCULATION |
| Resemblance Comment | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS/FID |
| Return to Baseline at C32 | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| Silica Gel Cleanup | | | GC/FID |
| Isobutylbenzene - EPH | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| Isobutylbenzene - VPH | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| n-Dotriacontane - EPH | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| C6-C10 (less BTEX) | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| >C10-C16 Hydrocarbons | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| >C16-C21 Hydrocarbons | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| >C21-C32 Hydrocarbons | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| Modified TPH (Tier 1) | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | CALCULATION |
| Sediment | | | GC/MS/FID |
| % Moisture | LAB-131-4024 | CSSS 70.2 | GRAVIMETRIC |

Method Summary

CLIENT NAME: GEMTEC LIMITED
AGAT WORK ORDER: 21K723100
PROJECT: 100424.001
ATTENTION TO: Darrol Rice
SAMPLING SITE:
SAMPLED BY:

| PARAMETER | AGAT S.O.P | LITERATURE REFERENCE | ANALYTICAL TECHNIQUE |
|--|--------------------------------|--|----------------------|
| Water Analysis | | | |
| Total Mercury | MET-121-6100 & MET-121-6107 | SM 3112 B | CV/AA |
| pH | INOR-121-6001 | SM 4500 H+B | PC TITRATE |
| Reactive Silica as SiO ₂ | INOR-121-6027 | SM 4500-SiO ₂ F | COLORIMETER |
| Chloride | INORG-121-6005 | SM 4110 B | ION CHROMATOGRAPH |
| Fluoride | INORG-121-6005 | SM 4110 B | ION CHROMATOGRAPH |
| Sulphate | INORG-121-6005 | SM 4110 B | ION CHROMATOGRAPH |
| Alkalinity | INOR-121-6001 | SM 2320 B | |
| True Color | INOR-121-6008 | SM 2120 B | LACHAT FIA |
| Turbidity | INOR-121-6022 | SM 2130 B | NEPHELOMETER |
| Electrical Conductivity | INOR-121-6001 | SM 2510 B | PC TITRATE |
| Nitrate + Nitrite as N | INORG-121-6005 | SM 4110 B | CALCULATION |
| Nitrate as N | INORG-121-6005 | SM 4110 B | ION CHROMATOGRAPH |
| Nitrite as N | INORG-121-6005 | SM 4110 B | ION CHROMATOGRAPH |
| Ammonia as N | INOR-121-6047 | SM 4500-NH ₃ H | COLORIMETER |
| Total Organic Carbon | INOR-121-6026 | SM 5310 B | TOC ANALYZER |
| Ortho-Phosphate as P | INOR-121-6012 | SM 4500-P G | COLORIMETER |
| Total Sodium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Potassium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Calcium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Magnesium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Bicarb. Alkalinity (as CaCO ₃) | INORG-121-6001 | SM 2320 B | PC TITRATE |
| Carb. Alkalinity (as CaCO ₃) | INORG-121-6001 | SM 2320 B | PC TITRATE |
| Hydroxide | INORG-121-6001 | SM 2320 B | PC-TITRATE |
| Calculated TDS | CALCULATION | SM 1030E | CALCULATION |
| Hardness | CALCULATION | SM 2340B | CALCULATION |
| Langelier Index (@20C) | CALCULATION | CALCULATION | CALCULATION |
| Langelier Index (@ 4C) | CALCULATION | CALCULATION | CALCULATION |
| Saturation pH (@ 20C) | CALCULATION | CALCULATION | CALCULATION |
| Saturation pH (@ 4C) | CALCULATION | CALCULATION | CALCULATION |
| Anion Sum | CALCULATION | SM 1030E | CALCULATION |
| Cation sum | CALCULATION | SM 1030E | CALCULATION |
| % Difference/ Ion Balance | CALCULATION | SM 1030E | CALCULATION |
| Total Aluminum | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Antimony | MET121-6104 & MET-121-6105 | SM 3125 | ICP-MS |
| Total Arsenic | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Barium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Beryllium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Bismuth | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Boron | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |

Method Summary

CLIENT NAME: GEMTEC LIMITED
AGAT WORK ORDER: 21K723100
PROJECT: 100424.001
ATTENTION TO: Darrol Rice
SAMPLING SITE:
SAMPLED BY:

| PARAMETER | AGAT S.O.P | LITERATURE REFERENCE | ANALYTICAL TECHNIQUE |
|------------------------|--------------------------------|--|----------------------|
| Total Cadmium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Chromium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Cobalt | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Copper | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Iron | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Lead | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Manganese | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Molybdenum | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Nickel | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Phosphorous | MET-121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Selenium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Silver | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Strontium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Thallium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Tin | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Titanium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Uranium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Vanadium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Zinc | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Suspended Solids | INOR-123-6006 | Based on SM 2540D | GRAVIMETRIC |



CLIENT NAME: GEMTEC LIMITED
10 Maverick Place
Paradise, NL A1L 1Y8
709722-2275

ATTENTION TO: Darrol Rice

PROJECT: 100424.001

AGAT WORK ORDER: 21K744497

SOIL ANALYSIS REVIEWED BY: Marta Manka, Data Reporter

TRACE ORGANICS REVIEWED BY: Amy Hunter, Trace Organics Supervisor, B.Sc.

WATER ANALYSIS REVIEWED BY: Marta Manka, Data Reporter

DATE REPORTED: May 19, 2021

PAGES (INCLUDING COVER): 35

VERSION*: 1

Should you require any information regarding this analysis please contact your client services representative at (709)747-8573

*Notes

Disclaimer:

- All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.
- All samples will be disposed of within 30 days after receipt unless a Long Term Storage Agreement is signed and returned. Some specialty analysis may be exempt, please contact your Client Project Manager for details.
- AGAT's liability in connection with any delay, performance or non-performance of these services is only to the Client and does not extend to any other third party. Unless expressly agreed otherwise in writing, AGAT's liability is limited to the actual cost of the specific analysis or analyses included in the services.
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- The test results reported herewith relate only to the samples as received by the laboratory.
- Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to, warranties of merchantability, fitness for a particular purpose, or non-infringement. AGAT assumes no responsibility for any errors or omissions in the guidelines contained in this document.
- All reportable information as specified by ISO/IEC 17025:2017 is available from AGAT Laboratories upon request.



Certificate of Analysis

AGAT WORK ORDER: 21K744497

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Available Metals in Soil

DATE RECEIVED: 2021-05-10

DATE REPORTED: 2021-05-19

| Parameter | Unit | SAMPLE DESCRIPTION: | | Site-Sed-15 | Site-Sed-20 | Site-Sed-9 | Site-Sed-5 | Site-Sed-10 | Site-Sed-21 | Site-Sed-4 | Site-Sed-1 | |
|------------|-------|---------------------|-------|-------------|-------------|------------|------------|-------------|-------------|------------|------------|------------|
| | | SAMPLE TYPE: | | Sediment | Sediment | Sediment | Sediment | Sediment | Sediment | Sediment | Sediment | Sediment |
| | | DATE SAMPLED: | | 2021-05-05 | 2021-05-05 | 2021-05-05 | 2021-05-05 | 2021-05-05 | 2021-05-06 | 2021-05-07 | 2021-05-07 | 2021-05-07 |
| | | G / S | RDL | 2445301 | 2445302 | 2445303 | 2445304 | 2445305 | 2445309 | 2445310 | 2445312 | |
| Aluminum | mg/kg | 10 | 21400 | 19600 | 18000 | 23600 | 8260 | 20800 | 15400 | 11100 | | |
| Antimony | mg/kg | 1 | <1 | <1 | <1 | <1 | <1 | <1 | 1 | <1 | | |
| Arsenic | mg/kg | 1 | 70 | 73 | 16 | 293 | 23 | 32 | 192 | 52 | | |
| Barium | mg/kg | 5 | 105 | 13 | 13 | 37 | 22 | 45 | 114 | 22 | | |
| Beryllium | mg/kg | 2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | | |
| Boron | mg/kg | 2 | <2 | 3 | <2 | <2 | <2 | <2 | <2 | <2 | | |
| Cadmium | mg/kg | 0.3 | 0.6 | <0.3 | <0.3 | <0.3 | <0.3 | <0.3 | <0.3 | <0.3 | | |
| Chromium | mg/kg | 2 | 59 | 823 | 46 | 113 | 38 | 44 | 29 | 19 | | |
| Cobalt | mg/kg | 1 | 30 | 54 | 21 | 35 | 26 | 21 | 24 | 13 | | |
| Copper | mg/kg | 2 | 26 | 58 | 8 | 37 | 43 | 11 | 10 | 18 | | |
| Iron | mg/kg | 50 | 55100 | 56900 | 37900 | 126000 | 21300 | 46300 | 48100 | 29900 | | |
| Lead | mg/kg | 0.5 | 9.1 | 13.4 | 3.3 | 6.4 | 7.5 | 4.5 | 10.2 | 7.6 | | |
| Lithium | mg/kg | 5 | 68 | 48 | 54 | 62 | 49 | 50 | 28 | 21 | | |
| Manganese | mg/kg | 2 | 10600 | 925 | 2290 | 3100 | 478 | 4130 | 8340 | 2510 | | |
| Molybdenum | mg/kg | 2 | 2 | 4 | <2 | 9 | 3 | <2 | 5 | <2 | | |
| Nickel | mg/kg | 2 | 153 | 443 | 66 | 113 | 74 | 78 | 58 | 33 | | |
| Selenium | mg/kg | 1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | | |
| Silver | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | | |
| Strontium | mg/kg | 5 | 17 | 13 | 9 | 10 | 9 | 5 | 16 | 8 | | |
| Thallium | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | | |
| Tin | mg/kg | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 3 | | |
| Uranium | mg/kg | 0.1 | 0.5 | 0.7 | 0.4 | 0.8 | 1.2 | 0.4 | 1.0 | 0.6 | | |
| Vanadium | mg/kg | 2 | 38 | 49 | 31 | 54 | 25 | 31 | 27 | 20 | | |
| Zinc | mg/kg | 5 | 193 | 86 | 97 | 467 | 78 | 130 | 120 | 57 | | |

Certified By:

Marla Manka



Certificate of Analysis

AGAT WORK ORDER: 21K744497

PROJECT: 100424.001

57 Old Pennywell Road, Unit 1
 St. John's, NL
 CANADA A1E 6A8
 TEL (709)747-8573
 FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Available Metals in Soil

DATE RECEIVED: 2021-05-10

DATE REPORTED: 2021-05-19

| Parameter | Unit | SAMPLE DESCRIPTION: | | Site-Sed-3 | Site-SD-Sed | Site-Sed-2 | Site-Sed-19 | Site-Sed-17 | Site-Sed-16 | Site-Sed-8 | Site-Sed-14 | |
|------------|-------|---------------------|-------|------------|-------------|------------|-------------|-------------|-------------|------------|-------------|------------|
| | | SAMPLE TYPE: | | Sediment | Sediment | Sediment | Sediment | Sediment | Sediment | Sediment | Sediment | Sediment |
| | | DATE SAMPLED: | | 2021-05-07 | 2021-05-05 | 2021-05-08 | 2021-05-08 | 2021-05-08 | 2021-05-08 | 2021-05-08 | 2021-05-08 | 2021-05-09 |
| | | G / S | RDL | 2445313 | 2445314 | 2445315 | 2445317 | 2445318 | 2445319 | 2445320 | 2445321 | |
| Aluminum | mg/kg | 10 | 14400 | 21800 | 14600 | 20200 | 18100 | 18800 | 15400 | 14300 | | |
| Antimony | mg/kg | 1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | |
| Arsenic | mg/kg | 1 | 114 | 34 | 75 | 25 | 30 | 31 | 102 | 57 | | |
| Barium | mg/kg | 5 | 680 | 21 | 41 | 26 | 29 | 43 | 188 | 36 | | |
| Beryllium | mg/kg | 2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | |
| Boron | mg/kg | 2 | <2 | <2 | <2 | <2 | <2 | <2 | 3 | <2 | | |
| Cadmium | mg/kg | 0.3 | 1.1 | <0.3 | <0.3 | <0.3 | <0.3 | <0.3 | 0.5 | <0.3 | | |
| Chromium | mg/kg | 2 | 27 | 51 | 32 | 36 | 44 | 57 | 29 | 111 | | |
| Cobalt | mg/kg | 1 | 59 | 32 | 28 | 25 | 21 | 27 | 42 | 43 | | |
| Copper | mg/kg | 2 | 15 | 48 | 9 | 5 | 14 | 15 | 23 | 27 | | |
| Iron | mg/kg | 50 | 46100 | 45500 | 43200 | 41700 | 42900 | 43200 | 41700 | 32000 | | |
| Lead | mg/kg | 0.5 | 14.1 | 7.2 | 6.3 | 3.1 | 6.9 | 5.4 | 12.8 | 9.1 | | |
| Lithium | mg/kg | 5 | 26 | 76 | 38 | 56 | 49 | 67 | 34 | 53 | | |
| Manganese | mg/kg | 2 | 55900 | 1120 | 2870 | 3170 | 3110 | 5250 | 15200 | 1970 | | |
| Molybdenum | mg/kg | 2 | 6 | <2 | 5 | <2 | <2 | <2 | 4 | 4 | | |
| Nickel | mg/kg | 2 | 88 | 90 | 53 | 51 | 64 | 77 | 83 | 263 | | |
| Selenium | mg/kg | 1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | |
| Silver | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | |
| Strontium | mg/kg | 5 | 50 | 8 | 9 | 5 | 10 | 12 | 26 | 11 | | |
| Thallium | mg/kg | 0.1 | 0.4 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | |
| Tin | mg/kg | 2 | 5 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | |
| Uranium | mg/kg | 0.1 | 0.6 | 1.0 | 0.6 | 0.4 | 0.4 | 0.6 | 0.6 | 0.5 | | |
| Vanadium | mg/kg | 2 | 30 | 32 | 30 | 29 | 34 | 29 | 34 | 46 | | |
| Zinc | mg/kg | 5 | 190 | 99 | 109 | 89 | 92 | 112 | 208 | 111 | | |

Certified By:

Marla Manka



Certificate of Analysis

AGAT WORK ORDER: 21K744497

PROJECT: 100424.001

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 St. John's, NL
 CANADA A1E 6A8
 TEL (709)747-8573
 FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Available Metals in Soil

DATE RECEIVED: 2021-05-10

DATE REPORTED: 2021-05-19

SAMPLE DESCRIPTION: Site-Sed-11

SAMPLE TYPE: Sediment

DATE SAMPLED: 2021-05-06

| Parameter | Unit | G / S | RDL | 2449927 |
|------------|-------|-------|-------|---------|
| Aluminum | mg/kg | | 8740 | 18300 |
| Antimony | mg/kg | | 1 | <1 |
| Arsenic | mg/kg | | 1 | 101 |
| Barium | mg/kg | | 5 | 350 |
| Beryllium | mg/kg | | 2 | <2 |
| Boron | mg/kg | | 2 | <2 |
| Cadmium | mg/kg | | 0.3 | 1.3 |
| Chromium | mg/kg | | 2 | 31 |
| Cobalt | mg/kg | | 1 | 119 |
| Copper | mg/kg | | 2 | 39 |
| Iron | mg/kg | | 24400 | 43400 |
| Lead | mg/kg | | 0.5 | 14.5 |
| Lithium | mg/kg | | 5 | 45 |
| Manganese | mg/kg | | 780 | 44300 |
| Molybdenum | mg/kg | | 2 | 7 |
| Nickel | mg/kg | | 2 | 131 |
| Selenium | mg/kg | | 1 | <1 |
| Silver | mg/kg | | 0.5 | <0.5 |
| Strontium | mg/kg | | 5 | 34 |
| Thallium | mg/kg | | 0.1 | 0.2 |
| Tin | mg/kg | | 2 | 3 |
| Uranium | mg/kg | | 0.1 | 0.5 |
| Vanadium | mg/kg | | 2 | 41 |
| Zinc | mg/kg | | 5 | 215 |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

2445301-2449927 Results are based on the dry weight of the sample.

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:

Marla Manka



Certificate of Analysis

AGAT WORK ORDER: 21K744497

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

| Mercury in Soil | | | | | | | | | | | |
|---------------------------|-------|---------------------|-----|-------------|---------------------------|------------|-------------|-------------|-------------|------------|-------------|
| DATE RECEIVED: 2021-05-10 | | | | | DATE REPORTED: 2021-05-19 | | | | | | |
| | | SAMPLE DESCRIPTION: | | Site-Sed-15 | Site-Sed-20 | Site-Sed-9 | Site-Sed-5 | Site-Sed-10 | Site-Sed-21 | Site-Sed-4 | Site-Sed-1 |
| | | SAMPLE TYPE: | | Sediment | Sediment | Sediment | Sediment | Sediment | Sediment | Sediment | Sediment |
| | | DATE SAMPLED: | | 2021-05-05 | 2021-05-05 | 2021-05-05 | 2021-05-05 | 2021-05-05 | 2021-05-06 | 2021-05-07 | 2021-05-07 |
| Parameter | Unit | G / S | RDL | 2445301 | 2445302 | 2445303 | 2445304 | 2445305 | 2445309 | 2445310 | 2445312 |
| Mercury | mg/kg | | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| | | SAMPLE DESCRIPTION: | | Site-Sed-3 | Site-SD-Sed | Site-Sed-2 | Site-Sed-19 | Site-Sed-17 | Site-Sed-16 | Site-Sed-8 | Site-Sed-14 |
| | | SAMPLE TYPE: | | Sediment | Sediment | Sediment | Sediment | Sediment | Sediment | Sediment | Sediment |
| | | DATE SAMPLED: | | 2021-05-07 | 2021-05-05 | 2021-05-08 | 2021-05-08 | 2021-05-08 | 2021-05-08 | 2021-05-08 | 2021-05-09 |
| Parameter | Unit | G / S | RDL | 2445313 | 2445314 | 2445315 | 2445317 | 2445318 | 2445319 | 2445320 | 2445321 |
| Mercury | mg/kg | | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| | | SAMPLE DESCRIPTION: | | Site-Sed-11 | | | | | | | |
| | | SAMPLE TYPE: | | Sediment | | | | | | | |
| | | DATE SAMPLED: | | 2021-05-06 | | | | | | | |
| Parameter | Unit | G / S | RDL | 2449927 | | | | | | | |
| Mercury | mg/kg | | | 0.05 | <0.05 | | | | | | |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

2445301-2449927 Results are based on the dry weight of the soil.

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:

Marla Manka



Certificate of Analysis

AGAT WORK ORDER: 21K744497

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
 St. John's, NL
 CANADA A1E 6A8
 TEL (709)747-8573
 FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Soil (Version 3.1) - Field Preserved

DATE RECEIVED: 2021-05-10

DATE REPORTED: 2021-05-19

| Parameter | Unit | SAMPLE DESCRIPTION: | | Site-Sed-15 | Site-Sed-20 | Site-Sed-9 | Site-Sed-5 | Site-Sed-10 | Site-Sed-21 | Site-Sed-4 | Site-Sed-1 | |
|---------------------------|-------|---------------------|-------|-------------|-------------|------------|------------|-------------|-------------|------------|------------|------------|
| | | SAMPLE TYPE: | | Sediment | Sediment | Sediment | Sediment | Sediment | Sediment | Sediment | Sediment | Sediment |
| | | DATE SAMPLED: | | 2021-05-05 | 2021-05-05 | 2021-05-05 | 2021-05-05 | 2021-05-05 | 2021-05-05 | 2021-05-06 | 2021-05-07 | 2021-05-07 |
| | | G / S | RDL | 2445301 | 2445302 | 2445303 | 2445304 | 2445305 | 2445309 | 2445310 | 2445312 | |
| Benzene | mg/kg | 0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | |
| Toluene | mg/kg | 0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | |
| Ethylbenzene | mg/kg | 0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | |
| Xylene (Total) | mg/kg | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | |
| C6-C10 (less BTEX) | mg/kg | 3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | |
| >C10-C16 Hydrocarbons | mg/kg | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | |
| >C16-C21 Hydrocarbons | mg/kg | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | |
| >C21-C32 Hydrocarbons | mg/kg | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | |
| Modified TPH (Tier 1) | mg/kg | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | |
| Resemblance Comment | | | NR | NR | NR | NR | NR | NR | NR | NR | NR | |
| Return to Baseline at C32 | | | Y | Y | Y | Y | Y | Y | Y | Y | Y | |
| Surrogate | Unit | Acceptable Limits | | | | | | | | | | |
| Isobutylbenzene - EPH | % | 60-140 | 99 | 96 | 100 | 100 | 100 | 100 | 100 | 99 | 98 | |
| Isobutylbenzene - VPH | % | 60-140 | 77 | 82 | 80 | 73 | 82 | 74 | 80 | 80 | 78 | |
| n-Dotriacontane - EPH | % | 60-140 | 105 | 101 | 104 | 105 | 103 | 105 | 104 | 104 | 105 | |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K744497

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
 St. John's, NL
 CANADA A1E 6A8
 TEL (709)747-8573
 FAX (709)747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Soil (Version 3.1) - Field Preserved

DATE RECEIVED: 2021-05-10

DATE REPORTED: 2021-05-19

| Parameter | Unit | SAMPLE DESCRIPTION: | | Site-Sed-3 | Site-SD-Sed | Site-Sed-2 | Site-Sed-19 | Site-Sed-17 | Site-Sed-16 | Site-Sed-8 | Site-Sed-14 | |
|---------------------------|-------|---------------------|-------|------------|-------------|------------|-------------|-------------|-------------|------------|-------------|------------|
| | | SAMPLE TYPE: | | Sediment | Sediment | Sediment | Sediment | Sediment | Sediment | Sediment | Sediment | Sediment |
| | | DATE SAMPLED: | | 2021-05-07 | 2021-05-05 | 2021-05-08 | 2021-05-08 | 2021-05-08 | 2021-05-08 | 2021-05-08 | 2021-05-08 | 2021-05-09 |
| | | G / S | RDL | 2445313 | 2445314 | 2445315 | 2445317 | 2445318 | 2445319 | 2445320 | 2445321 | |
| Benzene | mg/kg | 0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | |
| Toluene | mg/kg | 0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | |
| Ethylbenzene | mg/kg | 0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | |
| Xylene (Total) | mg/kg | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | |
| C6-C10 (less BTEX) | mg/kg | 3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | |
| >C10-C16 Hydrocarbons | mg/kg | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | |
| >C16-C21 Hydrocarbons | mg/kg | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | |
| >C21-C32 Hydrocarbons | mg/kg | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | |
| Modified TPH (Tier 1) | mg/kg | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | |
| Resemblance Comment | | | NR | NR | NR | NR | NR | NR | NR | NR | NR | |
| Return to Baseline at C32 | | | Y | Y | Y | Y | Y | Y | Y | Y | Y | |
| Surrogate | Unit | Acceptable Limits | | | | | | | | | | |
| Isobutylbenzene - EPH | % | 60-140 | 99 | 98 | 97 | 102 | 98 | 101 | 100 | 98 | 98 | |
| Isobutylbenzene - VPH | % | 60-140 | 77 | 75 | 77 | 78 | 77 | 76 | 76 | 79 | 79 | |
| n-Dotriacontane - EPH | % | 60-140 | 104 | 105 | 105 | 107 | 104 | 105 | 106 | 107 | 107 | |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K744497

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Soil (Version 3.1) - Field Preserved

DATE RECEIVED: 2021-05-10

DATE REPORTED: 2021-05-19

SAMPLE DESCRIPTION: Site-Sed-11

SAMPLE TYPE: Sediment

DATE SAMPLED: 2021-05-06

| Parameter | Unit | G / S | RDL | 2449927 |
|---------------------------|-------|-------------------|------|---------|
| Benzene | mg/kg | | 0.03 | <0.03 |
| Toluene | mg/kg | | 0.04 | <0.04 |
| Ethylbenzene | mg/kg | | 0.03 | <0.03 |
| Xylene (Total) | mg/kg | | 0.05 | <0.05 |
| C6-C10 (less BTEX) | mg/kg | | 3 | <3 |
| >C10-C16 Hydrocarbons | mg/kg | | 15 | <15 |
| >C16-C21 Hydrocarbons | mg/kg | | 15 | <15 |
| >C21-C32 Hydrocarbons | mg/kg | | 15 | <15 |
| Modified TPH (Tier 1) | mg/kg | | 15 | <15 |
| Resemblance Comment | | | | NR |
| Return to Baseline at C32 | | | | Y |
| Surrogate | Unit | Acceptable Limits | | |
| Isobutylbenzene - EPH | % | 60-140 | | 96 |
| Isobutylbenzene - VPH | % | 60-140 | | 74 |
| n-Dotriacontane - EPH | % | 60-140 | | 103 |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

2445301-2449927 Modified TPH, Xylene(Total)and C6-C10(less BTEX) are calculated parameters. The calculated parameter is non-accredited. The component parameters of the calculation are accredited.

Results are based on the dry weight of the soil.

Resemblance Comment Key:

- GF - Gasoline Fraction
- WGF - Weathered Gasoline Fraction
- GR - Product in Gasoline Range
- FOF - Fuel Oil Fraction
- WFOF - Weathered Fuel Oil Fraction
- FR - Product in Fuel Oil Range
- LOF - Lube Oil Fraction
- LR - Lube Range
- UC - Unidentified Compounds
- NR - No Resemblance
- NA - Not Applicable

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K744497

PROJECT: 100424.001

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St. John's, NL
CANADA A1E 6A8
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CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Water (Version 3.1)

DATE RECEIVED: 2021-05-10

DATE REPORTED: 2021-05-19

| Parameter | Unit | SAMPLE DESCRIPTION: | | Site-SW-15 | Site-SW-20 | Site-SW-9 | Site-SW-5 | Site-SW-10 | Site-SW-21 | Site-SW-6 | Site-SW-7 |
|---------------------------|------|---------------------|--------|------------|------------|-----------|-----------|------------|------------|-----------|-----------|
| | | G / S | RDL | 2445238 | 2445263 | 2445264 | 2445265 | 2445266 | 2445268 | 2445269 | 2445270 |
| Benzene | mg/L | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Toluene | mg/L | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Ethylbenzene | mg/L | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Xylene (Total) | mg/L | 0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| C6-C10 (less BTEX) | mg/L | 0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| >C10-C16 Hydrocarbons | mg/L | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C16-C21 Hydrocarbons | mg/L | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C21-C32 Hydrocarbons | mg/L | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Modified TPH (Tier 1) | mg/L | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Sediment | | | NO | TRACE | TRACE | TRACE | TRACE | NO | NO | NO | NO |
| Resemblance Comment | | | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| Return to Baseline at C32 | | | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| Surrogate | Unit | Acceptable Limits | | | | | | | | | |
| Isobutylbenzene - EPH | % | 70-130 | 97 | 97 | 100 | 98 | 93 | 92 | 99 | 97 | 97 |
| Isobutylbenzene - VPH | % | 70-130 | 76 | 98 | 98 | 76 | 78 | 98 | 75 | 84 | 84 |
| n-Dotriacontane - EPH | % | 70-130 | 100 | 102 | 104 | 100 | 96 | 96 | 100 | 100 | 100 |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K744497

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Water (Version 3.1)

DATE RECEIVED: 2021-05-10

DATE REPORTED: 2021-05-19

| Parameter | Unit | SAMPLE DESCRIPTION: | | Site-SW-4 | Site-SW-1 | Site-SW-3 | Site-SW-2 | Site-SW-19 | Site-SW-17 | Site-SW-16 | Site-SW-8 |
|---------------------------|------|---------------------|--------|------------|------------|------------|------------|------------|------------|------------|------------|
| | | G / S | RDL | Water | Water | Water | Water | Water | Water | Water | Water |
| | | DATE SAMPLED: | | 2021-05-07 | 2021-05-07 | 2021-05-07 | 2021-05-08 | 2021-05-08 | 2021-05-08 | 2021-05-08 | 2021-05-08 |
| Benzene | mg/L | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Toluene | mg/L | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Ethylbenzene | mg/L | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Xylene (Total) | mg/L | 0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| C6-C10 (less BTEX) | mg/L | 0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| >C10-C16 Hydrocarbons | mg/L | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C16-C21 Hydrocarbons | mg/L | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C21-C32 Hydrocarbons | mg/L | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Modified TPH (Tier 1) | mg/L | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Sediment | | | NO | NO | NO | NO | NO | NO | NO | NO | NO |
| Resemblance Comment | | | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| Return to Baseline at C32 | | | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| Surrogate | Unit | Acceptable Limits | | | | | | | | | |
| Isobutylbenzene - EPH | % | 70-130 | | 98 | 94 | 104 | 104 | 100 | 98 | 100 | 86 |
| Isobutylbenzene - VPH | % | 70-130 | | 97 | 78 | 99 | 91 | 90 | 74 | 87 | 89 |
| n-Dotriacontane - EPH | % | 70-130 | | 101 | 97 | 100 | 102 | 98 | 97 | 98 | 88 |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K744497

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
 St. John's, NL
 CANADA A1E 6A8
 TEL (709)747-8573
 FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Water (Version 3.1)

DATE RECEIVED: 2021-05-10

DATE REPORTED: 2021-05-19

| Parameter | Unit | SAMPLE DESCRIPTION: | | Site-SW-14 | Site-SD-SW |
|---------------------------|------|---------------------|--------|------------|------------|
| | | G / S | RDL | 2445279 | 2445280 |
| Benzene | mg/L | 0.001 | <0.001 | <0.001 | <0.001 |
| Toluene | mg/L | 0.001 | <0.001 | <0.001 | <0.001 |
| Ethylbenzene | mg/L | 0.001 | <0.001 | <0.001 | <0.001 |
| Xylene (Total) | mg/L | 0.002 | <0.002 | <0.002 | <0.002 |
| C6-C10 (less BTEX) | mg/L | 0.01 | <0.01 | <0.01 | <0.01 |
| >C10-C16 Hydrocarbons | mg/L | 0.05 | <0.05 | <0.05 | <0.05 |
| >C16-C21 Hydrocarbons | mg/L | 0.05 | <0.05 | <0.05 | <0.05 |
| >C21-C32 Hydrocarbons | mg/L | 0.1 | <0.1 | <0.1 | <0.1 |
| Modified TPH (Tier 1) | mg/L | 0.1 | <0.1 | <0.1 | <0.1 |
| Sediment | | | TRACE | NO | |
| Resemblance Comment | | | NR | NR | |
| Return to Baseline at C32 | | | Y | Y | |
| Surrogate | Unit | Acceptable Limits | | | |
| Isobutylbenzene - EPH | % | 70-130 | 96 | 94 | |
| Isobutylbenzene - VPH | % | 70-130 | 72 | 74 | |
| n-Dotriacontane - EPH | % | 70-130 | 93 | 93 | |

Certified By:



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PROJECT: 100424.001

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SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Water (Version 3.1)

DATE RECEIVED: 2021-05-10

DATE REPORTED: 2021-05-19

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

2445238-2445280 Modified TPH, Xylene(Total)and C6-C10(less BTEX) are calculated parameters. The calculated parameter is non-accredited. The component parameters of the calculation are accredited.

Sediment parameter is comment only based on visual inspection of the sample prior to extraction and is not an accredited test.

- Resemblance Comment Key:
- GF - Gasoline Fraction
 - WGF - Weathered Gasoline Fraction
 - GR - Product in Gasoline Range
 - FOF - Fuel Oil Fraction
 - WFOF - Weathered Fuel Oil Fraction
 - FR - Product in Fuel Oil Range
 - LOF - Lube Oil Fraction
 - LR - Lube Range
 - UC - Unidentified Compounds
 - NR - No Resemblance
 - NA - Not Applicable

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:



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CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Moisture

DATE RECEIVED: 2021-05-10

DATE REPORTED: 2021-05-19

| | | SAMPLE DESCRIPTION: | | Site-Sed-15 | Site-Sed-20 | Site-Sed-9 | Site-Sed-5 | Site-Sed-10 | Site-Sed-21 | Site-Sed-4 | Site-Sed-1 | |
|------------|------|---------------------|-----|-------------|-------------|------------|-------------|-------------|-------------|------------|-------------|----|
| | | SAMPLE TYPE: | | Sediment | Sediment | Sediment | Sediment | Sediment | Sediment | Sediment | Sediment | |
| | | DATE SAMPLED: | | 2021-05-05 | 2021-05-05 | 2021-05-05 | 2021-05-05 | 2021-05-05 | 2021-05-06 | 2021-05-07 | 2021-05-07 | |
| Parameter | Unit | G / S | RDL | 2445301 | 2445302 | 2445303 | 2445304 | 2445305 | 2445309 | 2445310 | 2445312 | |
| % Moisture | % | | | 1 | 23 | 26 | 11 | 22 | 19 | 44 | 16 | 34 |
| | | SAMPLE DESCRIPTION: | | Site-Sed-3 | Site-SD-Sed | Site-Sed-2 | Site-Sed-19 | Site-Sed-17 | Site-Sed-16 | Site-Sed-8 | Site-Sed-14 | |
| | | SAMPLE TYPE: | | Sediment | Sediment | Sediment | Sediment | Sediment | Sediment | Sediment | Sediment | |
| | | DATE SAMPLED: | | 2021-05-07 | 2021-05-05 | 2021-05-08 | 2021-05-08 | 2021-05-08 | 2021-05-08 | 2021-05-08 | 2021-05-09 | |
| Parameter | Unit | G / S | RDL | 2445313 | 2445314 | 2445315 | 2445317 | 2445318 | 2445319 | 2445320 | 2445321 | |
| % Moisture | % | | | 1 | 31 | 19 | 27 | 28 | 20 | 21 | 20 | 15 |
| | | SAMPLE DESCRIPTION: | | Site-Sed-11 | | | | | | | | |
| | | SAMPLE TYPE: | | Sediment | | | | | | | | |
| | | DATE SAMPLED: | | 2021-05-06 | | | | | | | | |
| Parameter | Unit | G / S | RDL | 2449927 | | | | | | | | |
| % Moisture | % | | | 1 | 18 | | | | | | | |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard
Analysis performed at AGAT Halifax (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K744497

PROJECT: 100424.001

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CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Mercury Analysis in Water (Total)

DATE RECEIVED: 2021-05-10

DATE REPORTED: 2021-05-19

| Parameter | Unit | G / S | RDL | 2445238 | 2445263 | 2445264 | 2445265 | 2445266 | 2445268 | 2445269 | 2445270 |
|---------------------|------|------------|------------|------------|------------|------------|------------|------------|------------|---------|---------|
| SAMPLE DESCRIPTION: | | Site-SW-15 | Site-SW-20 | Site-SW-9 | Site-SW-5 | Site-SW-10 | Site-SW-21 | Site-SW-6 | Site-SW-7 | | |
| SAMPLE TYPE: | | Water | Water | Water | Water | Water | Water | Water | Water | | |
| DATE SAMPLED: | | 2021-05-05 | 2021-05-05 | 2021-05-05 | 2021-05-05 | 2021-05-05 | 2021-05-06 | 2021-05-06 | 2021-05-06 | | |
| Total Mercury | ug/L | 0.026 | 0.628 | 0.593 | 0.645 | 0.630 | 0.604 | 0.586 | 0.565 | 0.625 | |
| SAMPLE DESCRIPTION: | | Site-SW-4 | Site-SW-1 | Site-SW-3 | Site-SW-2 | Site-SW-19 | Site-SW-17 | Site-SW-16 | Site-SW-8 | | |
| SAMPLE TYPE: | | Water | Water | Water | Water | Water | Water | Water | Water | | |
| DATE SAMPLED: | | 2021-05-07 | 2021-05-07 | 2021-05-07 | 2021-05-08 | 2021-05-08 | 2021-05-08 | 2021-05-08 | 2021-05-08 | | |
| Total Mercury | ug/L | 0.026 | 0.659 | 0.648 | 0.647 | 0.630 | 0.591 | 0.613 | 0.590 | 0.638 | |
| SAMPLE DESCRIPTION: | | Site-SW-14 | Site-SD-SW | Site-SW-11 | | | | | | | |
| SAMPLE TYPE: | | Water | Water | Water | | | | | | | |
| DATE SAMPLED: | | 2021-05-09 | 2021-05-05 | 2021-05-06 | | | | | | | |
| Total Mercury | ug/L | 0.026 | 0.609 | 0.569 | 0.550 | | | | | | |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard
Analysis performed at AGAT Halifax (unless marked by *)

Certified By:

Marla Manka



Certificate of Analysis

AGAT WORK ORDER: 21K744497

PROJECT: 100424.001

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CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals

DATE RECEIVED: 2021-05-10

DATE REPORTED: 2021-05-19

| Parameter | Unit | SAMPLE DESCRIPTION: | | Site-SW-15 | Site-SW-20 | Site-SW-9 | Site-SW-5 | Site-SW-10 | Site-SW-21 | Site-SW-6 | Site-SW-7 |
|-------------------------------|---------|---------------------|------|------------|------------|------------|------------|------------|------------|------------|------------|
| | | SAMPLE TYPE: | | Water | Water | Water | Water | Water | Water | Water | Water |
| | | DATE SAMPLED: | | 2021-05-05 | 2021-05-05 | 2021-05-05 | 2021-05-05 | 2021-05-05 | 2021-05-06 | 2021-05-06 | 2021-05-06 |
| | | G / S | RDL | 2445238 | 2445263 | 2445264 | 2445265 | 2445266 | 2445268 | 2445269 | 2445270 |
| pH | | | | 6.52 | 6.91 | 6.25 | 6.30 | 6.31 | 6.29 | 6.79 | 6.18 |
| Reactive Silica as SiO2 | mg/L | | 0.5 | 2.5 | 3.1 | 1.0 | 2.6 | <0.5 | 2.0 | <0.5 | 2.2 |
| Chloride | mg/L | | 1 | 11 | 6 | 9 | 2 | 7 | 9 | 27 | 3 |
| Fluoride | mg/L | | 0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 |
| Sulphate | mg/L | | 2 | <2 | <2 | <2 | <2 | <2 | <2 | 4 | <2 |
| Alkalinity | mg/L | | 5 | <5 | 14 | 6 | 7 | 5 | <5 | 11 | 5 |
| True Color | TCU | | 5.00 | 57.4 | 65.6 | 52.0 | 71.7 | 44.0 | 94.6 | 42.1 | 45.8 |
| Turbidity | NTU | | 0.5 | 0.9 | 1.1 | 0.8 | <0.5 | 0.7 | 0.8 | 2.4 | 0.6 |
| Electrical Conductivity | umho/cm | | 1 | 64 | 60 | 53 | 30 | 42 | 53 | 136 | 34 |
| Nitrate + Nitrite as N | mg/L | | 0.05 | 0.17 | <0.05 | <0.05 | 0.12 | <0.05 | 0.14 | <0.05 | 0.10 |
| Nitrate as N | mg/L | | 0.05 | 0.17 | <0.05 | <0.05 | 0.12 | <0.05 | 0.14 | <0.05 | 0.10 |
| Nitrite as N | mg/L | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Ammonia as N | mg/L | | 0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 |
| Total Organic Carbon | mg/L | | 0.5 | 8.2 | 10.7 | 9.2 | 8.0 | 7.9 | 8.8 | 7.2 | 10.1 |
| Ortho-Phosphate as P | mg/L | | 0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| Total Sodium | mg/L | | 0.1 | 8.2 | 5.6 | 7.4 | 2.6 | 5.5 | 6.7 | 16.2 | 3.1 |
| Total Potassium | mg/L | | 0.1 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.5 | 0.6 |
| Total Calcium | mg/L | | 0.1 | 1.8 | 3.1 | 1.8 | 2.4 | 1.6 | 1.7 | 6.0 | 2.5 |
| Total Magnesium | mg/L | | 0.1 | 1.4 | 3.1 | 0.8 | 1.2 | 0.9 | 1.3 | 1.2 | 0.7 |
| Bicarb. Alkalinity (as CaCO3) | mg/L | | 5 | <5 | 14 | 6 | 7 | 5 | <5 | 11 | 5 |
| Carb. Alkalinity (as CaCO3) | mg/L | | 10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| Hydroxide | mg/L | | 5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| Calculated TDS | mg/L | | 1 | 24 | 27 | 24 | 14 | 19 | 20 | 62 | 14 |
| Hardness | mg/L | | | 10.3 | 20.5 | 7.8 | 10.9 | 7.7 | 9.6 | 19.9 | 9.1 |
| Langelier Index (@20C) | NA | | | -4.06 | -2.98 | -4.24 | -3.98 | -4.30 | -4.31 | -2.96 | -4.23 |
| Langelier Index (@ 4C) | NA | | | -4.38 | -3.30 | -4.56 | -4.30 | -4.62 | -4.63 | -3.28 | -4.55 |
| Saturation pH (@ 20C) | NA | | | 10.6 | 9.89 | 10.5 | 10.3 | 10.6 | 10.6 | 9.75 | 10.4 |
| Saturation pH (@ 4C) | NA | | | 10.9 | 10.2 | 10.8 | 10.6 | 10.9 | 10.9 | 10.1 | 10.7 |
| Anion Sum | me/L | | | 0.32 | 0.45 | 0.37 | 0.20 | 0.30 | 0.26 | 1.06 | 0.19 |
| Cation sum | me/L | | | 0.59 | 0.69 | 0.52 | 0.37 | 0.42 | 0.51 | 1.14 | 0.37 |

Certified By:

Marla Manka



Certificate of Analysis

AGAT WORK ORDER: 21K744497

PROJECT: 100424.001

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CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals

DATE RECEIVED: 2021-05-10

DATE REPORTED: 2021-05-19

| Parameter | Unit | SAMPLE DESCRIPTION: | | Site-SW-15 | Site-SW-20 | Site-SW-9 | Site-SW-5 | Site-SW-10 | Site-SW-21 | Site-SW-6 | Site-SW-7 |
|---------------------------|------|---------------------|-----|------------|------------|------------|------------|------------|------------|------------|------------|
| | | SAMPLE TYPE: | | Water | Water | Water | Water | Water | Water | Water | Water |
| | | DATE SAMPLED: | | 2021-05-05 | 2021-05-05 | 2021-05-05 | 2021-05-05 | 2021-05-05 | 2021-05-06 | 2021-05-06 | 2021-05-06 |
| | | G / S | RDL | 2445238 | 2445263 | 2445264 | 2445265 | 2445266 | 2445268 | 2445269 | 2445270 |
| % Difference/ Ion Balance | % | | | 29.2 | 20.9 | 16.3 | 28.3 | 17.3 | 31.9 | 3.4 | 31.8 |
| Total Aluminum | ug/L | 5 | | 94 | 111 | 123 | 95 | 81 | 95 | 142 | 137 |
| Total Antimony | ug/L | 2 | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Total Arsenic | ug/L | 2 | | <2 | <2 | <2 | <2 | <2 | <2 | 2 | <2 |
| Total Barium | ug/L | 5 | | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| Total Beryllium | ug/L | 2 | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Total Bismuth | ug/L | 2 | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Total Boron | ug/L | 5 | | <5 | 5 | <5 | <5 | <5 | <5 | <5 | <5 |
| Total Cadmium | ug/L | 0.09 | | <0.09 | <0.09 | <0.09 | <0.09 | <0.09 | <0.09 | <0.09 | <0.09 |
| Total Chromium | ug/L | 1 | | <1 | 3 | <1 | <1 | <1 | <1 | <1 | <1 |
| Total Cobalt | ug/L | 1 | | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| Total Copper | ug/L | 1 | | 1 | 1 | <1 | 1 | <1 | <1 | 1 | 4 |
| Total Iron | ug/L | 50 | | 217 | 325 | 432 | 344 | 273 | 225 | 197 | 241 |
| Total Lead | ug/L | 0.5 | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Total Manganese | ug/L | 2 | | 17 | 48 | 131 | 102 | 54 | 33 | 34 | 357 |
| Total Molybdenum | ug/L | 2 | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Total Nickel | ug/L | 2 | | <2 | 4 | <2 | <2 | <2 | <2 | <2 | 3 |
| Total Phosphorous | mg/L | 0.02 | | 0.03 | 0.04 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 |
| Total Selenium | ug/L | 1 | | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| Total Silver | ug/L | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Total Strontium | ug/L | 5 | | 13 | 14 | 13 | 18 | 12 | 13 | 38 | 16 |
| Total Thallium | ug/L | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Total Tin | ug/L | 2 | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Total Titanium | ug/L | 2 | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Total Uranium | ug/L | 0.2 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Total Vanadium | ug/L | 2 | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Total Zinc | ug/L | 5 | | <5 | <5 | <5 | 8 | <5 | <5 | 6 | 6 |

Certified By:

Marla Manka



Certificate of Analysis

AGAT WORK ORDER: 21K744497

PROJECT: 100424.001

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<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals

DATE RECEIVED: 2021-05-10

DATE REPORTED: 2021-05-19

| Parameter | Unit | SAMPLE DESCRIPTION: | | Site-SW-4 | Site-SW-1 | Site-SW-3 | Site-SW-2 | Site-SW-19 | Site-SW-17 | Site-SW-16 | Site-SW-8 |
|-------------------------------|---------|---------------------|------|------------|------------|------------|------------|------------|------------|------------|------------|
| | | SAMPLE TYPE: | | Water | Water | Water | Water | Water | Water | Water | Water |
| | | DATE SAMPLED: | | 2021-05-07 | 2021-05-07 | 2021-05-07 | 2021-05-08 | 2021-05-08 | 2021-05-08 | 2021-05-08 | 2021-05-08 |
| | | G / S | RDL | 2445271 | 2445272 | 2445273 | 2445274 | 2445275 | 2445276 | 2445277 | 2445278 |
| pH | | | | 6.63 | 6.46 | 6.38 | 6.34 | 5.92 | 6.42 | 6.38 | 6.74 |
| Reactive Silica as SiO2 | mg/L | | 0.5 | 1.8 | 1.6 | 0.7 | 1.1 | <0.5 | 1.7 | 1.6 | 1.0 |
| Chloride | mg/L | | 1 | 10 | 2 | 2 | 2 | 2 | 8 | 2 | 29 |
| Fluoride | mg/L | | 0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 |
| Sulphate | mg/L | | 2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | 2 |
| Alkalinity | mg/L | | 5 | 9 | 7 | <5 | 5 | <5 | <5 | 6 | 7 |
| True Color | TCU | | 5.00 | 44.2 | 52.2 | 46.3 | 67.0 | 50.0 | 81.2 | 110 | 41.5 |
| Turbidity | NTU | | 0.5 | 0.7 | 0.6 | 0.6 | 0.7 | 0.5 | 0.6 | 0.6 | <0.5 |
| Electrical Conductivity | umho/cm | | 1 | 66 | 28 | 25 | 26 | 16 | 50 | 28 | 134 |
| Nitrate + Nitrite as N | mg/L | | 0.05 | 0.13 | <0.05 | <0.05 | <0.05 | <0.05 | 0.13 | <0.05 | <0.05 |
| Nitrate as N | mg/L | | 0.05 | 0.13 | <0.05 | <0.05 | <0.05 | <0.05 | 0.13 | <0.05 | <0.05 |
| Nitrite as N | mg/L | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Ammonia as N | mg/L | | 0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 |
| Total Organic Carbon | mg/L | | 0.5 | 6.5 | 7.0 | 6.4 | 8.6 | 6.7 | 8.8 | 10.5 | 6.2 |
| Ortho-Phosphate as P | mg/L | | 0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| Total Sodium | mg/L | | 0.1 | 7.4 | 2.6 | 2.3 | 2.5 | 1.8 | 6.2 | 2.6 | 19.4 |
| Total Potassium | mg/L | | 0.1 | 0.4 | 0.3 | 0.3 | 0.4 | 0.3 | 0.3 | 0.3 | 0.3 |
| Total Calcium | mg/L | | 0.1 | 3.6 | 1.8 | 1.8 | 1.8 | 1.0 | 1.8 | 2.1 | 3.8 |
| Total Magnesium | mg/L | | 0.1 | 1.0 | 0.9 | 0.8 | 0.8 | 0.4 | 1.4 | 1.1 | 1.0 |
| Bicarb. Alkalinity (as CaCO3) | mg/L | | 5 | 9 | 7 | <5 | 5 | <5 | <5 | 6 | 7 |
| Carb. Alkalinity (as CaCO3) | mg/L | | 10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| Hydroxide | mg/L | | 5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| Calculated TDS | mg/L | | 1 | 29 | 12 | 7 | 11 | 6 | 19 | 12 | 60 |
| Hardness | mg/L | | | 13.1 | 8.2 | 7.8 | 7.8 | 4.1 | 10.3 | 9.8 | 13.6 |
| Langelier Index (@20C) | NA | | | -3.39 | -3.94 | -4.16 | -4.20 | -4.87 | -4.15 | -4.02 | -3.40 |
| Langelier Index (@ 4C) | NA | | | -3.71 | -4.26 | -4.48 | -4.52 | -5.19 | -4.47 | -4.34 | -3.72 |
| Saturation pH (@ 20C) | NA | | | 10.0 | 10.4 | 10.5 | 10.5 | 10.8 | 10.6 | 10.4 | 10.1 |
| Saturation pH (@ 4C) | NA | | | 10.3 | 10.7 | 10.9 | 10.9 | 11.1 | 10.9 | 10.7 | 10.5 |
| Anion Sum | me/L | | | 0.47 | 0.20 | 0.06 | 0.16 | 0.06 | 0.23 | 0.18 | 1.00 |
| Cation sum | me/L | | | 0.61 | 0.30 | 0.28 | 0.29 | 0.18 | 0.50 | 0.35 | 1.13 |

Certified By:

Marla Manka



Certificate of Analysis

AGAT WORK ORDER: 21K744497

PROJECT: 100424.001

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<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals

DATE RECEIVED: 2021-05-10

DATE REPORTED: 2021-05-19

| Parameter | Unit | SAMPLE DESCRIPTION: | | Site-SW-4 | Site-SW-1 | Site-SW-3 | Site-SW-2 | Site-SW-19 | Site-SW-17 | Site-SW-16 | Site-SW-8 |
|---------------------------|------|---------------------|-----|------------|------------|------------|------------|------------|------------|------------|------------|
| | | SAMPLE TYPE: | | Water | Water | Water | Water | Water | Water | Water | Water |
| | | DATE SAMPLED: | | 2021-05-07 | 2021-05-07 | 2021-05-07 | 2021-05-08 | 2021-05-08 | 2021-05-08 | 2021-05-08 | 2021-05-08 |
| | | G / S | RDL | 2445271 | 2445272 | 2445273 | 2445274 | 2445275 | 2445276 | 2445277 | 2445278 |
| % Difference/ Ion Balance | % | | | 12.8 | 21.5 | 66.2 | 30.6 | 52.9 | 36.4 | 32.9 | 6.3 |
| Total Aluminum | ug/L | 5 | | 82 | 73 | 56 | 85 | 72 | 88 | 111 | 44 |
| Total Antimony | ug/L | 2 | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Total Arsenic | ug/L | 2 | | <2 | <2 | <2 | <2 | <2 | <2 | 2 | <2 |
| Total Barium | ug/L | 5 | | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| Total Beryllium | ug/L | 2 | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Total Bismuth | ug/L | 2 | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Total Boron | ug/L | 5 | | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| Total Cadmium | ug/L | 0.09 | | <0.09 | <0.09 | <0.09 | <0.09 | 0.13 | <0.09 | <0.09 | <0.09 |
| Total Chromium | ug/L | 1 | | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| Total Cobalt | ug/L | 1 | | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| Total Copper | ug/L | 1 | | 1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| Total Iron | ug/L | 50 | | 150 | 217 | 176 | 206 | 115 | 279 | 483 | 163 |
| Total Lead | ug/L | 0.5 | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Total Manganese | ug/L | 2 | | 30 | 90 | 40 | 62 | 30 | 50 | 95 | 21 |
| Total Molybdenum | ug/L | 2 | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Total Nickel | ug/L | 2 | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Total Phosphorous | mg/L | 0.02 | | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.02 |
| Total Selenium | ug/L | 1 | | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| Total Silver | ug/L | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Total Strontium | ug/L | 5 | | 26 | 13 | 13 | 13 | 7 | 13 | 14 | 26 |
| Total Thallium | ug/L | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Total Tin | ug/L | 2 | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Total Titanium | ug/L | 2 | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Total Uranium | ug/L | 0.2 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Total Vanadium | ug/L | 2 | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Total Zinc | ug/L | 5 | | <5 | <5 | 6 | <5 | <5 | <5 | <5 | <5 |

Certified By:

Marla Manka



Certificate of Analysis

AGAT WORK ORDER: 21K744497

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals

DATE RECEIVED: 2021-05-10

DATE REPORTED: 2021-05-19

| Parameter | Unit | SAMPLE DESCRIPTION: | | Site-SW-14 | Site-SD-SW | Site-SW-11 |
|-------------------------------|---------|---------------------|------|------------|------------|------------|
| | | G / S | RDL | 2445279 | 2445280 | 2447216 |
| pH | | | | 7.00 | 6.37 | 6.40 |
| Reactive Silica as SiO2 | mg/L | | 0.5 | 4.2 | 0.8 | 1.5 |
| Chloride | mg/L | | 1 | 3 | 7 | 2 |
| Fluoride | mg/L | | 0.12 | <0.12 | <0.12 | <0.12 |
| Sulphate | mg/L | | 2 | <2 | <2 | <2 |
| Alkalinity | mg/L | | 5 | 22 | 6 | 5 |
| True Color | TCU | | 5.00 | 166 | 57.7 | 42.8 |
| Turbidity | NTU | | 0.5 | 0.6 | 0.8 | <0.5 |
| Electrical Conductivity | umho/cm | | 1 | 55 | 43 | 22 |
| Nitrate + Nitrite as N | mg/L | | 0.05 | <0.05 | <0.05 | <0.05 |
| Nitrate as N | mg/L | | 0.05 | <0.05 | <0.05 | <0.05 |
| Nitrite as N | mg/L | | 0.05 | <0.05 | <0.05 | <0.05 |
| Ammonia as N | mg/L | | 0.03 | <0.03 | <0.03 | <0.03 |
| Total Organic Carbon | mg/L | | 0.5 | 12.6 | 8.0 | 5.5 |
| Ortho-Phosphate as P | mg/L | | 0.01 | <0.01 | <0.01 | <0.01 |
| Total Sodium | mg/L | | 0.1 | 2.8 | 5.8 | 2.2 |
| Total Potassium | mg/L | | 0.1 | 0.3 | 0.3 | 0.1 |
| Total Calcium | mg/L | | 0.1 | 2.3 | 1.7 | 1.4 |
| Total Magnesium | mg/L | | 0.1 | 5.1 | 0.9 | 0.7 |
| Bicarb. Alkalinity (as CaCO3) | mg/L | | 5 | 22 | 6 | 5 |
| Carb. Alkalinity (as CaCO3) | mg/L | | 10 | <10 | <10 | <10 |
| Hydroxide | mg/L | | 5 | <5 | <5 | <5 |
| Calculated TDS | mg/L | | 1 | 27 | 20 | 10 |
| Hardness | mg/L | | | 26.7 | 8.0 | 6.4 |
| Langelier Index (@20C) | NA | | | -2.83 | -4.14 | -4.24 |
| Langelier Index (@ 4C) | NA | | | -3.15 | -4.46 | -4.56 |
| Saturation pH (@ 20C) | NA | | | 9.83 | 10.5 | 10.6 |
| Saturation pH (@ 4C) | NA | | | 10.1 | 10.8 | 11.0 |
| Anion Sum | me/L | | | 0.52 | 0.32 | 0.16 |
| Cation sum | me/L | | | 0.71 | 0.44 | 0.24 |

Certified By:

Marla Manka



Certificate of Analysis

AGAT WORK ORDER: 21K744497

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals

DATE RECEIVED: 2021-05-10

DATE REPORTED: 2021-05-19

| Parameter | Unit | SAMPLE DESCRIPTION: | | Site-SW-14 | Site-SD-SW | Site-SW-11 |
|---------------------------|------|---------------------|------|------------|------------|------------|
| | | SAMPLE TYPE: | | Water | Water | Water |
| | | DATE SAMPLED: | | 2021-05-09 | 2021-05-05 | 2021-05-06 |
| | | G / S | RDL | 2445279 | 2445280 | 2447216 |
| % Difference/ Ion Balance | % | | | 15.1 | 16.3 | 21.2 |
| Total Aluminum | ug/L | | 5 | 286 | 90 | 64 |
| Total Antimony | ug/L | | 2 | <2 | <2 | <2 |
| Total Arsenic | ug/L | | 2 | <2 | <2 | <2 |
| Total Barium | ug/L | | 5 | <5 | <5 | <5 |
| Total Beryllium | ug/L | | 2 | <2 | <2 | <2 |
| Total Bismuth | ug/L | | 2 | <2 | <2 | <2 |
| Total Boron | ug/L | | 5 | <5 | <5 | <5 |
| Total Cadmium | ug/L | | 0.09 | <0.09 | <0.09 | <0.09 |
| Total Chromium | ug/L | | 1 | 5 | <1 | <1 |
| Total Cobalt | ug/L | | 1 | <1 | <1 | <1 |
| Total Copper | ug/L | | 1 | 3 | <1 | <1 |
| Total Iron | ug/L | | 50 | 449 | 289 | 195 |
| Total Lead | ug/L | | 0.5 | <0.5 | <0.5 | <0.5 |
| Total Manganese | ug/L | | 2 | 35 | 56 | 10 |
| Total Molybdenum | ug/L | | 2 | <2 | <2 | <2 |
| Total Nickel | ug/L | | 2 | 8 | <2 | 69 |
| Total Phosphorous | mg/L | | 0.02 | 0.06 | 0.04 | 0.02 |
| Total Selenium | ug/L | | 1 | <1 | <1 | <1 |
| Total Silver | ug/L | | 0.1 | <0.1 | <0.1 | <0.1 |
| Total Strontium | ug/L | | 5 | 19 | 12 | 12 |
| Total Thallium | ug/L | | 0.1 | <0.1 | <0.1 | <0.1 |
| Total Tin | ug/L | | 2 | <2 | <2 | <2 |
| Total Titanium | ug/L | | 2 | 3 | <2 | <2 |
| Total Uranium | ug/L | | 0.2 | <0.2 | <0.2 | <0.2 |
| Total Vanadium | ug/L | | 2 | <2 | <2 | <2 |
| Total Zinc | ug/L | | 5 | <5 | <5 | <5 |

Certified By:

Marla Manka



Certificate of Analysis

AGAT WORK ORDER: 21K744497

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals

DATE RECEIVED: 2021-05-10

DATE REPORTED: 2021-05-19

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

2445238-2445268 % Difference / Ion Balance, Hardness, Langelier Index, Nitrate + Nitrite, Hydroxide and Saturation pH are calculated parameters. The calculated parameters are non-accredited. The component parameters of the calculations are accredited.

When the cation and anion sums are at, or below 1 me/L, the acceptable criteria is less than 0.3me/L

2445269 % Difference / Ion Balance, Hardness, Langelier Index, Nitrate + Nitrite, Hydroxide and Saturation pH are calculated parameters. The calculated parameters are non-accredited. The component parameters of the calculations are accredited.

2445270-2445277 % Difference / Ion Balance, Hardness, Langelier Index, Nitrate + Nitrite, Hydroxide and Saturation pH are calculated parameters. The calculated parameters are non-accredited. The component parameters of the calculations are accredited.

When the cation and anion sums are at, or below 1 me/L, the acceptable criteria is less than 0.3me/L

2445278 % Difference / Ion Balance, Hardness, Langelier Index, Nitrate + Nitrite, Hydroxide and Saturation pH are calculated parameters. The calculated parameters are non-accredited. The component parameters of the calculations are accredited.

2445279-2445280 % Difference / Ion Balance, Hardness, Langelier Index, Nitrate + Nitrite, Hydroxide and Saturation pH are calculated parameters. The calculated parameters are non-accredited. The component parameters of the calculations are accredited.

When the cation and anion sums are at, or below 1 me/L, the acceptable criteria is less than 0.3me/L

2447216 % Difference / Ion Balance, Hardness, Langelier Index, Nitrate + Nitrite, Hydroxide and Saturation pH are calculated parameters. The calculated parameters are non-accredited. The component parameters of the calculations are accredited.

When the cation and anion sums are at, or below 1 me/L, the acceptable criteria is less than 0.3me/L

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K744497

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
 St. John's, NL
 CANADA A1E 6A8
 TEL (709)747-8573
 FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

| TSS | | | | | | | | | | | |
|---------------------------|------|---------------------|-----|------------|---------------------------|------------|------------|------------|------------|------------|------------|
| DATE RECEIVED: 2021-05-10 | | | | | DATE REPORTED: 2021-05-19 | | | | | | |
| | | SAMPLE DESCRIPTION: | | Site-SW-15 | Site-SW-20 | Site-SW-9 | Site-SW-5 | Site-SW-10 | Site-SW-21 | Site-SW-6 | Site-SW-7 |
| | | SAMPLE TYPE: | | Water | Water | Water | Water | Water | Water | Water | Water |
| | | DATE SAMPLED: | | 2021-05-05 | 2021-05-05 | 2021-05-05 | 2021-05-05 | 2021-05-05 | 2021-05-06 | 2021-05-06 | 2021-05-06 |
| Parameter | Unit | G / S | RDL | 2445238 | 2445263 | 2445264 | 2445265 | 2445266 | 2445268 | 2445269 | 2445270 |
| Total Suspended Solids | mg/L | | 5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| | | SAMPLE DESCRIPTION: | | Site-SW-4 | Site-SW-1 | Site-SW-3 | Site-SW-2 | Site-SW-19 | Site-SW-17 | Site-SW-16 | Site-SW-8 |
| | | SAMPLE TYPE: | | Water | Water | Water | Water | Water | Water | Water | Water |
| | | DATE SAMPLED: | | 2021-05-07 | 2021-05-07 | 2021-05-07 | 2021-05-08 | 2021-05-08 | 2021-05-08 | 2021-05-08 | 2021-05-08 |
| Parameter | Unit | G / S | RDL | 2445271 | 2445272 | 2445273 | 2445274 | 2445275 | 2445276 | 2445277 | 2445278 |
| Total Suspended Solids | mg/L | | 5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| | | SAMPLE DESCRIPTION: | | Site-SW-14 | Site-SD-SW | | | | | | |
| | | SAMPLE TYPE: | | Water | Water | | | | | | |
| | | DATE SAMPLED: | | 2021-05-09 | 2021-05-05 | | | | | | |
| Parameter | Unit | G / S | RDL | 2445279 | 2445280 | | | | | | |
| Total Suspended Solids | mg/L | | 5 | <5 | <5 | | | | | | |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard
 Analysis performed at AGAT St John's (unless marked by *)

Certified By:

Marla Manka

Quality Assurance

 CLIENT NAME: GEMTEC LIMITED
 PROJECT: 100424.001
 SAMPLING SITE:

 AGAT WORK ORDER: 21K744497
 ATTENTION TO: Darrol Rice
 SAMPLED BY:

Soil Analysis

| | | | | | | | | | | | | | | | | |
|------------------------|-------|--------------|-----------|--------|-----|-------------------|-----------------|----------------------|-------|----------|----------------------|-------|----------|----------------------|-------|--|
| RPT Date: May 19, 2021 | | | DUPLICATE | | | | Method Blank | REFERENCE MATERIAL | | | METHOD BLANK SPIKE | | | MATRIX SPIKE | | |
| PARAMETER | Batch | Sample Id | Dup #1 | Dup #2 | RPD | Measured Value | | Acceptable Limits | | Recovery | Acceptable Limits | | Recovery | Acceptable Limits | | |
| | | | | | | | | Lower | Upper | | Lower | Upper | | Lower | Upper | |

Available Metals in Soil

| | | | | | | | | | | | | | | | |
|------------|---------|---------|-------|-------|-------|-------|------|-----|------|------|-----|------|------|-----|------|
| Aluminum | 2445302 | 2445302 | 19600 | 19500 | 0.3% | < 10 | 101% | 80% | 120% | 108% | 80% | 120% | NA | 70% | 130% |
| Antimony | 2445302 | 2445302 | <1 | <1 | NA | < 1 | 91% | 80% | 120% | 106% | 80% | 120% | NA | 70% | 130% |
| Arsenic | 2445302 | 2445302 | 73 | 76 | 3.3% | < 1 | 97% | 80% | 120% | 103% | 80% | 120% | NA | 70% | 130% |
| Barium | 2445302 | 2445302 | 13 | 13 | NA | < 5 | 105% | 80% | 120% | 111% | 80% | 120% | 80% | 70% | 130% |
| Beryllium | 2445302 | 2445302 | <2 | <2 | NA | < 2 | 95% | 80% | 120% | 103% | 80% | 120% | 102% | 70% | 130% |
| Boron | 2445302 | 2445302 | 3 | 4 | NA | < 2 | 95% | 80% | 120% | 108% | 80% | 120% | 103% | 70% | 130% |
| Cadmium | 2445302 | 2445302 | <0.3 | <0.3 | NA | < 0.3 | 94% | 80% | 120% | 100% | 80% | 120% | 87% | 70% | 130% |
| Chromium | 2445302 | 2445302 | 823 | 734 | 11.5% | < 2 | 90% | 80% | 120% | 98% | 80% | 120% | 100% | 70% | 130% |
| Cobalt | 2445302 | 2445302 | 54 | 55 | 2.4% | < 1 | 92% | 80% | 120% | 99% | 80% | 120% | 100% | 70% | 130% |
| Copper | 2445302 | 2445302 | 58 | 54 | 7.0% | < 2 | 94% | 80% | 120% | 99% | 80% | 120% | 98% | 70% | 130% |
| Iron | 2445302 | 2445302 | 56900 | 54300 | 4.7% | < 50 | 93% | 80% | 120% | 97% | 80% | 120% | 100% | 70% | 130% |
| Lead | 2445302 | 2445302 | 13.4 | 12.4 | 8.1% | < 0.5 | 98% | 80% | 120% | 101% | 80% | 120% | 81% | 70% | 130% |
| Lithium | 2445302 | 2445302 | 48 | 49 | 2.7% | < 5 | 95% | 70% | 130% | 107% | 70% | 130% | NA | 70% | 130% |
| Manganese | 2445302 | 2445302 | 925 | 870 | 6.1% | < 2 | 92% | 80% | 120% | 99% | 80% | 120% | 111% | 70% | 130% |
| Molybdenum | 2445302 | 2445302 | 4 | 4 | NA | < 2 | 90% | 80% | 120% | 95% | 80% | 120% | 93% | 70% | 130% |
| Nickel | 2445302 | 2445302 | 443 | 447 | 0.9% | < 2 | 91% | 80% | 120% | 102% | 80% | 120% | 99% | 70% | 130% |
| Selenium | 2445302 | 2445302 | <1 | <1 | NA | < 1 | 102% | 80% | 120% | 96% | 80% | 120% | 76% | 70% | 130% |
| Silver | 2445302 | 2445302 | <0.5 | <0.5 | NA | < 0.5 | 89% | 80% | 120% | 92% | 80% | 120% | 84% | 70% | 130% |
| Strontium | 2445302 | 2445302 | 13 | 16 | NA | < 5 | 93% | 80% | 120% | 98% | 80% | 120% | 99% | 70% | 130% |
| Thallium | 2445302 | 2445302 | <0.1 | <0.1 | NA | < 0.1 | 92% | 80% | 120% | 97% | 80% | 120% | NA | 70% | 130% |
| Tin | 2445302 | 2445302 | 3 | 3 | NA | < 2 | 95% | 80% | 120% | 98% | 80% | 120% | 95% | 70% | 130% |
| Uranium | 2445302 | 2445302 | 0.7 | 0.7 | 1.1% | < 0.1 | 95% | 80% | 120% | 99% | 80% | 120% | 70% | 70% | 130% |
| Vanadium | 2445302 | 2445302 | 49 | 56 | 13.4% | < 2 | 89% | 80% | 120% | 96% | 80% | 120% | 95% | 70% | 130% |
| Zinc | 2445302 | 2445302 | 86 | 92 | 7.4% | < 5 | 94% | 80% | 120% | 100% | 80% | 120% | 97% | 70% | 130% |

Mercury in Soil

| | | | | | | | | | | | | | | | |
|---------|---------|---------|-------|-------|----|--------|-----|-----|------|--|-----|------|-----|-----|------|
| Mercury | 2445302 | 2445302 | <0.05 | <0.05 | NA | < 0.05 | 88% | 70% | 130% | | 70% | 130% | 96% | 70% | 130% |
|---------|---------|---------|-------|-------|----|--------|-----|-----|------|--|-----|------|-----|-----|------|

Certified By: 

Quality Assurance

CLIENT NAME: GEMTEC LIMITED
 PROJECT: 100424.001
 SAMPLING SITE:

AGAT WORK ORDER: 21K744497
 ATTENTION TO: Darrol Rice
 SAMPLED BY:

| Trace Organics Analysis | | | | | | | | | | | | | | |
|-------------------------|-------|-----------|-----------|--------|-----|----------------|--------------|--------------------|-------|----------|--------------------|-------|--------------|-------------------|
| RPT Date: May 19, 2021 | | | DUPLICATE | | | | Method Blank | REFERENCE MATERIAL | | | METHOD BLANK SPIKE | | MATRIX SPIKE | |
| PARAMETER | Batch | Sample Id | Dup #1 | Dup #2 | RPD | Measured Value | | Acceptable Limits | | Recovery | Acceptable Limits | | Recovery | Acceptable Limits |
| | | | | | | | Lower | Upper | Lower | | Upper | Lower | | Upper |

Atlantic RBCA Tier 1 Hydrocarbons in Water (Version 3.1)

| | | | | | | | | | | | | | | | |
|-----------------------|---|---------|---------|---------|----|---------|------|-----|------|------|-----|------|-----|-----|------|
| Benzene | 1 | 2439838 | < 0.001 | < 0.001 | NA | < 0.001 | 107% | 70% | 130% | 91% | 70% | 130% | | | |
| Toluene | 1 | 2439838 | < 0.001 | < 0.001 | NA | < 0.001 | 109% | 70% | 130% | 90% | 70% | 130% | | | |
| Ethylbenzene | 1 | 2439838 | < 0.001 | < 0.001 | NA | < 0.001 | 111% | 70% | 130% | 90% | 70% | 130% | | | |
| Xylene (Total) | 1 | 2439838 | < 0.002 | < 0.002 | NA | < 0.002 | 111% | 70% | 130% | 90% | 70% | 130% | | | |
| C6-C10 (less BTEX) | 1 | 2439838 | < 0.01 | < 0.01 | NA | < 0.01 | 110% | 70% | 130% | 101% | 70% | 130% | 99% | 70% | 130% |
| >C10-C16 Hydrocarbons | 1 | 2445238 | < 0.05 | < 0.05 | NA | < 0.05 | 100% | 70% | 130% | 94% | 70% | 130% | 67% | 70% | 130% |
| >C16-C21 Hydrocarbons | 1 | 2445238 | < 0.05 | < 0.05 | NA | < 0.05 | 97% | 70% | 130% | 94% | 70% | 130% | 67% | 70% | 130% |
| >C21-C32 Hydrocarbons | 1 | 2445238 | < 0.1 | < 0.1 | NA | < 0.1 | 95% | 70% | 130% | 94% | 70% | 130% | 67% | 70% | 130% |

Comments: Matrix spike not within acceptance limits due to matrix interference. Analysis was repeated with similar results.
 If Matrix spike value is NA, the spiked analyte concentration was lower than that of the matrix contribution. Matrix spike performed on a different sample than the duplicate.
 If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Atlantic RBCA Tier 1 Hydrocarbons in Soil (Version 3.1) - Field Preserved

| | | | | | | | | | | | | | | | |
|-----------------------|---|---------|--------|--------|----|--------|------|-----|------|------|-----|------|-----|-----|------|
| Benzene | 1 | 2445301 | < 0.03 | < 0.03 | NA | < 0.03 | 90% | 60% | 140% | 106% | 60% | 140% | | | |
| Toluene | 1 | 2445301 | < 0.04 | < 0.04 | NA | < 0.04 | 86% | 60% | 140% | 92% | 60% | 140% | | | |
| Ethylbenzene | 1 | 2445301 | < 0.03 | < 0.03 | NA | < 0.03 | 94% | 60% | 140% | 92% | 60% | 140% | | | |
| Xylene (Total) | 1 | 2445301 | < 0.05 | < 0.05 | NA | < 0.05 | 88% | 60% | 140% | 96% | 60% | 140% | | | |
| C6-C10 (less BTEX) | 1 | 2445301 | < 3 | < 3 | NA | < 3 | 105% | 60% | 140% | 87% | 60% | 140% | 82% | 30% | 130% |
| >C10-C16 Hydrocarbons | 1 | 2445301 | < 15 | < 15 | NA | < 15 | 99% | 60% | 140% | 85% | 60% | 140% | 97% | 30% | 130% |
| >C16-C21 Hydrocarbons | 1 | 2445301 | < 15 | < 15 | NA | < 15 | 101% | 60% | 140% | 85% | 60% | 140% | 97% | 30% | 130% |
| >C21-C32 Hydrocarbons | 1 | 2445301 | < 15 | < 15 | NA | < 15 | 119% | 60% | 140% | 85% | 60% | 140% | 97% | 30% | 130% |

Comments: If Matrix spike value is NA, the spiked analyte concentration was lower than that of the matrix contribution.
 If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Certified By: _____



Quality Assurance

CLIENT NAME: GEMTEC LIMITED

AGAT WORK ORDER: 21K744497

PROJECT: 100424.001

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

| Water Analysis | | | | | | | | | | | | | | | |
|------------------------|-------|-----------|-----------|--------|-----|----------------|--------------|--------------------|-------|----------|--------------------|-------|--------------|-------------------|-------|
| RPT Date: May 19, 2021 | | | DUPLICATE | | | | Method Blank | REFERENCE MATERIAL | | | METHOD BLANK SPIKE | | MATRIX SPIKE | | |
| PARAMETER | Batch | Sample Id | Dup #1 | Dup #2 | RPD | Measured Value | | Acceptable Limits | | Recovery | Acceptable Limits | | Recovery | Acceptable Limits | |
| | | | | | | | | Lower | Upper | | Lower | Upper | | Lower | Upper |

| | | | | | | | | | | | | | | | |
|--|---------|---------|-------|-------|-------|--------|------|-----|------|------|-----|------|------|-----|------|
| TSS | | | | | | | | | | | | | | | |
| Total Suspended Solids | 2445238 | | <5 | <5 | NA | < 5 | 100% | 80% | 120% | | | | 103% | 80% | 120% |
| Standard Water Analysis + Total Metals | | | | | | | | | | | | | | | |
| pH | 2449388 | | 7.75 | 7.86 | 1.4% | < | 100% | 80% | 120% | NA | | | NA | | |
| Reactive Silica as SiO2 | 2457905 | | 10.9 | 11.0 | 1.3% | < 0.5 | 104% | 80% | 120% | 99% | 80% | 120% | NA | 80% | 120% |
| Chloride | 2449388 | | 9 | 9 | 0.8% | < 1 | 88% | 80% | 120% | NA | 80% | 120% | 85% | 70% | 130% |
| Fluoride | 2449388 | | 0.27 | 0.28 | NA | < 0.12 | 101% | 80% | 120% | NA | 80% | 120% | 86% | 70% | 130% |
| Sulphate | 2449388 | | 30 | 31 | 1.3% | < 2 | 101% | 80% | 120% | NA | 80% | 120% | 70% | 70% | 130% |
| Alkalinity | 2449388 | | 81 | 82 | 1.3% | < 5 | 93% | 80% | 120% | NA | | | NA | | |
| True Color | 2445268 | 2445268 | 94.6 | 85.0 | 10.6% | < 5 | NA | 80% | 120% | NA | 80% | 120% | NA | | |
| Turbidity | 2445238 | 2445238 | 0.9 | 0.9 | NA | < 0.5 | 99% | 80% | 120% | NA | | | NA | | |
| Electrical Conductivity | 2449388 | | 265 | 265 | 0.0% | < 1 | 103% | 90% | 110% | NA | | | NA | | |
| Nitrate as N | 2449388 | | <0.05 | <0.05 | NA | < 0.05 | 93% | 80% | 120% | NA | 80% | 120% | 88% | 70% | 130% |
| Nitrite as N | 2449388 | | <0.05 | <0.05 | NA | < 0.05 | 99% | 80% | 120% | NA | 80% | 120% | 83% | 70% | 130% |
| Ammonia as N | 2436437 | | <0.03 | <0.03 | NA | < 0.03 | 99% | 80% | 120% | 99% | 80% | 120% | 100% | 70% | 130% |
| Total Organic Carbon | 2445238 | 2445238 | 8.2 | 8.3 | 0.5% | < 0.5 | 87% | 80% | 120% | NA | 80% | 120% | 92% | 80% | 120% |
| Ortho-Phosphate as P | 2457905 | | 0.06 | 0.06 | 1.7% | < 0.01 | 97% | 80% | 120% | 85% | 80% | 120% | NA | 80% | 120% |
| Total Sodium | 2439378 | | 67.5 | 69.0 | 2.1% | < 0.1 | 107% | 80% | 120% | 113% | 80% | 120% | NA | 70% | 130% |
| Total Potassium | 2439378 | | <0.1 | <0.1 | NA | < 0.1 | 104% | 80% | 120% | 110% | 80% | 120% | 95% | 70% | 130% |
| Total Calcium | 2439378 | | 0.2 | <0.1 | NA | < 0.1 | 100% | 80% | 120% | 101% | 80% | 120% | 102% | 70% | 130% |
| Total Magnesium | 2439378 | | <0.1 | <0.1 | NA | < 0.1 | 100% | 80% | 120% | 105% | 80% | 120% | 97% | 70% | 130% |
| Bicarb. Alkalinity (as CaCO3) | 2449388 | | 81 | 82 | 1.3% | < 5 | NA | 80% | 120% | NA | | | NA | | |
| Carb. Alkalinity (as CaCO3) | 2449388 | | <10 | <10 | NA | < 10 | NA | 80% | 120% | NA | | | NA | | |
| Hydroxide | 2449388 | | <5 | <5 | NA | < 5 | NA | 80% | 120% | NA | | | NA | | |
| Total Aluminum | 2439378 | | 6 | <5 | NA | < 5 | 90% | 80% | 120% | 97% | 80% | 120% | 98% | 70% | 130% |
| Total Antimony | 2439378 | | <2 | <2 | NA | < 2 | 97% | 80% | 120% | 113% | 80% | 120% | 100% | 70% | 130% |
| Total Arsenic | 2439378 | | <2 | <2 | NA | < 2 | 98% | 80% | 120% | 96% | 80% | 120% | 91% | 70% | 130% |
| Total Barium | 2439378 | | <5 | <5 | NA | < 5 | 100% | 80% | 120% | 106% | 80% | 120% | 103% | 70% | 130% |
| Total Beryllium | 2439378 | | <2 | <2 | NA | < 2 | 98% | 80% | 120% | 105% | 80% | 120% | 97% | 70% | 130% |
| Total Bismuth | 2439378 | | <2 | <2 | NA | < 2 | 98% | 80% | 120% | 104% | 80% | 120% | 90% | 70% | 130% |
| Total Boron | 2439378 | | 10 | 10 | NA | < 5 | 95% | 80% | 120% | 106% | 80% | 120% | 101% | 70% | 130% |
| Total Cadmium | 2439378 | | <0.09 | <0.09 | NA | < 0.09 | 99% | 80% | 120% | 101% | 80% | 120% | 96% | 70% | 130% |
| Total Chromium | 2439378 | | 1 | <1 | NA | < 1 | 99% | 80% | 120% | 105% | 80% | 120% | 101% | 70% | 130% |
| Total Cobalt | 2439378 | | <1 | <1 | NA | < 1 | 97% | 80% | 120% | 103% | 80% | 120% | 105% | 70% | 130% |
| Total Copper | 2439378 | | 4 | 4 | NA | < 1 | 102% | 80% | 120% | 106% | 80% | 120% | 105% | 70% | 130% |
| Total Iron | 2439378 | | 81 | 85 | NA | < 50 | 105% | 80% | 120% | 108% | 80% | 120% | 106% | 70% | 130% |
| Total Lead | 2439378 | | <0.5 | <0.5 | NA | < 0.5 | 95% | 80% | 120% | 100% | 80% | 120% | 93% | 70% | 130% |
| Total Manganese | 2439378 | | 4 | 4 | NA | < 2 | 100% | 80% | 120% | 104% | 80% | 120% | 106% | 70% | 130% |
| Total Molybdenum | 2439378 | | <2 | <2 | NA | < 2 | 96% | 80% | 120% | 102% | 80% | 120% | 107% | 70% | 130% |

Quality Assurance

CLIENT NAME: GEMTEC LIMITED
 PROJECT: 100424.001
 SAMPLING SITE:

AGAT WORK ORDER: 21K744497
 ATTENTION TO: Darrol Rice
 SAMPLED BY:

Water Analysis (Continued)

| RPT Date: May 19, 2021 | | | DUPLICATE | | | Method Blank | REFERENCE MATERIAL | | | METHOD BLANK SPIKE | | | MATRIX SPIKE | | |
|------------------------|---------|-----------|-----------|--------|-----|--------------|--------------------|-------------------|-------|--------------------|-------------------|-------|--------------|-------------------|-------|
| PARAMETER | Batch | Sample Id | Dup #1 | Dup #2 | RPD | | Measured Value | Acceptable Limits | | Recovery | Acceptable Limits | | Recovery | Acceptable Limits | |
| | | | | | | | | Lower | Upper | | Lower | Upper | | Lower | Upper |
| Total Nickel | 2439378 | | <2 | <2 | NA | < 2 | 98% | 80% | 120% | 106% | 80% | 120% | 105% | 70% | 130% |
| Total Phosphorous | 2439378 | | 0.03 | 0.03 | NA | < 0.02 | 95% | 80% | 120% | 109% | 80% | 120% | 92% | 70% | 130% |
| Total Selenium | 2439378 | | <1 | <1 | NA | < 1 | 105% | 80% | 120% | 97% | 80% | 120% | 83% | 70% | 130% |
| Total Silver | 2439378 | | <0.1 | <0.1 | NA | < 0.1 | 105% | 80% | 120% | 105% | 80% | 120% | 106% | 70% | 130% |
| Total Strontium | 2439378 | | <5 | <5 | NA | < 5 | 99% | 80% | 120% | 107% | 80% | 120% | 108% | 70% | 130% |
| Total Thallium | 2439378 | | <0.1 | <0.1 | NA | < 0.1 | 95% | 80% | 120% | 98% | 80% | 120% | 92% | 70% | 130% |
| Total Tin | 2439378 | | <2 | <2 | NA | < 2 | 103% | 80% | 120% | 108% | 80% | 120% | 103% | 70% | 130% |
| Total Titanium | 2439378 | | <2 | <2 | NA | < 2 | 96% | 80% | 120% | 107% | 80% | 120% | 108% | 70% | 130% |
| Total Uranium | 2439378 | | <0.2 | <0.2 | NA | < 0.2 | 97% | 80% | 120% | 100% | 80% | 120% | 100% | 70% | 130% |
| Total Vanadium | 2439378 | | <2 | <2 | NA | < 2 | 95% | 80% | 120% | 102% | 80% | 120% | 107% | 70% | 130% |
| Total Zinc | 2439378 | | 13 | 13 | NA | < 5 | 100% | 80% | 120% | 104% | 80% | 120% | 96% | 70% | 130% |

Comments: If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Mercury Analysis in Water (Total)

| | | | | | | | | | | | | | | | |
|---------------|---------|---------|------|------|------|---------|------|-----|------|------|-----|------|------|-----|------|
| Total Mercury | 2445280 | 2445280 | 0.57 | 0.58 | 1.4% | < 0.026 | 106% | 80% | 120% | 108% | 80% | 120% | 107% | 70% | 130% |
|---------------|---------|---------|------|------|------|---------|------|-----|------|------|-----|------|------|-----|------|

Comments: If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Standard Water Analysis + Total Metals

| | | | | | | | | | | | | | | | |
|-------------------------------|---------|---------|-------|-------|------|--------|------|-----|------|------|-----|------|------|-----|------|
| pH | 2440791 | | 7.18 | 7.22 | 0.6% | < | 101% | 80% | 120% | NA | | | NA | | |
| Reactive Silica as SiO2 | 2445268 | 2445268 | 2.0 | 2.0 | NA | < 0.5 | 105% | 80% | 120% | 100% | 80% | 120% | 98% | 80% | 120% |
| Alkalinity | 2440791 | | 51 | 52 | 1.1% | < 5 | 95% | 80% | 120% | NA | | | NA | | |
| True Color | 2445268 | 2445268 | 88.4 | 85.0 | 3.9% | < 5 | 95% | 80% | 120% | 93% | 80% | 120% | NA | | |
| Electrical Conductivity | 2440791 | | 891 | 891 | 0% | < 1 | 103% | 90% | 110% | NA | | | NA | | |
| Ammonia as N | 2445269 | 2445269 | <0.03 | <0.03 | NA | < 0.03 | 99% | 80% | 120% | 99% | 80% | 120% | 112% | 70% | 130% |
| Ortho-Phosphate as P | 2445268 | 2445268 | <0.01 | <0.01 | NA | < 0.01 | 98% | 80% | 120% | 85% | 80% | 120% | 106% | 80% | 120% |
| Bicarb. Alkalinity (as CaCO3) | 2440791 | | 51 | 52 | 1.1% | < 5 | NA | 80% | 120% | NA | | | NA | | |
| Carb. Alkalinity (as CaCO3) | 2440791 | | <10 | <10 | NA | < 10 | NA | 80% | 120% | NA | | | NA | | |
| Hydroxide | 2440791 | | <5 | <5 | NA | < 5 | NA | 80% | 120% | NA | | | NA | | |

Comments: If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Standard Water Analysis + Total Metals

| | | | | | | | | | | | | | | | |
|------------|---------|---------|------|------|-------|-----|-----|-----|------|-----|-----|------|----|--|--|
| True Color | 2445268 | 2445268 | 94.6 | 85.0 | 10.6% | < 5 | 95% | 80% | 120% | 93% | 80% | 120% | NA | | |
|------------|---------|---------|------|------|-------|-----|-----|-----|------|-----|-----|------|----|--|--|

Comments: If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Certified By: *Marla Manka*

QA Violation

CLIENT NAME: GEMTEC LIMITED

AGAT WORK ORDER: 21K744497

PROJECT: 100424.001

ATTENTION TO: Darrol Rice

| RPT Date: May 19, 2021 | | | REFERENCE MATERIAL | | | METHOD BLANK SPIKE | | | MATRIX SPIKE | | |
|--|-----------|--------------------|--------------------|-------------------|-------|--------------------|-------------------|-------|--------------|-------------------|-------|
| PARAMETER | Sample Id | Sample Description | Measured Value | Acceptable Limits | | Recovery | Acceptable Limits | | Recovery | Acceptable Limits | |
| | | | | Lower | Upper | | Lower | Upper | | Lower | Upper |
| Atlantic RBCA Tier 1 Hydrocarbons in Water (Version 3.1) | | | | | | | | | | | |
| >C10-C16 Hydrocarbons | 2445238 | Site-SW-15 | 100% | 70% | 130% | 94% | 70% | 130% | 67% | 70% | 130% |
| >C16-C21 Hydrocarbons | 2445238 | Site-SW-15 | 97% | 70% | 130% | 94% | 70% | 130% | 67% | 70% | 130% |
| >C21-C32 Hydrocarbons | 2445238 | Site-SW-15 | 95% | 70% | 130% | 94% | 70% | 130% | 67% | 70% | 130% |

Comments: Matrix spike not within acceptance limits due to matrix interference. Analysis was repeated with similar results.
 If Matrix spike value is NA, the spiked analyte concentration was lower than that of the matrix contribution. Matrix spike performed on a different sample than the duplicate.
 If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Method Summary

CLIENT NAME: GEMTEC LIMITED

AGAT WORK ORDER: 21K744497

PROJECT: 100424.001

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

| PARAMETER | AGAT S.O.P | LITERATURE REFERENCE | ANALYTICAL TECHNIQUE |
|---------------|----------------------------------|-------------------------------------|----------------------|
| Soil Analysis | | | |
| Aluminum | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Antimony | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Arsenic | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Barium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Beryllium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Boron | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Cadmium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Chromium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Cobalt | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Copper | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Iron | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Lead | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP-MS |
| Lithium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP-MS |
| Manganese | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Molybdenum | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Nickel | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Selenium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Silver | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Strontium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Thallium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Tin | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Uranium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Vanadium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Zinc | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Mercury | INOR-121-6101 & INOR-121-6107 | Based on EPA 245.5 & SM 3112B | CV/AA |

Method Summary

CLIENT NAME: GEMTEC LIMITED

AGAT WORK ORDER: 21K744497

PROJECT: 100424.001

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

| PARAMETER | AGAT S.O.P | LITERATURE REFERENCE | ANALYTICAL TECHNIQUE |
|---------------------------|--------------|--|----------------------|
| Trace Organics Analysis | | | |
| Benzene | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| Toluene | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| Ethylbenzene | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| Xylene (Total) | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| C6-C10 (less BTEX) | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS/FID |
| >C10-C16 Hydrocarbons | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| >C16-C21 Hydrocarbons | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| >C21-C32 Hydrocarbons | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| Modified TPH (Tier 1) | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | CALCULATION |
| Resemblance Comment | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS/FID |
| Return to Baseline at C32 | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| Isobutylbenzene - EPH | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| Isobutylbenzene - VPH | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| n-Dotriacontane - EPH | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| C6-C10 (less BTEX) | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| Modified TPH (Tier 1) | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | CALCULATION |
| Sediment | | | GC/MS/FID |
| % Moisture | LAB-131-4024 | CSSS 70.2 | GRAVIMETRIC |

Method Summary

 CLIENT NAME: GEMTEC LIMITED
 PROJECT: 100424.001
 SAMPLING SITE:

 AGAT WORK ORDER: 21K744497
 ATTENTION TO: Darrol Rice
 SAMPLED BY:

| PARAMETER | AGAT S.O.P | LITERATURE REFERENCE | ANALYTICAL TECHNIQUE |
|--|-----------------------------|---|----------------------|
| Water Analysis | | | |
| Total Mercury | MET-121-6100 & MET-121-6107 | SM 3112 B | CV/AA |
| pH | INOR-121-6001 | SM 4500 H+B | PC TITRATE |
| Reactive Silica as SiO ₂ | INOR-121-6027 | SM 4500-SiO ₂ F | COLORIMETER |
| Chloride | INORG-121-6005 | SM 4110 B | ION CHROMATOGRAPH |
| Fluoride | INORG-121-6005 | SM 4110 B | ION CHROMATOGRAPH |
| Sulphate | INORG-121-6005 | SM 4110 B | ION CHROMATOGRAPH |
| Alkalinity | INOR-121-6001 | SM 2320 B | |
| True Color | INOR-121-6008 | SM 2120 B | LACHAT FIA |
| Turbidity | INOR-121-6022 | SM 2130 B | NEPHELOMETER |
| Electrical Conductivity | INOR-121-6001 | SM 2510 B | PC TITRATE |
| Nitrate + Nitrite as N | INORG-121-6005 | SM 4110 B | CALCULATION |
| Nitrate as N | INORG-121-6005 | SM 4110 B | ION CHROMATOGRAPH |
| Nitrite as N | INORG-121-6005 | SM 4110 B | ION CHROMATOGRAPH |
| Ammonia as N | INOR-121-6047 | SM 4500-NH ₃ H | COLORIMETER |
| Total Organic Carbon | INOR-121-6026 | SM 5310 B | TOC ANALYZER |
| Ortho-Phosphate as P | INOR-121-6012 | SM 4500-P G | COLORIMETER |
| Total Sodium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Potassium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Calcium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Magnesium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Bicarb. Alkalinity (as CaCO ₃) | INORG-121-6001 | SM 2320 B | PC TITRATE |
| Carb. Alkalinity (as CaCO ₃) | INORG-121-6001 | SM 2320 B | PC TITRATE |
| Hydroxide | INORG-121-6001 | SM 2320 B | PC-TITRATE |
| Calculated TDS | CALCULATION | SM 1030E | CALCULATION |
| Hardness | CALCULATION | SM 2340B | CALCULATION |
| Langelier Index (@20C) | CALCULATION | CALCULATION | CALCULATION |
| Langelier Index (@ 4C) | CALCULATION | CALCULATION | CALCULATION |
| Saturation pH (@ 20C) | CALCULATION | CALCULATION | CALCULATION |
| Saturation pH (@ 4C) | CALCULATION | CALCULATION | CALCULATION |
| Anion Sum | CALCULATION | SM 1030E | CALCULATION |
| Cation sum | CALCULATION | SM 1030E | CALCULATION |
| % Difference/ Ion Balance | CALCULATION | SM 1030E | CALCULATION |
| Total Aluminum | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Antimony | MET121-6104 & MET-121-6105 | SM 3125 | ICP-MS |
| Total Arsenic | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Barium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Beryllium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Bismuth | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Boron | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |



Method Summary

CLIENT NAME: GEMTEC LIMITED

AGAT WORK ORDER: 21K744497

PROJECT: 100424.001

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

| PARAMETER | AGAT S.O.P | LITERATURE REFERENCE | ANALYTICAL TECHNIQUE |
|------------------------|--------------------------------|--|----------------------|
| Total Cadmium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Chromium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Cobalt | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Copper | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Iron | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Lead | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Manganese | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Molybdenum | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Nickel | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Phosphorous | MET-121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Selenium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Silver | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Strontium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Thallium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Tin | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Titanium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Uranium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Vanadium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Zinc | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Suspended Solids | INOR-123-6006 | Based on SM 2540D | GRAVIMETRIC |



CLIENT NAME: GEMTEC LIMITED
10 Maverick Place
Paradise, NL A1L 1Y8
709722-2275

ATTENTION TO: Darrol Rice
PROJECT: 100424.001

AGAT WORK ORDER: 21K786176

SOIL ANALYSIS REVIEWED BY: Ashley Dussault, Report Writer
TRACE ORGANICS REVIEWED BY: Amy Hunter, Trace Organics Supervisor, B.Sc.
WATER ANALYSIS REVIEWED BY: Ashley Dussault, Report Writer

DATE REPORTED: Aug 20, 2021

PAGES (INCLUDING COVER): 37

VERSION*: 1

Should you require any information regarding this analysis please contact your client services representative at (709)747-8573

*Notes

Disclaimer:

- All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.
- All samples will be disposed of within 30 days after receipt unless a Long Term Storage Agreement is signed and returned. Some specialty analysis may be exempt, please contact your Client Project Manager for details.
- AGAT's liability in connection with any delay, performance or non-performance of these services is only to the Client and does not extend to any other third party. Unless expressly agreed otherwise in writing, AGAT's liability is limited to the actual cost of the specific analysis or analyses included in the services.
- This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
- The test results reported herewith relate only to the samples as received by the laboratory.
- Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to, warranties of merchantability, fitness for a particular purpose, or non-infringement. AGAT assumes no responsibility for any errors or omissions in the guidelines contained in this document.
- All reportable information as specified by ISO/IEC 17025:2017 is available from AGAT Laboratories upon request.



Certificate of Analysis

AGAT WORK ORDER: 21K786176

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Available Metals in Soil

DATE RECEIVED: 2021-08-10

DATE REPORTED: 2021-08-20

| Parameter | Unit | SAMPLE DESCRIPTION: | | Site 8-SED | Site 14-SED | Site 12-SED | Site 11-SED | Site 5-SED | Site 20-SED | Site 6-SED | Site 3-SED | | | | | |
|---------------|-------|---------------------|------------|------------|-------------|-------------|-------------|------------|-------------|------------|------------|---------|---------|---------|---------|---------|
| | | G / S | RDL | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | | | | | |
| DATE SAMPLED: | | 2021-08-04 | 2021-08-04 | 2021-08-04 | 2021-08-04 | 2021-08-04 | 2021-08-04 | 2021-08-04 | 2021-08-04 | 2021-08-03 | 2021-08-03 | | | | | |
| | | 08:55 | 13:30 | 12:20 | 22:36 | 15:20 | 16:40 | 12:35 | 2838112 | 2838143 | 2838144 | 2838148 | 2838153 | 2838397 | 2838399 | 2838606 |
| Aluminum | mg/kg | 10 | 15700 | 18100 | 27800 | 20800 | 8160 | 17800 | 13700 | 16100 | | | | | | |
| Antimony | mg/kg | 1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | | | | | |
| Arsenic | mg/kg | 1 | 27 | 15 | 10 | 16 | 68 | 5 | 44 | 18 | | | | | | |
| Barium | mg/kg | 5 | 67 | 18 | 247 | 45 | 91 | 20 | 81 | 39 | | | | | | |
| Beryllium | mg/kg | 2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | | | | | |
| Boron | mg/kg | 2 | <2 | 4 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | | | | | |
| Cadmium | mg/kg | 0.3 | <0.3 | <0.3 | 0.8 | <0.3 | 0.3 | <0.3 | 0.8 | <0.3 | | | | | | |
| Chromium | mg/kg | 2 | 25 | 855 | 44 | 28 | 33 | 136 | 16 | 29 | | | | | | |
| Cobalt | mg/kg | 1 | 15 | 51 | 88 | 21 | 12 | 21 | 10 | 12 | | | | | | |
| Copper | mg/kg | 2 | 15 | 43 | 27 | 26 | 46 | 20 | 12 | 11 | | | | | | |
| Iron | mg/kg | 50 | 38400 | 40900 | 95800 | 32200 | 54000 | 26900 | 12300 | 33500 | | | | | | |
| Lead | mg/kg | 0.5 | 8.1 | 12.3 | 20.0 | 11.2 | 7.1 | 8.8 | 8.9 | 6.3 | | | | | | |
| Lithium | mg/kg | 5 | 30 | 27 | 47 | 33 | <5 | 34 | 11 | 30 | | | | | | |
| Manganese | mg/kg | 2 | 5050 | 1910 | 87800 | 4060 | 3320 | 825 | 1100 | 5360 | | | | | | |
| Molybdenum | mg/kg | 2 | <2 | 4 | 7 | <2 | 6 | <2 | 2 | <2 | | | | | | |
| Nickel | mg/kg | 2 | 37 | 314 | 98 | 37 | 27 | 165 | 39 | 41 | | | | | | |
| Selenium | mg/kg | 1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | | | | | |
| Silver | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | | | | | |
| Strontium | mg/kg | 5 | 7 | 6 | 50 | 9 | 16 | 6 | 49 | 8 | | | | | | |
| Thallium | mg/kg | 0.1 | <0.1 | <0.1 | 0.1 | <0.1 | <0.1 | <0.1 | 0.1 | <0.1 | | | | | | |
| Tin | mg/kg | 2 | 3 | 3 | 3 | 3 | 7 | 3 | 2 | 3 | | | | | | |
| Uranium | mg/kg | 0.1 | 0.7 | 0.7 | 0.5 | 0.7 | 2.6 | 0.7 | 1.6 | 0.5 | | | | | | |
| Vanadium | mg/kg | 2 | 106 | 229 | 147 | 110 | 78 | 99 | 89 | 96 | | | | | | |
| Zinc | mg/kg | 5 | 77 | 66 | 198 | 66 | 244 | 62 | 107 | 72 | | | | | | |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K786176

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Available Metals in Soil

DATE RECEIVED: 2021-08-10

DATE REPORTED: 2021-08-20

| Parameter | Unit | SAMPLE DESCRIPTION: | | Site 4-SED | Site 7-SED | Site 16-SED | Site 21-SED | Site 10-SED | Site 17-SED | Site 15-SED | Site 1-SED | |
|------------|-------|---------------------|---------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------|
| | | SAMPLE TYPE: | | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil |
| | | DATE SAMPLED: | | 2021-08-03 11:00 | 2021-08-03 14:51 | 2021-08-05 14:30 | 2021-08-05 10:32 | 2021-08-05 15:35 | 2021-08-05 12:58 | 2021-08-05 09:20 | 2021-08-05 09:32 | |
| G / S | RDL | 2838607 | 2838608 | 2838611 | 2838614 | 2838615 | 2838616 | 2838617 | 2838618 | | | |
| Aluminum | mg/kg | 10 | 19200 | 6340 | 19100 | 28500 | 21100 | 15200 | 19700 | 11100 | | |
| Antimony | mg/kg | 1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | | |
| Arsenic | mg/kg | 1 | 101 | 47 | 11 | 18 | 10 | 15 | 30 | 59 | | |
| Barium | mg/kg | 5 | 68 | 81 | 14 | 62 | 16 | 126 | 196 | 20 | | |
| Beryllium | mg/kg | 2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | | |
| Boron | mg/kg | 2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | | |
| Cadmium | mg/kg | 0.3 | <0.3 | 1.0 | <0.3 | <0.3 | <0.3 | <0.3 | 0.4 | <0.3 | | |
| Chromium | mg/kg | 2 | 30 | 11 | 47 | 51 | 35 | 31 | 36 | 22 | | |
| Cobalt | mg/kg | 1 | 18 | 8 | 15 | 24 | 18 | 119 | 39 | 15 | | |
| Copper | mg/kg | 2 | 11 | 16 | 7 | 12 | 10 | 21 | 28 | 14 | | |
| Iron | mg/kg | 50 | 52500 | 8310 | 34000 | 54400 | 39900 | 52000 | 44600 | 34100 | | |
| Lead | mg/kg | 0.5 | 7.5 | 16.3 | 4.3 | 4.5 | 4.3 | 24.7 | 10.8 | 8.0 | | |
| Lithium | mg/kg | 5 | 31 | 5 | 50 | 61 | 47 | 27 | 44 | 21 | | |
| Manganese | mg/kg | 2 | 8310 | 3980 | 891 | 7000 | 2510 | 18900 | 23100 | 2590 | | |
| Molybdenum | mg/kg | 2 | 4 | 3 | <2 | <2 | <2 | <2 | 2 | <2 | | |
| Nickel | mg/kg | 2 | 49 | 51 | 49 | 74 | 53 | 40 | 88 | 35 | | |
| Selenium | mg/kg | 1 | <1 | 2 | <1 | <1 | <1 | <1 | <1 | <1 | | |
| Silver | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | | |
| Strontium | mg/kg | 5 | 11 | 77 | 6 | 8 | <5 | 11 | 34 | 8 | | |
| Thallium | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | 0.1 | 0.1 | <0.1 | | |
| Tin | mg/kg | 2 | 3 | 2 | 2 | 3 | 2 | 3 | 3 | 2 | | |
| Uranium | mg/kg | 0.1 | 1.1 | 1.9 | 0.5 | 0.6 | 0.5 | 0.5 | 0.5 | 0.6 | | |
| Vanadium | mg/kg | 2 | 109 | 83 | 84 | 121 | 91 | 110 | 90 | 23 | | |
| Zinc | mg/kg | 5 | 120 | 79 | 78 | 134 | 86 | 68 | 100 | 63 | | |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K786176

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Available Metals in Soil

DATE RECEIVED: 2021-08-10

DATE REPORTED: 2021-08-20

| Parameter | Unit | SAMPLE DESCRIPTION: | | Site 2-SED | Site 19-SED | Site 9-SED | SD-SED |
|------------|-------|---------------------|-----|------------|-------------|------------|------------|
| | | G / S | RDL | Soil | Soil | Soil | Soil |
| | | DATE SAMPLED: | | 2021-08-06 | 2021-08-06 | 2021-08-06 | 2021-08-06 |
| | | | | 10:38 | 11:34 | 12:25 | 11:34 |
| | | | | 2838619 | 2838620 | 2838621 | 2838622 |
| Aluminum | mg/kg | | 10 | 15300 | 15000 | 20300 | 21800 |
| Antimony | mg/kg | | 1 | <1 | <1 | <1 | <1 |
| Arsenic | mg/kg | | 1 | 51 | 9 | 13 | 19 |
| Barium | mg/kg | | 5 | 36 | 7 | 8 | 16 |
| Beryllium | mg/kg | | 2 | <2 | <2 | <2 | <2 |
| Boron | mg/kg | | 2 | 3 | <2 | <2 | <2 |
| Cadmium | mg/kg | | 0.3 | <0.3 | <0.3 | <0.3 | <0.3 |
| Chromium | mg/kg | | 2 | 32 | 25 | 47 | 36 |
| Cobalt | mg/kg | | 1 | 22 | 10 | 19 | 17 |
| Copper | mg/kg | | 2 | 8 | 4 | 8 | 5 |
| Iron | mg/kg | | 50 | 36500 | 28700 | 40900 | 42100 |
| Lead | mg/kg | | 0.5 | 6.7 | 2.2 | 4.1 | 3.1 |
| Lithium | mg/kg | | 5 | 33 | 40 | 50 | 58 |
| Manganese | mg/kg | | 2 | 4340 | 637 | 2690 | 2540 |
| Molybdenum | mg/kg | | 2 | 3 | <2 | <2 | <2 |
| Nickel | mg/kg | | 2 | 52 | 34 | 64 | 51 |
| Selenium | mg/kg | | 1 | <1 | <1 | <1 | <1 |
| Silver | mg/kg | | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Strontium | mg/kg | | 5 | 12 | <5 | 8 | 5 |
| Thallium | mg/kg | | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Tin | mg/kg | | 2 | 3 | <2 | 3 | 3 |
| Uranium | mg/kg | | 0.1 | 0.5 | 0.3 | 0.4 | 0.4 |
| Vanadium | mg/kg | | 2 | 24 | 20 | 31 | 29 |
| Zinc | mg/kg | | 5 | 98 | 60 | 94 | 91 |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

2838112-2838622 Results are based on the dry weight of the sample.

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K786176

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

| Mercury in Soil | | | | | | | | | | | |
|---------------------------|-------|---------------------|------|---------------------|---------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| DATE RECEIVED: 2021-08-10 | | | | | DATE REPORTED: 2021-08-20 | | | | | | |
| | | SAMPLE DESCRIPTION: | | Site 8-SED | Site 14-SED | Site 12-SED | Site 11-SED | Site 5-SED | Site 20-SED | Site 6-SED | Site 3-SED |
| | | SAMPLE TYPE: | | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil |
| | | DATE SAMPLED: | | 2021-08-04 08:55 | 2021-08-04 13:30 | 2021-08-04 12:20 | 2021-08-04 22:36 | 2021-08-04 15:20 | 2021-08-04 16:40 | 2021-08-03 14:00 | 2021-08-03 12:35 |
| Parameter | Unit | G / S | RDL | 2838112 | 2838143 | 2838144 | 2838148 | 2838153 | 2838397 | 2838399 | 2838606 |
| Mercury | mg/kg | | 0.03 | <0.03 | <0.03 | <0.03 | 0.04 | 0.15 | 0.07 | 0.08 | <0.03 |
| | | SAMPLE DESCRIPTION: | | Site 4-SED | Site 7-SED | Site 16-SED | Site 21-SED | Site 10-SED | Site 17-SED | Site 15-SED | Site 1-SED |
| | | SAMPLE TYPE: | | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil |
| | | DATE SAMPLED: | | 2021-08-03 11:00 | 2021-08-03 14:51 | 2021-08-05 14:30 | 2021-08-05 10:32 | 2021-08-05 15:35 | 2021-08-05 12:58 | 2021-08-05 09:20 | 2021-08-06 09:32 |
| Parameter | Unit | G / S | RDL | 2838607 | 2838608 | 2838611 | 2838614 | 2838615 | 2838616 | 2838617 | 2838618 |
| Mercury | mg/kg | | 0.03 | <0.03 | 0.12 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 |
| | | SAMPLE DESCRIPTION: | | Site 2-SED | Site 19-SED | Site 9-SED | SD-SED | | | | |
| | | SAMPLE TYPE: | | Soil | Soil | Soil | Soil | | | | |
| | | DATE SAMPLED: | | 2021-08-06 10:38 | 2021-08-06 11:34 | 2021-08-06 12:25 | 2021-08-06 11:34 | | | | |
| Parameter | Unit | G / S | RDL | 2838619 | 2838620 | 2838621 | 2838622 | | | | |
| Mercury | mg/kg | | 0.03 | <0.03 | <0.03 | <0.03 | <0.03 | | | | |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard
2838112-2838622 Results are based on the dry weight of the soil.
Analysis performed at AGAT Halifax (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K786176

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Soil (Version 3.1) - Field Preserved + 1X Silica Gel

DATE RECEIVED: 2021-08-10

DATE REPORTED: 2021-08-20

| SAMPLE DESCRIPTION: | | Site 8-SED | Site 14-SED | Site 12-SED | Site 11-SED | Site 5-SED | Site 20-SED | Site 6-SED | Site 3-SED | | |
|---------------------------------------|-------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------|---------|
| SAMPLE TYPE: | | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | | |
| DATE SAMPLED: | | 2021-08-04 08:55 | 2021-08-04 13:30 | 2021-08-04 12:20 | 2021-08-04 22:36 | 2021-08-04 15:20 | 2021-08-04 16:40 | 2021-08-03 14:00 | 2021-08-03 12:35 | | |
| Parameter | Unit | G / S | RDL | 2838112 | 2838143 | 2838144 | 2838148 | 2838153 | 2838397 | 2838399 | 2838606 |
| Benzene | mg/kg | 0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 |
| Toluene | mg/kg | 0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 |
| Ethylbenzene | mg/kg | 0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 |
| Xylene (Total) | mg/kg | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| C6-C10 (less BTEX) | mg/kg | 3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 |
| >C10-C16 Hydrocarbons - 1X silica gel | mg/kg | 15 | <15 | <15 | <15 | <15 | 678 | 35 | 33 | <15 | <15 |
| >C16-C21 Hydrocarbons - 1X silica gel | mg/kg | 15 | <15 | <15 | <15 | <15 | 283 | 32 | 58 | <15 | <15 |
| >C21-C32 Hydrocarbons - 1X silica gel | mg/kg | 15 | <15 | <15 | <15 | 41 | 363 | 37 | 105 | <15 | <15 |
| Modified TPH (Tier 1) - 1X silica gel | mg/kg | 15 | <15 | <15 | <15 | 41 | 1320 | 104 | 196 | <15 | <15 |
| Resemblance Comment | | NR | NR | NR | NR | UC | NR | UC | UC | UC | NR |
| Return to Baseline at C32 | | Y | Y | Y | Y | UC | Y | Y | Y | Y | Y |
| Silica Gel Cleanup | | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| Surrogate | Unit | Acceptable Limits | | | | | | | | | |
| Isobutylbenzene - EPH | % | 60-140 | 97 | 97 | 98 | 104 | 107 | 106 | 109 | 110 | 110 |
| Isobutylbenzene - VPH | % | 60-140 | 91 | 93 | 93 | 94 | 95 | 99 | 89 | 92 | 92 |
| n-Dotriacontane - EPH | % | 60-140 | 98 | 96 | 98 | 121 | 124 | 121 | 121 | 119 | 119 |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K786176

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

| Atlantic RBCA Tier 1 Hydrocarbons in Soil (Version 3.1) - Field Preserved + 1X Silica Gel | | | | | | | | | | | |
|---|-------|---------------------|---------------------|---------------------|---------------------|---------------------------|---------------------|---------------------|---------------------|---------|---------|
| DATE RECEIVED: 2021-08-10 | | | | | | DATE REPORTED: 2021-08-20 | | | | | |
| SAMPLE DESCRIPTION: | | Site 4-SED | Site 7-SED | Site 16-SED | Site 21-SED | Site 10-SED | Site 17-SED | Site 15-SED | Site 1-SED | | |
| SAMPLE TYPE: | | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | | |
| DATE SAMPLED: | | 2021-08-03 11:00 | 2021-08-03 14:51 | 2021-08-05 14:30 | 2021-08-05 10:32 | 2021-08-05 15:35 | 2021-08-05 12:58 | 2021-08-05 09:20 | 2021-08-06 09:32 | | |
| Parameter | Unit | G / S | RDL | 2838607 | 2838608 | 2838611 | 2838614 | 2838615 | 2838616 | 2838617 | 2838618 |
| Benzene | mg/kg | | 0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 |
| Toluene | mg/kg | | 0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 |
| Ethylbenzene | mg/kg | | 0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 |
| Xylene (Total) | mg/kg | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| C6-C10 (less BTEX) | mg/kg | | 3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 |
| >C10-C16 Hydrocarbons - 1X silica gel | mg/kg | | 15 | <15 | 47 | <15 | <15 | <15 | <15 | <15 | <15 |
| >C16-C21 Hydrocarbons - 1X silica gel | mg/kg | | 15 | <15 | 107 | <15 | <15 | <15 | <15 | <15 | <15 |
| >C21-C32 Hydrocarbons - 1X silica gel | mg/kg | | 15 | <15 | 233 | <15 | <15 | <15 | <15 | <15 | <15 |
| Modified TPH (Tier 1) - 1X silica gel | mg/kg | | 15 | <15 | 387 | <15 | <15 | <15 | <15 | <15 | <15 |
| Resemblance Comment | | | NR | UC | NR | NR | NR | NR | NR | NR | NR |
| Return to Baseline at C32 | | | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| Silica Gel Cleanup | | | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| Surrogate | Unit | Acceptable Limits | | | | | | | | | |
| Isobutylbenzene - EPH | % | 60-140 | 117 | 107 | 101 | 109 | 114 | 118 | 114 | 114 | 113 |
| Isobutylbenzene - VPH | % | 60-140 | 90 | 87 | 91 | 92 | 90 | 91 | 93 | 93 | 89 |
| n-Dotriacontane - EPH | % | 60-140 | 128 | 121 | 112 | 120 | 123 | 127 | 122 | 122 | 125 |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K786176

PROJECT: 100424.001

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FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Soil (Version 3.1) - Field Preserved + 1X Silica Gel

DATE RECEIVED: 2021-08-10

DATE REPORTED: 2021-08-20

| Parameter | Unit | SAMPLE DESCRIPTION: | | | | | |
|---------------------------------------|-------|---------------------|-------|---------------------|---------------------|---------------------|---------------------|
| | | G / S | RDL | Site 2-SED | Site 19-SED | Site 9-SED | SD-SED |
| | | | | Soil | Soil | Soil | Soil |
| | | | | 2021-08-06 10:38 | 2021-08-06 11:34 | 2021-08-06 12:25 | 2021-08-06 11:34 |
| | | | | 2838619 | 2838620 | 2838621 | 2838622 |
| Benzene | mg/kg | 0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 |
| Toluene | mg/kg | 0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 |
| Ethylbenzene | mg/kg | 0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 |
| Xylene (Total) | mg/kg | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| C6-C10 (less BTEX) | mg/kg | 3 | <3 | <3 | <3 | <3 | <3 |
| >C10-C16 Hydrocarbons - 1X silica gel | mg/kg | 15 | <15 | <15 | <15 | <15 | <15 |
| >C16-C21 Hydrocarbons - 1X silica gel | mg/kg | 15 | <15 | <15 | <15 | <15 | <15 |
| >C21-C32 Hydrocarbons - 1X silica gel | mg/kg | 15 | <15 | <15 | <15 | <15 | <15 |
| Modified TPH (Tier 1) - 1X silica gel | mg/kg | 15 | <15 | <15 | <15 | <15 | <15 |
| Resemblance Comment | | | NR | NR | NR | NR | NR |
| Return to Baseline at C32 | | | Y | Y | Y | Y | Y |
| Silica Gel Cleanup | | | Y | Y | Y | Y | Y |
| Surrogate | Unit | Acceptable Limits | | | | | |
| Isobutylbenzene - EPH | % | 60-140 | 107 | 102 | 112 | 106 | |
| Isobutylbenzene - VPH | % | 60-140 | 88 | 86 | 85 | 92 | |
| n-Dotriacontane - EPH | % | 60-140 | 118 | 112 | 123 | 114 | |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K786176

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Soil (Version 3.1) - Field Preserved + 1X Silica Gel

DATE RECEIVED: 2021-08-10

DATE REPORTED: 2021-08-20

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

2838112-2838622 Modified TPH, Xylene(Total)and C6-C10(less BTEX) are calculated parameters. The calculated parameter is non-accredited. The component parameters of the calculation are accredited.

Results are based on the dry weight of the soil.

- Resemblance Comment Key:
- GF - Gasoline Fraction
- WGF - Weathered Gasoline Fraction
- GR - Product in Gasoline Range
- FOF - Fuel Oil Fraction
- WFOF - Weathered Fuel Oil Fraction
- FR - Product in Fuel Oil Range
- LOF - Lube Oil Fraction
- LR - Lube Range
- UC - Unidentified Compounds
- NR - No Resemblance
- NA - Not Applicable

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K786176

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709)747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Water (Version 3.1)

DATE RECEIVED: 2021-08-10

DATE REPORTED: 2021-08-20

| Parameter | Unit | G / S | RDL | SAMPLE DESCRIPTION: | | Site 17-SW | Site 21-SW | Site 15-SW | Site 10-SW | Site 16-SW | Site 12-SW | Site 5-SW | Site 20-SW |
|---------------------------|------|-------------------|-------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|-----------|------------|
| | | | | Water | Water | Water | Water | Water | Water | Water | Water | | |
| DATE SAMPLED: | | | | 2021-08-05 12:58 | 2021-08-05 10:32 | 2021-08-05 09:20 | 2021-08-05 15:35 | 2021-08-05 14:30 | 2021-08-04 12:20 | 2021-08-04 15:20 | 2021-08-04 16:50 | | |
| Benzene | mg/L | | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Toluene | mg/L | | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Ethylbenzene | mg/L | | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Xylene (Total) | mg/L | | 0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| C6-C10 (less BTEX) | mg/L | | 0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| >C10-C16 Hydrocarbons | mg/L | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C16-C21 Hydrocarbons | mg/L | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C21-C32 Hydrocarbons | mg/L | | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Modified TPH (Tier 1) | mg/L | | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Sediment | | | | NO | NO | NO | TRACE | TRACE | TRACE | TRACE | TRACE | TRACE | TRACE |
| Resemblance Comment | | | | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| Return to Baseline at C32 | | | | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| Surrogate | Unit | Acceptable Limits | | | | | | | | | | | |
| Isobutylbenzene - EPH | % | 70-130 | | 103 | 104 | 104 | 104 | 105 | 103 | 105 | 104 | | |
| Isobutylbenzene - VPH | % | 70-130 | | 79 | 80 | 80 | 77 | 76 | 71 | 76 | 72 | | |
| n-Dotriacontane - EPH | % | 70-130 | | 104 | 105 | 106 | 106 | 107 | 106 | 107 | 106 | | |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K786176

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Water (Version 3.1)

DATE RECEIVED: 2021-08-10

DATE REPORTED: 2021-08-20

| Parameter | Unit | G / S | RDL | SAMPLE DESCRIPTION: | Site 8- SW | Site 11-SW | Site 14-SW | Site 6-SW | Site 7-SW | Site 4-SW | Site 3-SW | Site 1-SW |
|---------------------------|------|-------|-------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|-----------|
| | | | | SAMPLE TYPE: | Water | Water | Water | Water | Water | Water | Water | Water |
| DATE SAMPLED: | | | | 2021-08-04 08:55 | 2021-08-04 10:36 | 2021-08-04 13:30 | 2021-08-03 14:00 | 2021-08-03 14:51 | 2021-08-03 11:00 | 2021-08-03 12:35 | 2021-08-06 09:32 | |
| | | | | 2837154 | 2837155 | 2837156 | 2837157 | 2837158 | 2837159 | 2837160 | 2837161 | |
| Benzene | mg/L | | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Toluene | mg/L | | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Ethylbenzene | mg/L | | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Xylene (Total) | mg/L | | 0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| C6-C10 (less BTEX) | mg/L | | 0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| >C10-C16 Hydrocarbons | mg/L | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C16-C21 Hydrocarbons | mg/L | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C21-C32 Hydrocarbons | mg/L | | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Modified TPH (Tier 1) | mg/L | | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Sediment | | | | TRACE | NO | TRACE | TRACE | TRACE | TRACE | TRACE | TRACE | TRACE |
| Resemblance Comment | | | | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| Return to Baseline at C32 | | | | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| Surrogate | Unit | | Acceptable Limits | | | | | | | | | |
| Isobutylbenzene - EPH | % | | 70-130 | 106 | 104 | 105 | 106 | 104 | 102 | 105 | 105 | |
| Isobutylbenzene - VPH | % | | 70-130 | 74 | 73 | 75 | 72 | 73 | 71 | 70 | 70 | |
| n-Dotriacontane - EPH | % | | 70-130 | 109 | 108 | 107 | 108 | 106 | 106 | 108 | 108 | |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K786176

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Water (Version 3.1)

DATE RECEIVED: 2021-08-10

DATE REPORTED: 2021-08-20

| Parameter | Unit | SAMPLE DESCRIPTION: | | Site 2-SW | Site 19-SW | Site 9-SW | SD-SW |
|---------------------------|------|---------------------|-------|-----------|------------|-----------|---------|
| | | G / S | RDL | 2837162 | 2837163 | 2837164 | 2839968 |
| Benzene | mg/L | | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Toluene | mg/L | | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Ethylbenzene | mg/L | | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Xylene (Total) | mg/L | | 0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| C6-C10 (less BTEX) | mg/L | | 0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| >C10-C16 Hydrocarbons | mg/L | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C16-C21 Hydrocarbons | mg/L | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C21-C32 Hydrocarbons | mg/L | | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Modified TPH (Tier 1) | mg/L | | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Sediment | | | | NO | TRACE | TRACE | NO |
| Resemblance Comment | | | | NR | NR | NR | NR |
| Return to Baseline at C32 | | | | Y | Y | Y | Y |
| Surrogate | Unit | Acceptable Limits | | | | | |
| Isobutylbenzene - EPH | % | 70-130 | 104 | 107 | 105 | 104 | |
| Isobutylbenzene - VPH | % | 70-130 | 73 | 70 | 72 | 70 | |
| n-Dotriacontane - EPH | % | 70-130 | 108 | 110 | 109 | 107 | |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K786176

PROJECT: 100424.001

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St. John's, NL
CANADA A1E 6A8
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FAX (709 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Water (Version 3.1)

DATE RECEIVED: 2021-08-10

DATE REPORTED: 2021-08-20

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

2836981-2839968 Modified TPH, Xylene(Total)and C6-C10(less BTEX) are calculated parameters. The calculated parameter is non-accredited. The component parameters of the calculation are accredited.

Sediment parameter is comment only based on visual inspection of the sample prior to extraction and is not an accredited test.

Resemblance Comment Key:

- GF - Gasoline Fraction
- WGF - Weathered Gasoline Fraction
- GR - Product in Gasoline Range
- FOF - Fuel Oil Fraction
- WFOF - Weathered Fuel Oil Fraction
- FR - Product in Fuel Oil Range
- LOF - Lube Oil Fraction
- LR - Lube Range
- UC - Unidentified Compounds
- NR - No Resemblance
- NA - Not Applicable

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K786176

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Moisture

DATE RECEIVED: 2021-08-10

DATE REPORTED: 2021-08-20

| | | SAMPLE DESCRIPTION: | | Site 8-SED | Site 14-SED | Site 12-SED | Site 11-SED | Site 5-SED | Site 20-SED | Site 6-SED | Site 3-SED |
|------------|------|---------------------|-----|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | | SAMPLE TYPE: | | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil |
| | | DATE SAMPLED: | | 2021-08-04 08:55 | 2021-08-04 13:30 | 2021-08-04 12:20 | 2021-08-04 22:36 | 2021-08-04 15:20 | 2021-08-04 16:40 | 2021-08-03 14:00 | 2021-08-03 12:35 |
| Parameter | Unit | G / S | RDL | 2838112 | 2838143 | 2838144 | 2838148 | 2838153 | 2838397 | 2838399 | 2838606 |
| % Moisture | % | | 1 | 18 | 19 | 17 | 48 | 83 | 73 | 89 | 18 |
| | | SAMPLE DESCRIPTION: | | Site 4-SED | Site 7-SED | Site 16-SED | Site 21-SED | Site 10-SED | Site 17-SED | Site 15-SED | Site 1-SED |
| | | SAMPLE TYPE: | | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil |
| | | DATE SAMPLED: | | 2021-08-03 11:00 | 2021-08-03 14:51 | 2021-08-05 14:30 | 2021-08-05 10:32 | 2021-08-05 15:35 | 2021-08-05 12:58 | 2021-08-05 09:20 | 2021-08-06 09:32 |
| Parameter | Unit | G / S | RDL | 2838607 | 2838608 | 2838611 | 2838614 | 2838615 | 2838616 | 2838617 | 2838618 |
| % Moisture | % | | 1 | 14 | 92 | 18 | 26 | 21 | 10 | 13 | 15 |
| | | SAMPLE DESCRIPTION: | | Site 2-SED | Site 19-SED | Site 9-SED | SD-SED | | | | |
| | | SAMPLE TYPE: | | Soil | Soil | Soil | Soil | | | | |
| | | DATE SAMPLED: | | 2021-08-06 10:38 | 2021-08-06 11:34 | 2021-08-06 12:25 | 2021-08-06 11:34 | | | | |
| Parameter | Unit | G / S | RDL | 2838619 | 2838620 | 2838621 | 2838622 | | | | |
| % Moisture | % | | 1 | 7 | 27 | 16 | 29 | | | | |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard
Analysis performed at AGAT Halifax (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K786176

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Mercury Analysis in Water (Total)

DATE RECEIVED: 2021-08-10

DATE REPORTED: 2021-08-20

| | | SAMPLE DESCRIPTION: | | Site 17-SW | Site 21-SW | Site 15-SW | Site 10-SW | Site 16-SW | Site 12-SW | Site 5-SW | Site 20-SW |
|---------------|------|---------------------|-------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | | SAMPLE TYPE: | | Water | Water | Water | Water | Water | Water | Water | Water |
| | | DATE SAMPLED: | | 2021-08-05 12:58 | 2021-08-05 10:32 | 2021-08-05 09:20 | 2021-08-05 15:35 | 2021-08-05 14:30 | 2021-08-04 12:20 | 2021-08-04 15:20 | 2021-08-04 16:50 |
| Parameter | Unit | G / S | RDL | 2836981 | 2837147 | 2837148 | 2837149 | 2837150 | 2837151 | 2837152 | 2837153 |
| Total Mercury | ug/L | | 0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 |
| | | SAMPLE DESCRIPTION: | | Site 8- SW | Site 11-SW | Site 14-SW | Site 6-SW | Site 7-SW | Site 4-SW | Site 3-SW | Site 1-SW |
| | | SAMPLE TYPE: | | Water | Water | Water | Water | Water | Water | Water | Water |
| | | DATE SAMPLED: | | 2021-08-04 08:55 | 2021-08-04 10:36 | 2021-08-04 13:30 | 2021-08-03 14:00 | 2021-08-03 14:51 | 2021-08-03 11:00 | 2021-08-03 12:35 | 2021-08-06 09:32 |
| Parameter | Unit | G / S | RDL | 2837154 | 2837155 | 2837156 | 2837157 | 2837158 | 2837159 | 2837160 | 2837161 |
| Total Mercury | ug/L | | 0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 |
| | | SAMPLE DESCRIPTION: | | Site 2-SW | Site 19-SW | Site 9-SW | SD-SW | | | | |
| | | SAMPLE TYPE: | | Water | Water | Water | Water | | | | |
| | | DATE SAMPLED: | | 2021-08-06 10:38 | 2021-08-06 11:34 | 2021-08-06 12:25 | 2021-08-05 12:58 | | | | |
| Parameter | Unit | G / S | RDL | 2837162 | 2837163 | 2837164 | 2839968 | | | | |
| Total Mercury | ug/L | | 0.026 | <0.026 | <0.026 | <0.026 | <0.026 | | | | |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard
Analysis performed at AGAT Halifax (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K786176

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals (TO)

DATE RECEIVED: 2021-08-10

DATE REPORTED: 2021-08-20

| Parameter | Unit | SAMPLE DESCRIPTION: | | Site 17-SW | | Site 21-SW | Site 15-SW | Site 10-SW | Site 16-SW | Site 12-SW | Site 5-SW |
|----------------------------------|---------|---------------------|------|------------|------|------------|------------|------------|------------|------------|------------|
| | | G / S | RDL | Water | | Water | Water | Water | Water | Water | Water |
| | | DATE SAMPLED: | | 2021-08-05 | | 2021-08-05 | 2021-08-05 | 2021-08-05 | 2021-08-05 | 2021-08-04 | 2021-08-04 |
| | | | | 12:58 | | 10:32 | 09:20 | 15:35 | 14:30 | 12:20 | 15:20 |
| | | | | 2836981 | RDL | 2837147 | 2837148 | 2837149 | 2837150 | 2837151 | 2837152 |
| pH | | | | 6.98 | | 6.54 | 6.43 | 6.58 | 6.73 | 6.17 | 6.46 |
| Reactive Silica as SiO2 | mg/L | | 0.5 | 3.8 | 0.5 | 2.8 | 1.4 | 2.4 | 7.3 | 5.4 | 6.8 |
| Chloride | mg/L | | 1 | 4 | 1 | 7 | 12 | 7 | 3 | 3 | 3 |
| Fluoride | mg/L | | 0.12 | 0.12 | 0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 |
| Sulphate | mg/L | | 2 | <2 | 2 | <2 | <2 | <2 | <2 | 3 | 2 |
| Alkalinity | mg/L | | 5 | 18 | 5 | 13 | 7 | 11 | 17 | <5 | 16 |
| True Color | TCU | | 5.00 | 23.1 | 5.00 | 28.6 | 28.4 | 50.1 | 59.4 | 9.10 | 120 |
| Turbidity | NTU | | 0.5 | <0.5 | 0.5 | 1.6 | 0.7 | 0.6 | 2.1 | 0.5 | 2.6 |
| Electrical Conductivity | umho/cm | | 1 | 56 | 1 | 59 | 67 | 55 | 54 | 36 | 68 |
| Nitrate + Nitrite as N | mg/L | | 0.05 | <0.05 | 0.05 | <0.05 | <0.05 | <0.05 | 0.08 | 0.56 | 0.44 |
| Nitrate as N | mg/L | | 0.05 | <0.05 | 0.05 | <0.05 | <0.05 | <0.05 | 0.08 | 0.56 | 0.06 |
| Nitrite as N | mg/L | | 0.05 | <0.05 | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | 0.38 |
| Ammonia as N | mg/L | | 0.03 | <0.03 | 0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | 0.57 |
| Total Organic Carbon | mg/L | | 0.5 | 3.6 | 0.5 | 3.9 | 5.4 | 4.2 | 7.0 | 2.8 | 33.4 |
| Ortho-Phosphate as P | mg/L | | 0.01 | <0.01 | 0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| Total Sodium | mg/L | | 0.22 | 4.66 | 0.22 | 5.86 | 8.52 | 5.64 | 3.16 | 2.67 | 3.05 |
| Total Potassium | mg/L | | 0.58 | <0.58 | 0.58 | <0.58 | <0.58 | <0.58 | <0.58 | <0.58 | 1.91 |
| Total Calcium | mg/L | | 0.16 | 3.00 | 0.16 | 2.57 | 1.84 | 2.30 | 4.08 | 1.86 | 5.24 |
| Total Magnesium | mg/L | | 0.17 | 2.09 | 0.17 | 1.99 | 1.51 | 1.63 | 2.41 | 1.24 | 2.80 |
| Bicarb. Alkalinity (as CaCO3) | mg/L | | 5 | 18 | 5 | 13 | 7 | 11 | 17 | <5 | 16 |
| Carb. Alkalinity (as CaCO3) | mg/L | | 10 | <10 | 10 | <10 | <10 | <10 | <10 | <10 | <10 |
| Hydroxide | mg/L | | 5 | <5 | 5 | <5 | <5 | <5 | <5 | <5 | <5 |
| Calculated TDS | mg/L | | 1 | 25 | 1 | 26 | 28 | 23 | 24 | 16 | 32 |
| Hardness (as CaCO3) (Calculated) | mg/L | | 0.5 | 16.1 | 0.5 | 14.6 | 10.8 | 12.5 | 20.1 | 9.8 | 24.6 |
| Langelier Index (@20C) | NA | | | -2.81 | | -3.46 | -4.00 | -3.54 | -2.95 | -4.37 | -3.16 |
| Langelier Index (@ 4C) | NA | | | -3.13 | | -3.78 | -4.32 | -3.86 | -3.27 | -4.69 | -3.48 |
| Saturation pH (@ 20C) | NA | | | 9.79 | | 10.0 | 10.4 | 10.1 | 9.68 | 10.5 | 9.62 |
| Saturation pH (@ 4C) | NA | | | 10.1 | | 10.3 | 10.8 | 10.4 | 10.0 | 10.9 | 9.94 |
| Anion Sum | me/L | | | 0.47 | | 0.46 | 0.48 | 0.42 | 0.43 | 0.19 | 0.48 |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K786176

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals (TO)

DATE RECEIVED: 2021-08-10

DATE REPORTED: 2021-08-20

| Parameter | Unit | SAMPLE DESCRIPTION: | | Site 17-SW | Site 21-SW | Site 15-SW | Site 10-SW | Site 16-SW | Site 12-SW | Site 5-SW |
|---------------------------|------|---------------------|-------|------------|------------|------------|------------|------------|------------|------------|
| | | G / S | RDL | Water | Water | Water | Water | Water | Water | Water |
| DATE SAMPLED: | | 2021-08-05 | | 2021-08-05 | 2021-08-05 | 2021-08-05 | 2021-08-05 | 2021-08-05 | 2021-08-04 | 2021-08-04 |
| | | 12:58 | | 10:32 | 09:20 | 15:35 | 14:30 | 12:20 | 15:20 | |
| | | 2836981 | | RDL | 2837147 | 2837148 | 2837149 | 2837150 | 2837151 | 2837152 |
| Cation sum | me/L | | | 0.54 | 0.57 | 0.59 | 0.50 | 0.58 | 0.37 | 0.80 |
| % Difference/ Ion Balance | % | | | 6.3 | 11.2 | 10.5 | 9.1 | 15.1 | 32.4 | 25.3 |
| Total Aluminum | µg/L | 10.0 | 28.0 | 10.0 | 47.4 | 38.5 | 39.4 | 56.9 | 77.6 | 155 |
| Total Antimony | µg/L | 3.0 | <3.0 | 3.0 | <3.0 | <3.0 | <3.0 | <3.0 | <3.0 | <3.0 |
| Total Arsenic | µg/L | 3.0 | <3.0 | 3.0 | <3.0 | <3.0 | <3.0 | 4.7 | <3.0 | 7.9 |
| Total Barium | µg/L | 2.0 | <2.0 | 2.0 | <2.0 | <2.0 | <2.0 | <2.0 | 3.3 | 7.7 |
| Total Beryllium | µg/L | 0.50 | <0.50 | 0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Total Bismuth | µg/L | 2.0 | <2.0 | 2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 |
| Total Boron | µg/L | 10 | <10 | 10 | <10 | <10 | <10 | <10 | <10 | 12 |
| Total Cadmium | µg/L | 0.10 | <0.10 | 0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Total Chromium | µg/L | 3.0 | <3.0 | 3.0 | <3.0 | <3.0 | <3.0 | <3.0 | <3.0 | <3.0 |
| Total Cobalt | µg/L | 0.50 | <0.50 | 0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | 0.59 |
| Total Copper | µg/L | 1.0 | <1.0 | 1.0 | 1.4 | 1.1 | <1.0 | <1.0 | <1.0 | 1.8 |
| Total Iron | µg/L | 50 | 186 | 50 | 378 | 86 | 131 | 1000 | 275 | 1320 |
| Total Lead | µg/L | 1.0 | <1.0 | 1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 |
| Total Manganese | µg/L | 2.0 | 16.1 | 2.0 | 100 | 19.7 | 57.3 | 117 | 970 | 635 |
| Total Molybdenum | µg/L | 2.0 | <2.0 | 2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 |
| Total Nickel | µg/L | 3.0 | <3.0 | 3.0 | <3.0 | <3.0 | <3.0 | <3.0 | <3.0 | <3.0 |
| Total Phosphorus | mg/L | 0.10 | <0.10 | 0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Total Selenium | µg/L | 1.0 | <1.0 | 1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 |
| Total Silver | µg/L | 0.10 | <0.10 | 0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Total Strontium | µg/L | 5.0 | 20.5 | 5.0 | 23.6 | 16.5 | 17.7 | 33.2 | 24.5 | 51.8 |
| Total Thallium | µg/L | 0.30 | <0.30 | 0.30 | <0.30 | <0.30 | <0.30 | <0.30 | <0.30 | <0.30 |
| Total Tin | µg/L | 20 | <20 | 2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 |
| Total Titanium | µg/L | 2.0 | <2.0 | 2.0 | <2.0 | 3.6 | <2.0 | 2.6 | 3.7 | <2.0 |
| Total Uranium | µg/L | 0.50 | <0.50 | 0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Total Vanadium | µg/L | 2.0 | <2.0 | 2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 |
| Total Zinc | µg/L | 5.0 | <5.0 | 5.0 | <5.0 | <5.0 | <5.0 | <5.0 | 25.9 | 5.2 |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K786176

PROJECT: 100424.001

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St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals (TO)

DATE RECEIVED: 2021-08-10

DATE REPORTED: 2021-08-20

| Parameter | Unit | SAMPLE DESCRIPTION: | | Site 20-SW | Site 8- SW | Site 11-SW | Site 14-SW | Site 6-SW | Site 7-SW | Site 4-SW | Site 3-SW |
|----------------------------------|---------|---------------------|------|------------|------------|------------|------------|------------|------------|------------|------------|
| | | G / S | RDL | Water | Water | Water | Water | Water | Water | Water | Water |
| | | DATE SAMPLED: | | 2021-08-04 | 2021-08-04 | 2021-08-04 | 2021-08-04 | 2021-08-03 | 2021-08-03 | 2021-08-03 | 2021-08-03 |
| | | | | 16:50 | 08:55 | 10:36 | 13:30 | 14:00 | 14:51 | 11:00 | 12:35 |
| | | | | 2837153 | 2837154 | 2837155 | 2837156 | 2837157 | 2837158 | 2837159 | 2837160 |
| pH | | | | 6.71 | 6.85 | 6.23 | 7.48 | 6.46 | 6.71 | 6.00 | 6.39 |
| Reactive Silica as SiO2 | mg/L | | 0.5 | 1.5 | 3.8 | 3.3 | 15.3 | 2.5 | 5.3 | 5.9 | 3.0 |
| Chloride | mg/L | | 1 | 8 | 41 | 2 | 4 | 11 | 6 | 4 | 2 |
| Fluoride | mg/L | | 0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 |
| Sulphate | mg/L | | 2 | <2 | 3 | <2 | <2 | <2 | 2 | <2 | <2 |
| Alkalinity | mg/L | | 5 | 16 | 17 | <5 | 62 | 14 | 16 | 6 | 8 |
| True Color | TCU | | 5.00 | 35.9 | 12.4 | 6.08 | 57.5 | 40.6 | 43.0 | 40.0 | 14.8 |
| Turbidity | NTU | | 0.5 | 0.9 | 0.6 | <0.5 | 0.6 | 2.2 | 0.9 | 0.8 | 1.1 |
| Electrical Conductivity | umho/cm | | 1 | 70 | 194 | 48 | 134 | 80 | 58 | 59 | 31 |
| Nitrate + Nitrite as N | mg/L | | 0.05 | 0.06 | 0.11 | 2.61 | 0.08 | <0.05 | 1.15 | 0.19 | 0.11 |
| Nitrate as N | mg/L | | 0.05 | 0.06 | 0.11 | 2.61 | 0.08 | <0.05 | 1.15 | 0.19 | 0.05 |
| Nitrite as N | mg/L | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | 0.06 |
| Ammonia as N | mg/L | | 0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 |
| Total Organic Carbon | mg/L | | 0.5 | 9.6 | 2.2 | 1.3 | <0.5 | 8.7 | 10.4 | 6.5 | 3.9 |
| Ortho-Phosphate as P | mg/L | | 0.01 | <0.01 | <0.01 | <0.01 | 0.01 | <0.01 | <0.01 | 0.01 | <0.01 |
| Total Sodium | mg/L | | 0.22 | 5.94 | 24.7 | 2.87 | 2.85 | 7.60 | 3.86 | 4.18 | 2.32 |
| Total Potassium | mg/L | | 0.58 | <0.58 | <0.58 | <0.58 | <0.58 | <0.58 | <0.58 | <0.58 | <0.58 |
| Total Calcium | mg/L | | 0.16 | 2.51 | 7.03 | 3.05 | 4.89 | 5.02 | 4.78 | 5.21 | 2.08 |
| Total Magnesium | mg/L | | 0.17 | 3.40 | 1.82 | 1.20 | 12.2 | 1.19 | 1.27 | 1.38 | 1.04 |
| Bicarb. Alkalinity (as CaCO3) | mg/L | | 5 | 16 | 17 | <5 | 62 | 14 | 16 | 6 | 8 |
| Carb. Alkalinity (as CaCO3) | mg/L | | 10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| Hydroxide | mg/L | | 5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| Calculated TDS | mg/L | | 1 | 30 | 88 | 21 | 62 | 34 | 34 | 20 | 13 |
| Hardness (as CaCO3) (Calculated) | mg/L | | 0.5 | 20.3 | 25.0 | 12.6 | 62.4 | 17.4 | 17.2 | 18.7 | 9.5 |
| Langelier Index (@20C) | NA | | | -3.22 | -2.66 | -4.11 | -1.60 | -3.23 | -2.94 | -4.02 | -3.88 |
| Langelier Index (@ 4C) | NA | | | -3.54 | -2.98 | -4.43 | -1.92 | -3.55 | -3.26 | -4.34 | -4.20 |
| Saturation pH (@ 20C) | NA | | | 9.93 | 9.51 | 10.3 | 9.08 | 9.69 | 9.65 | 10.0 | 10.3 |
| Saturation pH (@ 4C) | NA | | | 10.3 | 9.83 | 10.7 | 9.40 | 10.0 | 9.97 | 10.3 | 10.6 |
| Anion Sum | me/L | | | 0.55 | 1.57 | 0.24 | 1.36 | 0.59 | 0.61 | 0.25 | 0.22 |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K786176

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals (TO)

DATE RECEIVED: 2021-08-10

DATE REPORTED: 2021-08-20

| Parameter | Unit | SAMPLE DESCRIPTION: | | Site 20-SW | Site 8- SW | Site 11-SW | Site 14-SW | Site 6-SW | Site 7-SW | Site 4-SW | Site 3-SW |
|---------------------------|------|---------------------|-----|------------|------------|------------|------------|-----------|-----------|-----------|-----------|
| | | G / S | RDL | 2837153 | 2837154 | 2837155 | 2837156 | 2837157 | 2837158 | 2837159 | 2837160 |
| Cation sum | me/L | | | 0.67 | 1.58 | 0.38 | 1.39 | 0.70 | 0.57 | 0.58 | 0.30 |
| % Difference/ Ion Balance | % | | | 10.2 | 0.5 | 22.6 | 1.1 | 8.8 | 3.7 | 40.6 | 14.3 |
| Total Aluminum | µg/L | 10.0 | | 53.3 | 40.4 | 34.7 | 67.3 | 77.4 | 147 | 89.6 | 31.8 |
| Total Antimony | µg/L | 3.0 | | <3.0 | <3.0 | <3.0 | <3.0 | <3.0 | <3.0 | <3.0 | <3.0 |
| Total Arsenic | µg/L | 3.0 | | <3.0 | <3.0 | <3.0 | <3.0 | 3.4 | <3.0 | 3.3 | <3.0 |
| Total Barium | µg/L | 2.0 | | <2.0 | 2.3 | 2.2 | 2.2 | 2.4 | 5.2 | 2.5 | <2.0 |
| Total Beryllium | µg/L | 0.50 | | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Total Bismuth | µg/L | 2.0 | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 |
| Total Boron | µg/L | 10 | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| Total Cadmium | µg/L | 0.10 | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Total Chromium | µg/L | 3.0 | | <3.0 | <3.0 | <3.0 | 3.6 | <3.0 | <3.0 | <3.0 | <3.0 |
| Total Cobalt | µg/L | 0.50 | | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Total Copper | µg/L | 1.0 | | 1.7 | <1.0 | 4.5 | 1.2 | 1.2 | <1.0 | 1.8 | 1.1 |
| Total Iron | µg/L | 50 | | 200 | 122 | <50 | 282 | 206 | 357 | 341 | 96 |
| Total Lead | µg/L | 1.0 | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 |
| Total Manganese | µg/L | 2.0 | | 23.8 | 26.0 | 8.6 | 24.1 | 238 | 646 | 95.3 | 125 |
| Total Molybdenum | µg/L | 2.0 | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 |
| Total Nickel | µg/L | 3.0 | | <3.0 | <3.0 | 28.7 | 5.4 | <3.0 | <3.0 | <3.0 | <3.0 |
| Total Phosphorus | mg/L | 0.10 | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Total Selenium | µg/L | 1.0 | | 2.8 | <1.0 | 1.1 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 |
| Total Silver | µg/L | 0.10 | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Total Strontium | µg/L | 5.0 | | 16.0 | 51.6 | 28.8 | 40.4 | 38.3 | 39.3 | 39.7 | 17.6 |
| Total Thallium | µg/L | 0.30 | | <0.30 | <0.30 | <0.30 | <0.30 | <0.30 | <0.30 | <0.30 | <0.30 |
| Total Tin | µg/L | 2.0 | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 |
| Total Titanium | µg/L | 2.0 | | <2.0 | 3.5 | <2.0 | 3.6 | 4.3 | 4.5 | 4.0 | 3.5 |
| Total Uranium | µg/L | 0.50 | | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Total Vanadium | µg/L | 2.0 | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 |
| Total Zinc | µg/L | 5.0 | | <5.0 | <5.0 | <5.0 | <5.0 | 5.8 | 5.9 | <5.0 | <5.0 |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K786176

PROJECT: 100424.001

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St. John's, NL
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TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals (TO)

DATE RECEIVED: 2021-08-10

DATE REPORTED: 2021-08-20

| Parameter | Unit | SAMPLE DESCRIPTION: | | Site 1-SW | Site 2-SW | Site 19-SW | Site 9-SW | SD-SW |
|----------------------------------|---------|---------------------|------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | | G / S | RDL | 2837161 | 2837162 | 2837163 | 2837164 | 2839968 |
| | | | | 2021-08-06 09:32 | 2021-08-06 10:38 | 2021-08-06 11:34 | 2021-08-06 12:25 | 2021-08-05 12:58 |
| pH | | | | 6.66 | 6.65 | 5.98 | 6.55 | 6.03 |
| Reactive Silica as SiO2 | mg/L | | 0.5 | 3.5 | 3.5 | 1.1 | 2.4 | 1.3 |
| Chloride | mg/L | | 1 | 3 | 3 | 3 | 22 | 3 |
| Fluoride | mg/L | | 0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 |
| Sulphate | mg/L | | 2 | <2 | <2 | <2 | 3 | <2 |
| Alkalinity | mg/L | | 5 | 13 | 13 | 6 | 12 | <5 |
| True Color | TCU | | 5.00 | 25.0 | 37.3 | 9.89 | 46.0 | 18.8 |
| Turbidity | NTU | | 0.5 | 0.6 | 0.7 | 0.8 | 2.1 | 0.8 |
| Electrical Conductivity | umho/cm | | 1 | 45 | 45 | 25 | 117 | 24 |
| Nitrate + Nitrite as N | mg/L | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Nitrate as N | mg/L | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Nitrite as N | mg/L | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Ammonia as N | mg/L | | 0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 |
| Total Organic Carbon | mg/L | | 0.5 | 5.4 | 7.9 | 4.1 | 8.3 | 4.4 |
| Ortho-Phosphate as P | mg/L | | 0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| Total Sodium | mg/L | | 0.22 | 3.00 | 2.94 | 1.88 | 14.4 | 1.89 |
| Total Potassium | mg/L | | 0.58 | <0.58 | <0.58 | <0.58 | <0.58 | <0.58 |
| Total Calcium | mg/L | | 0.16 | 3.42 | 3.69 | 1.38 | 3.49 | 1.45 |
| Total Magnesium | mg/L | | 0.17 | 1.51 | 1.56 | 0.47 | 1.94 | 0.44 |
| Bicarb. Alkalinity (as CaCO3) | mg/L | | 5 | 13 | 13 | 6 | 12 | <5 |
| Carb. Alkalinity (as CaCO3) | mg/L | | 10 | <10 | <10 | <10 | <10 | <10 |
| Hydroxide | mg/L | | 5 | <5 | <5 | <5 | <5 | <5 |
| Calculated TDS | mg/L | | 1 | 19 | 19 | 11 | 53 | 8 |
| Hardness (as CaCO3) (Calculated) | mg/L | | 0.5 | 14.8 | 15.6 | 5.4 | 16.7 | 5.4 |
| Langelier Index (@20C) | NA | | | -3.21 | -3.18 | -4.59 | -3.39 | -4.59 |
| Langelier Index (@ 4C) | NA | | | -3.53 | -3.50 | -4.91 | -3.71 | -4.91 |
| Saturation pH (@ 20C) | NA | | | 9.87 | 9.83 | 10.6 | 9.94 | 10.6 |
| Saturation pH (@ 4C) | NA | | | 10.2 | 10.2 | 10.9 | 10.3 | 10.9 |
| Anion Sum | me/L | | | 0.34 | 0.34 | 0.20 | 0.92 | 0.08 |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K786176

PROJECT: 100424.001

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<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals (TO)

DATE RECEIVED: 2021-08-10

DATE REPORTED: 2021-08-20

| Parameter | Unit | SAMPLE DESCRIPTION: | | Site 1-SW | Site 2-SW | Site 19-SW | Site 9-SW | SD-SW |
|---------------------------|------|---------------------|-------|-----------|-----------|------------|-----------|---------|
| | | G / S | RDL | 2837161 | 2837162 | 2837163 | 2837164 | 2839968 |
| Cation sum | me/L | | | 0.44 | 0.46 | 0.24 | 1.01 | 0.23 |
| % Difference/ Ion Balance | % | | | 12.1 | 14.3 | 7.0 | 4.7 | 46.8 |
| Total Aluminum | µg/L | 10.0 | 33.1 | 43.2 | 45.9 | 101 | 50.8 | |
| Total Antimony | µg/L | 3.0 | <3.0 | <3.0 | <3.0 | <3.0 | <3.0 | <3.0 |
| Total Arsenic | µg/L | 3.0 | <3.0 | <3.0 | <3.0 | 4.1 | <3.0 | <3.0 |
| Total Barium | µg/L | 2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 |
| Total Beryllium | µg/L | 0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Total Bismuth | µg/L | 2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 |
| Total Boron | µg/L | 10 | <10 | <10 | <10 | <10 | <10 | <10 |
| Total Cadmium | µg/L | 0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Total Chromium | µg/L | 3.0 | <3.0 | <3.0 | <3.0 | <3.0 | <3.0 | <3.0 |
| Total Cobalt | µg/L | 0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Total Copper | µg/L | 1.0 | 1.0 | <1.0 | <1.0 | 2.5 | <1.0 | <1.0 |
| Total Iron | µg/L | 50 | 171 | 252 | 436 | 950 | 454 | |
| Total Lead | µg/L | 1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 |
| Total Manganese | µg/L | 2.0 | 166 | 88.2 | 553 | 326 | 564 | |
| Total Molybdenum | µg/L | 2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 |
| Total Nickel | µg/L | 3.0 | <3.0 | <3.0 | <3.0 | <3.0 | <3.0 | <3.0 |
| Total Phosphorus | mg/L | 0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Total Selenium | µg/L | 1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 |
| Total Silver | µg/L | 0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Total Strontium | µg/L | 5.0 | 25.6 | 31.2 | 11.2 | 32.0 | 14.6 | |
| Total Thallium | µg/L | 0.30 | <0.30 | <0.30 | <0.30 | <0.30 | <0.30 | <0.30 |
| Total Tin | µg/L | 2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 |
| Total Titanium | µg/L | 2.0 | <2.0 | 3.5 | 2.0 | 2.6 | 4.4 | |
| Total Uranium | µg/L | 0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Total Vanadium | µg/L | 2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 |
| Total Zinc | µg/L | 5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K786176

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals (TO)

DATE RECEIVED: 2021-08-10

DATE REPORTED: 2021-08-20

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

2836981-2837153 % Difference / Ion Balance, Hardness, Langelier Index, Nitrate + Nitrite, Hydroxide and Saturation pH are calculated parameters. The calculated parameters are non-accredited. The component parameters of the calculations are accredited.

Metal and Cation parameters have been completed by AGAT Mississauga
When the cation and anion sums are at, or below 1 me/L, the acceptable criteria is less than 0.3me/L

2837154 % Difference / Ion Balance, Hardness, Langelier Index, Nitrate + Nitrite, Hydroxide and Saturation pH are calculated parameters. The calculated parameters are non-accredited. The component parameters of the calculations are accredited.

Metal and Cation parameters have been completed by AGAT Mississauga

2837155 % Difference / Ion Balance, Hardness, Langelier Index, Nitrate + Nitrite, Hydroxide and Saturation pH are calculated parameters. The calculated parameters are non-accredited. The component parameters of the calculations are accredited.

Metal and Cation parameters have been completed by AGAT Mississauga
When the cation and anion sums are at, or below 1 me/L, the acceptable criteria is less than 0.3me/L

2837156 % Difference / Ion Balance, Hardness, Langelier Index, Nitrate + Nitrite, Hydroxide and Saturation pH are calculated parameters. The calculated parameters are non-accredited. The component parameters of the calculations are accredited.

Metal and Cation parameters have been completed by AGAT Mississauga

2837157-2837163 % Difference / Ion Balance, Hardness, Langelier Index, Nitrate + Nitrite, Hydroxide and Saturation pH are calculated parameters. The calculated parameters are non-accredited. The component parameters of the calculations are accredited.

Metal and Cation parameters have been completed by AGAT Mississauga
When the cation and anion sums are at, or below 1 me/L, the acceptable criteria is less than 0.3me/L

2837164 % Difference / Ion Balance, Hardness, Langelier Index, Nitrate + Nitrite, Hydroxide and Saturation pH are calculated parameters. The calculated parameters are non-accredited. The component parameters of the calculations are accredited.

Metal and Cation parameters have been completed by AGAT Mississauga

2839968 % Difference / Ion Balance, Hardness, Langelier Index, Nitrate + Nitrite, Hydroxide and Saturation pH are calculated parameters. The calculated parameters are non-accredited. The component parameters of the calculations are accredited.

Metal and Cation parameters have been completed by AGAT Mississauga
When the cation and anion sums are at, or below 1 me/L, the acceptable criteria is less than 0.3me/L

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K786176

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
 St. John's, NL
 CANADA A1E 6A8
 TEL (709)747-8573
 FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

| TSS | | | | | | | | | | | |
|---------------------------|------|---------------------|-----|---------------------|---------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| DATE RECEIVED: 2021-08-10 | | | | | DATE REPORTED: 2021-08-20 | | | | | | |
| | | SAMPLE DESCRIPTION: | | Site 17-SW | Site 21-SW | Site 15-SW | Site 10-SW | Site 16-SW | Site 12-SW | Site 5-SW | Site 20-SW |
| | | SAMPLE TYPE: | | Water | Water | Water | Water | Water | Water | Water | Water |
| | | DATE SAMPLED: | | 2021-08-05 12:58 | 2021-08-05 10:32 | 2021-08-05 09:20 | 2021-08-05 15:35 | 2021-08-05 14:30 | 2021-08-04 12:20 | 2021-08-04 15:20 | 2021-08-04 16:50 |
| Parameter | Unit | G / S | RDL | 2836981 | 2837147 | 2837148 | 2837149 | 2837150 | 2837151 | 2837152 | 2837153 |
| Total Suspended Solids | mg/L | | 5 | <5 | 8 | <5 | <5 | <5 | <5 | 8 | <5 |
| | | SAMPLE DESCRIPTION: | | Site 8- SW | Site 11-SW | Site 14-SW | Site 6-SW | Site 7-SW | Site 4-SW | Site 3-SW | Site 1-SW |
| | | SAMPLE TYPE: | | Water | Water | Water | Water | Water | Water | Water | Water |
| | | DATE SAMPLED: | | 2021-08-04 08:55 | 2021-08-04 10:36 | 2021-08-04 13:30 | 2021-08-03 14:00 | 2021-08-03 14:51 | 2021-08-03 11:00 | 2021-08-03 12:35 | 2021-08-06 09:32 |
| Parameter | Unit | G / S | RDL | 2837154 | 2837155 | 2837156 | 2837157 | 2837158 | 2837159 | 2837160 | 2837161 |
| Total Suspended Solids | mg/L | | 5 | <5 | <5 | <5 | 16 | <5 | <5 | <5 | <5 |
| | | SAMPLE DESCRIPTION: | | Site 2-SW | Site 19-SW | Site 9-SW | SD-SW | | | | |
| | | SAMPLE TYPE: | | Water | Water | Water | Water | | | | |
| | | DATE SAMPLED: | | 2021-08-06 10:38 | 2021-08-06 11:34 | 2021-08-06 12:25 | 2021-08-05 12:58 | | | | |
| Parameter | Unit | G / S | RDL | 2837162 | 2837163 | 2837164 | 2839968 | | | | |
| Total Suspended Solids | mg/L | | 5 | <5 | <5 | <5 | <5 | | | | |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard
 Analysis performed at AGAT Halifax (unless marked by *)

Certified By:

Quality Assurance

 CLIENT NAME: GEMTEC LIMITED
 PROJECT: 100424.001
 SAMPLING SITE:

 AGAT WORK ORDER: 21K786176
 ATTENTION TO: Darrol Rice
 SAMPLED BY:

| Soil Analysis | | | | | | | | | | | | | | | |
|------------------------|-------|-----------|-----------|--------|-----|----------------|--------------|--------------------|-------|----------|--------------------|-------|--------------|-------------------|-------|
| RPT Date: Aug 20, 2021 | | | DUPLICATE | | | | Method Blank | REFERENCE MATERIAL | | | METHOD BLANK SPIKE | | MATRIX SPIKE | | |
| PARAMETER | Batch | Sample Id | Dup #1 | Dup #2 | RPD | Measured Value | | Acceptable Limits | | Recovery | Acceptable Limits | | Recovery | Acceptable Limits | |
| | | | | | | | | Lower | Upper | | Lower | Upper | | Lower | Upper |

Available Metals in Soil

| | | | | | | | | | | | | | | | |
|------------|---------|---------|-------|-------|-------|-------|------|-----|------|------|-----|------|-----|-----|------|
| Aluminum | 2838617 | 2838617 | 19700 | 19400 | 1.3% | < 10 | 116% | 80% | 120% | 119% | 80% | 120% | NA | 70% | 130% |
| Antimony | 2838617 | 2838617 | <1 | <1 | NA | < 1 | 86% | 80% | 120% | 102% | 80% | 120% | NA | 70% | 130% |
| Arsenic | 2838617 | 2838617 | 30 | 28 | 6.2% | < 1 | 102% | 80% | 120% | 106% | 80% | 120% | NA | 70% | 130% |
| Barium | 2838617 | 2838617 | 196 | 154 | NA | < 5 | 80% | 80% | 120% | 90% | 80% | 120% | NA | 70% | 130% |
| Beryllium | 2838617 | 2838617 | <2 | <2 | NA | < 2 | 107% | 80% | 120% | 112% | 80% | 120% | 83% | 70% | 130% |
| Boron | 2838617 | 2838617 | <2 | <2 | NA | < 2 | 97% | 80% | 120% | 108% | 80% | 120% | 78% | 70% | 130% |
| Cadmium | 2838617 | 2838617 | 0.4 | <0.3 | NA | < 0.3 | 95% | 80% | 120% | 98% | 80% | 120% | 71% | 70% | 130% |
| Chromium | 2838617 | 2838617 | 36 | 35 | 4.1% | < 2 | 101% | 80% | 120% | 102% | 80% | 120% | NA | 70% | 130% |
| Cobalt | 2838617 | 2838617 | 39 | 35 | 11.4% | < 1 | 99% | 80% | 120% | 100% | 80% | 120% | NA | 70% | 130% |
| Copper | 2838617 | 2838617 | 28 | 31 | 9.1% | < 2 | 99% | 80% | 120% | 103% | 80% | 120% | NA | 70% | 130% |
| Iron | 2838617 | 2838617 | 44600 | 41200 | 8.0% | < 50 | 100% | 80% | 120% | 97% | 80% | 120% | NA | 70% | 130% |
| Lead | 2838617 | 2838617 | 10.8 | 10.3 | 4.5% | < 0.5 | 86% | 80% | 120% | 104% | 80% | 120% | 72% | 70% | 130% |
| Lithium | 2838617 | 2838617 | 44 | 45 | 3.3% | < 5 | 103% | 70% | 130% | 110% | 70% | 130% | NA | 70% | 130% |
| Manganese | 2838617 | 2838617 | 23100 | 18200 | NA | < 2 | 99% | 80% | 120% | 102% | 80% | 120% | NA | 70% | 130% |
| Molybdenum | 2838617 | 2838617 | 2 | 2 | NA | < 2 | 94% | 80% | 120% | 95% | 80% | 120% | 72% | 70% | 130% |
| Nickel | 2838617 | 2838617 | 88 | 83 | 6.2% | < 2 | 101% | 80% | 120% | 105% | 80% | 120% | NA | 70% | 130% |
| Selenium | 2838617 | 2838617 | <1 | <1 | NA | < 1 | 107% | 80% | 120% | 97% | 80% | 120% | NA | 70% | 130% |
| Silver | 2838617 | 2838617 | <0.5 | <0.5 | NA | < 0.5 | 101% | 80% | 120% | 101% | 80% | 120% | NA | 70% | 130% |
| Strontium | 2838617 | 2838617 | 34 | 27 | NA | < 5 | 93% | 80% | 120% | 100% | 80% | 120% | NA | 70% | 130% |
| Thallium | 2838617 | 2838617 | 0.1 | 0.1 | NA | < 0.1 | 85% | 80% | 120% | 102% | 80% | 120% | NA | 70% | 130% |
| Tin | 2838617 | 2838617 | 3 | 3 | NA | < 2 | 95% | 80% | 120% | 98% | 80% | 120% | 97% | 70% | 130% |
| Uranium | 2838617 | 2838617 | 0.5 | 0.5 | 4.1% | < 0.1 | 88% | 80% | 120% | 100% | 80% | 120% | NA | 70% | 130% |
| Vanadium | 2838617 | 2838617 | 90 | 95 | 5.7% | < 2 | 90% | 80% | 120% | 90% | 80% | 120% | NA | 70% | 130% |
| Zinc | 2838617 | 2838617 | 100 | 96 | 4.4% | < 5 | 94% | 80% | 120% | 93% | 80% | 120% | NA | 70% | 130% |

Mercury in Soil

| | | | | | | | | | | | | | | | |
|---------|---------|---------|-------|-------|----|--------|------|-----|------|--|-----|------|------|-----|------|
| Mercury | 2838622 | 2838622 | <0.03 | <0.03 | NA | < 0.03 | 110% | 70% | 130% | | 70% | 130% | 124% | 70% | 130% |
|---------|---------|---------|-------|-------|----|--------|------|-----|------|--|-----|------|------|-----|------|

Certified By:


Quality Assurance

CLIENT NAME: GEMTEC LIMITED
 PROJECT: 100424.001
 SAMPLING SITE:

AGAT WORK ORDER: 21K786176
 ATTENTION TO: Darrol Rice
 SAMPLED BY:

| Trace Organics Analysis | | | | | | | | | | | | | | | |
|-------------------------|-------|-----------|-----------|--------|-----|----------------|--------------|--------------------|-------|----------|--------------------|-------|--------------|-------------------|-------|
| RPT Date: Aug 20, 2021 | | | DUPLICATE | | | | Method Blank | REFERENCE MATERIAL | | | METHOD BLANK SPIKE | | MATRIX SPIKE | | |
| PARAMETER | Batch | Sample Id | Dup #1 | Dup #2 | RPD | Measured Value | | Acceptable Limits | | Recovery | Acceptable Limits | | Recovery | Acceptable Limits | |
| | | | | | | | | Lower | Upper | | Lower | Upper | | Lower | Upper |

Atlantic RBCA Tier 1 Hydrocarbons in Water (Version 3.1)

| | | | | | | | | | | | | | | | |
|-----------------------|---|---------|--------|--------|----|--------|------|-----|------|------|-----|------|-----|-----|------|
| >C10-C16 Hydrocarbons | 1 | 2836981 | < 0.05 | < 0.05 | NA | < 0.05 | 108% | 70% | 130% | 101% | 70% | 130% | 76% | 70% | 130% |
| >C16-C21 Hydrocarbons | 1 | 2836981 | < 0.05 | < 0.05 | NA | < 0.05 | 110% | 70% | 130% | 101% | 70% | 130% | 76% | 70% | 130% |
| >C21-C32 Hydrocarbons | 1 | 2836981 | < 0.1 | < 0.1 | NA | < 0.1 | 91% | 70% | 130% | 101% | 70% | 130% | 76% | 70% | 130% |

Comments: If Matrix spike value is NA, the spiked analyte concentration was lower than that of the matrix contribution. Matrix spike performed on a different sample than the duplicate.

If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Atlantic RBCA Tier 1 Hydrocarbons in Water (Version 3.1)

| | | | | | | | | | | | | | | | |
|--------------------|---|---------|---------|---------|----|---------|------|-----|------|-----|-----|------|------|-----|------|
| Benzene | 1 | 2836981 | < 0.001 | < 0.001 | NA | < 0.001 | 93% | 70% | 130% | 81% | 70% | 130% | | | |
| Toluene | 1 | 2836981 | < 0.001 | < 0.001 | NA | < 0.001 | 98% | 70% | 130% | 79% | 70% | 130% | | | |
| Ethylbenzene | 1 | 2836981 | < 0.001 | < 0.001 | NA | < 0.001 | 101% | 70% | 130% | 84% | 70% | 130% | | | |
| Xylene (Total) | 1 | 2836981 | < 0.002 | < 0.002 | NA | < 0.002 | 104% | 70% | 130% | 91% | 70% | 130% | | | |
| C6-C10 (less BTEX) | 1 | 2836981 | < 0.01 | < 0.01 | NA | < 0.01 | 118% | 70% | 130% | 98% | 70% | 130% | 100% | 70% | 130% |

Comments: If Matrix spike value is NA, the spiked analyte concentration was lower than that of the matrix contribution. Matrix spike performed on a different sample than the duplicate.

If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Atlantic RBCA Tier 1 Hydrocarbons in Soil (Version 3.1) - Field Preserved + 1X Silica Gel

| | | | | | | | | | | | | | | | |
|---------------------------------------|---|---------|--------|--------|----|--------|------|-----|------|------|-----|------|------|-----|------|
| Benzene | 1 | 2838112 | < 0.03 | < 0.03 | NA | < 0.03 | 93% | 60% | 140% | 77% | 60% | 140% | | | |
| Toluene | 1 | 2838112 | < 0.04 | < 0.04 | NA | < 0.04 | 99% | 60% | 140% | 80% | 60% | 140% | | | |
| Ethylbenzene | 1 | 2838112 | < 0.03 | < 0.03 | NA | < 0.03 | 102% | 60% | 140% | 81% | 60% | 140% | | | |
| Xylene (Total) | 1 | 2838112 | < 0.05 | < 0.05 | NA | < 0.05 | 103% | 60% | 140% | 82% | 60% | 140% | | | |
| C6-C10 (less BTEX) | 1 | 2838112 | < 3 | < 3 | NA | < 3 | 117% | 60% | 140% | 114% | 60% | 140% | 117% | 30% | 130% |
| >C10-C16 Hydrocarbons - 1X silica gel | 1 | 2838112 | < 15 | < 15 | NA | < 15 | 107% | 60% | 140% | 91% | 60% | 140% | 97% | 30% | 130% |
| >C16-C21 Hydrocarbons - 1X silica gel | 1 | 2838112 | < 15 | < 15 | NA | < 15 | 109% | 60% | 140% | 91% | 60% | 140% | 97% | 30% | 130% |
| >C21-C32 Hydrocarbons - 1X silica gel | 1 | 2838112 | < 15 | < 15 | NA | < 15 | 88% | 60% | 140% | 91% | 60% | 140% | 97% | 30% | 130% |

Comments: If Matrix spike value is NA, the spiked analyte concentration was lower than that of the matrix contribution.

If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Certified By: _____



Quality Assurance

CLIENT NAME: GEMTEC LIMITED

AGAT WORK ORDER: 21K786176

PROJECT: 100424.001

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

| Water Analysis | | | | | | | | | | | | | | | |
|------------------------|-------|-----------|-----------|--------|-----|----------------|--------------|--------------------|-------|----------|--------------------|-------|--------------|-------------------|-------|
| RPT Date: Aug 20, 2021 | | | DUPLICATE | | | | Method Blank | REFERENCE MATERIAL | | | METHOD BLANK SPIKE | | MATRIX SPIKE | | |
| PARAMETER | Batch | Sample Id | Dup #1 | Dup #2 | RPD | Measured Value | | Acceptable Limits | | Recovery | Acceptable Limits | | Recovery | Acceptable Limits | |
| | | | | | | | | Lower | Upper | | Lower | Upper | | Lower | Upper |

Standard Water Analysis + Total Metals (TO)

| | | | | | | | | | | | | | | | |
|-------------------------------|---------|---------|-------|-------|------|--------|------|-----|------|------|-----|------|------|-----|------|
| pH | 2841504 | | 6.49 | 6.51 | 0.3% | < | 101% | 80% | 120% | NA | | | NA | | |
| Reactive Silica as SiO2 | 2840058 | | 12.3 | 11.9 | 3.4% | < 0.5 | 104% | 80% | 120% | 106% | 80% | 120% | 105% | 80% | 120% |
| Chloride | 2840520 | | 28 | 29 | 2.6% | < 1 | 100% | 80% | 120% | NA | 80% | 120% | NA | 70% | 130% |
| Fluoride | 2840520 | | <0.12 | <0.12 | NA | < 0.12 | 104% | 80% | 120% | NA | 80% | 120% | 105% | 70% | 130% |
| Sulphate | 2840520 | | 8 | 9 | NA | < 2 | 108% | 80% | 120% | NA | 80% | 120% | 89% | 70% | 130% |
| Alkalinity | 2841504 | | 32 | 31 | 3.6% | < 5 | 88% | 80% | 120% | NA | | | NA | | |
| True Color | 2837500 | | <5.00 | <5.00 | NA | < 5 | 95% | 80% | 120% | 89% | 80% | 120% | NA | | |
| Turbidity | 2836981 | 2836981 | <0.5 | <0.5 | NA | < 0.5 | 93% | 80% | 120% | NA | | | NA | | |
| Electrical Conductivity | 2841504 | | 165 | 164 | 0.9% | < 1 | 101% | 90% | 110% | NA | | | NA | | |
| Nitrate as N | 2840520 | | 0.46 | 0.43 | 7.5% | < 0.05 | 105% | 80% | 120% | NA | 80% | 120% | NA | 70% | 130% |
| Nitrite as N | 2840520 | | <0.05 | <0.05 | NA | < 0.05 | 100% | 80% | 120% | NA | 80% | 120% | 101% | 70% | 130% |
| Ammonia as N | 2840060 | | <0.03 | <0.03 | NA | < 0.03 | 99% | 80% | 120% | 94% | 80% | 120% | 105% | 70% | 130% |
| Total Organic Carbon | 2833132 | | <0.5 | <0.5 | NA | < 0.5 | 97% | 80% | 120% | NA | 80% | 120% | 91% | 80% | 120% |
| Ortho-Phosphate as P | 2837500 | | <0.01 | 0.01 | NA | < 0.01 | 103% | 80% | 120% | 97% | 80% | 120% | 102% | 80% | 120% |
| Total Sodium | 2836981 | 2836981 | 4.66 | 4.54 | 2.6% | < 0.10 | 94% | 70% | 130% | 99% | 80% | 120% | 103% | 70% | 130% |
| Total Potassium | 2836981 | 2836981 | <0.58 | <0.58 | NA | < 0.50 | 93% | 70% | 130% | 97% | 80% | 120% | 98% | 70% | 130% |
| Total Calcium | 2836981 | 2836981 | 3.00 | 2.97 | 1.0% | < 0.10 | 92% | 70% | 130% | 95% | 80% | 120% | 96% | 70% | 130% |
| Total Magnesium | 2836981 | 2836981 | 2.09 | 2.08 | 0.5% | < 0.10 | 95% | 70% | 130% | 97% | 80% | 120% | 99% | 70% | 130% |
| Bicarb. Alkalinity (as CaCO3) | 2841504 | | 32 | 31 | 3.6% | < 5 | NA | 80% | 120% | NA | | | NA | | |
| Carb. Alkalinity (as CaCO3) | 2841504 | | <10 | <10 | NA | < 10 | NA | 80% | 120% | NA | | | NA | | |
| Hydroxide | 2841504 | | <5 | <5 | NA | < 5 | NA | 80% | 120% | NA | | | NA | | |
| Total Aluminum | 2836981 | 2836981 | 28.0 | 26.9 | NA | < 10.0 | 97% | 70% | 130% | 104% | 80% | 120% | 104% | 70% | 130% |
| Total Antimony | 2836981 | 2836981 | <3.0 | <3.0 | NA | < 3.0 | 101% | 70% | 130% | 100% | 80% | 120% | 99% | 70% | 130% |
| Total Arsenic | 2836981 | 2836981 | <3.0 | <3.0 | NA | < 3.0 | 94% | 70% | 130% | 105% | 80% | 120% | 109% | 70% | 130% |
| Total Barium | 2836981 | 2836981 | <2.0 | <2.0 | NA | < 2.0 | 100% | 70% | 130% | 101% | 80% | 120% | 105% | 70% | 130% |
| Total Beryllium | 2836981 | 2836981 | <0.50 | <0.50 | NA | < 0.50 | 103% | 70% | 130% | 112% | 80% | 120% | 113% | 70% | 130% |
| Total Bismuth | 2836981 | 2836981 | <2.0 | <2.0 | NA | < 2.0 | 97% | 70% | 130% | 109% | 80% | 120% | 114% | 70% | 130% |
| Total Boron | 2836981 | 2836981 | <10 | <10 | NA | < 10 | 100% | 70% | 130% | 109% | 80% | 120% | 110% | 70% | 130% |
| Total Cadmium | 2836981 | 2836981 | <0.10 | <0.10 | NA | < 0.10 | 97% | 70% | 130% | 103% | 80% | 120% | 102% | 70% | 130% |
| Total Chromium | 2836981 | 2836981 | <3.0 | <3.0 | NA | < 3.0 | 100% | 70% | 130% | 100% | 80% | 120% | 102% | 70% | 130% |
| Total Cobalt | 2836981 | 2836981 | <0.50 | <0.50 | NA | < 0.50 | 102% | 70% | 130% | 109% | 80% | 120% | 103% | 70% | 130% |
| Total Copper | 2836981 | 2836981 | <1.0 | 1.0 | NA | < 1.0 | 101% | 70% | 130% | 101% | 80% | 120% | 104% | 70% | 130% |
| Total Iron | 2836981 | 2836981 | 186 | 212 | NA | < 50 | 105% | 70% | 130% | 109% | 80% | 120% | 102% | 70% | 130% |
| Total Lead | 2836981 | 2836981 | <1.0 | <1.0 | NA | < 1.0 | 101% | 70% | 130% | 101% | 80% | 120% | 105% | 70% | 130% |
| Total Manganese | 2836981 | 2836981 | 16.1 | 17.1 | 6.0% | < 2.0 | 104% | 70% | 130% | 109% | 80% | 120% | 102% | 70% | 130% |
| Total Molybdenum | 2836981 | 2836981 | <2.0 | <2.0 | NA | < 2.0 | 101% | 70% | 130% | 105% | 80% | 120% | 107% | 70% | 130% |
| Total Nickel | 2836981 | 2836981 | <3.0 | <3.0 | NA | < 3.0 | 102% | 70% | 130% | 114% | 80% | 120% | 100% | 70% | 130% |
| Total Phosphorus | 2836981 | 2836981 | <0.10 | <0.10 | NA | < 0.10 | 104% | 70% | 130% | 104% | 80% | 120% | 88% | 70% | 130% |
| Total Selenium | 2836981 | 2836981 | <1.0 | 1.1 | NA | < 1.0 | 98% | 70% | 130% | 104% | 80% | 120% | 105% | 70% | 130% |



Quality Assurance

CLIENT NAME: GEMTEC LIMITED
 PROJECT: 100424.001
 SAMPLING SITE:

AGAT WORK ORDER: 21K786176
 ATTENTION TO: Darrol Rice
 SAMPLED BY:

Water Analysis (Continued)

| RPT Date: Aug 20, 2021 | | | DUPLICATE | | | | Method Blank | REFERENCE MATERIAL | | | METHOD BLANK SPIKE | | | MATRIX SPIKE | | |
|------------------------|---------|-----------|-----------|--------|-----|----------------|--------------|--------------------|-------|----------|--------------------|-------|----------|-------------------|-------|--|
| PARAMETER | Batch | Sample Id | Dup #1 | Dup #2 | RPD | Measured Value | | Acceptable Limits | | Recovery | Acceptable Limits | | Recovery | Acceptable Limits | | |
| | | | | | | | | Lower | Upper | | Lower | Upper | | Lower | Upper | |
| Total Silver | 2836981 | 2836981 | <0.10 | <0.10 | NA | < 0.10 | 100% | 70% | 130% | 108% | 80% | 120% | 103% | 70% | 130% | |
| Total Strontium | 2836981 | 2836981 | 20.5 | 25.2 | NA | < 5.0 | 101% | 70% | 130% | 109% | 80% | 120% | 102% | 70% | 130% | |
| Total Thallium | 2836981 | 2836981 | <0.30 | <0.30 | NA | < 0.30 | 99% | 70% | 130% | 102% | 80% | 120% | 108% | 70% | 130% | |
| Total Tin | 2836981 | 2836981 | <20 | <20 | NA | < 2.0 | 98% | 70% | 130% | 99% | 80% | 120% | 102% | 70% | 130% | |
| Total Titanium | 2836981 | 2836981 | <2.0 | <2.0 | NA | < 2.0 | 108% | 70% | 130% | 113% | 80% | 120% | 106% | 70% | 130% | |
| Total Uranium | 2836981 | 2836981 | <0.50 | <0.50 | NA | < 0.50 | 96% | 70% | 130% | 106% | 80% | 120% | 110% | 70% | 130% | |
| Total Vanadium | 2836981 | 2836981 | <2.0 | <2.0 | NA | < 2.0 | 105% | 70% | 130% | 108% | 80% | 120% | 104% | 70% | 130% | |
| Total Zinc | 2836981 | 2836981 | <5.0 | <5.0 | NA | < 5.0 | 106% | 70% | 130% | NA | 80% | 120% | 128% | 70% | 130% | |

Comments: If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Mercury Analysis in Water (Total)

| | | | | | | | | | | | | | | | |
|---------------|---------|---------|--------|--------|----|---------|-----|-----|------|-----|-----|------|-----|-----|------|
| Total Mercury | 2837158 | 2837158 | <0.026 | <0.026 | NA | < 0.026 | 87% | 80% | 120% | 93% | 80% | 120% | 91% | 70% | 130% |
|---------------|---------|---------|--------|--------|----|---------|-----|-----|------|-----|-----|------|-----|-----|------|

Comments: If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

TSS

| | | | | | | | | | | | | | | | |
|------------------------|---------|---------|----|----|----|-----|-----|-----|------|----|--|--|------|-----|------|
| Total Suspended Solids | 2836981 | 2836981 | <5 | <5 | NA | < 5 | 99% | 80% | 120% | NA | | | 105% | 80% | 120% |
|------------------------|---------|---------|----|----|----|-----|-----|-----|------|----|--|--|------|-----|------|

Comments: If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Certified By:

Method Summary

CLIENT NAME: GEMTEC LIMITED

AGAT WORK ORDER: 21K786176

PROJECT: 100424.001

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

| PARAMETER | AGAT S.O.P | LITERATURE REFERENCE | ANALYTICAL TECHNIQUE |
|---------------|----------------------------------|-------------------------------------|----------------------|
| Soil Analysis | | | |
| Aluminum | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Antimony | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Arsenic | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Barium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Beryllium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Boron | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Cadmium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Chromium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Cobalt | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Copper | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Iron | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Lead | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP-MS |
| Lithium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP-MS |
| Manganese | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Molybdenum | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Nickel | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Selenium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Silver | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Strontium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Thallium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Tin | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Uranium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Vanadium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Zinc | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Mercury | INOR-121-6101 & INOR-121-6107 | Based on EPA 245.5 & SM 3112B | CV/AA |

Method Summary

CLIENT NAME: GEMTEC LIMITED

AGAT WORK ORDER: 21K786176

PROJECT: 100424.001

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

| PARAMETER | AGAT S.O.P | LITERATURE REFERENCE | ANALYTICAL TECHNIQUE |
|---------------------------------------|--------------|--|----------------------|
| Trace Organics Analysis | | | |
| Benzene | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| Toluene | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| Ethylbenzene | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| Xylene (Total) | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| C6-C10 (less BTEX) | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS/FID |
| >C10-C16 Hydrocarbons - 1X silica gel | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| >C16-C21 Hydrocarbons - 1X silica gel | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS/FID |
| >C21-C32 Hydrocarbons - 1X silica gel | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS/FID |
| Modified TPH (Tier 1) - 1X silica gel | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | CALCULATION |
| Resemblance Comment | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS/FID |
| Return to Baseline at C32 | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| Silica Gel Cleanup | | | GC/FID |
| Isobutylbenzene - EPH | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| Isobutylbenzene - VPH | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| n-Dotriacontane - EPH | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| C6-C10 (less BTEX) | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| >C10-C16 Hydrocarbons | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| >C16-C21 Hydrocarbons | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| >C21-C32 Hydrocarbons | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| Modified TPH (Tier 1) | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | CALCULATION |
| Sediment | | | GC/MS/FID |
| % Moisture | LAB-131-4024 | CSSS 70.2 | GRAVIMETRIC |

Method Summary

CLIENT NAME: GEMTEC LIMITED

AGAT WORK ORDER: 21K786176

PROJECT: 100424.001

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

| PARAMETER | AGAT S.O.P | LITERATURE REFERENCE | ANALYTICAL TECHNIQUE |
|---|--------------------------------|---|----------------------|
| Water Analysis | | | |
| Total Mercury | MET-121-6100 & MET-121-6107 | SM 3112 B | CV/AA |
| pH | INOR-121-6001 | SM 4500 H+B | PC TITRATE |
| Reactive Silica as SiO ₂ | INOR-121-6027 | SM 4500-SiO ₂ F | COLORIMETER |
| Chloride | INORG-121-6005 | SM 4110 B | ION CHROMATOGRAPH |
| Fluoride | INORG-121-6005 | SM 4110 B | ION CHROMATOGRAPH |
| Sulphate | INORG-121-6005 | SM 4110 B | ION CHROMATOGRAPH |
| Alkalinity | INOR-121-6001 | SM 2320 B | |
| True Color | INOR-121-6008 | SM 2120 B | LACHAT FIA |
| Turbidity | INOR-121-6022 | SM 2130 B | NEPHELOMETER |
| Electrical Conductivity | INOR-121-6001 | SM 2510 B | PC TITRATE |
| Nitrate + Nitrite as N | INORG-121-6005 | SM 4110 B | CALCULATION |
| Nitrate as N | INORG-121-6005 | SM 4110 B | ION CHROMATOGRAPH |
| Nitrite as N | INORG-121-6005 | SM 4110 B | ION CHROMATOGRAPH |
| Ammonia as N | INOR-121-6047 | SM 4500-NH ₃ H | COLORIMETER |
| Total Organic Carbon | INOR-121-6026 | SM 5310 B | TOC ANALYZER |
| Ortho-Phosphate as P | INOR-121-6012 | SM 4500-P G | COLORIMETER |
| Total Sodium | MET-93-6105 | modified from EPA 6010D | ICP/OES |
| Total Potassium | MET-93-6105 | modified from EPA 6010D | ICP/OES |
| Total Calcium | MET-93-6105 | modified from EPA 6010D | ICP/OES |
| Total Magnesium | MET-93-6105 | modified from EPA 6010D | ICP/OES |
| Bicarb. Alkalinity (as CaCO ₃) | INORG-121-6001 | SM 2320 B | PC TITRATE |
| Carb. Alkalinity (as CaCO ₃) | INORG-121-6001 | SM 2320 B | PC TITRATE |
| Hydroxide | INORG-121-6001 | SM 2320 B | PC-TITRATE |
| Calculated TDS | CALCULATION | SM 1030E | CALCULATION |
| Hardness (as CaCO ₃) (Calculated) | MET-93-6105 | modified from EPA SW-846 6010C & 200.7 & SM 2340 B | CALCULATION |
| Langelier Index (@20C) | CALCULATION | CALCULATION | CALCULATION |
| Langelier Index (@ 4C) | CALCULATION | CALCULATION | CALCULATION |
| Saturation pH (@ 20C) | CALCULATION | CALCULATION | CALCULATION |
| Saturation pH (@ 4C) | CALCULATION | CALCULATION | CALCULATION |
| Anion Sum | CALCULATION | SM 1030E | CALCULATION |
| Cation sum | CALCULATION | SM 1030E | CALCULATION |
| % Difference/ Ion Balance | CALCULATION | SM 1030E | CALCULATION |
| Total Aluminum | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Antimony | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Arsenic | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Barium | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Beryllium | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Bismuth | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Boron | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Cadmium | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |



Method Summary

CLIENT NAME: GEMTEC LIMITED

AGAT WORK ORDER: 21K786176

PROJECT: 100424.001

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

| PARAMETER | AGAT S.O.P | LITERATURE REFERENCE | ANALYTICAL TECHNIQUE |
|------------------------|---------------------|---|----------------------|
| Total Chromium | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Cobalt | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Copper | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Iron | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Lead | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Manganese | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Molybdenum | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Nickel | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Phosphorus | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Selenium | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Silver | INOR-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Strontium | INOR-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Thallium | INOR-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Tin | INOR-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Titanium | INOR-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Uranium | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Vanadium | INOR-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Zinc | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Suspended Solids | INOR-121-6024, 6025 | SM 2540C, D | GRAVIMETRIC |



CLIENT NAME: GEMTEC LIMITED
10 Maverick Place
Paradise, NL A1L 1Y8
709722-2275

ATTENTION TO: Darrol Rice

PROJECT: 100424.001

AGAT WORK ORDER: 21K840939

SOIL ANALYSIS REVIEWED BY: Jacky Zhu, Spectroscopy Technician

TRACE ORGANICS REVIEWED BY: Amy Hunter, Trace Organics Supervisor, B.Sc.

DATE REPORTED: Dec 23, 2021

PAGES (INCLUDING COVER): 11

VERSION*: 1

Should you require any information regarding this analysis please contact your client services representative at (902) 468-8718

*Notes

Disclaimer:

- All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.
- All samples will be disposed of within 30 days after receipt unless a Long Term Storage Agreement is signed and returned. Some specialty analysis may be exempt, please contact your Client Project Manager for details.
- AGAT's liability in connection with any delay, performance or non-performance of these services is only to the Client and does not extend to any other third party. Unless expressly agreed otherwise in writing, AGAT's liability is limited to the actual cost of the specific analysis or analyses included in the services.
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- The test results reported herewith relate only to the samples as received by the laboratory.
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- All reportable information as specified by ISO/IEC 17025:2017 is available from AGAT Laboratories upon request.



Certificate of Analysis

AGAT WORK ORDER: 21K840939

PROJECT: 100424.001

11 Morris Drive, Unit 122
Dartmouth, Nova Scotia
CANADA B3B 1M2
TEL (902)468-8718
FAX (902)468-8924
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Metals - Available metals (Halifax)

DATE RECEIVED: 2021-12-06

DATE REPORTED: 2021-12-23

| Parameter | Unit | SAMPLE DESCRIPTION: Site 15-SED | | Site 21-SED | Site 20-SED | Site 10-SED | Site 4-SED | Site 3-SED | | | |
|------------|-------|---------------------------------|---------|------------------|-------------|------------------|------------|------------------|---------|------------------|---------|
| | | SAMPLE TYPE: Soil | | Soil | Soil | Soil | Soil | Soil | | | |
| | | DATE SAMPLED: 2021-12-03 11:20 | 3306157 | 2021-12-03 12:15 | 3306159 | 2021-12-03 13:20 | 3306160 | 2021-12-03 14:20 | 3306161 | 2021-12-05 09:00 | 3306162 |
| G / S | RDL | RDL | RDL | RDL | RDL | RDL | RDL | RDL | RDL | RDL | RDL |
| Aluminum | mg/kg | 100 | 29800 | 100 | 29900 | 25900 | 25900 | 100 | 20400 | 20100 | |
| Antimony | mg/kg | 0.8 | <0.8 | 0.8 | <0.8 | <0.8 | <0.8 | 0.8 | 2.0 | 1.0 | |
| Arsenic | mg/kg | 1 | 49 | 1 | 57 | 21 | 12 | 1 | 174 | 79 | |
| Barium | mg/kg | 2.0 | 84.2 | 2.0 | 41.7 | 73.1 | 51.1 | 2.0 | 72.6 | 204 | |
| Beryllium | mg/kg | 0.4 | 0.7 | 0.4 | 0.4 | <0.4 | 1.0 | 0.4 | 0.7 | 0.6 | |
| Boron | mg/kg | 5 | <5 | 5 | <5 | <5 | <5 | 5 | <5 | <5 | |
| Cadmium | mg/kg | 0.5 | <0.5 | 0.5 | <0.5 | <0.5 | <0.5 | 0.5 | <0.5 | <0.5 | |
| Chromium | mg/kg | 5 | 54 | 5 | 55 | 128 | 58 | 5 | 27 | 33 | |
| Cobalt | mg/kg | 0.5 | 26.9 | 0.5 | 19.9 | 28.9 | 30.7 | 0.5 | 15.4 | 20.3 | |
| Copper | mg/kg | 1.0 | 44.0 | 1.0 | 11.3 | 11.5 | 55.2 | 1.0 | 8.5 | 14.7 | |
| Iron | mg/kg | 500 | 59800 | 500 | 57200 | 43600 | 47700 | 500 | 43500 | 45000 | |
| Lead | mg/kg | 1 | 14 | 1 | 8 | 6 | 17 | 1 | 10 | 13 | |
| Lithium | mg/kg | 0.5 | 65.5 | 0.5 | 49.4 | 50.3 | 89.0 | 0.5 | 35.4 | 34.0 | |
| Manganese | mg/kg | 50 | 4250 | 5.0 | 3450 | 3230 | 1020 | 50 | 4030 | 10400 | |
| Mercury | mg/kg | 0.03 | 0.07 | 0.03 | 0.07 | 0.05 | 0.06 | 0.03 | 0.06 | 0.05 | |
| Molybdenum | mg/kg | 0.5 | 2.2 | 0.5 | 1.9 | 0.8 | 2.4 | 0.5 | 3.9 | 2.8 | |
| Nickel | mg/kg | 1 | 102 | 1 | 73 | 253 | 97 | 1 | 55 | 56 | |
| Selenium | mg/kg | 0.8 | <0.8 | 0.8 | <0.8 | <0.8 | <0.8 | 0.8 | <0.8 | <0.8 | |
| Silver | mg/kg | 0.5 | <0.5 | 0.5 | <0.5 | <0.5 | <0.5 | 0.5 | <0.5 | <0.5 | |
| Strontium | mg/kg | 5 | 13 | 5 | 7 | 13 | 10 | 5 | 19 | 15 | |
| Thallium | mg/kg | 0.5 | <0.5 | 0.5 | <0.5 | <0.5 | <0.5 | 0.5 | <0.5 | <0.5 | |
| Tin | mg/kg | 1 | <1 | 1 | <1 | <1 | <1 | 1 | <1 | <1 | |
| Uranium | mg/kg | 0.50 | 0.99 | 0.50 | 0.79 | 0.72 | 3.25 | 0.50 | 1.27 | 0.91 | |
| Vanadium | mg/kg | 0.4 | 31.3 | 0.4 | 29.3 | 27.7 | 42.5 | 0.4 | 25.1 | 28.1 | |
| Zinc | mg/kg | 5 | 132 | 5 | 130 | 109 | 115 | 5 | 131 | 115 | |

Certified By:





Certificate of Analysis

AGAT WORK ORDER: 21K840939

PROJECT: 100424.001

11 Morris Drive, Unit 122
 Dartmouth, Nova Scotia
 CANADA B3B 1M2
 TEL (902)468-8718
 FAX (902)468-8924
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Metals - Available metals (Halifax)

DATE RECEIVED: 2021-12-06

DATE REPORTED: 2021-12-23

SAMPLE DESCRIPTION: Site 9-SED

SAMPLE TYPE: Soil

DATE SAMPLED: 2021-12-05
10:10

3306164

| Parameter | Unit | G / S | RDL | 3306164 |
|------------|-------|-------|------|---------|
| Aluminum | mg/kg | | 100 | 24200 |
| Antimony | mg/kg | | 0.8 | <0.8 |
| Arsenic | mg/kg | | 1 | 20 |
| Barium | mg/kg | | 2.0 | 33.4 |
| Beryllium | mg/kg | | 0.4 | <0.4 |
| Boron | mg/kg | | 5 | <5 |
| Cadmium | mg/kg | | 0.5 | <0.5 |
| Chromium | mg/kg | | 5 | 48 |
| Cobalt | mg/kg | | 0.5 | 21.6 |
| Copper | mg/kg | | 1.0 | 8.5 |
| Iron | mg/kg | | 500 | 41800 |
| Lead | mg/kg | | 1 | 7 |
| Lithium | mg/kg | | 0.5 | 64.8 |
| Manganese | mg/kg | | 50 | 3220 |
| Mercury | mg/kg | | 0.03 | 0.04 |
| Molybdenum | mg/kg | | 0.5 | 1.3 |
| Nickel | mg/kg | | 1 | 74 |
| Selenium | mg/kg | | 0.8 | <0.8 |
| Silver | mg/kg | | 0.5 | <0.5 |
| Strontium | mg/kg | | 5 | 11 |
| Thallium | mg/kg | | 0.5 | <0.5 |
| Tin | mg/kg | | 1 | <1 |
| Uranium | mg/kg | | 0.50 | 1.17 |
| Vanadium | mg/kg | | 0.4 | 33.5 |
| Zinc | mg/kg | | 5 | 133 |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

3306157-3306164

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:





Certificate of Analysis

AGAT WORK ORDER: 21K840939

PROJECT: 100424.001

11 Morris Drive, Unit 122
 Dartmouth, Nova Scotia
 CANADA B3B 1M2
 TEL (902)468-8718
 FAX (902)468-8924
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Soil (Version 3.1) - Field Preserved

DATE RECEIVED: 2021-12-06

DATE REPORTED: 2021-12-23

| Parameter | Unit | G / S | RDL | SAMPLE DESCRIPTION: | Site 15-SED | Site 21-SED | Site 20-SED | Site 10-SED | Site 4-SED | Site 3-SED | Site 9-SED |
|---------------------------|-------|-------------------|------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------|
| | | | | SAMPLE TYPE: | Soil | Soil | Soil | Soil | Soil | Soil | Soil |
| DATE SAMPLED: | | | | 2021-12-03 11:20 | 2021-12-03 12:15 | 2021-12-03 13:20 | 2021-12-03 14:20 | 2021-12-05 09:00 | 2021-12-05 09:25 | 2021-12-05 10:10 | |
| | | | | 3306157 | 3306159 | 3306160 | 3306161 | 3306162 | 3306163 | 3306164 | |
| Benzene | mg/kg | | 0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| Toluene | mg/kg | | 0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 |
| Ethylbenzene | mg/kg | | 0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 |
| Xylene (Total) | mg/kg | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| C6-C10 (less BTEX) | mg/kg | | 3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 |
| >C10-C16 Hydrocarbons | mg/kg | | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| >C16-C21 Hydrocarbons | mg/kg | | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| >C21-C32 Hydrocarbons | mg/kg | | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| Modified TPH (Tier 1) | mg/kg | | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| Resemblance Comment | | | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| Return to Baseline at C32 | | | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| Surrogate | Unit | Acceptable Limits | | | | | | | | | |
| Isobutylbenzene - EPH | % | 60-140 | | 99 | 97 | 98 | 99 | 99 | 100 | 99 | 99 |
| Isobutylbenzene - VPH | % | 60-140 | | 126 | 123 | 121 | 121 | 115 | 115 | 119 | 119 |
| n-Dotriacontane - EPH | % | 60-140 | | 105 | 103 | 103 | 104 | 104 | 104 | 103 | 103 |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K840939

PROJECT: 100424.001

11 Morris Drive, Unit 122
Dartmouth, Nova Scotia
CANADA B3B 1M2
TEL (902)468-8718
FAX (902)468-8924
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Soil (Version 3.1) - Field Preserved

DATE RECEIVED: 2021-12-06

DATE REPORTED: 2021-12-23

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

3306157-3306164 Modified TPH, Xylene(Total)and C6-C10(less BTEX) are calculated parameters. The calculated parameter is non-accredited. The component parameters of the calculation are accredited.

Results are based on the dry weight of the soil.

Resemblance Comment Key:

- GF - Gasoline Fraction
- WGF - Weathered Gasoline Fraction
- GR - Product in Gasoline Range
- FOF - Fuel Oil Fraction
- WFOF - Weathered Fuel Oil Fraction
- FR - Product in Fuel Oil Range
- LOF - Lube Oil Fraction
- LR - Lube Range
- UC - Unidentified Compounds
- NR - No Resemblance
- NA - Not Applicable

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K840939

PROJECT: 100424.001

11 Morris Drive, Unit 122
 Dartmouth, Nova Scotia
 CANADA B3B 1M2
 TEL (902)468-8718
 FAX (902)468-8924
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Moisture

DATE RECEIVED: 2021-12-06

DATE REPORTED: 2021-12-23

| | | SAMPLE DESCRIPTION: | | Site 15-SED | Site 21-SED | Site 20-SED | Site 10-SED | Site 4-SED | Site 3-SED | Site 9-SED |
|------------|------|---------------------|-----|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | | SAMPLE TYPE: | | Soil | Soil | Soil | Soil | Soil | Soil | Soil |
| | | DATE SAMPLED: | | 2021-12-03 11:20 | 2021-12-03 12:15 | 2021-12-03 13:20 | 2021-12-03 14:20 | 2021-12-05 09:00 | 2021-12-05 09:25 | 2021-12-05 10:10 |
| Parameter | Unit | G / S | RDL | 3306157 | 3306159 | 3306160 | 3306161 | 3306162 | 3306163 | 3306164 |
| % Moisture | % | | 1 | 15 | 44 | 18 | 23 | 18 | 16 | 22 |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:

Quality Assurance

CLIENT NAME: GEMTEC LIMITED

AGAT WORK ORDER: 21K840939

PROJECT: 100424.001

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Soil Analysis

| RPT Date: Dec 23, 2021 | | | DUPLICATE | | | | Method Blank | REFERENCE MATERIAL | | | METHOD BLANK SPIKE | | MATRIX SPIKE | | |
|-------------------------------------|---------|-----------|-----------|--------|------|----------------|--------------|--------------------|-------|----------|--------------------|-------|--------------|-------------------|-------|
| PARAMETER | Batch | Sample Id | Dup #1 | Dup #2 | RPD | Measured Value | | Acceptable Limits | | Recovery | Acceptable Limits | | Recovery | Acceptable Limits | |
| | | | | | | | | Lower | Upper | | Lower | Upper | | Lower | Upper |
| Metals - Available metals (Halifax) | | | | | | | | | | | | | | | |
| Aluminum | 3306161 | 3306161 | 25900 | 25000 | 3.5% | < 10.0 | 101% | 70% | 130% | 108% | 80% | 120% | 73% | 70% | 130% |
| Antimony | 3306161 | 3306161 | <0.8 | <0.8 | NA | < 0.8 | 100% | 70% | 130% | 104% | 80% | 120% | 74% | 70% | 130% |
| Arsenic | 3306161 | 3306161 | 12 | 12 | 0.0% | < 1 | 99% | 70% | 130% | 109% | 80% | 120% | 106% | 70% | 130% |
| Barium | 3306161 | 3306161 | 51.1 | 51.9 | 1.6% | < 2.0 | 105% | 70% | 130% | 100% | 80% | 120% | 98% | 70% | 130% |
| Beryllium | 3306161 | 3306161 | 1.0 | 1.0 | NA | < 0.4 | 98% | 70% | 130% | 103% | 80% | 120% | 110% | 70% | 130% |
| Boron | 3306161 | 3306161 | <5 | <5 | NA | < 5 | 101% | 70% | 130% | 108% | 80% | 120% | 102% | 70% | 130% |
| Cadmium | 3306161 | 3306161 | <0.5 | <0.5 | NA | < 0.5 | 98% | 70% | 130% | 105% | 80% | 120% | 104% | 70% | 130% |
| Chromium | 3306161 | 3306161 | 58 | 55 | 5.3% | < 5 | 102% | 70% | 130% | 101% | 80% | 120% | 96% | 70% | 130% |
| Cobalt | 3306161 | 3306161 | 30.7 | 29.7 | 3.3% | < 0.5 | 103% | 70% | 130% | 105% | 80% | 120% | 94% | 70% | 130% |
| Copper | 3306161 | 3306161 | 55.2 | 52.2 | 5.6% | < 1.0 | 99% | 70% | 130% | 109% | 80% | 120% | 89% | 70% | 130% |
| Iron | 3306161 | 3306161 | 47700 | 49500 | 3.7% | < 50 | 92% | 70% | 130% | 105% | 80% | 120% | 75% | 70% | 130% |
| Lead | 3306161 | 3306161 | 17 | 17 | 0.0% | < 1 | 99% | 70% | 130% | 101% | 80% | 120% | 99% | 70% | 130% |
| Lithium | 3306161 | 3306161 | 89.0 | 84.9 | 4.7% | < 0.5 | 104% | 70% | 130% | 109% | 80% | 120% | 97% | 70% | 130% |
| Manganese | 3306161 | 3306161 | 1020 | 945 | 7.6% | < 5.0 | 103% | 70% | 130% | 105% | 80% | 120% | 104% | 70% | 130% |
| Mercury | 3306161 | 3306161 | 0.06 | 0.05 | NA | < 0.03 | 106% | 70% | 130% | 106% | 80% | 120% | 106% | 70% | 130% |
| Molybdenum | 3306161 | 3306161 | 2.4 | 2.0 | NA | < 0.5 | 116% | 70% | 130% | 111% | 80% | 120% | 107% | 70% | 130% |
| Nickel | 3306161 | 3306161 | 97 | 92 | 5.3% | < 1 | 102% | 70% | 130% | 105% | 80% | 120% | 94% | 70% | 130% |
| Selenium | 3306161 | 3306161 | <0.8 | <0.8 | NA | < 0.8 | 104% | 70% | 130% | 111% | 80% | 120% | 110% | 70% | 130% |
| Silver | 3306161 | 3306161 | <0.5 | <0.5 | NA | < 0.5 | 95% | 70% | 130% | 104% | 80% | 120% | 94% | 70% | 130% |
| Strontium | 3306161 | 3306161 | 10 | 10 | NA | < 5 | 104% | 70% | 130% | 100% | 80% | 120% | 103% | 70% | 130% |
| Thallium | 3306161 | 3306161 | <0.5 | <0.5 | NA | < 0.5 | 99% | 70% | 130% | 100% | 80% | 120% | 100% | 70% | 130% |
| Tin | 3306161 | 3306161 | <1 | <1 | NA | < 1 | 115% | 70% | 130% | 110% | 80% | 120% | 104% | 70% | 130% |
| Uranium | 3306161 | 3306161 | 3.25 | 3.43 | 5.4% | < 0.50 | 99% | 70% | 130% | 105% | 80% | 120% | 110% | 70% | 130% |
| Vanadium | 3306161 | 3306161 | 42.5 | 41.4 | 2.6% | < 0.4 | 97% | 70% | 130% | 98% | 80% | 120% | 95% | 70% | 130% |
| Zinc | 3306161 | 3306161 | 115 | 109 | 5.4% | < 5 | 112% | 70% | 130% | 113% | 80% | 120% | 107% | 70% | 130% |

Comments: If the RPD value is NA, the results of the duplicates are less than 5X the RDL and will not be calculated.

Certified By:



Quality Assurance

 CLIENT NAME: GEMTEC LIMITED
 PROJECT: 100424.001
 SAMPLING SITE:

 AGAT WORK ORDER: 21K840939
 ATTENTION TO: Darrol Rice
 SAMPLED BY:

Trace Organics Analysis

| RPT Date: Dec 23, 2021 | | | DUPLICATE | | | Method Blank | REFERENCE MATERIAL | | | METHOD BLANK SPIKE | | | MATRIX SPIKE | | |
|---|-------|-----------|-----------|--------|-----|--------------|--------------------|-------------------|-------|--------------------|-------------------|-------|--------------|-------------------|-------|
| PARAMETER | Batch | Sample Id | Dup #1 | Dup #2 | RPD | | Measured Value | Acceptable Limits | | Recovery | Acceptable Limits | | Recovery | Acceptable Limits | |
| | | | | | | | | Lower | Upper | | Lower | Upper | | Lower | Upper |
| Atlantic RBCA Tier 1 Hydrocarbons in Soil (Version 3.1) - Field Preserved | | | | | | | | | | | | | | | |
| Benzene | 1 | 3291041 | < 0.02 | < 0.02 | NA | < 0.02 | 99% | 60% | 140% | 99% | 60% | 140% | | | |
| Toluene | 1 | 3291041 | < 0.04 | < 0.04 | NA | < 0.04 | 102% | 60% | 140% | 99% | 60% | 140% | | | |
| Ethylbenzene | 1 | 3291041 | < 0.03 | < 0.03 | NA | < 0.03 | 110% | 60% | 140% | 112% | 60% | 140% | | | |
| Xylene (Total) | 1 | 3291041 | < 0.05 | < 0.05 | NA | < 0.05 | 109% | 60% | 140% | 101% | 60% | 140% | | | |
| C6-C10 (less BTEX) | 1 | 3291041 | < 3 | < 3 | NA | < 3 | 90% | 60% | 140% | 84% | 60% | 140% | 97% | 30% | 130% |
| >C10-C16 Hydrocarbons | 1 | 3303620 | < 15 | < 15 | NA | < 15 | 131% | 60% | 140% | 115% | 60% | 140% | 117% | 30% | 130% |
| >C16-C21 Hydrocarbons | 1 | 3303620 | < 15 | < 15 | NA | < 15 | 124% | 60% | 140% | 115% | 60% | 140% | 117% | 30% | 130% |
| >C21-C32 Hydrocarbons | 1 | 3303620 | < 15 | < 15 | NA | < 15 | 90% | 60% | 140% | 115% | 60% | 140% | 117% | 30% | 130% |

Comments: If Matrix spike value is NA, the spiked analyte concentration was lower than that of the matrix contribution.
 If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Certified By:



Method Summary

CLIENT NAME: GEMTEC LIMITED

AGAT WORK ORDER: 21K840939

PROJECT: 100424.001

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

| PARAMETER | AGAT S.O.P | LITERATURE REFERENCE | ANALYTICAL TECHNIQUE |
|---------------|--------------|--|----------------------|
| Soil Analysis | | | |
| Aluminum | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Antimony | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Arsenic | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Barium | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Beryllium | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Boron | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Cadmium | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Chromium | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Cobalt | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Copper | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Iron | MET-93-6103 | EPA SW-846 3050B & 6020A | ICP-MS |
| Lead | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Lithium | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Manganese | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Mercury | MET-93-6103 | modified from EPA 7471B and SM 3112 B | ICP-MS |
| Molybdenum | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Nickel | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Selenium | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Silver | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Strontium | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Thallium | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Tin | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Uranium | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Vanadium | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Zinc | MET 93 -6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |

Method Summary

CLIENT NAME: GEMTEC LIMITED

AGAT WORK ORDER: 21K840939

PROJECT: 100424.001

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

| PARAMETER | AGAT S.O.P | LITERATURE REFERENCE | ANALYTICAL TECHNIQUE |
|---------------------------|--------------|--|----------------------|
| Trace Organics Analysis | | | |
| Benzene | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| Toluene | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| Ethylbenzene | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| Xylene (Total) | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| C6-C10 (less BTEX) | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS/FID |
| >C10-C16 Hydrocarbons | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| >C16-C21 Hydrocarbons | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| >C21-C32 Hydrocarbons | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| Modified TPH (Tier 1) | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | CALCULATION |
| Resemblance Comment | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS/FID |
| Return to Baseline at C32 | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| Isobutylbenzene - EPH | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| Isobutylbenzene - VPH | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| n-Dotriacontane - EPH | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| % Moisture | LAB-131-4024 | CSSS 70.2 | GRAVIMETRIC |



CLIENT NAME: GEMTEC LIMITED
10 Maverick Place
Paradise, NL A1L 1Y8
709722-2275

ATTENTION TO: Darrol Rice

PROJECT: 100424.001

AGAT WORK ORDER: 21K840988

TRACE ORGANICS REVIEWED BY: Amy Hunter, Trace Organics Supervisor, B.Sc.

WATER ANALYSIS REVIEWED BY: Ashley Dussault, Report Writer

DATE REPORTED: Dec 22, 2021

PAGES (INCLUDING COVER): 16

VERSION*: 1

Should you require any information regarding this analysis please contact your client services representative at (902) 468-8718

*Notes

Disclaimer:

- All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.
- All samples will be disposed of within 30 days after receipt unless a Long Term Storage Agreement is signed and returned. Some specialty analysis may be exempt, please contact your Client Project Manager for details.
- AGAT's liability in connection with any delay, performance or non-performance of these services is only to the Client and does not extend to any other third party. Unless expressly agreed otherwise in writing, AGAT's liability is limited to the actual cost of the specific analysis or analyses included in the services.
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- The test results reported herewith relate only to the samples as received by the laboratory.
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- All reportable information as specified by ISO/IEC 17025:2017 is available from AGAT Laboratories upon request.



Certificate of Analysis

AGAT WORK ORDER: 21K840988

PROJECT: 100424.001

11 Morris Drive, Unit 122
 Dartmouth, Nova Scotia
 CANADA B3B 1M2
 TEL (902)468-8718
 FAX (902)468-8924
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Water (Version 3.1)

DATE RECEIVED: 2021-12-07

DATE REPORTED: 2021-12-22

| Parameter | Unit | SAMPLE DESCRIPTION: | | Site 15-SW | Site 21-SW | Site 20-SW | Site 10-SW | Site 4-SW | Site 3-SW | Site 9-SW |
|---------------------------|------|---------------------|-------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | | G / S | RDL | Water | Water | Water | Water | Water | Water | Water |
| | | | | 2021-12-03 11:20 | 2021-12-03 12:15 | 2021-12-03 13:20 | 2021-12-05 14:20 | 2021-12-05 09:00 | 2021-12-05 09:25 | 2021-12-05 10:10 |
| | | | | 3306594 | 3306610 | 3306611 | 3306612 | 3306613 | 3306614 | 3306615 |
| Benzene | mg/L | | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Toluene | mg/L | | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Ethylbenzene | mg/L | | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Xylene (Total) | mg/L | | 0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| C6-C10 (less BTEX) | mg/L | | 0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| >C10-C16 Hydrocarbons | mg/L | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C16-C21 Hydrocarbons | mg/L | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C21-C32 Hydrocarbons | mg/L | | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Modified TPH (Tier 1) | mg/L | | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Sediment | | | | NO | NO | TRACE | NO | NO | NO | NO |
| Resemblance Comment | | | | NR | NR | NR | NR | NR | NR | NR |
| Return to Baseline at C32 | | | | Y | Y | Y | Y | Y | Y | Y |
| Surrogate | Unit | Acceptable Limits | | | | | | | | |
| Isobutylbenzene - EPH | % | 70-130 | | 107 | 107 | 109 | 107 | 107 | 110 | 108 |
| Isobutylbenzene - VPH | % | 70-130 | | 111 | 112 | 109 | 114 | 108 | 108 | 104 |
| n-Dotriacontane - EPH | % | 70-130 | | 110 | 107 | 109 | 106 | 106 | 110 | 107 |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K840988

PROJECT: 100424.001

11 Morris Drive, Unit 122
Dartmouth, Nova Scotia
CANADA B3B 1M2
TEL (902)468-8718
FAX (902)468-8924
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Water (Version 3.1)

DATE RECEIVED: 2021-12-07

DATE REPORTED: 2021-12-22

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

3306594-3306615 Modified TPH, Xylene(Total)and C6-C10(less BTEX) are calculated parameters. The calculated parameter is non-accredited. The component parameters of the calculation are accredited.

Sediment parameter is comment only based on visual inspection of the sample prior to extraction and is not an accredited test.

- Resemblance Comment Key:
- GF - Gasoline Fraction
 - WGF - Weathered Gasoline Fraction
 - GR - Product in Gasoline Range
 - FOF - Fuel Oil Fraction
 - WFOF - Weathered Fuel Oil Fraction
 - FR - Product in Fuel Oil Range
 - LOF - Lube Oil Fraction
 - LR - Lube Range
 - UC - Unidentified Compounds
 - NR - No Resemblance
 - NA - Not Applicable

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K840988

PROJECT: 100424.001

11 Morris Drive, Unit 122
 Dartmouth, Nova Scotia
 CANADA B3B 1M2
 TEL (902)468-8718
 FAX (902)468-8924
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Mercury Analysis in Water (Total)

DATE RECEIVED: 2021-12-07

DATE REPORTED: 2021-12-22

| SAMPLE DESCRIPTION: | | Site 15-SW | Site 21-SW | Site 20-SW | Site 10-SW | Site 4-SW | Site 3-SW | Site 9-SW | | |
|---------------------|------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------|---------|
| SAMPLE TYPE: | | Water | Water | Water | Water | Water | Water | Water | | |
| DATE SAMPLED: | | 2021-12-03 11:20 | 2021-12-03 12:15 | 2021-12-03 13:20 | 2021-12-05 14:20 | 2021-12-05 09:00 | 2021-12-05 09:25 | 2021-12-05 10:10 | | |
| Parameter | Unit | G / S | RDL | 3306594 | 3306610 | 3306611 | 3306612 | 3306613 | 3306614 | 3306615 |
| Total Mercury | ug/L | 0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K840988

PROJECT: 100424.001

11 Morris Drive, Unit 122
 Dartmouth, Nova Scotia
 CANADA B3B 1M2
 TEL (902)468-8718
 FAX (902)468-8924
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals (TO)

DATE RECEIVED: 2021-12-07

DATE REPORTED: 2021-12-22

| Parameter | Unit | SAMPLE DESCRIPTION: | | Site 15-SW | Site 21-SW | Site 20-SW | Site 10-SW | Site 4-SW | Site 3-SW | Site 9-SW |
|----------------------------------|---------|---------------------|------|------------|------------|------------|------------|------------|------------|------------|
| | | G / S | RDL | Water | Water | Water | Water | Water | Water | Water |
| | | DATE SAMPLED: | | 2021-12-03 | 2021-12-03 | 2021-12-03 | 2021-12-05 | 2021-12-05 | 2021-12-05 | 2021-12-05 |
| | | | | 11:20 | 12:15 | 13:20 | 14:20 | 09:00 | 09:25 | 10:10 |
| | | | | 3306594 | 3306610 | 3306611 | 3306612 | 3306613 | 3306614 | 3306615 |
| pH | | | | 6.86 | 6.61 | 7.05 | 6.40 | 6.82 | 6.48 | 6.19 |
| Reactive Silica as SiO2 | mg/L | | 0.5 | 21.8 | 4.0 | 2.7 | 6.0 | <0.5 | <0.5 | 1.5 |
| Chloride | mg/L | | 1 | 12 | 9 | 8 | 8 | 14 | 4 | 11 |
| Fluoride | mg/L | | 0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 |
| Sulphate | mg/L | | 2 | <2 | <2 | <2 | <2 | 2 | <2 | <2 |
| Alkalinity | mg/L | | 5 | 8 | 5 | 20 | <5 | 10 | <5 | <5 |
| True Color | TCU | | 5.00 | <5.00 | 27.0 | 37.1 | 60.0 | 49.3 | 29.4 | 38.3 |
| Turbidity | NTU | | 0.5 | 1.3 | 1.0 | 10.8 | 1.3 | 3.4 | 0.7 | 0.9 |
| Electrical Conductivity | umho/cm | | 1 | 67 | 56 | 67 | 46 | 78 | 28 | 55 |
| Nitrate + Nitrite as N | mg/L | | 0.05 | <0.05 | <0.05 | 0.09 | 0.12 | 0.22 | 0.06 | 0.12 |
| Nitrate as N | mg/L | | 0.05 | <0.05 | <0.05 | 0.09 | 0.12 | 0.22 | 0.06 | 0.12 |
| Nitrite as N | mg/L | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Ammonia as N | mg/L | | 0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 |
| Ortho-Phosphate as P | mg/L | | 0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 0.01 | <0.01 | <0.01 |
| Total Sodium | mg/L | | 0.45 | 10.4 | 7.75 | 5.81 | 6.52 | 12.1 | 2.76 | 7.64 |
| Total Potassium | mg/L | | 1.15 | <1.15 | <1.15 | <1.15 | <1.15 | <1.15 | <1.15 | <1.15 |
| Total Calcium | mg/L | | 0.32 | 2.45 | 2.23 | 4.12 | 2.23 | 5.87 | 1.86 | 2.04 |
| Total Magnesium | mg/L | | 0.34 | 2.47 | 2.10 | 4.75 | 1.38 | 2.06 | 0.96 | 1.13 |
| Bicarb. Alkalinity (as CaCO3) | mg/L | | 5 | 8 | 5 | 20 | <5 | 10 | <5 | <5 |
| Carb. Alkalinity (as CaCO3) | mg/L | | 10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| Hydroxide | mg/L | | 5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| Calculated TDS | mg/L | | 1 | 32 | 24 | 36 | 19 | 44 | 10 | 23 |
| Hardness (as CaCO3) (Calculated) | mg/L | | 0.5 | 16.3 | 14.2 | 29.8 | 11.3 | 23.1 | 8.6 | 9.7 |
| Langelier Index (@20C) | NA | | | -3.39 | -3.87 | -2.58 | -4.08 | -2.96 | -4.06 | -4.33 |
| Langelier Index (@ 4C) | NA | | | -3.71 | -4.19 | -2.90 | -4.40 | -3.28 | -4.38 | -4.65 |
| Saturation pH (@ 20C) | NA | | | 10.2 | 10.5 | 9.63 | 10.5 | 9.78 | 10.5 | 10.5 |
| Saturation pH (@ 4C) | NA | | | 10.6 | 10.8 | 9.95 | 10.8 | 10.1 | 10.9 | 10.8 |
| Anion Sum | me/L | | | 0.50 | 0.35 | 0.63 | 0.23 | 0.65 | 0.12 | 0.32 |
| Cation sum | me/L | | | 0.79 | 0.63 | 0.90 | 0.53 | 1.02 | 0.31 | 0.55 |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K840988

PROJECT: 100424.001

11 Morris Drive, Unit 122
 Dartmouth, Nova Scotia
 CANADA B3B 1M2
 TEL (902)468-8718
 FAX (902)468-8924
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals (TO)

DATE RECEIVED: 2021-12-07

DATE REPORTED: 2021-12-22

| Parameter | Unit | SAMPLE DESCRIPTION: | | Site 15-SW | Site 21-SW | Site 20-SW | Site 10-SW | Site 4-SW | Site 3-SW | Site 9-SW |
|---------------------------|------|---------------------|-----|------------|------------|------------|------------|------------|------------|------------|
| | | G / S | RDL | Water | Water | Water | Water | Water | Water | Water |
| | | DATE SAMPLED: | | 2021-12-03 | 2021-12-03 | 2021-12-03 | 2021-12-05 | 2021-12-05 | 2021-12-05 | 2021-12-05 |
| | | | | 11:20 | 12:15 | 13:20 | 14:20 | 09:00 | 09:25 | 10:10 |
| | | | | 3306594 | 3306610 | 3306611 | 3306612 | 3306613 | 3306614 | 3306615 |
| % Difference/ Ion Balance | % | | | 22.8 | 28.3 | 17.7 | 39.0 | 22.0 | 44.5 | 26.8 |
| Total Aluminum | µg/L | 10.0 | | 93.9 | 61.4 | 217 | 137 | 177 | 67.9 | 104 |
| Total Antimony | µg/L | 3.0 | | <3.0 | <3.0 | <3.0 | <3.0 | <3.0 | <3.0 | <3.0 |
| Total Arsenic | µg/L | 3.0 | | <3.0 | <3.0 | <3.0 | <3.0 | <3.0 | <3.0 | <3.0 |
| Total Barium | µg/L | 2.0 | | <2.0 | <2.0 | 4.5 | <2.0 | 2.4 | <2.0 | <2.0 |
| Total Beryllium | µg/L | 0.50 | | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Total Bismuth | µg/L | 2.0 | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 |
| Total Boron | µg/L | 10 | | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| Total Cadmium | µg/L | 0.10 | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Total Chromium | µg/L | 3.0 | | <3.0 | <3.0 | <3.0 | <3.0 | <3.0 | <3.0 | <3.0 |
| Total Cobalt | µg/L | 0.50 | | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Total Copper | µg/L | 1.0 | | <1.0 | <1.0 | 1.3 | <1.0 | <1.0 | <1.0 | <1.0 |
| Total Iron | µg/L | 50 | | 142 | 133 | 683 | 235 | 256 | 139 | 314 |
| Total Lead | µg/L | 1.0 | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 |
| Total Manganese | µg/L | 2.0 | | 27.4 | 22.3 | 218 | 33.7 | 62.7 | 20.2 | 53.3 |
| Total Molybdenum | µg/L | 2.0 | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 |
| Total Nickel | µg/L | 3.0 | | <3.0 | <3.0 | 7.5 | <3.0 | <3.0 | <3.0 | <3.0 |
| Total Phosphorus | mg/L | 0.10 | | <0.10 | <0.10 | 0.11 | <0.10 | <0.10 | <0.10 | <0.10 |
| Total Selenium | µg/L | 1.0 | | <1.0 | <1.0 | 1.6 | 1.7 | <1.0 | 1.8 | 2.5 |
| Total Silver | µg/L | 0.10 | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Total Strontium | µg/L | 5.0 | | 15.9 | 11.2 | 17.9 | 12.9 | 33.4 | 11.5 | 14.6 |
| Total Thallium | µg/L | 0.30 | | <0.30 | <0.30 | <0.30 | <0.30 | <0.30 | <0.30 | <0.30 |
| Total Tin | µg/L | 2.0 | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 |
| Total Titanium | µg/L | 10.0 | | <10.0 | <10.0 | <10.0 | <10.0 | <10.0 | <10.0 | <10.0 |
| Total Uranium | µg/L | 0.50 | | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Total Vanadium | µg/L | 2.0 | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 |
| Total Zinc | µg/L | 20 | | <20 | <20 | <20 | <20 | <20 | <20 | <20 |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K840988

PROJECT: 100424.001

11 Morris Drive, Unit 122
Dartmouth, Nova Scotia
CANADA B3B 1M2
TEL (902)468-8718
FAX (902)468-8924
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals (TO)

DATE RECEIVED: 2021-12-07

DATE REPORTED: 2021-12-22

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

3306594-3306612 % Difference / Ion Balance, Hardness, Langelier Index, Nitrate + Nitrite, Hydroxide and Saturation pH are calculated parameters. The calculated parameters are non-accredited. The component parameters of the calculations are accredited. When the cation and anion sums are at, or below 1 me/L, the acceptable criteria is less than 0.3me/L
Metal and Cation parameters have been completed by AGAT Mississauga

3306613 % Difference / Ion Balance, Hardness, Langelier Index, Nitrate + Nitrite, Hydroxide and Saturation pH are calculated parameters. The calculated parameters are non-accredited. The component parameters of the calculations are accredited. Ion Balance is biased high, contributing parameters have been confirmed.
Metal and Cation parameters have been completed by AGAT Mississauga

3306614-3306615 % Difference / Ion Balance, Hardness, Langelier Index, Nitrate + Nitrite, Hydroxide and Saturation pH are calculated parameters. The calculated parameters are non-accredited. The component parameters of the calculations are accredited. When the cation and anion sums are at, or below 1 me/L, the acceptable criteria is less than 0.3me/L
Metal and Cation parameters have been completed by AGAT Mississauga

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K840988

PROJECT: 100424.001

11 Morris Drive, Unit 122
Dartmouth, Nova Scotia
CANADA B3B 1M2
TEL (902)468-8718
FAX (902)468-8924
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

TSS

DATE RECEIVED: 2021-12-07

DATE REPORTED: 2021-12-22

| | | SAMPLE DESCRIPTION: | | | | | | | | |
|------------------------|------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------|---------|
| | | Site 15-SW | Site 21-SW | Site 20-SW | Site 10-SW | Site 4-SW | Site 3-SW | Site 9-SW | | |
| | | Water | Water | Water | Water | Water | Water | Water | | |
| | | 2021-12-03 11:20 | 2021-12-03 12:15 | 2021-12-03 13:20 | 2021-12-05 14:20 | 2021-12-05 09:00 | 2021-12-05 09:25 | 2021-12-05 10:10 | | |
| Parameter | Unit | G / S | RDL | 3306594 | 3306610 | 3306611 | 3306612 | 3306613 | 3306614 | 3306615 |
| Total Suspended Solids | mg/L | 5 | <5 | <5 | 17 | <5 | <5 | <5 | <5 | <5 |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K840988

PROJECT: 100424.001

11 Morris Drive, Unit 122
 Dartmouth, Nova Scotia
 CANADA B3B 1M2
 TEL (902)468-8718
 FAX (902)468-8924
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Water Analysis - TOC

DATE RECEIVED: 2021-12-07

DATE REPORTED: 2021-12-22

| SAMPLE DESCRIPTION: | | Site 15-SW | Site 21-SW | Site 20-SW | Site 10-SW | Site 4-SW | Site 3-SW | Site 9-SW | | |
|----------------------|------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------|---------|
| SAMPLE TYPE: | | Water | Water | Water | Water | Water | Water | Water | | |
| DATE SAMPLED: | | 2021-12-03 11:20 | 2021-12-03 12:15 | 2021-12-03 13:20 | 2021-12-05 14:20 | 2021-12-05 09:00 | 2021-12-05 09:25 | 2021-12-05 10:10 | | |
| Parameter | Unit | G / S | RDL | 3306594 | 3306610 | 3306611 | 3306612 | 3306613 | 3306614 | 3306615 |
| Total Organic Carbon | mg/L | 1 | 7 | 8 | 11 | 9 | 7 | 8 | 10 | |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Analysis performed at AGAT Calgary (unless marked by *)

Certified By:

Quality Assurance

 CLIENT NAME: GEMTEC LIMITED
 PROJECT: 100424.001
 SAMPLING SITE:

 AGAT WORK ORDER: 21K840988
 ATTENTION TO: Darrol Rice
 SAMPLED BY:

Trace Organics Analysis

| RPT Date: Dec 22, 2021 | | | DUPLICATE | | | | Method Blank | REFERENCE MATERIAL | | | METHOD BLANK SPIKE | | | MATRIX SPIKE | | |
|--|-------|-----------|-----------|---------|-------|----------------|--------------|--------------------|-------|----------|--------------------|-------|----------|-------------------|-------|--|
| PARAMETER | Batch | Sample Id | Dup #1 | Dup #2 | RPD | Measured Value | | Acceptable Limits | | Recovery | Acceptable Limits | | Recovery | Acceptable Limits | | |
| | | | | | | | | Lower | Upper | | Lower | Upper | | Lower | Upper | |
| Atlantic RBCA Tier 1 Hydrocarbons in Water (Version 3.1) | | | | | | | | | | | | | | | | |
| Benzene | 1 | 3292552 | 0.002 | 0.002 | NA | < 0.001 | 80% | 70% | 130% | 96% | 70% | 130% | | | | |
| Toluene | 1 | 3292552 | < 0.001 | < 0.001 | NA | < 0.001 | 74% | 70% | 130% | 88% | 70% | 130% | | | | |
| Ethylbenzene | 1 | 3292552 | 0.017 | 0.016 | 6.1% | < 0.001 | 81% | 70% | 130% | 95% | 70% | 130% | | | | |
| Xylene (Total) | 1 | 3292552 | 0.012 | 0.012 | 0.0% | < 0.002 | 82% | 70% | 130% | 95% | 70% | 130% | | | | |
| C6-C10 (less BTEX) | 1 | 3292552 | 0.19 | 0.17 | 11.1% | < 0.01 | 76% | 70% | 130% | 99% | 70% | 130% | 89% | 70% | 130% | |
| >C10-C16 Hydrocarbons | 1 | 3305148 | 1.37 | 1.33 | 3.0% | < 0.05 | 109% | 70% | 130% | 96% | 70% | 130% | 94% | 70% | 130% | |
| >C16-C21 Hydrocarbons | 1 | 3305148 | 0.33 | 0.33 | 0.0% | < 0.05 | 102% | 70% | 130% | 96% | 70% | 130% | 94% | 70% | 130% | |
| >C21-C32 Hydrocarbons | 1 | 3305148 | < 0.1 | < 0.1 | NA | < 0.1 | 75% | 70% | 130% | 96% | 70% | 130% | 94% | 70% | 130% | |

Comments: If Matrix spike value is NA, the spiked analyte concentration was lower than that of the matrix contribution. Matrix spike performed on a different sample than the duplicate.

If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Certified By:



Quality Assurance

CLIENT NAME: GEMTEC LIMITED

AGAT WORK ORDER: 21K840988

PROJECT: 100424.001

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

| Water Analysis | | | | | | | | | | | | | | | | |
|------------------------|-------|-----------|-----------|--------|-----|----------------|--------------|--------------------|-------|----------|--------------------|-------|----------|-------------------|-------|--|
| RPT Date: Dec 22, 2021 | | | DUPLICATE | | | | Method Blank | REFERENCE MATERIAL | | | METHOD BLANK SPIKE | | | MATRIX SPIKE | | |
| PARAMETER | Batch | Sample Id | Dup #1 | Dup #2 | RPD | Measured Value | | Acceptable Limits | | Recovery | Acceptable Limits | | Recovery | Acceptable Limits | | |
| | | | | | | | | Lower | Upper | | Lower | Upper | | Lower | Upper | |

Mercury Analysis in Water (Total)

| | | | | | | | | | | | | | | | |
|---------------|---------|---------|--------|--------|----|---------|------|-----|------|----|-----|------|-----|-----|------|
| Total Mercury | 3286082 | 3286082 | <0.026 | <0.026 | NA | < 0.026 | 100% | 80% | 120% | NA | 80% | 120% | 99% | 70% | 130% |
|---------------|---------|---------|--------|--------|----|---------|------|-----|------|----|-----|------|-----|-----|------|

Comments: If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

TSS

| | | | | | | | | | | | | | | | |
|------------------------|---------|--|---|---|----|-----|-----|-----|------|----|--|--|------|-----|------|
| Total Suspended Solids | 3283951 | | 9 | 8 | NA | < 5 | 97% | 80% | 120% | NA | | | 118% | 80% | 120% |
|------------------------|---------|--|---|---|----|-----|-----|-----|------|----|--|--|------|-----|------|

Comments: If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Water Analysis - TOC

| | | | | | | | | | | | | | | | |
|----------------------|---------|--|----|----|------|-----|-----|-----|------|-----|-----|------|----|-----|------|
| Total Organic Carbon | 3305683 | | 33 | 34 | 1.6% | < 1 | 95% | 80% | 120% | 98% | 80% | 120% | NA | 80% | 120% |
|----------------------|---------|--|----|----|------|-----|-----|-----|------|-----|-----|------|----|-----|------|

 Comments: Matrix spike NA: Spike level < native concentration. Matrix spike acceptance limits do not apply and are not calculated.
 Duplicate NA: results are less than 5X the RDL and RDP will not be calculated.

Water Analysis - TOC

| | | | | | | | | | | | | | | | |
|----------------------|---------|---------|----|----|----|-----|-----|-----|------|------|-----|------|------|-----|------|
| Total Organic Carbon | 3306615 | 3306615 | 10 | 10 | 3% | < 1 | 95% | 80% | 120% | 100% | 80% | 120% | 103% | 80% | 120% |
|----------------------|---------|---------|----|----|----|-----|-----|-----|------|------|-----|------|------|-----|------|

 Comments: Matrix spike NA: Spike level < native concentration. Matrix spike acceptance limits do not apply and are not calculated.
 Duplicate NA: results are less than 5X the RDL and RDP will not be calculated.

Standard Water Analysis + Total Metals (TO)

| | | | | | | | | | | | | | | | |
|-------------------------------|---------|--|-------|-------|-------|--------|------|-----|------|------|-----|------|------|-----|------|
| pH | 3283076 | | 7.85 | 7.85 | 0.0% | < | 102% | 80% | 120% | NA | | | NA | | |
| Reactive Silica as SiO2 | 3301766 | | 3.3 | 3.5 | 3.3% | < 0.5 | 106% | 80% | 120% | 96% | 80% | 120% | 98% | 80% | 120% |
| Chloride | 3305681 | | 2 | 2 | NA | < 1 | 93% | 80% | 120% | NA | 80% | 120% | 95% | 70% | 130% |
| Fluoride | 3305681 | | <0.12 | <0.12 | NA | < 0.12 | 107% | 80% | 120% | NA | 80% | 120% | 113% | 70% | 130% |
| Sulphate | 3305681 | | 9 | 9 | NA | < 2 | 105% | 80% | 120% | NA | 80% | 120% | 93% | 70% | 130% |
| Alkalinity | 3283076 | | 66 | 66 | 0.6% | < 5 | 88% | 80% | 120% | NA | | | NA | | |
| True Color | 3269823 | | <5.00 | <5.00 | NA | < 5 | 97% | 80% | 120% | 92% | 80% | 120% | NA | | |
| Turbidity | 3328068 | | 172 | 173 | 0.6% | < 0.5 | 95% | 80% | 120% | NA | | | NA | | |
| Electrical Conductivity | 3283076 | | 271 | 274 | 1.1% | < 1 | 99% | 90% | 110% | NA | | | NA | | |
| Nitrate as N | 3305681 | | 0.10 | 0.10 | NA | < 0.05 | 97% | 80% | 120% | NA | 80% | 120% | 95% | 70% | 130% |
| Nitrite as N | 3305681 | | <0.05 | <0.05 | NA | < 0.05 | 96% | 80% | 120% | NA | 80% | 120% | 100% | 70% | 130% |
| Ortho-Phosphate as P | 3269823 | | <0.01 | 0.02 | NA | < 0.01 | 95% | 80% | 120% | 102% | 80% | 120% | 89% | 80% | 120% |
| Total Sodium | 3339281 | | 10.3 | 10.6 | 2.9% | < 0.10 | 100% | 70% | 130% | 99% | 80% | 120% | 118% | 70% | 130% |
| Total Potassium | 3339281 | | <1.15 | <1.15 | NA | < 0.50 | 100% | 70% | 130% | 98% | 80% | 120% | 114% | 70% | 130% |
| Total Calcium | 3339281 | | 1.50 | 1.57 | 4.6% | < 0.10 | 97% | 70% | 130% | 96% | 80% | 120% | 110% | 70% | 130% |
| Total Magnesium | 3339281 | | 1.04 | 0.94 | 10.1% | < 0.10 | 100% | 70% | 130% | 99% | 80% | 120% | 113% | 70% | 130% |
| Bicarb. Alkalinity (as CaCO3) | 3283076 | | 66 | 66 | 0.6% | < 5 | NA | 80% | 120% | NA | | | NA | | |
| Carb. Alkalinity (as CaCO3) | 3283076 | | <10 | <10 | NA | < 10 | NA | 80% | 120% | NA | | | NA | | |
| Hydroxide | 3283076 | | <5 | <5 | NA | < 5 | NA | 80% | 120% | NA | | | NA | | |

Quality Assurance

CLIENT NAME: GEMTEC LIMITED

AGAT WORK ORDER: 21K840988

PROJECT: 100424.001

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Water Analysis (Continued)

| RPT Date: Dec 22, 2021 | | | DUPLICATE | | | Method Blank | REFERENCE MATERIAL | | | METHOD BLANK SPIKE | | | MATRIX SPIKE | | |
|------------------------|---------|-----------|-----------|--------|-------|--------------|--------------------|-------------------|-------|--------------------|-------------------|-------|--------------|-------------------|-------|
| PARAMETER | Batch | Sample Id | Dup #1 | Dup #2 | RPD | | Measured Value | Acceptable Limits | | Recovery | Acceptable Limits | | Recovery | Acceptable Limits | |
| | | | | | | | | Lower | Upper | | Lower | Upper | | Lower | Upper |
| Total Aluminum | 3339281 | | 38.1 | 61.0 | NA | < 10.0 | 98% | 70% | 130% | 105% | 80% | 120% | 100% | 70% | 130% |
| Total Antimony | 3339281 | | <3.0 | <3.0 | NA | < 3.0 | 92% | 70% | 130% | 95% | 80% | 120% | 97% | 70% | 130% |
| Total Arsenic | 3339281 | | <3.0 | <3.0 | NA | < 3.0 | 93% | 70% | 130% | 100% | 80% | 120% | 100% | 70% | 130% |
| Total Barium | 3339281 | | 2.5 | 2.7 | NA | < 2.0 | 93% | 70% | 130% | 97% | 80% | 120% | 95% | 70% | 130% |
| Total Beryllium | 3339281 | | <0.50 | <0.50 | NA | < 0.50 | 97% | 70% | 130% | 104% | 80% | 120% | 100% | 70% | 130% |
| Total Bismuth | 3339281 | | <2.0 | <2.0 | NA | < 2.0 | 101% | 70% | 130% | 115% | 80% | 120% | 115% | 70% | 130% |
| Total Boron | 3339281 | | <10 | <10 | NA | < 10 | 100% | 70% | 130% | 97% | 80% | 120% | 96% | 70% | 130% |
| Total Cadmium | 3339281 | | <0.10 | <0.10 | NA | < 0.10 | 99% | 70% | 130% | 99% | 80% | 120% | 98% | 70% | 130% |
| Total Chromium | 3339281 | | <3.0 | <3.0 | NA | < 3.0 | 93% | 70% | 130% | 98% | 80% | 120% | 94% | 70% | 130% |
| Total Cobalt | 3339281 | | <0.50 | <0.50 | NA | < 0.50 | 97% | 70% | 130% | 101% | 80% | 120% | 97% | 70% | 130% |
| Total Copper | 3339281 | | <1.0 | <1.0 | NA | < 1.0 | 96% | 70% | 130% | 100% | 80% | 120% | 93% | 70% | 130% |
| Total Iron | 3339281 | | <50 | <50 | NA | < 50 | 93% | 70% | 130% | 99% | 80% | 120% | 92% | 70% | 130% |
| Total Lead | 3339281 | | <1.0 | <1.0 | NA | < 1.0 | 101% | 70% | 130% | 105% | 80% | 120% | 101% | 70% | 130% |
| Total Manganese | 3339281 | | 29.5 | 33.6 | 13.0% | < 2.0 | 96% | 70% | 130% | 102% | 80% | 120% | 97% | 70% | 130% |
| Total Molybdenum | 3339281 | | <2.0 | <2.0 | NA | < 2.0 | 94% | 70% | 130% | 101% | 80% | 120% | 97% | 70% | 130% |
| Total Nickel | 3339281 | | <3.0 | <3.0 | NA | < 3.0 | 96% | 70% | 130% | 101% | 80% | 120% | 92% | 70% | 130% |
| Total Phosphorus | 3339281 | | 0.22 | 0.14 | NA | < 0.10 | 88% | 70% | 130% | 94% | 80% | 120% | 92% | 70% | 130% |
| Total Selenium | 3339281 | | <1.0 | 1.7 | NA | < 1.0 | 99% | 70% | 130% | 103% | 80% | 120% | 99% | 70% | 130% |
| Total Silver | 3339281 | | <0.10 | <0.10 | NA | < 0.10 | 96% | 70% | 130% | 101% | 80% | 120% | 95% | 70% | 130% |
| Total Strontium | 3339281 | | 8.3 | 11.8 | NA | < 5.0 | 91% | 70% | 130% | 100% | 80% | 120% | 93% | 70% | 130% |
| Total Thallium | 3339281 | | <0.30 | <0.30 | NA | < 0.30 | 102% | 70% | 130% | 111% | 80% | 120% | 110% | 70% | 130% |
| Total Tin | 3339281 | | <2.0 | <2.0 | NA | < 2.0 | 104% | 70% | 130% | 99% | 80% | 120% | 100% | 70% | 130% |
| Total Titanium | 3339281 | | <10.0 | <10.0 | NA | < 10.0 | 83% | 70% | 130% | 101% | 80% | 120% | 103% | 70% | 130% |
| Total Uranium | 3339281 | | <0.50 | <0.50 | NA | < 0.50 | 101% | 70% | 130% | 113% | 80% | 120% | 108% | 70% | 130% |
| Total Vanadium | 3339281 | | <2.0 | <2.0 | NA | < 2.0 | 96% | 70% | 130% | 102% | 80% | 120% | 94% | 70% | 130% |
| Total Zinc | 3339281 | | 729 | 855 | 15.9% | < 20 | 100% | 70% | 130% | 109% | 80% | 120% | 111% | 70% | 130% |

Comments: If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Standard Water Analysis + Total Metals (TO)

| | | | | | | | | | | | | | | | |
|--------------|---------|--|-------|-------|-------|--------|------|-----|------|----|-----|------|------|-----|------|
| Chloride | 3286013 | | 34 | 35 | 3.9% | < 1 | 94% | 80% | 120% | NA | 80% | 120% | NA | 70% | 130% |
| Fluoride | 3286013 | | 0.22 | 0.21 | NA | < 0.12 | 110% | 80% | 120% | NA | 80% | 120% | 103% | 70% | 130% |
| Sulphate | 3286013 | | 12 | 12 | 3.9% | < 2 | 108% | 80% | 120% | NA | 80% | 120% | NA | 70% | 130% |
| Nitrate as N | 3286013 | | 0.63 | 0.76 | 19.1% | < 0.05 | 99% | 80% | 120% | NA | 80% | 120% | NA | 70% | 130% |
| Nitrite as N | 3286013 | | <0.05 | <0.05 | NA | < 0.05 | 93% | 80% | 120% | NA | 80% | 120% | 106% | 70% | 130% |

Comments: If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Certified By:


Method Summary

CLIENT NAME: GEMTEC LIMITED

AGAT WORK ORDER: 21K840988

PROJECT: 100424.001

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

| PARAMETER | AGAT S.O.P | LITERATURE REFERENCE | ANALYTICAL TECHNIQUE |
|---------------------------|--------------|--|----------------------|
| Trace Organics Analysis | | | |
| Benzene | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| Toluene | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| Ethylbenzene | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| Xylene (Total) | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| C6-C10 (less BTEX) | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| >C10-C16 Hydrocarbons | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| >C16-C21 Hydrocarbons | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| >C21-C32 Hydrocarbons | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| Modified TPH (Tier 1) | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | CALCULATION |
| Sediment | | | GC/MS/FID |
| Resemblance Comment | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS/FID |
| Return to Baseline at C32 | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| Isobutylbenzene - EPH | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| Isobutylbenzene - VPH | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| n-Dotriacontane - EPH | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |



Method Summary

CLIENT NAME: GEMTEC LIMITED
 PROJECT: 100424.001
 SAMPLING SITE:

AGAT WORK ORDER: 21K840988
 ATTENTION TO: Darrol Rice
 SAMPLED BY:

| PARAMETER | AGAT S.O.P | LITERATURE REFERENCE | ANALYTICAL TECHNIQUE |
|----------------------------------|-----------------------------|--|----------------------|
| Water Analysis | | | |
| Total Mercury | MET-121-6100 & MET-121-6107 | SM 3112 B | CV/AA |
| pH | INOR-121-6001 | SM 4500 H+B | PC TITRATE |
| Reactive Silica as SiO2 | INOR-121-6027 | SM 4500-SiO2 F | COLORIMETER |
| Chloride | INORG-121-6005 | SM 4110 B | ION CHROMATOGRAPH |
| Fluoride | INORG-121-6005 | SM 4110 B | ION CHROMATOGRAPH |
| Sulphate | INORG-121-6005 | SM 4110 B | ION CHROMATOGRAPH |
| Alkalinity | INOR-121-6001 | SM 2320 B | |
| True Color | INOR-121-6008 | SM 2120 B | LACHAT FIA |
| Turbidity | INOR-121-6022 | SM 2130 B | NEPHELOMETER |
| Electrical Conductivity | INOR-121-6001 | SM 2510 B | PC TITRATE |
| Nitrate + Nitrite as N | INORG-121-6005 | SM 4110 B | CALCULATION |
| Nitrate as N | INORG-121-6005 | SM 4110 B | ION CHROMATOGRAPH |
| Nitrite as N | INORG-121-6005 | SM 4110 B | ION CHROMATOGRAPH |
| Ammonia as N | INOR-121-6047 | SM 4500-NH3 H | COLORIMETER |
| Ortho-Phosphate as P | INOR-121-6012 | SM 4500-P G | COLORIMETER |
| Total Sodium | MET-93-6105 | modified from EPA 6010D | ICP/OES |
| Total Potassium | MET-93-6105 | modified from EPA 6010D | ICP/OES |
| Total Calcium | MET-93-6105 | modified from EPA 6010D | ICP/OES |
| Total Magnesium | MET-93-6105 | modified from EPA 6010D | ICP/OES |
| Bicarb. Alkalinity (as CaCO3) | INORG-121-6001 | SM 2320 B | PC TITRATE |
| Carb. Alkalinity (as CaCO3) | INORG-121-6001 | SM 2320 B | PC TITRATE |
| Hydroxide | INORG-121-6001 | SM 2320 B | PC-TITRATE |
| Calculated TDS | CALCULATION | SM 1030E | CALCULATION |
| Hardness (as CaCO3) (Calculated) | MET-93-6105 | modified from EPA SW-846 6010C & 200.7 & SM 2340 B | CALCULATION |
| Langelier Index (@20C) | CALCULATION | CALCULATION | CALCULATION |
| Langelier Index (@ 4C) | CALCULATION | CALCULATION | CALCULATION |
| Saturation pH (@ 20C) | CALCULATION | CALCULATION | CALCULATION |
| Saturation pH (@ 4C) | CALCULATION | CALCULATION | CALCULATION |
| Anion Sum | CALCULATION | SM 1030E | CALCULATION |
| Cation sum | CALCULATION | SM 1030E | CALCULATION |
| % Difference/ Ion Balance | CALCULATION | SM 1030E | CALCULATION |
| Total Aluminum | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Antimony | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Arsenic | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Barium | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Beryllium | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Bismuth | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Boron | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Cadmium | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Chromium | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |



Method Summary

CLIENT NAME: GEMTEC LIMITED

AGAT WORK ORDER: 21K840988

PROJECT: 100424.001

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

| PARAMETER | AGAT S.O.P | LITERATURE REFERENCE | ANALYTICAL TECHNIQUE |
|------------------------|---------------------|---|----------------------|
| Total Cobalt | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Copper | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Iron | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Lead | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Manganese | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Molybdenum | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Nickel | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Phosphorus | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Selenium | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Silver | INOR-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Strontium | INOR-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Thallium | INOR-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Tin | INOR-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Titanium | INOR-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Uranium | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Vanadium | INOR-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Zinc | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Suspended Solids | INOR-121-6024, 6025 | SM 2540C, D | GRAVIMETRIC |
| Total Organic Carbon | INST 0170 | SM 5310 B | COMBUSTION |

CLIENT NAME: GEMTEC LIMITED
10 Maverick Place
Paradise, NL A1L 1Y8
709722-2275

ATTENTION TO: Darrol Rice

PROJECT: 100424.001

AGAT WORK ORDER: 21K842731

SOIL ANALYSIS REVIEWED BY: Ashley Dussault, Report Writer

TRACE ORGANICS REVIEWED BY: Amy Hunter, Trace Organics Supervisor, B.Sc.

WATER ANALYSIS REVIEWED BY: Ashley Dussault, Report Writer

DATE REPORTED: Dec 28, 2021

PAGES (INCLUDING COVER): 25

VERSION*: 1

Should you require any information regarding this analysis please contact your client services representative at (709)747-8573

*Notes

Disclaimer:

- All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.
- All samples will be disposed of within 30 days after receipt unless a Long Term Storage Agreement is signed and returned. Some specialty analysis may be exempt, please contact your Client Project Manager for details.
- AGAT's liability in connection with any delay, performance or non-performance of these services is only to the Client and does not extend to any other third party. Unless expressly agreed otherwise in writing, AGAT's liability is limited to the actual cost of the specific analysis or analyses included in the services.
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- The test results reported herewith relate only to the samples as received by the laboratory.
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- All reportable information as specified by ISO/IEC 17025:2017 is available from AGAT Laboratories upon request.



Certificate of Analysis

AGAT WORK ORDER: 21K842731

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Metals - Available metals (Halifax)

DATE RECEIVED: 2021-12-09

DATE REPORTED: 2021-12-28

| Parameter | Unit | SAMPLE DESCRIPTION: | | Site 17-SED | Site 16-SED | Site 5-SED | | Site 1-SED | Site 2-SED | Site 19-SED |
|------------|-------|---------------------|---------|---------------------|---------------------|---------------------|---------|---------------------|---------------------|---------------------|
| | | SAMPLE TYPE: | | Soil | Soil | Soil | | Soil | Soil | Soil |
| | | DATE SAMPLED: | | 2021-12-08 08:20 | 2021-12-08 09:05 | 2021-12-08 09:35 | | 2021-12-08 08:20 | 2021-12-08 08:20 | 2021-12-08 08:20 |
| G / S | RDL | 3323766 | 3323767 | RDL | 3323768 | RDL | 3323769 | 3323770 | 3323771 | |
| Aluminum | mg/kg | 100 | 22600 | 22200 | 100 | 28200 | 100 | 12900 | 20600 | 30200 |
| Antimony | mg/kg | 0.8 | <0.8 | <0.8 | 0.8 | 1.4 | 0.8 | 1.1 | <0.8 | <0.8 |
| Arsenic | mg/kg | 1 | 38 | 51 | 1 | 397 | 1 | 49 | 79 | 5 |
| Barium | mg/kg | 2.0 | 54.3 | 50.0 | 2.0 | 193 | 2.0 | 30.3 | 88.6 | 16.4 |
| Beryllium | mg/kg | 0.4 | 0.5 | 0.5 | 0.4 | 2.2 | 0.4 | 0.5 | 0.5 | <0.4 |
| Boron | mg/kg | 5 | <5 | <5 | 5 | <5 | 5 | <5 | <5 | <5 |
| Cadmium | mg/kg | 0.5 | <0.5 | <0.5 | 0.5 | <0.5 | 0.5 | <0.5 | <0.5 | <0.5 |
| Chromium | mg/kg | 5 | 50 | 59 | 5 | 54 | 5 | 25 | 33 | 50 |
| Cobalt | mg/kg | 0.5 | 20.5 | 24.8 | 0.5 | 22.3 | 0.5 | 14.2 | 18.9 | 16.7 |
| Copper | mg/kg | 1.0 | 10.5 | 11.0 | 1.0 | 50.6 | 1.0 | 12.9 | 8.3 | 9.8 |
| Iron | mg/kg | 500 | 51400 | 52300 | 5000 | 155000 | 500 | 36100 | 54200 | 52200 |
| Lead | mg/kg | 1 | 11 | 10 | 1 | 19 | 1 | 11 | 9 | 8 |
| Lithium | mg/kg | 0.5 | 47.0 | 57.5 | 0.5 | 27.8 | 0.5 | 22.8 | 40.6 | 72.2 |
| Manganese | mg/kg | 50 | 4850 | 4360 | 5.0 | 3170 | 5.0 | 2400 | 1320 | 711 |
| Mercury | mg/kg | 0.03 | 0.05 | 0.03 | 0.03 | 0.19 | 0.03 | 0.05 | 0.04 | <0.03 |
| Molybdenum | mg/kg | 0.5 | 2.4 | 1.8 | 0.5 | 19.8 | 0.5 | 1.6 | 5.2 | 0.6 |
| Nickel | mg/kg | 1 | 68 | 74 | 1 | 68 | 1 | 35 | 54 | 62 |
| Selenium | mg/kg | 0.8 | <0.8 | <0.8 | 0.8 | 2.9 | 0.8 | <0.8 | <0.8 | <0.8 |
| Silver | mg/kg | 0.5 | <0.5 | <0.5 | 0.5 | <0.5 | 0.5 | <0.5 | <0.5 | <0.5 |
| Strontium | mg/kg | 5 | 7 | 11 | 5 | 17 | 5 | 10 | 7 | 7 |
| Thallium | mg/kg | 0.5 | <0.5 | <0.5 | 0.5 | <0.5 | 0.5 | <0.5 | <0.5 | <0.5 |
| Tin | mg/kg | 1 | <1 | <1 | 1 | 2 | 1 | <1 | <1 | <1 |
| Uranium | mg/kg | 0.50 | 0.92 | 1.03 | 0.50 | 3.89 | 0.50 | 1.02 | 0.97 | 1.01 |
| Vanadium | mg/kg | 0.4 | 34.6 | 28.6 | 0.4 | 36.8 | 0.4 | 24.1 | 30.9 | 37.3 |
| Zinc | mg/kg | 5 | 101 | 110 | 5 | 443 | 5 | 65 | 117 | 107 |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K842731

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Metals - Available metals (Halifax)

DATE RECEIVED: 2021-12-09

DATE REPORTED: 2021-12-28

| Parameter | Unit | SAMPLE DESCRIPTION: SD-SED | |
|------------|-------|----------------------------|---------|
| | | G / S | RDL |
| | | | 3323772 |
| | | | 3323772 |
| Aluminum | mg/kg | 100 | 30100 |
| Antimony | mg/kg | 0.8 | <0.8 |
| Arsenic | mg/kg | 1 | 5 |
| Barium | mg/kg | 2.0 | 13.9 |
| Beryllium | mg/kg | 0.4 | <0.4 |
| Boron | mg/kg | 5 | <5 |
| Cadmium | mg/kg | 0.5 | <0.5 |
| Chromium | mg/kg | 5 | 51 |
| Cobalt | mg/kg | 0.5 | 16.8 |
| Copper | mg/kg | 1.0 | 9.2 |
| Iron | mg/kg | 500 | 53800 |
| Lead | mg/kg | 1 | 9 |
| Lithium | mg/kg | 0.5 | 73.8 |
| Manganese | mg/kg | 5.0 | 714 |
| Molybdenum | mg/kg | 0.5 | 0.6 |
| Nickel | mg/kg | 1 | 63 |
| Selenium | mg/kg | 0.8 | <0.8 |
| Silver | mg/kg | 0.5 | <0.5 |
| Strontium | mg/kg | 5 | 7 |
| Thallium | mg/kg | 0.5 | <0.5 |
| Tin | mg/kg | 1 | <1 |
| Uranium | mg/kg | 0.50 | 0.86 |
| Vanadium | mg/kg | 0.4 | 38.3 |
| Zinc | mg/kg | 5 | 108 |
| Mercury | mg/kg | 0.03 | 0.04 |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

3323766-3323772

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K842731

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
 St. John's, NL
 CANADA A1E 6A8
 TEL (709)747-8573
 FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Soil (Version 3.1) - Field Preserved

DATE RECEIVED: 2021-12-09

DATE REPORTED: 2021-12-28

| Parameter | Unit | G / S | RDL | SAMPLE DESCRIPTION: | Site 17-SED | Site 16-SED | Site 5-SED | Site 1-SED | Site 2-SED | Site 19-SED | SD-SED |
|---------------------------|-------|-------------------|------|---------------------|-------------|-------------|------------|------------|------------|-------------|------------|
| | | | | SAMPLE TYPE: | Soil | Soil | Soil | Soil | Soil | Soil | Soil |
| DATE SAMPLED: | | | | 2021-12-08 | 2021-12-08 | 2021-12-08 | 2021-12-08 | 2021-12-08 | 2021-12-08 | 2021-12-08 | 2021-12-08 |
| | | | | 08:20 | 09:05 | 09:35 | 08:20 | 08:20 | 08:20 | 08:20 | 08:20 |
| | | | | 3323766 | 3323767 | 3323768 | 3323769 | 3323770 | 3323771 | 3323772 | |
| Benzene | mg/kg | | 0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| Toluene | mg/kg | | 0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 |
| Ethylbenzene | mg/kg | | 0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 |
| Xylene (Total) | mg/kg | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| C6-C10 (less BTEX) | mg/kg | | 3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 |
| >C10-C16 Hydrocarbons | mg/kg | | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| >C16-C21 Hydrocarbons | mg/kg | | 15 | <15 | <15 | 41 | <15 | <15 | <15 | <15 | <15 |
| >C21-C32 Hydrocarbons | mg/kg | | 15 | 35 | <15 | 205 | 26 | 28 | 30 | 44 | 44 |
| Modified TPH (Tier 1) | mg/kg | | 15 | 35 | <15 | 246 | 26 | 28 | 30 | 44 | 44 |
| Resemblance Comment | | | | UC | NR | UC | UC | UC | UC | UC | UC |
| Return to Baseline at C32 | | | | Y | Y | Y | Y | Y | Y | Y | Y |
| Surrogate | Unit | Acceptable Limits | | | | | | | | | |
| Isobutylbenzene - EPH | % | 60-140 | | 87 | 89 | 97 | 84 | 84 | 93 | 92 | |
| Isobutylbenzene - VPH | % | 60-140 | | 91 | 92 | 93 | 94 | 90 | 120 | 121 | |
| n-Dotriacontane - EPH | % | 60-140 | | 87 | 90 | 104 | 89 | 87 | 99 | 99 | |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K842731

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Soil (Version 3.1) - Field Preserved

DATE RECEIVED: 2021-12-09

DATE REPORTED: 2021-12-28

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

3323766-3323772 Modified TPH, Xylene(Total)and C6-C10(less BTEX) are calculated parameters. The calculated parameter is non-accredited. The component parameters of the calculation are accredited.

Results are based on the dry weight of the soil.

- Resemblance Comment Key:
- GF - Gasoline Fraction
 - WGF - Weathered Gasoline Fraction
 - GR - Product in Gasoline Range
 - FOF - Fuel Oil Fraction
 - WFOF - Weathered Fuel Oil Fraction
 - FR - Product in Fuel Oil Range
 - LOF - Lube Oil Fraction
 - LR - Lube Range
 - UC - Unidentified Compounds
 - NR - No Resemblance
 - NA - Not Applicable

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K842731

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
 St. John's, NL
 CANADA A1E 6A8
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 FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Water (Version 3.1)

DATE RECEIVED: 2021-12-09

DATE REPORTED: 2021-12-28

| Parameter | Unit | SAMPLE DESCRIPTION: | | Site 17-SW | Site 16-SW | Site 5-SW | Site 1-SW | Site 2-SW | Site 19-SW | SD-SW |
|---------------------------|------|---------------------|-------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | | G / S | RDL | Water | Water | Water | Water | Water | Water | Water |
| | | DATE SAMPLED: | | 2021-12-08 08:20 | 2021-12-08 09:05 | 2021-12-08 09:35 | 2021-12-08 11:05 | 2021-12-08 11:40 | 2021-12-08 12:10 | 2021-12-08 12:10 |
| Benzene | mg/L | | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Toluene | mg/L | | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Ethylbenzene | mg/L | | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Xylene (Total) | mg/L | | 0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| C6-C10 (less BTEX) | mg/L | | 0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| >C10-C16 Hydrocarbons | mg/L | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C16-C21 Hydrocarbons | mg/L | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C21-C32 Hydrocarbons | mg/L | | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Modified TPH (Tier 1) | mg/L | | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Sediment | | | | NO | NO | NO | TRACE | NO | NO | TRACE |
| Resemblance Comment | | | | NR | NR | NR | NR | NR | NR | NR |
| Return to Baseline at C32 | | | | Y | Y | Y | Y | Y | Y | Y |
| Surrogate | Unit | Acceptable Limits | | | | | | | | |
| Isobutylbenzene - EPH | % | 70-130 | | 99 | 105 | 99 | 111 | 109 | 111 | 103 |
| Isobutylbenzene - VPH | % | 70-130 | | 85 | 85 | 83 | 86 | 83 | 80 | 80 |
| n-Dotriacontane - EPH | % | 70-130 | | 98 | 102 | 100 | 114 | 109 | 111 | 103 |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K842731

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Water (Version 3.1)

DATE RECEIVED: 2021-12-09

DATE REPORTED: 2021-12-28

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

3323750-3323757 Modified TPH, Xylene(Total)and C6-C10(less BTEX) are calculated parameters. The calculated parameter is non-accredited. The component parameters of the calculation are accredited.

Sediment parameter is comment only based on visual inspection of the sample prior to extraction and is not an accredited test.

- Resemblance Comment Key:
- GF - Gasoline Fraction
 - WGF - Weathered Gasoline Fraction
 - GR - Product in Gasoline Range
 - FOF - Fuel Oil Fraction
 - WFOF - Weathered Fuel Oil Fraction
 - FR - Product in Fuel Oil Range
 - LOF - Lube Oil Fraction
 - LR - Lube Range
 - UC - Unidentified Compounds
 - NR - No Resemblance
 - NA - Not Applicable

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K842731

PROJECT: 100424.001

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 St. John's, NL
 CANADA A1E 6A8
 TEL (709)747-8573
 FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Moisture

DATE RECEIVED: 2021-12-09

DATE REPORTED: 2021-12-28

| | | SAMPLE DESCRIPTION: | | Site 17-SED | Site 16-SED | Site 5-SED | Site 1-SED | Site 2-SED | Site 19-SED | SD-SED |
|------------|------|---------------------|-----|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | | SAMPLE TYPE: | | Soil | Soil | Soil | Soil | Soil | Soil | Soil |
| | | DATE SAMPLED: | | 2021-12-08 08:20 | 2021-12-08 09:05 | 2021-12-08 09:35 | 2021-12-08 08:20 | 2021-12-08 08:20 | 2021-12-08 08:20 | 2021-12-08 08:20 |
| Parameter | Unit | G / S | RDL | 3323766 | 3323767 | 3323768 | 3323769 | 3323770 | 3323771 | 3323772 |
| % Moisture | % | | 1 | 27 | 25 | 72 | 14 | 37 | 29 | 28 |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K842731

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
 St. John's, NL
 CANADA A1E 6A8
 TEL (709)747-8573
 FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

(Water) TOC

DATE RECEIVED: 2021-12-09

DATE REPORTED: 2021-12-28

| SAMPLE DESCRIPTION: | | Site 17-SW | Site 16-SW | Site 5-SW | Site 1-SW | Site 2-SW | Site 19-SW | SD-SW | | |
|----------------------|------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------|---------|
| SAMPLE TYPE: | | Water | Water | Water | Water | Water | Water | Water | | |
| DATE SAMPLED: | | 2021-12-08 08:20 | 2021-12-08 09:05 | 2021-12-08 09:35 | 2021-12-08 11:05 | 2021-12-08 11:40 | 2021-12-08 12:10 | 2021-12-08 12:10 | | |
| Parameter | Unit | G / S | RDL | 3323750 | 3323752 | 3323753 | 3323754 | 3323755 | 3323756 | 3323757 |
| Total Organic Carbon | mg/L | 0.5 | 10.4 | 16.7 | 11.9 | 8.4 | 8.7 | 8.2 | 7.9 | |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K842731

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
 St. John's, NL
 CANADA A1E 6A8
 TEL (709)747-8573
 FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Mercury Analysis in Water (Total)

DATE RECEIVED: 2021-12-09

DATE REPORTED: 2021-12-28

| SAMPLE DESCRIPTION: | | Site 17-SW | Site 16-SW | Site 5-SW | Site 1-SW | Site 2-SW | Site 19-SW | SD-SW | | |
|---------------------|------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------|---------|
| SAMPLE TYPE: | | Water | Water | Water | Water | Water | Water | Water | | |
| DATE SAMPLED: | | 2021-12-08 08:20 | 2021-12-08 09:05 | 2021-12-08 09:35 | 2021-12-08 11:05 | 2021-12-08 11:40 | 2021-12-08 12:10 | 2021-12-08 12:10 | | |
| Parameter | Unit | G / S | RDL | 3323750 | 3323752 | 3323753 | 3323754 | 3323755 | 3323756 | 3323757 |
| Total Mercury | ug/L | 0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K842731

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals (TO)

DATE RECEIVED: 2021-12-09

DATE REPORTED: 2021-12-28

| Parameter | Unit | SAMPLE DESCRIPTION: | | Site 17-SW | Site 16-SW | Site 5-SW | Site 1-SW | Site 2-SW | Site 19-SW | SD-SW |
|----------------------------------|---------|---------------------|------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | | G / S | RDL | Water | Water | Water | Water | Water | Water | Water |
| | | DATE SAMPLED: | | 2021-12-08 08:20 | 2021-12-08 09:05 | 2021-12-08 09:35 | 2021-12-08 11:05 | 2021-12-08 11:40 | 2021-12-08 12:10 | 2021-12-08 12:10 |
| | | | | 3323750 | 3323752 | 3323753 | 3323754 | 3323755 | 3323756 | 3323757 |
| pH | | | | 6.71 | 5.79 | 6.29 | 6.46 | 6.38 | 6.28 | 6.26 |
| Reactive Silica as SiO2 | mg/L | | 0.5 | 4.5 | 0.8 | <0.5 | 1.4 | 1.3 | 1.1 | <0.5 |
| Chloride | mg/L | | 1 | 7 | 4 | 4 | 4 | 5 | 3 | 4 |
| Fluoride | mg/L | | 0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 |
| Sulphate | mg/L | | 2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Alkalinity | mg/L | | 5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| True Color | TCU | | 5.00 | 54.4 | 121 | 114 | 43.0 | 44.1 | 34.7 | 33.6 |
| Turbidity | NTU | | 0.5 | 1.3 | 1.2 | 0.8 | 2.5 | 0.9 | 3.5 | 1.4 |
| Electrical Conductivity | umho/cm | | 1 | 47 | 32 | 34 | 32 | 31 | 24 | 24 |
| Nitrate + Nitrite as N | mg/L | | 0.05 | 0.12 | 0.25 | 0.24 | 0.06 | 0.06 | <0.05 | <0.05 |
| Nitrate as N | mg/L | | 0.05 | 0.12 | 0.25 | 0.24 | 0.06 | 0.06 | <0.05 | <0.05 |
| Nitrite as N | mg/L | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Ammonia as N | mg/L | | 0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | 0.5 | <0.03 |
| Ortho-Phosphate as P | mg/L | | 0.01 | 0.02 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| Total Sodium | mg/L | | 0.45 | 5.45 | 2.86 | 2.71 | 2.79 | 2.98 | 2.37 | 2.43 |
| Total Potassium | mg/L | | 1.15 | <1.15 | <1.15 | <1.15 | <1.15 | <1.15 | <1.15 | <1.15 |
| Total Calcium | mg/L | | 0.32 | 2.08 | 2.25 | 2.51 | 2.10 | 2.07 | 1.63 | 1.69 |
| Total Magnesium | mg/L | | 0.34 | 1.48 | 1.08 | 1.30 | 0.85 | 0.85 | 0.54 | 0.66 |
| Bicarb. Alkalinity (as CaCO3) | mg/L | | 5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| Carb. Alkalinity (as CaCO3) | mg/L | | 10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| Hydroxide | mg/L | | 5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| Calculated TDS | mg/L | | 1 | 17 | 12 | 12 | 10 | 12 | 8 | 9 |
| Hardness (as CaCO3) (Calculated) | mg/L | | 0.5 | 11.3 | 10.1 | 11.6 | 8.7 | 8.7 | 6.3 | 6.9 |
| Langelier Index (@20C) | NA | | | -3.80 | -4.67 | -4.13 | -4.03 | -4.12 | -4.31 | -4.32 |
| Langelier Index (@ 4C) | NA | | | -4.12 | -4.99 | -4.45 | -4.35 | -4.44 | -4.63 | -4.64 |
| Saturation pH (@ 20C) | NA | | | 10.5 | 10.5 | 10.4 | 10.5 | 10.5 | 10.6 | 10.6 |
| Saturation pH (@ 4C) | NA | | | 10.8 | 10.8 | 10.7 | 10.8 | 10.8 | 10.9 | 10.9 |
| Anion Sum | me/L | | | 0.21 | 0.13 | 0.13 | 0.12 | 0.15 | 0.08 | 0.11 |
| Cation sum | me/L | | | 0.48 | 0.36 | 0.38 | 0.32 | 0.32 | 0.28 | 0.26 |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K842731

PROJECT: 100424.001

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St. John's, NL
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FAX (709) 747-2139
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CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals (TO)

DATE RECEIVED: 2021-12-09

DATE REPORTED: 2021-12-28

| Parameter | Unit | SAMPLE DESCRIPTION: | | Site 17-SW | Site 16-SW | Site 5-SW | Site 1-SW | Site 2-SW | Site 19-SW | SD-SW |
|---------------------------|------|---------------------|-------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | | G / S | RDL | Water | Water | Water | Water | Water | Water | Water |
| | | DATE SAMPLED: | | 2021-12-08 08:20 | 2021-12-08 09:05 | 2021-12-08 09:35 | 2021-12-08 11:05 | 2021-12-08 11:40 | 2021-12-08 12:10 | 2021-12-08 12:10 |
| | | | | 3323750 | 3323752 | 3323753 | 3323754 | 3323755 | 3323756 | 3323757 |
| % Difference/ Ion Balance | % | | | 40.0 | 47.0 | 49.0 | 46.2 | 38.0 | 53.7 | 39.6 |
| Total Aluminum | µg/L | 10.0 | 68.0 | 187 | 111 | 113 | 109 | 71.5 | 72.5 | 72.5 |
| Total Antimony | µg/L | 3.0 | <3.0 | <3.0 | <3.0 | <3.0 | <3.0 | <3.0 | <3.0 | <3.0 |
| Total Arsenic | µg/L | 3.0 | <3.0 | <3.0 | <3.0 | <3.0 | <3.0 | <3.0 | <3.0 | <3.0 |
| Total Barium | µg/L | 2.0 | <2.0 | <2.0 | 2.5 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 |
| Total Beryllium | µg/L | 0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Total Bismuth | µg/L | 2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 |
| Total Boron | µg/L | 10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| Total Cadmium | µg/L | 0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | 0.13 |
| Total Chromium | µg/L | 3.0 | <3.0 | <3.0 | <3.0 | <3.0 | <3.0 | <3.0 | <3.0 | <3.0 |
| Total Cobalt | µg/L | 0.50 | <0.50 | <0.50 | <0.50 | 1.04 | <0.50 | <0.50 | <0.50 | <0.50 |
| Total Copper | µg/L | 1.0 | <1.0 | <1.0 | <1.0 | 1.1 | <1.0 | <1.0 | <1.0 | <1.0 |
| Total Iron | µg/L | 50 | 225 | 356 | 395 | 192 | 194 | 149 | 143 | 143 |
| Total Lead | µg/L | 1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 |
| Total Manganese | µg/L | 2.0 | 63.3 | 59.5 | 72.1 | 71.0 | 40.7 | 63.1 | 78.3 | 78.3 |
| Total Molybdenum | µg/L | 2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 |
| Total Nickel | µg/L | 3.0 | <3.0 | <3.0 | <3.0 | <3.0 | <3.0 | <3.0 | <3.0 | <3.0 |
| Total Phosphorus | mg/L | 0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Total Selenium | µg/L | 1.0 | 1.1 | 1.3 | 1.8 | <1.0 | <1.0 | 4.6 | 1.1 | 1.1 |
| Total Silver | µg/L | 0.10 | 0.30 | 0.10 | <0.10 | 0.28 | <0.10 | <0.10 | <0.10 | <0.10 |
| Total Strontium | µg/L | 5.0 | 11.0 | 11.9 | 17.1 | 15.9 | 12.1 | 10.0 | 8.8 | 8.8 |
| Total Thallium | µg/L | 0.30 | <0.30 | <0.30 | <0.30 | <0.30 | <0.30 | <0.30 | <0.30 | <0.30 |
| Total Tin | µg/L | 2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 |
| Total Titanium | µg/L | 10.0 | <10.0 | <10.0 | <10.0 | <10.0 | <10.0 | <10.0 | <10.0 | <10.0 |
| Total Uranium | µg/L | 0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Total Vanadium | µg/L | 2.0 | <2.0 | <2.0 | <2.0 | 2.3 | <2.0 | <2.0 | <2.0 | <2.0 |
| Total Zinc | µg/L | 20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 |

Certified By:



AGAT Laboratories

Certificate of Analysis

AGAT WORK ORDER: 21K842731

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals (TO)

DATE RECEIVED: 2021-12-09

DATE REPORTED: 2021-12-28

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

3323750-3323757 % Difference / Ion Balance, Hardness, Langelier Index, Nitrate + Nitrite, Hydroxide and Saturation pH are calculated parameters. The calculated parameters are non-accredited. The component parameters of the calculations are accredited. When the cation and anion sums are at, or below 1 me/L, the acceptable criteria is less than 0.3me/L
Metal and Cation parameters have been completed by AGAT Mississauga

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K842731

PROJECT: 100424.001

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 CANADA A1E 6A8
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 FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

TSS

DATE RECEIVED: 2021-12-09

DATE REPORTED: 2021-12-28

| | | SAMPLE DESCRIPTION: | | Site 17-SW | Site 16-SW | Site 5-SW | Site 1-SW | Site 2-SW | Site 19-SW | SD-SW |
|------------------------|------|---------------------|-----|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | | SAMPLE TYPE: | | Water | Water | Water | Water | Water | Water | Water |
| | | DATE SAMPLED: | | 2021-12-08 08:20 | 2021-12-08 09:05 | 2021-12-08 09:35 | 2021-12-08 11:05 | 2021-12-08 11:40 | 2021-12-08 12:10 | 2021-12-08 12:10 |
| Parameter | Unit | G / S | RDL | 3323750 | 3323752 | 3323753 | 3323754 | 3323755 | 3323756 | 3323757 |
| Total Suspended Solids | mg/L | | 5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:

Quality Assurance

CLIENT NAME: GEMTEC LIMITED
 PROJECT: 100424.001
 SAMPLING SITE:

AGAT WORK ORDER: 21K842731
 ATTENTION TO: Darrol Rice
 SAMPLED BY:

| Soil Analysis | | | | | | | | | | | | | | | |
|------------------------|-------|-----------|-----------|--------|-----|----------------|--------------|--------------------|-------|----------|--------------------|-------|--------------|-------------------|-------|
| RPT Date: Dec 28, 2021 | | | DUPLICATE | | | | Method Blank | REFERENCE MATERIAL | | | METHOD BLANK SPIKE | | MATRIX SPIKE | | |
| PARAMETER | Batch | Sample Id | Dup #1 | Dup #2 | RPD | Measured Value | | Acceptable Limits | | Recovery | Acceptable Limits | | Recovery | Acceptable Limits | |
| | | | | | | | | Lower | Upper | | Lower | Upper | | Lower | Upper |

Metals - Available metals (Halifax)

| | | | | | | | | | | | | | | | |
|------------|---------|--|-------|-------|------|--------|------|-----|------|------|-----|------|------|-----|------|
| Aluminum | 3318685 | | 17500 | 17900 | 1.9% | < 10.0 | 107% | 70% | 130% | 111% | 80% | 120% | 109% | 70% | 130% |
| Antimony | 3318685 | | <0.8 | <0.8 | NA | < 0.8 | 133% | 70% | 130% | 98% | 80% | 120% | 72% | 70% | 130% |
| Arsenic | 3318685 | | 7 | 7 | 0.2% | < 1 | 115% | 70% | 130% | 100% | 80% | 120% | 99% | 70% | 130% |
| Barium | 3318685 | | 200 | 201 | 0.4% | < 2.0 | 109% | 70% | 130% | 100% | 80% | 120% | 78% | 70% | 130% |
| Beryllium | 3318685 | | 0.9 | 1.1 | NA | < 0.4 | 90% | 70% | 130% | 95% | 80% | 120% | 95% | 70% | 130% |
| Boron | 3318685 | | 7 | 8 | NA | < 5 | 92% | 70% | 130% | 100% | 80% | 120% | 91% | 70% | 130% |
| Cadmium | 3318685 | | <0.5 | <0.5 | NA | < 0.5 | 111% | 70% | 130% | 99% | 80% | 120% | 99% | 70% | 130% |
| Chromium | 3318685 | | 29 | 29 | 1.3% | < 5 | 109% | 70% | 130% | 108% | 80% | 120% | 109% | 70% | 130% |
| Cobalt | 3318685 | | 13.7 | 14.0 | 1.9% | < 0.5 | 102% | 70% | 130% | 105% | 80% | 120% | 98% | 70% | 130% |
| Copper | 3318685 | | 21.9 | 21.7 | 1.3% | < 1.0 | 95% | 70% | 130% | 105% | 80% | 120% | 87% | 70% | 130% |
| Iron | 3318685 | | 30600 | 30600 | 0.2% | < 50 | 97% | 70% | 130% | 106% | 80% | 120% | 114% | 70% | 130% |
| Lead | 3318685 | | 25 | 24 | 1.3% | < 1 | 105% | 70% | 130% | 102% | 80% | 120% | 79% | 70% | 130% |
| Lithium | 3318685 | | 31.6 | 31.4 | 0.8% | < 0.5 | 96% | 70% | 130% | 92% | 80% | 120% | 95% | 70% | 130% |
| Manganese | 3318685 | | 761 | 763 | 0.3% | < 5.0 | 103% | 70% | 130% | 101% | 80% | 120% | 103% | 70% | 130% |
| Mercury | 3318685 | | 0.05 | 0.05 | NA | < 0.10 | 105% | 70% | 130% | 99% | 80% | 120% | 101% | 70% | 130% |
| Molybdenum | 3318685 | | <0.5 | <0.5 | NA | < 0.5 | 116% | 70% | 130% | 107% | 80% | 120% | 112% | 70% | 130% |
| Nickel | 3318685 | | 28 | 28 | 0.2% | < 1 | 99% | 70% | 130% | 100% | 80% | 120% | 93% | 70% | 130% |
| Selenium | 3318685 | | <0.8 | <0.8 | NA | < 0.8 | 86% | 70% | 130% | 97% | 80% | 120% | 95% | 70% | 130% |
| Silver | 3318685 | | <0.5 | <0.5 | NA | < 0.5 | 112% | 70% | 130% | 100% | 80% | 120% | 98% | 70% | 130% |
| Strontium | 3318685 | | 42 | 41 | 1.6% | < 5 | 98% | 70% | 130% | 100% | 80% | 120% | 89% | 70% | 130% |
| Thallium | 3318685 | | <0.5 | <0.5 | NA | < 0.5 | 112% | 70% | 130% | 98% | 80% | 120% | 96% | 70% | 130% |
| Tin | 3318685 | | <1 | <1 | NA | < 1 | 110% | 70% | 130% | 90% | 80% | 120% | 94% | 70% | 130% |
| Uranium | 3318685 | | 0.89 | 0.89 | NA | < 0.50 | 115% | 70% | 130% | 102% | 80% | 120% | 102% | 70% | 130% |
| Vanadium | 3318685 | | 29.4 | 29.4 | 0.0% | < 0.4 | 114% | 70% | 130% | 101% | 80% | 120% | 98% | 70% | 130% |
| Zinc | 3318685 | | 92 | 91 | 1.0% | < 5 | 101% | 70% | 130% | 103% | 80% | 120% | 82% | 70% | 130% |

Comments: NA signifies Not Applicable.
 Duplicate NA: results are under 5X the RDL and will not be calculated.

Certified By: 

Quality Assurance

CLIENT NAME: GEMTEC LIMITED
 PROJECT: 100424.001
 SAMPLING SITE:

AGAT WORK ORDER: 21K842731
 ATTENTION TO: Darrol Rice
 SAMPLED BY:

Trace Organics Analysis

| RPT Date: Dec 28, 2021 | | | DUPLICATE | | | | Method Blank | REFERENCE MATERIAL | | | METHOD BLANK SPIKE | | MATRIX SPIKE | | |
|------------------------|-------|-----------|-----------|--------|-----|----------------|--------------|--------------------|-------|----------|--------------------|-------|--------------|-------------------|-------|
| PARAMETER | Batch | Sample Id | Dup #1 | Dup #2 | RPD | Measured Value | | Acceptable Limits | | Recovery | Acceptable Limits | | Recovery | Acceptable Limits | |
| | | | | | | | | Lower | Upper | | Lower | Upper | | Lower | Upper |

Atlantic RBCA Tier 1 Hydrocarbons in Water (Version 3.1)

| | | | | | | | | | | | | | | | |
|-----------------------|---|---------|---------|---------|------|---------|------|-----|------|------|-----|------|------|-----|------|
| Benzene | 1 | 3325559 | < 0.001 | < 0.001 | NA | < 0.001 | 93% | 70% | 130% | 79% | 70% | 130% | | | |
| Toluene | 1 | 3325559 | 0.002 | 0.002 | NA | < 0.001 | 95% | 70% | 130% | 75% | 70% | 130% | | | |
| Ethylbenzene | 1 | 3325559 | < 0.001 | < 0.001 | NA | < 0.001 | 110% | 70% | 130% | 90% | 70% | 130% | | | |
| Xylene (Total) | 1 | 3325559 | 0.002 | 0.002 | NA | < 0.002 | 100% | 70% | 130% | 88% | 70% | 130% | | | |
| C6-C10 (less BTEX) | 1 | 3325559 | 0.01 | 0.01 | NA | < 0.01 | 103% | 70% | 130% | 88% | 70% | 130% | 110% | 70% | 130% |
| >C10-C16 Hydrocarbons | 1 | 3328049 | < 0.05 | < 0.05 | NA | < 0.05 | 120% | 70% | 130% | 100% | 70% | 130% | 88% | 70% | 130% |
| >C16-C21 Hydrocarbons | 1 | 3328049 | 0.34 | 0.32 | 6.1% | < 0.05 | 123% | 70% | 130% | 100% | 70% | 130% | 88% | 70% | 130% |
| >C21-C32 Hydrocarbons | 1 | 3328049 | 0.2 | 0.2 | NA | < 0.1 | 96% | 70% | 130% | 100% | 70% | 130% | 88% | 70% | 130% |

Comments: If Matrix spike value is NA, the spiked analyte concentration was lower than that of the matrix contribution. Matrix spike performed on a different sample than the duplicate.

If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Atlantic RBCA Tier 1 Hydrocarbons in Soil (Version 3.1) - Field Preserved

| | | | | | | | | | | | | | | | |
|-----------------------|---|---------|--------|--------|----|--------|------|-----|------|------|-----|------|------|-----|------|
| Benzene | 1 | 3336130 | < 0.02 | < 0.02 | NA | < 0.02 | 79% | 60% | 140% | 79% | 60% | 140% | | | |
| Toluene | 1 | 3336130 | < 0.04 | < 0.04 | NA | < 0.04 | 78% | 60% | 140% | 78% | 60% | 140% | | | |
| Ethylbenzene | 1 | 3336130 | < 0.03 | < 0.03 | NA | < 0.03 | 77% | 60% | 140% | 78% | 60% | 140% | | | |
| Xylene (Total) | 1 | 3336130 | < 0.05 | < 0.05 | NA | < 0.05 | 78% | 60% | 140% | 78% | 60% | 140% | | | |
| C6-C10 (less BTEX) | 1 | 3336130 | < 3 | < 3 | NA | < 3 | 88% | 60% | 140% | 92% | 60% | 140% | 118% | 30% | 130% |
| >C10-C16 Hydrocarbons | 1 | 3329021 | < 15 | < 15 | NA | < 15 | 116% | 60% | 140% | 103% | 60% | 140% | 104% | 30% | 130% |
| >C16-C21 Hydrocarbons | 1 | 3329021 | < 15 | < 15 | NA | < 15 | 121% | 60% | 140% | 103% | 60% | 140% | 104% | 30% | 130% |
| >C21-C32 Hydrocarbons | 1 | 3329021 | < 15 | < 15 | NA | < 15 | 94% | 60% | 140% | 103% | 60% | 140% | 104% | 30% | 130% |

Comments: If Matrix spike value is NA, the spiked analyte concentration was lower than that of the matrix contribution.

If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Atlantic RBCA Tier 1 Hydrocarbons in Soil (Version 3.1) - Field Preserved

| | | | | | | | | | | | | | | | |
|--------------------|---|---------|--------|--------|----|--------|------|-----|------|------|-----|------|-----|-----|------|
| Benzene | 1 | 3323771 | < 0.02 | < 0.02 | NA | < 0.02 | 107% | 60% | 140% | 95% | 60% | 140% | | | |
| Toluene | 1 | 3323771 | < 0.04 | < 0.04 | NA | < 0.04 | 109% | 60% | 140% | 94% | 60% | 140% | | | |
| Ethylbenzene | 1 | 3323771 | < 0.03 | < 0.03 | NA | < 0.03 | 124% | 60% | 140% | 109% | 60% | 140% | | | |
| Xylene (Total) | 1 | 3323771 | < 0.05 | < 0.05 | NA | < 0.05 | 112% | 60% | 140% | 101% | 60% | 140% | | | |
| C6-C10 (less BTEX) | 1 | 3323771 | < 3 | < 3 | NA | < 3 | 99% | 60% | 140% | 85% | 60% | 140% | 90% | 30% | 130% |

Comments: If Matrix spike value is NA, the spiked analyte concentration was lower than that of the matrix contribution.

If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Certified By: _____



Quality Assurance

CLIENT NAME: GEMTEC LIMITED
 PROJECT: 100424.001
 SAMPLING SITE:

AGAT WORK ORDER: 21K842731
 ATTENTION TO: Darrol Rice
 SAMPLED BY:

| Water Analysis | | | | | | | | | | | | | | | |
|------------------------|-------|-----------|-----------|--------|-----|----------------|--------------|--------------------|-------|----------|--------------------|-------|--------------|-------------------|-------|
| RPT Date: Dec 28, 2021 | | | DUPLICATE | | | | Method Blank | REFERENCE MATERIAL | | | METHOD BLANK SPIKE | | MATRIX SPIKE | | |
| PARAMETER | Batch | Sample Id | Dup #1 | Dup #2 | RPD | Measured Value | | Acceptable Limits | | Recovery | Acceptable Limits | | Recovery | Acceptable Limits | |
| | | | | | | | | Lower | Upper | | Lower | Upper | | Lower | Upper |

Mercury Analysis in Water (Total)

| | | | | | | | | | | | | | | | |
|---------------|---------|--|--------|--------|----|---------|------|-----|------|------|-----|------|------|-----|------|
| Total Mercury | 3311387 | | <0.026 | <0.026 | NA | < 0.026 | 102% | 80% | 120% | 106% | 80% | 120% | 100% | 70% | 130% |
|---------------|---------|--|--------|--------|----|---------|------|-----|------|------|-----|------|------|-----|------|

Comments: If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

TSS

| | | | | | | | | | | | | | | | |
|------------------------|---------|---------|----|----|----|-----|------|-----|------|----|--|--|-----|-----|------|
| Total Suspended Solids | 3323750 | 3323750 | <5 | <5 | NA | < 5 | 102% | 80% | 120% | NA | | | 90% | 80% | 120% |
|------------------------|---------|---------|----|----|----|-----|------|-----|------|----|--|--|-----|-----|------|

Comments: If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

(Water) TOC

| | | | | | | | | | | | | | | | |
|----------------------|---------|--|-----|-----|----|-------|------|-----|------|-----|-----|------|-----|-----|------|
| Total Organic Carbon | 3328068 | | 7.1 | 7.1 | 0% | < 0.5 | 100% | 90% | 110% | 94% | 90% | 110% | 97% | 80% | 120% |
|----------------------|---------|--|-----|-----|----|-------|------|-----|------|-----|-----|------|-----|-----|------|

Standard Water Analysis + Total Metals (TO)

| | | | | | | | | | | | | | | | |
|-------------------------------|---------|---------|-------|-------|-------|--------|------|-----|------|------|-----|------|------|-----|------|
| pH | 3323750 | 3323750 | 6.71 | 6.61 | 1.5% | < | 102% | 80% | 120% | NA | | | NA | | |
| Reactive Silica as SiO2 | 3341067 | | 3.4 | 3.6 | 4.1% | < 0.5 | 116% | 80% | 120% | 96% | 80% | 120% | 104% | 80% | 120% |
| Chloride | 3305987 | | 5 | 5 | NA | < 1 | 96% | 80% | 120% | NA | 80% | 120% | 100% | 70% | 130% |
| Fluoride | 3305987 | | <0.12 | <0.12 | NA | < 0.12 | 107% | 80% | 120% | NA | 80% | 120% | 114% | 70% | 130% |
| Sulphate | 3305987 | | 10 | 10 | 2.6% | < 2 | 106% | 80% | 120% | NA | 80% | 120% | NA | 70% | 130% |
| Alkalinity | 3323750 | 3323750 | <5 | <5 | NA | < 5 | 86% | 80% | 120% | NA | | | NA | | |
| True Color | 3341067 | | <5.00 | <5.00 | NA | < 5 | 84% | 80% | 120% | 86% | 80% | 120% | NA | | |
| Electrical Conductivity | 3323750 | 3323750 | 47 | 47 | 0.4% | < 1 | 104% | 90% | 110% | NA | | | NA | | |
| Nitrate as N | 3305987 | | 1.54 | 1.59 | 3.4% | < 0.05 | 101% | 80% | 120% | NA | 80% | 120% | NA | 70% | 130% |
| Nitrite as N | 3305987 | | <0.05 | <0.05 | NA | < 0.05 | 97% | 80% | 120% | NA | 80% | 120% | 104% | 70% | 130% |
| Ortho-Phosphate as P | 3341067 | | <0.01 | <0.01 | NA | < 0.01 | 92% | 80% | 120% | 108% | 80% | 120% | 106% | 80% | 120% |
| Total Sodium | 3308455 | | 11.6 | 10.8 | 7.3% | < 0.10 | 96% | 70% | 130% | 95% | 80% | 120% | 102% | 70% | 130% |
| Total Potassium | 3308455 | | <1.15 | <1.15 | NA | < 0.50 | 95% | 70% | 130% | 95% | 80% | 120% | 101% | 70% | 130% |
| Total Calcium | 3308455 | | 0.78 | 0.72 | NA | < 0.10 | 94% | 70% | 130% | 95% | 80% | 120% | 102% | 70% | 130% |
| Total Magnesium | 3308455 | | 0.47 | <0.34 | NA | < 0.10 | 96% | 70% | 130% | 98% | 80% | 120% | 105% | 70% | 130% |
| Bicarb. Alkalinity (as CaCO3) | 3323750 | 3323750 | <5 | <5 | NA | < 5 | NA | 80% | 120% | NA | | | NA | | |
| Carb. Alkalinity (as CaCO3) | 3323750 | 3323750 | <10 | <10 | NA | < 10 | NA | 80% | 120% | NA | | | NA | | |
| Hydroxide | 3323750 | 3323750 | <5 | <5 | NA | < 5 | NA | 80% | 120% | NA | | | NA | | |
| Total Aluminum | 3307726 | | 131 | 117 | 11.5% | < 10.0 | 85% | 70% | 130% | 92% | 80% | 120% | 89% | 70% | 130% |
| Total Antimony | 3307726 | | <3.0 | <3.0 | NA | < 3.0 | 96% | 70% | 130% | 99% | 80% | 120% | 95% | 70% | 130% |
| Total Arsenic | 3307726 | | <3.0 | <3.0 | NA | < 3.0 | 91% | 70% | 130% | 102% | 80% | 120% | 103% | 70% | 130% |
| Total Barium | 3307726 | | 2.0 | <2.0 | NA | < 2.0 | 95% | 70% | 130% | 97% | 80% | 120% | 96% | 70% | 130% |
| Total Beryllium | 3307726 | | <0.50 | <0.50 | NA | < 0.50 | 96% | 70% | 130% | 104% | 80% | 120% | 102% | 70% | 130% |
| Total Bismuth | 3307726 | | <2.0 | <2.0 | NA | < 2.0 | 92% | 70% | 130% | 116% | 80% | 120% | 124% | 70% | 130% |
| Total Boron | 3307726 | | <10 | <10 | NA | < 10 | 101% | 70% | 130% | 102% | 80% | 120% | 98% | 70% | 130% |
| Total Cadmium | 3307726 | | <0.10 | <0.10 | NA | < 0.10 | 95% | 70% | 130% | 100% | 80% | 120% | 98% | 70% | 130% |
| Total Chromium | 3307726 | | <3.0 | <3.0 | NA | < 3.0 | 90% | 70% | 130% | 91% | 80% | 120% | 95% | 70% | 130% |
| Total Cobalt | 3307726 | | <0.50 | <0.50 | NA | < 0.50 | 88% | 70% | 130% | 94% | 80% | 120% | 99% | 70% | 130% |
| Total Copper | 3307726 | | 8.2 | 8.1 | 1.0% | < 1.0 | 93% | 70% | 130% | 95% | 80% | 120% | 101% | 70% | 130% |

AGAT Laboratories is accredited to ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA) and/or Standards Council of Canada (SCC) for specific tests listed on the scope of accreditation. AGAT Laboratories (Mississauga) is also accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA) for specific drinking water tests. Accreditations are location and parameter specific. A complete listing of parameters for each location is available from www.cala.ca and/or www.scc.ca. The tests in this report may not necessarily be included in the scope of accreditation. RPDs calculated using raw data. The RPD may not be reflective of duplicate values shown, due to rounding of final results.

Quality Assurance

 CLIENT NAME: GEMTEC LIMITED
 PROJECT: 100424.001
 SAMPLING SITE:

 AGAT WORK ORDER: 21K842731
 ATTENTION TO: Darrol Rice
 SAMPLED BY:

Water Analysis (Continued)

| RPT Date: Dec 28, 2021 | | | DUPLICATE | | | | Method Blank | REFERENCE MATERIAL | | | METHOD BLANK SPIKE | | | MATRIX SPIKE | | |
|------------------------|---------|-----------|-----------|--------|------|----------------|--------------|--------------------|-------|----------|--------------------|-------|----------|-------------------|-------|--|
| PARAMETER | Batch | Sample Id | Dup #1 | Dup #2 | RPD | Measured Value | | Acceptable Limits | | Recovery | Acceptable Limits | | Recovery | Acceptable Limits | | |
| | | | | | | | | Lower | Upper | | Lower | Upper | | Lower | Upper | |
| Total Iron | 3307726 | | 470 | 445 | 5.5% | < 50 | 91% | 70% | 130% | 95% | 80% | 120% | 97% | 70% | 130% | |
| Total Lead | 3307726 | | <1.0 | <1.0 | NA | < 1.0 | 90% | 70% | 130% | 97% | 80% | 120% | 102% | 70% | 130% | |
| Total Manganese | 3307726 | | 36.3 | 34.5 | 5.3% | < 2.0 | 89% | 70% | 130% | 95% | 80% | 120% | 98% | 70% | 130% | |
| Total Molybdenum | 3307726 | | <2.0 | <2.0 | NA | < 2.0 | 96% | 70% | 130% | 100% | 80% | 120% | 103% | 70% | 130% | |
| Total Nickel | 3307726 | | <3.0 | <3.0 | NA | < 3.0 | 93% | 70% | 130% | 100% | 80% | 120% | 101% | 70% | 130% | |
| Total Phosphorus | 3307726 | | <0.10 | <0.10 | NA | < 0.10 | 79% | 70% | 130% | 83% | 80% | 120% | 80% | 70% | 130% | |
| Total Selenium | 3307726 | | <1.0 | <1.0 | NA | < 1.0 | 95% | 70% | 130% | 104% | 80% | 120% | 105% | 70% | 130% | |
| Total Silver | 3307726 | | 0.22 | 0.15 | NA | < 0.10 | 86% | 70% | 130% | 94% | 80% | 120% | 98% | 70% | 130% | |
| Total Strontium | 3307726 | | 6.5 | 5.0 | NA | < 5.0 | 89% | 70% | 130% | 91% | 80% | 120% | 97% | 70% | 130% | |
| Total Thallium | 3307726 | | <0.30 | <0.30 | NA | < 0.30 | 82% | 70% | 130% | 99% | 80% | 120% | 103% | 70% | 130% | |
| Total Tin | 3307726 | | <2.0 | <2.0 | NA | < 2.0 | 99% | 70% | 130% | 101% | 80% | 120% | 100% | 70% | 130% | |
| Total Titanium | 3307726 | | <10.0 | <10.0 | NA | < 10.0 | 97% | 70% | 130% | 88% | 80% | 120% | 101% | 70% | 130% | |
| Total Uranium | 3307726 | | <0.50 | <0.50 | NA | < 0.50 | 92% | 70% | 130% | 113% | 80% | 120% | 115% | 70% | 130% | |
| Total Vanadium | 3307726 | | <2.0 | <2.0 | NA | < 2.0 | 92% | 70% | 130% | 94% | 80% | 120% | 99% | 70% | 130% | |
| Total Zinc | 3307726 | | <20 | <20 | NA | < 20 | 95% | 70% | 130% | 99% | 80% | 120% | 99% | 70% | 130% | |

Comments: If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Certified By:



QC Exceedance

CLIENT NAME: GEMTEC LIMITED

AGAT WORK ORDER: 21K842731

PROJECT: 100424.001

ATTENTION TO: Darrol Rice

| | | | | | | | | | | |
|------------------------|-----------|--------------------|-------------------|-------|--------------------|-------------------|-------|--------------|-------------------|-------|
| RPT Date: Dec 28, 2021 | | REFERENCE MATERIAL | | | METHOD BLANK SPIKE | | | MATRIX SPIKE | | |
| PARAMETER | Sample Id | Measured Value | Acceptable Limits | | Recovery | Acceptable Limits | | Recovery | Acceptable Limits | |
| | | | Lower | Upper | | Lower | Upper | | Lower | Upper |

Metals - Available metals (Halifax)

| | | | | | | | | | |
|--|------|-----|------|-----|-----|------|-----|-----|------|
| | 133% | 70% | 130% | 98% | 80% | 120% | 72% | 70% | 130% |
|--|------|-----|------|-----|-----|------|-----|-----|------|

Comments: NA signifies Not Applicable.

Duplicate NA: results are under 5X the RDL and will not be calculated.

Method Summary

CLIENT NAME: GEMTEC LIMITED

AGAT WORK ORDER: 21K842731

PROJECT: 100424.001

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

| PARAMETER | AGAT S.O.P | LITERATURE REFERENCE | ANALYTICAL TECHNIQUE |
|---------------|--------------|--|----------------------|
| Soil Analysis | | | |
| Aluminum | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Antimony | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Arsenic | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Barium | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Beryllium | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Boron | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Cadmium | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Chromium | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Cobalt | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Copper | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Iron | MET-93-6103 | EPA SW-846 3050B & 6020A | ICP-MS |
| Lead | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Lithium | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Manganese | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Mercury | MET-93-6103 | modified from EPA 7471B and SM 3112 B | ICP-MS |
| Molybdenum | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Nickel | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Selenium | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Silver | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Strontium | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Thallium | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Tin | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Uranium | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Vanadium | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Zinc | MET 93 -6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |

Method Summary

CLIENT NAME: GEMTEC LIMITED

AGAT WORK ORDER: 21K842731

PROJECT: 100424.001

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

| PARAMETER | AGAT S.O.P | LITERATURE REFERENCE | ANALYTICAL TECHNIQUE |
|---------------------------|--------------|--|----------------------|
| Trace Organics Analysis | | | |
| Benzene | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| Toluene | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| Ethylbenzene | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| Xylene (Total) | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| C6-C10 (less BTEX) | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS/FID |
| >C10-C16 Hydrocarbons | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| >C16-C21 Hydrocarbons | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| >C21-C32 Hydrocarbons | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| Modified TPH (Tier 1) | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | CALCULATION |
| Resemblance Comment | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS/FID |
| Return to Baseline at C32 | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| Isobutylbenzene - EPH | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| Isobutylbenzene - VPH | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| n-Dotriacontane - EPH | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| C6-C10 (less BTEX) | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| Modified TPH (Tier 1) | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | CALCULATION |
| Sediment | | | GC/MS/FID |
| % Moisture | LAB-131-4024 | CSSS 70.2 | GRAVIMETRIC |

Method Summary

CLIENT NAME: GEMTEC LIMITED

AGAT WORK ORDER: 21K842731

PROJECT: 100424.001

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

| PARAMETER | AGAT S.O.P | LITERATURE REFERENCE | ANALYTICAL TECHNIQUE |
|---|--------------------------------|---|--------------------------|
| Water Analysis | | | |
| Total Organic Carbon | INOR-93-6049 | modified from SM 5310 B | SHIMADZU CARBON ANALYZER |
| Total Mercury | MET-121-6100 & MET-121-6107 | SM 3112 B | CV/AA |
| pH | INOR-121-6001 | SM 4500 H+B | PC TITRATE |
| Reactive Silica as SiO ₂ | INOR-121-6027 | SM 4500-SiO ₂ F | COLORIMETER |
| Chloride | INORG-121-6005 | SM 4110 B | ION CHROMATOGRAPH |
| Fluoride | INORG-121-6005 | SM 4110 B | ION CHROMATOGRAPH |
| Sulphate | INORG-121-6005 | SM 4110 B | ION CHROMATOGRAPH |
| Alkalinity | INOR-121-6001 | SM 2320 B | |
| True Color | INOR-121-6008 | SM 2120 B | LACHAT FIA |
| Turbidity | INOR-121-6022 | SM 2130 B | NEPHELOMETER |
| Electrical Conductivity | INOR-121-6001 | SM 2510 B | PC TITRATE |
| Nitrate + Nitrite as N | INORG-121-6005 | SM 4110 B | CALCULATION |
| Nitrate as N | INORG-121-6005 | SM 4110 B | ION CHROMATOGRAPH |
| Nitrite as N | INORG-121-6005 | SM 4110 B | ION CHROMATOGRAPH |
| Ammonia as N | INOR-121-6047 | SM 4500-NH ₃ H | COLORIMETER |
| Ortho-Phosphate as P | INOR-121-6012 | SM 4500-P G | COLORIMETER |
| Total Sodium | MET-93-6105 | modified from EPA 6010D | ICP/OES |
| Total Potassium | MET-93-6105 | modified from EPA 6010D | ICP/OES |
| Total Calcium | MET-93-6105 | modified from EPA 6010D | ICP/OES |
| Total Magnesium | MET-93-6105 | modified from EPA 6010D | ICP/OES |
| Bicarb. Alkalinity (as CaCO ₃) | INORG-121-6001 | SM 2320 B | PC TITRATE |
| Carb. Alkalinity (as CaCO ₃) | INORG-121-6001 | SM 2320 B | PC TITRATE |
| Hydroxide | INORG-121-6001 | SM 2320 B | PC-TITRATE |
| Calculated TDS | CALCULATION | SM 1030E | CALCULATION |
| Hardness (as CaCO ₃) (Calculated) | MET-93-6105 | modified from EPA SW-846 6010C & 200.7 & SM 2340 B | CALCULATION |
| Langelier Index (@20C) | CALCULATION | CALCULATION | CALCULATION |
| Langelier Index (@ 4C) | CALCULATION | CALCULATION | CALCULATION |
| Saturation pH (@ 20C) | CALCULATION | CALCULATION | CALCULATION |
| Saturation pH (@ 4C) | CALCULATION | CALCULATION | CALCULATION |
| Anion Sum | CALCULATION | SM 1030E | CALCULATION |
| Cation sum | CALCULATION | SM 1030E | CALCULATION |
| % Difference/ Ion Balance | CALCULATION | SM 1030E | CALCULATION |
| Total Aluminum | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Antimony | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Arsenic | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Barium | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Beryllium | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Bismuth | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Boron | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Cadmium | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |



Method Summary

CLIENT NAME: GEMTEC LIMITED

AGAT WORK ORDER: 21K842731

PROJECT: 100424.001

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

| PARAMETER | AGAT S.O.P | LITERATURE REFERENCE | ANALYTICAL TECHNIQUE |
|------------------------|---------------------|---|----------------------|
| Total Chromium | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Cobalt | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Copper | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Iron | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Lead | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Manganese | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Molybdenum | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Nickel | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Phosphorus | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Selenium | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Silver | INOR-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Strontium | INOR-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Thallium | INOR-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Tin | INOR-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Titanium | INOR-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Uranium | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Vanadium | INOR-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Zinc | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Suspended Solids | INOR-121-6024, 6025 | SM 2540C, D | GRAVIMETRIC |



CLIENT NAME: GEMTEC LIMITED
10 Maverick Place
Paradise, NL A1L 1Y8
709722-2275

ATTENTION TO: Darrol Rice
PROJECT: 100424.001

AGAT WORK ORDER: 21K844945

TRACE ORGANICS REVIEWED BY: Amy Hunter, Trace Organics Supervisor, B.Sc.

WATER ANALYSIS REVIEWED BY: Ashley Dussault, Report Writer

DATE REPORTED: Jan 04, 2022

PAGES (INCLUDING COVER): 16

VERSION*: 1

Should you require any information regarding this analysis please contact your client services representative at (709)747-8573

*Notes

Disclaimer:

- All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.
- All samples will be disposed of within 30 days after receipt unless a Long Term Storage Agreement is signed and returned. Some specialty analysis may be exempt, please contact your Client Project Manager for details.
- AGAT's liability in connection with any delay, performance or non-performance of these services is only to the Client and does not extend to any other third party. Unless expressly agreed otherwise in writing, AGAT's liability is limited to the actual cost of the specific analysis or analyses included in the services.
- This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
- The test results reported herewith relate only to the samples as received by the laboratory.
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- All reportable information as specified by ISO/IEC 17025:2017 is available from AGAT Laboratories upon request.



Certificate of Analysis

AGAT WORK ORDER: 21K844945

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Water (Version 3.1)

DATE RECEIVED: 2021-12-14

DATE REPORTED: 2022-01-04

| Parameter | Unit | SAMPLE DESCRIPTION: | | SITE-8-SW | SITE-11-SW | SITE-7-SW | SITE-6-SW | SITE-14-SW | SITE-12-SW |
|---------------------------|------|---------------------|-------|------------|------------|------------|------------|------------|------------|
| | | SAMPLE TYPE: | | Water | Water | Water | Water | Water | Water |
| | | DATE SAMPLED: | | 2021-12-13 | 2021-12-13 | 2021-12-13 | 2021-12-13 | 2021-12-14 | 2021-12-14 |
| | | G / S | RDL | 3344862 | 3344873 | 3344874 | 3344875 | 3344876 | 3344883 |
| Benzene | mg/L | | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Toluene | mg/L | | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Ethylbenzene | mg/L | | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Xylene (Total) | mg/L | | 0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| C6-C10 (less BTEX) | mg/L | | 0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| >C10-C16 Hydrocarbons | mg/L | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C16-C21 Hydrocarbons | mg/L | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C21-C32 Hydrocarbons | mg/L | | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Modified TPH (Tier 1) | mg/L | | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Sediment | | | | NO | NO | TRACE | TRACE | TRACE | NO |
| Resemblance Comment | | | | NR | NR | NR | NR | NR | NR |
| Return to Baseline at C32 | | | | Y | Y | Y | Y | Y | Y |
| Surrogate | Unit | Acceptable Limits | | | | | | | |
| Isobutylbenzene - EPH | % | 70-130 | | 97 | 93 | 92 | 95 | 103 | 95 |
| Isobutylbenzene - VPH | % | 70-130 | | 86 | 83 | 83 | 81 | 75 | 76 |
| n-Dotriacontane - EPH | % | 70-130 | | 99 | 97 | 95 | 97 | 104 | 98 |

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Certificate of Analysis

AGAT WORK ORDER: 21K844945

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709)747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Water (Version 3.1)

DATE RECEIVED: 2021-12-14

DATE REPORTED: 2022-01-04

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

3344862-3344883 Modified TPH, Xylene(Total)and C6-C10(less BTEX) are calculated parameters. The calculated parameter is non-accredited. The component parameters of the calculation are accredited.

Sediment parameter is comment only based on visual inspection of the sample prior to extraction and is not an accredited test.

- Resemblance Comment Key:
- GF - Gasoline Fraction
 - WGF - Weathered Gasoline Fraction
 - GR - Product in Gasoline Range
 - FOF - Fuel Oil Fraction
 - WFOF - Weathered Fuel Oil Fraction
 - FR - Product in Fuel Oil Range
 - LOF - Lube Oil Fraction
 - LR - Lube Range
 - UC - Unidentified Compounds
 - NR - No Resemblance
 - NA - Not Applicable

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K844945

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
 St. John's, NL
 CANADA A1E 6A8
 TEL (709)747-8573
 FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Mercury Analysis in Water (Total)

DATE RECEIVED: 2021-12-14

DATE REPORTED: 2022-01-04

| | | SAMPLE DESCRIPTION: | | SITE-8-SW | SITE-11-SW | SITE-7-SW | SITE-6-SW | SITE-14-SW | SITE-12-SW |
|---------------|------|---------------------|-------|------------|------------|------------|------------|------------|------------|
| | | SAMPLE TYPE: | | Water | Water | Water | Water | Water | Water |
| | | DATE SAMPLED: | | 2021-12-13 | 2021-12-13 | 2021-12-13 | 2021-12-13 | 2021-12-14 | 2021-12-14 |
| Parameter | Unit | G / S | RDL | 3344862 | 3344873 | 3344874 | 3344875 | 3344876 | 3344883 |
| Total Mercury | ug/L | | 0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K844945

PROJECT: 100424.001

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St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals (TO)

DATE RECEIVED: 2021-12-14

DATE REPORTED: 2022-01-04

| Parameter | Unit | SAMPLE DESCRIPTION: | | SITE-8-SW | SITE-11-SW | SITE-7-SW | SITE-6-SW | SITE-14-SW | SITE-12-SW |
|----------------------------------|---------|---------------------|------|------------|------------|------------|------------|------------|------------|
| | | SAMPLE TYPE: | | Water | Water | Water | Water | Water | Water |
| | | DATE SAMPLED: | | 2021-12-13 | 2021-12-13 | 2021-12-13 | 2021-12-13 | 2021-12-14 | 2021-12-14 |
| | | G / S | RDL | 3344862 | 3344873 | 3344874 | 3344875 | 3344876 | 3344883 |
| pH | | | | 6.72 | 5.92 | 6.04 | 7.00 | 6.83 | 5.96 |
| Reactive Silica as SiO2 | mg/L | | 0.5 | 2.9 | 2.5 | 3.7 | 2.8 | 7.2 | 3.9 |
| Chloride | mg/L | | 1 | 18 | 3 | 4 | 27 | 4 | 4 |
| Fluoride | mg/L | | 0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 |
| Sulphate | mg/L | | 2 | 2 | <2 | <2 | 4 | <2 | <2 |
| Alkalinity | mg/L | | 5 | 5 | <5 | <5 | 9 | 10 | <5 |
| True Color | TCU | | 5.00 | 53.2 | 67.6 | 85.5 | 33.2 | 91.9 | 65.4 |
| Turbidity | NTU | | 0.5 | 1.3 | 1.8 | 7.2 | 10.7 | 0.8 | 0.6 |
| Electrical Conductivity | umho/cm | | 1 | 92 | 25 | 35 | 140 | 44 | 26 |
| Nitrate + Nitrite as N | mg/L | | 0.05 | 0.09 | 0.13 | 0.12 | 0.25 | 0.16 | 0.13 |
| Nitrate as N | mg/L | | 0.05 | 0.09 | 0.13 | 0.12 | 0.25 | 0.16 | 0.13 |
| Nitrite as N | mg/L | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Ammonia as N | mg/L | | 0.03 | 14.6 | 0.23 | 0.15 | 0.13 | 0.16 | 0.15 |
| Ortho-Phosphate as P | mg/L | | 0.01 | <0.01 | 0.01 | <0.01 | <0.01 | 0.01 | <0.01 |
| Total Sodium | mg/L | | 0.45 | 13.0 | 5.13 | 3.78 | 17.5 | 2.27 | 2.46 |
| Total Potassium | mg/L | | 1.15 | <1.15 | 3.54 | 1.22 | <1.15 | <1.15 | <1.15 |
| Total Calcium | mg/L | | 0.32 | 2.84 | 6.22 | 2.45 | 6.89 | 1.38 | 1.23 |
| Total Magnesium | mg/L | | 0.34 | 0.99 | 5.73 | 0.86 | 2.01 | 3.27 | 0.90 |
| Bicarb. Alkalinity (as CaCO3) | mg/L | | 5 | 5 | <5 | <5 | 9 | 10 | <5 |
| Carb. Alkalinity (as CaCO3) | mg/L | | 10 | <10 | <10 | <10 | <10 | <10 | <10 |
| Hydroxide | mg/L | | 5 | <5 | <5 | <5 | <5 | <5 | <5 |
| Calculated TDS | mg/L | | 1 | 59 | 25 | 14 | 65 | 18 | 10 |
| Hardness (as CaCO3) (Calculated) | mg/L | | 0.5 | 11.2 | 39.1 | 9.7 | 25.5 | 16.9 | 6.8 |
| Langelier Index (@20C) | NA | | | -3.69 | -4.12 | -4.39 | -2.78 | -3.54 | -4.76 |
| Langelier Index (@ 4C) | NA | | | -4.01 | -4.44 | -4.71 | -3.10 | -3.86 | -5.08 |
| Saturation pH (@ 20C) | NA | | | 10.4 | 10.0 | 10.4 | 9.78 | 10.4 | 10.7 |
| Saturation pH (@ 4C) | NA | | | 10.7 | 10.4 | 10.7 | 10.1 | 10.7 | 11.0 |
| Anion Sum | me/L | | | 0.66 | 0.09 | 0.12 | 1.04 | 0.32 | 0.12 |
| Cation sum | me/L | | | 1.85 | 1.14 | 0.46 | 1.33 | 0.47 | 0.27 |
| % Difference/ Ion Balance | % | | | 47.7 | 84.8 | 58.5 | 12.1 | 18.7 | 38.3 |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K844945

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals (TO)

DATE RECEIVED: 2021-12-14

DATE REPORTED: 2022-01-04

| Parameter | Unit | SAMPLE DESCRIPTION: | | SITE-8-SW | SITE-11-SW | SITE-7-SW | SITE-6-SW | SITE-14-SW | SITE-12-SW |
|------------------|------|---------------------|------|------------|------------|------------|------------|------------|------------|
| | | SAMPLE TYPE: | | Water | Water | Water | Water | Water | Water |
| | | DATE SAMPLED: | | 2021-12-13 | 2021-12-13 | 2021-12-13 | 2021-12-13 | 2021-12-14 | 2021-12-14 |
| | | G / S | RDL | 3344862 | 3344873 | 3344874 | 3344875 | 3344876 | 3344883 |
| Total Aluminum | µg/L | | 10.0 | 117 | 159 | 384 | 308 | 176 | 108 |
| Total Antimony | µg/L | | 3.0 | <3.0 | <3.0 | <3.0 | <3.0 | <3.0 | <3.0 |
| Total Arsenic | µg/L | | 3.0 | <3.0 | <3.0 | <3.0 | 3.9 | <3.0 | <3.0 |
| Total Barium | µg/L | | 2.0 | <2.0 | 2.2 | 2.3 | 3.9 | <2.0 | <2.0 |
| Total Beryllium | µg/L | | 0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Total Bismuth | µg/L | | 2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 |
| Total Boron | µg/L | | 10 | <10 | <10 | <10 | <10 | <10 | <10 |
| Total Cadmium | µg/L | | 0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Total Chromium | µg/L | | 3.0 | <3.0 | <3.0 | <3.0 | <3.0 | 3.1 | <3.0 |
| Total Cobalt | µg/L | | 0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Total Copper | µg/L | | 1.0 | <1.0 | <1.0 | 1.2 | 1.9 | 1.4 | <1.0 |
| Total Iron | µg/L | | 50 | 211 | 282 | 414 | 451 | 171 | 170 |
| Total Lead | µg/L | | 1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 |
| Total Manganese | µg/L | | 2.0 | 41.6 | 69.7 | 162 | 20.5 | 7.0 | 44.6 |
| Total Molybdenum | µg/L | | 2.0 | <2.0 | <2.0 | <2.0 | 3.5 | <2.0 | <2.0 |
| Total Nickel | µg/L | | 3.0 | <3.0 | 4.6 | <3.0 | <3.0 | 6.9 | <3.0 |
| Total Phosphorus | mg/L | | 0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Total Selenium | µg/L | | 1.0 | <1.0 | <1.0 | 1.1 | <1.0 | <1.0 | <1.0 |
| Total Silver | µg/L | | 0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Total Strontium | µg/L | | 5.0 | 18.6 | 12.0 | 11.9 | 48.3 | 9.2 | 11.4 |
| Total Thallium | µg/L | | 0.30 | <0.30 | <0.30 | <0.30 | <0.30 | <0.30 | <0.30 |
| Total Tin | µg/L | | 2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 |
| Total Titanium | µg/L | | 10.0 | <10.0 | <10.0 | 11.2 | <10.0 | <10.0 | <10.0 |
| Total Uranium | µg/L | | 0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Total Vanadium | µg/L | | 2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 |
| Total Zinc | µg/L | | 20 | <20 | <20 | <20 | <20 | <20 | <20 |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K844945

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals (TO)

DATE RECEIVED: 2021-12-14

DATE REPORTED: 2022-01-04

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

3344862-3344873 % Difference / Ion Balance, Hardness, Langelier Index, Nitrate + Nitrite, Hydroxide and Saturation pH are calculated parameters. The calculated parameters are non-accredited. The component parameters of the calculations are accredited. Ion Balance is biased high, contributing parameters have been confirmed. Metal and Cation parameters have been completed by AGAT Mississauga

3344874 % Difference / Ion Balance, Hardness, Langelier Index, Nitrate + Nitrite, Hydroxide and Saturation pH are calculated parameters. The calculated parameters are non-accredited. The component parameters of the calculations are accredited. When the cation and anion sums are at, or below 1 me/L, the acceptable criteria is less than 0.3me/L. Metal and Cation parameters have been completed by AGAT Mississauga

3344875 % Difference / Ion Balance, Hardness, Langelier Index, Nitrate + Nitrite, Hydroxide and Saturation pH are calculated parameters. The calculated parameters are non-accredited. The component parameters of the calculations are accredited. Ion Balance is biased high, contributing parameters have been confirmed. Metal and Cation parameters have been completed by AGAT Mississauga

3344876 % Difference / Ion Balance, Hardness, Langelier Index, Nitrate + Nitrite, Hydroxide and Saturation pH are calculated parameters. The calculated parameters are non-accredited. The component parameters of the calculations are accredited. When the cation and anion sums are at, or below 1 me/L, the acceptable criteria is less than 0.3me/L. Metal and Cation parameters have been completed by AGAT Mississauga

3344883 % Difference / Ion Balance, Hardness, Langelier Index, Nitrate + Nitrite, Hydroxide and Saturation pH are calculated parameters. The calculated parameters are non-accredited. The component parameters of the calculations are accredited. When the cation and anion sums are at, or below 1 me/L, the acceptable criteria is less than 0.3me/L. Metal and Cation parameters have been completed by AGAT Mississauga

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K844945

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
 St. John's, NL
 CANADA A1E 6A8
 TEL (709)747-8573
 FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

TSS

DATE RECEIVED: 2021-12-14

DATE REPORTED: 2022-01-04

| | | SAMPLE DESCRIPTION: | | SITE-8-SW | SITE-11-SW | SITE-7-SW | SITE-6-SW | SITE-14-SW | SITE-12-SW |
|------------------------|------|---------------------|-----|------------|------------|------------|------------|------------|------------|
| | | SAMPLE TYPE: | | Water | Water | Water | Water | Water | Water |
| | | DATE SAMPLED: | | 2021-12-13 | 2021-12-13 | 2021-12-13 | 2021-12-13 | 2021-12-14 | 2021-12-14 |
| Parameter | Unit | G / S | RDL | 3344862 | 3344873 | 3344874 | 3344875 | 3344876 | 3344883 |
| Total Suspended Solids | mg/L | 5 | <5 | <5 | <5 | 16 | <5 | <5 | <5 |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K844945

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
 St. John's, NL
 CANADA A1E 6A8
 TEL (709)747-8573
 FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Water Analysis - TOC

DATE RECEIVED: 2021-12-14

DATE REPORTED: 2022-01-04

| Parameter | Unit | SAMPLE DESCRIPTION: | | SITE-8-SW | SITE-11-SW | SITE-7-SW | SITE-6-SW | SITE-14-SW | SITE-12-SW |
|----------------------|------|---------------------|------------|------------|------------|------------|------------|------------|------------|
| | | G / S | RDL | Water | Water | Water | Water | Water | Water |
| DATE SAMPLED: | | 2021-12-13 | 2021-12-13 | 2021-12-13 | 2021-12-13 | 2021-12-14 | 2021-12-14 | 2021-12-14 | 2021-12-14 |
| Total Organic Carbon | mg/L | 1 | 13 | 14 | 20 | 14 | 19 | 12 | |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Analysis performed at AGAT Calgary (unless marked by *)

Certified By:

Quality Assurance

 CLIENT NAME: GEMTEC LIMITED
 PROJECT: 100424.001
 SAMPLING SITE:

 AGAT WORK ORDER: 21K844945
 ATTENTION TO: Darrol Rice
 SAMPLED BY:

Trace Organics Analysis

| RPT Date: Jan 04, 2022 | | | DUPLICATE | | | | Method Blank | REFERENCE MATERIAL | | | METHOD BLANK SPIKE | | | MATRIX SPIKE | | |
|--|-------|-----------|-----------|---------|-------|----------------|--------------|--------------------|-------|----------|--------------------|-------|----------|-------------------|-------|--|
| PARAMETER | Batch | Sample Id | Dup #1 | Dup #2 | RPD | Measured Value | | Acceptable Limits | | Recovery | Acceptable Limits | | Recovery | Acceptable Limits | | |
| | | | | | | | | Lower | Upper | | Lower | Upper | | Lower | Upper | |
| Atlantic RBCA Tier 1 Hydrocarbons in Water (Version 3.1) | | | | | | | | | | | | | | | | |
| Benzene | 1 | 3346673 | < 0.001 | < 0.001 | NA | < 0.001 | 85% | 70% | 130% | 96% | 70% | 130% | | | | |
| Toluene | 1 | 3346673 | < 0.001 | < 0.001 | NA | < 0.001 | 87% | 70% | 130% | 95% | 70% | 130% | | | | |
| Ethylbenzene | 1 | 3346673 | < 0.001 | < 0.001 | NA | < 0.001 | 99% | 70% | 130% | 110% | 70% | 130% | | | | |
| Xylene (Total) | 1 | 3346673 | < 0.002 | < 0.002 | NA | < 0.002 | 91% | 70% | 130% | 104% | 70% | 130% | | | | |
| C6-C10 (less BTEX) | 1 | 3346673 | 7.31 | 5.59 | 26.7% | < 0.01 | 90% | 70% | 130% | 98% | 70% | 130% | 95% | 70% | 130% | |
| >C10-C16 Hydrocarbons | 1 | 3350172 | < 0.05 | < 0.05 | NA | < 0.05 | 118% | 70% | 130% | 100% | 70% | 130% | 95% | 70% | 130% | |
| >C16-C21 Hydrocarbons | 1 | 3350172 | 0.05 | < 0.05 | NA | < 0.05 | 118% | 70% | 130% | 100% | 70% | 130% | 95% | 70% | 130% | |
| >C21-C32 Hydrocarbons | 1 | 3350172 | < 0.1 | < 0.1 | NA | < 0.1 | 92% | 70% | 130% | 100% | 70% | 130% | 95% | 70% | 130% | |

Comments: If Matrix spike value is NA, the spiked analyte concentration was lower than that of the matrix contribution. Matrix spike performed on a different sample than the duplicate.

If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Certified By:



Quality Assurance

CLIENT NAME: GEMTEC LIMITED
 PROJECT: 100424.001
 SAMPLING SITE:

AGAT WORK ORDER: 21K844945
 ATTENTION TO: Darrol Rice
 SAMPLED BY:

| Water Analysis | | | | | | | | | | | | | | |
|------------------------|-------|-----------|-----------|--------|-----|----------------|--------------|--------------------|-------|----------|--------------------|-------|--------------|-------------------|
| RPT Date: Jan 04, 2022 | | | DUPLICATE | | | | Method Blank | REFERENCE MATERIAL | | | METHOD BLANK SPIKE | | MATRIX SPIKE | |
| PARAMETER | Batch | Sample Id | Dup #1 | Dup #2 | RPD | Measured Value | | Acceptable Limits | | Recovery | Acceptable Limits | | Recovery | Acceptable Limits |
| | | | | | | | Lower | Upper | Lower | | Upper | Lower | | Upper |

Standard Water Analysis + Total Metals (TO)

| | | | | | | | | | | | | | | | |
|-------------------------------|---------|---------|-------|-------|------|--------|------|-----|------|------|-----|------|------|-----|------|
| pH | 3351233 | | 2.89 | 2.89 | 0.0% | < | 102% | 80% | 120% | NA | | | NA | | |
| Reactive Silica as SiO2 | 3351536 | | 11.0 | 10.6 | 3.7% | < 0.5 | 102% | 80% | 120% | 112% | 80% | 120% | 94% | 80% | 120% |
| Chloride | 3344862 | 3344862 | 18 | 18 | 0.0% | < 1 | 85% | 80% | 120% | NA | 80% | 120% | NA | 70% | 130% |
| Fluoride | 3344862 | 3344862 | <0.12 | <0.12 | NA | < 0.12 | 96% | 80% | 120% | NA | 80% | 120% | 109% | 70% | 130% |
| Sulphate | 3344862 | 3344862 | 2 | 2 | NA | < 2 | 99% | 80% | 120% | NA | 80% | 120% | 96% | 70% | 130% |
| Alkalinity | 3351233 | | < 5 | < 5 | NA | < 5 | 92% | 80% | 120% | NA | | | NA | | |
| True Color | 3356486 | | <5.00 | <5.00 | NA | < 5 | 93% | 80% | 120% | 103% | 80% | 120% | NA | | |
| Turbidity | 3344425 | | 1.1 | 1.3 | NA | < 0.5 | 95% | 80% | 120% | NA | | | NA | | |
| Electrical Conductivity | 3351233 | | 2440 | 2470 | 1.3% | < 1 | 103% | 90% | 110% | NA | | | NA | | |
| Nitrate as N | 3344862 | 3344862 | 0.09 | 0.10 | NA | < 0.05 | 92% | 80% | 120% | NA | 80% | 120% | 92% | 70% | 130% |
| Nitrite as N | 3344862 | 3344862 | <0.05 | <0.05 | NA | < 0.05 | 86% | 80% | 120% | NA | 80% | 120% | 107% | 70% | 130% |
| Ammonia as N | 3345649 | | 0.13 | 0.09 | NA | < 0.03 | 99% | 80% | 120% | 92% | 80% | 120% | 126% | 70% | 130% |
| Ortho-Phosphate as P | 3351536 | | 0.07 | <0.01 | NA | < 0.01 | 87% | 80% | 120% | 86% | 80% | 120% | 89% | 80% | 120% |
| Total Sodium | 3344862 | 3344862 | 13.0 | 13.9 | 6.6% | < 0.10 | 99% | 70% | 130% | 99% | 80% | 120% | 98% | 70% | 130% |
| Total Potassium | 3344862 | 3344862 | <1.15 | <1.15 | NA | < 0.50 | 98% | 70% | 130% | 100% | 80% | 120% | 102% | 70% | 130% |
| Total Calcium | 3344862 | 3344862 | 2.84 | 3.05 | 7.2% | < 0.10 | 98% | 70% | 130% | 99% | 80% | 120% | 97% | 70% | 130% |
| Total Magnesium | 3344862 | 3344862 | 0.99 | 1.09 | NA | < 0.10 | 101% | 70% | 130% | 102% | 80% | 120% | 99% | 70% | 130% |
| Bicarb. Alkalinity (as CaCO3) | 3351233 | | <5 | <5 | NA | < 5 | NA | 80% | 120% | NA | | | NA | | |
| Carb. Alkalinity (as CaCO3) | 3351233 | | <10 | <10 | NA | < 10 | NA | 80% | 120% | NA | | | NA | | |
| Hydroxide | 3351233 | | <5 | <5 | NA | < 5 | NA | 80% | 120% | NA | | | NA | | |
| Total Aluminum | 3344862 | 3344862 | 117 | 113 | 3.3% | < 10.0 | 111% | 70% | 130% | 107% | 80% | 120% | 108% | 70% | 130% |
| Total Antimony | 3344862 | 3344862 | <3.0 | <3.0 | NA | < 3.0 | 101% | 70% | 130% | 99% | 80% | 120% | 97% | 70% | 130% |
| Total Arsenic | 3344862 | 3344862 | <3.0 | <3.0 | NA | < 3.0 | 99% | 70% | 130% | 105% | 80% | 120% | 109% | 70% | 130% |
| Total Barium | 3344862 | 3344862 | <2.0 | 2.1 | NA | < 2.0 | 102% | 70% | 130% | 101% | 80% | 120% | 101% | 70% | 130% |
| Total Beryllium | 3344862 | 3344862 | <0.50 | <0.50 | NA | < 0.50 | 113% | 70% | 130% | 107% | 80% | 120% | 117% | 70% | 130% |
| Total Bismuth | 3344862 | 3344862 | <2.0 | <2.0 | NA | < 2.0 | 103% | 70% | 130% | 105% | 80% | 120% | 104% | 70% | 130% |
| Total Boron | 3344862 | 3344862 | <10 | <10 | NA | < 10 | 108% | 70% | 130% | 104% | 80% | 120% | 110% | 70% | 130% |
| Total Cadmium | 3344862 | 3344862 | <0.10 | <0.10 | NA | < 0.10 | 103% | 70% | 130% | 100% | 80% | 120% | 104% | 70% | 130% |
| Total Chromium | 3344862 | 3344862 | <3.0 | <3.0 | NA | < 3.0 | 102% | 70% | 130% | 100% | 80% | 120% | 100% | 70% | 130% |
| Total Cobalt | 3344862 | 3344862 | <0.50 | <0.50 | NA | < 0.50 | 101% | 70% | 130% | 99% | 80% | 120% | 100% | 70% | 130% |
| Total Copper | 3344862 | 3344862 | <1.0 | <1.0 | NA | < 1.0 | 100% | 70% | 130% | 99% | 80% | 120% | 97% | 70% | 130% |
| Total Iron | 3344862 | 3344862 | 211 | 225 | NA | < 50 | 107% | 70% | 130% | 100% | 80% | 120% | 102% | 70% | 130% |
| Total Lead | 3344862 | 3344862 | <1.0 | <1.0 | NA | < 1.0 | 103% | 70% | 130% | 102% | 80% | 120% | 101% | 70% | 130% |
| Total Manganese | 3344862 | 3344862 | 41.6 | 44.6 | 6.8% | < 2.0 | 100% | 70% | 130% | 98% | 80% | 120% | 101% | 70% | 130% |
| Total Molybdenum | 3344862 | 3344862 | <2.0 | <2.0 | NA | < 2.0 | 101% | 70% | 130% | 102% | 80% | 120% | 102% | 70% | 130% |
| Total Nickel | 3344862 | 3344862 | <3.0 | <3.0 | NA | < 3.0 | 101% | 70% | 130% | 100% | 80% | 120% | 99% | 70% | 130% |
| Total Phosphorus | 3344862 | 3344862 | <0.10 | <0.10 | NA | < 0.10 | 93% | 70% | 130% | 96% | 80% | 120% | 109% | 70% | 130% |
| Total Selenium | 3344862 | 3344862 | <1.0 | <1.0 | NA | < 1.0 | 101% | 70% | 130% | 100% | 80% | 120% | 107% | 70% | 130% |
| Total Silver | 3344862 | 3344862 | <0.10 | <0.10 | NA | < 0.10 | 98% | 70% | 130% | 100% | 80% | 120% | 99% | 70% | 130% |

Quality Assurance

 CLIENT NAME: GEMTEC LIMITED
 PROJECT: 100424.001
 SAMPLING SITE:

 AGAT WORK ORDER: 21K844945
 ATTENTION TO: Darrol Rice
 SAMPLED BY:

Water Analysis (Continued)

| RPT Date: Jan 04, 2022 | | | DUPLICATE | | | | Method Blank | REFERENCE MATERIAL | | | METHOD BLANK SPIKE | | | MATRIX SPIKE | | |
|------------------------|---------|-----------|-----------|--------|-----|----------------|--------------|--------------------|-------|----------|--------------------|-------|----------|-------------------|-------|--|
| PARAMETER | Batch | Sample Id | Dup #1 | Dup #2 | RPD | Measured Value | | Acceptable Limits | | Recovery | Acceptable Limits | | Recovery | Acceptable Limits | | |
| | | | | | | | | Lower | Upper | | Lower | Upper | | Lower | Upper | |
| Total Strontium | 3344862 | 3344862 | 18.6 | 16.7 | NA | < 5.0 | 98% | 70% | 130% | 95% | 80% | 120% | 97% | 70% | 130% | |
| Total Thallium | 3344862 | 3344862 | <0.30 | <0.30 | NA | < 0.30 | 103% | 70% | 130% | 105% | 80% | 120% | 104% | 70% | 130% | |
| Total Tin | 3344862 | 3344862 | <2.0 | <2.0 | NA | < 2.0 | 97% | 70% | 130% | 100% | 80% | 120% | 96% | 70% | 130% | |
| Total Titanium | 3344862 | 3344862 | <10.0 | <10.0 | NA | < 10.0 | 107% | 70% | 130% | 100% | 80% | 120% | 100% | 70% | 130% | |
| Total Uranium | 3344862 | 3344862 | <0.50 | <0.50 | NA | < 0.50 | 102% | 70% | 130% | 103% | 80% | 120% | 104% | 70% | 130% | |
| Total Vanadium | 3344862 | 3344862 | <2.0 | <2.0 | NA | < 2.0 | 100% | 70% | 130% | 98% | 80% | 120% | 99% | 70% | 130% | |
| Total Zinc | 3344862 | 3344862 | <20 | <20 | NA | < 20 | 100% | 70% | 130% | 101% | 80% | 120% | 106% | 70% | 130% | |

Comments: If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Mercury Analysis in Water (Total)

| | | | | | | | | | | | | | | | |
|---------------|---------|--|--------|--------|----|---------|----|-----|------|----|-----|------|-----|-----|------|
| Total Mercury | 3313910 | | <0.026 | <0.026 | NA | < 0.026 | NA | 80% | 120% | NA | 80% | 120% | 98% | 70% | 130% |
|---------------|---------|--|--------|--------|----|---------|----|-----|------|----|-----|------|-----|-----|------|

Comments: If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

(Water) TOC

| | | | | | | | | | | | | | | | |
|----------------------|---------|--|------|------|------|-------|------|-----|------|----|-----|------|----|-----|------|
| Total Organic Carbon | 3325835 | | 32.7 | 32.0 | 2.3% | < 0.5 | 109% | 90% | 110% | NA | 90% | 110% | NA | 80% | 120% |
|----------------------|---------|--|------|------|------|-------|------|-----|------|----|-----|------|----|-----|------|

TSS

| | | | | | | | | | | | | | | | |
|------------------------|---------|--|----|----|----|-----|-----|-----|------|----|--|--|-----|-----|------|
| Total Suspended Solids | 3336668 | | <5 | <5 | NA | < 5 | 95% | 80% | 120% | NA | | | 82% | 80% | 120% |
|------------------------|---------|--|----|----|----|-----|-----|-----|------|----|--|--|-----|-----|------|

Comments: If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Water Analysis - TOC

| | | | | | | | | | | | | | | | |
|----------------------|---------|--|----|----|------|-----|-----|-----|------|------|-----|------|-----|-----|------|
| Total Organic Carbon | 3348222 | | 16 | 17 | 2.6% | < 1 | 97% | 80% | 120% | 100% | 80% | 120% | 84% | 80% | 120% |
|----------------------|---------|--|----|----|------|-----|-----|-----|------|------|-----|------|-----|-----|------|

 Comments: Matrix spike NA: Spike level < native concentration. Matrix spike acceptance limits do not apply and are not calculated.
 Duplicate NA: results are less than 5X the RDL and RDP will not be calculated.

Certified By:



Method Summary

CLIENT NAME: GEMTEC LIMITED

AGAT WORK ORDER: 21K844945

PROJECT: 100424.001

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

| PARAMETER | AGAT S.O.P | LITERATURE REFERENCE | ANALYTICAL TECHNIQUE |
|---------------------------|--------------|--|----------------------|
| Trace Organics Analysis | | | |
| Benzene | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| Toluene | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| Ethylbenzene | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| Xylene (Total) | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| C6-C10 (less BTEX) | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| >C10-C16 Hydrocarbons | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| >C16-C21 Hydrocarbons | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| >C21-C32 Hydrocarbons | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| Modified TPH (Tier 1) | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | CALCULATION |
| Sediment | | | GC/MS/FID |
| Resemblance Comment | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS/FID |
| Return to Baseline at C32 | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| Isobutylbenzene - EPH | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| Isobutylbenzene - VPH | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| n-Dotriacontane - EPH | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |

Method Summary

CLIENT NAME: GEMTEC LIMITED

AGAT WORK ORDER: 21K844945

PROJECT: 100424.001

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

| PARAMETER | AGAT S.O.P | LITERATURE REFERENCE | ANALYTICAL TECHNIQUE |
|---|--------------------------------|---|--------------------------|
| Water Analysis | | | |
| Total Organic Carbon | INOR-93-6049 | modified from SM 5310 B | SHIMADZU CARBON ANALYZER |
| Total Mercury | MET-121-6100 & MET-121-6107 | SM 3112 B | CV/AA |
| pH | INOR-121-6001 | SM 4500 H+B | PC TITRATE |
| Reactive Silica as SiO ₂ | INOR-121-6027 | SM 4500-SiO ₂ F | COLORIMETER |
| Chloride | INORG-121-6005 | SM 4110 B | ION CHROMATOGRAPH |
| Fluoride | INORG-121-6005 | SM 4110 B | ION CHROMATOGRAPH |
| Sulphate | INORG-121-6005 | SM 4110 B | ION CHROMATOGRAPH |
| Alkalinity | INOR-121-6001 | SM 2320 B | |
| True Color | INOR-121-6008 | SM 2120 B | LACHAT FIA |
| Turbidity | INOR-121-6022 | SM 2130 B | NEPHELOMETER |
| Electrical Conductivity | INOR-121-6001 | SM 2510 B | PC TITRATE |
| Nitrate + Nitrite as N | INORG-121-6005 | SM 4110 B | CALCULATION |
| Nitrate as N | INORG-121-6005 | SM 4110 B | ION CHROMATOGRAPH |
| Nitrite as N | INORG-121-6005 | SM 4110 B | ION CHROMATOGRAPH |
| Ammonia as N | INOR-121-6047 | SM 4500-NH ₃ H | COLORIMETER |
| Ortho-Phosphate as P | INOR-121-6012 | SM 4500-P G | COLORIMETER |
| Total Sodium | MET-93-6105 | modified from EPA 6010D | ICP/OES |
| Total Potassium | MET-93-6105 | modified from EPA 6010D | ICP/OES |
| Total Calcium | MET-93-6105 | modified from EPA 6010D | ICP/OES |
| Total Magnesium | MET-93-6105 | modified from EPA 6010D | ICP/OES |
| Bicarb. Alkalinity (as CaCO ₃) | INORG-121-6001 | SM 2320 B | PC TITRATE |
| Carb. Alkalinity (as CaCO ₃) | INORG-121-6001 | SM 2320 B | PC TITRATE |
| Hydroxide | INORG-121-6001 | SM 2320 B | PC-TITRATE |
| Calculated TDS | CALCULATION | SM 1030E | CALCULATION |
| Hardness (as CaCO ₃) (Calculated) | MET-93-6105 | modified from EPA SW-846 6010C & 200.7 & SM 2340 B | CALCULATION |
| Langelier Index (@20C) | CALCULATION | CALCULATION | CALCULATION |
| Langelier Index (@ 4C) | CALCULATION | CALCULATION | CALCULATION |
| Saturation pH (@ 20C) | CALCULATION | CALCULATION | CALCULATION |
| Saturation pH (@ 4C) | CALCULATION | CALCULATION | CALCULATION |
| Anion Sum | CALCULATION | SM 1030E | CALCULATION |
| Cation sum | CALCULATION | SM 1030E | CALCULATION |
| % Difference/ Ion Balance | CALCULATION | SM 1030E | CALCULATION |
| Total Aluminum | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Antimony | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Arsenic | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Barium | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Beryllium | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Bismuth | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Boron | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Cadmium | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |



Method Summary

CLIENT NAME: GEMTEC LIMITED

AGAT WORK ORDER: 21K844945

PROJECT: 100424.001

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

| PARAMETER | AGAT S.O.P | LITERATURE REFERENCE | ANALYTICAL TECHNIQUE |
|------------------------|---------------------|---|----------------------|
| Total Chromium | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Cobalt | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Copper | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Iron | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Lead | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Manganese | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Molybdenum | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Nickel | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Phosphorus | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Selenium | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Silver | INOR-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Strontium | INOR-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Thallium | INOR-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Tin | INOR-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Titanium | INOR-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Uranium | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Vanadium | INOR-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Zinc | MET-93-6103 | modified from EPA 200.8, 3005A, 3010A & 6020B | ICP-MS |
| Total Suspended Solids | INOR-121-6024, 6025 | SM 2540C, D | GRAVIMETRIC |
| Total Organic Carbon | INST 0170 | SM 5310 B | COMBUSTION |



CLIENT NAME: GEMTEC LIMITED
10 Maverick Place
Paradise, NL A1L 1Y8
709722-2275

ATTENTION TO: Darrol Rice

PROJECT: 100424.001

AGAT WORK ORDER: 21K844964

SOIL ANALYSIS REVIEWED BY: Ashley Dussault, Report Writer

TRACE ORGANICS REVIEWED BY: Amy Hunter, Trace Organics Supervisor, B.Sc.

DATE REPORTED: Jan 03, 2022

PAGES (INCLUDING COVER): 9

VERSION*: 1

Should you require any information regarding this analysis please contact your client services representative at (709)747-8573

*Notes

Disclaimer:

- All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.
- All samples will be disposed of within 30 days after receipt unless a Long Term Storage Agreement is signed and returned. Some specialty analysis may be exempt, please contact your Client Project Manager for details.
- AGAT's liability in connection with any delay, performance or non-performance of these services is only to the Client and does not extend to any other third party. Unless expressly agreed otherwise in writing, AGAT's liability is limited to the actual cost of the specific analysis or analyses included in the services.
- This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
- The test results reported herewith relate only to the samples as received by the laboratory.
- Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to, warranties of merchantability, fitness for a particular purpose, or non-infringement. AGAT assumes no responsibility for any errors or omissions in the guidelines contained in this document.
- All reportable information as specified by ISO/IEC 17025:2017 is available from AGAT Laboratories upon request.



Certificate of Analysis

AGAT WORK ORDER: 21K844964

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Metals - Available metals (Halifax)

DATE RECEIVED: 2021-12-14

DATE REPORTED: 2022-01-03

| Parameter | Unit | SAMPLE DESCRIPTION: | | SITE 8-SED | SITE 11-SED | SITE 14-SED | SITE 12-SED | |
|------------|-------|---------------------|------|------------|-------------|-------------|-------------|---------|
| | | SAMPLE TYPE: | | Soil | Soil | Soil | Soil | |
| | | DATE SAMPLED: | | 2021-12-13 | 2021-12-13 | 2021-12-14 | 2021-12-14 | |
| | | G / S | RDL | 3344904 | 3344915 | 3344916 | RDL | 3344917 |
| Aluminum | mg/kg | | 100 | 17500 | 16800 | 23100 | 100 | 26700 |
| Antimony | mg/kg | | 0.8 | <0.8 | 1.2 | <0.8 | 0.8 | <0.8 |
| Arsenic | mg/kg | | 1 | 49 | 33 | 48 | 1 | 51 |
| Barium | mg/kg | | 2.0 | 46.8 | 21.9 | 42.7 | 2.0 | 364 |
| Beryllium | mg/kg | | 0.4 | 0.5 | 0.5 | 0.4 | 0.4 | 0.9 |
| Boron | mg/kg | | 5 | <5 | <5 | <5 | 5 | <5 |
| Cadmium | mg/kg | | 0.5 | <0.5 | <0.5 | <0.5 | 0.5 | 0.6 |
| Chromium | mg/kg | | 5 | 29 | 24 | 240 | 5 | 40 |
| Cobalt | mg/kg | | 0.5 | 13.3 | 12.4 | 36.9 | 0.5 | 63.0 |
| Copper | mg/kg | | 1.0 | 11.5 | 23.5 | 25.0 | 1.0 | 12.6 |
| Iron | mg/kg | | 500 | 40800 | 43200 | 57800 | 5000 | 144000 |
| Lead | mg/kg | | 1 | 11 | 13 | 16 | 1 | 33 |
| Lithium | mg/kg | | 0.5 | 26.1 | 25.8 | 32.3 | 0.5 | 36.3 |
| Manganese | mg/kg | | 5.0 | 2640 | 1220 | 2770 | 50 | 38200 |
| Mercury | mg/kg | | 0.03 | 0.03 | 0.05 | 0.03 | 0.03 | <0.03 |
| Molybdenum | mg/kg | | 0.5 | 1.6 | 1.3 | 3.7 | 0.5 | 6.8 |
| Nickel | mg/kg | | 1 | 40 | 39 | 238 | 1 | 74 |
| Selenium | mg/kg | | 0.8 | <0.8 | <0.8 | <0.8 | 0.8 | 1.2 |
| Silver | mg/kg | | 0.5 | <0.5 | <0.5 | <0.5 | 0.5 | <0.5 |
| Strontium | mg/kg | | 5 | 8 | 5 | 12 | 5 | 33 |
| Thallium | mg/kg | | 0.5 | <0.5 | <0.5 | <0.5 | 0.5 | <0.5 |
| Tin | mg/kg | | 1 | <1 | <1 | <1 | 1 | <1 |
| Uranium | mg/kg | | 0.50 | 0.77 | 1.15 | 0.97 | 0.50 | 0.94 |
| Vanadium | mg/kg | | 0.4 | 27.4 | 24.2 | 34.2 | 0.4 | 48.4 |
| Zinc | mg/kg | | 5 | 69 | 76 | 81 | 5 | 139 |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

3344904-3344917

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K844964

PROJECT: 100424.001

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St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Soil (Version 3.1) - Field Preserved

DATE RECEIVED: 2021-12-14

DATE REPORTED: 2022-01-03

| Parameter | Unit | SAMPLE DESCRIPTION: | | SITE 8-SED | SITE 11-SED | SITE 14-SED | SITE 12-SED |
|---------------------------|-------|---------------------|-------|------------|-------------|-------------|-------------|
| | | G / S | RDL | 3344904 | 3344915 | 3344916 | 3344917 |
| Benzene | mg/kg | 0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| Toluene | mg/kg | 0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 |
| Ethylbenzene | mg/kg | 0.03 | 0.03 | <0.03 | <0.03 | <0.03 | <0.03 |
| Xylene (Total) | mg/kg | 0.05 | 0.09 | <0.05 | <0.05 | <0.05 | <0.05 |
| C6-C10 (less BTEX) | mg/kg | 3 | <3 | <3 | <3 | <3 | <3 |
| >C10-C16 Hydrocarbons | mg/kg | 15 | <15 | <15 | <15 | <15 | <15 |
| >C16-C21 Hydrocarbons | mg/kg | 15 | <15 | <15 | <15 | <15 | <15 |
| >C21-C32 Hydrocarbons | mg/kg | 15 | <15 | <15 | <15 | <15 | <15 |
| Modified TPH (Tier 1) | mg/kg | 15 | <15 | <15 | <15 | <15 | <15 |
| Resemblance Comment | | | NR | NR | NR | NR | NR |
| Return to Baseline at C32 | | | Y | Y | Y | Y | Y |
| Surrogate | Unit | Acceptable Limits | | | | | |
| Isobutylbenzene - EPH | % | 60-140 | 99 | 99 | 99 | 133 | |
| Isobutylbenzene - VPH | % | 60-140 | 110 | 114 | 115 | 112 | |
| n-Dotriacontane - EPH | % | 60-140 | 92 | 92 | 96 | 130 | |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

3344904-3344917 Modified TPH, Xylene(Total)and C6-C10(less BTEX) are calculated parameters. The calculated parameter is non-accredited. The component parameters of the calculation are accredited.

Results are based on the dry weight of the soil.

Resemblance Comment Key:
 GF - Gasoline Fraction
 WGF - Weathered Gasoline Fraction
 GR - Product in Gasoline Range
 FOF - Fuel Oil Fraction
 WFOF - Weathered Fuel Oil Fraction
 FR - Product in Fuel Oil Range
 LOF - Lube Oil Fraction
 LR - Lube Range
 UC - Unidentified Compounds
 NR - No Resemblance
 NA - Not Applicable

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K844964

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Moisture

DATE RECEIVED: 2021-12-14

DATE REPORTED: 2022-01-03

| | | SAMPLE DESCRIPTION: | | SITE 8-SED | SITE 11-SED | SITE 14-SED | SITE 12-SED |
|------------|------|---------------------|-----|------------|-------------|-------------|-------------|
| | | SAMPLE TYPE: | | Soil | Soil | Soil | Soil |
| | | DATE SAMPLED: | | 2021-12-13 | 2021-12-13 | 2021-12-14 | 2021-12-14 |
| Parameter | Unit | G / S | RDL | 3344904 | 3344915 | 3344916 | 3344917 |
| % Moisture | % | 1 | 11 | 22 | 23 | 27 | |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:

Quality Assurance

 CLIENT NAME: GEMTEC LIMITED
 PROJECT: 100424.001
 SAMPLING SITE:

 AGAT WORK ORDER: 21K844964
 ATTENTION TO: Darrol Rice
 SAMPLED BY:

| Soil Analysis | | | | | | | | | | | | | | |
|------------------------|-------|-----------|-----------|--------|-----|--------------|--------------------|-------------------|-------|--------------------|-------------------|--------------|----------|-------------------|
| RPT Date: Jan 03, 2022 | | | DUPLICATE | | | Method Blank | REFERENCE MATERIAL | | | METHOD BLANK SPIKE | | MATRIX SPIKE | | |
| PARAMETER | Batch | Sample Id | Dup #1 | Dup #2 | RPD | | Measured Value | Acceptable Limits | | Recovery | Acceptable Limits | | Recovery | Acceptable Limits |
| | | | | | | Lower | | Upper | Lower | | Upper | Lower | | Upper |

Metals - Available metals (Halifax)

| | | | | | | | | | | | | | | | |
|------------|---------|--|-------|-------|------|--------|------|-----|------|------|-----|------|------|-----|------|
| Aluminum | 3356497 | | 3840 | 3960 | 3.1% | < 10.0 | 105% | 70% | 130% | 93% | 80% | 120% | 95% | 70% | 130% |
| Antimony | 3356497 | | <0.8 | <0.8 | NA | < 0.8 | 119% | 70% | 130% | 85% | 80% | 120% | 94% | 70% | 130% |
| Arsenic | 3356497 | | <1 | <1 | NA | < 1 | 116% | 70% | 130% | 88% | 80% | 120% | 101% | 70% | 130% |
| Barium | 3356497 | | 17.2 | 17.4 | 1.2% | < 2.0 | 105% | 70% | 130% | 90% | 80% | 120% | 106% | 70% | 130% |
| Beryllium | 3356497 | | <0.4 | <0.4 | NA | < 0.4 | 99% | 70% | 130% | 84% | 80% | 120% | 96% | 70% | 130% |
| Boron | 3356497 | | <5 | <5 | NA | < 5 | 87% | 70% | 130% | 88% | 80% | 120% | 88% | 70% | 130% |
| Cadmium | 3356497 | | <0.5 | <0.5 | NA | < 0.5 | 113% | 70% | 130% | 99% | 80% | 120% | 101% | 70% | 130% |
| Chromium | 3356497 | | <5 | <5 | NA | < 5 | 111% | 70% | 130% | 93% | 80% | 120% | 95% | 70% | 130% |
| Cobalt | 3356497 | | 1.3 | 1.3 | NA | < 0.5 | 110% | 70% | 130% | 90% | 80% | 120% | 100% | 70% | 130% |
| Copper | 3356497 | | 6.2 | 6.2 | 0.0% | < 1.0 | 97% | 70% | 130% | 89% | 80% | 120% | 98% | 70% | 130% |
| Iron | 3356497 | | 3370 | 3370 | 0.0% | < 50 | 106% | 70% | 130% | 92% | 80% | 120% | 100% | 70% | 130% |
| Lead | 3356497 | | 2 | 2 | NA | < 1 | 111% | 70% | 130% | 91% | 80% | 120% | 100% | 70% | 130% |
| Lithium | 3356497 | | 2.6 | 2.6 | 0.0% | < 0.5 | 92% | 70% | 130% | 83% | 80% | 120% | 94% | 70% | 130% |
| Manganese | 3356497 | | 128 | 128 | 0.0% | < 5.0 | 114% | 70% | 130% | 88% | 80% | 120% | 96% | 70% | 130% |
| Mercury | 3356497 | | 0.11 | 0.07 | NA | < 0.03 | 103% | 70% | 130% | 95% | 80% | 120% | 100% | 70% | 130% |
| Molybdenum | 3356497 | | <0.5 | <0.5 | NA | < 0.5 | 118% | 70% | 130% | 97% | 80% | 120% | 108% | 70% | 130% |
| Nickel | 3356497 | | 8 | 8 | 0.0% | < 1 | 107% | 70% | 130% | 89% | 80% | 120% | 84% | 70% | 130% |
| Selenium | 3356497 | | <0.8 | <0.8 | NA | < 0.8 | 102% | 70% | 130% | 89% | 80% | 120% | 102% | 70% | 130% |
| Silver | 3356497 | | 0.8 | 0.8 | NA | < 0.5 | 104% | 70% | 130% | 96% | 80% | 120% | 86% | 70% | 130% |
| Strontium | 3356497 | | 22 | 22 | NA | < 5 | 105% | 70% | 130% | 88% | 80% | 120% | 116% | 70% | 130% |
| Thallium | 3356497 | | <0.5 | <0.5 | NA | < 0.5 | 126% | 70% | 130% | 94% | 80% | 120% | 103% | 70% | 130% |
| Tin | 3356497 | | <1 | <1 | NA | < 1 | 122% | 70% | 130% | 100% | 80% | 120% | 106% | 70% | 130% |
| Uranium | 3356497 | | <0.50 | <0.50 | NA | < 0.50 | 119% | 70% | 130% | 88% | 80% | 120% | 99% | 70% | 130% |
| Vanadium | 3356497 | | 4.8 | 4.8 | 0.0% | < 0.4 | 117% | 70% | 130% | 86% | 80% | 120% | 97% | 70% | 130% |
| Zinc | 3356497 | | 9 | 10 | NA | < 5 | 102% | 70% | 130% | 94% | 80% | 120% | 101% | 70% | 130% |

Comments: NA signifies Not Applicable.
 Duplicate NA: results are under 5X the RDL and will not be calculated.

Certified By:


Quality Assurance

CLIENT NAME: GEMTEC LIMITED
 PROJECT: 100424.001
 SAMPLING SITE:

AGAT WORK ORDER: 21K844964
 ATTENTION TO: Darrol Rice
 SAMPLED BY:

Trace Organics Analysis

| RPT Date: Jan 03, 2022 | | | DUPLICATE | | | Method Blank | REFERENCE MATERIAL | | | METHOD BLANK SPIKE | | | MATRIX SPIKE | | |
|---|-------|-----------|-----------|--------|------|--------------|--------------------|-------------------|-------|--------------------|-------------------|-------|--------------|-------------------|-------|
| PARAMETER | Batch | Sample Id | Dup #1 | Dup #2 | RPD | | Measured Value | Acceptable Limits | | Recovery | Acceptable Limits | | Recovery | Acceptable Limits | |
| | | | | | | | | Lower | Upper | | Lower | Upper | | Lower | Upper |
| Atlantic RBCA Tier 1 Hydrocarbons in Soil (Version 3.1) - Field Preserved | | | | | | | | | | | | | | | |
| Benzene | 1 | 3338146 | 0.87 | 0.91 | 4.5% | < 0.02 | 71% | 60% | 140% | 79% | 60% | 140% | | | |
| Toluene | 1 | 3338146 | 29.1 | 27.0 | 7.5% | < 0.04 | 73% | 60% | 140% | 75% | 60% | 140% | | | |
| Ethylbenzene | 1 | 3338146 | 13.8 | 12.7 | 8.3% | < 0.03 | 84% | 60% | 140% | 88% | 60% | 140% | | | |
| Xylene (Total) | 1 | 3338146 | 74.4 | 69.6 | 6.7% | < 0.05 | 78% | 60% | 140% | 86% | 60% | 140% | | | |
| C6-C10 (less BTEX) | 1 | 3338146 | 445 | 437 | 1.8% | < 3 | 88% | 60% | 140% | 93% | 60% | 140% | 120% | 30% | 130% |
| >C10-C16 Hydrocarbons | 1 | 3350197 | < 15 | < 15 | NA | < 15 | 99% | 60% | 140% | 90% | 60% | 140% | 94% | 30% | 130% |
| >C16-C21 Hydrocarbons | 1 | 3350197 | < 15 | < 15 | NA | < 15 | 98% | 60% | 140% | 90% | 60% | 140% | 94% | 30% | 130% |
| >C21-C32 Hydrocarbons | 1 | 3350197 | < 15 | < 15 | NA | < 15 | 109% | 60% | 140% | 90% | 60% | 140% | 94% | 30% | 130% |

Comments: If Matrix spike value is NA, the spiked analyte concentration was lower than that of the matrix contribution.
 If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Certified By: _____



Method Summary

CLIENT NAME: GEMTEC LIMITED

AGAT WORK ORDER: 21K844964

PROJECT: 100424.001

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

| PARAMETER | AGAT S.O.P | LITERATURE REFERENCE | ANALYTICAL TECHNIQUE |
|---------------|--------------|--|----------------------|
| Soil Analysis | | | |
| Aluminum | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Antimony | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Arsenic | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Barium | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Beryllium | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Boron | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Cadmium | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Chromium | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Cobalt | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Copper | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Iron | MET-93-6103 | EPA SW-846 3050B & 6020A | ICP-MS |
| Lead | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Lithium | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Manganese | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Mercury | MET-93-6103 | modified from EPA 7471B and SM 3112 B | ICP-MS |
| Molybdenum | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Nickel | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Selenium | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Silver | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Strontium | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Thallium | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Tin | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Uranium | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Vanadium | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Zinc | MET 93 -6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |

Method Summary

CLIENT NAME: GEMTEC LIMITED

AGAT WORK ORDER: 21K844964

PROJECT: 100424.001

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

| PARAMETER | AGAT S.O.P | LITERATURE REFERENCE | ANALYTICAL TECHNIQUE |
|---------------------------|--------------|--|----------------------|
| Trace Organics Analysis | | | |
| Benzene | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| Toluene | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| Ethylbenzene | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| Xylene (Total) | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| C6-C10 (less BTEX) | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS/FID |
| >C10-C16 Hydrocarbons | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| >C16-C21 Hydrocarbons | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| >C21-C32 Hydrocarbons | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| Modified TPH (Tier 1) | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | CALCULATION |
| Resemblance Comment | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS/FID |
| Return to Baseline at C32 | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| Isobutylbenzene - EPH | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| Isobutylbenzene - VPH | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| n-Dotriacontane - EPH | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| % Moisture | LAB-131-4024 | CSSS 70.2 | GRAVIMETRIC |



CLIENT NAME: GEMTEC LIMITED
10 Maverick Place
Paradise, NL A1L 1Y8
709722-2275

ATTENTION TO: Adam Schamper

PROJECT: 100424.001

AGAT WORK ORDER: 22K880010

SOIL ANALYSIS REVIEWED BY: Sara Knox, Data Reviewer

TRACE ORGANICS REVIEWED BY: Amy Hunter, Trace Organics Supervisor, B.Sc.

WATER ANALYSIS REVIEWED BY: Sara Knox, Data Reviewer

DATE REPORTED: Apr 12, 2022

PAGES (INCLUDING COVER): 36

VERSION*: 1

Should you require any information regarding this analysis please contact your client services representative at (709)747-8573

*Notes

Disclaimer:

- All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.
- All samples will be disposed of within 30 days after receipt unless a Long Term Storage Agreement is signed and returned. Some specialty analysis may be exempt, please contact your Client Project Manager for details.
- AGAT's liability in connection with any delay, performance or non-performance of these services is only to the Client and does not extend to any other third party. Unless expressly agreed otherwise in writing, AGAT's liability is limited to the actual cost of the specific analysis or analyses included in the services.
- This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
- The test results reported herewith relate only to the samples as received by the laboratory.
- Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to, warranties of merchantability, fitness for a particular purpose, or non-infringement. AGAT assumes no responsibility for any errors or omissions in the guidelines contained in this document.
- All reportable information as specified by ISO/IEC 17025:2017 is available from AGAT Laboratories upon request.



Certificate of Analysis

AGAT WORK ORDER: 22K880010

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Adam Schamper

SAMPLING SITE:

SAMPLED BY:

Available Metals in Soil

DATE RECEIVED: 2022-04-01

DATE REPORTED: 2022-04-12

| Parameter | Unit | SAMPLE DESCRIPTION: | | | | | | | | | |
|------------|-------|---------------------|-------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | | G / S | RDL | Site 9- SED | Site 20- SED | Site 11- SED | Site 4- SED | Site 3- SED | Site 14- SED | Site 12- SED | Site 15- SED |
| | | | | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil |
| | | | | 2022-03-28 15:50 | 2022-03-28 16:45 | 2022-03-29 09:40 | 2022-03-29 11:20 | 2022-03-29 12:25 | 2022-03-29 14:30 | 2022-03-29 15:20 | 2022-03-30 08:20 |
| | | | | 3705876 | 3705880 | 3705881 | 3705882 | 3705883 | 3705884 | 3705885 | 3705886 |
| Aluminum | mg/kg | 10 | 23500 | 19000 | 13500 | 9800 | 11500 | 19500 | 15800 | 20800 | |
| Antimony | mg/kg | 1 | <1 | <1 | 1 | 1 | 1 | <1 | <1 | <1 | |
| Arsenic | mg/kg | 1 | 20 | 17 | 34 | 82 | 56 | 34 | 27 | 66 | |
| Barium | mg/kg | 5 | 37 | 50 | 19 | 33 | 105 | 36 | 536 | 63 | |
| Beryllium | mg/kg | 2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | |
| Boron | mg/kg | 2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | |
| Cadmium | mg/kg | 0.3 | <0.3 | <0.3 | <0.3 | <0.3 | <0.3 | <0.3 | 1.1 | <0.3 | |
| Chromium | mg/kg | 2 | 53 | 112 | 23 | 15 | 20 | 145 | 26 | 58 | |
| Cobalt | mg/kg | 1 | 19 | 21 | 13 | 9 | 15 | 38 | 89 | 28 | |
| Copper | mg/kg | 2 | 32 | 8 | 24 | 7 | 13 | 26 | 10 | 40 | |
| Iron | mg/kg | 50 | 34600 | 38400 | 42700 | 23100 | 36500 | 46100 | 83300 | 54300 | |
| Lead | mg/kg | 0.5 | 14.5 | 4.6 | 10.7 | 5.3 | 11.0 | 12.9 | 20.5 | 16.7 | |
| Lithium | mg/kg | 5 | 50 | 51 | 35 | 21 | 25 | 45 | 38 | 54 | |
| Manganese | mg/kg | 2 | 652 | 1490 | 1760 | 2790 | 8290 | 2730 | 92500 | 9040 | |
| Molybdenum | mg/kg | 2 | 4 | <2 | <2 | 2 | 3 | 3 | 5 | 4 | |
| Nickel | mg/kg | 2 | 87 | 136 | 39 | 30 | 28 | 245 | 98 | 92 | |
| Selenium | mg/kg | 1 | 1 | <1 | <1 | <1 | <1 | <1 | <1 | 1 | |
| Silver | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | |
| Strontium | mg/kg | 5 | 7 | 10 | <5 | 9 | 7 | 10 | 92 | 10 | |
| Thallium | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | 0.1 | <0.1 | |
| Tin | mg/kg | 2 | 3 | 3 | 4 | 3 | 3 | 3 | 3 | 3 | |
| Uranium | mg/kg | 0.1 | 0.9 | 0.5 | 0.8 | 0.6 | 0.7 | 0.6 | 0.4 | 0.8 | |
| Vanadium | mg/kg | 2 | 34 | 28 | 25 | 15 | 30 | 35 | 35 | 32 | |
| Zinc | mg/kg | 5 | 91 | 88 | 67 | 71 | 51 | 88 | 228 | 68 | |

Certified By:

Sara Knox



Certificate of Analysis

AGAT WORK ORDER: 22K880010

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Adam Schamper

SAMPLING SITE:

SAMPLED BY:

Available Metals in Soil

DATE RECEIVED: 2022-04-01

DATE REPORTED: 2022-04-12

| Parameter | Unit | SAMPLE DESCRIPTION: | | Site 10- SED | Site 17- SED | Site 16- SED | Site 1- SED | Site 2- SED | Site 19- SED | SD- SED |
|---------------|-------|---------------------|------------|--------------|--------------|--------------|-------------|-------------|--------------|------------|
| | | G / S | RDL | Soil | Soil | Soil | Soil | Soil | Soil | Soil |
| DATE SAMPLED: | | 2022-03-30 | 2022-03-30 | 2022-03-30 | 2022-03-30 | 2022-03-31 | 2022-03-31 | 2022-03-31 | 2022-03-31 | 2022-03-31 |
| | | 12:00 | 14:45 | 16:00 | 11:50 | 12:50 | 13:25 | 13:25 | 13:25 | 13:25 |
| | | 3705887 | 3705888 | 3705889 | 3705890 | 3705891 | 3705892 | 3705892 | 3705893 | 3705893 |
| Aluminum | mg/kg | 10 | 19500 | 16900 | 18300 | 10300 | 17000 | 18900 | 19400 | 19400 |
| Antimony | mg/kg | 1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| Arsenic | mg/kg | 1 | 22 | 26 | 33 | 30 | 71 | 34 | 20 | 20 |
| Barium | mg/kg | 5 | 27 | 24 | 28 | 15 | 62 | 56 | 26 | 26 |
| Beryllium | mg/kg | 2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Boron | mg/kg | 2 | <2 | 2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Cadmium | mg/kg | 0.3 | <0.3 | <0.3 | <0.3 | <0.3 | <0.3 | <0.3 | <0.3 | <0.3 |
| Chromium | mg/kg | 2 | 40 | 35 | 50 | 18 | 27 | 30 | 32 | 32 |
| Cobalt | mg/kg | 1 | 21 | 17 | 21 | 11 | 19 | 20 | 16 | 16 |
| Copper | mg/kg | 2 | 9 | 11 | 10 | 12 | 8 | 4 | 5 | 5 |
| Iron | mg/kg | 50 | 42100 | 39500 | 39600 | 25900 | 48800 | 42500 | 40900 | 40900 |
| Lead | mg/kg | 0.5 | 6.1 | 6.9 | 7.3 | 8.5 | 8.5 | 4.6 | 3.9 | 3.9 |
| Lithium | mg/kg | 5 | 61 | 49 | 64 | 26 | 42 | 57 | 57 | 57 |
| Manganese | mg/kg | 2 | 2720 | 2690 | 3330 | 1200 | 1500 | 6530 | 2960 | 2960 |
| Molybdenum | mg/kg | 2 | <2 | <2 | <2 | <2 | 4 | <2 | <2 | <2 |
| Nickel | mg/kg | 2 | 73 | 69 | 67 | 32 | 51 | 53 | 50 | 50 |
| Selenium | mg/kg | 1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| Silver | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Strontium | mg/kg | 5 | 6 | 6 | 8 | 6 | 5 | 8 | <5 | <5 |
| Thallium | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Tin | mg/kg | 2 | 3 | 3 | 3 | 3 | 4 | 4 | 3 | 3 |
| Uranium | mg/kg | 0.1 | 0.4 | 0.5 | 0.5 | 0.5 | 0.7 | 0.5 | 0.4 | 0.4 |
| Vanadium | mg/kg | 2 | 29 | 29 | 25 | 21 | 29 | 25 | 27 | 27 |
| Zinc | mg/kg | 5 | 110 | 92 | 94 | 54 | 105 | 94 | 89 | 89 |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

3705876-3705893 Results are based on the dry weight of the sample.

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:

Sara Knox



Certificate of Analysis

AGAT WORK ORDER: 22K880010

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

SAMPLING SITE:

ATTENTION TO: Adam Schamper

SAMPLED BY:

| Mercury in Soil | | | | | | | | | | | |
|---------------------------|-------|---------------------|------|---------------------|---------------------|---------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| DATE RECEIVED: 2022-04-01 | | | | | | DATE REPORTED: 2022-04-12 | | | | | |
| | | SAMPLE DESCRIPTION: | | Site 9- SED | Site 20- SED | Site 11- SED | Site 4- SED | Site 3- SED | Site 14- SED | Site 12- SED | Site 15- SED |
| | | SAMPLE TYPE: | | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil |
| | | DATE SAMPLED: | | 2022-03-28 15:50 | 2022-03-28 16:45 | 2022-03-29 09:40 | 2022-03-29 11:20 | 2022-03-29 12:25 | 2022-03-29 14:30 | 2022-03-29 15:20 | 2022-03-30 08:20 |
| Parameter | Unit | G / S | RDL | 3705876 | 3705880 | 3705881 | 3705882 | 3705883 | 3705884 | 3705885 | 3705886 |
| Mercury | mg/kg | | 0.03 | 0.06 | <0.03 | <0.03 | <0.03 | 0.03 | <0.03 | <0.03 | 0.05 |
| | | SAMPLE DESCRIPTION: | | Site 10- SED | Site 17- SED | Site 16- SED | Site 1- SED | Site 2- SED | Site 19- SED | SD- SED | |
| | | SAMPLE TYPE: | | Soil | Soil | Soil | Soil | Soil | Soil | Soil | |
| | | DATE SAMPLED: | | 2022-03-30 12:00 | 2022-03-30 14:45 | 2022-03-30 16:00 | 2022-03-31 11:50 | 2022-03-31 12:50 | 2022-03-31 13:25 | 2022-03-31 13:25 | |
| Parameter | Unit | G / S | RDL | 3705887 | 3705888 | 3705889 | 3705890 | 3705891 | 3705892 | 3705893 | |
| Mercury | mg/kg | | 0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

3705876-3705893 Results are based on the dry weight of the soil.

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:

Sara Knox



Certificate of Analysis

AGAT WORK ORDER: 22K880010

PROJECT: 100424.001

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FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Adam Schamper

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Soil (Version 3.1) - Field Preserved

DATE RECEIVED: 2022-04-01

DATE REPORTED: 2022-04-12

| Parameter | Unit | G / S | RDL | SAMPLE DESCRIPTION: | Site 9- SED | Site 20- SED | Site 11- SED | Site 4- SED | Site 3- SED | Site 14- SED | Site 12- SED | Site 15- SED |
|---------------------------|-------|-------|-------------------|---------------------|-------------|--------------|--------------|-------------|-------------|--------------|--------------|--------------|
| | | | | SAMPLE TYPE: | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil |
| DATE SAMPLED: | | | | 2022-03-28 | 2022-03-28 | 2022-03-29 | 2022-03-29 | 2022-03-29 | 2022-03-29 | 2022-03-29 | 2022-03-29 | 2022-03-30 |
| | | | | 15:50 | 16:45 | 09:40 | 11:20 | 12:25 | 14:30 | 15:20 | 08:20 | |
| | | | | 3705876 | 3705880 | 3705881 | 3705882 | 3705883 | 3705884 | 3705885 | 3705886 | |
| Benzene | mg/kg | | 0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| Toluene | mg/kg | | 0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 |
| Ethylbenzene | mg/kg | | 0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 |
| Xylene (Total) | mg/kg | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| C6-C10 (less BTEX) | mg/kg | | 3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 |
| >C10-C16 Hydrocarbons | mg/kg | | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| >C16-C21 Hydrocarbons | mg/kg | | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| >C21-C32 Hydrocarbons | mg/kg | | 15 | 21 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | 52 |
| Modified TPH (Tier 1) | mg/kg | | 15 | 21 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | 52 |
| Resemblance Comment | | | | LR | NR | NR | NR | NR | NR | NR | NR | LOF |
| Return to Baseline at C32 | | | | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| Surrogate | Unit | | Acceptable Limits | | | | | | | | | |
| Isobutylbenzene - EPH | % | | 60-140 | 95 | 94 | 93 | 99 | 94 | 93 | 99 | 96 | 96 |
| Isobutylbenzene - VPH | % | | 60-140 | 96 | 80 | 83 | 81 | 80 | 82 | 78 | 90 | 90 |
| n-Dotriacontane - EPH | % | | 60-140 | 96 | 92 | 90 | 100 | 93 | 91 | 98 | 97 | 97 |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 22K880010

PROJECT: 100424.001

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 St. John's, NL
 CANADA A1E 6A8
 TEL (709)747-8573
 FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Adam Schamper

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Soil (Version 3.1) - Field Preserved

DATE RECEIVED: 2022-04-01

DATE REPORTED: 2022-04-12

| | | SAMPLE DESCRIPTION: | | Site 10- SED | Site 17- SED | Site 16- SED | Site 1- SED | Site 2- SED | Site 19- SED | SD- SED |
|---------------------------|-------|---------------------|------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | | SAMPLE TYPE: | | Soil | Soil | Soil | Soil | Soil | Soil | Soil |
| | | DATE SAMPLED: | | 2022-03-30 12:00 | 2022-03-30 14:45 | 2022-03-30 16:00 | 2022-03-31 11:50 | 2022-03-31 12:50 | 2022-03-31 13:25 | 2022-03-31 13:25 |
| Parameter | Unit | G / S | RDL | 3705887 | 3705888 | 3705889 | 3705890 | 3705891 | 3705892 | 3705893 |
| Benzene | mg/kg | | 0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| Toluene | mg/kg | | 0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 |
| Ethylbenzene | mg/kg | | 0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 |
| Xylene (Total) | mg/kg | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| C6-C10 (less BTEX) | mg/kg | | 3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 |
| >C10-C16 Hydrocarbons | mg/kg | | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| >C16-C21 Hydrocarbons | mg/kg | | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| >C21-C32 Hydrocarbons | mg/kg | | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| Modified TPH (Tier 1) | mg/kg | | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| Resemblance Comment | | | | NR | NR | NR | NR | NR | NR | NR |
| Return to Baseline at C32 | | | | Y | Y | Y | Y | Y | Y | Y |
| Surrogate | Unit | Acceptable Limits | | | | | | | | |
| Isobutylbenzene - EPH | % | 60-140 | | 96 | 96 | 93 | 99 | 95 | 94 | 95 |
| Isobutylbenzene - VPH | % | 60-140 | | 78 | 80 | 76 | 83 | 92 | 75 | 85 |
| n-Dotriacontane - EPH | % | 60-140 | | 94 | 95 | 91 | 100 | 94 | 93 | 95 |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 22K880010

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Adam Schamper

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Soil (Version 3.1) - Field Preserved

DATE RECEIVED: 2022-04-01

DATE REPORTED: 2022-04-12

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

3705876-3705893 Modified TPH, Xylene(Total)and C6-C10(less BTEX) are calculated parameters. The calculated parameter is non-accredited. The component parameters of the calculation are accredited.

Results are based on the dry weight of the soil.

- Resemblance Comment Key:
- GF - Gasoline Fraction
- WGF - Weathered Gasoline Fraction
- GR - Product in Gasoline Range
- FOF - Fuel Oil Fraction
- WFOF - Weathered Fuel Oil Fraction
- FR - Product in Fuel Oil Range
- LOF - Lube Oil Fraction
- LR - Lube Range
- UC - Unidentified Compounds
- NR - No Resemblance
- NA - Not Applicable

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 22K880010

PROJECT: 100424.001

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St. John's, NL
CANADA A1E 6A8
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FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Adam Schamper

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Water (Version 3.1)

DATE RECEIVED: 2022-04-01

DATE REPORTED: 2022-04-12

| Parameter | Unit | G / S | RDL | SAMPLE DESCRIPTION: | | Site 9- SW | Site 20- SW | Site 8- SW | Site 11- SW | Site 4- SW | Site 3- SW | Site 14- SW | Site 12- SW |
|---------------------------|------|-------------------|------------|---------------------|------------|------------|-------------|------------|-------------|------------|------------|-------------|-------------|
| | | | | Water | Water | Water | Water | Water | Water | Water | Water | | |
| DATE SAMPLED: | | 2022-03-28 | 2022-03-28 | 2022-03-29 | 2022-03-29 | 2022-03-29 | 2022-03-29 | 2022-03-29 | 2022-03-29 | 2022-03-29 | 2022-03-29 | 2022-03-29 | 2022-03-29 |
| | | 15:50 | 16:45 | 08:40 | 09:40 | 11:20 | 12:25 | 14:30 | 15:20 | | | | |
| Benzene | mg/L | | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Toluene | mg/L | | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Ethylbenzene | mg/L | | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Xylene (Total) | mg/L | | 0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| C6-C10 (less BTEX) | mg/L | | 0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| >C10-C16 Hydrocarbons | mg/L | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C16-C21 Hydrocarbons | mg/L | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C21-C32 Hydrocarbons | mg/L | | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Modified TPH (Tier 1) | mg/L | | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Sediment | | | TRACE | TRACE | TRACE | TRACE | TRACE | TRACE | TRACE | TRACE | TRACE | TRACE | TRACE |
| Resemblance Comment | | | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| Return to Baseline at C32 | | | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| Surrogate | Unit | Acceptable Limits | | | | | | | | | | | |
| Isobutylbenzene - EPH | % | 70-130 | 103 | 105 | 103 | 106 | 101 | 103 | 106 | 100 | 103 | 106 | 100 |
| Isobutylbenzene - VPH | % | 70-130 | 96 | 94 | 84 | 84 | 81 | 87 | 84 | 90 | 84 | 84 | 90 |
| n-Dotriacontane - EPH | % | 70-130 | 101 | 101 | 100 | 106 | 100 | 101 | 108 | 100 | 101 | 108 | 100 |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 22K880010

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Adam Schamper

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Water (Version 3.1)

DATE RECEIVED: 2022-04-01

DATE REPORTED: 2022-04-12

| Parameter | Unit | G / S | RDL | SAMPLE DESCRIPTION: | | Site 15- SW | Site 21- SW | Site 10- SW | Site 17- SW | Site 16- SW | Site 5- SW | Site 7-SW | Site 6-SW |
|---------------------------|------|-------------------|-------|---------------------|------------|-------------|-------------|-------------|-------------|-------------|------------|------------|------------|
| | | | | Water | Water | Water | Water | Water | Water | Water | Water | | |
| DATE SAMPLED: | | | | 2022-03-30 | 2022-03-30 | 2022-03-30 | 2022-03-30 | 2022-03-30 | 2022-03-30 | 2022-03-30 | 2022-03-31 | 2022-03-31 | 2022-03-31 |
| | | | | 08:20 | 09:55 | 12:00 | 14:45 | 15:50 | 16:40 | 16:40 | 09:30 | 09:30 | 10:00 |
| | | | | 3706092 | 3706093 | 3706094 | 3706095 | 3706096 | 3706097 | 3706098 | 3706099 | 3706099 | 3706099 |
| Benzene | mg/L | | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Toluene | mg/L | | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Ethylbenzene | mg/L | | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Xylene (Total) | mg/L | | 0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| C6-C10 (less BTEX) | mg/L | | 0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| >C10-C16 Hydrocarbons | mg/L | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C16-C21 Hydrocarbons | mg/L | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C21-C32 Hydrocarbons | mg/L | | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Modified TPH (Tier 1) | mg/L | | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Sediment | | | | TRACE | TRACE | TRACE | TRACE | TRACE | TRACE | TRACE | TRACE | TRACE | TRACE |
| Resemblance Comment | | | | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| Return to Baseline at C32 | | | | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| Surrogate | Unit | Acceptable Limits | | | | | | | | | | | |
| Isobutylbenzene - EPH | % | 70-130 | | 92 | 103 | 95 | 103 | 105 | 95 | 101 | 100 | | |
| Isobutylbenzene - VPH | % | 70-130 | | 86 | 90 | 82 | 83 | 78 | 84 | 75 | 87 | | |
| n-Dotriacontane - EPH | % | 70-130 | | 90 | 101 | 93 | 100 | 105 | 93 | 99 | 97 | | |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 22K880010

PROJECT: 100424.001

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St. John's, NL
CANADA A1E 6A8
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FAX (709 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Adam Schamper

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Water (Version 3.1)

DATE RECEIVED: 2022-04-01

DATE REPORTED: 2022-04-12

| Parameter | Unit | SAMPLE DESCRIPTION: | | Site 1-SW | Site 2-SW | Site 19-SW | SD-SW |
|---------------------------|------|---------------------|-------|-----------|-----------|------------|---------|
| | | G / S | RDL | 3706100 | 3706101 | 3706102 | 3706103 |
| Benzene | mg/L | | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Toluene | mg/L | | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Ethylbenzene | mg/L | | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Xylene (Total) | mg/L | | 0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| C6-C10 (less BTEX) | mg/L | | 0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| >C10-C16 Hydrocarbons | mg/L | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C16-C21 Hydrocarbons | mg/L | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C21-C32 Hydrocarbons | mg/L | | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Modified TPH (Tier 1) | mg/L | | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Sediment | | | TRACE | NO | TRACE | NO | |
| Resemblance Comment | | | NR | NR | NR | NR | |
| Return to Baseline at C32 | | | Y | Y | Y | Y | |
| Surrogate | Unit | Acceptable Limits | | | | | |
| Isobutylbenzene - EPH | % | 70-130 | 105 | 101 | 103 | 101 | |
| Isobutylbenzene - VPH | % | 70-130 | 93 | 92 | 95 | 81 | |
| n-Dotriacontane - EPH | % | 70-130 | 104 | 98 | 100 | 101 | |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 22K880010

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Adam Schamper

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Water (Version 3.1)

DATE RECEIVED: 2022-04-01

DATE REPORTED: 2022-04-12

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

3705973-3706103 Modified TPH, Xylene(Total)and C6-C10(less BTEX) are calculated parameters. The calculated parameter is non-accredited. The component parameters of the calculation are accredited.

Sediment parameter is comment only based on visual inspection of the sample prior to extraction and is not an accredited test.

- Resemblance Comment Key:
- GF - Gasoline Fraction
 - WGF - Weathered Gasoline Fraction
 - GR - Product in Gasoline Range
 - FOF - Fuel Oil Fraction
 - WFOF - Weathered Fuel Oil Fraction
 - FR - Product in Fuel Oil Range
 - LOF - Lube Oil Fraction
 - LR - Lube Range
 - UC - Unidentified Compounds
 - NR - No Resemblance
 - NA - Not Applicable

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 22K880010

PROJECT: 100424.001

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 St. John's, NL
 CANADA A1E 6A8
 TEL (709)747-8573
 FAX (709)747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

SAMPLING SITE:

ATTENTION TO: Adam Schamper

SAMPLED BY:

Moisture

DATE RECEIVED: 2022-04-01

DATE REPORTED: 2022-04-12

| | | SAMPLE DESCRIPTION: | | Site 9- SED | Site 20- SED | Site 11- SED | Site 4- SED | Site 3- SED | Site 14- SED | Site 12- SED | Site 15- SED |
|------------|------|---------------------|-----|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | | SAMPLE TYPE: | | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil |
| | | DATE SAMPLED: | | 2022-03-28 15:50 | 2022-03-28 16:45 | 2022-03-29 09:40 | 2022-03-29 11:20 | 2022-03-29 12:25 | 2022-03-29 14:30 | 2022-03-29 15:20 | 2022-03-30 08:20 |
| Parameter | Unit | G / S | RDL | 3705876 | 3705880 | 3705881 | 3705882 | 3705883 | 3705884 | 3705885 | 3705886 |
| % Moisture | % | 1 | | 37 | 15 | 14 | 15 | 28 | 31 | 27 | 28 |
| | | SAMPLE DESCRIPTION: | | Site 10- SED | Site 17- SED | Site 16- SED | Site 1- SED | Site 2- SED | Site 19- SED | SD- SED | |
| | | SAMPLE TYPE: | | Soil | Soil | Soil | Soil | Soil | Soil | Soil | |
| | | DATE SAMPLED: | | 2022-03-30 12:00 | 2022-03-30 14:45 | 2022-03-30 16:00 | 2022-03-31 11:50 | 2022-03-31 12:50 | 2022-03-31 13:25 | 2022-03-31 13:25 | |
| Parameter | Unit | G / S | RDL | 3705887 | 3705888 | 3705889 | 3705890 | 3705891 | 3705892 | 3705893 | |
| % Moisture | % | 1 | | 35 | 26 | 26 | 26 | 19 | 19 | 40 | |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 22K880010

PROJECT: 100424.001

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 CANADA A1E 6A8
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<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Adam Schamper

SAMPLING SITE:

SAMPLED BY:

Mercury Analysis in Water (Total)

DATE RECEIVED: 2022-04-01

DATE REPORTED: 2022-04-12

| | | SAMPLE DESCRIPTION: | | Site 9- SW | Site 20- SW | Site 8- SW | Site 11- SW | Site 4- SW | Site 3- SW | Site 14- SW | Site 12- SW |
|---------------|------|---------------------|-------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | | SAMPLE TYPE: | | Water | Water | Water | Water | Water | Water | Water | Water |
| | | DATE SAMPLED: | | 2022-03-28 15:50 | 2022-03-28 16:45 | 2022-03-29 08:40 | 2022-03-29 09:40 | 2022-03-29 11:20 | 2022-03-29 12:25 | 2022-03-29 14:30 | 2022-03-29 15:20 |
| Parameter | Unit | G / S | RDL | 3705973 | 3706085 | 3706086 | 3706087 | 3706088 | 3706089 | 3706090 | 3706091 |
| Total Mercury | ug/L | | 0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 |

| | | SAMPLE DESCRIPTION: | | Site 15- SW | Site 21- SW | Site 10- SW | Site 17- SW | Site 16- SW | Site 5- SW | Site 7-SW | Site 6-SW |
|---------------|------|---------------------|-------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | | SAMPLE TYPE: | | Water | Water | Water | Water | Water | Water | Water | Water |
| | | DATE SAMPLED: | | 2022-03-30 08:20 | 2022-03-30 09:55 | 2022-03-30 12:00 | 2022-03-30 14:45 | 2022-03-30 15:50 | 2022-03-30 16:40 | 2022-03-31 09:30 | 2022-03-31 10:00 |
| Parameter | Unit | G / S | RDL | 3706092 | 3706093 | 3706094 | 3706095 | 3706096 | 3706097 | 3706098 | 3706099 |
| Total Mercury | ug/L | | 0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 |

| | | SAMPLE DESCRIPTION: | | Site 1-SW | Site 2-SW | Site 19-SW | SD-SW |
|---------------|------|---------------------|-------|---------------------|---------------------|---------------------|---------------------|
| | | SAMPLE TYPE: | | Water | Water | Water | Water |
| | | DATE SAMPLED: | | 2022-03-31 11:50 | 2022-03-31 12:50 | 2022-03-29 13:25 | 2022-03-29 13:25 |
| Parameter | Unit | G / S | RDL | 3706100 | 3706101 | 3706102 | 3706103 |
| Total Mercury | ug/L | | 0.026 | <0.026 | <0.026 | <0.026 | <0.026 |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard
 Analysis performed at AGAT Halifax (unless marked by *)

Certified By:

Sara Knox



Certificate of Analysis

AGAT WORK ORDER: 22K880010

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Adam Schamper

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals

DATE RECEIVED: 2022-04-01

DATE REPORTED: 2022-04-12

| Parameter | Unit | SAMPLE DESCRIPTION: | | Site 9- SW | | Site 20- SW | | Site 8- SW | | Site 11- SW | | Site 4- SW | |
|-------------------------------|---------|---------------------|------|---------------|------|---------------|------|---------------|------|---------------|------|---------------|-------|
| | | G / S | RDL | 3705973 | RDL | 3706085 | RDL | 3706086 | RDL | 3706087 | RDL | 3706088 | |
| | | | | Water | | Water | | Water | | Water | | Water | |
| | | | | DATE SAMPLED: | | DATE SAMPLED: | | DATE SAMPLED: | | DATE SAMPLED: | | DATE SAMPLED: | |
| | | | | 2022-03-28 | | 2022-03-28 | | 2022-03-29 | | 2022-03-29 | | 2022-03-29 | |
| | | | | 15:50 | | 16:45 | | 08:40 | | 09:40 | | 11:20 | |
| pH | | | | | 6.21 | | | | 6.52 | | | 5.94 | 6.55 |
| Reactive Silica as SiO2 | mg/L | | 0.5 | 4.0 | 0.5 | 1.8 | 0.5 | 1.8 | 0.5 | 1.8 | 0.5 | 1.8 | 2.7 |
| Chloride | mg/L | | 1 | 24 | 1 | 9 | 1 | 22 | 1 | 3 | 1 | 3 | 13 |
| Fluoride | mg/L | | 0.12 | <0.12 | 0.12 | <0.12 | 0.12 | <0.12 | 0.12 | <0.12 | 0.12 | <0.12 | <0.12 |
| Sulphate | mg/L | | 2 | <2 | 2 | <2 | 2 | <2 | 2 | <2 | 2 | <2 | <2 |
| Alkalinity | mg/L | | 5 | <5 | 5 | 15 | 5 | 6 | 5 | <5 | 5 | <5 | 6 |
| True Color | TCU | | 5.00 | 35.7 | 5.00 | 30.8 | 5.00 | 40.2 | 5.00 | 48.5 | 5.00 | 48.5 | 23.2 |
| Turbidity | NTU | | 0.5 | 4.4 | 0.5 | 0.6 | 0.5 | 0.8 | 0.5 | 0.8 | 0.5 | 0.8 | 4.2 |
| Electrical Conductivity | umho/cm | | 1 | 96 | 1 | 68 | 1 | 94 | 1 | 19 | 1 | 19 | 66 |
| Nitrate + Nitrite as N | mg/L | | 0.05 | 0.09 | 0.05 | 0.06 | 0.05 | 0.06 | 0.05 | 0.05 | 0.05 | 0.05 | 0.25 |
| Nitrate as N | mg/L | | 0.05 | 0.09 | 0.05 | 0.06 | 0.05 | 0.06 | 0.05 | 0.05 | 0.05 | 0.05 | 0.25 |
| Nitrite as N | mg/L | | 0.05 | <0.05 | 0.05 | <0.05 | 0.05 | <0.05 | 0.05 | <0.05 | 0.05 | <0.05 | <0.05 |
| Ammonia as N | mg/L | | 0.03 | <0.03 | 0.03 | <0.03 | 0.03 | <0.03 | 0.03 | <0.03 | 0.03 | <0.03 | <0.03 |
| Total Organic Carbon | mg/L | | 0.5 | 6.6 | 0.5 | 6.5 | 0.5 | 6.8 | 0.5 | 9.5 | 0.5 | 9.5 | 7.8 |
| Ortho-Phosphate as P | mg/L | | 0.01 | 0.01 | 0.01 | 0.02 | 0.01 | <0.01 | 0.01 | <0.01 | 0.01 | <0.01 | <0.01 |
| Total Sodium | mg/L | | 1 | 14 | 0.1 | 6.3 | 1 | 12 | 0.1 | 1.9 | 0.1 | 1.9 | 9.0 |
| Total Potassium | mg/L | | 0.1 | 0.2 | 0.1 | 0.2 | 0.1 | 0.2 | 0.1 | 0.2 | 0.1 | 0.2 | 0.5 |
| Total Calcium | mg/L | | 0.1 | 2.0 | 0.1 | 3.1 | 0.1 | 3.3 | 0.1 | 1.1 | 0.1 | 1.1 | 4.1 |
| Total Magnesium | mg/L | | 0.1 | 1.0 | 0.1 | 3.5 | 0.1 | 1.0 | 0.1 | 0.5 | 0.1 | 0.5 | 1.3 |
| Bicarb. Alkalinity (as CaCO3) | mg/L | | 5 | <5 | 5 | 15 | 5 | 6 | 5 | <5 | 5 | <5 | 6 |
| Carb. Alkalinity (as CaCO3) | mg/L | | 10 | <10 | 10 | <10 | 10 | <10 | 10 | <10 | 10 | <10 | <10 |
| Hydroxide | mg/L | | 5 | <5 | 5 | <5 | 5 | <5 | 5 | <5 | 5 | <5 | <5 |
| Calculated TDS | mg/L | | 1 | 42 | 1 | 32 | 1 | 43 | 1 | 7 | 1 | 7 | 33 |
| Hardness | mg/L | | | 9.1 | | 22.2 | | 12.4 | | 4.8 | | 4.8 | 15.6 |
| Langelier Index (@20C) | NA | | | -4.34 | | -3.13 | | -3.73 | | -4.82 | | -4.82 | -3.60 |
| Langelier Index (@ 4C) | NA | | | -4.66 | | -3.45 | | -4.05 | | -5.14 | | -5.14 | -3.92 |
| Saturation pH (@ 20C) | NA | | | 10.6 | | 9.87 | | 10.3 | | 10.8 | | 10.8 | 10.1 |
| Saturation pH (@ 4C) | NA | | | 10.9 | | 10.2 | | 10.6 | | 11.1 | | 11.1 | 10.5 |
| Anion Sum | me/L | | | 0.68 | | 0.56 | | 0.74 | | 0.09 | | 0.09 | 0.50 |

Certified By:

Sara Knox



Certificate of Analysis

AGAT WORK ORDER: 22K880010

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
 St. John's, NL
 CANADA A1E 6A8
 TEL (709)747-8573
 FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Adam Schamper

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals

DATE RECEIVED: 2022-04-01

DATE REPORTED: 2022-04-12

| Parameter | Unit | SAMPLE DESCRIPTION: | | Site 9- SW | | Site 20- SW | | Site 8- SW | | Site 11- SW | | Site 4- SW | |
|---------------------------|------|---------------------|------|------------|------|-------------|------|------------|------|-------------|-----|------------|--|
| | | G / S | RDL | 3705973 | RDL | 3706085 | RDL | 3706086 | RDL | 3706087 | RDL | 3706088 | |
| Cation sum | me/L | | | 0.84 | | 0.74 | | 0.79 | | 0.22 | | 0.75 | |
| % Difference/ Ion Balance | % | | | 10.1 | | 13.9 | | 3.1 | | 42.0 | | 19.7 | |
| Total Aluminum | ug/L | | 5 | 198 | 5 | 85 | 5 | 94 | 5 | 154 | | 230 | |
| Total Antimony | ug/L | | 2 | <2 | 2 | <2 | 2 | <2 | 2 | <2 | | <2 | |
| Total Arsenic | ug/L | | 2 | <2 | 2 | <2 | 2 | <2 | 2 | <2 | | <2 | |
| Total Barium | ug/L | | 5 | <5 | 5 | <5 | 5 | <5 | 5 | <5 | | <5 | |
| Total Beryllium | ug/L | | 2 | <2 | 2 | <2 | 2 | <2 | 2 | <2 | | <2 | |
| Total Bismuth | ug/L | | 2 | <2 | 2 | <2 | 2 | <2 | 2 | <2 | | <2 | |
| Total Boron | ug/L | | 5 | <5 | 5 | <5 | 5 | <5 | 5 | <5 | | <5 | |
| Total Cadmium | ug/L | | 0.09 | <0.09 | 0.09 | <0.09 | 0.80 | <0.80 | 0.09 | <0.09 | | <0.09 | |
| Total Chromium | ug/L | | 1 | <1 | 1 | 2 | 1 | <1 | 1 | <1 | | <1 | |
| Total Cobalt | ug/L | | 1 | <1 | 1 | <1 | 1 | <1 | 1 | <1 | | <1 | |
| Total Copper | ug/L | | 1 | <1 | 1 | <1 | 1 | <1 | 1 | <1 | | <1 | |
| Total Iron | ug/L | | 50 | 325 | 50 | 166 | 50 | 169 | 50 | 284 | | 246 | |
| Total Lead | ug/L | | 0.5 | <0.5 | 0.5 | <0.5 | 0.5 | <0.5 | 0.5 | <0.5 | | <0.5 | |
| Total Manganese | ug/L | | 38 | 206 | 2 | 47 | 2 | 68 | 2 | 98 | | 52 | |
| Total Molybdenum | ug/L | | 2 | <2 | 2 | <2 | 2 | <2 | 2 | <2 | | <2 | |
| Total Nickel | ug/L | | 2 | <2 | 2 | 4 | 2 | <2 | 2 | <2 | | <2 | |
| Total Phosphorous | mg/L | | 0.02 | <0.02 | 0.02 | <0.02 | 0.02 | <0.02 | 0.02 | <0.02 | | <0.02 | |
| Total Selenium | ug/L | | 1 | <1 | 1 | <1 | 1 | <1 | 1 | <1 | | <1 | |
| Total Silver | ug/L | | 0.1 | 0.4 | 0.1 | <0.1 | 0.1 | <0.1 | 0.1 | <0.1 | | <0.1 | |
| Total Strontium | ug/L | | 5 | 13 | 5 | 12 | 5 | 17 | 5 | 8 | | 22 | |
| Total Thallium | ug/L | | 0.1 | <0.1 | 0.1 | <0.1 | 2 | <2 | 0.1 | <0.1 | | <0.1 | |
| Total Tin | ug/L | | 2 | <2 | 2 | <2 | 2 | <2 | 2 | <2 | | <2 | |
| Total Titanium | ug/L | | 2 | 3 | 2 | <2 | 2 | <2 | 2 | <2 | | 3 | |
| Total Uranium | ug/L | | 0.2 | <0.2 | 0.2 | <0.2 | 0.2 | <0.2 | 0.2 | <0.2 | | <0.2 | |
| Total Vanadium | ug/L | | 2 | <2 | 2 | <2 | 2 | <2 | 2 | <2 | | <2 | |
| Total Zinc | ug/L | | 5 | <5 | 5 | <5 | 5 | <5 | 5 | <5 | | <5 | |

Certified By:

Sara Knox



Certificate of Analysis

AGAT WORK ORDER: 22K880010

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
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CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Adam Schamper

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals

DATE RECEIVED: 2022-04-01

DATE REPORTED: 2022-04-12

| Parameter | Unit | SAMPLE DESCRIPTION: | | Site 3- SW | Site 14- SW | Site 12- SW | | Site 15- SW | Site 21- SW | |
|-------------------------------|---------|---------------------|------|------------|-------------|-------------|-------|-------------|-------------|-------|
| | | G / S | RDL | Water | Water | RDL | RDL | Water | Water | |
| | | DATE SAMPLED: | | 2022-03-29 | 2022-03-29 | 2022-03-29 | | 2022-03-30 | 2022-03-30 | |
| | | | | 12:25 | 14:30 | 15:20 | | 08:20 | 09:55 | |
| | | | | 3706089 | 3706090 | 3706091 | | 3706092 | 3706093 | |
| pH | | | | 6.19 | 6.61 | | 5.88 | 6.38 | 6.34 | |
| Reactive Silica as SiO2 | mg/L | | 0.5 | 1.9 | 4.4 | 0.5 | 2.3 | 0.5 | 3.1 | 2.7 |
| Chloride | mg/L | | 1 | 3 | 3 | 1 | 3 | 1 | 14 | 10 |
| Fluoride | mg/L | | 0.12 | <0.12 | <0.12 | 0.12 | <0.12 | 0.12 | <0.12 | <0.12 |
| Sulphate | mg/L | | 2 | <2 | <2 | 2 | <2 | 2 | <2 | <2 |
| Alkalinity | mg/L | | 5 | <5 | 6 | 5 | <5 | 5 | 7 | <5 |
| True Color | TCU | | 5.00 | 32.8 | 44.6 | 5.00 | 46.8 | 5.00 | 35.0 | 40.1 |
| Turbidity | NTU | | 0.5 | 0.8 | 1.2 | 0.5 | 1.0 | 0.5 | 1.3 | 0.9 |
| Electrical Conductivity | umho/cm | | 1 | 21 | 32 | 1 | 19 | 1 | 65 | 50 |
| Nitrate + Nitrite as N | mg/L | | 0.05 | <0.05 | 0.08 | 0.05 | 0.06 | 0.05 | 0.11 | 0.11 |
| Nitrate as N | mg/L | | 0.05 | <0.05 | 0.08 | 0.05 | 0.06 | 0.05 | 0.11 | 0.11 |
| Nitrite as N | mg/L | | 0.05 | <0.05 | <0.05 | 0.05 | <0.05 | 0.05 | <0.05 | <0.05 |
| Ammonia as N | mg/L | | 0.03 | <0.03 | <0.03 | 0.03 | <0.03 | 0.03 | <0.03 | <0.03 |
| Total Organic Carbon | mg/L | | 0.5 | 6.9 | 8.0 | 0.5 | 8.5 | 0.5 | 7.4 | 7.3 |
| Ortho-Phosphate as P | mg/L | | 0.01 | 0.01 | 0.02 | 0.01 | 0.02 | 0.01 | 0.01 | <0.01 |
| Total Sodium | mg/L | | 0.1 | 2.4 | 2.0 | 0.1 | 2.3 | 0.1 | 8.3 | 6.9 |
| Total Potassium | mg/L | | 0.1 | 0.3 | 0.2 | 0.1 | 0.2 | 0.1 | 0.2 | 0.2 |
| Total Calcium | mg/L | | 0.1 | 1.4 | 0.9 | 0.1 | 0.9 | 0.1 | 1.9 | 1.8 |
| Total Magnesium | mg/L | | 0.1 | 0.7 | 2.4 | 0.1 | 0.6 | 0.1 | 1.7 | 1.5 |
| Bicarb. Alkalinity (as CaCO3) | mg/L | | 5 | <5 | 6 | 5 | <5 | 5 | 7 | <5 |
| Carb. Alkalinity (as CaCO3) | mg/L | | 10 | <10 | <10 | 10 | <10 | 10 | <10 | <10 |
| Hydroxide | mg/L | | 5 | <5 | <5 | 5 | <5 | 5 | <5 | <5 |
| Calculated TDS | mg/L | | 1 | 8 | 13 | 1 | 8 | 1 | 31 | 21 |
| Hardness | mg/L | | | 6.4 | 12.1 | | 4.7 | | 11.7 | 10.7 |
| Langelier Index (@20C) | NA | | | -4.46 | -4.16 | | -4.97 | | -4.03 | -4.23 |
| Langelier Index (@ 4C) | NA | | | -4.78 | -4.48 | | -5.29 | | -4.35 | -4.55 |
| Saturation pH (@ 20C) | NA | | | 10.7 | 10.8 | | 10.8 | | 10.4 | 10.6 |
| Saturation pH (@ 4C) | NA | | | 11.0 | 11.1 | | 11.2 | | 10.7 | 10.9 |
| Anion Sum | me/L | | | 0.08 | 0.21 | | 0.09 | | 0.54 | 0.29 |

Certified By:

Sara Knox



Certificate of Analysis

AGAT WORK ORDER: 22K880010

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Adam Schamper

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals

DATE RECEIVED: 2022-04-01

DATE REPORTED: 2022-04-12

| Parameter | Unit | SAMPLE DESCRIPTION: | | Site 3- SW | Site 14- SW | Site 12- SW | | Site 15- SW | Site 21- SW |
|---------------------------|------|---------------------|-------|------------|-------------|-------------|------|-------------|-------------|
| | | G / S | RDL | Water | Water | Water | RDL | Water | Water |
| | | DATE SAMPLED: | | 2022-03-29 | 2022-03-29 | 2022-03-29 | | 2022-03-30 | 2022-03-30 |
| | | | | 12:25 | 14:30 | 15:20 | | 08:20 | 09:55 |
| | | | | 3706089 | 3706090 | 3706091 | | 3706092 | 3706093 |
| Cation sum | me/L | | | 0.26 | 0.36 | | 0.23 | 0.62 | 0.54 |
| % Difference/ Ion Balance | % | | | 50.7 | 26.5 | | 44.3 | 6.3 | 29.7 |
| Total Aluminum | ug/L | 5 | 95 | 153 | 5 | 101 | 5 | 70 | 83 |
| Total Antimony | ug/L | 2 | <2 | <2 | 2 | <2 | 2 | <2 | <2 |
| Total Arsenic | ug/L | 2 | <2 | <2 | 2 | <2 | 2 | <2 | <2 |
| Total Barium | ug/L | 5 | <5 | <5 | 5 | <5 | 5 | <5 | <5 |
| Total Beryllium | ug/L | 2 | <2 | <2 | 2 | <2 | 2 | <2 | <2 |
| Total Bismuth | ug/L | 2 | <2 | <2 | 2 | <2 | 2 | <2 | <2 |
| Total Boron | ug/L | 5 | <5 | <5 | 5 | <5 | 5 | <5 | <5 |
| Total Cadmium | ug/L | 0.09 | <0.09 | <0.09 | 0.09 | <0.09 | 0.09 | <0.09 | <0.09 |
| Total Chromium | ug/L | 1 | <1 | 2 | 1 | <1 | 1 | <1 | <1 |
| Total Cobalt | ug/L | 1 | <1 | <1 | 1 | <1 | 1 | <1 | <1 |
| Total Copper | ug/L | 1 | <1 | <1 | 1 | <1 | 1 | 1 | <1 |
| Total Iron | ug/L | 50 | 147 | 247 | 50 | 218 | 50 | 161 | 162 |
| Total Lead | ug/L | 0.5 | <0.5 | <0.5 | 0.5 | <0.5 | 0.5 | <0.5 | <0.5 |
| Total Manganese | ug/L | 2 | 69 | 64 | 38 | 291 | 2 | 50 | 46 |
| Total Molybdenum | ug/L | 2 | <2 | <2 | 2 | <2 | 2 | <2 | <2 |
| Total Nickel | ug/L | 2 | <2 | 4 | 2 | <2 | 2 | <2 | <2 |
| Total Phosphorous | mg/L | 0.02 | <0.02 | <0.02 | 0.02 | <0.02 | 0.02 | <0.02 | <0.02 |
| Total Selenium | ug/L | 1 | <1 | <1 | 1 | <1 | 1 | <1 | <1 |
| Total Silver | ug/L | 0.1 | <0.1 | <0.1 | 0.1 | <0.1 | 0.1 | <0.1 | <0.1 |
| Total Strontium | ug/L | 5 | 9 | 7 | 5 | 9 | 5 | 13 | 11 |
| Total Thallium | ug/L | 0.1 | <0.1 | <0.1 | 2 | <2 | 0.1 | <0.1 | <0.1 |
| Total Tin | ug/L | 2 | <2 | <2 | 2 | <2 | 2 | <2 | <2 |
| Total Titanium | ug/L | 2 | <2 | <2 | 2 | <2 | 2 | <2 | <2 |
| Total Uranium | ug/L | 0.2 | <0.2 | <0.2 | 0.2 | <0.2 | 0.2 | <0.2 | <0.2 |
| Total Vanadium | ug/L | 2 | <2 | <2 | 2 | <2 | 2 | <2 | <2 |
| Total Zinc | ug/L | 5 | <5 | <5 | 5 | <5 | 5 | <5 | <5 |

Certified By:

Sara Knox



Certificate of Analysis

AGAT WORK ORDER: 22K880010

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Adam Schamper

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals

DATE RECEIVED: 2022-04-01

DATE REPORTED: 2022-04-12

| Parameter | Unit | SAMPLE DESCRIPTION: | | Site 10- SW | Site 17- SW | Site 16- SW | Site 5- SW | Site 7-SW |
|-------------------------------|---------|---------------------|------|-------------|-------------|-------------|------------|------------|
| | | G / S | RDL | RDL | RDL | RDL | RDL | |
| | | | | 3706094 | 3706095 | 3706096 | 3706097 | 3706098 |
| | | | | 12:00 | 14:45 | 15:50 | 16:40 | 09:30 |
| | | | | 2022-03-30 | 2022-03-30 | 2022-03-30 | 2022-03-30 | 2022-03-31 |
| | | | | Water | Water | Water | Water | Water |
| pH | | | | 6.17 | 6.31 | 5.86 | 6.19 | 6.01 |
| Reactive Silica as SiO2 | mg/L | | 0.5 | 2.2 | 0.5 | 2.5 | 2.6 | 2.9 |
| Chloride | mg/L | | 1 | 10 | 1 | 7 | 3 | 4 |
| Fluoride | mg/L | | 0.12 | <0.12 | 0.12 | <0.12 | <0.12 | <0.12 |
| Sulphate | mg/L | | 2 | <2 | 2 | <2 | <2 | <2 |
| Alkalinity | mg/L | | 5 | <5 | 5 | <5 | <5 | 5 |
| True Color | TCU | | 5.00 | 37.2 | 5.00 | 47.1 | 51.2 | <5.00 |
| Turbidity | NTU | | 0.5 | 1.4 | 0.5 | 1.9 | 1.3 | 1.3 |
| Electrical Conductivity | umho/cm | | 1 | 48 | 1 | 41 | 21 | 26 |
| Nitrate + Nitrite as N | mg/L | | 0.05 | 0.07 | 0.05 | 0.08 | 0.12 | 0.13 |
| Nitrate as N | mg/L | | 0.05 | 0.07 | 0.05 | 0.08 | 0.12 | 0.13 |
| Nitrite as N | mg/L | | 0.05 | <0.05 | 0.05 | <0.05 | <0.05 | <0.05 |
| Ammonia as N | mg/L | | 0.03 | <0.03 | 0.03 | <0.03 | <0.03 | <0.03 |
| Total Organic Carbon | mg/L | | 0.5 | 7.1 | 0.5 | 7.8 | 8.3 | 7.2 |
| Ortho-Phosphate as P | mg/L | | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |
| Total Sodium | mg/L | | 0.1 | 6.0 | 0.1 | 4.5 | 2.1 | 2.4 |
| Total Potassium | mg/L | | 0.1 | 0.2 | 0.1 | 0.2 | 0.2 | 0.2 |
| Total Calcium | mg/L | | 0.1 | 1.4 | 0.1 | 1.4 | 1.0 | 1.5 |
| Total Magnesium | mg/L | | 0.1 | 0.8 | 0.1 | 1.1 | 0.7 | 0.9 |
| Bicarb. Alkalinity (as CaCO3) | mg/L | | 5 | <5 | 5 | <5 | <5 | 5 |
| Carb. Alkalinity (as CaCO3) | mg/L | | 10 | <10 | 10 | <10 | <10 | <10 |
| Hydroxide | mg/L | | 5 | <5 | 5 | <5 | <5 | <5 |
| Calculated TDS | mg/L | | 1 | 19 | 1 | 15 | 8 | 13 |
| Hardness | mg/L | | | 6.8 | | 8.0 | 5.4 | 7.5 |
| Langelier Index (@20C) | NA | | | -4.51 | | -4.36 | -4.94 | -4.43 |
| Langelier Index (@ 4C) | NA | | | -4.83 | | -4.68 | -5.26 | -4.75 |
| Saturation pH (@ 20C) | NA | | | 10.7 | | 10.7 | 10.8 | 10.6 |
| Saturation pH (@ 4C) | NA | | | 11.0 | | 11.0 | 11.1 | 10.9 |
| Anion Sum | me/L | | | 0.29 | | 0.20 | 0.09 | 0.22 |

Certified By:

Sara Knox



Certificate of Analysis

AGAT WORK ORDER: 22K880010

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Adam Schamper

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals

DATE RECEIVED: 2022-04-01

DATE REPORTED: 2022-04-12

| Parameter | Unit | SAMPLE DESCRIPTION: | | Site 10- SW | Site 17- SW | Site 16- SW | Site 5- SW | Site 7-SW | |
|---------------------------|------|---------------------|-------|-------------|-------------|-------------|------------|-----------|-------|
| | | G / S | RDL | RDL | RDL | RDL | RDL | | |
| Cation sum | me/L | | | 0.43 | 0.38 | 0.22 | 0.28 | 0.41 | |
| % Difference/ Ion Balance | % | | | 19.4 | 30.0 | 41.4 | 10.9 | 48.4 | |
| Total Aluminum | ug/L | 5 | 96 | 5 | 75 | 90 | 83 | 5 | 307 |
| Total Antimony | ug/L | 2 | <2 | 2 | <2 | <2 | <2 | 2 | <2 |
| Total Arsenic | ug/L | 2 | <2 | 2 | <2 | <2 | <2 | 2 | <2 |
| Total Barium | ug/L | 5 | <5 | 5 | <5 | <5 | <5 | 5 | <5 |
| Total Beryllium | ug/L | 2 | <2 | 2 | <2 | <2 | <2 | 2 | <2 |
| Total Bismuth | ug/L | 2 | <2 | 2 | <2 | <2 | <2 | 2 | <2 |
| Total Boron | ug/L | 5 | <5 | 5 | <5 | <5 | <5 | 5 | <5 |
| Total Cadmium | ug/L | 0.09 | <0.09 | 0.09 | <0.09 | <0.09 | <0.09 | 0.09 | <0.09 |
| Total Chromium | ug/L | 1 | <1 | 1 | <1 | <1 | <1 | 1 | <1 |
| Total Cobalt | ug/L | 1 | <1 | 1 | <1 | <1 | <1 | 1 | <1 |
| Total Copper | ug/L | 1 | <1 | 1 | <1 | <1 | <1 | 1 | 1 |
| Total Iron | ug/L | 50 | 220 | 50 | 160 | 182 | 179 | 50 | 621 |
| Total Lead | ug/L | 0.5 | <0.5 | 0.5 | <0.5 | <0.5 | <0.5 | 0.5 | <0.5 |
| Total Manganese | ug/L | 38 | 122 | 2 | 57 | 88 | 56 | 38 | 129 |
| Total Molybdenum | ug/L | 2 | <2 | 2 | <2 | <2 | <2 | 2 | <2 |
| Total Nickel | ug/L | 2 | <2 | 2 | <2 | <2 | <2 | 2 | <2 |
| Total Phosphorous | mg/L | 0.02 | <0.02 | 0.02 | <0.02 | <0.02 | <0.02 | 0.02 | <0.02 |
| Total Selenium | ug/L | 1 | <1 | 1 | <1 | <1 | <1 | 1 | <1 |
| Total Silver | ug/L | 0.1 | <0.1 | 0.1 | <0.1 | <0.1 | 0.1 | 0.1 | <0.1 |
| Total Strontium | ug/L | 5 | 9 | 5 | 10 | 7 | 10 | 5 | 12 |
| Total Thallium | ug/L | 2 | <2 | 0.1 | <0.1 | <0.1 | <0.1 | 0.1 | <0.1 |
| Total Tin | ug/L | 2 | <2 | 2 | <2 | <2 | <2 | 2 | <2 |
| Total Titanium | ug/L | 2 | <2 | 2 | <2 | <2 | <2 | 2 | 3 |
| Total Uranium | ug/L | 0.2 | <0.2 | 0.2 | <0.2 | <0.2 | <0.2 | 0.2 | <0.2 |
| Total Vanadium | ug/L | 2 | <2 | 2 | <2 | <2 | <2 | 2 | <2 |
| Total Zinc | ug/L | 5 | <5 | 5 | <5 | <5 | <5 | 5 | <5 |

Certified By:

Sara Knox



Certificate of Analysis

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PROJECT: 100424.001

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<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Adam Schamper

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals

DATE RECEIVED: 2022-04-01

DATE REPORTED: 2022-04-12

| Parameter | Unit | SAMPLE DESCRIPTION: Site 6-SW | | Site 1-SW | | Site 2-SW | | Site 19-SW | | SD-SW |
|-------------------------------|---------|-------------------------------|------|---------------------|------|---------------------|------|---------------------|------|---------------------|
| | | G / S | RDL | RDL | RDL | RDL | RDL | RDL | RDL | |
| | | | | 3706099 | | 3706100 | | 3706101 | | 3706103 |
| | | | | 2022-03-31 10:00 | | 2022-03-31 11:50 | | 2022-03-31 12:50 | | 2022-03-29 13:25 |
| | | | | Water | | Water | | Water | | Water |
| pH | | | | 6.54 | | 6.33 | | 6.17 | | 5.92 |
| Reactive Silica as SiO2 | mg/L | | 0.5 | 2.7 | 0.5 | 2.3 | 0.5 | 2.4 | 0.5 | 1.2 |
| Chloride | mg/L | | 1 | 17 | 1 | 3 | 1 | 3 | 1 | 3 |
| Fluoride | mg/L | | 0.12 | <0.12 | 0.12 | <0.12 | 0.12 | <0.12 | 0.12 | <0.12 |
| Sulphate | mg/L | | 2 | 2 | 2 | <2 | 2 | <2 | 2 | <2 |
| Alkalinity | mg/L | | 5 | 8 | 5 | 5 | 5 | <5 | 5 | <5 |
| True Color | TCU | | 5.00 | 91.1 | 5.00 | 34.8 | 5.00 | 35.5 | 5.00 | 39.0 |
| Turbidity | NTU | | 0.5 | 15.8 | 0.5 | 2.1 | 0.5 | 1.4 | 0.5 | 0.9 |
| Electrical Conductivity | umho/cm | | 1 | 81 | 1 | 23 | 1 | 23 | 1 | 22 |
| Nitrate + Nitrite as N | mg/L | | 0.05 | 0.27 | 0.05 | 0.05 | 0.05 | <0.05 | 0.05 | <0.05 |
| Nitrate as N | mg/L | | 0.05 | 0.27 | 0.05 | 0.05 | 0.05 | <0.05 | 0.05 | <0.05 |
| Nitrite as N | mg/L | | 0.05 | <0.05 | 0.05 | <0.05 | 0.05 | <0.05 | 0.05 | <0.05 |
| Ammonia as N | mg/L | | 0.03 | <0.03 | 0.03 | <0.03 | 0.03 | <0.03 | 0.03 | <0.03 |
| Total Organic Carbon | mg/L | | 0.5 | 7.4 | 0.5 | 8.6 | 0.5 | 8.2 | 0.5 | 9.0 |
| Ortho-Phosphate as P | mg/L | | 0.01 | 0.01 | 0.01 | 0.02 | 0.01 | 0.01 | 0.01 | 0.01 |
| Total Sodium | mg/L | | 1 | 10 | 0.1 | 2.5 | 0.1 | 2.5 | 0.1 | 2.2 |
| Total Potassium | mg/L | | 0.1 | 0.6 | 0.1 | 0.4 | 0.1 | 0.5 | 0.1 | 0.3 |
| Total Calcium | mg/L | | 0.1 | 4.8 | 0.1 | 1.4 | 0.1 | 1.4 | 0.1 | 1.3 |
| Total Magnesium | mg/L | | 0.1 | 1.5 | 0.1 | 0.8 | 0.1 | 0.8 | 0.1 | 0.6 |
| Bicarb. Alkalinity (as CaCO3) | mg/L | | 5 | 8 | 5 | 5 | 5 | <5 | 5 | <5 |
| Carb. Alkalinity (as CaCO3) | mg/L | | 10 | <10 | 10 | <10 | 10 | <10 | 10 | <10 |
| Hydroxide | mg/L | | 5 | <5 | 5 | <5 | 5 | <5 | 5 | <5 |
| Calculated TDS | mg/L | | 1 | 43 | 1 | 12 | 1 | 9 | 1 | 8 |
| Hardness | mg/L | | | 18.2 | | 6.8 | | 6.8 | | 5.7 |
| Langelier Index (@20C) | NA | | | -3.43 | | -4.32 | | -4.49 | | -4.77 |
| Langelier Index (@ 4C) | NA | | | -3.75 | | -4.64 | | -4.81 | | -5.09 |
| Saturation pH (@ 20C) | NA | | | 9.97 | | 10.6 | | 10.7 | | 10.7 |
| Saturation pH (@ 4C) | NA | | | 10.3 | | 11.0 | | 11.0 | | 11.0 |
| Anion Sum | me/L | | | 0.70 | | 0.19 | | 0.08 | | 0.08 |

Certified By:

Sara Knox



Certificate of Analysis

AGAT WORK ORDER: 22K880010

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Adam Schamper

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals

DATE RECEIVED: 2022-04-01

DATE REPORTED: 2022-04-12

| Parameter | Unit | SAMPLE DESCRIPTION: | | Site 6-SW | Site 1-SW | | Site 2-SW | Site 19-SW | | SD-SW | |
|---------------------------|------|---------------------|-------|------------|------------|-------|------------|------------|-------|------------|------|
| | | G / S | RDL | Water | RDL | Water | RDL | Water | RDL | Water | |
| | | DATE SAMPLED: | | 2022-03-31 | 2022-03-31 | | 2022-03-31 | 2022-03-29 | | 2022-03-29 | |
| | | 10:00 | | 10:00 | 11:50 | | 12:50 | 13:25 | | 13:25 | |
| | | 3706099 | | 3706099 | 3706100 | | 3706101 | 3706102 | | 3706103 | |
| Cation sum | me/L | | | 0.87 | | 0.28 | | 0.29 | | 0.24 | 0.24 |
| % Difference/ Ion Balance | % | | | 10.9 | | 18.8 | | 54.3 | | 47.4 | 48.5 |
| Total Aluminum | ug/L | 5 | 390 | 5 | 104 | 5 | 140 | 5 | 81 | 82 | |
| Total Antimony | ug/L | 2 | <2 | 2 | <2 | 2 | <2 | 2 | <2 | <2 | |
| Total Arsenic | ug/L | 2 | 3 | 2 | <2 | 2 | <2 | 2 | <2 | <2 | |
| Total Barium | ug/L | 5 | <5 | 5 | <5 | 5 | <5 | 5 | <5 | <5 | |
| Total Beryllium | ug/L | 2 | <2 | 2 | <2 | 2 | <2 | 2 | <2 | <2 | |
| Total Bismuth | ug/L | 2 | <2 | 2 | <2 | 2 | <2 | 2 | <2 | <2 | |
| Total Boron | ug/L | 5 | <5 | 5 | <5 | 5 | <5 | 5 | <5 | <5 | |
| Total Cadmium | ug/L | 0.09 | <0.09 | 0.09 | <0.09 | 0.09 | <0.09 | 0.09 | <0.09 | <0.09 | |
| Total Chromium | ug/L | 1 | <1 | 1 | <1 | 1 | <1 | 1 | <1 | <1 | |
| Total Cobalt | ug/L | 1 | <1 | 1 | <1 | 1 | <1 | 1 | <1 | <1 | |
| Total Copper | ug/L | 1 | 2 | 1 | <1 | 1 | <1 | 1 | 3 | <1 | |
| Total Iron | ug/L | 50 | 332 | 50 | 163 | 50 | 232 | 50 | 182 | 175 | |
| Total Lead | ug/L | 0.5 | <0.5 | 0.5 | <0.5 | 0.5 | <0.5 | 0.5 | <0.5 | <0.5 | |
| Total Manganese | ug/L | 2 | 96 | 2 | 77 | 38 | 119 | 2 | 84 | 86 | |
| Total Molybdenum | ug/L | 2 | <2 | 2 | <2 | 2 | <2 | 2 | <2 | <2 | |
| Total Nickel | ug/L | 2 | <2 | 2 | <2 | 2 | <2 | 2 | <2 | <2 | |
| Total Phosphorous | mg/L | 0.02 | 0.02 | 0.02 | <0.02 | 0.02 | <0.02 | 0.02 | <0.02 | <0.02 | |
| Total Selenium | ug/L | 1 | <1 | 1 | <1 | 1 | <1 | 1 | <1 | <1 | |
| Total Silver | ug/L | 0.1 | <0.1 | 0.1 | <0.1 | 0.1 | <0.1 | 0.1 | <0.1 | <0.1 | |
| Total Strontium | ug/L | 5 | 25 | 5 | 9 | 5 | 9 | 5 | 8 | 8 | |
| Total Thallium | ug/L | 0.1 | <0.1 | 0.1 | <0.1 | 0.1 | <0.1 | 0.1 | <0.1 | <0.1 | |
| Total Tin | ug/L | 2 | <2 | 2 | <2 | 2 | <2 | 2 | <2 | <2 | |
| Total Titanium | ug/L | 2 | 4 | 2 | <2 | 2 | <2 | 2 | <2 | <2 | |
| Total Uranium | ug/L | 0.2 | <0.2 | 0.2 | <0.2 | 0.2 | <0.2 | 0.2 | <0.2 | <0.2 | |
| Total Vanadium | ug/L | 2 | <2 | 2 | <2 | 2 | <2 | 2 | <2 | <2 | |
| Total Zinc | ug/L | 5 | <5 | 5 | <5 | 5 | <5 | 5 | <5 | <5 | |

Certified By:

Sara Knox



Certificate of Analysis

AGAT WORK ORDER: 22K880010

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Adam Schamper

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals

DATE RECEIVED: 2022-04-01

DATE REPORTED: 2022-04-12

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

- 3705973 % Difference / Ion Balance, Hardness, Langelier Index, Nitrate + Nitrite, Hydroxide and Saturation pH are calculated parameters. The calculated parameters are non-accredited. The component parameters of the calculations are accredited. The cation and anion sums are at, or below, 1 me/L, therefore the acceptable criteria is a difference of less than 0.3me/L.
- 3706085-3706086 % Difference / Ion Balance, Hardness, Langelier Index, Nitrate + Nitrite, Hydroxide and Saturation pH are calculated parameters. The calculated parameters are non-accredited. The component parameters of the calculations are accredited. The cation and anion sums are at, or below, 1 me/L, therefore the acceptable criteria is a difference of less than 0.3me/L.
- 3706087 % Difference / Ion Balance, Hardness, Langelier Index, Nitrate + Nitrite, Hydroxide and Saturation pH are calculated parameters. The calculated parameters are non-accredited. The component parameters of the calculations are accredited. The cation and anion sums are at, or below, 1 me/L, therefore the acceptable criteria is a difference of less than 0.3me/L.
- 3706088-3706103 % Difference / Ion Balance, Hardness, Langelier Index, Nitrate + Nitrite, Hydroxide and Saturation pH are calculated parameters. The calculated parameters are non-accredited. The component parameters of the calculations are accredited. The cation and anion sums are at, or below, 1 me/L, therefore the acceptable criteria is a difference of less than 0.3me/L.

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 22K880010

PROJECT: 100424.001

57 Old Pennywell Road, Unit I
 St. John's, NL
 CANADA A1E 6A8
 TEL (709)747-8573
 FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Adam Schamper

SAMPLING SITE:

SAMPLED BY:

| TSS | | | | | | | | | | | |
|---------------------------|------|---------------------|-----|---------------------|---------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| DATE RECEIVED: 2022-04-01 | | | | | DATE REPORTED: 2022-04-12 | | | | | | |
| | | SAMPLE DESCRIPTION: | | Site 9- SW | Site 20- SW | Site 8- SW | Site 11- SW | Site 4- SW | Site 3- SW | Site 14- SW | Site 12- SW |
| | | SAMPLE TYPE: | | Water | Water | Water | Water | Water | Water | Water | Water |
| | | DATE SAMPLED: | | 2022-03-28 15:50 | 2022-03-28 16:45 | 2022-03-29 08:40 | 2022-03-29 09:40 | 2022-03-29 11:20 | 2022-03-29 12:25 | 2022-03-29 14:30 | 2022-03-29 15:20 |
| Parameter | Unit | G / S | RDL | 3705973 | 3706085 | 3706086 | 3706087 | 3706088 | 3706089 | 3706090 | 3706091 |
| Total Suspended Solids | mg/L | | 5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| | | SAMPLE DESCRIPTION: | | Site 15- SW | Site 21- SW | Site 10- SW | Site 17- SW | Site 16- SW | Site 5- SW | Site 7- SW | Site 6- SW |
| | | SAMPLE TYPE: | | Water | Water | Water | Water | Water | Water | Water | Water |
| | | DATE SAMPLED: | | 2022-03-30 08:20 | 2022-03-30 09:55 | 2022-03-30 12:00 | 2022-03-30 14:45 | 2022-03-30 15:50 | 2022-03-30 16:40 | 2022-03-31 09:30 | 2022-03-31 10:00 |
| Parameter | Unit | G / S | RDL | 3706092 | 3706093 | 3706094 | 3706095 | 3706096 | 3706097 | 3706098 | 3706099 |
| Total Suspended Solids | mg/L | | 5 | <5 | <5 | <5 | <5 | <5 | <5 | 6 | 7 |
| | | SAMPLE DESCRIPTION: | | Site 1-SW | Site 2-SW | Site 19-SW | SD-SW | | | | |
| | | SAMPLE TYPE: | | Water | Water | Water | Water | | | | |
| | | DATE SAMPLED: | | 2022-03-31 11:50 | 2022-03-31 12:50 | 2022-03-29 13:25 | 2022-03-29 13:25 | | | | |
| Parameter | Unit | G / S | RDL | 3706100 | 3706101 | 3706102 | 3706103 | | | | |
| Total Suspended Solids | mg/L | | 5 | <5 | <5 | <5 | <5 | | | | |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard
 Analysis performed at AGAT St John's (unless marked by *)

Certified By:

Sara Knox

Quality Assurance

 CLIENT NAME: GEMTEC LIMITED
 PROJECT: 100424.001
 SAMPLING SITE:

 AGAT WORK ORDER: 22K880010
 ATTENTION TO: Adam Schamper
 SAMPLED BY:

| Soil Analysis | | | | | | | | | | | | | | | |
|------------------------|-------|-----------|-----------|--------|-----|----------------|--------------|--------------------|-------|----------|--------------------|-------|----------|-------------------|-------|
| RPT Date: Apr 12, 2022 | | | DUPLICATE | | | | Method Blank | REFERENCE MATERIAL | | | METHOD BLANK SPIKE | | | MATRIX SPIKE | |
| PARAMETER | Batch | Sample Id | Dup #1 | Dup #2 | RPD | Measured Value | | Acceptable Limits | | Recovery | Acceptable Limits | | Recovery | Acceptable Limits | |
| | | | | | | | | Lower | Upper | | Lower | Upper | | Lower | Upper |

Available Metals in Soil

| | | | | | | | | | | | | | | | |
|------------|---------|---------|-------|-------|-------|-------|------|-----|------|------|-----|------|------|-----|------|
| Aluminum | 3705893 | 3705893 | 19400 | 16800 | 14.1% | < 10 | 100% | 80% | 120% | 108% | 80% | 120% | NA | 70% | 130% |
| Antimony | 3705893 | 3705893 | <1 | <1 | NA | < 1 | 96% | 80% | 120% | NA | 80% | 120% | NA | 70% | 130% |
| Arsenic | 3705893 | 3705893 | 20 | 18 | 7.2% | < 1 | 95% | 80% | 120% | 98% | 80% | 120% | NA | 70% | 130% |
| Barium | 3705893 | 3705893 | 26 | 30 | 14.2% | < 5 | 110% | 80% | 120% | 113% | 80% | 120% | NA | 70% | 130% |
| Beryllium | 3705893 | 3705893 | <2 | <2 | NA | < 2 | 100% | 80% | 120% | 105% | 80% | 120% | NA | 70% | 130% |
| Boron | 3705893 | 3705893 | <2 | <2 | NA | < 2 | 103% | 80% | 120% | 107% | 80% | 120% | NA | 70% | 130% |
| Cadmium | 3705893 | 3705893 | <0.3 | <0.3 | NA | < 0.3 | 95% | 80% | 120% | 98% | 80% | 120% | 116% | 70% | 130% |
| Chromium | 3705893 | 3705893 | 32 | 29 | 10.0% | < 2 | 95% | 80% | 120% | 97% | 80% | 120% | NA | 70% | 130% |
| Cobalt | 3705893 | 3705893 | 16 | 14 | 11.8% | < 1 | 99% | 80% | 120% | 103% | 80% | 120% | NA | 70% | 130% |
| Copper | 3705893 | 3705893 | 5 | 4 | NA | < 2 | 101% | 80% | 120% | 105% | 80% | 120% | 125% | 70% | 130% |
| Iron | 3705893 | 3705893 | 40900 | 34400 | 17.2% | < 50 | 98% | 80% | 120% | 101% | 80% | 120% | NA | 70% | 130% |
| Lead | 3705893 | 3705893 | 3.9 | 3.8 | 1.0% | < 0.5 | 111% | 80% | 120% | 114% | 80% | 120% | 97% | 70% | 130% |
| Lithium | 3705893 | 3705893 | 57 | 52 | 8.6% | < 5 | 102% | 70% | 130% | 108% | 70% | 130% | NA | 70% | 130% |
| Manganese | 3705893 | 3705893 | 2960 | 3440 | 15.2% | < 2 | 97% | 80% | 120% | 100% | 80% | 120% | NA | 70% | 130% |
| Molybdenum | 3705893 | 3705893 | <2 | <2 | NA | < 2 | 96% | 80% | 120% | 105% | 80% | 120% | 113% | 70% | 130% |
| Nickel | 3705893 | 3705893 | 50 | 44 | 13.1% | < 2 | 100% | 80% | 120% | 103% | 80% | 120% | NA | 70% | 130% |
| Selenium | 3705893 | 3705893 | <1 | <1 | NA | < 1 | 96% | 80% | 120% | 101% | 80% | 120% | 106% | 70% | 130% |
| Silver | 3705893 | 3705893 | <0.5 | <0.5 | NA | < 0.5 | 103% | 80% | 120% | 94% | 80% | 120% | NA | 70% | 130% |
| Strontium | 3705893 | 3705893 | <5 | 9 | NA | < 5 | 94% | 80% | 120% | 92% | 80% | 120% | 121% | 70% | 130% |
| Thallium | 3705893 | 3705893 | <0.1 | <0.1 | NA | < 0.1 | 111% | 80% | 120% | 114% | 80% | 120% | NA | 70% | 130% |
| Tin | 3705893 | 3705893 | 3 | 3 | NA | < 2 | 95% | 80% | 120% | 101% | 80% | 120% | NA | 70% | 130% |
| Uranium | 3705893 | 3705893 | 0.4 | 0.4 | NA | < 0.1 | 107% | 80% | 120% | 111% | 80% | 120% | 106% | 70% | 130% |
| Vanadium | 3705893 | 3705893 | 27 | 24 | 10.0% | < 2 | 95% | 80% | 120% | 98% | 80% | 120% | NA | 70% | 130% |
| Zinc | 3705893 | 3705893 | 89 | 81 | 9.4% | < 5 | 98% | 80% | 120% | 97% | 80% | 120% | NA | 70% | 130% |

Mercury in Soil

| | | | | | | | | | | | | | | | |
|---------|---------|---------|-------|-------|----|--------|-----|-----|------|----|-----|------|------|-----|------|
| Mercury | 3705893 | 3705893 | <0.03 | <0.03 | NA | < 0.03 | 87% | 70% | 130% | NA | 70% | 130% | 116% | 70% | 130% |
|---------|---------|---------|-------|-------|----|--------|-----|-----|------|----|-----|------|------|-----|------|


Certified By: _____

Quality Assurance

CLIENT NAME: GEMTEC LIMITED
 PROJECT: 100424.001
 SAMPLING SITE:

AGAT WORK ORDER: 22K880010
 ATTENTION TO: Adam Schamper
 SAMPLED BY:

| Trace Organics Analysis | | | | | | | | | | | | | | |
|-------------------------|-------|-----------|-----------|--------|-----|----------------|--------------|--------------------|-------|----------|--------------------|-------|--------------|-------------------|
| RPT Date: Apr 12, 2022 | | | DUPLICATE | | | | Method Blank | REFERENCE MATERIAL | | | METHOD BLANK SPIKE | | MATRIX SPIKE | |
| PARAMETER | Batch | Sample Id | Dup #1 | Dup #2 | RPD | Measured Value | | Acceptable Limits | | Recovery | Acceptable Limits | | Recovery | Acceptable Limits |
| | | | | | | | Lower | Upper | Lower | | Upper | Lower | | Upper |

Atlantic RBCA Tier 1 Hydrocarbons in Soil (Version 3.1) - Field Preserved

| | | | | | | | | | | | | | | | |
|-----------------------|---|---------|--------|--------|----|--------|-----|-----|------|-----|-----|------|-----|-----|------|
| Benzene | 1 | 3705876 | < 0.02 | < 0.02 | NA | < 0.02 | 82% | 60% | 140% | 86% | 60% | 140% | | | |
| Toluene | 1 | 3705876 | < 0.04 | < 0.04 | NA | < 0.04 | 79% | 60% | 140% | 82% | 60% | 140% | | | |
| Ethylbenzene | 1 | 3705876 | < 0.03 | < 0.03 | NA | < 0.03 | 79% | 60% | 140% | 82% | 60% | 140% | | | |
| Xylene (Total) | 1 | 3705876 | < 0.05 | < 0.05 | NA | < 0.05 | 82% | 60% | 140% | 87% | 60% | 140% | | | |
| C6-C10 (less BTEX) | 1 | 3705876 | < 3 | < 3 | NA | < 3 | 74% | 60% | 140% | 72% | 60% | 140% | 80% | 30% | 130% |
| >C10-C16 Hydrocarbons | 1 | 3705876 | < 15 | < 15 | NA | < 15 | 98% | 60% | 140% | 93% | 60% | 140% | 93% | 30% | 130% |
| >C16-C21 Hydrocarbons | 1 | 3705876 | < 15 | < 15 | NA | < 15 | 98% | 60% | 140% | 93% | 60% | 140% | 93% | 30% | 130% |
| >C21-C32 Hydrocarbons | 1 | 3705876 | 21 | <15 | NA | < 15 | 97% | 60% | 140% | 93% | 60% | 140% | 93% | 30% | 130% |

Comments: If Matrix spike value is NA, the spiked analyte concentration was lower than that of the matrix contribution.
 If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Atlantic RBCA Tier 1 Hydrocarbons in Water (Version 3.1)

| | | | | | | | | | | | | | | | |
|-----------------------|---|---------|--------|--------|----|--------|------|-----|------|-----|-----|------|-----|-----|------|
| >C10-C16 Hydrocarbons | 1 | 3705973 | < 0.05 | < 0.05 | NA | < 0.05 | 102% | 70% | 130% | 98% | 70% | 130% | 91% | 70% | 130% |
| >C16-C21 Hydrocarbons | 1 | 3705973 | < 0.05 | < 0.05 | NA | < 0.05 | 103% | 70% | 130% | 98% | 70% | 130% | 91% | 70% | 130% |
| >C21-C32 Hydrocarbons | 1 | 3705973 | < 0.1 | < 0.1 | NA | < 0.1 | 101% | 70% | 130% | 98% | 70% | 130% | 91% | 70% | 130% |

Comments: If Matrix spike value is NA, the spiked analyte concentration was lower than that of the matrix contribution. Matrix spike performed on a different sample than the duplicate.
 If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Atlantic RBCA Tier 1 Hydrocarbons in Water (Version 3.1)

| | | | | | | | | | | | | | | | |
|--------------------|---|---------|---------|---------|----|---------|------|-----|------|------|-----|------|-----|-----|------|
| Benzene | 1 | 3700017 | < 0.001 | < 0.001 | NA | < 0.001 | 91% | 70% | 130% | 101% | 70% | 130% | | | |
| Toluene | 1 | 3700017 | < 0.001 | < 0.001 | NA | < 0.001 | 92% | 70% | 130% | 99% | 70% | 130% | | | |
| Ethylbenzene | 1 | 3700017 | < 0.001 | < 0.001 | NA | < 0.001 | 98% | 70% | 130% | 105% | 70% | 130% | | | |
| Xylene (Total) | 1 | 3700017 | < 0.002 | < 0.002 | NA | < 0.002 | 100% | 70% | 130% | 109% | 70% | 130% | | | |
| C6-C10 (less BTEX) | 1 | 3700017 | < 0.01 | < 0.01 | NA | < 0.01 | 83% | 70% | 130% | 82% | 70% | 130% | 79% | 70% | 130% |

Comments: If Matrix spike value is NA, the spiked analyte concentration was lower than that of the matrix contribution. Matrix spike performed on a different sample than the duplicate.
 If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Atlantic RBCA Tier 1 Hydrocarbons in Water (Version 3.1)

| | | | | | | | | | | | | | | | |
|--------------------|---|---------|---------|---------|----|---------|-----|-----|------|-----|-----|------|-----|-----|------|
| Benzene | 1 | 3710147 | < 0.001 | < 0.001 | NA | < 0.001 | 79% | 70% | 130% | 96% | 70% | 130% | | | |
| Toluene | 1 | 3710147 | < 0.001 | < 0.001 | NA | < 0.001 | 81% | 70% | 130% | 91% | 70% | 130% | | | |
| Ethylbenzene | 1 | 3710147 | < 0.001 | < 0.001 | NA | < 0.001 | 80% | 70% | 130% | 92% | 70% | 130% | | | |
| Xylene (Total) | 1 | 3710147 | < 0.002 | < 0.002 | NA | < 0.002 | 85% | 70% | 130% | 98% | 70% | 130% | | | |
| C6-C10 (less BTEX) | 1 | 3710147 | < 0.01 | < 0.01 | NA | < 0.01 | 78% | 70% | 130% | 84% | 70% | 130% | 85% | 70% | 130% |

Comments: If Matrix spike value is NA, the spiked analyte concentration was lower than that of the matrix contribution. Matrix spike performed on a different sample than the duplicate.
 If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Certified By: _____





Quality Assurance

CLIENT NAME: GEMTEC LIMITED
 PROJECT: 100424.001
 SAMPLING SITE:

AGAT WORK ORDER: 22K880010
 ATTENTION TO: Adam Schamper
 SAMPLED BY:

Trace Organics Analysis (Continued)

| RPT Date: Apr 12, 2022 | | | DUPLICATE | | | Method Blank | REFERENCE MATERIAL | | METHOD BLANK SPIKE | | MATRIX SPIKE | | | | |
|------------------------|-------|-----------|-----------|--------|-----|--------------|--------------------|-------------------|--------------------|----------|-------------------|-------|----------|-------------------|-------|
| PARAMETER | Batch | Sample Id | Dup #1 | Dup #2 | RPD | | Measured Value | Acceptable Limits | | Recovery | Acceptable Limits | | Recovery | Acceptable Limits | |
| | | | | | | | | Lower | Upper | | Lower | Upper | | Lower | Upper |
| | | | | | | | | | | | | | | | |

Quality Assurance

CLIENT NAME: GEMTEC LIMITED
 PROJECT: 100424.001
 SAMPLING SITE:

AGAT WORK ORDER: 22K880010
 ATTENTION TO: Adam Schamper
 SAMPLED BY:

| Water Analysis | | | | | | | | | | | | | | | |
|------------------------|-------|-----------|-----------|--------|-----|----------------|--------------|--------------------|-------|----------|--------------------|-------|--------------|-------------------|-------|
| RPT Date: Apr 12, 2022 | | | DUPLICATE | | | | Method Blank | REFERENCE MATERIAL | | | METHOD BLANK SPIKE | | MATRIX SPIKE | | |
| PARAMETER | Batch | Sample Id | Dup #1 | Dup #2 | RPD | Measured Value | | Acceptable Limits | | Recovery | Acceptable Limits | | Recovery | Acceptable Limits | |
| | | | | | | | | Lower | Upper | | Lower | Upper | | Lower | Upper |

| | | | | | | | | | | | | | | | |
|--|---------|---------|-------|-------|------|--------|------|-----|------|------|-----|------|------|-----|------|
| TSS | | | | | | | | | | | | | | | |
| Total Suspended Solids | 3705973 | 3705973 | 3.5 | 3.5 | 0.0% | < 5 | 103% | 80% | 120% | | | | 114% | 80% | 120% |
| Standard Water Analysis + Total Metals | | | | | | | | | | | | | | | |
| pH | 3722545 | | 9.08 | 9.03 | 0.6% | < | 100% | 80% | 120% | NA | | | NA | | |
| Reactive Silica as SiO2 | 3716893 | | 3.3 | 3.4 | 3.6% | < 0.5 | 91% | 80% | 120% | 94% | 80% | 120% | 100% | 80% | 120% |
| Chloride | 3712136 | | 28 | 29 | 3.9% | < 1 | 98% | 80% | 120% | NA | 80% | 120% | NA | 70% | 130% |
| Fluoride | 3712136 | | <0.12 | <0.12 | NA | < 0.12 | 108% | 80% | 120% | NA | 80% | 120% | 107% | 70% | 130% |
| Sulphate | 3712136 | | 7 | 7 | NA | < 2 | 115% | 80% | 120% | NA | 80% | 120% | 106% | 70% | 130% |
| Alkalinity | 3722545 | | 116 | 114 | 2.2% | < 5 | 89% | 80% | 120% | NA | | | NA | | |
| True Color | 3716893 | | <5.00 | <5.00 | NA | < 5 | 92% | 80% | 120% | 99% | 80% | 120% | NA | | |
| Turbidity | 3711184 | | 0.9 | 1.1 | NA | < 0.5 | 100% | 80% | 120% | NA | | | NA | | |
| Electrical Conductivity | 3722545 | | 329 | 331 | 0.6% | < 1 | 102% | 90% | 110% | NA | | | NA | | |
| Nitrate as N | 3712136 | | 0.13 | 0.14 | NA | < 0.05 | 106% | 80% | 120% | NA | 80% | 120% | 95% | 70% | 130% |
| Nitrite as N | 3712136 | | <0.05 | <0.05 | NA | < 0.05 | 93% | 80% | 120% | NA | 80% | 120% | 121% | 70% | 130% |
| Ammonia as N | 3710800 | | <0.03 | <0.03 | NA | < 0.03 | 105% | 80% | 120% | 84% | 80% | 120% | 99% | 70% | 130% |
| Total Organic Carbon | 3709321 | | 6.3 | 6.3 | 0.0% | < 0.5 | 97% | 80% | 120% | 104% | 80% | 120% | 99% | 80% | 120% |
| Ortho-Phosphate as P | 3716893 | | 0.04 | 0.02 | NA | 0.01 | 96% | 80% | 120% | 97% | 80% | 120% | 111% | 80% | 120% |
| Total Sodium | 3706103 | | 2.3 | 2.2 | 3.4% | < 0.1 | 109% | 80% | 120% | 107% | 80% | 120% | NA | 70% | 130% |
| Total Potassium | 3706103 | | 0.4 | 0.3 | NA | < 0.1 | 108% | 80% | 120% | 109% | 80% | 120% | 100% | 70% | 130% |
| Total Calcium | 3706103 | | 1.3 | 1.2 | 4.5% | < 0.1 | 103% | 80% | 120% | 103% | 80% | 120% | NA | 70% | 130% |
| Total Magnesium | 3706103 | | 0.6 | 0.6 | 5.0% | < 0.1 | 105% | 80% | 120% | 106% | 80% | 120% | 107% | 70% | 130% |
| Bicarb. Alkalinity (as CaCO3) | 3722545 | | 81 | 81 | 0.8% | < 5 | NA | 80% | 120% | NA | | | NA | | |
| Carb. Alkalinity (as CaCO3) | 3722545 | | 36 | 33 | NA | < 10 | NA | 80% | 120% | NA | | | NA | | |
| Hydroxide | 3722545 | | <5 | <5 | NA | < 5 | NA | 80% | 120% | NA | | | NA | | |
| Total Aluminum | 3706103 | | 82 | 78 | 5.3% | < 5 | 106% | 80% | 120% | 108% | 80% | 120% | 104% | 70% | 130% |
| Total Antimony | 3706103 | | <2 | <2 | NA | < 2 | 80% | 80% | 120% | 120% | 80% | 120% | 116% | 70% | 130% |
| Total Arsenic | 3706103 | | <2 | <2 | NA | < 2 | 95% | 80% | 120% | 100% | 80% | 120% | 92% | 70% | 130% |
| Total Barium | 3706103 | | <5 | <5 | NA | < 5 | 106% | 80% | 120% | 110% | 80% | 120% | 95% | 70% | 130% |
| Total Beryllium | 3706103 | | <2 | <2 | NA | < 2 | 106% | 80% | 120% | 108% | 80% | 120% | 100% | 70% | 130% |
| Total Bismuth | 3706103 | | <2 | <2 | NA | < 2 | 85% | 80% | 120% | 109% | 80% | 120% | 95% | 70% | 130% |
| Total Boron | 3706103 | | <5 | <5 | NA | < 5 | 106% | 80% | 120% | 101% | 80% | 120% | 98% | 70% | 130% |
| Total Cadmium | 3706103 | | <0.09 | <0.09 | NA | < 0.09 | 91% | 80% | 120% | 98% | 80% | 120% | 89% | 70% | 130% |
| Total Chromium | 3706103 | | <1 | <1 | NA | < 1 | 91% | 80% | 120% | 98% | 80% | 120% | 97% | 70% | 130% |
| Total Cobalt | 3706103 | | <1 | <1 | NA | < 1 | 95% | 80% | 120% | 102% | 80% | 120% | 97% | 70% | 130% |
| Total Copper | 3706103 | | <1 | <1 | NA | < 1 | 96% | 80% | 120% | 103% | 80% | 120% | 93% | 70% | 130% |
| Total Iron | 3706103 | | 175 | 171 | NA | < 50 | 96% | 80% | 120% | 99% | 80% | 120% | 106% | 70% | 130% |
| Total Lead | 3706103 | | <0.5 | <0.5 | NA | < 0.5 | 102% | 80% | 120% | 108% | 80% | 120% | 92% | 70% | 130% |
| Total Manganese | 3706103 | | 86 | 83 | 3.3% | < 2 | 93% | 80% | 120% | 101% | 80% | 120% | NA | 70% | 130% |
| Total Molybdenum | 3706103 | | <2 | <2 | NA | < 2 | 88% | 80% | 120% | 113% | 80% | 120% | 94% | 70% | 130% |

Quality Assurance

CLIENT NAME: GEMTEC LIMITED
 PROJECT: 100424.001
 SAMPLING SITE:

AGAT WORK ORDER: 22K880010
 ATTENTION TO: Adam Schamper
 SAMPLED BY:

Water Analysis (Continued)

| RPT Date: Apr 12, 2022 | | | DUPLICATE | | | Method Blank | REFERENCE MATERIAL | | | METHOD BLANK SPIKE | | | MATRIX SPIKE | | |
|------------------------|---------|-----------|-----------|--------|-----|--------------|--------------------|-------------------|-------|--------------------|-------------------|-------|--------------|-------------------|-------|
| PARAMETER | Batch | Sample Id | Dup #1 | Dup #2 | RPD | | Measured Value | Acceptable Limits | | Recovery | Acceptable Limits | | Recovery | Acceptable Limits | |
| | | | | | | | | Lower | Upper | | Lower | Upper | | Lower | Upper |
| Total Nickel | 3706103 | | <2 | <2 | NA | < 2 | 93% | 80% | 120% | 101% | 80% | 120% | 101% | 70% | 130% |
| Total Phosphorous | 3706103 | | <0.02 | <0.02 | NA | < 0.02 | 101% | 80% | 120% | 101% | 80% | 120% | 96% | 70% | 130% |
| Total Selenium | 3706103 | | <1 | <1 | NA | < 1 | 100% | 80% | 120% | 106% | 80% | 120% | 90% | 70% | 130% |
| Total Silver | 3706103 | | <0.1 | <0.1 | NA | < 0.1 | 97% | 80% | 120% | 107% | 80% | 120% | 83% | 70% | 130% |
| Total Strontium | 3706103 | | 8 | 8 | NA | < 5 | 89% | 80% | 120% | 94% | 80% | 120% | 93% | 70% | 130% |
| Total Thallium | 3706103 | | <0.1 | <0.1 | NA | < 0.1 | 102% | 80% | 120% | 106% | 80% | 120% | 94% | 70% | 130% |
| Total Tin | 3706103 | | <2 | <2 | NA | < 2 | 90% | 80% | 120% | 95% | 80% | 120% | 93% | 70% | 130% |
| Total Titanium | 3706103 | | <2 | <2 | NA | < 2 | 105% | 80% | 120% | 106% | 80% | 120% | 103% | 70% | 130% |
| Total Uranium | 3706103 | | <0.2 | <0.2 | NA | < 0.2 | 97% | 80% | 120% | 102% | 80% | 120% | 89% | 70% | 130% |
| Total Vanadium | 3706103 | | <2 | <2 | NA | < 2 | 93% | 80% | 120% | 99% | 80% | 120% | 93% | 70% | 130% |
| Total Zinc | 3706103 | | <5 | <5 | NA | < 5 | 93% | 80% | 120% | 100% | 80% | 120% | 89% | 70% | 130% |

Comments: If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Mercury Analysis in Water (Total)

| | | | | | | | | | | | | | | | |
|---------------|---------|---------|--------|--------|----|---------|------|-----|------|------|-----|------|------|-----|------|
| Total Mercury | 3705973 | 3705973 | <0.026 | <0.026 | NA | < 0.026 | 107% | 80% | 120% | 106% | 80% | 120% | 106% | 70% | 130% |
|---------------|---------|---------|--------|--------|----|---------|------|-----|------|------|-----|------|------|-----|------|

Comments: If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Standard Water Analysis + Total Metals

| | | | | | | | | | | | | | | | |
|-------------------------------|---------|--|------|------|------|------|------|-----|------|----|--|--|----|--|--|
| pH | 3703320 | | 7.92 | 8.01 | 1.1% | < | 103% | 80% | 120% | NA | | | NA | | |
| Alkalinity | 3703320 | | 270 | 271 | 0.6% | < 5 | 88% | 80% | 120% | NA | | | NA | | |
| Electrical Conductivity | 3703320 | | 1630 | 1640 | 0.7% | < 1 | 102% | 90% | 110% | NA | | | NA | | |
| Bicarb. Alkalinity (as CaCO3) | 3703320 | | 270 | 271 | 0.6% | < 5 | NA | 80% | 120% | NA | | | NA | | |
| Carb. Alkalinity (as CaCO3) | 3703320 | | <10 | <10 | NA | < 10 | NA | 80% | 120% | NA | | | NA | | |
| Hydroxide | 3703320 | | <5 | <5 | NA | < 5 | NA | 80% | 120% | NA | | | NA | | |

Comments: If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.


 Certified By: _____

AGAT Laboratories is accredited to ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA) and/or Standards Council of Canada (SCC) for specific tests listed on the scope of accreditation. AGAT Laboratories (Mississauga) is also accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA) for specific drinking water tests. Accreditations are location and parameter specific. A complete listing of parameters for each location is available from www.cala.ca and/or www.scc.ca. The tests in this report may not necessarily be included in the scope of accreditation. RPDs calculated using raw data. The RPD may not be reflective of duplicate values shown, due to rounding of final results.

Results relate only to the items tested. Results apply to samples as received.

Method Summary

CLIENT NAME: GEMTEC LIMITED

AGAT WORK ORDER: 22K880010

PROJECT: 100424.001

ATTENTION TO: Adam Schamper

SAMPLING SITE:

SAMPLED BY:

| PARAMETER | AGAT S.O.P | LITERATURE REFERENCE | ANALYTICAL TECHNIQUE |
|---------------|----------------------------------|-------------------------------------|----------------------|
| Soil Analysis | | | |
| Aluminum | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Antimony | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Arsenic | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Barium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Beryllium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Boron | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Cadmium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Chromium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Cobalt | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Copper | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Iron | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Lead | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP-MS |
| Lithium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP-MS |
| Manganese | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Molybdenum | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Nickel | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Selenium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Silver | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Strontium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Thallium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Tin | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Uranium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Vanadium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Zinc | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Mercury | INOR-121-6101 & INOR-121-6107 | Based on EPA 245.5 & SM 3112B | CV/AA |

Method Summary

CLIENT NAME: GEMTEC LIMITED

AGAT WORK ORDER: 22K880010

PROJECT: 100424.001

ATTENTION TO: Adam Schamper

SAMPLING SITE:

SAMPLED BY:

| PARAMETER | AGAT S.O.P | LITERATURE REFERENCE | ANALYTICAL TECHNIQUE |
|---------------------------|--------------|--|----------------------|
| Trace Organics Analysis | | | |
| Benzene | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| Toluene | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| Ethylbenzene | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| Xylene (Total) | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| C6-C10 (less BTEX) | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS/FID |
| >C10-C16 Hydrocarbons | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| >C16-C21 Hydrocarbons | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| >C21-C32 Hydrocarbons | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| Modified TPH (Tier 1) | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | CALCULATION |
| Resemblance Comment | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS/FID |
| Return to Baseline at C32 | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| Isobutylbenzene - EPH | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| Isobutylbenzene - VPH | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| n-Dotriacontane - EPH | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| C6-C10 (less BTEX) | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| Modified TPH (Tier 1) | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | CALCULATION |
| Sediment | | | GC/MS/FID |
| % Moisture | LAB-131-4024 | CSSS 70.2 | GRAVIMETRIC |



Method Summary

CLIENT NAME: GEMTEC LIMITED
 PROJECT: 100424.001
 SAMPLING SITE:

AGAT WORK ORDER: 22K880010
 ATTENTION TO: Adam Schamper
 SAMPLED BY:

| PARAMETER | AGAT S.O.P | LITERATURE REFERENCE | ANALYTICAL TECHNIQUE |
|-------------------------------|-----------------------------|---|----------------------|
| Water Analysis | | | |
| Total Mercury | MET-121-6100 & MET-121-6107 | SM 3112 B | CV/AA |
| pH | INOR-121-6001 | SM 4500 H+B | PC TITRATE |
| Reactive Silica as SiO2 | INOR-121-6027 | SM 4500-SiO2 F | COLORIMETER |
| Chloride | INORG-121-6005 | SM 4110 B | ION CHROMATOGRAPH |
| Fluoride | INORG-121-6005 | SM 4110 B | ION CHROMATOGRAPH |
| Sulphate | INORG-121-6005 | SM 4110 B | ION CHROMATOGRAPH |
| Alkalinity | INOR-121-6001 | SM 2320 B | |
| True Color | INOR-121-6008 | SM 2120 B | LACHAT FIA |
| Turbidity | INOR-121-6022 | SM 2130 B | NEPHELOMETER |
| Electrical Conductivity | INOR-121-6001 | SM 2510 B | PC TITRATE |
| Nitrate + Nitrite as N | INORG-121-6005 | SM 4110 B | CALCULATION |
| Nitrate as N | INORG-121-6005 | SM 4110 B | ION CHROMATOGRAPH |
| Nitrite as N | INORG-121-6005 | SM 4110 B | ION CHROMATOGRAPH |
| Ammonia as N | INOR-121-6047 | SM 4500-NH3 H | COLORIMETER |
| Total Organic Carbon | INOR-121-6026 | SM 5310 B | TOC ANALYZER |
| Ortho-Phosphate as P | INOR-121-6012 | SM 4500-P G | COLORIMETER |
| Total Sodium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Potassium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Calcium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Magnesium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Bicarb. Alkalinity (as CaCO3) | INORG-121-6001 | SM 2320 B | PC TITRATE |
| Carb. Alkalinity (as CaCO3) | INORG-121-6001 | SM 2320 B | PC TITRATE |
| Hydroxide | INORG-121-6001 | SM 2320 B | PC-TITRATE |
| Calculated TDS | CALCULATION | SM 1030E | CALCULATION |
| Hardness | CALCULATION | SM 2340B | CALCULATION |
| Langelier Index (@20C) | CALCULATION | CALCULATION | CALCULATION |
| Langelier Index (@ 4C) | CALCULATION | CALCULATION | CALCULATION |
| Saturation pH (@ 20C) | CALCULATION | CALCULATION | CALCULATION |
| Saturation pH (@ 4C) | CALCULATION | CALCULATION | CALCULATION |
| Anion Sum | CALCULATION | SM 1030E | CALCULATION |
| Cation sum | CALCULATION | SM 1030E | CALCULATION |
| % Difference/ Ion Balance | CALCULATION | SM 1030E | CALCULATION |
| Total Aluminum | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Antimony | MET121-6104 & MET-121-6105 | SM 3125 | ICP-MS |
| Total Arsenic | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Barium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Beryllium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Bismuth | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Boron | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |



Method Summary

CLIENT NAME: GEMTEC LIMITED

AGAT WORK ORDER: 22K880010

PROJECT: 100424.001

ATTENTION TO: Adam Schamper

SAMPLING SITE:

SAMPLED BY:

| PARAMETER | AGAT S.O.P | LITERATURE REFERENCE | ANALYTICAL TECHNIQUE |
|------------------------|--------------------------------|--|----------------------|
| Total Cadmium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Chromium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Cobalt | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Copper | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Iron | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Lead | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Manganese | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Molybdenum | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Nickel | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Phosphorous | MET-121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Selenium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Silver | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Strontium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Thallium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Tin | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Titanium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Uranium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Vanadium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Zinc | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Suspended Solids | INOR-123-6006 | Based on SM 2540D | GRAVIMETRIC |



CLIENT NAME: GEMTEC LIMITED
10 Maverick Place
Paradise, NL A1L 1Y8
709722-2275

ATTENTION TO: Darrol Rice

PROJECT:

AGAT WORK ORDER: 22K911258

SOIL ANALYSIS REVIEWED BY: Sara Knox, Data Reviewer

TRACE ORGANICS REVIEWED BY: Wendy Rose, Trace Organics Lab Technician

WATER ANALYSIS REVIEWED BY: Sara Knox, Data Reviewer

DATE REPORTED: Jul 08, 2022

PAGES (INCLUDING COVER): 41

VERSION*: 1

Should you require any information regarding this analysis please contact your client services representative at (709)747-8573

*Notes

Disclaimer:

- All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.
- All samples will be disposed of within 30 days after receipt unless a Long Term Storage Agreement is signed and returned. Some specialty analysis may be exempt, please contact your Client Project Manager for details.
- AGAT's liability in connection with any delay, performance or non-performance of these services is only to the Client and does not extend to any other third party. Unless expressly agreed otherwise in writing, AGAT's liability is limited to the actual cost of the specific analysis or analyses included in the services.
- This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
- The test results reported herewith relate only to the samples as received by the laboratory.
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- All reportable information as specified by ISO/IEC 17025:2017 is available from AGAT Laboratories upon request.



Certificate of Analysis

AGAT WORK ORDER: 22K911258

PROJECT:

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Halifax - Metals (Soil)

DATE RECEIVED: 2022-06-22

DATE REPORTED: 2022-07-08

| Parameter | Unit | SAMPLE DESCRIPTION: | | | | | | | | | | | | | | | | |
|------------|-------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|-------------|---------|-------------|---------|-------------|---------|-------------|---------|
| | | G / S | SITE-02-SED | | SITE-19-SED | | SITE-09-SED | | SITE-03-SED | | SITE-04-SED | | SITE-20-SED | | SITE-18-SED | | SITE-24-SED | |
| | | | RDL | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | |
| | | | 2022-06-17 14:30 | 2022-06-17 15:30 | 2022-06-17 16:15 | 2022-06-18 10:30 | 2022-06-18 11:10 | 2022-06-18 13:55 | 2022-06-18 09:10 | 2022-06-19 10:45 | 4007779 | 4009276 | 4009277 | 4009278 | 4009279 | 4009280 | 4009281 | 4009282 |
| Aluminum | mg/kg | 1000 | 16600 | 22500 | 18800 | 13100 | 14000 | 16700 | 15100 | 14400 | | | | | | | | |
| Antimony | mg/kg | 1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | | | | | | | | |
| Arsenic | mg/kg | 1 | 90 | 3 | 12 | 213 | 64 | 34 | 19 | 35 | | | | | | | | |
| Barium | mg/kg | 1 | 74 | 14 | 26 | 57 | 160 | 45 | 16 | 48 | | | | | | | | |
| Beryllium | mg/kg | 1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | | | | | | | | |
| Boron | mg/kg | 2 | 12 | 7 | 11 | 21 | 9 | 29 | 14 | 3 | | | | | | | | |
| Cadmium | mg/kg | 0.3 | <0.3 | <0.3 | <0.3 | <0.3 | <0.3 | <0.3 | <0.3 | <0.3 | | | | | | | | |
| Chromium | mg/kg | 2 | 35 | 43 | 47 | 26 | 29 | 138 | 36 | 33 | | | | | | | | |
| Cobalt | mg/kg | 1 | 26 | 15 | 23 | 15 | 17 | 29 | 15 | 17 | | | | | | | | |
| Copper | mg/kg | 2 | 8 | 13 | 8 | 7 | 17 | 11 | 9 | 18 | | | | | | | | |
| Iron | mg/kg | 5000 | 51800 | 45600 | 42300 | 46200 | 47700 | 43200 | 37300 | 39500 | | | | | | | | |
| Lead | mg/kg | 0.5 | 10.5 | 11.5 | 5.6 | 9.6 | 15.6 | 10.5 | 6.7 | 15.2 | | | | | | | | |
| Lithium | mg/kg | 5 | 37 | 55 | 46 | 29 | 26 | 43 | 36 | 31 | | | | | | | | |
| Manganese | mg/kg | 20 | 7600 | 700 | 3960 | 3570 | 9930 | 1940 | 1080 | 3380 | | | | | | | | |
| Molybdenum | mg/kg | 2 | 5 | <2 | <2 | 4 | 3 | <2 | <2 | 3 | | | | | | | | |
| Nickel | mg/kg | 2 | 60 | 58 | 71 | 50 | 48 | 129 | 49 | 45 | | | | | | | | |
| Selenium | mg/kg | 1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | | | | | | | | |
| Silver | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | | | | | | | | |
| Strontium | mg/kg | 50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 | | | | | | | | |
| Thallium | mg/kg | 0.1 | 0.1 | <0.1 | <0.1 | <0.1 | 0.2 | <0.1 | <0.1 | <0.1 | | | | | | | | |
| Tin | mg/kg | 2 | 4 | 4 | 3 | 4 | 4 | 3 | 3 | 4 | | | | | | | | |
| Uranium | mg/kg | 0.1 | 0.9 | 0.7 | 0.8 | 1.0 | 1.1 | 1.1 | 0.6 | 1.7 | | | | | | | | |
| Vanadium | mg/kg | 2 | 34 | 33 | 33 | 31 | 30 | 32 | 27 | 33 | | | | | | | | |
| Zinc | mg/kg | 5 | 132 | 92 | 106 | 113 | 83 | 96 | 72 | 75 | | | | | | | | |
| Mercury | mg/kg | 0.03 | <0.03 | 0.04 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | 0.03 | | | | | | | | |

Certified By:

Sara Knox



Certificate of Analysis

AGAT WORK ORDER: 22K911258

PROJECT:

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Halifax - Metals (Soil)

DATE RECEIVED: 2022-06-22

DATE REPORTED: 2022-07-08

| Parameter | Unit | SAMPLE DESCRIPTION: | | SITE-01-SED | | SITE-23-SED | | SITE-10-SED | | SED-SD-02 | | SITE-11-SED | |
|------------|-------|---------------------|------|---------------------|------|---------------------|------|---------------------|---------|---------------------|---------|---------------------|--|
| | | SAMPLE TYPE: | | Soil | | Soil | | Soil | | Soil | | Soil | |
| | | DATE SAMPLED: | | 2022-06-19 10:45 | | 2022-06-19 12:00 | | 2022-06-19 13:40 | | 2022-06-19 13:40 | | 2022-06-20 06:45 | |
| | | G / S | RDL | 4009283 | RDL | 4009284 | RDL | 4009285 | 4009286 | RDL | 4009287 | | |
| Aluminum | mg/kg | | 1000 | 12200 | 100 | 16800 | 1000 | 21300 | 19600 | 1000 | 19600 | | |
| Antimony | mg/kg | | 1 | <1 | 1 | <1 | 1 | <1 | <1 | 1 | <1 | | |
| Arsenic | mg/kg | | 1 | 48 | 1 | 53 | 1 | 44 | 32 | 1 | 157 | | |
| Barium | mg/kg | | 1 | 34 | 1 | 36 | 1 | 43 | 35 | 1 | 233 | | |
| Beryllium | mg/kg | | 1 | <1 | 1 | <1 | 1 | <1 | <1 | 1 | <1 | | |
| Boron | mg/kg | | 2 | 4 | 2 | 3 | 2 | <2 | 7 | 2 | 39 | | |
| Cadmium | mg/kg | | 0.3 | <0.3 | 0.3 | <0.3 | 0.3 | <0.3 | <0.3 | 0.3 | 0.4 | | |
| Chromium | mg/kg | | 2 | 25 | 2 | 35 | 2 | 54 | 48 | 2 | 33 | | |
| Cobalt | mg/kg | | 1 | 17 | 1 | 14 | 1 | 34 | 28 | 1 | 58 | | |
| Copper | mg/kg | | 2 | 14 | 2 | 17 | 2 | 15 | 17 | 2 | 21 | | |
| Iron | mg/kg | | 5000 | 36200 | 5000 | 39700 | 5000 | 56200 | 46800 | 5000 | 78200 | | |
| Lead | mg/kg | | 0.5 | 14.2 | 0.5 | 13.0 | 0.5 | 12.6 | 10.0 | 0.5 | 26.9 | | |
| Lithium | mg/kg | | 5 | 23 | 5 | 32 | 5 | 55 | 55 | 5 | 33 | | |
| Manganese | mg/kg | | 20 | 2370 | 20 | 1790 | 20 | 4110 | 3100 | 200 | 16300 | | |
| Molybdenum | mg/kg | | 2 | 2 | 2 | <2 | 2 | 2 | <2 | 2 | 7 | | |
| Nickel | mg/kg | | 2 | 41 | 2 | 53 | 2 | 92 | 83 | 2 | 72 | | |
| Selenium | mg/kg | | 1 | <1 | 1 | <1 | 1 | <1 | <1 | 1 | <1 | | |
| Silver | mg/kg | | 0.5 | <0.5 | 0.5 | <0.5 | 0.5 | <0.5 | <0.5 | 0.5 | <0.5 | | |
| Strontium | mg/kg | | 50 | <50 | 50 | <50 | 50 | <50 | <50 | 50 | <50 | | |
| Thallium | mg/kg | | 0.1 | <0.1 | 0.1 | <0.1 | 0.1 | <0.1 | <0.1 | 0.1 | 0.2 | | |
| Tin | mg/kg | | 2 | 3 | 2 | 5 | 2 | 4 | 3 | 2 | 4 | | |
| Uranium | mg/kg | | 0.1 | 1.0 | 0.1 | 0.9 | 0.1 | 0.9 | 0.9 | 0.1 | 1.4 | | |
| Vanadium | mg/kg | | 2 | 26 | 2 | 33 | 2 | 38 | 32 | 2 | 32 | | |
| Zinc | mg/kg | | 5 | 72 | 5 | 80 | 5 | 145 | 130 | 5 | 144 | | |
| Mercury | mg/kg | | 0.03 | 0.03 | 0.03 | <0.03 | 0.03 | <0.03 | <0.03 | 0.03 | 0.03 | | |

Certified By:

Sara Knox



Certificate of Analysis

AGAT WORK ORDER: 22K911258

PROJECT:

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Halifax - Metals (Soil)

DATE RECEIVED: 2022-06-22

DATE REPORTED: 2022-07-08

| Parameter | Unit | SAMPLE DESCRIPTION: | | SITE-08-SED | SITE-17-SED | SITE-16-SED | RDL | SITE-13-SED | SITE-12-SED | RDL | SITE-14-SED |
|------------|-------|---------------------|------|--------------------------------|--------------------------------|--------------------------------|------|--------------------------------|--------------------------------|------|--------------------------------|
| | | G / S | RDL | Soil | Soil | Soil | | Soil | Soil | | |
| | | | | DATE SAMPLED: | DATE SAMPLED: | DATE SAMPLED: | | DATE SAMPLED: | DATE SAMPLED: | | |
| | | | | 2022-06-20 11:40 4009288 | 2022-06-20 12:50 4009289 | 2022-06-20 13:57 4009290 | | 2022-06-21 09:20 4009291 | 2022-06-21 09:42 4009292 | | 2022-06-21 10:35 4009293 |
| Aluminum | mg/kg | | 1000 | 15700 | 15600 | 19200 | 1000 | 17800 | 18700 | 1000 | 22200 |
| Antimony | mg/kg | | 1 | <1 | <1 | <1 | 1 | <1 | <1 | 1 | <1 |
| Arsenic | mg/kg | | 1 | 92 | 55 | 40 | 1 | 31 | 33 | 1 | 24 |
| Barium | mg/kg | | 1 | 148 | 182 | 32 | 1 | 133 | 142 | 1 | 40 |
| Beryllium | mg/kg | | 1 | <1 | <1 | <1 | 1 | <1 | <1 | 1 | <1 |
| Boron | mg/kg | | 2 | 26 | 35 | 8 | 2 | 52 | 30 | 2 | 22 |
| Cadmium | mg/kg | | 0.3 | <0.3 | <0.3 | <0.3 | 0.3 | <0.3 | <0.3 | 0.3 | <0.3 |
| Chromium | mg/kg | | 2 | 26 | 45 | 55 | 2 | 38 | 42 | 2 | 118 |
| Cobalt | mg/kg | | 1 | 22 | 23 | 24 | 1 | 59 | 38 | 1 | 41 |
| Copper | mg/kg | | 2 | 21 | 15 | 12 | 2 | 10 | 8 | 2 | 26 |
| Iron | mg/kg | | 5000 | 45600 | 47500 | 49100 | 5000 | 84800 | 83000 | 5000 | 54200 |
| Lead | mg/kg | | 0.5 | 17.5 | 12.1 | 9.7 | 0.5 | 24.6 | 28.5 | 0.5 | 16.7 |
| Lithium | mg/kg | | 5 | 28 | 38 | 55 | 5 | 35 | 41 | 5 | 42 |
| Manganese | mg/kg | | 20 | 8570 | 6420 | 3140 | 200 | 29800 | 18700 | 20 | 2430 |
| Molybdenum | mg/kg | | 2 | 2 | 2 | <2 | 2 | 3 | 5 | 2 | 2 |
| Nickel | mg/kg | | 2 | 61 | 61 | 73 | 2 | 73 | 67 | 2 | 228 |
| Selenium | mg/kg | | 1 | <1 | <1 | <1 | 1 | <1 | <1 | 1 | <1 |
| Silver | mg/kg | | 0.5 | <0.5 | <0.5 | <0.5 | 0.5 | <0.5 | <0.5 | 0.5 | <0.5 |
| Strontium | mg/kg | | 50 | <50 | <50 | <50 | 50 | <50 | <50 | 50 | <50 |
| Thallium | mg/kg | | 0.1 | 0.1 | 0.1 | <0.1 | 0.1 | <0.1 | <0.1 | 0.1 | <0.1 |
| Tin | mg/kg | | 2 | 4 | 4 | 3 | 2 | 5 | 4 | 2 | 3 |
| Uranium | mg/kg | | 0.1 | 1.0 | 0.7 | 0.8 | 0.1 | 0.7 | 0.7 | 0.1 | 0.9 |
| Vanadium | mg/kg | | 2 | 27 | 32 | 29 | 2 | 38 | 44 | 2 | 39 |
| Zinc | mg/kg | | 5 | 156 | 96 | 111 | 5 | 170 | 121 | 5 | 91 |
| Mercury | mg/kg | | 0.03 | 0.03 | <0.03 | <0.03 | 0.03 | <0.03 | <0.03 | 0.03 | <0.03 |

Certified By:

Sara Knox



Certificate of Analysis

AGAT WORK ORDER: 22K911258

PROJECT:

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Soil (Version 3.1) - Field Preserved

DATE RECEIVED: 2022-06-22

DATE REPORTED: 2022-07-08

| Parameter | Unit | G / S | SAMPLE DESCRIPTION: | | SITE-02-SED | SITE-19-SED | SITE-09-SED | SITE-03-SED | SITE-04-SED | SITE-20-SED | SITE-18-SED | SITE-24-SED |
|---------------------------|-------|-------------------|---------------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| | | | RDL | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | |
| DATE SAMPLED: | | | 2022-06-17 | 2022-06-17 | 2022-06-17 | 2022-06-18 | 2022-06-18 | 2022-06-18 | 2022-06-18 | 2022-06-19 | 2022-06-19 | 2022-06-19 |
| | | | 14:30 | 15:30 | 16:15 | 10:30 | 11:10 | 13:55 | 09:10 | 10:45 | | |
| | | | 4007779 | 4009276 | 4009277 | 4009278 | 4009279 | 4009280 | 4009281 | 4009282 | | |
| Benzene | mg/kg | | 0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| Toluene | mg/kg | | 0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 |
| Ethylbenzene | mg/kg | | 0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 |
| Xylene (Total) | mg/kg | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| C6-C10 (less BTEX) | mg/kg | | 3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 |
| >C10-C16 Hydrocarbons | mg/kg | | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| >C16-C21 Hydrocarbons | mg/kg | | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| >C21-C32 Hydrocarbons | mg/kg | | 15 | <15 | 59 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| Modified TPH (Tier 1) | mg/kg | | 15 | <15 | 59 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| Resemblance Comment | | | | NR | LR,UC | NR | NR | NR | NR | NR | NR | NR |
| Return to Baseline at C32 | | | | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| Surrogate | Unit | Acceptable Limits | | | | | | | | | | |
| Isobutylbenzene - EPH | % | 60-140 | 94 | 95 | 94 | 94 | 93 | 95 | 94 | 96 | | |
| Isobutylbenzene - VPH | % | 60-140 | 74 | 79 | 78 | 82 | 81 | 76 | 76 | 78 | | |
| n-Dotriacontane - EPH | % | 60-140 | 95 | 103 | 94 | 94 | 94 | 95 | 93 | 97 | | |

Certified By:

W. ROSE



Certificate of Analysis

AGAT WORK ORDER: 22K911258

PROJECT:

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Soil (Version 3.1) - Field Preserved

DATE RECEIVED: 2022-06-22

DATE REPORTED: 2022-07-08

| Parameter | Unit | G / S | RDL | SAMPLE DESCRIPTION: | SITE-01-SED | SITE-23-SED | SITE-10-SED | SED-SD-02 | SITE-11-SED | SITE-08-SED | SITE-17-SED | SITE-16-SED |
|---------------------------|-------|-------|-------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | | | | SAMPLE TYPE: | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil |
| | | | | DATE SAMPLED: | 2022-06-19 10:45 | 2022-06-19 12:00 | 2022-06-19 13:40 | 2022-06-19 13:40 | 2022-06-20 06:45 | 2022-06-20 11:40 | 2022-06-20 12:50 | 2022-06-20 13:57 |
| | | | | | 4009283 | 4009284 | 4009285 | 4009286 | 4009287 | 4009288 | 4009289 | 4009290 |
| Benzene | mg/kg | | 0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| Toluene | mg/kg | | 0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 |
| Ethylbenzene | mg/kg | | 0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 |
| Xylene (Total) | mg/kg | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| C6-C10 (less BTEX) | mg/kg | | 3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 |
| >C10-C16 Hydrocarbons | mg/kg | | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| >C16-C21 Hydrocarbons | mg/kg | | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| >C21-C32 Hydrocarbons | mg/kg | | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| Modified TPH (Tier 1) | mg/kg | | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| Resemblance Comment | | | | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| Return to Baseline at C32 | | | | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| Surrogate | Unit | | Acceptable Limits | | | | | | | | | |
| Isobutylbenzene - EPH | % | | 60-140 | 95 | 93 | 95 | 94 | 94 | 94 | 94 | 96 | 95 |
| Isobutylbenzene - VPH | % | | 60-140 | 74 | 85 | 81 | 83 | 85 | 85 | 82 | 80 | 76 |
| n-Dotriacontane - EPH | % | | 60-140 | 95 | 93 | 94 | 94 | 94 | 94 | 93 | 96 | 95 |

Certified By:

W. ROSE



Certificate of Analysis

AGAT WORK ORDER: 22K911258

PROJECT:

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 St. John's, NL
 CANADA A1E 6A8
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 FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

SAMPLING SITE:

ATTENTION TO: Darrol Rice

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Soil (Version 3.1) - Field Preserved

DATE RECEIVED: 2022-06-22

DATE REPORTED: 2022-07-08

| Parameter | Unit | G / S | RDL | SAMPLE DESCRIPTION: | SITE-13-SED | SITE-12-SED | SITE-14-SED | SITE-21-SED | SITE-15-SED | SED-SD-01 |
|---------------------------|-------|-------|-------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | | | | SAMPLE TYPE: | Soil | Soil | Soil | Soil | Soil | Soil |
| | | | | DATE SAMPLED: | 2022-06-21 09:20 | 2022-06-21 09:42 | 2022-06-21 10:35 | 2022-06-21 15:00 | 2022-06-21 15:55 | 2022-06-17 14:30 |
| | | | | | 4009291 | 4009292 | 4009293 | 4009294 | 4009295 | 4009296 |
| Benzene | mg/kg | | 0.02 | | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| Toluene | mg/kg | | 0.04 | | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 |
| Ethylbenzene | mg/kg | | 0.03 | | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 |
| Xylene (Total) | mg/kg | | 0.05 | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| C6-C10 (less BTEX) | mg/kg | | 3 | | <3 | <3 | <3 | <3 | <3 | <3 |
| >C10-C16 Hydrocarbons | mg/kg | | 15 | | <15 | <15 | <15 | <15 | <15 | <15 |
| >C16-C21 Hydrocarbons | mg/kg | | 15 | | <15 | <15 | <15 | <15 | <15 | <15 |
| >C21-C32 Hydrocarbons | mg/kg | | 15 | | <15 | <15 | <15 | <15 | <15 | 73 |
| Modified TPH (Tier 1) | mg/kg | | 15 | | <15 | <15 | <15 | <15 | <15 | 73 |
| Resemblance Comment | | | | | NR | NR | NR | NR | NR | LR,UC |
| Return to Baseline at C32 | | | | | Y | Y | Y | Y | Y | Y |
| Surrogate | Unit | | Acceptable Limits | | | | | | | |
| Isobutylbenzene - EPH | % | | 60-140 | | 95 | 95 | 95 | 94 | 87 | 91 |
| Isobutylbenzene - VPH | % | | 60-140 | | 84 | 77 | 81 | 79 | 84 | 81 |
| n-Dotriacontane - EPH | % | | 60-140 | | 95 | 94 | 94 | 94 | 89 | 100 |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 22K911258

PROJECT:

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Soil (Version 3.1) - Field Preserved

DATE RECEIVED: 2022-06-22

DATE REPORTED: 2022-07-08

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

4007779-4009296 Modified TPH, Xylene(Total)and C6-C10(less BTEX) are calculated parameters. The calculated parameter is non-accredited. The component parameters of the calculation are accredited.

Results are based on the dry weight of the soil.

Resemblance Comment Key:

- GF - Gasoline Fraction
- WGF - Weathered Gasoline Fraction
- GR - Product in Gasoline Range
- FOF - Fuel Oil Fraction
- WFOF - Weathered Fuel Oil Fraction
- FR - Product in Fuel Oil Range
- LOF - Lube Oil Fraction
- LR - Lube Range
- UC - Unidentified Compounds
- NR - No Resemblance
- NA - Not Applicable

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 22K911258

PROJECT:

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
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<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

SAMPLING SITE:

ATTENTION TO: Darrol Rice

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Water (Version 3.1)

DATE RECEIVED: 2022-06-22

DATE REPORTED: 2022-07-08

| Parameter | Unit | G / S | RDL | SAMPLE DESCRIPTION: | SITE-02-SW | SITE-19-SW | SITE-09-SW | SITE-03-SW | SITE-04-SW | SITE-20-SW | SITE-18-SW | SITE-24-SW |
|---------------------------|------|-------|-------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | | | | SAMPLE TYPE: | Water | Water | Water | Water | Water | Water | Water | Water |
| | | | | DATE SAMPLED: | 2022-06-17 14:30 | 2022-06-17 15:30 | 2022-06-17 16:15 | 2022-06-18 10:30 | 2022-06-18 11:10 | 2022-06-18 13:55 | 2022-06-19 09:10 | 2022-06-19 10:45 |
| | | | | | 4006908 | 4007006 | 4007007 | 4007008 | 4007009 | 4007010 | 4007011 | 4007012 |
| Benzene | mg/L | | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Toluene | mg/L | | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Ethylbenzene | mg/L | | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Xylene (Total) | mg/L | | 0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| C6-C10 (less BTEX) | mg/L | | 0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| >C10-C16 Hydrocarbons | mg/L | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C16-C21 Hydrocarbons | mg/L | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C21-C32 Hydrocarbons | mg/L | | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Modified TPH (Tier 1) | mg/L | | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Sediment | | | | TRACE | TRACE | TRACE | TRACE | NO | TRACE | NO | TRACE | |
| Resemblance Comment | | | | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| Return to Baseline at C32 | | | | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| Surrogate | Unit | | Acceptable Limits | | | | | | | | | |
| Isobutylbenzene - EPH | % | | 70-130 | 103 | 105 | 99 | 103 | 105 | 101 | 97 | 113 | |
| Isobutylbenzene - VPH | % | | 70-130 | 72 | 70 | 76 | 93 | 98 | 103 | 95 | 99 | |
| n-Dotriacontane - EPH | % | | 70-130 | 109 | 104 | 100 | 103 | 103 | 100 | 96 | 112 | |

Certified By:

W. ROSE



Certificate of Analysis

AGAT WORK ORDER: 22K911258

PROJECT:

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
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<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

SAMPLING SITE:

ATTENTION TO: Darrol Rice

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Water (Version 3.1)

DATE RECEIVED: 2022-06-22

DATE REPORTED: 2022-07-08

| Parameter | Unit | G / S | RDL | SAMPLE DESCRIPTION: | SITE-01-SW | SITE-23-SW | SITE-10-SW | SW-SD-02 | SITE-11-SW | SITE-08-SW | SITE-17-SW | SITE-16-SW |
|---------------------------|------|-------------------|-------|---------------------|------------|------------|------------|------------|------------|------------|------------|------------|
| | | | | SAMPLE TYPE: | Water | Water | Water | Water | Water | Water | Water | Water |
| DATE SAMPLED: | | | | 2022-06-19 | 2022-06-19 | 2022-06-19 | 2022-06-19 | 2022-06-19 | 2022-06-20 | 2022-06-20 | 2022-06-20 | 2022-06-20 |
| | | | | 10:45 | 12:00 | 13:40 | 13:40 | 13:40 | 06:45 | 11:40 | 12:50 | 13:57 |
| | | | | 4007013 | 4007014 | 4007015 | 4007016 | 4007016 | 4007017 | 4007018 | 4007019 | 4007020 |
| Benzene | mg/L | | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Toluene | mg/L | | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Ethylbenzene | mg/L | | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Xylene (Total) | mg/L | | 0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| C6-C10 (less BTEX) | mg/L | | 0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| >C10-C16 Hydrocarbons | mg/L | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C16-C21 Hydrocarbons | mg/L | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C21-C32 Hydrocarbons | mg/L | | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Modified TPH (Tier 1) | mg/L | | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Sediment | | | | TRACE | TRACE | TRACE | NO | TRACE | TRACE | TRACE | TRACE | TRACE |
| Resemblance Comment | | | | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| Return to Baseline at C32 | | | | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| Surrogate | Unit | Acceptable Limits | | | | | | | | | | |
| Isobutylbenzene - EPH | % | 70-130 | | 116 | 120 | 112 | 101 | 102 | 104 | 104 | 96 | 101 |
| Isobutylbenzene - VPH | % | 70-130 | | 94 | 93 | 101 | 98 | 103 | 89 | 89 | 94 | 91 |
| n-Dotriacontane - EPH | % | 70-130 | | 117 | 121 | 112 | 106 | 105 | 108 | 108 | 97 | 104 |

Certified By:

W. ROSE



Certificate of Analysis

AGAT WORK ORDER: 22K911258

PROJECT:

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709)747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

SAMPLING SITE:

ATTENTION TO: Darrol Rice

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Water (Version 3.1)

DATE RECEIVED: 2022-06-22

DATE REPORTED: 2022-07-08

| Parameter | Unit | SAMPLE DESCRIPTION: | | SITE-07-SW | SITE-06-SW | SITE-13-SW | SITE-12-SW | SITE-14-SW | SITE-22-SW | SITE-15-SW | SW-SD-01 |
|---------------------------|------|---------------------|-------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | | G / S | RDL | Water | Water | Water | Water | Water | Water | Water | Water |
| | | | | 2022-06-20 14:05 | 2022-06-20 17:05 | 2022-06-21 09:20 | 2022-06-21 09:42 | 2022-06-21 10:35 | 2022-06-21 15:00 | 2022-06-21 15:55 | 2022-06-17 13:40 |
| | | | | 4007021 | 4007022 | 4007023 | 4007024 | 4007025 | 4007026 | 4007027 | 4007028 |
| Benzene | mg/L | | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Toluene | mg/L | | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Ethylbenzene | mg/L | | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Xylene (Total) | mg/L | | 0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| C6-C10 (less BTEX) | mg/L | | 0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| >C10-C16 Hydrocarbons | mg/L | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C16-C21 Hydrocarbons | mg/L | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C21-C32 Hydrocarbons | mg/L | | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Modified TPH (Tier 1) | mg/L | | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Sediment | | | | TRACE | TRACE | TRACE | TRACE | TRACE | TRACE | TRACE | TRACE |
| Resemblance Comment | | | | NR | NR | NR | NR | NR | NR | NR | NR |
| Return to Baseline at C32 | | | | Y | Y | Y | Y | Y | Y | Y | Y |
| Surrogate | Unit | Acceptable Limits | | | | | | | | | |
| Isobutylbenzene - EPH | % | 70-130 | | 102 | 96 | 113 | 107 | 99 | 99 | 99 | 99 |
| Isobutylbenzene - VPH | % | 70-130 | | 98 | 107 | 103 | 103 | 104 | 97 | 97 | 100 |
| n-Dotriacontane - EPH | % | 70-130 | | 104 | 99 | 116 | 103 | 102 | 102 | 103 | 101 |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 22K911258

PROJECT:

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Water (Version 3.1)

DATE RECEIVED: 2022-06-22

DATE REPORTED: 2022-07-08

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

4006908-4007028 Modified TPH, Xylene(Total)and C6-C10(less BTEX) are calculated parameters. The calculated parameter is non-accredited. The component parameters of the calculation are accredited.

Sediment parameter is comment only based on visual inspection of the sample prior to extraction and is not an accredited test.

Resemblance Comment Key:

- GF - Gasoline Fraction
- WGF - Weathered Gasoline Fraction
- GR - Product in Gasoline Range
- FOF - Fuel Oil Fraction
- WFOF - Weathered Fuel Oil Fraction
- FR - Product in Fuel Oil Range
- LOF - Lube Oil Fraction
- LR - Lube Range
- UC - Unidentified Compounds
- NR - No Resemblance
- NA - Not Applicable

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 22K911258

PROJECT:

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

SAMPLING SITE:

ATTENTION TO: Darrol Rice

SAMPLED BY:

Moisture

DATE RECEIVED: 2022-06-22

DATE REPORTED: 2022-07-08

| | | SAMPLE DESCRIPTION: | | SITE-02-SED | SITE-19-SED | SITE-09-SED | SITE-03-SED | SITE-04-SED | SITE-20-SED | SITE-18-SED | SITE-24-SED |
|------------|------|---------------------|-----|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | | SAMPLE TYPE: | | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil |
| | | DATE SAMPLED: | | 2022-06-17 14:30 | 2022-06-17 15:30 | 2022-06-17 16:15 | 2022-06-18 10:30 | 2022-06-18 11:10 | 2022-06-18 13:55 | 2022-06-19 09:10 | 2022-06-19 10:45 |
| Parameter | Unit | G / S | RDL | 4007779 | 4009276 | 4009277 | 4009278 | 4009279 | 4009280 | 4009281 | 4009282 |
| % Moisture | % | | 1 | 28 | 58 | 14 | 16 | 26 | 18 | 22 | 23 |
| | | SAMPLE DESCRIPTION: | | SITE-01-SED | SITE-23-SED | SITE-10-SED | SED-SD-02 | SITE-11-SED | SITE-08-SED | SITE-17-SED | SITE-16-SED |
| | | SAMPLE TYPE: | | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil |
| | | DATE SAMPLED: | | 2022-06-19 10:45 | 2022-06-19 12:00 | 2022-06-19 13:40 | 2022-06-19 13:40 | 2022-06-20 06:45 | 2022-06-20 11:40 | 2022-06-20 12:50 | 2022-06-20 13:57 |
| Parameter | Unit | G / S | RDL | 4009283 | 4009284 | 4009285 | 4009286 | 4009287 | 4009288 | 4009289 | 4009290 |
| % Moisture | % | | 1 | 43 | 23 | 21 | 21 | 23 | 33 | 19 | 26 |
| | | SAMPLE DESCRIPTION: | | SITE-13-SED | SITE-12-SED | SITE-14-SED | SITE-21-SED | SITE-15-SED | SED-SD-01 | | |
| | | SAMPLE TYPE: | | Soil | Soil | Soil | Soil | Soil | Soil | | |
| | | DATE SAMPLED: | | 2022-06-21 09:20 | 2022-06-21 09:42 | 2022-06-21 10:35 | 2022-06-21 15:00 | 2022-06-21 15:55 | 2022-06-17 14:30 | | |
| Parameter | Unit | G / S | RDL | 4009291 | 4009292 | 4009293 | 4009294 | 4009295 | 4009296 | | |
| % Moisture | % | | 1 | 40 | 23 | 17 | 19 | 23 | 53 | | |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard
Analysis performed at AGAT Halifax (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 22K911258

PROJECT:

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

SAMPLING SITE:

ATTENTION TO: Darrol Rice

SAMPLED BY:

Mercury Analysis in Water (Total)

DATE RECEIVED: 2022-06-22

DATE REPORTED: 2022-07-08

| Parameter | Unit | G / S | RDL | SITE-02-SW | SITE-19-SW | SITE-09-SW | SITE-03-SW | SITE-04-SW | SITE-20-SW | SITE-18-SW | SITE-24-SW |
|---------------|------|-------|-------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | | | | SAMPLE DESCRIPTION: | Water | Water | Water | Water | Water | Water | Water |
| | | | | SAMPLE TYPE: | Water | Water | Water | Water | Water | Water | Water |
| | | | | DATE SAMPLED: | 2022-06-17 14:30 | 2022-06-17 15:30 | 2022-06-17 16:15 | 2022-06-18 10:30 | 2022-06-18 11:10 | 2022-06-18 13:55 | 2022-06-19 09:10 |
| Total Mercury | ug/L | | 0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 |
| | | | | SAMPLE DESCRIPTION: | Water | Water | Water | Water | Water | Water | Water |
| | | | | SAMPLE TYPE: | Water | Water | Water | Water | Water | Water | Water |
| | | | | DATE SAMPLED: | 2022-06-19 10:45 | 2022-06-19 12:00 | 2022-06-19 13:40 | 2022-06-19 13:40 | 2022-06-20 06:45 | 2022-06-20 11:40 | 2022-06-20 12:50 |
| Total Mercury | ug/L | | 0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 |
| | | | | SAMPLE DESCRIPTION: | Water | Water | Water | Water | Water | Water | Water |
| | | | | SAMPLE TYPE: | Water | Water | Water | Water | Water | Water | Water |
| | | | | DATE SAMPLED: | 2022-06-20 14:05 | 2022-06-20 17:05 | 2022-06-21 09:20 | 2022-06-21 09:42 | 2022-06-21 10:35 | 2022-06-21 15:00 | 2022-06-21 15:55 |
| Total Mercury | ug/L | | 0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard
Analysis performed at AGAT Halifax (unless marked by *)

Certified By:

Sara Knox



Certificate of Analysis

AGAT WORK ORDER: 22K911258

PROJECT:

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals

DATE RECEIVED: 2022-06-22

DATE REPORTED: 2022-07-08

| Parameter | Unit | SAMPLE DESCRIPTION: | | SITE-02-SW | SITE-19-SW | SITE-09-SW | SITE-03-SW | SITE-04-SW |
|-------------------------------|---------|---------------------|------|------------|------------|------------|------------|------------|
| | | G / S | RDL | Water | Water | Water | Water | Water |
| | | DATE SAMPLED: | | 2022-06-17 | 2022-06-17 | 2022-06-17 | 2022-06-18 | 2022-06-18 |
| | | | | 14:30 | 15:30 | 16:15 | 10:30 | 11:10 |
| | | | | 4006908 | 4007006 | 4007007 | 4007008 | 4007009 |
| pH | | | | 6.79 | 6.29 | 6.67 | 6.67 | 6.83 |
| Reactive Silica as SiO2 | mg/L | | 0.5 | 2.1 | <0.5 | 0.5 | <0.5 | 2.7 |
| Chloride | mg/L | | 1 | 3 | 2 | 1 | 10 | 1 |
| Fluoride | mg/L | | 0.12 | <0.12 | <0.12 | 0.12 | <0.12 | <0.12 |
| Sulphate | mg/L | | 2 | <2 | <2 | 2 | <2 | <2 |
| Alkalinity | mg/L | | 5 | 8 | 5 | 5 | 10 | 5 |
| True Color | TCU | | 5.00 | 34.3 | 25.0 | 5.00 | 55.1 | 5.00 |
| Turbidity | NTU | | 0.5 | <0.5 | <0.5 | 0.5 | 3.8 | 0.5 |
| Electrical Conductivity | umho/cm | | 1 | 31 | 19 | 1 | 63 | 1 |
| Nitrate + Nitrite as N | mg/L | | 0.05 | <0.05 | <0.05 | 0.05 | <0.05 | 0.05 |
| Nitrate as N | mg/L | | 0.05 | <0.05 | <0.05 | 0.05 | <0.05 | 0.05 |
| Nitrite as N | mg/L | | 0.05 | <0.05 | <0.05 | 0.05 | <0.05 | 0.05 |
| Ammonia as N | mg/L | | 0.03 | 0.13 | <0.03 | 0.03 | <0.03 | 0.03 |
| Total Organic Carbon | mg/L | | 0.5 | 8.0 | 8.1 | 0.5 | 11.3 | 0.5 |
| Ortho-Phosphate as P | mg/L | | 0.01 | <0.01 | <0.01 | 0.01 | <0.01 | 0.01 |
| Total Sodium | mg/L | | 0.1 | 2.6 | 1.9 | 0.1 | 8.2 | 0.1 |
| Total Potassium | mg/L | | 0.1 | 0.3 | 0.3 | 0.1 | 0.2 | 0.1 |
| Total Calcium | mg/L | | 0.1 | 2.2 | 1.0 | 0.1 | 2.7 | 0.1 |
| Total Magnesium | mg/L | | 0.1 | 0.9 | 0.4 | 0.1 | 1.3 | 0.1 |
| Bicarb. Alkalinity (as CaCO3) | mg/L | | 5 | 8 | 5 | 5 | 10 | 5 |
| Carb. Alkalinity (as CaCO3) | mg/L | | 10 | <10 | <10 | 10 | <10 | 10 |
| Hydroxide | mg/L | | 5 | <5 | <5 | 5 | <5 | 5 |
| Calculated TDS | mg/L | | 1 | 14 | 9 | 1 | 30 | 1 |
| Hardness | mg/L | | | 9.2 | 4.1 | | 12.1 | |
| Langelier Index (@20C) | NA | | | -3.47 | -4.49 | | -3.43 | |
| Langelier Index (@ 4C) | NA | | | -3.79 | -4.81 | | -3.75 | |
| Saturation pH (@ 20C) | NA | | | 10.3 | 10.8 | | 10.1 | |
| Saturation pH (@ 4C) | NA | | | 10.6 | 11.1 | | 10.4 | |
| Anion Sum | me/L | | | 0.24 | 0.16 | | 0.48 | |
| | | | | | | | 0.26 | 0.58 |

Certified By:

Sara Knox



Certificate of Analysis

AGAT WORK ORDER: 22K911258

PROJECT:

57 Old Pennywell Road, Unit I
 St. John's, NL
 CANADA A1E 6A8
 TEL (709)747-8573
 FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals

DATE RECEIVED: 2022-06-22

DATE REPORTED: 2022-07-08

| Parameter | Unit | SAMPLE DESCRIPTION: | | SITE-02-SW | SITE-19-SW | SITE-09-SW | | SITE-03-SW | SITE-04-SW |
|---------------------------|------|---------------------|------|------------|------------|------------|-------|------------|------------|
| | | G / S | RDL | Water | Water | Water | Water | Water | Water |
| DATE SAMPLED: | | 2022-06-17 | | 2022-06-17 | 2022-06-17 | 2022-06-17 | | 2022-06-18 | 2022-06-18 |
| | | 14:30 | | 14:30 | 15:30 | 16:15 | | 10:30 | 11:10 |
| | | 4006908 | | 4006908 | 4007006 | 4007007 | | 4007008 | 4007009 |
| Cation sum | me/L | | | 0.33 | 0.18 | | 0.67 | 0.33 | 0.72 |
| % Difference/ Ion Balance | % | | | 14.2 | 8.2 | | 16.7 | 11.6 | 10.6 |
| Total Aluminum | ug/L | 5 | | 35 | 42 | 5 | 77 | 32 | 31 |
| Total Antimony | ug/L | 2 | | <2 | <2 | 2 | <2 | <2 | <2 |
| Total Arsenic | ug/L | 2 | | <2 | <2 | 2 | 3 | <2 | <2 |
| Total Barium | ug/L | 5 | | <5 | <5 | 5 | <5 | <5 | <5 |
| Total Beryllium | ug/L | 2 | | <2 | <2 | 2 | <2 | <2 | <2 |
| Total Bismuth | ug/L | 2 | | <2 | <2 | 2 | <2 | <2 | <2 |
| Total Boron | ug/L | 5 | | 5 | <5 | 5 | <5 | <5 | <5 |
| Total Cadmium | ug/L | | 0.09 | <0.09 | <0.09 | 0.09 | <0.09 | 0.09 | <0.09 |
| Total Chromium | ug/L | 1 | | <1 | <1 | 1 | <1 | <1 | <1 |
| Total Cobalt | ug/L | 1 | | <1 | <1 | 1 | <1 | <1 | <1 |
| Total Copper | ug/L | 1 | | <1 | <1 | 1 | <1 | <1 | 1 |
| Total Iron | ug/L | 50 | | 153 | 90 | 50 | 891 | 111 | 70 |
| Total Lead | ug/L | | 0.5 | <0.5 | <0.5 | 0.5 | <0.5 | 0.5 | <0.5 |
| Total Manganese | ug/L | 2 | | 60 | 75 | 38 | 852 | 60 | 49 |
| Total Molybdenum | ug/L | 2 | | <2 | <2 | 2 | <2 | <2 | <2 |
| Total Nickel | ug/L | 2 | | <2 | <2 | 2 | <2 | <2 | <2 |
| Total Phosphorous | mg/L | 0.02 | | <0.02 | <0.02 | 0.02 | 0.02 | <0.02 | <0.02 |
| Total Selenium | ug/L | 1 | | <1 | <1 | 1 | <1 | <1 | <1 |
| Total Silver | ug/L | 0.1 | | <0.1 | <0.1 | 0.1 | <0.1 | <0.1 | <0.1 |
| Total Strontium | ug/L | 5 | | 16 | 7 | 5 | 22 | 16 | 33 |
| Total Thallium | ug/L | 0.1 | | <0.1 | <0.1 | 0.1 | <0.1 | <2 | <2 |
| Total Tin | ug/L | 2 | | <2 | <2 | 2 | <2 | <2 | <2 |
| Total Titanium | ug/L | 2 | | <2 | <2 | 2 | <2 | <2 | <2 |
| Total Uranium | ug/L | 0.2 | | <0.2 | <0.2 | 0.2 | <0.2 | <0.2 | <0.2 |
| Total Vanadium | ug/L | 2 | | <2 | <2 | 2 | <2 | <2 | <2 |
| Total Zinc | ug/L | 5 | | <5 | 6 | 5 | <5 | <5 | <5 |

Certified By:

Sara Knox



Certificate of Analysis

AGAT WORK ORDER: 22K911258

PROJECT:

57 Old Pennywell Road, Unit I
 St. John's, NL
 CANADA A1E 6A8
 TEL (709)747-8573
 FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals

DATE RECEIVED: 2022-06-22

DATE REPORTED: 2022-07-08

| Parameter | Unit | SAMPLE DESCRIPTION: | | SITE-20-SW | | SITE-18-SW | | SITE-24-SW | | SITE-01-SW | | SITE-23-SW | |
|-------------------------------|---------|---------------------|------|------------|-------|------------|-------|------------|-------|------------|-------|------------|-------|
| | | G / S | RDL | Water | Water | Water | Water | Water | Water | Water | Water | Water | Water |
| | | DATE SAMPLED: | | 2022-06-18 | | 2022-06-19 | | 2022-06-19 | | 2022-06-19 | | 2022-06-19 | |
| | | 13:55 | | 09:10 | | 10:45 | | 10:45 | | 10:45 | | 12:00 | |
| | | 4007010 | | RDL | | 4007011 | | RDL | | 4007012 | | 4007013 | |
| | | RDL | | 4007014 | | RDL | | 4007012 | | 4007013 | | RDL | |
| pH | | | | 6.96 | | 6.72 | | 6.82 | | 6.70 | | 6.68 | |
| Reactive Silica as SiO2 | mg/L | | 0.5 | 0.7 | 0.5 | 1.0 | 0.5 | 2.8 | 1.4 | 0.5 | 0.8 | | |
| Chloride | mg/L | | 1 | 5 | 1 | 8 | 1 | 3 | 3 | 1 | 4 | | |
| Fluoride | mg/L | | 0.12 | <0.12 | 0.12 | <0.12 | 0.12 | <0.12 | <0.12 | 0.12 | <0.12 | | |
| Sulphate | mg/L | | 2 | <2 | 2 | <2 | 2 | <2 | <2 | 2 | <2 | | |
| Alkalinity | mg/L | | 5 | 23 | 5 | 9.95 | 5 | 13 | 9 | 5 | 10 | | |
| True Color | TCU | | 5.00 | 59.3 | 5.00 | 35.7 | 5.00 | 22.7 | 19.3 | 5.00 | 17.8 | | |
| Turbidity | NTU | | 0.5 | 4.3 | 0.5 | 2.0 | 0.5 | 4.3 | 4.1 | 0.5 | 4.7 | | |
| Electrical Conductivity | umho/cm | | 1 | 64 | 1 | 52 | 1 | 41 | 32 | 1 | 37 | | |
| Nitrate + Nitrite as N | mg/L | | 0.05 | <0.05 | 0.05 | <0.05 | 0.05 | 0.14 | 0.10 | 0.05 | 0.08 | | |
| Nitrate as N | mg/L | | 0.05 | <0.05 | 0.05 | <0.05 | 0.05 | 0.14 | 0.10 | 0.05 | 0.08 | | |
| Nitrite as N | mg/L | | 0.05 | <0.05 | 0.05 | <0.05 | 0.05 | <0.05 | <0.05 | 0.05 | <0.05 | | |
| Ammonia as N | mg/L | | 0.03 | 0.05 | 0.03 | 0.04 | 0.03 | <0.03 | <0.03 | 0.03 | <0.03 | | |
| Total Organic Carbon | mg/L | | 0.5 | 12.6 | 0.5 | 10.6 | 0.5 | 5.7 | 5.8 | 0.5 | 6.0 | | |
| Ortho-Phosphate as P | mg/L | | 0.01 | <0.01 | 0.01 | <0.01 | 0.01 | <0.01 | <0.01 | 0.01 | <0.01 | | |
| Total Sodium | mg/L | | 0.1 | 4.4 | 0.1 | 6.0 | 0.1 | 3.3 | 2.9 | 0.1 | 3.3 | | |
| Total Potassium | mg/L | | 0.1 | 0.2 | 0.1 | 0.2 | 0.1 | 0.3 | 0.3 | 0.1 | 0.3 | | |
| Total Calcium | mg/L | | 0.1 | 3.5 | 0.1 | 2.1 | 0.1 | 3.0 | 2.1 | 0.1 | 2.4 | | |
| Total Magnesium | mg/L | | 0.1 | 3.6 | 0.1 | 1.5 | 0.1 | 1.3 | 1.0 | 0.1 | 1.0 | | |
| Bicarb. Alkalinity (as CaCO3) | mg/L | | 5 | 23 | 5 | 9.95 | 5 | 13 | 9 | 5 | 10 | | |
| Carb. Alkalinity (as CaCO3) | mg/L | | 10 | <10 | 10 | <10 | 10 | <10 | <10 | 10 | <10 | | |
| Hydroxide | mg/L | | 5 | <5 | 5 | <5 | 5 | <5 | <5 | 5 | <5 | | |
| Calculated TDS | mg/L | | 1 | 31 | 1 | 24 | 1 | 19 | 15 | 1 | 17 | | |
| Hardness | mg/L | | | 23.6 | | 11.4 | | 12.8 | 9.4 | | 10.1 | | |
| Langelier Index (@20C) | NA | | | -2.67 | | -3.49 | | -3.10 | -3.53 | | -3.45 | | |
| Langelier Index (@ 4C) | NA | | | -2.99 | | -3.81 | | -3.42 | -3.85 | | -3.77 | | |
| Saturation pH (@ 20C) | NA | | | 9.63 | | 10.2 | | 9.92 | 10.2 | | 10.1 | | |
| Saturation pH (@ 4C) | NA | | | 9.95 | | 10.5 | | 10.2 | 10.5 | | 10.5 | | |
| Anion Sum | me/L | | | 0.60 | | 0.42 | | 0.35 | 0.27 | | 0.32 | | |

Certified By:

Sara Knox



Certificate of Analysis

AGAT WORK ORDER: 22K911258

PROJECT:

57 Old Pennywell Road, Unit I
 St. John's, NL
 CANADA A1E 6A8
 TEL (709)747-8573
 FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals

DATE RECEIVED: 2022-06-22

DATE REPORTED: 2022-07-08

| Parameter | Unit | SAMPLE DESCRIPTION: | | SITE-20-SW | | SITE-18-SW | | SITE-24-SW | | SITE-01-SW | | SITE-23-SW | |
|---------------------------|------|---------------------|------|------------|------|------------|------|------------|-----|------------|------|------------|-------|
| | | G / S | RDL | Water | RDL | Water | RDL | Water | RDL | Water | RDL | Water | RDL |
| DATE SAMPLED: | | 2022-06-18 | | 2022-06-19 | | 2022-06-19 | | 2022-06-19 | | 2022-06-19 | | 2022-06-19 | |
| | | 13:55 | | 09:10 | | 10:45 | | 10:45 | | 10:45 | | 12:00 | |
| | | 4007010 | | 4007011 | | 4007012 | | 4007013 | | 4007014 | | 4007014 | |
| Cation sum | me/L | | | 0.69 | | 0.52 | | 0.41 | | 0.33 | | | 0.36 |
| % Difference/ Ion Balance | % | | | 7.0 | | 10.1 | | 7.4 | | 9.1 | | | 5.9 |
| Total Aluminum | ug/L | | 5 | 39 | 5 | 42 | 5 | 25 | | 23 | 5 | | 39 |
| Total Antimony | ug/L | | 2 | <2 | 2 | <2 | 2 | <2 | | <2 | 2 | | <2 |
| Total Arsenic | ug/L | | 2 | <2 | 2 | <2 | 2 | <2 | | <2 | 2 | | <2 |
| Total Barium | ug/L | | 5 | <5 | 5 | <5 | 5 | <5 | | <5 | 5 | | <5 |
| Total Beryllium | ug/L | | 2 | <2 | 2 | <2 | 2 | <2 | | <2 | 2 | | <2 |
| Total Bismuth | ug/L | | 2 | <2 | 2 | <2 | 2 | <2 | | <2 | 2 | | <2 |
| Total Boron | ug/L | | 5 | 6 | 5 | <5 | 5 | <5 | | <5 | 5 | | <5 |
| Total Cadmium | ug/L | | 0.09 | <0.09 | 0.09 | <0.09 | 0.09 | <0.09 | | <0.09 | 0.80 | | <0.80 |
| Total Chromium | ug/L | | 1 | 2 | 1 | 1 | 1 | <1 | | <1 | 1 | | <1 |
| Total Cobalt | ug/L | | 1 | <1 | 1 | <1 | 1 | <1 | | <1 | 1 | | <1 |
| Total Copper | ug/L | | 1 | 1 | 1 | 1 | 1 | <1 | | <1 | 1 | | <1 |
| Total Iron | ug/L | | 50 | 264 | 50 | 356 | 50 | <50 | | <50 | 50 | | <50 |
| Total Lead | ug/L | | 0.5 | <0.5 | 0.5 | <0.5 | 0.5 | <0.5 | | <0.5 | 0.5 | | <0.5 |
| Total Manganese | ug/L | | 38 | 210 | 38 | 145 | 2 | 20 | | 83 | 2 | | 28 |
| Total Molybdenum | ug/L | | 2 | <2 | 2 | <2 | 2 | <2 | | <2 | 2 | | <2 |
| Total Nickel | ug/L | | 2 | 5 | 2 | <2 | 2 | <2 | | <2 | 2 | | <2 |
| Total Phosphorous | mg/L | | 0.02 | <0.02 | 0.02 | 0.02 | 0.02 | <0.02 | | <0.02 | 0.02 | | 0.04 |
| Total Selenium | ug/L | | 1 | <1 | 1 | <1 | 1 | <1 | | <1 | 1 | | <1 |
| Total Silver | ug/L | | 0.1 | <0.1 | 0.1 | <0.1 | 0.1 | <0.1 | | <0.1 | 0.1 | | <0.1 |
| Total Strontium | ug/L | | 5 | 18 | 5 | 15 | 5 | 20 | | 15 | 5 | | 17 |
| Total Thallium | ug/L | | 2 | <2 | 0.1 | <0.1 | 2 | <2 | | <2 | 2 | | <2 |
| Total Tin | ug/L | | 2 | <2 | 2 | <2 | 2 | <2 | | <2 | 2 | | <2 |
| Total Titanium | ug/L | | 2 | <2 | 2 | <2 | 2 | <2 | | <2 | 2 | | <2 |
| Total Uranium | ug/L | | 0.2 | <0.2 | 0.2 | <0.2 | 0.2 | <0.2 | | <0.2 | 0.2 | | <0.2 |
| Total Vanadium | ug/L | | 2 | <2 | 2 | <2 | 2 | <2 | | <2 | 2 | | <2 |
| Total Zinc | ug/L | | 5 | <5 | 5 | <5 | 5 | <5 | | <5 | 5 | | <5 |

Certified By:

Sara Knox



Certificate of Analysis

AGAT WORK ORDER: 22K911258

PROJECT:

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals

DATE RECEIVED: 2022-06-22

DATE REPORTED: 2022-07-08

| Parameter | Unit | SAMPLE DESCRIPTION: | | SITE-10-SW | SW-SD-02 | SITE-11-SW | RDL | SITE-08-SW | RDL | SITE-17-SW |
|-------------------------------|---------|---------------------|------|------------|------------|------------|------|------------|------------|------------|
| | | G / S | RDL | Water | Water | Water | | Water | | Water |
| | | DATE SAMPLED: | | 2022-06-19 | 2022-06-19 | 2022-06-20 | | | 2022-06-20 | 2022-06-20 |
| | | | | 13:40 | 13:40 | 06:45 | | | 11:40 | 12:50 |
| | | | | 4007015 | 4007016 | 4007017 | | | 4007018 | 4007019 |
| pH | | | | 6.70 | 6.70 | 6.64 | | 6.89 | | 6.75 |
| Reactive Silica as SiO2 | mg/L | | 0.5 | 0.8 | 0.8 | 1.6 | 0.5 | 1.2 | 0.5 | 0.8 |
| Chloride | mg/L | | 1 | 7 | 7 | 2 | 1 | 36 | 1 | 8 |
| Fluoride | mg/L | | 0.12 | <0.12 | <0.12 | <0.12 | 0.12 | <0.12 | 0.12 | <0.12 |
| Sulphate | mg/L | | 2 | <2 | <2 | <2 | 2 | <2 | 2 | <2 |
| Alkalinity | mg/L | | 5 | 8 | 9 | 8 | 5 | 15 | 5 | 9 |
| True Color | TCU | | 5.00 | 35.2 | 48.9 | 16.0 | 5.00 | 26.1 | 5.00 | 36.7 |
| Turbidity | NTU | | 0.5 | 1.9 | 2.5 | 2.7 | 0.5 | 1.0 | 0.5 | 2.4 |
| Electrical Conductivity | umho/cm | | 1 | 48 | 49 | 27 | 1 | 164 | 1 | 53 |
| Nitrate + Nitrite as N | mg/L | | 0.05 | <0.05 | <0.05 | 0.19 | 0.05 | 0.07 | 0.05 | <0.05 |
| Nitrate as N | mg/L | | 0.05 | <0.05 | <0.05 | 0.19 | 0.05 | 0.07 | 0.05 | <0.05 |
| Nitrite as N | mg/L | | 0.05 | <0.05 | <0.05 | <0.05 | 0.05 | <0.05 | 0.05 | <0.05 |
| Ammonia as N | mg/L | | 0.03 | <0.03 | <0.03 | <0.03 | 0.03 | <0.03 | 0.03 | <0.03 |
| Total Organic Carbon | mg/L | | 0.5 | 14.7 | 8.7 | 8.3 | 0.5 | 10.6 | 0.5 | 11.3 |
| Ortho-Phosphate as P | mg/L | | 0.01 | <0.01 | <0.01 | <0.01 | 0.01 | <0.01 | 0.01 | <0.01 |
| Total Sodium | mg/L | | 0.1 | 5.8 | 5.8 | 2.7 | 1 | 25 | 0.1 | 6.8 |
| Total Potassium | mg/L | | 0.1 | 0.2 | 0.2 | 0.2 | 0.1 | 0.3 | 0.1 | 0.2 |
| Total Calcium | mg/L | | 0.1 | 2.2 | 2.1 | 1.9 | 0.1 | 5.6 | 0.1 | 2.2 |
| Total Magnesium | mg/L | | 0.1 | 1.3 | 1.3 | 1.0 | 0.1 | 1.5 | 0.1 | 1.6 |
| Bicarb. Alkalinity (as CaCO3) | mg/L | | 5 | 8 | 9 | 8 | 5 | 15 | 5 | 9 |
| Carb. Alkalinity (as CaCO3) | mg/L | | 10 | <10 | <10 | <10 | 10 | <10 | 10 | <10 |
| Hydroxide | mg/L | | 5 | <5 | <5 | <5 | 5 | <5 | 5 | <5 |
| Calculated TDS | mg/L | | 1 | 22 | 22 | 14 | 1 | 78 | 1 | 25 |
| Hardness | mg/L | | | 10.8 | 10.6 | 8.9 | | 20.2 | | 12.1 |
| Langelier Index (@20C) | NA | | | -3.58 | -3.55 | -3.68 | | -2.76 | | -3.48 |
| Langelier Index (@ 4C) | NA | | | -3.90 | -3.87 | -4.00 | | -3.08 | | -3.80 |
| Saturation pH (@ 20C) | NA | | | 10.3 | 10.2 | 10.3 | | 9.65 | | 10.2 |
| Saturation pH (@ 4C) | NA | | | 10.6 | 10.6 | 10.6 | | 9.97 | | 10.5 |
| Anion Sum | me/L | | | 0.36 | 0.38 | 0.23 | | 1.32 | | 0.41 |

Certified By:

Sara Knox



Certificate of Analysis

AGAT WORK ORDER: 22K911258

PROJECT:

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals

DATE RECEIVED: 2022-06-22

DATE REPORTED: 2022-07-08

| Parameter | Unit | SAMPLE DESCRIPTION: | | SITE-10-SW | SW-SD-02 | SITE-11-SW | RDL | SITE-08-SW | RDL | SITE-17-SW |
|---------------------------|------|---------------------|------|------------|------------|------------|------|------------|------------|------------|
| | | G / S | RDL | Water | Water | Water | | Water | | Water |
| | | DATE SAMPLED: | | 2022-06-19 | 2022-06-19 | 2022-06-20 | | | 2022-06-20 | 2022-06-20 |
| | | | | 13:40 | 13:40 | 06:45 | | | 11:40 | 12:50 |
| | | | | 4007015 | 4007016 | 4007017 | | | 4007018 | 4007019 |
| Cation sum | me/L | | | 0.49 | 0.49 | 0.31 | | 1.51 | | 0.56 |
| % Difference/ Ion Balance | % | | | 15.7 | 12.5 | 14.2 | | 6.8 | | 16.0 |
| Total Aluminum | ug/L | 5 | | 33 | 32 | 53 | 5 | 37 | 5 | 29 |
| Total Antimony | ug/L | 2 | | <2 | <2 | <2 | 2 | <2 | 2 | <2 |
| Total Arsenic | ug/L | 2 | | <2 | <2 | <2 | 2 | <2 | 2 | <2 |
| Total Barium | ug/L | 5 | | <5 | <5 | <5 | 5 | <5 | 5 | <5 |
| Total Beryllium | ug/L | 2 | | <2 | <2 | <2 | 2 | <2 | 2 | <2 |
| Total Bismuth | ug/L | 2 | | <2 | <2 | <2 | 2 | <2 | 2 | <2 |
| Total Boron | ug/L | 5 | | <5 | <5 | <5 | 5 | <5 | 5 | <5 |
| Total Cadmium | ug/L | | 0.09 | <0.09 | <0.09 | <0.09 | 0.09 | <0.09 | 0.09 | <0.09 |
| Total Chromium | ug/L | 1 | | <1 | <1 | <1 | 1 | <1 | 1 | <1 |
| Total Cobalt | ug/L | 1 | | <1 | <1 | <1 | 1 | <1 | 1 | <1 |
| Total Copper | ug/L | 1 | | <1 | <1 | <1 | 1 | <1 | 1 | <1 |
| Total Iron | ug/L | | 50 | 265 | 263 | <50 | 50 | 254 | 50 | 322 |
| Total Lead | ug/L | | 0.5 | <0.5 | <0.5 | <0.5 | 0.5 | <0.5 | 0.5 | <0.5 |
| Total Manganese | ug/L | 2 | | 90 | 90 | 11 | 2 | 70 | 2 | 80 |
| Total Molybdenum | ug/L | 2 | | <2 | <2 | <2 | 2 | <2 | 2 | <2 |
| Total Nickel | ug/L | 2 | | <2 | <2 | <2 | 2 | <2 | 2 | <2 |
| Total Phosphorous | mg/L | | 0.02 | <0.02 | 0.02 | <0.02 | 0.02 | 0.02 | 0.02 | 0.02 |
| Total Selenium | ug/L | 1 | | <1 | <1 | <1 | 1 | <1 | 1 | <1 |
| Total Silver | ug/L | | 0.1 | <0.1 | <0.1 | <0.1 | 0.1 | <0.1 | 0.1 | <0.1 |
| Total Strontium | ug/L | 5 | | 16 | 15 | 16 | 5 | 37 | 5 | 15 |
| Total Thallium | ug/L | 2 | | <2 | <2 | <2 | 0.1 | <0.1 | 0.1 | <0.1 |
| Total Tin | ug/L | 2 | | <2 | <2 | <2 | 2 | <2 | 2 | <2 |
| Total Titanium | ug/L | 2 | | <2 | <2 | <2 | 2 | <2 | 2 | <2 |
| Total Uranium | ug/L | | 0.2 | <0.2 | <0.2 | <0.2 | 0.2 | <0.2 | 0.2 | <0.2 |
| Total Vanadium | ug/L | 2 | | <2 | <2 | <2 | 2 | <2 | 2 | <2 |
| Total Zinc | ug/L | 5 | | <5 | <5 | <5 | 5 | <5 | 5 | <5 |

Certified By:

Sara Knox



Certificate of Analysis

AGAT WORK ORDER: 22K911258

PROJECT:

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals

DATE RECEIVED: 2022-06-22

DATE REPORTED: 2022-07-08

| Parameter | Unit | SAMPLE DESCRIPTION: | | SITE-16-SW | SITE-07-SW | SITE-06-SW | SITE-13-SW | SITE-12-SW | | |
|-------------------------------|---------|---------------------|------|------------|------------|------------|------------|------------|-------|-------|
| | | G / S | RDL | Water | Water | Water | Water | Water | | |
| | | DATE SAMPLED: | | 2022-06-20 | 2022-06-20 | 2022-06-20 | 2022-06-21 | 2022-06-21 | | |
| | | | | 13:57 | 14:05 | 17:05 | 09:20 | 09:42 | | |
| | | | | 4007020 | 4007021 | 4007022 | 4007023 | 4007024 | | |
| pH | | | | 6.83 | 6.61 | 6.86 | 6.52 | 6.48 | | |
| Reactive Silica as SiO2 | mg/L | | 0.5 | 2.3 | 3.3 | 0.5 | 0.7 | 0.5 | 1.2 | 2.5 |
| Chloride | mg/L | | 1 | 3 | 4 | 1 | 38 | 1 | 2 | 3 |
| Fluoride | mg/L | | 0.12 | 0.12 | <0.12 | 0.12 | <0.12 | 0.12 | <0.12 | <0.12 |
| Sulphate | mg/L | | 2 | <2 | <2 | 2 | 4 | 2 | <2 | <2 |
| Alkalinity | mg/L | | 5 | 14 | 16 | 5 | 16 | 5 | 5 | 6 |
| True Color | TCU | | 5.00 | 95.5 | 43.0 | 5.00 | 27.5 | 5.00 | 17.9 | 23.0 |
| Turbidity | NTU | | 0.5 | 2.4 | 2.4 | 0.5 | 2.2 | 0.5 | 2.0 | 2.2 |
| Electrical Conductivity | umho/cm | | 1 | 41 | 58 | 1 | 174 | 1 | 22 | 26 |
| Nitrate + Nitrite as N | mg/L | | 0.05 | 0.05 | <0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.08 |
| Nitrate as N | mg/L | | 0.05 | 0.05 | <0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.08 |
| Nitrite as N | mg/L | | 0.05 | <0.05 | <0.05 | 0.05 | <0.05 | 0.05 | <0.05 | <0.05 |
| Ammonia as N | mg/L | | 0.03 | 0.08 | 0.06 | 0.03 | <0.03 | 0.03 | <0.03 | <0.03 |
| Total Organic Carbon | mg/L | | 0.5 | 13.8 | 17.3 | 0.5 | 14.9 | 0.5 | 9.1 | 8.4 |
| Ortho-Phosphate as P | mg/L | | 0.01 | <0.01 | <0.01 | 0.01 | <0.01 | 0.01 | <0.01 | <0.01 |
| Total Sodium | mg/L | | 0.1 | 3.1 | 4.9 | 1 | 23 | 0.1 | 2.7 | 2.8 |
| Total Potassium | mg/L | | 0.1 | 0.3 | 0.9 | 0.1 | 0.7 | 0.1 | 0.1 | 0.1 |
| Total Calcium | mg/L | | 0.1 | 3.4 | 4.9 | 0.1 | 7.8 | 0.1 | 1.0 | 1.4 |
| Total Magnesium | mg/L | | 0.1 | 1.9 | 1.5 | 0.1 | 1.9 | 0.1 | 0.8 | 0.9 |
| Bicarb. Alkalinity (as CaCO3) | mg/L | | 5 | 14 | 16 | 5 | 16 | 5 | 5 | 6 |
| Carb. Alkalinity (as CaCO3) | mg/L | | 10 | <10 | <10 | 10 | <10 | 10 | <10 | <10 |
| Hydroxide | mg/L | | 5 | <5 | <5 | 5 | <5 | 5 | <5 | <5 |
| Calculated TDS | mg/L | | 1 | 22 | 28 | 1 | 86 | 1 | 10 | 12 |
| Hardness | mg/L | | | 16.3 | 18.4 | | 27.3 | | 5.8 | 7.2 |
| Langelier Index (@20C) | NA | | | -3.01 | -3.03 | | -2.62 | | -4.27 | -4.09 |
| Langelier Index (@ 4C) | NA | | | -3.33 | -3.35 | | -2.94 | | -4.59 | -4.41 |
| Saturation pH (@ 20C) | NA | | | 9.84 | 9.64 | | 9.48 | | 10.8 | 10.6 |
| Saturation pH (@ 4C) | NA | | | 10.2 | 9.96 | | 9.80 | | 11.1 | 10.9 |
| Anion Sum | me/L | | | 0.37 | 0.43 | | 1.48 | | 0.16 | 0.21 |

Certified By:

Sara Knox



Certificate of Analysis

AGAT WORK ORDER: 22K911258

PROJECT:

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals

DATE RECEIVED: 2022-06-22

DATE REPORTED: 2022-07-08

| Parameter | Unit | SAMPLE DESCRIPTION: | | SITE-16-SW | SITE-07-SW | SITE-06-SW | | SITE-13-SW | SITE-12-SW | |
|---------------------------|------|---------------------|-------|------------|------------|------------|-------|------------|------------|------|
| | | G / S | RDL | Water | Water | Water | Water | Water | | |
| DATE SAMPLED: | | 2022-06-20 | | 2022-06-20 | 2022-06-20 | 2022-06-20 | | 2022-06-21 | 2022-06-21 | |
| | | 13:57 | | 14:05 | 17:05 | 17:05 | | 09:20 | 09:42 | |
| | | 4007020 | | 4007021 | RDL | 4007022 | | RDL | 4007024 | |
| Cation sum | me/L | | | 0.53 | 0.68 | | 1.58 | | 0.25 | 0.28 |
| % Difference/ Ion Balance | % | | | 18.4 | 21.9 | | 3.3 | | 21.9 | 14.5 |
| Total Aluminum | ug/L | 5 | 83 | 99 | 5 | 62 | 5 | 46 | 63 | |
| Total Antimony | ug/L | 2 | <2 | <2 | 2 | <2 | 2 | <2 | <2 | |
| Total Arsenic | ug/L | 2 | 5 | 2 | 2 | 4 | 2 | <2 | <2 | |
| Total Barium | ug/L | 5 | <5 | <5 | 5 | <5 | 5 | <5 | <5 | |
| Total Beryllium | ug/L | 2 | <2 | <2 | 2 | <2 | 2 | <2 | <2 | |
| Total Bismuth | ug/L | 2 | <2 | <2 | 2 | <2 | 2 | <2 | <2 | |
| Total Boron | ug/L | 5 | <5 | <5 | 5 | <5 | 5 | <5 | <5 | |
| Total Cadmium | ug/L | 0.09 | <0.09 | <0.09 | 0.09 | <0.09 | 0.09 | <0.09 | <0.09 | |
| Total Chromium | ug/L | 1 | <1 | <1 | 1 | <1 | 1 | <1 | <1 | |
| Total Cobalt | ug/L | 1 | <1 | <1 | 1 | <1 | 1 | <1 | <1 | |
| Total Copper | ug/L | 1 | <1 | 1 | 1 | <1 | 1 | <1 | <1 | |
| Total Iron | ug/L | 50 | 1200 | 464 | 50 | 179 | 50 | 178 | 74 | |
| Total Lead | ug/L | 0.5 | <0.5 | <0.5 | 0.5 | <0.5 | 0.5 | <0.5 | <0.5 | |
| Total Manganese | ug/L | 38 | 228 | 1070 | 2 | 82 | 2 | 69 | 98 | |
| Total Molybdenum | ug/L | 2 | <2 | <2 | 2 | <2 | 2 | <2 | <2 | |
| Total Nickel | ug/L | 2 | <2 | 2 | 2 | <2 | 2 | <2 | <2 | |
| Total Phosphorous | mg/L | 0.02 | 0.03 | 0.02 | 0.02 | 0.03 | 0.02 | 0.02 | 0.02 | |
| Total Selenium | ug/L | 1 | <1 | <1 | 1 | <1 | 1 | <1 | <1 | |
| Total Silver | ug/L | 0.1 | <0.1 | <0.1 | 0.1 | <0.1 | 0.1 | <0.1 | <0.1 | |
| Total Strontium | ug/L | 5 | 25 | 29 | 5 | 54 | 5 | 6 | 16 | |
| Total Thallium | ug/L | 0.1 | <0.1 | <0.1 | 0.1 | <0.1 | 2 | <2 | <2 | |
| Total Tin | ug/L | 2 | <2 | <2 | 2 | <2 | 2 | <2 | <2 | |
| Total Titanium | ug/L | 2 | <2 | <2 | 2 | <2 | 2 | <2 | <2 | |
| Total Uranium | ug/L | 0.2 | <0.2 | <0.2 | 0.2 | <0.2 | 0.2 | <0.2 | <0.2 | |
| Total Vanadium | ug/L | 2 | <2 | <2 | 2 | <2 | 2 | <2 | <2 | |
| Total Zinc | ug/L | 5 | <5 | 6 | 5 | <5 | 5 | <5 | <5 | |

Certified By:

Sara Knox



Certificate of Analysis

AGAT WORK ORDER: 22K911258

PROJECT:

57 Old Pennywell Road, Unit I
 St. John's, NL
 CANADA A1E 6A8
 TEL (709)747-8573
 FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals

DATE RECEIVED: 2022-06-22

DATE REPORTED: 2022-07-08

| Parameter | Unit | SAMPLE DESCRIPTION: SITE-14-SW | | SITE-22-SW | | SITE-15-SW | | SW-SD-01 | | |
|-------------------------------|---------|--------------------------------|------|---------------------|------|---------------------|------|---------------------|---------------------|-------|
| | | G / S | RDL | RDL | RDL | RDL | RDL | RDL | | |
| | | | | 4007025 | | 4007026 | | 4007027 | 4007028 | |
| | | | | 2022-06-21 10:35 | | 2022-06-21 15:00 | | 2022-06-21 15:55 | 2022-06-17 13:40 | |
| | | | | Water | | Water | | Water | Water | |
| pH | | | | 7.27 | | 6.70 | | 6.65 | 6.11 | |
| Reactive Silica as SiO2 | mg/L | | 0.5 | 7.2 | 0.5 | 1.1 | 0.5 | 1.1 | 0.5 | <0.5 |
| Chloride | mg/L | | 1 | 3 | 1 | 12 | 1 | 9 | 1 | 3 |
| Fluoride | mg/L | | 0.12 | <0.12 | 0.12 | <0.12 | 0.12 | <0.12 | 0.12 | <0.12 |
| Sulphate | mg/L | | 2 | <2 | 2 | <2 | 2 | <2 | 2 | <2 |
| Alkalinity | mg/L | | 5 | 44 | 5 | 7 | 5 | 7 | 5 | <5 |
| True Color | TCU | | 5.00 | 79.9 | 5.00 | 26.0 | 5.00 | 30.1 | 5.00 | 19.6 |
| Turbidity | NTU | | 0.5 | 1.4 | 0.5 | 2.4 | 0.5 | 1.7 | 0.5 | 2.4 |
| Electrical Conductivity | umho/cm | | 1 | 87 | 1 | 63 | 1 | 54 | 1 | 21 |
| Nitrate + Nitrite as N | mg/L | | 0.05 | <0.05 | 0.05 | <0.05 | 0.05 | <0.05 | 0.05 | <0.05 |
| Nitrate as N | mg/L | | 0.05 | <0.05 | 0.05 | <0.05 | 0.05 | <0.05 | 0.05 | <0.05 |
| Nitrite as N | mg/L | | 0.05 | <0.05 | 0.05 | <0.05 | 0.05 | <0.05 | 0.05 | <0.05 |
| Ammonia as N | mg/L | | 0.03 | 0.04 | 0.03 | <0.03 | 0.03 | <0.03 | 0.03 | <0.03 |
| Total Organic Carbon | mg/L | | 0.5 | 18.4 | 0.5 | 12.1 | 0.5 | 7.6 | 0.5 | 8.5 |
| Ortho-Phosphate as P | mg/L | | 0.01 | <0.01 | 0.01 | <0.01 | 0.01 | <0.01 | 0.01 | <0.01 |
| Total Sodium | mg/L | | 0.1 | 2.9 | 0.1 | 8.2 | 0.1 | 6.8 | 0.1 | 2.1 |
| Total Potassium | mg/L | | 0.1 | 0.2 | 0.1 | 0.2 | 0.1 | 0.2 | 0.1 | 0.3 |
| Total Calcium | mg/L | | 0.1 | 3.5 | 0.1 | 1.7 | 0.1 | 1.8 | 0.1 | 1.1 |
| Total Magnesium | mg/L | | 0.1 | 8.8 | 0.1 | 1.5 | 0.1 | 1.5 | 0.1 | 0.5 |
| Bicarb. Alkalinity (as CaCO3) | mg/L | | 5 | 44 | 5 | 7 | 5 | 7 | 5 | <5 |
| Carb. Alkalinity (as CaCO3) | mg/L | | 10 | <10 | 10 | <10 | 10 | <10 | 10 | <10 |
| Hydroxide | mg/L | | 5 | <5 | 5 | <5 | 5 | <5 | 5 | <5 |
| Calculated TDS | mg/L | | 1 | 45 | 1 | 28 | 1 | 24 | 1 | 7 |
| Hardness | mg/L | | | 45.0 | | 10.4 | | 10.7 | | 4.8 |
| Langelier Index (@20C) | NA | | | -2.10 | | -3.76 | | -3.77 | | -4.65 |
| Langelier Index (@ 4C) | NA | | | -2.42 | | -4.08 | | -4.09 | | -4.97 |
| Saturation pH (@ 20C) | NA | | | 9.37 | | 10.5 | | 10.4 | | 10.8 |
| Saturation pH (@ 4C) | NA | | | 9.69 | | 10.8 | | 10.7 | | 11.1 |
| Anion Sum | me/L | | | 0.96 | | 0.48 | | 0.39 | | 0.08 |

Certified By:

Sara Knox



Certificate of Analysis

AGAT WORK ORDER: 22K911258

PROJECT:

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St. John's, NL
CANADA A1E 6A8
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FAX (709 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals

DATE RECEIVED: 2022-06-22

DATE REPORTED: 2022-07-08

| Parameter | Unit | SAMPLE DESCRIPTION: SITE-14-SW | | SITE-22-SW | | SITE-15-SW | | SW-SD-01 | |
|---------------------------|------|--------------------------------|-------|------------|-------|------------|-------|----------|-------|
| | | G / S | RDL | RDL | RDL | RDL | RDL | RDL | |
| Cation sum | me/L | | 1.05 | | 0.58 | | 0.53 | | 0.21 |
| % Difference/ Ion Balance | % | | 4.0 | | 9.5 | | 15.2 | | 41.9 |
| Total Aluminum | ug/L | 5 | 61 | 5 | 39 | 5 | 38 | 5 | 48 |
| Total Antimony | ug/L | 2 | <2 | 2 | <2 | 2 | <2 | 2 | <2 |
| Total Arsenic | ug/L | 2 | <2 | 2 | <2 | 2 | <2 | 2 | <2 |
| Total Barium | ug/L | 5 | <5 | 5 | <5 | 5 | <5 | 5 | <5 |
| Total Beryllium | ug/L | 2 | <2 | 2 | <2 | 2 | <2 | 2 | <2 |
| Total Bismuth | ug/L | 2 | <2 | 2 | <2 | 2 | <2 | 2 | <2 |
| Total Boron | ug/L | 5 | 6 | 5 | <5 | 5 | <5 | 5 | <5 |
| Total Cadmium | ug/L | 0.09 | <0.09 | 0.09 | <0.09 | 0.09 | <0.09 | 0.09 | <0.09 |
| Total Chromium | ug/L | 1 | 4 | 1 | <1 | 1 | <1 | 1 | <1 |
| Total Cobalt | ug/L | 1 | <1 | 1 | <1 | 1 | <1 | 1 | <1 |
| Total Copper | ug/L | 1 | <1 | 1 | 2 | 1 | <1 | 1 | <1 |
| Total Iron | ug/L | 50 | 227 | 50 | 82 | 50 | 222 | 50 | 90 |
| Total Lead | ug/L | 0.5 | <0.5 | 0.5 | <0.5 | 0.5 | <0.5 | 0.5 | <0.5 |
| Total Manganese | ug/L | 2 | 18 | 2 | 37 | 38 | 238 | 2 | 65 |
| Total Molybdenum | ug/L | 2 | <2 | 2 | <2 | 2 | <2 | 2 | <2 |
| Total Nickel | ug/L | 2 | 6 | 2 | <2 | 2 | <2 | 2 | <2 |
| Total Phosphorous | mg/L | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 |
| Total Selenium | ug/L | 1 | <1 | 1 | <1 | 1 | <1 | 1 | <1 |
| Total Silver | ug/L | 2 | <2 | 0.1 | <0.1 | 0.1 | <0.1 | 0.1 | <0.1 |
| Total Strontium | ug/L | 5 | 26 | 5 | 12 | 5 | 14 | 5 | 8 |
| Total Thallium | ug/L | 0.1 | <0.1 | 2 | <2 | 2 | <2 | 0.1 | <0.1 |
| Total Tin | ug/L | 2 | <2 | 2 | <2 | 2 | <2 | 2 | <2 |
| Total Titanium | ug/L | 2 | <2 | 2 | <2 | 2 | <2 | 2 | <2 |
| Total Uranium | ug/L | 0.2 | <0.2 | 0.2 | <0.2 | 0.2 | <0.2 | 0.2 | <0.2 |
| Total Vanadium | ug/L | 2 | <2 | 2 | <2 | 2 | <2 | 2 | <2 |
| Total Zinc | ug/L | 5 | <5 | 5 | <5 | 5 | <5 | 5 | <5 |

Certified By:

Sara Knox



Certificate of Analysis

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CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals

DATE RECEIVED: 2022-06-22

DATE REPORTED: 2022-07-08

- Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard
- 4006908 % Difference / Ion Balance, Hardness, Langelier Index, Nitrate + Nitrite, Hydroxide and Saturation pH are calculated parameters. The calculated parameters are non-accredited. The component parameters of the calculations are accredited. Ion Balance is biased high, contributing parameters have been confirmed.
 - 4007006 % Difference / Ion Balance, Hardness, Langelier Index, Nitrate + Nitrite, Hydroxide and Saturation pH are calculated parameters. The calculated parameters are non-accredited. The component parameters of the calculations are accredited.
 - 4007007-4007009 % Difference / Ion Balance, Hardness, Langelier Index, Nitrate + Nitrite, Hydroxide and Saturation pH are calculated parameters. The calculated parameters are non-accredited. The component parameters of the calculations are accredited. Ion Balance is biased high, contributing parameters have been confirmed.
 - 4007010-4007014 % Difference / Ion Balance, Hardness, Langelier Index, Nitrate + Nitrite, Hydroxide and Saturation pH are calculated parameters. The calculated parameters are non-accredited. The component parameters of the calculations are accredited.
 - 4007015-4007017 % Difference / Ion Balance, Hardness, Langelier Index, Nitrate + Nitrite, Hydroxide and Saturation pH are calculated parameters. The calculated parameters are non-accredited. The component parameters of the calculations are accredited. Ion Balance is biased high, contributing parameters have been confirmed.
 - 4007018 % Difference / Ion Balance, Hardness, Langelier Index, Nitrate + Nitrite, Hydroxide and Saturation pH are calculated parameters. The calculated parameters are non-accredited. The component parameters of the calculations are accredited.
 - 4007019 % Difference / Ion Balance, Hardness, Langelier Index, Nitrate + Nitrite, Hydroxide and Saturation pH are calculated parameters. The calculated parameters are non-accredited. The component parameters of the calculations are accredited. Ion Balance is biased high, contributing parameters have been confirmed.
 - 4007020-4007021 % Difference / Ion Balance, Hardness, Langelier Index, Nitrate + Nitrite, Hydroxide and Saturation pH are calculated parameters. The calculated parameters are non-accredited. The component parameters of the calculations are accredited. Ion Balance is biased high, contributing parameters have been confirmed.
 - 4007022 % Difference / Ion Balance, Hardness, Langelier Index, Nitrate + Nitrite, Hydroxide and Saturation pH are calculated parameters. The calculated parameters are non-accredited. The component parameters of the calculations are accredited.
 - 4007023 % Difference / Ion Balance, Hardness, Langelier Index, Nitrate + Nitrite, Hydroxide and Saturation pH are calculated parameters. The calculated parameters are non-accredited. The component parameters of the calculations are accredited. Ion Balance is biased high, contributing parameters have been confirmed.
 - 4007024 % Difference / Ion Balance, Hardness, Langelier Index, Nitrate + Nitrite, Hydroxide and Saturation pH are calculated parameters. The calculated parameters are non-accredited. The component parameters of the calculations are accredited. Ion Balance is biased high, contributing parameters have been confirmed.
 - 4007025-4007026 % Difference / Ion Balance, Hardness, Langelier Index, Nitrate + Nitrite, Hydroxide and Saturation pH are calculated parameters. The calculated parameters are non-accredited. The component parameters of the calculations are accredited.
 - 4007027-4007028 % Difference / Ion Balance, Hardness, Langelier Index, Nitrate + Nitrite, Hydroxide and Saturation pH are calculated parameters. The calculated parameters are non-accredited. The component parameters of the calculations are accredited. Ion Balance is biased high, contributing parameters have been confirmed.

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 22K911258

PROJECT:

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

SAMPLING SITE:

ATTENTION TO: Darrol Rice

SAMPLED BY:

| TSS | | | | | | | | | | | |
|---------------------------|------|---------------------|-----|---------------------|---------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| DATE RECEIVED: 2022-06-22 | | | | | DATE REPORTED: 2022-07-08 | | | | | | |
| | | SAMPLE DESCRIPTION: | | SITE-02-SW | SITE-19-SW | SITE-09-SW | SITE-03-SW | SITE-04-SW | SITE-20-SW | SITE-18-SW | SITE-24-SW |
| | | SAMPLE TYPE: | | Water | Water | Water | Water | Water | Water | Water | Water |
| | | DATE SAMPLED: | | 2022-06-17 14:30 | 2022-06-17 15:30 | 2022-06-17 16:15 | 2022-06-18 10:30 | 2022-06-18 11:10 | 2022-06-18 13:55 | 2022-06-19 09:10 | 2022-06-19 10:45 |
| Parameter | Unit | G / S | RDL | 4006908 | 4007006 | 4007007 | 4007008 | 4007009 | 4007010 | 4007011 | 4007012 |
| Total Suspended Solids | mg/L | | 5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| | | SAMPLE DESCRIPTION: | | SITE-01-SW | SITE-23-SW | SITE-10-SW | SW-SD-02 | SITE-11-SW | SITE-08-SW | SITE-17-SW | SITE-16-SW |
| | | SAMPLE TYPE: | | Water | Water | Water | Water | Water | Water | Water | Water |
| | | DATE SAMPLED: | | 2022-06-19 10:45 | 2022-06-19 12:00 | 2022-06-19 13:40 | 2022-06-19 13:40 | 2022-06-20 06:45 | 2022-06-20 11:40 | 2022-06-20 12:50 | 2022-06-20 13:57 |
| Parameter | Unit | G / S | RDL | 4007013 | 4007014 | 4007015 | 4007016 | 4007017 | 4007018 | 4007019 | 4007020 |
| Total Suspended Solids | mg/L | | 5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| | | SAMPLE DESCRIPTION: | | SITE-07-SW | SITE-06-SW | SITE-13-SW | SITE-12-SW | SITE-14-SW | SITE-22-SW | SITE-15-SW | SW-SD-01 |
| | | SAMPLE TYPE: | | Water | Water | Water | Water | Water | Water | Water | Water |
| | | DATE SAMPLED: | | 2022-06-20 14:05 | 2022-06-20 17:05 | 2022-06-21 09:20 | 2022-06-21 09:42 | 2022-06-21 10:35 | 2022-06-21 15:00 | 2022-06-21 15:55 | 2022-06-17 13:40 |
| Parameter | Unit | G / S | RDL | 4007021 | 4007022 | 4007023 | 4007024 | 4007025 | 4007026 | 4007027 | 4007028 |
| Total Suspended Solids | mg/L | | 5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard
Analysis performed at AGAT Halifax (unless marked by *)

Certified By:

Sara Knox

Quality Assurance

CLIENT NAME: GEMTEC LIMITED

AGAT WORK ORDER: 22K911258

PROJECT:

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

| Soil Analysis | | | | | | | | | | | | | | | |
|------------------------|-------|-----------|-----------|--------|-----|----------------|--------------|--------------------|-------|----------|--------------------|-------|--------------|-------------------|-------|
| RPT Date: Jul 08, 2022 | | | DUPLICATE | | | | Method Blank | REFERENCE MATERIAL | | | METHOD BLANK SPIKE | | MATRIX SPIKE | | |
| PARAMETER | Batch | Sample Id | Dup #1 | Dup #2 | RPD | Measured Value | | Acceptable Limits | | Recovery | Acceptable Limits | | Recovery | Acceptable Limits | |
| | | | | | | | | Lower | Upper | | Lower | Upper | | Lower | Upper |

Halifax - Metals (Soil)

| | | | | | | | | | | | | | | | |
|------------|-----|---------|-------|-------|------|-------|------|-----|------|------|-----|------|------|-----|------|
| Aluminum | 188 | 4009294 | 17900 | 19600 | 9.1% | < 10 | 108% | 70% | 130% | 111% | 80% | 120% | 105% | 70% | 130% |
| Antimony | 186 | 4009294 | <1 | <1 | NA | < 1 | 109% | 70% | 130% | 101% | 80% | 120% | 119% | 70% | 130% |
| Arsenic | 186 | 4009294 | 52 | 55 | 5.6% | < 1 | 99% | 80% | 120% | 103% | 80% | 120% | 120% | 80% | 120% |
| Barium | 186 | 4009294 | 39 | 38 | 2.6% | < 1 | 103% | 70% | 130% | 98% | 80% | 120% | 111% | 70% | 130% |
| Beryllium | 186 | 4009294 | <1 | <1 | NA | < 1 | 105% | 70% | 130% | 111% | 80% | 120% | 109% | 70% | 130% |
| Boron | 188 | 4009294 | 60 | 65 | 8.0% | < 2 | 114% | 70% | 130% | 108% | 80% | 120% | 103% | 70% | 130% |
| Cadmium | 186 | 4009294 | <0.3 | <0.3 | NA | < 0.3 | 102% | 70% | 130% | 99% | 80% | 120% | 106% | 70% | 130% |
| Chromium | 186 | 4009294 | 52 | 53 | 1.9% | < 2 | 106% | 70% | 130% | 108% | 80% | 120% | 114% | 70% | 130% |
| Cobalt | 186 | 4009294 | 20 | 20 | 0.0% | < 1 | 107% | 70% | 130% | 105% | 80% | 120% | 116% | 70% | 130% |
| Copper | 186 | 4009294 | 13 | 13 | 0.0% | < 2 | 102% | 70% | 130% | 108% | 80% | 120% | 119% | 70% | 130% |
| Iron | 188 | 4009294 | 43700 | 46500 | 6.2% | < 50 | 115% | 80% | 120% | | | | 103% | 80% | 120% |
| Lead | 186 | 4009294 | 9.1 | 9.0 | 1.1% | < 0.5 | 106% | 70% | 130% | 101% | 80% | 120% | 126% | 70% | 130% |
| Lithium | 186 | 4009294 | 49 | 49 | 0.0% | < 5 | 102% | 80% | 120% | | | | 107% | 80% | 120% |
| Manganese | 188 | 4009294 | 3030 | 3140 | 3.6% | < 2 | 107% | 70% | 130% | 108% | 80% | 120% | 102% | 70% | 130% |
| Molybdenum | 186 | 4009294 | <2 | <2 | NA | < 2 | 110% | 70% | 130% | 99% | 80% | 120% | 117% | 70% | 130% |
| Nickel | 186 | 4009294 | 88 | 87 | 1.1% | < 2 | 107% | 70% | 130% | 106% | 80% | 120% | 117% | 70% | 130% |
| Selenium | 186 | 4009294 | <1 | <1 | NA | < 1 | 101% | 70% | 130% | 93% | 80% | 120% | 98% | 70% | 130% |
| Silver | 186 | 4009294 | <0.5 | <0.5 | NA | < 0.5 | 105% | 70% | 130% | 100% | 80% | 120% | 108% | 70% | 130% |
| Strontium | 188 | 4009294 | <50 | <50 | NA | < 5 | 105% | 70% | 130% | 110% | 80% | 120% | 107% | 70% | 130% |
| Thallium | 186 | 4009294 | <0.1 | <0.1 | NA | < 0.1 | 105% | 70% | 130% | 101% | 80% | 120% | 113% | 70% | 130% |
| Tin | 186 | 4009294 | 5 | 4 | NA | < 2 | 110% | 70% | 130% | 103% | 80% | 120% | 116% | 70% | 130% |
| Uranium | 186 | 4009294 | 0.8 | 0.8 | 0.0% | < 0.1 | 105% | 70% | 130% | 101% | 80% | 120% | 118% | 70% | 130% |
| Vanadium | 186 | 4009294 | 34 | 33 | 3.0% | < 2 | 111% | 70% | 130% | 109% | 80% | 120% | 117% | 70% | 130% |
| Zinc | 186 | 4009294 | 116 | 113 | 2.6% | < 5 | 112% | 70% | 130% | 111% | 80% | 120% | 118% | 70% | 130% |
| Mercury | 186 | 4009294 | <0.03 | <0.03 | NA | < 0.5 | 121% | 70% | 130% | 103% | 80% | 120% | 115% | 70% | 130% |

Comments: If Matrix spike value is NA, the spiked analyte concentration was lower than that of the matrix contribution.
 If the RPD value is NA, the results of the duplicates are under 5X the RDL and will not be calculated.
 With multi element runs, a maximum of 10% for each QC parameter may fail to an absolute maximum of 10%

Halifax - Metals (Soil)

| | | | | | | | | | | | | | | | |
|-----------|-----|---------|-------|-------|-------|-------|------|-----|------|------|-----|------|------|-----|------|
| Aluminum | 187 | 4009296 | 23400 | 25900 | 10.1% | < 10 | 109% | 70% | 130% | 112% | 80% | 120% | 109% | 70% | 130% |
| Antimony | 186 | 4009296 | <1 | <1 | NA | < 1 | 107% | 70% | 130% | 100% | 80% | 120% | 123% | 70% | 130% |
| Arsenic | 186 | 4009296 | 3 | 3 | NA | < 1 | 104% | 80% | 120% | 98% | 80% | 120% | 106% | 80% | 120% |
| Barium | 186 | 4009296 | 14 | 12 | 15.4% | < 1 | 104% | 70% | 130% | 97% | 80% | 120% | 126% | 70% | 130% |
| Beryllium | 186 | 4009296 | <1 | <1 | NA | < 1 | 104% | 70% | 130% | 102% | 80% | 120% | 111% | 70% | 130% |
| Boron | 187 | 4009296 | 13 | 15 | 14.3% | < 2 | 112% | 70% | 130% | 108% | 80% | 120% | 103% | 70% | 130% |
| Cadmium | 186 | 4009296 | <0.3 | <0.3 | NA | < 0.3 | 102% | 70% | 130% | 99% | 80% | 120% | 108% | 70% | 130% |
| Chromium | 186 | 4009296 | 43 | 38 | 12.3% | < 2 | 112% | 70% | 130% | 107% | 80% | 120% | 117% | 70% | 130% |
| Cobalt | 186 | 4009296 | 14 | 13 | 7.4% | < 1 | 109% | 70% | 130% | 104% | 80% | 120% | 117% | 70% | 130% |

Quality Assurance

CLIENT NAME: GEMTEC LIMITED

AGAT WORK ORDER: 22K911258

PROJECT:

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

| Soil Analysis (Continued) | | | | | | | | | | | | | | | | |
|---------------------------|---------|-----------|-----------|--------|-------|----------------|--------------|--------------------|-------|----------|--------------------|-------|----------|-------------------|-------|--|
| RPT Date: Jul 08, 2022 | | | DUPLICATE | | | | Method Blank | REFERENCE MATERIAL | | | METHOD BLANK SPIKE | | | MATRIX SPIKE | | |
| PARAMETER | Batch | Sample Id | Dup #1 | Dup #2 | RPD | Measured Value | | Acceptable Limits | | Recovery | Acceptable Limits | | Recovery | Acceptable Limits | | |
| | | | | | | | | Lower | Upper | | Lower | Upper | | Lower | Upper | |
| Copper | 186 | 4009296 | 10 | 9 | NA | < 2 | 108% | 70% | 130% | 104% | 80% | 120% | 116% | 70% | 130% | |
| Iron | 187 | 4009296 | 44000 | 49000 | 10.8% | < 50 | 114% | 80% | 120% | | | | 106% | 80% | 120% | |
| Lead | 186 | 4009296 | 10.4 | 8.8 | 16.7% | < 0.5 | 104% | 70% | 130% | 107% | 80% | 120% | 117% | 70% | 130% | |
| Lithium | 186 | 4009296 | 51 | 44 | 14.7% | < 5 | 108% | 80% | 120% | | | | 80% | 80% | 120% | |
| Manganese | 187 | 4009296 | 804 | 677 | 17.2% | < 2 | 105% | 70% | 130% | 109% | 80% | 120% | 106% | 70% | 130% | |
| Molybdenum | 186 | 4009296 | <2 | <2 | NA | < 2 | 107% | 70% | 130% | 107% | 80% | 120% | 121% | 70% | 130% | |
| Nickel | 186 | 4009296 | 54 | 47 | 13.9% | < 2 | 111% | 70% | 130% | 104% | 80% | 120% | 119% | 70% | 130% | |
| Selenium | 186 | 4009296 | <1 | <1 | NA | < 1 | 99% | 70% | 130% | 99% | 80% | 120% | 97% | 70% | 130% | |
| Silver | 186 | 4009296 | <0.5 | <0.5 | NA | < 0.5 | 103% | 70% | 130% | 102% | 80% | 120% | 108% | 70% | 130% | |
| Strontium | 187 | 4009296 | <50 | <50 | NA | < 5 | 107% | 70% | 130% | 112% | 80% | 120% | 106% | 70% | 130% | |
| Thallium | 186 | 4009296 | <0.1 | <0.1 | NA | < 0.1 | 105% | 70% | 130% | 107% | 80% | 120% | 115% | 70% | 130% | |
| Tin | 186 | 4009296 | 4 | 4 | NA | < 2 | 111% | 70% | 130% | 102% | 80% | 120% | 104% | 70% | 130% | |
| Uranium | 186 | 4009296 | 0.6 | 0.5 | 18.2% | < 0.1 | 104% | 70% | 130% | 108% | 80% | 120% | 120% | 70% | 130% | |
| Vanadium | 186 | 4009296 | 32 | 28 | 13.3% | < 2 | 109% | 70% | 130% | 106% | 80% | 120% | 122% | 70% | 130% | |
| Zinc | 186 | 4009296 | 88 | 75 | 16.0% | < 5 | 118% | 70% | 130% | 106% | 80% | 120% | 106% | 70% | 130% | |
| Mercury | 4009296 | 4009296 | 0.04 | 0.03 | NA | < 0.03 | 122% | 70% | 130% | 120% | 80% | 120% | 120% | 70% | 130% | |

Comments: If Matrix spike value is NA, the spiked analyte concentration was lower than that of the matrix contribution.
 If the RPD value is NA, the results of the duplicates are under 5X the RDL and will not be calculated.
 With multi element runs, a maximum of 10% for each QC parameter may fail to an absolute maximum of 10%

Certified By: 

Quality Assurance

CLIENT NAME: GEMTEC LIMITED

AGAT WORK ORDER: 22K911258

PROJECT:

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

| Trace Organics Analysis | | | | | | | | | | | | | | |
|-------------------------|-------|-----------|-----------|--------|-----|----------------|--------------|--------------------|-------|----------|--------------------|-------|--------------|-------------------|
| RPT Date: Jul 08, 2022 | | | DUPLICATE | | | | Method Blank | REFERENCE MATERIAL | | | METHOD BLANK SPIKE | | MATRIX SPIKE | |
| PARAMETER | Batch | Sample Id | Dup #1 | Dup #2 | RPD | Measured Value | | Acceptable Limits | | Recovery | Acceptable Limits | | Recovery | Acceptable Limits |
| | | | | | | | Lower | Upper | Lower | | Upper | Lower | | Upper |

Atlantic RBCA Tier 1 Hydrocarbons in Water (Version 3.1)

| | | | | | | | | | | | | | | | |
|-----------------------|---|---------|--------|--------|----|--------|------|-----|------|------|-----|------|-----|-----|------|
| >C10-C16 Hydrocarbons | 1 | 4006908 | < 0.05 | < 0.05 | NA | < 0.05 | 112% | 70% | 130% | 105% | 70% | 130% | 93% | 70% | 130% |
| >C16-C21 Hydrocarbons | 1 | 4006908 | < 0.05 | < 0.05 | NA | < 0.05 | 114% | 70% | 130% | 105% | 70% | 130% | 93% | 70% | 130% |
| >C21-C32 Hydrocarbons | 1 | 4006908 | < 0.1 | < 0.1 | NA | < 0.1 | 114% | 70% | 130% | 105% | 70% | 130% | 93% | 70% | 130% |

Comments: If Matrix spike value is NA, the spiked analyte concentration was lower than that of the matrix contribution. Matrix spike performed on a different sample than the duplicate.

If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Atlantic RBCA Tier 1 Hydrocarbons in Water (Version 3.1)

| | | | | | | | | | | | | | | | |
|--------------------|---|---------|---------|---------|----|---------|------|-----|------|------|-----|------|-----|-----|------|
| Benzene | 1 | 4008656 | < 0.001 | < 0.001 | NA | < 0.001 | 93% | 70% | 130% | 129% | 70% | 130% | | | |
| Toluene | 1 | 4008656 | < 0.001 | < 0.001 | NA | < 0.001 | 102% | 70% | 130% | 125% | 70% | 130% | | | |
| Ethylbenzene | 1 | 4008656 | < 0.001 | < 0.001 | NA | < 0.001 | 104% | 70% | 130% | 123% | 70% | 130% | | | |
| Xylene (Total) | 1 | 4008656 | < 0.002 | < 0.002 | NA | < 0.002 | 104% | 70% | 130% | 122% | 70% | 130% | | | |
| C6-C10 (less BTEX) | 1 | 4008656 | < 0.01 | < 0.01 | NA | < 0.01 | 85% | 70% | 130% | 99% | 70% | 130% | 99% | 70% | 130% |

Comments: If Matrix spike value is NA, the spiked analyte concentration was lower than that of the matrix contribution. Matrix spike performed on a different sample than the duplicate.

If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Atlantic RBCA Tier 1 Hydrocarbons in Water (Version 3.1)

| | | | | | | | | | | | | | | | |
|--------------------|---|---------|--------|--------|---|---------|------|-----|------|------|-----|------|------|-----|------|
| Benzene | 1 | 4007022 | <0.001 | <0.001 | 0 | < 0.001 | 76% | 70% | 130% | 84% | 70% | 130% | | | |
| Toluene | 1 | 4007022 | <0.001 | <0.001 | 0 | < 0.001 | 84% | 70% | 130% | 78% | 70% | 130% | | | |
| Ethylbenzene | 1 | 4007022 | <0.001 | <0.001 | 0 | < 0.001 | 82% | 70% | 130% | 80% | 70% | 130% | | | |
| Xylene (Total) | 1 | 4007022 | <0.002 | <0.002 | 0 | < 0.002 | 84% | 70% | 130% | 88% | 70% | 130% | | | |
| C6-C10 (less BTEX) | 1 | 4007022 | <0.01 | <0.01 | 0 | < 0.01 | 101% | 70% | 130% | 107% | 70% | 130% | 106% | 70% | 130% |

Comments: If Matrix spike value is NA, the spiked analyte concentration was lower than that of the matrix contribution. Matrix spike performed on a different sample than the duplicate.

If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Atlantic RBCA Tier 1 Hydrocarbons in Water (Version 3.1)

| | | | | | | | | | | | | | | | |
|-----------------------|---|---------|--------|--------|----|--------|------|-----|------|------|-----|------|-----|-----|------|
| >C10-C16 Hydrocarbons | 1 | 4007025 | < 0.05 | < 0.05 | NA | < 0.05 | 109% | 70% | 130% | 101% | 70% | 130% | 94% | 70% | 130% |
| >C16-C21 Hydrocarbons | 1 | 4007025 | < 0.05 | < 0.05 | NA | < 0.05 | 93% | 70% | 130% | 101% | 70% | 130% | 94% | 70% | 130% |
| >C21-C32 Hydrocarbons | 1 | 4007025 | < 0.1 | < 0.1 | NA | < 0.1 | 79% | 70% | 130% | 101% | 70% | 130% | 94% | 70% | 130% |

Comments: If Matrix spike value is NA, the spiked analyte concentration was lower than that of the matrix contribution. Matrix spike performed on a different sample than the duplicate.

If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Atlantic RBCA Tier 1 Hydrocarbons in Soil (Version 3.1) - Field Preserved

| | | | | | | | | | | | | | | | |
|-----------------------|---|---------|------|------|----|------|------|-----|------|-----|-----|------|-----|-----|------|
| >C10-C16 Hydrocarbons | 1 | 4007779 | < 15 | < 15 | NA | < 15 | 103% | 60% | 140% | 93% | 60% | 140% | 96% | 30% | 130% |
| >C16-C21 Hydrocarbons | 1 | 4007779 | < 15 | < 15 | NA | < 15 | 106% | 60% | 140% | 93% | 60% | 140% | 96% | 30% | 130% |
| >C21-C32 Hydrocarbons | 1 | 4007779 | < 15 | < 15 | NA | < 15 | 106% | 60% | 140% | 93% | 60% | 140% | 96% | 30% | 130% |

Comments: If Matrix spike value is NA, the spiked analyte concentration was lower than that of the matrix contribution.

If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Atlantic RBCA Tier 1 Hydrocarbons in Soil (Version 3.1) - Field Preserved

| | | | | | | | | | | | | | | | |
|---------|---|---------|--------|--------|----|--------|-----|-----|------|-----|-----|------|--|--|--|
| Benzene | 1 | 4007779 | < 0.02 | < 0.02 | NA | < 0.02 | 73% | 60% | 140% | 70% | 60% | 140% | | | |
|---------|---|---------|--------|--------|----|--------|-----|-----|------|-----|-----|------|--|--|--|

Quality Assurance

CLIENT NAME: GEMTEC LIMITED
 PROJECT:
 SAMPLING SITE:

AGAT WORK ORDER: 22K911258
 ATTENTION TO: Darrol Rice
 SAMPLED BY:

Trace Organics Analysis (Continued)

| RPT Date: Jul 08, 2022 | | | DUPLICATE | | | | Method Blank | REFERENCE MATERIAL | | | METHOD BLANK SPIKE | | MATRIX SPIKE | | |
|------------------------|-------|-----------|-----------|--------|-----|----------------|--------------|--------------------|-------|----------|--------------------|-------|--------------|-------------------|-------|
| PARAMETER | Batch | Sample Id | Dup #1 | Dup #2 | RPD | Measured Value | | Acceptable Limits | | Recovery | Acceptable Limits | | Recovery | Acceptable Limits | |
| | | | | | | | | Lower | Upper | | Lower | Upper | | Lower | Upper |
| Toluene | 1 | 4007779 | < 0.04 | < 0.04 | NA | < 0.04 | 83% | 60% | 140% | 75% | 60% | 140% | | | |
| Ethylbenzene | 1 | 4007779 | < 0.03 | < 0.03 | NA | < 0.03 | 85% | 60% | 140% | 75% | 60% | 140% | | | |
| Xylene (Total) | 1 | 4007779 | < 0.05 | < 0.05 | NA | < 0.05 | 85% | 60% | 140% | 75% | 60% | 140% | | | |
| C6-C10 (less BTEX) | 1 | 4007779 | < 3 | < 3 | NA | < 3 | 91% | 60% | 140% | 109% | 60% | 140% | 114% | 30% | 130% |

Comments: If Matrix spike value is NA, the spiked analyte concentration was lower than that of the matrix contribution.
 If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Atlantic RBCA Tier 1 Hydrocarbons in Soil (Version 3.1) - Field Preserved

| | | | | | | | | | | | | | | | |
|-----------------------|---|---------|--------|--------|----|--------|------|-----|------|------|-----|------|------|-----|------|
| Benzene | 1 | 4024246 | <0.005 | <0.005 | 0 | < 0.02 | 74% | 60% | 140% | 77% | 60% | 140% | | | |
| Toluene | 1 | 4024246 | <0.025 | <0.025 | 0 | < 0.04 | 82% | 60% | 140% | 78% | 60% | 140% | | | |
| Ethylbenzene | 1 | 4024246 | <0.01 | <0.01 | 0 | < 0.03 | 84% | 60% | 140% | 78% | 60% | 140% | | | |
| Xylene (Total) | 1 | 4024246 | <0.05 | <0.05 | 0 | < 0.05 | 83% | 60% | 140% | 78% | 60% | 140% | | | |
| C6-C10 (less BTEX) | 1 | 4024246 | 47 | 47 | 0 | < 3 | 85% | 60% | 140% | 124% | 60% | 140% | 129% | 30% | 130% |
| >C10-C16 Hydrocarbons | 1 | 4017822 | < 15 | < 15 | NA | < 15 | 109% | 60% | 140% | 96% | 60% | 140% | 97% | 30% | 130% |
| >C16-C21 Hydrocarbons | 1 | 4017822 | < 15 | < 15 | NA | < 15 | 111% | 60% | 140% | 96% | 60% | 140% | 97% | 30% | 130% |
| >C21-C32 Hydrocarbons | 1 | 4017822 | < 15 | < 15 | NA | < 15 | 109% | 60% | 140% | 96% | 60% | 140% | 97% | 30% | 130% |

Comments: If Matrix spike value is NA, the spiked analyte concentration was lower than that of the matrix contribution.
 If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Certified By: _____



Quality Assurance

CLIENT NAME: GEMTEC LIMITED

AGAT WORK ORDER: 22K911258

PROJECT:

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

| Water Analysis | | | | | | | | | | | | | | | | |
|------------------------|-------|-----------|-----------|--------|-----|----------------|--------------|--------------------|-------|----------|--------------------|-------|----------|-------------------|-------|--|
| RPT Date: Jul 08, 2022 | | | DUPLICATE | | | | Method Blank | REFERENCE MATERIAL | | | METHOD BLANK SPIKE | | | MATRIX SPIKE | | |
| PARAMETER | Batch | Sample Id | Dup #1 | Dup #2 | RPD | Measured Value | | Acceptable Limits | | Recovery | Acceptable Limits | | Recovery | Acceptable Limits | | |
| | | | | | | | | Lower | Upper | | Lower | Upper | | Lower | Upper | |

Standard Water Analysis + Total Metals

| | | | | | | | | | | | | | | | |
|-------------------------------|---------|---------|-------|-------|------|--------|------|-----|------|------|-----|------|------|-----|------|
| pH | | | 7.75 | 7.60 | 2.0% | < | 100% | 80% | 120% | | | | | | |
| Reactive Silica as SiO2 | 4007017 | 4007017 | 1.6 | 1.6 | NA | < 0.5 | 106% | 80% | 120% | 96% | 80% | 120% | 96% | 80% | 120% |
| Chloride | 4008298 | | 5 | 5 | 4.6% | < 1 | 89% | 80% | 120% | NA | 80% | 120% | 98% | 70% | 130% |
| Fluoride | 4008298 | | 0.20 | 0.21 | NA | < 0.12 | 104% | 80% | 120% | NA | 80% | 120% | 102% | 70% | 130% |
| Sulphate | 4008298 | | 3 | 3 | NA | < 2 | 103% | 80% | 120% | NA | 80% | 120% | 98% | 70% | 130% |
| Alkalinity | | | 65 | 64 | 1.6% | < 5 | 91% | 80% | 120% | | | | | | |
| True Color | 4013938 | | 8.18 | 6.23 | NA | < 5 | 86% | 80% | 120% | 96% | 80% | 120% | NA | | |
| Turbidity | 4006908 | 4006908 | <0.5 | <0.5 | NA | < 0.5 | 104% | 80% | 120% | NA | | | NA | | |
| Electrical Conductivity | | | 147 | 148 | 0.7% | < 1 | 103% | 90% | 110% | | | | | | |
| Nitrate as N | 4008298 | | <0.05 | <0.05 | NA | < 0.05 | 94% | 80% | 120% | NA | 80% | 120% | 94% | 70% | 130% |
| Nitrite as N | 4008298 | | <0.05 | <0.05 | NA | < 0.05 | 88% | 80% | 120% | NA | 80% | 120% | 97% | 70% | 130% |
| Ammonia as N | 4006351 | | 0.31 | 0.28 | 9.9% | < 0.03 | 110% | 80% | 120% | 105% | 80% | 120% | 102% | 70% | 130% |
| Total Organic Carbon | 4013938 | | 1.6 | 1.6 | NA | < 0.5 | 97% | 80% | 120% | NA | 80% | 120% | 92% | 80% | 120% |
| Total Sodium | 4007016 | 4007016 | 5.8 | 6.1 | 5.9% | < 0.1 | 103% | 80% | 120% | 105% | 80% | 120% | NA | 70% | 130% |
| Total Potassium | 4007016 | 4007016 | 0.2 | 0.2 | NA | < 0.1 | 103% | 80% | 120% | 102% | 80% | 120% | 110% | 70% | 130% |
| Total Calcium | 4007016 | 4007016 | 2.1 | 2.3 | 8.9% | < 0.1 | 104% | 80% | 120% | 99% | 80% | 120% | NA | 70% | 130% |
| Total Magnesium | 4007016 | 4007016 | 1.3 | 1.4 | 6.7% | < 0.1 | 101% | 80% | 120% | 102% | 80% | 120% | NA | 70% | 130% |
| Bicarb. Alkalinity (as CaCO3) | | | 65 | 64 | 1.6% | < 5 | NA | 80% | 120% | | | | | | |
| Carb. Alkalinity (as CaCO3) | | | < 10 | < 10 | 0.0% | < 10 | NA | 80% | 120% | | | | | | |
| Hydroxide | | | < 5 | < 5 | 0.0% | < 5 | NA | 80% | 120% | | | | | | |
| Total Aluminum | 4007016 | 4007016 | 32 | 35 | 9.2% | < 5 | 101% | 80% | 120% | 106% | 80% | 120% | 109% | 70% | 130% |
| Total Antimony | 4007016 | 4007016 | <2 | <2 | NA | < 2 | 80% | 80% | 120% | NA | 80% | 120% | NA | 70% | 130% |
| Total Arsenic | 4007016 | 4007016 | <2 | <2 | NA | < 2 | 102% | 80% | 120% | 101% | 80% | 120% | 106% | 70% | 130% |
| Total Barium | 4007016 | 4007016 | <5 | <5 | NA | < 5 | 101% | 80% | 120% | 107% | 80% | 120% | 96% | 70% | 130% |
| Total Beryllium | 4007016 | 4007016 | <2 | <2 | NA | < 2 | 101% | 80% | 120% | 101% | 80% | 120% | 107% | 70% | 130% |
| Total Bismuth | 4007016 | 4007016 | <2 | <2 | NA | < 2 | 87% | 80% | 120% | 97% | 80% | 120% | 93% | 70% | 130% |
| Total Boron | 4007016 | 4007016 | <5 | <5 | NA | < 5 | 97% | 80% | 120% | 101% | 80% | 120% | 110% | 70% | 130% |
| Total Cadmium | 4007016 | 4007016 | <0.09 | <0.09 | NA | < 0.09 | 103% | 80% | 120% | 104% | 80% | 120% | 103% | 70% | 130% |
| Total Chromium | 4007016 | 4007016 | <1 | <1 | NA | < 1 | 100% | 80% | 120% | 100% | 80% | 120% | 105% | 70% | 130% |
| Total Cobalt | 4007016 | 4007016 | <1 | <1 | NA | < 1 | 103% | 80% | 120% | 101% | 80% | 120% | 104% | 70% | 130% |
| Total Copper | 4007016 | 4007016 | <1 | <1 | NA | < 1 | 104% | 80% | 120% | 103% | 80% | 120% | 107% | 70% | 130% |
| Total Iron | 4007016 | 4007016 | 263 | 268 | 2.0% | < 50 | 100% | 80% | 120% | 98% | 80% | 120% | NA | 70% | 130% |
| Total Lead | 4007016 | 4007016 | <0.5 | <0.5 | NA | < 0.5 | 104% | 80% | 120% | 109% | 80% | 120% | 97% | 70% | 130% |
| Total Manganese | 4007016 | 4007016 | 90 | 93 | 3.2% | < 2 | 105% | 80% | 120% | 104% | 80% | 120% | NA | 70% | 130% |
| Total Molybdenum | 4007016 | 4007016 | <2 | <2 | NA | < 2 | 97% | 80% | 120% | 94% | 80% | 120% | 99% | 70% | 130% |
| Total Nickel | 4007016 | 4007016 | <2 | <2 | NA | < 2 | 104% | 80% | 120% | 104% | 80% | 120% | 105% | 70% | 130% |
| Total Phosphorous | 4007016 | 4007016 | 0.02 | 0.02 | NA | < 0.02 | 100% | 80% | 120% | 99% | 80% | 120% | 98% | 70% | 130% |
| Total Selenium | 4007016 | 4007016 | <1 | <1 | NA | < 1 | 102% | 80% | 120% | 99% | 80% | 120% | 100% | 70% | 130% |
| Total Silver | 4007016 | 4007016 | <0.1 | <0.1 | NA | < 0.1 | 106% | 80% | 120% | 100% | 80% | 120% | 99% | 70% | 130% |

Quality Assurance

CLIENT NAME: GEMTEC LIMITED

AGAT WORK ORDER: 22K911258

PROJECT:

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Water Analysis (Continued)

| RPT Date: Jul 08, 2022 | | | DUPLICATE | | | | Method Blank | REFERENCE MATERIAL | | | METHOD BLANK SPIKE | | | MATRIX SPIKE | | |
|------------------------|---------|-----------|-----------|--------|-----|----------------|--------------|--------------------|-------|----------|--------------------|-------|----------|-------------------|-------|--|
| PARAMETER | Batch | Sample Id | Dup #1 | Dup #2 | RPD | Measured Value | | Acceptable Limits | | Recovery | Acceptable Limits | | Recovery | Acceptable Limits | | |
| | | | | | | | | Lower | Upper | | Lower | Upper | | Lower | Upper | |
| Total Strontium | 4007016 | 4007016 | 15 | 16 | NA | < 5 | 101% | 80% | 120% | 100% | 80% | 120% | 107% | 70% | 130% | |
| Total Thallium | 4007016 | 4007016 | <2 | <2 | NA | < 0.1 | 102% | 80% | 120% | 108% | 80% | 120% | 96% | 70% | 130% | |
| Total Tin | 4007016 | 4007016 | <2 | <2 | NA | < 2 | 98% | 80% | 120% | 93% | 80% | 120% | 96% | 70% | 130% | |
| Total Titanium | 4007016 | 4007016 | <2 | <2 | NA | < 2 | 101% | 80% | 120% | 99% | 80% | 120% | 106% | 70% | 130% | |
| Total Uranium | 4007016 | 4007016 | <0.2 | <0.2 | NA | < 0.2 | 99% | 80% | 120% | 104% | 80% | 120% | 92% | 70% | 130% | |
| Total Vanadium | 4007016 | 4007016 | <2 | <2 | NA | < 2 | 99% | 80% | 120% | 99% | 80% | 120% | 103% | 70% | 130% | |
| Total Zinc | 4007016 | 4007016 | <5 | <5 | NA | < 5 | 102% | 80% | 120% | 102% | 80% | 120% | 100% | 70% | 130% | |

Comments: If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Mercury Analysis in Water (Total)

| | | | | | | | | | | | | | | | |
|---------------|---------|---------|--------|--------|----|---------|-----|-----|------|------|-----|------|------|-----|------|
| Total Mercury | 4007010 | 4007010 | <0.026 | <0.026 | NA | < 0.026 | 99% | 80% | 120% | 108% | 80% | 120% | 104% | 70% | 130% |
|---------------|---------|---------|--------|--------|----|---------|-----|-----|------|------|-----|------|------|-----|------|

Comments: If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

TSS

| | | | | | | | | | | | | | | | |
|------------------------|---------|---------|----|----|----|-----|------|-----|------|----|--|--|------|-----|------|
| Total Suspended Solids | 4006908 | 4006908 | <5 | <5 | NA | < 5 | 107% | 80% | 120% | NA | | | 103% | 80% | 120% |
|------------------------|---------|---------|----|----|----|-----|------|-----|------|----|--|--|------|-----|------|

Comments: If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Standard Water Analysis + Total Metals

| | | | | | | | | | | | | | | | |
|----------------------|---------|---------|-------|-------|------|--------|------|-----|------|----|-----|------|------|-----|------|
| Chloride | 4006471 | | 6 | 6 | 1.7% | < 1 | 91% | 80% | 120% | NA | 80% | 120% | 98% | 70% | 130% |
| Fluoride | 4006471 | | 0.55 | 0.55 | NA | < 0.12 | 106% | 80% | 120% | NA | 80% | 120% | NA | 70% | 130% |
| Sulphate | 4006471 | | 41 | 41 | 0.6% | < 2 | 105% | 80% | 120% | NA | 80% | 120% | NA | 70% | 130% |
| Nitrate as N | 4006471 | | 0.17 | 0.17 | NA | < 0.05 | 96% | 80% | 120% | NA | 80% | 120% | 107% | 70% | 130% |
| Nitrite as N | 4006471 | | <0.05 | <0.05 | NA | < 0.05 | 91% | 80% | 120% | NA | 80% | 120% | 77% | 70% | 130% |
| Total Organic Carbon | 4007006 | 4007006 | 8.1 | 8.3 | 1.5% | < 0.5 | 95% | 80% | 120% | NA | 80% | 120% | 92% | 80% | 120% |

Comments: If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Certified By:





Method Summary

CLIENT NAME: GEMTEC LIMITED

AGAT WORK ORDER: 22K911258

PROJECT:

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

| PARAMETER | AGAT S.O.P | LITERATURE REFERENCE | ANALYTICAL TECHNIQUE |
|---------------|---|-----------------------------|----------------------|
| Soil Analysis | | | |
| Aluminum | INOR-171-6011, INOR-6201 | EPA SW 846-3050; SM 3125 B | ICP/OES |
| Antimony | INOR-171-6006, INOR-171-6202 | EPA SW 846-3050; SM 3125 B | ICP-MS |
| Arsenic | INOR-171-6006, INOR-171-6202 | EPA SW 846-3050; SM 3125 B | ICP-MS |
| Barium | INOR-171-6006, INOR-171-6202 | EPA SW 846-3050; SM 3125 B | ICP-MS |
| Beryllium | INOR-171-6006, INOR-171-6202 | EPA SW 846-3050; SM 3125 B | ICP-MS |
| Boron | INOR-171-6011, INOR-6201 | EPA SW 846-3050; SM 3125 B | ICP/OES |
| Cadmium | INOR-171-6006, INOR-171-6202 | EPA SW 846-3050; SM 3125 B | ICP-MS |
| Chromium | INOR-171-6006, INOR-171-6202 | EPA SW 846-3050; SM 3125 B | ICP/MS |
| Cobalt | INOR-171-6006, INOR-171-6202 | EPA SW 846-3050; SM 3125 B | ICP-MS |
| Copper | INOR-171-6006, INOR-171-6202 | EPA SW 846-3050; SM 3125 B | ICP-MS |
| Iron | INOR-171-6011, INOR-6201 | EPA SW 846-1311; EATON 2005 | ICP/OES |
| Lead | INOR-171-6006, INOR-171-6202 | EPA SW 846-3050; SM 3125 B | ICP-MS |
| Lithium | INOR-171-6006, INOR-171-6202 | EPA SW 846-3050; SM 3125 B | ICP-MS |
| Manganese | | | ICP/OES |
| Molybdenum | INOR-171-6006, INOR-171-6202 | EPA SW 846-3050; SM 3125 B | ICP-MS |
| Nickel | INOR-171-6006, INOR-171-6202 | EPA SW 846-3050; SM 3125 B | ICP-MS |
| Selenium | INORG-171-6006, INOR-171-6202 | EPA SW 846-3050; SM 3125 B | ICP-MS |
| Silver | INOR-171-6006, INOR-171-6202 | EPA SW 846-3050; SM 3125 B | ICP-MS |
| Strontium | SOIL 0390; SOIL 0110; SOIL 0120; INST 0141 | EPA SW 846-3050; SM 3125 B | ICP/OES |
| Thallium | INOR-171-6006, INOR-171-6202 | EPA SW 846-3050; SM 3125 B | ICP-MS |
| Tin | INOR-171-6006, INOR-171-6202 | EPA SW 846-3050; SM 3125 B | ICP-MS |
| Uranium | INOR-171-6006, INOR-171-6202 | EPA SW 846-3050; SM 3125 B | ICP-MS |
| Vanadium | INOR-171-6006, INOR-171-6202 | EPA SW 846-3050; SM 3125 B | ICP-MS |
| Zinc | INOR-171-6006, INOR-171-6202 | EPA SW 846-3050; SM 3125 B | ICP-MS |
| Mercury | INOR-171-6006, -6202 | EPA SW 846-3050; SM 3125 B | ICP-MS |

Method Summary

CLIENT NAME: GEMTEC LIMITED

AGAT WORK ORDER: 22K911258

PROJECT:

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

| PARAMETER | AGAT S.O.P | LITERATURE REFERENCE | ANALYTICAL TECHNIQUE |
|---------------------------|-------------------|--|----------------------|
| Trace Organics Analysis | | | |
| Benzene | VOL-120-5013/5031 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| Toluene | VOL-120-5013/5031 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| Ethylbenzene | VOL-120-5013/5031 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| Xylene (Total) | VOL-120-5013/5031 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| C6-C10 (less BTEX) | VOL-120-5013/5031 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS/FID |
| >C10-C16 Hydrocarbons | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| >C16-C21 Hydrocarbons | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| >C21-C32 Hydrocarbons | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| Modified TPH (Tier 1) | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | CALCULATION |
| Resemblance Comment | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS/FID |
| Return to Baseline at C32 | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| Isobutylbenzene - EPH | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| Isobutylbenzene - VPH | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| n-Dotriacontane - EPH | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| Benzene | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| Toluene | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| Ethylbenzene | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| Xylene (Total) | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| C6-C10 (less BTEX) | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| Modified TPH (Tier 1) | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | CALCULATION |
| Sediment | | | GC/MS/FID |
| % Moisture | LAB-131-4024 | CSSS 70.2 | GRAVIMETRIC |



Method Summary

CLIENT NAME: GEMTEC LIMITED

AGAT WORK ORDER: 22K911258

PROJECT:

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

| PARAMETER | AGAT S.O.P | LITERATURE REFERENCE | ANALYTICAL TECHNIQUE |
|-------------------------------|-----------------------------|---|----------------------|
| Water Analysis | | | |
| Total Mercury | MET-121-6100 & MET-121-6107 | SM 3112 B | CV/AA |
| pH | INOR-121-6001 | SM 4500 H+B | PC TITRATE |
| Reactive Silica as SiO2 | INOR-121-6027 | SM 4500-SiO2 F | COLORIMETER |
| Chloride | INORG-121-6005 | SM 4110 B | ION CHROMATOGRAPH |
| Fluoride | INORG-121-6005 | SM 4110 B | ION CHROMATOGRAPH |
| Sulphate | INORG-121-6005 | SM 4110 B | ION CHROMATOGRAPH |
| Alkalinity | INOR-121-6001 | SM 2320 B | |
| True Color | INOR-121-6008 | SM 2120 B | LACHAT FIA |
| Turbidity | INOR-121-6022 | SM 2130 B | NEPHELOMETER |
| Electrical Conductivity | INOR-121-6001 | SM 2510 B | PC TITRATE |
| Nitrate + Nitrite as N | INORG-121-6005 | SM 4110 B | CALCULATION |
| Nitrate as N | INORG-121-6005 | SM 4110 B | ION CHROMATOGRAPH |
| Nitrite as N | INORG-121-6005 | SM 4110 B | ION CHROMATOGRAPH |
| Ammonia as N | INOR-121-6047 | SM 4500-NH3 H | COLORIMETER |
| Total Organic Carbon | INOR-121-6026 | SM 5310 B | TOC ANALYZER |
| Ortho-Phosphate as P | INOR-121-6012 | SM 4500-P G | COLORIMETER |
| Total Sodium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Potassium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Calcium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Magnesium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Bicarb. Alkalinity (as CaCO3) | INORG-121-6001 | SM 2320 B | PC TITRATE |
| Carb. Alkalinity (as CaCO3) | INORG-121-6001 | SM 2320 B | PC TITRATE |
| Hydroxide | INORG-121-6001 | SM 2320 B | PC-TITRATE |
| Calculated TDS | CALCULATION | SM 1030E | CALCULATION |
| Hardness | CALCULATION | SM 2340B | CALCULATION |
| Langelier Index (@20C) | CALCULATION | CALCULATION | CALCULATION |
| Langelier Index (@ 4C) | CALCULATION | CALCULATION | CALCULATION |
| Saturation pH (@ 20C) | CALCULATION | CALCULATION | CALCULATION |
| Saturation pH (@ 4C) | CALCULATION | CALCULATION | CALCULATION |
| Anion Sum | CALCULATION | SM 1030E | CALCULATION |
| Cation sum | CALCULATION | SM 1030E | CALCULATION |
| % Difference/ Ion Balance | CALCULATION | SM 1030E | CALCULATION |
| Total Aluminum | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Antimony | MET121-6104 & MET-121-6105 | SM 3125 | ICP-MS |
| Total Arsenic | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Barium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Beryllium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Bismuth | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Boron | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |

Method Summary

CLIENT NAME: GEMTEC LIMITED

AGAT WORK ORDER: 22K911258

PROJECT:

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

| PARAMETER | AGAT S.O.P | LITERATURE REFERENCE | ANALYTICAL TECHNIQUE |
|------------------------|--------------------------------|--|----------------------|
| Total Cadmium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Chromium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Cobalt | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Copper | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Iron | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Lead | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Manganese | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Molybdenum | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Nickel | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Phosphorous | MET-121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Selenium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Silver | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Strontium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Thallium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Tin | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Titanium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Uranium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Vanadium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Zinc | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Suspended Solids | INOR-121-6024, 6025 | SM 2540C, D | GRAVIMETRIC |

CLIENT NAME: GEMTEC LIMITED
10 Maverick Place
Paradise, NL A1L 1Y8
709722-2275

ATTENTION TO: Darrol Rice

PROJECT: 100424.003

AGAT WORK ORDER: 22K959140

SOIL ANALYSIS REVIEWED BY: Corey Curl, Senior Technician

TRACE ORGANICS REVIEWED BY: Dylan McCarthy, Trace Organics Lab Technician

WATER ANALYSIS REVIEWED BY: Jason Coughtrey, Inorganics Supervisor

DATE REPORTED: Nov 04, 2022

PAGES (INCLUDING COVER): 36

VERSION*: 1

Should you require any information regarding this analysis please contact your client services representative at (709)747-8573

*Notes

Disclaimer:

- All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.
- All samples will be disposed of within 30 days after receipt unless a Long Term Storage Agreement is signed and returned. Some specialty analysis may be exempt, please contact your Client Project Manager for details.
- AGAT's liability in connection with any delay, performance or non-performance of these services is only to the Client and does not extend to any other third party. Unless expressly agreed otherwise in writing, AGAT's liability is limited to the actual cost of the specific analysis or analyses included in the services.
- This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
- The test results reported herewith relate only to the samples as received by the laboratory.
- Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to, warranties of merchantability, fitness for a particular purpose, or non-infringement. AGAT assumes no responsibility for any errors or omissions in the guidelines contained in this document.
- All reportable information as specified by ISO/IEC 17025:2017 is available from AGAT Laboratories upon request.



Certificate of Analysis

AGAT WORK ORDER: 22K959140

PROJECT: 100424.003

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Available Metals in Soil (Incl. Hg)

DATE RECEIVED: 2022-10-19

DATE REPORTED: 2022-11-04

| Parameter | Unit | SAMPLE DESCRIPTION: | | SITE-15-SED | SITE-21-SED | SITE-20-SED | SITE-09-SED | SITE-10-SED | SITE-19-SED | SITE-02-SED | SITE-03-SED |
|------------|-------|---------------------|-------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| | | G / S | RDL | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil |
| | | | | 2022-10-15 09:05 4429986 | 2022-10-15 10:40 4429991 | 2022-10-15 12:00 4429992 | 2022-10-15 12:45 4429993 | 2022-10-15 14:00 4429994 | 2022-10-15 15:35 4429995 | 2022-10-15 16:15 4429996 | 2022-10-16 08:20 4429997 |
| Aluminum | mg/kg | 10 | 18800 | 20500 | 19500 | 17600 | 22500 | 21300 | 17000 | 11700 | |
| Antimony | mg/kg | 1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | |
| Arsenic | mg/kg | 1 | 54 | 56 | 17 | 12 | 38 | 18 | 82 | 65 | |
| Barium | mg/kg | 5 | 57 | 97 | 56 | 11 | 19 | 23 | 46 | 65 | |
| Beryllium | mg/kg | 2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | |
| Boron | mg/kg | 2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | |
| Cadmium | mg/kg | 0.3 | <0.3 | 0.4 | <0.3 | <0.3 | <0.3 | <0.3 | <0.3 | <0.3 | |
| Chromium | mg/kg | 2 | 49 | 44 | 125 | 47 | 43 | 36 | 29 | 24 | |
| Cobalt | mg/kg | 1 | 18 | 26 | 22 | 17 | 24 | 15 | 25 | 11 | |
| Copper | mg/kg | 2 | 18 | 13 | 9 | 7 | 35 | 5 | 7 | 15 | |
| Iron | mg/kg | 50 | 46100 | 50600 | 37100 | 37000 | 50900 | 42200 | 52500 | 41300 | |
| Lead | mg/kg | 0.5 | 9.6 | 7.0 | 5.4 | 4.2 | 7.1 | 4.0 | 10.7 | 10.1 | |
| Lithium | mg/kg | 5 | 54 | 52 | 49 | 45 | 62 | 59 | 43 | 25 | |
| Manganese | mg/kg | 2 | 5160 | 12300 | 3090 | 1370 | 2720 | 1850 | 5400 | 5620 | |
| Mercury | mg/kg | 0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | |
| Molybdenum | mg/kg | 2 | <2 | 2 | <2 | <2 | 2 | <2 | 4 | 3 | |
| Nickel | mg/kg | 2 | 86 | 93 | 160 | 61 | 78 | 52 | 53 | 38 | |
| Selenium | mg/kg | 1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | |
| Silver | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | |
| Strontium | mg/kg | 5 | 9 | 10 | 11 | 8 | 6 | <5 | 9 | 8 | |
| Thallium | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | |
| Tin | mg/kg | 2 | 3 | 4 | 4 | 4 | 3 | 3 | 4 | 4 | |
| Uranium | mg/kg | 0.1 | 0.4 | 0.4 | 0.5 | 0.4 | 0.6 | 0.4 | 0.5 | 0.6 | |
| Vanadium | mg/kg | 2 | 28 | 28 | 28 | 26 | 29 | 28 | 32 | 23 | |
| Zinc | mg/kg | 5 | 117 | 142 | 91 | 82 | 114 | 92 | 110 | 80 | |

Certified By:

Corey Cowl



Certificate of Analysis

AGAT WORK ORDER: 22K959140

PROJECT: 100424.003

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Available Metals in Soil (Incl. Hg)

DATE RECEIVED: 2022-10-19

DATE REPORTED: 2022-11-04

| Parameter | Unit | SAMPLE DESCRIPTION: | | SITE-04-SED | SITE-08-SED | SITE-11-SED | SED-SD-02 | SITE-14-SED | SITE-12-SED | SITE-16-SED | SITE-17-SED |
|------------|-------|---------------------|-------|---------------------|---------------------|---------------------|------------|---------------------|---------------------|---------------------|---------------------|
| | | G / S | RDL | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil |
| | | | | 2022-10-16 09:10 | 2022-10-16 10:40 | 2022-10-16 11:35 | 2022-10-16 | 2022-10-16 12:55 | 2022-10-16 13:50 | 2022-10-16 14:50 | 2022-10-16 15:40 |
| | | | | 4429998 | 4429999 | 4430000 | 4430001 | 4430101 | 4430102 | 4430103 | 4430104 |
| Aluminum | mg/kg | 10 | 13000 | 10600 | 16100 | 16800 | 20300 | 23300 | 18400 | 16600 | |
| Antimony | mg/kg | 1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| Arsenic | mg/kg | 1 | 93 | 61 | 72 | 25 | 31 | 10 | 36 | 35 | |
| Barium | mg/kg | 5 | 42 | 222 | 46 | 34 | 27 | 37 | 38 | 38 | |
| Beryllium | mg/kg | 2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Boron | mg/kg | 2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Cadmium | mg/kg | 0.3 | <0.3 | 0.5 | <0.3 | <0.3 | <0.3 | <0.3 | <0.3 | <0.3 | <0.3 |
| Chromium | mg/kg | 2 | 23 | 13 | 27 | 143 | 142 | 40 | 51 | 34 | |
| Cobalt | mg/kg | 1 | 12 | 26 | 28 | 32 | 33 | 25 | 24 | 17 | |
| Copper | mg/kg | 2 | 7 | 13 | 22 | 22 | 27 | 20 | 11 | 10 | |
| Iron | mg/kg | 50 | 33900 | 28400 | 50400 | 40000 | 48900 | 53800 | 41400 | 40900 | |
| Lead | mg/kg | 0.5 | 6.7 | 9.2 | 11.9 | 10.6 | 11.8 | 15.4 | 7.5 | 8.5 | |
| Lithium | mg/kg | 5 | 31 | 22 | 35 | 39 | 45 | 54 | 61 | 44 | |
| Manganese | mg/kg | 2 | 3400 | 15400 | 6700 | 2600 | 2350 | 4460 | 9330 | 3710 | |
| Mercury | mg/kg | 0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 |
| Molybdenum | mg/kg | 2 | 3 | 3 | 4 | 3 | 3 | 4 | <2 | <2 | |
| Nickel | mg/kg | 2 | 50 | 49 | 67 | 197 | 210 | 67 | 75 | 55 | |
| Selenium | mg/kg | 1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| Silver | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Strontium | mg/kg | 5 | 9 | 21 | 8 | 10 | 11 | 11 | 16 | 9 | |
| Thallium | mg/kg | 0.1 | <0.1 | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Tin | mg/kg | 2 | 4 | 4 | 4 | 3 | 3 | 3 | 3 | 3 | |
| Uranium | mg/kg | 0.1 | 0.7 | 0.5 | 0.7 | 0.4 | 0.6 | 0.5 | 0.5 | 0.4 | |
| Vanadium | mg/kg | 2 | 22 | 14 | 24 | 29 | 38 | 34 | 25 | 26 | |
| Zinc | mg/kg | 5 | 91 | 130 | 108 | 74 | 89 | 112 | 103 | 84 | |

Certified By:

Corey Cowl



Certificate of Analysis

AGAT WORK ORDER: 22K959140

PROJECT: 100424.003

57 Old Pennywell Road, Unit I
 St. John's, NL
 CANADA A1E 6A8
 TEL (709)747-8573
 FAX (709 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Available Metals in Soil (Incl. Hg)

DATE RECEIVED: 2022-10-19

DATE REPORTED: 2022-11-04

SAMPLE DESCRIPTION: SED-SD-01

SAMPLE TYPE: Soil

DATE SAMPLED: 2022-10-16
 15:40

| Parameter | Unit | G / S | RDL | 4430105 |
|------------|-------|-------|------|---------|
| Aluminum | mg/kg | | 10 | 16400 |
| Antimony | mg/kg | | 1 | <1 |
| Arsenic | mg/kg | | 1 | 54 |
| Barium | mg/kg | | 5 | 34 |
| Beryllium | mg/kg | | 2 | <2 |
| Boron | mg/kg | | 2 | <2 |
| Cadmium | mg/kg | | 0.3 | <0.3 |
| Chromium | mg/kg | | 2 | 36 |
| Cobalt | mg/kg | | 1 | 16 |
| Copper | mg/kg | | 2 | 13 |
| Iron | mg/kg | | 50 | 44700 |
| Lead | mg/kg | | 0.5 | 9.0 |
| Lithium | mg/kg | | 5 | 41 |
| Manganese | mg/kg | | 2 | 3450 |
| Mercury | mg/kg | | 0.03 | <0.03 |
| Molybdenum | mg/kg | | 2 | <2 |
| Nickel | mg/kg | | 2 | 53 |
| Selenium | mg/kg | | 1 | <1 |
| Silver | mg/kg | | 0.5 | <0.5 |
| Strontium | mg/kg | | 5 | 9 |
| Thallium | mg/kg | | 0.1 | <0.1 |
| Tin | mg/kg | | 2 | 4 |
| Uranium | mg/kg | | 0.1 | 0.4 |
| Vanadium | mg/kg | | 2 | 27 |
| Zinc | mg/kg | | 5 | 84 |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

4429986-4430105 Results are based on the dry weight of the sample.

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:

Carey Cowl



Certificate of Analysis

AGAT WORK ORDER: 22K959140

PROJECT: 100424.003

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Soil (Version 3.1) - Field Preserved

DATE RECEIVED: 2022-10-19

DATE REPORTED: 2022-11-04

| Parameter | Unit | G / S | RDL | SAMPLE DESCRIPTION: | SITE-15-SED | SITE-21-SED | SITE-20-SED | SITE-09-SED | SITE-10-SED | SITE-19-SED | SITE-02-SED | SITE-03-SED |
|---------------------------|-------|-------------------|------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | | | | SAMPLE TYPE: | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil |
| | | | | DATE SAMPLED: | 2022-10-15 09:05 | 2022-10-15 10:40 | 2022-10-15 12:00 | 2022-10-15 12:45 | 2022-10-15 14:00 | 2022-10-15 15:35 | 2022-10-15 16:15 | 2022-10-16 08:20 |
| | | | | | 4429986 | 4429991 | 4429992 | 4429993 | 4429994 | 4429995 | 4429996 | 4429997 |
| Benzene | mg/kg | | 0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| Toluene | mg/kg | | 0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 |
| Ethylbenzene | mg/kg | | 0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 |
| Xylene (Total) | mg/kg | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| C6-C10 (less BTEX) | mg/kg | | 3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 |
| >C10-C16 Hydrocarbons | mg/kg | | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| >C16-C21 Hydrocarbons | mg/kg | | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| >C21-C32 Hydrocarbons | mg/kg | | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| Modified TPH (Tier 1) | mg/kg | | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| Resemblance Comment | | | | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| Return to Baseline at C32 | | | | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| Surrogate | Unit | Acceptable Limits | | | | | | | | | | |
| Isobutylbenzene - EPH | % | 60-140 | 96 | 96 | 97 | 98 | 97 | 98 | 96 | 96 | 97 | 97 |
| Isobutylbenzene - VPH | % | 60-140 | 110 | 90 | 100 | 104 | 103 | 95 | 96 | 104 | 104 | 104 |
| n-Dotriacontane - EPH | % | 60-140 | 92 | 89 | 88 | 90 | 87 | 93 | 88 | 88 | 88 | 88 |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 22K959140

PROJECT: 100424.003

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St. John's, NL
CANADA A1E 6A8
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FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Soil (Version 3.1) - Field Preserved

DATE RECEIVED: 2022-10-19

DATE REPORTED: 2022-11-04

| Parameter | Unit | G / S | RDL | SAMPLE DESCRIPTION: | SITE-04-SED | SITE-08-SED | SITE-11-SED | SED-SD-02 | SITE-14-SED | SITE-12-SED | SITE-16-SED | SITE-17-SED |
|---------------------------|-------|-------------------|------|---------------------|---------------------|---------------------|---------------------|------------|---------------------|---------------------|---------------------|---------------------|
| | | | | SAMPLE TYPE: | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil |
| | | | | DATE SAMPLED: | 2022-10-16 09:10 | 2022-10-16 10:40 | 2022-10-16 11:35 | 2022-10-16 | 2022-10-16 12:55 | 2022-10-16 13:50 | 2022-10-16 14:50 | 2022-10-16 15:40 |
| | | | | | 4429998 | 4429999 | 4430000 | 4430001 | 4430101 | 4430102 | 4430103 | 4430104 |
| Benzene | mg/kg | | 0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| Toluene | mg/kg | | 0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 |
| Ethylbenzene | mg/kg | | 0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 |
| Xylene (Total) | mg/kg | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| C6-C10 (less BTEX) | mg/kg | | 3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 |
| >C10-C16 Hydrocarbons | mg/kg | | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| >C16-C21 Hydrocarbons | mg/kg | | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| >C21-C32 Hydrocarbons | mg/kg | | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| Modified TPH (Tier 1) | mg/kg | | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| Resemblance Comment | | | | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| Return to Baseline at C32 | | | | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| Surrogate | Unit | Acceptable Limits | | | | | | | | | | |
| Isobutylbenzene - EPH | % | 60-140 | | 97 | 98 | 98 | 98 | 98 | 98 | 98 | 94 | 96 |
| Isobutylbenzene - VPH | % | 60-140 | | 100 | 105 | 97 | 103 | 106 | 99 | 106 | 106 | 110 |
| n-Dotriacontane - EPH | % | 60-140 | | 88 | 88 | 90 | 93 | 90 | 92 | 81 | 89 | |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 22K959140

PROJECT: 100424.003

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 CANADA A1E 6A8
 TEL (709)747-8573
 FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Soil (Version 3.1) - Field Preserved

DATE RECEIVED: 2022-10-19

DATE REPORTED: 2022-11-04

SAMPLE DESCRIPTION: SED-SD-01
 SAMPLE TYPE: Soil
 DATE SAMPLED: 2022-10-16
 15:40
 4430105

| Parameter | Unit | G / S | RDL | 4430105 |
|---------------------------|-------|-------------------|------|---------|
| Benzene | mg/kg | | 0.02 | <0.02 |
| Toluene | mg/kg | | 0.04 | <0.04 |
| Ethylbenzene | mg/kg | | 0.03 | <0.03 |
| Xylene (Total) | mg/kg | | 0.05 | <0.05 |
| C6-C10 (less BTEX) | mg/kg | | 3 | <3 |
| >C10-C16 Hydrocarbons | mg/kg | | 15 | <15 |
| >C16-C21 Hydrocarbons | mg/kg | | 15 | <15 |
| >C21-C32 Hydrocarbons | mg/kg | | 15 | <15 |
| Modified TPH (Tier 1) | mg/kg | | 15 | <15 |
| Resemblance Comment | | | | NR |
| Return to Baseline at C32 | | | | Y |
| Surrogate | Unit | Acceptable Limits | | |
| Isobutylbenzene - EPH | % | 60-140 | | 99 |
| Isobutylbenzene - VPH | % | 60-140 | | 92 |
| n-Dotriacontane - EPH | % | 60-140 | | 92 |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 22K959140

PROJECT: 100424.003

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St. John's, NL
CANADA A1E 6A8
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FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Soil (Version 3.1) - Field Preserved

DATE RECEIVED: 2022-10-19

DATE REPORTED: 2022-11-04

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

4429986-4430105 Modified TPH, Xylene(Total)and C6-C10(less BTEX) are calculated parameters. The calculated parameter is non-accredited. The component parameters of the calculation are accredited.

Results are based on the dry weight of the soil.

- Resemblance Comment Key:
- GF - Gasoline Fraction
- WGF - Weathered Gasoline Fraction
- GR - Product in Gasoline Range
- FOF - Fuel Oil Fraction
- WFOF - Weathered Fuel Oil Fraction
- FR - Product in Fuel Oil Range
- LOF - Lube Oil Fraction
- LR - Lube Range
- UC - Unidentified Compounds
- NR - No Resemblance
- NA - Not Applicable

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 22K959140

PROJECT: 100424.003

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Water (Version 3.1)

DATE RECEIVED: 2022-10-19

DATE REPORTED: 2022-11-04

| Parameter | Unit | SAMPLE DESCRIPTION: | | SITE-15-SW | SITE-21-SW | SITE-20-SW | SITE-09-SW | SITE-10-SW | SITE-05-SW | SITE-19-SW | SITE-02-SW |
|---------------------------|------|---------------------|-------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | | G / S | RDL | Water | Water | Water | Water | Water | Water | Water | Water |
| | | | | 2022-10-15 09:05 | 2022-10-15 10:40 | 2022-10-15 12:00 | 2022-10-15 12:45 | 2022-10-15 14:00 | 2022-10-15 14:50 | 2022-10-15 15:35 | 2022-10-15 16:15 |
| | | | | 4429943 | 4429944 | 4429945 | 4429946 | 4429947 | 4429948 | 4429949 | 4429950 |
| Benzene | mg/L | | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Toluene | mg/L | | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Ethylbenzene | mg/L | | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Xylene (Total) | mg/L | | 0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| C6-C10 (less BTEX) | mg/L | | 0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| >C10-C16 Hydrocarbons | mg/L | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C16-C21 Hydrocarbons | mg/L | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C21-C32 Hydrocarbons | mg/L | | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Modified TPH (Tier 1) | mg/L | | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Sediment | | | | NO | TRACE | TRACE | TRACE | TRACE | TRACE | NO | NO |
| Resemblance Comment | | | | NR | NR | NR | NR | NR | NR | NR | NR |
| Return to Baseline at C32 | | | | Y | Y | Y | Y | Y | Y | Y | Y |
| Surrogate | Unit | Acceptable Limits | | | | | | | | | |
| Isobutylbenzene - EPH | % | 70-130 | | 104 | 107 | 106 | 108 | 103 | 101 | 104 | 103 |
| Isobutylbenzene - VPH | % | 70-130 | | 84 | 80 | 87 | 89 | 86 | 85 | 87 | 84 |
| n-Dotriacontane - EPH | % | 70-130 | | 105 | 110 | 108 | 111 | 108 | 106 | 107 | 108 |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 22K959140

PROJECT: 100424.003

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Water (Version 3.1)

DATE RECEIVED: 2022-10-19

DATE REPORTED: 2022-11-04

| Parameter | Unit | G / S | RDL | SAMPLE DESCRIPTION: | SITE-03-SW | SITE-04-SW | SITE-08-SW | SW-SD-02 | SITE-11-SW | SITE-14-SW | SITE-12-SW | SITE-16-SW |
|---------------------------|------|-------------------|-------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | | | | SAMPLE TYPE: | Water | Water | Water | Water | Water | Water | Water | Water |
| | | | | DATE SAMPLED: | 2022-10-16 08:20 | 2022-10-16 09:10 | 2022-10-16 10:40 | 2022-10-16 12:00 | 2022-10-16 11:35 | 2022-10-16 12:55 | 2022-10-16 13:50 | 2022-10-16 14:50 |
| | | | | | 4429951 | 4429952 | 4429953 | 4429954 | 4430014 | 4430015 | 4430016 | 4430017 |
| Benzene | mg/L | | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Toluene | mg/L | | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Ethylbenzene | mg/L | | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Xylene (Total) | mg/L | | 0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| C6-C10 (less BTEX) | mg/L | | 0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| >C10-C16 Hydrocarbons | mg/L | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C16-C21 Hydrocarbons | mg/L | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C21-C32 Hydrocarbons | mg/L | | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Modified TPH (Tier 1) | mg/L | | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Sediment | | | | TRACE | TRACE | NO | TRACE | TRACE | TRACE | TRACE | TRACE | TRACE |
| Resemblance Comment | | | | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| Return to Baseline at C32 | | | | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| Surrogate | Unit | Acceptable Limits | | | | | | | | | | |
| Isobutylbenzene - EPH | % | 70-130 | | 106 | 103 | 102 | 107 | 102 | 96 | 96 | 97 | |
| Isobutylbenzene - VPH | % | 70-130 | | 84 | 80 | 82 | 80 | 77 | 81 | 79 | 79 | |
| n-Dotriacontane - EPH | % | 70-130 | | 113 | 108 | 107 | 110 | 102 | 100 | 102 | 103 | |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 22K959140

PROJECT: 100424.003

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 St. John's, NL
 CANADA A1E 6A8
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 FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Water (Version 3.1)

DATE RECEIVED: 2022-10-19

DATE REPORTED: 2022-11-04

| Parameter | Unit | SAMPLE DESCRIPTION: | | | | |
|---------------------------|------|---------------------|--------|------------|------------|------------|
| | | G / S | RDL | SITE-17-SW | SITE-06-SW | SW-SD-01 |
| | | | | Water | Water | Water |
| | | | | 2022-10-16 | 2022-10-16 | 2022-10-19 |
| | | | | 15:40 | 17:35 | 13:40 |
| | | | | 4430018 | 4430019 | 4430020 |
| Benzene | mg/L | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Toluene | mg/L | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Ethylbenzene | mg/L | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Xylene (Total) | mg/L | 0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| C6-C10 (less BTEX) | mg/L | 0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| >C10-C16 Hydrocarbons | mg/L | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C16-C21 Hydrocarbons | mg/L | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C21-C32 Hydrocarbons | mg/L | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Modified TPH (Tier 1) | mg/L | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Sediment | | | NO | TRACE | NO | |
| Resemblance Comment | | | NR | NR | NR | |
| Return to Baseline at C32 | | | Y | Y | Y | |
| Surrogate | Unit | Acceptable Limits | | | | |
| Isobutylbenzene - EPH | % | 70-130 | 97 | 100 | 98 | |
| Isobutylbenzene - VPH | % | 70-130 | 80 | 80 | 80 | |
| n-Dotriacontane - EPH | % | 70-130 | 101 | 101 | 104 | |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 22K959140

PROJECT: 100424.003

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CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Water (Version 3.1)

DATE RECEIVED: 2022-10-19

DATE REPORTED: 2022-11-04

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

4429943-4430020 Modified TPH, Xylene(Total)and C6-C10(less BTEX) are calculated parameters. The calculated parameter is non-accredited. The component parameters of the calculation are accredited.

Sediment parameter is comment only based on visual inspection of the sample prior to extraction and is not an accredited test.

Resemblance Comment Key:

- GF - Gasoline Fraction
- WGF - Weathered Gasoline Fraction
- GR - Product in Gasoline Range
- FOF - Fuel Oil Fraction
- WFOF - Weathered Fuel Oil Fraction
- FR - Product in Fuel Oil Range
- LOF - Lube Oil Fraction
- LR - Lube Range
- UC - Unidentified Compounds
- NR - No Resemblance
- NA - Not Applicable

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 22K959140

PROJECT: 100424.003

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<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Moisture

DATE RECEIVED: 2022-10-19

DATE REPORTED: 2022-11-04

| | | SAMPLE DESCRIPTION: | | SITE-15-SED | SITE-21-SED | SITE-20-SED | SITE-09-SED | SITE-10-SED | SITE-19-SED | SITE-02-SED | SITE-03-SED |
|------------|------|---------------------|-----|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | | SAMPLE TYPE: | | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil |
| | | DATE SAMPLED: | | 2022-10-15 09:05 | 2022-10-15 10:40 | 2022-10-15 12:00 | 2022-10-15 12:45 | 2022-10-15 14:00 | 2022-10-15 15:35 | 2022-10-15 16:15 | 2022-10-16 08:20 |
| Parameter | Unit | G / S | RDL | 4429986 | 4429991 | 4429992 | 4429993 | 4429994 | 4429995 | 4429996 | 4429997 |
| % Moisture | % | | 1 | 18 | 32 | 27 | 32 | 21 | 18 | 17 | 21 |
| | | SAMPLE DESCRIPTION: | | SITE-04-SED | SITE-08-SED | SITE-11-SED | SED-SD-02 | SITE-14-SED | SITE-12-SED | SITE-16-SED | SITE-17-SED |
| | | SAMPLE TYPE: | | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil |
| | | DATE SAMPLED: | | 2022-10-16 09:10 | 2022-10-16 10:40 | 2022-10-16 11:35 | 2022-10-16 | 2022-10-16 12:55 | 2022-10-16 13:50 | 2022-10-16 14:50 | 2022-10-16 15:40 |
| Parameter | Unit | G / S | RDL | 4429998 | 4429999 | 4430000 | 4430001 | 4430101 | 4430102 | 4430103 | 4430104 |
| % Moisture | % | | 1 | 11 | 19 | 12 | 25 | 9 | 24 | 25 | 21 |
| | | SAMPLE DESCRIPTION: | | SED-SD-01 | | | | | | | |
| | | SAMPLE TYPE: | | Soil | | | | | | | |
| | | DATE SAMPLED: | | 2022-10-16 15:40 | | | | | | | |
| Parameter | Unit | G / S | RDL | 4430105 | | | | | | | |
| % Moisture | % | | 1 | 20 | | | | | | | |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard
Analysis performed at AGAT Halifax (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 22K959140

PROJECT: 100424.003

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 CANADA A1E 6A8
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<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Mercury Analysis in Water (Total)

DATE RECEIVED: 2022-10-19

DATE REPORTED: 2022-11-04

| Parameter | Unit | G / S | RDL | SITE-15-SW | SITE-21-SW | SITE-20-SW | SITE-09-SW | SITE-10-SW | SITE-05-SW | SITE-19-SW | SITE-02-SW |
|---------------|------|-------|-------|--------------------------------|------------|------------|------------|------------|------------|------------|------------|
| | | | | SAMPLE DESCRIPTION: SITE-15-SW | | SITE-21-SW | | SITE-20-SW | | SITE-09-SW | |
| | | | | SAMPLE TYPE: Water | | Water | | Water | | Water | |
| | | | | DATE SAMPLED: 2022-10-15 | | 2022-10-15 | | 2022-10-15 | | 2022-10-15 | |
| | | | | 09:05 | | 10:40 | | 12:00 | | 12:45 | |
| | | | | 4429943 | | 4429944 | | 4429945 | | 4429946 | |
| | | | | 4429947 | | 4429948 | | 4429949 | | 4429950 | |
| Total Mercury | ug/L | | 0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 |
| | | | | SAMPLE DESCRIPTION: SITE-03-SW | | SITE-04-SW | | SITE-08-SW | | SW-SD-02 | |
| | | | | SAMPLE TYPE: Water | | Water | | Water | | Water | |
| | | | | DATE SAMPLED: 2022-10-16 | | 2022-10-16 | | 2022-10-16 | | 2022-10-16 | |
| | | | | 08:20 | | 09:10 | | 10:40 | | 12:00 | |
| | | | | 4429951 | | 4429952 | | 4429953 | | 4429954 | |
| | | | | 4430014 | | 4430015 | | 4430016 | | 4430017 | |
| Total Mercury | ug/L | | 0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 |
| | | | | SAMPLE DESCRIPTION: SITE-17-SW | | SITE-06-SW | | SW-SD-01 | | | |
| | | | | SAMPLE TYPE: Water | | Water | | Water | | | |
| | | | | DATE SAMPLED: 2022-10-16 | | 2022-10-16 | | 2022-10-19 | | | |
| | | | | 15:40 | | 17:35 | | 13:40 | | | |
| | | | | 4430018 | | 4430019 | | 4430020 | | | |
| Total Mercury | ug/L | | 0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard
 Analysis performed at AGAT Halifax (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 22K959140

PROJECT: 100424.003

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals

DATE RECEIVED: 2022-10-19

DATE REPORTED: 2022-11-04

| Parameter | Unit | SAMPLE DESCRIPTION: | | SITE-15-SW | SITE-21-SW | SITE-20-SW | SITE-09-SW | RDL | SITE-10-SW | RDL | SITE-05-SW |
|-------------------------------|---------|---------------------|------|------------|------------|------------|------------|------|------------|------------|------------|
| | | G / S | RDL | Water | Water | Water | Water | | Water | | Water |
| | | DATE SAMPLED: | | 2022-10-15 | 2022-10-15 | 2022-10-15 | 2022-10-15 | | | 2022-10-15 | 2022-10-15 |
| | | | | 09:05 | 10:40 | 12:00 | 12:45 | | | 14:00 | 14:50 |
| | | | | 4429943 | 4429944 | 4429945 | 4429946 | | | 4429947 | 4429948 |
| pH | | | | 6.33 | 6.38 | 6.64 | 6.46 | | 6.42 | | 6.49 |
| Reactive Silica as SiO2 | mg/L | | 0.5 | 1.0 | 2.3 | 4.7 | 1.9 | 0.5 | 2.1 | 0.5 | 5.8 |
| Chloride | mg/L | | 1 | 12 | 9 | 6 | 19 | 1 | 10 | 1 | 4 |
| Fluoride | mg/L | | 0.12 | <0.12 | <0.12 | <0.12 | <0.12 | 0.12 | <0.12 | 0.12 | <0.12 |
| Sulphate | mg/L | | 2 | <2 | <2 | <2 | <2 | 2 | <2 | 2 | <2 |
| Alkalinity | mg/L | | 5 | 10 | 12 | 29 | 12 | 5 | 12 | 5 | 23 |
| True Color | TCU | | 5.00 | 11.3 | 12.4 | 17.3 | 23.6 | 5.00 | 13.2 | 5.00 | 29.6 |
| Turbidity | NTU | | 0.5 | 0.5 | 0.9 | 8.0 | 3.0 | 0.5 | 6.8 | 0.5 | 12.5 |
| Electrical Conductivity | umho/cm | | 1 | 72 | 68 | 88 | 110 | 1 | 73 | 1 | 66 |
| Nitrate + Nitrite as N | mg/L | | 0.05 | <0.05 | 0.20 | 0.16 | <0.05 | 0.05 | <0.05 | 0.05 | 0.09 |
| Nitrate as N | mg/L | | 0.05 | <0.05 | 0.20 | 0.16 | <0.05 | 0.05 | <0.05 | 0.05 | 0.09 |
| Nitrite as N | mg/L | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | 0.05 | <0.05 | 0.05 | <0.05 |
| Ammonia as N | mg/L | | 0.03 | <0.03 | <0.03 | <0.03 | <0.03 | 0.03 | <0.03 | 0.03 | <0.03 |
| Total Organic Carbon | mg/L | | 0.5 | 4.9 | 5.5 | 8.8 | 10.1 | 0.5 | 5.8 | 0.5 | 5.0 |
| Ortho-Phosphate as P | mg/L | | 0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 0.01 | <0.01 | 0.01 | <0.01 |
| Total Sodium | mg/L | | 0.1 | 2.7 | 3.3 | 3.2 | 3.6 | 0.1 | 6.1 | 0.1 | 25 |
| Total Potassium | mg/L | | 0.1 | 0.3 | 0.3 | 0.2 | 0.4 | 0.1 | 0.4 | 0.1 | 0.7 |
| Total Calcium | mg/L | | 0.1 | 2.2 | 5.2 | 2.2 | 3.6 | 0.1 | 3.3 | 0.1 | 8.3 |
| Total Magnesium | mg/L | | 0.1 | 1.0 | 12.2 | 1.7 | 2.3 | 0.1 | 2.6 | 0.1 | 2.3 |
| Bicarb. Alkalinity (as CaCO3) | mg/L | | 5 | 10 | 12 | 29 | 12 | 5 | 12 | 5 | 23 |
| Carb. Alkalinity (as CaCO3) | mg/L | | 10 | <10 | <10 | <10 | <10 | 10 | <10 | 10 | <10 |
| Hydroxide | mg/L | | 5 | <5 | <5 | <5 | <5 | 5 | <5 | 5 | <5 |
| Calculated TDS | mg/L | | 1 | 25 | 38 | 32 | 40 | 1 | 30 | 1 | 56 |
| Hardness | mg/L | | | 9.6 | 63.2 | 12.5 | 18.5 | | 18.9 | | 30.2 |
| Langelier Index (@20C) | NA | | | -3.85 | -3.37 | -3.09 | -3.45 | | -3.52 | | -2.79 |
| Langelier Index (@ 4C) | NA | | | -4.17 | -3.69 | -3.41 | -3.77 | | -3.84 | | -3.11 |
| Saturation pH (@ 20C) | NA | | | 10.2 | 9.75 | 9.73 | 9.91 | | 9.94 | | 9.28 |
| Saturation pH (@ 4C) | NA | | | 10.5 | 10.1 | 10.1 | 10.2 | | 10.3 | | 9.60 |
| Anion Sum | me/L | | | 0.54 | 0.51 | 0.76 | 0.78 | | 0.52 | | 0.58 |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 22K959140

PROJECT: 100424.003

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals

DATE RECEIVED: 2022-10-19

DATE REPORTED: 2022-11-04

| Parameter | Unit | SAMPLE DESCRIPTION: | | SITE-15-SW | SITE-21-SW | SITE-20-SW | SITE-09-SW | RDL | SITE-10-SW | RDL | SITE-05-SW |
|---------------------------|------|---------------------|---------|------------|------------|------------|------------|-------|------------|---------|------------|
| | | G / S | RDL | Water | Water | Water | Water | | Water | | Water |
| DATE SAMPLED: | | 4429943 | 4429944 | 4429945 | 4429946 | 4429947 | 4429948 | | | 4429948 | |
| Cation sum | me/L | | 0.33 | 1.42 | 0.42 | 0.67 | | 0.67 | | 1.79 | |
| % Difference/ Ion Balance | % | | 23.3 | 47.3 | 28.4 | 7.6 | | 12.1 | | 51.1 | |
| Total Aluminum | ug/L | 5 | 70 | 26 | 33 | 59 | 5 | 14 | 5 | 280 | |
| Total Antimony | ug/L | 2 | <2 | <2 | <2 | <2 | 2 | <2 | 2 | <2 | |
| Total Arsenic | ug/L | 2 | <2 | <2 | <2 | 7 | 2 | <2 | 2 | 7 | |
| Total Barium | ug/L | 5 | <5 | <5 | <5 | <5 | 5 | <5 | 5 | 11 | |
| Total Beryllium | ug/L | 2 | <2 | <2 | <2 | <2 | 5 | <5 | 2 | <2 | |
| Total Bismuth | ug/L | 2 | <2 | <2 | <2 | <2 | 2 | <2 | 2 | <2 | |
| Total Boron | ug/L | 5 | <5 | 7 | <5 | <5 | 5 | <5 | 5 | <5 | |
| Total Cadmium | ug/L | 0.09 | <0.09 | <0.09 | <0.09 | <0.09 | 0.09 | <0.09 | 0.09 | <0.09 | |
| Total Chromium | ug/L | 1 | <1 | 2 | <1 | <1 | 1 | <1 | 1 | <1 | |
| Total Cobalt | ug/L | 1 | <1 | <1 | <1 | <1 | 1 | <1 | 1 | <1 | |
| Total Copper | ug/L | 1 | 2 | 3 | <1 | <1 | 1 | <1 | 1 | 1 | |
| Total Iron | ug/L | 50 | 124 | 126 | 290 | 1970 | 50 | 266 | 50 | 753 | |
| Total Lead | ug/L | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 0.5 | <0.5 | 0.5 | <0.5 | |
| Total Manganese | ug/L | 2 | 138 | 43 | 449 | 1460 | 2 | 39 | 2 | 638 | |
| Total Molybdenum | ug/L | 2 | <2 | <2 | <2 | <2 | 2 | <2 | 2 | <2 | |
| Total Nickel | ug/L | 2 | <2 | 4 | <2 | 2 | 2 | <2 | 2 | 2 | |
| Total Phosphorous | mg/L | 0.02 | 0.04 | 0.03 | 0.04 | 0.06 | 0.02 | 0.04 | 0.02 | 0.06 | |
| Total Selenium | ug/L | 1 | <1 | <1 | <1 | <1 | 1 | <1 | 1 | <1 | |
| Total Silver | ug/L | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | 0.1 | <0.1 | 0.1 | <0.1 | |
| Total Strontium | ug/L | 5 | 19 | 39 | 23 | 28 | 5 | 21 | 5 | 64 | |
| Total Thallium | ug/L | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | 0.1 | <0.1 | 0.1 | <0.1 | |
| Total Tin | ug/L | 2 | <2 | <2 | <2 | <2 | 2 | <2 | 2 | <2 | |
| Total Titanium | ug/L | 2 | <2 | <2 | <2 | <2 | 2 | <2 | 2 | 3 | |
| Total Uranium | ug/L | 0.2 | <0.2 | <0.2 | <0.2 | <0.2 | 0.2 | <0.2 | 0.2 | <0.2 | |
| Total Vanadium | ug/L | 2 | <2 | <2 | <2 | <2 | 2 | <2 | 2 | <2 | |
| Total Zinc | ug/L | 5 | <5 | <5 | <5 | <5 | 5 | <5 | 5 | 5 | |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 22K959140

PROJECT: 100424.003

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709)747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals

DATE RECEIVED: 2022-10-19

DATE REPORTED: 2022-11-04

| Parameter | Unit | SAMPLE DESCRIPTION: | | SITE-19-SW | | SITE-02-SW | | SITE-03-SW | | SITE-04-SW | | SITE-08-SW | | | | | | | |
|-------------------------------|---------|---------------------|------|------------|---------|------------|-------|------------|-------|------------|---------|------------|-------|---------|------|-------|---------|--|-------|
| | | G / S | RDL | Water | 4429949 | RDL | Water | 4429950 | RDL | Water | 4429951 | RDL | Water | 4429952 | RDL | Water | 4429953 | | |
| pH | | | | | 6.19 | | | | 6.35 | | | | 6.34 | | | | 6.41 | | 6.49 |
| Reactive Silica as SiO2 | mg/L | | 0.5 | | 1.3 | | 0.5 | | 2.1 | | 0.5 | | 3.1 | | 0.5 | | 5.0 | | 2.3 |
| Chloride | mg/L | | 1 | | 3 | | 1 | | 4 | | 1 | | 4 | | 1 | | 8 | | 43 |
| Fluoride | mg/L | | 0.12 | | <0.12 | | 0.12 | | <0.12 | | 0.12 | | <0.12 | | 0.12 | | <0.12 | | <0.12 |
| Sulphate | mg/L | | 2 | | <2 | | 2 | | <2 | | 2 | | <2 | | 2 | | 4 | | 3 |
| Alkalinity | mg/L | | 5 | | <5 | | 5 | | 11 | | 5 | | 11 | | 5 | | 15 | | 28 |
| True Color | TCU | | 5.00 | | 12.3 | | 5.00 | | 15.6 | | 5.00 | | 15.7 | | 5.00 | | 12.6 | | 11.8 |
| Turbidity | NTU | | 0.5 | | 0.5 | | 0.5 | | 0.9 | | 0.5 | | 1.1 | | 0.5 | | 14.5 | | <0.5 |
| Electrical Conductivity | umho/cm | | 1 | | 24 | | 1 | | 46 | | 1 | | 48 | | 1 | | 80 | | 204 |
| Nitrate + Nitrite as N | mg/L | | 0.05 | | <0.05 | | 0.05 | | <0.05 | | 0.05 | | 0.08 | | 0.05 | | 0.37 | | <0.05 |
| Nitrate as N | mg/L | | 0.05 | | <0.05 | | 0.05 | | <0.05 | | 0.05 | | 0.08 | | 0.05 | | 0.37 | | <0.05 |
| Nitrite as N | mg/L | | 0.05 | | <0.05 | | 0.05 | | <0.05 | | 0.05 | | <0.05 | | 0.05 | | <0.05 | | <0.05 |
| Ammonia as N | mg/L | | 0.03 | | 0.05 | | 0.03 | | <0.03 | | 0.03 | | <0.03 | | 0.03 | | <0.03 | | 0.08 |
| Total Organic Carbon | mg/L | | 0.5 | | 4.9 | | 0.5 | | 6.6 | | 0.5 | | 5.4 | | 0.5 | | 4.4 | | 5.1 |
| Ortho-Phosphate as P | mg/L | | 0.01 | | <0.01 | | 0.01 | | <0.01 | | 0.01 | | <0.01 | | 0.01 | | <0.01 | | <0.01 |
| Total Sodium | mg/L | | 0.1 | | 6.1 | | 0.1 | | 8.3 | | 0.1 | | 6.7 | | 0.1 | | 5.0 | | 12 |
| Total Potassium | mg/L | | 0.1 | | 0.4 | | 0.1 | | 0.2 | | 0.1 | | 0.3 | | 0.1 | | 0.1 | | 0.2 |
| Total Calcium | mg/L | | 0.1 | | 3.3 | | 0.1 | | 2.0 | | 0.1 | | 2.4 | | 0.1 | | 4.1 | | 3.3 |
| Total Magnesium | mg/L | | 0.1 | | 2.5 | | 0.1 | | 1.9 | | 0.1 | | 2.3 | | 0.1 | | 5.5 | | 2.0 |
| Bicarb. Alkalinity (as CaCO3) | mg/L | | 5 | | <5 | | 5 | | 11 | | 5 | | 11 | | 5 | | 15 | | 28 |
| Carb. Alkalinity (as CaCO3) | mg/L | | 10 | | <10 | | 10 | | <10 | | 10 | | <10 | | 10 | | <10 | | <10 |
| Hydroxide | mg/L | | 5 | | <5 | | 5 | | <5 | | 5 | | <5 | | 5 | | <5 | | <5 |
| Calculated TDS | mg/L | | 1 | | 16 | | 1 | | 23 | | 1 | | 23 | | 1 | | 39 | | 81 |
| Hardness | mg/L | | | | 18.5 | | | | 12.8 | | | | 15.5 | | | | 32.9 | | 16.5 |
| Langelier Index (@20C) | NA | | | | -4.11 | | | | -3.83 | | | | -3.76 | | | | -3.35 | | -3.12 |
| Langelier Index (@ 4C) | NA | | | | -4.43 | | | | -4.15 | | | | -4.08 | | | | -3.67 | | -3.44 |
| Saturation pH (@ 20C) | NA | | | | 10.3 | | | | 10.2 | | | | 10.1 | | | | 9.76 | | 9.61 |
| Saturation pH (@ 4C) | NA | | | | 10.6 | | | | 10.5 | | | | 10.4 | | | | 10.1 | | 9.93 |
| Anion Sum | me/L | | | | 0.08 | | | | 0.33 | | | | 0.34 | | | | 0.64 | | 1.84 |

Certified By:



Certificate of Analysis

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ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals

DATE RECEIVED: 2022-10-19

DATE REPORTED: 2022-11-04

| Parameter | Unit | SAMPLE DESCRIPTION: SITE-19-SW | | SITE-02-SW | | SITE-03-SW | | SITE-04-SW | | SITE-08-SW | |
|---------------------------|------|--------------------------------|-------|------------------|-------|------------------|-------|------------------|-------|------------------|-------|
| | | SAMPLE TYPE: Water | | Water | | Water | | Water | | Water | |
| | | DATE SAMPLED: 2022-10-15 15:35 | | 2022-10-15 16:15 | | 2022-10-16 08:20 | | 2022-10-16 09:10 | | 2022-10-16 10:40 | |
| G / S | RDL | 4429949 | RDL | 4429950 | RDL | 4429951 | RDL | 4429952 | RDL | 4429953 | |
| Cation sum | me/L | | 0.66 | | 0.62 | | 0.62 | | 0.94 | | 0.89 |
| % Difference/ Ion Balance | % | | 77.3 | | 30.4 | | 29.0 | | 19.2 | | 34.9 |
| Total Aluminum | ug/L | 5 | 12 | 5 | 8 | 5 | 12 | 5 | 129 | | 37 |
| Total Antimony | ug/L | 2 | <2 | 2 | <2 | 2 | <2 | 2 | <2 | | <2 |
| Total Arsenic | ug/L | 2 | <2 | 2 | <2 | 2 | <2 | 2 | 3 | | <2 |
| Total Barium | ug/L | 5 | <5 | 5 | <5 | 5 | <5 | 5 | 6 | | <5 |
| Total Beryllium | ug/L | 5 | <5 | 5 | <5 | 2 | <2 | 2 | <2 | | <2 |
| Total Bismuth | ug/L | 2 | <2 | 2 | <2 | 2 | <2 | 2 | <2 | | <2 |
| Total Boron | ug/L | 5 | <5 | 5 | <5 | 5 | <5 | 5 | 7 | | <5 |
| Total Cadmium | ug/L | 0.80 | <0.80 | 0.09 | <0.09 | 0.09 | <0.09 | 0.09 | <0.09 | | <0.09 |
| Total Chromium | ug/L | 1 | <1 | 1 | <1 | 1 | <1 | 1 | 3 | | <1 |
| Total Cobalt | ug/L | 1 | <1 | 1 | <1 | 1 | <1 | 1 | <1 | | <1 |
| Total Copper | ug/L | 1 | <1 | 1 | <1 | 1 | <1 | 1 | 1 | | <1 |
| Total Iron | ug/L | 50 | 251 | 50 | <50 | 50 | 129 | 50 | 773 | | 352 |
| Total Lead | ug/L | 0.5 | <0.5 | 0.5 | <0.5 | 10 | <10 | 0.5 | <0.5 | | <0.5 |
| Total Manganese | ug/L | 2 | 27 | 2 | 12 | 2 | 37 | 2 | 542 | | 197 |
| Total Molybdenum | ug/L | 2 | <2 | 2 | <2 | 2 | <2 | 2 | <2 | | <2 |
| Total Nickel | ug/L | 2 | <2 | 2 | <2 | 2 | <2 | 2 | 6 | | <2 |
| Total Phosphorous | mg/L | 0.02 | 0.04 | 0.02 | 0.03 | 0.02 | 0.04 | 0.02 | 0.05 | | 0.03 |
| Total Selenium | ug/L | 1 | <1 | 1 | <1 | 1 | <1 | 1 | <1 | | <1 |
| Total Silver | ug/L | 0.1 | <0.1 | 0.1 | <0.1 | 0.1 | <0.1 | 0.1 | <0.1 | | <0.1 |
| Total Strontium | ug/L | 5 | 20 | 5 | 15 | 5 | 17 | 5 | 22 | | 25 |
| Total Thallium | ug/L | 0.1 | <0.1 | 0.1 | <0.1 | 0.1 | <0.1 | 0.1 | <0.1 | | <0.1 |
| Total Tin | ug/L | 2 | <2 | 2 | <2 | 2 | <2 | 2 | <2 | | <2 |
| Total Titanium | ug/L | 2 | <2 | 2 | <2 | 2 | <2 | 2 | <2 | | <2 |
| Total Uranium | ug/L | 0.2 | <0.2 | 0.2 | <0.2 | 0.2 | <0.2 | 0.2 | <0.2 | | <0.2 |
| Total Vanadium | ug/L | 2 | <2 | 2 | <2 | 2 | <2 | 2 | <2 | | <2 |
| Total Zinc | ug/L | 5 | <5 | 5 | <5 | 5 | <5 | 5 | <5 | | <5 |

Certified By:



Certificate of Analysis

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PROJECT: 100424.003

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CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals

DATE RECEIVED: 2022-10-19

DATE REPORTED: 2022-11-04

| Parameter | Unit | SAMPLE DESCRIPTION: | | SW-SD-02 | SITE-11-SW | SITE-14-SW | RDL | SITE-12-SW | RDL | SITE-16-SW |
|-------------------------------|---------|---------------------|------|------------|------------|------------|------|------------|------------|------------|
| | | G / S | RDL | Water | Water | Water | | Water | | Water |
| | | SAMPLE TYPE: | | 2022-10-16 | 2022-10-16 | 2022-10-16 | | | 2022-10-16 | 2022-10-16 |
| | | DATE SAMPLED: | | 12:00 | 11:35 | 12:55 | | | 13:50 | 14:50 |
| | | | | 4429954 | 4430014 | 4430015 | | | 4430016 | 4430017 |
| pH | | | | 6.43 | 6.24 | 7.05 | | 6.33 | | 6.48 |
| Reactive Silica as SiO2 | mg/L | | 0.5 | 2.2 | 1.8 | 13.5 | 0.5 | 5.4 | 0.5 | 7.1 |
| Chloride | mg/L | | 1 | 10 | 3 | 4 | 1 | 5 | 1 | 4 |
| Fluoride | mg/L | | 0.12 | <0.12 | <0.12 | <0.12 | 0.12 | <0.12 | 0.12 | <0.12 |
| Sulphate | mg/L | | 2 | <2 | <2 | <2 | 2 | <2 | 2 | <2 |
| Alkalinity | mg/L | | 5 | 10 | 7 | 68 | 5 | 10 | 5 | 17 |
| True Color | TCU | | 5.00 | 11.2 | 6.60 | 29.9 | 5.00 | 8.29 | 5.00 | 65.5 |
| Turbidity | NTU | | 0.5 | 1.3 | 0.5 | <0.5 | 0.5 | 1.4 | 0.5 | 4.6 |
| Electrical Conductivity | umho/cm | | 1 | 73 | 34 | 147 | 1 | 45 | 1 | 59 |
| Nitrate + Nitrite as N | mg/L | | 0.05 | <0.05 | 0.06 | <0.05 | 0.05 | 0.05 | 0.05 | <0.05 |
| Nitrate as N | mg/L | | 0.05 | <0.05 | 0.06 | <0.05 | 0.05 | 0.05 | 0.05 | <0.05 |
| Nitrite as N | mg/L | | 0.05 | <0.05 | <0.05 | <0.05 | 0.05 | <0.05 | 0.05 | <0.05 |
| Ammonia as N | mg/L | | 0.03 | 0.07 | <0.03 | <0.03 | 0.03 | <0.03 | 0.03 | 0.12 |
| Total Organic Carbon | mg/L | | 0.5 | 6.1 | 3.7 | 6.3 | 0.5 | 2.3 | 0.5 | 11.8 |
| Ortho-Phosphate as P | mg/L | | 0.01 | <0.01 | <0.01 | <0.01 | 0.01 | <0.01 | 0.01 | <0.01 |
| Total Sodium | mg/L | | 0.1 | 7.9 | 3.5 | 2.2 | 0.1 | 3.4 | 0.1 | 3.4 |
| Total Potassium | mg/L | | 0.1 | 0.3 | 0.3 | 0.2 | 0.1 | 0.2 | 0.1 | 0.4 |
| Total Calcium | mg/L | | 0.1 | 2.6 | 5.2 | 1.4 | 0.1 | 2.8 | 0.1 | 2.8 |
| Total Magnesium | mg/L | | 0.1 | 2.2 | 2.6 | 0.6 | 0.1 | 1.4 | 0.1 | 1.6 |
| Bicarb. Alkalinity (as CaCO3) | mg/L | | 5 | 10 | 7 | 68 | 5 | 10 | 5 | 17 |
| Carb. Alkalinity (as CaCO3) | mg/L | | 10 | <10 | <10 | <10 | 10 | <10 | 10 | <10 |
| Hydroxide | mg/L | | 5 | <5 | <5 | <5 | 5 | <5 | 5 | <5 |
| Calculated TDS | mg/L | | 1 | 31 | 21 | 50 | 1 | 19 | 1 | 23 |
| Hardness | mg/L | | | 15.6 | 23.7 | 6.0 | | 12.8 | | 13.6 |
| Langelier Index (@20C) | NA | | | -3.69 | -3.72 | -2.53 | | -3.74 | | -3.37 |
| Langelier Index (@ 4C) | NA | | | -4.01 | -4.04 | -2.85 | | -4.06 | | -3.69 |
| Saturation pH (@ 20C) | NA | | | 10.1 | 9.96 | 9.58 | | 10.1 | | 9.85 |
| Saturation pH (@ 4C) | NA | | | 10.4 | 10.3 | 9.90 | | 10.4 | | 10.2 |
| Anion Sum | me/L | | | 0.48 | 0.23 | 1.47 | | 0.34 | | 0.45 |

Certified By:



Certificate of Analysis

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SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals

DATE RECEIVED: 2022-10-19

DATE REPORTED: 2022-11-04

| Parameter | Unit | SAMPLE DESCRIPTION: | | SW-SD-02 | SITE-11-SW | SITE-14-SW | RDL | SITE-12-SW | RDL | SITE-16-SW |
|---------------------------|------|---------------------|------|------------|------------|------------|------|------------|------------|------------|
| | | G / S | RDL | Water | Water | Water | | Water | | Water |
| | | DATE SAMPLED: | | 2022-10-16 | 2022-10-16 | 2022-10-16 | | | 2022-10-16 | 2022-10-16 |
| | | | | 12:00 | 11:35 | 12:55 | | | 13:50 | 14:50 |
| | | | | 4429954 | 4430014 | 4430015 | | | 4430016 | 4430017 |
| Cation sum | me/L | | | 0.77 | 0.72 | 0.24 | | 0.42 | | 0.44 |
| % Difference/ Ion Balance | % | | | 23.1 | 51.7 | 72.1 | | 9.5 | | 1.2 |
| Total Aluminum | ug/L | 5 | | 384 | 134 | 26 | 5 | 17 | 5 | 18 |
| Total Antimony | ug/L | 2 | | <2 | <2 | <2 | 2 | <2 | 2 | <2 |
| Total Arsenic | ug/L | 2 | | 2 | 6 | <2 | 2 | <2 | 2 | <2 |
| Total Barium | ug/L | 5 | | 6 | 9 | <5 | 5 | <5 | 5 | <5 |
| Total Beryllium | ug/L | 2 | | <2 | <2 | <2 | 2 | <2 | 5 | <5 |
| Total Bismuth | ug/L | 2 | | <2 | <2 | <2 | 2 | <2 | 2 | <2 |
| Total Boron | ug/L | 5 | | <5 | <5 | <5 | 5 | <5 | 5 | <5 |
| Total Cadmium | ug/L | | 0.09 | <0.09 | <0.09 | <0.09 | 0.80 | <0.80 | 0.09 | <0.09 |
| Total Chromium | ug/L | 1 | | <1 | <1 | <1 | 1 | <1 | 1 | <1 |
| Total Cobalt | ug/L | 1 | | <1 | <1 | <1 | 1 | <1 | 1 | <1 |
| Total Copper | ug/L | 1 | | 1 | 1 | <1 | 1 | <1 | 1 | <1 |
| Total Iron | ug/L | 50 | | 976 | 1590 | 271 | 50 | 134 | 50 | <50 |
| Total Lead | ug/L | | 0.5 | 0.6 | <0.5 | <0.5 | 0.5 | <0.5 | 0.5 | <0.5 |
| Total Manganese | ug/L | 2 | | 733 | 356 | 177 | 2 | 61 | 2 | 43 |
| Total Molybdenum | ug/L | 2 | | <2 | <2 | <2 | 2 | <2 | 2 | <2 |
| Total Nickel | ug/L | 2 | | 2 | <2 | <2 | 2 | <2 | 2 | <2 |
| Total Phosphorous | mg/L | 0.02 | | 0.05 | 0.05 | 0.04 | 0.02 | 0.03 | 0.02 | 0.04 |
| Total Selenium | ug/L | 1 | | <1 | <1 | <1 | 1 | <1 | 1 | <1 |
| Total Silver | ug/L | 0.1 | | <0.1 | <0.1 | <0.1 | 0.1 | <0.1 | 0.1 | <0.1 |
| Total Strontium | ug/L | 5 | | 19 | 50 | 11 | 5 | 20 | 5 | 19 |
| Total Thallium | ug/L | 0.1 | | <0.1 | <0.1 | <0.1 | 0.1 | <0.1 | 0.1 | <0.1 |
| Total Tin | ug/L | 2 | | <2 | <2 | <2 | 2 | <2 | 2 | <2 |
| Total Titanium | ug/L | 2 | | 3 | <2 | <2 | 2 | <2 | 2 | <2 |
| Total Uranium | ug/L | | 0.2 | <0.2 | <0.2 | <0.2 | 0.2 | <0.2 | 0.2 | <0.2 |
| Total Vanadium | ug/L | 2 | | <2 | <2 | <2 | 2 | <2 | 2 | <2 |
| Total Zinc | ug/L | 5 | | <5 | <5 | <5 | 5 | <5 | 5 | <5 |

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SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals

DATE RECEIVED: 2022-10-19

DATE REPORTED: 2022-11-04

| Parameter | Unit | SAMPLE DESCRIPTION: | | SITE-17-SW | SITE-06-SW | SW-SD-01 |
|-------------------------------|---------|---------------------|------|------------|------------|------------|
| | | G / S | RDL | 4430018 | 4430019 | 4430020 |
| | | | | Water | Water | Water |
| | | | | 2022-10-16 | 2022-10-16 | 2022-10-19 |
| | | | | 15:40 | 17:35 | 13:40 |
| pH | | | | 6.53 | 6.51 | 6.57 |
| Reactive Silica as SiO2 | mg/L | | 0.5 | 4.4 | 0.7 | 4.3 |
| Chloride | mg/L | | 1 | 8 | 48 | 9 |
| Fluoride | mg/L | | 0.12 | <0.12 | <0.12 | <0.12 |
| Sulphate | mg/L | | 2 | <2 | 3 | <2 |
| Alkalinity | mg/L | | 5 | 18 | 17 | 18 |
| True Color | TCU | | 5.00 | 18.8 | 9.82 | 21.9 |
| Turbidity | NTU | | 0.5 | 1.5 | 0.6 | 0.6 |
| Electrical Conductivity | umho/cm | | 1 | 71 | 224 | 71 |
| Nitrate + Nitrite as N | mg/L | | 0.05 | <0.05 | <0.05 | <0.05 |
| Nitrate as N | mg/L | | 0.05 | <0.05 | <0.05 | <0.05 |
| Nitrite as N | mg/L | | 0.05 | <0.05 | <0.05 | <0.05 |
| Ammonia as N | mg/L | | 0.03 | <0.03 | <0.03 | <0.03 |
| Total Organic Carbon | mg/L | | 0.5 | 36.3 | 7.4 | 7.8 |
| Ortho-Phosphate as P | mg/L | | 0.01 | <0.01 | <0.01 | <0.01 |
| Total Sodium | mg/L | | 0.1 | 5.5 | 24 | 7.8 |
| Total Potassium | mg/L | | 0.1 | 0.4 | 0.3 | 0.3 |
| Total Calcium | mg/L | | 0.1 | 6.0 | 6.1 | 2.7 |
| Total Magnesium | mg/L | | 0.1 | 2.0 | 1.9 | 2.2 |
| Bicarb. Alkalinity (as CaCO3) | mg/L | | 5 | 18 | 17 | 18 |
| Carb. Alkalinity (as CaCO3) | mg/L | | 10 | <10 | <10 | <10 |
| Hydroxide | mg/L | | 5 | <5 | <5 | <5 |
| Calculated TDS | mg/L | | 1 | 34 | 94 | 36 |
| Hardness | mg/L | | | 23.2 | 23.1 | 15.8 |
| Langelier Index (@20C) | NA | | | -2.98 | -3.06 | -3.29 |
| Langelier Index (@ 4C) | NA | | | -3.30 | -3.38 | -3.61 |
| Saturation pH (@ 20C) | NA | | | 9.51 | 9.57 | 9.86 |
| Saturation pH (@ 4C) | NA | | | 9.83 | 9.89 | 10.2 |
| Anion Sum | me/L | | | 0.59 | 1.76 | 0.61 |

Certified By:



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SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals

DATE RECEIVED: 2022-10-19

DATE REPORTED: 2022-11-04

| Parameter | Unit | SAMPLE DESCRIPTION: | | SITE-17-SW | SITE-06-SW | SW-SD-01 |
|---------------------------|------|---------------------|-------|------------|------------|----------|
| | | G / S | RDL | 4430018 | 4430019 | 4430020 |
| Cation sum | me/L | | | 0.78 | 1.52 | 0.83 |
| % Difference/ Ion Balance | % | | | 14.2 | 7.2 | 14.8 |
| Total Aluminum | ug/L | 5 | 305 | 22 | 621 | |
| Total Antimony | ug/L | 2 | <2 | <2 | <2 | |
| Total Arsenic | ug/L | 2 | 4 | <2 | 3 | |
| Total Barium | ug/L | 5 | 6 | <5 | 9 | |
| Total Beryllium | ug/L | 2 | <2 | <2 | <2 | |
| Total Bismuth | ug/L | 2 | <2 | <2 | <2 | |
| Total Boron | ug/L | 5 | <5 | <5 | <5 | |
| Total Cadmium | ug/L | 0.09 | <0.09 | <0.09 | <0.09 | |
| Total Chromium | ug/L | 1 | <1 | <1 | 1 | |
| Total Cobalt | ug/L | 1 | <1 | <1 | 1 | |
| Total Copper | ug/L | 1 | 2 | <1 | 2 | |
| Total Iron | ug/L | 50 | 645 | 93 | 1550 | |
| Total Lead | ug/L | 0.5 | <0.5 | <0.5 | 0.8 | |
| Total Manganese | ug/L | 2 | 257 | 33 | 1120 | |
| Total Molybdenum | ug/L | 2 | <2 | <2 | <2 | |
| Total Nickel | ug/L | 2 | <2 | <2 | 3 | |
| Total Phosphorous | mg/L | 0.02 | 0.05 | 0.03 | 0.06 | |
| Total Selenium | ug/L | 1 | <1 | <1 | <1 | |
| Total Silver | ug/L | 0.1 | <0.1 | <0.1 | <0.1 | |
| Total Strontium | ug/L | 5 | 45 | 42 | 20 | |
| Total Thallium | ug/L | 0.1 | <0.1 | <0.1 | <0.1 | |
| Total Tin | ug/L | 2 | <2 | <2 | <2 | |
| Total Titanium | ug/L | 2 | 4 | <2 | 5 | |
| Total Uranium | ug/L | 0.2 | <0.2 | <0.2 | <0.2 | |
| Total Vanadium | ug/L | 2 | <2 | <2 | <2 | |
| Total Zinc | ug/L | 5 | <5 | <5 | <5 | |

Certified By:



AGAT Laboratories

Certificate of Analysis

AGAT WORK ORDER: 22K959140

PROJECT: 100424.003

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals

DATE RECEIVED: 2022-10-19

DATE REPORTED: 2022-11-04

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

4429943-4430020 % Difference / Ion Balance, Hardness, Langelier Index, Nitrate + Nitrite, Hydroxide and Saturation pH are calculated parameters. The calculated parameters are non-accredited. The component parameters of the calculations are accredited.

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 22K959140

PROJECT: 100424.003

57 Old Pennywell Road, Unit I
 St. John's, NL
 CANADA A1E 6A8
 TEL (709)747-8573
 FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

TSS

DATE RECEIVED: 2022-10-19

DATE REPORTED: 2022-11-04

| | | SAMPLE DESCRIPTION: | | SITE-15-SW | SITE-21-SW | SITE-20-SW | SITE-09-SW | SITE-10-SW | SITE-05-SW | SITE-19-SW | SITE-02-SW |
|------------------------|------|---------------------|-----|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | | SAMPLE TYPE: | | Water | Water | Water | Water | Water | Water | Water | Water |
| | | DATE SAMPLED: | | 2022-10-15 09:05 | 2022-10-15 10:40 | 2022-10-15 12:00 | 2022-10-15 12:45 | 2022-10-15 14:00 | 2022-10-15 14:50 | 2022-10-15 15:35 | 2022-10-15 16:15 |
| Parameter | Unit | G / S | RDL | 4429943 | 4429944 | 4429945 | 4429946 | 4429947 | 4429948 | 4429949 | 4429950 |
| Total Suspended Solids | mg/L | | 5 | <5 | <5 | <5 | <5 | 42 | <5 | <5 | <5 |
| | | SAMPLE DESCRIPTION: | | SITE-03-SW | SITE-04-SW | SITE-08-SW | SW-SD-02 | SITE-11-SW | SITE-14-SW | SITE-12-SW | SITE-16-SW |
| | | SAMPLE TYPE: | | Water | Water | Water | Water | Water | Water | Water | Water |
| | | DATE SAMPLED: | | 2022-10-16 08:20 | 2022-10-16 09:10 | 2022-10-16 10:40 | 2022-10-16 12:00 | 2022-10-16 11:35 | 2022-10-16 12:55 | 2022-10-16 13:50 | 2022-10-16 14:50 |
| Parameter | Unit | G / S | RDL | 4429951 | 4429952 | 4429953 | 4429954 | 4430014 | 4430015 | 4430016 | 4430017 |
| Total Suspended Solids | mg/L | | 5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| | | SAMPLE DESCRIPTION: | | SITE-17-SW | SITE-06-SW | SW-SD-01 | | | | | |
| | | SAMPLE TYPE: | | Water | Water | Water | | | | | |
| | | DATE SAMPLED: | | 2022-10-16 15:40 | 2022-10-16 17:35 | 2022-10-19 13:40 | | | | | |
| Parameter | Unit | G / S | RDL | 4430018 | 4430019 | 4430020 | | | | | |
| Total Suspended Solids | mg/L | | 5 | <5 | <5 | <5 | | | | | |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard
 Analysis performed at AGAT Halifax (unless marked by *)

Certified By:

Quality Assurance

 CLIENT NAME: GEMTEC LIMITED
 PROJECT: 100424.003
 SAMPLING SITE:

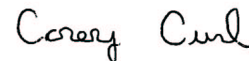
 AGAT WORK ORDER: 22K959140
 ATTENTION TO: Darrol Rice
 SAMPLED BY:

| Soil Analysis | | | | | | | | | | | | | | | |
|------------------------|-------|-----------|-----------|--------|-----|----------------|--------------|--------------------|-------|----------|--------------------|-------|--------------|-------------------|-------|
| RPT Date: Nov 04, 2022 | | | DUPLICATE | | | | Method Blank | REFERENCE MATERIAL | | | METHOD BLANK SPIKE | | MATRIX SPIKE | | |
| PARAMETER | Batch | Sample Id | Dup #1 | Dup #2 | RPD | Measured Value | | Acceptable Limits | | Recovery | Acceptable Limits | | Recovery | Acceptable Limits | |
| | | | | | | | | Lower | Upper | | Lower | Upper | | Lower | Upper |

Available Metals in Soil (Incl. Hg)

| | | | | | | | | | | | | | | | |
|------------|---------|---------|-------|-------|-------|--------|------|-----|------|------|-----|------|------|-----|------|
| Aluminum | 4430105 | 4430105 | 16400 | 15400 | 6.4% | < 10 | 108% | 80% | 120% | 111% | 80% | 120% | NA | 70% | 130% |
| Antimony | 4430105 | 4430105 | <1 | <1 | NA | < 1 | 81% | 80% | 120% | 114% | 80% | 120% | 128% | 70% | 130% |
| Arsenic | 4430105 | 4430105 | 54 | 37 | NA | < 1 | 100% | 80% | 120% | 98% | 80% | 120% | NA | 70% | 130% |
| Barium | 4430105 | 4430105 | 34 | 29 | 18.6% | < 5 | 107% | 80% | 120% | 100% | 80% | 120% | NA | 70% | 130% |
| Beryllium | 4430105 | 4430105 | <2 | <2 | NA | < 2 | 107% | 80% | 120% | 107% | 80% | 120% | 94% | 70% | 130% |
| Boron | 4430105 | 4430105 | <2 | <2 | NA | < 2 | 106% | 80% | 120% | 108% | 80% | 120% | 95% | 70% | 130% |
| Cadmium | 4430105 | 4430105 | <0.3 | <0.3 | NA | < 0.3 | 101% | 80% | 120% | 97% | 80% | 120% | 87% | 70% | 130% |
| Chromium | 4430105 | 4430105 | 36 | 33 | 9.4% | < 2 | 94% | 80% | 120% | 102% | 80% | 120% | NA | 70% | 130% |
| Cobalt | 4430105 | 4430105 | 16 | 16 | 0.3% | < 1 | 96% | 80% | 120% | 95% | 80% | 120% | NA | 70% | 130% |
| Copper | 4430105 | 4430105 | 13 | 8 | NA | < 2 | 102% | 80% | 120% | 101% | 80% | 120% | NA | 70% | 130% |
| Iron | 4430105 | 4430105 | 44700 | 40400 | 10.1% | < 50 | 97% | 80% | 120% | 93% | 80% | 120% | 87% | 70% | 130% |
| Lead | 4430105 | 4430105 | 9.0 | 7.6 | 17.9% | < 0.5 | 104% | 80% | 120% | 98% | 80% | 120% | NA | 70% | 130% |
| Lithium | 4430105 | 4430105 | 41 | 41 | 0.4% | < 5 | 107% | 70% | 130% | 108% | 70% | 130% | NA | 70% | 130% |
| Manganese | 4430105 | 4430105 | 3450 | 3460 | 0.2% | < 2 | 97% | 80% | 120% | 94% | 80% | 120% | NA | 70% | 130% |
| Mercury | 4430105 | 4430105 | <0.03 | <0.03 | NA | < 0.03 | 97% | 80% | 120% | 95% | 80% | 120% | NA | 70% | 130% |
| Molybdenum | 4430105 | 4430105 | <2 | <2 | NA | < 2 | 96% | 80% | 120% | 96% | 80% | 120% | 88% | 70% | 130% |
| Nickel | 4430105 | 4430105 | 53 | 53 | 0.1% | < 2 | 101% | 80% | 120% | 99% | 80% | 120% | NA | 70% | 130% |
| Selenium | 4430105 | 4430105 | <1 | <1 | NA | < 1 | 97% | 80% | 120% | 93% | 80% | 120% | 78% | 70% | 130% |
| Silver | 4430105 | 4430105 | <0.5 | <0.5 | NA | < 0.5 | 103% | 80% | 120% | 101% | 80% | 120% | 91% | 70% | 130% |
| Strontium | 4430105 | 4430105 | 9 | 8 | NA | < 5 | 92% | 80% | 120% | 92% | 80% | 120% | 91% | 70% | 130% |
| Thallium | 4430105 | 4430105 | <0.1 | <0.1 | NA | < 0.1 | 109% | 80% | 120% | 102% | 80% | 120% | NA | 70% | 130% |
| Tin | 4430105 | 4430105 | 4 | 3 | NA | < 2 | 96% | 80% | 120% | 93% | 80% | 120% | 95% | 70% | 130% |
| Uranium | 4430105 | 4430105 | 0.4 | 0.4 | NA | < 0.1 | 101% | 80% | 120% | 93% | 80% | 120% | 70% | 70% | 130% |
| Vanadium | 4430105 | 4430105 | 27 | 26 | 4.9% | < 2 | 94% | 80% | 120% | 93% | 80% | 120% | NA | 70% | 130% |
| Zinc | 4430105 | 4430105 | 84 | 84 | 0.0% | < 5 | 100% | 80% | 120% | 99% | 80% | 120% | NA | 70% | 130% |

Certified By:



Quality Assurance

CLIENT NAME: GEMTEC LIMITED
 PROJECT: 100424.003
 SAMPLING SITE:

AGAT WORK ORDER: 22K959140
 ATTENTION TO: Darrol Rice
 SAMPLED BY:

| Trace Organics Analysis | | | | | | | | | | | | | | |
|-------------------------|-------|-----------|-----------|--------|-----|----------------|--------------|--------------------|-------|----------|--------------------|-------|--------------|-------------------|
| RPT Date: Nov 04, 2022 | | | DUPLICATE | | | | Method Blank | REFERENCE MATERIAL | | | METHOD BLANK SPIKE | | MATRIX SPIKE | |
| PARAMETER | Batch | Sample Id | Dup #1 | Dup #2 | RPD | Measured Value | | Acceptable Limits | | Recovery | Acceptable Limits | | Recovery | Acceptable Limits |
| | | | | | | | Lower | Upper | Lower | | Upper | Lower | | Upper |

Atlantic RBCA Tier 1 Hydrocarbons in Water (Version 3.1)

| | | | | | | | | | | | | | | | |
|-----------------------|---|---------|--------|--------|----|--------|-----|-----|------|------|-----|------|-----|-----|------|
| >C10-C16 Hydrocarbons | 1 | 4429943 | < 0.05 | < 0.05 | NA | < 0.05 | 81% | 70% | 130% | 102% | 70% | 130% | 90% | 70% | 130% |
| >C16-C21 Hydrocarbons | 1 | 4429943 | < 0.05 | < 0.05 | NA | < 0.05 | 80% | 70% | 130% | 102% | 70% | 130% | 90% | 70% | 130% |
| >C21-C32 Hydrocarbons | 1 | 4429943 | < 0.1 | < 0.1 | NA | < 0.1 | 76% | 70% | 130% | 102% | 70% | 130% | 90% | 70% | 130% |

Comments: If Matrix spike value is NA, the spiked analyte concentration was lower than that of the matrix contribution. Matrix spike performed on a different sample than the duplicate.
 If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Atlantic RBCA Tier 1 Hydrocarbons in Water (Version 3.1)

| | | | | | | | | | | | | | | | |
|-----------------------|---|---------|---------|---------|----|---------|-----|-----|------|------|-----|------|------|-----|------|
| Benzene | 1 | 4429943 | < 0.001 | < 0.001 | NA | < 0.001 | 92% | 70% | 130% | 102% | 70% | 130% | | | |
| Toluene | 1 | 4429943 | < 0.001 | < 0.001 | NA | < 0.001 | 89% | 70% | 130% | 97% | 70% | 130% | | | |
| Ethylbenzene | 1 | 4429943 | < 0.001 | < 0.001 | NA | < 0.001 | 92% | 70% | 130% | 99% | 70% | 130% | | | |
| Xylene (Total) | 1 | 4429943 | < 0.002 | < 0.002 | NA | < 0.002 | 93% | 70% | 130% | 102% | 70% | 130% | | | |
| C6-C10 (less BTEX) | 1 | 4429943 | < 0.01 | < 0.01 | NA | < 0.01 | 99% | 70% | 130% | 109% | 70% | 130% | 114% | 70% | 130% |
| >C10-C16 Hydrocarbons | 1 | 4430014 | < 0.05 | < 0.05 | NA | < 0.05 | 91% | 70% | 130% | 102% | 70% | 130% | 93% | 70% | 130% |
| >C16-C21 Hydrocarbons | 1 | 4430014 | < 0.05 | < 0.05 | NA | < 0.05 | 89% | 70% | 130% | 102% | 70% | 130% | 93% | 70% | 130% |
| >C21-C32 Hydrocarbons | 1 | 4430014 | < 0.1 | < 0.1 | NA | < 0.1 | 84% | 70% | 130% | 102% | 70% | 130% | 93% | 70% | 130% |

Comments: If Matrix spike value is NA, the spiked analyte concentration was lower than that of the matrix contribution. Matrix spike performed on a different sample than the duplicate.
 If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Atlantic RBCA Tier 1 Hydrocarbons in Soil (Version 3.1) - Field Preserved

| | | | | | | | | | | | | | | | |
|-----------------------|---|---------|------|------|----|------|-----|-----|------|-----|-----|------|-----|-----|------|
| >C10-C16 Hydrocarbons | 1 | 4429986 | < 15 | < 15 | NA | < 15 | 90% | 60% | 140% | 91% | 60% | 140% | 92% | 30% | 130% |
| >C16-C21 Hydrocarbons | 1 | 4429986 | < 15 | < 15 | NA | < 15 | 91% | 60% | 140% | 91% | 60% | 140% | 92% | 30% | 130% |
| >C21-C32 Hydrocarbons | 1 | 4429986 | < 15 | < 15 | NA | < 15 | 90% | 60% | 140% | 91% | 60% | 140% | 92% | 30% | 130% |

Comments: If Matrix spike value is NA, the spiked analyte concentration was lower than that of the matrix contribution.
 If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Atlantic RBCA Tier 1 Hydrocarbons in Soil (Version 3.1) - Field Preserved

| | | | | | | | | | | | | | | | |
|--------------------|---|---------|--------|--------|----|--------|------|-----|------|------|-----|------|------|-----|------|
| Benzene | 1 | 4429986 | < 0.02 | < 0.02 | NA | < 0.02 | 101% | 60% | 140% | 130% | 60% | 140% | | | |
| Toluene | 1 | 4429986 | < 0.04 | < 0.04 | NA | < 0.04 | 103% | 60% | 140% | 123% | 60% | 140% | | | |
| Ethylbenzene | 1 | 4429986 | < 0.03 | < 0.03 | NA | < 0.03 | 105% | 60% | 140% | 120% | 60% | 140% | | | |
| Xylene (Total) | 1 | 4429986 | < 0.05 | < 0.05 | NA | < 0.05 | 104% | 60% | 140% | 118% | 60% | 140% | | | |
| C6-C10 (less BTEX) | 1 | 4429986 | < 3 | < 3 | NA | < 3 | 87% | 60% | 140% | 101% | 60% | 140% | 113% | 30% | 130% |

Comments: If Matrix spike value is NA, the spiked analyte concentration was lower than that of the matrix contribution.
 If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Certified By:



Quality Assurance

CLIENT NAME: GEMTEC LIMITED
 PROJECT: 100424.003
 SAMPLING SITE:

AGAT WORK ORDER: 22K959140
 ATTENTION TO: Darrol Rice
 SAMPLED BY:

| Water Analysis | | | | | | | | | | | | | | | |
|------------------------|-------|-----------|-----------|--------|-----|----------------|--------------|--------------------|-------|----------|--------------------|-------|--------------|-------------------|-------|
| RPT Date: Nov 04, 2022 | | | DUPLICATE | | | | Method Blank | REFERENCE MATERIAL | | | METHOD BLANK SPIKE | | MATRIX SPIKE | | |
| PARAMETER | Batch | Sample Id | Dup #1 | Dup #2 | RPD | Measured Value | | Acceptable Limits | | Recovery | Acceptable Limits | | Recovery | Acceptable Limits | |
| | | | | | | | | Lower | Upper | | Lower | Upper | | Lower | Upper |

| | | | | | | | | | | | | | | | |
|------------------------|---------|---------|----|----|----|-----|-----|-----|------|----|--|--|-----|-----|------|
| TSS | | | | | | | | | | | | | | | |
| Total Suspended Solids | 4429943 | 4429943 | <5 | <5 | NA | < 5 | 89% | 80% | 120% | NA | | | 94% | 80% | 120% |

Comments: If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Standard Water Analysis + Total Metals

| | | | | | | | | | | | | | | | |
|-------------------------------|---------|---------|-------|-------|-------|--------|------|-----|------|------|-----|------|------|-----|------|
| pH | 4430019 | 4430019 | 6.51 | 6.53 | 0.3% | < | 100% | 80% | 120% | NA | | | NA | | |
| Reactive Silica as SiO2 | 4430020 | 4430020 | 4.3 | 4.3 | 0.4% | < 0.5 | 108% | 80% | 120% | 113% | 80% | 120% | 101% | 80% | 120% |
| Chloride | 4449351 | | 47 | 46 | 1.3% | < 1 | 94% | 80% | 120% | NA | 80% | 120% | NA | 70% | 130% |
| Fluoride | 4449351 | | <0.12 | <0.12 | NA | < 0.12 | 96% | 80% | 120% | NA | 80% | 120% | 103% | 70% | 130% |
| Sulphate | 4449351 | | 3 | 3 | NA | < 2 | 97% | 80% | 120% | NA | 80% | 120% | 111% | 70% | 130% |
| Alkalinity | 4430019 | 4430019 | 17 | 16 | NA | < 5 | 102% | 80% | 120% | NA | | | NA | | |
| True Color | 4430020 | 4430020 | 21.9 | 20.1 | NA | < 5 | 89% | 80% | 120% | 86% | 80% | 120% | NA | | |
| Turbidity | 4429586 | | 42.5 | 49.4 | 15.0% | < 0.5 | 97% | 80% | 120% | NA | | | NA | | |
| Electrical Conductivity | 4430019 | 4430019 | 224 | 225 | 0.4% | < 1 | 102% | 90% | 110% | NA | | | NA | | |
| Nitrate as N | 4449351 | | <0.05 | <0.05 | NA | < 0.05 | 90% | 80% | 120% | NA | 80% | 120% | 99% | 70% | 130% |
| Nitrite as N | 4449351 | | <0.05 | <0.05 | NA | < 0.05 | 94% | 80% | 120% | NA | 80% | 120% | 105% | 70% | 130% |
| Ammonia as N | 4433055 | | 0.07 | <0.03 | NA | < 0.03 | 109% | 80% | 120% | 107% | 80% | 120% | 108% | 70% | 130% |
| Total Organic Carbon | 4429943 | 4429943 | 4.9 | 4.9 | 1.4% | < 0.5 | 99% | 80% | 120% | NA | 80% | 120% | 106% | 80% | 120% |
| Ortho-Phosphate as P | 4429586 | | <0.01 | <0.01 | NA | < 0.01 | 108% | 80% | 120% | 104% | 80% | 120% | 105% | 80% | 120% |
| Total Sodium | 4430020 | 4430020 | 7.8 | 7.8 | 0.4% | < 0.1 | 93% | 80% | 120% | 107% | 80% | 120% | NA | 70% | 130% |
| Total Potassium | 4430020 | 4430020 | 0.3 | 0.3 | NA | < 0.1 | 91% | 80% | 120% | 105% | 80% | 120% | 104% | 70% | 130% |
| Total Calcium | 4430020 | 4430020 | 2.7 | 2.6 | 0.8% | < 0.1 | 91% | 80% | 120% | 100% | 80% | 120% | NA | 70% | 130% |
| Total Magnesium | 4430020 | 4430020 | 2.2 | 2.3 | 1.0% | < 0.1 | 94% | 80% | 120% | 109% | 80% | 120% | NA | 70% | 130% |
| Bicarb. Alkalinity (as CaCO3) | 4430019 | 4430019 | 17 | 16 | NA | < 5 | NA | 80% | 120% | NA | | | NA | | |
| Carb. Alkalinity (as CaCO3) | 4430019 | 4430019 | <10 | <10 | NA | < 10 | NA | 80% | 120% | NA | | | NA | | |
| Hydroxide | 4430019 | 4430019 | <5 | <5 | NA | < 5 | NA | 80% | 120% | NA | | | NA | | |
| Total Aluminum | 4430020 | 4430020 | 621 | 696 | 11.5% | < 5 | 91% | 80% | 120% | 110% | 80% | 120% | NA | 70% | 130% |
| Total Antimony | 4430020 | 4430020 | <2 | <2 | NA | < 2 | 80% | 80% | 120% | 80% | 80% | 120% | NA | 70% | 130% |
| Total Arsenic | 4430020 | 4430020 | 3 | 4 | NA | < 2 | 89% | 80% | 120% | 102% | 80% | 120% | 118% | 70% | 130% |
| Total Barium | 4430020 | 4430020 | 9 | 10 | NA | < 5 | 91% | 80% | 120% | 107% | 80% | 120% | 90% | 70% | 130% |
| Total Beryllium | 4430020 | 4430020 | <2 | <2 | NA | < 2 | 91% | 80% | 120% | 106% | 80% | 120% | 96% | 70% | 130% |
| Total Bismuth | 4430020 | 4430020 | <2 | <2 | NA | < 2 | 80% | 80% | 120% | 98% | 80% | 120% | 100% | 70% | 130% |
| Total Boron | 4430020 | 4430020 | <5 | <5 | NA | < 5 | 88% | 80% | 120% | 106% | 80% | 120% | 101% | 70% | 130% |
| Total Cadmium | 4430020 | 4430020 | <0.09 | <0.09 | NA | < 0.09 | 87% | 80% | 120% | 100% | 80% | 120% | 93% | 70% | 130% |
| Total Chromium | 4430020 | 4430020 | 1 | 2 | NA | < 1 | 85% | 80% | 120% | 108% | 80% | 120% | 113% | 70% | 130% |
| Total Cobalt | 4430020 | 4430020 | 1 | 1 | NA | < 1 | 87% | 80% | 120% | 98% | 80% | 120% | 106% | 70% | 130% |
| Total Copper | 4430020 | 4430020 | 2 | 2 | NA | < 1 | 91% | 80% | 120% | 104% | 80% | 120% | 103% | 70% | 130% |
| Total Iron | 4430020 | 4430020 | 1550 | 1730 | 11.3% | < 50 | 87% | 80% | 120% | 102% | 80% | 120% | NA | 70% | 130% |
| Total Lead | 4430020 | 4430020 | 0.8 | 1.2 | NA | < 0.5 | 92% | 80% | 120% | 105% | 80% | 120% | 92% | 70% | 130% |
| Total Manganese | 4430020 | 4430020 | 1120 | 1180 | 5.7% | < 2 | 88% | 80% | 120% | 99% | 80% | 120% | NA | 70% | 130% |

Quality Assurance

 CLIENT NAME: GEMTEC LIMITED
 PROJECT: 100424.003
 SAMPLING SITE:

 AGAT WORK ORDER: 22K959140
 ATTENTION TO: Darrol Rice
 SAMPLED BY:

Water Analysis (Continued)

| RPT Date: Nov 04, 2022 | | | DUPLICATE | | | | Method Blank | REFERENCE MATERIAL | | | METHOD BLANK SPIKE | | | MATRIX SPIKE | | |
|------------------------|---------|-----------|-----------|--------|-----|----------------|--------------|--------------------|-------|----------|--------------------|-------|----------|-------------------|-------|--|
| PARAMETER | Batch | Sample Id | Dup #1 | Dup #2 | RPD | Measured Value | | Acceptable Limits | | Recovery | Acceptable Limits | | Recovery | Acceptable Limits | | |
| | | | | | | | | Lower | Upper | | Lower | Upper | | Lower | Upper | |
| Total Molybdenum | 4430020 | 4430020 | <2 | <2 | NA | < 2 | 83% | 80% | 120% | 96% | 80% | 120% | 104% | 70% | 130% | |
| Total Nickel | 4430020 | 4430020 | 3 | 4 | NA | < 2 | 89% | 80% | 120% | 106% | 80% | 120% | 112% | 70% | 130% | |
| Total Phosphorous | 4430020 | 4430020 | 0.06 | 0.07 | NA | < 0.02 | 95% | 80% | 120% | 106% | 80% | 120% | NA | 70% | 130% | |
| Total Selenium | 4430020 | 4430020 | <1 | <1 | NA | < 1 | 86% | 80% | 120% | 101% | 80% | 120% | 86% | 70% | 130% | |
| Total Silver | 4430020 | 4430020 | <0.1 | <0.1 | NA | < 0.1 | 92% | 80% | 120% | 105% | 80% | 120% | 99% | 70% | 130% | |
| Total Strontium | 4430020 | 4430020 | 20 | 19 | NA | < 5 | 83% | 80% | 120% | 95% | 80% | 120% | 104% | 70% | 130% | |
| Total Thallium | 4430020 | 4430020 | <0.1 | <0.1 | NA | < 0.1 | 93% | 80% | 120% | 108% | 80% | 120% | 93% | 70% | 130% | |
| Total Tin | 4430020 | 4430020 | <2 | <2 | NA | < 2 | 85% | 80% | 120% | 97% | 80% | 120% | 96% | 70% | 130% | |
| Total Titanium | 4430020 | 4430020 | 5 | 5 | NA | < 2 | 90% | 80% | 120% | 107% | 80% | 120% | 121% | 70% | 130% | |
| Total Uranium | 4430020 | 4430020 | <0.2 | <0.2 | NA | < 0.2 | 89% | 80% | 120% | 105% | 80% | 120% | 89% | 70% | 130% | |
| Total Vanadium | 4430020 | 4430020 | <2 | <2 | NA | < 2 | 83% | 80% | 120% | 95% | 80% | 120% | 103% | 70% | 130% | |
| Total Zinc | 4430020 | 4430020 | <5 | 5 | NA | < 5 | 88% | 80% | 120% | 100% | 80% | 120% | 89% | 70% | 130% | |

Comments: If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Mercury Analysis in Water (Total)

| | | | | | | | | | | | | | | | |
|---------------|---------|--|--------|--------|----|---------|------|-----|------|----|-----|------|------|-----|------|
| Total Mercury | 4428840 | | <0.026 | <0.026 | NA | < 0.026 | 115% | 80% | 120% | NA | 80% | 120% | 123% | 70% | 130% |
|---------------|---------|--|--------|--------|----|---------|------|-----|------|----|-----|------|------|-----|------|

Comments: If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Standard Water Analysis + Total Metals

| | | | | | | | | | | | | | | | |
|----------------------|---------|---------|-------|-------|----|--------|------|-----|------|------|-----|------|------|-----|------|
| Ammonia as N | 4429953 | 4429953 | 0.08 | <0.03 | NA | < 0.03 | 106% | 80% | 120% | 106% | 80% | 120% | 100% | 70% | 130% |
| Ortho-Phosphate as P | 4430020 | 4430020 | <0.01 | <0.01 | NA | < 0.01 | 107% | 80% | 120% | 105% | 80% | 120% | 112% | 80% | 120% |

Comments: If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Certified By: _____



Method Summary

CLIENT NAME: GEMTEC LIMITED

AGAT WORK ORDER: 22K959140

PROJECT: 100424.003

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

| PARAMETER | AGAT S.O.P | LITERATURE REFERENCE | ANALYTICAL TECHNIQUE |
|---------------|--------------------------------|-------------------------------------|----------------------|
| Soil Analysis | | | |
| Aluminum | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Antimony | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Arsenic | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Barium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Beryllium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Boron | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Cadmium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Chromium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Cobalt | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Copper | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Iron | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Lead | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP-MS |
| Lithium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP-MS |
| Manganese | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Mercury | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP-MS |
| Molybdenum | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Nickel | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Selenium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Silver | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Strontium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Thallium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Tin | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Uranium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Vanadium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Zinc | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |

Method Summary

CLIENT NAME: GEMTEC LIMITED

AGAT WORK ORDER: 22K959140

PROJECT: 100424.003

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

| PARAMETER | AGAT S.O.P | LITERATURE REFERENCE | ANALYTICAL TECHNIQUE |
|---------------------------|-------------------|--|----------------------|
| Trace Organics Analysis | | | |
| Benzene | VOL-120-5013/5031 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| Toluene | VOL-120-5013/5031 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| Ethylbenzene | VOL-120-5013/5031 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| Xylene (Total) | VOL-120-5013/5031 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| C6-C10 (less BTEX) | VOL-120-5013/5031 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS/FID |
| >C10-C16 Hydrocarbons | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| >C16-C21 Hydrocarbons | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| >C21-C32 Hydrocarbons | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| Modified TPH (Tier 1) | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | CALCULATION |
| Resemblance Comment | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS/FID |
| Return to Baseline at C32 | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| Isobutylbenzene - EPH | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| Isobutylbenzene - VPH | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| n-Dotriacontane - EPH | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| Benzene | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| Toluene | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| Ethylbenzene | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| Xylene (Total) | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| C6-C10 (less BTEX) | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| Modified TPH (Tier 1) | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | CALCULATION |
| Sediment | | | GC/MS/FID |
| % Moisture | LAB-131-4024 | CSSS 70.2 | GRAVIMETRIC |

Method Summary

CLIENT NAME: GEMTEC LIMITED

AGAT WORK ORDER: 22K959140

PROJECT: 100424.003

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

| PARAMETER | AGAT S.O.P | LITERATURE REFERENCE | ANALYTICAL TECHNIQUE |
|--|--------------------------------|--|----------------------|
| Water Analysis | | | |
| Total Mercury | MET-121-6100 & MET-121-6107 | SM 3112 B | CV/AA |
| pH | INOR-121-6001 | SM 4500 H+B | PC TITRATE |
| Reactive Silica as SiO ₂ | INOR-121-6027 | SM 4500-SiO ₂ F | COLORIMETER |
| Chloride | INORG-121-6005 | SM 4110 B | ION CHROMATOGRAPH |
| Fluoride | INORG-121-6005 | SM 4110 B | ION CHROMATOGRAPH |
| Sulphate | INORG-121-6005 | SM 4110 B | ION CHROMATOGRAPH |
| Alkalinity | INOR-121-6001 | SM 2320 B | |
| True Color | INOR-121-6008 | SM 2120 B | LACHAT FIA |
| Turbidity | INOR-121-6022 | SM 2130 B | NEPHELOMETER |
| Electrical Conductivity | INOR-121-6001 | SM 2510 B | PC TITRATE |
| Nitrate + Nitrite as N | INORG-121-6005 | SM 4110 B | CALCULATION |
| Nitrate as N | INORG-121-6005 | SM 4110 B | ION CHROMATOGRAPH |
| Nitrite as N | INORG-121-6005 | SM 4110 B | ION CHROMATOGRAPH |
| Ammonia as N | INOR-121-6047 | SM 4500-NH ₃ H | COLORIMETER |
| Total Organic Carbon | INOR-121-6026 | SM 5310 B | TOC ANALYZER |
| Ortho-Phosphate as P | INOR-121-6012 | SM 4500-P G | COLORIMETER |
| Total Sodium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Potassium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Calcium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Magnesium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Bicarb. Alkalinity (as CaCO ₃) | INORG-121-6001 | SM 2320 B | PC TITRATE |
| Carb. Alkalinity (as CaCO ₃) | INORG-121-6001 | SM 2320 B | PC TITRATE |
| Hydroxide | INORG-121-6001 | SM 2320 B | PC-TITRATE |
| Calculated TDS | CALCULATION | SM 1030E | CALCULATION |
| Hardness | CALCULATION | SM 2340B | CALCULATION |
| Langelier Index (@20C) | CALCULATION | CALCULATION | CALCULATION |
| Langelier Index (@ 4C) | CALCULATION | CALCULATION | CALCULATION |
| Saturation pH (@ 20C) | CALCULATION | CALCULATION | CALCULATION |
| Saturation pH (@ 4C) | CALCULATION | CALCULATION | CALCULATION |
| Anion Sum | CALCULATION | SM 1030E | CALCULATION |
| Cation sum | CALCULATION | SM 1030E | CALCULATION |
| % Difference/ Ion Balance | CALCULATION | SM 1030E | CALCULATION |
| Total Aluminum | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Antimony | MET121-6104 & MET-121-6105 | SM 3125 | ICP-MS |
| Total Arsenic | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Barium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Beryllium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Bismuth | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Boron | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |

Method Summary

CLIENT NAME: GEMTEC LIMITED

AGAT WORK ORDER: 22K959140

PROJECT: 100424.003

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

| PARAMETER | AGAT S.O.P | LITERATURE REFERENCE | ANALYTICAL TECHNIQUE |
|------------------------|--------------------------------|--|----------------------|
| Total Cadmium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Chromium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Cobalt | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Copper | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Iron | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Lead | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Manganese | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Molybdenum | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Nickel | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Phosphorous | MET-121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Selenium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Silver | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Strontium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Thallium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Tin | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Titanium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Uranium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Vanadium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Zinc | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Suspended Solids | INOR-121-6024, 6025 | SM 2540C, D | GRAVIMETRIC |

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS
191 DOAK ROAD
FREDERICTON, NB E3C 2E6
(613) 836-1422

ATTENTION TO: Darrol Rice

PROJECT: 100424.003

AGAT WORK ORDER: 23K991762

SOIL ANALYSIS REVIEWED BY: Ashley Dussault, Report Writer

TRACE ORGANICS REVIEWED BY: Dylan McCarthy, Trace Organics Lab Technician

WATER ANALYSIS REVIEWED BY: Ashley Dussault, Report Writer

DATE REPORTED: Feb 08, 2023

PAGES (INCLUDING COVER): 36

VERSION*: 1

Should you require any information regarding this analysis please contact your client services representative at (709)747-8573

*Notes

Disclaimer:

- All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.
- All samples will be disposed of within 30 days after receipt unless a Long Term Storage Agreement is signed and returned. Some specialty analysis may be exempt, please contact your Client Project Manager for details.
- AGAT's liability in connection with any delay, performance or non-performance of these services is only to the Client and does not extend to any other third party. Unless expressly agreed otherwise in writing, AGAT's liability is limited to the actual cost of the specific analysis or analyses included in the services.
- This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
- The test results reported herewith relate only to the samples as received by the laboratory.
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- All reportable information as specified by ISO/IEC 17025:2017 is available from AGAT Laboratories upon request.



Certificate of Analysis

AGAT WORK ORDER: 23K991762

PROJECT: 100424.003

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Available Metals in Soil (Incl. Hg)

DATE RECEIVED: 2023-01-26

DATE REPORTED: 2023-02-08

| Parameter | Unit | SAMPLE DESCRIPTION: | | SITE-15-SED | SITE-20-SED | SITE-10-SED | SED-SD-01 | SITE-11-SED | SITE-13-SED | SITE-12-SED | SITE-14-SED |
|------------|-------|---------------------|---------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | | SAMPLE TYPE: | | Sediment | Sediment | Sediment | Sediment | Sediment | Sediment | Sediment | Sediment |
| | | DATE SAMPLED: | | 2023-01-23 12:50 | 2023-01-23 14:30 | 2023-01-23 16:10 | 2023-01-23 16:10 | 2023-01-24 11:20 | 2023-01-24 13:30 | 2023-01-24 14:10 | 2023-01-24 14:50 |
| G / S | RDL | 4720188 | 4720192 | 4720193 | 4720194 | 4720195 | 4720196 | 4720197 | 4720198 | | |
| Aluminum | mg/kg | 10 | 31200 | 31800 | 30400 | 34300 | 23800 | 22000 | 26200 | 23900 | |
| Antimony | mg/kg | 1 | <1 | <1 | <1 | <1 | 2 | 1 | <1 | <1 | |
| Arsenic | mg/kg | 1 | 23 | 15 | 29 | 22 | 62 | 26 | 22 | 38 | |
| Barium | mg/kg | 5 | 29 | 55 | 28 | 25 | 70 | 87 | 109 | 42 | |
| Beryllium | mg/kg | 2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | |
| Boron | mg/kg | 2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | |
| Cadmium | mg/kg | 0.3 | <0.3 | <0.3 | <0.3 | <0.3 | <0.3 | <0.3 | <0.3 | <0.3 | |
| Chromium | mg/kg | 2 | 43 | 110 | 42 | 38 | 23 | 34 | 34 | 171 | |
| Cobalt | mg/kg | 1 | 23 | 21 | 24 | 21 | 23 | 46 | 31 | 33 | |
| Copper | mg/kg | 2 | 33 | 12 | 16 | 10 | 21 | 10 | 6 | 20 | |
| Iron | mg/kg | 50 | 49100 | 51300 | 46300 | 52100 | 55300 | 74400 | 67500 | 40100 | |
| Lead | mg/kg | 0.5 | 9.7 | 9.5 | 7.7 | 6.0 | 13.0 | 15.5 | 13.9 | 11.3 | |
| Lithium | mg/kg | 5 | 70 | 62 | 72 | 65 | 34 | 46 | 54 | 46 | |
| Manganese | mg/kg | 2 | 2480 | 5250 | 3130 | 3640 | 9460 | 27600 | 22100 | 2720 | |
| Mercury | mg/kg | 0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | |
| Molybdenum | mg/kg | 2 | <2 | <2 | <2 | <2 | 3 | 3 | 3 | 3 | |
| Nickel | mg/kg | 2 | 86 | 135 | 77 | 68 | 41 | 68 | 61 | 205 | |
| Selenium | mg/kg | 1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | |
| Silver | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | |
| Strontium | mg/kg | 5 | 8 | 13 | 6 | 6 | 5 | 13 | 22 | 10 | |
| Thallium | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | |
| Tin | mg/kg | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | |
| Uranium | mg/kg | 0.1 | 0.5 | 0.5 | 0.5 | 0.4 | 0.7 | 0.4 | 0.4 | 0.5 | |
| Vanadium | mg/kg | 2 | 33 | 32 | 32 | 28 | 26 | 36 | 36 | 39 | |
| Zinc | mg/kg | 5 | 91 | 91 | 109 | 100 | 74 | 138 | 119 | 88 | |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 23K991762

PROJECT: 100424.003

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Available Metals in Soil (Incl. Hg)

DATE RECEIVED: 2023-01-26

DATE REPORTED: 2023-02-08

| Parameter | Unit | SAMPLE DESCRIPTION: | | SITE-16-SED | SITE-09-SED | SITE-12-SED | SITE-19-SED | SITE-04-SED | SITE-03-SED | SED-SD-02 | |
|------------|-------|---------------------|-------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | | SAMPLE TYPE: | | Sediment | Sediment | Sediment | Sediment | Sediment | Sediment | Sediment | Sediment |
| | | DATE SAMPLED: | | 2023-01-25 09:20 | 2023-01-25 11:22 | 2023-01-25 12:12 | 2023-01-25 12:12 | 2023-01-25 14:47 | 2023-01-25 15:23 | 2023-01-25 11:22 | 2023-01-25 11:22 |
| | | G / S | RDL | 4720199 | 4720200 | 4720201 | 4720202 | 4720203 | 4720204 | 4720205 | |
| Aluminum | mg/kg | 10 | 23800 | 29100 | 24300 | 27200 | 18500 | 8340 | 27700 | | |
| Antimony | mg/kg | 1 | <1 | <1 | 1 | <1 | 2 | 3 | <1 | | |
| Arsenic | mg/kg | 1 | 37 | 25 | 84 | 8 | 109 | 87 | 7 | | |
| Barium | mg/kg | 5 | 30 | 16 | 45 | 17 | 67 | 252 | 14 | | |
| Beryllium | mg/kg | 2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | | |
| Boron | mg/kg | 2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | | |
| Cadmium | mg/kg | 0.3 | <0.3 | <0.3 | <0.3 | <0.3 | <0.3 | 0.3 | <0.3 | | |
| Chromium | mg/kg | 2 | 68 | 55 | 32 | 38 | 23 | 30 | 37 | | |
| Cobalt | mg/kg | 1 | 24 | 20 | 28 | 14 | 12 | 24 | 14 | | |
| Copper | mg/kg | 2 | 12 | 11 | 8 | 8 | 7 | 19 | 5 | | |
| Iron | mg/kg | 50 | 38000 | 45300 | 53100 | 35200 | 34000 | 8550 | 36700 | | |
| Lead | mg/kg | 0.5 | 7.9 | 5.7 | 6.8 | 5.0 | 6.6 | 14.4 | 4.0 | | |
| Lithium | mg/kg | 5 | 81 | 65 | 52 | 74 | 35 | 36 | 81 | | |
| Manganese | mg/kg | 2 | 3200 | 1380 | 2810 | 1300 | 2810 | 302 | 782 | | |
| Mercury | mg/kg | 0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | | |
| Molybdenum | mg/kg | 2 | <2 | <2 | 6 | 3 | 3 | 4 | <2 | | |
| Nickel | mg/kg | 2 | 82 | 68 | 55 | 56 | 46 | 51 | 55 | | |
| Selenium | mg/kg | 1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | | |
| Silver | mg/kg | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | | |
| Strontium | mg/kg | 5 | 9 | <5 | 5 | 5 | 8 | 13 | <5 | | |
| Thallium | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | 0.1 | <0.1 | | |
| Tin | mg/kg | 2 | 3 | 3 | 3 | 2 | 3 | 3 | 2 | | |
| Uranium | mg/kg | 0.1 | 0.6 | 0.5 | 0.5 | 0.4 | 0.7 | 0.8 | 0.4 | | |
| Vanadium | mg/kg | 2 | 33 | 35 | 34 | 31 | 24 | 42 | 31 | | |
| Zinc | mg/kg | 5 | 109 | 106 | 115 | 94 | 93 | 95 | 89 | | |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

4720188-4720205 Results are based on the dry weight of the sample.

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 23K991762

PROJECT: 100424.003

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Soil (Version 3.0)

DATE RECEIVED: 2023-01-26

DATE REPORTED: 2023-02-08

| Parameter | Unit | G / S | RDL | SAMPLE DESCRIPTION: | SITE-15-SED | SITE-20-SED | SITE-10-SED | SED-SD-01 | SITE-11-SED | SITE-13-SED | SITE-12-SED | SITE-14-SED |
|---------------------------|-------|-------------------|--------|---------------------|-------------|-------------|-------------|------------|-------------|-------------|-------------|-------------|
| | | | | SAMPLE TYPE: | Sediment | Sediment | Sediment | Sediment | Sediment | Sediment | Sediment | Sediment |
| | | | | DATE SAMPLED: | 2023-01-23 | 2023-01-23 | 2023-01-23 | 2023-01-23 | 2023-01-24 | 2023-01-24 | 2023-01-24 | 2023-01-24 |
| | | | | | 12:50 | 14:30 | 16:10 | 16:10 | 11:20 | 13:30 | 14:10 | 14:50 |
| | | | | | 4720188 | 4720192 | 4720193 | 4720194 | 4720195 | 4720196 | 4720197 | 4720198 |
| Benzene | mg/kg | | 0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| Toluene | mg/kg | | 0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 |
| Ethylbenzene | mg/kg | | 0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 |
| Xylene (Total) | mg/kg | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| C6-C10 (less BTEX) | mg/kg | | 3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 |
| >C10-C16 Hydrocarbons | mg/kg | | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| >C16-C21 Hydrocarbons | mg/kg | | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| >C21-C32 Hydrocarbons | mg/kg | | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| Modified TPH (Tier 1) | mg/kg | | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| Resemblance Comment | | | | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| Return to Baseline at C32 | | | | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| Surrogate | Unit | Acceptable Limits | | | | | | | | | | |
| Isobutylbenzene - EPH | % | | 60-140 | 97 | 97 | 95 | 99 | 99 | 98 | 97 | 97 | 98 |
| Isobutylbenzene - VPH | % | | 60-140 | 118 | 66 | 66 | 65 | 64 | 83 | 72 | 105 | 105 |
| n-Dotriacontane - EPH | % | | 60-140 | 102 | 101 | 99 | 104 | 102 | 102 | 101 | 104 | 104 |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 23K991762

PROJECT: 100424.003

57 Old Pennywell Road, Unit I
 St. John's, NL
 CANADA A1E 6A8
 TEL (709)747-8573
 FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Soil (Version 3.0)

DATE RECEIVED: 2023-01-26

DATE REPORTED: 2023-02-08

| Parameter | Unit | G / S | RDL | SAMPLE DESCRIPTION: | SITE-16-SED | SITE-09-SED | SITE-12-SED | SITE-19-SED | SITE-04-SED | SITE-03-SED | SED-SD-02 |
|---------------------------|-------|-------------------|------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|------------|
| | | | | SAMPLE TYPE: | Sediment | Sediment | Sediment | Sediment | Sediment | Sediment | Sediment |
| DATE SAMPLED: | | | | 2023-01-25 | 2023-01-25 | 2023-01-25 | 2023-01-25 | 2023-01-25 | 2023-01-25 | 2023-01-25 | 2023-01-25 |
| | | | | 09:20 | 11:22 | 12:12 | 12:12 | 14:47 | 15:23 | 15:23 | 11:22 |
| | | | | 4720199 | 4720200 | 4720201 | 4720202 | 4720203 | 4720204 | 4720205 | 4720205 |
| Benzene | mg/kg | | 0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| Toluene | mg/kg | | 0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 |
| Ethylbenzene | mg/kg | | 0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 |
| Xylene (Total) | mg/kg | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| C6-C10 (less BTEX) | mg/kg | | 3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 |
| >C10-C16 Hydrocarbons | mg/kg | | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| >C16-C21 Hydrocarbons | mg/kg | | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| >C21-C32 Hydrocarbons | mg/kg | | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| Modified TPH (Tier 1) | mg/kg | | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| Resemblance Comment | | | | NR | NR | NR | NR | NR | NR | NR | NR |
| Return to Baseline at C32 | | | | Y | Y | Y | Y | Y | Y | Y | Y |
| Surrogate | Unit | Acceptable Limits | | | | | | | | | |
| Isobutylbenzene - EPH | % | 60-140 | | 98 | 97 | 97 | 97 | 97 | 98 | 95 | |
| Isobutylbenzene - VPH | % | 60-140 | | 114 | 119 | 113 | 121 | 69 | 67 | 66 | |
| n-Dotriacontane - EPH | % | 60-140 | | 102 | 102 | 100 | 102 | 100 | 103 | 100 | |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 23K991762

PROJECT: 100424.003

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St. John's, NL
CANADA A1E 6A8
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FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Soil (Version 3.0)

DATE RECEIVED: 2023-01-26

DATE REPORTED: 2023-02-08

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

4720188-4720205 Modified TPH, Xylene(Total)and C6-C10(less BTEX) are calculated parameters. The calculated parameter is non-accredited. The component parameters of the calculation are accredited.

Sample was not field preserved for VPH when received at the laboratory. Analytical results for VPH parameters should be regarded as minimum values.

Results are based on the dry weight of the soil.

Resemblance Comment Key:

- GF - Gasoline Fraction
- WGF - Weathered Gasoline Fraction
- GR - Product in Gasoline Range
- FOF - Fuel Oil Fraction
- WFOF - Weathered Fuel Oil Fraction
- FR - Product in Fuel Oil Range
- LOF - Lube Oil Fraction
- LR - Lube Range
- UC - Unidentified Compounds
- NR - No Resemblance
- NA - Not Applicable

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 23K991762

PROJECT: 100424.003

57 Old Pennywell Road, Unit I
 St. John's, NL
 CANADA A1E 6A8
 TEL (709)747-8573
 FAX (709)747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Water (Version 3.1)

DATE RECEIVED: 2023-01-26

DATE REPORTED: 2023-02-08

| Parameter | Unit | G / S | RDL | SAMPLE DESCRIPTION: | SITE-15-SW | SITE-21-SW | SITE-20-SW | SITE-09-SW | SW-SD-01 | SITE-11-SW | SITE-13-SW | SITE-12-SW |
|---------------------------|------|-------|-------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | | | | SAMPLE TYPE: | Water | Water | Water | Water | Water | Water | Water | Water |
| | | | | DATE SAMPLED: | 2023-01-23 12:50 | 2023-01-23 13:35 | 2023-01-23 14:30 | 2023-01-23 16:10 | 2023-01-23 16:10 | 2023-01-24 11:20 | 2023-01-24 13:30 | 2023-01-24 14:10 |
| | | | | | 4720006 | 4720021 | 4720022 | 4720023 | 4720024 | 4720025 | 4720026 | 4720027 |
| Benzene | mg/L | | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Toluene | mg/L | | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Ethylbenzene | mg/L | | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Xylene (Total) | mg/L | | 0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| C6-C10 (less BTEX) | mg/L | | 0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| >C10-C16 Hydrocarbons | mg/L | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C16-C21 Hydrocarbons | mg/L | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C21-C32 Hydrocarbons | mg/L | | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Modified TPH (Tier 1) | mg/L | | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Sediment | | | | NO | NO | NO | NO | NO | NO | NO | NO | NO |
| Resemblance Comment | | | | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| Return to Baseline at C32 | | | | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| Surrogate | Unit | | Acceptable Limits | | | | | | | | | |
| Isobutylbenzene - EPH | % | | 70-130 | 95 | 104 | 103 | 100 | 107 | 100 | 100 | 103 | 98 |
| Isobutylbenzene - VPH | % | | 70-130 | 75 | 126 | 128 | 123 | 128 | 121 | 122 | 122 | 118 |
| n-Dotriacontane - EPH | % | | 70-130 | 100 | 109 | 103 | 104 | 107 | 101 | 101 | 106 | 99 |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 23K991762

PROJECT: 100424.003

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709)747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Water (Version 3.1)

DATE RECEIVED: 2023-01-26

DATE REPORTED: 2023-02-08

| Parameter | Unit | SAMPLE DESCRIPTION: | | SITE-14-SW | SITE-17-SW | SITE-16-SW | SITE-05-SW | SITE-09-SW | SITE-02-SW | SITE-19-SW | SITE-04-SW |
|---------------------------|------|---------------------|-------|------------|------------|------------|------------|------------|------------|------------|------------|
| | | G / S | RDL | Water | Water | Water | Water | Water | Water | Water | Water |
| | | DATE SAMPLED: | | 2023-01-24 | 2023-01-24 | 2023-01-25 | 2023-01-25 | 2023-01-25 | 2023-01-25 | 2023-01-25 | 2023-01-25 |
| | | | | 14:50 | 16:05 | 09:20 | 10:58 | 11:22 | 12:12 | 12:47 | 14:47 |
| | | | | 4720028 | 4720029 | 4720030 | 4720031 | 4720032 | 4720033 | 4720034 | 4720035 |
| Benzene | mg/L | | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Toluene | mg/L | | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Ethylbenzene | mg/L | | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Xylene (Total) | mg/L | | 0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| C6-C10 (less BTEX) | mg/L | | 0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| >C10-C16 Hydrocarbons | mg/L | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C16-C21 Hydrocarbons | mg/L | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C21-C32 Hydrocarbons | mg/L | | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Modified TPH (Tier 1) | mg/L | | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Sediment | | | NO | NO | NO | TRACE | TRACE | NO | TRACE | NO | NO |
| Resemblance Comment | | | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| Return to Baseline at C32 | | | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| Surrogate | Unit | Acceptable Limits | | | | | | | | | |
| Isobutylbenzene - EPH | % | 70-130 | | 102 | 102 | 103 | 104 | 100 | 104 | 105 | 98 |
| Isobutylbenzene - VPH | % | 70-130 | | 119 | 118 | 104 | 74 | 75 | 78 | 80 | 83 |
| n-Dotriacontane - EPH | % | 70-130 | | 103 | 104 | 106 | 104 | 104 | 105 | 107 | 102 |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 23K991762

PROJECT: 100424.003

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
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FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Water (Version 3.1)

DATE RECEIVED: 2023-01-26

DATE REPORTED: 2023-02-08

| Parameter | Unit | SAMPLE DESCRIPTION: | | SITE-03-SW | SITE-06-SW | SW-SD-02 | SITE-07-SW |
|---------------------------|------|---------------------|-------|------------|------------|----------|------------|
| | | G / S | RDL | 4720036 | 4720037 | 4720038 | 4720039 |
| Benzene | mg/L | | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Toluene | mg/L | | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Ethylbenzene | mg/L | | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Xylene (Total) | mg/L | | 0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| C6-C10 (less BTEX) | mg/L | | 0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| >C10-C16 Hydrocarbons | mg/L | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C16-C21 Hydrocarbons | mg/L | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C21-C32 Hydrocarbons | mg/L | | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Modified TPH (Tier 1) | mg/L | | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Sediment | | | NO | TRACE | TRACE | TRACE | TRACE |
| Resemblance Comment | | | NR | NR | NR | NR | NR |
| Return to Baseline at C32 | | | Y | Y | Y | Y | Y |
| Surrogate | Unit | Acceptable Limits | | | | | |
| Isobutylbenzene - EPH | % | 70-130 | 105 | 103 | 100 | 102 | |
| Isobutylbenzene - VPH | % | 70-130 | 88 | 90 | 129 | 122 | |
| n-Dotriacontane - EPH | % | 70-130 | 106 | 104 | 105 | 105 | |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 23K991762

PROJECT: 100424.003

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St. John's, NL
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FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Water (Version 3.1)

DATE RECEIVED: 2023-01-26

DATE REPORTED: 2023-02-08

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

4720006-4720039 Modified TPH, Xylene(Total)and C6-C10(less BTEX) are calculated parameters. The calculated parameter is non-accredited. The component parameters of the calculation are accredited.

Sediment parameter is comment only based on visual inspection of the sample prior to extraction and is not an accredited test.

Resemblance Comment Key:

- GF - Gasoline Fraction
- WGF - Weathered Gasoline Fraction
- GR - Product in Gasoline Range
- FOF - Fuel Oil Fraction
- WFOF - Weathered Fuel Oil Fraction
- FR - Product in Fuel Oil Range
- LOF - Lube Oil Fraction
- LR - Lube Range
- UC - Unidentified Compounds
- NR - No Resemblance
- NA - Not Applicable

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 23K991762

PROJECT: 100424.003

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
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FAX (709)747-2139
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CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Moisture

DATE RECEIVED: 2023-01-26

DATE REPORTED: 2023-02-08

| | | SAMPLE DESCRIPTION: | | SITE-15-SED | SITE-20-SED | SITE-10-SED | SED-SD-01 | SITE-11-SED | SITE-13-SED | SITE-12-SED | SITE-14-SED |
|------------|------|---------------------|-----|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | | SAMPLE TYPE: | | Sediment | Sediment | Sediment | Sediment | Sediment | Sediment | Sediment | Sediment |
| | | DATE SAMPLED: | | 2023-01-23 12:50 | 2023-01-23 14:30 | 2023-01-23 16:10 | 2023-01-23 16:10 | 2023-01-24 11:20 | 2023-01-24 13:30 | 2023-01-24 14:10 | 2023-01-24 14:50 |
| Parameter | Unit | G / S | RDL | 4720188 | 4720192 | 4720193 | 4720194 | 4720195 | 4720196 | 4720197 | 4720198 |
| % Moisture | % | | 1 | 15 | 13 | 10 | 13 | 16 | 25 | 31 | 13 |
| | | SAMPLE DESCRIPTION: | | SITE-16-SED | SITE-09-SED | SITE-12-SED | SITE-19-SED | SITE-04-SED | SITE-03-SED | SED-SD-02 | |
| | | SAMPLE TYPE: | | Sediment | Sediment | Sediment | Sediment | Sediment | Sediment | Sediment | |
| | | DATE SAMPLED: | | 2023-01-25 09:20 | 2023-01-25 11:22 | 2023-01-25 12:12 | 2023-01-25 12:12 | 2023-01-25 14:47 | 2023-01-25 15:23 | 2023-01-25 11:22 | |
| Parameter | Unit | G / S | RDL | 4720199 | 4720200 | 4720201 | 4720202 | 4720203 | 4720204 | 4720205 | |
| % Moisture | % | | 1 | 13 | 28 | 13 | 22 | 7 | 16 | 13 | |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 23K991762

PROJECT: 100424.003

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St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Mercury Analysis in Water (Total)

DATE RECEIVED: 2023-01-26

DATE REPORTED: 2023-02-08

| Parameter | Unit | G / S | RDL | SITE-15-SW | SITE-21-SW | SITE-20-SW | SITE-09-SW | SW-SD-01 | SITE-11-SW | SITE-13-SW | SITE-12-SW |
|---------------|------|-------|-------|--------------------------------|------------|------------|------------|------------|------------|------------|------------|
| | | | | SAMPLE DESCRIPTION: SITE-15-SW | | SITE-21-SW | | SITE-20-SW | | SITE-09-SW | |
| | | | | SAMPLE TYPE: Water | | Water | | Water | | Water | |
| | | | | DATE SAMPLED: 2023-01-23 | | 2023-01-23 | | 2023-01-23 | | 2023-01-24 | |
| | | | | 12:50 | | 13:35 | | 14:30 | | 16:10 | |
| | | | | 4720006 | | 4720021 | | 4720022 | | 4720023 | |
| | | | | 4720024 | | 4720025 | | 4720026 | | 4720027 | |
| Total Mercury | ug/L | | 0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 |
| | | | | SAMPLE DESCRIPTION: SITE-14-SW | | SITE-17-SW | | SITE-16-SW | | SITE-05-SW | |
| | | | | SAMPLE TYPE: Water | | Water | | Water | | Water | |
| | | | | DATE SAMPLED: 2023-01-24 | | 2023-01-24 | | 2023-01-25 | | 2023-01-25 | |
| | | | | 14:50 | | 16:05 | | 09:20 | | 10:58 | |
| | | | | 4720028 | | 4720029 | | 4720030 | | 4720031 | |
| | | | | 4720032 | | 4720033 | | 4720034 | | 4720035 | |
| Total Mercury | ug/L | | 0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 |
| | | | | SAMPLE DESCRIPTION: SITE-03-SW | | SITE-06-SW | | SW-SD-02 | | SITE-07-SW | |
| | | | | SAMPLE TYPE: Water | | Water | | Water | | Water | |
| | | | | DATE SAMPLED: 2023-01-25 | | 2023-01-25 | | 2023-01-23 | | 2023-01-23 | |
| | | | | 15:23 | | 16:07 | | 12:47 | | 16:30 | |
| | | | | 4720036 | | 4720037 | | 4720038 | | 4720039 | |
| Total Mercury | ug/L | | 0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard
Analysis performed at AGAT Halifax (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 23K991762

PROJECT: 100424.003

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals

DATE RECEIVED: 2023-01-26

DATE REPORTED: 2023-02-08

| Parameter | Unit | SAMPLE DESCRIPTION: SITE-15-SW | | SITE-21-SW | SITE-20-SW | SITE-09-SW | SW-SD-01 | | | |
|-------------------------------|---------|--------------------------------|---------------------|---------------------|---------------------|---------------------|----------|---------------------|------|-------|
| | | G / S | RDL | RDL | RDL | RDL | RDL | RDL | | |
| | | | 4720006 | 4720021 | 4720022 | 4720023 | | 4720024 | | |
| | | | Water | Water | Water | Water | | Water | | |
| | | | 2023-01-23 12:50 | 2023-01-23 13:35 | 2023-01-23 14:30 | 2023-01-23 16:10 | | 2023-01-23 16:10 | | |
| pH | | | 6.34 | 6.29 | 6.42 | 6.14 | | 6.11 | | |
| Reactive Silica as SiO2 | mg/L | | 0.5 | 2.6 | 0.5 | 2.8 | 4.9 | 3.2 | 0.5 | 2.9 |
| Chloride | mg/L | | 1 | 7 | 1 | 7 | 5 | 6 | 2 | 8 |
| Fluoride | mg/L | | 0.12 | <0.12 | 0.12 | <0.12 | <0.12 | <0.12 | 0.24 | <0.24 |
| Sulphate | mg/L | | 2 | <2 | 2 | <2 | <2 | <2 | 4 | <4 |
| Alkalinity | mg/L | | 5 | 10 | 5 | 9 | 11 | 14 | 5 | <5 |
| True Color | TCU | | 5.00 | 36.8 | 5.00 | 51.3 | 56.2 | 59.1 | 5.00 | 48.5 |
| Turbidity | NTU | | 0.5 | 0.7 | 0.5 | 0.8 | 1.0 | 0.7 | 0.5 | 0.5 |
| Electrical Conductivity | umho/cm | | 1 | 65 | 1 | 55 | 56 | 44 | 1 | 44 |
| Nitrate + Nitrite as N | mg/L | | 0.05 | 0.18 | 0.05 | 0.23 | 0.22 | 0.20 | 0.05 | <0.05 |
| Nitrate as N | mg/L | | 0.05 | 0.18 | 0.05 | 0.23 | 0.22 | 0.20 | 0.10 | <0.10 |
| Nitrite as N | mg/L | | 0.05 | <0.05 | 0.05 | <0.05 | <0.05 | <0.05 | 0.10 | <0.10 |
| Ammonia as N | mg/L | | 0.03 | <0.03 | 0.03 | 1.48 | 0.09 | <0.03 | 0.03 | 0.04 |
| Total Organic Carbon | mg/L | | 0.5 | 9.7 | 0.5 | 9.4 | 11.1 | 14.1 | 0.5 | 10.8 |
| Ortho-Phosphate as P | mg/L | | 0.01 | 0.02 | 0.01 | 0.02 | 0.02 | 0.02 | 0.01 | 0.02 |
| Total Sodium | mg/L | | 0.1 | 7.9 | 0.1 | 6.6 | 5.2 | 5.6 | 0.1 | 5.4 |
| Total Potassium | mg/L | | 0.1 | 0.2 | 0.1 | 0.2 | <0.1 | 0.2 | 0.1 | 0.1 |
| Total Calcium | mg/L | | 0.1 | 1.8 | 0.1 | 1.7 | 2.2 | 1.8 | 0.1 | 1.4 |
| Total Magnesium | mg/L | | 0.1 | 1.7 | 0.1 | 1.6 | 2.9 | 1.0 | 0.1 | 1.0 |
| Bicarb. Alkalinity (as CaCO3) | mg/L | | 5 | 10 | 5 | 9 | 11 | 14 | 5 | <5 |
| Carb. Alkalinity (as CaCO3) | mg/L | | 10 | <10 | 10 | <10 | <10 | <10 | 10 | <10 |
| Hydroxide | mg/L | | 5 | <5 | 5 | <5 | <5 | <5 | 5 | <5 |
| Calculated TDS | mg/L | | 1 | 26 | 1 | 26 | 23 | 24 | 1 | 16 |
| Hardness | mg/L | | | 11.5 | | 10.8 | 17.4 | 8.6 | | 7.6 |
| Langelier Index (@20C) | NA | | | -3.93 | | -4.05 | -3.72 | -3.98 | | -4.57 |
| Langelier Index (@ 4C) | NA | | | -4.25 | | -4.37 | -4.04 | -4.30 | | -4.89 |
| Saturation pH (@ 20C) | NA | | | 10.3 | | 10.3 | 10.1 | 10.1 | | 10.7 |
| Saturation pH (@ 4C) | NA | | | 10.6 | | 10.7 | 10.5 | 10.4 | | 11.0 |
| Anion Sum | me/L | | | 0.41 | | 0.39 | 0.38 | 0.46 | | 0.23 |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 23K991762

PROJECT: 100424.003

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St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals

DATE RECEIVED: 2023-01-26

DATE REPORTED: 2023-02-08

| Parameter | Unit | SAMPLE DESCRIPTION: SITE-15-SW | | SITE-21-SW | | SITE-20-SW | | SITE-09-SW | | SW-SD-01 |
|---------------------------|------|--------------------------------|-------|------------|-------|------------|-------|------------|-------|----------|
| | | G / S | RDL | RDL | RDL | RDL | RDL | RDL | RDL | |
| Cation sum | me/L | | 0.59 | | 0.63 | | 0.60 | | 0.44 | 0.41 |
| % Difference/ Ion Balance | % | | 18.0 | | 23.0 | | 22.9 | | 2.2 | 29.3 |
| Total Aluminum | ug/L | 5 | 65 | 5 | 80 | 130 | 121 | 5 | 110 | |
| Total Antimony | ug/L | 2 | <2 | 2 | <2 | <2 | <2 | 2 | <2 | |
| Total Arsenic | ug/L | 2 | <2 | 2 | <2 | <2 | <2 | 2 | <2 | |
| Total Barium | ug/L | 5 | <5 | 5 | <5 | <5 | <5 | 5 | <5 | |
| Total Beryllium | ug/L | 2 | <2 | 2 | <2 | <2 | <2 | 2 | <2 | |
| Total Bismuth | ug/L | 2 | <2 | 2 | <2 | <2 | <2 | 2 | <2 | |
| Total Boron | ug/L | 5 | <5 | 5 | <5 | <5 | <5 | 5 | <5 | |
| Total Cadmium | ug/L | 0.09 | <0.09 | 0.09 | <0.09 | <0.09 | <0.09 | 0.09 | <0.09 | |
| Total Chromium | ug/L | 1 | <1 | 1 | <1 | 2 | 1 | 1 | <1 | |
| Total Cobalt | ug/L | 1 | <1 | 1 | <1 | <1 | <1 | 1 | <1 | |
| Total Copper | ug/L | 1 | <1 | 1 | 1 | 1 | 1 | 1 | <1 | |
| Total Iron | ug/L | 50 | 113 | 50 | 129 | 154 | 202 | 50 | 171 | |
| Total Lead | ug/L | 0.5 | <0.5 | 0.5 | <0.5 | <0.5 | <0.5 | 0.5 | <0.5 | |
| Total Manganese | ug/L | 2 | 32 | 2 | 28 | 13 | 41 | 2 | 32 | |
| Total Molybdenum | ug/L | 2 | <2 | 2 | <2 | <2 | <2 | 2 | <2 | |
| Total Nickel | ug/L | 2 | <2 | 2 | <2 | 5 | <2 | 2 | <2 | |
| Total Phosphorous | mg/L | 0.4 | 0.5 | 0.4 | 0.4 | 0.8 | 0.5 | 0.4 | 0.4 | |
| Total Selenium | ug/L | 1 | <1 | 1 | <1 | <1 | <1 | 1 | <1 | |
| Total Silver | ug/L | 0.1 | <0.1 | 0.1 | <0.1 | <0.1 | <0.1 | 0.1 | <0.1 | |
| Total Strontium | ug/L | 5 | 15 | 5 | 14 | 12 | 14 | 5 | 12 | |
| Total Thallium | ug/L | 0.1 | <0.1 | 2 | <2 | <2 | <2 | 2 | <2 | |
| Total Tin | ug/L | 2 | <2 | 2 | <2 | <2 | <2 | 2 | <2 | |
| Total Titanium | ug/L | 2 | <2 | 2 | <2 | <2 | <2 | 2 | <2 | |
| Total Uranium | ug/L | 0.2 | <0.2 | 0.2 | <0.2 | <0.2 | <0.2 | 0.2 | <0.2 | |
| Total Vanadium | ug/L | 2 | <2 | 2 | <2 | <2 | <2 | 2 | <2 | |
| Total Zinc | ug/L | 5 | <5 | 5 | <5 | <5 | <5 | 5 | <5 | |

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PROJECT: 100424.003

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St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals

DATE RECEIVED: 2023-01-26

DATE REPORTED: 2023-02-08

| Parameter | Unit | SAMPLE DESCRIPTION: | | SITE-11-SW | SITE-13-SW | SITE-12-SW | RDL | SITE-14-SW | SITE-17-SW | RDL | SITE-16-SW |
|-------------------------------|---------|---------------------|------|------------|------------|------------|------|------------|------------|------------|------------|
| | | G / S | RDL | Water | Water | Water | | Water | Water | | Water |
| | | DATE SAMPLED: | | 2023-01-24 | 2023-01-24 | 2023-01-24 | | | 2023-01-24 | 2023-01-24 | 2023-01-25 |
| | | | | 11:20 | 13:30 | 14:10 | | | 14:50 | 16:05 | 09:20 |
| | | | | 4720025 | 4720026 | 4720027 | | | 4720028 | 4720029 | 4720030 |
| pH | | | | 6.07 | 5.84 | 5.79 | | 6.39 | 6.28 | | 5.70 |
| Reactive Silica as SiO2 | mg/L | | 0.5 | 2.5 | 1.8 | 2.2 | 0.5 | 5.2 | 3.1 | 0.5 | 3.2 |
| Chloride | mg/L | | 2 | 4 | 4 | 5 | 2 | 5 | 8 | 2 | 5 |
| Fluoride | mg/L | | 0.24 | <0.24 | <0.24 | <0.24 | 0.24 | <0.24 | <0.24 | 0.24 | <0.24 |
| Sulphate | mg/L | | 4 | <4 | <4 | <4 | 4 | <4 | <4 | 4 | <4 |
| Alkalinity | mg/L | | 5 | <5 | <5 | <5 | 5 | 10 | <5 | 5 | <5 |
| True Color | TCU | | 5.00 | 32.4 | 22.4 | 28.7 | 5.00 | 69.1 | 56.9 | 5.00 | 82.7 |
| Turbidity | NTU | | 0.5 | <0.5 | 0.8 | <0.5 | 0.5 | 0.8 | 0.9 | 0.5 | 1.8 |
| Electrical Conductivity | umho/cm | | 1 | 26 | 26 | 28 | 1 | 42 | 48 | 1 | 32 |
| Nitrate + Nitrite as N | mg/L | | 0.05 | <0.05 | <0.05 | <0.05 | 0.05 | <0.05 | <0.05 | 0.05 | <0.05 |
| Nitrate as N | mg/L | | 0.10 | <0.10 | <0.10 | <0.10 | 0.10 | <0.10 | <0.10 | 0.10 | <0.10 |
| Nitrite as N | mg/L | | 0.10 | <0.10 | <0.10 | <0.10 | 0.10 | <0.10 | <0.10 | 0.10 | <0.10 |
| Ammonia as N | mg/L | | 0.03 | <0.03 | <0.03 | <0.03 | 0.03 | <0.03 | <0.03 | 0.03 | <0.03 |
| Total Organic Carbon | mg/L | | 0.5 | 7.9 | 7.2 | 9.3 | 0.5 | 11.9 | 9.2 | 0.5 | 12.3 |
| Ortho-Phosphate as P | mg/L | | 0.01 | 0.02 | 0.02 | 0.02 | 0.01 | 0.02 | 0.02 | 0.01 | 0.01 |
| Total Sodium | mg/L | | 0.1 | 2.4 | 2.4 | 2.9 | 0.1 | 2.8 | 5.5 | 0.1 | 2.7 |
| Total Potassium | mg/L | | 0.1 | <0.1 | <0.1 | <0.1 | 0.1 | <0.1 | 0.2 | 0.1 | <0.1 |
| Total Calcium | mg/L | | 0.1 | 1.5 | 0.8 | 1.0 | 0.1 | 1.2 | 1.6 | 0.1 | 1.5 |
| Total Magnesium | mg/L | | 0.1 | 0.8 | 0.8 | 0.9 | 0.1 | 3.2 | 1.4 | 0.1 | 1.0 |
| Bicarb. Alkalinity (as CaCO3) | mg/L | | 5 | <5 | <5 | <5 | 5 | 10 | <5 | 5 | <5 |
| Carb. Alkalinity (as CaCO3) | mg/L | | 10 | <10 | <10 | <10 | 10 | <10 | <10 | 10 | <10 |
| Hydroxide | mg/L | | 5 | <5 | <5 | <5 | 5 | <5 | <5 | 5 | <5 |
| Calculated TDS | mg/L | | 1 | 9 | 8 | 10 | 1 | 19 | 17 | 1 | 11 |
| Hardness | mg/L | | | 7.0 | 5.3 | 6.2 | | 16.2 | 9.8 | | 7.9 |
| Langelier Index (@20C) | NA | | | -4.56 | -5.06 | -5.02 | | -4.05 | -4.34 | | -4.94 |
| Langelier Index (@ 4C) | NA | | | -4.88 | -5.38 | -5.34 | | -4.37 | -4.66 | | -5.26 |
| Saturation pH (@ 20C) | NA | | | 10.6 | 10.9 | 10.8 | | 10.4 | 10.6 | | 10.6 |
| Saturation pH (@ 4C) | NA | | | 11.0 | 11.2 | 11.1 | | 10.8 | 10.9 | | 11.0 |
| Anion Sum | me/L | | | 0.11 | 0.11 | 0.14 | | 0.34 | 0.23 | | 0.14 |

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PROJECT: 100424.003

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CANADA A1E 6A8
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FAX (709) 747-2139
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ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals

DATE RECEIVED: 2023-01-26

DATE REPORTED: 2023-02-08

| Parameter | Unit | SAMPLE DESCRIPTION: | | SITE-11-SW | SITE-13-SW | SITE-12-SW | RDL | SITE-14-SW | SITE-17-SW | RDL | SITE-16-SW |
|---------------------------|------|---------------------|-------|------------|------------|------------|-----|------------|------------|------------|------------|
| | | G / S | RDL | Water | Water | Water | | Water | Water | | Water |
| | | DATE SAMPLED: | | 2023-01-24 | 2023-01-24 | 2023-01-24 | | | 2023-01-24 | 2023-01-24 | 2023-01-25 |
| | | | | 11:20 | 13:30 | 14:10 | | | 14:50 | 16:05 | 09:20 |
| | | | | 4720025 | 4720026 | 4720027 | | | 4720028 | 4720029 | 4720030 |
| Cation sum | me/L | | | 0.26 | 0.23 | 0.27 | | 0.48 | 0.46 | | 0.31 |
| % Difference/ Ion Balance | % | | | 39.9 | 33.5 | 30.7 | | 17.1 | 33.7 | | 36.9 |
| Total Aluminum | ug/L | 5 | 100 | 73 | 87 | 5 | | 216 | 85 | 5 | 122 |
| Total Antimony | ug/L | 2 | <2 | <2 | <2 | 2 | | <2 | <2 | 2 | <2 |
| Total Arsenic | ug/L | 2 | <2 | <2 | <2 | 2 | | <2 | <2 | 2 | <2 |
| Total Barium | ug/L | 5 | <5 | <5 | <5 | 5 | | <5 | <5 | 5 | <5 |
| Total Beryllium | ug/L | 2 | <2 | <2 | <2 | 2 | | <2 | <2 | 2 | <2 |
| Total Bismuth | ug/L | 2 | <2 | <2 | <2 | 2 | | <2 | <2 | 2 | <2 |
| Total Boron | ug/L | 5 | <5 | <5 | <5 | 5 | | <5 | <5 | 5 | <5 |
| Total Cadmium | ug/L | 0.09 | <0.09 | <0.09 | <0.09 | 0.09 | | <0.09 | <0.09 | 0.09 | <0.09 |
| Total Chromium | ug/L | 1 | <1 | <1 | <1 | 1 | | 4 | <1 | 1 | <1 |
| Total Cobalt | ug/L | 1 | <1 | <1 | <1 | 1 | | <1 | <1 | 1 | <1 |
| Total Copper | ug/L | 1 | <1 | <1 | <1 | 1 | | 2 | <1 | 1 | 1 |
| Total Iron | ug/L | 50 | 131 | 121 | 94 | 50 | | 307 | 144 | 50 | 297 |
| Total Lead | ug/L | 0.5 | <0.5 | <0.5 | <0.5 | 0.5 | | <0.5 | <0.5 | 0.5 | <0.5 |
| Total Manganese | ug/L | 2 | 23 | 45 | 36 | 2 | | 60 | 33 | 38 | 114 |
| Total Molybdenum | ug/L | 2 | <2 | <2 | <2 | 2 | | <2 | <2 | 2 | <2 |
| Total Nickel | ug/L | 2 | <2 | <2 | <2 | 2 | | 7 | <2 | 2 | 3 |
| Total Phosphorous | mg/L | 0.02 | 0.48 | 0.37 | 0.50 | 0.4 | | 1.0 | 0.5 | 0.4 | 0.6 |
| Total Selenium | ug/L | 1 | <1 | <1 | <1 | 1 | | <1 | <1 | 1 | <1 |
| Total Silver | ug/L | 0.1 | <0.1 | <0.1 | <0.1 | 0.1 | | <0.1 | <0.1 | 0.1 | <0.1 |
| Total Strontium | ug/L | 5 | 13 | 6 | 14 | 5 | | 11 | 13 | 5 | 13 |
| Total Thallium | ug/L | 2 | <2 | <2 | <2 | 2 | | <2 | <2 | 2 | <2 |
| Total Tin | ug/L | 2 | <2 | <2 | <2 | 2 | | <2 | <2 | 2 | <2 |
| Total Titanium | ug/L | 2 | <2 | <2 | <2 | 2 | | <2 | <2 | 2 | <2 |
| Total Uranium | ug/L | 0.2 | <0.2 | <0.2 | <0.2 | 0.2 | | <0.2 | <0.2 | 0.2 | <0.2 |
| Total Vanadium | ug/L | 2 | <2 | <2 | <2 | 2 | | <2 | <2 | 2 | <2 |
| Total Zinc | ug/L | 5 | <5 | 33 | <5 | 5 | | <5 | <5 | 5 | 44 |

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Certificate of Analysis

AGAT WORK ORDER: 23K991762

PROJECT: 100424.003

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FAX (709) 747-2139
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CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals

DATE RECEIVED: 2023-01-26

DATE REPORTED: 2023-02-08

| Parameter | Unit | SAMPLE DESCRIPTION: SITE-05-SW | | SITE-09-SW | | SITE-02-SW | | SITE-19-SW | | |
|-------------------------------|---------|--------------------------------|---------------------|------------|---------------------|------------|---------------------|------------|---------------------|-------|
| | | G / S | RDL | RDL | RDL | RDL | RDL | RDL | | |
| | | | 4720031 | | 4720032 | | 4720033 | | 4720034 | |
| | | | Water | | Water | | Water | | Water | |
| | | | 2023-01-25 10:58 | | 2023-01-25 11:22 | | 2023-01-25 12:12 | | 2023-01-25 12:47 | |
| pH | | | 5.92 | | 5.90 | | 6.04 | | 5.88 | |
| Reactive Silica as SiO2 | mg/L | | 0.5 | 3.3 | 0.5 | 2.9 | 0.5 | 2.9 | 0.5 | 2.0 |
| Chloride | mg/L | | 2 | 5 | 2 | 20 | 2 | 4 | 2 | 3 |
| Fluoride | mg/L | | 0.24 | <0.24 | 0.24 | <0.24 | 0.24 | <0.24 | 0.24 | <0.24 |
| Sulphate | mg/L | | 4 | <4 | 4 | <4 | 4 | <4 | 4 | <4 |
| Alkalinity | mg/L | | 5 | <5 | 5 | <5 | 5 | <5 | 5 | <5 |
| True Color | TCU | | 5.00 | 59.8 | 5.00 | 44.5 | 5.00 | 44.8 | 5.00 | 53.6 |
| Turbidity | NTU | | 0.5 | 1.6 | 0.5 | 2.0 | 0.5 | 0.8 | 0.5 | 1.6 |
| Electrical Conductivity | umho/cm | | 1 | 31 | 1 | 82 | 1 | 28 | 1 | 24 |
| Nitrate + Nitrite as N | mg/L | | 0.05 | <0.05 | 0.05 | <0.05 | 0.05 | <0.05 | 0.05 | <0.05 |
| Nitrate as N | mg/L | | 0.10 | <0.10 | 0.10 | <0.10 | 0.10 | <0.10 | 0.10 | <0.10 |
| Nitrite as N | mg/L | | 0.10 | <0.10 | 0.10 | <0.10 | 0.10 | <0.10 | 0.10 | <0.10 |
| Ammonia as N | mg/L | | 0.03 | <0.03 | 0.03 | <0.03 | 0.03 | <0.03 | 0.03 | <0.03 |
| Total Organic Carbon | mg/L | | 0.5 | 9.3 | 0.5 | 9.7 | 0.5 | 8.7 | 0.5 | 10.1 |
| Ortho-Phosphate as P | mg/L | | 0.01 | 0.02 | 0.01 | 0.02 | 0.01 | 0.02 | 0.01 | 0.03 |
| Total Sodium | mg/L | | 0.1 | 2.9 | 1 | 13 | 0.1 | 2.7 | 0.1 | 2.4 |
| Total Potassium | mg/L | | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.3 | 0.1 | 0.2 |
| Total Calcium | mg/L | | 0.1 | 1.7 | 0.1 | 1.9 | 0.1 | 1.4 | 0.1 | 1.3 |
| Total Magnesium | mg/L | | 0.1 | 1.1 | 0.1 | 1.1 | 0.1 | 0.8 | 0.1 | 0.7 |
| Bicarb. Alkalinity (as CaCO3) | mg/L | | 5 | <5 | 5 | <5 | 5 | <5 | 5 | <5 |
| Carb. Alkalinity (as CaCO3) | mg/L | | 10 | <10 | 10 | <10 | 10 | <10 | 10 | <10 |
| Hydroxide | mg/L | | 5 | <5 | 5 | <5 | 5 | <5 | 5 | <5 |
| Calculated TDS | mg/L | | 1 | 11 | 1 | 36 | 1 | 9 | 1 | 8 |
| Hardness | mg/L | | | 8.8 | | 9.3 | | 6.8 | | 6.1 |
| Langelier Index (@20C) | NA | | | -4.67 | | -4.67 | | -4.62 | | -4.81 |
| Langelier Index (@ 4C) | NA | | | -4.99 | | -4.99 | | -4.94 | | -5.13 |
| Saturation pH (@ 20C) | NA | | | 10.6 | | 10.6 | | 10.7 | | 10.7 |
| Saturation pH (@ 4C) | NA | | | 10.9 | | 10.9 | | 11.0 | | 11.0 |
| Anion Sum | me/L | | | 0.14 | | 0.56 | | 0.11 | | 0.08 |

Certified By:



Certificate of Analysis

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PROJECT: 100424.003

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CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals

DATE RECEIVED: 2023-01-26

DATE REPORTED: 2023-02-08

| Parameter | Unit | SAMPLE DESCRIPTION: SITE-05-SW | | SITE-09-SW | | SITE-02-SW | | SITE-19-SW | |
|---------------------------|------|--------------------------------|-------|------------|-------|------------|-------|------------|-------|
| | | G / S | RDL | RDL | RDL | RDL | RDL | RDL | |
| Cation sum | me/L | | 0.34 | | 0.78 | | 0.28 | | 0.25 |
| % Difference/ Ion Balance | % | | 41.0 | | 15.9 | | 42.3 | | 50.0 |
| Total Aluminum | ug/L | 5 | 125 | 5 | 115 | 5 | 95 | 5 | 101 |
| Total Antimony | ug/L | 2 | <2 | 2 | <2 | 2 | <2 | 2 | <2 |
| Total Arsenic | ug/L | 2 | <2 | 2 | <2 | 2 | <2 | 2 | <2 |
| Total Barium | ug/L | 5 | <5 | 5 | <5 | 5 | <5 | 5 | <5 |
| Total Beryllium | ug/L | 2 | <2 | 2 | <2 | 2 | <2 | 2 | <2 |
| Total Bismuth | ug/L | 2 | <2 | 2 | <2 | 2 | <2 | 2 | <2 |
| Total Boron | ug/L | 5 | <5 | 5 | <5 | 5 | <5 | 5 | <5 |
| Total Cadmium | ug/L | 0.09 | <0.09 | 0.09 | <0.09 | 0.09 | <0.09 | 0.09 | <0.09 |
| Total Chromium | ug/L | 1 | <1 | 1 | <1 | 1 | <1 | 1 | <1 |
| Total Cobalt | ug/L | 1 | <1 | 1 | <1 | 1 | <1 | 1 | <1 |
| Total Copper | ug/L | 1 | 2 | 1 | <1 | 1 | <1 | 1 | <1 |
| Total Iron | ug/L | 50 | 346 | 50 | 210 | 50 | 135 | 50 | 196 |
| Total Lead | ug/L | 0.5 | <0.5 | 0.5 | <0.5 | 0.5 | <0.5 | 0.5 | <0.5 |
| Total Manganese | ug/L | 2 | 82 | 2 | 67 | 2 | 34 | 2 | 66 |
| Total Molybdenum | ug/L | 2 | <2 | 2 | <2 | 2 | <2 | 2 | <2 |
| Total Nickel | ug/L | 2 | <2 | 2 | <2 | 2 | <2 | 2 | <2 |
| Total Phosphorous | mg/L | 0.4 | 0.6 | 0.4 | 0.6 | 0.4 | 0.5 | 0.02 | 0.41 |
| Total Selenium | ug/L | 1 | <1 | 1 | <1 | 1 | <1 | 1 | <1 |
| Total Silver | ug/L | 0.1 | <0.1 | 0.1 | <0.1 | 0.1 | <0.1 | 0.1 | <0.1 |
| Total Strontium | ug/L | 5 | 14 | 5 | 15 | 5 | 12 | 5 | 11 |
| Total Thallium | ug/L | 0.1 | <0.1 | 2 | <2 | 2 | <2 | 0.1 | <0.1 |
| Total Tin | ug/L | 2 | <2 | 2 | <2 | 2 | <2 | 2 | <2 |
| Total Titanium | ug/L | 2 | <2 | 2 | <2 | 2 | <2 | 2 | <2 |
| Total Uranium | ug/L | 0.2 | <0.2 | 0.2 | <0.2 | 0.2 | <0.2 | 0.2 | <0.2 |
| Total Vanadium | ug/L | 2 | <2 | 2 | <2 | 2 | <2 | 2 | <2 |
| Total Zinc | ug/L | 5 | <5 | 5 | <5 | 5 | <5 | 5 | <5 |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 23K991762

PROJECT: 100424.003

57 Old Pennywell Road, Unit I
 St. John's, NL
 CANADA A1E 6A8
 TEL (709)747-8573
 FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals

DATE RECEIVED: 2023-01-26

DATE REPORTED: 2023-02-08

| Parameter | Unit | SAMPLE DESCRIPTION: SITE-04-SW | | SITE-03-SW | | SITE-06-SW | | SW-SD-02 | | |
|-------------------------------|---------|--------------------------------|---------------------|------------|---------------------|------------|---------------------|----------|---------------------|-------|
| | | G / S | RDL | RDL | RDL | RDL | RDL | RDL | | |
| | | | 4720035 | | 4720036 | | 4720037 | | 4720038 | |
| | | | Water | | Water | | Water | | Water | |
| | | | 2023-01-25 14:47 | | 2023-01-25 15:23 | | 2023-01-25 16:07 | | 2023-01-23 12:47 | |
| pH | | | 6.28 | | 6.16 | | 6.40 | | 5.95 | |
| Reactive Silica as SiO2 | mg/L | | 0.5 | 3.6 | 0.5 | 2.8 | 0.5 | 3.3 | 0.5 | 1.9 |
| Chloride | mg/L | | 2 | 8 | 2 | 4 | 2 | 14 | 2 | 3 |
| Fluoride | mg/L | | 0.24 | <0.24 | 0.24 | <0.24 | 0.24 | <0.24 | 0.24 | <0.24 |
| Sulphate | mg/L | | 4 | <4 | 4 | <4 | 4 | <4 | 4 | <4 |
| Alkalinity | mg/L | | 5 | 6 | 5 | <5 | 5 | 11 | 5 | <5 |
| True Color | TCU | | 5.00 | 32.5 | 5.00 | 40.5 | 5.00 | 47.8 | 5.00 | 44.9 |
| Turbidity | NTU | | 0.5 | 7.0 | 0.5 | 0.9 | 0.5 | 14.7 | 0.5 | 0.8 |
| Electrical Conductivity | umho/cm | | 1 | 52 | 1 | 28 | 1 | 75 | 1 | 24 |
| Nitrate + Nitrite as N | mg/L | | 0.05 | <0.05 | 0.05 | <0.05 | 0.05 | <0.05 | 0.05 | <0.05 |
| Nitrate as N | mg/L | | 0.10 | <0.10 | 0.10 | <0.10 | 0.10 | <0.10 | 0.10 | <0.10 |
| Nitrite as N | mg/L | | 0.10 | <0.10 | 0.10 | <0.10 | 0.10 | <0.10 | 0.10 | <0.10 |
| Ammonia as N | mg/L | | 0.03 | <0.03 | 0.03 | <0.03 | 0.03 | <0.03 | 0.03 | <0.03 |
| Total Organic Carbon | mg/L | | 0.5 | 8.3 | 0.5 | 10.9 | 0.5 | 8.1 | 0.5 | 13.4 |
| Ortho-Phosphate as P | mg/L | | 0.01 | 0.02 | 0.01 | 0.02 | 0.01 | 0.02 | 0.01 | 0.01 |
| Total Sodium | mg/L | | 0.1 | 4.8 | 0.1 | 2.6 | 0.1 | 7.6 | 0.1 | 2.3 |
| Total Potassium | mg/L | | 0.1 | 0.5 | 0.1 | 0.2 | 0.1 | 0.6 | 0.1 | 0.2 |
| Total Calcium | mg/L | | 0.1 | 2.9 | 0.1 | 1.5 | 0.1 | 3.7 | 0.1 | 1.2 |
| Total Magnesium | mg/L | | 0.1 | 1.1 | 0.1 | 0.9 | 0.1 | 1.3 | 0.1 | 0.6 |
| Bicarb. Alkalinity (as CaCO3) | mg/L | | 5 | 6 | 5 | <5 | 5 | 11 | 5 | <5 |
| Carb. Alkalinity (as CaCO3) | mg/L | | 10 | <10 | 10 | <10 | 10 | <10 | 10 | <10 |
| Hydroxide | mg/L | | 5 | <5 | 5 | <5 | 5 | <5 | 5 | <5 |
| Calculated TDS | mg/L | | 1 | 22 | 1 | 9 | 1 | 35 | 1 | 8 |
| Hardness | mg/L | | | 11.8 | | 7.5 | | 14.6 | | 5.5 |
| Langelier Index (@20C) | NA | | | -4.00 | | -4.47 | | -3.53 | | -4.78 |
| Langelier Index (@ 4C) | NA | | | -4.32 | | -4.79 | | -3.85 | | -5.10 |
| Saturation pH (@ 20C) | NA | | | 10.3 | | 10.6 | | 9.93 | | 10.7 |
| Saturation pH (@ 4C) | NA | | | 10.6 | | 11.0 | | 10.3 | | 11.0 |
| Anion Sum | me/L | | | 0.35 | | 0.11 | | 0.61 | | 0.08 |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 23K991762

PROJECT: 100424.003

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals

DATE RECEIVED: 2023-01-26

DATE REPORTED: 2023-02-08

| Parameter | Unit | SAMPLE DESCRIPTION: SITE-04-SW | | SITE-03-SW | | SITE-06-SW | | SW-SD-02 | |
|---------------------------|------|--------------------------------|-------|------------|-------|------------|-------|----------|-------|
| | | G / S | RDL | RDL | RDL | RDL | RDL | RDL | RDL |
| Cation sum | me/L | | 0.51 | | 0.29 | | 0.72 | | 0.23 |
| % Difference/ Ion Balance | % | | 18.8 | | 43.4 | | 8.1 | | 46.8 |
| Total Aluminum | ug/L | 5 | 326 | 5 | 105 | 5 | 565 | 5 | 88 |
| Total Antimony | ug/L | 2 | <2 | 2 | <2 | 2 | <2 | 2 | <2 |
| Total Arsenic | ug/L | 2 | <2 | 2 | <2 | 2 | 5 | 2 | <2 |
| Total Barium | ug/L | 5 | <5 | 5 | <5 | 5 | 5 | 5 | <5 |
| Total Beryllium | ug/L | 2 | <2 | 2 | <2 | 2 | <2 | 2 | <2 |
| Total Bismuth | ug/L | 2 | <2 | 2 | <2 | 2 | <2 | 2 | <2 |
| Total Boron | ug/L | 5 | <5 | 5 | <5 | 5 | <5 | 5 | <5 |
| Total Cadmium | ug/L | 0.09 | <0.09 | 0.09 | <0.09 | 0.09 | <0.09 | 0.09 | <0.09 |
| Total Chromium | ug/L | 1 | <1 | 1 | <1 | 1 | 1 | 1 | <1 |
| Total Cobalt | ug/L | 1 | <1 | 1 | <1 | 1 | <1 | 1 | <1 |
| Total Copper | ug/L | 1 | <1 | 1 | <1 | 1 | 1 | 1 | <1 |
| Total Iron | ug/L | 50 | 330 | 50 | 147 | 50 | 592 | 50 | 166 |
| Total Lead | ug/L | 0.5 | 0.6 | 0.5 | <0.5 | 0.5 | <0.5 | 0.5 | <0.5 |
| Total Manganese | ug/L | 2 | 19 | 2 | 35 | 2 | 38 | 2 | 64 |
| Total Molybdenum | ug/L | 2 | <2 | 2 | <2 | 2 | <2 | 2 | <2 |
| Total Nickel | ug/L | 2 | <2 | 2 | <2 | 2 | <2 | 2 | <2 |
| Total Phosphorous | mg/L | 0.4 | 0.8 | 0.4 | 0.5 | 0.4 | 0.7 | 0.02 | 0.38 |
| Total Selenium | ug/L | 1 | <1 | 1 | <1 | 1 | <1 | 1 | <1 |
| Total Silver | ug/L | 0.1 | <0.1 | 0.1 | <0.1 | 0.1 | <0.1 | 0.1 | <0.1 |
| Total Strontium | ug/L | 5 | 22 | 5 | 13 | 5 | 27 | 5 | 10 |
| Total Thallium | ug/L | 0.1 | <0.1 | 2 | <2 | 0.1 | <0.1 | 2 | <2 |
| Total Tin | ug/L | 2 | <2 | 2 | <2 | 2 | <2 | 2 | <2 |
| Total Titanium | ug/L | 2 | 5 | 2 | <2 | 2 | 8 | 2 | <2 |
| Total Uranium | ug/L | 0.2 | <0.2 | 0.2 | <0.2 | 0.2 | <0.2 | 0.2 | <0.2 |
| Total Vanadium | ug/L | 2 | <2 | 2 | <2 | 2 | <2 | 2 | <2 |
| Total Zinc | ug/L | 5 | <5 | 5 | <5 | 5 | <5 | 5 | <5 |

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PROJECT: 100424.003

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<http://www.agatlabs.com>

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals

DATE RECEIVED: 2023-01-26

DATE REPORTED: 2023-02-08

SAMPLE DESCRIPTION: SITE-07-SW

SAMPLE TYPE: Water

DATE SAMPLED: 2023-01-23
16:30

| Parameter | Unit | G / S | RDL | 4720039 |
|-------------------------------|---------|-------|------|---------|
| pH | | | | 5.97 |
| Reactive Silica as SiO2 | mg/L | | 0.5 | 3.6 |
| Chloride | mg/L | | 2 | 6 |
| Fluoride | mg/L | | 0.24 | <0.24 |
| Sulphate | mg/L | | 4 | <4 |
| Alkalinity | mg/L | | 5 | <5 |
| True Color | TCU | | 5.00 | 61.0 |
| Turbidity | NTU | | 0.5 | 3.1 |
| Electrical Conductivity | umho/cm | | 1 | 40 |
| Nitrate + Nitrite as N | mg/L | | 0.05 | <0.05 |
| Nitrate as N | mg/L | | 0.10 | <0.10 |
| Nitrite as N | mg/L | | 0.10 | <0.10 |
| Ammonia as N | mg/L | | 0.03 | <0.03 |
| Total Organic Carbon | mg/L | | 0.5 | 11.0 |
| Ortho-Phosphate as P | mg/L | | 0.01 | 0.02 |
| Total Sodium | mg/L | | 0.1 | 3.6 |
| Total Potassium | mg/L | | 0.1 | 0.5 |
| Total Calcium | mg/L | | 0.1 | 2.0 |
| Total Magnesium | mg/L | | 0.1 | 0.9 |
| Bicarb. Alkalinity (as CaCO3) | mg/L | | 5 | <5 |
| Carb. Alkalinity (as CaCO3) | mg/L | | 10 | <10 |
| Hydroxide | mg/L | | 5 | <5 |
| Calculated TDS | mg/L | | 1 | 14 |
| Hardness | mg/L | | | 8.7 |
| Langelier Index (@20C) | NA | | | -4.55 |
| Langelier Index (@ 4C) | NA | | | -4.87 |
| Saturation pH (@ 20C) | NA | | | 10.5 |
| Saturation pH (@ 4C) | NA | | | 10.8 |
| Anion Sum | me/L | | | 0.17 |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 23K991762

PROJECT: 100424.003

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CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals

DATE RECEIVED: 2023-01-26

DATE REPORTED: 2023-02-08

SAMPLE DESCRIPTION: SITE-07-SW

SAMPLE TYPE: Water

DATE SAMPLED: 2023-01-23
16:30

| Parameter | Unit | G / S | RDL | 4720039 |
|---------------------------|------|-------|------|---------|
| Cation sum | me/L | | | 0.38 |
| % Difference/ Ion Balance | % | | | 38.7 |
| Total Aluminum | ug/L | | 5 | 249 |
| Total Antimony | ug/L | | 2 | <2 |
| Total Arsenic | ug/L | | 2 | <2 |
| Total Barium | ug/L | | 5 | <5 |
| Total Beryllium | ug/L | | 2 | <2 |
| Total Bismuth | ug/L | | 2 | <2 |
| Total Boron | ug/L | | 5 | <5 |
| Total Cadmium | ug/L | | 0.09 | <0.09 |
| Total Chromium | ug/L | | 1 | <1 |
| Total Cobalt | ug/L | | 1 | <1 |
| Total Copper | ug/L | | 1 | 1 |
| Total Iron | ug/L | | 50 | 286 |
| Total Lead | ug/L | | 0.5 | <0.5 |
| Total Manganese | ug/L | | 2 | 31 |
| Total Molybdenum | ug/L | | 2 | <2 |
| Total Nickel | ug/L | | 2 | <2 |
| Total Phosphorous | mg/L | | 0.4 | 0.7 |
| Total Selenium | ug/L | | 1 | <1 |
| Total Silver | ug/L | | 0.1 | <0.1 |
| Total Strontium | ug/L | | 5 | 13 |
| Total Thallium | ug/L | | 0.1 | <0.1 |
| Total Tin | ug/L | | 2 | <2 |
| Total Titanium | ug/L | | 2 | <2 |
| Total Uranium | ug/L | | 0.2 | <0.2 |
| Total Vanadium | ug/L | | 2 | <2 |
| Total Zinc | ug/L | | 5 | <5 |

Certified By:



AGAT Laboratories

Certificate of Analysis

AGAT WORK ORDER: 23K991762

PROJECT: 100424.003

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals

DATE RECEIVED: 2023-01-26

DATE REPORTED: 2023-02-08

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

4720006-4720039 % Difference / Ion Balance, Hardness, Langelier Index, Nitrate + Nitrite, Hydroxide and Saturation pH are calculated parameters. The calculated parameters are non-accredited. The component parameters of the calculations are accredited.

pH has been analyzed past the recommended holding time of 15 minutes from sampling. Field measurement recommended for most accurate result

The cation and anion sums are at, or below, 1 me/L, therefore the acceptable criteria is a difference of less than 0.3me/L.

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 23K991762

PROJECT: 100424.003

57 Old Pennywell Road, Unit I
 St. John's, NL
 CANADA A1E 6A8
 TEL (709)747-8573
 FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

| TSS | | | | | | | | | | | |
|---------------------------|------|---------------------|-----|---------------------|---------------------|---------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| DATE RECEIVED: 2023-01-26 | | | | | | DATE REPORTED: 2023-02-08 | | | | | |
| | | SAMPLE DESCRIPTION: | | SITE-15-SW | SITE-21-SW | SITE-20-SW | SITE-09-SW | SW-SD-01 | SITE-11-SW | SITE-13-SW | SITE-12-SW |
| | | SAMPLE TYPE: | | Water | Water | Water | Water | Water | Water | Water | Water |
| | | DATE SAMPLED: | | 2023-01-23 12:50 | 2023-01-23 13:35 | 2023-01-23 14:30 | 2023-01-23 16:10 | 2023-01-23 16:10 | 2023-01-24 11:20 | 2023-01-24 13:30 | 2023-01-24 14:10 |
| Parameter | Unit | G / S | RDL | 4720006 | 4720021 | 4720022 | 4720023 | 4720024 | 4720025 | 4720026 | 4720027 |
| Total Suspended Solids | mg/L | | 5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| | | SAMPLE DESCRIPTION: | | SITE-14-SW | SITE-17-SW | SITE-16-SW | SITE-05-SW | SITE-09-SW | SITE-02-SW | SITE-19-SW | SITE-04-SW |
| | | SAMPLE TYPE: | | Water | Water | Water | Water | Water | Water | Water | Water |
| | | DATE SAMPLED: | | 2023-01-24 14:50 | 2023-01-24 16:05 | 2023-01-25 09:20 | 2023-01-25 10:58 | 2023-01-25 11:22 | 2023-01-25 12:12 | 2023-01-25 12:47 | 2023-01-25 14:47 |
| Parameter | Unit | G / S | RDL | 4720028 | 4720029 | 4720030 | 4720031 | 4720032 | 4720033 | 4720034 | 4720035 |
| Total Suspended Solids | mg/L | | 5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| | | SAMPLE DESCRIPTION: | | SITE-03-SW | SITE-06-SW | SW-SD-02 | SITE-07-SW | | | | |
| | | SAMPLE TYPE: | | Water | Water | Water | Water | | | | |
| | | DATE SAMPLED: | | 2023-01-25 15:23 | 2023-01-25 16:07 | 2023-01-23 12:47 | 2023-01-23 16:30 | | | | |
| Parameter | Unit | G / S | RDL | 4720036 | 4720037 | 4720038 | 4720039 | | | | |
| Total Suspended Solids | mg/L | | 5 | <5 | <5 | <5 | <5 | | | | |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard
 Analysis performed at AGAT St John's (unless marked by *)

Certified By:

Quality Assurance

 CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS
 PROJECT: 100424.003
 SAMPLING SITE:

 AGAT WORK ORDER: 23K991762
 ATTENTION TO: Darrol Rice
 SAMPLED BY:

| Soil Analysis | | | | | | | | | | | | | | | |
|------------------------|-------|-----------|-----------|--------|-----|----------------|--------------|--------------------|-------|----------|--------------------|-------|--------------|-------------------|-------|
| RPT Date: Feb 08, 2023 | | | DUPLICATE | | | | Method Blank | REFERENCE MATERIAL | | | METHOD BLANK SPIKE | | MATRIX SPIKE | | |
| PARAMETER | Batch | Sample Id | Dup #1 | Dup #2 | RPD | Measured Value | | Acceptable Limits | | Recovery | Acceptable Limits | | Recovery | Acceptable Limits | |
| | | | | | | | | Lower | Upper | | Lower | Upper | | Lower | Upper |

Available Metals in Soil (Incl. Hg)

| | | | | | | | | | | | | | | | |
|------------|---------|---------|-------|-------|-------|--------|------|-----|------|------|-----|------|------|-----|------|
| Aluminum | 4720205 | 4720205 | 27700 | 32600 | 16.3% | < 10 | 95% | 80% | 120% | 107% | 80% | 120% | NA | 70% | 130% |
| Antimony | 4720205 | 4720205 | <1 | <1 | NA | < 1 | 108% | 80% | 120% | NA | 80% | 120% | NA | 70% | 130% |
| Arsenic | 4720205 | 4720205 | 7 | 7 | 7.0% | < 1 | 92% | 80% | 120% | 108% | 80% | 120% | NA | 70% | 130% |
| Barium | 4720205 | 4720205 | 14 | 14 | NA | < 5 | 96% | 80% | 120% | 103% | 80% | 120% | 101% | 70% | 130% |
| Beryllium | 4720205 | 4720205 | <2 | <2 | NA | < 2 | 107% | 80% | 120% | 116% | 80% | 120% | NA | 70% | 130% |
| Boron | 4720205 | 4720205 | <2 | <2 | NA | < 2 | 103% | 80% | 120% | 116% | 80% | 120% | NA | 70% | 130% |
| Cadmium | 4720205 | 4720205 | <0.3 | <0.3 | NA | < 0.3 | 94% | 80% | 120% | 99% | 80% | 120% | 118% | 70% | 130% |
| Chromium | 4720205 | 4720205 | 37 | 34 | 9.4% | < 2 | 95% | 80% | 120% | 105% | 80% | 120% | NA | 70% | 130% |
| Cobalt | 4720205 | 4720205 | 14 | 13 | 5.8% | < 1 | 100% | 80% | 120% | 106% | 80% | 120% | NA | 70% | 130% |
| Copper | 4720205 | 4720205 | 5 | 4 | NA | < 2 | 101% | 80% | 120% | 106% | 80% | 120% | NA | 70% | 130% |
| Iron | 4720205 | 4720205 | 36700 | 42500 | 14.5% | < 50 | 107% | 80% | 120% | 111% | 80% | 120% | NA | 70% | 130% |
| Lead | 4720205 | 4720205 | 4.0 | 3.8 | 5.1% | < 0.5 | 98% | 80% | 120% | 102% | 80% | 120% | 87% | 70% | 130% |
| Lithium | 4720205 | 4720205 | 81 | 74 | 9.3% | < 5 | 105% | 70% | 130% | 122% | 70% | 130% | NA | 70% | 130% |
| Manganese | 4720205 | 4720205 | 782 | 758 | 3.1% | < 2 | 88% | 80% | 120% | 95% | 80% | 120% | NA | 70% | 130% |
| Mercury | 4720205 | 4720205 | <0.03 | <0.03 | NA | < 0.03 | 101% | 80% | 120% | 94% | 80% | 120% | NA | 70% | 130% |
| Molybdenum | 4720205 | 4720205 | <2 | <2 | NA | < 2 | 90% | 80% | 120% | 104% | 80% | 120% | 121% | 70% | 130% |
| Nickel | 4720205 | 4720205 | 55 | 52 | 5.9% | < 2 | 101% | 80% | 120% | 108% | 80% | 120% | NA | 70% | 130% |
| Selenium | 4720205 | 4720205 | <1 | <1 | NA | < 1 | 92% | 80% | 120% | 86% | 80% | 120% | 95% | 70% | 130% |
| Silver | 4720205 | 4720205 | <0.5 | <0.5 | NA | < 0.5 | 100% | 80% | 120% | 109% | 80% | 120% | 109% | 70% | 130% |
| Strontium | 4720205 | 4720205 | <5 | <5 | NA | < 5 | 82% | 80% | 120% | 89% | 80% | 120% | 109% | 70% | 130% |
| Thallium | 4720205 | 4720205 | <0.1 | <0.1 | NA | < 0.1 | 101% | 80% | 120% | 105% | 80% | 120% | NA | 70% | 130% |
| Tin | 4720205 | 4720205 | 2 | 2 | NA | < 2 | 87% | 80% | 120% | 102% | 80% | 120% | 130% | 70% | 130% |
| Uranium | 4720205 | 4720205 | 0.4 | 0.3 | NA | < 0.1 | 93% | 80% | 120% | 96% | 80% | 120% | 84% | 70% | 130% |
| Vanadium | 4720205 | 4720205 | 31 | 29 | 6.2% | < 2 | 97% | 80% | 120% | 111% | 80% | 120% | NA | 70% | 130% |
| Zinc | 4720205 | 4720205 | 89 | 84 | 5.6% | < 5 | 97% | 80% | 120% | 98% | 80% | 120% | NA | 70% | 130% |

Certified By:


Quality Assurance

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS
 PROJECT: 100424.003
 SAMPLING SITE:

AGAT WORK ORDER: 23K991762
 ATTENTION TO: Darrol Rice
 SAMPLED BY:

Trace Organics Analysis

| | | | | | | | | | | | | | | | | |
|------------------------|-------|--------------|-----------|--------|-----|-------------------|-----------------|----------------------|-------|----------|----------------------|-------|----------|----------------------|-------|--|
| RPT Date: Feb 08, 2023 | | | DUPLICATE | | | | Method Blank | REFERENCE MATERIAL | | | METHOD BLANK SPIKE | | | MATRIX SPIKE | | |
| PARAMETER | Batch | Sample Id | Dup #1 | Dup #2 | RPD | Measured Value | | Acceptable Limits | | Recovery | Acceptable Limits | | Recovery | Acceptable Limits | | |
| | | | | | | | | Lower | Upper | | Lower | Upper | | Lower | Upper | |

Atlantic RBCA Tier 1 Hydrocarbons in Water (Version 3.1)

| | | | | | | | | | | | | | | | |
|-----------------------|---|---------|---------|---------|----|---------|------|-----|------|------|-----|------|------|-----|------|
| Benzene | 1 | 4720006 | < 0.001 | < 0.001 | NA | < 0.001 | 115% | 70% | 130% | 109% | 70% | 130% | | | |
| Toluene | 1 | 4720006 | < 0.001 | < 0.001 | NA | < 0.001 | 121% | 70% | 130% | 114% | 70% | 130% | | | |
| Ethylbenzene | 1 | 4720006 | < 0.001 | < 0.001 | NA | < 0.001 | 120% | 70% | 130% | 116% | 70% | 130% | | | |
| Xylene (Total) | 1 | 4720006 | < 0.002 | < 0.002 | NA | < 0.002 | 121% | 70% | 130% | 118% | 70% | 130% | | | |
| C6-C10 (less BTEX) | 1 | 4720006 | < 0.01 | < 0.01 | NA | < 0.01 | 109% | 70% | 130% | 98% | 70% | 130% | 105% | 70% | 130% |
| >C10-C16 Hydrocarbons | 1 | 4720006 | < 0.05 | < 0.05 | NA | < 0.05 | 103% | 70% | 130% | 99% | 70% | 130% | 90% | 70% | 130% |
| >C16-C21 Hydrocarbons | 1 | 4720006 | < 0.05 | < 0.05 | NA | < 0.05 | 105% | 70% | 130% | 99% | 70% | 130% | 90% | 70% | 130% |
| >C21-C32 Hydrocarbons | 1 | 4720006 | < 0.1 | < 0.1 | NA | < 0.1 | 114% | 70% | 130% | 99% | 70% | 130% | 90% | 70% | 130% |

Comments: If Matrix spike value is NA, the spiked analyte concentration was lower than that of the matrix contribution. Matrix spike performed on a different sample than the duplicate.

If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Atlantic RBCA Tier 1 Hydrocarbons in Soil (Version 3.0)

| | | | | | | | | | | | | | | | |
|-----------------------|---|---------|--------|--------|----|--------|------|-----|------|------|-----|------|------|-----|------|
| Benzene | 1 | 4720188 | < 0.02 | < 0.02 | NA | < 0.02 | 96% | 60% | 140% | 86% | 60% | 140% | | | |
| Toluene | 1 | 4720188 | < 0.04 | < 0.04 | NA | < 0.04 | 100% | 60% | 140% | 84% | 60% | 140% | | | |
| Ethylbenzene | 1 | 4720188 | < 0.03 | < 0.03 | NA | < 0.03 | 102% | 60% | 140% | 84% | 60% | 140% | | | |
| Xylene (Total) | 1 | 4720188 | < 0.05 | < 0.05 | NA | < 0.05 | 105% | 60% | 140% | 94% | 60% | 140% | | | |
| C6-C10 (less BTEX) | 1 | 4720188 | < 3 | < 3 | NA | < 3 | 100% | 60% | 140% | 110% | 60% | 140% | 113% | 30% | 130% |
| >C10-C16 Hydrocarbons | 1 | 4720188 | < 15 | < 15 | NA | < 15 | 106% | 60% | 140% | 97% | 60% | 140% | 96% | 30% | 130% |
| >C16-C21 Hydrocarbons | 1 | 4720188 | < 15 | < 15 | NA | < 15 | 90% | 60% | 140% | 97% | 60% | 140% | 96% | 30% | 130% |
| >C21-C32 Hydrocarbons | 1 | 4720188 | < 15 | < 15 | NA | < 15 | 104% | 60% | 140% | 97% | 60% | 140% | 96% | 30% | 130% |

Comments: If Matrix spike value is NA, the spiked analyte concentration was lower than that of the matrix contribution.

If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Certified By: _____



Quality Assurance

 CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS
 PROJECT: 100424.003
 SAMPLING SITE:

 AGAT WORK ORDER: 23K991762
 ATTENTION TO: Darrol Rice
 SAMPLED BY:

| Water Analysis | | | | | | | | | | | | | | | |
|------------------------|-------|-----------|-----------|--------|-----|----------------|--------------|--------------------|-------|----------|--------------------|-------|--------------|-------------------|-------|
| RPT Date: Feb 08, 2023 | | | DUPLICATE | | | | Method Blank | REFERENCE MATERIAL | | | METHOD BLANK SPIKE | | MATRIX SPIKE | | |
| PARAMETER | Batch | Sample Id | Dup #1 | Dup #2 | RPD | Measured Value | | Acceptable Limits | | Recovery | Acceptable Limits | | Recovery | Acceptable Limits | |
| | | | | | | | | Lower | Upper | | Lower | Upper | | Lower | Upper |

| | | | | | | | | | | | | | | | |
|--|---------|---------|--------|--------|-------|--------|------|-----|------|------|-----|------|------|-----|------|
| TSS | | | | | | | | | | | | | | | |
| Total Suspended Solids | 472006 | | <5 | <5 | NA | < 5 | 116% | 80% | 120% | | | | 105% | 80% | 120% |
| Standard Water Analysis + Total Metals | | | | | | | | | | | | | | | |
| pH | 4720006 | 4720006 | 6.34 | 6.32 | 0.3% | < | 101% | 80% | 120% | NA | | | NA | | |
| Reactive Silica as SiO2 | 4718695 | | 2.5 | 2.4 | NA | < 0.5 | 101% | 80% | 120% | 102% | 80% | 120% | 104% | 80% | 120% |
| Chloride | 4720024 | | 2 | 2 | 0.0% | < 2 | 105% | 80% | 120% | NA | 80% | 120% | 99% | 70% | 130% |
| Fluoride | 4720024 | | 0.8 | 0.4 | NA | < 0.12 | 107% | 80% | 120% | NA | 80% | 120% | 99% | 70% | 130% |
| Sulphate | 4720024 | | < 2 | < 2 | 0.0% | < 2 | 94% | 80% | 120% | NA | 80% | 120% | 102% | 70% | 130% |
| Alkalinity | 4720006 | 4720006 | 10 | 10 | NA | < 5 | 108% | 80% | 120% | NA | | | NA | | |
| True Color | 4718695 | | 17.3 | 16.0 | NA | < 5 | 120% | 80% | 120% | 102% | 80% | 120% | NA | | |
| Turbidity | 4718711 | | 1.0 | 1.1 | NA | < 0.5 | 96% | 80% | 120% | NA | | | NA | | |
| Electrical Conductivity | 4720006 | 4720006 | 65 | 65 | 0.0% | < 1 | 100% | 90% | 110% | NA | | | NA | | |
| Nitrate as N | 4720024 | | < 0.05 | < 0.05 | 0.0% | < 0.05 | 116% | 80% | 120% | NA | 80% | 120% | 97% | 70% | 130% |
| Nitrite as N | 4720024 | | < 0.05 | < 0.05 | 0.0% | < 0.05 | 84% | 80% | 120% | NA | 80% | 120% | 98% | 70% | 130% |
| Ammonia as N | 4711515 | | 3.98 | 3.97 | 0.3% | < 0.03 | 110% | 80% | 120% | 93% | 80% | 120% | 115% | 70% | 130% |
| Total Organic Carbon | 4723236 | | 6.8 | 4.0 | 50.6% | < 0.5 | 98% | 80% | 120% | NA | 80% | 120% | 81% | 80% | 120% |
| Ortho-Phosphate as P | 4718695 | | 0.02 | 0.02 | NA | < 0.01 | 100% | 80% | 120% | 94% | 80% | 120% | 86% | 80% | 120% |
| Total Sodium | 4720039 | 4720039 | 3.6 | 3.8 | 5.3% | < 0.1 | 98% | 80% | 120% | 98% | 80% | 120% | NA | 70% | 130% |
| Total Potassium | 4720039 | 4720039 | 0.5 | 0.5 | 2.3% | < 0.1 | 101% | 80% | 120% | 104% | 80% | 120% | 108% | 70% | 130% |
| Total Calcium | 4720039 | 4720039 | 2.0 | 2.1 | 5.0% | < 0.1 | 93% | 80% | 120% | 92% | 80% | 120% | NA | 70% | 130% |
| Total Magnesium | 4720039 | 4720039 | 0.9 | 0.9 | 5.3% | < 0.1 | 101% | 80% | 120% | 105% | 80% | 120% | 109% | 70% | 130% |
| Bicarb. Alkalinity (as CaCO3) | 4720006 | 4720006 | 10 | 10 | NA | < 5 | NA | 80% | 120% | NA | | | NA | | |
| Carb. Alkalinity (as CaCO3) | 4720006 | 4720006 | <10 | <10 | NA | < 10 | NA | 80% | 120% | NA | | | NA | | |
| Hydroxide | 4720006 | 4720006 | <5 | <5 | NA | < 5 | NA | 80% | 120% | NA | | | NA | | |
| Total Aluminum | 4720039 | 4720039 | 249 | 254 | 2.3% | < 5 | 96% | 80% | 120% | 98% | 80% | 120% | NA | 70% | 130% |
| Total Antimony | 4720039 | 4720039 | <2 | <2 | NA | < 2 | 100% | 80% | 120% | 101% | 80% | 120% | 104% | 70% | 130% |
| Total Arsenic | 4720039 | 4720039 | <2 | <2 | NA | < 2 | 99% | 80% | 120% | 100% | 80% | 120% | 103% | 70% | 130% |
| Total Barium | 4720039 | 4720039 | <5 | <5 | NA | < 5 | 97% | 80% | 120% | 97% | 80% | 120% | 105% | 70% | 130% |
| Total Beryllium | 4720039 | 4720039 | <2 | <2 | NA | < 2 | 95% | 80% | 120% | 93% | 80% | 120% | 100% | 70% | 130% |
| Total Bismuth | 4720039 | 4720039 | <2 | <2 | NA | < 2 | 102% | 80% | 120% | 102% | 80% | 120% | 101% | 70% | 130% |
| Total Boron | 4720039 | 4720039 | <5 | <5 | NA | < 5 | 96% | 80% | 120% | 98% | 80% | 120% | 100% | 70% | 130% |
| Total Cadmium | 4720039 | 4720039 | <0.09 | <0.09 | NA | < 0.09 | 101% | 80% | 120% | 101% | 80% | 120% | 105% | 70% | 130% |
| Total Chromium | 4720039 | 4720039 | <1 | <1 | NA | < 1 | 98% | 80% | 120% | 100% | 80% | 120% | 100% | 70% | 130% |
| Total Cobalt | 4720039 | 4720039 | <1 | <1 | NA | < 1 | 98% | 80% | 120% | 99% | 80% | 120% | 102% | 70% | 130% |
| Total Copper | 4720039 | 4720039 | 1 | <1 | NA | < 1 | 99% | 80% | 120% | 100% | 80% | 120% | 106% | 70% | 130% |
| Total Iron | 4720039 | 4720039 | 286 | 292 | 2.0% | < 50 | 100% | 80% | 120% | 102% | 80% | 120% | NA | 70% | 130% |
| Total Lead | 4720039 | 4720039 | <0.5 | <0.5 | NA | < 0.5 | 101% | 80% | 120% | 101% | 80% | 120% | 101% | 70% | 130% |
| Total Manganese | 4720039 | 4720039 | 31 | 30 | 2.7% | < 2 | 97% | 80% | 120% | 100% | 80% | 120% | NA | 70% | 130% |
| Total Molybdenum | 4720039 | 4720039 | <2 | <2 | NA | < 2 | 98% | 80% | 120% | 99% | 80% | 120% | 104% | 70% | 130% |

Quality Assurance

 CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS
 PROJECT: 100424.003
 SAMPLING SITE:

 AGAT WORK ORDER: 23K991762
 ATTENTION TO: Darrol Rice
 SAMPLED BY:

Water Analysis (Continued)

| RPT Date: Feb 08, 2023 | | | DUPLICATE | | | | Method Blank | REFERENCE MATERIAL | | | METHOD BLANK SPIKE | | | MATRIX SPIKE | | |
|------------------------|---------|-----------|-----------|--------|------|----------------|--------------|--------------------|-------|----------|--------------------|-------|----------|-------------------|-------|--|
| PARAMETER | Batch | Sample Id | Dup #1 | Dup #2 | RPD | Measured Value | | Acceptable Limits | | Recovery | Acceptable Limits | | Recovery | Acceptable Limits | | |
| | | | | | | | | Lower | Upper | | Lower | Upper | | Lower | Upper | |
| Total Nickel | 4720039 | 4720039 | <2 | <2 | NA | < 2 | 99% | 80% | 120% | 100% | 80% | 120% | 105% | 70% | 130% | |
| Total Phosphorous | 4720039 | 4720039 | 0.70 | 0.73 | 4.2% | < 0.02 | 88% | 80% | 120% | 96% | 80% | 120% | NA | 70% | 130% | |
| Total Selenium | 4720039 | 4720039 | <1 | <1 | NA | < 1 | 104% | 80% | 120% | 99% | 80% | 120% | 104% | 70% | 130% | |
| Total Silver | 4720039 | 4720039 | <0.1 | <0.1 | NA | < 0.1 | 101% | 80% | 120% | 101% | 80% | 120% | 108% | 70% | 130% | |
| Total Strontium | 4720039 | 4720039 | 13 | 13 | NA | < 5 | 97% | 80% | 120% | 99% | 80% | 120% | 109% | 70% | 130% | |
| Total Thallium | 4720039 | 4720039 | <0.1 | <0.1 | NA | < 0.1 | 98% | 80% | 120% | 99% | 80% | 120% | 98% | 70% | 130% | |
| Total Tin | 4720039 | 4720039 | <2 | <2 | NA | < 2 | 101% | 80% | 120% | 100% | 80% | 120% | 104% | 70% | 130% | |
| Total Titanium | 4720039 | 4720039 | <2 | <2 | NA | < 2 | 98% | 80% | 120% | 100% | 80% | 120% | 106% | 70% | 130% | |
| Total Uranium | 4720039 | 4720039 | <0.2 | <0.2 | NA | < 0.2 | 100% | 80% | 120% | 100% | 80% | 120% | 101% | 70% | 130% | |
| Total Vanadium | 4720039 | 4720039 | <2 | <2 | NA | < 2 | 98% | 80% | 120% | 99% | 80% | 120% | 104% | 70% | 130% | |
| Total Zinc | 4720039 | 4720039 | <5 | <5 | NA | < 5 | 97% | 80% | 120% | 99% | 80% | 120% | 101% | 70% | 130% | |

Comments: If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Mercury Analysis in Water (Total)

| | | | | | | | | | | | | | | | |
|---------------|---------|---------|--------|--------|----|---------|-----|-----|------|----|-----|------|------|-----|------|
| Total Mercury | 4720032 | 4720032 | <0.026 | <0.026 | NA | < 0.026 | 95% | 80% | 120% | NA | 80% | 120% | 109% | 70% | 130% |
|---------------|---------|---------|--------|--------|----|---------|-----|-----|------|----|-----|------|------|-----|------|

Comments: If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Certified By: _____



Method Summary

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

AGAT WORK ORDER: 23K991762

PROJECT: 100424.003

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

| PARAMETER | AGAT S.O.P | LITERATURE REFERENCE | ANALYTICAL TECHNIQUE |
|---------------|--------------------------------|-------------------------------------|----------------------|
| Soil Analysis | | | |
| Aluminum | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Antimony | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Arsenic | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Barium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Beryllium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Boron | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Cadmium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Chromium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Cobalt | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Copper | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Iron | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Lead | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP-MS |
| Lithium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP-MS |
| Manganese | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Mercury | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP-MS |
| Molybdenum | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Nickel | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Selenium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Silver | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Strontium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Thallium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Tin | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Uranium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Vanadium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Zinc | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |

Method Summary

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

AGAT WORK ORDER: 23K991762

PROJECT: 100424.003

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

| PARAMETER | AGAT S.O.P | LITERATURE REFERENCE | ANALYTICAL TECHNIQUE |
|---------------------------|-------------------|--|----------------------|
| Trace Organics Analysis | | | |
| Benzene | VOL-120-5013/5031 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| Toluene | VOL-120-5013/5031 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| Ethylbenzene | VOL-120-5013/5031 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| Xylene (Total) | VOL-120-5013/5031 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| C6-C10 (less BTEX) | VOL-120-5013/5031 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS/FID |
| >C10-C16 Hydrocarbons | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| >C16-C21 Hydrocarbons | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| >C21-C32 Hydrocarbons | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| Modified TPH (Tier 1) | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | CALCULATION |
| Resemblance Comment | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS/FID |
| Return to Baseline at C32 | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| Isobutylbenzene - EPH | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| Isobutylbenzene - VPH | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| n-Dotriacontane - EPH | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| Benzene | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| Toluene | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| Ethylbenzene | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| Xylene (Total) | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| C6-C10 (less BTEX) | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| Modified TPH (Tier 1) | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | CALCULATION |
| Sediment | | | GC/MS/FID |
| % Moisture | LAB-131-4024 | CSSS 70.2 | GRAVIMETRIC |

Method Summary

 CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS
 PROJECT: 100424.003
 SAMPLING SITE:

 AGAT WORK ORDER: 23K991762
 ATTENTION TO: Darrol Rice
 SAMPLED BY:

| PARAMETER | AGAT S.O.P | LITERATURE REFERENCE | ANALYTICAL TECHNIQUE |
|--|-----------------------------|---|----------------------|
| Water Analysis | | | |
| Total Mercury | MET-121-6100 & MET-121-6107 | SM 3112 B | CV/AA |
| pH | INOR-121-6001 | SM 4500 H+B | PC TITRATE |
| Reactive Silica as SiO ₂ | INOR-121-6027 | SM 4500-SiO ₂ F | COLORIMETER |
| Chloride | INORG-121-6005 | SM 4110 B | ION CHROMATOGRAPH |
| Fluoride | INORG-121-6005 | SM 4110 B | ION CHROMATOGRAPH |
| Sulphate | INORG-121-6005 | SM 4110 B | ION CHROMATOGRAPH |
| Alkalinity | INOR-121-6001 | SM 2320 B | |
| True Color | INOR-121-6008 | SM 2120 B | LACHAT FIA |
| Turbidity | INOR-121-6022 | SM 2130 B | NEPHELOMETER |
| Electrical Conductivity | INOR-121-6001 | SM 2510 B | PC TITRATE |
| Nitrate + Nitrite as N | INORG-121-6005 | SM 4110 B | CALCULATION |
| Nitrate as N | INORG-121-6005 | SM 4110 B | ION CHROMATOGRAPH |
| Nitrite as N | INORG-121-6005 | SM 4110 B | ION CHROMATOGRAPH |
| Ammonia as N | INOR-121-6047 | SM 4500-NH ₃ H | COLORIMETER |
| Total Organic Carbon | INOR-121-6026 | SM 5310 B | TOC ANALYZER |
| Ortho-Phosphate as P | INOR-121-6012 | SM 4500-P G | COLORIMETER |
| Total Sodium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Potassium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Calcium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Magnesium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Bicarb. Alkalinity (as CaCO ₃) | INORG-121-6001 | SM 2320 B | PC TITRATE |
| Carb. Alkalinity (as CaCO ₃) | INORG-121-6001 | SM 2320 B | PC TITRATE |
| Hydroxide | INORG-121-6001 | SM 2320 B | PC-TITRATE |
| Calculated TDS | CALCULATION | SM 1030E | CALCULATION |
| Hardness | CALCULATION | SM 2340B | CALCULATION |
| Langelier Index (@20C) | CALCULATION | CALCULATION | CALCULATION |
| Langelier Index (@ 4C) | CALCULATION | CALCULATION | CALCULATION |
| Saturation pH (@ 20C) | CALCULATION | CALCULATION | CALCULATION |
| Saturation pH (@ 4C) | CALCULATION | CALCULATION | CALCULATION |
| Anion Sum | CALCULATION | SM 1030E | CALCULATION |
| Cation sum | CALCULATION | SM 1030E | CALCULATION |
| % Difference/ Ion Balance | CALCULATION | SM 1030E | CALCULATION |
| Total Aluminum | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Antimony | MET121-6104 & MET-121-6105 | SM 3125 | ICP-MS |
| Total Arsenic | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Barium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Beryllium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Bismuth | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Boron | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |

Method Summary

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

AGAT WORK ORDER: 23K991762

PROJECT: 100424.003

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

| PARAMETER | AGAT S.O.P | LITERATURE REFERENCE | ANALYTICAL TECHNIQUE |
|------------------------|--------------------------------|--|----------------------|
| Total Cadmium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Chromium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Cobalt | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Copper | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Iron | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Lead | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Manganese | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Molybdenum | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Nickel | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Phosphorous | MET-121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Selenium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Silver | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Strontium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Thallium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Tin | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Titanium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Uranium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Vanadium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Zinc | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Suspended Solids | INOR-123-6006 | Based on SM 2540D | GRAVIMETRIC |



CLIENT NAME: GEMTEC LIMITED
10 Maverick Place
Paradise, NL A1L 1Y8
709722-2275

ATTENTION TO: Darrol Rice
PROJECT: 100424.003

AGAT WORK ORDER: 23K992613

SOIL ANALYSIS REVIEWED BY: Ashley Dussault, Report Writer
TRACE ORGANICS REVIEWED BY: Dylan McCarthy, Trace Organics Lab Technician
WATER ANALYSIS REVIEWED BY: Ashley Dussault, Report Writer

DATE REPORTED: Feb 08, 2023

PAGES (INCLUDING COVER): 21

VERSION*: 1

Should you require any information regarding this analysis please contact your client services representative at (709)747-8573

*Notes

Disclaimer:

- All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.
- All samples will be disposed of within 30 days after receipt unless a Long Term Storage Agreement is signed and returned. Some specialty analysis may be exempt, please contact your Client Project Manager for details.
- AGAT's liability in connection with any delay, performance or non-performance of these services is only to the Client and does not extend to any other third party. Unless expressly agreed otherwise in writing, AGAT's liability is limited to the actual cost of the specific analysis or analyses included in the services.
- This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
- The test results reported herewith relate only to the samples as received by the laboratory.
- Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to, warranties of merchantability, fitness for a particular purpose, or non-infringement. AGAT assumes no responsibility for any errors or omissions in the guidelines contained in this document.
- All reportable information as specified by ISO/IEC 17025:2017 is available from AGAT Laboratories upon request.



Certificate of Analysis

AGAT WORK ORDER: 23K992613

PROJECT: 100424.003

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Available Metals in Soil (Incl. Hg)

DATE RECEIVED: 2023-01-30

DATE REPORTED: 2023-02-08

| Parameter | Unit | SAMPLE DESCRIPTION: | | | | | |
|------------|-------|---------------------|------|---------------------|---------------------|---------------------|---------------------|
| | | G / S | RDL | SITE-24-SED | SITE-1-SED | SITE-23-SED | SITE-8-SED |
| | | | | Soil | Soil | Soil | Soil |
| | | | | 2023-01-27 12:20 | 2023-01-27 13:20 | 2023-01-27 13:35 | 2023-01-27 14:18 |
| | | | | 4728890 | 4728907 | 4728908 | 4728909 |
| Aluminum | mg/kg | | 10 | 10700 | 11700 | 16000 | 15400 |
| Antimony | mg/kg | | 1 | <1 | 1 | 2 | 1 |
| Arsenic | mg/kg | | 1 | 22 | 53 | 59 | 67 |
| Barium | mg/kg | | 5 | 22 | 20 | 27 | 78 |
| Beryllium | mg/kg | | 2 | <2 | <2 | <2 | <2 |
| Boron | mg/kg | | 2 | <2 | <2 | <2 | <2 |
| Cadmium | mg/kg | | 0.3 | <0.3 | <0.3 | <0.3 | <0.3 |
| Chromium | mg/kg | | 2 | 18 | 22 | 30 | 21 |
| Cobalt | mg/kg | | 1 | 8 | 14 | 13 | 18 |
| Copper | mg/kg | | 2 | 10 | 16 | 18 | 18 |
| Iron | mg/kg | | 50 | 18900 | 31700 | 33800 | 41500 |
| Lead | mg/kg | | 0.5 | 8.1 | 8.1 | 9.4 | 10.5 |
| Lithium | mg/kg | | 5 | 20 | 23 | 33 | 28 |
| Manganese | mg/kg | | 2 | 1920 | 1960 | 2410 | 6780 |
| Mercury | mg/kg | | 0.03 | 0.04 | <0.03 | <0.03 | <0.03 |
| Molybdenum | mg/kg | | 2 | <2 | <2 | <2 | 2 |
| Nickel | mg/kg | | 2 | 24 | 35 | 46 | 53 |
| Selenium | mg/kg | | 1 | <1 | <1 | <1 | <1 |
| Silver | mg/kg | | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Strontium | mg/kg | | 5 | 9 | 6 | 6 | 11 |
| Thallium | mg/kg | | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Tin | mg/kg | | 2 | <2 | <2 | <2 | <2 |
| Uranium | mg/kg | | 0.1 | 0.6 | 0.6 | 0.6 | 0.5 |
| Vanadium | mg/kg | | 2 | 17 | 20 | 24 | 22 |
| Zinc | mg/kg | | 5 | 42 | 62 | 66 | 118 |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

4728890-4728909 Results are based on the dry weight of the sample.

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 23K992613

PROJECT: 100424.003

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 St. John's, NL
 CANADA A1E 6A8
 TEL (709)747-8573
 FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Soil (Version 3.0)

DATE RECEIVED: 2023-01-30

DATE REPORTED: 2023-02-08

| Parameter | Unit | SAMPLE DESCRIPTION: | | | | | |
|---------------------------|-------|---------------------|-------|-------------|------------|-------------|------------|
| | | G / S | RDL | SITE-24-SED | SITE-1-SED | SITE-23-SED | SITE-8-SED |
| | | | | Soil | Soil | Soil | Soil |
| | | | | 2023-01-27 | 2023-01-27 | 2023-01-27 | 2023-01-27 |
| | | | | 12:20 | 13:20 | 13:35 | 14:18 |
| | | | | 4728890 | 4728907 | 4728908 | 4728909 |
| Benzene | mg/kg | 0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| Toluene | mg/kg | 0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 |
| Ethylbenzene | mg/kg | 0.03 | <0.03 | <0.03 | 0.09 | <0.03 | <0.03 |
| Xylene (Total) | mg/kg | 0.05 | <0.05 | <0.05 | 0.42 | 0.22 | <0.03 |
| C6-C10 (less BTEX) | mg/kg | 3 | <3 | <3 | <3 | <3 | <3 |
| >C10-C16 Hydrocarbons | mg/kg | 15 | <15 | <15 | <15 | <15 | <15 |
| >C16-C21 Hydrocarbons | mg/kg | 15 | <15 | <15 | <15 | <15 | <15 |
| >C21-C32 Hydrocarbons | mg/kg | 15 | 56 | <15 | <15 | <15 | <15 |
| Modified TPH (Tier 1) | mg/kg | 15 | 56 | <15 | <15 | <15 | <15 |
| Resemblance Comment | | | LOF | NR | NR | NR | NR |
| Return to Baseline at C32 | | | N | Y | Y | Y | Y |
| Surrogate | Unit | Acceptable Limits | | | | | |
| Isobutylbenzene - EPH | % | 60-140 | 97 | 99 | 100 | 98 | |
| Isobutylbenzene - VPH | % | 60-140 | 73 | 72 | 70 | 80 | |
| n-Dotriacontane - EPH | % | 60-140 | 104 | 104 | 104 | 102 | |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 23K992613

PROJECT: 100424.003

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FAX (709 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Soil (Version 3.0)

DATE RECEIVED: 2023-01-30

DATE REPORTED: 2023-02-08

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

4728890-4728909 Modified TPH, Xylene(Total)and C6-C10(less BTEX) are calculated parameters. The calculated parameter is non-accredited. The component parameters of the calculation are accredited.

Sample was not field preserved for VPH when received at the laboratory. Analytical results for VPH parameters should be regarded as minimum values.

Results are based on the dry weight of the soil.

Resemblance Comment Key:

- GF - Gasoline Fraction
- WGF - Weathered Gasoline Fraction
- GR - Product in Gasoline Range
- FOF - Fuel Oil Fraction
- WFOF - Weathered Fuel Oil Fraction
- FR - Product in Fuel Oil Range
- LOF - Lube Oil Fraction
- LR - Lube Range
- UC - Unidentified Compounds
- NR - No Resemblance
- NA - Not Applicable

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 23K992613

PROJECT: 100424.003

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
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FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Water (Version 3.1)

DATE RECEIVED: 2023-01-30

DATE REPORTED: 2023-02-08

| Parameter | Unit | SAMPLE DESCRIPTION: | | SITE-18-SW | SITE-24-SW | SITE-1-SW | SITE-23-SW | SITE-8-SW |
|---------------------------|------|---------------------|-------|------------|------------|-----------|------------|-----------|
| | | G / S | RDL | | | | | |
| | | | | 4728756 | 4728833 | 4728834 | 4728835 | 4728836 |
| Benzene | mg/L | | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Toluene | mg/L | | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Ethylbenzene | mg/L | | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Xylene (Total) | mg/L | | 0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| C6-C10 (less BTEX) | mg/L | | 0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| >C10-C16 Hydrocarbons | mg/L | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C16-C21 Hydrocarbons | mg/L | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C21-C32 Hydrocarbons | mg/L | | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Modified TPH (Tier 1) | mg/L | | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Sediment | | | | NO | NO | NO | TRACE | NO |
| Resemblance Comment | | | | NR | NR | NR | NR | NR |
| Return to Baseline at C32 | | | | Y | Y | Y | Y | Y |
| Surrogate | Unit | Acceptable Limits | | | | | | |
| Isobutylbenzene - EPH | % | 70-130 | | 99 | 105 | 101 | 103 | 101 |
| Isobutylbenzene - VPH | % | 70-130 | | 103 | 124 | 92 | 128 | 113 |
| n-Dotriacontane - EPH | % | 70-130 | | 100 | 103 | 101 | 103 | 101 |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 23K992613

PROJECT: 100424.003

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FAX (709) 747-2139
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CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Water (Version 3.1)

DATE RECEIVED: 2023-01-30

DATE REPORTED: 2023-02-08

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

4728756-4728836 Modified TPH, Xylene(Total)and C6-C10(less BTEX) are calculated parameters. The calculated parameter is non-accredited. The component parameters of the calculation are accredited.

Sediment parameter is comment only based on visual inspection of the sample prior to extraction and is not an accredited test.

- Resemblance Comment Key:
- GF - Gasoline Fraction
 - WGF - Weathered Gasoline Fraction
 - GR - Product in Gasoline Range
 - FOF - Fuel Oil Fraction
 - WFOF - Weathered Fuel Oil Fraction
 - FR - Product in Fuel Oil Range
 - LOF - Lube Oil Fraction
 - LR - Lube Range
 - UC - Unidentified Compounds
 - NR - No Resemblance
 - NA - Not Applicable

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 23K992613

PROJECT: 100424.003

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Moisture

DATE RECEIVED: 2023-01-30

DATE REPORTED: 2023-02-08

| | | SAMPLE DESCRIPTION: | | SITE-24-SED | SITE-1-SED | SITE-23-SED | SITE-8-SED |
|------------|------|---------------------|-----|---------------------|---------------------|---------------------|---------------------|
| | | SAMPLE TYPE: | | Soil | Soil | Soil | Soil |
| | | DATE SAMPLED: | | 2023-01-27 12:20 | 2023-01-27 13:20 | 2023-01-27 13:35 | 2023-01-27 14:18 |
| Parameter | Unit | G / S | RDL | 4728890 | 4728907 | 4728908 | 4728909 |
| % Moisture | % | | 1 | 48 | 24 | 12 | 7 |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 23K992613

PROJECT: 100424.003

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 St. John's, NL
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 TEL (709)747-8573
 FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Mercury Analysis in Water (Total)

DATE RECEIVED: 2023-01-30

DATE REPORTED: 2023-02-08

| | | SAMPLE DESCRIPTION: | | SITE-18-SW | SITE-24-SW | SITE-1-SW | SITE-23-SW | SITE-8-SW |
|---------------|------|---------------------|-------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | | SAMPLE TYPE: | | Water | Water | Water | Water | Water |
| | | DATE SAMPLED: | | 2023-01-27 11:40 | 2023-01-27 12:20 | 2023-01-27 13:02 | 2023-01-27 13:35 | 2023-01-27 14:18 |
| Parameter | Unit | G / S | RDL | 4728756 | 4728833 | 4728834 | 4728835 | 4728836 |
| Total Mercury | ug/L | | 0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 23K992613

PROJECT: 100424.003

57 Old Pennywell Road, Unit I
 St. John's, NL
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 TEL (709)747-8573
 FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals

DATE RECEIVED: 2023-01-30

DATE REPORTED: 2023-02-08

| Parameter | Unit | SAMPLE DESCRIPTION: | | SITE-18-SW | SITE-24-SW | SITE-1-SW | SITE-23-SW | RDL | SITE-8-SW |
|-------------------------------|---------|---------------------|------|------------|------------|------------|------------|------------|-----------|
| | | G / S | RDL | Water | Water | Water | Water | | Water |
| | | DATE SAMPLED: | | 2023-01-27 | 2023-01-27 | 2023-01-27 | 2023-01-27 | 2023-01-27 | |
| | | | | 11:40 | 12:20 | 13:02 | 13:35 | 14:18 | |
| | | | | 4728756 | 4728833 | 4728834 | 4728835 | 4728836 | |
| pH | | | | 6.44 | 6.15 | 6.11 | 6.17 | | 6.26 |
| Reactive Silica as SiO2 | mg/L | | 0.5 | 3.5 | 3.5 | 3.0 | 3.1 | 0.5 | 2.8 |
| Chloride | mg/L | | 1 | 5 | 8 | 10 | 29 | 1 | 6 |
| Fluoride | mg/L | | 0.12 | <0.12 | <0.12 | <0.12 | <0.12 | 0.12 | <0.12 |
| Sulphate | mg/L | | 2 | <2 | 2 | 2 | 3 | 2 | <2 |
| Alkalinity | mg/L | | 5 | 7 | 8 | <5 | 6 | 5 | 8 |
| True Color | TCU | | 5.00 | 50.1 | 33.3 | 47.8 | 26.8 | 5.00 | 34.0 |
| Turbidity | NTU | | 0.5 | 0.7 | 0.9 | 2.7 | 3.2 | 0.5 | 2.2 |
| Electrical Conductivity | umho/cm | | 1 | 37 | 26 | 23 | 29 | 1 | 96 |
| Nitrate + Nitrite as N | mg/L | | 0.05 | 0.57 | 0.44 | 0.50 | 0.26 | 0.05 | 0.47 |
| Nitrate as N | mg/L | | 0.05 | 0.57 | 0.44 | 0.50 | 0.19 | 0.05 | 0.47 |
| Nitrite as N | mg/L | | 0.05 | <0.05 | <0.05 | <0.05 | 0.07 | 0.05 | <0.05 |
| Ammonia as N | mg/L | | 0.03 | <0.03 | <0.03 | <0.03 | <0.03 | 0.03 | <0.03 |
| Total Organic Carbon | mg/L | | 0.5 | 11.2 | 11.3 | 12.5 | 11.0 | 0.5 | 17.3 |
| Ortho-Phosphate as P | mg/L | | 0.01 | 0.02 | 0.02 | 0.02 | 0.02 | 0.01 | 0.02 |
| Total Sodium | mg/L | | 0.1 | 4.5 | 2.7 | 2.5 | 3.4 | 1 | 17 |
| Total Potassium | mg/L | | 0.1 | 0.1 | 0.2 | 0.2 | 0.6 | 0.1 | 0.1 |
| Total Calcium | mg/L | | 0.1 | 1.4 | 1.5 | 1.3 | 1.8 | 0.1 | 2.8 |
| Total Magnesium | mg/L | | 0.1 | 1.3 | 0.8 | 0.7 | 0.9 | 0.1 | 0.9 |
| Bicarb. Alkalinity (as CaCO3) | mg/L | | 5 | 7 | 8 | <5 | 6 | 5 | 8 |
| Carb. Alkalinity (as CaCO3) | mg/L | | 10 | <10 | <10 | <10 | <10 | 10 | <10 |
| Hydroxide | mg/L | | 5 | <5 | <5 | <5 | <5 | 5 | <5 |
| Calculated TDS | mg/L | | 1 | 19 | 22 | 19 | 44 | 1 | 34 |
| Hardness | mg/L | | | 8.8 | 7.0 | 6.1 | 8.2 | | 10.7 |
| Langelier Index (@20C) | NA | | | -4.08 | -4.29 | -4.60 | -4.35 | | -3.93 |
| Langelier Index (@ 4C) | NA | | | -4.40 | -4.61 | -4.92 | -4.67 | | -4.25 |
| Saturation pH (@ 20C) | NA | | | 10.5 | 10.4 | 10.7 | 10.5 | | 10.2 |
| Saturation pH (@ 4C) | NA | | | 10.8 | 10.8 | 11.0 | 10.8 | | 10.5 |
| Anion Sum | me/L | | | 0.32 | 0.46 | 0.36 | 1.02 | | 0.36 |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 23K992613

PROJECT: 100424.003

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals

DATE RECEIVED: 2023-01-30

DATE REPORTED: 2023-02-08

| Parameter | Unit | SAMPLE DESCRIPTION: | | SITE-18-SW | SITE-24-SW | SITE-1-SW | SITE-23-SW | RDL | SITE-8-SW |
|---------------------------|------|---------------------|------|------------|------------|------------|------------|------------|-----------|
| | | G / S | RDL | Water | Water | Water | Water | | Water |
| | | DATE SAMPLED: | | 2023-01-27 | 2023-01-27 | 2023-01-27 | 2023-01-27 | 2023-01-27 | |
| | | | | 11:40 | 12:20 | 13:02 | 13:35 | 14:18 | |
| | | | | 4728756 | 4728833 | 4728834 | 4728835 | 4728836 | |
| Cation sum | me/L | | | 0.40 | 0.29 | 0.26 | 0.36 | | 0.97 |
| % Difference/ Ion Balance | % | | | 10.2 | 23.0 | 16.4 | 48.1 | | 45.6 |
| Total Aluminum | ug/L | 5 | | 109 | 136 | 123 | 189 | 5 | 86 |
| Total Antimony | ug/L | 2 | | <2 | <2 | <2 | <2 | 2 | <2 |
| Total Arsenic | ug/L | 2 | | <2 | <2 | <2 | <2 | 2 | <2 |
| Total Barium | ug/L | 5 | | <5 | <5 | <5 | <5 | 5 | <5 |
| Total Beryllium | ug/L | 2 | | <2 | <2 | <2 | <2 | 2 | <2 |
| Total Bismuth | ug/L | 2 | | <2 | <2 | <2 | <2 | 2 | <2 |
| Total Boron | ug/L | 5 | | <5 | <5 | <5 | <5 | 5 | <5 |
| Total Cadmium | ug/L | | 0.09 | <0.09 | <0.09 | <0.09 | <0.09 | 0.09 | <0.09 |
| Total Chromium | ug/L | 1 | | <1 | <1 | <1 | <1 | 1 | <1 |
| Total Cobalt | ug/L | 1 | | <1 | <1 | <1 | <1 | 1 | <1 |
| Total Copper | ug/L | 1 | | <1 | <1 | <1 | <1 | 1 | <1 |
| Total Iron | ug/L | 50 | | 174 | 171 | 158 | 197 | 50 | 120 |
| Total Lead | ug/L | | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 0.5 | <0.5 |
| Total Manganese | ug/L | 2 | | 39 | 66 | 45 | 31 | 2 | 26 |
| Total Molybdenum | ug/L | 2 | | <2 | <2 | <2 | <2 | 2 | <2 |
| Total Nickel | ug/L | 2 | | <2 | <2 | <2 | <2 | 2 | <2 |
| Total Phosphorous | mg/L | 0.4 | | 0.5 | 0.5 | <0.4 | <0.4 | 0.02 | 0.46 |
| Total Selenium | ug/L | 1 | | <1 | <1 | <1 | <1 | 1 | <1 |
| Total Silver | ug/L | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | 0.1 | <0.1 |
| Total Strontium | ug/L | 5 | | 11 | 11 | 10 | 14 | 5 | 19 |
| Total Thallium | ug/L | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | 0.1 | <0.1 |
| Total Tin | ug/L | 2 | | <2 | <2 | <2 | <2 | 2 | <2 |
| Total Titanium | ug/L | 2 | | <2 | <2 | <2 | <2 | 2 | <2 |
| Total Uranium | ug/L | | 0.2 | <0.2 | <0.2 | <0.2 | <0.2 | 0.2 | <0.2 |
| Total Vanadium | ug/L | 2 | | <2 | <2 | <2 | <2 | 2 | <2 |
| Total Zinc | ug/L | 5 | | 6 | <5 | <5 | <5 | 5 | <5 |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 23K992613

PROJECT: 100424.003

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals

DATE RECEIVED: 2023-01-30

DATE REPORTED: 2023-02-08

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

4728756-4728834 % Difference / Ion Balance, Hardness, Langelier Index, Nitrate + Nitrite, Hydroxide and Saturation pH are calculated parameters. The calculated parameters are non-accredited. The component parameters of the calculations are accredited.

pH has been analyzed past the recommended holding time of 15 minutes from sampling. Field measurement recommended for most accurate result

4728835 % Difference / Ion Balance, Hardness, Langelier Index, Nitrate + Nitrite, Hydroxide and Saturation pH are calculated parameters. The calculated parameters are non-accredited. The component parameters of the calculations are accredited.

pH has been analyzed past the recommended holding time of 15 minutes from sampling. Field measurement recommended for most accurate result

Ion Balance is biased high, contributing parameters have been confirmed.

4728836 % Difference / Ion Balance, Hardness, Langelier Index, Nitrate + Nitrite, Hydroxide and Saturation pH are calculated parameters. The calculated parameters are non-accredited. The component parameters of the calculations are accredited.

pH has been analyzed past the recommended holding time of 15 minutes from sampling. Field measurement recommended for most accurate result

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 23K992613

PROJECT: 100424.003

57 Old Pennywell Road, Unit I
 St. John's, NL
 CANADA A1E 6A8
 TEL (709)747-8573
 FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

TSS

DATE RECEIVED: 2023-01-30

DATE REPORTED: 2023-02-08

| | | SAMPLE DESCRIPTION: | | SITE-18-SW | SITE-24-SW | SITE-1-SW | SITE-23-SW | SITE-8-SW |
|------------------------|------|---------------------|-----|---------------------|---------------------|---------------------|---------------------|---------------------|
| | | SAMPLE TYPE: | | Water | Water | Water | Water | Water |
| | | DATE SAMPLED: | | 2023-01-27 11:40 | 2023-01-27 12:20 | 2023-01-27 13:02 | 2023-01-27 13:35 | 2023-01-27 14:18 |
| Parameter | Unit | G / S | RDL | 4728756 | 4728833 | 4728834 | 4728835 | 4728836 |
| Total Suspended Solids | mg/L | | 5 | <5 | <5 | <5 | <5 | <5 |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:

Quality Assurance

CLIENT NAME: GEMTEC LIMITED
 PROJECT: 100424.003
 SAMPLING SITE:

AGAT WORK ORDER: 23K992613
 ATTENTION TO: Darrol Rice
 SAMPLED BY:

| Soil Analysis | | | | | | | | | | | | | | | |
|------------------------|-------|-----------|-----------|--------|-----|--------------|--------------------|-------------------|-------|--------------------|-------------------|-------|--------------|-------------------|-------|
| RPT Date: Feb 08, 2023 | | | DUPLICATE | | | Method Blank | REFERENCE MATERIAL | | | METHOD BLANK SPIKE | | | MATRIX SPIKE | | |
| PARAMETER | Batch | Sample Id | Dup #1 | Dup #2 | RPD | | Measured Value | Acceptable Limits | | Recovery | Acceptable Limits | | Recovery | Acceptable Limits | |
| | | | | | | | | Lower | Upper | | Lower | Upper | | Lower | Upper |

Available Metals in Soil (Incl. Hg)

| | | | | | | | | | | | | | | | |
|------------|---------|--|------|------|-------|--------|------|-----|------|------|-----|------|------|-----|------|
| Aluminum | 4733469 | | 4190 | 3870 | 7.9% | < 10 | 111% | 80% | 120% | 116% | 80% | 120% | NA | 70% | 130% |
| Antimony | 4733469 | | 1 | <1 | NA | < 1 | 120% | 80% | 120% | NA | 80% | 120% | NA | 70% | 130% |
| Arsenic | 4733469 | | 2 | 3 | NA | < 1 | 103% | 80% | 120% | 104% | 80% | 120% | 93% | 70% | 130% |
| Barium | 4733469 | | 22 | 20 | NA | < 5 | 96% | 80% | 120% | 93% | 80% | 120% | 111% | 70% | 130% |
| Beryllium | 4733469 | | <2 | <2 | NA | < 2 | 115% | 80% | 120% | 116% | 80% | 120% | 84% | 70% | 130% |
| Boron | 4733469 | | 37 | 36 | 2.9% | < 2 | 113% | 80% | 120% | 117% | 80% | 120% | 124% | 70% | 130% |
| Cadmium | 4733469 | | 0.3 | <0.3 | NA | < 0.3 | 101% | 80% | 120% | 107% | 80% | 120% | 85% | 70% | 130% |
| Chromium | 4733469 | | 20 | 19 | 7.8% | < 2 | 103% | 80% | 120% | 109% | 80% | 120% | NA | 70% | 130% |
| Cobalt | 4733469 | | 2 | 2 | NA | < 1 | 101% | 80% | 120% | 109% | 80% | 120% | 102% | 70% | 130% |
| Copper | 4733469 | | 25 | 22 | 12.5% | < 2 | 106% | 80% | 120% | 113% | 80% | 120% | NA | 70% | 130% |
| Iron | 4733469 | | 5770 | 6980 | 19.0% | < 50 | 85% | 80% | 120% | 111% | 80% | 120% | NA | 70% | 130% |
| Lead | 4733469 | | 120 | 121 | 1.0% | < 0.5 | 95% | 80% | 120% | 93% | 80% | 120% | NA | 70% | 130% |
| Lithium | 4733469 | | 11 | 10 | NA | < 5 | 117% | 70% | 130% | 122% | 70% | 130% | 111% | 70% | 130% |
| Manganese | 4733469 | | 41 | 54 | 28.2% | < 2 | 112% | 80% | 120% | 96% | 80% | 120% | NA | 70% | 130% |
| Mercury | 4733469 | | 0.05 | 0.04 | NA | < 0.03 | 99% | 80% | 120% | 95% | 80% | 120% | NA | 70% | 130% |
| Molybdenum | 4733469 | | <2 | <2 | NA | < 2 | 94% | 80% | 120% | 98% | 80% | 120% | 100% | 70% | 130% |
| Nickel | 4733469 | | 7 | 7 | NA | < 2 | 105% | 80% | 120% | 110% | 80% | 120% | 108% | 70% | 130% |
| Selenium | 4733469 | | 3 | 3 | NA | < 1 | 113% | 80% | 120% | 93% | 80% | 120% | NA | 70% | 130% |
| Silver | 4733469 | | <0.5 | <0.5 | NA | < 0.5 | 102% | 80% | 120% | 112% | 80% | 120% | 82% | 70% | 130% |
| Strontium | 4733469 | | <5 | <5 | NA | < 5 | 85% | 80% | 120% | 88% | 80% | 120% | NA | 70% | 130% |
| Thallium | 4733469 | | 0.1 | 0.1 | NA | < 0.1 | 93% | 80% | 120% | 94% | 80% | 120% | 79% | 70% | 130% |
| Tin | 4733469 | | 23 | 21 | 6.9% | < 2 | 91% | 80% | 120% | 99% | 80% | 120% | NA | 70% | 130% |
| Uranium | 4733469 | | 2.6 | 2.6 | 0.3% | < 0.1 | 87% | 80% | 120% | 87% | 80% | 120% | NA | 70% | 130% |
| Vanadium | 4733469 | | 10 | 9 | NA | < 2 | 101% | 80% | 120% | 109% | 80% | 120% | NA | 70% | 130% |
| Zinc | 4733469 | | 132 | 122 | 8.2% | < 5 | 103% | 80% | 120% | 106% | 80% | 120% | NA | 70% | 130% |

Certified By: _____



Quality Assurance

CLIENT NAME: GEMTEC LIMITED
 PROJECT: 100424.003
 SAMPLING SITE:

AGAT WORK ORDER: 23K992613
 ATTENTION TO: Darrol Rice
 SAMPLED BY:

Trace Organics Analysis

| | | | | | | | | | | | | | | | |
|------------------------|-------|--------------|-----------|--------|-----|-------------------|-----------------|----------------------|-------|----------|----------------------|-------|--------------|----------------------|-------|
| RPT Date: Feb 08, 2023 | | | DUPLICATE | | | | Method Blank | REFERENCE MATERIAL | | | METHOD BLANK SPIKE | | MATRIX SPIKE | | |
| PARAMETER | Batch | Sample Id | Dup #1 | Dup #2 | RPD | Measured Value | | Acceptable Limits | | Recovery | Acceptable Limits | | Recovery | Acceptable Limits | |
| | | | | | | | | Lower | Upper | | Lower | Upper | | Lower | Upper |

Atlantic RBCA Tier 1 Hydrocarbons in Water (Version 3.1)

| | | | | | | | | | | | | | | | |
|-----------------------|---|---------|---------|---------|----|---------|------|-----|------|------|-----|------|------|-----|------|
| Benzene | 1 | 4728756 | < 0.001 | < 0.001 | NA | < 0.001 | 114% | 70% | 130% | 117% | 70% | 130% | | | |
| Toluene | 1 | 4728756 | < 0.001 | < 0.001 | NA | < 0.001 | 116% | 70% | 130% | 122% | 70% | 130% | | | |
| Ethylbenzene | 1 | 4728756 | < 0.001 | < 0.001 | NA | < 0.001 | 122% | 70% | 130% | 125% | 70% | 130% | | | |
| Xylene (Total) | 1 | 4728756 | < 0.002 | < 0.002 | NA | < 0.002 | 118% | 70% | 130% | 126% | 70% | 130% | | | |
| C6-C10 (less BTEX) | 1 | 4728756 | < 0.01 | < 0.01 | NA | < 0.01 | 121% | 70% | 130% | 104% | 70% | 130% | 103% | 70% | 130% |
| >C10-C16 Hydrocarbons | 1 | 4728756 | < 0.05 | < 0.05 | NA | < 0.05 | 102% | 70% | 130% | 102% | 70% | 130% | 92% | 70% | 130% |
| >C16-C21 Hydrocarbons | 1 | 4728756 | < 0.05 | < 0.05 | NA | < 0.05 | 102% | 70% | 130% | 102% | 70% | 130% | 92% | 70% | 130% |
| >C21-C32 Hydrocarbons | 1 | 4728756 | < 0.1 | < 0.1 | NA | < 0.1 | 115% | 70% | 130% | 102% | 70% | 130% | 92% | 70% | 130% |

Comments: If Matrix spike value is NA, the spiked analyte concentration was lower than that of the matrix contribution. Matrix spike performed on a different sample than the duplicate.

If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Atlantic RBCA Tier 1 Hydrocarbons in Soil (Version 3.0)

| | | | | | | | | | | | | | | | |
|-----------------------|---|---------|------|------|-------|--------|------|-----|------|------|-----|------|-----|-----|------|
| Benzene | 1 | 4739414 | 0.12 | 0.12 | 0.0% | < 0.02 | 106% | 60% | 140% | 109% | 60% | 140% | | | |
| Toluene | 1 | 4739414 | 1.6 | 1.7 | 6.1% | < 0.04 | 105% | 60% | 140% | 106% | 60% | 140% | | | |
| Ethylbenzene | 1 | 4739414 | 235 | 354 | 40.4% | < 0.03 | 117% | 60% | 140% | 110% | 60% | 140% | | | |
| Xylene (Total) | 1 | 4739414 | 884 | 1130 | 24.4% | < 0.05 | 115% | 60% | 140% | 109% | 60% | 140% | | | |
| C6-C10 (less BTEX) | 1 | 4739414 | 784 | 588 | 28.6% | < 3 | 118% | 60% | 140% | 97% | 60% | 140% | 89% | 30% | 130% |
| >C10-C16 Hydrocarbons | 1 | 4720188 | < 15 | < 15 | NA | < 15 | 106% | 60% | 140% | 97% | 60% | 140% | 96% | 30% | 130% |
| >C16-C21 Hydrocarbons | 1 | 4720188 | < 15 | < 15 | NA | < 15 | 90% | 60% | 140% | 97% | 60% | 140% | 96% | 30% | 130% |
| >C21-C32 Hydrocarbons | 1 | 4720188 | < 15 | < 15 | NA | < 15 | 104% | 60% | 140% | 97% | 60% | 140% | 96% | 30% | 130% |

Comments: If Matrix spike value is NA, the spiked analyte concentration was lower than that of the matrix contribution.

If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Certified By:



Quality Assurance

CLIENT NAME: GEMTEC LIMITED
 PROJECT: 100424.003
 SAMPLING SITE:

AGAT WORK ORDER: 23K992613
 ATTENTION TO: Darrol Rice
 SAMPLED BY:

| Water Analysis | | | | | | | | | | | | | | | |
|------------------------|-------|-----------|-----------|--------|-----|----------------|--------------|--------------------|-------|----------|--------------------|-------|--------------|-------------------|-------|
| RPT Date: Feb 08, 2023 | | | DUPLICATE | | | | Method Blank | REFERENCE MATERIAL | | | METHOD BLANK SPIKE | | MATRIX SPIKE | | |
| PARAMETER | Batch | Sample Id | Dup #1 | Dup #2 | RPD | Measured Value | | Acceptable Limits | | Recovery | Acceptable Limits | | Recovery | Acceptable Limits | |
| | | | | | | | | Lower | Upper | | Lower | Upper | | Lower | Upper |

Standard Water Analysis + Total Metals

| | | | | | | | | | | | | | | | |
|-------------------------------|---------|--|-------|-------|------|--------|------|-----|------|------|-----|------|------|-----|------|
| pH | 4736245 | | 6.86 | 6.94 | 1.2% | < | 100% | 80% | 120% | NA | | | NA | | |
| Reactive Silica as SiO2 | 4720386 | | 2.3 | 2.3 | NA | < 0.5 | 105% | 80% | 120% | 110% | 80% | 120% | 115% | 80% | 120% |
| Chloride | 4724863 | | <1 | <1 | NA | < 1 | 96% | 80% | 120% | NA | 80% | 120% | 100% | 70% | 130% |
| Fluoride | 4724863 | | <0.12 | <0.12 | NA | < 0.12 | 116% | 80% | 120% | NA | 80% | 120% | 98% | 70% | 130% |
| Sulphate | 4724863 | | <2 | <2 | NA | < 2 | 111% | 80% | 120% | NA | 80% | 120% | 99% | 70% | 130% |
| Alkalinity | 4736245 | | 83 | 83 | 0.0% | < 5 | 99% | 80% | 120% | NA | | | NA | | |
| True Color | 4720386 | | 23.9 | 12.5 | NA | < 5 | 94% | 80% | 120% | 97% | 80% | 120% | NA | | |
| Turbidity | 4724191 | | 9.6 | 9.9 | 3.4% | < 0.5 | 98% | 80% | 120% | NA | | | NA | | |
| Electrical Conductivity | 4736245 | | 260 | 258 | 0.8% | < 1 | 97% | 90% | 110% | NA | | | NA | | |
| Nitrate as N | 4724863 | | <0.05 | <0.05 | NA | < 0.05 | 114% | 80% | 120% | NA | 80% | 120% | 99% | 70% | 130% |
| Nitrite as N | 4724863 | | <0.05 | <0.05 | NA | < 0.05 | 96% | 80% | 120% | NA | 80% | 120% | 97% | 70% | 130% |
| Ammonia as N | 4718684 | | <0.03 | <0.03 | NA | < 0.03 | 103% | 80% | 120% | 97% | 80% | 120% | 116% | 70% | 130% |
| Total Organic Carbon | 4718711 | | 4.1 | 4.1 | 1.0% | < 0.5 | 102% | 80% | 120% | NA | 80% | 120% | 98% | 80% | 120% |
| Ortho-Phosphate as P | 4720386 | | 0.02 | 0.02 | NA | < 0.01 | 100% | 80% | 120% | 91% | 80% | 120% | 92% | 80% | 120% |
| Total Sodium | 4730863 | | 32.4 | 33.7 | 3.9% | < 0.1 | 101% | 80% | 120% | 103% | 80% | 120% | NA | 70% | 130% |
| Total Potassium | 4730863 | | 0.8 | 0.8 | 0.0% | < 0.1 | 102% | 80% | 120% | 108% | 80% | 120% | 106% | 70% | 130% |
| Total Calcium | 4730863 | | 24.9 | 25.2 | 1.2% | < 0.1 | 91% | 80% | 120% | 95% | 80% | 120% | NA | 70% | 130% |
| Total Magnesium | 4730863 | | 2.3 | 2.3 | 0.0% | < 0.1 | 104% | 80% | 120% | 107% | 80% | 120% | NA | 70% | 130% |
| Bicarb. Alkalinity (as CaCO3) | 4736245 | | 83 | 83 | 0.0% | < 5 | NA | 80% | 120% | NA | | | NA | | |
| Carb. Alkalinity (as CaCO3) | 4736245 | | <10 | <10 | NA | < 10 | NA | 80% | 120% | NA | | | NA | | |
| Hydroxide | 4736245 | | <5 | <5 | NA | < 5 | NA | 80% | 120% | NA | | | NA | | |
| Total Aluminum | 4730863 | | 38 | 39 | 2.6% | < 5 | 98% | 80% | 120% | 101% | 80% | 120% | 100% | 70% | 130% |
| Total Antimony | 4730863 | | <2 | <2 | NA | < 2 | 95% | 80% | 120% | 101% | 80% | 120% | 100% | 70% | 130% |
| Total Arsenic | 4730863 | | <2 | <2 | NA | < 2 | 100% | 80% | 120% | 102% | 80% | 120% | 101% | 70% | 130% |
| Total Barium | 4730863 | | 294 | 303 | 3.0% | < 5 | 96% | 80% | 120% | 99% | 80% | 120% | NA | 70% | 130% |
| Total Beryllium | 4730863 | | <2 | <2 | NA | < 2 | 91% | 80% | 120% | 94% | 80% | 120% | 78% | 70% | 130% |
| Total Bismuth | 4730863 | | <2 | <2 | NA | < 2 | 101% | 80% | 120% | 102% | 80% | 120% | 98% | 70% | 130% |
| Total Boron | 4730863 | | 30 | 30 | 2.8% | < 5 | 91% | 80% | 120% | 98% | 80% | 120% | 80% | 70% | 130% |
| Total Cadmium | 4730863 | | 0.10 | 0.11 | NA | < 0.09 | 98% | 80% | 120% | 101% | 80% | 120% | 99% | 70% | 130% |
| Total Chromium | 4730863 | | <1 | <1 | NA | < 1 | 100% | 80% | 120% | 103% | 80% | 120% | 98% | 70% | 130% |
| Total Cobalt | 4730863 | | <1 | <1 | NA | < 1 | 100% | 80% | 120% | 103% | 80% | 120% | 99% | 70% | 130% |
| Total Copper | 4730863 | | 16 | 16 | 2.7% | < 1 | 100% | 80% | 120% | 104% | 80% | 120% | NA | 70% | 130% |
| Total Iron | 4730863 | | 50 | 53 | NA | < 50 | 103% | 80% | 120% | 104% | 80% | 120% | 103% | 70% | 130% |
| Total Lead | 4730863 | | 1.0 | 1.1 | NA | < 0.5 | 99% | 80% | 120% | 101% | 80% | 120% | 99% | 70% | 130% |
| Total Manganese | 4730863 | | 91 | 93 | 1.7% | < 2 | 99% | 80% | 120% | 101% | 80% | 120% | NA | 70% | 130% |
| Total Molybdenum | 4730863 | | <2 | <2 | NA | < 2 | 95% | 80% | 120% | 99% | 80% | 120% | 104% | 70% | 130% |
| Total Nickel | 4730863 | | 5 | 5 | NA | < 2 | 102% | 80% | 120% | 106% | 80% | 120% | 104% | 70% | 130% |
| Total Phosphorous | 4730863 | | 3.5 | 3.66 | 4.5% | < 0.02 | 93% | 80% | 120% | 98% | 80% | 120% | NA | 70% | 130% |
| Total Selenium | 4730863 | | <1 | <1 | NA | < 1 | 84% | 80% | 120% | 102% | 80% | 120% | 87% | 70% | 130% |

Quality Assurance

 CLIENT NAME: GEMTEC LIMITED
 PROJECT: 100424.003
 SAMPLING SITE:

 AGAT WORK ORDER: 23K992613
 ATTENTION TO: Darrol Rice
 SAMPLED BY:

Water Analysis (Continued)

| RPT Date: Feb 08, 2023 | | | DUPLICATE | | | | Method Blank | REFERENCE MATERIAL | | | METHOD BLANK SPIKE | | | MATRIX SPIKE | | |
|------------------------|---------|-----------|-----------|--------|------|----------------|--------------|--------------------|-------|----------|--------------------|-------|----------|-------------------|-------|--|
| PARAMETER | Batch | Sample Id | Dup #1 | Dup #2 | RPD | Measured Value | | Acceptable Limits | | Recovery | Acceptable Limits | | Recovery | Acceptable Limits | | |
| | | | | | | | | Lower | Upper | | Lower | Upper | | Lower | Upper | |
| Total Silver | 4730863 | | <0.1 | <0.1 | NA | < 0.1 | 98% | 80% | 120% | 103% | 80% | 120% | 99% | 70% | 130% | |
| Total Strontium | 4730863 | | 461 | 472 | 2.4% | < 5 | 95% | 80% | 120% | 98% | 80% | 120% | NA | 70% | 130% | |
| Total Thallium | 4730863 | | <0.1 | <0.1 | NA | < 0.1 | 101% | 80% | 120% | 102% | 80% | 120% | 99% | 70% | 130% | |
| Total Tin | 4730863 | | <2 | <2 | NA | < 2 | 99% | 80% | 120% | 99% | 80% | 120% | 102% | 70% | 130% | |
| Total Titanium | 4730863 | | <2 | <2 | NA | < 2 | 101% | 80% | 120% | 102% | 80% | 120% | 98% | 70% | 130% | |
| Total Uranium | 4730863 | | 16.9 | 17.3 | 2.4% | < 0.2 | 96% | 80% | 120% | 101% | 80% | 120% | NA | 70% | 130% | |
| Total Vanadium | 4730863 | | <2 | <2 | NA | < 2 | 95% | 80% | 120% | 99% | 80% | 120% | 96% | 70% | 130% | |
| Total Zinc | 4730863 | | 177 | 181 | 2.3% | < 5 | 98% | 80% | 120% | 101% | 80% | 120% | NA | 70% | 130% | |

Comments: If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Mercury Analysis in Water (Total)

| | | | | | | | | | | | | | | | |
|---------------|---------|---------|--------|--------|----|---------|------|-----|------|----|-----|------|------|-----|------|
| Total Mercury | 4728756 | 4728756 | <0.026 | <0.026 | NA | < 0.026 | 105% | 80% | 120% | NA | 80% | 120% | 104% | 70% | 130% |
|---------------|---------|---------|--------|--------|----|---------|------|-----|------|----|-----|------|------|-----|------|

Comments: If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

TSS

| | | | | | | | | | | | | | | | |
|------------------------|---------|--|----|----|----|-----|------|-----|------|----|--|--|------|-----|------|
| Total Suspended Solids | 4733499 | | <5 | <5 | NA | < 5 | 101% | 80% | 120% | NA | | | 118% | 80% | 120% |
|------------------------|---------|--|----|----|----|-----|------|-----|------|----|--|--|------|-----|------|

Comments: If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Certified By: _____





Method Summary

CLIENT NAME: GEMTEC LIMITED

AGAT WORK ORDER: 23K992613

PROJECT: 100424.003

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

| PARAMETER | AGAT S.O.P | LITERATURE REFERENCE | ANALYTICAL TECHNIQUE |
|---------------|--------------------------------|-------------------------------------|----------------------|
| Soil Analysis | | | |
| Aluminum | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Antimony | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Arsenic | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Barium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Beryllium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Boron | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Cadmium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Chromium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Cobalt | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Copper | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Iron | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Lead | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP-MS |
| Lithium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP-MS |
| Manganese | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Mercury | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP-MS |
| Molybdenum | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Nickel | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Selenium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Silver | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Strontium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Thallium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Tin | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Uranium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Vanadium | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |
| Zinc | MET-121-6105 & MET-121-6103 | EPA SW 846 6020A/3050B & SM 3125 | ICP/MS |

Method Summary

CLIENT NAME: GEMTEC LIMITED

AGAT WORK ORDER: 23K992613

PROJECT: 100424.003

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

| PARAMETER | AGAT S.O.P | LITERATURE REFERENCE | ANALYTICAL TECHNIQUE |
|---------------------------|-------------------|--|----------------------|
| Trace Organics Analysis | | | |
| Benzene | VOL-120-5013/5031 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| Toluene | VOL-120-5013/5031 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| Ethylbenzene | VOL-120-5013/5031 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| Xylene (Total) | VOL-120-5013/5031 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| C6-C10 (less BTEX) | VOL-120-5013/5031 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS/FID |
| >C10-C16 Hydrocarbons | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| >C16-C21 Hydrocarbons | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| >C21-C32 Hydrocarbons | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| Modified TPH (Tier 1) | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | CALCULATION |
| Resemblance Comment | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS/FID |
| Return to Baseline at C32 | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| Isobutylbenzene - EPH | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| Isobutylbenzene - VPH | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| n-Dotriacontane - EPH | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| Benzene | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| Toluene | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| Ethylbenzene | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| Xylene (Total) | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| C6-C10 (less BTEX) | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| Modified TPH (Tier 1) | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | CALCULATION |
| Sediment | | | GC/MS/FID |
| % Moisture | LAB-131-4024 | CSSS 70.2 | GRAVIMETRIC |

Method Summary

CLIENT NAME: GEMTEC LIMITED

AGAT WORK ORDER: 23K992613

PROJECT: 100424.003

ATTENTION TO: Darrol Rice

SAMPLING SITE:

SAMPLED BY:

| PARAMETER | AGAT S.O.P | LITERATURE REFERENCE | ANALYTICAL TECHNIQUE |
|--|-----------------------------|---|----------------------|
| Water Analysis | | | |
| Total Mercury | MET-121-6100 & MET-121-6107 | SM 3112 B | CV/AA |
| pH | INOR-121-6001 | SM 4500 H+B | PC TITRATE |
| Reactive Silica as SiO ₂ | INOR-121-6027 | SM 4500-SiO ₂ F | COLORIMETER |
| Chloride | INORG-121-6005 | SM 4110 B | ION CHROMATOGRAPH |
| Fluoride | INORG-121-6005 | SM 4110 B | ION CHROMATOGRAPH |
| Sulphate | INORG-121-6005 | SM 4110 B | ION CHROMATOGRAPH |
| Alkalinity | INOR-121-6001 | SM 2320 B | |
| True Color | INOR-121-6008 | SM 2120 B | LACHAT FIA |
| Turbidity | INOR-121-6022 | SM 2130 B | NEPHELOMETER |
| Electrical Conductivity | INOR-121-6001 | SM 2510 B | PC TITRATE |
| Nitrate + Nitrite as N | INORG-121-6005 | SM 4110 B | CALCULATION |
| Nitrate as N | INORG-121-6005 | SM 4110 B | ION CHROMATOGRAPH |
| Nitrite as N | INORG-121-6005 | SM 4110 B | ION CHROMATOGRAPH |
| Ammonia as N | INOR-121-6047 | SM 4500-NH ₃ H | COLORIMETER |
| Total Organic Carbon | INOR-121-6026 | SM 5310 B | TOC ANALYZER |
| Ortho-Phosphate as P | INOR-121-6012 | SM 4500-P G | COLORIMETER |
| Total Sodium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Potassium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Calcium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Magnesium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Bicarb. Alkalinity (as CaCO ₃) | INORG-121-6001 | SM 2320 B | PC TITRATE |
| Carb. Alkalinity (as CaCO ₃) | INORG-121-6001 | SM 2320 B | PC TITRATE |
| Hydroxide | INORG-121-6001 | SM 2320 B | PC-TITRATE |
| Calculated TDS | CALCULATION | SM 1030E | CALCULATION |
| Hardness | CALCULATION | SM 2340B | CALCULATION |
| Langelier Index (@20C) | CALCULATION | CALCULATION | CALCULATION |
| Langelier Index (@ 4C) | CALCULATION | CALCULATION | CALCULATION |
| Saturation pH (@ 20C) | CALCULATION | CALCULATION | CALCULATION |
| Saturation pH (@ 4C) | CALCULATION | CALCULATION | CALCULATION |
| Anion Sum | CALCULATION | SM 1030E | CALCULATION |
| Cation sum | CALCULATION | SM 1030E | CALCULATION |
| % Difference/ Ion Balance | CALCULATION | SM 1030E | CALCULATION |
| Total Aluminum | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Antimony | MET121-6104 & MET-121-6105 | SM 3125 | ICP-MS |
| Total Arsenic | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Barium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Beryllium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Bismuth | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Boron | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |



Method Summary

CLIENT NAME: GEMTEC LIMITED

AGAT WORK ORDER: 23K992613

PROJECT: 100424.003

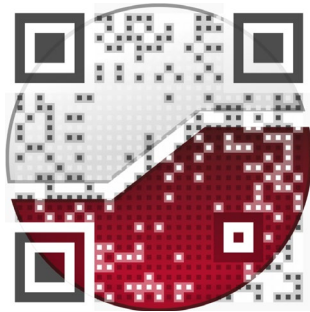
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| PARAMETER | AGAT S.O.P | LITERATURE REFERENCE | ANALYTICAL TECHNIQUE |
|------------------------|--------------------------------|--|----------------------|
| Total Cadmium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Chromium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Cobalt | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Copper | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Iron | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Lead | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Manganese | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Molybdenum | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Nickel | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Phosphorous | MET-121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Selenium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Silver | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Strontium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Thallium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Tin | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Titanium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Uranium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Vanadium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Zinc | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Suspended Solids | INOR-121-6024, 6025 | SM 2540C, D | GRAVIMETRIC |

experience • knowledge • integrity

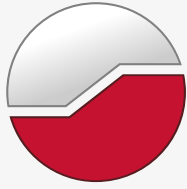


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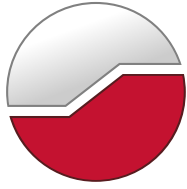
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**Preliminary Baseline Hydrogeology Study
New Found Gold Corp.
Queensway North Project**

Appleton, NL

GEMTEC Project: 100424.001



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Submitted to:

New Found Gold Corporation
300 Garrett Drive
Gander, NL
A1V 0H5

**Preliminary Baseline Hydrogeology Study
New Found Gold Corp.
Queensway North Project**

Appleton, NL

July 18, 2023
GEMTEC Project: 100424.001

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1.0 INTRODUCTION

1.1 General

As part of on-going mineral development activities, New Found Gold Corp. (NFG) engaged GEMTEC Consulting Engineers and Scientists Ltd. (GEMTEC) to carry out a preliminary baseline hydrogeology study of its proposed Queensway North Project, located near the town of Appleton in central Newfoundland.

1.2 Background

NFG is proposing a gold mine development at its Queensway North Gold Project (the Project), located approximately 10 kilometers (km) west of the Town of Gander and just east of the Town of Appleton in central Newfoundland, NL (Figure 1 in Appendix A). The Queensway North Project comprises the northern extent of NFG's larger Queensway Gold Project and consists of 516 claims as part of 34 mineral licences covering an area of 129 km² or 12,900 hectares (ha) (Srivastava, R. M., 2022). The Project spans 1.0 to 12 km width and stretches 14 km from Gander Lake in the south to Gander River 18 km northeast of Appleton at its northern extent.

The property is accessed by the Trans-Canada Highway (TCH), which passes through the southern portion of the Project. A network of gravel forest access roads and trails extend through the Project from the TCH.

GEMTEC understands that the preliminary Project concept includes development of several open pits along the Project's two southwest-to-northeast trending mineralized corridors, several waste rock storage areas, a tailings impoundment area, and a mill and infrastructure area. Conceptual planning for Project mine development is on-going, and other footprints such as stockpile areas, water management infrastructure, roadways, etc. are not yet defined.

NFG has not, as yet, registered the Project for Environmental Assessment (EA). Given the nature of the Project, we expect it will be subject to EA under the Newfoundland and Labrador Environmental Protection Act (NL EPA) and may also require federal approval. The submission of a registration document will initiate both the provincial and federal EA processes, informing both levels of governments of NFG's intent to develop the Project. The registration document will also provide regulators with sufficient information regarding the proposed undertaking, existing baseline conditions and potential effects of the Project, to allow a determination regarding which EA process is required before Project approvals can be granted.

From GEMTEC's past experience on similar mine development projects, we expect groundwater resources will be considered a Valued Component requiring assessment as part of the EA process. Groundwater will likely interact with various Project activities, such as open pit mining, and surface water drainage.

This report documents anticipated baseline hydrogeological conditions within the southwestern portion of Queensway North Project area (hereafter referred to as the Study Area). The Study Area is shown on Figure 1 in Appendix A and includes the most significant gold mineralization prospects identified to date on the Property and the location of the currently conceived mine plan footprint. We expect characterization of groundwater resources in this area will be required information in support of the EA.

1.3 Objectives

The three main objectives of this preliminary baseline hydrogeology study are:

1. Describe the general shallow groundwater flow regime and groundwater quality in the Study Area based on existing data and information as well as preliminary hydrogeological site programs completed in August and December 2021.
2. Identify gaps in the current understanding of hydrogeological conditions in the Study Area and greater Project area, and hydrogeology-related requirements needed for the Project's Registration and EA.
3. Provide recommendations for future work to resolve hydrogeological gaps and requirements identified in objective 2.

1.4 Scope of Work

The scope of this preliminary hydrogeology baseline study includes a desktop review of existing hydrogeological data and information available for the Study Area, followed by limited hydrogeological field programs completed in August and December 2021. In these programs, we carried out groundwater level monitoring, performed short term pumping tests and sampled groundwater at various locations within the Study Area utilizing existing exploration drill holes.

The desk-top review and limited field programs completed as part of this study support the development of a first-generation conceptual hydrogeological model for the Project. Dedicated hydrogeological field study involving drilling of geotechnical boreholes, monitoring well installation with associated hydraulic conductivity testing (packer testing/slug testing), groundwater level monitoring and groundwater quality sampling will be required as development of the Project advances to refine the conceptual hydrogeological model.

2.0 STUDY AREA SETTING

2.1 Location and Extent

The boundary of the Study Area is shown in Figure 1 in Appendix A and covers an area of approximately 7,821 ha in the southwest portion of the Queensway North Project. The Study Area measures approximately 7 km wide by 9 km long, extending laterally from the Outflow area of Gander Lake (upper section of the Gander River) and town of Appleton in the west to the Joe

Batts Pond drainage system in the east, and longitudinally from Gander Lake in the south to lower sections of the Gander River and prospect 1744 in the north.

2.2 Climate and Meteorology

The Study Area and overall Project are located within the Northcentral sub-region of the Central Newfoundland Ecoregion, which extends from Clarenville in the east to Deer Lake in the west. This sub-region has the highest summer maximum temperatures, lowest rainfall, and highest fire frequency in Newfoundland (FAA, 2019). The climate is a blended maritime-humid continental type, with warm summers, a cool, wet spring and autumn, and snowy, often windy, winters. Snow usually occurs from December through April. Rainfall occurs throughout the spring, summer and fall mainly as showers to heavy rain, frequently occurring with strong winds. Based on historical climate data from 1981 to 2010 recorded at the Gander International Airport weather station (48°56' N, 57°34' W), located approximately 9 km east of the Project, August is typically the warmest month (daily average of 16.2°C); while January and February are typically the coldest (daily average of -7.1°C). The average annual precipitation is 1,270.2 mm, which includes 837.8 mm of rain and 451.9 cm of snow. September is the rainiest month (monthly average of 114.7 mm), and January is the snowiest month (monthly average of 95.8 cm) (EC, 2022).

2.3 Physiography, Topography and Drainage

Regionally, the Study Area and overall Project are located along the southern limits of a low-lying region in northeastern Newfoundland referred to as the Northeast Trough (Twenhofel and MacClintock, 1940). This physiographic region is characterized by elevations ranging from sea level along the northeast coast rising to a maximum of 150 meters above sea level (masl) along the interior limits of the physiographic region, located approximately 15 kilometers south of the Project.

The Study Area is characterized by broad, northeast trending ridges with bounding valleys occupied by northeast-trending linear bogs, brooks, and larger ponds. Elevations within the Study Area range from approximately 100 to 120 masl along the ridges to less than 40 m above sea level at the base of some drainage valleys.

The most significant surface water features in the Study Area are Gander Lake, which borders the Study Area to the south, and the Gander River, which flows out of Gander Lake immediately west of the Study Area in the Outflow area and continues approximately 44 km northeast to the coast where it discharges at Gander Bay. The northeast-trending ridge and valley terrain in the Study Area gives rise to numerous small northeast-trending pond and stream drainage systems that flow into Gander River north and downstream of the towns of Appleton and Glenwood. Along the southwestern limits of the Study Area drainage is towards Gander Lake and the Outflow (upper section of the Gander River). Watershed mapping by GEMTEC (Figure 2 in Appendix A), illustrates the overall drainage patterns in the Study Area, and the drainage divide between Gander River-directed and Gander Lake (and Outflow)-directed surface water drainage.

The boundary of the Gander Lake Public Protected Water Supply Area for the towns of Appleton and Glenwood overlaps the southwestern portion of the Study Area. The intake for this public water supply is located in The Outflow area and is shown on Figure 1 and Figure 2 in Appendix A.

2.4 Geology

2.4.1 Surficial Geology

The surficial geology in the Study Area is shown in Figure 3 (Appendix A) and is based on surficial geology mapping by Liverman and Taylor (1990). Till deposits are present throughout the Study Area occurring as both thin discontinuous veneer (less than 1.5 m thick), as well as more extensive blanket deposits up to 15 m thick. In addition, sand and gravel deposits of glacial outwash and fluvial origin are present along the Gander River and Joe Batts Pond drainage system. Along with glacial units, deposits of poorly-drained organic and peaty soils present in low-lying areas in the Study Area.

Available exploration borehole logs provided by NFG indicate an overburden (combined organic and mineral soils) thickness ranging from 0.1 m to 26.4 m and averaging approximately 5.7 m; based on data from 244 borehole locations in the Project area.

2.4.2 Bedrock Geology

The bedrock geology in the Study Area is shown in Figure 4 (in Appendix A), which was prepared by NFG for this report. The description of bedrock geology for the Study Area is summarized below based on information provided in DEL Exploration (2020).

The Study Area (and overall Project) lies with the Exploits subzone of the Dunnage zone (one of four major northeast-trending tectonostratigraphic zones in Newfoundland associated with Appalachian orogenesis), and is bounded by the Gander River Ultramafic Complex, which defines the tectonic suture between the Dunnage zone and adjacent Gander Zone to the east. The majority of the Study Area is underlain by an interbedded succession of marine fossil-bearing mudstones, siltstones and sandstones belonging to the Cambrian – Ordovician Davidsville Group with local unconformable ophiolitic sequences.

Bedrock in the Study Area has undergone a complex compressional deformation history spanning at least two pulses of Appalachian orogenesis and is multiply deformed, folded and faulted. Field measurement of structural features define a penetrative, sub-vertical, axial planar structural fabric (S1) trending NNE-SSW and indicate compression in the NW–SE direction, consistent with the overall NE-striking regional geology trend and major suture zones. Two regional-scale NE-striking fault zones run through the Study Area, including the Appleton Fault Zone (AFZ), a thrust fault that runs the full +100 km strike length of the Project., and trending in a similar orientation and transecting the eastern portion of the Study Area is the Joe Batt's Pond Fault Zone (JBPFZ), a deformation corridor consisting of a network of faults that irregularly branch and reconnect. Both

the AFZ and the JBPFZ are associated with the main gold prospects discovered to date. These fault zones are believed to be crustal-scale and the primary conduits that transported gold-bearing fluids from a deep orogenic source to the upper crust.

Gold showings in the Queensway Project are interpreted to be epizonal, epigenetic, sedimentary hosted orogenic gold mineralization. Gold occurrences on the property exist in auriferous quartz veins displaying variable intensity of hydrothermal alteration and sulphide content. In typical showings gold mineralization occurs in mudstone-hosted, conjugate sets of fault-fill and extensional quartz veins with associated hydrothermal alteration.

2.5 Published Groundwater Quality Data

The Study Area (and Project) lies within a regional bedrock hydrostratigraphic unit referred to as Unit 2 (sedimentary strata) in the Hydrogeology of Central Newfoundland Report (AMEC, 2013). Based on six available analyses collected from the town of Glenwood, groundwater in this unit can be classified as being either sodium-chloride or mixed type. From a potability perspective, water quality for this unit is expected to be good to excellent, although various parameters, including colour, TDS, turbidity, arsenic, cadmium, iron, lead, manganese, and sodium, have been identified at concentrations that exceed Canadian Drinking Water Quality Guidelines (AMEC, 2013). The samples from Glenwood noted exceedances in turbidity, manganese, and iron.

No other previous groundwater quality data are available specifically for the Study Area.

2.6 Groundwater Users

The locations of all Water Rights holders with available GPS coordinates in the Newfoundland and Labrador Registry of Water Rights were queried to determine if major water users were present within the Study Area. Appendix E contains the relevant pages from the Registry (WRMD, 2022). There are no current active water rights licences in the Study Area.

Based on a review of the Registry, major water users in the area have historically used local water (presumably all surface water) for industrial mineral exploration.

The Gander Lake Public Protected Water Supply is located along the southwestern limits of the Study Area (Figure 1 in Appendix A). This public water supply services the towns of Appleton and Glenwood via an intake located in the Outflow of Gander Lake, and services the town of Gander via an intake located approximately 20 km east of the Study Area.

3.0 PRELIMINARY HYDROGEOLOGY FIELD PROGRAMS

3.1 Overview

Preliminary baseline hydrogeological field programs utilizing NFG's existing exploration boreholes in the Project's main prospect areas were completed by GEMTEC over two site visits, including one from August 22 to 27, 2021 and one from December 4 to 7 2021. Table 3.1 provides a summary of the field work completed during these site visits, including the following:

- Static water level measurements were collected from 56 existing exploration boreholes in the primary gold prospect areas (Knob, Keats, Cokes, Golden Joint, Dome, Lotto, Pocket Pond and 1744) in August 2021. The locations of these prospects are shown on Figure 1 (Appendix A).
- Hydraulic conductivity testing comprising short term pumping tests in four selected exploration boreholes was carried out in December 2021. Another static water level measurement was obtained in these tested boreholes during the December 2021 site visit. The locations of the exploration boreholes selected for pumping tests are shown on Figure 5 (Appendix A) and included one borehole from each of the Keats, Lotto, Pocket Pond and 1744 prospects.
- Collection of groundwater quality samples in six selected exploration boreholes during the August 2021 site visit, including one each from the Keats, Cokes, Dome, Lotto, Pocket Pond, and 1744 prospects.
- Installation of water level data loggers in seven of the exploration boreholes for long-term monitoring during the December 2021 site visit, including one each from the Knob, Keats, Cokes, Golden Joint, Lotto, Pocket Pond and 1744.

The following sections summarize hydrogeological baseline conditions in the Study Area based on GEMTEC's desktop assessment of overburden and bedrock characteristics, and the data obtained during the summer (August 2021) and fall (December 2021) field programs.

Table 3.1 Summary of Field Program and Locations (August and December 2021)

| Exploration Borehole ID | Easting (m) | Northing (m) | Water Level Reading | Water Quality Sample | Short Term Pumping Test | Long Term Water Level Monitoring | Prospect Area |
|-------------------------|-------------|--------------|---------------------|----------------------|-------------------------|----------------------------------|---------------|
| NFGC-21-167 | 665274.276 | 5430982.429 | ✓ | | ✓ | ✓ | 1744 |
| NFGC-21-179 | 665363.710 | 5430988.136 | ✓ | | | | 1744 |
| NFGC-21-180 | 665203.845 | 5430849.626 | ✓ | ✓ | | | 1744 |
| NFGC-21-186 | 665130.007 | 5430833.922 | ✓ | | | | 1744 |
| NFGC-21-157 | 657641.991 | 5427535.439 | ✓ | | | | Cokes |
| NFGC-21-162 | 657617.445 | 5427550.505 | ✓ | | | | Cokes |
| NFGC-21-166 | 657668.210 | 5427579.113 | ✓ | | | ✓ | Cokes |
| NFGC-21-280 | 657710.354 | 5427460.208 | ✓ | ✓ | | | Cokes |
| NFGC-20-66 | 658739.149 | 5428664.938 | ✓ | | | | Dome |
| NFGC-20-68 | 658739.652 | 5428664.640 | ✓ | | | | Dome |
| NFGC-21-209 | 658721.815 | 5428675.021 | ✓ | ✓ | | | Dome |
| NFGC-21-249 | 658502.701 | 5428353.214 | ✓ | | | ✓ | Golden Joint |
| NFGC-21-255 | 658503.528 | 5428381.021 | ✓ | | | | Golden Joint |
| NFGC-21-268 | 658522.640 | 5428312.741 | ✓ | | | | Golden Joint |
| NFGC-21-307 | 658592.272 | 5428358.691 | ✓ | | | | Golden Joint |
| NFGC-21-307A | 658592.934 | 5428358.430 | ✓ | | | | Golden Joint |
| NFGC-21-307B | 658593.497 | 5428358.141 | ✓ | | | | Golden Joint |
| NFGC-20-36 | 658244.791 | 5427466.324 | ✓ | | | | Keats |
| NFGC-20-45 | 658239.693 | 5427508.996 | ✓ | | | | Keats |
| NFGC-20-46 | 658266.985 | 5427492.557 | ✓ | | | | Keats |
| NFGC-20-64 | 658207.767 | 5427441.782 | ✓ | ✓ | | | Keats |
| NFGC-21-129 | 658197.875 | 5427475.370 | ✓ | | ✓ | ✓ | Keats |
| NFGC-21-137 | 658185.033 | 5427453.721 | ✓ | | | | Keats |
| NFGC-21-156 | 658069.358 | 5427404.91 | ✓ | ✓ | | | Keats |
| NFGC-21-164 | 658203.580 | 5427215.703 | ✓ | | | | Keats |
| NFGC-21-170 | 658113.731 | 5427379.475 | ✓ | | | | Keats |
| NFGC-21-174 | 658204.595 | 5427215.135 | ✓ | | | | Keats |

| Exploration Borehole ID | Easting (m) | Northing (m) | Water Level Reading | Water Quality Sample | Short Term Pumping Test | Long Term Water Level Monitoring | Prospect Area |
|-------------------------|-------------|--------------|---------------------|----------------------|-------------------------|----------------------------------|---------------|
| NFGC-21-217 | 658147.560 | 5427151.442 | ✓ | | | | Keats |
| NFGC-21-223 | 658241.211 | 5427550.903 | ✓ | | | | Keats |
| NFGC-21-231 | 658124.583 | 5427448.065 | ✓ | | | | Keats |
| NFGC-21-248 | 657930.013 | 5427271.198 | ✓ | | | | Keats |
| NFGC-21-248A | 657929.463 | 5427271.130 | ✓ | | | | Keats |
| NFGC-21-248A | 657929.848 | 5427271.417 | ✓ | | | | Keats |
| NFGC-21-257 | 657950.877 | 5427310.044 | ✓ | | | | Keats |
| NFGC-21-263 | 657951.506 | 5427309.732 | ✓ | | | | Keats |
| NFGC-21-265A | 657929.463 | 5427271.130 | ✓ | | | | Keats |
| NFGC-21-265AA | 657929.463 | 5427271.130 | ✓ | | | | Keats |
| NFGC-21-270 | 657747.900 | 5427325.400 | ✓ | | | | Keats |
| NFGC-21-298 | 658079.931 | 5427369.971 | ✓ | | | | Keats |
| NFGC-21-77 | 658301.893 | 5427415.725 | ✓ | | | | Keats |
| NFGC-21-78 | 658182.869 | 5427426.266 | ✓ | | | | Keats |
| NFGC-21-84 | 658252.671 | 5427490.350 | ✓ | | | | Keats |
| NFGC-21-85 | 658148.375 | 5427388.434 | ✓ | | | | Keats |
| NFGC-21-130 | 657138.701 | 5425687.170 | ✓ | | | ✓ | Knob |
| NFGC-21-142 | 657138.340 | 5425717.238 | ✓ | | | | Knob |
| NFGC-21-147 | 657075.384 | 5425582.535 | ✓ | | | | Knob |
| NFGC-21-147A | 657075.384 | 5425582.535 | ✓ | | | | Knob |
| NFGC-20-39 | 658884.481 | 5429155.945 | ✓ | | | | Lotto |
| NFGC-21-110 | 658999.079 | 5428946.414 | ✓ | ✓ | ✓ | ✓ | Lotto |
| NFGC-21-233 | 659024.072 | 5428935.085 | ✓ | | | | Lotto |
| NFGC-21-290A | 659074.363 | 5429163.663 | ✓ | | | | Lotto |
| NFGC-21-218 | 663406.715 | 5428927.795 | ✓ | | | | Pocket Pond |
| NFGC-21-235A | 663420.239 | 5428877.065 | ✓ | | | | Pocket Pond |
| NFGC-21-253 | 663361.152 | 5428824.166 | ✓ | | | | Pocket Pond |

| Exploration Borehole ID | Easting (m) | Northing (m) | Water Level Reading | Water Quality Sample | Short Term Pumping Test | Long Term Water Level Monitoring | Prospect Area |
|--------------------------------|--------------------|---------------------|----------------------------|-----------------------------|--------------------------------|---|----------------------|
| NFGC-21-261 | 663394.484 | 5428833.666 | ✓ | ✓ | ✓ | ✓ | Pocket Pond |
| NFGC-21-309 | 663350.650 | 5428930.907 | ✓ | | | | Pocket Pond |

3.2 Methods

3.2.1 Groundwater Level Monitoring

NFG provided GEMTEC with the identification and coordinates of 257 HQ-size (96 mm-diameter) exploration boreholes drilled at the Project. These boreholes ranged in length from 13 to 723 m and were inclined approximately 45 degrees down from horizontal. However, many of these boreholes were deemed not suitable for groundwater level measurement (e.g., cap fused to casing, casing damaged, or open hole obstructed by debris or mud). Further, for piezometric contouring purposes, boreholes selected for measurement were generally limited to those with vertical depths less than 200 m to minimize any differences in water levels (hydraulic heads) holes due to a vertical component of groundwater flow or confining conditions in deeper bedrock. Groundwater levels in 56 of these exploration boreholes were measured manually with a Solinst® water level meter as part of the August 2021 field program.

Exploration boreholes in the Study Area, including those surveyed during this program, are focused along the Project's two mineralized corridors (i.e., the Knob to Lotto corridor in the west and Pocket Pond to 1744 corridor in the east) and therefore do not provide sufficient spatial coverage to allow construction of a site-wide groundwater contour map of the Study Area. Instead, the groundwater level survey focused on collecting water level measurements from a minimum of three selected boreholes in each prospect area to determine the local groundwater flow direction in these areas using the three-point triangulation method. For the Keats prospect a total of 25 boreholes were surveyed allowing development of a prospect-scale groundwater contour map for this area. The locations of the prospect areas surveyed for this program, including Knob, Keats, Cokes, Golden Joint, Dome, Lotto, Pocket Pond and 1744 are shown on Figure 1 and Figure 5 (Appendix A).

The manual groundwater depth measurements were corrected for the inclination of each borehole and were referenced to collar (ground surface) elevations provided by NFG to determine groundwater elevations. Water level measurements were measured from the lowest point of the inclined casing of each borehole. The water level survey data are presented in Table B.1 in Appendix B along with borehole completion and location details (e.g., UTM coordinates, total depth).

During the December 2021 site visit, groundwater levels were measured manually again in the exploration boreholes that were pump tested, including NFGC-21-110, NFGC-21-129, NFGC-21-167, and NFGC-21-261. The water level measurements collected in these boreholes during the December 2021 site visit are also provided in Table B.1 in Appendix B.

Following the pumping tests, a Solinst Levellogger® was installed in each of the four test boreholes for subsequent long-term water level monitoring. Also at this time, water level loggers were also installed in three additional boreholes at the site. A Solinst® Barologger® was also placed outdoors at a central location on the site (in surface casing of borehole NFGC-21-166) to

allow barometric correction of the Levellogger® data. The loggers and barologger were set to record water levels every 6 hours. A summary of boreholes for long-term monitoring is provided below in Table 3.2.

Table 3.2 Long-Term Levellogger Installation Summary

| Prospect Area | Borehole ID | Logger Serial Number | Installation Depth (mbgs_vertical) |
|---------------|-------------|------------------------------------|------------------------------------|
| Lotto | NFGC-21-110 | 2142650 | 2.60 |
| Keats | NFGC-21-129 | 2142885 | 1.80 |
| Knob | NFGC-21-130 | 2142927 | 3.03 |
| Cokes | NFGC-21-166 | 2142892 and Barologger: 2143160 | 3.27 |
| 1744 | NFGC-21-167 | 2142902 | 3.81 |
| Golden Joint | NFGC-21-249 | 2142906 | 2.54 |
| Pocket Pond | NFGC-21-261 | 2143211 | 3.91 |

3.2.2 Short-Term Pumping Tests

At four of the existing exploration boreholes, including NFGC-21-110 at Lotto, NFGC-21-129 at Keats, NFGC-21-167 at 1744, and NFGC-21-261 at Pocket Pond, a short-term pumping test was conducted to provide one approximate hydraulic conductivity value for the composite of the entire rock mass encountered at each borehole location. Results of the tests are presented and discussed in Section 4.1.4.

The short-term pumping tests were conducted using a Proactive Environmental Products Monsoon® 2” battery-powered submersible pump, using a flow rate of approximately 1 L/min throughout the test. Power was supplied by a car battery. A Levellogger® was installed at depths ranging from 5.0 m to 8.0 m below top of casing (bTOC) along the inclined length of each borehole, and the pump intake was approximately 0.5 m above the logger. Flow rates were confirmed by timing the flow of discharge water in a 5-gallon, graduated bucket during pumping at each borehole. Manual water level readings in the borehole, volume of water purged, and the time of each reading were noted throughout each test at two-minute intervals. Changes to flow rates were noted at the time of adjustment. Flow rates were increased in moderate increments to avoid a rapid drop in water level and prematurely ending the test. Each test was carried out for 45 minutes (except NFGC-11-261 which was carried out for 40 minutes at which point the pump was unable to continue pumping due to a high head differential) and the pump was shut off and removed from the borehole with the discharge line plugged so that water could not drain from the discharge line back into the borehole during recovery.

3.2.3 Groundwater Quality Sampling

Eight groundwater samples, including one duplicate sample for quality control purposes, were taken from the Study Area during the August 2021 site visit. Seven exploration boreholes selected for groundwater quality sampling included NFGC-21-180 (1744), NFGC-21-261 (Pocket Pond), NFGC-21-280 (Cokes), NFGC-20-64 (Keats), NFGC-21-156 (Keats), NFGC-21-209 (Dome), and NFGC-21-110 (Lotto). The results of this sampling event are presented in Section 4.2 and Appendices C and D.

Before sampling, each of the boreholes was purged using dedicated polyethylene tubing and a Monsoon® 2" battery-powered submersible pump until at least three out of five field parameters (pH, specific conductance, temperature, dissolved oxygen (DO) and oxidation-reduction potential (ORP)) had stabilized (less than 10% variance) over three consecutive 5-minute interval readings. A YSI Professional Plus multi-parameter meter complete with a flow cell was used to monitor water quality during purging. The YSI meter was calibrated according to manufacturers specifications – all sensors were calibrated at the start of the program, and the DO sensor was calibrated each day that it was used. For purging and sampling, the flowrate was maintained at less than 1 L/min. Groundwater samples for metals analysis were field filtered using disposable 0.45 µm inline filters.

All samples were collected in the appropriate laboratory-supplied containers with the necessary preservatives. After sampling, each sample container was tightly capped, labelled and kept cool in coolers with ice and/or in a refrigerator until transported to the laboratory.

The samples were submitted to AGAT Laboratories in St. John's, Newfoundland for laboratory analysis of general chemistry, dissolved metals and petroleum hydrocarbons (including total petroleum hydrocarbons (TPH) and BTEX parameters benzene, toluene, ethylbenzene and xylenes).

3.2.4 Quality Assurance / Quality Control

The following QA/QC measures were employed during the field investigation activities to maintain sample integrity:

- Sampling and monitoring equipment (e.g. the submersible pump) were cleaned between sampling points (boreholes) using an Alconox® and a potable water mixture followed by a potable water rinse;
- Field personnel wore disposable, nitrile gloves during sampling, and these gloves were replaced between each sampling location;
- Dedicated, new polyethylene (Wattera®) tubing was used at each borehole;
- All groundwater samples collected for laboratory analysis were collected in appropriate new sample containers provided by the laboratory;
- Samples were stored in coolers equipped with ice until submission to the laboratory; and,

- Samples submitted to the laboratory were accompanied by a signed and dated Chain of Custody form and were packaged and shipped in cooler(s) containing bags of ice.

QA/QC measures are also performed by the analytical laboratory. QA/QC measures vary by laboratory but typically include all or some of the following: analysis of laboratory duplicate samples, laboratory control samples, matrix spikes, method blanks, internal reference material, surrogate recoveries, and the use of analytical methods in accordance with ISO/IEC 17025:2005 accreditation standards. Laboratory QA/QC is documented in the Certificates of Analysis (Appendix D).

One field duplicate sample (NFGC-20-64A, duplicate of sample NFGC-20-64) was collected during the sampling event on August 26, 2021 to check for the natural sample variance and the consistency of field techniques and laboratory analysis. The initial sample bottles for a particular parameter or set of parameters were filled first and then the duplicate sample bottles were filled. The duplicate sample was handled in the same manner as the initial samples. One duplicate sample, equal to 12.5% of the total number of samples analysed, was assigned a QA/QC identification number, stored in an iced cooler, and shipped to the laboratory with the other samples.

The relative percent difference (RPD) is used to evaluate sample result variability for duplicate samples and is calculated by the following equation:

$$RPD = \left[\frac{|S1 - S2|}{S3} \right] \times 100$$

where: RPD = relative percent difference
 S1 = original sample concentration
 S2 = duplicate sample concentration
 S3 = average concentration = (S1 + S2)/2

RPD values are not used to evaluate those compounds that are present at concentrations less than five times the reportable detection limit (RDL). No concentrations of petroleum hydrocarbon compounds were detected above five times the applicable RDLs in the primary and field duplicate samples and therefore petroleum hydrocarbons were not considered further in QA/QC analysis. There are no firm guidelines for the degree of correlation expected between duplicates due to contaminant distribution. However, an RPD of less than 25% is considered to indicate an acceptable duplicate correlation for inorganic parameters and dissolved metals in groundwater. Results of the quality control sampling for the August 2021 sampling event are provided in Table 3.3.

The RPDs for the field duplicate groundwater sample for both the inorganic parameters and dissolved metals were generally less than 25%; with an average RPD of 17.3% and 22.6%, respectively. Based on these results the data quality is considered acceptable. Further the

individual parameters were classified the same (either above or below guidelines) in both the original and duplicate samples.

Results of quality assurance calculations (i.e., matrix spike, spiked blank, method blank and relative percent difference (RPD) calculations) for the laboratory duplicated sample are presented in the laboratory analytical reports provided in Appendix D. The overall quality control was considered to meet acceptability criteria.

Table 3.3 Summary of QA/QC Sampling for Field Duplicate NFGC-20-64A

| Sample Media Type | Analysis | Range of %RPD | No. of parameters within RPD | Acceptable Duplicate Correlation |
|-------------------|----------------------|--------------------------------|------------------------------|----------------------------------|
| Groundwater | Inorganic Parameters | 0.37% to 135.5%; Average 17.3% | 15 of 18 | Yes |
| | Dissolved Metals | 0% to 52.8%; Average 22.6% | 5 of 6 | Yes |

3.2.5 Groundwater Quality Assessment Criteria

Analytical results for groundwater samples were compared to the Atlantic Risk Based Corrective Action (ARBCA) Ecological Tier I Environmental Quality Standards (ESQ) for Groundwater (ARBCA, 2021). Results were also compared to the Guidelines for Canadian Drinking Water Quality (GCDWQ) for the protection of human health (Health Canada, 2020). Note that groundwater analytical results collected as part of this current program cannot be directly compared to the GCDWQ values since these guidelines have specific sampling requirements related to water use (i.e., non-filtered metals) that are not generally adopted for groundwater sampling. However, these guidelines are nonetheless useful for relative comparison of groundwater quality in the Study Area.

A second set of ARBCA guidelines (Human Health Based Tier I EQS for Groundwater – Potable Groundwater Condition (ARBCA, 2021a)) were used for comparison in instances when there was no GCDWG standard for a given parameter, but where one existed in the ARBCA guidance (specifically for metals beryllium, cobalt, molybdenum, nickel, silver, thallium and vanadium).

4.0 RESULTS AND PRELIMINARY HYDROGEOLOGICAL CHARACTERIZATION

4.1 Groundwater Flow Conditions

4.1.1 Hydrostratigraphy

According to the regional hydrogeology study by AMEC (2013), the Study Area is underlain by an unconfined bedrock aquifer system comprising moderately metamorphosed sedimentary rocks (sandstone, siltstone, conglomerate, argillite, and greywacke) referred to as regional Bedrock Hydrostratigraphic Unit 2. Exploration borehole logs provided by NFG indicate that local geology

in the Study Area mainly comprises siltstone, sandstone and greywacke that is variably fractured and faulted. The hydraulic conductivity and movement of groundwater within these rocks is expected to mainly occur within secondary openings (fractures, joints, faults) and will vary depending on the frequency and interconnection of these structural discontinuities.

Based on a total of 1,403 published well records provided in AMEC (2013), Unit 2 is characterized by low to moderate well yields ranging from 0.1 L/min to 491 L/min, with a median value of 7 L/min and average of 20 L/min. Well depths supporting such yields range from 6.6 to 219 m, with an average depth of 51 m. Results of aquifer testing completed on 110 wells in Unit 2 support the average yield estimate from driller's air lift testing indicating an average estimated yield of 23 L/min with a range of 0.5 to 273 L/min. A total of 27 of the water well records defining the hydrogeological characteristics of Unit 2 are in the towns of Appleton and Glenwood.

4.1.2 Groundwater Levels and Piezometric Contours

Based on a survey of existing exploration boreholes, groundwater levels in the Study Area are generally within 10 m of ground surface. Water levels measured in existing exploration boreholes during the August 2021 site visit are tabulated in Appendix B. The depth to groundwater ranged from -0.28 mbgs (artesian – water level above ground surface) in the Keats area to 10.03 mbgs in the Knob area. These water levels were used to derive the groundwater (piezometric) contours for the Keats area and to establish overall groundwater flow directions for the other prospect areas, as shown on Figure 5 (Appendix A). Note that water level measurements were collected from exploration boreholes. As these boreholes were not developed or flushed (to remove fines and/or fluids used during drilling) for the purposes of collecting hydrogeological data, piezometric contours and triangulated flow directions should not be relied upon apart from discerning very general trends in groundwater flow direction. In addition, the surveyed boreholes are open hole constructed over their entire depth and as a result measured water levels may not truly reflect water table conditions, but rather may be influenced by a vertical component of flow or confining conditions present a depth in the bedrock. This may be the case for a number of boreholes surveyed at Keats, where artesian conditions were observed in five exploration boreholes (NFGC-21-270, NFGC-21-265AA, NFGC-21-265A, NFGC-21-248 and NFGC-263) (shown in Figure 5 in Appendix A).

Long-term monitoring of groundwater levels is currently being carried out in seven exploration boreholes in the Knob, Keats, Cokes, Golden Joint, Lotto, Pocket Pond, and 1744 prospect areas utilizing data loggers installed in December 2021. To date the data loggers have collected approximately one-year's worth of continuous groundwater level measurements. It is planned that data will be retrieved from these loggers during GEMTEC's next site visit, scheduled for Winter 2023, and will be used to assess seasonal groundwater level fluctuations in the Study Area.

4.1.3 Groundwater Flow Directions

Based on the piezometric contours and flow directions in Figure 5 (Appendix A), local (shallow) groundwater flow in the prospect areas is inferred to mimic local topography and surface water run-off patterns and travel along short flow paths from areas of recharge along local ridges to areas of discharge along adjacent valley surface water features, including Gander Lake and Gander River. Given the similarity in topography, it is expected that this shallow groundwater flow regime is characteristic of the entire Study Area. The shallow groundwater system is largely controlled by surface runoff and local recharge, while at moderate depths the flow system may be influenced by lateral inflow of groundwater from up-gradient areas to the south. Based on its physiographic setting, the Study Area is inferred to be situated in a regional groundwater discharge area with overall deeper groundwater flow northeast towards the coast.

Based on the results of this preliminary hydrogeological investigation, GEMTEC expects that the bordering Outflow area from Gander Lake which includes the location of the public water supply intake will be an area of discharge for shallow groundwater flowing from the Project's Knob prospect area. Further, while the directions of shallow groundwater flow determined for the Keats and Cokes prospect areas indicate flows towards a common north-east-trending surface water feature that discharges outside the protected water supply area along the lower section of the Gander River to the north, it is possible that portions of these two prospect areas situated southwest of the regional surface water (and inferred groundwater flow divide) may have groundwater flow to the southwest towards the Outflow and public water supply intake area. We expect that shallow groundwater flow in the other prospect areas, including Golden Joint, Dome, Lotto, Pocket Pond and 1744 will ultimately discharge outside of the protected water supply area in lower sections of the Gander River to the north.

4.1.4 Hydraulic Conductivity

Analysis of the pumping test data was performed using a variety of methods applicable for confined/unconfined aquifers, including the Theis, Cooper-Jacob, and Theis Recovery methods with the aid of the computer program AQTESOLV® (HydroSOLVE Inc., 2007). AQTESOLV® analysis reports for the pumping tests including curve fits for both the drawdown and recovery portion of the tests are presented in Appendix F. Estimates of aquifer hydraulic conductivity (K) were made using drawdown and recovery data and the estimates of apparent transmissivity obtained from AQTESOLV® analysis. A summary of results is presented in Table 4.1 and further discussed below.

The hydraulic conductivity estimated from these methods represent the bulk K for the entire open saturated section (below the surface casing depth) of a given borehole. Bulk hydraulic conductivity estimates represent the average response over the depth of the borehole and hydraulic conductivities may vary widely with depth within a single borehole, depending on the level of weathering, geological history, and the presence of different geological units and structural features such as faults, fractures, and joints.

Importantly, the hydraulic conductivity values reported here were calculated using data from existing exploration boreholes. As noted above, these boreholes were not constructed for the purposes of collecting hydrogeological data and were not developed to remove residual drill cuttings (and possibly drilling muds) prior to use. Such residual fines can form a surface cake around the borehole wall, altering the hydraulic properties and reducing the apparent hydraulic conductivity of bedrock adjacent to the borehole (skin effect). In addition, the tested boreholes are over 100 m long and have substantial borehole storage volumes which affect the interpretation of hydraulic pumping tests. As a result, we expect that the calculated hydraulic conductivity values are semi-quantitative (at best) and may not meaningfully represent the rock mass hydraulic conductivities in the tested prospect area.

Preliminary bulk estimates of K in bedrock in the Study Area were obtained from four existing exploration boreholes in the Keats, Lotto, Pocket Pond and 1744 prospect areas. Each exploration borehole was pumped at variable rates ranging from 0.25 L/min to 4.50 L/min and averaging 0.92 L/min for approximately 45 minutes or until the water level had drawn down to the pump intake (NFGC-21-110). Borehole NFGC-21-110 had a vertical saturated length of 128 m and a drawdown of 3.2 m was achieved through pumping. Borehole NFGC-21-129 had a vertical saturated length of 113 m and displayed a drawdown of 2.85 m. Boreholes NFGC-21-167 and NFGC-21-261 had saturated lengths of 161 m and 158 m, respectively, and returned drawdowns of 2.4 m and 2.6 m, respectively.

The apparent transmissivity (T) of the aquifer, computed from the Theis (1935) and Cooper-Jacob (1946) analysis of the drawdown versus time data, and from the Theis (1935) analysis of the recovery test data were generally in agreement in all boreholes, with all analysis methods returning the same T value for borehole NFGC-21-167, and all analysis methods returning T values differing by only a factor of 2 for the other tested boreholes.

Table 4.1 Summary of Hydraulic Conductivity Analyses

| Borehole ID | Prospect Area | Major Lithology | Short Term Pumping Test | | | | | |
|--------------------------------------|---------------|---|-------------------------|--------------------------------------|---|--------------------------------|---------------------------|-----------------|
| | | | Test Date | Transmissivity T (m ² /s) | Assumed Aquifer Thickness b (borehole length_vert; m) | Hydraulic Conductivity K (m/s) | Maximum Test Drawdown (m) | Analysis Method |
| NFGC-21-110 | Lotto | Siltstone / Quartz-Vein Zones | 12/04/2021 | 3.55E-07 | 127.86 | 2.78E-09 | 3.2 | Theis |
| | | | | 5.98E-07 | | 4.68E-09 | | Cooper-Jacob |
| | | | | 2.70E-07 | | 2.11E-09 | | Theis Recovery |
| | | | | Geomean K (m/s) | | 3.02E-09 | | |
| NFGC-21-129 | Keats | Siltstone / Greywacke / Quartz-Vein Zones | 12/04/2021 | 1.23E-06 | 113.45 | 1.08E-08 | 2.85 | Theis |
| | | | | 2.31E-06 | | 2.04E-08 | | Cooper-Jacob |
| | | | | 1.10E-06 | | 9.70E-09 | | Theis Recovery |
| | | | | Geomean K (m/s) | | 1.29E-08 | | |
| NFGC-21-167 | 1744 | Graphitic Siltstone | 12/04/2021 | 1.17E-06 | 160.92 | 7.27E-09 | 2.38 | Theis |
| | | | | 1.17E-06 | | 7.27E-09 | | Cooper-Jacob |
| | | | | 1.17E-06 | | 7.27E-09 | | Theis Recovery |
| | | | | Geomean K (m/s) | | 7.27E-09 | | |
| NFGC-21-261 | Pocket Pond | Graphitic Siltstone | 12/04/2021 | 7.43E-07 | 158.34 | 4.69E-09 | 2.55 | Theis |
| | | | | 1.24E-06 | | 7.83E-09 | | Cooper-Jacob |
| | | | | 5.77E-07 | | 3.64E-09 | | Theis Recovery |
| | | | | Geomean K (m/s) | | 5.12E-09 | | |
| Geomean K – All Tests (m/sec) | | | | | | 6.17E-09 | | |

Using the relationship that $T = bK$, the T values obtained from pumping test analyses were divided by the saturated aquifer thickness “b” (assuming unconfined conditions and that “b” equals the height of the static water column in the borehole) to obtain a value for K. Note this T/b approach assumes a fully-penetrating well in one discrete hydrostratigraphic unit, which is not the case for the Study Area boreholes; a number of which intercept multiple rock types and may not fully penetrate the bedrock aquifer. The calculated geomean K values for the boreholes span approximately one order of magnitude, ranging from 3.0E-09 m/s in borehole NFGC-21-110 (Lotto) to 1.3E-08 m/s in borehole NFGC-21-129 (Keats). The current K data set is not considered sufficient to confidently define separate hydraulic conductivity estimates based on bedrock type and depth in the Study Area. Because of this, the geomean of all the single borehole hydraulic response data collected as part of the current program was used to represent an average K for the bulk stratigraphy. The overall geomean K determined for the Study Area is 6.2E-09 m/s.

In general, the K values determined for the bedrock in the Study Area were within the typical range of values in the literature for fractured/unfractured bedrock types (e.g., Domenico and Schwartz, 1990).

There were no observation hole data collected during the pumping tests, so valid storativity values could not be computed. However, the storativity would be expected to be in the range of 0.1 to 0.3, which are typical values for most unconfined aquifers (Lohman, 1972).

4.2 Groundwater Quality

4.2.1 Field Measurements and Analytical Results

Field parameters measured during the August 2021 sampling program are presented in Table 4.2. Analytical results for inorganic parameters, dissolved metals and petroleum hydrocarbons in groundwater samples collected from the exploration boreholes are presented in Tables C.1, C.2 and C.3 in Appendix C, respectively. Laboratory certificates of analysis are included in Appendix D.

Table 4.2 Field Parameter Measurements at Time of Sampling

| Borehole ID | Date | Temperature (°C) | Dissolved Oxygen (%) | Specific Conductance (µS/cm) | pH (unitless) | ORP (mV) |
|--|--------------------|-------------------|----------------------|------------------------------|------------------------|----------|
| Guideline | ARBCA ¹ | - | - | - | 6.5-9.0 | - |
| | GCDWQ ² | <15 ^{AO} | - | - | 7.0-10.5 ^{OG} | - |
| NFGC-21-180 | 8/25/2021 | 12.4 | NA | 94.1 | 9.07 | -2.6 |
| NFGC-21-261 | 8/25/2021 | 9.1 | NA | 153.9 | 8.06 | -276.2 |
| NFGC-21-280 | 8/26/2021 | 11.5 | NA | 262.6 | 8.42 | -314.5 |
| NFGC-20-64 | 8/26/2021 | 10.1 | NA | 149.4 | 8.21 | -301.7 |
| NFGC-20-64A | 8/26/2021 | 10.1 | NA | 149.4 | 8.21 | -301.7 |
| NFGC-21-156 | 8/26/2021 | 12.5 | 0.7 | 180.0 | 7.59 | -287.6 |
| NFGC-21-209 | 8/27/2021 | 10.9 | NA | 121.5 | 6.21 | -36.8 |
| NFGC-21-110 | 8/27/2021 | 10.1 | 16.9 | 133.4 | 6.71 | 29.3 |
| ¹ Atlantic Risk Based Corrective Action (ARBCA) Ecological Tier 1 Guidelines for Groundwater (more than 10 meters from surface water and discharging to fresh water) (July 2021) ² Health Canada Guidelines for Canadian Drinking Water Quality (June 2020); AO -Aesthetic Objective, OG – Operational Guideline NA – measurement not available; sensor error – reported negative value °C = Degrees Celsius mg/L = milligrams per litre µS/cm = microsiemens per centimeter mV = millivolts | | | | | | |
| Results that exceed the ARBCA guideline or a health-based GCDWQ are bolded and shaded | | | | | | |

4.2.2 Groundwater Classification

Groundwater in the seven exploration holes is generally classified as being predominantly calcium bicarbonate type water (see Piper Plot in Appendix C). The samples collected from NFGC-21-261 (Pocket Pond) and NFGC-21-280 (Cokes) are classified as mixed sodium bicarbonate – sodium chloride type water. Hardness ranged from soft to moderately hard (23.8 to 94.5 mg/L as CaCO₃). The dominant water type, relatively low total dissolved solids and electrical conductivity results indicate that the groundwater in the Study Area is principally meteoric water that has infiltrated and flowed in shallow, short flow paths to the boreholes. This is consistent with the ridge and valley setting of the Study area. The pH indicates groundwater that is generally near-neutral to slightly basic (6.21 to 8.36).

4.2.3 Comparison to Screening Criteria

Field measurements indicated that pH in NFGC-21-180 is above the ARBCA guideline. However, analytical pH results from this borehole did not indicate an exceedance of the ARBCA guideline.

Turbidity exceeded the GCDWQ in all boreholes, and true color exceeded the GCDWQ in NFGC-20-64A. Turbidity and true color are associated with suspended sediment; elevated levels are common in exploration boreholes that are not sufficiently flushed or developed to remove residual drill cuttings and drilling muds. It should also be noted that the guidelines for turbidity and true color are operational/aesthetic guidelines and are not health-based.

Fluoride exceeded both the ARBCA and GCDWQ guidelines in NFGC-21-180. Fluoride is known to occur naturally in groundwater due to leaching of inorganic fluoride-containing minerals from bedrock (CCME, 2002).

Several dissolved metal exceedances of the ARBCA guidelines and GCDWQ were noted during this study:

- Aluminum exceeded the ARBCA guideline in NFGC-21-261, NFGC-21-280 and NFGC-21-209.
- Arsenic exceeded the GCDWQ in NFGC-21-156, NFGC-20-64 and its duplicate NFGC-20-64A.
- Cobalt exceeded the ARBCA and GCDWQ guidelines for NFGC-21-110.
- Iron exceeded the GCDWQ in NFGC-21-261, NFGC-21-280, NFGC-21-156, NFGC-21-209, NFGC-20-64 and its duplicate NFGC-20-64A. Iron also exceeded the ARBCA in NFGC-21-156 and NFGC-21-209.
- Manganese exceeded both the health-based and aesthetics-based GCDWQ in NFGC-21-261, NFGC-21-156, NFGC-21-209, NFGC-21-110, NFGC-20-64 and its duplicate NFGC-20-64A. Manganese levels were below the health-based GCDWQ in NFGC-21-180 but exceeded the aesthetic objective.

Note GCDWQ are intended to be applied to potable water samples, which are typically either applied to a raw water sample to determine treatment requirements, or to a treated sample to confirm the treatment has been effective. Groundwater samples collected as part of the current program cannot be directly compared to the GCDWQ since the groundwater samples were filtered. However, these guidelines can nonetheless be used for relative comparison purposes to characterize groundwater quality in the Study Area.

Petroleum hydrocarbons (TPH and BTEX) were either not detected above the laboratory reportable detection limit or were identified at concentrations below guidelines. Note low concentrations of toluene were detected in NFGC-21-180 and NFGC-21-261, and various petroleum hydrocarbon fractions were detected in samples NFGC-21-261, NFGC-20-64 and its duplicate, and NFGC-21-156. The laboratory analytical report indicated that the hydrocarbon material in these samples had no petrogenic resemblance, and we therefore interpret reported hydrocarbon concentrations to be due to organic interference possibly associated with formation of biofilm along the walls of the borehole.

5.0 INFORMATION GAPS & RECOMMENDATIONS

This study provides a preliminary overview of hydrogeological conditions in the Study Area but is limited to sparse site-specific data collected from pre-existing exploration boreholes. The following information gaps have been identified relating to our understanding of baseline conditions for groundwater quality and quantity in the Study Area, the evaluation of groundwater interactions associated with a potential future mine development Project (e.g., eventual pit dewatering and on-site groundwater supply), and how the Project might interact with the natural hydrogeological and hydrological systems in the area.

Information gaps are provided below along with recommended field programs to address those gaps:

- Reliable hydraulic conductivity values for overburden and bedrock underlying the site; useful to estimate open pit seepage, groundwater velocities, and on-site groundwater supply potential; obtained through slug tests, pumping tests and/or packer injection tests; useful to evaluate the influence of different rock types or structures on groundwater flow and pit design;
- Site-wide and seasonal groundwater level variations; required to determine groundwater flow directions and hydraulic gradients with greater confidence; obtained through water level surveys of existing exploration boreholes, as well as purpose-built hydrogeological monitoring wells, with water level data loggers installed at select locations to collect temporal data;
- Interactions between groundwater and surface water in the vicinity of the open pit mine and greater Project mine development areas; important to assess potential effects of pit dewatering or other groundwater extraction on nearby surface water bodies, including the adjacent potable water supply source; obtained through integrated hydrology/hydrogeology investigations;
- Groundwater quality in both shallow and deeper groundwater systems; obtained from purpose-built monitoring wells or water supply wells, with groundwater sampling at various depths and in different rock types, chemical analysis for various water quality parameters, including general chemistry and metals.

The usual method of assessing baseline hydrogeology is to install a series of monitoring wells at strategic locations within a Project area, supplemented with collection of hydrogeological data from existing exploration boreholes. The groundwater monitoring wells can be installed independently or installed concurrent with any geotechnical investigations at the various Project components and can be used for baseline as well as compliance monitoring of groundwater conditions in the vicinity of the pit, and ore and waste rock stockpile areas and other mine components (such as fuel storage facilities) as the Project advances through development and into operation.

GEMTEC provided NFG with a Proposal for 2023 Baseline Studies for the Queensway North Project (dated November 30, 2022) that includes a proposed scope of work and associated costing for a baseline hydrogeological field investigation comprising installation of groundwater monitoring wells and associated hydrogeological testing as described above. This work is expected to be completed in the upcoming 2023 field season and will build upon the hydrogeological data collected as part of the current study to develop a more representative and accurate conceptual hydrogeology model for the Project.

6.0 CLOSURE

This report has been prepared for the sole benefit of our client, New Found Gold Corporation. The report may not be relied upon by any other person or entity without the express written consent of GEMTEC Consulting Engineers and Scientist Limited and our client, New Found Gold Corporation.

Any use that a third party makes of this report, or any reliance or decisions made based on it, is the responsibility of such third parties. GEMTEC Consulting Engineers and Scientist Limited accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

The conclusions presented represent the best technical judgment of GEMTEC Consulting Engineers and Scientist Limited based on current engineering and scientific practices and the methods described here at the time the work was performed. The conclusions are based on the site conditions encountered at the time the work was performed at the sampling/testing locations and can only be extrapolated to an undefined limited area around these locations. Should additional information become available, GEMTEC Consulting Engineers and Scientist Limited requests that this information be brought to our attention so that we may re-assess the conclusions presented herein.

We trust this report provides sufficient information for your present purposes. This report was prepared by Candice Williams, P.Eng, and reviewed by Carolyn Anstey-Moore, P.Geo. on behalf of GEMTEC Consulting Engineers and Scientists Limited. If you have any questions concerning this report, please do not hesitate to contact the undersigned.

Respectfully submitted,

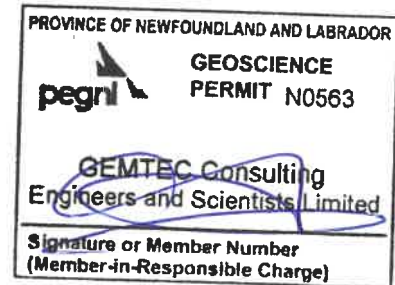
GEMTEC Consulting Engineers and Scientist Limited



Candice Williams, P.Eng
Geological Engineer



Carolyn Anstey-Moore, M.Sc., M.A.Sc., P.Geo
Senior Environmental Geoscientist



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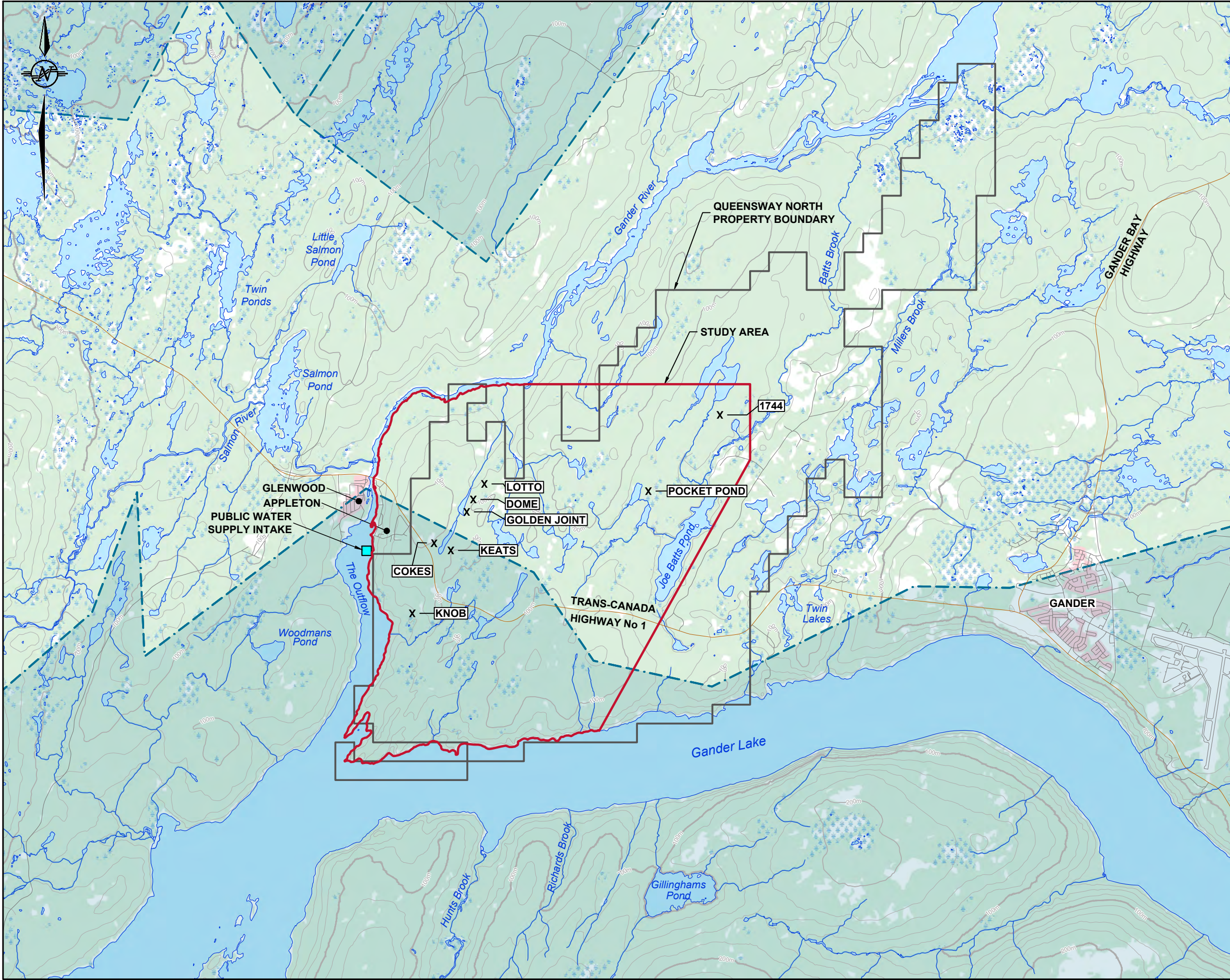
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APPENDIX A

Figures

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Legend

| | |
|--|-----------------------------------|
| | PUBLIC WATER SUPPLY INTAKE |
| | HIGHWAY |
| | LOCAL STREET |
| | WATERCOURSE |
| | GROUND CONTOUR, 20m |
| | WATERBODY |
| | QUEENSWAY NORTH PROPERTY BOUNDARY |
| | STUDY AREA |
| | PUBLIC WATER SUPPLY AREAS |

- General Notes
1. Coordinate system: NAD83(CSRS) / UTM zone 21N.
 2. Geographic dataset source: CanVec series, Natural Resources Canada.
 3. Contains information licensed under the Open Government Licence.
 4. Public water supply information obtained from the provincial online Water Resources Portal (accessed December 2022).

| | | | | | |
|------|---------------|---------|-----|------------|----|
| Date | DECEMBER 2022 | Draw by | CHG | Checked by | CW |
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Client
NEWFOUND GOLD CORP.

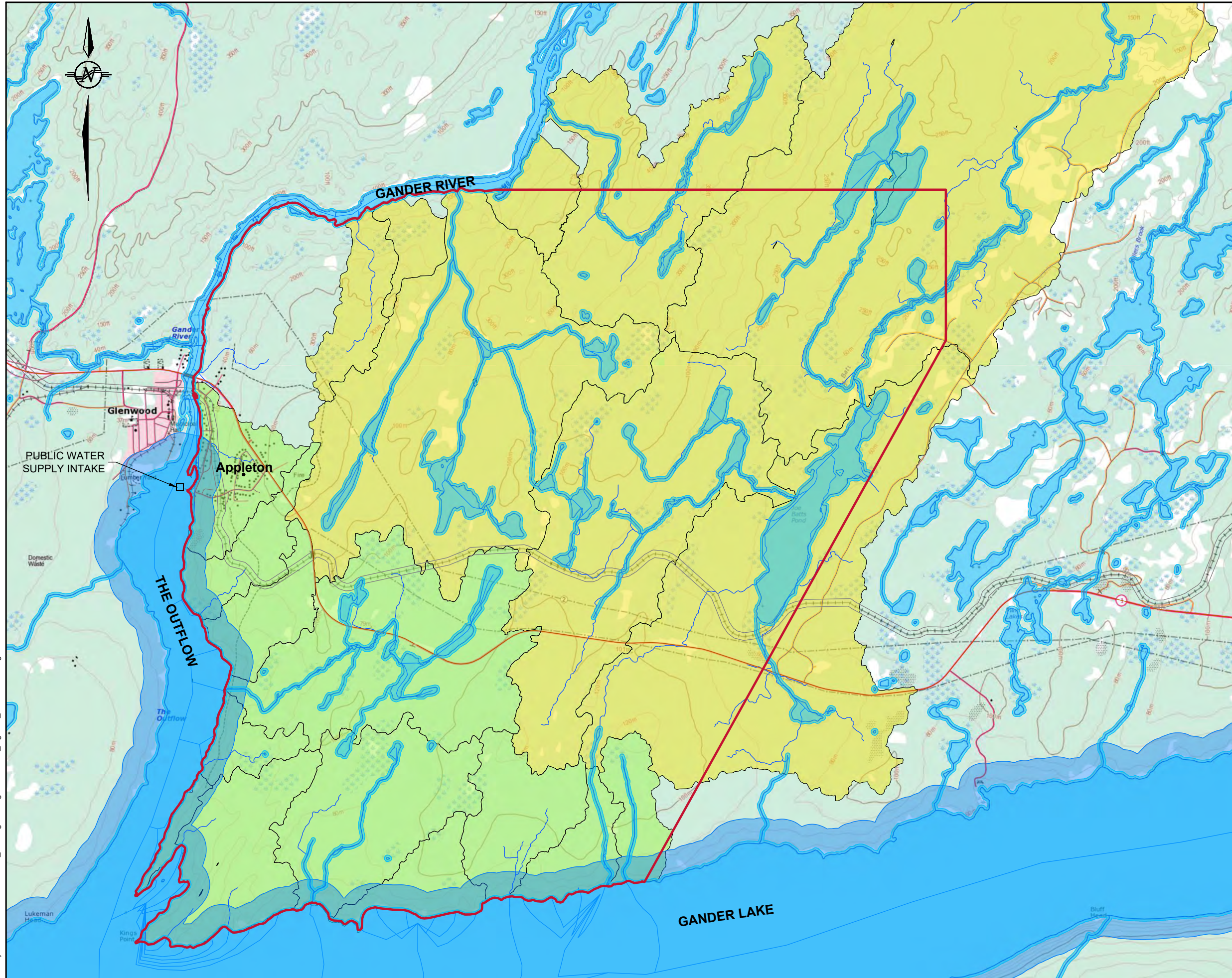
Project
PRELIMINARY
BASELINE HYDROGEOLOGY STUDY,
NEW FOUND GOLD CORP.
QUEENSWAY NORTH PROJECT,
APPLETON, NL

Drawing
REGIONAL PROJECT LOCATION PLAN



| | | | | | |
|-------------|------------|-------------|----------|----------|---|
| Project No. | 100424.001 | Drawing No. | FIGURE 1 | Rev. No. | 0 |
|-------------|------------|-------------|----------|----------|---|





Legend

- PUBLIC WATER SUPPLY INTAKE
- HIGHWAY
- LOCAL STREET
- WATERCOURSE
- WATERBODY
- QUEENSWAY NORTH PROPERTY BOUNDARY
- STUDY AREA
- PUBLIC WATER SUPPLY AREAS
- CATCHMENT AREAS
- DRAINAGE TO GANDER RIVER
- DRAINAGE TO GANDERLAKE/THE OUTFLOW

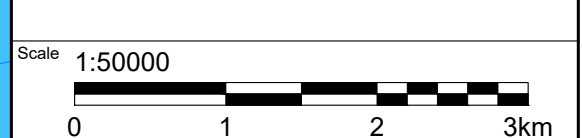
- General Notes**
1. Coordinate system: NAD83(CSRS) / UTM zone 21N.
 2. Geographic dataset source: CanVec series, Natural Resources Canada.
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| Date | DECEMBER 2022 | Draw by | TLR | Checked by | CW |
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Client: **NEWFOUND GOLD CORP.**

Project: **PRELIMINARY
BASELINE HYDROGEOLOGY STUDY,
NEW FOUND GOLD CORP.
QUEENSWAY NORTH PROJECT,
APPLETON, NL**

Drawing: **PROJECT WATERSHED MAPPING**



| | | |
|---------------------------|-------------------------|---------------|
| Project No. 100424.001 | Drawing No. FIGURE 2 | Rev. No. 0 |
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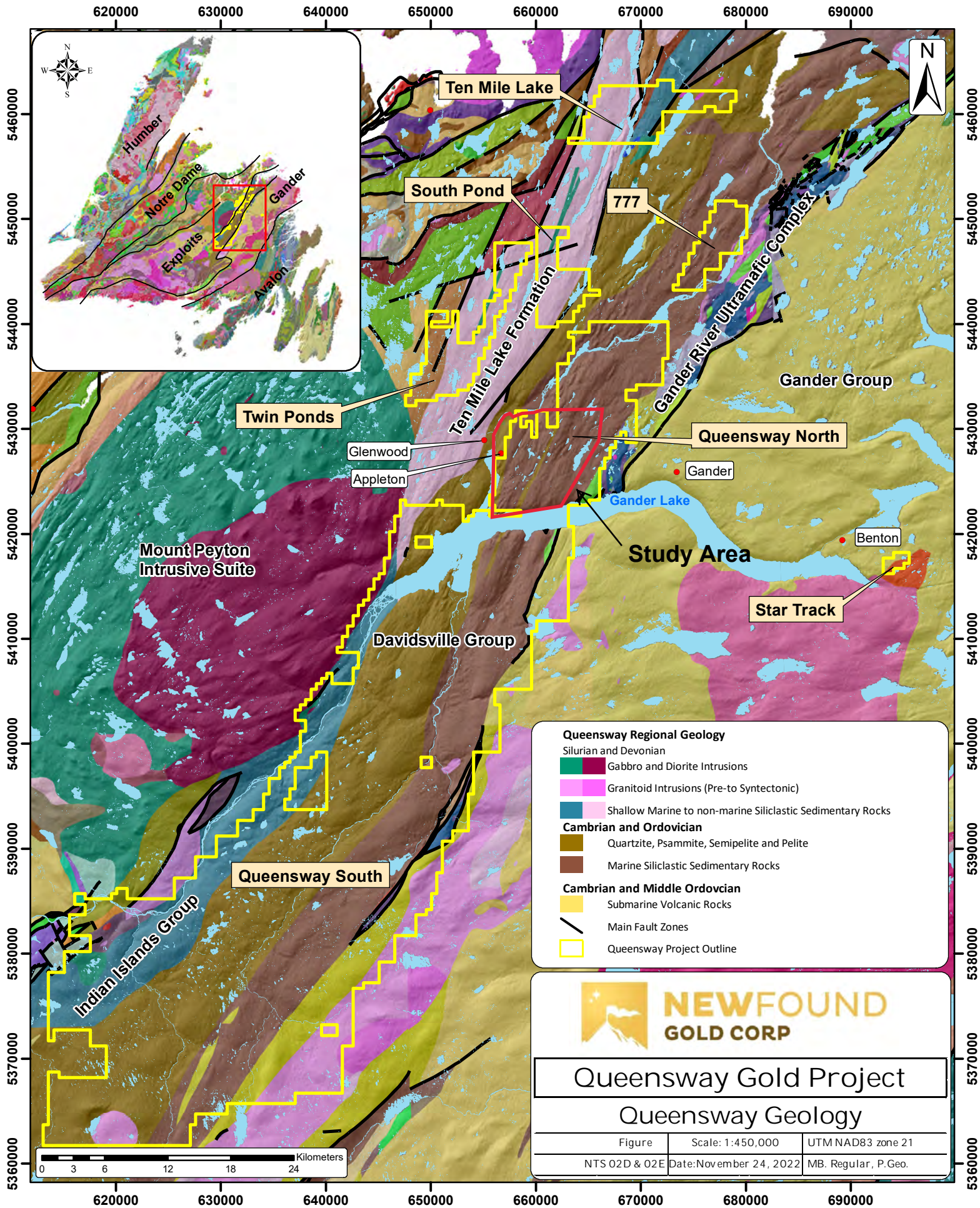
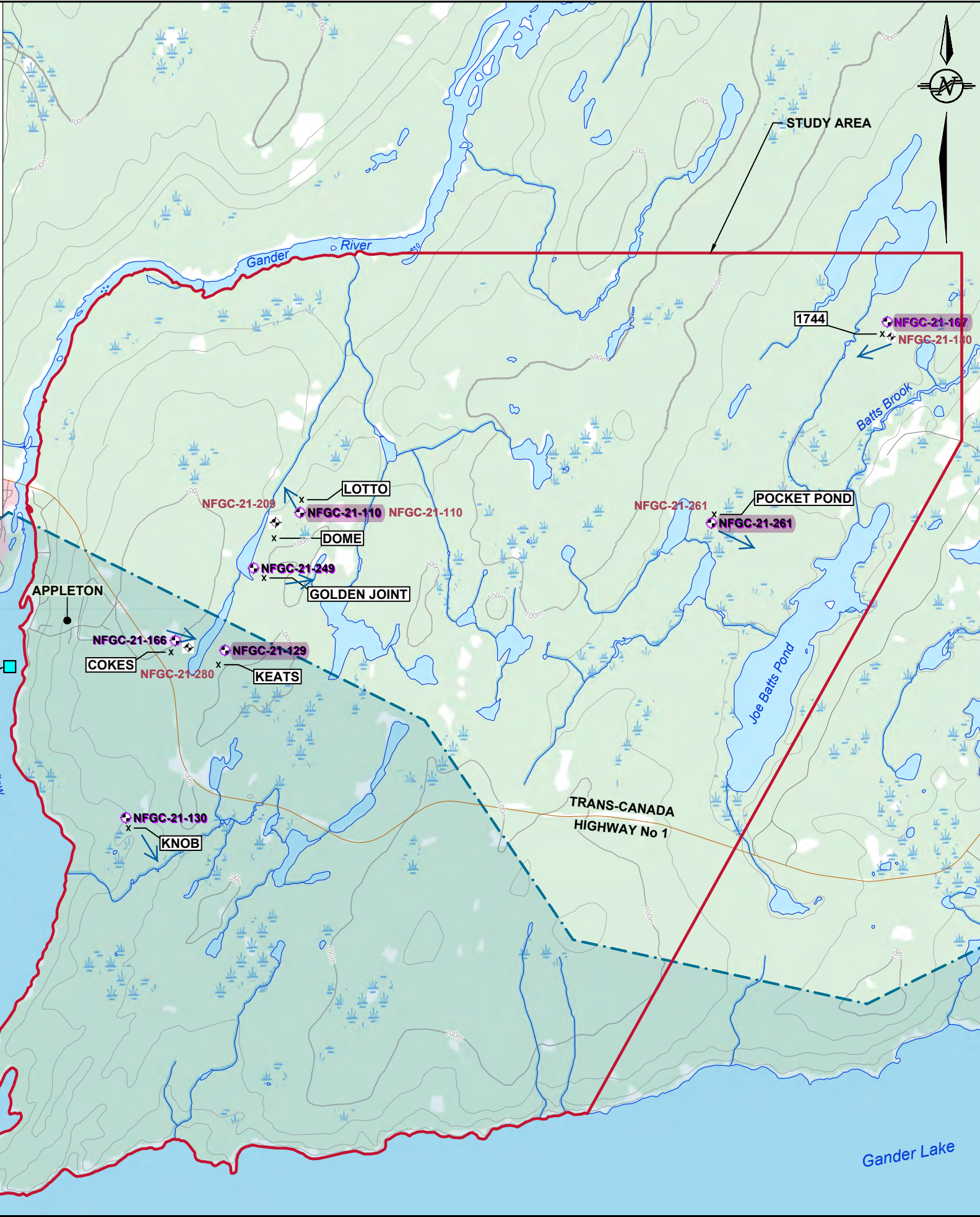
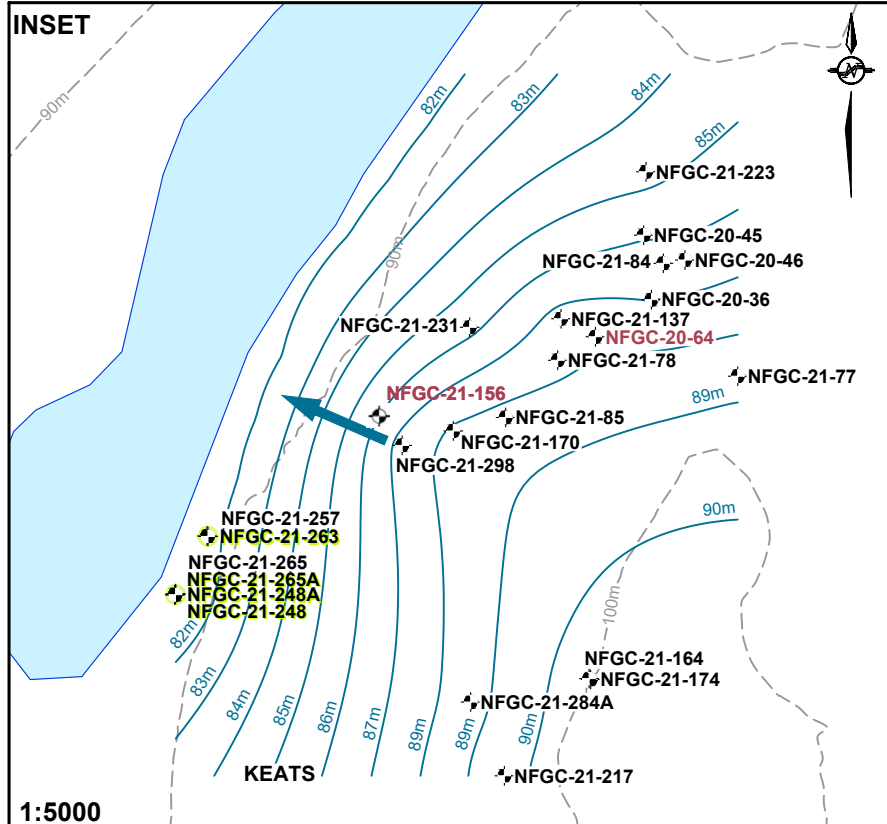


Figure 4 Bedrock Geology in the Queensway Gold Project area (prepared by NFG)



Legend

- NFGC-21-XXX BOREHOLE - WATER SAMPLING
- NFGC-21-XXX BOREHOLES WITH ARTESIAN WATER LEVELS
- NFGC-21-XXX BOREHOLE WITH LONG TERM LOGGERS (PUMPING TEST LOCATION HIGHLIGHTED)
- GROUNDWATER FLOW DIRECTION
- 90.0m LIDAR GROUND CONTOUR, 10m
- 90m GROUND CONTOUR, 20m
- 90m GROUNDWATER CONTOUR
- HIGHWAY
- LOCAL STREET
- WATERCOURSE
- WATERBODY
- STUDY AREA

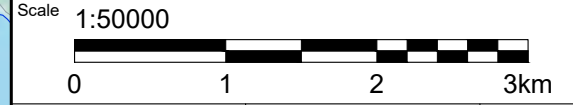
- General Notes**
- Coordinate system: NAD83(CSRS) / UTM zone 21N.
 - Geographic dataset source: CanVec series, Natural Resources Canada.
 - Contains information licensed under the Open Government Licence.
 - LiDAR data source: New Found Gold LiDAR.

| | | | | | |
|------|---------------|---------|-----|------------|----|
| Date | DECEMBER 2022 | Draw by | CHG | Checked by | CW |
|------|---------------|---------|-----|------------|----|

Client
NEWFOUND GOLD CORP.

Project
PRELIMINARY
BASELINE HYDROGEOLOGY STUDY,
NEW FOUND GOLD CORP.
QUEENSWAY NORTH PROJECT,
APPLETON, NL

Drawing
GROUNDWATER FLOW DIRECTIONS IN
THE STUDY AREA



| | | | | | |
|-------------|------------|-------------|----------|----------|---|
| Project No. | 100424.001 | Drawing No. | FIGURE 5 | Rev. No. | 0 |
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APPENDIX B

Tables

Table B.1 - Water Level Survey (August and December 2021)

| DDH ID | Coordinates | | | DDH Dip (°) | Vertical Depth (m) | Measurement Date | Stick-Up (m vertical) | Water Level (mbgs vertical) | Water Level (masl) | Prospect Area | Notes |
|--------------|-------------|--------------|------------------|-------------|--------------------|------------------|-----------------------|-----------------------------|--------------------|---------------|--|
| | Easting (m) | Northing (m) | Elevation (masl) | | | | | | | | |
| NFGC-20-36 | 658244.791 | 5427466.324 | 87.644 | 45 | 106.07 | 8/24/2021 | 0.14 | 0.67 | 86.97 | Keats | |
| NFGC-20-39 | 658884.481 | 5429155.945 | 80.895 | 45 | 115.97 | 8/23/2021 | 0.06 | 0.96 | 79.94 | Lotto | |
| NFGC-20-45 | 658239.693 | 5427508.996 | 86.502 | 45 | 115.97 | 8/24/2021 | 0.09 | 0.58 | 85.92 | Keats | Running drill fluid nearby DDH |
| NFGC-20-46 | 658266.985 | 5427492.557 | 87.095 | 45 | 119.50 | 8/24/2021 | 0.33 | 0.78 | 86.32 | Keats | |
| NFGC-20-64 | 658207.767 | 5427441.782 | 87.763 | 45 | 106.07 | 8/26/2021 | 0.12 | 0.02 | 87.75 | Keats | |
| NFGC-20-66 | 658739.149 | 5428664.938 | 90.329 | 45 | 120.92 | 8/23/2021 | 0.71 | 1.98 | 88.35 | Dome | |
| NFGC-20-68 | 658739.652 | 5428664.640 | 90.234 | 60 | 200.05 | 8/23/2021 | 0.06 | 1.93 | 88.30 | Dome | |
| NFGC-21-77 | 658301.893 | 5427415.725 | 90.610 | 45 | 218.18 | 8/24/2021 | 0.07 | 1.89 | 88.72 | Keats | |
| NFGC-21-78 | 658182.869 | 5427426.266 | 87.932 | 45 | 118.79 | 8/23/2021 | 0.17 | 0.28 | 87.66 | Keats | |
| NFGC-21-84 | 658252.671 | 5427490.350 | 86.941 | 45 | 120.21 | 8/24/2021 | 0.45 | 0.54 | 86.41 | Keats | |
| NFGC-21-85 | 658148.375 | 5427388.434 | 89.158 | 45 | 111.30 | 8/23/2021 | 0.00 | 0.88 | 88.28 | Keats | |
| NFGC-21-110 | 658999.079 | 5428946.414 | 89.796 | 45 | 129.44 | 8/27/2021 | 0.23 | 1.64 | 88.16 | Lotto | |
| | | | | | | 12/4/2021 | 0.28 | 0.74 | 89.06 | | |
| NFGC-21-129 | 658197.875 | 5427475.370 | 87.305 | 45 | 114.02 | 8/23/2021 | 0.32 | 0.65 | 86.66 | Keats | |
| | | | | | | 12/4/2021 | 0.33 | 0.10 | 87.21 | | |
| NFGC-21-130 | 657138.701 | 5425687.170 | 55.322 | 45 | 121.41 | 8/26/2021 | 0.51 | 3.03 | 52.29 | Knob | |
| NFGC-21-137 | 658185.033 | 5427453.721 | 87.876 | 45 | 107.48 | 8/23/2021 | 0.50 | 0.51 | 87.37 | Keats | |
| NFGC-21-142 | 657138.340 | 5425717.238 | 53.854 | 45 | 154.15 | 8/26/2021 | 0.07 | 2.37 | 51.48 | Knob | |
| NFGC-21-147 | 657075.384 | 5425582.535 | 54.337 | 45 | 169.14 | 8/26/2021 | 0.38 | 4.57 | 49.77 | Knob | |
| NFGC-21-152 | 657075.893 | 5425582.293 | 54.359 | 60 | 196.59 | 8/26/2021 | 0.32 | 8.65 | 45.71 | Knob | |
| NFGC-21-156 | 658069.358 | 5427404.910 | 86.991 | 45 | 194.45 | 8/26/2021 | 0.28 | 1.49 | 85.50 | Keats | |
| NFGC-21-157 | 657641.991 | 5427535.439 | 93.659 | 45 | 116.67 | 8/24/2021 | 0.84 | 3.44 | 90.22 | Cokes | |
| NFGC-21-162 | 657617.445 | 5427550.505 | 95.938 | 45 | 106.07 | 8/24/2021 | 0.15 | 5.44 | 90.49 | Cokes | Uncovered well |
| NFGC-21-164 | 658203.580 | 5427215.703 | 92.017 | 45 | 203.65 | 8/24/2021 | 0.00 | 1.34 | 90.67 | Keats | |
| NFGC-21-166 | 657668.210 | 5427579.113 | 93.136 | 45 | 112.85 | 8/24/2021 | 0.97 | 4.00 | 89.13 | Cokes | |
| NFGC-21-167 | 665274.276 | 5430982.429 | 60.846 | 45 | 162.63 | 12/4/2021 | 0.44 | 1.68 | 59.16 | 1744 | |
| NFGC-21-170 | 658113.731 | 5427379.475 | 89.249 | 45 | 120.92 | 8/23/2021 | 0.52 | 1.10 | 88.15 | Keats | |
| NFGC-21-174 | 658204.595 | 5427215.135 | 92.110 | 45 | 258.80 | 8/24/2021 | 0.16 | 1.55 | 90.56 | Keats | |
| NFGC-21-179 | 665363.710 | 5430988.136 | 62.066 | 45 | 179.61 | 8/25/2021 | 0.00 | 3.22 | 58.84 | 1744 | |
| NFGC-21-180 | 665203.845 | 5430849.626 | 59.671 | 45 | 173.24 | 8/25/2021 | 0.28 | 2.29 | 57.38 | 1744 | |
| NFGC-21-186 | 665130.007 | 5430833.922 | 59.500 | 45 | 183.85 | 8/25/2021 | 0.00 | 3.43 | 56.07 | 1744 | |
| NFGC-21-209 | 658721.815 | 5428675.021 | 87.326 | 45.5 | 139.08 | 8/27/2021 | 0.00 | 1.07 | 86.26 | Dome | |
| NFGC-21-217 | 658147.560 | 5427151.442 | 90.449 | 55.5 | 330.47 | 8/24/2021 | 0.36 | 0.67 | 89.78 | Keats | |
| NFGC-21-218 | 663406.715 | 5428927.795 | 63.067 | 45.5 | 127.67 | 8/25/2021 | 0.17 | 1.15 | 61.91 | Pocket Pond | |
| NFGC-21-223 | 658241.211 | 5427550.903 | 85.500 | 45.5 | 79.88 | 8/24/2021 | 0.68 | 0.84 | 84.66 | Keats | |
| NFGC-21-231 | 658124.583 | 5427448.065 | 86.492 | 44 | 118.65 | 8/23/2021 | 0.41 | 0.76 | 85.73 | Keats | |
| NFGC-21-233 | 659024.072 | 5428935.085 | 90.383 | 45.5 | 243.93 | 8/27/2021 | 0.14 | 1.23 | 89.15 | Lotto | |
| NFGC-21-235A | 663420.239 | 5428877.065 | 60.636 | 45.5 | 123.39 | 8/25/2021 | 0.34 | 0.51 | 60.12 | Pocket Pond | |
| NFGC-21-248 | 657930.013 | 5427271.198 | 81.137 | 72.5 | 79.16 | 8/24/2021 | 0.48 | -0.27 | 81.41 | Keats | |
| NFGC-21-248A | 657929.848 | 5427271.417 | 81.161 | 74.5 | 358.47 | 8/24/2021 | 0.20 | -0.20 | 81.36 | Keats | |
| NFGC-21-249 | 658502.701 | 5428353.214 | 76.090 | 42 | 166.61 | 12/7/2021 | 0.14 | 0.63 | 75.46 | Golden Joint | |
| NFGC-21-284A | 658125.259 | 5427200.201 | 90.162 | 45 | 279.31 | 8/24/2021 | 0.21 | 1.59 | 88.57 | Keats | |
| NFGC-21-253 | 663361.152 | 5428824.166 | 65.420 | 45.5 | 175.25 | 8/25/2021 | 0.22 | - | - | Pocket Pond | No water detected at 6 m below top of casing |
| NFGC-21-255 | 658503.528 | 5428381.021 | 77.025 | 42 | 184.68 | 8/24/2021 | 0.00 | 3.91 | 73.12 | Golden Joint | |
| NFGC-21-257 | 657950.877 | 5427310.044 | 81.780 | 78 | 338.15 | 8/24/2021 | 0.12 | 0.11 | 81.67 | Keats | |
| NFGC-21-261 | 663394.484 | 5428833.666 | 62.016 | 45 | 160.51 | 8/25/2021 | 0.34 | 1.96 | 60.06 | Pocket Pond | |
| | | | | | | 12/4/2021 | 0.34 | 1.71 | 60.30 | | |
| NFGC-21-263 | 657951.506 | 5427309.732 | 81.768 | 72 | 317.22 | 8/24/2021 | 0.28 | -0.28 | 82.05 | Keats | |
| NFGC-21-265 | 657930.200 | 5427271.900 | 80.896 | 78 | 12.96 | 8/24/2021 | 0.00 | - | - | Keats | Casing at ground surface. Well is plugged with a membrane that is punctured and water is flowing from the hole |
| NFGC-21-265A | 657929.463 | 5427271.130 | 81.149 | 78 | 333.55 | 8/24/2021 | 0.33 | -0.26 | 81.41 | Keats | |
| NFGC-21-268 | 658522.640 | 5428312.741 | 76.078 | 45.5 | 92.90 | 8/24/2021 | 0.20 | 1.83 | 74.25 | Golden Joint | |
| NFGC-21-270 | 657747.900 | 5427325.400 | 80.000 | 49 | 316.22 | 8/24/2021 | 0.24 | -0.24 | 80.24 | Keats | Water is at top of casing, exterior of casing is corroded - indicating periodic overflow |
| NFGC-21-280 | 657710.354 | 5427460.208 | 86.353 | 45 | 197.81 | 8/24/2021 | 0.36 | 0.41 | 85.94 | Cokes | |
| NFGC-21-290A | 659074.363 | 5429163.663 | 83.981 | 45 | 117.87 | 8/23/2021 | 0.39 | 1.48 | 82.51 | Lotto | |
| NFGC-21-298 | 658079.931 | 5427369.971 | 87.911 | 45.5 | 121.15 | 8/23/2021 | 0.09 | 0.53 | 87.38 | Keats | |
| NFGC-21-307 | 658592.272 | 5428358.691 | 85.026 | 45.5 | 80.81 | 8/24/2021 | 0.26 | 1.45 | 83.57 | Golden Joint | |
| NFGC-21-307A | 658592.934 | 5428358.430 | 85.035 | 47 | 22.01 | 8/24/2021 | 0.31 | 1.17 | 83.87 | Golden Joint | |
| NFGC-21-307B | 658593.497 | 5428358.141 | 85.279 | 47 | 348.86 | 8/24/2021 | 0.40 | 1.69 | 83.59 | Golden Joint | |
| NFGC-21-309 | 663350.650 | 5428930.907 | 68.837 | 45.5 | 159.77 | 8/25/2021 | 0.16 | - | - | Pocket Pond | No water detected at 4.8 m below top of casing |



APPENDIX C

Groundwater Quality Analytical Results & Piper Plot

Table C.1: Analytical Results for Inorganic Parameters in Groundwater

| Sample Location: Date Sampled: | Units | Guideline | | RDL | NFGC-21-180 | NFGC-21-261 | NFGC-21-280 | NFGC-20-64 | NFGC-20-64A | NFGC-21-156 | NFGC-21-209 | NFGC-21-110 |
|--|---------|------------------------|--------------------|------|--------------|--------------|-------------|------------|-------------|-------------|-------------|--------------|
| | | GCDWQ ¹ | ARBCA ² | | 8/25/2021 | 8/25/2021 | 8/26/2021 | 8/26/2021 | 8/26/2021 | 8/26/2021 | 8/26/2021 | 8/27/2021 |
| Inorganics | | | | | | | | | | | | |
| pH | - | 7.0-10.5 ^{OG} | 6.5-9.0 | NA | 8.36 | 7.50 | 7.90 | 7.98 | 8.01 | 7.74 | 6.94 | 7.54 |
| Reactive Silica as SiO ₂ | mg/L | - | - | 0.5 | 0.8 | 4.4 | 4.0 | 4.7 | 4.9 | 3.4 | 8.3 | 11.0 |
| Chloride | mg/L | 250 ^{AO} | 1,200 | 0.1 | 3.28 | 4.16 | 35.2 | 4.31 | 4.78 | 12.0 | 4.70 | 12.0 |
| Fluoride | mg/L | 1.5 | 1.2 | 0.05 | 1.91 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Sulphate | mg/L | 500 ^{AO} | 1,280 | 0.1 | 3.56 | 34.7 | 40.1 | 4.87 | 7.05 | 1.47 | 2.44 | 4.00 |
| Dissolved Sodium | mg/L | - | - | 0.1 | 6.5 | 33.6 | 42.9 | 6.5 | 7.5 | 6.3 | 6.7 | 5.9 |
| Dissolved Potassium | mg/L | - | - | 0.1 | 3.0 | 6.6 | 6.7 | 1.2 | 1.5 | 2.3 | 0.8 | 0.8 |
| Dissolved Calcium | mg/L | - | - | 0.1 | 7.6 | 4.6 | 20.9 | 26.1 | 28.3 | 30.6 | 15.5 | 28.0 |
| Dissolved Magnesium | mg/L | - | - | 0.1 | 5.4 | 3.0 | 4.5 | 5.3 | 5.8 | 3.0 | 2.0 | 1.1 |
| Alkalinity | mg/L | - | - | 5 | 44 | 62 | 74 | 94 | 97 | 72 | 56 | 69 |
| True Color | TCU | 15 ^{AO} | - | 5.00 | <5.00 | 12.4 | <5.00 | <5.00 | 19.7 | <5.00 | <5.00 | <5.00 |
| Turbidity | NTU | 1 ^{OG} | - | 0.5 | 131.0 | 152.0 | 12.9 | 4.3 | 4.8 | 8.7 | 51.3 | 110.0 |
| Electrical Conductivity | umho/cm | - | - | 1 | 133 | 234 | 375 | 219 | 234 | 206 | 151 | 203 |
| Nitrate + Nitrite as N | mg/L | - | - | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | 0.36 | 0.05 |
| Nitrate as N | mg/L | 10 | 130 | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | 0.36 | 0.05 |
| Nitrite as N | mg/L | 1 | 0.6 | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Ammonia as N | mg/L | - | - | 0.03 | 0.14 | 0.07 | 0.33 | 0.33 | 0.37 | 0.61 | <0.03 | <0.03 |
| Total Organic Carbon | mg/L | - | - | 0.5 | 10.9 | 9.6 | 2.8 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Ortho-Phosphate as P | mg/L | - | - | 0.01 | <0.01 | <0.01 | <0.01 | 0.02 | 0.02 | <0.01 | <0.01 | <0.01 |
| Calculated Parameters | | | | | | | | | | | | |
| Nitrate + Nitrite as N | mg/L | - | - | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | 0.36 | 0.05 |
| Bicarb. Alkalinity (as CaCO ₃) | mg/L | - | - | 5 | 43 | 62 | 74 | 94 | 97 | 72 | 56 | 69 |
| Carb. Alkalinity (as CaCO ₃) | mg/L | - | - | 10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| Hydroxide | mg/L | - | - | 5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| Calculated TDS | mg/L | 500 ^{AO} | - | 1 | 56 | 126 | 196 | 106 | 116 | 106 | 81 | 94 |
| Hardness | mg/L | - | - | NA | 41.2 | 23.8 | 70.7 | 87.0 | 94.5 | 88.8 | 46.9 | 74.4 |
| Langelier Index (@20C) | NA | - | - | NA | -0.68 | -1.64 | -0.53 | -0.22 | -0.15 | -0.51 | -1.70 | -0.76 |
| Langelier Index (@ 4C) | NA | - | - | NA | -1.00 | -1.96 | -0.85 | -0.54 | -0.46 | -0.83 | -2.02 | -1.08 |
| Saturation pH (@ 20C) | NA | - | - | NA | 9.04 | 9.14 | 8.43 | 8.20 | 8.16 | 8.25 | 8.64 | 8.30 |
| Saturation pH (@ 4C) | NA | - | - | NA | 9.36 | 9.46 | 8.75 | 8.52 | 8.47 | 8.57 | 8.96 | 8.62 |
| Anion Sum | me/L | - | - | NA | 1.05 | 2.08 | 3.30 | 2.10 | 2.23 | 1.78 | 1.33 | 1.81 |
| Cation sum | me/L | - | - | NA | 1.20 | 2.19 | 3.53 | 2.12 | 2.35 | 2.43 | 1.75 | 1.79 |
| % Difference/ Ion Balance | % | - | - | NA | 6.70 | 2.50 | 3.30 | 0.50 | 2.60 | 15.50 | 13.80 | 0.40 |
| Total Suspended Solids (TSS) | mg/L | - | - | 5 | 38 | 68 | 6 | 6 | <5 | 42 | 42 | 64 |

Notes:

1. Health Canada Guidelines for Canadian Drinking Water Quality (June 2019).

2. Atlantic Risk Based Corrective Action (ARBCA) Ecological Tier 1 Guidelines for Groundwater (more than 10 meters from surface water body and discharging to fresh water) Version 4.0 (July 2021).

"-" = None established

RDL = Reported Detection Limit.

NA = Not applicable

Results that exceed the ARBCA guideline or a health-based GCDWQ are bold and shaded.

Results that exceed a GCDWQ Aesthetic Objective (AO) or Operational Guideline (OG) are shaded.

Table C.2: Analytical Results for Dissolved Metals in Groundwater

| Sample Location: Date Sampled: | Units | Guideline | | RDL | NFGC-21-180 | NFGC-21-261 | NFGC-21-280 | NFGC-20-64 | NFGC-20-64A | NFGC-21-156 | NFGC-21-209 | NFGC-21-110 |
|-----------------------------------|-------|--------------------------|--------------------|-------|-------------|-------------|-------------|------------|-------------|-------------|--------------|-------------|
| | | GCDWQ ¹ | ARBCA ² | | 8/25/2021 | 8/25/2021 | 8/26/2021 | 8/26/2021 | 8/26/2021 | 8/26/2021 | 8/26/2021 | 8/27/2021 |
| Dissolved Aluminum (Al) | ug/L | - | 50 | 5 | 10 | 230 | 94 | 24 | 27 | 6 | 52 | <5 |
| Dissolved Antimony (Sb) | ug/L | 6 | 90 | 2 | <2 | 5 | 5 | <2 | <2 | <2 | <2 | 4 |
| Dissolved Arsenic (As) | ug/L | 10 | 50 | 2 | <2 | <2 | 3 | 24 | 24 | 24 | <2 | <2 |
| Dissolved Barium (Ba) | ug/L | 2000 | 10,000 | 5 | <5 | 26 | 132 | 46 | 62 | 74 | 11 | 17 |
| Dissolved Beryllium (Be) | ug/L | 4* | 1.5 | 2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Dissolved Bismuth (Bi) | ug/L | - | - | 2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Dissolved Boron (B) | ug/L | 5000 | 15,000 | 5 | 5 | 17 | 16 | <5 | <5 | <5 | <5 | <5 |
| Dissolved Cadmium (Cd) | ug/L | 7 | 0.9 | 0.017 | <0.017 | 0.031 | 0.025 | <0.017 | <0.017 | <0.017 | <0.017 | 0.027 |
| Dissolved Chromium (Cr) | ug/L | 50 | 89 | 1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| Dissolved Cobalt (Co) | ug/L | 3.8* | 10 | 1 | <1 | <1 | <1 | <1 | <1 | 2 | 8 | 13 |
| Dissolved Copper (Cu) | ug/L | 2000, 1000 ^{AO} | 20 | 2 | <2 | 6 | <2 | <2 | <2 | <2 | <2 | <2 |
| Dissolved Iron (Fe) | ug/L | 300 ^{AO} | 3,000 | 50 | 71 | 1170 | 875 | 664 | 1140 | 5310 | 11600 | 195 |
| Dissolved Lead (Pb) | ug/L | 5 | 10 | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Dissolved Manganese (Mn) | ug/L | 120, 20 ^{AO} | 4,300 | 2 | 44 | 260 | 297 | 472 | 600 | 2350 | 2250 | 475 |
| Dissolved Mercury (Hg) | ug/L | 1 | 0.026 | 0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 |
| Dissolved Molybdenum (Mo) | ug/L | 70* | 730 | 2 | 3 | 18 | 20 | <2 | <2 | <2 | <2 | <2 |
| Dissolved Nickel (Ni) | ug/L | 100* | 250 | 2 | <2 | <2 | <2 | <2 | 4 | 3 | 3 | 6 |
| Dissolved Phosphorus (P) | mg/L | - | - | 0.02 | <0.02 | 0.05 | <0.02 | 0.08 | 0.07 | <0.02 | <0.02 | <0.02 |
| Dissolved Selenium (Se) | ug/L | 50 | 10 | 1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| Dissolved Silver (Ag) | ug/L | - | 2.5 | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Dissolved Strontium (Sr) | ug/L | 7000 | 210,000 | 5 | 60 | 75 | 420 | 275 | 328 | 244 | 73 | 164 |
| Dissolved Thallium (Tl) | ug/L | 2* | 8 | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Dissolved Tin (Sn) | ug/L | 2,400* | - | 2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Dissolved Titanium (Ti) | ug/L | - | - | 2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Dissolved Uranium (U) | ug/L | 20 | 150 | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | 0.2 |
| Dissolved Vanadium (V) | ug/L | 6.2* | 1,200 | 2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Dissolved Zinc (Zn) | ug/L | 5000 ^{AO} | 70 | 5 | 7 | 58 | 37 | <5 | 15 | 44 | 7 | 7 |

Notes:

1. Health Canada Guidelines for Canadian Drinking Water Quality (June 2019).

2. Atlantic Risk Based Corrective Action (ARBCA) Ecological Tier 1 Guidelines for Groundwater (more than 10 meters from surface water body and discharging to fresh water) Version 4.0 (July 2021)

"-" = None established or guideline not applicable

RDL = Reported Detection Limit.

* = In cases where there is no GCDWG guideline for a parameter, the ARBCA Human Health Tier 1 Environmental Guideline for Potable Groundwater was used when available

Results that exceed an applicable ARBCA guideline or health-based GCDWQ are bolded and shaded.

Results that exceed a GCDWQ Aesthetic Objective (AO) or Operational Guideline (OG) are shaded.

Table C.3: Analytical Results for Petroleum Hydrocarbons in Groundwater

| Sample Location: Date Sampled: | Units | RDL | Guideline | | NFGC-21-180 | NFGC-21-261 | NFGC-21-280 | NFGC-20-64 | NFGC-20-64A | NFGC-21-156 | NFGC-21-209 | NFGC-21-110 |
|--|-------|-------|--------------------|--------------------|-------------|-------------|-------------|------------|-------------|-------------|-------------|-------------|
| | | | GCDWQ ¹ | ARBCA ² | 8/25/2021 | 8/25/2021 | 8/26/2021 | 8/26/2021 | 8/26/2021 | 8/26/2021 | 8/27/2021 | 8/27/2021 |
| Benzene | mg/L | 0.001 | 0.005 | 4.6 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Toluene | mg/L | 0.001 | 0.06 | 4.2 | 0.002 | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Ethylbenzene | mg/L | 0.001 | 0.14 | 3.2 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Xylene (Total) | mg/L | 0.002 | 0.09 | 2.8 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| C6-C10 (less BTEX) | mg/L | 0.01 | - | - | <0.01 | 0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| >C10-C16 Hydrocarbons | mg/L | 0.05 | - | - | <0.05 | 0.11 | <0.05 | 0.07 | 0.13 | 0.05 | <0.05 | <0.05 |
| >C16-C21 Hydrocarbons | mg/L | 0.05 | - | - | <0.05 | 0.1 | <0.05 | <0.05 | 0.08 | <0.05 | <0.05 | <0.05 |
| >C21-C32 Hydrocarbons | mg/L | 0.1 | - | - | <0.1 | 0.3 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Modified TPH (Tier 1) ³ | mg/L | 0.1 | 3.2* | 0.48 | <0.1 | 0.5 | <0.1 | <0.1 | 0.2 | <0.1 | <0.1 | <0.1 |
| Sediment | | | | | TRACE | TRACE | NO | NO | NO | NO | NO | NO |
| Resemblance Comment ⁴ | | | | | NR | UC | NR | UC | UC | UC | NR | NR |
| Return to Baseline at C32 ⁵ | | | | | Y | Y | Y | Y | Y | Y | Y | Y |

Notes:

1. Health Canada Guidelines for Canadian Drinking Water Quality (June 2019). Guideline value for modified Total Petroleum Hydrocarbons (TPH) based on product type; most conservative guideline value referenced (for fuel oil)

2. Atlantic Risk Based Corrective Action (ARBCA) Ecological Tier 1 Guidelines for Groundwater (more than 10 meters from surface water body and discharging to fresh water) Version 4.0 (July 2021). Guideline value for modified Total Petroleum Hydrocarbons (TPH) based on product type; most conservative guideline value referenced (for lube oil)

3. Modified TPH = TPH C6 - C32 (excluding BTEX)

4. Resemblance Comment: NR = no resemblance to petroleum hydrocarbon product, UC = unidentified compounds

5. Atlantic Partnership in ARBCA Implementation analytical method does not analyze for >C32. Laboratory certificate indicates (Yes or No) whether chromatogram for each sample returns to baseline after C32. Samples are considered to have returned to baseline if the area from C32-C36 is less than 10% of the area from C10-C32

"-" = None established or guideline not applicable

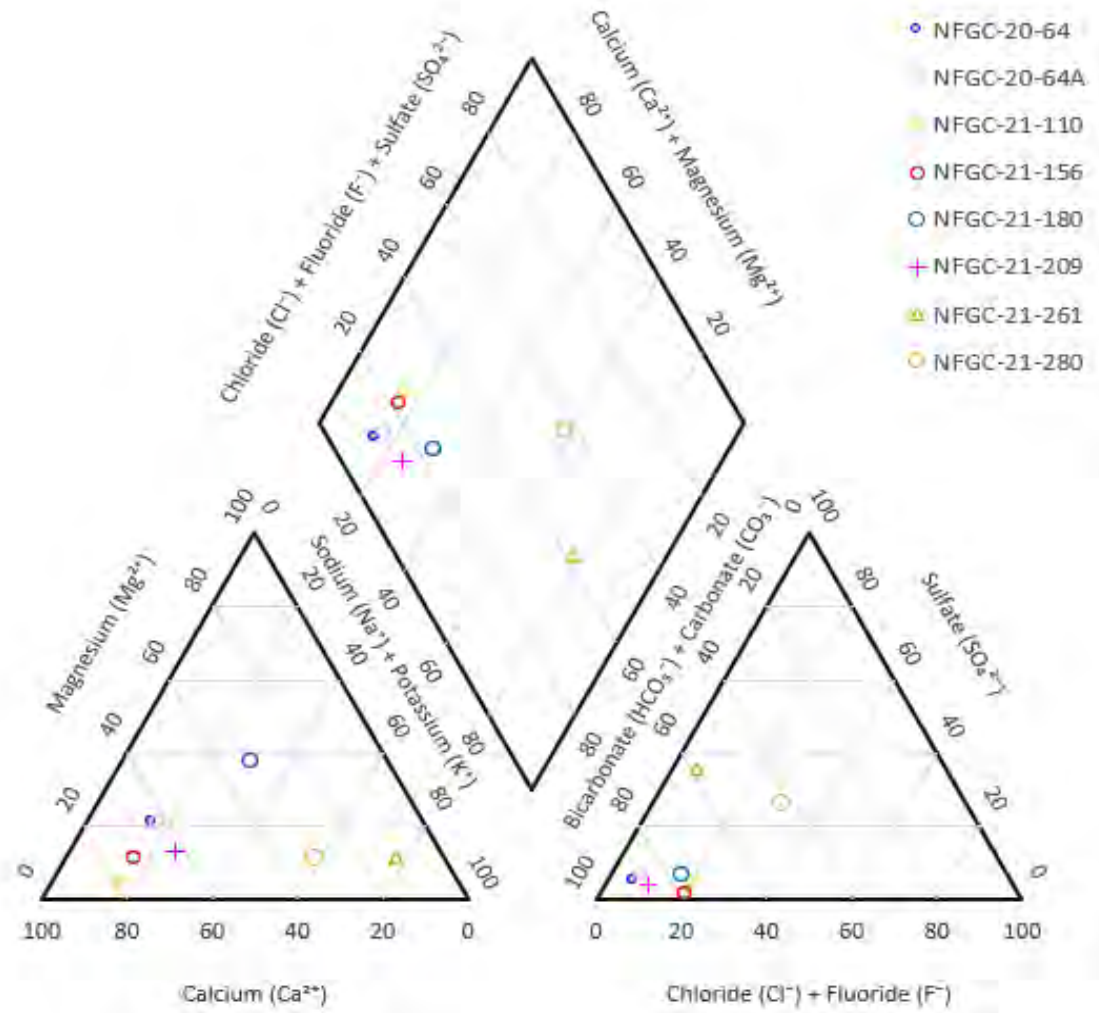
RDL = Reported Detection Limit.

* = In cases where there is no GCDWG guideline for a parameter, the ARBCA Human Health Tier 1 Environmental Guideline for Potable Groundwater was used when available

Results that exceed an applicable guideline are bolded and shaded.

Title: Piper Plot

Project: Hydrogeology Baseline Report - New Found Gold Corporation
Queensway North Gold Project, Appleton, NL





APPENDIX D

Laboratory Certificates of Analysis

CLIENT NAME: GEMTEC LIMITED
10 Maverick Place
Paradise, NL A1L 1Y8
709722-2275

ATTENTION TO: Carolyn Anstey-Moore

PROJECT: 100424.01

AGAT WORK ORDER: 21K794584

TRACE ORGANICS REVIEWED BY: Amy Hunter, Trace Organics Supervisor, B.Sc.

WATER ANALYSIS REVIEWED BY: Ashley Dussault, Report Writer

DATE REPORTED: Sep 13, 2021

PAGES (INCLUDING COVER): 15

VERSION*: 1

Should you require any information regarding this analysis please contact your client services representative at (709)747-8573

*Notes

Disclaimer:

- All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.
- All samples will be disposed of within 30 days after receipt unless a Long Term Storage Agreement is signed and returned. Some specialty analysis may be exempt, please contact your Client Project Manager for details.
- AGAT's liability in connection with any delay, performance or non-performance of these services is only to the Client and does not extend to any other third party. Unless expressly agreed otherwise in writing, AGAT's liability is limited to the actual cost of the specific analysis or analyses included in the services.
- This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
- The test results reported herewith relate only to the samples as received by the laboratory.
- Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to, warranties of merchantability, fitness for a particular purpose, or non-infringement. AGAT assumes no responsibility for any errors or omissions in the guidelines contained in this document.
- All reportable information as specified by ISO/IEC 17025:2017 is available from AGAT Laboratories upon request.

Certificate of Analysis

AGAT WORK ORDER: 21K794584

PROJECT: 100424.01

57 Old Pennywell Road, Unit I
 St. John's, NL
 CANADA A1E 6A8
 TEL (709)747-8573
 FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Carolyn Anstey-Moore

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Water (Version 3.1)

DATE RECEIVED: 2021-08-30

DATE REPORTED: 2021-09-13

| Parameter | Unit | SAMPLE DESCRIPTION: | | 21-180 | 21-261 | 21-280 | 20-64 | 20-64A | 21-156 | 21-209 | NFGC-21-110 |
|---------------------------|------|---------------------|--------|---------|---------|---------|---------|---------|---------|---------|-------------|
| | | G / S | RDL | 2907720 | 2907896 | 2907897 | 2907898 | 2907899 | 2907900 | 2907901 | 2907902 |
| Benzene | mg/L | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Toluene | mg/L | 0.001 | 0.002 | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Ethylbenzene | mg/L | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Xylene (Total) | mg/L | 0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| C6-C10 (less BTEX) | mg/L | 0.01 | <0.01 | 0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| >C10-C16 Hydrocarbons | mg/L | 0.05 | <0.05 | 0.11 | <0.05 | 0.07 | 0.13 | 0.05 | <0.05 | <0.05 | <0.05 |
| >C16-C21 Hydrocarbons | mg/L | 0.05 | <0.05 | 0.10 | <0.05 | <0.05 | 0.08 | <0.05 | <0.05 | <0.05 | <0.05 |
| >C21-C32 Hydrocarbons | mg/L | 0.1 | <0.1 | 0.3 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Modified TPH (Tier 1) | mg/L | 0.1 | <0.1 | 0.5 | <0.1 | <0.1 | 0.2 | <0.1 | <0.1 | <0.1 | <0.1 |
| Sediment | | | TRACE | TRACE | NO | NO | NO | NO | NO | NO | NO |
| Resemblance Comment | | | NR | UC | NR | UC | UC | UC | NR | NR | NR |
| Return to Baseline at C32 | | | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| Surrogate | Unit | Acceptable Limits | | | | | | | | | |
| Isobutylbenzene - EPH | % | 70-130 | 94 | 112 | 97 | 98 | 92 | 93 | 104 | 89 | |
| Isobutylbenzene - VPH | % | 70-130 | 111 | 117 | 120 | 96 | 98 | 107 | 83 | 90 | |
| n-Dotriacontane - EPH | % | 70-130 | 99 | 116 | 104 | 105 | 99 | 99 | 113 | 96 | |

Certified By:





Certificate of Analysis

AGAT WORK ORDER: 21K794584

PROJECT: 100424.01

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Carolyn Anstey-Moore

SAMPLING SITE:

SAMPLED BY:

Atlantic RBCA Tier 1 Hydrocarbons in Water (Version 3.1)

DATE RECEIVED: 2021-08-30

DATE REPORTED: 2021-09-13

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

2907720-2907902 Modified TPH, Xylene(Total)and C6-C10(less BTEX) are calculated parameters. The calculated parameter is non-accredited. The component parameters of the calculation are accredited.

Sediment parameter is comment only based on visual inspection of the sample prior to extraction and is not an accredited test.

- Resemblance Comment Key:
- GF - Gasoline Fraction
 - WGF - Weathered Gasoline Fraction
 - GR - Product in Gasoline Range
 - FOF - Fuel Oil Fraction
 - WFOF - Weathered Fuel Oil Fraction
 - FR - Product in Fuel Oil Range
 - LOF - Lube Oil Fraction
 - LR - Lube Range
 - UC - Unidentified Compounds
 - NR - No Resemblance
 - NA - Not Applicable

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K794584

PROJECT: 100424.01

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Carolyn Anstey-Moore

SAMPLING SITE:

SAMPLED BY:

Mercury Analysis in Water (Dissolved)

DATE RECEIVED: 2021-08-30

DATE REPORTED: 2021-09-13

| | | SAMPLE DESCRIPTION: | | 21-180 | 21-261 | 21-280 | 20-64 | 20-64A | 21-156 | 21-209 | NFGC-21-110 |
|-------------------|------|---------------------|-------|------------|------------|------------|------------|------------|------------|------------|-------------|
| | | SAMPLE TYPE: | | Water | Water | Water | Water | Water | Water | Water | Water |
| | | DATE SAMPLED: | | 2021-08-25 | 2021-08-25 | 2021-08-26 | 2021-08-26 | 2021-08-26 | 2021-08-26 | 2021-08-27 | 2021-08-27 |
| Parameter | Unit | G / S | RDL | 2907720 | 2907896 | 2907897 | 2907898 | 2907899 | 2907900 | 2907901 | 2907902 |
| Dissolved Mercury | ug/L | | 0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 | <0.026 |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:

Certificate of Analysis

AGAT WORK ORDER: 21K794584

PROJECT: 100424.01

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Carolyn Anstey-Moore

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Dissolved Metals

DATE RECEIVED: 2021-08-30

DATE REPORTED: 2021-09-13

| Parameter | Unit | SAMPLE DESCRIPTION: | | 21-180 | 21-261 | 21-280 | 20-64 | 20-64A | 21-156 | 21-209 | NFGC-21-110 |
|-------------------------------|---------|---------------------|------|------------|------------|------------|------------|------------|------------|------------|-------------|
| | | SAMPLE TYPE: | | Water | Water | Water | Water | Water | Water | Water | Water |
| | | DATE SAMPLED: | | 2021-08-25 | 2021-08-25 | 2021-08-26 | 2021-08-26 | 2021-08-26 | 2021-08-26 | 2021-08-26 | 2021-08-27 |
| | | G / S | RDL | 2907720 | 2907896 | 2907897 | 2907898 | 2907899 | 2907900 | 2907901 | 2907902 |
| pH | | | | 8.36 | 7.50 | 7.90 | 7.98 | 8.01 | 7.74 | 6.94 | 7.54 |
| Reactive Silica as SiO2 | mg/L | | 0.5 | 0.8 | 4.4 | 4.0 | 4.7 | 4.9 | 3.4 | 8.3 | 11.0 |
| Chloride | mg/L | | 1 | 3 | 4 | 35 | 4 | 5 | 12 | 5 | 12 |
| Fluoride | mg/L | | 0.12 | 1.91 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 |
| Sulphate | mg/L | | 2 | 4 | 35 | 40 | 5 | 7 | <2 | 2 | 4 |
| Alkalinity | mg/L | | 5 | 44 | 62 | 74 | 94 | 97 | 72 | 56 | 69 |
| True Color | TCU | | 5.00 | <5.00 | 12.4 | <5.00 | <5.00 | 19.7 | <5.00 | <5.00 | <5.00 |
| Turbidity | NTU | | 0.5 | 131 | 152 | 12.9 | 4.3 | 4.8 | 8.7 | 51.3 | 110 |
| Electrical Conductivity | umho/cm | | 1 | 133 | 234 | 375 | 219 | 234 | 206 | 151 | 203 |
| Nitrate + Nitrite as N | mg/L | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | 0.36 | 0.05 |
| Nitrate as N | mg/L | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | 0.36 | 0.05 |
| Nitrite as N | mg/L | | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Ammonia as N | mg/L | | 0.03 | 0.14 | 0.07 | 0.33 | 0.33 | 0.37 | 0.61 | <0.03 | <0.03 |
| Total Organic Carbon | mg/L | | 0.5 | 10.9 | 9.6 | 2.8 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Ortho-Phosphate as P | mg/L | | 0.01 | <0.01 | <0.01 | <0.01 | 0.02 | 0.02 | <0.01 | <0.01 | <0.01 |
| Dissolved Sodium | mg/L | | 0.1 | 6.5 | 33.6 | 42.9 | 6.5 | 7.5 | 6.3 | 6.7 | 5.9 |
| Dissolved Potassium | mg/L | | 0.1 | 3.0 | 6.6 | 6.7 | 1.2 | 1.5 | 2.3 | 0.8 | 0.8 |
| Dissolved Calcium | mg/L | | 0.1 | 7.6 | 4.6 | 20.9 | 26.1 | 28.3 | 30.6 | 15.5 | 28.0 |
| Dissolved Magnesium | mg/L | | 0.1 | 5.4 | 3.0 | 4.5 | 5.3 | 5.8 | 3.0 | 2.0 | 1.1 |
| Bicarb. Alkalinity (as CaCO3) | mg/L | | 5 | 43 | 62 | 74 | 94 | 97 | 72 | 56 | 69 |
| Carb. Alkalinity (as CaCO3) | mg/L | | 10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| Hydroxide | mg/L | | 5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| Calculated TDS | mg/L | | 1 | 56 | 126 | 196 | 106 | 116 | 106 | 81 | 94 |
| Hardness | mg/L | | | 41.2 | 23.8 | 70.7 | 87.0 | 94.5 | 88.8 | 46.9 | 74.4 |
| Langelier Index (@20C) | NA | | | -0.68 | -1.64 | -0.53 | -0.22 | -0.15 | -0.51 | -1.70 | -0.76 |
| Langelier Index (@ 4C) | NA | | | -1.00 | -1.96 | -0.85 | -0.54 | -0.46 | -0.83 | -2.02 | -1.08 |
| Saturation pH (@ 20C) | NA | | | 9.04 | 9.14 | 8.43 | 8.20 | 8.16 | 8.25 | 8.64 | 8.30 |
| Saturation pH (@ 4C) | NA | | | 9.36 | 9.46 | 8.75 | 8.52 | 8.47 | 8.57 | 8.96 | 8.62 |
| Anion Sum | me/L | | | 1.05 | 2.08 | 3.30 | 2.10 | 2.23 | 1.78 | 1.33 | 1.81 |
| Cation sum | me/L | | | 1.20 | 2.19 | 3.53 | 2.12 | 2.35 | 2.43 | 1.75 | 1.79 |

Certified By:





Certificate of Analysis

AGAT WORK ORDER: 21K794584

PROJECT: 100424.01

57 Old Pennywell Road, Unit I
 St. John's, NL
 CANADA A1E 6A8
 TEL (709)747-8573
 FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Carolyn Anstey-Moore

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Dissolved Metals

DATE RECEIVED: 2021-08-30

DATE REPORTED: 2021-09-13

| Parameter | Unit | SAMPLE DESCRIPTION: | | 21-180 | 21-261 | 21-280 | 20-64 | 20-64A | 21-156 | 21-209 | NFGC-21-110 |
|---------------------------|------|---------------------|-------|------------|------------|------------|------------|------------|------------|------------|-------------|
| | | SAMPLE TYPE: | | Water | Water | Water | Water | Water | Water | Water | Water |
| | | DATE SAMPLED: | | 2021-08-25 | 2021-08-25 | 2021-08-26 | 2021-08-26 | 2021-08-26 | 2021-08-26 | 2021-08-26 | 2021-08-27 |
| | | G / S | RDL | 2907720 | 2907896 | 2907897 | 2907898 | 2907899 | 2907900 | 2907901 | 2907902 |
| % Difference/ Ion Balance | % | | | 6.7 | 2.5 | 3.3 | 0.5 | 2.6 | 15.5 | 13.8 | 0.4 |
| Dissolved Aluminum | ug/L | | 5 | 10 | 230 | 94 | 24 | 27 | 6 | 52 | <5 |
| Dissolved Antimony | ug/L | | 2 | <2 | 5 | 5 | <2 | <2 | <2 | <2 | 4 |
| Dissolved Arsenic | ug/L | | 2 | <2 | <2 | 3 | 24 | 24 | 24 | <2 | <2 |
| Dissolved Barium | ug/L | | 5 | <5 | 26 | 132 | 46 | 62 | 74 | 11 | 17 |
| Dissolved Beryllium | ug/L | | 2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Dissolved Bismuth | ug/L | | 2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Dissolved Boron | ug/L | | 5 | 5 | 17 | 16 | <5 | <5 | <5 | <5 | <5 |
| Dissolved Cadmium | ug/L | | 0.017 | <0.017 | 0.031 | 0.025 | <0.017 | <0.017 | <0.017 | <0.017 | 0.027 |
| Dissolved Chromium | ug/L | | 1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| Dissolved Cobalt | ug/L | | 1 | <1 | <1 | <1 | <1 | <1 | 2 | 8 | 13 |
| Dissolved Copper | ug/L | | 2 | <2 | 6 | <2 | <2 | <2 | <2 | <2 | <2 |
| Dissolved Iron | ug/L | | 50 | 71 | 1170 | 875 | 664 | 1140 | 5310 | 11600 | 195 |
| Dissolved Lead | ug/L | | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Dissolved Manganese | ug/L | | 2 | 44 | 260 | 297 | 472 | 600 | 2350 | 2250 | 475 |
| Dissolved Molybdenum | ug/L | | 2 | 3 | 18 | 20 | <2 | <2 | <2 | <2 | <2 |
| Dissolved Nickel | ug/L | | 2 | <2 | <2 | <2 | <2 | 4 | 3 | 3 | 6 |
| Dissolved Phosphorus | mg/L | | 0.02 | <0.02 | 0.05 | <0.02 | 0.08 | 0.07 | <0.02 | <0.02 | <0.02 |
| Dissolved Selenium | ug/L | | 1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| Dissolved Silver | ug/L | | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Dissolved Strontium | ug/L | | 5 | 60 | 75 | 420 | 275 | 328 | 244 | 73 | 164 |
| Dissolved Thallium | ug/L | | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Dissolved Tin | ug/L | | 2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Dissolved Titanium | ug/L | | 2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Dissolved Uranium | ug/L | | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | 0.2 |
| Dissolved Vanadium | ug/L | | 2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Dissolved Zinc | ug/L | | 5 | 7 | 58 | 37 | <5 | 15 | 44 | 7 | 7 |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K794584

PROJECT: 100424.01

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St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Carolyn Anstey-Moore

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Dissolved Metals

DATE RECEIVED: 2021-08-30

DATE REPORTED: 2021-09-13

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

- 2907720 Metals analysis completed on a filtered sample.
% Difference / Ion Balance, Hardness, Langelier Index, Nitrate + Nitrite, Hydroxide and Saturation pH are calculated parameters. The calculated parameters are non-accredited. The component parameters of the calculations are accredited.
- 2907896-2907899 Metals analysis completed on a filtered sample.
% Difference / Ion Balance, Hardness, Langelier Index, Nitrate + Nitrite, Hydroxide and Saturation pH are calculated parameters. The calculated parameters are non-accredited. The component parameters of the calculations are accredited.
- 2907900-2907901 Metals analysis completed on a filtered sample.
% Difference / Ion Balance, Hardness, Langelier Index, Nitrate + Nitrite, Hydroxide and Saturation pH are calculated parameters. The calculated parameters are non-accredited. The component parameters of the calculations are accredited.
Ion Balance is biased high, contributing parameters have been confirmed.
- 2907902 Metals analysis completed on a filtered sample.
% Difference / Ion Balance, Hardness, Langelier Index, Nitrate + Nitrite, Hydroxide and Saturation pH are calculated parameters. The calculated parameters are non-accredited. The component parameters of the calculations are accredited.

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21K794584

PROJECT: 100424.01

57 Old Pennywell Road, Unit I
St. John's, NL
CANADA A1E 6A8
TEL (709)747-8573
FAX (709) 747-2139
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC LIMITED

ATTENTION TO: Carolyn Anstey-Moore

SAMPLING SITE:

SAMPLED BY:

TSS

DATE RECEIVED: 2021-08-30

DATE REPORTED: 2021-09-13

| Parameter | Unit | SAMPLE DESCRIPTION: | | 21-180 | 21-261 | 21-280 | 20-64 | 20-64A | 21-156 | 21-209 | NFGC-21-110 |
|------------------------|------|---------------------|------------|------------|------------|------------|------------|------------|------------|------------|-------------|
| | | G / S | RDL | Water | Water | Water | Water | Water | Water | Water | Water |
| DATE SAMPLED: | | 2021-08-25 | 2021-08-25 | 2021-08-26 | 2021-08-26 | 2021-08-26 | 2021-08-26 | 2021-08-26 | 2021-08-27 | 2021-08-27 | 2021-08-27 |
| Total Suspended Solids | mg/L | 5 | 38 | 68 | 6 | 6 | <5 | 42 | 42 | 64 | 64 |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:

Quality Assurance

CLIENT NAME: GEMTEC LIMITED
 PROJECT: 100424.01
 SAMPLING SITE:

AGAT WORK ORDER: 21K794584
 ATTENTION TO: Carolyn Anstey-Moore
 SAMPLED BY:

Trace Organics Analysis

| RPT Date: Sep 13, 2021 | | | DUPLICATE | | | Method Blank | REFERENCE MATERIAL | | | METHOD BLANK SPIKE | | | MATRIX SPIKE | | |
|------------------------|-------|-----------|-----------|--------|-----|--------------|--------------------|-------------------|-------|--------------------|-------------------|-------|--------------|-------------------|-------|
| PARAMETER | Batch | Sample Id | Dup #1 | Dup #2 | RPD | | Measured Value | Acceptable Limits | | Recovery | Acceptable Limits | | Recovery | Acceptable Limits | |
| | | | | | | | | Lower | Upper | | Lower | Upper | | Lower | Upper |

Atlantic RBCA Tier 1 Hydrocarbons in Water (Version 3.1)

| | | | | | | | | | | | | | | | |
|-----------------------|---|---------|---------|---------|----|---------|------|-----|------|------|-----|------|------|-----|------|
| Benzene | 1 | 2907127 | < 0.001 | < 0.001 | NA | < 0.001 | 106% | 70% | 130% | 84% | 70% | 130% | | | |
| Toluene | 1 | 2907127 | < 0.001 | < 0.001 | NA | < 0.001 | 117% | 70% | 130% | 103% | 70% | 130% | | | |
| Ethylbenzene | 1 | 2907127 | < 0.001 | < 0.001 | NA | < 0.001 | 116% | 70% | 130% | 107% | 70% | 130% | | | |
| Xylene (Total) | 1 | 2907127 | < 0.002 | < 0.002 | NA | < 0.002 | 113% | 70% | 130% | 111% | 70% | 130% | | | |
| C6-C10 (less BTEX) | 1 | 2907127 | < 0.01 | < 0.01 | NA | < 0.01 | 118% | 70% | 130% | 92% | 70% | 130% | 102% | 70% | 130% |
| >C10-C16 Hydrocarbons | 1 | 2907127 | 0.07 | 0.07 | NA | < 0.05 | 116% | 70% | 130% | 100% | 70% | 130% | 94% | 70% | 130% |
| >C16-C21 Hydrocarbons | 1 | 2907127 | 0.12 | 0.13 | NA | < 0.05 | 106% | 70% | 130% | 100% | 70% | 130% | 94% | 70% | 130% |
| >C21-C32 Hydrocarbons | 1 | 2907127 | < 0.1 | < 0.1 | NA | < 0.1 | 89% | 70% | 130% | 100% | 70% | 130% | 94% | 70% | 130% |

Comments: If Matrix spike value is NA, the spiked analyte concentration was lower than that of the matrix contribution. Matrix spike performed on a different sample than the duplicate.

If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Atlantic RBCA Tier 1 Hydrocarbons in Water (Version 3.1)

| | | | | | | | | | | | | | | | |
|-----------------------|---|---------|---------|---------|----|---------|------|-----|------|------|-----|------|-----|-----|------|
| Benzene | 1 | 2924211 | < 0.001 | < 0.001 | NA | < 0.001 | 73% | 70% | 130% | 72% | 70% | 130% | | | |
| Toluene | 1 | 2924211 | < 0.001 | < 0.001 | NA | < 0.001 | 99% | 70% | 130% | 86% | 70% | 130% | | | |
| Ethylbenzene | 1 | 2924211 | < 0.001 | < 0.001 | NA | < 0.001 | 103% | 70% | 130% | 90% | 70% | 130% | | | |
| Xylene (Total) | 1 | 2924211 | < 0.002 | < 0.002 | NA | < 0.002 | 100% | 70% | 130% | 96% | 70% | 130% | | | |
| C6-C10 (less BTEX) | 1 | 2924211 | < 0.01 | < 0.01 | NA | < 0.01 | 95% | 70% | 130% | 86% | 70% | 130% | 75% | 70% | 130% |
| >C10-C16 Hydrocarbons | 1 | 2907902 | < 0.05 | < 0.05 | NA | < 0.05 | 99% | 70% | 130% | 106% | 70% | 130% | 93% | 70% | 130% |
| >C16-C21 Hydrocarbons | 1 | 2907902 | < 0.05 | < 0.05 | NA | < 0.05 | 91% | 70% | 130% | 106% | 70% | 130% | 93% | 70% | 130% |
| >C21-C32 Hydrocarbons | 1 | 2907902 | < 0.1 | < 0.1 | NA | < 0.1 | 76% | 70% | 130% | 106% | 70% | 130% | 93% | 70% | 130% |

Comments: If Matrix spike value is NA, the spiked analyte concentration was lower than that of the matrix contribution. Matrix spike performed on a different sample than the duplicate.

If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Certified By: _____



Quality Assurance

CLIENT NAME: GEMTEC LIMITED
 PROJECT: 100424.01
 SAMPLING SITE:

AGAT WORK ORDER: 21K794584
 ATTENTION TO: Carolyn Anstey-Moore
 SAMPLED BY:

| Water Analysis | | | | | | | | | | | | | | | |
|------------------------|-------|-----------|-----------|--------|-----|----------------|--------------|--------------------|-------|----------|--------------------|-------|--------------|-------------------|-------|
| RPT Date: Sep 13, 2021 | | | DUPLICATE | | | | Method Blank | REFERENCE MATERIAL | | | METHOD BLANK SPIKE | | MATRIX SPIKE | | |
| PARAMETER | Batch | Sample Id | Dup #1 | Dup #2 | RPD | Measured Value | | Acceptable Limits | | Recovery | Acceptable Limits | | Recovery | Acceptable Limits | |
| | | | | | | | | Lower | Upper | | Lower | Upper | | Lower | Upper |

Standard Water Analysis + Dissolved Metals

| | | | | | | | | | | | | | | | |
|-------------------------------|---------|--|-------|-------|------|---------|------|-----|------|------|-----|------|------|-----|------|
| pH | 2910113 | | 7.77 | 7.80 | 0.4% | < | 102% | 80% | 120% | NA | 80% | 120% | NA | 80% | 120% |
| Reactive Silica as SiO2 | 2911097 | | 1.3 | 1.5 | NA | < 0.5 | 111% | 80% | 120% | 115% | 80% | 120% | 110% | 80% | 120% |
| Chloride | 2948015 | | <1 | <1 | NA | < 1 | 91% | 80% | 120% | 100% | 80% | 120% | 99% | 70% | 130% |
| Sulphate | 2948015 | | 3 | 3 | NA | < 2 | 103% | 80% | 120% | 102% | 80% | 120% | 101% | 70% | 130% |
| Alkalinity | 2910113 | | 20 | 10 | NA | < 5 | 85% | 80% | 120% | NA | | | NA | | |
| True Color | 2911097 | | <5.00 | <5.00 | NA | < 5 | 95% | 80% | 120% | 95% | 80% | 120% | NA | | |
| Turbidity | 2921951 | | <0.5 | <0.5 | NA | < 0.5 | 94% | 80% | 120% | NA | | | NA | | |
| Electrical Conductivity | 2910113 | | 2320 | 2330 | 0.4% | < 1 | 107% | 90% | 110% | NA | | | NA | | |
| Ammonia as N | 2911097 | | <0.03 | <0.03 | NA | < 0.03 | 99% | 80% | 120% | 91% | 80% | 120% | 98% | 70% | 130% |
| Total Organic Carbon | 2897962 | | <0.5 | <0.5 | NA | < 0.5 | 102% | 80% | 120% | NA | 80% | 120% | 83% | 80% | 120% |
| Ortho-Phosphate as P | 2911097 | | <0.01 | <0.01 | NA | < 0.01 | 93% | 80% | 120% | 89% | 80% | 120% | 104% | 80% | 120% |
| Dissolved Sodium | 2914187 | | 100 | 105 | 4.7% | < 0.1 | 112% | 80% | 120% | 109% | 80% | 120% | NA | 70% | 130% |
| Dissolved Potassium | 2914187 | | 1.1 | 1.1 | 0.9% | < 0.1 | 106% | 80% | 120% | 105% | 80% | 120% | NA | 70% | 130% |
| Dissolved Calcium | 2914187 | | 42.7 | 46.7 | 8.9% | < 0.1 | 96% | 80% | 120% | 103% | 80% | 120% | NA | 70% | 130% |
| Dissolved Magnesium | 2914187 | | 2.3 | 2.4 | 3.6% | < 0.1 | 105% | 80% | 120% | 102% | 80% | 120% | NA | 70% | 130% |
| Bicarb. Alkalinity (as CaCO3) | 2910113 | | 20 | 10 | NA | < 5 | NA | 80% | 120% | NA | 80% | 120% | NA | 80% | 120% |
| Carb. Alkalinity (as CaCO3) | 2910113 | | <10 | <10 | NA | < 10 | NA | 80% | 120% | NA | 80% | 120% | NA | 80% | 120% |
| Hydroxide | 2910113 | | <5 | <5 | NA | < 5 | NA | 80% | 120% | NA | 80% | 120% | NA | 80% | 120% |
| Dissolved Aluminum | 2914187 | | 13 | 15 | NA | < 5 | 101% | 80% | 120% | 102% | 80% | 120% | 95% | 70% | 130% |
| Dissolved Antimony | 2914187 | | <2 | <2 | NA | < 2 | 92% | 80% | 120% | 100% | 80% | 120% | 99% | 70% | 130% |
| Dissolved Arsenic | 2914187 | | 4 | 4 | NA | < 2 | 100% | 80% | 120% | 99% | 80% | 120% | 107% | 70% | 130% |
| Dissolved Barium | 2914187 | | 6 | 6 | NA | < 5 | 88% | 80% | 120% | 91% | 80% | 120% | 75% | 70% | 130% |
| Dissolved Beryllium | 2914187 | | <2 | <2 | NA | < 2 | 103% | 80% | 120% | 101% | 80% | 120% | 102% | 70% | 130% |
| Dissolved Bismuth | 2914187 | | <2 | <2 | NA | < 2 | 100% | 80% | 120% | 104% | 80% | 120% | 72% | 70% | 130% |
| Dissolved Boron | 2914187 | | 102 | 105 | 2.9% | < 5 | 101% | 80% | 120% | 98% | 80% | 120% | NA | 70% | 130% |
| Dissolved Cadmium | 2914187 | | 1.36 | 1.37 | 0.4% | < 0.017 | 99% | 80% | 120% | 97% | 80% | 120% | 97% | 70% | 130% |
| Dissolved Chromium | 2914187 | | <1 | <1 | NA | < 1 | 99% | 80% | 120% | 99% | 80% | 120% | 94% | 70% | 130% |
| Dissolved Cobalt | 2914187 | | <1 | <1 | NA | < 1 | 99% | 80% | 120% | 98% | 80% | 120% | 90% | 70% | 130% |
| Dissolved Copper | 2914187 | | <2 | <2 | NA | < 2 | 101% | 80% | 120% | 102% | 80% | 120% | 91% | 70% | 130% |
| Dissolved Iron | 2914187 | | <50 | <50 | NA | < 50 | 97% | 80% | 120% | 100% | 80% | 120% | 97% | 70% | 130% |
| Dissolved Lead | 2914187 | | <0.5 | <0.5 | NA | < 0.5 | 94% | 80% | 120% | 99% | 80% | 120% | 86% | 70% | 130% |
| Dissolved Manganese | 2914187 | | 2 | 2 | NA | < 2 | 96% | 80% | 120% | 97% | 80% | 120% | 90% | 70% | 130% |
| Dissolved Molybdenum | 2914187 | | 12 | 12 | 1.0% | < 2 | 93% | 80% | 120% | 95% | 80% | 120% | NA | 70% | 130% |
| Dissolved Nickel | 2914187 | | <2 | <2 | NA | < 2 | 100% | 80% | 120% | 100% | 80% | 120% | 107% | 70% | 130% |
| Dissolved Phosphorus | 2914187 | | <0.02 | <0.02 | NA | < 0.02 | 111% | 80% | 120% | 113% | 80% | 120% | 105% | 70% | 130% |
| Dissolved Selenium | 2914187 | | <1 | <1 | NA | < 1 | 100% | 80% | 120% | 98% | 80% | 120% | 117% | 70% | 130% |
| Dissolved Silver | 2914187 | | <0.1 | <0.1 | NA | < 0.1 | 95% | 80% | 120% | 96% | 80% | 120% | NA | 70% | 130% |
| Dissolved Strontium | 2914187 | | 60 | 60 | 0.1% | < 5 | 90% | 80% | 120% | 90% | 80% | 120% | NA | 70% | 130% |
| Dissolved Thallium | 2914187 | | <0.1 | <0.1 | NA | < 0.1 | 98% | 80% | 120% | 101% | 80% | 120% | 86% | 70% | 130% |

Quality Assurance

CLIENT NAME: GEMTEC LIMITED
 PROJECT: 100424.01
 SAMPLING SITE:

AGAT WORK ORDER: 21K794584
 ATTENTION TO: Carolyn Anstey-Moore
 SAMPLED BY:

Water Analysis (Continued)

| RPT Date: Sep 13, 2021 | | | DUPLICATE | | | | Method Blank | REFERENCE MATERIAL | | | METHOD BLANK SPIKE | | | MATRIX SPIKE | | |
|------------------------|---------|-----------|-----------|--------|------|----------------|--------------|--------------------|-------|----------|--------------------|-------|----------|-------------------|-------|--|
| PARAMETER | Batch | Sample Id | Dup #1 | Dup #2 | RPD | Measured Value | | Acceptable Limits | | Recovery | Acceptable Limits | | Recovery | Acceptable Limits | | |
| | | | | | | | | Lower | Upper | | Lower | Upper | | Lower | Upper | |
| Dissolved Tin | 2914187 | | <2 | <2 | NA | < 2 | 98% | 80% | 120% | 101% | 80% | 120% | 94% | 70% | 130% | |
| Dissolved Titanium | 2914187 | | <2 | <2 | NA | < 2 | 101% | 80% | 120% | 103% | 80% | 120% | 93% | 70% | 130% | |
| Dissolved Uranium | 2914187 | | 0.7 | 0.7 | 3.0% | < 0.1 | 96% | 80% | 120% | 98% | 80% | 120% | 89% | 70% | 130% | |
| Dissolved Vanadium | 2914187 | | <2 | <2 | NA | < 2 | 98% | 80% | 120% | 97% | 80% | 120% | 94% | 70% | 130% | |
| Dissolved Zinc | 2914187 | | 180 | 178 | 0.8% | < 5 | 100% | 80% | 120% | 100% | 80% | 120% | NA | 70% | 130% | |

Comments: If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Mercury Analysis in Water (Dissolved)

| | | | | | | | | | | | | | | | |
|-------------------|---------|---------|--------|--------|----|---------|-----|-----|------|-----|-----|------|-----|-----|------|
| Dissolved Mercury | 2907720 | 2907720 | <0.026 | <0.026 | NA | < 0.026 | 90% | 80% | 120% | 96% | 80% | 120% | 99% | 70% | 130% |
|-------------------|---------|---------|--------|--------|----|---------|-----|-----|------|-----|-----|------|-----|-----|------|

Comments: If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

TSS

| | | | | | | | | | | | | | | | |
|------------------------|---------|---------|----|----|------|-----|------|-----|------|----|--|--|-----|-----|------|
| Total Suspended Solids | 2907720 | 2907720 | 38 | 40 | 6.4% | < 5 | 101% | 80% | 120% | NA | | | 83% | 80% | 120% |
|------------------------|---------|---------|----|----|------|-----|------|-----|------|----|--|--|-----|-----|------|

Comments: If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Anion Scan

| | | | | | | | | | | | | | | | |
|--------------|---------|--|-------|-------|------|--------|------|-----|------|------|-----|------|------|-----|------|
| Fluoride | 2948015 | | <0.05 | <0.05 | NA | < 0.05 | 101% | 70% | 130% | 95% | 80% | 120% | 114% | 70% | 130% |
| Chloride | 2948015 | | 0.42 | 0.45 | NA | < 0.10 | 91% | 70% | 130% | 100% | 80% | 120% | 99% | 70% | 130% |
| Nitrate as N | 2948015 | | 0.39 | 0.41 | 5.0% | < 0.05 | 99% | 70% | 130% | 102% | 80% | 120% | 103% | 70% | 130% |
| Nitrite as N | 2948015 | | <0.05 | <0.05 | NA | < 0.05 | 94% | 70% | 130% | 105% | 80% | 120% | 100% | 70% | 130% |
| Sulphate | 2948015 | | 3.00 | 2.98 | 0.7% | < 0.10 | 103% | 70% | 130% | 102% | 80% | 120% | 101% | 70% | 130% |

Comments: If the RPD value is NA, the results of the duplicates are under 5X the RDL and will not be calculated.

Certified By: _____



Method Summary

CLIENT NAME: GEMTEC LIMITED

AGAT WORK ORDER: 21K794584

PROJECT: 100424.01

ATTENTION TO: Carolyn Anstey-Moore

SAMPLING SITE:

SAMPLED BY:

| PARAMETER | AGAT S.O.P | LITERATURE REFERENCE | ANALYTICAL TECHNIQUE |
|---------------------------|--------------|--|----------------------|
| Trace Organics Analysis | | | |
| Benzene | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| Toluene | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| Ethylbenzene | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| Xylene (Total) | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| C6-C10 (less BTEX) | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| >C10-C16 Hydrocarbons | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| >C16-C21 Hydrocarbons | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| >C21-C32 Hydrocarbons | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| Modified TPH (Tier 1) | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | CALCULATION |
| Sediment | | | GC/MS/FID |
| Resemblance Comment | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS/FID |
| Return to Baseline at C32 | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| Isobutylbenzene - EPH | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |
| Isobutylbenzene - VPH | VOL-120-5013 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/MS |
| n-Dotriacontane - EPH | ORG-120-5101 | Atlantic RBCA Guidelines for Laboratories Tier 1 | GC/FID |

Method Summary

CLIENT NAME: GEMTEC LIMITED

AGAT WORK ORDER: 21K794584

PROJECT: 100424.01

ATTENTION TO: Carolyn Anstey-Moore

SAMPLING SITE:

SAMPLED BY:

| PARAMETER | AGAT S.O.P | LITERATURE REFERENCE | ANALYTICAL TECHNIQUE |
|--|--------------------------------|--|----------------------|
| Water Analysis | | | |
| Fluoride | INOR-93-6004 | modified from SM 4110 B | ION CHROMATOGRAPH |
| Chloride | INOR-93-6004 | modified from SM 4110 B | ION CHROMATOGRAPH |
| Nitrate as N | INOR-93-6004 | modified from SM 4110 B | ION CHROMATOGRAPH |
| Nitrite as N | INOR-93-6004 | SM 4110 B | ION CHROMATOGRAPH |
| Sulphate | INOR-93-6004 | modified from SM 4110 B | ION CHROMATOGRAPH |
| Dissolved Mercury | MET-121-6100 & MET-121-6107 | SM 3112 B | CV/AA |
| pH | INOR-121-6001 | SM 4500 H+B | PC TITRATE |
| Reactive Silica as SiO ₂ | INOR-121-6027 | SM 4500-SiO ₂ F | COLORIMETER |
| Chloride | INORG-121-6005 | SM 4110 B | ION CHROMATOGRAPH |
| Fluoride | INORG-121-6005 | SM 4110 B | ION CHROMATOGRAPH |
| Sulphate | INORG-121-6005 | SM 4110 B | ION CHROMATOGRAPH |
| Alkalinity | INOR-121-6001 | SM 2320 B | |
| True Color | INOR-121-6008 | SM 2120 B | LACHAT FIA |
| Turbidity | INOR-121-6022 | SM 2130 B | NEPHELOMETER |
| Electrical Conductivity | INOR-121-6001 | SM 2510 B | PC TITRATE |
| Nitrate + Nitrite as N | INORG-121-6005 | SM 4110 B | CALCULATION |
| Nitrate as N | INORG-121-6005 | SM 4110 B | ION CHROMATOGRAPH |
| Nitrite as N | INORG-121-6005 | SM 4110 B | ION CHROMATOGRAPH |
| Ammonia as N | INOR-121-6047 | SM 4500-NH ₃ H | COLORIMETER |
| Total Organic Carbon | INOR-121-6026 | SM 5310 B | TOC ANALYZER |
| Ortho-Phosphate as P | INOR-121-6012 | SM 4500-P G | COLORIMETER |
| Dissolved Sodium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Dissolved Potassium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Dissolved Calcium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Dissolved Magnesium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Bicarb. Alkalinity (as CaCO ₃) | INORG-121-6001 | SM 2320 B | PC TITRATE |
| Carb. Alkalinity (as CaCO ₃) | INORG-121-6001 | SM 2320 B | PC TITRATE |
| Hydroxide | INORG-121-6001 | SM 2320 B | PC-TITRATE |
| Calculated TDS | CALCULATION | SM 1030E | CALCULATION |
| Hardness | CALCULATION | SM 2340B | CALCULATION |
| Langelier Index (@20C) | CALCULATION | CALCULATION | CALCULATION |
| Langelier Index (@ 4C) | CALCULATION | CALCULATION | CALCULATION |
| Saturation pH (@ 20C) | CALCULATION | CALCULATION | CALCULATION |
| Saturation pH (@ 4C) | CALCULATION | CALCULATION | CALCULATION |
| Anion Sum | CALCULATION | SM 1030E | CALCULATION |
| Cation sum | CALCULATION | SM 1030E | CALCULATION |
| % Difference/ Ion Balance | CALCULATION | SM 1030E | CALCULATION |
| Dissolved Aluminum | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Dissolved Antimony | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Dissolved Arsenic | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Dissolved Barium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |

Method Summary

CLIENT NAME: GEMTEC LIMITED

AGAT WORK ORDER: 21K794584

PROJECT: 100424.01

ATTENTION TO: Carolyn Anstey-Moore

SAMPLING SITE:

SAMPLED BY:

| PARAMETER | AGAT S.O.P | LITERATURE REFERENCE | ANALYTICAL TECHNIQUE |
|------------------------|--------------------------------|--|----------------------|
| Dissolved Beryllium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Dissolved Bismuth | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Dissolved Boron | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Dissolved Cadmium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Dissolved Chromium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Dissolved Cobalt | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Dissolved Copper | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Dissolved Iron | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Dissolved Lead | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Dissolved Manganese | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Dissolved Molybdenum | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Dissolved Nickel | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Dissolved Phosphorus | MET-121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Dissolved Selenium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Dissolved Silver | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Dissolved Strontium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Dissolved Thallium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Dissolved Tin | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Dissolved Titanium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Dissolved Uranium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Dissolved Vanadium | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Dissolved Zinc | MET121-6104 & MET-121-6105 | modified from SM 3125/SM 3030 B/SM 3030 D | ICP-MS |
| Total Suspended Solids | INOR-121-6024, 6025 | SM 2540C, D | GRAVIMETRIC |



AGAT Laboratories

Unit 1, 57 Old Pennywell Rd
St John's, NL
A1E 6A8

webearth.agatlabs.com • www.agatlabs.com

Laboratory Use Only

Arrival Condition: Good Poor (see notes)
Arrival Temperature: 9.3, 9.6, 8.8
Hold Time: _____
AGAT Job Number: 21K794584

Chain of Custody Record

P: 709.747.8573 • F: 709.747.2139

Report Information

Company: GEMTEC Consulting Engineers and Scientists Ltd.
Contact: Carolyn Anstey-Moore
Address: 10 Maverick Place
St. John's, NL A1L 0J1
Phone: 709-693-9171 Fax: _____
Client Project #: 100424.01
AGAT Quotation: GEMTEC SOA #366606
Please Note: If quotation number is not provided client will be billed full price for analysis.

Report Information (Please print):

1. Name: Carolyn Anstey-Moore
Email: carolyn.anstey-moore@gemtec.ca
2. Name: _____
Email: _____

Report Format

Single Sample per page
 Multiple Samples per page
 Excel Format Included

Notes:

Turnaround Time Required (TAT)

Regular TAT 5 to 7 working days
Rush TAT Same day 1 day
 2 days 3 days

Date Required: _____

Invoice To

Same Yes / No

Company: GEMTEC Consulting Engineers and Scientist Ltd.
Contact: Accounts Payable
Address: _____
Phone: _____ Fax: _____
PO/Credit Card#: _____

Regulatory Requirements (Check):

List Guidelines on Report Do not list Guidelines on Report
 PIRI
 Tier 1 Res Pot Coarse
 Tier 2 Com N/Pot Fine
 Gas Fuel Lube
 CCME CDWQ
 Industrial Other _____
 Commercial
 Res/Park
 Agricultural
 FWAL
 Sediment

Drinking Water Sample: Yes No Salt Water: Yes No
Reg. No.: _____

| Sample Identification | Date/Time Sampled | Sample Matrix | # Containers | Comments - Site/Sample Info. Sample Containment | Field Filtered/Preserved | Standard Water Analysis | Metals: <input type="checkbox"/> Total <input type="checkbox"/> Diss <input type="checkbox"/> Available | Mercury | <input type="checkbox"/> BOD <input type="checkbox"/> CBOD | pH | <input type="checkbox"/> TSS <input type="checkbox"/> TDS <input type="checkbox"/> VSS | TKN | Total Phosphorus | Phenols | Tier 1: TPH/BTEX (PIRI) <input type="checkbox"/> low level | Tier 2: TPH/BTEX Fractionation | CCME-CWS TPH/BTEX | VOC | THM | HAA | PAH | PCB | TC + EC <input type="checkbox"/> P/A <input type="checkbox"/> MPN <input type="checkbox"/> MF | <input type="checkbox"/> HPC <input type="checkbox"/> Pseudomonas | Fecal Coliform <input type="checkbox"/> MPN <input type="checkbox"/> MF | Other: | Other: | Hazardous (Y/N) | |
|-----------------------|-------------------|---------------|--------------|--|--------------------------|-------------------------|---|---------|--|----|--|-----|------------------|---------|--|--------------------------------|-------------------|-----|-----|-----|-----|-----|---|---|---|--------|--------|-----------------|--|
| 21-180 | 21/08/25 | water | multiple | | ✓ | ✓ | ✓ | ✓ | | | ✓ | | | | ✓ | | | | | | | | | | | | | | |
| 21-261 | 21/08/25 | water | multiple | | ✓ | ✓ | ✓ | ✓ | | | ✓ | | | | ✓ | | | | | | | | | | | | | | |
| 21-280 | 21/08/26 | water | multiple | | ✓ | ✓ | ✓ | ✓ | | | ✓ | | | | ✓ | | | | | | | | | | | | | | |
| 20-64 | 21/08/26 | water | multiple | | ✓ | ✓ | ✓ | ✓ | | | ✓ | | | | ✓ | | | | | | | | | | | | | | |
| 20-64A | 21/08/26 | water | multiple | | ✓ | ✓ | ✓ | ✓ | | | ✓ | | | | ✓ | | | | | | | | | | | | | | |
| 21-156 | 21/08/26 | water | multiple | | ✓ | ✓ | ✓ | ✓ | | | ✓ | | | | ✓ | | | | | | | | | | | | | | |
| 21-209 | 21/08/27 | water | multiple | | ✓ | ✓ | ✓ | ✓ | | | ✓ | | | | ✓ | | | | | | | | | | | | | | |
| NFGC-21-110 | 21/08/27 | water | multiple | | ✓ | ✓ | ✓ | ✓ | | | ✓ | | | | ✓ | | | | | | | | | | | | | | |

| | | | | | |
|--|-------------------------------|---|--|---|---------------------------|
| Samples Relinquished By (Print Name): Carolyn Anstey-Moore | Date/Time: 21/08/30 | Samples Received By (Print Name): <i>Myra Bagoff</i> | Date/Time: Aug 30 21 @ 10:10 | Plnk Copy - Client Yellow Copy - AGAT White Copy - AGAT | Page <u>1</u> of <u>7</u> |
| Samples Relinquished By (Sign): <i>Carolyn Anstey-Moore</i> | Date/Time: | Samples Received By (Sign): <i>Myra Bagoff</i> | Date/Time: | Nº: | |



APPENDIX E

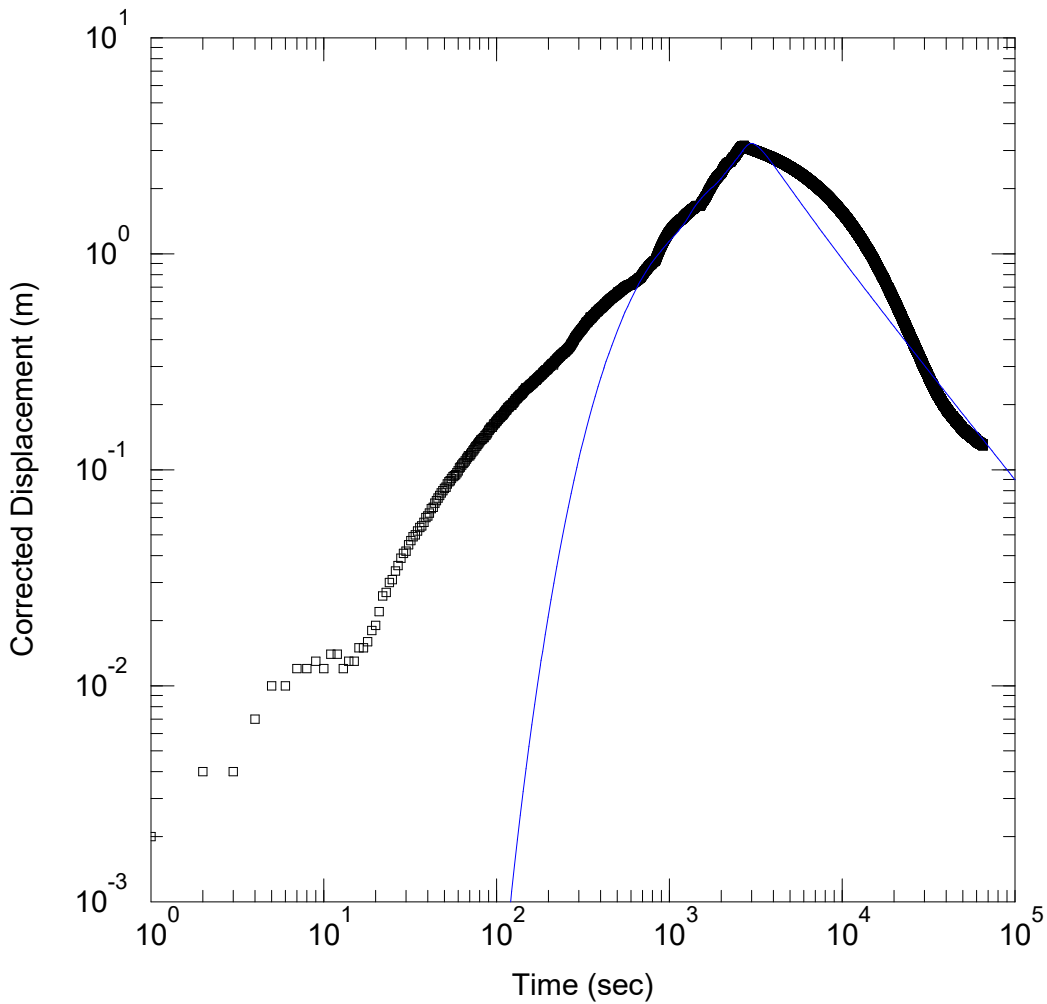
Excerpts from the
Newfoundland and Labrador Registry of Water Rights

| Region | File_Num | Document_Num | Holder_Name | WaterBody | Main_Purpose | Designated_Purpose | Expiry_Date | Status | Latitude_DD | Longitude_DD |
|--------|----------|--------------|--|---|----------------------|-------------------------------------|-------------|---------|-------------|--------------|
| C | 515 | 2004-142 | Rubicon Minerals Corporation | Unnammed near Joe Batt's Brook (Group B) | Industrial | Industrial (Drilling) | 12/31/2005 | Expired | 49.00944 | -54.74639 |
| C | 515 | 2004-142 | Rubicon Minerals Corporation | Unnammed near Jonathan's Second Pond (Group C) | Industrial | Industrial (Drilling) | 12/31/2005 | Expired | 49.09694 | -54.55778 |
| C | 515 | 2005-071 | Crosshair Exploration and Mining Corp. | Unnamed near South Pond (Glenwood Property) | Industrial (Mineral) | Industrial (Mineral) | 7/31/2006 | Expired | 49.11056 | -54.72556 |
| C | 515 | 2006-053 | Richmont Mines Inc. | Unnamed flowing into First Pond | Industrial (Mineral) | Industrial (Mineral) | 6/30/2007 | Expired | 49.1825 | -54.50806 |
| C | 515 | 2006-077 | Rubicon Minerals Corporation | Unnamed near Joe Batts Pond and Joe Batts Brook Site # 1 | Industrial (Mineral) | Industrial (Mineral) | 7/31/2007 | Expired | 48.98278 | -54.77083 |
| C | 515 | 2006-077 | Rubicon Minerals Corporation | Unnamed near Joe Batts Pond and Joe Batts Brook Site # 2 | Industrial (Mineral) | Industrial (Mineral) | 7/31/2007 | Expired | 49.00667 | -54.7475 |
| C | 515 | 2006-077 | Rubicon Minerals Corporation | Unnamed near Joe Batts Pond and Joe Batts Brook Site # 2 | Industrial (Mineral) | Industrial (Mineral) | 7/31/2007 | Expired | 49.02056 | -54.73389 |
| C | 515 | 2006-129 | Rubicon Minerals Corporation | Unnamed Pond draining into Joe Batts Brook Site # 1 | Industrial (Mineral) | Industrial (Mineral) | 8/31/2007 | Expired | 49.00667 | -54.73639 |
| C | 515 | 2006-129 | Rubicon Minerals Corporation | Unnamed Pond draining into Joe Batts Brook Site # 2 | Industrial (Mineral) | Industrial (Mineral) | 8/31/2007 | Expired | 49.00583 | -54.73444 |
| C | 515 | 2011-015 | Benton Resources Corporation | Unnamed - Four Sites | Industrial (Mineral) | Industrial (Mineral) | 12/31/2011 | Expired | 49.08222 | -54.76194 |
| C | 515 | 2011-015 | Benton Resources Corporation | Unnamed - Four Sites | Industrial (Mineral) | Industrial (Mineral) | 12/31/2011 | Expired | 49.09194 | -54.70222 |
| C | 515 | 2011-015 | Benton Resources Corporation | Unnamed - Four Sites | Industrial (Mineral) | Industrial (Mineral) | 12/31/2011 | Expired | 49.07417 | -54.76194 |
| C | 515 | 2011-015 | Benton Resources Corporation | Unnamed - Four Sites | Industrial (Mineral) | Industrial (Mineral) | 12/31/2011 | Expired | 49.04833 | -54.81417 |
| C | 515 | 2009-057 | Paragon Minerals Corporation | Unnamed | Industrial (Mineral) | Industrial (Mineral) | 7/31/2009 | Expired | 48.98722 | -54.76806 |
| C | 515 | 2010-057 | Altius Resources Inc. | Unnamed - Two Sites | Industrial (Mineral) | Industrial (Mineral) | 12/31/2010 | Expired | 49.0325 | -54.19194 |
| C | 515 | 2010-057 | Altius Resources Inc. | Unnamed - Two Sites | Industrial (Mineral) | Industrial (Mineral) | 12/31/2010 | Expired | 49.01972 | -54.19278 |
| C | 515 | 2010-115 | Altius Resources Inc. | Unnamed | Industrial (Mineral) | Industrial (Mineral) | 7/31/2011 | Expired | 49.00528 | -54.28611 |
| C | 515 | 2011-091 | Paragon Minerals Corporation | Unnamed | Industrial (Mineral) | Industrial (Mineral) | 6/30/2012 | Expired | 49.01972 | -54.73417 |
| C | 515 | 2011-091 | Paragon Minerals Corporation | Unnamed | Industrial (Mineral) | Industrial (Mineral) | 6/30/2012 | Expired | 49.01083 | -54.74333 |
| C | 515 | 2012-045 | Altius Resources Inc. | Unnamed | Industrial (Mineral) | Industrial (Mineral) | 12/31/2012 | Expired | 49.00917 | -54.29389 |
| C | 515 | 2012-045 | Altius Resources Inc. | Unnamed | Industrial (Mineral) | Industrial (Mineral) | 12/31/2012 | Expired | 49.03167 | -54.18972 |
| C | 515 | 2012-045 | Altius Resources Inc. | Unnamed | Industrial (Mineral) | Industrial (Mineral) | 12/31/2012 | Expired | 49.02389 | -54.18639 |
| C | 515 | 2012-045 | Altius Resources Inc. | Unnamed | Industrial (Mineral) | Industrial (Mineral) | 12/31/2012 | Expired | 49.01917 | -54.19111 |
| C | 515 | 2013-010 | Marilyn Quinlan | Unnamed | Industrial (Mineral) | Industrial (Mineral) | 12/31/2013 | Expired | 49.19667 | -54.82806 |
| C | 515 | 2013-047 | 0840559 BC Ltd. | Bodies of Water | Industrial (Mineral) | Industrial (Mineral) | 6/30/2014 | Expired | 49.20333 | -54.44361 |
| C | 515 | 2014-045 | Zonte Metals Inc. | Bodies of Water | Industrial | Mineral Exploration | 12/31/2019 | Expired | 49.30694 | -54.52194 |
| C | 515 | 2017-9428 | New Found Gold Corp. | Water Withdrawal and Use of Bodies of Water (JBP/AL Linears Property) | Industrial | Mineral Exploration | 10/24/2018 | Expired | 49.0069 | -54.7429 |
| C | 515 | 2018-9873 | Pomerleau Inc. | Water Withdrawal from Whiteman's Pond near the Town of Gander | Temporary | Perform hydrostatic test of lagoons | 8/31/2019 | Expired | 48.988159 | -54.580711 |
| C | 515 | 2019-10559 | New Found Gold Corp. | Linear North Property | Industrial | Mineral Exploration | 12/5/2020 | Expired | 49.053675 | -54.686868 |
| C | 515 | 2020-11018 | Zonte Metals Inc. | Wings Point Property | Industrial | Mineral Exploration | 9/18/2020 | Expired | 49.303055 | -54.521111 |
| C | 515 | 2020-11381 | Exploits Gold Corp. | Jonathan's Pond Property | Industrial | Mineral Exploration | 7/7/2021 | Expired | 49.114341 | -54.574407 |
| C | 515 | 2020-11468 | Neal Blackmore (on behalf of Darren Hicks) | Virginal Gold Property | Industrial | Mineral Exploration | 11/3/2021 | Expired | 49.023942 | -54.827075 |
| C | 515 | 2021-11571 | New Found Gold Corp. | Queensway North Property | Industrial | Mineral Exploration | 12/11/2021 | Expired | 49.026919 | -54.735101 |
| C | 515 | 2021-11715 | Vulcan Minerals Inc. | Gander North Property | Industrial | Mineral Exploration | 3/4/2022 | Expired | 49.099066 | -54.526936 |
| C | 515 | 2021-11783 | Exploits Discovery Corp. | Jonathan's Pond Property | Industrial | Mineral Exploration | 4/21/2022 | Expired | 49.079233 | -54.573379 |
| C | 515 | 2021-11646 | Labardor Gold Corp | Kingsway Property | Industrial | Mineral Exploration | 3/1/2022 | Expired | 49.045289 | -54.788737 |
| C | 515 | 2021-11647 | Labardor Gold Corp | Kingsway Property | Industrial | Mineral Exploration | 3/1/2022 | Expired | 49.045289 | -54.788737 |



APPENDIX F

AQTESOLV® Analytical Plots for Pumping Tests



WELL TEST ANALYSIS

Data Set: N:\...\NFGC-21-110_this_CAM.aqt
 Date: 12/21/22

Time: 12:35:46

PROJECT INFORMATION

Company: GEMTEC
 Client: New Found Gold Corp
 Project: 100424.001
 Location: Queensway North Gold Project
 Test Well: NFGC-21-110
 Test Date: 12/04/2021

WELL DATA

Pumping Wells

| Well Name | X (m) | Y (m) |
|-------------|-------|-------|
| NFGC-21-110 | 0 | 0 |

Observation Wells

| Well Name | X (m) | Y (m) |
|---------------|-------|-------|
| □ NFGC-21-110 | 0 | 0 |

SOLUTION

Aquifer Model: Unconfined

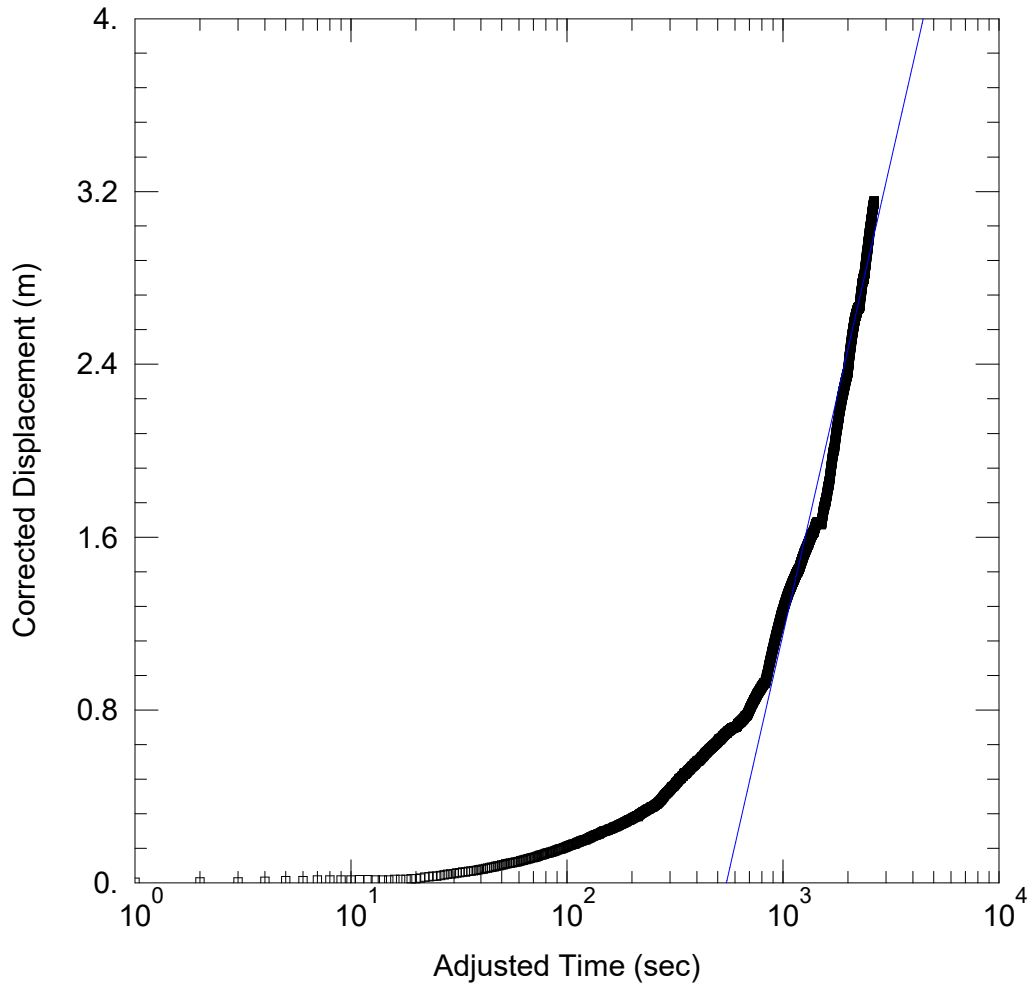
Solution Method: Theis

T = 3.55E-7 m²/sec

S = 0.4924

Kz/Kr = 1.

b = 127.9 m



WELL TEST ANALYSIS

Data Set: N:\...\NFGC-21-110_CJ_CAM.aqt
 Date: 12/21/22

Time: 12:36:38

PROJECT INFORMATION

Company: GEMTEC
 Client: New Found Gold Corp
 Project: 100424.001
 Location: Queensway North Gold Project
 Test Well: NFGC-21-110
 Test Date: 12/04/2021

AQUIFER DATA

Saturated Thickness: 127.9 m

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumping Wells

Observation Wells

| Well Name | X (m) | Y (m) |
|-------------|-------|-------|
| NFGC-21-110 | 0 | 0 |

| Well Name | X (m) | Y (m) |
|---------------|-------|-------|
| □ NFGC-21-110 | 0 | 0 |

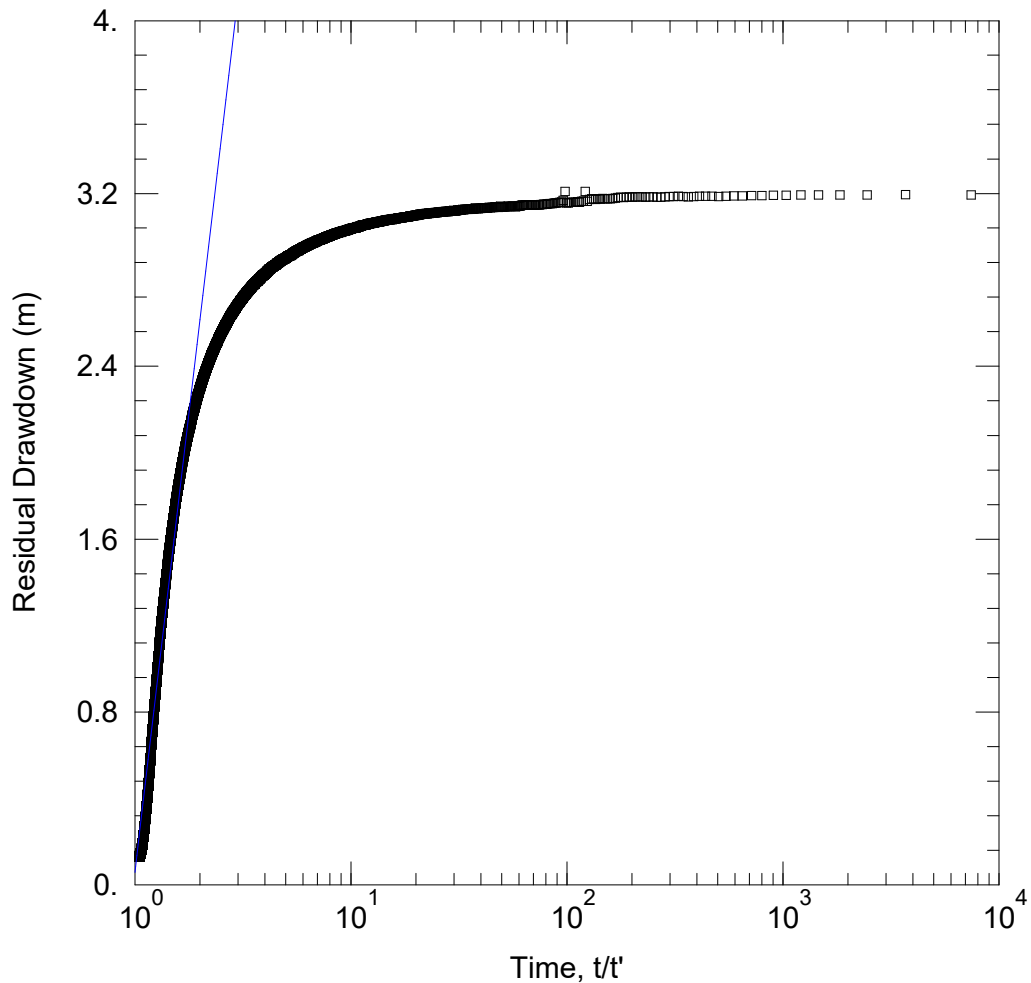
SOLUTION

Aquifer Model: Unconfined

Solution Method: Cooper-Jacob

T = 5.982E-7 m²/sec

S = 0.3196



WELL TEST ANALYSIS

Data Set: N:\...\NFGC-21-110_Rec_CAM.aqt

Date: 12/21/22

Time: 12:37:32

PROJECT INFORMATION

Company: GEMTEC

Client: New Found Gold Corp

Project: 100424.001

Location: Queensway North Gold Project

Test Well: NFGC-21-110

Test Date: 12/04/2021

AQUIFER DATA

Saturated Thickness: 127.9 m

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumping Wells

Observation Wells

| Well Name | X (m) | Y (m) |
|-------------|-------|-------|
| NFGC-21-110 | 0 | 0 |

| Well Name | X (m) | Y (m) |
|---------------|-------|-------|
| □ NFGC-21-110 | 0 | 0 |

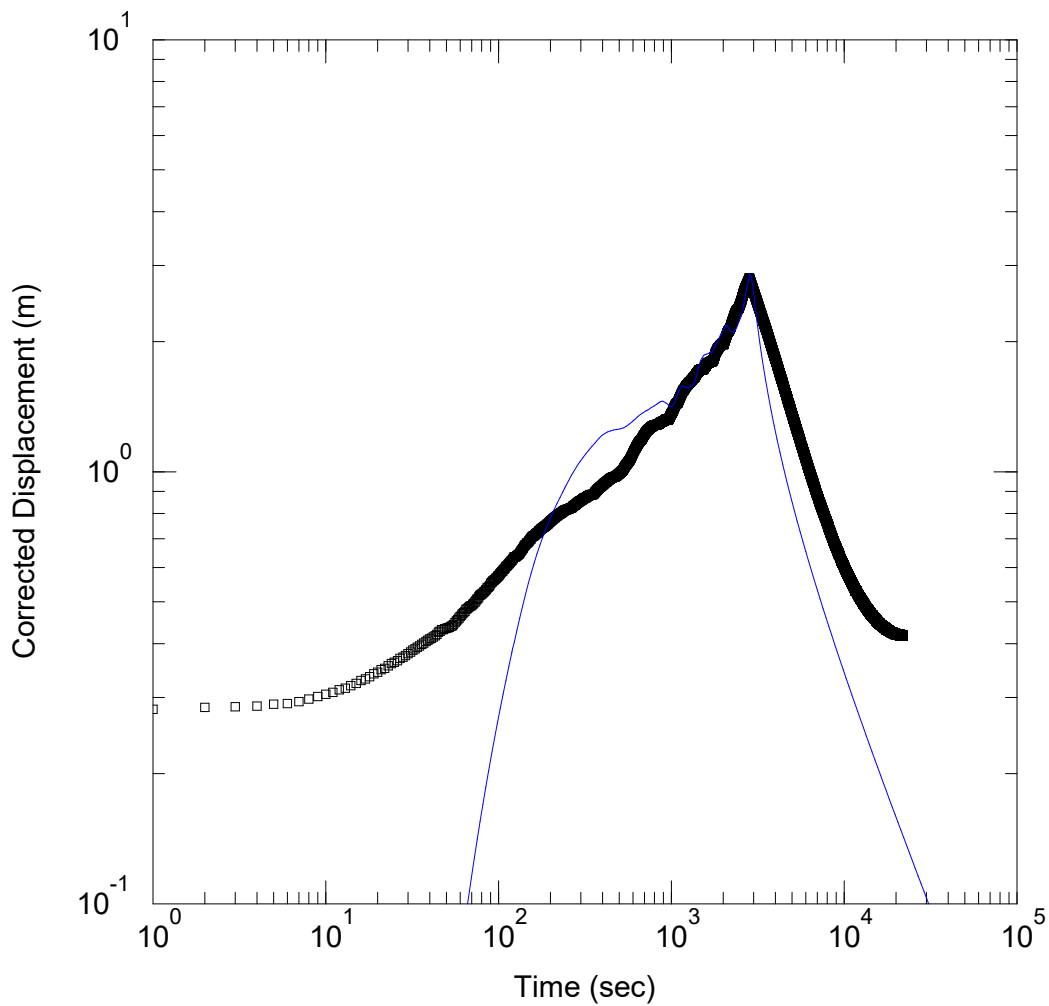
SOLUTION

Aquifer Model: Confined

Solution Method: Theis (Recovery)

T = 2.701E-7 m²/sec

S/S' = 0.9846



WELL TEST ANALYSIS

Data Set: N:\...\NFGC-21-129_Theis_CAM.aqt

Date: 12/21/22

Time: 12:33:30

PROJECT INFORMATION

Company: GEMTEC

Client: New Found Gold Corp

Project: 100424.001

Location: Queensway North Gold Project

Test Well: NFGC-21-129

Test Date: 12/04/2021

WELL DATA

Pumping Wells

Observation Wells

| Well Name | X (m) | Y (m) |
|-------------|-------|-------|
| NFGC-21-129 | 0 | 0 |

| Well Name | X (m) | Y (m) |
|---------------|-------|-------|
| □ NFGC-21-129 | 0 | 0 |

SOLUTION

Aquifer Model: Unconfined

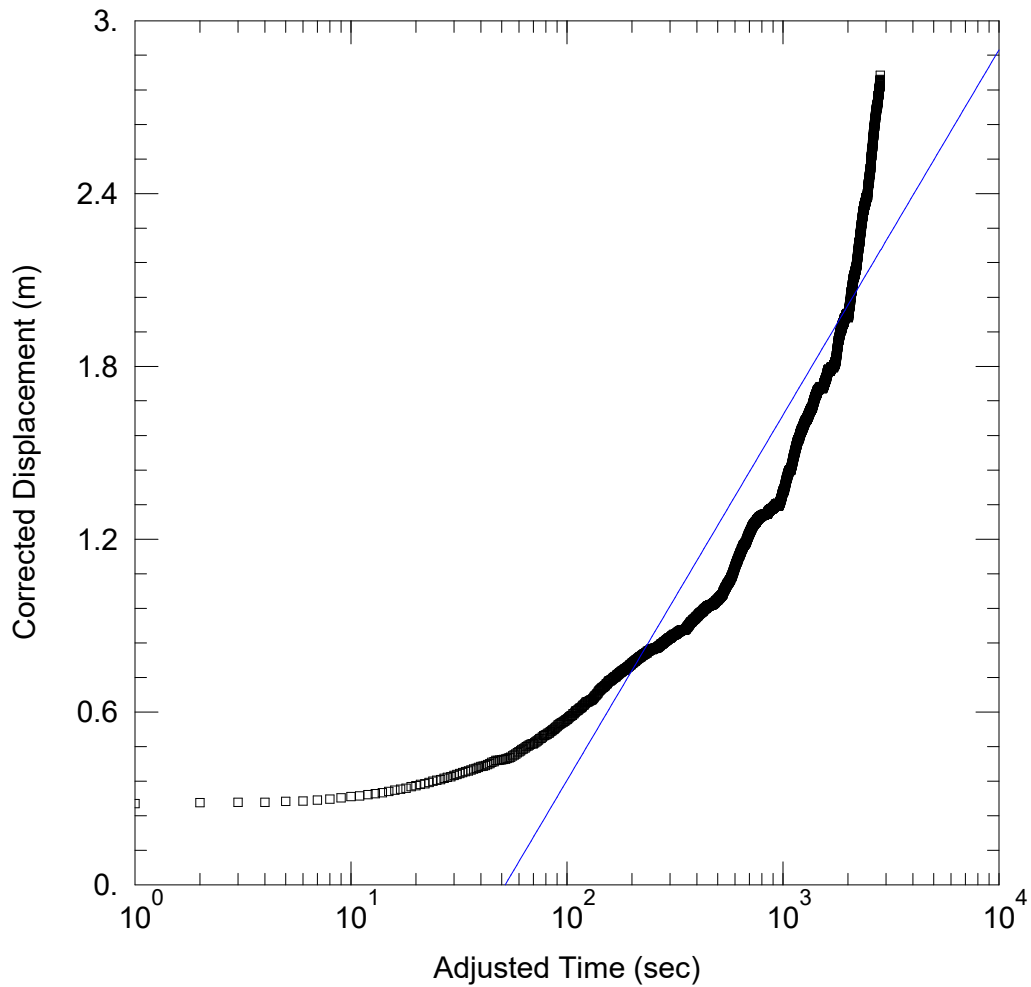
Solution Method: Theis

T = 1.231E-6 m²/sec

S = 0.2889

Kz/Kr = 1.

b = 113.5 m



WELL TEST ANALYSIS

Data Set: N:\...\NFGC-21-129_CJ_CAM.aqt
 Date: 12/21/22

Time: 12:34:10

PROJECT INFORMATION

Company: GEMTEC
 Client: New Found Gold Corp
 Project: 100424.001
 Location: Queensway North Gold Project
 Test Well: NFGC-21-129
 Test Date: 12/04/2021

AQUIFER DATA

Saturated Thickness: 113.5 m

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumping Wells

Observation Wells

| Well Name | X (m) | Y (m) |
|-------------|-------|-------|
| NFGC-21-129 | 0 | 0 |

| Well Name | X (m) | Y (m) |
|---------------|-------|-------|
| □ NFGC-21-129 | 0 | 0 |

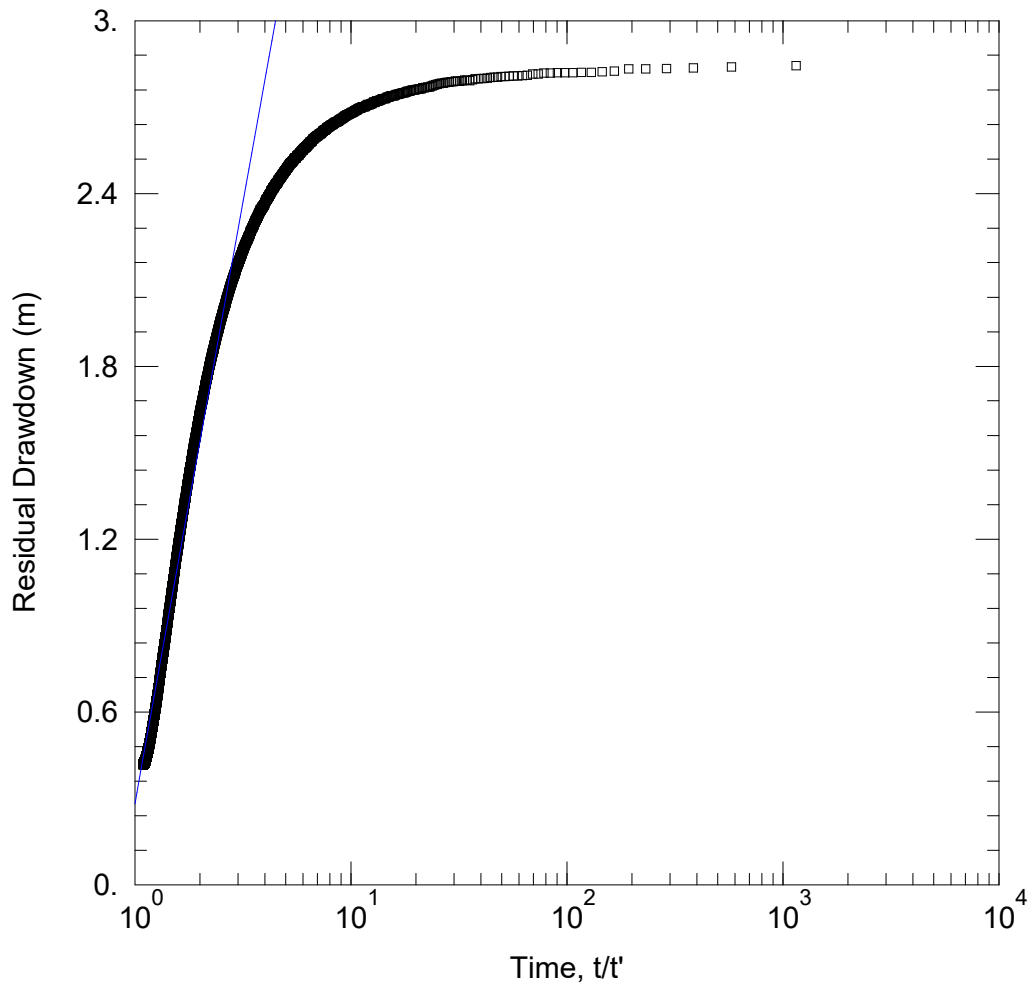
SOLUTION

Aquifer Model: Unconfined

Solution Method: Cooper-Jacob

T = 2.312E-6 m²/sec

S = 0.1169



WELL TEST ANALYSIS

Data Set: N:\...\NFGC-21-129_Rec_CAM.aqt
 Date: 12/21/22

Time: 12:34:49

PROJECT INFORMATION

Company: GEMTEC
 Client: New Found Gold Corp
 Project: 100424.001
 Location: Queensway North Gold Project
 Test Well: NFGC-21-129
 Test Date: 12/04/2021

AQUIFER DATA

Saturated Thickness: 113.5 m

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumping Wells

Observation Wells

| Well Name | X (m) | Y (m) |
|-------------|-------|-------|
| NFGC-21-129 | 0 | 0 |

| Well Name | X (m) | Y (m) |
|---------------|-------|-------|
| □ NFGC-21-129 | 0 | 0 |

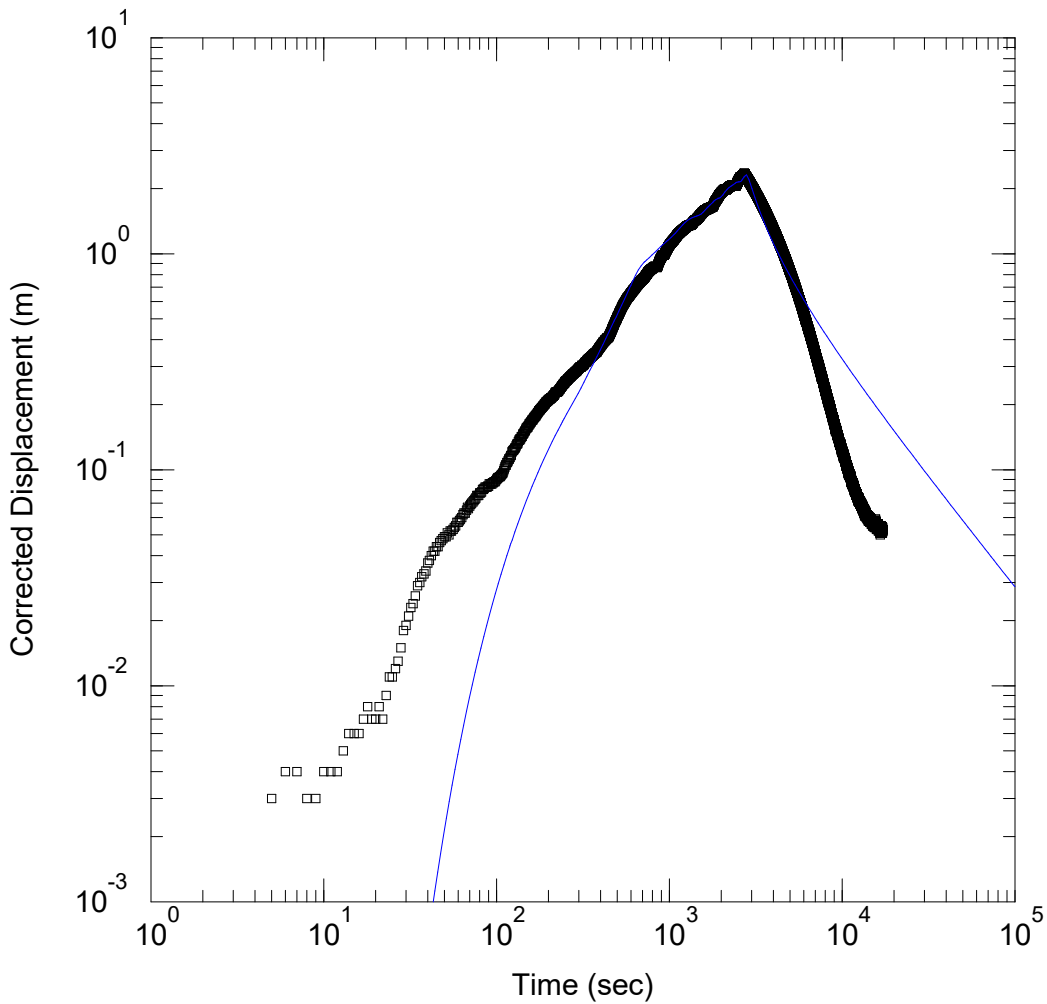
SOLUTION

Aquifer Model: Confined

Solution Method: Theis (Recovery)

T = 1.098E-6 m²/sec

S/S' = 0.8564



WELL TEST ANALYSIS

Data Set: N:\...\NFGC-21-167_Theis_CAM.aqt

Date: 12/21/22

Time: 12:31:08

PROJECT INFORMATION

Company: GEMTEC

Client: New Found Gold Corp

Project: 100424.001

Location: Queensway North Gold Project

Test Well: NFGC-21-167

Test Date: 12/04/2021

WELL DATA

Pumping Wells

| Well Name | X (m) | Y (m) |
|-------------|-------|-------|
| NFGC-21-167 | 0 | 0 |

Observation Wells

| Well Name | X (m) | Y (m) |
|---------------|-------|-------|
| □ NFGC-21-167 | 0 | 0 |

SOLUTION

Aquifer Model: Unconfined

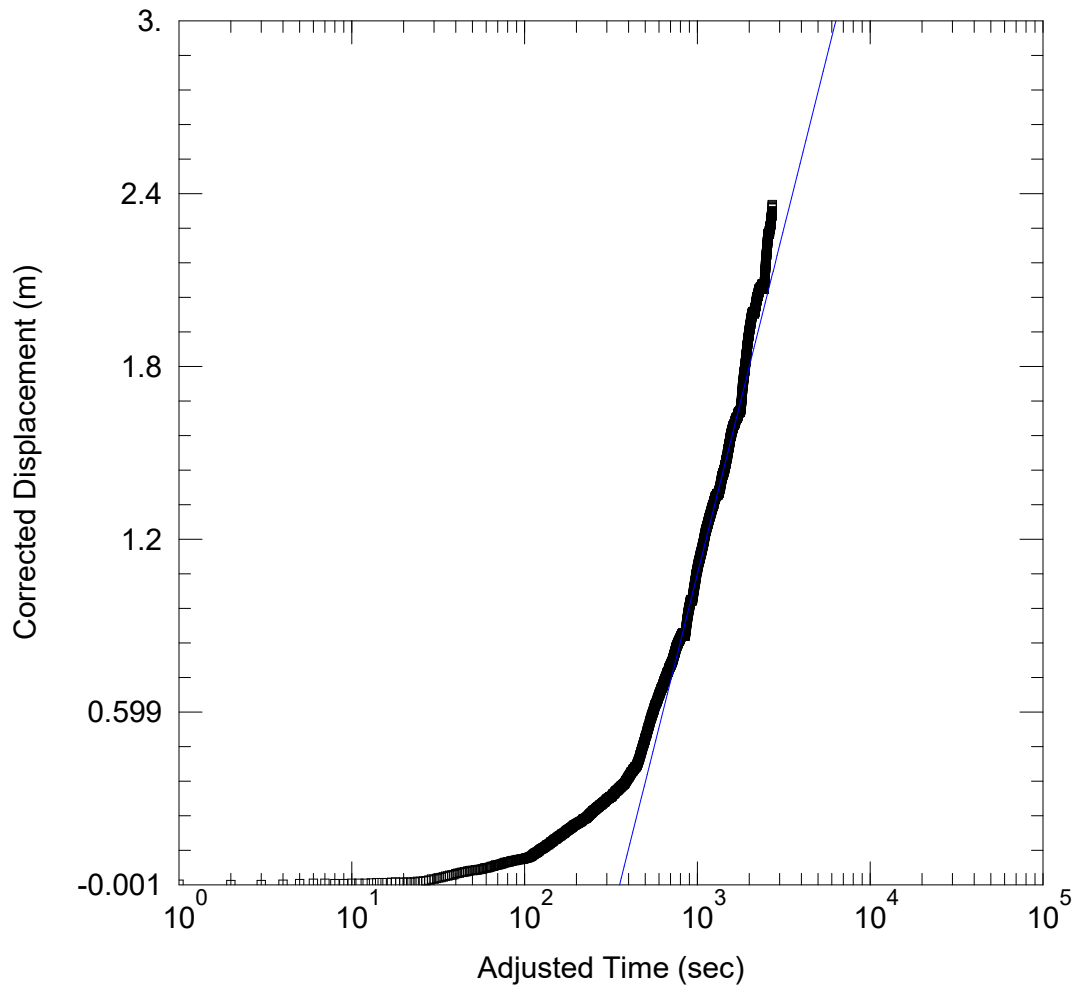
Solution Method: Theis

T = 1.171E-6 m²/sec

S = 0.4064

Kz/Kr = 1.

b = 160.9 m



WELL TEST ANALYSIS

Data Set: N:\...\NFGC-21-167_CJ_CAM.aqt
 Date: 12/21/22

Time: 12:31:45

PROJECT INFORMATION

Company: GEMTEC
 Client: New Found Gold Corp
 Project: 100424.001
 Location: Queensway North Gold Project
 Test Well: NFGC-21-167
 Test Date: 12/04/2021

AQUIFER DATA

Saturated Thickness: 160.9 m

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumping Wells

Observation Wells

| Well Name | X (m) | Y (m) |
|-------------|-------|-------|
| NFGC-21-167 | 0 | 0 |

| Well Name | X (m) | Y (m) |
|---------------|-------|-------|
| □ NFGC-21-167 | 0 | 0 |

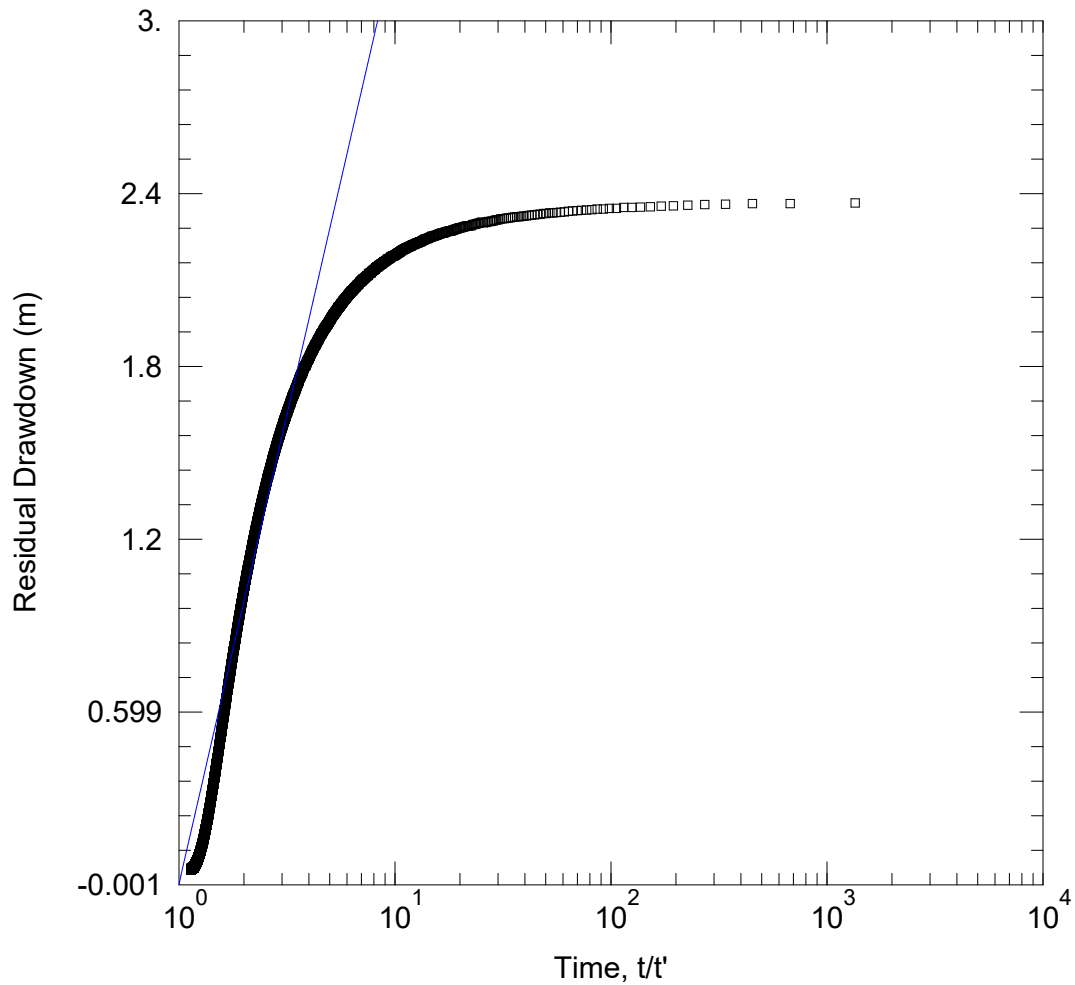
SOLUTION

Aquifer Model: Unconfined

Solution Method: Cooper-Jacob

T = 1.171E-6 m²/sec

S = 0.4064



WELL TEST ANALYSIS

Data Set: N:\...\NFGC-21-167_Theis_Rec_CAM.aqt
 Date: 12/21/22 Time: 12:32:28

PROJECT INFORMATION

Company: GEMTEC
 Client: New Found Gold Corp
 Project: 100424.001
 Location: Queensway North Gold Project
 Test Well: NFGC-21-167
 Test Date: 12/04/2021

AQUIFER DATA

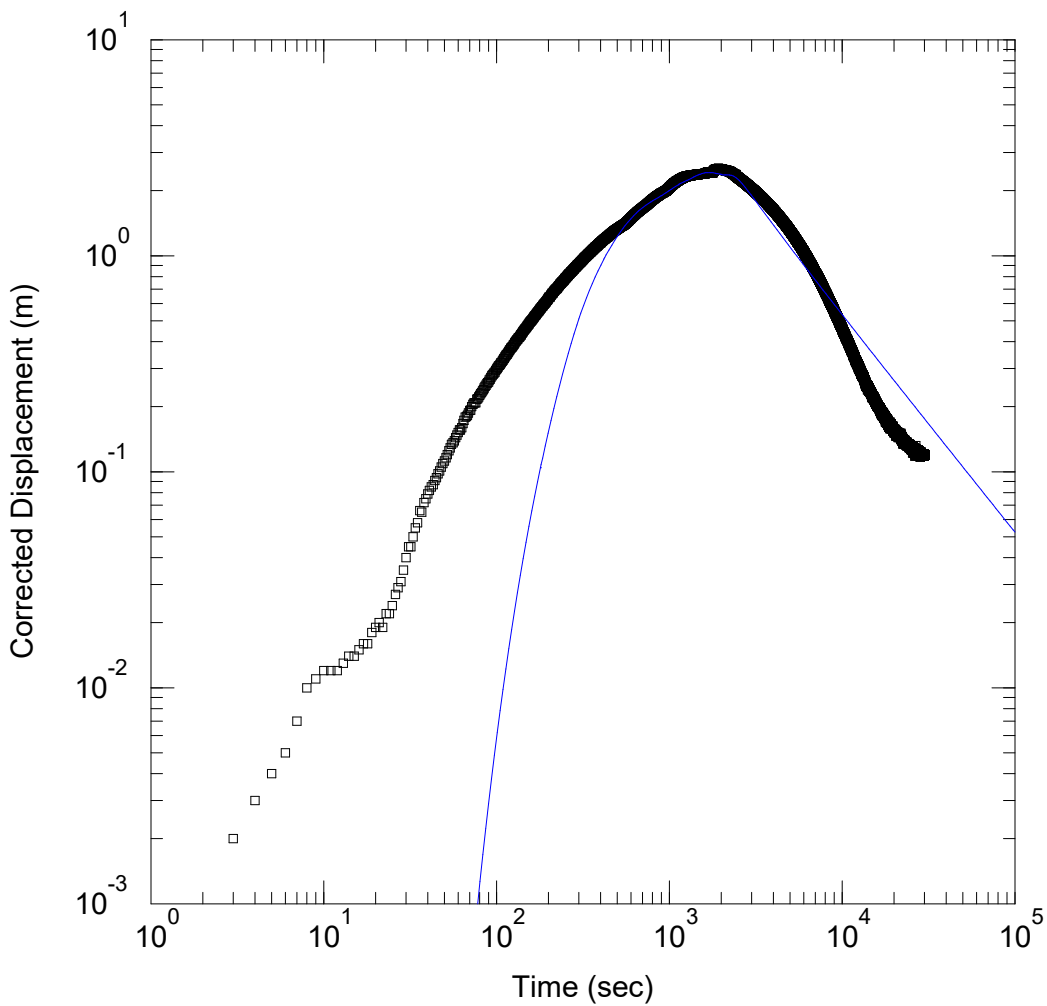
Saturated Thickness: 160.9 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

| Pumping Wells | | | Observation Wells | | |
|---------------|-------|-------|-------------------|-------|-------|
| Well Name | X (m) | Y (m) | Well Name | X (m) | Y (m) |
| NFGC-21-167 | 0 | 0 | □ NFGC-21-167 | 0 | 0 |

SOLUTION

Aquifer Model: Confined Solution Method: Theis (Recovery)
 T = 1.171E-6 m²/sec S/S' = 1.



WELL TEST ANALYSIS

Data Set: N:\...\NFGC-21-261_Theis_CAM.aqt

Date: 12/21/22

Time: 12:28:54

PROJECT INFORMATION

Company: GEMTEC

Client: New Found Gold Corp

Project: 100424.001

Location: Queensway North Gold Project

Test Well: NFGC-21-261

Test Date: 12/04/2021

WELL DATA

Pumping Wells

Observation Wells

| Well Name | X (m) | Y (m) |
|-------------|-------|-------|
| NFGC-21-261 | 0 | 0 |

| Well Name | X (m) | Y (m) |
|---------------|-------|-------|
| □ NFGC-21-261 | 0 | 0 |

SOLUTION

Aquifer Model: Unconfined

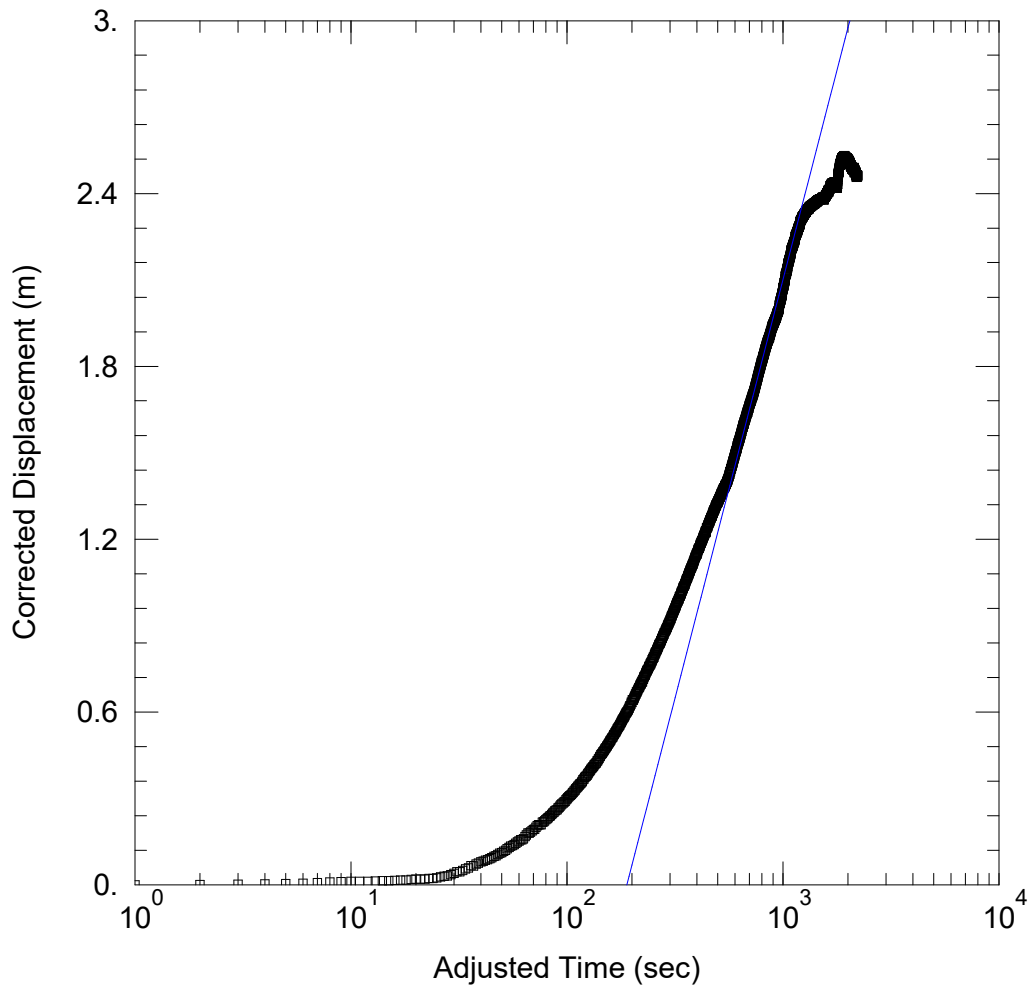
Solution Method: Theis

T = 7.433E-7 m²/sec

S = 0.6975

Kz/Kr = 1.

b = 158.3 m



WELL TEST ANALYSIS

Data Set: N:\...\NFGC-21-261_CJ_CAM.aqt
 Date: 12/21/22

Time: 12:29:34

PROJECT INFORMATION

Company: GEMTEC
 Client: New Found Gold Corp
 Project: 100424.001
 Location: Queensway North Gold Project
 Test Well: NFGC-21-261
 Test Date: 12/04/2021

AQUIFER DATA

Saturated Thickness: 158.3 m

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumping Wells

Observation Wells

| Well Name | X (m) | Y (m) |
|-------------|-------|-------|
| NFGC-21-261 | 0 | 0 |

| Well Name | X (m) | Y (m) |
|---------------|-------|-------|
| □ NFGC-21-261 | 0 | 0 |

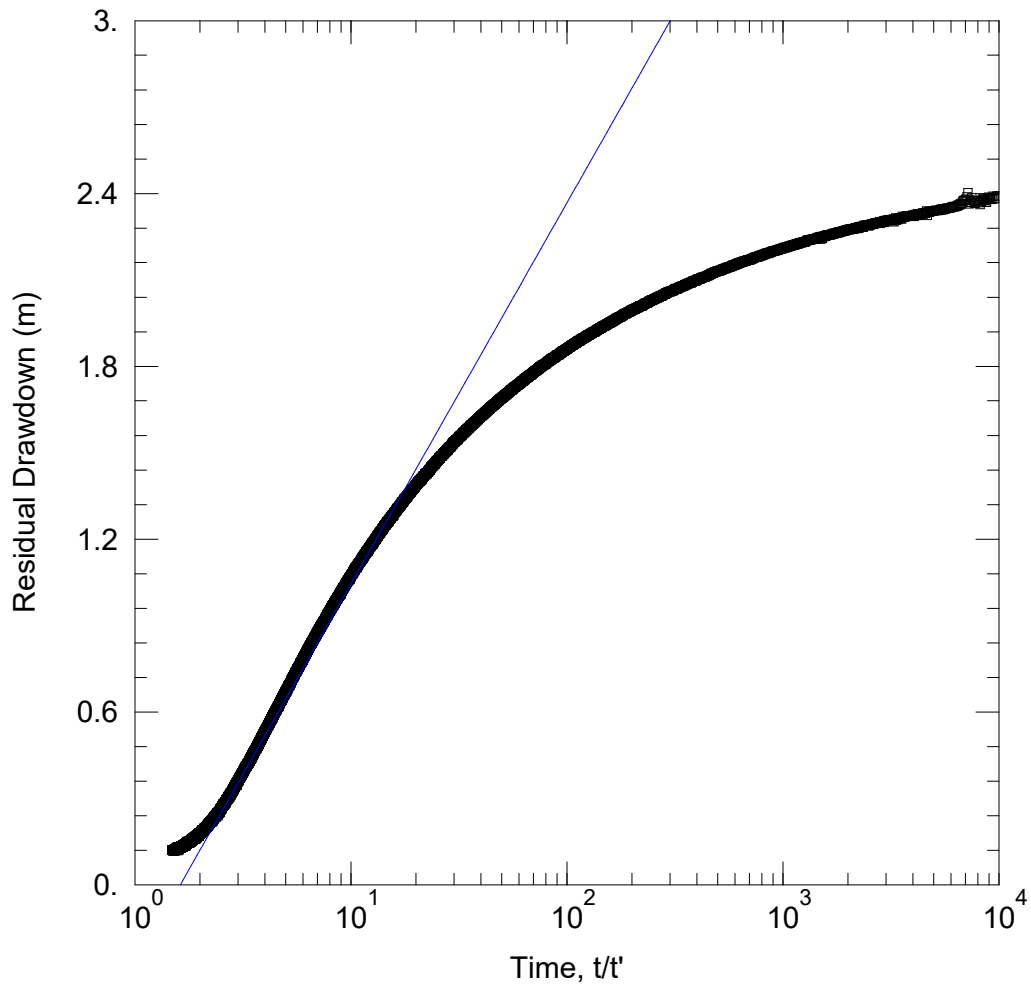
SOLUTION

Aquifer Model: Unconfined

Solution Method: Cooper-Jacob

T = 1.239E-6 m²/sec

S = 0.2292



WELL TEST ANALYSIS

Data Set: N:\...\NFGC-21-261_Rec_CAM.aqt
 Date: 12/21/22

Time: 12:30:14

PROJECT INFORMATION

Company: GEMTEC
 Client: New Found Gold Corp
 Project: 100424.001
 Location: Queensway North Gold Project
 Test Well: NFGC-21-261
 Test Date: 12/04/2021

AQUIFER DATA

Saturated Thickness: 158.3 m

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumping Wells

Observation Wells

| Well Name | X (m) | Y (m) |
|-------------|-------|-------|
| NFGC-21-261 | 0 | 0 |

| Well Name | X (m) | Y (m) |
|---------------|-------|-------|
| □ NFGC-21-261 | 0 | 0 |

SOLUTION

Aquifer Model: Confined

Solution Method: Theis (Recovery)

T = 5.774E-7 m²/sec

S/S' = 1.625

experience • knowledge • integrity

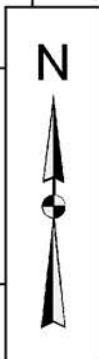
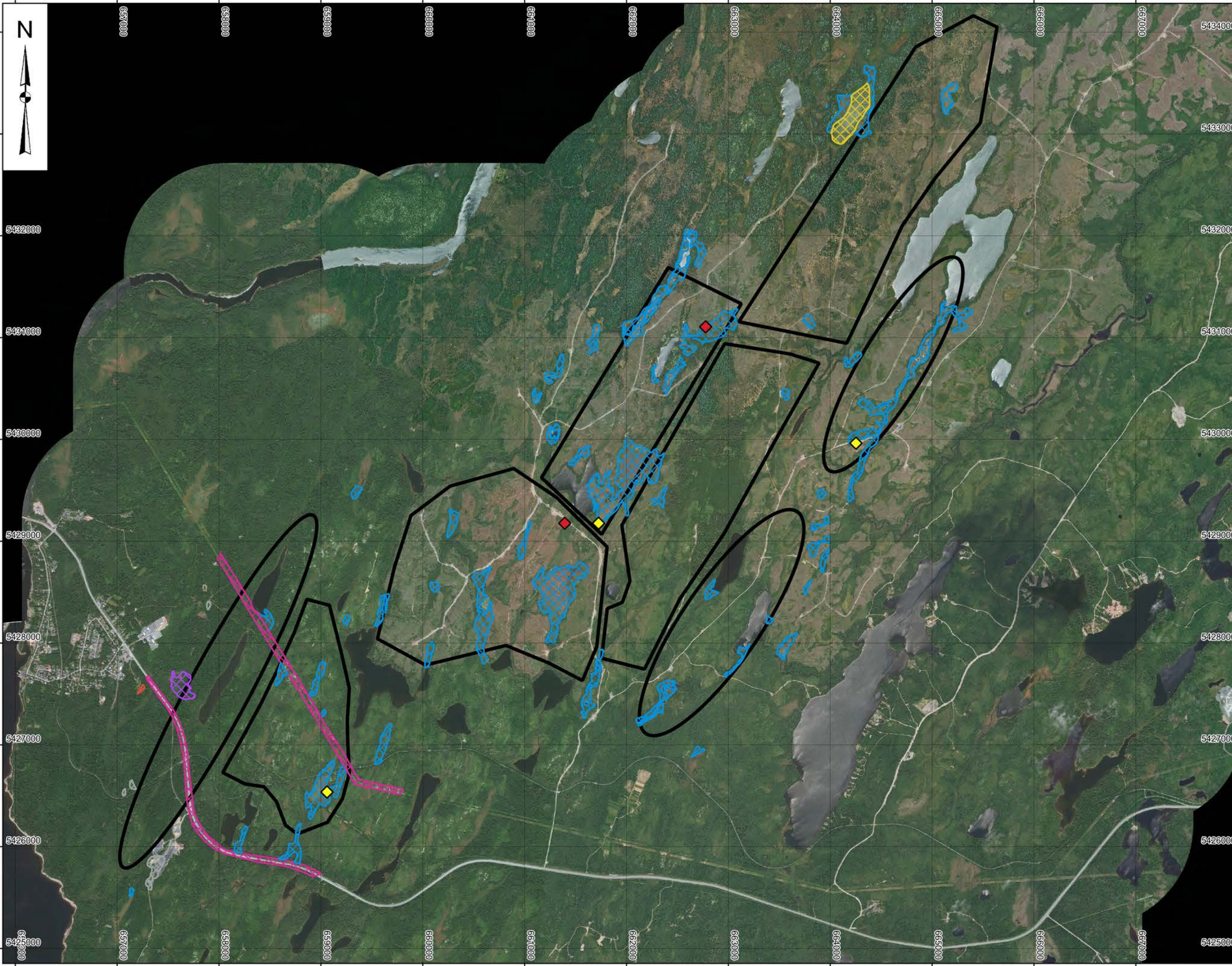


civil
geotechnical
environmental
field services
materials testing

civil
géotechnique
environnementale
surveillance de chantier
service de laboratoire des matériaux

expérience • connaissance • intégrité





LEGEND

Newfoundland Forestry Data - Non Forested Areas

- Agriculture
- Wetland
- Cleared Land
- Residential
- Right of Way
- Soil Barren

SAR locations

- Gray-cheeked Thrush
- Olive-sided Flycatcher

Infrastructure Areas

NOTES

1. COORDINATE SYSTEM: NAD83 / UTM zone 21N
2. TOPOGRAPHICAL MAP FEATURES FROM...
3. AS BUILT BOREHOLE / TEST PIT LOCATIONS FROM...
4. SITE DEVELOPMENT LAYOUT FROM...

SCALE AT 11" BY 17"

1:35,000

500 0 500 1,000 1,500 m

PROJECT TITLE

Proposed Queensway North Project

REPORT TITLE

**Avifauna Species at Risk Locations
June / July 2021**

| | | |
|--|-------------|--------------|
| DRAWING TITLE | | |
| Avifauna Species at Risk Locations June / July 2021 | | |
| DATE | DRAWN BY | CHECKED BY |
| 2021-07-14 | SAG | IS |
| PROJECT NO. | DRAWING NO. | REVISION NO. |
| 100424001 | TBC | DRAFT |