

# **2021 Annual Groundwater Quality Monitoring Report**

**Trenton Commercial Park, Civic No. 34 Power Plant Road,  
Trenton, Nova Scotia**

**Nova Scotia Lands Inc.  
Final Report  
2001756.000**

**April 12, 2022**

# Nova Scotia Lands Inc.

## 2001756.000

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# Executive Summary

At the request of Nova Scotia Lands Inc. (NS Lands), Englobe Corp. (Englobe) conducted groundwater sampling events in May and October 2021 including the sampling and testing of seven (7) specified groundwater monitor wells with interpretation of the analytical results in an annual report. Toxicity testing of surface water collected at three (3) locations adjacent to the facility was also carried out in April 2021. This work was completed as per details outlined in portions of Section 10 (Groundwater Monitoring), Section 7 (Surface Water) and Section 12 (Reporting) of the Nova Scotia Environment and Climate Change (NSECC) Industrial Approval No. 2020-2690529-00, dated September 21, 2020.

Based on the field observations and analytical results obtained, we make the following conclusions and statements on the identification of any groundwater or surface water discharge impacts as a result of site activities completed by Englobe during the 2021 calendar year:

- Concentrations of modified total petroleum hydrocarbons (TPH) and benzene, toluene, ethylbenzene and xylenes (BTEX) in groundwater samples collected from the seven monitoring wells did not exceed the NSECC Tier I *Environmental Quality Standards* (EQS) of 20 mg/L for all parameters.
- Concentrations of modified TPH in groundwater collected from MW1, MW9 and MW11 exceeded the NSECC Tier II *Pathway-Specific Standards* (PSS) for groundwater discharging to both freshwater and marine surface water.
- Conductivity in the wells ranged from 190  $\mu\text{S}/\text{cm}$  (MW6) to 3,400  $\mu\text{S}/\text{cm}$  (MW1) in April 2021, and 220  $\mu\text{S}/\text{cm}$  (MW6) to 4,000  $\mu\text{S}/\text{cm}$  (MW1) in October 2021.
- No pH values were reported outside the range of the available NSECC Tier II PSS.
- Concentrations of arsenic, lead and zinc in groundwater samples collected from the seven monitoring wells did not exceed the NSECC Tier II PSS for groundwater discharging to surface water during either the April or October 2021 sampling events.
- Concentrations of manganese in groundwater samples collected from MW1 and MW4 in April and October 2021 exceeded the NSECC Tier II PSS for groundwater discharging to freshwater surface water. It should be noted that the default criteria for manganese can be adjusted via a calculation involving hardness and pH, should that data be available. MacGregor (June 2013) reported similar manganese concentrations at these locations dating back to at least April 2003, suggesting that elevated manganese concentrations may be the result of historic buried fill materials on site.
- Concentrations of volatile organic compounds (VOCs) in groundwater samples collected from MW6 were reported below NSECC Tier I EQS and Tier II PSS for groundwater discharging to surface water.
- For all three surface water sampling locations (TW1, TW3 and TW4) where toxicity testing was completed in April 2021, the laboratory reported 0% Mortality (Pass).

Groundwater exceedances of the NSECC Tier I EQS (modified TPH) or Tier II PSS (iron and manganese) identified in 2021 were consistent with concentrations identified during previous monitoring events conducted at the site.

It is recommended that hardness be added to the list of analysis for groundwater samples so the NSECC Tier II PSS for lead, manganese and zinc can be adjusted according to the available calculation. Minor repairs to the monitor wells (e.g., adjustments to the well covers, replacement of damaged or missing j-plugs, etc.) should also be included in the next monitoring event. Ground surface elevations of MW11 and MW14 were not provided in previous investigations and are unknown. It is recommended that they be determined to more accurately assess groundwater flow direction.



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# 1 Introduction

Englobe Corp. (Englobe) was retained by Nova Scotia Lands Inc. (NS Lands) to undertake semi-annual groundwater monitoring and annual toxicity testing for the Trenton Commercial Park in Trenton, Nova Scotia. The purpose of the work herein by Englobe is to satisfy requirements set out by Nova Scotia Environment and Climate Change (NSECC) in their Approval 2020-2690529-00 (dated September 21, 2020). The groundwater program includes semi-annual sampling of seven (7) existing groundwater monitoring wells, laboratory testing for predetermined parameters, interpretation of results and publishing of the data with recommendations as required in an annual report as per Section 10 (Groundwater Monitoring - subsection 10(a), 10(b) and 10(f)). The annual toxicity testing includes the collection of surface water samples from three (3) pre-assigned locations as per Section 7 (subsection 7(b) - toxicity testing only, and 7(c)) of the NSE Approval (Approval 2020-2690529-00, dated September 21, 2020). Site plans showing the Trenton Commercial Park site, monitor well locations and toxicity sample locations are provided in Appendix A.

The Trenton Commercial Park site is located at Civic No. 34 Power Plant Road on the eastern bank of the East River of Pictou County in Trenton, Nova Scotia. It has an approximate area of 0.4 square kilometres and extends almost 1.6 kilometers from end to end. The site is located on the west side of Main Street and the main Canadian National Railway (CNR) rail line, and extends adjacent to the waters of the East River. The site slopes downward toward the west-northwest in the southern portion of the site, and toward the northeast in the northern reaches.

Trenton Commercial Park has a history of industrial operations from 1872 until 2016 including steel mill and forge operations, shipbuilding, and wind tower production. The site has operated under several names throughout the years including Hope Iron Works, Nova Scotia Steel Company, Eastern Car Company, DOSCO, Hawker Siddeley Canada Inc., Trenton Works Lavalin Inc., TrentonWorks, and Daewoo Shipbuilding and Marine Engineering (DSME) Trenton; however, the collective legacy industrial lands inhabiting all of these former operations is currently named Trenton Commercial Park. There have been significant changes at the site throughout recent history including the closure of site operations in 2008, and the Industrial Approval for operation of a wind turbine manufacturing facility in 2010; the wind turbine facility ceased operations in February 2016.

## 2 Background

As discussed by MacGregor and Associates (MacGregor) in their Data Report: Groundwater and Discharge Monitoring - May 2013 - DSTN DSME TRENTON report (dated June 25, 2013), the property at 34 Power Plant Road was used as a railcar manufacturing facility operated by numerous owners from 1875 to May 2007. Between May 2007 and July 2010, the site was closed due to bankruptcy and managed by Ernst Young of Halifax, and in July 2010 DSME Trenton acquired the property from the Province of Nova Scotia. Since then, closure of the Nova Forge site, which shared a portion of the former TrentonWorks property with DSME Trenton, due to a large fire on January 24, 2012, was announced in December 2012. DSME Trenton obtained an Industrial Approval from NSECC (then identified as Nova Scotia Environment (NSE)) for 'operating a Windmill Manufacturing Facility where an anodizing process will be carried out' (effective January 1, 2013 and expiry February 27, 2018). We understand that, although the wind turbine facility is no longer in operation and the site was acquired by NS Lands, NS Lands is now responsible for fulfilling the monitoring requirements of the original

NSE Approval. The Approval was reissued by NSECC under Approval No. 2020-2690526-00 on September 21, 2020 and is valid through September 21, 2030.

Monthly discharge and semi-annual groundwater monitoring have been conducted on the site since 1996. Previous monitoring at the site has been largely conducted by MacGregor, and their annual reports have been provided to the property owner and to NSECC. Since the mid-2000s, Englobe has reviewed many of these historical reports and has been provided the report from MacGregor (June 2013) for our files. Englobe completed the 2014 annual groundwater quality monitoring report for DSME Trenton, which contained data from the 2013 groundwater and toxicity sampling (dated February 4, 2014) and included the MacGregor report as an appendix in the report.

The June 2013 MacGregor report also included analytical results and discussion of effluent sampling at TW1, TW3 and TW4 (April and May 2013) as well as annual toxicity monitoring. These results were required as per Sections 5(c) and 5(d) of the original NSE Approval and were provided in Appendix 2 of the 2013 MacGregor report. However, additional monitoring of TW1, TW3 and TW4 has reportedly been conducted by DSME Trenton personnel and, apart from the annual toxicity testing results, are not included in this 'Groundwater Quality Monitoring' report by Englobe.

Englobe has completed annual groundwater quality monitoring and reporting from 2014 to 2021 (with the exception of 2019) for the former property owner, DSME Trenton, and NS Lands. The annual groundwater sampling events have historically been conducted in April and October and included the sampling and testing of seven specified groundwater monitor wells with interpretation of the analytical results in an annual report. Toxicity testing of surface water collected at TW1, TW3 and TW4 has also been carried out during the April events. The work was completed to satisfy Section 4 (Groundwater Monitoring) of DSME Trenton's NSE Industrial Approval No. 2010-072182-R02.

Based on the field observations and analytical results obtained during the previous year of monitoring in 2020, the following conclusions and statements on the identification of any groundwater or surface water discharge impacts as a result of site activities during the 2020 calendar year were made (see Englobe's 2020 Annual groundwater Quality Monitoring Report dated February 23, 2021):

- The concentration of modified total petroleum hydrocarbons (TPH) and benzene, toluene, ethylbenzene, and xylenes (BTEX) in groundwater collected from the seven monitoring wells did not exceed the NSE Approval criteria in May or October 2020.
- The pH of groundwater at the seven monitoring wells at Trenton Commercial Park were reported to be within the range specified in the NSE Approval in May and October 2020.
- Concentrations of iron in monitoring wells MW1, MW3 (in October), and MW11 exceeded both the maximum grab sample concentration limit and the average annual concentration limit. The reason for the elevated iron concentrations at MW1, MW3 and MW11 is unknown.
- Concentrations of manganese in monitoring wells MW1, MW3, and MW4 exceeded both the maximum grab sample concentration limit and the average annual concentration limit. MacGregor (June 2013) reported similar manganese concentrations at these locations dating back to at least April 2003, suggesting that elevated manganese concentrations may be the result of historic buried fill materials on site.
- All remaining parameters that required monitoring by NSE were documented to satisfy the limits or were within the ranges stipulated by NSE under Approval No. 2020-2690529-00.
- Concentrations of several volatile organic compounds (VOCs) in groundwater collected at monitoring well MW6 in May and October 2020 were reported above the laboratory detection limit. There were no limits for VOCs specified in the NSE Approval. The reported VOC concentrations satisfied the NSE Tier I EQS. The source of VOCs is likely not from site activities, as monitoring well MW6 is considered an upgradient well.

In conclusion, the annual groundwater sampling from 2020 did not identify any impacts resulting from on-site activities. Additional site work regarding petroleum hydrocarbon impacts at MW1 and continued sampling for VOCs at MW6 were recommended.

# 3 Scope of Work

The purpose of the current work by Englobe is to satisfy requirements set out by NSE in Section 10 (Groundwater Monitoring - subsections 10(a), 10(b) and 10(f)) and Section 7 (subsection 7(b) - toxicity testing only, and 7(c)) of the Approval 2020-2690529-00 (dated September 21, 2020). In the Request for Proposals from NS Lands, it specified that seven (7) groundwater monitoring wells and three (3) surface water (effluent) locations are to be sampled, followed by laboratory testing for the predetermined parameters on the samples collected from those locations. Interpretation of the analytical results are to be provided in an annual report as per details outlined in selected portions of Section 10 and Section 7 of the Industrial Approval from the NSECC (Approval 2020-2690529-00, dated September 21, 2020).

Section 10 of the NSECC Approval specifies that seven (7) groundwater monitoring stations identified as MW1, MW3, MW4, MW6, MW9, MW11 and MW14 shall be monitored twice annually, April and October, for the following parameters (as listed in Section 10 subsection (a) of the NSECC Industrial Approval):

- Conductivity and pH;
- Total petroleum hydrocarbons (TPH); and
- Metals parameters including iron, zinc, manganese, lead, and arsenic.

According to MacGregor (2013), the groundwater monitoring location identified as MW2 was decommissioned with the approval of NSECC in the summer of 2011. Therefore, monitoring well MW2 has not been sampled as part of Englobe's monitoring events since April 2014.

Section 7 of the NSECC Approval specifies that acute toxicity shall be monitored on an annual basis during the month of April at the following locations:

- TW-1 (North Weir Discharge);
- TW-3 (Outfall at East River); and
- TW-4 (Theilacker Crane Discharge).

The annual report shall summarize and interpret the groundwater monitoring data and identify any impacts as a result of site activities (during the previous calendar year).

Halocarbons, a class of VOC, were reported by the laboratory in both groundwater samples collected from monitoring well MW6 in 2013. Additional VOC analysis at MW6 was recommended in 2014 but was not approved. TPH and BTEX testing from both events in 2014 and 2015 did not report any halocarbon detections in the groundwater. VOCs were detected in the groundwater at MW6 during the October 2016 sampling event and the spring and fall sampling events in 2017 and 2018; the concentrations identified during these events satisfied the NSECC Tier I EQS. VOC assessment in groundwater at MW6 was continued in 2021.

# 4 Regulatory Framework

Considering current land use, future use of the site and knowledge of local geology, the site has been classified as a commercial site with coarse-grained soil. The site and surrounding area are serviced with municipal water and sewer. Therefore, groundwater results were compared to non-potable

guidelines. Site groundwater generally flows west toward East River; this is considered by Englobe to be a freshwater environment that discharges to a marine environment.

In August 2021, NSECC provided comments to NS Lands on Englobe's annual report for the 2020 monitoring program. NSECC requested that the results of the 2021 monitoring program be compared to the current and relevant NSECC EQS. NSECC also indicated that "there are currently discussions underway as to whether the receiving water (East River) is fresh or marine"; as such, comparison to the applicable criteria for groundwater discharging to both freshwater and marine water has been provided. The comments from NSECC have been incorporated into the current report.

## 4.1 TPH/BTEX

Analytical results for petroleum hydrocarbons in groundwater are compared to:

- 2021 NSECC Tier I EQS for groundwater at a non-potable site with coarse-grained soil and commercial land use;
- 2021 NSECC Pathway Specific Standards (PSS) for groundwater discharging to freshwater surface water (>10m); and,
- 2021 NSECC PSS for groundwater discharging to marine surface water (>10m).

## 4.2 Conductivity and pH

There are no available guidelines for conductivity in groundwater. Analytical results for pH in groundwater are compared to:

- 2021 NSECC PSS for groundwater discharging to freshwater surface water (>10m) (no PSS exist for pH in groundwater discharging to marine surface water).

## 4.3 Metals

Analytical results for groundwater are compared to:

- 2021 NSECC PSS for groundwater discharging to freshwater surface water (>10m); and,
- 2021 NSECC PSS for groundwater discharging to marine surface water (>10m).

## 4.4 Volatile Organic Compounds

Analytical results for groundwater are compared to:

- 2021 NSECC Tier I EQS for groundwater at a non-potable site with coarse-grained soil and commercial land use;
- 2021 NSECC PSS for groundwater discharging to freshwater surface water (>10m); and,
- 2021 NSECC PSS for groundwater discharging to marine surface water (>10m).



# 5 Methodology

On April 28 and October 20 and 22, 2021 Englobe personnel conducted monitoring of the specified groundwater wells for static water level and accessed each well for the purpose of sampling for laboratory testing.

Static water levels were measured and the presence of free product was checked using a Testwell electronic product interface probe. Wells were purged of three well volumes (with Waterra tubing, which was located in some wells, or a new, factory wrapped groundwater bailer) and left to recover. For collection of the water samples for laboratory testing, a 1-litre (1.5" diameter) clear dedicated polyvinyl chloride (PVC) bailer was installed in each well to retrieve the groundwater samples.

In accordance with laboratory protocols, groundwater samples were collected for select metals, conductivity, pH, TPH/BTEX (Atlantic Partners in RBCA Implementation (PIRI) methodology), and VOC (at MW6 only) analysis.

Water samples for the April and October 2021 monitoring events were collected in laboratory-supplied containers (metals samples were field-filtered and preserved), placed in cool storage and transported to the Bureau Veritas laboratory in Bedford, NS for analysis.

Due to the presence of free product (resembling lube oil) measured in MW11 during the April/October 2014, June/November 2015, and April/October 2016 monitoring events, samples from MW11 were not collected during those events. Samples were collected from this well during the 2017, 2018, 2020 and 2021 sampling events as there was no longer free product observed in this well.

On April 28, 2021 samples were collected from the three specified surface water (effluent) locations for the purpose of toxicity testing. For collection of the water samples, 20-litre buckets and liners (supplied by the laboratory) were used. The samples were delivered in the same day as they were collected to Harris Industrial Testing Service Ltd. in South Rawdon, NS for toxicity testing (96-hour single concentration acute lethality test using method EPS 1/RM/13 2nd Edition Dec. 2000 with May 2007 Amendments).

Figures 1 and 2 (Appendix A) show the monitor well and surface water sampling locations. Figure 1 shows the calculated groundwater flow gradient and hydraulic gradient for the April 2021 event; Figure 2 shows the same information for the October 2021 event. It should be noted that MW11 and MW14 were not used in the groundwater flow calculations since no ground surface elevation data was included in previous reports for these locations.

# 6 Field Observations

During the site work, all monitoring wells appeared to be in good condition. Groundwater levels measured and observations made at each location (current and historical) are provided in Tables B-1 and B2, Appendix B. It should be noted that the top of casing (TOC) elevations for MW11 and MW14 were not recorded in the Stantec Phase II ESA. Therefore, only the groundwater level below TOC is provided.

During the April and October 2021 sampling events, all monitor wells were observed to be protected against tampering with locked covers, as per the NSECC Approval Section 10 (g). During the October event, several monitor well covers appeared to have heaved and one (MW6) was missing the J-plug.

Free product was not detected in any of the monitor wells.



# 7 Groundwater Analytical Results

Groundwater analytical results are compared with the guidelines as listed in section 4. PHCs for each monitoring well are presented in Tables 1A through 7A (Appendix C). General chemistry results (pH and conductivity) and select metals parameters (iron, zinc, manganese, lead and arsenic) are presented in Tables 1B through 7B (Appendix C). VOC analytical results are presented in Table 4C (Appendix C). Where ranges of concentrations are stated in the report, the highest of the sample result or its duplicate (if applicable) is included.

The tables include both the April and October 2021 analytical results (collected and reported by Englobe) as well as the historical results from previous sampling events completed by others (2010 and 2013) and Englobe (2014-2020). Copies of the laboratory certificates for the 2021 sampling events are provided in Appendix D.

## 7.1 TPH/BTEX Compounds

Concentrations of modified TPH in groundwater collected from MW3, MW4, MW6 and MW14 were reported as below the laboratory detection limit (0.090 mg/L) and below the NSECC Tier I EQS (and the Tier II PSS for groundwater discharging to both freshwater surface water and marine surface water) during both the April and October 2021 sampling events.

Concentrations of modified TPH in groundwater collected from MW1, MW9 and MW11 ranged from 1.9 mg/L (MW9 in April) to 12 mg/L (MW1 in both April and October).

Modified TPH concentrations in all groundwater samples collected from the seven monitoring wells were below the NSECC Tier I EQS of 20 mg/L.

Concentrations of modified TPH in groundwater collected from MW1, MW9 and MW11 exceeded the NSECC Tier II PSS for groundwater discharging to both freshwater surface water and marine surface water.

Concentrations of BTEX in groundwater samples collected from MW3, MW4, MW6, MW9, MW11, and MW14 were reported as below the laboratory detection limits (0.0010 or 0.0020 mg/L) and below the NSECC Tier I EQS and Tier II PSS during both the April and October 2021 sampling events.

BTEX concentrations in the samples collected from MW1 in April and October 2021 were reported above the laboratory detection limits, but at concentrations below the NSECC Tier I EQS and Tier II PSS.

## 7.2 Conductivity and pH

There are no available and applicable guidelines for conductivity in groundwater. Conductivity in the wells ranged from 190  $\mu\text{S}/\text{cm}$  (MW6) to 3,400  $\mu\text{S}/\text{cm}$  (MW1) in April 2021, and 220  $\mu\text{S}/\text{cm}$  (MW6) to 4,000  $\mu\text{S}/\text{cm}$  (MW1) in October 2021.

There are no NSECC Tier I EQS for pH in groundwater. The NSECC Tier II PSS for groundwater discharging to surface water range for pH is 6.5 to 9.0. In April 2021 pH ranged from 6.59 (MW14 duplicate) to 7.27 (MW11), while in October 2021, the pH ranged from 6.97 (MW4) to 7.46 (MW6). No pH values were reported outside the range of the available NSECC Tier II PSS.

## 7.3 Metals

There are no NSE Tier I EQS for metals in groundwater at non-potable sites. Groundwater results for arsenic, iron, lead, manganese and zinc have been compared to NSECC Tier II PSS for groundwater discharging to both freshwater surface water and marine surface water. These results are tabulated in Tables 1B through 7B (Appendix C) and discussed below.

### 7.3.1 Arsenic

In April 2021, arsenic was reported at less than laboratory detection limits ( $<1.0 \mu\text{g/L}$ ) in groundwater collected from MW4, MW6, MW9, MW11 and MW14. Arsenic was reported at  $2.0 \mu\text{g/L}$  at MW3 and  $2.3 \mu\text{g/L}$  at MW1.

In October 2021, arsenic was reported as less than laboratory detection limits ( $<1.0 \mu\text{g/L}$ ) in groundwater collected from MW6, MW9 and MW14. Arsenic ranged from  $1.6 \mu\text{g/L}$  (MW11) to  $14 \mu\text{g/L}$  (MW1 duplicate).

Concentrations of arsenic in groundwater samples collected from the seven monitoring wells were below the NSECC Tier II PSS for groundwater discharging to freshwater ( $50 \mu\text{g/L}$ ) and marine surface water ( $125 \mu\text{g/L}$ ) during the April and October 2021 sampling events.

### 7.3.2 Iron

In April 2021, iron was reported as less than laboratory detection limits ( $<50 \mu\text{g/L}$ ) in groundwater collected from MW4, MW6 and MW14. Detected concentrations of iron in groundwater samples collected in April 2021 ranged from  $160 \mu\text{g/L}$  (MW9) to  $20,000 \mu\text{g/L}$  (MW1 and MW14).

In October 2021, iron was reported as less than laboratory detection limits ( $<50 \mu\text{g/L}$ ) in groundwater collected from MW6 and MW14. Detected concentrations of iron in groundwater samples collected in October 2021 ranged from  $57 \mu\text{g/L}$  (MW4) to  $20,000 \mu\text{g/L}$  (MW1).

Concentrations of iron in groundwater samples collected from MW1, MW3 and MW11 exceeded the NSECC Tier II PSS for groundwater discharging to freshwater surface water of  $3,000 \mu\text{g/L}$  (no PSS exists for iron in groundwater discharging to marine surface water).

### 7.3.3 Lead

Concentrations of lead in all groundwater samples collected from the seven monitoring wells in both April and October 2021 were reported as less than laboratory detection limits ( $<0.50 \mu\text{g/L}$ ) and were below the NSECC Tier II PSS for groundwater discharging to freshwater ( $10 \mu\text{g/L}$ ) and marine surface water ( $20 \mu\text{g/L}$ ) during both the April and October 2021 sampling events.

### 7.3.4 Manganese

Concentrations of manganese in groundwater samples collected in April 2021 ranged from  $12 \mu\text{g/L}$  (MW6) to  $23,000 \mu\text{g/L}$  (MW1).

Concentrations of manganese in groundwater samples collected in October 2021 ranged from  $44 \mu\text{g/L}$  (MW6) to  $21,000 \mu\text{g/L}$  (MW1).

Concentrations of manganese in groundwater samples collected from MW1 and MW4 in April and October 2021 exceeded the NSE Tier II PSS for groundwater discharging to freshwater surface water ( $4,300 \mu\text{g/L}$ ). It should be noted that the default criteria for manganese can be adjusted via a calculation involving hardness and pH, should that data be available.

### 7.3.5 Zinc

In April 2021, zinc was reported as less than laboratory detection limits (<5 µg/L) in groundwater collected from MW1 and MW11. Detected concentrations of zinc in groundwater samples collected in April 2021 ranged from 5.1 µg/L (MW6) to 49 µg/L (MW1).

In October 2021, zinc was reported as less than laboratory detection limits (<5 µg/L) in groundwater collected from MW1 and MW11. Detected concentrations of manganese in groundwater samples collected in October 2021 ranged from 6.1 µg/L (MW6) to 54 µg/L (MW4).

Concentrations of zinc in groundwater samples collected from the seven monitoring wells were below the NSECC Tier II PSS for groundwater discharging to freshwater (70 µg/L) and marine surface water (100 µg/L) during both the April and October 2021 sampling events.

## 7.4 VOCs

Concentrations of VOCs in groundwater samples collected from MW6 were reported as below laboratory detection limits with the exception of cis-1,2-dichloroethylene (6.2 µg/L in April and 12 µg/L in October, both below the NSECC Tier I EQS of 4,600 µg/L and Tier II PSS (discharge to freshwater) of 2,000 µg/L) and trichloroethylene (25 µg/L in April and 33 µg/L in October, both below the NSECC Tier I ESA, and Tier II PSS (discharge to freshwater and marine surface water) of 110, 210 and 200 µg/L, respectively).

## 7.5 Trends Discussion for Exceedances

### 7.5.1 Modified TPH (Exceeding NSECC Tier I EQS)

Concentrations at MW1 were similar to those reported in previous sampling, with a slight overall downward trend observed from a high of 35 mg/L in 2010 to the 12 and 11 mg/L observed in April and October 2021.

At MW9, concentrations of modified TPH were similar to those reported during all monitoring programs from 2013 to 2020. Modified TPH concentrations at MW9 have consistently been significantly lower (i.e., ranging from 0.11 to 2.6 mg/L) than the maximum concentration of 68 mg/L documented in 2010.

At MW11, free product was observed in groundwater during all monitoring events from 2013 to 2016. Concentrations of modified TPH identified in 2021 were similar to those reported since 2017.

### 7.5.2 Iron (Exceeding NSECC Tier II PSS)

Concentrations of iron in groundwater at MW1, MW3 and MW11 have fluctuated somewhat during monitoring events at the site but have generally been above the NSECC Tier II PSS (discharge to freshwater). Results obtained in 2021 are consistent with those of most of the previous monitoring events.

### 7.5.3 Manganese (Exceeding NSECC Tier II PSS)

Concentrations of manganese in groundwater at MW1 and MW4 have fluctuated somewhat during monitoring events at the site. Manganese has consistently exceeded the generic NSECC Tier II PSS (discharge to freshwater) at MW1 and has mostly been above the PSS at MW4. Results obtained in 2021 are consistent with those of most of the previous monitoring events.

# 8 Toxicity Testing Results

The NSECC Approval indicates that samples collected for toxicity must “Pass” a 96-hour static fish toxicity test.

For all three locations tested (TW1, TW3 and TW4) in April 2021, the laboratory reported 0% Mortality (Pass). The laboratory certificates are provided in (Appendix D).

# 9 Conclusions

Based on the field observations and analytical results obtained, we make the following conclusions and statements on the identification of any groundwater or surface water discharge impacts as a result of site activities completed by Englobe during the 2021 calendar year:

- Concentrations of modified TPH and BTEX in groundwater samples collected from the seven monitoring wells did not exceed the NSECC Tier I EQS of 20 mg/L for all parameters.
- Concentrations of modified TPH in groundwater collected from MW1, MW9 and MW11 exceeded the NSECC Tier II PSS for groundwater discharging to both freshwater and marine surface water.
- Conductivity in the wells ranged from 190  $\mu\text{S}/\text{cm}$  (MW6) to 3,400  $\mu\text{S}/\text{cm}$  (MW1) in April 2021, and 220  $\mu\text{S}/\text{cm}$  (MW6) to 4,000  $\mu\text{S}/\text{cm}$  (MW1) in October 2021.
- No pH values were reported outside the range of the available NSECC Tier II PSS.
- Concentrations of arsenic, lead and zinc in groundwater samples collected from the seven monitoring wells did not exceed the NSECC Tier II PSS for groundwater discharging to surface water during either the April or October 2021 sampling events.
- Concentrations of manganese in groundwater samples collected from MW1 and MW4 in April and October 2021 exceeded the NSECC Tier II PSS for groundwater discharging to freshwater surface water. It should be noted that the default criteria for manganese can be adjusted via a calculation involving hardness and pH, should that data be available. MacGregor (June 2013) reported similar manganese concentrations at these locations dating back to at least April 2003, suggesting that elevated manganese concentrations may be the result of historic buried fill materials on site.
- Concentrations of VOCs in groundwater samples collected from MW6 were reported below NSECC Tier I EQS and Tier II PSS for groundwater discharging to surface water.
- For all three surface water sampling locations (TW1, TW3 and TW4) where toxicity testing was completed in April 2021, the laboratory reported 0% Mortality (Pass).

Groundwater exceedances of the NSECC Tier I EQS (modified TPH) or Tier II PSS (iron and manganese) identified in 2021 were consistent with concentrations identified during previous monitoring events conducted at the site.

It is recommended that hardness be added to the list of analysis for groundwater samples so the NSECC Tier II PSS for lead, manganese and zinc can be adjusted according to the available calculation. Minor repairs to the monitor wells (e.g., adjustments to the well covers, replacement of damaged or missing j-plugs, etc.) should also be included in the next monitoring event. Ground surface elevations of MW11 and MW14 were not provided in previous investigations and are unknown. It is recommended that they be determined to more accurately assess groundwater flow direction.

# 10 Report Use and Conditions

This report was prepared for the exclusive use of Nova Scotia Lands Inc. and is based on data and information obtained during site visits by Englobe Corp., personnel in April and October 2021 for the purpose of collection of groundwater samples from seven (7) existing monitoring wells and surface water discharge from three (3) sampling locations. The report is based solely upon the condition of the property on the dates of such site visits, supplemented by information obtained and described herein including tabulation and interpretation of selected laboratory groundwater and surface water toxicity analyses.

The scope of the services performed may not be appropriate to satisfy the needs of third parties. Any use which a third party makes of this report, or any reliance on or decisions made based on it, is the sole responsibility of the third party. Englobe Corp. 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 statements and conclusions presented in this report are professional opinions based upon visual observations made during the scope of work identified herein.

Environmental conditions are dynamic in nature and changing circumstances in the environment and in the use of the property can alter radically the conclusions and information contained herein.

# Appendix A

## Site Map Showing Monitor Well and Surface Water Locations



**eNGLOBE**



File : \\EnglobeDrive\Barnmouth-Project\2020\_Deltek\2001756\_NSLands\_TrentonCommercialPark\_EnvMonitoringPrograms4\_CAD





File : \\EnglobeDrive\Drive\Project2020\_Deltek\2001756\_NSLands\_TrentonCommercialPark\_EnvMonitoringProgram\4\_CAD





# Appendix B

## Groundwater Field Observations



**eNGLOBE**

**TABLE B-1: Groundwater Field Observations**

Client: Nova Scotia Lands Inc.  
 Site Location: Civic No. 34 Power Plant Road, Trenton, NS  
 Englobe Project No.: 2001756.000

Date	Field Observations						
	Location						
	MW1	MW3	MW4	MW6	MW9	MW11	MW14
May 21, 2013	-	-	-	-	-	-	-
October 25, 2013	Gasoline odour, light grey in colour, minor sediment	Dark grey in colour, silty, groundwater was light grey upon sampling	Light brown in colour, silty, light brown upon sampling	Clear, minor sediment noted	Petroleum sheen present, brown in colour, abundant iron flocculants, groundwater clear upon sampling	Free product (10mm)	Light brown in colour, silty, clear upon sampling
April 23, 2014	Dark grey to black, PHC odour and sheen	Dark grey to black, minor silt, no sheen	Light brown, silty, no sheen	Mostly clear	Red-brown, PHC odour and sheen, iron flocculants present	Free product (20mm)	Light brown, silty, no sheen
October 30, 2014	Dark grey to black, PHC odour and sheen	Dark grey to black, minor silt, no sheen	Light brown, silty, no sheen	Mostly clear	Red-brown, PHC odour and sheen, iron flocculants present	Free product (5mm)	Light brown, silty, no sheen
June 24, 2015	Mild PHC odour in sample	Discolored sample (Grey/black)	Discolored sample (Brown/red), heavy silt	Clear sample	Clear sample	Free product (1-2mm)	Clear sample
November 12, 2015	Strong PHC odour in sample	Significant sediment visible	Significant sediment visible	Clear sample	Clear sample, sulphur odour	Free product (2mm)	Clear sample
April 26, 2016	-	-	-	-	-	Free product (1-2mm)	-
October 24, 2016	-	-	-	-	-	Free product (1-2mm)	-
April 24, 2017	PHC odour	Silty	Silty	-	-	-	-
October 12, 2017	PHC odour	Silty	Silty	-	-	-	-
April 9, 2018	PHC odour	Silty	Silty	-	-	-	-
October 11, 2018	PHC odour	Silty	Silty	-	-	-	-
May 28, 2020	PHC odour	Silty	Silty	Sheen	Silty	PHC odour, sheen	-
October 28, 2020	PHC odour	Silty	Silty	-	PHC odour	PHC odour, sheen	-
April 28, 2021	Strong PHC odour	Black, organic odour	Light brown	Slight sheen	Light brown	PHC sheen	-
October 20, 2021	PHC odour and sheen	Sheen	Silty	-	PHC odour	PHC odour, sheen	-

**TABLE B-2: Groundwater Levels**

Client: Nova Scotia Lands Inc.

Site Location: Civic No. 34 Power Plant Road, Trenton, NS

Englobe Project No.: 2001756.000

Date	Measurement	Location						
		MW1	MW3	MW4*	MW6	MW9	MW11**	MW14**
Top of Casing Elevation (masl)		14.63	2.99	5.79	11.98	4.63	unknown	unknown
April 19, 2010	Depth to GW	2.63	1.71	3.76	2.88	2.84	-	2.77
	GW Elevation	12.00	1.28	2.03	9.10	1.79	-	NA
May 21, 2013	Depth to GW	-	-	-	-	-	-	-
	GW Elevation	-	-	-	-	-	-	-
October 25, 2013	Depth to GW	3.91	1.66	3.39	2.52	2.86	2.74	2.77
	GW Elevation	10.73	1.34	2.40	9.46	1.77	NA	NA
April 23, 2014	Depth to GW	2.10	1.67	3.29	2.60	2.96	2.52	2.23
	GW Elevation	12.53	1.32	2.50	9.38	1.67	NA	NA
October 30, 2014	Depth to GW	4.87	1.50	3.37	2.47	3.01	2.75	2.87
	GW Elevation	9.76	1.49	2.42	9.51	1.62	NA	NA
June 24, 2015	Depth to GW	2.45	1.41	3.07	2.33	2.00	2.47	2.20
	GW Elevation	12.18	1.58	2.72	9.65	2.63	NA	NA
November 12, 2015	Depth to GW	4.60	1.68	3.41	2.64	3.22	2.88	2.99
	GW Elevation	10.03	1.31	2.38	9.34	1.41	NA	NA
April 26, 2016	Depth to GW	1.89	1.64	3.23	2.52	2.90	2.60	2.17
	GW Elevation	12.74	1.35	2.56	9.46	1.73	NA	NA
October 24, 2016	Depth to GW	3.00	3.22	1.44	2.38	2.67	2.58	2.85
	GW Elevation	11.63	-0.23	4.35	9.60	1.96	NA	NA
April 24, 2017	Depth to GW	2.29	1.59	3.42	2.67	3.15	2.73	2.73
	GW Elevation	12.34	1.40	2.37	9.31	1.48	NA	NA
October 12, 2017	Depth to GW	4.01	1.66	3.43	2.64	3.25	2.87	3.15
	GW Elevation	10.62	1.33	2.36	9.34	1.38	NA	NA
April 9, 2018	Depth to GW	2.83	1.15	2.98	2.57	2.64	2.68	2.51
	GW Elevation	11.80	1.84	2.81	9.41	1.99	NA	NA
October 11, 2018	Depth to GW	4.00	1.66	3.44	2.75	3.23	2.93	3.09
	GW Elevation	10.63	1.33	2.35	9.23	1.40	NA	NA
May 28, 2020	Depth to GW	2.58	2.56	3.52	2.66	4.2	2.66	2.59
	GW Elevation	12.05	0.43	2.27	9.32	0.43	NA	NA
October 28, 2020	Depth to GW	4.58	1.63	3.50	2.92	3.99	3.08	3.18
	GW Elevation	10.05	1.36	2.29	9.06	0.64	NA	NA
April 28, 2021	Depth to GW	2.64	1.57	3.28	2.67	3.09	2.44	2.45
	GW Elevation	11.99	1.42	2.51	9.31	1.54	NA	NA
October 20, 2021	Depth to GW	3.91	1.57	3.36	2.43	2.96	2.65	2.81
	GW Elevation	10.72	1.42	2.43	9.55	1.67	NA	NA

**Notes:**

masl = meters above sea level

\*Top of Casing elevation presumed to be that recorded for MW4-10.

\*\*Top of Casing elevation unavailable. This location has not been used for groundwater flow direction calculations.

# Appendix C

## Analytical Tables



**eNGLOBE**

TABLE 1A: PETROLEUM HYDROCARBON COMPOUNDS in Groundwater (MW1)

Client: Nova Scotia Lands Inc.  
Site Location: Civic No. 34 Power Plant Road, Trenton, NS  
Englobe Project No.: 2001756.000

Parameter		Units	NSECC Tier I EQS <sup>1</sup>	NSECC Tier II PSS groundwater discharging to surface water (>10m)		MW1								
						2010	2013		20014		2015		2016	
				Freshwater <sup>2</sup>	Marine Water <sup>3</sup>	16-Apr-10	21-May-13	25-Oct-13	23-Apr-14	30-Oct-14	24-Jun-15	12-Nov-15	26-Apr-16	24-Oct-16
BTEX	Benzene	mg/L	6.3	4.6	4.6	<0.001	0.016	<0.025	<0.025	0.03	0.01	0.028	<0.010	0.012
	Toluene	mg/L	20	4.2	4.2	0.23	0.1	0.1	0.071	0.085	0.039	0.06	0.043	0.029
	Ethylbenzene	mg/L	20	3.2	3.2	<b><i>4.0</i></b>	2.3	2.2	1.9	1.8	2.0	1.7	1.8	0.99
	Xylenes	mg/L	20	2.8	2.8	<b><i>8.9</i></b>	<b><i>3.6</i></b>	<b><i>3.3</i></b>	2.7	2.7	1.7	2.3	2.0	1.3
Modified TPH	Gas Range	mg/L	-	-	-	31	17	18	15	15	16	15	14	12
	Fuel Range (C10-C16)	mg/L	-	-	-	4.1	2.4	1.9	2.5	2.3	1.9	2.3	2.8	3.0
	Fuel Range (>C16-C21)	mg/L	-	-	-		0.066	<0.050	<0.050	<0.050	0.054	<0.050	<0.050	<0.050
	Lube Range (>C21-C32)	mg/L	-	-	-	<0.1	0.5	<0.10	<0.10	<0.10	0.15	<0.10	0.13	<0.10
Total Modified TPH - Tier 1		mg/L	20 as gas 20 as fuel oil 20 as lube oil	13 as gas 0.84 as fuel oil 0.48 as lube oil	13 as gas 0.84 as fuel oil 0.48 as lube oil	<b><i>35</i></b>	<b><i>20</i></b>	<b><i>20</i></b>	<b><i>17</i></b>	<b><i>17</i></b>	<b><i>19</i></b>	<b><i>17</i></b>	<b><i>17</i></b>	<b><i>15</i></b>
Product Resemblance		-	-	-	-	One product in the gas/fuel oil range.	Gasoline fraction. Lube oil fraction.	Gasoline fraction.	One product in the gasoline range.	One product in the gas/fuel oil range.	One product in the gas/fuel oil range.	One product in the gas/fuel oil range.	One product in the gas/fuel oil range.	Gasoline fraction.

Notes:

value	- exceeds NSECC EQS
value	- exceeds NSECC PSS for fresh water
value	- exceeds NSECC PSS for marine water
-	- no guideline
*	- guideline could be adjusted should hardness data be available

<sup>1</sup> 2021 Nova Scotia Environment and Climate Change (NSECC)Tier I Environmental Quality Standards (EQS) at a commercial site with non-potable groundwater and coarse-grained soil.  
<sup>2</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier II Pathway-Specific Standards (PSS) for groundwater discharging to freshwater surface water (>10m)  
<sup>3</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier II Pathway-Specific Standards (PSS) for groundwater discharging to marine surface water (>10m)

TABLE 1A: PETROLEUM HYDROCARBON COMPOUNDS in Groundwater (MW1)

Client: Nova Scotia Lands Inc.  
Site Location: Civic No. 34 Power Plant Road, Trenton, NS  
Englobe Project No.: 2001756.000

Parameter		Units	NSECC Tier I EQS <sup>1</sup>	NSECC Tier II PSS groundwater discharging to surface water (>10m)		MW1										
						2017			2018			2020		2021		
				Freshwater <sup>2</sup>	Marine Water <sup>3</sup>	24-Apr-17	Lab-Dup	12-Oct-17	9-Apr-18	Lab-Dup	11-Oct-18	28-May-20	28-Oct-20	28-Apr-21	20-Oct-21	MW-DUP
BTEX	Benzene	mg/L	6.3	4.6	4.6	<0.010	-	<0.050	<0.025	-	<0.010	<0.0030	0.009	<0.0040	<0.0050	0.0063
	Toluene	mg/L	20	4.2	4.2	0.024	-	<0.050	<0.025	-	0.02	0.0089	0.014	0.009	0.012	0.016
	Ethylbenzene	mg/L	20	3.2	3.2	1.5	-	1.4	0.86	-	0.89	0.79	0.87	0.81	0.68	0.82
	Xylenes	mg/L	20	2.8	2.8	1.5	-	2.0	1.0	-	1.2	0.79	1.0	0.77	0.72	0.89
Modified TPH	Gas Range	mg/L	-	-	-	13	-	14	7.6	-	12	10	12	9.4	9	8.7
	Fuel Range (C10-C16)	mg/L	-	-	-	2.7	2.7	4.1	2.3	2.3	2.4	2.5	2.7	2.2	2.8	2.5
	Fuel Range (>C16-C21)	mg/L	-	-	-	<0.050	<0.050	0	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
	Lube Range (>C21-C32)	mg/L	-	-	-	<0.10	<0.10	0.28	<0.10	<0.10	0.17	0.092	0.11	0.14	<0.090	0.093
Total Modified TPH - Tier 1		mg/L	20 as gas 20 as fuel oil 20 as lube oil	13 as gas 0.84 as fuel oil 0.48 as lube oil	13 as gas 0.84 as fuel oil 0.48 as lube oil	<b><u>15</u></b>	-	<b><u>19</u></b>	<b><u>9.9</u></b>	-	<b><u>15</u></b>	<b><u>13</u></b>	<b><u>14</u></b>	<b><u>12</u></b>	<b><u>12</u></b>	<b><u>11</u></b>
Product Resemblance		-	-	-	-	One product in the gasoline range.	-	One product in the gas/fuel oil range	One product in the gasoline/fuel range.	-	One product in the gas/fuel oil range. Possible lube oil fraction.	One product in the gas/fuel oil range. Possible lube oil fraction.	One product in the gas/fuel oil range. Unidentified compound(s) in lube oil fraction.	One product in the gas/fuel oil range. Possible lube oil fraction.	One product in the gas/fuel oil range.	One product in the gas/fuel oil range.

Notes:

value	- exceeds NSECC EQS
value	- exceeds NSECC PSS for fresh water
value	- exceeds NSECC PSS for marine water
-	- no guideline
*	- guideline could be adjusted should hardness data be available

<sup>1</sup> 2021 Nova Scotia Environment and Climate Change (NSECC)Tier I Environmental Quality Standards (EQS) at a commercial site with non-potable groundwater and coarse-grained soil.  
<sup>2</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier II Pathway-Specific Standards (PSS) for groundwater discharging to freshwater surface water (>10m)  
<sup>3</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier II Pathway-Specific Standards (PSS) for groundwater discharging to marine surface water (>10m)

TABLE 1B: CONDUCTIVITY, pH and METALS in Groundwater (MW1)

Client: Nova Scotia Lands Inc.  
Site Location: Civic No. 34 Power Plant Road, Trenton, NS  
Englobe Project No.: 2001756.000

Parameter		Units	NSECC Tier I EQS <sup>1</sup>	NSECC Tier II PSS groundwater discharging to surface water (>10m)		MW1								
						2010	2013		2014		2015		2016	
				Freshwater <sup>2</sup>	Marine Water <sup>3</sup>	16-Apr-10	21-May-13	25-Oct-13	23-Apr-14	30-Oct-14	24-Jun-15	12-Nov-15	26-Apr-16	24-Oct-16
Conductivity		µS/cm	-	-	-	-	3100	2300	4100	3500	4800	4300	4600	3500
Laboratory pH		Units	-	6.5-9.0	-	-	7.37	7.30	6.97	7.23	7.16	7.17	7.06	7.04
Field pH		Units	-	6.5-9.0	-	-	-	-	7.07	-	-	-	-	-
Dissolved Arsenic (As)		ug/L	-	50	125	-	<1.0	17	3.2	14	1.8	22	2.4	18
Dissolved Iron (Fe)		ug/L	-	3000	-	-	<50	<b>6500</b>	<b>24000</b>	<b>10000</b>	<b>29000</b>	<b>24000</b>	<b>31000</b>	<b>17000</b>
Dissolved Lead (Pb)		ug/L	-	10*	20	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Manganese (Mn)		ug/L	-	4300*	-	-	<b>37200</b>	<b>21000</b>	<b>61000</b>	<b>30000</b>	<b>53000</b>	<b>37000</b>	<b>46000</b>	<b>22000</b>
Dissolved Zinc (Zn)		ug/L	-	70*	100	-	<5.0	<5.0	5.2	<5.0	20	<5.0	9.5	7.2

Notes:

value	- exceeds NSECC EQS
value	- exceeds NSECC PSS for fresh water
value	- exceeds NSECC PSS for marine water
-	- no guideline
*	- guideline could be adjusted should hardness data be available

<sup>1</sup> 2021 Nova Scotia Environment and Climate Change (NSECC)Tier I Environmental Quality Standards (EQS) at a commercial site with non-potable groundwater and coarse-grained soil.  
<sup>2</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier II Pathway-Specific Standards (PSS) for groundwater discharging to freshwater surface water (>10m)  
<sup>3</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier II Pathway-Specific Standards (PSS) for groundwater discharging to marine surface water (>10m)

TABLE 1B: CONDUCTIVITY, pH and METALS in Groundwater (MW1)

Client: Nova Scotia Lands Inc.  
Site Location: Civic No. 34 Power Plant Road, Trenton, NS  
Englobe Project No.: 2001756.000

Parameter		Units	NSECC Tier I EQS <sup>1</sup>	NSECC Tier II PSS groundwater discharging to surface water (>10m)	MW1									
					Freshwater <sup>2</sup>	Marine Water <sup>3</sup>	2017		2018		2020		2021	
							24-Apr-17	12-Oct-17	9-Apr-18	11-Oct-18	28-May-20	28-Oct-20	28-Apr-21	MW-DUP
Conductivity		µS/cm	-	-	-	-	3,500.00	3100	3300	3800	4100	3300	3400	3900
Laboratory pH		Units	-	6.5-9.0	-	-	7.02	7.43	7.11	6.89	7.01	7.03	7.23	7.27
Field pH		Units	-	6.5-9.0	-	-	-	-	-	-	-	-	-	-
Dissolved Arsenic (As)		ug/L	-	50	125	3	3.2	6.5	21	1.0	3.1	2.3	3.7	14
Dissolved Iron (Fe)		ug/L	-	3000	-	<i>17000</i>	<i>11000</i>	<i>14000</i>	<i>19000</i>	<i>24000</i>	<i>14000</i>	<i>20000</i>	<i>20000</i>	<i>19000</i>
Dissolved Lead (Pb)		ug/L	-	10*	20	<0.50	<0.50	0.76	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Manganese (Mn)		ug/L	-	4300*	-	<i>26000</i>	<i>17000</i>	<i>23000</i>	<i>29000</i>	<i>31000</i>	<i>15000</i>	<i>23000</i>	<i>21000</i>	<i>21000</i>
Dissolved Zinc (Zn)		ug/L	-	70*	100	<5.0	<5.0	23	<5.0	7.0	<5.0	<5.0	<5.0	<5.0

Notes:

value	- exceeds NSECC EQS
value	- exceeds NSECC PSS for fresh water
value	- exceeds NSECC PSS for marine water
-	- no guideline
*	- guideline could be adjusted should hardness data be available

<sup>1</sup> 2021 Nova Scotia Environment and Climate Change (NSECC)Tier I Environmental Quality Standards (EQS) at a commercial site with non-potable groundwater and coarse-grained soil.

<sup>2</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier II Pathway-Specific Standards (PSS) for groundwater discharging to freshwater surface water (>10m)

<sup>3</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier II Pathway-Specific Standards (PSS) for groundwater discharging to marine surface water (>10m)



TABLE 2A: PETROLEUM HYDROCARBON COMPOUNDS in Groundwater (MW3)

Client: Nova Scotia Lands Inc.  
Site Location: Civic No. 34 Power Plant Road, Trenton, NS  
Englobe Project No.: 2001756.000

Parameter		Units	NSECC Tier I EQS <sup>1</sup>	NSECC Tier II PSS groundwater discharging to surface water (>10m)		MW3				
						2010	2013		2014	
				Freshwater <sup>2</sup>	Marine Water <sup>3</sup>	16-Apr-10	21-May-13	25-Oct-13	23-Apr-14	30-Oct-14
BTEX	Benzene	mg/L	6.3	4.6	4.6	0.001	<0.0010	<0.0010	<0.0010	<0.0010
	Toluene	mg/L	20	4.2	4.2	0.01	<0.0010	<0.0010	<0.0010	<0.0010
	Ethylbenzene	mg/L	20	3.2	3.2	0.002	<0.0010	<0.0010	<0.0010	<0.0010
	Xylenes	mg/L	20	2.8	2.8	0.01	<0.0020	<0.0020	<0.0020	<0.0020
Modified TPH	Gas Range	mg/L	-	-	-	0.01	<0.010	<0.010	<0.010	<0.010
	Fuel Range (C10-C16)	mg/L	-	-	-	<0.05	0.16	<0.050	<0.050	<0.050
	Fuel Range (>C16-C21)	mg/L	-	-	-		0.16	<0.050	<0.050	<0.050
	Lube Range (>C21-C32)	mg/L	-	-	-	<0.1	0.40	<0.10	<0.10	<0.10
Total Modified TPH - Tier 1		mg/L	20 as gas 20 as fuel oil 20 as lube oil	13 as gas 0.84 as fuel oil 0.48 as lube oil	13 as gas 0.84 as fuel oil 0.48 as lube oil	<0.10	<0.10	<0.10	<0.10	<0.10
Product Resemblance		-	-	-	-	-	One product in fuel oil range. Lube oil fraction.	-	-	-

Notes:

value	- exceeds NSECC EQS
value	- exceeds NSECC PSS for fresh water
value	- exceeds NSECC PSS for marine water
-	- no guideline
*	- guideline could be adjusted should hardness data be available

<sup>1</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier I Environmental Quality Standards (EQS) at a commercial site with non-potable groundwater and coarse-grained soil.  
<sup>2</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier II Pathway-Specific Standards (PSS) for groundwater discharging to freshwater surface water (>10m)  
<sup>3</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier II Pathway-Specific Standards (PSS) for groundwater discharging to marine surface water (>10m)

TABLE 2A: PETROLEUM HYDROCARBON COMPOUNDS in Groundwater (MW3)

Client: Nova Scotia Lands Inc.  
Site Location: Civic No. 34 Power Plant Road, Trenton, NS  
Englobe Project No.: 2001756.000

Parameter		Units	NSECC Tier I EQS <sup>1</sup>	NSECC Tier II PSS groundwater discharging to surface water (>10m)	MW3													
					Freshwater <sup>2</sup>	Marine Water <sup>3</sup>	2015		2016		2017		2018		2020		2021	
							24-Jun-15	12-Nov-15	26-Apr-16	24-Oct-16	24-Apr-17	12-Oct-17	9-Apr-18	11-Oct-18	28-May-20	28-Oct-20	28-Apr-21	20-Oct-21
BTEX	Benzene	mg/L	6.3	4.6	4.6	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
	Toluene	mg/L	20	4.2	4.2	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
	Ethylbenzene	mg/L	20	3.2	3.2	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
	Xylenes	mg/L	20	2.8	2.8	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
Modified TPH	Gas Range	mg/L	-	-	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.090	<0.090	<0.090	<0.090	
	Fuel Range (C10-C16)	mg/L	-	-	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	
	Fuel Range (>C16-C21)	mg/L	-	-	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	
	Lube Range (>C21-C32)	mg/L	-	-	-	<0.10	<0.10	0.1	<0.10	0.11	0.13	<0.10	<0.10	<0.090	<0.090	<0.090	<0.090	
Total Modified TPH - Tier 1		mg/L	20 as gas 20 as fuel oil 20 as lube oil	13 as gas 0.84 as fuel oil 0.48 as lube oil	13 as gas 0.84 as fuel oil 0.48 as lube oil	<0.10	<0.10	0.1	<0.10	0.11	0.13	<0.10	<0.10	<0.090	<0.090	<0.090	<0.090	
Product Resemblance		-	-	-	-	-	-	Possible lube oil fraction.	-	Lube oil fraction.	Possible lube oil fraction	-	-	-	-	-	-	

Notes:

value	- exceeds NSECC EQS
value	- exceeds NSECC PSS for fresh water
value	- exceeds NSECC PSS for marine water
-	- no guideline
*	- guideline could be adjusted should hardness data be available

<sup>1</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier I Environmental Quality Standards (EQS) at a commercial site with non-potable groundwater and coarse-grained soil.  
<sup>2</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier II Pathway-Specific Standards (PSS) for groundwater discharging to freshwater surface water (>10m)  
<sup>3</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier II Pathway-Specific Standards (PSS) for groundwater discharging to marine surface water (>10m)

TABLE 2B: CONDUCTIVITY, pH and METALS in Groundwater (MW3)

Client: Nova Scotia Lands Inc.  
Site Location: Civic No. 34 Power Plant Road, Trenton, NS  
Englobe Project No.: 2001756.000

Parameter		Units	NSECC Tier I EQS <sup>1</sup>	NSECC Tier II PSS groundwater discharging to surface water (>10m)		MW3				
						2010	2013		2014	
				Freshwater <sup>2</sup>	Marine Water <sup>3</sup>	16-Apr-10	21-May-13	25-Oct-13	23-Apr-14	30-Oct-14
Conductivity		µS/cm	-	-	-	590	640	560	510	440
Laboratory pH		Units	-	6.5-9.0	-	6.65	6.99	6.82	6.77	6.92
Field pH		Units	-	6.5-9.0	-	-	-	-	7.11	6.79
Dissolved Arsenic (As)		ug/L	-	50	125	5	<1.0	8.9	2.2	1.6
Dissolved Iron (Fe)		ug/L	-	3000	-	<b>8300</b>	<50	2400	880	2100
Dissolved Lead (Pb)		ug/L	-	10*	20	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Manganese (Mn)		ug/L	-	4300*	-	2800	3270	3400	2800	1500
Dissolved Zinc (Zn)		ug/L	-	70*	100	20	42	11	16	20

Notes:

value	- exceeds NSECC EQS
value	- exceeds NSECC PSS for fresh water
value	- exceeds NSECC PSS for marine water
-	- no guideline
*	- guideline could be adjusted should hardness data be available

<sup>1</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier I Environmental Quality Standards (EQS) at a commercial site with non-potable groundwater and coarse-grained soil.  
<sup>2</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier II Pathway-Specific Standards (PSS) for groundwater discharging to freshwater surface water (>10m)  
<sup>3</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier II Pathway-Specific Standards (PSS) for groundwater discharging to marine surface water (>10m)

TABLE 2B: CONDUCTIVITY, pH and METALS in Groundwater (MW3)

Client: Nova Scotia Lands Inc.  
Site Location: Civic No. 34 Power Plant Road, Trenton, NS  
Englobe Project No.: 2001756.000

Parameter		Units	NSECC Tier I EQS <sup>1</sup>	NSECC Tier II PSS groundwater discharging to surface water (>10m)	MW3														
					Freshwater <sup>2</sup>	Marine Water <sup>3</sup>	2015			2016		2017		2018		2020		2021	
							24-Jun-15	12-Nov-15	Lab-Dup	26-Apr-16	24-Oct-16	24-Apr-17	12-Oct-17	9-Apr-18	11-Oct-18	28-May-20	28-Oct-20	28-Apr-21	20-Oct-21
Conductivity		µS/cm	-	-	-	520	610	-	620	520.00	620	570	700	630	820	680	870	480	
Laboratory pH		Units	-	6.5-9.0	-	7.40	6.97	-	7.28	7.02	6.92	6.95	7.02	6.77	6.99	6.91	6.97	7.28	
Field pH		Units	-	6.5-9.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Dissolved Arsenic (As)		ug/L	-	50	125	1.6	2.7	2.6	1.5	1.9	3.3	4.4	2.3	4.3	3.7	2.0	1.4	2.3	
Dissolved Iron (Fe)		ug/L	-	3000	-	<b>3700</b>	<b>6400</b>	<b>6300</b>	<b>3500</b>	<b>4200</b>	<b>8400</b>	<b>8300</b>	<b>7400</b>	<b>9200</b>	<50	<b>9400</b>	<b>4400</b>	<b>3100</b>	
Dissolved Lead (Pb)		ug/L	-	10*	20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
Dissolved Manganese (Mn)		ug/L	-	4300*	-	2400	2700	2700	2300	2000	2900	2900	3200	3200	<b>4500</b>	<b>5700</b>	3600	3300	
Dissolved Zinc (Zn)		ug/L	-	70*	100	37	38	39	17	15	28	11	17	6.3	24	<5.0	14	7.8	

Notes:

value	- exceeds NSECC EQS
value	- exceeds NSECC PSS for fresh water
value	- exceeds NSECC PSS for marine water
-	- no guideline
*	- guideline could be adjusted should hardness data be available

<sup>1</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier I Environmental Quality Standards (EQS) at a commercial site with non-potable groundwater and coarse-grained soil.

<sup>2</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier II Pathway-Specific Standards (PSS) for groundwater discharging to freshwater surface water (>10m)

<sup>3</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier II Pathway-Specific Standards (PSS) for groundwater discharging to marine surface water (>10m)

TABLE 3A: PETROLEUM HYDROCARBON COMPOUNDS in Groundwater (MW4)

Client: Nova Scotia Lands Inc.  
Site Location: Civic No. 34 Power Plant Road, Trenton, NS  
Englobe Project No.: 2001756.000

Parameter		Units	NSECC Tier I EQS <sup>1</sup>	NSECC Tier II PSS groundwater discharging to surface water (>10m)		MW4								
						2010	2013		2014		2015		2016	
				Freshwater <sup>2</sup>	Marine Water <sup>3</sup>	16-Apr-10	21-May-13	25-Oct-13	23-Apr-14	30-Oct-14	24-Jun-15	12-Nov-15	26-Apr-16	24-Oct-16
BTEX	Benzene	mg/L	6.3	4.6	4.6	-	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Toluene	mg/L	20	4.2	4.2	-	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Ethylbenzene	mg/L	20	3.2	3.2	-	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Xylenes	mg/L	20	2.8	2.8	-	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Modified TPH	Gas Range	mg/L	-	-	-	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
	Fuel Range (C10-C16)	mg/L	-	-	-	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
	Fuel Range (>C16-C21)	mg/L	-	-	-	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
	Lube Range (>C21-C32)	mg/L	-	-	-	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Modified TPH - Tier 1		mg/L	20 as gas 20 as fuel oil 20 as lube oil	13 as gas 0.84 as fuel oil 0.48 as lube oil	13 as gas 0.84 as fuel oil 0.48 as lube oil	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Product Resemblance		-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:

value	- exceeds NSECC EQS
value	- exceeds NSECC PSS for fresh water
value	- exceeds NSECC PSS for marine water
-	- no guideline
*	- guideline could be adjusted should hardness data be available

<sup>1</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier I Environmental Quality Standards (EQS) at a commercial site with non-potable groundwater and coarse-grained soil.  
<sup>2</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier II Pathway-Specific Standards (PSS) for groundwater discharging to freshwater surface water (>10m)  
<sup>3</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier II Pathway-Specific Standards (PSS) for groundwater discharging to marine surface water (>10m)

TABLE 3A: PETROLEUM HYDROCARBON COMPOUNDS in Groundwater (MW4)

Client: Nova Scotia Lands Inc.  
Site Location: Civic No. 34 Power Plant Road, Trenton, NS  
Englobe Project No.: 2001756.000

Parameter		Units	NSECC Tier I EQS <sup>1</sup>	NSECC Tier II PSS groundwater discharging to surface water (>10m)		MW4							
						2017		2018		2020		2021	
				Freshwater <sup>2</sup>	Marine Water <sup>3</sup>	24-Apr-17	12-Oct-17	9-Apr-18	11-Oct-18	28-May-20	28-Oct-20	28-Apr-21	4-Oct-21
BTEX	Benzene	mg/L	6.3	4.6	4.6	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Toluene	mg/L	20	4.2	4.2	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Ethylbenzene	mg/L	20	3.2	3.2	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Xylenes	mg/L	20	2.8	2.8	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Modified TPH	Gas Range	mg/L	-	-	-	<0.010	<0.010	<0.010	<0.010	<0.090	<0.090	<0.090	<0.090
	Fuel Range (C10-C16)	mg/L	-	-	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
	Fuel Range (>C16-C21)	mg/L	-	-	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
	Lube Range (>C21-C32)	mg/L	-	-	-	<0.10	<0.10	<0.10	<0.10	<0.090	<0.090	<0.090	<0.090
Total Modified TPH - Tier 1		mg/L	20 as gas 20 as fuel oil 20 as lube oil	13 as gas 0.84 as fuel oil 0.48 as lube oil	13 as gas 0.84 as fuel oil 0.48 as lube oil	<0.10	<0.10	<0.10	<0.10	<0.090	<0.090	<0.090	<0.090
Product Resemblance		-	-	-	-	-	-	-	-	-	-	-	

Notes:

value	- exceeds NSECC EQS
value	- exceeds NSECC PSS for fresh water
value	- exceeds NSECC PSS for marine water
-	- no guideline
*	- guideline could be adjusted should hardness data be available

<sup>1</sup> 2021 Nova Scotia Environment and Climate Change (NSECC)Tier I Environmental Quality Standards (EQS) at a commercial site with non-potable groundwater and coarse-grained soil.  
<sup>2</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier II Pathway-Specific Standards (PSS) for groundwater discharging to freshwater surface water (>10m)  
<sup>3</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier II Pathway-Specific Standards (PSS) for groundwater discharging to marine surface water (>10m)

TABLE 3B: CONDUCTIVITY, pH and METALS in Groundwater (MW4)

Client: Nova Scotia Lands Inc.  
Site Location: Civic No. 34 Power Plant Road, Trenton, NS  
Englobe Project No.: 2001756.000

Parameter		Units	NSECC Tier I EQS <sup>1</sup>	NSECC Tier II PSS groundwater discharging to surface water (>10m)		MW4								
						2010	2013		2014		2015		2016	
				Freshwater <sup>2</sup>	Marine Water <sup>3</sup>	16-Apr-10	21-May-13	25-Oct-13	23-Apr-14	30-Oct-14	24-Jun-15	12-Nov-15	26-Apr-16	24-Oct-16
Conductivity		µS/cm	-	-	-	-	710	420	380	400	400	380	370	340
Laboratory pH		Units	-	6.5-9.0	-	-	7.71	6.53	6.56	6.72	6.87	6.79	6.89	6.75
Field pH		Units	-	6.5-9.0	-	-	-	-	7.05	6.45	-	-	-	-
Dissolved Arsenic (As)		ug/L	-	50	125	-	1.4	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Iron (Fe)		ug/L	-	3000	-	-	<50	130	82	50	<50	<50	<50	<50
Dissolved Lead (Pb)		ug/L	-	10*	20	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Manganese (Mn)		ug/L	-	4300*	-	-	4240	3600	2700	<b>4800</b>	<b>4700</b>	<b>4900</b>	4100	<b>5100</b>
Dissolved Zinc (Zn)		ug/L	-	70*	100	-	<5.0	59	<b>82</b>	47	64	37	<b>72</b>	45

Notes:

value	- exceeds NSECC EQS
value	- exceeds NSECC PSS for fresh water
value	- exceeds NSECC PSS for marine water
-	- no guideline
*	- guideline could be adjusted should hardness data be available

<sup>1</sup> 2021 Nova Scotia Environment and Climate Change (NSECC)Tier I Environmental Quality Standards (EQS) at a commercial site with non-potable groundwater and coarse-grained soil.  
<sup>2</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier II Pathway-Specific Standards (PSS) for groundwater discharging to freshwater surface water (>10m)  
<sup>3</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier II Pathway-Specific Standards (PSS) for groundwater discharging to marine surface water (>10m)

TABLE 3B: CONDUCTIVITY, pH and METALS in Groundwater (MW4)

Client: Nova Scotia Lands Inc.  
Site Location: Civic No. 34 Power Plant Road, Trenton, NS  
Englobe Project No.: 2001756.000

Parameter		Units	NSECC Tier I EQS <sup>1</sup>	NSECC Tier II PSS groundwater discharging to surface water (>10m)		MW4							
						2017		2018		2020		2021	
				Freshwater <sup>2</sup>	Marine Water <sup>3</sup>	24-Apr-17	12-Oct-17	9-Apr-18	11-Oct-18	28-May-20	28-Oct-20	28-Apr-21	20-Oct-21
Conductivity		µS/cm	-	-	-	340	340	350	340	330	330	330	400
Laboratory pH		Units	-	6.5-9.0	-	6.50	6.55	6.69	6.77	6.59	6.57	6.65	6.97
Field pH		Units	-	6.5-9.0	-	-	-	-	-	-	-	-	-
Dissolved Arsenic (As)		ug/L	-	50	125	<0.10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.8
Dissolved Iron (Fe)		ug/L	-	3000	-	<50	<50	<50	<50	<50	<50	<50	57
Dissolved Lead (Pb)		ug/L	-	10*	20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Manganese (Mn)		ug/L	-	4300*	-	<i>5100</i>	<i>4500</i>	<i>4800</i>	<i>4900</i>	<i>5600</i>	4200	<i>5600</i>	<i>4400</i>
Dissolved Zinc (Zn)		ug/L	-	70*	100	54	56	64	50	55	47	49	54

Notes:

value	- exceeds NSECC EQS
value	- exceeds NSECC PSS for fresh water
value	- exceeds NSECC PSS for marine water
-	- no guideline
*	- guideline could be adjusted should hardness data be available

<sup>1</sup> 2021 Nova Scotia Environment and Climate Change (NSECC)Tier I Environmental Quality Standards (EQS) at a commercial site with non-potable groundwater and coarse-grained soil.  
<sup>2</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier II Pathway-Specific Standards (PSS) for groundwater discharging to freshwater surface water (>10m)  
<sup>3</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier II Pathway-Specific Standards (PSS) for groundwater discharging to marine surface water (>10m)



TABLE 4A: PETROLEUM HYDROCARBON COMPOUNDS in Groundwater (MW6)

Client: Nova Scotia Lands Inc.  
Site Location: Civic No. 34 Power Plant Road, Trenton, NS  
Englobe Project No.: 2001756.000

Parameter		Units	NSECC Tier I EQS <sup>1</sup>	NSECC Tier II PSS groundwater discharging to surface water (>10m)		MW6				
						2010	2013		2014	
				Freshwater <sup>2</sup>	Marine Water <sup>3</sup>	16-Apr-10	21-May-13	25-Oct-13	23-Apr-14	30-Oct-14
BTEX	Benzene	mg/L	6.3	4.6	4.6	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Toluene	mg/L	20	4.2	4.2	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Ethylbenzene	mg/L	20	3.2	3.2	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Xylenes	mg/L	20	2.8	2.8	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Modified TPH	Gas Range	mg/L	-	-	-	<0.010	0.018*	0.024	<0.010	<0.010
	Fuel Range (C10-C16)	mg/L	-	-	-	<0.050	<0.050	<0.050	<0.050	<0.050
	Fuel Range (>C16-C21)	mg/L	-	-	-		0.052	<0.050	<0.050	<0.050
	Lube Range (>C21-C32)	mg/L	-	-	-	<0.10	0.74	<0.10	<0.10	<0.10
Total Modified TPH - Tier 1		mg/L	20 as gas 20 as fuel oil 20 as lube oil	13 as gas 0.84 as fuel oil 0.48 as lube oil	13 as gas 0.84 as fuel oil 0.48 as lube oil	<0.10	<i><b>0.81</b></i>	<0.10	<0.10	<0.10
Product Resemblance		-	-	-	-	-	Lube oil fraction.	-	-	-

Notes:

value	- exceeds NSECC EQS
value	- exceeds NSECC PSS for fresh water
value	- exceeds NSECC PSS for marine water
-	- no guideline
*	- guideline could be adjusted should hardness data be available

<sup>1</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier I Environmental Quality Standards (EQS) at a commercial site with non-potable groundwater and coarse-grained soil.  
<sup>2</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier II Pathway-Specific Standards (PSS) for groundwater discharging to freshwater surface water (>10m)  
<sup>3</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier II Pathway-Specific Standards (PSS) for groundwater discharging to marine surface water (>10m)

TABLE 4A: PETROLEUM HYDROCARBON COMPOUNDS in Groundwater (MW6)

Client: Nova Scotia Lands Inc.  
Site Location: Civic No. 34 Power Plant Road, Trenton, NS  
Englobe Project No.: 2001756.000

Parameter		Units	NSECC Tier I EQS <sup>1</sup>	NSECC Tier II PSS groundwater discharging to surface water (>10m)		MW6											
						2015		2016		2017		2018		2020		2021	
				Freshwater <sup>2</sup>	Marine Water <sup>3</sup>	24-Jun-15	12-Nov-15	26-Apr-16	24-Oct-16	24-Apr-17	12-Oct-17	9-Apr-18	11-Oct-18	28-May-20	28-Oct-20	28-Apr-21	22-Oct-21
BTEX	Benzene	mg/L	6.3	4.6	4.6	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Toluene	mg/L	20	4.2	4.2	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Ethylbenzene	mg/L	20	3.2	3.2	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Xylenes	mg/L	20	2.8	2.8	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Modified TPH	Gas Range	mg/L	-	-	-	<0.010	<0.010	0.012	0.03*	0.017	0.035	0.0162	0.0352	<0.090	<0.090	<0.090	<0.090
	Fuel Range (C10-C16)	mg/L	-	-	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
	Fuel Range (>C16-C21)	mg/L	-	-	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
	Lube Range (>C21-C32)	mg/L	-	-	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.090	<0.090	<0.090	<0.090
Total Modified TPH - Tier 1		mg/L	20 as gas 20 as fuel oil 20 as lube oil	13 as gas 0.84 as fuel oil 0.48 as lube oil	13 as gas 0.84 as fuel oil 0.48 as lube oil	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.090	<0.090	<0.090	<0.090
Product Resemblance		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:

value	- exceeds NSECC EQS
value	- exceeds NSECC PSS for fresh water
value	- exceeds NSECC PSS for marine water
-	- no guideline
*	- guideline could be adjusted should hardness data be available

<sup>1</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier I Environmental Quality Standards (EQS) at a commercial site with non-potable groundwater and coarse-grained soil.  
<sup>2</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier II Pathway-Specific Standards (PSS) for groundwater discharging to freshwater surface water (>10m)  
<sup>3</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier II Pathway-Specific Standards (PSS) for groundwater discharging to marine surface water (>10m)

TABLE 4B: CONDUCTIVITY, pH and METALS in Groundwater (MW6)

Client: Nova Scotia Lands Inc.  
Site Location: Civic No. 34 Power Plant Road, Trenton, NS  
Englobe Project No.: 2001756.000

Parameter		Units	NSECC Tier I EQS <sup>1</sup>	NSECC Tier II PSS groundwater discharging to surface water (>10m)		MW6				
						2010	2013		2014	
				Freshwater <sup>2</sup>	Marine Water <sup>3</sup>	16-Apr-10	21-May-13	25-Oct-13	23-Apr-14	30-Oct-14
Conductivity		µS/cm	-	-	-	-	230	400	240	420
Laboratory pH		Units	-	6.5-9.0	-	-	6.71	6.97	6.70	7.21
Field pH		Units	-	6.5-9.0	-	-	-	-	7.21	6.84
Dissolved Arsenic (As)		ug/L	-	50	125	-	<1.0	<1.0	<1.0	<1.0
Dissolved Iron (Fe)		ug/L	-	3000	-	-	<50	<50	<50	<50
Dissolved Lead (Pb)		ug/L	-	10*	20	-	<0.50	<0.50	<0.50	<0.50
Dissolved Manganese (Mn)		ug/L	-	4300*	-	-	2.8	170	23	190
Dissolved Zinc (Zn)		ug/L	-	70*	100	-	<5.0	6.1	5.5	5.1

Notes:

value	- exceeds NSECC EQS
value	- exceeds NSECC PSS for fresh water
value	- exceeds NSECC PSS for marine water
-	- no guideline
*	- guideline could be adjusted should hardness data be available

<sup>1</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier I Environmental Quality Standards (EQS) at a commercial site with non-potable groundwater and coarse-grained soil.  
<sup>2</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier II Pathway-Specific Standards (PSS) for groundwater discharging to freshwater surface water (>10m)  
<sup>3</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier II Pathway-Specific Standards (PSS) for groundwater discharging to marine surface water (>10m)

TABLE 4B: CONDUCTIVITY, pH and METALS in Groundwater (MW6)

Client: Nova Scotia Lands Inc.  
Site Location: Civic No. 34 Power Plant Road, Trenton, NS  
Englobe Project No.: 2001756.000

Parameter		Units	NSECC Tier I EQS <sup>1</sup>	NSECC Tier II PSS groundwater discharging to surface water (>10m)		MW6												
						2015			2016		2017		2018		2020		2021	
						Freshwater <sup>2</sup>	Marine Water <sup>3</sup>											
						24-Jun-15	12-Nov-15	Lab-Dup	26-Apr-16	24-Oct-16	24-Apr-17	12-Oct-17	9-Apr-18	11-Oct-18	28-May-20	28-Oct-20	28-Apr-21	22-Oct-21
Conductivity		µS/cm	-	-	-	190	210	-	160	220.00	200	190	210	190	140	210	190	220
Laboratory pH		Units	-	6.5-9.0	-	6.77	6.79	-	6.68	6.83	6.54	6.55	6.62	6.52	6.65	6.40	6.57	7.46
Field pH		Units	-	6.5-9.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dissolved Arsenic (As)		ug/L	-	50	125	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Iron (Fe)		ug/L	-	3000	-	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Dissolved Lead (Pb)		ug/L	-	10*	20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Manganese (Mn)		ug/L	-	4300*	-	4.5	41	40	2.7	24	6.9	13	8.4	17	6.4	37	12	44
Dissolved Zinc (Zn)		ug/L	-	70*	100	9.2	<5.0	<5.0	8.8	9.8	7.2	17	5.8	10	7.4	7.4	5.1	6.1

Notes:

value	- exceeds NSECC EQS
value	- exceeds NSECC PSS for fresh water
value	- exceeds NSECC PSS for marine water
-	- no guideline
*	- guideline could be adjusted should hardness data be available

<sup>1</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier I Environmental Quality Standards (EQS) at a commercial site with non-potable groundwater and coarse-grained soil.  
<sup>2</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier II Pathway-Specific Standards (PSS) for groundwater discharging to freshwater surface water (>10m)  
<sup>3</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier II Pathway-Specific Standards (PSS) for groundwater discharging to marine surface water (>10m)

TABLE 4C: VOLATILE ORGANIC COMPOUNDS (VOCs) COMPOUNDS in Groundwater

Client: Nova Scotia Lands Inc.  
Site Location: Civic No. 34 Power Plant Road, Trenton, NS  
Englobe Project No.: 2001756.000

Parameter	Units	NSECC Tier I EQS <sup>1</sup>	NSECC Tier II PSS groundwater discharging to freshwater surface water (>10m) <sup>2</sup>	NSECC Tier II PSS groundwater discharging to marine surface water (>10m) <sup>3</sup>	MW6										
					Date										
					2016	2017			2018		2020			2021	
					24-Oct-16	24-Apr-17	Lab-Dup	12-Oct-17	9-Apr-18	11-Oct-18	28-May-20	Lab-Dup	28-Oct-20	28-Apr-21	20-Oct-21
Chlorobenzenes															
1,2-Dichlorobenzene	ug/L	64000	7	420	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,3-Dichlorobenzene	ug/L	-	1500	1500	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,4-Dichlorobenzene	ug/L	2600	260	260	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chlorobenzene	ug/L	180	13	250	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Volatile Organics															
1,1,1-Trichloroethane	ug/L	13000	100	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2,2-Tetrachloroethane	ug/L	630	700	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1,2-Trichloroethane	ug/L	910	8000	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane	ug/L	6600	2000	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,1-Dichloroethylene	ug/L	5600	400	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2-Dichloroethane	ug/L	130	1000	1000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane	ug/L	330	7	30400	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Benzene	ug/L	6300	4600	4600	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromodichloromethane	ug/L	-	2000	64000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromoform	ug/L	84000	600	64000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromomethane	ug/L	33	9	64000	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Carbon Tetrachloride (Tetrachloromethane)	ug/L	6.9	133	130	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Chloroethane	ug/L	-	11000	-	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0
Chloroform	ug/L	380	18	20	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloromethane	ug/L	-	7000	64000	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0
cis-1,2-Dichloroethylene	ug/L	4600	2000	-	10	6.3	6.2	8.8	6.9	11	2.5	2.5	8.6	6.2	12
cis-1,3-Dichloropropene	ug/L	100	70	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dibromochloromethane	ug/L	10000	400	64000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ethylbenzene	ug/L	20000	3200	3200	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ethylene Dibromide	ug/L	51	50	-	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Methyl t-butyl ether (MTBE)	ug/L	4300	100000	50000	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Methylene Chloride(Dichloromethane)	ug/L	43000	981	980	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
o-Xylene	ug/L	20000	2800	2800	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
p+m-Xylene	ug/L				<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Styrene	ug/L	26000	720	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethylene	ug/L	1200	1100	1100	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Toluene	ug/L	20000	4200	4200	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Trihalomethanes	ug/L	-	-	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Xylenes	ug/L	20000	2800	2800	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethylene	ug/L	4900	2000	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
trans-1,3-Dichloropropene	ug/L	-	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Trichloroethylene	ug/L	110	210	200	31	25	24	40	22	44	19	19	34	25	33
Trichlorofluoromethane (FREON 11)	ug/L	-	-	-	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0
Vinyl Chloride	ug/L	99	6000	-	3.8	<0.50	<0.50	1.9	<0.50	2.4	<0.50	<0.50	2.3	<0.50	<8.1

Notes:

value	- exceeds NSECC EQS
value	- exceeds NSECC PSS for fresh water
value	- exceeds NSECC PSS for marine water
-	- no guideline

<sup>1</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier I Environmental Quality Standards (EQS) at a commercial site with non-potable groundwater and coarse-grained soil.  
<sup>2</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier II Pathway-Specific Standards (PSS) for groundwater discharging to freshwater surface water (>10m)  
<sup>3</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier II Pathway-Specific Standards (PSS) for groundwater discharging to marine surface water (>10m)

TABLE 5A: PETROLEUM HYDROCARBON COMPOUNDS in Groundwater (MW9)

Client: Nova Scotia Lands Inc.  
Site Location: Civic No. 34 Power Plant Road, Trenton, NS  
Englobe Project No.: 2001756.000

Parameter		Units	NSECC Tier I EQS <sup>1</sup>	NSECC Tier II PSS groundwater discharging to surface water (>10m)		MW9								
						2010	2013		2014		2015		2016	
				Freshwater <sup>2</sup>	Marine Water <sup>3</sup>	16-Apr-10	21-May-13	25-Oct-13	23-Apr-14	30-Oct-14	24-Jun-15	12-Nov-15	26-Apr-16	24-Oct-16
BTEX	Benzene	mg/L	6.3	4.6	4.6	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Toluene	mg/L	20	4.2	4.2	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Ethylbenzene	mg/L	20	3.2	3.2	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Xylenes	mg/L	20	2.8	2.8	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Modified TPH	Gas Range	mg/L	-	-	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
	Fuel Range (C10-C16)	mg/L	-	-	-	5.7	0.051	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
	Fuel Range (>C16-C21)	mg/L	-	-	-		0.32	0.05	0.053	<0.050	0.05	0.12	0.09	0.43
	Lube Range (>C21-C32)	mg/L	-	-	-	63	2.3	0.33	0.26	0.11	0.37	0.76	0.54	3.4
Total Modified TPH - Tier 1		mg/L	20 as gas 20 as fuel oil 20 as lube oil	13 as gas 0.84 as fuel oil 0.48 as lube oil	13 as gas 0.84 as fuel oil 0.48 as lube oil	<i><b>68</b></i>	<i><b>2.6</b></i>	0.38	0.31	0.11	0.42	<i><b>0.88</b></i>	<i><b>0.63</b></i>	<i><b>3.8</b></i>
Product Resemblance		-	-	-	-	Lube oil fraction	Lube oil fraction	Lube oil fraction	Lube oil fraction	Lube oil fraction.	Lube oil fraction	Lube oil fraction.	Lube oil fraction	Lube oil fraction

Notes:

value	- exceeds NSECC EQS
value	- exceeds NSECC PSS for fresh water
value	- exceeds NSECC PSS for marine water
-	- no guideline
*	- guideline could be adjusted should hardness data be available

<sup>1</sup> 2021 Nova Scotia Environment and Climate Change (NSECC)Tier I Environmental Quality Standards (EQS) at a commercial site with non-potable groundwater and coarse-grained soil.

<sup>2</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier II Pathway-Specific Standards (PSS) for groundwater discharging to freshwater surface water (>10m)

<sup>3</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier II Pathway-Specific Standards (PSS) for groundwater discharging to marine surface water (>10m)

TABLE 5A: PETROLEUM HYDROCARBON COMPOUNDS in Groundwater (MW9)

Client: Nova Scotia Lands Inc.  
Site Location: Civic No. 34 Power Plant Road, Trenton, NS  
Englobe Project No.: 2001756.000

Parameter		Units	NSECC Tier I EQS <sup>1</sup>	NSECC Tier II PSS groundwater discharging to surface water (>10m)		MW9							
						2017		2018		2020		2021	
				Freshwater <sup>2</sup>	Marine Water <sup>3</sup>	24-Apr-17	12-Oct-17	9-Apr-18	11-Oct-18	28-May-20	28-Oct-20	28-Apr-21	20-Oct-21
BTEX	Benzene	mg/L	6.3	4.6	4.6	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Toluene	mg/L	20	4.2	4.2	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Ethylbenzene	mg/L	20	3.2	3.2	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Xylenes	mg/L	20	2.8	2.8	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0022	<0.0020
Modified TPH	Gas Range	mg/L	-	-	-	<0.010	<0.010	<0.010	<0.010	<0.090	<0.090	<0.090	<0.090
	Fuel Range (C10-C16)	mg/L	-	-	-	<0.050	<0.050	<0.050	<0.050	<0.050	0.051	<0.050	<0.050
	Fuel Range (>C16-C21)	mg/L	-	-	-	0.19	0.16	0.089	0.090	0.079	0.21	0.2	0.2
	Lube Range (>C21-C32)	mg/L	-	-	-	1.6	1.4	0.69	0.64	0.58	1.3	1.7	1.6
Total Modified TPH - Tier 1		mg/L	20 as gas 20 as fuel oil 20 as lube oil	13 as gas 0.84 as fuel oil 0.48 as lube oil	13 as gas 0.84 as fuel oil 0.48 as lube oil	<i><u>1.8</u></i>	<i><u>1.5</u></i>	<i><u>0.78</u></i>	<i><u>0.73</u></i>	<i><u>0.66</u></i>	<i><u>1.5</u></i>	<i><u>1.9</u></i>	<i><u>1.8</u></i>
Product Resemblance		-	-	-	-	Lube oil fraction.	Lube oil fraction	Lube oil fraction.	Lube oil fraction.	Lube oil fraction.	Lube oil fraction.	Lube oil fraction.	Lube oil fraction.

Notes:

value	- exceeds NSECC EQS
value	- exceeds NSECC PSS for fresh water
value	- exceeds NSECC PSS for marine water
-	- no guideline
*	- guideline could be adjusted should hardness data be available

<sup>1</sup> 2021 Nova Scotia Environment and Climate Change (NSECC)Tier I Environmental Quality Standards (EQS) at a commercial site with non-potable groundwater and coarse-grained soil.  
<sup>2</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier II Pathway-Specific Standards (PSS) for groundwater discharging to freshwater surface water (>10m)  
<sup>3</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier II Pathway-Specific Standards (PSS) for groundwater discharging to marine surface water (>10m)

TABLE 5B: CONDUCTIVITY, pH and METALS in Groundwater (MW9)

Client: Nova Scotia Lands Inc.  
Site Location: Civic No. 34 Power Plant Road, Trenton, NS  
Englobe Project No.: 2001756.000

Parameter		Units	NSECC Tier I EQS <sup>1</sup>	NSECC Tier II PSS groundwater discharging to surface water (>10m)		MW9								
						2010	2013		2014		2015		2016	
				Freshwater <sup>2</sup>	Marine Water <sup>3</sup>	16-Apr-10	21-May-13	25-Oct-13	23-Apr-14	30-Oct-14	24-Jun-15	12-Nov-15	26-Apr-16	24-Oct-16
Conductivity		µS/cm	-	-	-	-	820	660	650	690	500	670	560	560
Laboratory pH		Units	-	6.5-9.0	-	-	7.17	7.16	7.11	7.30	7.55	7.42	7.53	7.41
Field pH		Units	-	6.5-9.0	-	-	-	-	7.28	-	-	-	-	-
Dissolved Arsenic (As)		ug/L	-	50	125	-	<1.0	<1.0	<1.0	<1.0	1.7	<1.0	<1.0	<1.0
Dissolved Iron (Fe)		ug/L	-	3000	-	-	<50	640	370	550	<50	890	220	260
Dissolved Lead (Pb)		ug/L	-	10*	20	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Manganese (Mn)		ug/L	-	4300*	-	-	592	490	320	600	47	940	300	170
Dissolved Zinc (Zn)		ug/L	-	70*	100	-	10	5.2	9.5	12	12	<5.0	8.6	8.2

Notes:

value	- exceeds NSECC EQS
value	- exceeds NSECC PSS for fresh water
value	- exceeds NSECC PSS for marine water
-	- no guideline
*	- guideline could be adjusted should hardness data be available

<sup>1</sup> 2021 Nova Scotia Environment and Climate Change (NSECC)Tier I Environmental Quality Standards (EQS) at a commercial site with non-potable groundwater and coarse-grained soil.  
<sup>2</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier II Pathway-Specific Standards (PSS) for groundwater discharging to freshwater surface water (>10m)  
<sup>3</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier II Pathway-Specific Standards (PSS) for groundwater discharging to marine surface water (>10m)



TABLE 5B: CONDUCTIVITY, pH and METALS in Groundwater (MW9)

Client: Nova Scotia Lands Inc.  
Site Location: Civic No. 34 Power Plant Road, Trenton, NS  
Englobe Project No.: 2001756.000

Parameter		Units	NSECC Tier I EQS <sup>1</sup>	NSECC Tier II PSS groundwater discharging to surface water (>10m)		MW9									
						2017			2018			2020		2021	
									24-Apr-17	Lab-Dup	12-Oct-17	9-Apr-18	Lab-Dup	11-Oct-18	28-May-20
Conductivity		µS/cm	-	-	-	460	-	630	520	-	630	540	700	530	640
Laboratory pH		Units	-	6.5-9.0	-	7.34	-	7.37	7.33	-	7.25	7.52	7.39	7.14	7.40
Field pH		Units	-	6.5-9.0	-	-	-	-	-	-	-	-	-	-	-
Dissolved Arsenic (As)		ug/L	-	50	125	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Iron (Fe)		ug/L	-	3000	-	480	470	820	69	470	620	220	1500	160	230
Dissolved Lead (Pb)		ug/L	-	10*	20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Manganese (Mn)		ug/L	-	4300*	-	520	520	1000	300	520	850	780	1400	360	330
Dissolved Zinc (Zn)		ug/L	-	70*	100	<5.0	<5.0	<5.0	9.3	<5.0	<5.0	8.1	5.9	8.5	6.2

Notes:

value	- exceeds NSECC EQS
value	- exceeds NSECC PSS for fresh water
value	- exceeds NSECC PSS for marine water
-	- no guideline
*	- guideline could be adjusted should hardness data be available

<sup>1</sup> 2021 Nova Scotia Environment and Climate Change (NSECC)Tier I Environmental Quality Standards (EQS) at a commercial site with non-potable groundwater and coarse-grained soil.  
<sup>2</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier II Pathway-Specific Standards (PSS) for groundwater discharging to freshwater surface water (>10m)  
<sup>3</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier II Pathway-Specific Standards (PSS) for groundwater discharging to marine surface water (>10m)

TABLE 6A: PETROLEUM HYDROCARBON COMPOUNDS in Groundwater (MW11)

Client: Nova Scotia Lands Inc.  
Site Location: Civic No. 34 Power Plant Road, Trenton, NS  
Englobe Project No.: 2001756.000

Parameter		Units	NSECC Tier I EQS <sup>1</sup>	NSECC Tier II PSS groundwater discharging to surface water (>10m)		MW11							
						2013		2014		2015		2016	
				Freshwater <sup>2</sup>	Marine Water <sup>3</sup>	21-May-13	25-Oct-13	23-Apr-14	30-Oct-14	24-Jun-15	12-Nov-15	26-Apr-16	24-Oct-16
BTEX	Benzene	mg/L	6.3	4.6	4.6	<0.0010	-	-	-	-	-	-	-
	Toluene	mg/L	20	4.2	4.2	<0.0010	-	-	-	-	-	-	-
	Ethylbenzene	mg/L	20	3.2	3.2	<0.0010	-	-	-	-	-	-	-
	Xylenes	mg/L	20	2.8	2.8	<0.0020	-	-	-	-	-	-	-
Modified TPH	Gas Range	mg/L	-	-	-	<0.010	-	-	-	-	-	-	-
	Fuel Range (C10-C16)	mg/L	-	-	-	0.37	-	-	-	-	-	-	-
	Fuel Range (>C16-C21)	mg/L	-	-	-	3.1	-	-	-	-	-	-	-
	Lube Range (>C21-C32)	mg/L	-	-	-	39	-	-	-	-	-	-	-
Total Modified TPH - Tier 1		mg/L	20 as gas 20 as fuel oil 20 as lube oil	13 as gas 0.84 as fuel oil 0.48 as lube oil	13 as gas 0.84 as fuel oil 0.48 as lube oil	<u>42</u>	Free Product Detected	Free Product Detected	Free Product Detected	Free Product Detected	Free Product Detected	Free Product Detected	Free Product Detected
Product Resemblance		-	-	-	-	Lube oil fraction	Lube oil fraction	-	-	-	-	-	-

Notes:

value	- exceeds NSECC EQS
value	- exceeds NSECC PSS for fresh water
value	- exceeds NSECC PSS for marine water
-	- no guideline
*	- guideline could be adjusted should hardness data be available

<sup>1</sup> 2021 Nova Scotia Environment and Climate Change (NSECC)Tier I Environmental Quality Standards (EQS) at a commercial site with non-potable groundwater and coarse-grained soil.  
<sup>2</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier II Pathway-Specific Standards (PSS) for groundwater discharging to freshwater surface water (>10m)  
<sup>3</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier II Pathway-Specific Standards (PSS) for groundwater discharging to marine surface water (>10m)

TABLE 6A: PETROLEUM HYDROCARBON COMPOUNDS in Groundwater (MW11)

Client: Nova Scotia Lands Inc.

Site Location: Civic No. 34 Power Plant Road, Trenton, NS

Englobe Project No.: 2001756.000

Parameter		Units	NSECC Tier I EQS <sup>1</sup>	NSECC Tier II PSS groundwater discharging to surface water (>10m)		MW11							
						2017		2018		2020		2021	
				Freshwater <sup>2</sup>	Marine Water <sup>3</sup>	24-Apr-17	12-Oct-17	9-Apr-18	11-Oct-18	28-May-20	28-Oct-20	28-Apr-21	20-Oct-21
BTEX	Benzene	mg/L	6.3	4.6	4.6	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Toluene	mg/L	20	4.2	4.2	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Ethylbenzene	mg/L	20	3.2	3.2	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Xylenes	mg/L	20	2.8	2.8	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Modified TPH	Gas Range	mg/L	-	-	-	<0.010	<0.010	<0.010	<0.010	<0.090	<0.090	<0.090	<0.090
	Fuel Range (C10-C16)	mg/L	-	-	-	0.21	0.16	0.21	0.21	0.17	0.24	0.099	0.15
	Fuel Range (>C16-C21)	mg/L	-	-	-	0.41	0.34	0.39	0.32	0.47	0.76	0.32	0.62
	Lube Range (>C21-C32)	mg/L	-	-	-	2.7	2.5	2.3	2.1	4.2	7.7	3.7	6.2
Total Modified TPH - Tier 1		mg/L	20 as gas 20 as fuel oil 20 as lube oil	13 as gas 0.84 as fuel oil 0.48 as lube oil	13 as gas 0.84 as fuel oil 0.48 as lube oil	<u>3.3</u>	<u>2.9</u>	<u>2.9</u>	<u>2.7</u>	<u>4.8</u>	<u>8.7</u>	<u>4.1</u>	<u>7.0</u>
Product Resemblance		-	-	-	-	One propduct in fuel / lube oil range. Lube oil fraction.	One propduct in fuel / lube oil range. Lube oil fraction.	One propduct in fuel oil range. Lube oil fraction.	One product in fuel oil range. Lube oil fraction.	Lube oil fraction.	One product in fuel oil range. Lube oil fraction.	Lube oil fraction.	Lube oil fraction.

Notes:

value	- exceeds NSECC EQS
value	- exceeds NSECC PSS for fresh water
value	- exceeds NSECC PSS for marine water
-	- no guideline
*	- guideline could be adjusted should hardness data be available

<sup>1</sup> 2021 Nova Scotia Environment and Climate Change (NSECC)Tier I Environmental Quality Standards (EQS) at a commercial site with non-potable groundwater and coarse-grained soil.

<sup>2</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier II Pathway-Specific Standards (PSS) for groundwater discharging to freshwater surface water (>10m)

<sup>3</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier II Pathway-Specific Standards (PSS) for groundwater discharging to marine surface water (>10m)

TABLE 6B: CONDUCTIVITY, pH and METALS in Groundwater (MW11)  
Client: Nova Scotia Lands Inc.  
Site Location: Civic No. 34 Power Plant Road, Trenton, NS  
Englobe Project No.: 2001756.000

Parameter		Units	NSECC Tier I EQS <sup>1</sup>	NSECC Tier II PSS groundwater discharging to surface water (>10m)		MW11							
						2013		2014		2015		2016	
				Freshwater <sup>2</sup>	Marine Water <sup>3</sup>	21-May-13	25-Oct-13	23-Apr-14	30-Oct-14	24-Jun-15	12-Nov-15	26-Apr-16	24-Oct-16
Conductivity		µS/cm	-	-	-	680	-	-	-	-	-	-	-
Laboratory pH		Units	-	6.5-9.0	-	7.38	-	-	-	-	-	-	-
Field pH		Units	-	6.5-9.0	-	-	-	-	-	-	-	-	-
Dissolved Arsenic (As)		ug/L	-	50	125	<1.0	-	-	-	-	-	-	-
Dissolved Iron (Fe)		ug/L	-	3000	-	<50	-	-	-	-	-	-	-
Dissolved Lead (Pb)		ug/L	-	10*	20	<0.50	-	-	-	-	-	-	-
Dissolved Manganese (Mn)		ug/L	-	4300*	-	1590	-	-	-	-	-	-	-
Dissolved Zinc (Zn)		ug/L	-	70*	100	<5.0	-	-	-	-	-	-	-

Notes:

value	- exceeds NSECC EQS
value	- exceeds NSECC PSS for fresh water
value	- exceeds NSECC PSS for marine water
-	- no guideline
*	- guideline could be adjusted should hardness data be available

<sup>1</sup> 2021 Nova Scotia Environment and Climate Change (NSECC)Tier I Environmental Quality Standards (EQS) at a commercial site with non-potable groundwater and coarse-grained soil.  
<sup>2</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier II Pathway-Specific Standards (PSS) for groundwater discharging to freshwater surface water (>10m)  
<sup>3</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier II Pathway-Specific Standards (PSS) for groundwater discharging to marine surface water (>10m)

TABLE 6B: CONDUCTIVITY, pH and METALS in Groundwater (MW11)

Client: Nova Scotia Lands Inc.  
Site Location: Civic No. 34 Power Plant Road, Trenton, NS  
Englobe Project No.: 2001756.000

Parameter		Units	NSECC Tier I EQS <sup>1</sup>	NSECC Tier II PSS groundwater discharging to surface water (>10m)		MW11										
						2017			2018			2020		2021		
				Freshwater <sup>2</sup>	Marine Water <sup>3</sup>	24-Apr-17	Lab-Dup	12-Oct-17	9-Apr-18	Lab-Dup	11-Oct-18	28-May-20	28-Oct-20	28-Apr-21	20-Oct-21	Lab-Dup
Conductivity		µS/cm	-	-	-	540	540	610	610	540	610	600	640	610	690	700
Laboratory pH		Units	-	6.5-9.0	-	7.31	7.34	7.49	7.42	7.34	7.60	7.11	7.38	7.00	7.27	7.28
Field pH		Units	-	6.5-9.0	-	-	-	-	-	-	-	-	-	-	-	
Dissolved Arsenic (As)		ug/L	-	50	125	1.3	-	2.8	<1.0	<1.0	2.6	1.8	1.3	<1.0	1.6	1.6
Dissolved Iron (Fe)		ug/L	-	3000	-	<i>8200</i>	-	<i>9100</i>	<50	<50	<i>9100</i>	<i>20000</i>	<i>4900</i>	<i>20000</i>	<i>18000</i>	<i>18000</i>
Dissolved Lead (Pb)		ug/L	-	10*	20	<0.50	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Manganese (Mn)		ug/L	-	4300*	-	1600	-	1600	1800	1800	1600	1600	1500	1500	1600	1600
Dissolved Zinc (Zn)		ug/L	-	70*	100	<5.0	-	<5.0	<5.0	<5.0	<5.0	5.9	<5.0	<5.0	<5.0	<5.0

Notes:

value	- exceeds NSECC EQS
value	- exceeds NSECC PSS for fresh water
value	- exceeds NSECC PSS for marine water
-	- no guideline
*	- guideline could be adjusted should hardness data be available

<sup>1</sup> 2021 Nova Scotia Environment and Climate Change (NSECC)Tier I Environmental Quality Standards (EQS) at a commercial site with non-potable groundwater and coarse-grained soil.  
<sup>2</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier II Pathway-Specific Standards (PSS) for groundwater discharging to freshwater surface water (>10m)  
<sup>3</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier II Pathway-Specific Standards (PSS) for groundwater discharging to marine surface water (>10m)

TABLE 7A: PETROLEUM HYDROCARBON COMPOUNDS in Groundwater (MW14)

Client: Nova Scotia Lands Inc.  
Site Location: Civic No. 34 Power Plant Road, Trenton, NS  
Englobe Project No.: 2001756.000

Parameter		Units	NSECC Tier I EQS <sup>1</sup>	NSECC Tier II PSS groundwater discharging to surface water (>10m)		MW14											
						Freshwater <sup>2</sup>		Marine Water <sup>3</sup>		2013		2014		2015		2016	
										21-May-13	25-Oct-13	23-Apr-14	30-Oct-14	24-Jun-15	12-Nov-15	26-Apr-16	24-Oct-16
BTEX	Benzene	mg/L	6.3	4.6	4.6	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010				
	Toluene	mg/L	20	4.2	4.2	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010				
	Ethylbenzene	mg/L	20	3.2	3.2	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010				
	Xylenes	mg/L	20	2.8	2.8	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020				
Modified TPH	Gas Range	mg/L	-	-	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010				
	Fuel Range (C10-C16)	mg/L	-	-	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050				
	Fuel Range (>C16-C21)	mg/L	-	-	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050				
	Lube Range (>C21-C32)	mg/L	-	-	-	0.19	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10				
Total Modified TPH - Tier 1		mg/L	20 as gas 20 as fuel oil 20 as lube oil	13 as gas 0.84 as fuel oil 0.48 as lube oil	13 as gas 0.84 as fuel oil 0.48 as lube oil	0.19	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10				
Product Resemblance		-	-	-	-	Lube oil fraction	-	-	-	-	-	-	-				

Notes:

value	- exceeds NSECC EQS
value	- exceeds NSECC PSS for fresh water
value	- exceeds NSECC PSS for marine water
-	- no guideline
*	- guideline could be adjusted should hardness data be available

<sup>1</sup> 2021 Nova Scotia Environment and Climate Change (NSECC)Tier I Environmental Quality Standards (EQS) at a commercial site with non-potable groundwater and coarse-grained soil.

<sup>2</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier II Pathway-Specific Standards (PSS) for groundwater discharging to freshwater surface water (>10m)

<sup>3</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier II Pathway-Specific Standards (PSS) for groundwater discharging to marine surface water (>10m)



TABLE 7A: PETROLEUM HYDROCARBON COMPOUNDS in Groundwater (MW14)

Client: Nova Scotia Lands Inc.  
Site Location: Civic No. 34 Power Plant Road, Trenton, NS  
Englobe Project No.: 2001756.000

Parameter		Units	NSECC Tier I EQS <sup>1</sup>	NSECC Tier II PSS groundwater discharging to surface water (>10m)		MW14										
						2017		2018		2020				2021		
				Freshwater <sup>2</sup>	Marine Water <sup>3</sup>	24-Apr-17	12-Oct-17	9-Apr-18	11-Oct-18	28-May-20	Lab-Dup	28-Oct-20	Lab-Dup	28-Apr-21	Duplicate	20-Oct-21
BTEX	Benzene	mg/L	6.3	4.6	4.6	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Toluene	mg/L	20	4.2	4.2	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Ethylbenzene	mg/L	20	3.2	3.2	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Xylenes	mg/L	20	2.8	2.8	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Modified TPH	Gas Range	mg/L	-	-	-	<0.010	<0.010	<0.010	<0.010	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090
	Fuel Range (C10-C16)	mg/L	-	-	-	<0.050	<0.050	<0.050	<0.050	0.074	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
	Fuel Range (>C16-C21)	mg/L	-	-	-	<0.050	<0.050	<0.050	<0.050	0.096	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
	Lube Range (>C21-C32)	mg/L	-	-	-	0.12	<0.10	<0.10	<0.10	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090
Total Modified TPH - Tier 1		mg/L	20 as gas 20 as fuel oil 20 as lube oil	13 as gas 0.84 as fuel oil 0.48 as lube oil	13 as gas 0.84 as fuel oil 0.48 as lube oil	0.12	<0.10	<0.10	<0.10	0.17	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090
Product Resemblance		-	-	-	-	Lube oil fraction.	-	-	-	-	-	-	-	-	-	-

Notes:

value	- exceeds NSECC EQS
value	- exceeds NSECC PSS for fresh water
value	- exceeds NSECC PSS for marine water
-	- no guideline
*	- guideline could be adjusted should hardness data be available

<sup>1</sup> 2021 Nova Scotia Environment and Climate Change (NSECC)Tier I Environmental Quality Standards (EQS) at a commercial site with non-potable groundwater and coarse-grained soil.  
<sup>2</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier II Pathway-Specific Standards (PSS) for groundwater discharging to freshwater surface water (>10m)  
<sup>3</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier II Pathway-Specific Standards (PSS) for groundwater discharging to marine surface water (>10m)

TABLE 7B: CONDUCTIVITY, pH and METALS in Groundwater (MW14)

Client: Nova Scotia Lands Inc.  
Site Location: Civic No. 34 Power Plant Road, Trenton, NS  
Englobe Project No.: 2001756.000

Parameter		Units	NSECC Tier I EQS <sup>1</sup>	NSECC Tier II PSS groundwater discharging to surface water (>10m)		MW14							
						2013		2014		2015			2016
				Freshwater <sup>2</sup>	Marine Water <sup>3</sup>	21-May-13	25-Oct-13	23-Apr-14	30-Oct-14	24-Jun-15	12-Nov-15	Lab-Dup	26-Apr-16
Conductivity		µS/cm	-	-	-	720	800	670	780	690	840	840	710
Laboratory pH		Units	-	6.5-9.0	-	7.01	6.74	6.57	6.93	7.00	6.83	6.81	6.91
Field pH		Units	-	6.5-9.0	-	-	-	6.74	6.78	-	-	-	-
Dissolved Arsenic (As)		ug/L	-	50	125	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	-	<1.0
Dissolved Iron (Fe)		ug/L	-	3000	-	<50	840	110	140	96	89	-	<50
Dissolved Lead (Pb)		ug/L	-	10*	20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.50
Dissolved Manganese (Mn)		ug/L	-	4300*	-	2810	2700	2900	2700	2300	3300	-	2200
Dissolved Zinc (Zn)		ug/L	-	70*	100	31.2	29	29	35	43	44	-	42

Notes:

value	- exceeds NSECC EQS
value	- exceeds NSECC PSS for fresh water
value	- exceeds NSECC PSS for marine water
-	- no guideline
*	- guideline could be adjusted should hardness data be available

<sup>1</sup> 2021 Nova Scotia Environment and Climate Change (NSECC)Tier I Environmental Quality Standards (EQS) at a commercial site with non-potable groundwater and coarse-grained soil.  
<sup>2</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier II Pathway-Specific Standards (PSS) for groundwater discharging to freshwater surface water (>10m)  
<sup>3</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier II Pathway-Specific Standards (PSS) for groundwater discharging to marine surface water (>10m)

TABLE 7B: CONDUCTIVITY, pH and METALS in Groundwater (MW14)

Client: Nova Scotia Lands Inc.  
Site Location: Civic No. 34 Power Plant Road, Trenton, NS  
Englobe Project No.: 2001756.000

Parameter		Units	NSECC Tier I EQS <sup>1</sup>	NSECC Tier II PSS groundwater discharging to surface water (>10m)		MW14												
						2016	2017		2018		2020				2021			
				Freshwater <sup>2</sup>	Marine Water <sup>3</sup>	24-Oct-16	24-Apr-17	12-Oct-17	9-Apr-18	11-Oct-18	28-May-20	Lab-Dup	28-Oct-20	Lab-Dup	28-Apr-21	Duplicate	Lab-Dup	20-Oct-21
Conductivity		µS/cm	-	-	-	760.00	630	740	660	720	530	550	630	640	570	560	570	600
Laboratory pH		Units	-	6.5-9.0	-	6.92	6.54	6.58	6.78	6.86	6.71	6.63	6.58	6.63	6.79	6.65	6.59	6.98
Field pH		Units	-	6.5-9.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dissolved Arsenic (As)		ug/L	-	50	125	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	-	<1.0
Dissolved Iron (Fe)		ug/L	-	3000	-	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	-	<50
Dissolved Lead (Pb)		ug/L	-	10*	20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.50
Dissolved Manganese (Mn)		ug/L	-	4300*	-	1800	2000	1900	1800	2300	1300	1300	1900	2000	1800	1800	-	1900
Dissolved Zinc (Zn)		ug/L	-	70*	100	32	35	37	54	48	<b><i>160</i></b>	<b><i>160</i></b>	56	56	29	28	-	37

- Notes:
- |                     |   |
|---------------------|---|
| value               | - exceeds NSECC EQS   |
| <b><i>value</i></b> | - exceeds NSECC PSS for fresh water                             |
| <b><u>value</u></b> | - exceeds NSECC PSS for marine water                            |
| -                   | - no guideline  |
| *                   | - guideline could be adjusted should hardness data be available |

<sup>1</sup> 2021 Nova Scotia Environment and Climate Change (NSECC)Tier I Environmental Quality Standards (EQS) at a commercial site with non-potable groundwater and coarse-grained soil.  
<sup>2</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier II Pathway-Specific Standards (PSS) for groundwater discharging to freshwater surface water (>10m)  
<sup>3</sup> 2021 Nova Scotia Environment and Climate Change (NSECC) Tier II Pathway-Specific Standards (PSS) for groundwater discharging to marine surface water (>10m)

# Appendix D

## Laboratory Certificates



**eNGLOBE**



Your Project #: 2001756.000  
Site Location: Trenton Commercial Park  
Your C.O.C. #: 823969-01-01

**Attention: Ryan Pellerin**

Englobe Corp  
97 Troop Ave  
Dartmouth, NS  
CANADA B3B 2A7

**Report Date: 2021/05/06**  
Report #: R6623459  
Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**BV LABS JOB #: C1B5709**

**Received: 2021/04/29, 14:29**

Sample Matrix: Water  
# Samples Received: 10

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Conductance - water	10	N/A	2021/05/04	ATL SOP 00004	SM 23 2510B m
TEH in Water (PIRI)	5	2021/05/03	2021/05/03	ATL SOP 00113	Atl. RBCA v3.1 m
TEH in Water (PIRI)	4	2021/05/04	2021/05/04	ATL SOP 00113	Atl. RBCA v3.1 m
TEH in Water (PIRI)	1	2021/05/04	2021/05/05	ATL SOP 00113	Atl. RBCA v3.1 m
Metals Water Diss. MS (as rec'd)	10	N/A	2021/05/05	ATL SOP 00058	EPA 6020B R2 m
pH (1)	10	N/A	2021/05/04	ATL SOP 00003	SM 23 4500-H+ B m
ModTPH (T1) Calc. for Water	5	N/A	2021/05/04	N/A	Atl. RBCA v3 m
ModTPH (T1) Calc. for Water	5	N/A	2021/05/05	N/A	Atl. RBCA v3 m
Volatile Organic Compounds in Water	1	N/A	2021/05/04	ATL SOP 00133	EPA 8260D R4 m
VPH in Water (PIRI)	10	N/A	2021/05/03	ATL SOP 00130	Atl. RBCA v3.1 m

**Remarks:**

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

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

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

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

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

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

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

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

(1) The APHA Standard Method require pH to be analyzed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the APHA Standard Method holding time.



Your Project #: 2001756.000  
Site Location: Trenton Commercial Park  
Your C.O.C. #: 823969-01-01

**Attention: Ryan Pellerin**

Englobe Corp  
97 Troop Ave  
Dartmouth, NS  
CANADA B3B 2A7

**Report Date: 2021/05/06**  
Report #: R6623459  
Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**BV LABS JOB #: C1B5709**  
**Received: 2021/04/29, 14:29**

**Encryption Key**

Please direct all questions regarding this Certificate of Analysis to your Project Manager.  
Keri Mackay, Customer Experience Team Lead  
Email: Keri.MACKAY@bureauveritas.com  
Phone# (902)420-0203 Ext:294

=====

This report has been generated and distributed using a secure automated process.

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.





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BV Labs Job #: C1B5709

Report Date: 2021/05/06

Englobe Corp

Client Project #: 2001756.000

Site Location: Trenton Commercial Park

### RBCA HYDROCARBONS IN WATER (WATER)

BV Labs ID		PLL695		PLL696	PLL697	PLL698		
Sampling Date		2021/04/28 11:45		2021/04/28 09:50	2021/04/28 10:30	2021/04/28 13:40		
COC Number		823969-01-01		823969-01-01	823969-01-01	823969-01-01		
	UNITS	MW1	RDL	MW3	MW4	MW6	RDL	QC Batch
<b>Petroleum Hydrocarbons</b>								
Benzene	mg/L	<0.0040 (1)	0.0040	<0.0010	<0.0010	<0.0010	0.0010	7330483
Toluene	mg/L	0.0090	0.0010	<0.0010	<0.0010	<0.0010	0.0010	7330483
Ethylbenzene	mg/L	0.81	0.0010	<0.0010	<0.0010	<0.0010	0.0010	7330483
Total Xylenes	mg/L	0.77	0.0020	<0.0020	<0.0020	<0.0020	0.0020	7330483
C6 - C10 (less BTEX)	mg/L	9.4	0.090	<0.090	<0.090	<0.090	0.090	7330483
>C10-C16 Hydrocarbons	mg/L	2.2	0.050	<0.050	<0.050	<0.050	0.050	7330478
>C16-C21 Hydrocarbons	mg/L	<0.050	0.050	<0.050	<0.050	<0.050	0.050	7330478
>C21-<C32 Hydrocarbons	mg/L	0.14	0.090	<0.090	<0.090	<0.090	0.090	7330478
Modified TPH (Tier1)	mg/L	12	0.090	<0.090	<0.090	<0.090	0.090	7327300
Reached Baseline at C32	mg/L	Yes	N/A	NA	NA	NA	N/A	7330478
Hydrocarbon Resemblance	mg/L	COMMENT (2)	N/A	NA	NA	NA	N/A	7330478
<b>Surrogate Recovery (%)</b>								
Isobutylbenzene - Extractable	%	83		95	101	86		7330478
n-Dotriacontane - Extractable	%	78		89 (3)	97 (3)	94		7330478
Isobutylbenzene - Volatile	%	99		102 (4)	105 (4)	103		7330483
<p>RDL = Reportable Detection Limit            QC Batch = Quality Control Batch            N/A = Not Applicable            (1) Elevated VPH RDL(s) due to matrix interference.            (2) One product in the gas/fuel oil range. Unidentified compound(s) in lube oil range.            (3) TEH sample contained sediment.            (4) VPH sample contained sediment.</p>								



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BV Labs Job #: C1B5709  
Report Date: 2021/05/06

Englobe Corp  
Client Project #: 2001756.000  
Site Location: Trenton Commercial Park

### RBCA HYDROCARBONS IN WATER (WATER)

BV Labs ID		PLL699		PLL700	PLL701	PLL702		
Sampling Date		2021/04/28 12:55		2021/04/28 12:20	2021/04/28 11:10	2021/04/28		
COC Number		823969-01-01		823969-01-01	823969-01-01	823969-01-01		
	UNITS	MW9	QC Batch	MW11	MW14	TRIP BLANK	RDL	QC Batch
<b>Petroleum Hydrocarbons</b>								
Benzene	mg/L	<0.0010	7330750	<0.0010	<0.0010	<0.0010	0.0010	7330750
Toluene	mg/L	<0.0010	7330750	<0.0010	<0.0010	<0.0010	0.0010	7330750
Ethylbenzene	mg/L	<0.0010	7330750	<0.0010	<0.0010	<0.0010	0.0010	7330750
Total Xylenes	mg/L	0.0022	7330750	<0.0020	<0.0020	<0.0020	0.0020	7330750
C6 - C10 (less BTEX)	mg/L	<0.090	7330750	<0.090	<0.090	<0.090	0.090	7330750
>C10-C16 Hydrocarbons	mg/L	<0.050	7330478	0.099	<0.050	<0.050	0.050	7332475
>C16-C21 Hydrocarbons	mg/L	0.20	7330478	0.32	<0.050	<0.050	0.050	7332475
>C21-<C32 Hydrocarbons	mg/L	1.7	7330478	3.7	<0.090	<0.090	0.090	7332475
Modified TPH (Tier1)	mg/L	1.9	7327300	4.1	<0.090	<0.090	0.090	7327300
Reached Baseline at C32	mg/L	No	7330478	No	NA	NA	N/A	7332475
Hydrocarbon Resemblance	mg/L	COMMENT (1)	7330478	COMMENT (1)	NA	NA	N/A	7332475
<b>Surrogate Recovery (%)</b>								
Isobutylbenzene - Extractable	%	94	7330478	105	97	97		7332475
n-Dotriacontane - Extractable	%	94	7330478	115	90	100		7332475
Isobutylbenzene - Volatile	%	97	7330750	108	108	109		7330750
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable (1) Lube oil fraction.								



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BV Labs Job #: C1B5709  
Report Date: 2021/05/06

Englobe Corp  
Client Project #: 2001756.000  
Site Location: Trenton Commercial Park

### RBCA HYDROCARBONS IN WATER (WATER)

BV Labs ID		PLL703	PLL704		
Sampling Date		2021/04/28	2021/04/28		
COC Number		823969-01-01	823969-01-01		
	UNITS	EQUIPMENT BLANK	MW-DUP	RDL	QC Batch
<b>Petroleum Hydrocarbons</b>					
Benzene	mg/L	<0.0010	<0.0010	0.0010	7330750
Toluene	mg/L	<0.0010	<0.0010	0.0010	7330750
Ethylbenzene	mg/L	<0.0010	<0.0010	0.0010	7330750
Total Xylenes	mg/L	<0.0020	<0.0020	0.0020	7330750
C6 - C10 (less BTEX)	mg/L	<0.090	<0.090	0.090	7330750
>C10-C16 Hydrocarbons	mg/L	<0.050	<0.050	0.050	7332475
>C16-C21 Hydrocarbons	mg/L	<0.050	<0.050	0.050	7332475
>C21-<C32 Hydrocarbons	mg/L	<0.090	<0.090	0.090	7332475
Modified TPH (Tier1)	mg/L	<0.090	<0.090	0.090	7327300
Reached Baseline at C32	mg/L	NA	NA	N/A	7332475
Hydrocarbon Resemblance	mg/L	NA	NA	N/A	7332475
<b>Surrogate Recovery (%)</b>					
Isobutylbenzene - Extractable	%	96	92		7332475
n-Dotriacontane - Extractable	%	98	97		7332475
Isobutylbenzene - Volatile	%	102	107		7330750
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable					

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VERITASBV Labs Job #: C1B5709  
Report Date: 2021/05/06Englobe Corp  
Client Project #: 2001756.000  
Site Location: Trenton Commercial Park**ATLANTIC VOCS - NON-CHLORINATED WATER (WATER)**

<b>BV Labs ID</b>		PLL698		
<b>Sampling Date</b>		2021/04/28 13:40		
<b>COC Number</b>		823969-01-01		
	<b>UNITS</b>	<b>MW6</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Volatile Organics</b>				
1,1-Dichloroethane	ug/L	<2.0	2.0	7327872
1,1-Dichloroethylene	ug/L	<0.50	0.50	7327872
1,1,1-Trichloroethane	ug/L	<1.0	1.0	7327872
1,1,2-Trichloroethane	ug/L	<1.0	1.0	7327872
1,1,2,2-Tetrachloroethane	ug/L	<0.50	0.50	7327872
Ethylene Dibromide	ug/L	<0.20	0.20	7327872
1,2-Dichlorobenzene	ug/L	<0.50	0.50	7327872
1,2-Dichloroethane	ug/L	<1.0	1.0	7327872
cis-1,2-Dichloroethylene	ug/L	6.2	0.50	7327872
trans-1,2-Dichloroethylene	ug/L	<0.50	0.50	7327872
1,2-Dichloropropane	ug/L	<0.50	0.50	7327872
1,3-Dichlorobenzene	ug/L	<1.0	1.0	7327872
cis-1,3-Dichloropropene	ug/L	<0.50	0.50	7327872
trans-1,3-Dichloropropene	ug/L	<0.50	0.50	7327872
1,4-Dichlorobenzene	ug/L	<1.0	1.0	7327872
Benzene	ug/L	<1.0	1.0	7327872
Bromodichloromethane	ug/L	<1.0	1.0	7327872
Bromoform	ug/L	<1.0	1.0	7327872
Bromomethane	ug/L	<0.50	0.50	7327872
Carbon Tetrachloride	ug/L	<0.50	0.50	7327872
Chlorobenzene	ug/L	<1.0	1.0	7327872
Chloroethane	ug/L	<8.0	8.0	7327872
Chloroform	ug/L	<1.0	1.0	7327872
Chloromethane	ug/L	<8.0	8.0	7327872
Dibromochloromethane	ug/L	<1.0	1.0	7327872
Methylene Chloride(Dichloromethane)	ug/L	<3.0	3.0	7327872
Ethylbenzene	ug/L	<1.0	1.0	7327872
Methyl t-butyl ether (MTBE)	ug/L	<2.0	2.0	7327872
Styrene	ug/L	<1.0	1.0	7327872
Tetrachloroethylene	ug/L	<1.0	1.0	7327872
Toluene	ug/L	<1.0	1.0	7327872
Trichloroethylene	ug/L	25	1.0	7327872
Trichlorofluoromethane (FREON 11)	ug/L	<8.0	8.0	7327872
Vinyl Chloride	ug/L	<0.50	0.50	7327872
RDL = Reportable Detection Limit QC Batch = Quality Control Batch				



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BV Labs Job #: C1B5709  
Report Date: 2021/05/06

Englobe Corp  
Client Project #: 2001756.000  
Site Location: Trenton Commercial Park

### ATLANTIC VOCS - NON-CHLORINATED WATER (WATER)

<b>BV Labs ID</b>		PLL698		
<b>Sampling Date</b>		2021/04/28 13:40		
<b>COC Number</b>		823969-01-01		
	<b>UNITS</b>	<b>MW6</b>	<b>RDL</b>	<b>QC Batch</b>
o-Xylene	ug/L	<1.0	1.0	7327872
p+m-Xylene	ug/L	<2.0	2.0	7327872
Total Xylenes	ug/L	<1.0	1.0	7327872
Total Trihalomethanes	ug/L	<1.0	1.0	7327872
<b>Surrogate Recovery (%)</b>				
4-Bromofluorobenzene	%	98		7327872
D4-1,2-Dichloroethane	%	94		7327872
D8-Toluene	%	99		7327872
RDL = Reportable Detection Limit				
QC Batch = Quality Control Batch				



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BV Labs Job #: C1B5709  
Report Date: 2021/05/06

Englobe Corp  
Client Project #: 2001756.000  
Site Location: Trenton Commercial Park

### RESULTS OF ANALYSES OF WATER

BV Labs ID		PLL695	PLL696	PLL697	PLL698	PLL699	PLL700		
Sampling Date		2021/04/28 11:45	2021/04/28 09:50	2021/04/28 10:30	2021/04/28 13:40	2021/04/28 12:55	2021/04/28 12:20		
COC Number		823969-01-01	823969-01-01	823969-01-01	823969-01-01	823969-01-01	823969-01-01		
	UNITS	MW1	MW3	MW4	MW6	MW9	MW11	RDL	QC Batch

Inorganics									
pH	pH	7.23	6.97	6.65	6.57	7.14	7.00		7332335
Conductivity	uS/cm	3400	870	330	190	530	610	1.0	7332334

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

BV Labs ID		PLL701	PLL702	PLL703	PLL704	PLL704		
Sampling Date		2021/04/28 11:10	2021/04/28	2021/04/28	2021/04/28	2021/04/28		
COC Number		823969-01-01	823969-01-01	823969-01-01	823969-01-01	823969-01-01		
	UNITS	MW14	TRIP BLANK	EQUIPMENT BLANK	MW-DUP	MW-DUP Lab-Dup	RDL	QC Batch

Inorganics									
pH	pH	6.79	6.01	6.62	6.65	6.59			7332335
Conductivity	uS/cm	570	1.0	17	560	570	1.0		7332334

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Lab-Dup = Laboratory Initiated Duplicate





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BV Labs Job #: C1B5709  
Report Date: 2021/05/06

Englobe Corp  
Client Project #: 2001756.000  
Site Location: Trenton Commercial Park

### ELEMENTS BY ICP/MS (WATER)

BV Labs ID		PLL695	PLL696	PLL697	PLL698	PLL699	PLL700		
Sampling Date		2021/04/28 11:45	2021/04/28 09:50	2021/04/28 10:30	2021/04/28 13:40	2021/04/28 12:55	2021/04/28 12:20		
COC Number		823969-01-01	823969-01-01	823969-01-01	823969-01-01	823969-01-01	823969-01-01		
	UNITS	MW1	MW3	MW4	MW6	MW9	MW11	RDL	QC Batch

Metals									
Dissolved Arsenic (As)	ug/L	2.3	1.4	<1.0	<1.0	<1.0	<1.0	1.0	7332491
Dissolved Iron (Fe)	ug/L	20000	4400	<50	<50	160	20000	50	7332491
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	7332491
Dissolved Manganese (Mn)	ug/L	23000	3600	5600	12	360	1500	2.0	7332491
Dissolved Zinc (Zn)	ug/L	<5.0	14	49	5.1	8.5	<5.0	5.0	7332491

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

BV Labs ID		PLL701	PLL702	PLL703	PLL704		
Sampling Date		2021/04/28 11:10	2021/04/28	2021/04/28	2021/04/28		
COC Number		823969-01-01	823969-01-01	823969-01-01	823969-01-01		
	UNITS	MW14	TRIP BLANK	EQUIPMENT BLANK	MW-DUP	RDL	QC Batch

Metals							
Dissolved Arsenic (As)	ug/L	<1.0	<1.0	<1.0	<1.0	1.0	7332491
Dissolved Iron (Fe)	ug/L	<50	<50	<50	<50	50	7332491
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	<0.50	<0.50	0.50	7332491
Dissolved Manganese (Mn)	ug/L	1800	<2.0	<2.0	1800	2.0	7332491
Dissolved Zinc (Zn)	ug/L	29	<5.0	<5.0	28	5.0	7332491

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch



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BV Labs Job #: C1B5709  
Report Date: 2021/05/06

Englobe Corp  
Client Project #: 2001756.000  
Site Location: Trenton Commercial Park

### GENERAL COMMENTS

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

Package 1	8.0°C
Package 2	7.0°C

**Results relate only to the items tested.**

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VERITASBV Labs Job #: C1B5709  
Report Date: 2021/05/06Englobe Corp  
Client Project #: 2001756.000  
Site Location: Trenton Commercial Park

## QUALITY ASSURANCE REPORT

QA/QC	Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
7327872	ASL	Matrix Spike		4-Bromofluorobenzene	2021/05/04		99	%	70 - 130
				D4-1,2-Dichloroethane	2021/05/04		95	%	70 - 130
				D8-Toluene	2021/05/04		96	%	70 - 130
				1,1-Dichloroethane	2021/05/04		98	%	70 - 130
				1,1-Dichloroethylene	2021/05/04		104	%	70 - 130
				1,1,1-Trichloroethane	2021/05/04		98	%	70 - 130
				1,1,2-Trichloroethane	2021/05/04		96	%	70 - 130
				1,1,2,2-Tetrachloroethane	2021/05/04		89	%	70 - 130
				Ethylene Dibromide	2021/05/04		95	%	70 - 130
				1,2-Dichlorobenzene	2021/05/04		86	%	70 - 130
				1,2-Dichloroethane	2021/05/04		86	%	70 - 130
				cis-1,2-Dichloroethylene	2021/05/04		93	%	70 - 130
				trans-1,2-Dichloroethylene	2021/05/04		99	%	70 - 130
				1,2-Dichloropropane	2021/05/04		94	%	70 - 130
				1,3-Dichlorobenzene	2021/05/04		87	%	70 - 130
				cis-1,3-Dichloropropene	2021/05/04		90	%	70 - 130
				trans-1,3-Dichloropropene	2021/05/04		98	%	70 - 130
				1,4-Dichlorobenzene	2021/05/04		85	%	70 - 130
				Benzene	2021/05/04		97	%	70 - 130
				Bromodichloromethane	2021/05/04		90	%	70 - 130
				Bromoform	2021/05/04		91	%	70 - 130
				Bromomethane	2021/05/04		103	%	60 - 140
				Carbon Tetrachloride	2021/05/04		89	%	70 - 130
				Chlorobenzene	2021/05/04		90	%	70 - 130
				Chloroethane	2021/05/04		103	%	60 - 140
				Chloroform	2021/05/04		98	%	70 - 130
				Chloromethane	2021/05/04		87	%	60 - 140
				Dibromochloromethane	2021/05/04		82	%	70 - 130
				Methylene Chloride(Dichloromethane)	2021/05/04		94	%	70 - 130
				Ethylbenzene	2021/05/04		93	%	70 - 130
				Methyl t-butyl ether (MTBE)	2021/05/04		95	%	70 - 130
				Styrene	2021/05/04		97	%	70 - 130
				Tetrachloroethylene	2021/05/04		90	%	70 - 130
				Toluene	2021/05/04		92	%	70 - 130
				Trichloroethylene	2021/05/04		92	%	70 - 130
				Trichlorofluoromethane (FREON 11)	2021/05/04		92	%	60 - 140
				Vinyl Chloride	2021/05/04		92	%	60 - 140
				o-Xylene	2021/05/04		94	%	70 - 130
				p+m-Xylene	2021/05/04		91	%	70 - 130
7327872	ASL	Spiked Blank		4-Bromofluorobenzene	2021/05/04		100	%	70 - 130
				D4-1,2-Dichloroethane	2021/05/04		93	%	70 - 130
				D8-Toluene	2021/05/04		97	%	70 - 130
				1,1-Dichloroethane	2021/05/04		99	%	70 - 130
				1,1-Dichloroethylene	2021/05/04		106	%	70 - 130
				1,1,1-Trichloroethane	2021/05/04		99	%	70 - 130
				1,1,2-Trichloroethane	2021/05/04		95	%	70 - 130
				1,1,2,2-Tetrachloroethane	2021/05/04		89	%	70 - 130
				Ethylene Dibromide	2021/05/04		94	%	70 - 130
				1,2-Dichlorobenzene	2021/05/04		87	%	70 - 130
				1,2-Dichloroethane	2021/05/04		86	%	70 - 130
				cis-1,2-Dichloroethylene	2021/05/04		94	%	70 - 130
				trans-1,2-Dichloroethylene	2021/05/04		101	%	70 - 130
				1,2-Dichloropropane	2021/05/04		95	%	70 - 130
				1,3-Dichlorobenzene	2021/05/04		89	%	70 - 130



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### QUALITY ASSURANCE REPORT(CONT'D)

QA/QC	Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
				cis-1,3-Dichloropropene	2021/05/04		92	%	70 - 130
				trans-1,3-Dichloropropene	2021/05/04		99	%	70 - 130
				1,4-Dichlorobenzene	2021/05/04		87	%	70 - 130
				Benzene	2021/05/04		98	%	70 - 130
				Bromodichloromethane	2021/05/04		90	%	70 - 130
				Bromoform	2021/05/04		92	%	70 - 130
				Bromomethane	2021/05/04		104	%	60 - 140
				Carbon Tetrachloride	2021/05/04		91	%	70 - 130
				Chlorobenzene	2021/05/04		92	%	70 - 130
				Chloroethane	2021/05/04		105	%	60 - 140
				Chloroform	2021/05/04		100	%	70 - 130
				Chloromethane	2021/05/04		88	%	60 - 140
				Dibromochloromethane	2021/05/04		82	%	70 - 130
				Methylene Chloride(Dichloromethane)	2021/05/04		94	%	70 - 130
				Ethylbenzene	2021/05/04		95	%	70 - 130
				Methyl t-butyl ether (MTBE)	2021/05/04		96	%	70 - 130
				Styrene	2021/05/04		100	%	70 - 130
				Tetrachloroethylene	2021/05/04		93	%	70 - 130
				Toluene	2021/05/04		93	%	70 - 130
				Trichloroethylene	2021/05/04		93	%	70 - 130
				Trichlorofluoromethane (FREON 11)	2021/05/04		94	%	60 - 140
				Vinyl Chloride	2021/05/04		94	%	60 - 140
				o-Xylene	2021/05/04		97	%	70 - 130
				p+m-Xylene	2021/05/04		94	%	70 - 130
7327872	ASL	Method Blank		4-Bromofluorobenzene	2021/05/04		99	%	70 - 130
				D4-1,2-Dichloroethane	2021/05/04		94	%	70 - 130
				D8-Toluene	2021/05/04		101	%	70 - 130
				1,1-Dichloroethane	2021/05/04	<2.0		ug/L	
				1,1-Dichloroethylene	2021/05/04	<0.50		ug/L	
				1,1,1-Trichloroethane	2021/05/04	<1.0		ug/L	
				1,1,2-Trichloroethane	2021/05/04	<1.0		ug/L	
				1,1,2,2-Tetrachloroethane	2021/05/04	<0.50		ug/L	
				Ethylene Dibromide	2021/05/04	<0.20		ug/L	
				1,2-Dichlorobenzene	2021/05/04	<0.50		ug/L	
				1,2-Dichloroethane	2021/05/04	<1.0		ug/L	
				cis-1,2-Dichloroethylene	2021/05/04	<0.50		ug/L	
				trans-1,2-Dichloroethylene	2021/05/04	<0.50		ug/L	
				1,2-Dichloropropane	2021/05/04	<0.50		ug/L	
				1,3-Dichlorobenzene	2021/05/04	<1.0		ug/L	
				cis-1,3-Dichloropropene	2021/05/04	<0.50		ug/L	
				trans-1,3-Dichloropropene	2021/05/04	<0.50		ug/L	
				1,4-Dichlorobenzene	2021/05/04	<1.0		ug/L	
				Benzene	2021/05/04	<1.0		ug/L	
				Bromodichloromethane	2021/05/04	<1.0		ug/L	
				Bromoform	2021/05/04	<1.0		ug/L	
				Bromomethane	2021/05/04	<0.50		ug/L	
				Carbon Tetrachloride	2021/05/04	<0.50		ug/L	
				Chlorobenzene	2021/05/04	<1.0		ug/L	
				Chloroethane	2021/05/04	<8.0		ug/L	
				Chloroform	2021/05/04	<1.0		ug/L	
				Chloromethane	2021/05/04	<8.0		ug/L	
				Dibromochloromethane	2021/05/04	<1.0		ug/L	
				Methylene Chloride(Dichloromethane)	2021/05/04	<3.0		ug/L	
				Ethylbenzene	2021/05/04	<1.0		ug/L	



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### QUALITY ASSURANCE REPORT(CONT'D)

QA/QC	Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
7327872	ASL	RPD		Methyl t-butyl ether (MTBE)	2021/05/04	<2.0		ug/L	
				Styrene	2021/05/04	<1.0		ug/L	
				Tetrachloroethylene	2021/05/04	<1.0		ug/L	
				Toluene	2021/05/04	<1.0		ug/L	
				Trichloroethylene	2021/05/04	<1.0		ug/L	
				Trichlorofluoromethane (FREON 11)	2021/05/04	<8.0		ug/L	
				Vinyl Chloride	2021/05/04	<0.50		ug/L	
				o-Xylene	2021/05/04	<1.0		ug/L	
				p+m-Xylene	2021/05/04	<2.0		ug/L	
				Total Xylenes	2021/05/04	<1.0		ug/L	
				Total Trihalomethanes	2021/05/04	<1.0		ug/L	
				1,1-Dichloroethane	2021/05/04	NC		%	40
				1,1-Dichloroethylene	2021/05/04	NC		%	40
				1,1,1-Trichloroethane	2021/05/04	NC		%	40
				1,1,2-Trichloroethane	2021/05/04	NC		%	40
				1,1,2,2-Tetrachloroethane	2021/05/04	NC		%	40
				Ethylene Dibromide	2021/05/04	NC		%	40
				1,2-Dichlorobenzene	2021/05/04	NC		%	40
				1,2-Dichloroethane	2021/05/04	NC		%	40
				cis-1,2-Dichloroethylene	2021/05/04	NC		%	40
				trans-1,2-Dichloroethylene	2021/05/04	NC		%	40
				1,2-Dichloropropane	2021/05/04	NC		%	40
				1,3-Dichlorobenzene	2021/05/04	NC		%	40
				cis-1,3-Dichloropropene	2021/05/04	NC		%	40
				trans-1,3-Dichloropropene	2021/05/04	NC		%	40
				1,4-Dichlorobenzene	2021/05/04	NC		%	40
				Benzene	2021/05/04	NC		%	40
				Bromodichloromethane	2021/05/04	NC		%	40
				Bromoform	2021/05/04	NC		%	40
				Bromomethane	2021/05/04	NC		%	40
				Carbon Tetrachloride	2021/05/04	NC		%	40
				Chlorobenzene	2021/05/04	NC		%	40
				Chloroethane	2021/05/04	NC		%	40
				Chloroform	2021/05/04	NC		%	40
				Chloromethane	2021/05/04	NC		%	40
				Dibromochloromethane	2021/05/04	NC		%	40
				Methylene Chloride(Dichloromethane)	2021/05/04	NC		%	40
				Ethylbenzene	2021/05/04	NC		%	40
				Methyl t-butyl ether (MTBE)	2021/05/04	NC		%	40
				Styrene	2021/05/04	NC		%	40
				Tetrachloroethylene	2021/05/04	NC		%	40
				Toluene	2021/05/04	NC		%	40
				Trichloroethylene	2021/05/04	NC		%	40
				Trichlorofluoromethane (FREON 11)	2021/05/04	NC		%	40
				Vinyl Chloride	2021/05/04	NC		%	40
				o-Xylene	2021/05/04	NC		%	40
				p+m-Xylene	2021/05/04	NC		%	40
				Total Xylenes	2021/05/04	NC		%	40
				Total Trihalomethanes	2021/05/04	NC		%	40
7330478	BCD	Matrix Spike		Isobutylbenzene - Extractable	2021/05/03		105	%	70 - 130
				n-Dotriacontane - Extractable	2021/05/03		108	%	70 - 130
				>C10-C16 Hydrocarbons	2021/05/03		86	%	70 - 130
				>C16-C21 Hydrocarbons	2021/05/03		86	%	70 - 130
				>C21-<C32 Hydrocarbons	2021/05/03		84	%	70 - 130

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## QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
7330478	BCD	Spiked Blank	Isobutylbenzene - Extractable	2021/05/03		98	%	70 - 130
			n-Dotriacontane - Extractable	2021/05/03		103	%	70 - 130
			>C10-C16 Hydrocarbons	2021/05/03		87	%	70 - 130
			>C16-C21 Hydrocarbons	2021/05/03		86	%	70 - 130
			>C21-<C32 Hydrocarbons	2021/05/03		85	%	70 - 130
7330478	BCD	Method Blank	Isobutylbenzene - Extractable	2021/05/03		98	%	70 - 130
			n-Dotriacontane - Extractable	2021/05/03		101	%	70 - 130
			>C10-C16 Hydrocarbons	2021/05/03	<0.050		mg/L	
			>C16-C21 Hydrocarbons	2021/05/03	<0.050		mg/L	
			>C21-<C32 Hydrocarbons	2021/05/03	<0.090		mg/L	
7330478	BCD	RPD	>C10-C16 Hydrocarbons	2021/05/03	NC		%	40
			>C16-C21 Hydrocarbons	2021/05/03	NC		%	40
			>C21-<C32 Hydrocarbons	2021/05/03	21		%	40
7330483	THL	Matrix Spike	Isobutylbenzene - Volatile	2021/05/03		101	%	70 - 130
			Benzene	2021/05/03		95	%	70 - 130
			Toluene	2021/05/03		98	%	70 - 130
			Ethylbenzene	2021/05/03		97	%	70 - 130
			Total Xylenes	2021/05/03		98	%	70 - 130
7330483	THL	Spiked Blank	Isobutylbenzene - Volatile	2021/05/03		105	%	70 - 130
			Benzene	2021/05/03		98	%	70 - 130
			Toluene	2021/05/03		97	%	70 - 130
			Ethylbenzene	2021/05/03		98	%	70 - 130
			Total Xylenes	2021/05/03		99	%	70 - 130
7330483	THL	Method Blank	Isobutylbenzene - Volatile	2021/05/03		107	%	70 - 130
			Benzene	2021/05/03	<0.0010		mg/L	
			Toluene	2021/05/03	<0.0010		mg/L	
			Ethylbenzene	2021/05/03	<0.0010		mg/L	
			Total Xylenes	2021/05/03	<0.0020		mg/L	
			C6 - C10 (less BTEX)	2021/05/03	<0.090		mg/L	
7330483	THL	RPD	Benzene	2021/05/03	NC		%	40
			Toluene	2021/05/03	NC		%	40
			Ethylbenzene	2021/05/03	NC		%	40
			Total Xylenes	2021/05/03	NC		%	40
			C6 - C10 (less BTEX)	2021/05/03	NC		%	40
7330750	THL	Matrix Spike	Isobutylbenzene - Volatile	2021/05/03		100	%	70 - 130
			Benzene	2021/05/03		96	%	70 - 130
			Toluene	2021/05/03		93	%	70 - 130
			Ethylbenzene	2021/05/03		92	%	70 - 130
			Total Xylenes	2021/05/03		95	%	70 - 130
7330750	THL	Spiked Blank	Isobutylbenzene - Volatile	2021/05/03		105	%	70 - 130
			Benzene	2021/05/03		96	%	70 - 130
			Toluene	2021/05/03		95	%	70 - 130
			Ethylbenzene	2021/05/03		95	%	70 - 130
			Total Xylenes	2021/05/03		97	%	70 - 130
7330750	THL	Method Blank	Isobutylbenzene - Volatile	2021/05/03		106	%	70 - 130
			Benzene	2021/05/03	<0.0010		mg/L	
			Toluene	2021/05/03	<0.0010		mg/L	
			Ethylbenzene	2021/05/03	<0.0010		mg/L	
			Total Xylenes	2021/05/03	<0.0020		mg/L	
			C6 - C10 (less BTEX)	2021/05/03	<0.090		mg/L	
7330750	THL	RPD	Benzene	2021/05/03	NC		%	40
			Toluene	2021/05/03	NC		%	40
			Ethylbenzene	2021/05/03	NC		%	40
			Total Xylenes	2021/05/03	NC		%	40



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QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			C6 - C10 (less BTEX)	2021/05/03	NC		%	40
7332334	SHW	Spiked Blank	Conductivity	2021/05/04		100	%	80 - 120
7332334	SHW	Method Blank	Conductivity	2021/05/04	1.0, RDL=1.0		uS/cm	
7332334	SHW	RPD [PLL704-04]	Conductivity	2021/05/04	0.89		%	10
7332335	SHW	Spiked Blank	pH	2021/05/04		100	%	97 - 103
7332335	SHW	RPD [PLL704-04]	pH	2021/05/04	0.91		%	N/A
7332475	MGN	Matrix Spike	Isobutylbenzene - Extractable	2021/05/04		111	%	70 - 130
			n-Dotriacontane - Extractable	2021/05/04		105	%	70 - 130
			>C10-C16 Hydrocarbons	2021/05/04		NC	%	70 - 130
			>C16-C21 Hydrocarbons	2021/05/04		30 (1)	%	70 - 130
			>C21-<C32 Hydrocarbons	2021/05/04		NC	%	70 - 130
7332475	MGN	Spiked Blank	Isobutylbenzene - Extractable	2021/05/04		97	%	70 - 130
			n-Dotriacontane - Extractable	2021/05/04		97	%	70 - 130
			>C10-C16 Hydrocarbons	2021/05/04		97	%	70 - 130
			>C16-C21 Hydrocarbons	2021/05/04		88	%	70 - 130
			>C21-<C32 Hydrocarbons	2021/05/04		89	%	70 - 130
7332475	MGN	Method Blank	Isobutylbenzene - Extractable	2021/05/04		99	%	70 - 130
			n-Dotriacontane - Extractable	2021/05/04		92	%	70 - 130
			>C10-C16 Hydrocarbons	2021/05/04	<0.050		mg/L	
			>C16-C21 Hydrocarbons	2021/05/04	<0.050		mg/L	
			>C21-<C32 Hydrocarbons	2021/05/04	<0.090		mg/L	
7332475	MGN	RPD	>C10-C16 Hydrocarbons	2021/05/04	NC		%	40
			>C16-C21 Hydrocarbons	2021/05/04	NC		%	40
			>C21-<C32 Hydrocarbons	2021/05/04	NC		%	40
7332491	BAN	Matrix Spike	Dissolved Arsenic (As)	2021/05/05		97	%	80 - 120
			Dissolved Iron (Fe)	2021/05/05		99	%	80 - 120
			Dissolved Lead (Pb)	2021/05/05		98	%	80 - 120
			Dissolved Manganese (Mn)	2021/05/05		98	%	80 - 120
			Dissolved Zinc (Zn)	2021/05/05		93	%	80 - 120
7332491	BAN	Spiked Blank	Dissolved Arsenic (As)	2021/05/05		95	%	80 - 120
			Dissolved Iron (Fe)	2021/05/05		99	%	80 - 120
			Dissolved Lead (Pb)	2021/05/05		98	%	80 - 120
			Dissolved Manganese (Mn)	2021/05/05		99	%	80 - 120
			Dissolved Zinc (Zn)	2021/05/05		98	%	80 - 120
7332491	BAN	Method Blank	Dissolved Arsenic (As)	2021/05/05	<1.0		ug/L	
			Dissolved Iron (Fe)	2021/05/05	<50		ug/L	
			Dissolved Lead (Pb)	2021/05/05	<0.50		ug/L	
			Dissolved Manganese (Mn)	2021/05/05	<2.0		ug/L	
			Dissolved Zinc (Zn)	2021/05/05	<5.0		ug/L	
7332491	BAN	RPD	Dissolved Arsenic (As)	2021/05/05	5.0		%	20
			Dissolved Iron (Fe)	2021/05/05	NC		%	20
			Dissolved Lead (Pb)	2021/05/05	1.1		%	20
			Dissolved Manganese (Mn)	2021/05/05	5.3		%	20





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QA/QC	Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
				Dissolved Zinc (Zn)	2021/05/05	NC		%	20
N/A = Not Applicable									
Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.									
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.									
Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.									
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.									
Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.									
NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)									
NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).									
(1) Matrix Spike: results are outside acceptance limit due to probable matrix interference.									



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### VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Eric Dearman, Scientific Specialist

Phil Deveau, Scientific Specialist (Organics)

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BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports.  
For Service Group specific validation please refer to the Validation Signature Page.



Bureau Veritas Laboratories  
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# Chain Of Custody Record

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INVOICE TO:		Report Information		Project Information		Laboratory Use Only	
Company Name	#41009 Englobe Corp	Company Name		Quotation #	C01957	BV Labs Job #	Bottle Order #:
Contact Name	ACCOUNTS PAYABLE	Contact Name	Ryan Pellerin	P.O. #			
Address	97 Troop Ave	Address		Project #	2001756.000	CIB5709	823969
	Dartmouth NS B3B 2A7			Project Name		Chain Of Custody Record	Project Manager
Phone	(902) 468-6486	Phone		Site #			Keri Mackay
Email	Atlantic.ap@englobecorp.com	Email	ryan.pellerin@englobecorp.com	Sampled By	A. Clarke		
Regulatory Criteria:		Special Instructions:		ANALYSIS REQUESTED (PLEASE BE SPECIFIC)		Turnaround Time (TAT) Required:	
						Please provide advance notice for rush projects	
						Regular (Standard) TAT: (will be applied if Rush TAT is not specified): Standard TAT = 5-7 Working days for most tests. Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.	
						Job Specific Rush TAT (if applies to entire submission) Date Required: Time Required:	
						# of Bottles Comments / Hazards / Other Required Analysis	
SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BV LABS							
Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered & Preserved Lab Filtration Required	RBGA Hydrocarbons in Water Dissolved (as rec'd) - As, Fe, Mn, Pb, Zn pH Atlantic VOCs - Non-Chlorinated Water Conductance - water	
1	MW1	APR 18, 2011	11:45	GW	X	X X X X X	
2	MW3		09:50		X	X X X X X	
3	MW4		10:30		X	X X X X X	
4	MW6		13:40		X	X X X X X X	
5	MW9		12:55		X	X X X X X	
6	MW11		12:20		X	X X X X X	
7	MW14		11:10		X	X X X X X	
8	TRIP BLANK				X	X X X X X	
9	EQUIPMENT BLANK				X	X X X X X	
10	MW-DUP				X	X X X X X	
* RELINQUISHED BY: (Signature/Print)		Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)		Date: (YY/MM/DD)	Time
Adam Clarke / Adam Clarke		21/04/29	14:00	Haley Shaw			
						# jars used and not submitted	Lab Use Only
						Time Sensitive	Temperature (°C) on Receipt
							7.8, 9 / 3.7
						Custody Seal Intact on Cooler?	
						Yes No	
						White: BV Labs Yellow: Client	
* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BV LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.							
* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.							

Bureau Veritas Canada (2019) Inc.

# FISH TOXICITY REPORT (Single Concentration)



CLIENT INFORMATION	TEST FACILITY INFORMATION
Englobe Corp. 97 Troop Ave. Dartmouth, NS Contact: Ryan Pellerin	Harris Industrial Testing Service Ltd. 21 Old Cobequid Road, Waverley Nova Scotia B2R 1P4 Ph: 902 861-2232 office@harrisindustrial.ca

SAMPLE INFORMATION (Client-provided data italicised)	GENERAL TEST INFORMATION
Lab Identification #: 21-213-A Sample Name/Location: TW1 Sampling Method: Grab Sample Homogenized: No Sampler Name: A. Clarke Date & Time Sampled: Apr. 28 2021 1000 hrs Date & Time Received: Apr. 28 2021 1500 hrs Sample Description: Orange, opaque liquid.	Reference Method: EPS 1/RM/13 2 <sup>nd</sup> Ed. Dec. 2000 with Feb. 2016 Amendments Type: Single Concentration (Pass/Fail) Tox 9A General Test Procedures held on file Test Organism: <i>Oncorhynchus mykiss</i> (Rainbow trout)

PRE-TEST PARAMETERS	SAMPLE PRE-TREATMENT
Pre-test Temp. (°C): 15.5 Pre-test D.O. (mg/L): 9.6 Pre-test D.O. Saturation (%): 97 Pre-test pH: 7.2 pH Adjusted: No Sample Conductivity (µS/cm): 524	Mandatory 30 minute Pre-aeration: Yes Rate (ml/min/L): 6.5 ± 1 Time: 1013 hrs D.O. (mg/L): 9.7 D.O. Saturation (%): 98 Pre-aeration Continued: No Duration: -- min. @ -- hrs D.O. (mg/L): -- D.O. Saturation (%): -- Aeration continued throughout test by airstone @ 6.5 ± 1 ml/min/L

TEST CONDITIONS			
Date & Time Test Initiated: Apr. 29 2021 1043 Hrs Date & Time Test Terminated: May 03 2021 1043 Hrs		Deviations from Test Method: No Description: N/A	
Fish Batch #: 327 % Mortality over 7 days prior to test: 0.07	Loading Density (g/L): 0.22 Mean Fork Length (mm): 33 ± 2.8 SD Range (mm): 28 - 37	Temperature: 15 ± 1°C Photoperiod: 16L/8D Lux: 100 – 500	
Test Volume (L): 16 Depth (cm): 28.3 Replicates: No Number of fish per vessel: 10	Mean Wet Weight (g): 0.36 ± 0.06 SD Range (g): 0.26 – 0.44	Static Test, Duration: 96 hours Control/Dilution Water: Dechlorinated Municipal Water	

TEST PARAMETERS							
INITIAL (0 hrs)					FINAL (96 hrs)		
CONC. %	TEMP. °C	D.O. mg/L	pH	COND. µS/cm	TEMP. °C	D.O. mg/L	pH
100	15.5	9.7	7.3	527	14.5	10.3	8.3
Control	14.5	10.2	7.4	99	14.5	10.1	7.4

**TEST RESULTS**

		TOTAL MORTALITY				PERCENT MORTALITY			
CONC.		#				%			
%	24 hrs	48 hrs	72 hrs	96 hrs	24 hrs	48 hrs	72 hrs	96 hrs	
100	0/10	0/10	0/10	0/10	0	0	0	0	
Control	0/10	0/10	0/10	0/10	0	0	0	0	

		TOTAL STRESS				PERCENT STRESS			
CONC.		#				%			
%	24 hrs	48 hrs	72 hrs	96 hrs	24 hrs	48 hrs	72 hrs	96 hrs	
100	0/10	0/10	0/10	0/10	0	0	0	0	
Control	0/10	0/10	0/10	0/10	0	0	0	0	

**96 HOUR ACUTE LETHALITY RESULTS****TOTAL MORTALITY** 0 %**ACUTELY LETHAL** No**Acutely Lethal:****No:** Mortality 50% or less at 100% concentration**Yes:** Mortality 50% or more at 100% concentration**REFERENCE TOXICANT DATA**

Performed under laboratory conditions as above, no deviations

Batch: 327

Test Date: Apr. 28 – May 02 2021

Reference Substance: Phenol

LC<sub>50</sub> Value: 11.8 mg/L

95% Confidence Limits: 10.1 – 13.8 mg/L

Historical Mean: 10.7 mg/L

Warning Limits  $\pm$  2 SD: 8.11 – 14.1 mg/L**COMMENTS**

Test meets all conditions for test validity.

**TEST AUTHORIZATION AND VERIFICATION****Analyst(s):** K. Marks & J. Fraser**Verified by:** S. Elliot**Date:** May 03 2021**Signed:****REFERENCES**

Tidepool Scientific Software, 2001 - 2014. Comprehensive Environmental Toxicity Information System – CETIS v1.8.7.20

Metals and Diamond Mining Effluent Regulations, SOR/2002-222, Dec. 20, 2020.

Pulp and Paper Effluent Regulations, SOR/92-269, Dec. 17 2020.

Wastewater Systems Effluent Regulations, SOR/2012-139, Dec. 17 2020.

Accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA Inc.).

The test included in this report is within the scope of this accreditation.

Results apply to the sample as received. Results reported apply only to the sample tested. Results are based on nominal concentrations.

# FISH TOXICITY REPORT (Single Concentration)



CLIENT INFORMATION	TEST FACILITY INFORMATION
Englobe Corp. 97 Troop Ave. Dartmouth, NS Contact: Ryan Pellerin	Harris Industrial Testing Service Ltd. 21 Old Cobequid Road, Waverley Nova Scotia B2R 1P4 Ph: 902 861-2232 office@harrisindustrial.ca

SAMPLE INFORMATION (Client-provided data italicised)	GENERAL TEST INFORMATION
Lab Identification #: 21-213-B Sample Name/Location: TW3 Sampling Method: Grab Sample Homogenized: No Sampler Name: A. Clarke Date & Time Sampled: Apr. 28 2021 1400 hrs Date & Time Received: Apr. 28 2021 1500 hrs Sample Description: Orange, opaque liquid.	Reference Method: EPS 1/RM/13 2 <sup>nd</sup> Ed. Dec. 2000 with Feb. 2016 Amendments Type: Single Concentration (Pass/Fail) Tox 9A General Test Procedures held on file Test Organism: <i>Oncorhynchus mykiss</i> (Rainbow trout)

PRE-TEST PARAMETERS	SAMPLE PRE-TREATMENT
Pre-test Temp. (°C): 15.0 Pre-test D.O. (mg/L): 9.9 Pre-test D.O. Saturation (%): 99 Pre-test pH: 7.1 pH Adjusted: No Sample Conductivity (µS/cm): 957	Mandatory 30 minute Pre-aeration: Yes Rate (ml/min/L): 6.5 ± 1 Time: 1013 hrs D.O. (mg/L): 9.9 D.O. Saturation (%): 99 Pre-aeration Continued: No Duration: -- min. @ -- hrs D.O. (mg/L): -- D.O. Saturation (%): -- Aeration continued throughout test by airstone @ 6.5 ± 1 ml/min/L

TEST CONDITIONS		
Date & Time Test Initiated: Apr. 29 2021 1043 Hrs Date & Time Test Terminated: May 03 2021 1043 Hrs		Deviations from Test Method: No Description: N/A
Fish Batch #: 327 % Mortality over 7 days prior to test: 0.07	Loading Density (g/L): 0.24 Mean Fork Length (mm): 35 ± 2.5 SD Range (mm): 32 - 39 Mean Wet Weight (g): 0.37 ± 0.05 SD Range (g): 0.29 – 0.44	Temperature: 15 ± 1°C Photoperiod: 16L/8D Lux: 100 – 500 Static Test, Duration: 96 hours Control/Dilution Water: Dechlorinated Municipal Water
Test Volume (L): 15 Depth (cm): 26.8 Replicates: No Number of fish per vessel: 10		

TEST PARAMETERS							
INITIAL (0 hrs)					FINAL (96 hrs)		
CONC. %	TEMP. °C	D.O. mg/L	pH	COND. µS/cm	TEMP. °C	D.O. mg/L	pH
100	15.0	9.9	7.2	963	14.5	10.2	8.2
Control	14.5	10.2	7.4	99	14.5	10.2	7.7

**TEST RESULTS**

		TOTAL MORTALITY				PERCENT MORTALITY			
CONC.		#				%			
%	24 hrs	48 hrs	72 hrs	96 hrs	24 hrs	48 hrs	72 hrs	96 hrs	
100	0/10	0/10	0/10	0/10	0	0	0	0	
Control	0/10	0/10	0/10	0/10	0	0	0	0	

		TOTAL STRESS				PERCENT STRESS			
CONC.		#				%			
%	24 hrs	48 hrs	72 hrs	96 hrs	24 hrs	48 hrs	72 hrs	96 hrs	
100	0/10	0/10	0/10	0/10	0	0	0	0	
Control	0/10	0/10	0/10	0/10	0	0	0	0	

**96 HOUR ACUTE LETHALITY RESULTS****TOTAL MORTALITY** 0 %**ACUTELY LETHAL** No**Acutely Lethal:****No:** Mortality 50% or less at 100% concentration**Yes:** Mortality 50% or more at 100% concentration**REFERENCE TOXICANT DATA**

Performed under laboratory conditions as above, no deviations

Batch: 327 Test Date: Apr. 28 – May 02 2021

Reference Substance: Phenol

LC<sub>50</sub> Value: 11.8 mg/L

95% Confidence Limits: 10.1 – 13.8 mg/L

Historical Mean: 10.7 mg/L

Warning Limits  $\pm$  2 SD: 8.11 – 14.1 mg/L**COMMENTS**

Test meets all conditions for test validity.

**TEST AUTHORIZATION AND VERIFICATION****Analyst(s):** K. Marks & J. Fraser**Verified by:** S. Elliot**Date:** May 03 2021**Signed:****REFERENCES**

Tidepool Scientific Software, 2001 - 2014. Comprehensive Environmental Toxicity Information System – CETIS v1.8.7.20

Metals and Diamond Mining Effluent Regulations, SOR/2002-222, Dec. 20, 2020.

Pulp and Paper Effluent Regulations, SOR/92-269, Dec. 17 2020.

Wastewater Systems Effluent Regulations, SOR/2012-139, Dec. 17 2020.

Accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA Inc.).

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Results apply to the sample as received. Results reported apply only to the sample tested. Results are based on nominal concentrations.



# FISH TOXICITY REPORT (Single Concentration)



CLIENT INFORMATION	TEST FACILITY INFORMATION
Englobe Corp. 97 Troop Ave. Dartmouth, NS Contact: Ryan Pellerin	Harris Industrial Testing Service Ltd. 21 Old Cobequid Road, Waverley Nova Scotia B2R 1P4 Ph: 902 861-2232 office@harrisindustrial.ca

SAMPLE INFORMATION (Client-provided data italicised)	GENERAL TEST INFORMATION
Lab Identification #: 21-213-C Sample Name/Location: TW4 Sampling Method: Grab Sample Homogenized: No Sampler Name: A. Clarke Date & Time Sampled: Apr. 28 2021 1230 hrs Date & Time Received: Apr. 28 2021 1500 hrs Sample Description: Grey, translucent liquid.	Reference Method: EPS 1/RM/13 2 <sup>nd</sup> Ed. Dec. 2000 with Feb. 2016 Amendments Type: Single Concentration (Pass/Fail) Tox 9A General Test Procedures held on file Test Organism: <i>Oncorhynchus mykiss</i> (Rainbow trout)

PRE-TEST PARAMETERS	SAMPLE PRE-TREATMENT
Pre-test Temp. (°C): 15.5 Pre-test D.O. (mg/L): 10.6 Pre-test D.O. Saturation (%): 106 Pre-test pH: 7.6 pH Adjusted: No Sample Conductivity (µS/cm): 666	Mandatory 30 minute Pre-aeration: Yes Rate (ml/min/L): 6.5 ± 1 Time: 1013 hrs D.O. (mg/L): 10.5 D.O. Saturation (%): 106 Pre-aeration Continued: Yes Duration: 90 min. @ 1043 hrs D.O. (mg/L): 9.9 D.O. Saturation (%): 99 Aeration continued throughout test by airstone @ 6.5 ± 1 ml/min/L

TEST CONDITIONS		
Date & Time Test Initiated: Apr. 29 2021 1213 Hrs Date & Time Test Terminated: May 03 2021 1213 Hrs		Deviations from Test Method: No Description: N/A
Fish Batch #: 327 % Mortality over 7 days prior to test: 0.07	Loading Density (g/L): 0.19 Mean Fork Length (mm): 32 ± 3.5 SD Range (mm): 26 - 36 Mean Wet Weight (g): 0.31 ± 0.07 SD Range (g): 0.19 – 0.39	Temperature: 15 ± 1°C Photoperiod: 16L/8D Lux: 100 – 500 Static Test, Duration: 96 hours Control/Dilution Water: Dechlorinated Municipal Water
Test Volume (L): 16 Depth (cm): 28.3 Replicates: No Number of fish per vessel: 10		

TEST PARAMETERS							
INITIAL (0 hrs)					FINAL (96 hrs)		
CONC. %	TEMP. °C	D.O. mg/L	pH	COND. µS/cm	TEMP. °C	D.O. mg/L	pH
100	15.0	9.9	7.4	670	14.5	10.1	8.2
Control	14.5	10.2	7.5	101	14.5	10.1	7.6

**TEST RESULTS**

CONC. %	TOTAL MORTALITY #				PERCENT MORTALITY %			
	24 hrs	48 hrs	72 hrs	96 hrs	24 hrs	48 hrs	72 hrs	96 hrs
100	0/10	0/10	0/10	0/10	0	0	0	0
Control	0/10	0/10	0/10	0/10	0	0	0	0

CONC. %	TOTAL STRESS #				PERCENT STRESS %			
	24 hrs	48 hrs	72 hrs	96 hrs	24 hrs	48 hrs	72 hrs	96 hrs
100	0/10	0/10	0/10	0/10	0	0	0	0
Control	0/10	0/10	0/10	0/10	0	0	0	0

**96 HOUR ACUTE LETHALITY RESULTS****TOTAL MORTALITY** 0 %**ACUTELY LETHAL** No**Acutely Lethal:****No:** Mortality 50% or less at 100% concentration**Yes:** Mortality 50% or more at 100% concentration**REFERENCE TOXICANT DATA**

Performed under laboratory conditions as above, no deviations

Batch: 327

Test Date: Apr. 28 – May 02 2021

Reference Substance: Phenol

LC<sub>50</sub> Value: 11.8 mg/L

95% Confidence Limits: 10.1 – 13.8 mg/L

Historical Mean: 10.7 mg/L

Warning Limits  $\pm$  2 SD: 8.11 – 14.1 mg/L**COMMENTS**

Test meets all conditions for test validity.

**TEST AUTHORIZATION AND VERIFICATION****Analyst(s):** K. Marks & J. Fraser**Verified by:** D. Robinson**Date:** May 03 2021**Signed:** **REFERENCES**

Tidepool Scientific Software, 2001 - 2014. Comprehensive Environmental Toxicity Information System – CETIS v1.8.7.20

Metals and Diamond Mining Effluent Regulations, SOR/2002-222, Dec. 20, 2020.

Pulp and Paper Effluent Regulations, SOR/92-269, Dec. 17 2020.

Wastewater Systems Effluent Regulations, SOR/2012-139, Dec. 17 2020.

Accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA Inc.).

The test included in this report is within the scope of this accreditation.

Results apply to the sample as received. Results reported apply only to the sample tested. Results are based on nominal concentrations.



Your Project #: 2001756  
Site Location: Trenton Commercial Park  
Your C.O.C. #: 851676-01-01

**Attention: Ryan Pellerin**

Englobe Corp  
97 Troop Ave  
Dartmouth, NS  
CANADA B3B 2A7

**Report Date: 2021/10/28**  
Report #: R6876284  
Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**BV LABS JOB #: C1U9137**

**Received: 2021/10/21, 13:34**

Sample Matrix: Ground Water  
# Samples Received: 10

Analyses	Date		Date Analyzed	Laboratory Method	Analytical Method
	Quantity	Extracted			
Conductance - water	9	N/A	2021/10/28	ATL SOP 00004	SM 23 2510B m
TEH in Water (PIRI)	8	2021/10/25	2021/10/26	ATL SOP 00113	Atl. RBCA v3.1 m
TEH in Water (PIRI)	1	2021/10/25	2021/10/27	ATL SOP 00113	Atl. RBCA v3.1 m
Metals Water Diss. MS (as rec'd)	8	N/A	2021/10/27	ATL SOP 00058	EPA 6020B R2 m
Metals Water Diss. MS (as rec'd)	1	N/A	2021/10/28	ATL SOP 00058	EPA 6020B R2 m
pH (1)	9	N/A	2021/10/28	ATL SOP 00003	SM 23 4500-H+ B m
ModTPH (T1) Calc. for Water	9	N/A	2021/10/27	N/A	Atl. RBCA v3 m
Volatile Organic Compounds in Water	1	N/A	2021/10/25	ATL SOP 00133	EPA 8260D R4 m
VPH in Water (PIRI)	3	N/A	2021/10/26	ATL SOP 00130	Atl. RBCA v3.1 m
VPH in Water (PIRI)	6	N/A	2021/10/27	ATL SOP 00130	Atl. RBCA v3.1 m

**Remarks:**

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

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

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

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

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

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

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

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

(1) The APHA Standard Method require pH to be analyzed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the APHA Standard Method holding time.



Your Project #: 2001756  
Site Location: Trenton Commercial Park  
Your C.O.C. #: 851676-01-01

**Attention: Ryan Pellerin**

Englobe Corp  
97 Troop Ave  
Dartmouth, NS  
CANADA B3B 2A7

**Report Date: 2021/10/28**  
Report #: R6876284  
Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**BV LABS JOB #: C1U9137**  
**Received: 2021/10/21, 13:34**

**Encryption Key**

Please direct all questions regarding this Certificate of Analysis to your Project Manager.  
Keri Mackay, Customer Experience Team Lead  
Email: Keri.MACKAY@bureauveritas.com  
Phone# (902)420-0203 Ext:294

=====

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



BUREAU  
VERITAS

Bureau Veritas Job #: C1U9137

Report Date: 2021/10/28

Englobe Corp

Client Project #: 2001756

Site Location: Trenton Commercial Park

Sampler Initials: AT

### RBCA HYDROCARBONS IN WATER (GROUND WATER)

Bureau Veritas ID		RAB496		RAB497	RAB498	RAB500	RAB501		
Sampling Date		2021/10/20 13:00		2021/10/20 14:05	2021/10/20 13:45	2021/10/20 10:45	2021/10/20 11:15		
COC Number		851676-01-01		851676-01-01	851676-01-01	851676-01-01	851676-01-01		
	UNITS	MW1	RDL	MW3	MW4	MW9	MW11	RDL	QC Batch
<b>Petroleum Hydrocarbons</b>									
Benzene	mg/L	<0.0050 (1)	0.0050	<0.0010	<0.0010	<0.0010	<0.0010	0.0010	7662851
Toluene	mg/L	0.012	0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0010	7662851
Ethylbenzene	mg/L	0.68	0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0010	7662851
Total Xylenes	mg/L	0.72	0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	7662851
C6 - C10 (less BTEX)	mg/L	9.0	0.090	<0.090	<0.090	<0.090	<0.090	0.090	7662851
>C10-C16 Hydrocarbons	mg/L	2.8	0.050	<0.050	<0.050	<0.050	0.15	0.050	7658553
>C16-C21 Hydrocarbons	mg/L	<0.050	0.050	<0.050	<0.050	0.20	0.62	0.050	7658553
>C21-<C32 Hydrocarbons	mg/L	<0.090	0.090	<0.090	<0.090	1.6	6.2	0.090	7658553
Modified TPH (Tier1)	mg/L	12	0.090	<0.090	<0.090	1.8	7.0	0.090	7653464
Reached Baseline at C32	mg/L	Yes	N/A	NA	NA	Yes	No	N/A	7658553
Hydrocarbon Resemblance	mg/L	COMMENT (2)	N/A	NA	NA	COMMENT (3)	COMMENT (3)	N/A	7658553
<b>Surrogate Recovery (%)</b>									
Isobutylbenzene - Extractable	%	107		96	102	94	101		7658553
n-Dotriacontane - Extractable	%	122		121 (4)	107 (4)	84	99		7658553
Isobutylbenzene - Volatile	%	96		113	113 (5)	113	112		7662851
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable (1) Elevated VPH RDL(s) due to matrix interference. (2) One product in the gas/fuel oil range. (3) Lube oil fraction. (4) TEH sample contained sediment. (5) VPH sample contained sediment.									



BUREAU  
VERITAS

Bureau Veritas Job #: C1U9137

Report Date: 2021/10/28

Englobe Corp

Client Project #: 2001756

Site Location: Trenton Commercial Park

Sampler Initials: AT

### RBGA HYDROCARBONS IN WATER (GROUND WATER)

Bureau Veritas ID		RAB502		RAB503	RAB504	RAB505		
Sampling Date		2021/10/20 15:00		2021/10/20	2021/10/20 18:00	2021/10/20		
COC Number		851676-01-01		851676-01-01	851676-01-01	851676-01-01		
	UNITS	MW14	QC Batch	TRIP BLANK	EQUIPMENT BLANK	MW-DUP	RDL	QC Batch
<b>Petroleum Hydrocarbons</b>								
Benzene	mg/L	<0.0010	7662851	<0.0010	<0.0010	0.0063	0.0010	7657872
Toluene	mg/L	<0.0010	7662851	<0.0010	<0.0010	0.016	0.0010	7657872
Ethylbenzene	mg/L	<0.0010	7662851	<0.0010	<0.0010	0.82	0.0010	7657872
Total Xylenes	mg/L	<0.0020	7662851	<0.0020	<0.0020	0.89	0.0020	7657872
C6 - C10 (less BTEX)	mg/L	<0.090	7662851	<0.090	<0.090	8.7	0.090	7657872
>C10-C16 Hydrocarbons	mg/L	<0.050	7658553	<0.050	<0.050	2.5	0.050	7658553
>C16-C21 Hydrocarbons	mg/L	<0.050	7658553	<0.050	<0.050	<0.050	0.050	7658553
>C21-<C32 Hydrocarbons	mg/L	<0.090	7658553	<0.090	<0.090	0.093	0.090	7658553
Modified TPH (Tier1)	mg/L	<0.090	7653464	<0.090	<0.090	11	0.090	7653464
Reached Baseline at C32	mg/L	NA	7658553	NA	NA	Yes	N/A	7658553
Hydrocarbon Resemblance	mg/L	NA	7658553	NA	NA	COMMENT (1)	N/A	7658553
<b>Surrogate Recovery (%)</b>								
Isobutylbenzene - Extractable	%	80	7658553	96	91	81		7658553
n-Dotriacontane - Extractable	%	88	7658553	111	101	96		7658553
Isobutylbenzene - Volatile	%	113	7662851	113	112	99		7657872
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable (1) One product in the gas/fuel oil range.								



BUREAU  
VERITAS

Bureau Veritas Job #: C1U9137

Report Date: 2021/10/28

Englobe Corp

Client Project #: 2001756

Site Location: Trenton Commercial Park

Sampler Initials: AT

### ATLANTIC VOCS - NON-CHLORINATED WATER (GROUND WATER)

Bureau Veritas ID		RAB499		
Sampling Date		2021/10/20 10:00		
COC Number		851676-01-01		
	UNITS	MW6	RDL	QC Batch
<b>Volatile Organics</b>				
1,1-Dichloroethane	ug/L	<2.0	2.0	7657565
1,1-Dichloroethylene	ug/L	<0.50	0.50	7657565
1,1,1-Trichloroethane	ug/L	<1.0	1.0	7657565
1,1,2-Trichloroethane	ug/L	<1.0	1.0	7657565
1,1,2,2-Tetrachloroethane	ug/L	<0.50	0.50	7657565
Ethylene Dibromide	ug/L	<0.20	0.20	7657565
1,2-Dichlorobenzene	ug/L	<0.50	0.50	7657565
1,2-Dichloroethane	ug/L	<1.0	1.0	7657565
cis-1,2-Dichloroethylene	ug/L	12	0.50	7657565
trans-1,2-Dichloroethylene	ug/L	<0.50	0.50	7657565
1,2-Dichloropropane	ug/L	<0.50	0.50	7657565
1,3-Dichlorobenzene	ug/L	<1.0	1.0	7657565
cis-1,3-Dichloropropene	ug/L	<0.50	0.50	7657565
trans-1,3-Dichloropropene	ug/L	<0.50	0.50	7657565
1,4-Dichlorobenzene	ug/L	<1.0	1.0	7657565
Benzene	ug/L	<1.0	1.0	7657565
Bromodichloromethane	ug/L	<1.0	1.0	7657565
Bromoform	ug/L	<1.0	1.0	7657565
Bromomethane	ug/L	<0.50	0.50	7657565
Carbon Tetrachloride	ug/L	<0.50	0.50	7657565
Chlorobenzene	ug/L	<1.0	1.0	7657565
Chloroethane	ug/L	<8.0	8.0	7657565
Chloroform	ug/L	<1.0	1.0	7657565
Chloromethane	ug/L	<8.0	8.0	7657565
Dibromochloromethane	ug/L	<1.0	1.0	7657565
Methylene Chloride(Dichloromethane)	ug/L	<3.0	3.0	7657565
Ethylbenzene	ug/L	<1.0	1.0	7657565
Methyl t-butyl ether (MTBE)	ug/L	<2.0	2.0	7657565
Styrene	ug/L	<1.0	1.0	7657565
Tetrachloroethylene	ug/L	<1.0	1.0	7657565
Toluene	ug/L	<1.0	1.0	7657565
Trichloroethylene	ug/L	33	1.0	7657565
Trichlorofluoromethane (FREON 11)	ug/L	<8.0	8.0	7657565
RDL = Reportable Detection Limit				
QC Batch = Quality Control Batch				



**ATLANTIC VOCS - NON-CHLORINATED WATER (GROUND WATER)**

<b>Bureau Veritas ID</b>		RAB499		
<b>Sampling Date</b>		2021/10/20 10:00		
<b>COC Number</b>		851676-01-01		
	<b>UNITS</b>	<b>MW6</b>	<b>RDL</b>	<b>QC Batch</b>
Vinyl Chloride	ug/L	6.2	0.50	7657565
o-Xylene	ug/L	<1.0	1.0	7657565
p+m-Xylene	ug/L	<2.0	2.0	7657565
Total Xylenes	ug/L	<1.0	1.0	7657565
Total Trihalomethanes	ug/L	<1.0	1.0	7657565
<b>Surrogate Recovery (%)</b>				
4-Bromofluorobenzene	%	99		7657565
D4-1,2-Dichloroethane	%	111		7657565
D8-Toluene	%	96		7657565
RDL = Reportable Detection Limit				
QC Batch = Quality Control Batch				





**BUREAU  
VERITAS**

Bureau Veritas Job #: C1U9137

Report Date: 2021/10/28

Englobe Corp

Client Project #: 2001756

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Sampler Initials: AT

### RESULTS OF ANALYSES OF GROUND WATER

Bureau Veritas ID		RAB496	RAB497	RAB498	RAB500	RAB501	RAB501		
Sampling Date		2021/10/20 13:00	2021/10/20 14:05	2021/10/20 13:45	2021/10/20 10:45	2021/10/20 11:15	2021/10/20 11:15		
COC Number		851676-01-01	851676-01-01	851676-01-01	851676-01-01	851676-01-01	851676-01-01		
	UNITS	MW1	MW3	MW4	MW9	MW11	MW11 Lab-Dup	RDL	QC Batch

Inorganics									
pH	pH	7.21	7.28	6.97	7.40	7.27	7.28		7665596
Conductivity	uS/cm	4000	480	400	640	690	700	1.0	7665594
RDL = Reportable Detection Limit									
QC Batch = Quality Control Batch									
Lab-Dup = Laboratory Initiated Duplicate									

Bureau Veritas ID		RAB502	RAB503	RAB504	RAB505		
Sampling Date		2021/10/20 15:00	2021/10/20	2021/10/20 18:00	2021/10/20		
COC Number		851676-01-01	851676-01-01	851676-01-01	851676-01-01		
	UNITS	MW14	TRIP BLANK	EQUIPMENT BLANK	MW-DUP	RDL	QC Batch

Inorganics							
pH	pH	6.98	6.41	6.31	7.27		7665596
Conductivity	uS/cm	600	1.1	1.1	3900	1.0	7665594
RDL = Reportable Detection Limit							
QC Batch = Quality Control Batch							



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Bureau Veritas Job #: C1U9137  
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### ELEMENTS BY ICP/MS (GROUND WATER)

Bureau Veritas ID		RAB496	RAB497	RAB498	RAB500	RAB501	RAB501		
Sampling Date		2021/10/20 13:00	2021/10/20 14:05	2021/10/20 13:45	2021/10/20 10:45	2021/10/20 11:15	2021/10/20 11:15		
COC Number		851676-01-01	851676-01-01	851676-01-01	851676-01-01	851676-01-01	851676-01-01		
	UNITS	MW1	MW3	MW4	MW9	MW11	MW11 Lab-Dup	RDL	QC Batch

Metals									
Dissolved Arsenic (As)	ug/L	3.7	2.3	1.8	<1.0	1.6	1.6	1.0	7663652
Dissolved Iron (Fe)	ug/L	20000	3100	57	230	18000	18000	50	7663652
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	7663652
Dissolved Manganese (Mn)	ug/L	21000	3300	4400	330	1600	1600	2.0	7663652
Dissolved Zinc (Zn)	ug/L	<5.0	7.8	54	6.2	<5.0	<5.0	5.0	7663652

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Lab-Dup = Laboratory Initiated Duplicate

Bureau Veritas ID		RAB502	RAB503	RAB504	RAB505		
Sampling Date		2021/10/20 15:00	2021/10/20	2021/10/20 18:00	2021/10/20		
COC Number		851676-01-01	851676-01-01	851676-01-01	851676-01-01		
	UNITS	MW14	TRIP BLANK	EQUIPMENT BLANK	MW-DUP	RDL	QC Batch

Metals							
Dissolved Arsenic (As)	ug/L	<1.0	<1.0	<1.0	14	1.0	7663652
Dissolved Iron (Fe)	ug/L	<50	<50	<50	19000	50	7663652
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	<0.50	<0.50	0.50	7663652
Dissolved Manganese (Mn)	ug/L	1900	<2.0	<2.0	21000	2.0	7663652
Dissolved Zinc (Zn)	ug/L	37	<5.0	<5.0	<5.0	5.0	7663652

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch



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Bureau Veritas Job #: C1U9137

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### GENERAL COMMENTS

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

Package 1	2.7°C
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Results relate only to the items tested.



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Bureau Veritas Job #: C1U9137  
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### QUALITY ASSURANCE REPORT

QA/QC	Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
	7657565	ASL	Matrix Spike	4-Bromofluorobenzene	2021/10/25		100	%	70 - 130
				D4-1,2-Dichloroethane	2021/10/25		106	%	70 - 130
				D8-Toluene	2021/10/25		94	%	70 - 130
				1,1-Dichloroethane	2021/10/25		105	%	70 - 130
				1,1-Dichloroethylene	2021/10/25		100	%	70 - 130
				1,1,1-Trichloroethane	2021/10/25		110	%	70 - 130
				1,1,2-Trichloroethane	2021/10/25		109	%	70 - 130
				1,1,2,2-Tetrachloroethane	2021/10/25		101	%	70 - 130
				Ethylene Dibromide	2021/10/25		109	%	70 - 130
				1,2-Dichlorobenzene	2021/10/25		92	%	70 - 130
				1,2-Dichloroethane	2021/10/25		98	%	70 - 130
				cis-1,2-Dichloroethylene	2021/10/25		103	%	70 - 130
				trans-1,2-Dichloroethylene	2021/10/25		102	%	70 - 130
				1,2-Dichloropropane	2021/10/25		98	%	70 - 130
				1,3-Dichlorobenzene	2021/10/25		95	%	70 - 130
				cis-1,3-Dichloropropene	2021/10/25		97	%	70 - 130
				trans-1,3-Dichloropropene	2021/10/25		103	%	70 - 130
				1,4-Dichlorobenzene	2021/10/25		98	%	70 - 130
				Benzene	2021/10/25		97	%	70 - 130
				Bromodichloromethane	2021/10/25		101	%	70 - 130
				Bromoform	2021/10/25		103	%	70 - 130
				Bromomethane	2021/10/25		94	%	60 - 140
				Carbon Tetrachloride	2021/10/25		100	%	70 - 130
				Chlorobenzene	2021/10/25		92	%	70 - 130
				Chloroethane	2021/10/25		96	%	60 - 140
				Chloroform	2021/10/25		106	%	70 - 130
				Chloromethane	2021/10/25		80	%	60 - 140
				Dibromochloromethane	2021/10/25		90	%	70 - 130
				Methylene Chloride(Dichloromethane)	2021/10/25		103	%	70 - 130
				Ethylbenzene	2021/10/25		90	%	70 - 130
				Methyl t-butyl ether (MTBE)	2021/10/25		106	%	70 - 130
				Styrene	2021/10/25		100	%	70 - 130
				Tetrachloroethylene	2021/10/25		94	%	70 - 130
				Toluene	2021/10/25		96	%	70 - 130
				Trichloroethylene	2021/10/25		96	%	70 - 130
				Trichlorofluoromethane (FREON 11)	2021/10/25		91	%	60 - 140
				Vinyl Chloride	2021/10/25		94	%	60 - 140
				o-Xylene	2021/10/25		95	%	70 - 130
				p+m-Xylene	2021/10/25		90	%	70 - 130
	7657565	ASL	Spiked Blank	4-Bromofluorobenzene	2021/10/25		100	%	70 - 130
				D4-1,2-Dichloroethane	2021/10/25		104	%	70 - 130
				D8-Toluene	2021/10/25		91	%	70 - 130
				1,1-Dichloroethane	2021/10/25		104	%	70 - 130
				1,1-Dichloroethylene	2021/10/25		99	%	70 - 130
				1,1,1-Trichloroethane	2021/10/25		109	%	70 - 130
				1,1,2-Trichloroethane	2021/10/25		104	%	70 - 130
				1,1,2,2-Tetrachloroethane	2021/10/25		100	%	70 - 130
				Ethylene Dibromide	2021/10/25		107	%	70 - 130
				1,2-Dichlorobenzene	2021/10/25		93	%	70 - 130
				1,2-Dichloroethane	2021/10/25		94	%	70 - 130
				cis-1,2-Dichloroethylene	2021/10/25		101	%	70 - 130
				trans-1,2-Dichloroethylene	2021/10/25		103	%	70 - 130
				1,2-Dichloropropane	2021/10/25		95	%	70 - 130



BUREAU  
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Bureau Veritas Job #: C1U9137  
Report Date: 2021/10/28

Englobe Corp  
Client Project #: 2001756  
Site Location: Trenton Commercial Park  
Sampler Initials: AT

### QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
7657565	ASL	Method Blank	1,3-Dichlorobenzene	2021/10/25		97	%	70 - 130
			cis-1,3-Dichloropropene	2021/10/25		95	%	70 - 130
			trans-1,3-Dichloropropene	2021/10/25		101	%	70 - 130
			1,4-Dichlorobenzene	2021/10/25		99	%	70 - 130
			Benzene	2021/10/25		95	%	70 - 130
			Bromodichloromethane	2021/10/25		98	%	70 - 130
			Bromoform	2021/10/25		101	%	70 - 130
			Bromomethane	2021/10/25		92	%	60 - 140
			Carbon Tetrachloride	2021/10/25		98	%	70 - 130
			Chlorobenzene	2021/10/25		93	%	70 - 130
			Chloroethane	2021/10/25		91	%	60 - 140
			Chloroform	2021/10/25		104	%	70 - 130
			Chloromethane	2021/10/25		74	%	60 - 140
			Dibromochloromethane	2021/10/25		87	%	70 - 130
			Methylene Chloride(Dichloromethane)	2021/10/25		103	%	70 - 130
			Ethylbenzene	2021/10/25		92	%	70 - 130
			Methyl t-butyl ether (MTBE)	2021/10/25		106	%	70 - 130
			Styrene	2021/10/25		101	%	70 - 130
			Tetrachloroethylene	2021/10/25		93	%	70 - 130
			Toluene	2021/10/25		94	%	70 - 130
			Trichloroethylene	2021/10/25		94	%	70 - 130
			Trichlorofluoromethane (FREON 11)	2021/10/25		90	%	60 - 140
			Vinyl Chloride	2021/10/25		90	%	60 - 140
			o-Xylene	2021/10/25		96	%	70 - 130
			p+m-Xylene	2021/10/25		92	%	70 - 130
			4-Bromofluorobenzene	2021/10/25		100	%	70 - 130
			D4-1,2-Dichloroethane	2021/10/25		106	%	70 - 130
			D8-Toluene	2021/10/25		98	%	70 - 130
			1,1-Dichloroethane	2021/10/25	<2.0		ug/L	
			1,1-Dichloroethylene	2021/10/25	<0.50		ug/L	
			1,1,1-Trichloroethane	2021/10/25	<1.0		ug/L	
			1,1,2-Trichloroethane	2021/10/25	<1.0		ug/L	
			1,1,2,2-Tetrachloroethane	2021/10/25	<0.50		ug/L	
			Ethylene Dibromide	2021/10/25	<0.20		ug/L	
			1,2-Dichlorobenzene	2021/10/25	<0.50		ug/L	
			1,2-Dichloroethane	2021/10/25	<1.0		ug/L	
			cis-1,2-Dichloroethylene	2021/10/25	<0.50		ug/L	
			trans-1,2-Dichloroethylene	2021/10/25	<0.50		ug/L	
			1,2-Dichloropropane	2021/10/25	<0.50		ug/L	
			1,3-Dichlorobenzene	2021/10/25	<1.0		ug/L	
			cis-1,3-Dichloropropene	2021/10/25	<0.50		ug/L	
			trans-1,3-Dichloropropene	2021/10/25	<0.50		ug/L	
			1,4-Dichlorobenzene	2021/10/25	<1.0		ug/L	
			Benzene	2021/10/25	<1.0		ug/L	
			Bromodichloromethane	2021/10/25	<1.0		ug/L	
			Bromoform	2021/10/25	<1.0		ug/L	
			Bromomethane	2021/10/25	<0.50		ug/L	
			Carbon Tetrachloride	2021/10/25	<0.50		ug/L	
			Chlorobenzene	2021/10/25	<1.0		ug/L	
			Chloroethane	2021/10/25	<8.0		ug/L	
			Chloroform	2021/10/25	<1.0		ug/L	
			Chloromethane	2021/10/25	<8.0		ug/L	
			Dibromochloromethane	2021/10/25	<1.0		ug/L	



BUREAU  
VERITAS

Bureau Veritas Job #: C1U9137  
Report Date: 2021/10/28

Englobe Corp  
Client Project #: 2001756  
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### QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
7657565	ASL	RPD	Methylene Chloride(Dichloromethane)	2021/10/25	<3.0		ug/L	
			Ethylbenzene	2021/10/25	<1.0		ug/L	
			Methyl t-butyl ether (MTBE)	2021/10/25	<2.0		ug/L	
			Styrene	2021/10/25	<1.0		ug/L	
			Tetrachloroethylene	2021/10/25	<1.0		ug/L	
			Toluene	2021/10/25	<1.0		ug/L	
			Trichloroethylene	2021/10/25	<1.0		ug/L	
			Trichlorofluoromethane (FREON 11)	2021/10/25	<8.0		ug/L	
			Vinyl Chloride	2021/10/25	<0.50		ug/L	
			o-Xylene	2021/10/25	<1.0		ug/L	
			p+m-Xylene	2021/10/25	<2.0		ug/L	
			Total Xylenes	2021/10/25	<1.0		ug/L	
			Total Trihalomethanes	2021/10/25	<1.0		ug/L	
			1,1-Dichloroethane	2021/10/25	NC		%	40
			1,1-Dichloroethylene	2021/10/25	NC		%	40
			1,1,1-Trichloroethane	2021/10/25	NC		%	40
			1,1,2-Trichloroethane	2021/10/25	NC		%	40
			1,1,2,2-Tetrachloroethane	2021/10/25	NC		%	40
			Ethylene Dibromide	2021/10/25	NC		%	40
			1,2-Dichlorobenzene	2021/10/25	NC		%	40
			1,2-Dichloroethane	2021/10/25	NC		%	40
			cis-1,2-Dichloroethylene	2021/10/25	NC		%	40
			trans-1,2-Dichloroethylene	2021/10/25	NC		%	40
			1,2-Dichloropropane	2021/10/25	NC		%	40
			1,3-Dichlorobenzene	2021/10/25	NC		%	40
			cis-1,3-Dichloropropene	2021/10/25	NC		%	40
			trans-1,3-Dichloropropene	2021/10/25	NC		%	40
			1,4-Dichlorobenzene	2021/10/25	NC		%	40
			Benzene	2021/10/25	NC		%	40
			Bromodichloromethane	2021/10/25	NC		%	40
			Bromoform	2021/10/25	NC		%	40
			Bromomethane	2021/10/25	NC		%	40
			Carbon Tetrachloride	2021/10/25	NC		%	40
			Chlorobenzene	2021/10/25	NC		%	40
			Chloroethane	2021/10/25	NC		%	40
			Chloroform	2021/10/25	NC		%	40
			Chloromethane	2021/10/25	NC		%	40
			Dibromochloromethane	2021/10/25	NC		%	40
			Methylene Chloride(Dichloromethane)	2021/10/25	NC		%	40
			Ethylbenzene	2021/10/25	NC		%	40
			Methyl t-butyl ether (MTBE)	2021/10/25	NC		%	40
			Styrene	2021/10/25	NC		%	40
			Tetrachloroethylene	2021/10/25	NC		%	40
			Toluene	2021/10/25	NC		%	40
			Trichloroethylene	2021/10/25	NC		%	40
			Trichlorofluoromethane (FREON 11)	2021/10/25	NC		%	40
			Vinyl Chloride	2021/10/25	NC		%	40
			o-Xylene	2021/10/25	NC		%	40
			p+m-Xylene	2021/10/25	NC		%	40
			Total Xylenes	2021/10/25	NC		%	40
			Total Trihalomethanes	2021/10/25	NC		%	40
7657872	THL	Matrix Spike	Isobutylbenzene - Volatile	2021/10/26		94	%	70 - 130
			Benzene	2021/10/26		92	%	70 - 130



**BUREAU  
VERITAS**

Bureau Veritas Job #: C1U9137

Report Date: 2021/10/28

Englobe Corp

Client Project #: 2001756

Site Location: Trenton Commercial Park

Sampler Initials: AT

### QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
7657872	THL	Spiked Blank	Toluene	2021/10/26		91	%	70 - 130
			Ethylbenzene	2021/10/26		90	%	70 - 130
			Total Xylenes	2021/10/26		92	%	70 - 130
			Isobutylbenzene - Volatile	2021/10/26		92	%	70 - 130
			Benzene	2021/10/26		96	%	70 - 130
			Toluene	2021/10/26		94	%	70 - 130
7657872	THL	Method Blank	Ethylbenzene	2021/10/26		95	%	70 - 130
			Total Xylenes	2021/10/26		96	%	70 - 130
			Isobutylbenzene - Volatile	2021/10/26		93	%	70 - 130
			Benzene	2021/10/26	<0.0010		mg/L	
			Toluene	2021/10/26	<0.0010		mg/L	
			Ethylbenzene	2021/10/26	<0.0010		mg/L	
7657872	THL	RPD	Total Xylenes	2021/10/26	<0.0020		mg/L	
			C6 - C10 (less BTEX)	2021/10/26	<0.090		mg/L	
			Benzene	2021/10/26	3.3		%	40
			Toluene	2021/10/26	4.4		%	40
			Ethylbenzene	2021/10/26	3.4		%	40
			Total Xylenes	2021/10/26	3.0		%	40
7658553	MGN	Matrix Spike	C6 - C10 (less BTEX)	2021/10/26	0.61		%	40
			Isobutylbenzene - Extractable	2021/10/26		99	%	70 - 130
			n-Dotriacontane - Extractable	2021/10/26		95	%	70 - 130
			>C10-C16 Hydrocarbons	2021/10/26		100	%	70 - 130
			>C16-C21 Hydrocarbons	2021/10/26		98	%	70 - 130
			>C21-<C32 Hydrocarbons	2021/10/26		101	%	70 - 130
7658553	MGN	Spiked Blank	Isobutylbenzene - Extractable	2021/10/26		87	%	70 - 130
			n-Dotriacontane - Extractable	2021/10/26		124	%	70 - 130
			>C10-C16 Hydrocarbons	2021/10/26		105	%	70 - 130
			>C16-C21 Hydrocarbons	2021/10/26		102	%	70 - 130
			>C21-<C32 Hydrocarbons	2021/10/26		111	%	70 - 130
			Isobutylbenzene - Extractable	2021/10/27		70	%	70 - 130
7658553	MGN	Method Blank	n-Dotriacontane - Extractable	2021/10/27		104	%	70 - 130
			>C10-C16 Hydrocarbons	2021/10/27	<0.050		mg/L	
			>C16-C21 Hydrocarbons	2021/10/27	<0.050		mg/L	
			>C21-<C32 Hydrocarbons	2021/10/27	<0.090		mg/L	
	7658553	MGN	>C10-C16 Hydrocarbons	2021/10/27	NC		%	40
			>C16-C21 Hydrocarbons	2021/10/27	NC		%	40
			>C21-<C32 Hydrocarbons	2021/10/27	NC		%	40
7662851	THL	Matrix Spike	Isobutylbenzene - Volatile	2021/10/27		111	%	70 - 130
			Benzene	2021/10/27		94	%	70 - 130
			Toluene	2021/10/27		95	%	70 - 130
			Ethylbenzene	2021/10/27		97	%	70 - 130
			Total Xylenes	2021/10/27		97	%	70 - 130
	7662851	THL	Isobutylbenzene - Volatile	2021/10/27		113	%	70 - 130
			Benzene	2021/10/27		92	%	70 - 130
			Toluene	2021/10/27		94	%	70 - 130
			Ethylbenzene	2021/10/27		96	%	70 - 130
			Total Xylenes	2021/10/27		97	%	70 - 130
			Isobutylbenzene - Volatile	2021/10/27		108	%	70 - 130
7662851	THL	Method Blank	Benzene	2021/10/27	<0.0010		mg/L	
			Toluene	2021/10/27	<0.0010		mg/L	
			Ethylbenzene	2021/10/27	<0.0010		mg/L	
			Total Xylenes	2021/10/27	<0.0020		mg/L	
			C6 - C10 (less BTEX)	2021/10/27	<0.090		mg/L	



**BUREAU  
VERITAS**

Bureau Veritas Job #: C1U9137

Report Date: 2021/10/28

Englobe Corp

Client Project #: 2001756

Site Location: Trenton Commercial Park

Sampler Initials: AT

## QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
7662851	THL	RPD	Benzene	2021/10/27	NC		%	40
			Toluene	2021/10/27	NC		%	40
			Ethylbenzene	2021/10/27	NC		%	40
			Total Xylenes	2021/10/27	NC		%	40
			C6 - C10 (less BTEX)	2021/10/27	NC		%	40
7663652	BAN	Matrix Spike [RAB501-03]	Dissolved Arsenic (As)	2021/10/28		97	%	80 - 120
			Dissolved Iron (Fe)	2021/10/28		NC	%	80 - 120
			Dissolved Lead (Pb)	2021/10/28		97	%	80 - 120
			Dissolved Manganese (Mn)	2021/10/28		NC	%	80 - 120
			Dissolved Zinc (Zn)	2021/10/28		99	%	80 - 120
7663652	BAN	Spiked Blank	Dissolved Arsenic (As)	2021/10/27		95	%	80 - 120
			Dissolved Iron (Fe)	2021/10/27		103	%	80 - 120
			Dissolved Lead (Pb)	2021/10/27		100	%	80 - 120
			Dissolved Manganese (Mn)	2021/10/27		100	%	80 - 120
			Dissolved Zinc (Zn)	2021/10/27		101	%	80 - 120
7663652	BAN	Method Blank	Dissolved Arsenic (As)	2021/10/27	<1.0		ug/L	
			Dissolved Iron (Fe)	2021/10/27	<50		ug/L	
			Dissolved Lead (Pb)	2021/10/27	<0.50		ug/L	
			Dissolved Manganese (Mn)	2021/10/27	<2.0		ug/L	
			Dissolved Zinc (Zn)	2021/10/27	<5.0		ug/L	
7663652	BAN	RPD [RAB501-03]	Dissolved Arsenic (As)	2021/10/28	0.59		%	20
			Dissolved Iron (Fe)	2021/10/28	0.37		%	20
			Dissolved Lead (Pb)	2021/10/28	NC		%	20
			Dissolved Manganese (Mn)	2021/10/28	0.033		%	20
			Dissolved Zinc (Zn)	2021/10/28	NC		%	20
7665594	SHW	Spiked Blank	Conductivity	2021/10/28		102	%	80 - 120
7665594	SHW	Method Blank	Conductivity	2021/10/28	1.1, RDL=1.0		uS/cm	
7665594	SHW	RPD [RAB501-04]	Conductivity	2021/10/28	2.1		%	10
7665596	SHW	Spiked Blank	pH	2021/10/28		100	%	97 - 103
7665596	SHW	RPD [RAB501-04]	pH	2021/10/28	0.085		%	N/A

N/A = Not Applicable

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

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

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

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

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

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

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





BUREAU  
VERITAS

Bureau Veritas Job #: C1U9137

Report Date: 2021/10/28

Englobe Corp

Client Project #: 2001756

Site Location: Trenton Commercial Park

Sampler Initials: AT

### VALIDATION SIGNATURE PAGE

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

---

Mike MacGillivray, Scientific Specialist (Inorganics)

---

Phil Deveau, Scientific Specialist (Organics)

---

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



Bureau Veritas Laboratories  
200 Bluewater Road, Bedford, Nova Scotia Canada B4B 1G9 Tel: (902) 420-0203 Toll-free: 800-563-6286 Fax: (902) 420-8612 www.bvna.com

Page 1 of 1

### Chain Of Custody Record

INVOICE TO:		Report Information		Project Information		Laboratory Use Only	
Company Name	#41009 Englobe Corp	Company Name	Ryan Pellerin	Quotation #	B90220	Bureau Veritas Job #	Bottle Order #:
Contact Name	ACCOUNTS PAYABLE	Contact Name		P.O. #	Will Be Provided Later		
Address	97 Troop Ave Dartmouth NS B3B 2A7	Address		Project #	2001756	CIV 9137	851676
Phone	(902) 468-6486	Phone		Project Name	Trenton	Chain Of Custody Record	Project Manager
Fax	(902) 468-4919	Fax		Site #			
Email	Atlantic.ap@Englobecorp.com	Email	ryan.pellerin@englobecorp.com	Sampled By	AT	C#851676-01-01	Keri Mackay
Regulatory Criteria:		Special Instructions:		Turnaround Time (TAT) Required:			
** Specify Matrix: Surface/Ground/Tapwater/Sewage/Effluent/Seawater Potable/Nonpotable/Tissue/Soil/Sludge/Metal				Please provide advance notice for rush projects			
SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS				Regular (Standard) TAT: (will be applied if Rush TAT is not specified): Standard TAT = 5-7 Working days for most tests. Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.			
				Job Specific Rush TAT (If applies to entire submission) Date Required: Time Required:			
				# of Bottles Comments / Hazards / Other Required Analysis			
Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered & Preserved	Lab Filtration Required	
1	MW1	Oct 20/2021	1:00pm	GW	Y	X	X
2	MW3		2:05pm		Y	X	X
3	MW4		1:45pm		Y	X	X
4	MW6		10:00am		-	X	X
5	MW9		10:45am		Y	X	X
6	MW11		11:15am		Y	X	X
7	MW14		3:00pm		Y	X	X
8	TRIP BLANK				-	X	X
9	EQUIPMENT BLANK		6:00pm		Y	X	X
10	MW-DUP				Y	X	X
* RELINQUISHED BY: (Signature/Print)		Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)		Date: (YY/MM/DD)	Time
Allain Thibault		21/10/20	6:20pm	MATT GRACE			
# jars used and not submitted		Time Sensitive		Temperature (°C) on Receipt		Custody Seal Intact on Cooler?	
				4, 2, 2		<input type="checkbox"/> Yes <input type="checkbox"/> No	
* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.						White: Bureau Veritas Yellow: Client	
* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.							

2021 OCT 21 13:34



Your Project #: 2001756  
Site Location: TRENTON  
Your C.O.C. #: D 57429

**Attention: Ryan Pellerin**

Englobe Corp  
97 Troop Ave  
Dartmouth, NS  
CANADA B3B 2A7

**Report Date: 2021/10/29**  
Report #: R6878293  
Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**BV LABS JOB #: C1V0977**

**Received: 2021/10/22, 11:29**

Sample Matrix: Ground Water  
# Samples Received: 1

Analyses	Date		Date Analyzed	Laboratory Method	Analytical Method
	Quantity	Extracted			
Conductance - water	1	N/A	2021/10/28	ATL SOP 00004	SM 23 2510B m
TEH in Water (PIRI)	1	2021/10/28	2021/10/29	ATL SOP 00113	Atl. RBCA v3.1 m
Metals Water Diss. MS (as rec'd)	1	N/A	2021/10/29	ATL SOP 00058	EPA 6020B R2 m
pH (1)	1	N/A	2021/10/28	ATL SOP 00003	SM 23 4500-H+ B m
ModTPH (T1) Calc. for Water	1	N/A	2021/10/29	N/A	Atl. RBCA v3 m
VPH in Water (PIRI)	1	N/A	2021/10/28	ATL SOP 00130	Atl. RBCA v3.1 m

**Remarks:**

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

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

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

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

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

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

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

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

(1) The APHA Standard Method require pH to be analyzed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the APHA Standard Method holding time.



Your Project #: 2001756  
Site Location: TRENTON  
Your C.O.C. #: D 57429

**Attention: Ryan Pellerin**

Englobe Corp  
97 Troop Ave  
Dartmouth, NS  
CANADA B3B 2A7

**Report Date: 2021/10/29**  
Report #: R6878293  
Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**BV LABS JOB #: C1V0977**  
**Received: 2021/10/22, 11:29**

**Encryption Key**

Please direct all questions regarding this Certificate of Analysis to your Project Manager.  
Keri Mackay, Customer Experience Team Lead  
Email: Keri.MACKAY@bureauveritas.com  
Phone# (902)420-0203 Ext:294

=====

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BUREAU  
VERITAS

Bureau Veritas Job #: C1V0977

Report Date: 2021/10/29

Englobe Corp

Client Project #: 2001756

Site Location: TRENTON

Sampler Initials: AT

### RBCA HYDROCARBONS IN WATER (GROUND WATER)

<b>Bureau Veritas ID</b>		RAM556		
<b>Sampling Date</b>		2021/10/22 09:15		
<b>COC Number</b>		D 57429		
	<b>UNITS</b>	<b>MW6</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Petroleum Hydrocarbons</b>				
Benzene	mg/L	<0.0010	0.0010	7665563
Toluene	mg/L	<0.0010	0.0010	7665563
Ethylbenzene	mg/L	<0.0010	0.0010	7665563
Total Xylenes	mg/L	<0.0020	0.0020	7665563
C6 - C10 (less BTEX)	mg/L	<0.090	0.090	7665563
>C10-C16 Hydrocarbons	mg/L	<0.050	0.050	7665668
>C16-C21 Hydrocarbons	mg/L	<0.050	0.050	7665668
>C21-<C32 Hydrocarbons	mg/L	<0.090	0.090	7665668
Modified TPH (Tier1)	mg/L	<0.090	0.090	7658286
Reached Baseline at C32	mg/L	NA	N/A	7665668
Hydrocarbon Resemblance	mg/L	NA	N/A	7665668
<b>Surrogate Recovery (%)</b>				
Isobutylbenzene - Extractable	%	93		7665668
n-Dotriacontane - Extractable	%	99		7665668
Isobutylbenzene - Volatile	%	104		7665563
RDL = Reportable Detection Limit				
QC Batch = Quality Control Batch				
N/A = Not Applicable				



BUREAU  
VERITAS

Bureau Veritas Job #: C1V0977

Report Date: 2021/10/29

Englobe Corp

Client Project #: 2001756

Site Location: TRENTON

Sampler Initials: AT

### RESULTS OF ANALYSES OF GROUND WATER

<b>Bureau Veritas ID</b>		RAM556		
<b>Sampling Date</b>		2021/10/22 09:15		
<b>COC Number</b>		D 57429		
	<b>UNITS</b>	<b>MW6</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Inorganics</b>				
pH	pH	7.46		7665600
Conductivity	uS/cm	220	1.0	7665598
RDL = Reportable Detection Limit				
QC Batch = Quality Control Batch				



BUREAU  
VERITAS

Bureau Veritas Job #: C1V0977

Report Date: 2021/10/29

Englobe Corp

Client Project #: 2001756

Site Location: TRENTON

Sampler Initials: AT

### ELEMENTS BY ICP/MS (GROUND WATER)

<b>Bureau Veritas ID</b>		RAM556		
<b>Sampling Date</b>		2021/10/22 09:15		
<b>COC Number</b>		D 57429		
	<b>UNITS</b>	<b>MW6</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Metals</b>				
Dissolved Arsenic (As)	ug/L	<1.0	1.0	7666027
Dissolved Iron (Fe)	ug/L	<50	50	7666027
Dissolved Lead (Pb)	ug/L	<0.50	0.50	7666027
Dissolved Manganese (Mn)	ug/L	44	2.0	7666027
Dissolved Zinc (Zn)	ug/L	6.1	5.0	7666027
RDL = Reportable Detection Limit				
QC Batch = Quality Control Batch				



BUREAU  
VERITAS

Bureau Veritas Job #: C1V0977

Report Date: 2021/10/29

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Client Project #: 2001756

Site Location: TRENTON

Sampler Initials: AT

### GENERAL COMMENTS

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

Package 1	7.0°C
-----------	-------

**Results relate only to the items tested.**





**BUREAU**  
**VERITAS**

Bureau Veritas Job #: C1V0977

Report Date: 2021/10/29

Englobe Corp

Client Project #: 2001756

Site Location: TRENTON

Sampler Initials: AT

## QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
7665563	THL	Matrix Spike	Isobutylbenzene - Volatile	2021/10/28		111	%	70 - 130
			Benzene	2021/10/28		88	%	70 - 130
			Toluene	2021/10/28		90	%	70 - 130
			Ethylbenzene	2021/10/28		92	%	70 - 130
			Total Xylenes	2021/10/28		94	%	70 - 130
7665563	THL	Spiked Blank	Isobutylbenzene - Volatile	2021/10/28		113	%	70 - 130
			Benzene	2021/10/28		89	%	70 - 130
			Toluene	2021/10/28		93	%	70 - 130
			Ethylbenzene	2021/10/28		97	%	70 - 130
			Total Xylenes	2021/10/28		95	%	70 - 130
7665563	THL	Method Blank	Isobutylbenzene - Volatile	2021/10/28		111	%	70 - 130
			Benzene	2021/10/28	<0.0010		mg/L	
			Toluene	2021/10/28	<0.0010		mg/L	
			Ethylbenzene	2021/10/28	<0.0010		mg/L	
			Total Xylenes	2021/10/28	<0.0020		mg/L	
7665563	THL	RPD	C6 - C10 (less BTEX)	2021/10/28	<0.090		mg/L	
			Benzene	2021/10/28	NC		%	40
			Toluene	2021/10/28	NC		%	40
			Ethylbenzene	2021/10/28	NC		%	40
			Total Xylenes	2021/10/28	NC		%	40
7665598	SHW	Spiked Blank	Conductivity	2021/10/28		101	%	80 - 120
7665598	SHW	Method Blank	Conductivity	2021/10/28	1.0, RDL=1.0		uS/cm	
7665600	SHW	Spiked Blank	pH	2021/10/28		100	%	97 - 103
7665668	MGN	Matrix Spike	Isobutylbenzene - Extractable	2021/10/28		90	%	70 - 130
			n-Dotriacontane - Extractable	2021/10/28		94	%	70 - 130
			>C10-C16 Hydrocarbons	2021/10/28		89	%	70 - 130
			>C16-C21 Hydrocarbons	2021/10/28		84	%	70 - 130
			>C21-<C32 Hydrocarbons	2021/10/28		93	%	70 - 130
7665668	MGN	Spiked Blank	Isobutylbenzene - Extractable	2021/10/28		103	%	70 - 130
			n-Dotriacontane - Extractable	2021/10/28		110	%	70 - 130
			>C10-C16 Hydrocarbons	2021/10/28		102	%	70 - 130
			>C16-C21 Hydrocarbons	2021/10/28		90	%	70 - 130
			>C21-<C32 Hydrocarbons	2021/10/28		95	%	70 - 130
7665668	MGN	Method Blank	Isobutylbenzene - Extractable	2021/10/28		94	%	70 - 130
			n-Dotriacontane - Extractable	2021/10/28		97	%	70 - 130
			>C10-C16 Hydrocarbons	2021/10/28	<0.050		mg/L	
			>C16-C21 Hydrocarbons	2021/10/28	<0.050		mg/L	
			>C21-<C32 Hydrocarbons	2021/10/28	<0.090		mg/L	
7665668	MGN	RPD	>C10-C16 Hydrocarbons	2021/10/28	NC		%	40
			>C16-C21 Hydrocarbons	2021/10/28	NC		%	40
			>C21-<C32 Hydrocarbons	2021/10/28	NC		%	40
7666027	MLB	Matrix Spike	Dissolved Arsenic (As)	2021/10/28		95	%	80 - 120
			Dissolved Iron (Fe)	2021/10/28		101	%	80 - 120
			Dissolved Lead (Pb)	2021/10/28		96	%	80 - 120
			Dissolved Manganese (Mn)	2021/10/28		99	%	80 - 120
			Dissolved Zinc (Zn)	2021/10/28		100	%	80 - 120
7666027	MLB	Spiked Blank	Dissolved Arsenic (As)	2021/10/28		94	%	80 - 120
			Dissolved Iron (Fe)	2021/10/28		103	%	80 - 120
			Dissolved Lead (Pb)	2021/10/28		96	%	80 - 120
			Dissolved Manganese (Mn)	2021/10/28		99	%	80 - 120
			Dissolved Zinc (Zn)	2021/10/28		103	%	80 - 120



BUREAU  
VERITAS

Bureau Veritas Job #: C1V0977

Report Date: 2021/10/29

Englobe Corp

Client Project #: 2001756

Site Location: TRENTON

Sampler Initials: AT

### QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
7666027	MLB	Method Blank	Dissolved Arsenic (As)	2021/10/28	<1.0		ug/L	
			Dissolved Iron (Fe)	2021/10/28	<50		ug/L	
			Dissolved Lead (Pb)	2021/10/28	<0.50		ug/L	
			Dissolved Manganese (Mn)	2021/10/28	<2.0		ug/L	
			Dissolved Zinc (Zn)	2021/10/28	<5.0		ug/L	
7666027	MLB	RPD	Dissolved Arsenic (As)	2021/10/28	2.0		%	20
			Dissolved Iron (Fe)	2021/10/28	1.8		%	20
			Dissolved Lead (Pb)	2021/10/28	5.3		%	20
			Dissolved Manganese (Mn)	2021/10/28	0.10		%	20
			Dissolved Zinc (Zn)	2021/10/28	NC		%	20

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

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

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

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

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

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



BUREAU  
VERITAS

Bureau Veritas Job #: C1V0977

Report Date: 2021/10/29

Englobe Corp

Client Project #: 2001756

Site Location: TRENTON

Sampler Initials: AT

## VALIDATION SIGNATURE PAGE

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

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Phil Deveau, Scientific Specialist (Organics)



Bureau Veritas Proprietary Software  
Logiciel Propriétaire de Bureau Veritas

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Automated Statchk

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BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



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 465 George Street, Unit G, Sydney, NS B1P 1K5 Tel: 902-567-1255 Fax: 902-539-6504 Toll Free: 1-888-535-7770

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# CHAIN OF CUSTODY RECORD

COC #: **D 57429**

Page **1** of **1**

Invoice Information				Report Information (if differs from invoice)				Project Information (where applicable)				Turnaround Time (TAT) Required																	
Company Name: <b>Englobe</b>				Company Name: _____				Quotation #: <b>Englob SOA</b>				<input checked="" type="checkbox"/> Regular TAT (5 business days) Most analyses																	
Contact Name: <b>Ryan Pellerin</b>				Contact Name: _____				Purchase Order #: <b>To follow</b>				PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS																	
Address: <b>97 Trap Ave</b>				Address: <b>SAME</b>				Project #: <b>2001756</b>				IF RUSH please specify date (Surcharges will be applied)																	
City: <b>Dartmouth NS</b> PC: _____				PC: _____				Site Location: <b>Trenton</b>				DATE REQUIRED: _____																	
Phone: <b>9024686466</b>				Phone: _____				Site Province: <b>NS</b>																					
Email: <b>ryan.pellerin@englobecorp.com</b>				Email: _____				Site #: _____																					
Report Copies: <b>1</b>				Report Copies: _____				Sampled By: <b>AT</b>																					
Laboratory Use Only								Analysis Requested																					
CUSTODY SEAL		COOLER TEMPERATURES		COOLER TEMPERATURES																									
Present	Intact																												
		<b>7 7 7</b>																											
COOLING MEDIA PRESENT Y / N																													
SAMPLES MUST BE KEPT COOL (< 10 °C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BV LABS																													
SAMPLE IDENTIFICATION		DATE SAMPLED (YYYY/MM/DD)	TIME SAMPLED (HH:MM)	MATRIX	# OF CONTAINERS SUBMITTED	FIELD FILTERED & PRESERVED	LAB FILTRATION REQUIRED	RCAP-MS (Total Metals) Well / Surface	RCAP-MS (Dissolved Metals) Ground water	Total Digest (Default Method) for well water & surface water	Dissolved for ground water	Mercury (CIRCLE) TOTAL / DISSOLVED	Metals & Mercury	Metals (Soil)	Default Acid Extractable (Availability) Digest	Hot Water Soluble Boron (required for CCME Agriculture / Landfill)	RBCA Hydrocarbons (BTEX, C6-C12)	CCME Hydrocarbons (CWS-PHC F1/BTEX, F2-F4)	PAHs (Default for water/soil)	PAHs (FWAL / CCME Sediment)	PCBs - Select One: Default or CCME Sediment	VOCs	Total Coliform/E.coli (Presence/Absence)	Total Coliform/E.coli (Count)	Metals (As, Fe, Mn, Pb, Zn, Cd)	PH & Conductivity	Regulatory Requirements (Specify)	COMMENTS	
1	<b>MWB</b>	<b>2021/10/22</b>	<b>9:15</b>	<b>G-W</b>	<b>6</b>	<b>Y</b>																							
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RELINQUISHED BY: (Signature/Print)		DATE: (YYYY/MM/DD)		TIME: (HH:MM)		RECEIVED BY: (Signature/Print)		DATE: (YYYY/MM/DD)		TIME: (HH:MM)		BV LABS JOB #																	
		<b>2021/10/22</b>										<b>C100977</b>																	
<b>Alain Thibault</b>						<b>MATT GRACE</b>																							

Unless otherwise agreed to in writing, work submitted on this Chain of Custody is subject to BV Labs standard Terms and Conditions. Signing of this Chain of Custody document is acknowledgment and acceptance of our terms which are available for viewing at [www.bvna.com](http://www.bvna.com)

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Pink: Client

2021 OCT 22 11:29



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