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Soils Materials Environment

Nova Scotia Lands Inc.

2020 ANNUAL GROUNDWATER QUALITY MONITORING REPORT TRENTON COMMERCIAL PARK, CIVIC NO. 34 POWER PLANT ROAD, TRENTON, NS

February 23, 2021

2001756.000

FINAL REPORT

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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 2020 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 May 2020. This work was completed as per details outlined in Section 4 (Groundwater Monitoring) of the Nova Scotia Environment (NSE) Industrial Approval No. 2020-2690529-00.

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 during the 2020 calendar year:

- 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 values collected from the seven monitoring wells at Trenton Commercial Park were reported to be within the range specified in the NSE Approval.
- 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 require monitoring by NSE have been documented to satisfy the limits or are 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 are no NSE Approval limits for VOCs specified in the NSE Approval. The reported VOC concentrations satisfy the NSE Tier 1 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 has not identified any impacts resulting from on-site activities. Additional site work regarding petroleum hydrocarbons impacts at MW1 and continued sampling for VOCs at MW6 are recommended.

The next monitoring event is scheduled for April 2021 and will be conducted by Englobe using the sampling methodology discussed herein.

Production Team

Client

Nova Scotia Lands Inc.	Mr. Cory MacPhee

Englobe Corp.

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Revision N°	**Date**	**Modification and/or Publication Details**
00	2021-01-28	Draft Report Issued
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Property and Confidentiality

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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 (NSE) 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 4 (Groundwater Monitoring – subsections 4(a), 4(b) and 4(e)). The annual toxicity testing includes the collection of toxicity samples from three (3) pre-assigned surface water sampling locations as per Section 5 (subsection 5(c) - toxicity testing only, and 5(d)) of the NSE Approval. A site plan showing the Trenton Commercial Park site, monitor well locations and toxicity sample locations is provided in Figure 1 (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. Groundwater flow direction typically follows topography. Regional groundwater flow direction is northwest toward the East River.

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 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 NSE Approval. The NSE Approval has been reissued under Approval No. 2020-2690526-00 on September 21, 2020, 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 NSE. 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 are required as per Sections 5(c) and 5(d) of the 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 2014-2018 for the former property owner, DSME Trenton, as well as for 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 most recent year of monitoring in 2018, the following conclusions and statements on the identification of any groundwater or surface water discharge impacts as a result of site activities during the 2018 calendar year were made:

- The concentration of modified total petroleum hydrocarbons (TPH) in groundwater collected from MW1 in October 2018 was equal to, but did not exceed, the NSE Approval criteria.
- One of the groundwater monitoring wells (MW2) was located in an area of the site that was upgraded in 2011, and reportedly decommissioned. Englobe was unable to locate this well at the time of the site visit. For this reason, no groundwater samples were collected from this location in 2018.
- Concentrations of iron in groundwater at monitoring wells MW1, MW3, 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 and MW4 exceeded both the maximum grab sample concentration limit and the average annual concentration limit. Concentrations of manganese in monitoring wells MW3 and MW14 exceeded the average annual concentration limit. MacGregor (June 2013) reported similar manganese concentrations at these locations dating back to at least April 2003. They suggested that elevated manganese concentrations may be the result of buried fill materials on the site.
- All remaining parameters that require monitoring by NSE have been documented to satisfy the limits or are within the ranges stipulated by NSE under Approval No. 2010-072182-R02.

- Concentrations of several volatile organic compounds (VOCs) in groundwater collected at monitoring well MW6 in April and October 2018 were reported above the laboratory detection limits. There are no NSE Approval limits for VOCs specified in the industrial approval for the site. The reported VOC concentrations satisfy the NSE Tier 1 Environmental Quality Standards (EQS). The source of VOCs is likely not from activities at the Trenton Commercial Park site, as monitoring well MW6 is considered an upgradient well.

It was concluded that the annual groundwater sampling from 2018 did not identify any impacts resulting from on-site activities. Additional site work regarding the petroleum hydrocarbon impacts at MW1 and continued sampling for VOCs at MW6 were recommended as part of the annual monitoring program.

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. 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 NSE (Approval 2020-2690529-00, dated September 21, 2020).

Section 10 of the NSE 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 Appendix 1 of the NSE 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 NSE in the summer of 2011. Therefore, monitoring well MW2 has not been sampled as part of Englobe's monitoring events since April 2014.

Section 5 of the NSE 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, was 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 benzene, toluene, ethylbenzene and xylene (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 NSE Tier 1 EQS. There are no NSE Approval limits for VOCs specified in the Industrial Approval for the site. VOC assessment in groundwater at MW6 was continued in 2020.

4 Methodology

On May 28 and October 28, 2020 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 using a Solinist electronic water level tape. 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 PVC bailer was installed in each well to retrieve the groundwater samples. A site plan showing the location of the monitoring wells is provided in Figure 1 (Appendix A). Note: additional monitoring wells may be present at the Trenton Commercial Park site; however, they are not shown on the attached plan.

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

Water samples for the May and October 2020 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.

Free phase petroleum product was encountered and measured by Englobe personnel in monitoring well MW11 in October 2013; one sample was collected in 2013 from MW11 for identification of the petroleum product and was identified by the laboratory as 'lube oil fraction'. Due to the presence of free product during the April/October 2014, June/November 2015, and April/October 2016 monitoring events, samples from MW11 were not collected. Samples were collected from this well during the 2017, 2018, and 2020 sampling events as there was no longer free product observed in this well.

On May 28, 2020 toxicity samples were collected from the three specified surface water (effluent) locations. For collection of the water samples, 20-litre buckets and liners (supplied by the laboratory) were used. The samples were delivered the same day 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). The locations of the effluent samples are shown in Figure 1 (Appendix A).

5 Field Observations

During the site work, all monitoring wells appeared to be in good condition. Groundwater levels measured at each location are presented in Table 5-1 (page 5).

Table 5-1 - Groundwater Levels and Field Observations - DSME Trenton, Civic No. 34 Power Plant Road, Trenton, NS

Location	Field Data			
	May 28, 2020		Oct 28, 2020	
	GW Depth (m)	Notes	GW Depth (m)	Notes
MW1	2.58	PHC odour	4.58	PHC odour
MW3	2.56	Silty	1.63	Silty
MW4	3.52	Silty	3.50	Silty
MW6	2.66	Sheen	2.92	-
MW9	4.20	Silty	3.66	PHC odour
MW11	2.66	PHC odour, sheen	3.08	PHC odour, sheen
MW14	2.59	-	3.18	-

During the May and October 2020 sampling events, all monitor wells were observed to be protected against tampering with locked covers, as per the NSE Approval Section 10 (g).

6 Groundwater Analytical Results

Groundwater analytical results are compared with concentration limits from Appendix A of the NSE Approval No. 2020-2690526-00 for the Trenton Commercial Park site. The 2013 NSE Tier 1 EQS for a non-potable site with commercial receptors and coarse-grained soil are also provided for reference in Table B1 (Appendix B). General chemistry results (pH and conductivity) as well as the five select metals parameters (iron, zinc, manganese, lead and arsenic) are presented in Table B2 (Appendix B) compared with the concentration limits from Appendix 1 of the NSE Approval No. 2020-2690526-00. VOCs analytical results are compared with the 2013 NSE Tier 1 EQS values, provided in Table B3 (Appendix B).

The tables include both the May and October 2020 analytical results (collected and reported by Englobe). Copies of the laboratory certificates are provided in Appendix C.

6.1 TPH/BTEX Compounds

Concentrations of modified TPH in groundwater samples collected from the seven monitoring wells did not exceed the NSE Approval criteria of 15 mg/L.

Concentrations of modified TPH in groundwater collected from MW3, MW4, and MW6 were reported as below the laboratory detection limit (0.090 mg/L) and below the NSE approval criteria during both the May and October 2020 sampling events.

Concentrations of modified TPH in groundwater collected from MW1, MW9, MW11 and MW14 ranged from 0.17 mg/L (MW14 in May) to 14 mg/L (MW1 in October). All concentrations of modified TPH were below the NSE Approval criteria during both the May and October 2020 sampling events.

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 NSE Tier 1 EQS during both the May and October 2020 sampling events. However, the concentration of BTEX in the samples collected from MW1 in May and October 2020 were

reported above the laboratory detection limits. The results reported from MW1 in both sampling events ranged from 0.009 mg/L (MW1 in May) to 0.014 mg/L (MW1 in October) for toluene, 0.79 mg/L (MW1 in May) to 0.87 mg/L (MW1 in October) for ethylbenzene, and 0.79 mg/L (MW1 in May) to 1.0 mg/L (MW1 in October) for xylenes. These concentrations for toluene, ethylbenzene and xylenes are below the NSE Approval criteria.

6.2 Conductivity and pH

There is no limit or range for conductivity specified in the Industrial Approval for Trenton Commercial Park. Conductivity in the wells ranged from 140 µS/cm (MW6) to 4,100 µS/cm (MW1) in May 2020, and 210 (MW6) to 3,300 µS/cm (MW1) in October 2020.

The NSE Approval range for pH is 6.0 to 8.5. In May 2020 pH ranged from 6.58 (MW14) to 7.52 (MW9), while in October 2020, the pH ranged from 6.4 (MW6) to 7.39 (MW9). No pH values were reported outside the range of the NSE Approval.

6.3 Metals

The NSE Approval provides limits for maximum grab sample concentrations and average annual concentrations for arsenic, iron, lead, manganese and zinc. These results are tabulated in Table 3 (Appendix B) and discussed below.

6.3.1 Arsenic

Concentrations of arsenic in groundwater samples collected from the seven monitoring wells did not exceed the NSE Approval limits for grab samples (1,000 µg/L) or annual average (500 µg/L) during either the May or October 2020 sampling events.

6.3.2 Iron

Concentrations of iron in groundwater samples collected from MW1 (24,000 µg/L in May and 14,000 µg/L in October), MW3 (9,400 µg/L in October), and MW11 (20,000 µg/L in May and 4,900 µg/L in October) exceeded the NSE Approval limit for grab samples (7,000 µg/L) and for annual average concentration (3,500 µg/L).

Concentrations of iron in groundwater samples collected from MW3 (May), MW4, MW6, MW9, and MW14 did not exceed the NSE Approval limits.

6.3.3 Lead

Concentrations of lead in groundwater samples collected from the seven monitoring wells did not exceed the NSE Approval limits for grab samples (400 µg/L) or annual average concentration (200 µg/L) during either the May or October 2020 sampling events.

6.3.4 Manganese

Concentrations of manganese in groundwater samples collected from MW1 (31,000 µg/L in May and 15,000 µg/L in October), MW3 (4,500 µg/L in May and 5,700 µg/L October), and MW4 (5,600 µg/L in May and 4,200 µg/L October) exceeded the NSE Approval limits for grab samples (4,000 µg/L) and for annual average concentration (2,000 µg/L).

Concentrations of manganese in groundwater samples collected from the seven monitoring wells did not exceed the NSE Approval limit for annual average concentration (2,000 µg/L) during either the May or October 2020 sampling events.

Concentrations of manganese in groundwater samples collected from MW6, MW9, MW11, and MW14 (May) did not exceed the NSE Approval limits.

6.3.5 Zinc

Concentrations of zinc in groundwater samples collected from the seven monitoring wells did not exceed the NSE Approval limits for grab samples (1,000 µg/L) or annual average concentration (500 µg/L) during either the May or October 2020 sampling events.

6.4 VOCs

Concentrations of VOCs in groundwater samples collected from MW6 were reported as below laboratory detection limits and below NSE Tier 1 EQS except for cis-1,2-dichloroethylene (2.5 µg/L in May and 8.6 µg/L in October), trichloroethylene (19 µg/L in May and 34 µg/L in October), and vinyl chloride (2.3 µg/L in October). These values are below the respective 2013 NSE Tier 1 EQS for cis-1,2-dichloroethylene (30 µg/L), trichloroethylene (250 µg/L), and vinyl chloride (13 µg/L).

7 Toxicity Testing Results

The NSE 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 May 2020, the laboratory reported 0% Mortality (Pass). The laboratory certificates are provided in (Appendix C).

8 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 during the 2020 calendar year:

- The concentration of modified TPH and BTEX in groundwater collected from the seven monitoring wells did not exceed the NSE Approval criteria in May or October 2020.
- The pH values collected from the seven monitoring wells at Trenton Commercial Park were reported to be within the range specified in the NSE Approval.
- 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 require monitoring by NSE have been documented to satisfy the limits or are within the ranges stipulated by NSE under Approval No. 2020-2690529-00.
- Concentrations of several VOCs in groundwater collected at monitoring well MW6 in May and October 2020 were reported above the laboratory detection limit. There are no NSE Approval limits for VOCs specified in the NSE Approval. The reported VOC concentrations satisfy the NSE Tier 1 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 has not identified any impacts resulting from on-site activities. Additional site work regarding petroleum hydrocarbon impacts at MW1 and continued sampling for VOCs at MW6 are recommended.

The next monitoring event is scheduled for April 2021 and will be conducted by Englobe using the sampling methodology discussed herein.

9 Report Use and Conditions

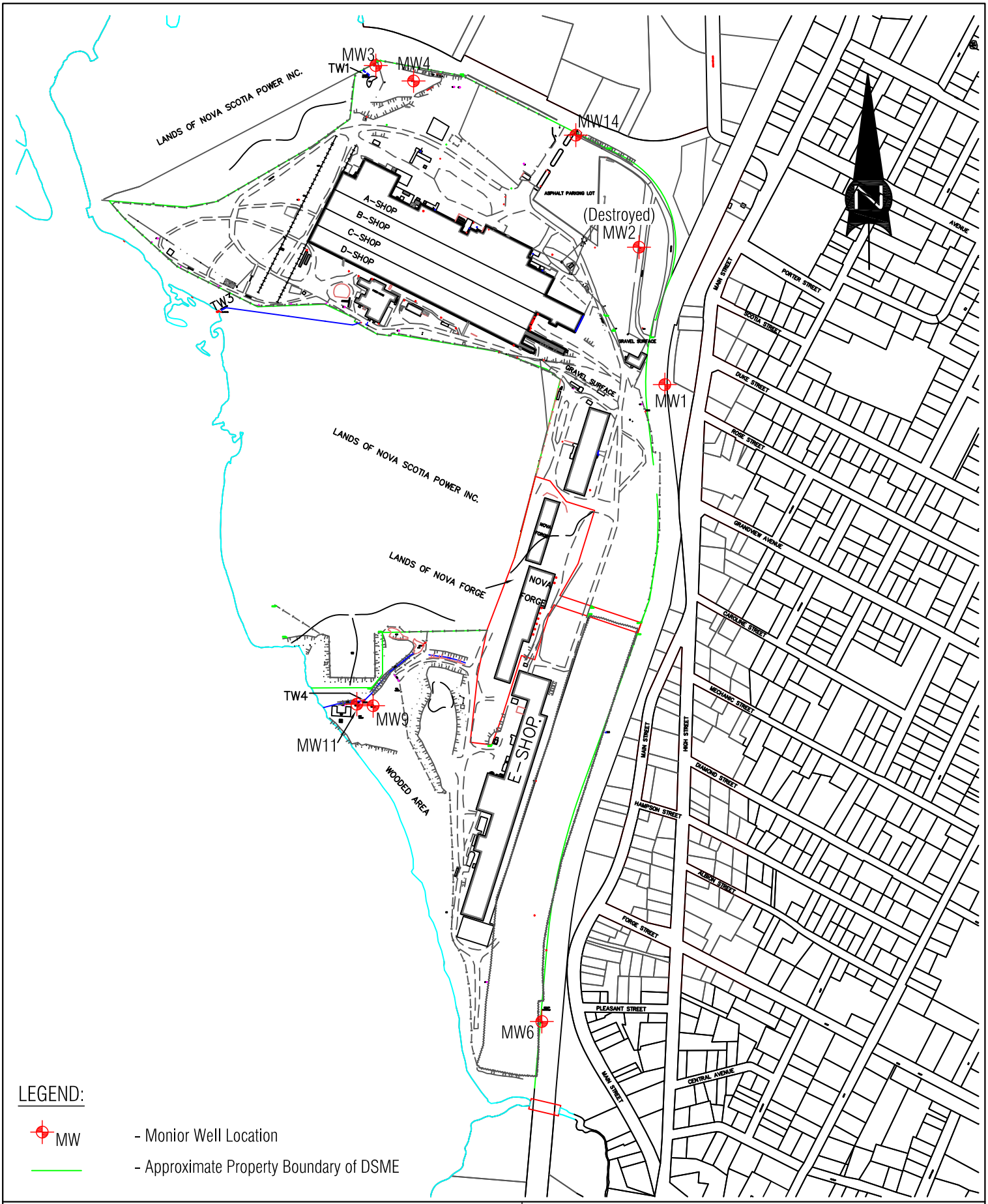
This report was prepared for the exclusive use of Nova Scotia Lands Inc. and is based on data and information obtained during site visits by Englobe Corp., personnel in May and October 2020 for the purpose of collection of groundwater samples from seven (7) existing monitoring wells and surface water 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 Sampling Locations



LEGEND:

MW - Monior Well Location

- Approximate Property Boundary of DSME

Englobe

Site Plan Showing Monitor Well Locations
Nova Scotia Lands Inc. - 2020 Annual Report
Trenton Commercial Park, Trenton, NS

DATE: January 2021	SCALE: 1:7000	DRAWN BY: JJ	CKD BY: RB	JOB No. 2001756.000	FIGURE 1

Appendix B Tabulated Analytical Results

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TABLE B1: TOTAL PETROLEUM HYDROCARBON (TPH) COMPOUNDS in Groundwater
Client: Nova Scotia Lands Inc.
Site Location: Civic No. 34 Power Plant Road, Trenton, NS
Englobe Project No.: 2001756

Parameter		Units	2013 NSE Tier 1 EQS[1]	NSE Approval No. 2010-072182-R02 Concentration Limit	Sample ID							
					Date Sampled							
					MW1		MW3		MW4		MW6	
					2020-05-28	2020-10-28	2020-05-28	2020-10-28	2020-05-28	2020-10-28	2020-05-28	2020-10-28
BTEX (mg/L)	Benzene	mg/L	20	-	<0.0030	0.009	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Toluene	mg/L	20	-	0.0089	0.014	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Ethylbenzene	mg/L	20	-	0.79	0.87	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Xylenes	mg/L	20	-	0.79	1.0	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Modified TPH (mg/L)	Gas Range	mg/L	-	-	10	12	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090
	Fuel Range (C_{10}-C_{16})	mg/L	-	-	2.5	2.7	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
	Fuel Range ($C_{>16}$-C_{21})	mg/L	-	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
	Lube Range ($>C_{21}$-C_{32})	mg/L	-	-	0.092	0.1	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090
Total Modified TPH - Tier 1 (mg/L)		mg/L	20 as gas 20 as fuel oil 20 as lube oil	15	13	14	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090
Product Resemblance		-	-	-	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.	-	-	-	-	-	-

Parameter		Units	2013 NSE Tier 1 EQS[1]	NSE Approval No. 2010-072182-R02 Concentraion Limit	Sample ID							
					Date Sampled							
					MW9		MW11		MW14	MW14 Duplicate	MW14	MW14 Duplicate
					2020-05-28	2020-10-28	2020-05-28	2020-10-28	2020-05-28	2020-05-28	2020-10-28	2020-10-28
BTEX (mg/L)	Benzene	mg/L	20	-	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Toluene	mg/L	20	-	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Ethylbenzene	mg/L	20	-	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Xylenes	mg/L	20	-	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Modified TPH (mg/L)	Gas Range	mg/L	-	-	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090
	Fuel Range (C_{10}-C_{16})	mg/L	-	-	<0.050	0.051	0.17	0.24	0.07	<0.050	<0.050	<0.050
	Fuel Range (C_{16}-C_{21})	mg/L	-	-	0.08	0.21	0.47	0.76	0.10	<0.050	<0.050	<0.050
	Lube Range ($>C_{21}$-C_{32})	mg/L	-	-	0.58	1.3	4.20	7.7	<0.090	<0.090	<0.090	<0.090
Total Modified TPH - Tier 1 (mg/L)		mg/L	20 as gas 20 as fuel oil 20 as lube oil	15	0.66	1.5	4.8	8.7	0.17	<0.090	<0.090	<0.090
Product Resemblance		-	-	-	Lube oil fraction.	Lube oil fraction.	Lube oil fraction.	One product in fuel oil range. Lube oil fraction.	-	-	-	-

Notes:

value - value exceeds NSE Limit for Approval 2010-072182-R02

value - value exceeds NSE Limit for Approval 2010-072182-R02 and 2013 NSE Tier 1 EQS

The NSE Approval Limit of 15 mg/L for TPH applies both to Average Annual Concentration Limit and Maximum Grab Sample Concentration Limit

[1] 2013 Nova Scotia Environment Tier 1 *Environmental Quality Standards* at a commercial site with non-potable groundwater and coarse-grained soil.

TABLE B2: METALS, pH and CONDUCTIVITY in Groundwater
Client: Nova Scotia Lands Inc.
Site Location: Civic No. 34 Power Plant Road, Trenton, NS
Englobe Project No.: 2001756

Parameter	Units	NSE Approval No. 2010-072182-R02 Maximum Grab Sample Concentraion Limit/Range	NSE Approval No. 2010-072182-R02 Average Annual Concentraion Limit/Range	Sample ID															
				Date Sampled															
				MW1		MW3		MW4		MW6		MW9		MW11		MW14	MW14 Lab Duplicate	MW14	MW14 Lab Duplicate
				2020-05-28	2020-10-28	2020-05-28	2020-10-28	2020-05-28	2020-10-28	2020-05-28	2020-10-28	2020-05-28	2020-10-28	2020-05-28	2020-10-28	2020-05-28	2020-05-28	2020-10-28	2020-10-28
pH	pH	6.0-8.5	6.0-8.5	7.01	7.03	6.99	6.91	6.59	6.57	6.65	6.4	7.52	7.39	7.11	7.38	6.71	6.63	6.58	6.63
Conductivity	µS/cm	-	-	4100	3300	820	680	330	330	140	210	540	700	600	640	530	550	630	640
Arsenic	µg/L	1000	500	1.0	3.1	3.7	2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.8	1.3	<1.0	<1.0	<1.0	<1.0
Iron	µg/L	7000	3500	24000	14000	<50	9400	<50	<50	<50	<50	220	1500	20000	4900	<50	<50	<50	<50
Lead	µg/L	400	200	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Manganese	µg/L	4000	2000	31000	15000	4500	5700	5600	4200	6.4	37	780	1400	1600	1500	1300	1300	1900	2000
Zinc	µg/L	1000	500	7	<5.0	24	<5.0	55	47	7.4	7.4	8.1	5.9	5.9	<5.0	160	160	56	56

Notes:

value - value exceeds NSE Limit (Approval 2010-072182-R02) for Grab Sample Concentration
value - value exceeds NSE Limit (Approval 2010-072182-R02) for Annual Average Concentration
value - value exceeds both NSE Approval Limits

Englobe

TABLE B3: 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

Parameter	Units	2013 NSE EQS [1]	Sample ID		
			Date Sampled		
			MW6	MW6 Lab Duplicate	MW6
			2020-05-28	2020-05-28	2020-10-28
Chlorobenzenes					
1,2-Dichlorobenzene	µg/L	64000	<0.50	<0.50	<0.50
1,3-Dichlorobenzene	µg/L	-	<1.0	<1.0	<1.0
1,4-Dichlorobenzene	µg/L	2600	<1.0	<1.0	<1.0
Chlorobenzene	µg/L	180	<1.0	<1.0	<1.0
Volatile Organics					
1,1,1-Trichloroethane	µg/L	13000	<1.0	<1.0	<1.0
1,1,2,2-Tetrachloroethane	µg/L	630	<0.50	<0.50	<0.50
1,1,2-Trichloroethane	µg/L	910	<1.0	<1.0	<1.0
1,1-Dichloroethane	µg/L	6600	<2.0	<2.0	<2.0
1,1-Dichloroethylene	µg/L	490	<0.50	<0.50	<0.50
1,2-Dichloroethane	µg/L	11300	<1.0	<1.0	<1.0
1,2-Dichloropropane	µg/L	300	<0.50	<0.50	<0.50
Benzene	µg/L	20000	<1.0	<1.0	<1.0
Bromodichloromethane	µg/L	-	<1.0	<1.0	<1.0
Bromoform	µg/L	84000	<1.0	<1.0	<1.0
Bromomethane	µg/L	33	<0.50	<0.50	<0.50
Carbon Tetrachloride	µg/L	6.8	<0.50	<0.50	<0.50
Chloroethane	µg/L	-	<8.0	<8.0	<8.0
Chloroform	µg/L	40	<1.0	<1.0	<1.0
Chloromethane	µg/L	-	<8.0	<8.0	<8.0
cis-1,2-Dichloroethylene	µg/L	30	2.5	2.5	8.6
cis-1,3-Dichloropropene	µg/L	-	<0.50	<0.50	<0.50
Dibromochloromethane	µg/L	10000	<1.0	<1.0	<1.0
Ethylbenzene	µg/L	20000	<1.0	<1.0	<1.0
Ethylene Dibromide	µg/L	51	<0.20	<0.20	<0.20
Methyl t-butyl ether (MTBE)	µg/L	4300	<2.0	<2.0	<2.0
Methylene Chloride(Dichloromethane)	µg/L	43000	<3.0	<3.0	<3.0
o-Xylene	µg/L	-	<1.0	<1.0	<1.0
p+m-Xylene	µg/L	-	<2.0	<2.0	<2.0
Styrene	µg/L	26000	<1.0	<1.0	<1.0
Tetrachloroethylene	µg/L	1300	<1.0	<1.0	<1.0
Toluene	µg/L	20000	<1.0	<1.0	<1.0
Total Trihalomethanes	µg/L	-	<1.0	<1.0	<1.0
Total Xylenes	µg/L	20000	<1.0	<1.0	<1.0
trans-1,2-Dichloroethylene	µg/L	30	<0.50	<0.50	<0.50
trans-1,3-Dichloropropene	µg/L	-	<0.50	<0.50	<0.50
Trichloroethylene	µg/L	250	19	19	34
Trichlorofluoromethane (FREON 11)	µg/L	-	<8.0	<8.0	<8.0
Vinyl Chloride	µg/L	13	<0.50	<0.50	2.3

Notes:

value - value exceeds NSE Tier 1 EQS

[1] 2013 Nova Scotia Environment Tier 1 *Environmental Quality Standards* at a commercial site with non-potable groundwater and coarse-grained soil.

Appendix C Laboratory Certificates

Your Project #: 2001756
Your C.O.C. #: 774102-01-01

Attention: Ryan Pellerin

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

Report Date: 2020/06/08
Report #: R6202181
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C0D3175
Received: 2020/05/29, 09:23

Sample Matrix: Water
Samples Received: 10

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Conductance - water	10	N/A	2020/06/04	ATL SOP 00004	SM 23 2510B m
TEH in Water (PIRI)	5	2020/06/02	2020/06/02	ATL SOP 00113	Atl. RBCA v3.1 m
TEH in Water (PIRI)	5	2020/06/02	2020/06/03	ATL SOP 00113	Atl. RBCA v3.1 m
Metals Water Diss. MS (1)	1	N/A	2020/06/05	ATL SOP 00058	EPA 6020B R2 m
Metals Water Diss. MS (as rec'd)	9	N/A	2020/06/05	ATL SOP 00058	EPA 6020B R2 m
pH (2)	10	N/A	2020/06/04	ATL SOP 00003	SM 23 4500-H+ B m
ModTPH (T1) Calc. for Water	5	N/A	2020/06/03	N/A	Atl. RBCA v3 m
ModTPH (T1) Calc. for Water	5	N/A	2020/06/04	N/A	Atl. RBCA v3 m
Volatile Organic Compounds in Water	1	N/A	2020/06/04	ATL SOP 00133	EPA 8260D R4 m
VPH in Water (PIRI)	10	N/A	2020/06/03	ATL SOP 00130	Atl. RBCA v3.1 m

Remarks:

Bureau Veritas Laboratories are accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by BV Labs 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 BV Labs profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and BV Labs 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.

BV Labs liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. BV Labs 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 BV Labs, unless otherwise agreed in writing. BV Labs 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 BV Labs, results relate to the supplied samples tested.

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) Sample filtered in laboratory prior to analysis for dissolved metals.
(2) 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
Your C.O.C. #: 774102-01-01

Attention: Ryan Pellerin

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

Report Date: 2020/06/08
Report #: R6202181
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C0D3175
Received: 2020/05/29, 09:23

Encryption Key

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

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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.

BV Labs Job #: C0D3175
Report Date: 2020/06/08

Englobe Corp
Client Project #: 2001756

RBCA HYDROCARBONS IN WATER (WATER)

BV Labs ID		MTK166		MTK167	MTK168	MTK169	MTK170		
Sampling Date		2020/05/28 12:15		2020/05/28 10:30	2020/05/28 10:00	2020/05/28 14:10	2020/05/28 13:30		
COC Number		774102-01-01		774102-01-01	774102-01-01	774102-01-01	774102-01-01		
	UNITS	**MW1**	**RDL**	**MW3**	**MW4**	**MW6**	**MW9**	**RDL**	**QC Batch**
Petroleum Hydrocarbons									
Benzene	mg/L	<0.0030 (1)	0.0030	<0.0010	<0.0010	<0.0010	<0.0010	0.0010	6765244
Toluene	mg/L	0.0089	0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0010	6765244
Ethylbenzene	mg/L	0.79	0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0010	6765244
Total Xylenes	mg/L	0.79	0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	6765244
C6 - C10 (less BTEX)	mg/L	10	0.090	<0.090	<0.090	<0.090	<0.090	0.090	6765244
>C10-C16 Hydrocarbons	mg/L	2.5	0.050	<0.050	<0.050	<0.050	<0.050	0.050	6765157
>C16-C21 Hydrocarbons	mg/L	<0.050	0.050	<0.050	<0.050	<0.050	0.079	0.050	6765157
>C21-<C32 Hydrocarbons	mg/L	0.092	0.090	<0.090	<0.090	<0.090	0.58	0.090	6765157
Modified TPH (Tier1)	mg/L	13	0.090	<0.090	<0.090	<0.090	0.66	0.090	6763884
Reached Baseline at C32	mg/L	Yes	N/A	NA	NA	NA	Yes	N/A	6765157
Hydrocarbon Resemblance	mg/L	COMMENT (2)	N/A	NA	NA	NA	COMMENT (3)	N/A	6765157
Surrogate Recovery (%)									
Isobutylbenzene - Extractable	%	85		99	101	101	93		6765157
n-Dotriacontane - Extractable	%	109		114	110	109	105		6765157
Isobutylbenzene - Volatile	%	104		101	98	101	101		6765244

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. Possible lube oil fraction.
(3) Lube oil fraction.

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RBCA HYDROCARBONS IN WATER (WATER)

BV Labs ID		MTK171	MTK172	MTK173	MTK174	MTK175		
Sampling Date		2020/05/28 13:00	2020/05/28 11:00	2020/05/28	2020/05/28	2020/05/28		
COC Number		774102-01-01	774102-01-01	774102-01-01	774102-01-01	774102-01-01		
	UNITS	MW11	MW14	TRIP BLANK	EQUIPMENT BLANK	MW-DUP	RDL	QC Batch
Petroleum Hydrocarbons								
Benzene	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0010	6765244
Toluene	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0010	6765244
Ethylbenzene	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0010	6765244
Total Xylenes	mg/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	6765244
C6 - C10 (less BTEX)	mg/L	<0.090	<0.090	<0.090	<0.090	<0.090	0.090	6765244
>C10-C16 Hydrocarbons	mg/L	0.17	0.074	<0.050	<0.050	<0.050	0.050	6765157
>C16-C21 Hydrocarbons	mg/L	0.47	0.096	<0.050	<0.050	<0.050	0.050	6765157
>C21-<C32 Hydrocarbons	mg/L	4.2	<0.090	<0.090	0.098	<0.090	0.090	6765157
Modified TPH (Tier1)	mg/L	4.8	0.17	<0.090	0.098	<0.090	0.090	6763884
Reached Baseline at C32	mg/L	No	Yes	NA	Yes	NA	N/A	6765157
Hydrocarbon Resemblance	mg/L	COMMENT (1)	COMMENT (2)	NA	COMMENT (3)	NA	N/A	6765157
Surrogate Recovery (%)								
Isobutylbenzene - Extractable	%	89	99	105	94	99		6765157
n-Dotriacontane - Extractable	%	73	108	95	101	82		6765157
Isobutylbenzene - Volatile	%	101	100	101	103	102		6765244

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable
(1) Lube oil fraction.
(2) One product in fuel oil range.
(3) Possible lube oil fraction.

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ATLANTIC VOCS - NON-CHLORINATED WATER (WATER)

BV Labs ID		MTK169	MTK169		
Sampling Date		2020/05/28 14:10	2020/05/28 14:10		
COC Number		774102-01-01	774102-01-01		
	UNITS	MW6	MW6 Lab-Dup	RDL	QC Batch
Volatile Organics					
1,1-Dichloroethane	ug/L	<2.0	<2.0	2.0	6769412
1,1-Dichloroethylene	ug/L	<0.50	<0.50	0.50	6769412
1,1,1-Trichloroethane	ug/L	<1.0	<1.0	1.0	6769412
1,1,2-Trichloroethane	ug/L	<1.0	<1.0	1.0	6769412
1,1,2,2-Tetrachloroethane	ug/L	<0.50	<0.50	0.50	6769412
Ethylene Dibromide	ug/L	<0.20	<0.20	0.20	6769412
1,2-Dichlorobenzene	ug/L	<0.50	<0.50	0.50	6769412
1,2-Dichloroethane	ug/L	<1.0	<1.0	1.0	6769412
cis-1,2-Dichloroethylene	ug/L	2.5	2.5	0.50	6769412
trans-1,2-Dichloroethylene	ug/L	<0.50	<0.50	0.50	6769412
1,2-Dichloropropane	ug/L	<0.50	<0.50	0.50	6769412
1,3-Dichlorobenzene	ug/L	<1.0	<1.0	1.0	6769412
cis-1,3-Dichloropropene	ug/L	<0.50	<0.50	0.50	6769412
trans-1,3-Dichloropropene	ug/L	<0.50	<0.50	0.50	6769412
1,4-Dichlorobenzene	ug/L	<1.0	<1.0	1.0	6769412
Benzene	ug/L	<1.0	<1.0	1.0	6769412
Bromodichloromethane	ug/L	<1.0	<1.0	1.0	6769412
Bromoform	ug/L	<1.0	<1.0	1.0	6769412
Bromomethane	ug/L	<0.50	<0.50	0.50	6769412
Carbon Tetrachloride	ug/L	<0.50	<0.50	0.50	6769412
Chlorobenzene	ug/L	<1.0	<1.0	1.0	6769412
Chloroethane	ug/L	<8.0	<8.0	8.0	6769412
Chloroform	ug/L	<1.0	<1.0	1.0	6769412
Chloromethane	ug/L	<8.0	<8.0	8.0	6769412
Dibromochloromethane	ug/L	<1.0	<1.0	1.0	6769412
Methylene Chloride(Dichloromethane)	ug/L	<3.0	<3.0	3.0	6769412
Ethylbenzene	ug/L	<1.0	<1.0	1.0	6769412
Methyl t-butyl ether (MTBE)	ug/L	<2.0	<2.0	2.0	6769412
Styrene	ug/L	<1.0	<1.0	1.0	6769412
Tetrachloroethylene	ug/L	<1.0	<1.0	1.0	6769412
Toluene	ug/L	<1.0	<1.0	1.0	6769412
Trichloroethylene	ug/L	19	19	1.0	6769412
Trichlorofluoromethane (FREON 11)	ug/L	<8.0	<8.0	8.0	6769412
Vinyl Chloride	ug/L	<0.50	<0.50	0.50	6769412

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

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ATLANTIC VOCS - NON-CHLORINATED WATER (WATER)

BV Labs ID		MTK169	MTK169		
Sampling Date		2020/05/28 14:10	2020/05/28 14:10		
COC Number		774102-01-01	774102-01-01		
	UNITS	MW6	MW6 Lab-Dup	RDL	QC Batch
o-Xylene	ug/L	<1.0	<1.0	1.0	6769412
p+m-Xylene	ug/L	<2.0	<2.0	2.0	6769412
Total Xylenes	ug/L	<1.0	<1.0	1.0	6769412
Total Trihalomethanes	ug/L	<1.0	<1.0	1.0	6769412
Surrogate Recovery (%)					
4-Bromofluorobenzene	%	97	97		6769412
D4-1,2-Dichloroethane	%	107	108		6769412
D8-Toluene	%	95	94		6769412

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

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BV Labs Job #: C0D3175
Report Date: 2020/06/08

Englobe Corp
Client Project #: 2001756

RESULTS OF ANALYSES OF WATER

BV Labs ID		MTK166	MTK167	MTK168	MTK169	MTK170	MTK171		
Sampling Date		2020/05/28 12:15	2020/05/28 10:30	2020/05/28 10:00	2020/05/28 14:10	2020/05/28 13:30	2020/05/28 13:00		
COC Number		774102-01-01	774102-01-01	774102-01-01	774102-01-01	774102-01-01	774102-01-01		
	UNITS	MW1	MW3	MW4	MW6	MW9	MW11	RDL	QC Batch
Inorganics									
pH	pH	7.01	6.99	6.59	6.65	7.52	7.11		6769362
Conductivity	uS/cm	4100	820	330	140	540	600	1.0	6769360

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

BV Labs ID		MTK172	MTK173		MTK174	MTK175		
Sampling Date		2020/05/28 11:00	2020/05/28		2020/05/28	2020/05/28		
COC Number		774102-01-01	774102-01-01		774102-01-01	774102-01-01		
	UNITS	MW14	TRIP BLANK	QC Batch	EQUIPMENT BLANK	MW-DUP	RDL	QC Batch
Inorganics								
pH	pH	6.71	6.14	6769362	6.06	6.63		6769366
Conductivity	uS/cm	530	<1.0	6769360	1.2	550	1.0	6769364

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Bureau Veritas Laboratories 200 Bluewater Rd, Suite 105, Bedford, Nova Scotia Canada B4B 1G9 Tel: 902-420-0203 Toll-free: 800-565-7227 Fax: 902-420-8612 www.bvlabs.com

ELEMENTS BY ICP/MS (WATER)

BV Labs ID		MTK166		MTK167		MTK168	MTK169	MTK170		
Sampling Date		2020/05/28 12:15		2020/05/28 10:30		2020/05/28 10:00	2020/05/28 14:10	2020/05/28 13:30		
COC Number		774102-01-01		774102-01-01		774102-01-01	774102-01-01	774102-01-01		
	UNITS	MW1	QC Batch	MW3	QC Batch	MW4	MW6	MW9	RDL	QC Batch
Metals										
Dissolved Arsenic (As)	ug/L	1.0	6771614	3.7	6769739	<1.0	<1.0	<1.0	1.0	6771614
Dissolved Iron (Fe)	ug/L	24000	6771614	<50	6769739	<50	<50	220	50	6771614
Dissolved Lead (Pb)	ug/L	<0.50	6771614	<0.50	6769739	<0.50	<0.50	<0.50	0.50	6771614
Dissolved Manganese (Mn)	ug/L	31000	6771614	4500	6769739	5600	6.4	780	2.0	6771614
Dissolved Zinc (Zn)	ug/L	7.0	6771614	24	6769739	55	7.4	8.1	5.0	6771614

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

BV Labs ID		MTK171	MTK172	MTK173	MTK174	MTK175		
Sampling Date		2020/05/28 13:00	2020/05/28 11:00	2020/05/28	2020/05/28	2020/05/28		
COC Number		774102-01-01	774102-01-01	774102-01-01	774102-01-01	774102-01-01		
	UNITS	MW11	MW14	TRIP BLANK	EQUIPMENT BLANK	MW-DUP	RDL	QC Batch
Metals								
Dissolved Arsenic (As)	ug/L	1.8	<1.0	<1.0	<1.0	<1.0	1.0	6771614
Dissolved Iron (Fe)	ug/L	20000	<50	<50	<50	<50	50	6771614
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	6771614
Dissolved Manganese (Mn)	ug/L	1600	1300	<2.0	3.1	1300	2.0	6771614
Dissolved Zinc (Zn)	ug/L	5.9	160	<5.0	<5.0	160	5.0	6771614

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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GENERAL COMMENTS

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

Package 1	5.3°C
Package 2	4.7°C

Results relate only to the items tested.

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QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
6765157	MSK	Matrix Spike	Isobutylbenzene - Extractable	2020/06/02		94	%	70 - 130
			n-Dotriacontane - Extractable	2020/06/02		103	%	70 - 130
			>C10-C16 Hydrocarbons	2020/06/02		89	%	70 - 130
			>C16-C21 Hydrocarbons	2020/06/02		88	%	70 - 130
			>C21-<C32 Hydrocarbons	2020/06/02		113	%	70 - 130
6765157	MSK	Spiked Blank	Isobutylbenzene - Extractable	2020/06/02		101	%	70 - 130
			n-Dotriacontane - Extractable	2020/06/02		98	%	70 - 130
			>C10-C16 Hydrocarbons	2020/06/02		97	%	70 - 130
			>C16-C21 Hydrocarbons	2020/06/02		94	%	70 - 130
			>C21-<C32 Hydrocarbons	2020/06/02		109	%	70 - 130
6765157	MSK	Method Blank	Isobutylbenzene - Extractable	2020/06/02		99	%	70 - 130
			n-Dotriacontane - Extractable	2020/06/02		93	%	70 - 130
			>C10-C16 Hydrocarbons	2020/06/02	<0.050		mg/L	
			>C16-C21 Hydrocarbons	2020/06/02	<0.050		mg/L	
			>C21-<C32 Hydrocarbons	2020/06/02	<0.090		mg/L	
6765157	MSK	RPD	>C10-C16 Hydrocarbons	2020/06/02	NC		%	40
			>C16-C21 Hydrocarbons	2020/06/02	NC		%	40
			>C21-<C32 Hydrocarbons	2020/06/02	NC		%	40
6765244	THL	Matrix Spike	Isobutylbenzene - Volatile	2020/06/03		102	%	70 - 130
			Benzene	2020/06/03		103	%	70 - 130
			Toluene	2020/06/03		103	%	70 - 130
			Ethylbenzene	2020/06/03		106	%	70 - 130
			Total Xylenes	2020/06/03		109	%	70 - 130
6765244	THL	Spiked Blank	Isobutylbenzene - Volatile	2020/06/03		102	%	70 - 130
			Benzene	2020/06/03		104	%	70 - 130
			Toluene	2020/06/03		104	%	70 - 130
			Ethylbenzene	2020/06/03		108	%	70 - 130
			Total Xylenes	2020/06/03		111	%	70 - 130
6765244	THL	Method Blank	Isobutylbenzene - Volatile	2020/06/03		103	%	70 - 130
			Benzene	2020/06/03	<0.0010		mg/L	
			Toluene	2020/06/03	<0.0010		mg/L	
			Ethylbenzene	2020/06/03	<0.0010		mg/L	
			Total Xylenes	2020/06/03	<0.0020		mg/L	
			C6 - C10 (less BTEX)	2020/06/03	<0.090		mg/L	
6765244	THL	RPD	Benzene	2020/06/03	NC		%	40
			Toluene	2020/06/03	NC		%	40
			Ethylbenzene	2020/06/03	NC		%	40
			Total Xylenes	2020/06/03	NC		%	40
			C6 - C10 (less BTEX)	2020/06/03	NC		%	40
6769360	SHW	Spiked Blank	Conductivity	2020/06/04		103	%	80 - 120
6769360	SHW	Method Blank	Conductivity	2020/06/04	<1.0		uS/cm	
6769360	SHW	RPD	Conductivity	2020/06/04	0.46		%	10
6769362	SHW	Spiked Blank	pH	2020/06/04		101	%	97 - 103
6769362	SHW	RPD	pH	2020/06/04	0.50		%	N/A
6769364	SHW	Spiked Blank	Conductivity	2020/06/04		102	%	80 - 120
6769364	SHW	Method Blank	Conductivity	2020/06/04	<1.0		uS/cm	
6769364	SHW	RPD	Conductivity	2020/06/04	1.2		%	10
6769366	SHW	Spiked Blank	pH	2020/06/04		101	%	97 - 103
6769366	SHW	RPD	pH	2020/06/04	0.87		%	N/A
6769412	ASL	Matrix Spike	4-Bromofluorobenzene	2020/06/04		98	%	70 - 130
			D4-1,2-Dichloroethane	2020/06/04		108	%	70 - 130
			D8-Toluene	2020/06/04		93	%	70 - 130
			1,1-Dichloroethane	2020/06/04		108	%	70 - 130
			1,1-Dichloroethylene	2020/06/04		102	%	70 - 130
			1,1,1-Trichloroethane	2020/06/04		107	%	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
			1,1,2-Trichloroethane	2020/06/04		113	%	70 - 130
			1,1,2,2-Tetrachloroethane	2020/06/04		107	%	70 - 130
			Ethylene Dibromide	2020/06/04		110	%	70 - 130
			1,2-Dichlorobenzene	2020/06/04		91	%	70 - 130
			1,2-Dichloroethane	2020/06/04		103	%	70 - 130
			cis-1,2-Dichloroethylene	2020/06/04		111	%	70 - 130
			trans-1,2-Dichloroethylene	2020/06/04		110	%	70 - 130
			1,2-Dichloropropane	2020/06/04		97	%	70 - 130
			1,3-Dichlorobenzene	2020/06/04		92	%	70 - 130
			cis-1,3-Dichloropropene	2020/06/04		102	%	70 - 130
			trans-1,3-Dichloropropene	2020/06/04		98	%	70 - 130
			1,4-Dichlorobenzene	2020/06/04		91	%	70 - 130
			Benzene	2020/06/04		94	%	70 - 130
			Bromodichloromethane	2020/06/04		103	%	70 - 130
			Bromoform	2020/06/04		111	%	70 - 130
			Bromomethane	2020/06/04		114	%	60 - 140
			Carbon Tetrachloride	2020/06/04		107	%	70 - 130
			Chlorobenzene	2020/06/04		95	%	70 - 130
			Chloroethane	2020/06/04		103	%	60 - 140
			Chloroform	2020/06/04		99	%	70 - 130
			Chloromethane	2020/06/04		88	%	60 - 140
			Dibromochloromethane	2020/06/04		108	%	70 - 130
			Methylene Chloride(Dichloromethane)	2020/06/04		120	%	70 - 130
			Ethylbenzene	2020/06/04		93	%	70 - 130
			Methyl t-butyl ether (MTBE)	2020/06/04		94	%	70 - 130
			Styrene	2020/06/04		100	%	70 - 130
			Tetrachloroethylene	2020/06/04		106	%	70 - 130
			Toluene	2020/06/04		99	%	70 - 130
			Trichloroethylene	2020/06/04		104	%	70 - 130
			Trichlorofluoromethane (FREON 11)	2020/06/04		100	%	60 - 140
			Vinyl Chloride	2020/06/04		112	%	60 - 140
			o-Xylene	2020/06/04		95	%	70 - 130
			p+m-Xylene	2020/06/04		93	%	70 - 130
6769412	ASL	Spiked Blank	4-Bromofluorobenzene	2020/06/04		98	%	70 - 130
			D4-1,2-Dichloroethane	2020/06/04		102	%	70 - 130
			D8-Toluene	2020/06/04		94	%	70 - 130
			1,1-Dichloroethane	2020/06/04		107	%	70 - 130
			1,1-Dichloroethylene	2020/06/04		103	%	70 - 130
			1,1,1-Trichloroethane	2020/06/04		107	%	70 - 130
			1,1,2-Trichloroethane	2020/06/04		107	%	70 - 130
			1,1,2,2-Tetrachloroethane	2020/06/04		101	%	70 - 130
			Ethylene Dibromide	2020/06/04		103	%	70 - 130
			1,2-Dichlorobenzene	2020/06/04		91	%	70 - 130
			1,2-Dichloroethane	2020/06/04		98	%	70 - 130
			cis-1,2-Dichloroethylene	2020/06/04		109	%	70 - 130
			trans-1,2-Dichloroethylene	2020/06/04		110	%	70 - 130
			1,2-Dichloropropane	2020/06/04		95	%	70 - 130
			1,3-Dichlorobenzene	2020/06/04		93	%	70 - 130
			cis-1,3-Dichloropropene	2020/06/04		101	%	70 - 130
			trans-1,3-Dichloropropene	2020/06/04		96	%	70 - 130
			1,4-Dichlorobenzene	2020/06/04		92	%	70 - 130
			Benzene	2020/06/04		93	%	70 - 130
			Bromodichloromethane	2020/06/04		101	%	70 - 130
			Bromoform	2020/06/04		105	%	70 - 130
			Bromomethane	2020/06/04		112	%	60 - 140

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Carbon Tetrachloride	2020/06/04		107	%	70 - 130
			Chlorobenzene	2020/06/04		96	%	70 - 130
			Chloroethane	2020/06/04		102	%	60 - 140
			Chloroform	2020/06/04		97	%	70 - 130
			Chloromethane	2020/06/04		87	%	60 - 140
			Dibromochloromethane	2020/06/04		104	%	70 - 130
			Methylene Chloride(Dichloromethane)	2020/06/04		116	%	70 - 130
			Ethylbenzene	2020/06/04		95	%	70 - 130
			Methyl t-butyl ether (MTBE)	2020/06/04		93	%	70 - 130
			Styrene	2020/06/04		101	%	70 - 130
			Tetrachloroethylene	2020/06/04		107	%	70 - 130
			Toluene	2020/06/04		100	%	70 - 130
			Trichloroethylene	2020/06/04		105	%	70 - 130
			Trichlorofluoromethane (FREON 11)	2020/06/04		100	%	60 - 140
			Vinyl Chloride	2020/06/04		112	%	60 - 140
			o-Xylene	2020/06/04		96	%	70 - 130
			p+m-Xylene	2020/06/04		95	%	70 - 130
6769412	ASL	Method Blank	4-Bromofluorobenzene	2020/06/04		98	%	70 - 130
			D4-1,2-Dichloroethane	2020/06/04		102	%	70 - 130
			D8-Toluene	2020/06/04		95	%	70 - 130
			1,1-Dichloroethane	2020/06/04	<2.0		ug/L	
			1,1-Dichloroethylene	2020/06/04	<0.50		ug/L	
			1,1,1-Trichloroethane	2020/06/04	<1.0		ug/L	
			1,1,2-Trichloroethane	2020/06/04	<1.0		ug/L	
			1,1,2,2-Tetrachloroethane	2020/06/04	<0.50		ug/L	
			Ethylene Dibromide	2020/06/04	<0.20		ug/L	
			1,2-Dichlorobenzene	2020/06/04	<0.50		ug/L	
			1,2-Dichloroethane	2020/06/04	<1.0		ug/L	
			cis-1,2-Dichloroethylene	2020/06/04	<0.50		ug/L	
			trans-1,2-Dichloroethylene	2020/06/04	<0.50		ug/L	
			1,2-Dichloropropane	2020/06/04	<0.50		ug/L	
			1,3-Dichlorobenzene	2020/06/04	<1.0		ug/L	
			cis-1,3-Dichloropropene	2020/06/04	<0.50		ug/L	
			trans-1,3-Dichloropropene	2020/06/04	<0.50		ug/L	
			1,4-Dichlorobenzene	2020/06/04	<1.0		ug/L	
			Benzene	2020/06/04	<1.0		ug/L	
			Bromodichloromethane	2020/06/04	<1.0		ug/L	
			Bromoform	2020/06/04	<1.0		ug/L	
			Bromomethane	2020/06/04	<0.50		ug/L	
			Carbon Tetrachloride	2020/06/04	<0.50		ug/L	
			Chlorobenzene	2020/06/04	<1.0		ug/L	
			Chloroethane	2020/06/04	<8.0		ug/L	
			Chloroform	2020/06/04	<1.0		ug/L	
			Chloromethane	2020/06/04	<8.0		ug/L	
			Dibromochloromethane	2020/06/04	<1.0		ug/L	
			Methylene Chloride(Dichloromethane)	2020/06/04	<3.0		ug/L	
			Ethylbenzene	2020/06/04	<1.0		ug/L	
			Methyl t-butyl ether (MTBE)	2020/06/04	<2.0		ug/L	
			Styrene	2020/06/04	<1.0		ug/L	
			Tetrachloroethylene	2020/06/04	<1.0		ug/L	
			Toluene	2020/06/04	<1.0		ug/L	
			Trichloroethylene	2020/06/04	<1.0		ug/L	
			Trichlorofluoromethane (FREON 11)	2020/06/04	<8.0		ug/L	
			Vinyl Chloride	2020/06/04	<0.50		ug/L	
			o-Xylene	2020/06/04	<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
			p+m-Xylene	2020/06/04	<2.0		ug/L	
			Total Xylenes	2020/06/04	<1.0		ug/L	
			Total Trihalomethanes	2020/06/04	<1.0		ug/L	
6769412	ASL	RPD [MTK169-05]	1,1-Dichloroethane	2020/06/04	NC		%	40
			1,1-Dichloroethylene	2020/06/04	NC		%	40
			1,1,1-Trichloroethane	2020/06/04	NC		%	40
			1,1,2-Trichloroethane	2020/06/04	NC		%	40
			1,1,2,2-Tetrachloroethane	2020/06/04	NC		%	40
			Ethylene Dibromide	2020/06/04	NC		%	40
			1,2-Dichlorobenzene	2020/06/04	NC		%	40
			1,2-Dichloroethane	2020/06/04	NC		%	40
			cis-1,2-Dichloroethylene	2020/06/04	1.2		%	40
			trans-1,2-Dichloroethylene	2020/06/04	NC		%	40
			1,2-Dichloropropane	2020/06/04	NC		%	40
			1,3-Dichlorobenzene	2020/06/04	NC		%	40
			cis-1,3-Dichloropropene	2020/06/04	NC		%	40
			trans-1,3-Dichloropropene	2020/06/04	NC		%	40
			1,4-Dichlorobenzene	2020/06/04	NC		%	40
			Benzene	2020/06/04	NC		%	40
			Bromodichloromethane	2020/06/04	NC		%	40
			Bromoform	2020/06/04	NC		%	40
			Bromomethane	2020/06/04	NC		%	40
			Carbon Tetrachloride	2020/06/04	NC		%	40
			Chlorobenzene	2020/06/04	NC		%	40
			Chloroethane	2020/06/04	NC		%	40
			Chloroform	2020/06/04	NC		%	40
			Chloromethane	2020/06/04	NC		%	40
			Dibromochloromethane	2020/06/04	NC		%	40
			Methylene Chloride(Dichloromethane)	2020/06/04	NC		%	40
			Ethylbenzene	2020/06/04	NC		%	40
			Methyl t-butyl ether (MTBE)	2020/06/04	NC		%	40
			Styrene	2020/06/04	NC		%	40
			Tetrachloroethylene	2020/06/04	NC		%	40
			Toluene	2020/06/04	NC		%	40
			Trichloroethylene	2020/06/04	0.78		%	40
			Trichlorofluoromethane (FREON 11)	2020/06/04	NC		%	40
			Vinyl Chloride	2020/06/04	NC		%	40
			o-Xylene	2020/06/04	NC		%	40
			p+m-Xylene	2020/06/04	NC		%	40
			Total Xylenes	2020/06/04	NC		%	40
			Total Trihalomethanes	2020/06/04	NC		%	40
6769739	MLB	Matrix Spike	Dissolved Arsenic (As)	2020/06/05		92	%	80 - 120
			Dissolved Iron (Fe)	2020/06/05		95	%	80 - 120
			Dissolved Lead (Pb)	2020/06/05		94	%	80 - 120
			Dissolved Manganese (Mn)	2020/06/05		90	%	80 - 120
			Dissolved Zinc (Zn)	2020/06/05		91	%	80 - 120
6769739	MLB	Spiked Blank	Dissolved Arsenic (As)	2020/06/05		92	%	80 - 120
			Dissolved Iron (Fe)	2020/06/05		95	%	80 - 120
			Dissolved Lead (Pb)	2020/06/05		96	%	80 - 120
			Dissolved Manganese (Mn)	2020/06/05		94	%	80 - 120
			Dissolved Zinc (Zn)	2020/06/05		95	%	80 - 120
6769739	MLB	Method Blank	Dissolved Arsenic (As)	2020/06/05	<1.0		ug/L	
			Dissolved Iron (Fe)	2020/06/05	<50		ug/L	
			Dissolved Lead (Pb)	2020/06/05	<0.50		ug/L	
			Dissolved Manganese (Mn)	2020/06/05	<2.0		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
			Dissolved Zinc (Zn)	2020/06/05	<5.0		ug/L	
6769739	MLB	RPD	Dissolved Manganese (Mn)	2020/06/05	0.48		%	20
6771614	BAN	Matrix Spike	Dissolved Arsenic (As)	2020/06/05		95	%	80 - 120
			Dissolved Iron (Fe)	2020/06/05		100	%	80 - 120
			Dissolved Lead (Pb)	2020/06/05		95	%	80 - 120
			Dissolved Manganese (Mn)	2020/06/05		NC	%	80 - 120
			Dissolved Zinc (Zn)	2020/06/05		95	%	80 - 120
6771614	BAN	Spiked Blank	Dissolved Arsenic (As)	2020/06/05		93	%	80 - 120
			Dissolved Iron (Fe)	2020/06/05		102	%	80 - 120
			Dissolved Lead (Pb)	2020/06/05		96	%	80 - 120
			Dissolved Manganese (Mn)	2020/06/05		96	%	80 - 120
			Dissolved Zinc (Zn)	2020/06/05		95	%	80 - 120
6771614	BAN	Method Blank	Dissolved Arsenic (As)	2020/06/06	<1.0		ug/L	
			Dissolved Iron (Fe)	2020/06/06	<50		ug/L	
			Dissolved Lead (Pb)	2020/06/06	<0.50		ug/L	
			Dissolved Manganese (Mn)	2020/06/06	<2.0		ug/L	
			Dissolved Zinc (Zn)	2020/06/06	<5.0		ug/L	
6771614	BAN	RPD	Dissolved Arsenic (As)	2020/06/05	NC		%	20
			Dissolved Iron (Fe)	2020/06/05	0.67		%	20
			Dissolved Lead (Pb)	2020/06/05	NC		%	20
			Dissolved Manganese (Mn)	2020/06/05	0.92		%	20
			Dissolved Zinc (Zn)	2020/06/05	13		%	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).

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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).

Mike MacGillivray, Scientific Specialist (Inorganics)

Rosemarie MacDonald, 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.

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Chain Of Custody Record

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. #		C0D3175	774102
Address	97 Troop Ave Dartmouth NS B3B 2A7	Address		Project #	2001756	Chain Of Custody Record	Project Manager
Phone	(902) 468-6486 Fax: (902) 468-4919	Phone	Fax:	Project Name		C#774102-01-01	Keri Mackay
Email	Heather.Mason@englobecorp.com	Email	ryan.pellerin@englobecorp.com	Site #			
				Sampled By			

Regulatory Criteria:

Special Instructions

** Specify Matrix: Surface/Ground/Tapwater/Sewage/Effluent/Seawater Potable/Nonpotable/Tissue/Soil/Sludge/Metal

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BV LABS

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:

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered & Preserved	Lab Filtration Required	RBCA Hydrocarbons in Water	As, Fe, Mn, Pb, Zn	pH	Conductance - water	Atlantic VOCs - Non-Chlorinated Water	# of Bottles	Comments / Hazards / Other Required Analysis
1		MW1	2020/05/28	12:15	GW	X		X	X	X	X			
2		MW3	2020/05/28	10:30	GW		X	X	X	X	X			
3		MW4	2020/05/28	10:00	GW	X		X	X	X	X			
4		MW6	2020/05/28	14:10	GW	X		X	X	X	X	X		
5		MW9	2020/05/28	13:30	GW	X		X	X	X	X			
6		MW11	2020/05/28	13:00	GW	X		X	X	X	X			
7		MW14	2020/05/28	11:00	GW	X		X	X	X	X			
8		TRIP BLANK	2020/05/28	—	GW	X		X	X	X	X			2020 MAY 29 9:23
9		EQUIPMENT BLANK	2020/05/28	—	GW	X		X	X	X	X			
10		MW-DUP	2020/05/28	—	GW	X		X	X	X	X			

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted	Lab Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
Adam Clarke	20/05/29	9:00					☐	7.4, 5.4, 4.6	☐ Yes ☐ No
ADAM CLARKE	20/05/29	4:00							

* 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.

White: BV Labs Yellow: Client

Bureau Veritas Canada (2019) Inc.

Your Project #: 2001756
Your C.O.C. #: 798913-01-01

Attention: Ryan Pellerin

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

Report Date: 2020/11/05
Report #: R6399437
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C0S7681
Received: 2020/10/29, 12:15

Sample Matrix: Water
Samples Received: 10

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Conductance - water	8	N/A	2020/11/04	ATL SOP 00004	SM 23 2510B m
Conductance - water	2	N/A	2020/11/05	ATL SOP 00004	SM 23 2510B m
TEH in Water (PIRI)	9	2020/11/04	2020/11/04	ATL SOP 00113	Atl. RBCA v3.1 m
TEH in Water (PIRI)	1	2020/11/04	2020/11/05	ATL SOP 00113	Atl. RBCA v3.1 m
Metals Water Diss. MS (1)	1	N/A	2020/11/03	ATL SOP 00058	EPA 6020B R2 m
Metals Water Diss. MS (as rec'd)	6	N/A	2020/11/03	ATL SOP 00058	EPA 6020B R2 m
Metals Water Diss. MS (as rec'd)	1	N/A	2020/11/04	ATL SOP 00058	EPA 6020B R2 m
Metals Water Diss. MS (as rec'd)	2	N/A	2020/11/05	ATL SOP 00058	EPA 6020B R2 m
pH (2)	8	N/A	2020/11/04	ATL SOP 00003	SM 23 4500-H+ B m
pH (2)	2	N/A	2020/11/05	ATL SOP 00003	SM 23 4500-H+ B m
ModTPH (T1) Calc. for Water	10	N/A	2020/11/05	N/A	Atl. RBCA v3 m
Volatile Organic Compounds in Water	1	N/A	2020/11/02	ATL SOP 00133	EPA 8260D R4 m
VPH in Water (PIRI)	1	N/A	2020/11/02	ATL SOP 00130	Atl. RBCA v3.1 m
VPH in Water (PIRI)	9	N/A	2020/11/03	ATL SOP 00130	Atl. RBCA v3.1 m

Remarks:

Bureau Veritas Laboratories are accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by BV Labs 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 BV Labs profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and BV Labs 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.

BV Labs liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. BV Labs 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 BV Labs, unless otherwise agreed in writing. BV Labs 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 BV Labs, results relate to the supplied samples tested.

Your Project #: 2001756
Your C.O.C. #: 798913-01-01

Attention: Ryan Pellerin

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

Report Date: 2020/11/05
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Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C0S7681
Received: 2020/10/29, 12:15

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) Sample filtered in laboratory prior to analysis for dissolved metals.
(2) 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.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Keri Mackay, Customer Experience Team Lead
Email: Keri.MACKAY@bvlabs.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.

BV Labs Job #: C0S7681
Report Date: 2020/11/05

Englobe Corp
Client Project #: 2001756

RBCA HYDROCARBONS IN WATER (WATER)

BV Labs ID		OAO220	OAO221	OAO222	OAO223	OAO224		
Sampling Date		2020/10/28 12:40	2020/10/28 11:45	2020/10/28 11:20	2020/10/28 10:45	2020/10/28 09:45		
COC Number		798913-01-01	798913-01-01	798913-01-01	798913-01-01	798913-01-01		
	UNITS	MW1	MW3	MW4	MW6	MW9	RDL	QC Batch
Petroleum Hydrocarbons								
Benzene	mg/L	0.0090	<0.0010	<0.0010	<0.0010	<0.0010	0.0010	7033007
Toluene	mg/L	0.014	<0.0010	<0.0010	<0.0010	<0.0010	0.0010	7033007
Ethylbenzene	mg/L	0.87	<0.0010	<0.0010	<0.0010	<0.0010	0.0010	7033007
Total Xylenes	mg/L	1.0	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	7033007
C6 - C10 (less BTEX)	mg/L	12	<0.090	<0.090	<0.090	<0.090	0.090	7033007
>C10-C16 Hydrocarbons	mg/L	2.7	<0.050	<0.050	<0.050	0.051	0.050	7037043
>C16-C21 Hydrocarbons	mg/L	<0.050	<0.050	<0.050	<0.050	0.21	0.050	7037043
>C21-<C32 Hydrocarbons	mg/L	0.11	<0.090	<0.090	<0.090	1.3	0.090	7037043
Modified TPH (Tier1)	mg/L	14	<0.090	<0.090	<0.090	1.5	0.090	7030167
Reached Baseline at C32	mg/L	Yes	NA	NA	NA	Yes	N/A	7037043
Hydrocarbon Resemblance	mg/L	COMMENT (1)	NA	NA	NA	COMMENT (2)	N/A	7037043
Surrogate Recovery (%)								
Isobutylbenzene - Extractable	%	114	102	109	102	103		7037043
n-Dotriacontane - Extractable	%	117	112 (3)	116 (3)	109	102		7037043
Isobutylbenzene - Volatile	%	100	101	100	99	101		7033007

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable
(1) One product in the gasoline range. Unidentified compound(s) in lube oil range.
(2) Lube oil fraction.
(3) TEH sample contained sediment.

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RBCA HYDROCARBONS IN WATER (WATER)

BV Labs ID		OAO225		OAO226			OAO226		
Sampling Date		2020/10/28 10:30		2020/10/28 12:05			2020/10/28 12:05		
COC Number		798913-01-01		798913-01-01			798913-01-01		
	UNITS	MW11	QC Batch	MW14	RDL	QC Batch	MW14 Lab-Dup	RDL	QC Batch
Petroleum Hydrocarbons									
Benzene	mg/L	<0.0010	7033007	<0.0010	0.0010	7033010	<0.0010	0.0010	7033010
Toluene	mg/L	<0.0010	7033007	<0.0010	0.0010	7033010	<0.0010	0.0010	7033010
Ethylbenzene	mg/L	<0.0010	7033007	<0.0010	0.0010	7033010	<0.0010	0.0010	7033010
Total Xylenes	mg/L	<0.0020	7033007	<0.0020	0.0020	7033010	<0.0020	0.0020	7033010
C6 - C10 (less BTEX)	mg/L	<0.090	7033007	<0.090	0.090	7033010	<0.090	0.090	7033010
>C10-C16 Hydrocarbons	mg/L	0.24	7037043	<0.050	0.050	7037043			
>C16-C21 Hydrocarbons	mg/L	0.76	7037043	<0.050	0.050	7037043			
>C21-<C32 Hydrocarbons	mg/L	7.7	7037043	<0.090	0.090	7037043			
Modified TPH (Tier1)	mg/L	8.7	7030167	<0.090	0.090	7030167			
Reached Baseline at C32	mg/L	No	7037043	NA	N/A	7037043			
Hydrocarbon Resemblance	mg/L	COMMENT (1)	7037043	NA	N/A	7037043			
Surrogate Recovery (%)									
Isobutylbenzene - Extractable	%	109	7037043	103		7037043			
n-Dotriacontane - Extractable	%	115	7037043	112 (2)		7037043			
Isobutylbenzene - Volatile	%	101	7033007	91		7033010	90		7033010

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable
(1) One product in fuel oil range. Lube oil fraction.
(2) TEH sample contained sediment.

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RBCA HYDROCARBONS IN WATER (WATER)

BV Labs ID		OAO227	OAO228	OAO229		
Sampling Date		2020/10/28	2020/10/28	2020/10/28		
COC Number		798913-01-01	798913-01-01	798913-01-01		
	UNITS	TRIP BLANK	EQUIPMENT BLANK	MW-DUP	RDL	QC Batch
Petroleum Hydrocarbons						
Benzene	mg/L	<0.0010	<0.0010	<0.0010	0.0010	7033010
Toluene	mg/L	<0.0010	<0.0010	<0.0010	0.0010	7033010
Ethylbenzene	mg/L	<0.0010	<0.0010	<0.0010	0.0010	7033010
Total Xylenes	mg/L	<0.0020	<0.0020	<0.0020	0.0020	7033010
C6 - C10 (less BTEX)	mg/L	<0.090	<0.090	<0.090	0.090	7033010
>C10-C16 Hydrocarbons	mg/L	<0.050	<0.050	<0.050	0.050	7037043
>C16-C21 Hydrocarbons	mg/L	<0.050	<0.050	<0.050	0.050	7037043
>C21-<C32 Hydrocarbons	mg/L	<0.090	<0.090	<0.090	0.090	7037043
Modified TPH (Tier1)	mg/L	<0.090	<0.090	<0.090	0.090	7030167
Reached Baseline at C32	mg/L	NA	NA	NA	N/A	7037043
Hydrocarbon Resemblance	mg/L	NA	NA	NA	N/A	7037043
Surrogate Recovery (%)						
Isobutylbenzene - Extractable	%	104	104	102		7037043
n-Dotriacontane - Extractable	%	108	113	110 (1)		7037043
Isobutylbenzene - Volatile	%	95	95	98		7033010

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable
(1) TEH sample contained sediment.

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ATLANTIC VOCS - NON-CHLORINATED WATER (WATER)

BV Labs ID		OAO223		
Sampling Date		2020/10/28 10:45		
COC Number		798913-01-01		
	UNITS	MW6	RDL	QC Batch
Volatile Organics				
1,1-Dichloroethane	ug/L	<2.0	2.0	7032380
1,1-Dichloroethylene	ug/L	<0.50	0.50	7032380
1,1,1-Trichloroethane	ug/L	<1.0	1.0	7032380
1,1,2-Trichloroethane	ug/L	<1.0	1.0	7032380
1,1,2,2-Tetrachloroethane	ug/L	<0.50	0.50	7032380
Ethylene Dibromide	ug/L	<0.20	0.20	7032380
1,2-Dichlorobenzene	ug/L	<0.50	0.50	7032380
1,2-Dichloroethane	ug/L	<1.0	1.0	7032380
cis-1,2-Dichloroethylene	ug/L	8.6	0.50	7032380
trans-1,2-Dichloroethylene	ug/L	<0.50	0.50	7032380
1,2-Dichloropropane	ug/L	<0.50	0.50	7032380
1,3-Dichlorobenzene	ug/L	<1.0	1.0	7032380
cis-1,3-Dichloropropene	ug/L	<0.50	0.50	7032380
trans-1,3-Dichloropropene	ug/L	<0.50	0.50	7032380
1,4-Dichlorobenzene	ug/L	<1.0	1.0	7032380
Benzene	ug/L	<1.0	1.0	7032380
Bromodichloromethane	ug/L	<1.0	1.0	7032380
Bromoform	ug/L	<1.0	1.0	7032380
Bromomethane	ug/L	<0.50	0.50	7032380
Carbon Tetrachloride	ug/L	<0.50	0.50	7032380
Chlorobenzene	ug/L	<1.0	1.0	7032380
Chloroethane	ug/L	<8.0	8.0	7032380
Chloroform	ug/L	<1.0	1.0	7032380
Chloromethane	ug/L	<8.0	8.0	7032380
Dibromochloromethane	ug/L	<1.0	1.0	7032380
Methylene Chloride(Dichloromethane)	ug/L	<3.0	3.0	7032380
Ethylbenzene	ug/L	<1.0	1.0	7032380
Methyl t-butyl ether (MTBE)	ug/L	<2.0	2.0	7032380
Styrene	ug/L	<1.0	1.0	7032380
Tetrachloroethylene	ug/L	<1.0	1.0	7032380
Toluene	ug/L	<1.0	1.0	7032380
Trichloroethylene	ug/L	34	1.0	7032380
Trichlorofluoromethane (FREON 11)	ug/L	<8.0	8.0	7032380
Vinyl Chloride	ug/L	2.3	0.50	7032380
o-Xylene	ug/L	<1.0	1.0	7032380

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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ATLANTIC VOCS - NON-CHLORINATED WATER (WATER)

BV Labs ID		OAO223		
Sampling Date		2020/10/28 10:45		
COC Number		798913-01-01		
	UNITS	**MW6**	**RDL**	**QC Batch**
p+m-Xylene	ug/L	<2.0	2.0	7032380
Total Xylenes	ug/L	<1.0	1.0	7032380
Total Trihalomethanes	ug/L	<1.0	1.0	7032380
Surrogate Recovery (%)				
4-Bromofluorobenzene	%	97		7032380
D4-1,2-Dichloroethane	%	100		7032380
D8-Toluene	%	96		7032380

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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BV Labs Job #: C0S7681
Report Date: 2020/11/05

Englobe Corp
Client Project #: 2001756

RESULTS OF ANALYSES OF WATER

BV Labs ID		OAO220	OAO221	OAO222	OAO223	OAO224	OAO225		
Sampling Date		2020/10/28 12:40	2020/10/28 11:45	2020/10/28 11:20	2020/10/28 10:45	2020/10/28 09:45	2020/10/28 10:30		
COC Number		798913-01-01	798913-01-01	798913-01-01	798913-01-01	798913-01-01	798913-01-01		
	UNITS	MW1	MW3	MW4	MW6	MW9	MW11	RDL	QC Batch
Inorganics									
pH	pH	7.03	6.91	6.57	6.40	7.39	7.38		7036961
Conductivity	uS/cm	3300	680	330	210	700	640	1.0	7036958

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

BV Labs ID		OAO226		OAO227	OAO228		OAO229		
Sampling Date		2020/10/28 12:05		2020/10/28	2020/10/28		2020/10/28		
COC Number		798913-01-01		798913-01-01	798913-01-01		798913-01-01		
	UNITS	MW14	QC Batch	TRIP BLANK	EQUIPMENT BLANK	QC Batch	MW-DUP	RDL	QC Batch
Inorganics									
pH	pH	6.58	7039390	5.99	6.62	7036961	6.63		7039390
Conductivity	uS/cm	630	7039388	<1.0	17	7036958	640	1.0	7039388

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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ELEMENTS BY ICP/MS (WATER)

BV Labs ID		OAO220	OAO221		OAO222		OAO223	OAO224		
Sampling Date		2020/10/28 12:40	2020/10/28 11:45		2020/10/28 11:20		2020/10/28 10:45	2020/10/28 09:45		
COC Number		798913-01-01	798913-01-01		798913-01-01		798913-01-01	798913-01-01		
	UNITS	MW1	MW3	QC Batch	MW4	QC Batch	MW6	MW9	RDL	QC Batch
Metals										
Dissolved Arsenic (As)	ug/L	3.1	2.0	7034902	<1.0	7034906	<1.0	<1.0	1.0	7034902
Dissolved Iron (Fe)	ug/L	14000	9400	7034902	<50	7034906	<50	1500	50	7034902
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	7034902	<0.50	7034906	<0.50	<0.50	0.50	7034902
Dissolved Manganese (Mn)	ug/L	15000	5700	7034902	4200	7034906	37	1400	2.0	7034902
Dissolved Zinc (Zn)	ug/L	<5.0	<5.0	7034902	47	7034906	7.4	5.9	5.0	7034902

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

BV Labs ID		OAO225	OAO226	OAO227	OAO228	OAO229		
Sampling Date		2020/10/28 10:30	2020/10/28 12:05	2020/10/28	2020/10/28	2020/10/28		
COC Number		798913-01-01	798913-01-01	798913-01-01	798913-01-01	798913-01-01		
	UNITS	MW11	MW14	TRIP BLANK	EQUIPMENT BLANK	MW-DUP	RDL	QC Batch
Metals								
Dissolved Arsenic (As)	ug/L	1.3	<1.0	<1.0	<1.0	<1.0	1.0	7034902
Dissolved Iron (Fe)	ug/L	4900	<50	<50	<50	<50	50	7034902
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	7034902
Dissolved Manganese (Mn)	ug/L	1500	1900	<2.0	<2.0	2000	2.0	7034902
Dissolved Zinc (Zn)	ug/L	<5.0	56	<5.0	<5.0	56	5.0	7034902

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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GENERAL COMMENTS

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

Package 1	4.3°C

Results relate only to the items tested.

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QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
7032380	ASL	Matrix Spike	4-Bromofluorobenzene	2020/11/02		99	%	70 - 130
			D4-1,2-Dichloroethane	2020/11/02		104	%	70 - 130
			D8-Toluene	2020/11/02		93	%	70 - 130
			1,1-Dichloroethane	2020/11/02		99	%	70 - 130
			1,1-Dichloroethylene	2020/11/02		97	%	70 - 130
			1,1,1-Trichloroethane	2020/11/02		101	%	70 - 130
			1,1,2-Trichloroethane	2020/11/02		101	%	70 - 130
			1,1,2,2-Tetrachloroethane	2020/11/02		97	%	70 - 130
			Ethylene Dibromide	2020/11/02		102	%	70 - 130
			1,2-Dichlorobenzene	2020/11/02		91	%	70 - 130
			1,2-Dichloroethane	2020/11/02		89	%	70 - 130
			cis-1,2-Dichloroethylene	2020/11/02		94	%	70 - 130
			trans-1,2-Dichloroethylene	2020/11/02		99	%	70 - 130
			1,2-Dichloropropane	2020/11/02		92	%	70 - 130
			1,3-Dichlorobenzene	2020/11/02		92	%	70 - 130
			cis-1,3-Dichloropropene	2020/11/02		95	%	70 - 130
			trans-1,3-Dichloropropene	2020/11/02		98	%	70 - 130
			1,4-Dichlorobenzene	2020/11/02		91	%	70 - 130
			Benzene	2020/11/02		91	%	70 - 130
			Bromodichloromethane	2020/11/02		96	%	70 - 130
			Bromoform	2020/11/02		104	%	70 - 130
			Bromomethane	2020/11/02		93	%	60 - 140
			Carbon Tetrachloride	2020/11/02		95	%	70 - 130
			Chlorobenzene	2020/11/02		102	%	70 - 130
			Chloroethane	2020/11/02		93	%	60 - 140
			Chloroform	2020/11/02		96	%	70 - 130
			Chloromethane	2020/11/02		78	%	60 - 140
			Dibromochloromethane	2020/11/02		89	%	70 - 130
			Methylene Chloride(Dichloromethane)	2020/11/02		95	%	70 - 130
			Ethylbenzene	2020/11/02		99	%	70 - 130
			Methyl t-butyl ether (MTBE)	2020/11/02		97	%	70 - 130
			Styrene	2020/11/02		96	%	70 - 130
			Tetrachloroethylene	2020/11/02		94	%	70 - 130
			Toluene	2020/11/02		90	%	70 - 130
			Trichloroethylene	2020/11/02		90	%	70 - 130
			Trichlorofluoromethane (FREON 11)	2020/11/02		92	%	60 - 140
			Vinyl Chloride	2020/11/02		99	%	60 - 140
			o-Xylene	2020/11/02		97	%	70 - 130
			p+m-Xylene	2020/11/02		98	%	70 - 130
7032380	ASL	Spiked Blank	4-Bromofluorobenzene	2020/11/02		98	%	70 - 130
			D4-1,2-Dichloroethane	2020/11/02		105	%	70 - 130
			D8-Toluene	2020/11/02		98	%	70 - 130
			1,1-Dichloroethane	2020/11/02		104	%	70 - 130
			1,1-Dichloroethylene	2020/11/02		97	%	70 - 130
			1,1,1-Trichloroethane	2020/11/02		106	%	70 - 130
			1,1,2-Trichloroethane	2020/11/02		107	%	70 - 130
			1,1,2,2-Tetrachloroethane	2020/11/02		97	%	70 - 130
			Ethylene Dibromide	2020/11/02		106	%	70 - 130
			1,2-Dichlorobenzene	2020/11/02		94	%	70 - 130
			1,2-Dichloroethane	2020/11/02		100	%	70 - 130
			cis-1,2-Dichloroethylene	2020/11/02		97	%	70 - 130
			trans-1,2-Dichloroethylene	2020/11/02		102	%	70 - 130
			1,2-Dichloropropane	2020/11/02		103	%	70 - 130
			1,3-Dichlorobenzene	2020/11/02		96	%	70 - 130
			cis-1,3-Dichloropropene	2020/11/02		105	%	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
			trans-1,3-Dichloropropene	2020/11/02		109	%	70 - 130
			1,4-Dichlorobenzene	2020/11/02		96	%	70 - 130
			Benzene	2020/11/02		100	%	70 - 130
			Bromodichloromethane	2020/11/02		107	%	70 - 130
			Bromoform	2020/11/02		101	%	70 - 130
			Bromomethane	2020/11/02		93	%	60 - 140
			Carbon Tetrachloride	2020/11/02		100	%	70 - 130
			Chlorobenzene	2020/11/02		104	%	70 - 130
			Chloroethane	2020/11/02		93	%	60 - 140
			Chloroform	2020/11/02		99	%	70 - 130
			Chloromethane	2020/11/02		113	%	60 - 140
			Dibromochloromethane	2020/11/02		93	%	70 - 130
			Methylene Chloride(Dichloromethane)	2020/11/02		92	%	70 - 130
			Ethylbenzene	2020/11/02		99	%	70 - 130
			Methyl t-butyl ether (MTBE)	2020/11/02		102	%	70 - 130
			Styrene	2020/11/02		103	%	70 - 130
			Tetrachloroethylene	2020/11/02		99	%	70 - 130
			Toluene	2020/11/02		96	%	70 - 130
			Trichloroethylene	2020/11/02		100	%	70 - 130
			Trichlorofluoromethane (FREON 11)	2020/11/02		92	%	60 - 140
			Vinyl Chloride	2020/11/02		99	%	60 - 140
			o-Xylene	2020/11/02		99	%	70 - 130
			p+m-Xylene	2020/11/02		94	%	70 - 130
7032380	ASL	Method Blank	4-Bromofluorobenzene	2020/11/02		100	%	70 - 130
			D4-1,2-Dichloroethane	2020/11/02		98	%	70 - 130
			D8-Toluene	2020/11/02		101	%	70 - 130
			1,1-Dichloroethane	2020/11/02	<2.0		ug/L	
			1,1-Dichloroethylene	2020/11/02	<0.50		ug/L	
			1,1,1-Trichloroethane	2020/11/02	<1.0		ug/L	
			1,1,2-Trichloroethane	2020/11/02	<1.0		ug/L	
			1,1,2,2-Tetrachloroethane	2020/11/02	<0.50		ug/L	
			Ethylene Dibromide	2020/11/02	<0.20		ug/L	
			1,2-Dichlorobenzene	2020/11/02	<0.50		ug/L	
			1,2-Dichloroethane	2020/11/02	<1.0		ug/L	
			cis-1,2-Dichloroethylene	2020/11/02	<0.50		ug/L	
			trans-1,2-Dichloroethylene	2020/11/02	<0.50		ug/L	
			1,2-Dichloropropane	2020/11/02	<0.50		ug/L	
			1,3-Dichlorobenzene	2020/11/02	<1.0		ug/L	
			cis-1,3-Dichloropropene	2020/11/02	<0.50		ug/L	
			trans-1,3-Dichloropropene	2020/11/02	<0.50		ug/L	
			1,4-Dichlorobenzene	2020/11/02	<1.0		ug/L	
			Benzene	2020/11/02	<1.0		ug/L	
			Bromodichloromethane	2020/11/02	<1.0		ug/L	
			Bromoform	2020/11/02	<1.0		ug/L	
			Bromomethane	2020/11/02	<0.50		ug/L	
			Carbon Tetrachloride	2020/11/02	<0.50		ug/L	
			Chlorobenzene	2020/11/02	<1.0		ug/L	
			Chloroethane	2020/11/02	<8.0		ug/L	
			Chloroform	2020/11/02	<1.0		ug/L	
			Chloromethane	2020/11/02	<8.0		ug/L	
			Dibromochloromethane	2020/11/02	<1.0		ug/L	
			Methylene Chloride(Dichloromethane)	2020/11/02	<3.0		ug/L	
			Ethylbenzene	2020/11/02	<1.0		ug/L	
			Methyl t-butyl ether (MTBE)	2020/11/02	<2.0		ug/L	
			Styrene	2020/11/02	<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
			Tetrachloroethylene	2020/11/02	<1.0		ug/L	
			Toluene	2020/11/02	<1.0		ug/L	
			Trichloroethylene	2020/11/02	<1.0		ug/L	
			Trichlorofluoromethane (FREON 11)	2020/11/02	<8.0		ug/L	
			Vinyl Chloride	2020/11/02	<0.50		ug/L	
			o-Xylene	2020/11/02	<1.0		ug/L	
			p+m-Xylene	2020/11/02	<2.0		ug/L	
			Total Xylenes	2020/11/02	<1.0		ug/L	
			Total Trihalomethanes	2020/11/02	<1.0		ug/L	
7032380	ASL	RPD	1,1-Dichloroethane	2020/11/02	NC		%	40
			1,1-Dichloroethylene	2020/11/02	NC		%	40
			1,1,1-Trichloroethane	2020/11/02	NC		%	40
			1,1,2-Trichloroethane	2020/11/02	NC		%	40
			1,1,2,2-Tetrachloroethane	2020/11/02	NC		%	40
			Ethylene Dibromide	2020/11/02	NC		%	40
			1,2-Dichlorobenzene	2020/11/02	NC		%	40
			1,2-Dichloroethane	2020/11/02	NC		%	40
			cis-1,2-Dichloroethylene	2020/11/02	NC		%	40
			trans-1,2-Dichloroethylene	2020/11/02	NC		%	40
			1,2-Dichloropropane	2020/11/02	NC		%	40
			1,3-Dichlorobenzene	2020/11/02	NC		%	40
			cis-1,3-Dichloropropene	2020/11/02	NC		%	40
			trans-1,3-Dichloropropene	2020/11/02	NC		%	40
			1,4-Dichlorobenzene	2020/11/02	NC		%	40
			Benzene	2020/11/02	NC		%	40
			Bromodichloromethane	2020/11/02	NC		%	40
			Bromoform	2020/11/02	NC		%	40
			Bromomethane	2020/11/02	NC		%	40
			Carbon Tetrachloride	2020/11/02	NC		%	40
			Chlorobenzene	2020/11/02	NC		%	40
			Chloroethane	2020/11/02	NC		%	40
			Chloroform	2020/11/02	NC		%	40
			Chloromethane	2020/11/02	NC		%	40
			Dibromochloromethane	2020/11/02	NC		%	40
			Methylene Chloride(Dichloromethane)	2020/11/02	NC		%	40
			Ethylbenzene	2020/11/02	NC		%	40
			Methyl t-butyl ether (MTBE)	2020/11/02	NC		%	40
			Styrene	2020/11/02	NC		%	40
			Tetrachloroethylene	2020/11/02	NC		%	40
			Toluene	2020/11/02	NC		%	40
			Trichloroethylene	2020/11/02	NC		%	40
			Trichlorofluoromethane (FREON 11)	2020/11/02	NC		%	40
			Vinyl Chloride	2020/11/02	NC		%	40
			o-Xylene	2020/11/02	NC		%	40
			p+m-Xylene	2020/11/02	NC		%	40
			Total Xylenes	2020/11/02	NC		%	40
			Total Trihalomethanes	2020/11/02	NC		%	40
7033007	THL	Matrix Spike	Isobutylbenzene - Volatile	2020/11/02		99	%	70 - 130
			Benzene	2020/11/02		93	%	70 - 130
			Toluene	2020/11/02		96	%	70 - 130
			Ethylbenzene	2020/11/02		95	%	70 - 130
			Total Xylenes	2020/11/02		98	%	70 - 130
7033007	THL	Spiked Blank	Isobutylbenzene - Volatile	2020/11/02		102	%	70 - 130
			Benzene	2020/11/02		93	%	70 - 130
			Toluene	2020/11/02		97	%	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
			Ethylbenzene	2020/11/02		97	%	70 - 130
			Total Xylenes	2020/11/02		98	%	70 - 130
7033007	THL	Method Blank	Isobutylbenzene - Volatile	2020/11/02		100	%	70 - 130
			Benzene	2020/11/02	<0.0010		mg/L	
			Toluene	2020/11/02	<0.0010		mg/L	
			Ethylbenzene	2020/11/02	<0.0010		mg/L	
			Total Xylenes	2020/11/02	<0.0020		mg/L	
			C6 - C10 (less BTEX)	2020/11/02	<0.090		mg/L	
7033007	THL	RPD	Benzene	2020/11/02	NC		%	40
			Toluene	2020/11/02	NC		%	40
			Ethylbenzene	2020/11/02	NC		%	40
			Total Xylenes	2020/11/02	NC		%	40
			C6 - C10 (less BTEX)	2020/11/02	NC		%	40
7033010	THL	Matrix Spike [OAO227-02]	Isobutylbenzene - Volatile	2020/11/03		92	%	70 - 130
			Benzene	2020/11/03		86	%	70 - 130
			Toluene	2020/11/03		94	%	70 - 130
			Ethylbenzene	2020/11/03		92	%	70 - 130
			Total Xylenes	2020/11/03		97	%	70 - 130
7033010	THL	Spiked Blank	Isobutylbenzene - Volatile	2020/11/02		98	%	70 - 130
			Benzene	2020/11/02		91	%	70 - 130
			Toluene	2020/11/02		99	%	70 - 130
			Ethylbenzene	2020/11/02		97	%	70 - 130
			Total Xylenes	2020/11/02		100	%	70 - 130
7033010	THL	Method Blank	Isobutylbenzene - Volatile	2020/11/02		97	%	70 - 130
			Benzene	2020/11/02	<0.0010		mg/L	
			Toluene	2020/11/02	<0.0010		mg/L	
			Ethylbenzene	2020/11/02	<0.0010		mg/L	
			Total Xylenes	2020/11/02	<0.0020		mg/L	
			C6 - C10 (less BTEX)	2020/11/02	<0.090		mg/L	
7033010	THL	RPD [OAO226-02]	Benzene	2020/11/03	NC		%	40
			Toluene	2020/11/03	NC		%	40
			Ethylbenzene	2020/11/03	NC		%	40
			Total Xylenes	2020/11/03	NC		%	40
			C6 - C10 (less BTEX)	2020/11/03	NC		%	40
7034902	BAN	Matrix Spike	Dissolved Arsenic (As)	2020/11/03		94	%	80 - 120
			Dissolved Iron (Fe)	2020/11/03		NC	%	80 - 120
			Dissolved Lead (Pb)	2020/11/03		99	%	80 - 120
			Dissolved Manganese (Mn)	2020/11/03		NC	%	80 - 120
			Dissolved Zinc (Zn)	2020/11/03		99	%	80 - 120
7034902	BAN	Spiked Blank	Dissolved Arsenic (As)	2020/11/03		93	%	80 - 120
			Dissolved Iron (Fe)	2020/11/03		98	%	80 - 120
			Dissolved Lead (Pb)	2020/11/03		99	%	80 - 120
			Dissolved Manganese (Mn)	2020/11/03		97	%	80 - 120
			Dissolved Zinc (Zn)	2020/11/03		98	%	80 - 120
7034902	BAN	Method Blank	Dissolved Arsenic (As)	2020/11/03	<1.0		ug/L	
			Dissolved Iron (Fe)	2020/11/03	<50		ug/L	
			Dissolved Lead (Pb)	2020/11/03	<0.50		ug/L	
			Dissolved Manganese (Mn)	2020/11/03	<2.0		ug/L	
			Dissolved Zinc (Zn)	2020/11/03	<5.0		ug/L	
7034902	BAN	RPD	Dissolved Arsenic (As)	2020/11/03	NC		%	20
			Dissolved Iron (Fe)	2020/11/03	0.10		%	20
			Dissolved Lead (Pb)	2020/11/03	NC		%	20
			Dissolved Manganese (Mn)	2020/11/03	0.95		%	20
			Dissolved Zinc (Zn)	2020/11/03	2.9		%	20

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
7034906	BAN	Matrix Spike	Dissolved Arsenic (As)	2020/11/03		95	%	80 - 120
			Dissolved Iron (Fe)	2020/11/03		97	%	80 - 120
			Dissolved Lead (Pb)	2020/11/03		99	%	80 - 120
			Dissolved Manganese (Mn)	2020/11/03		95	%	80 - 120
			Dissolved Zinc (Zn)	2020/11/03		99	%	80 - 120
7034906	BAN	Spiked Blank	Dissolved Arsenic (As)	2020/11/03		92	%	80 - 120
			Dissolved Iron (Fe)	2020/11/03		98	%	80 - 120
			Dissolved Lead (Pb)	2020/11/03		98	%	80 - 120
			Dissolved Manganese (Mn)	2020/11/03		97	%	80 - 120
			Dissolved Zinc (Zn)	2020/11/03		99	%	80 - 120
7034906	BAN	Method Blank	Dissolved Arsenic (As)	2020/11/03	<1.0		ug/L	
			Dissolved Iron (Fe)	2020/11/03	<50		ug/L	
			Dissolved Lead (Pb)	2020/11/03	<0.50		ug/L	
			Dissolved Manganese (Mn)	2020/11/03	<2.0		ug/L	
			Dissolved Zinc (Zn)	2020/11/03	<5.0		ug/L	
7034906	BAN	RPD	Dissolved Arsenic (As)	2020/11/03	NC		%	20
			Dissolved Iron (Fe)	2020/11/03	NC		%	20
			Dissolved Lead (Pb)	2020/11/03	NC		%	20
			Dissolved Manganese (Mn)	2020/11/03	2.9		%	20
			Dissolved Zinc (Zn)	2020/11/03	NC		%	20
7036958	SHW	Spiked Blank	Conductivity	2020/11/04		101	%	80 - 120
7036958	SHW	Method Blank	Conductivity	2020/11/04	1.0, RDL=1.0 (1)		uS/cm	
7036958	SHW	RPD	Conductivity	2020/11/04	0.51		%	10
7036961	SHW	Spiked Blank	pH	2020/11/04		100	%	97 - 103
7036961	SHW	RPD	pH	2020/11/04	0.039		%	N/A
7037043	DBF	Matrix Spike	Isobutylbenzene - Extractable	2020/11/04		102	%	70 - 130
			n-Dotriacontane - Extractable	2020/11/04		104	%	70 - 130
			>C10-C16 Hydrocarbons	2020/11/04		99	%	70 - 130
			>C16-C21 Hydrocarbons	2020/11/04		100	%	70 - 130
			>C21-<C32 Hydrocarbons	2020/11/04		94	%	70 - 130
7037043	DBF	Spiked Blank	Isobutylbenzene - Extractable	2020/11/04		97	%	70 - 130
			n-Dotriacontane - Extractable	2020/11/04		106	%	70 - 130
			>C10-C16 Hydrocarbons	2020/11/04		100	%	70 - 130
			>C16-C21 Hydrocarbons	2020/11/04		100	%	70 - 130
			>C21-<C32 Hydrocarbons	2020/11/04		91	%	70 - 130
7037043	DBF	Method Blank	Isobutylbenzene - Extractable	2020/11/04		91	%	70 - 130
			n-Dotriacontane - Extractable	2020/11/04		107	%	70 - 130
			>C10-C16 Hydrocarbons	2020/11/04	<0.050		mg/L	
			>C16-C21 Hydrocarbons	2020/11/04	<0.050		mg/L	
			>C21-<C32 Hydrocarbons	2020/11/04	<0.090		mg/L	
7037043	DBF	RPD	>C10-C16 Hydrocarbons	2020/11/04	3.0		%	40
			>C16-C21 Hydrocarbons	2020/11/04	NC		%	40
			>C21-<C32 Hydrocarbons	2020/11/04	NC		%	40
7039388	SHW	Spiked Blank	Conductivity	2020/11/05		101	%	80 - 120
7039388	SHW	Method Blank	Conductivity	2020/11/05	<1.0		uS/cm	
7039388	SHW	RPD	Conductivity	2020/11/05	2.1		%	10
7039390	SHW	Spiked Blank	pH	2020/11/05		100	%	97 - 103

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
7039390	SHW	RPD	pH	2020/11/05	2.1		%	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).

(1) Elevated blank result due to lab contamination.

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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

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 Rd, Suite 105, Bedford, Nova Scotia Canada B4B 1G9 Tel: 902-420-0203 Toll-free: 800-565-7227 Fax: 902-420-8612 www.bvlabs.com

Bureau Veritas Laboratories
200 Bluewater Road, Bedford, Nova Scotia Canada B4B 1G9 Tel:(902) 420-0203 Toll-free:800-563-6266 Fax:(902) 420-8612 www.bvlabs.com

Chain Of Custody Record

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. #		C057681	798913
Address	97 Troop Ave Dartmouth NS B3B 2A7	Address		Project #	2001756	Chain Of Custody Record	Project Manager
Phone	(902) 468-6486 Fax: (902) 468-4919	Phone	Fax:	Project Name		C#798913-01-01	Keri Mackay
Email	Heather.Mason@englobecorp.com	Email	ryan.pellerin@englobecorp.com	Site #			
				Sampled By			

Regulatory Criteria:

** Specify Matrix: Surface/Ground/Tapwater/Sewage/Effluent/Seawater Potable/Nonpotable/Tissue/Soil/Sludge/Metal

Special Instructions

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	RBCA Hydrocarbons in Water	As, Fe, Mn, Pb, Zn	pH	Conductance - water	Atlantic VOCs - Non-Chlorinated Water	# of Bottles	Comments / Hazards / Other Required Analysis
1	SID#488993	MW1	Oct 28/2020	12:40	GW	X		X	X	X	X			
2	SID#488994	MW3		11:45		X		X	X	X	X			
3	SID#488995	MW4		11:20			X	X	X	X	X			MW4 Requires lab Filtration. Preservative mixed out in field & bottle filled.
4	SID#488996	MW6		10:45		X		X	X	X	X	X		
5	SID#488997	MW9		09:45		X		X	X	X	X			
6	SID#488998	MW11		10:30		X		X	X	X	X			
7	SID#488999	MW14		12:05		X		X	X	X	X			2020 OCT 29 12:15
8	SID#489000	TRIP BLANK				X		X	X	X	X			
9	SID#489001	EQUIPMENT BLANK				X		X	X	X	X			
10	SID#489002	MW-DUP				X		X	X	X	X			

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:

☐

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted	Lab Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
Adam Clarke / Adam Clarke	20/10/29		K. Tomlinson				☐	6.2,5	☐ Yes ☐ No

* 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.

White: BV Labs Yellow: Client

Bureau Veritas Canada (2019) Inc.

FISH TOXICITY REPORT (Single Concentration)

HITS Aquatic Toxicity Testing

CLIENT INFORMATION

Englobe
97 Troop Ave.,
Dartmouth, NS, B3B 2A7
Contact: Ryan Pellerin

TEST FACILITY INFORMATION

Harris Industrial Testing Service Ltd.
1320 Ashdale Rd., South Rawdon
Nova Scotia B0N 1Z0
Ph: 902 757-0232 Fax: 902 757-2839 office@harrisindustrial.info

SAMPLE INFORMATION (Client-provided data italicised)

Lab Identification #: 20-267-A
Sample Name/Location: TW1
Sampling Method: Grab Sample Homogenized: No
Sampler Name: A. Clarke
Date & Time Sampled: May 28 2020 1030 hrs
Date & Time Received: May 28 2020 1650 hrs
Sample Description: Pale yellow, translucent liquid

GENERAL TEST INFORMATION

Reference Method:
EPS 1/RM/13 2nd Ed. Dec. 2000 with Feb. 2016 Amendments
Type: Single Concentration (Pass/Fail) Tox 9A
General Test Procedures held on file
Test Organism: *Oncorhynchus mykiss*
(Rainbow trout)

PRE-TEST PARAMETERS

Pre-test Temp. (°C): 14.5

Pre-test D.O. (mg/L): 8.5
Pre-test D.O. Saturation (%): 84

Pre-test pH: 7.3 pH Adjusted: No

Sample Conductivity (µS/cm): 537

SAMPLE PRE-TREATMENT

Mandatory 30 minute Pre-aeration: Yes
Rate (ml/min/L): 6.5 ± 1 Time: 1350 hrs
D.O. (mg/L): 8.6 D.O. Saturation (%): 87

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: May 29 2020 1420 Hrs
Date & Time Test Terminated: Jun. 02 2020 1420 Hrs

Deviations from Test Method: No
Description: N/A

Fish Batch #: 313
% Mortality over 7 days prior to test: 0.3

Test Volume (L): 18
Depth (cm): 31.2
Replicates: No
Number of fish per vessel: 10

Loading Density (g/L): 0.35

Mean Fork Length (mm): 39 ± 4.1 SD
Range (mm): 34 – 46

Mean Wet Weight (g): 0.62 ± 0.21 SD
Range (g): 0.37 – 1.04

Temperature: 15 ± 1°C
Photoperiod: 16L/8D
Lux: 100 – 500
Static Test, Duration: 96 hours
Control/Dilution Water: HITS Well 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	8.6	7.4	540	16.0	8.9	8.2
Control	15.5	10.2	7.7	147	16.0	8.6	7.7

LAB ID# 20-267-A

TEST RESULTS

CONC. %	TOTAL MORTALITY # 24 hrs	48 hrs	72 hrs	96 hrs	PERCENT MORTALITY % 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 # 24 hrs	48 hrs	72 hrs	96 hrs	PERCENT STRESS % 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 HR ACUTE LETHALITY RESULTS

TOTAL MORTALITY: 0 %
Result: **Pass**

REFERENCE TOXICANT DATA

Performed under laboratory conditions as above, no deviations

Batch: 313 Test Date: May 26 – 30 2020

Reference Substance: Phenol

LC_{50} Value:	12.4 mg/L
95% Confidence Limits:	11.2 – 13.7 mg/L
Historical Mean:	11.1 mg/L
Warning Limits $\pm$ 2 SD:	8.20 – 15.1 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: Jun. 02 2020 **Signed:**

REFERENCES

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

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)

HITS Aquatic Toxicity Testing

CLIENT INFORMATION

Englobe
97 Troop Ave.,
Dartmouth, NS, B3B 2A7
Contact: Ryan Pellerin

TEST FACILITY INFORMATION

Harris Industrial Testing Service Ltd.
1320 Ashdale Rd., South Rawdon
Nova Scotia B0N 1Z0
Ph: 902 757-0232 Fax: 902 757-2839 office@harrisindustrial.info

SAMPLE INFORMATION (Client-provided data italicised)

Lab Identification #: 20-267-B
Sample Name/Location: TW3
Sampling Method: Grab Sample Homogenized: No
Sampler Name: A. Clarke
Date & Time Sampled: May 28 2020 1345 hrs
Date & Time Received: May 28 2020 1650 hrs
Sample Description: Yellow, opaque liquid

GENERAL TEST INFORMATION

Reference Method:
EPS 1/RM/13 2nd Ed. Dec. 2000 with Feb. 2016 Amendments
Type: Single Concentration (Pass/Fail) Tox 9A
General Test Procedures held on file
Test Organism: *Oncorhynchus mykiss* (Rainbow trout)

PRE-TEST PARAMETERS

Pre-test Temp. (°C): 14.0

Pre-test D.O. (mg/L): 9.6
Pre-test D.O. Saturation (%): 94

Pre-test pH: 7.2 pH Adjusted: No

Sample Conductivity (µS/cm): 1031

SAMPLE PRE-TREATMENT

Mandatory 30 minute Pre-aeration: Yes
Rate (ml/min/L): 6.5 ± 1 Time: 1350 hrs
D.O. (mg/L): 9.7 D.O. Saturation (%): 97

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: May 29 2020 1420 Hrs
Date & Time Test Terminated: Jun. 02 2020 1420 Hrs

Deviations from Test Method: No
Description: N/A

Fish Batch #: 313
% Mortality over 7 days prior to test: 0.3

Test Volume (L): 18
Depth (cm): 31.2
Replicates: No
Number of fish per vessel: 10

Loading Density (g/L): 0.38

Mean Fork Length (mm): 37 ± 4.3 SD
Range (mm): 30 – 44

Mean Wet Weight (g): 0.69 ± 0.20 SD
Range (g): 0.42 – 0.95

Temperature: 15 ± 1°C
Photoperiod: 16L/8D
Lux: 100 – 500
Static Test, Duration: 96 hours
Control/Dilution Water: HITS Well 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	1044	16.0	8.8	8.1
Control	15.5	10.1	7.7	153	16.0	8.5	7.7

TEST RESULTS

CONC. %	TOTAL MORTALITY # 24 hrs	48 hrs	72 hrs	96 hrs	PERCENT MORTALITY % 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 # 24 hrs	48 hrs	72 hrs	96 hrs	PERCENT STRESS % 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 HR ACUTE LETHALITY RESULTS

TOTAL MORTALITY: 0 %
Result: **Pass**

REFERENCE TOXICANT DATA

Performed under laboratory conditions as above, no deviations

Batch: 313 Test Date: May 26 – 30 2020

Reference Substance: Phenol

LC_{50} Value:	12.4 mg/L
95% Confidence Limits:	11.2 – 13.7 mg/L
Historical Mean:	11.1 mg/L
Warning Limits $\pm$ 2 SD:	8.20 – 15.1 mg/L

COMMENTS

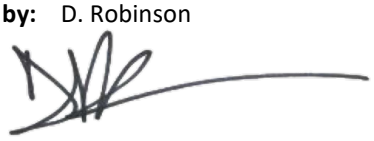
Test meets all conditions for test validity.

TEST AUTHORIZATION AND VERIFICATION

Analyst(s): K. Marks & J. Fraser

Verified by: D. Robinson

Date: Jun. 02 2020

Signed: 

REFERENCES

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

FISH TOXICITY REPORT (Single Concentration)

HITS Aquatic Toxicity Testing

CLIENT INFORMATION

Englobe
97 Troop Ave.,
Dartmouth, NS, B3B 2A7
Contact: Ryan Pellerin

TEST FACILITY INFORMATION

Harris Industrial Testing Service Ltd.
1320 Ashdale Rd., South Rawdon
Nova Scotia B0N 1Z0
Ph: 902 757-0232 Fax: 902 757-2839 office@harrisindustrial.info

SAMPLE INFORMATION (Client-provided data italicised)

Lab Identification #: 20-267-C
Sample Name/Location: TW4
Sampling Method: Grab Sample Homogenized: No
Sampler Name: A. Clarke
Date & Time Sampled: May 28 2020 1430 hrs
Date & Time Received: May 28 2020 1650 hrs
Sample Description: Pale yellow, transparent liquid with sediment

GENERAL TEST INFORMATION

Reference Method:
EPS 1/RM/13 2nd Ed. Dec. 2000 with Feb. 2016 Amendments
Type: Single Concentration (Pass/Fail) Tox 9A
General Test Procedures held on file
Test Organism: *Oncorhynchus mykiss* (Rainbow trout)

PRE-TEST PARAMETERS

Pre-test Temp. (°C): 15.5

Pre-test D.O. (mg/L): 7.2
Pre-test D.O. Saturation (%): 73

Pre-test pH: 7.6 pH Adjusted: No

Sample Conductivity (µS/cm): 723

SAMPLE PRE-TREATMENT

Mandatory 30 minute Pre-aeration: Yes
Rate (ml/min/L): 6.5 ± 1 Time: 1350 hrs
D.O. (mg/L): 7.4 D.O. Saturation (%): 74

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: May 29 2020 1420 Hrs
Date & Time Test Terminated: Jun. 02 2020 1420 Hrs

Deviations from Test Method: No
Description: N/A

Fish Batch #: 313
% Mortality over 7 days prior to test: 0.3

Test Volume (L): 16
Depth (cm): 28.3
Replicates: No
Number of fish per vessel: 10

Loading Density (g/L): 0.33

Mean Fork Length (mm): 35 ± 5.3 SD
Range (mm): 27 – 43

Mean Wet Weight (g): 0.53 ± 0.26 SD
Range (g): 0.22 – 0.88

Temperature: 15 ± 1°C
Photoperiod: 16L/8D
Lux: 100 – 500
Static Test, Duration: 96 hours
Control/Dilution Water: HITS Well 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	7.4	7.6	711	16.0	8.3	8.1
Control	16.0	9.8	7.9	154	16.0	8.8	7.8

LAB ID# 20-267-C

TEST RESULTS

CONC. %	TOTAL MORTALITY # 24 hrs	48 hrs	72 hrs	96 hrs	PERCENT MORTALITY % 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 # 24 hrs	48 hrs	72 hrs	96 hrs	PERCENT STRESS % 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 HR ACUTE LETHALITY RESULTS

TOTAL MORTALITY: 0 %
Result: **Pass**

REFERENCE TOXICANT DATA

Performed under laboratory conditions as above, no deviations

Batch: 313 Test Date: May 26 – 30 2020

Reference Substance: Phenol

LC_{50} Value:	12.4 mg/L
95% Confidence Limits:	11.2 – 13.7 mg/L
Historical Mean:	11.1 mg/L
Warning Limits $\pm$ 2 SD:	8.20 – 15.1 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: Jun. 02 2020

Signed:

REFERENCES

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

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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.