Englobe
Soils Materials Environment

Town of Yarmouth

Groundwater and Surface Water Quality
Lake George Road, Lake George, Nova Scotia

Report

Date: February 23, 2016
Ref. N°: 21347

Town of Yarmouth

Groundwater and Surface Water Quality
Lake George Road, Lake George, Nova Scotia

Report | 21347

Prepared by:

Lisa Ladouceur, CET
Technologist, Environmental Engineering

Approved by :

Aven Cole, M.Sc.E., P.Eng.
Project Engineer, Environmental Engineering

Verified by :

Doreen Chenard, B.Sc. in Agr.
Team Leader, Environmental Engineering

TABLE OF CONTENTS

Figures

Tables

Appendices

Property and Confidentiality

REVISION AND PUBLICATION REGISTER		
Revision N°	Date	Modification And/Or Publication Details
00	18-Feb-2016	Draft Report Issued
01	23-Feb-2016	Final Report Issued

1 INTRODUCTION

At your request, Englobe Corp. (Englobe) has conducted a water quality assessment involving the sampling and testing of potable water wells, groundwater monitor wells and surface water near the former Ibbitson Saw Mill site on Lake George Road in Lake George, Yarmouth County, Nova Scotia.

This report provides the methodology and results achieved from the program.

2 BACKGROUND

The Town of Yarmouth purchased the former J. Ibbitson Sawmills Inc. lands in 2005. The sawmill reportedly operated between the early 1990s and 2005, when it was purchased and subsequently decommissioned.

The land has been vacant since the purchase. In September 2015, the site was selected for reclamation, and compost produced from a Town of Yarmouth composting facility (municipal green bin program) was transported to the site and spread across areas of the site.

Recently, residents living adjacent to the site expressed concern with the debris (plastics, metals, etc.) in the compost, and the effect the compost may have on the drinking water and surface water in the surrounding area.

3 SCOPE OF WORK

Based on information provided regarding the site by the Town of Yarmouth, Englobe proposed the following scope of work:

- Search and interpretation of local water well records from the databases maintained by Nova Scotia Environment (NSE) and Nova Scotia Natural Resources (NSNR);
- Review available local bedrock and surficial geology mapping;
- Review available topographic and hydrological mapping to identify local water features;
- Conduct a site inspection to verify the desktop information and collect information on the potable water wells;
- Conduct water quality testing of potable water wells, exisiting groundwater monitor wells and surface water locations; and
- Tabulate the water quality and site inspection results and prepare a report summarizing the findings.

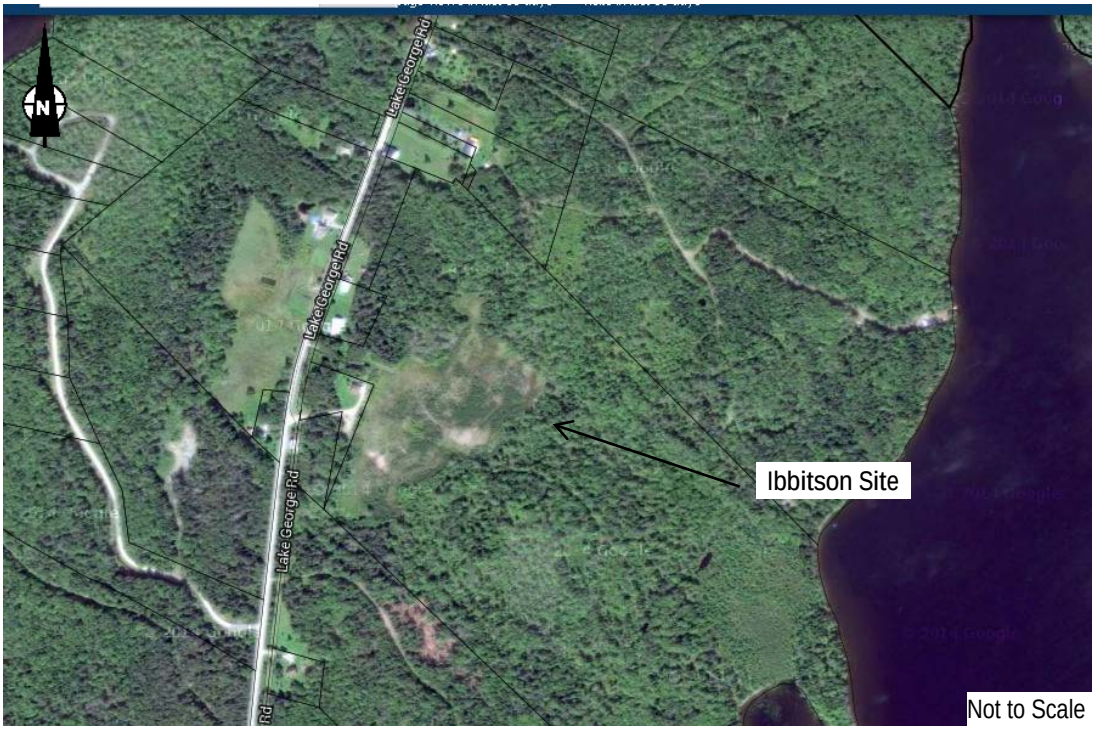
In conjunction with the local residents, the Town of Yarmouth coordinated the site inspection and sampling program.

4 PROPERTY DESCRIPTION

4.1 Site Description

The current area of interest is identified as the Ibbitson property, PID No. 90149808 (Civic No. 2014 Lake George Road) in Lake George, Yarmouth County, Nova Scotia. The entire property is approximately 379,000m^2 (93.6 acres) and the affected area (over which compost was spread) is approximately 39,400 m^2 (9.74 acres). A site location map is presented in Figure 4-1. A site plan is provided in Appendix 1 (Figure 1).

Figure 4-1. Site Location Map, Lake George Road, Lake George, NS.



Currently, the subject property is undeveloped and vacant. A sawmill, kiln and associated storage and treatment areas had been located on the western part of the site between the early-1990s and 2005. The eastern portion of the property forms a portion of the Lake George Protected Water Area.

During the site inspection, the former saw mill portion of the site had been decommissioned. This area had been spread with a 100 to 150 mm thick layer of compost during the reclamation

activities. There was debris (plastic, metal, etc.) observed throughout the compost. The saw mill portion of the site was inferred by lack of vegetation and areas of tree clearing.

The only remaining evidence of the site's past use as a saw mill were four monitor wells (that were installed during an environmental site assessment of a former fungicide underground storage tank in 2005) and a crock that collected shallow surface water. Based on discussion with the local residents, a drain tile system had been installed at the site during former operations, and drained surface water away from product laydown and spraying areas. A holding pond had been excavated in the northwest corner of the sawmill area to store water used in spraying activities. The discharge pipes of the drain tile field were observed entering the crock that remains at the site.

The former sawmill area is a localized topographic high; topography slopes downward radially from the center of the disturbed area. Surface water drainage left the disturbed areas through localized drainage pathways and channels, some manmade and some naturally formed. Drainage from the north and northeast portions of the site discharged via water features that entered a suspected wetland, then flowed easterly towards Lake George as a watercourse. A suspected wetland was observed adjacent to the northwest corner of the disturbed area (near the former holding pond). Discharge from this wetland extended towards (and beneath) Lake George Road. Another suspected wetland was observed downgradient of the crock, and water from the crock was discharged via a pipe into the wetland and from the wetland into a ditch that extended parallel and westerly to Lake George Road. Other areas of the site drained westerly from the site; although there were no defined channels.

Access to the site is via Lake George Road from the west. Neighboring properties include undeveloped tree-covered lands to the north, east and south; Lake George is further to the east. Residential properties are located to the west along Lake George Road.

4.2 Geology

The Lake George area of Yarmouth County is underlain by glacial deposits known regionally as Beaver River Till. In the Lake George area, the Beaver River Till is comprised of Slate till drumlin facies that are described as moderately compact, greyish olive, sandy materials with abundant gravel, cobble and boulder sizes. Thickness of the till unit varies from 2 to 20 metres.

Geologic mapping of the area indicates that the site is underlain by the Meguma Supergroup of metasediments. The site is in close proximity to the contact between the Acacia Brook Formation of the Halifax Group and the Bloomfield Formation of the Goldenville Group. Based on the mapping, the Bloomfield Formation underlies the site; however, the Acacia Formation is present between the site and Lake George. Church Point Formation (Goldenville Group) is expected to be on the western side of Lake George Road.

The Bloomfield Formation consists of maroon and green to grey, thin to medium-bedded metasiltstone to slate, rare thin-bedded, fine-grained metasandstone, minor mafic sills. The Acacia Brook Formation consists to grey to dark grey, laminated slate with minor, thin beds and lenses of light grey metasiltstone, medium bedded, crosslaminated, fine-to medium-grained metasandstone, sulphide minerals are common.

4.3 Compost

The compost that was transported to the site is reportedly a Category B compost product that is produced at a Town of Yarmouth facility from green bin materials, yard waste and paper products. Analysis of the compost was carried out by Dr. Paul Arnold, Bio-logic Environmental Systems.

5 METHODOLOGY

5.1 Potable Water Well Assessment

The desktop well survey consisted of review of the information in the Nova Scotia Well Log Database. Based on review of the local topography and drainage systems, and discussion with the Town of Yarmouth, an area of potential impacts from the Ibbitson site was determined. There were 9 potentially affected properties identified. Where possible, Well Logs were matched to the properties identified; although Well Logs for only 4 of the properties could be conclusively identified. Information on the surrounding properties is summarized in Table 5-1.

Table 5-1. Water sampling locations, Lake George Road, Lake George, NS – February 2, 2016

ID	LOCATION	PROPERTY TYPE	WELL LOG	WELL TYPE	WELL DEPTH
PW1	Civic No. 1938 Lake George Road[1]	Residential	-	unknown	unknown
N/A	Civic No. 2007 Lake George Road[2]	Residential	-	unknown	unknown
PW2	Civic No. 2012 Lake George Road	Residential	-	Dug	unknown
PW3	Civic No. 2087 Lake George Road	Residential	890734	Dug	13 feet[3]
PW4	Civic No. 2104 Lake George Road	Residential	961581	Dug	18 feet
PW5	Civic No. 2122 Lake George Road	Residential	-	Drilled	unknown
PW6	Civic No. 2054 Lake George Road	Residential	971539	Drilled	125 feet
PW7	Civic No. 2046 Lake George Road	Residential	-	Dug	unknown
PW8	Civic No. 2065 Lake George Road	Residential	021781	Drilled	165 feet
N/A	Civic No. 2092 Lake George Road	Institutional	-	No potable well	-
N/A	Civic No. 2014 Lake George Road[4]	Commercial	980680	No longer used	165 feet

Notes: 1 Background well location
2 Declined participation in sampling program
3 Recently deepened to approx. 20 feet
4 Source site

The potable wells at these properties (including the background property) were recommended for sampling; although the owner of Civic No. 2007 Lake George Road declined participation in the sampling program. Civic No. 1938 Lake George Road (PW1) was selected as a background potable water sampling location.

During the site inspection, information was collected from property owners regarding the details of the potable water wells. Englobe attempted to collect water prior to any treatment system.

5.2 Surface Water Assessment

From review of topography mapping, wet area mapping (WAM) and aerial photography review, predicted drainage pathways were identified as potential sampling locations. These locations were verified in the field, and adjusted based on site specific conditions.

As discussed above, surface water was observed discharging from the north end of the site in three locations. One location (northwest) enters a suspected wetland, and eventually discharges from the wetland as channelized flow beneath Lake George Road and to the rear of Civic No. 2065 Lake George Road. A sample was collected on the downgradient side of Lake George Road. The other surface water discharge locations entered a suspected wetland a short distance from the disturbed area. Mapping of this water feature predicted that it flowed northward and westward before discharging to ponded water on Civic No. 2104 Lake George Road (fire pond near the road); however, ground truthing verified a watercourse instead flowed easterly towards Lake George from the wetland. A sample was collected where the watercourse discharged from the wetland.

Shallow surface water from the central portion of the site appeared directed towards a crock (remnant from the sawmill activities) via a drain tile system. A (groundwater) sample was collected from the crock. The crock was approximately 2.4m deep and had a diameter of 1.0m, there was approximately 100mm of water. Water was discharging the crock from a pipe and entering a suspected wetland to the west. Water from this wetland then appeared to migrate into a downgradient ditch via discharge and seepage through the ditch backslope. This ditch was present on the available mapping that was reviewed and ground truthing verified that it extended along Lake George Road towards a pond that then discharges via a culvert beneath Lake George Road (between 2046 and 2012 Lake George Road). A sample was collected from the ditch, prior to the pond. Details of the surface water sample locations are summarized in Table 5-2.

Table 5-2. Surface Water Sample Locations.

ID	LOCATION
SW1	Wetland discharge, at downgradient side of the culvert beneath Lake George Road, between 2087 and 2065 Lake George Road

ID	LOCATION
SW2	Watercourse that discharged from wetland that collected surface water from north and northeast portion of the disturbed area.
SW3	Ditch downgradient of wetland and onsite water collection crock.

During the site visit, four monitor wells from a previous environmental site assessment (of a dip tank reportedly for fungicide storage) were observed, in close proximity to the crock. All four monitor wells were in close proximity (i.e. 5m or less) and three were in very poor condition, therefore only one monitor well was sampled. The monitor well that was sampled (for groundwater) was approximately 3.6m deep, and based on the monitor well logs reviewed was terminated in site native glacial till (slate drumlin facies, described as silt).

5.3 Water Sampling

On February 2, 2016, Englobe personnel measured field parameters at eight potable wells (PW1 through PW8), one monitoring well (MW2), three surface water locations (SW1 through SW3) and one crock (MW1) for conductivity, temperature and pH. In addition, dissolved oxygen was also recorded at the surface water locations (SW1, SW2 and SW3). Temperature, pH, conductivity and dissolved oxygen were measured using a YSI Professional Plus multiparameter field instrument.

At the potable water wells, the water was allowed to run for 5 minutes (or more) before collection from a tap, prior to any water treatment systems. The residents had also been running the water in advance of the sampling program. The monitor well (MW2) was purged a minimum of three pore volumes prior to sampling. The monitor well was equipped with dedicated Waterra tubing and a locked stick-up protective cover. The stick-up protective cover was in poor condition and was physically removed prior to sampling, and later re-installed. Based on the volume of water in the crock, it was not purged prior to sampling. The surface water samples were carefully collected instream, taking care not to mobilize any sediment.

Water samples were collected for analysis based on Schedule 1 of the NSE 2010 Composting Facility Guidelines and following standard sampling protocols for potable water, groundwater and surface water. Specifically, potable water and groundwater were analysed for parameters in Column 1 and surface water was analysed for parameters in Column 3.

In accordance with laboratory sampling protocols, water samples were collected; specifically, we used 120 mL plastic containers for metals (preserved with nitric acid in the field), 200-mL plastic containers for general inorganic chemistry, and 100-mL amber glass bottles with sulfuric acid preservative for Total Kjeldahl Nitrogen (TKN), Total Phosphorus, Total Phenol, Chemical Oxygen Demand (COD), Total Organic Carbon (TOC) and Dissolved Organic Carbon (DOC). DOC samples were filtered in the field. Water samples collected from each water sampling location for Total Suspended Solids (TSS) were placed in 500-mL plastic containers. Water

samples for mercury analysis were placed in 100-mL amber glass bottles with potassium chromate preservative. Water samples collected for volatile organic compounds (VOCs) were placed in 40-mL glass vials with sodium bisulphate preservative. Surface water samples collected for Carbonaceous Biochemical Oxygen Demand (BOD) and Tannins and Lignins were placed in 500-mL plastic containers. Other than noted above, no samples were filtered.

The water sample containers were immediately placed in ice-packed coolers and were transported to Maxxam Analytics laboratory in Bedford, Nova Scotia, for detailed chemical analysis as listed above.

6 RESULTS

6.1 Field Results

Field measurements obtained for the groundwater and surface water sampling stations are presented in Table 6-1, below.

Table 6-1. Field Measurements at Lake George Road, Lake George, NS – February 2, 2016

LOCATION	TEMPERATURE (°C)	PH (units)	CONDUCTIVITY (µS/cm)	DISSOLVED OXYGEN (mg/L)
PW1	10.0	6.13	59	-
PW2	12.07	6.58	114	-
PW3	7.37	6.64	185	-
PW4	7.51	6.98	105	-
PW5	9.02	6.85	117	-
PW6	8.35	7.06	85	-
PW7	7.34	6.95	68	-
PW8	10.24	6.95	234	-
MW1	4.14	6.44	366	-
MW2	5.60	6.10	409	-
SW1	2.85	3.64	63	12.44
SW2	2.91	6.55	46	10.48
SW3	2.56	6.29	93	10.27

6.2 Analytical Results

Laboratory analytical results are presented in Table 1 through 9, Appendix 2. Laboratory Certificates of Analysis are presented in Appendix 3.

Potable water and groundwater analytical results are provided in comparison with the 1999 (2014 updates) Health Canada Drinking Water Quality (HCDWQ) Guidelines and the 2013 NSE Environmental Quality Standards (EQS) for Potable Groundwater (coarse-grained soil). Surface water analytical results are compared to the 1999 (2015 updates) CCME *Water Quality Guidelines for the Protection of Freshwater Aquatic Life* (FAL) and the 2013 NSE EQS for Surface Water (fresh water).

6.2.1 Potable Water

Potable well water was collected and analyzed in accordance with industry standards for analytes that were chosen based on Schedule 1, Column 1 of the Composting Facility Guidelines. Laboratory analytical results are summarized in Tables 1 through 3, Appendix 2.

General Chemistry

The laboratory pH at PW3 was 6.19, which is below the HCDWQ range of 6.5 to 8.5; there is no NSE EQS for pH. The field pH (which is generally more accurate) at PW3 was 6.64, which satisfies the HCDWQ range. The field pH at PW1 was depressed (6.13) below the HCDWQ range.

Phenol concentrations at PW1 and PW2 (0.0019 mg/L and 0.0011 mg/L, respectively) exceeded the NSE EQS (0.0008 mg/L); there is no HCDWQ guideline for phenol. Phenol was not detected by the laboratory (<0.0010 mg/L) at PW3, PW4, PW5, PW6, PW7 and PW8; however, the detection limit exceeded the NSE EQS.

Turbidity at PW6 and PW8 (7.3 and 12 NTU, respectively) exceeded the HCDWQ guideline of 1 NTU; there is no EQS for turbidity. The turbidity HCDWQ guideline is a health based guideline.

Metals

The aluminum concentration at PW3 (110 µg/L) exceeded the HCDWQ guideline (100 µg/L); there is no NSE EQS for aluminum. The aluminum HCDWQ guideline is based on operation of drinking water treatment plants and is not a health based guideline.

Iron concentrations at PW6 and PW8 (620 and 1000 µg/L, respectively) exceeded the HCDWQ guideline (300 µg/L); there is no NSE EQS for iron. The iron HCDWQ guideline is an aesthetic objective, and iron is common in Nova Scotia groundwater supplies; therefore it is not necessarily attributable to contamination.

The lead concentration at PW3 (15 µg/L) exceeded both the Health Canada drinking water guideline and the NSE EQS (10 µg/L). The lead HCDWQ guideline is a health based guideline

Manganese concentrations at PW6 and PW8 (65 and 420 µg/L, respectively) were elevated over the HCDWQ guideline (50 µg/L); there is no NSE EQS for manganese. The manganese HCDWQ guideline is an aesthetic objective only, and manganese is common in Nova Scotia groundwater supplies; therefore it is not necessarily attributable to contamination.

Volatile Organic Compounds

The laboratory did not detect any of the Column 1 VOCs in the potable water samples analyzed, although trace concentrations of trihalomethanes and chloroform were detected at PW3 and PW7. These results satisfied the applicable HCDWQ guidelines and NSE EQS for VOCs. Trihalomethanes and chloroform and generally indications of decomposing organic matter in the presence of chlorinated water.

6.2.2 Groundwater

Groundwater was collected and analyzed in accordance with Schedule 1, Column 1 of the Composting Facility Guidelines. Given the intent of this study (possible effects on potable water and surface water), total metals were analyzed instead of dissolved metals, the result of this may lead to over-estimated concentrations of metals that are adhered to particulate matter in the water. Since there is potential for water in the crock (MW1) and the onsite monitor well (MW2) to enter surface water features as well as shallow dug potable water wells, the results were compared to the HCDWQ guidelines, the CCME FAL guidelines and the NSE Tier 1 EQS (for groundwater and freshwater surface water). Laboratory analytical results are summarized in Tables 7 through 9, Appendix 2.

General Chemistry

The field pH at MW1 and MW2 was depressed (6.44 and 6.1, respectively) below the HCDWQ range of 6.5 to 8.5 and the FAL range of 6.5 to 9. There are no NSE Tier 1 EQS for groundwater or surface water.

The total dissolved solids (TDS) concentration at MW2 (510 mg/L) exceeded the HCDWQ guideline of 500 mg/L; there is no NSE EQS for TDS. The TDS HCDWQ guideline is an aesthetic objective only.

Colour at MW1 (1100 TCU) exceeded the HCDWQ guideline of ≤15 TCU; there is no NSE EQS for colour. The colour HCDWQ guideline is an aesthetic objective only.

Phenol concentrations at MW1 and MW2 (0.040 and 0.0037 mg/L, respectively) exceeded the NSE EQS (0.0008 mg/L); there is no HCDWQ guideline for phenol. The phenol concentration at MW1 also exceeded the FAL guideline and NSE surface water EQS (0.004 mg/L).

Turbidity at MW1 (89 NTU, and 88 NTU in that laboratory duplicate) and MW2 (>1000 NTU) exceeded the HCDWQ guideline of 1 NTU; there is no EQS for turbidity. The turbidity HCDWQ is a health based guideline.

Although there are no relevant guidelines, total chemical oxygen demand and dissolved organic carbon concentrations were somewhat elevated at MW1 and MW2. Phosphorus and TKN concentrations were also slightly elevated above those detected in the surface water, although this could result from trapped sediment and organic matter in the monitor well and crock.

Metals

Aluminum concentrations at MW1 and MW2 (810 and 70,000 µg/L, respectively) exceeded the HCDWQ guideline (100 µg/L); there is no NSE groundwater EQS for aluminum. The aluminum HCDWQ guideline is based on operation of drinking water treatment plants and is not a health based guideline. Aluminum concentrations at MW1 and MW2 also exceeded the CCME FAL and NSE surface water EQS (both 5 µg/L).

The arsenic concentration at MW2 (49 µg/L) exceeded both the HCDWQ guideline and NSE EQS (10 µg/L). The arsenic HCDWQ is a health based guideline. Arsenic concentrations at MW1 and MW2 also exceeded the CCME FAL and NSE surface water EQS (both 5 µg/L).

The cadmium concentration at MW1 (0.33 µg/L) exceeded the CCME FAL (calculated to be 0.18 µg/L) and the NSE surface water EQS (0.01 µg/L). The cadmium concentration at MW2 (0.17 µg/L) exceeded only the NSE surface water EQS.

The chromium concentration at MW2 (110 µg/L) exceeded the HCDWQ guideline, CCME FAL guideline (8.9 µg/L) and NSE groundwater EQS (50 µg/L). The chromium HCDWQ guideline is a health based guideline.

The cobalt concentration at MW2 (61 µg/L) exceeded the NSE Tier 1 groundwater EQS (10 µg/L) and Tier 1 surface water EQS (10 µg/L); there is no HCDWQ or FAL guideline for cobalt.

Copper concentrations at MW1 and MW2 (37 and 260, respectively) exceeded the CCME FAL (calculated to be 2.76 and 4 µg/L, respectively) and NSE surface water EQS (2 µg/L).

Iron concentrations at MW1 and MW2 (14,000 and 110,000 µg/L, respectively) exceeded the HCDWQ guideline (300 µg/L); there is no NSE EQS for iron. The HCDWQ guideline for iron is an aesthetic objective, and iron is common in Nova Scotia groundwater supplies; therefore it is not necessarily attributable to contamination. Iron concentrations at MW1 and MW2 also exceeded the CCME FAL and NSE surface water EQS (both 300 µg/L).

The lead concentration at MW2 (30 µg/L) exceeded both the HCDWQ guideline and the NSE EQS (10 µg/L). The lead HCDWQ guideline is a health based guideline. Lead concentrations at MW1 (5 µg/L) and MW2 also exceeded the CCME FAL (calculated to be 4.01 and 7 µg/L, respectively) and NSE surface water EQS (1 µg/L).

Manganese concentrations at MW1 and MW2 (1100 and 3600 µg/L, respectively) exceeded the HCDWQ guideline (50 µg/L); there is no NSE EQS for manganese. The manganese HCDWQ guideline is an aesthetic objective only, and manganese is common in Nova Scotia groundwater supplies; therefore it is not necessarily attributable to contamination. Manganese concentrations at MW1 and MW2 also exceeded the NSE surface water EQS (820 µg/L).

The nickel concentration at MW2 (120 µg/L) exceeded the NSE EQS (100 µg/L); there is no HCDWQ guideline for nickel. The nickel concentration at MW2 also exceeded the NSE surface water EQS (0.1 µg/L).

The vanadium concentration at MW2 (100 µg/L) exceeded the NSE EQS (6.2 µg/L); there is no HCDWQ guideline for vanadium. The vanadium concentration at MW2 also exceeded the NSE surface water EQS (6 µg/L).

Zinc concentrations at MW1 and MW2 (54 and 210, respectively) exceeded the CCME FAL and NSE surface water EQS (both 30 µg/L).

Volatile Organic Compounds

The laboratory did not detect any VOCs in the groundwater samples analyzed. These results satisfied the applicable HCDWQ guidelines and NSE EQS for VOCs.

6.2.3 Surface Water

Surface water was collected and analyzed in accordance with industry standards for analytes that were chosen based on Schedule 1, Column 3 of the Composting Facility Guidelines. Laboratory analytical results are provided in Tables 4 through 6, Appendix 2.

General Chemistry

Field and laboratory surface water pH at SW1 (3.64 and 5.38), laboratory pH at SW2 (5.89) and field pH at SW3 (6.29), was depressed below the CCME FAL range of 6.5 to 9.0; there is no NSE EQS for pH.

Phenol concentrations at SW1 and SW3 (0.0085 mg/L and 0.0052 mg/L, respectively) exceeded the CCME FAL guideline and NSE EQS (0.004 mg/L).

Although there are no relevant guidelines, total chemical oxygen demand and total organic carbon concentrations were elevated at SW1, SW2 and SW3.

Metals

Aluminum levels at SW1, SW2 and SW3 (550, 450 and 530 µg/L, respectively) exceeded the CCME FAL guideline (5 or 100 µg/L, based on pH) and the NSE EQS (5 µg/L).

Cadmium concentrations at SW1, SW2 and SW3 (0.21, 0.11 and 0.063 µg/L) exceeded the CCME FAL guideline (0.04 to 0.37 µg/L, based on hardness) and the NSE EQS (0.1 µg/L).

Copper concentrations at SW1, SW2 and SW3 (7.3, 4.5 and 6.6 µg/L) exceeded the calculated CCME FAL guideline (2 to 4 µg/L, based on hardness) and the NSE EQS (2 µg/L).

Iron concentrations at SW1, SW2 and SW3 (820, 560 and 2200 µg/L) exceeded the CCME FAL guideline and NSE EQS (300 µg/L for both). Elevated iron concentrations are commonly found in surficial soils and surface waters of Nova Scotia.

Lead concentrations at SW1, SW2 and SW3 (13, 5.9 and 1.5 µg/L) exceeded the CCME FAL guideline (1 to 7 µg/L, calculated based on hardness) and the NSE EQS (1 µg/L).

The mercury concentration at SW1 (0.028 µg/L) exceeded of the CCME FAL guideline and the NSE EQS (0.026 µg/L for both).

Volatile Organic Compounds

The laboratory did not detect VOCs in the surface water samples analyzed. These results satisfied the applicable CCME fresh water guidelines and NSE EQS for VOCs.

7 DISCUSSION

The compost chemical composition (Appendix 4) was reviewed in conjunction with the potable water, groundwater and surface water results to identify any correlated trends that may be attributed to leaching of the compost to the surrounding environment.

There appears to be no organic loading on the potable water from the compost. The elevated total organic carbon, dissolved organic carbon and total chemical oxygen demand concentrations in the surface water, monitor well and crock have several potential sources, including the compost, natural organics (in the wetlands), sediment in the monitor well and crock, as well as other historic activities at the site. The dissolved oxygen concentrations in the surface water suggest that organic loading is not a problem at this time.

Based on the non-detectable VOCs in the surface water and groundwater, particularly vinyl chloride which is a by-product of polyvinyl chloride (PVC) degradation, there appears to be no leaching of these types of plastics into the surrounding water environments.

In general elevated aluminum, iron and manganese concentrations are natural in groundwater and surface water in Nova Scotia as a result of our natural soil and geology. The presence of theses metals in potable water (or in surface water) is not necessarily a source of contamination.

Other elevated metals concentrations in the potable water, groundwater and surface water (arsenic, chromium, cobalt, copper, lead, nickel, vanadium) suggest an anthropogenic source, although the compost does not appear to contain significant concentrations of the metals.

Other than the crock (MW1), phenol, where present in the area, may be naturally elevated; phenol concentrations in the potable water appear consistent with background concentrations. Although the laboratory detection limit was elevated over the NSE EQS; there is no Health Canada drinking water quality guideline for phenol. We are in the process of validating and determining the derivation of the NSE EQS.

Turbidity in the water samples is likely related to the fine-grained nature of the natural soil deposits (Slate Till drumlin facies) in the area.

Water from the crock (MW1) does show some evidence of elevated organic parameters as well as metals. Elevated turbidity and TSS concentrations were reported in the onsite monitor well (MW2) and crock (MW1); some metals bind tightly with suspended soil and organic matter and when turbidity and TSS are elevated, laboratory results may appear to be a concern, when in fact the chemicals identified are not particularly mobile and are trapped on the sediment in the pore spaces of the surrounding soil. Dissolved metals are normally the chosen analytes in the case of groundwater monitor wells; however, to be conservative, Englobe chose to evaluate total metals in (non-potable) groundwater since there was some evidence of water from the crock discharging directly to surface water features and potentially to shallow dug wells. SW3 and PW2 (dug well at 2012 Lake George Road) as well as the suspected wetland would be the potential receiving environments from contaminated water potentially discharging from the crock. Lead was elevated in the surface water of SW3; however, lead in PW2 appeared consistent with background conditions.

There appears to be an unidentified source of elevated metals (and depressed pH) on the northwest side of the property. Surface water from this area, as well as potable water PW3 (2087 Lake George Road) and to a lesser extent PW8 (2065 Lake George Road) had the highest lead concentrations detected other than those at the crock (MW1).

8 SUMMARY AND CONCLUSIONS

Based on our interpretation of the results, there appears to be no leaching of organics, metals or plastics from the compost to the surrounding surface water and potable groundwater.

Review of the results and the history of the Ibbiston site suggest that the elevated metals (and depressed pH) are from historic activities at the site, most likely related to wood preservative use.

The potable water at 2087 Lake George Road should not be consumed unless treated. Plumbing in the dwelling should be assessed for lead fixtures to eliminate that as a potential source of the elevated lead concentrations. The potable water at 2065 Lake George Road should be monitored since the lead concentration is relatively high, and plumbing in this dwelling should also be assessed for lead fixtures to eliminate that as a potential source of the elevated lead concentrations.

Further evaluation of the source and magnitude of the impacts that were identified should be conducted.

9 REPORT USE AND CONDITIONS

This review and assessment was conducted using the methodology described in this report. The opinions in this report are provided using generally accepted scientific judgement, principles and practices; however, due to the inherent uncertainty in these processes, no guarantee of conclusion is intended or can be given.

It is important to note that the investigation involves a sampling of the site gathered at specific test locations and the conclusions in this report are based on this information gathered.

This report was prepared by Englobe for the exclusive use of the Town of Yarmouth. 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 accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

Appendix 1 Site Plan

Town of Yarmouth

2014

SW2

David and Helen Killam
Lake George Road
PID# 90233206

Alex and Mary Killam
2104 Lake George Road
PID# 90233198

2014 Lake George Road
PID# 90149808

2212

Andrew and Myrtle Killam
2122 Lake George Road
PID# 90233214

2104

Denise Vacon
2054 Lake George Road
PID# 901498124

2138

United Baptist Church
2092 Lake George Road
PID# 90149840

2122

Sheila Tracey
2046 Lake George Road
PID# 90149816

AREA = 9.74 acres
39,400 m 2

MW2

MW1

Robert Doucette
2012 Lake George Road
PID# 90149790

Lake George Rd

2147

2092

2012

2054

2046

2087

SW1

SW3

Barn
PID# 90149766

1938

2065

2007

James Nickerson
2087 Lake George Road
PID# 90149832

Robert Grey
2065 Lake George Road
PID# 90149782

Wayne Grey
2007 Lake George Road
PID# 90149774

Killams Lake Dr

Yarmouth
ON THE EDGE OF EVERYWHERE

PROPERTY BOUNDARY MAPPING SOURCE:
(1:10,000 NSPRD) NOVA SCOTIA GEOMATICS CENTRE, AMHERST;
CURRENT TO 25 NOVEMBER 2015.

TOPOGRAPHIC MAPPING SOURCE:
(1:2,000) NOVA SCOTIA GEOMATICS CENTRE, AMHERST;
COMPILED FROM AERIAL PHOTOGRAPHY FLOWN 2010 – 2011.

ROAD MAPPING SOURCE:
(NSCAF) NOVA SCOTIA GEOMATICS CENTRE, AMHERST;
CURRENT TO 27 APRIL 2013.

50 25 0 50 100
Metres

Date: February 17, 2016

NOTE: Information contained on this map is subject to change.

C:\Projects\Public Works\2016\bbilts on_property_large_field_lake_george\lake_george_bbilts on_property_11x17_ENGLOBE.mxd

Appendix 2 Laboratory Analytical Results

TABLE 1: GENERAL CHEMISTRY in Potable Water
Client: Town of Yarmouth
Site Location: Lake George Road, Lake George, NS
Englobe Project No.: 21347

PARAMETER	UNITS	Health Canada Drinking Water Guidelines[1]	NSE Tier 1 EQS[2]	Sample ID (Civic No. Lake George Road)									
				PW1 (Background) (1938)		PW2 (2012 Dug)	PW3 (2087 Dug)	PW4 (2104 Dug)		PW5 (2122 Drill)	PW6 (2054 Drill)	PW7 (2046 Dug)	PW8 (2065 Drill)
				2-Feb-16	Lab Dup	2-Feb-16	2-Feb-16	2-Feb-16	Lab Dup	2-Feb-16	2-Feb-16	2-Feb-16	2-Feb-16
Field pH	pH	6.5-8.5	NG	6.13	-	6.58	6.64	6.98	-	6.85	7.06	6.95	6.95
Field Conductivity	uS/cm	NG	NG	59	-	114	185	105	-	117	85	68	234
Field Temperature	°C	NG	NG	10	-	12.07	7.37	7.51	-	9.02	8.35	7.34	10.24
Anion Sum	me/L	NG	NG	0.850	-	1.51	2.64	1.72	-	1.81	1.29	1.01	3.29
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	NG	NG	29	-	41	12	61	-	59	26	14	58
Calculated TDS	mg/L	≤ 500 (AO)	NG	54	-	97	150	110	-	120	86	67	190
Carb. Alkalinity (calc. as CaCO3)	mg/L	NG	NG	<1.0	-	<1.0	<1.0	<1.0	-	<1.0	<1.0	<1.0	<1.0
Cation Sum	me/L	NG	NG	0.820	-	1.36	2.30	1.57	-	1.66	1.13	0.890	2.80
Colour	TCU	≤ 15 (AO)	NG	6.1	-	<5.0	<5.0	<5.0	-	<5.0	<5.0	<5.0	<5.0
Conductivity	uS/cm	NG	NG	75	-	130	260	140	-	150	110	95	290
Chloride (Cl)	mg/L	≤ 250 (AO)	250	5.2	-	15	78	9.5	-	15	18	19	68
Sulphate (SO4)	mg/L	≤ 500 (AO)	NG	4.5	-	12	8.7	10	-	9.5	12	8.5	10
Hardness (CaCO3)	mg/L	NG	NG	27	-	45	23	59	-	59	31	18	83
Ion Balance (% Difference)	%	NG	NG	1.80	-	5.23	6.88	4.56	-	4.32	6.61	6.32	8.05
Langelier Index (@ 20C)	N/A	NG	NG	-2.42	-	-1.58	-3.27	-0.896	-	-1.26	-2.16	-2.94	-0.950
Langelier Index (@ 4C)	N/A	NG	NG	-2.67	-	-1.84	-3.52	-1.15	-	-1.51	-2.41	-3.19	-1.20
Nitrate (N)	mg/L	10 (MAC)	NG	0.54	-	0.45	0.15	0.18	-	0.26	0.15	0.16	<0.050
Nitrate + Nitrite	mg/L	NG	NG	0.54	-	0.45	0.15	0.18	-	0.26	0.15	0.16	<0.050
Nitrite (N)	mg/L	3.2 (MAC)	NG	<0.010	-	<0.010	<0.010	<0.010	-	<0.010	<0.010	<0.010	<0.010
Nitrogen (Ammonia Nitrogen)	mg/L	NG	NG	0.077	-	<0.050	0.051	0.17	0.11	<0.050	<0.050	<0.050	0.068
Orthophosphate (P)	mg/L	NG	NG	0.011	-	0.015	<0.010	0.020	-	0.018	0.015	0.014	0.017
Phenol	mg/L	NG	0.0008	*0.0019*	-	*0.0011*	<0.0010	<0.0010	-	<0.0010	<0.0010	<0.0010	<0.0010
pH	pH	6.5-8.5	NG	6.59	-	7.00	6.19	7.38	-	7.10	6.82	6.63	7.29
Phosphorous	mg/L	NG	NG	<0.020	-	<0.020	<0.020	<0.020	-	<0.020	<0.020	<0.020	0.047
Reactive Silica (SiO2)	mg/L	NG	NG	8.0	-	16	5.9	18	-	22	17	12	21
Saturation pH (@ 20C)	N/A	NG	NG	9.00	-	8.59	9.47	8.27	-	8.36	8.97	9.57	8.24
Saturation pH (@ 4C)	N/A	NG	NG	9.25	-	8.84	9.72	8.53	-	8.62	9.22	9.83	8.49
Total Alkalinity (Total as CaCO3)	mg/L	NG	NG	29	-	41	12	62	-	59	26	14	58
Dissolved Organic Carbon	mg/L	NG	NG	3.4	3.3	0.5	0.80	<0.5	-	<0.5	<0.5	<0.5	<0.5
Total Chemical Oxygen Demand	mg/L	NG	NG	7.7	-	<5.0	<5.0	<5.0	-	<5.0	<5.0	<5.0	<5.0
Total Kjeldahl Nitrogen	mg/L	NG	NG	0.29 (1)	-	<0.20 (1)	<0.20 (1)	<0.20 (1)	-	<0.20 (1)	<0.20 (1)	<0.20 (1)	<0.20 (1)
Total Organic Carbon (C)	mg/L	NG	NG	3.1	-	<0.50	0.56	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Total Suspended Solids	mg/L	NG	NG	<1.0	-	<1.0	<1.0	<1.0	-	<1.0	<1.0	1.6	<1.0
Turbidity	NTU	1 (MAC)	NG	0.39	-	0.49	0.66	<0.10	-	<0.10	7.3	0.49	12

Notes:
AO - Aesthetic Objective
MAC - Maximum Acceptable Concentration
NG - no guideline

value - exceeds CCME drinking water guidelines
value -exceeds NSE EQS
value -exceeds both CCME and NSE EQS
value -RDL exceeds guideline

(1) Elevated reporting limit due to sample matrix.
(2) Reporting limit was increased due to turbidity.
(3) The sample was decanted due to sediment.
(4) Elevated reporting limit due to blank performance.

[1]Criteria taken from Health Canada's Canadian Water Quality Guidelines for Community (Drinking) Water (Update 2014)
[2] Criteria taken from the 2013 Nova Scotia Environment (NSE) Tier 1 Environmental Quality Standards (EQS) for potable water at a residential site with coarse-grained soil

TABLE 2: TOTAL METALS in Potable Water
Client: Town of Yarmouth
Site Location: Lake George Road, Lake George, NS
Englobe Project No.: 21347

PARAMETER	UNITS	Health Canada Drinking Water Guidelines[1]	NSE Tier 1 EQS[2]	Sample ID (Civic No. Lake George Road)							
				PW1 (1938) 2-Feb-16	PW2 (2012 Dug) 2-Feb-16	PW3 (2087 Dug) 2-Feb-16	PW4 (2104 Dug) 2-Feb-16	PW5 (2122 Drill) 2-Feb-16	PW6 (2054 Drill) 2-Feb-16	PW7 (2046 Dug) 2-Feb-16	PW8 (2065 Drill) 2-Feb-16
Aluminum	µg/L	100	NG	85	12	110	<5.0	<5.0	11	34	5.7
Antimony	µg/L	6 (MAC)	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Arsenic	µg/L	10 (MAC)	10	1.2	<1.0	<1.0	3.1	<1.0	<1.0	<1.0	1.1
Barium	µg/L	1000 (MAC)	1000	12	8.1	18	6.2	4.0	6.8	4.2	18
Beryllium	µg/L	NG	4	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bismuth	µg/L	NG	NG	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Boron	µg/L	5000 (MAC)	5000	<50	<50	<50	<50	<50	<50	<50	<50
Cadmium	µg/L	5 (MAC)	5	0.086	0.025	0.072	0.016	<0.010	<0.010	0.034	<0.010
Calcium	µg/L	NG	NG	7100	14000	6500	19000	16000	8900	4000	24000
Chromium	µg/L	50 (MAC)	50	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Cobalt	µg/L	NG	10	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Copper	µg/L	≤1000 (AO)	NG	79	86	260	120	17	31	120	21
Iron	µg/L	≤300 (AO)	NG	100	<50	120	<50	<50	620	66	1000
Lead	µg/L	10 (MAC)	10	1.2	1.3	*15*	<0.50	<0.50	0.69	0.83	7.5
Magnesium	µg/L	NG	NG	2100	2600	1600	2800	4400	2100	2000	5500
Manganese	µg/L	≤50 (AO)	NG	9.8	9.8	30	<2.0	<2.0	65	9.1	420
Mercury	µg/L	1 (MAC)	1	0.015	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013
Molybdenum	µg/L	NG	70	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Nickel	µg/L	NG	100	<2.0	<2.0	7.5	2.2	<2.0	<2.0	<2.0	<2.0
Phosphorus	µg/L	NG	NG	<100	<100	<100	<100	<100	<100	<100	<100
Potassium	µg/L	NG	NG	2700	1700	690	1100	1500	980	590	1600
Selenium	µg/L	10 (MAC)	10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Silver	µg/L	NG	100	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Sodium	µg/L	≤ 200,000 (AO)	200,000	4700	9400	42000	7900	10000	11000	12000	25000
Strontium	µg/L	NG	4400	51	77	33	73	84	46	29	140
Thallium	µg/L	NG	2	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Tin	µg/L	NG	4400	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Titanium	µg/L	NG	NG	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Uranium	µg/L	20 (MAC)	20	0.19	<0.10	<0.10	<0.10	0.16	0.14	<0.10	<0.10
Vanadium	µg/L	NG	6.2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Zinc	µg/L	≤5000 (AO)	5000	8.3	33	210	11	<5.0	12	40	<5.0

Notes:
AO - Aesthetic Objective
MAC - Maximum Acceptable Concentration
NG - no guideline

value - exceeds CCME drinking water guidelines
value -exceeds NSE EQS
value -exceeds both CCME and NSE EQS

[1]Criteria taken from Health Canada's Canadian Water Quality Guidelines for Community (Drinking) Water (Update 2014)
[2] Criteria taken from the 2013 Nova Scotia Environment (NSE) Tier 1 Environmental Quality Standards (EQS) for potable water at a residential site with coarse-grained soil

TABLE 3: VOCs in Potable Water
Client: Town of Yarmouth
Site Location: Lake George Road, Lake George, NS
Englobe Project No.: 21347

PARAMETER	UNITS	Drinking Water Quality Guidelines [1]		NSE Tier 1 EQS[2]	Sample ID (Civic No. Lake George Road)								
		MAC	AO (or OG)		PW1 (1938)	PW2 (2012 Dug)		PW3 (2087 Dug)	PW4 (2104 Dug)	PW5 (2122 Drill)	PW6 (2054 Drill)	PW7 (2046 Dug)	PW8 (2065 Drill)
					2-Feb-16	2-Feb-16	Lab Dup	2-Feb-16	2-Feb-16	2-Feb-16	2-Feb-16	2-Feb-16	2-Feb-16
1,1,1-Trichloroethane	ug/L	NG	NG	200	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2,2-Tetrachloroethane	ug/L	NG	NG	1	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1,2-Trichloroethane	ug/L	NG	NG	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane	ug/L	NG	NG	5	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,1-Dichloroethylene	ug/L	14	NG	14	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2-Dichlorobenzene	ug/L	200	≤3	200	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2-Dichloroethane	ug/L	5	NG	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane	ug/L	NG	NG	5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,3-Dichlorobenzene	ug/L	NG	NG	59	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,4-Dichlorobenzene	ug/L	5	NG	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzene	ug/L	5	NG	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromodichloromethane	ug/L	NG	NG	100	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromoform	ug/L	NG	NG	100	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromomethane	ug/L	NG	NG	0.89	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Carbon Tetrachloride	ug/L	2	NG	0.56	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Chlorobenzene	ug/L	80	≤30	14	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane	ug/L	NG	NG	NG	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0
Chloroform	ug/L	NG	NG	3	<1.0	<1.0	<1.0	1.1	<1.0	<1.0	<1.0	1.1	<1.0
Chloromethane	ug/L	NG	NG	38	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0
cis-1,2-Dichloroethylene	ug/L	NG	NG	1.6	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
cis-1,3-Dichloropropene	ug/L	NG	NG	NG	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dibromochloromethane	ug/L	NG	NG	100	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ethylbenzene	ug/L	NG	≤2.4	2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ethylene Dibromide	ug/L	NG	NG	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Methyl t-butyl ether (MTBE)	ug/L	NG	≤1.5	15	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Methylene Chloride(Dichloromethane)	ug/L	NG	NG	50	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
o-Xylene	ug/L	NG	NG	NG	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
p+m-Xylene	ug/L	NG	NG	NG	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Styrene	ug/L	NG	NG	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethylene	ug/L	30	NG	30	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Toluene	ug/L	NG	≤2.4	24	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Trihalomethanes	ug/L	100	NG	NG	<1.0	<1.0	<1.0	1.1	<1.0	<1.0	<1.0	1.1	<1.0
Total Xylenes	ug/L	NG	≤300	300	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethylene	ug/L	NG	NG	1.6	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
trans-1,3-Dichloropropene	ug/L	NG	NG	NG	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Trichloroethylene	ug/L	5	NG	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichlorofluoromethane (FREON 11)	ug/L	NG	NG	NG	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0
Vinyl Chloride	ug/L	2	NG	1.1	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50

Notes:
AO - Aesthetic Objective
MAC - Maximum Acceptable Concentration
NG - no guideline
OG - Operational Guideline

value - exceeds CCME drinking water guidelines
value -exceeds NSE EQS
value -exceeds both CCME and NSE EQS

[1] Criteria taken from Health Canada's Canadian Water Quality Guidelines for Community (Drinking) Water (Update 2014)
[2] Criteria taken from the 2013 Nova Scotia Environment (NSE) Tier 1 Environmental Quality Standards (EQS) for potable water at a residential site with coarse-grained soil

TABLE 4: GENERAL CHEMISTRY in Surface Water
Client: Town of Yarmouth
Site Location: Lake George Road, Lake George, NS
Englobe Project No.: 21347

PARAMETER	UNITS	CCME FAL[1]	NSE Tier 1 EQS[2]	SAMPLE ID				
				SW1		SW2	SW3	
				Lake George Road W Side		Brook	Lake George Road E Side	
				2-Feb-16	Lab Dup	2-Feb-16	2-Feb-16	Lab Dup
Field pH	pH	6.5-9.0	NG	3.64	-	6.55	6.29	-
Field Conductivity	uS/cm	NG	NG	63	-	46	93	-
Field Temperature	°C	NG	NG	2.85	-	2.91	2.56	-
Field Dissolved Oxygen	mg/L	varies [3]	NG	12.44	-	10.48	10.27	-
Anion Sum	me/L	NG	NG	0.790	-	0.530	1.50	-
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	NG	NG	<1.0	-	<1.0	39	-
Calculated TDS	mg/L	NG	NG	57	-	42	99	-
Carb. Alkalinity (calc. as CaCO3)	mg/L	NG	NG	<1.0	-	<1.0	<1.0	-
Carbanaceous BOD	mg/L	NG	NG	<5.0	-	<5.0	<5.0	-
Cation Sum	me/L	NG	NG	0.870	-	0.720	1.68	-
Colour	TCU	Narrative	NG	510	590	310	460	-
Conductivity	uS/cm	NG	NG	98	-	72	150	-
Chloride (Cl)	mg/L	NG	NG	24	24	16	22	-
Sulphate (SO4)	mg/L	NG	NG	5.5	5.3	3.3	3.6	-
Hardness (CaCO3)	mg/L	NG	NG	5.3	-	5.2	25	-
Ion Balance (% Difference)	%	NG	NG	4.82	-	15.2	5.66	-
Langelier Index (@ 20C)	N/A	NG	NG	NC	-	NC	-2.19	-
Langelier Index (@ 4C)	N/A	NG	NG	NC	-	NC	-2.45	-
Nitrate (N)	mg/L	13	NG	0.056	-	0.065	0.18	-
Nitrate + Nitrite	mg/L	NG	NG	0.056	0.057	0.065	0.18	-
Nitrite (N)	mg/L	NG	NG	<0.010	<0.010	<0.010	<0.010	-
Nitrogen (Ammonia Nitrogen)	mg/L	Varies [4]	NG	<0.050	-	<0.050	0.14	-
Orthophosphate (P)	mg/L	NG	NG	0.031	0.032	0.030	0.044	-
Phenol	mg/L	0.004	0.004	0.0085 (2)	-	0.0026 (3)	0.0052 (3)	-
pH	pH	6.5-9.0	NG	*5.38*	-	*5.89*	6.74	-
Phosphorous	mg/L	Framework[5]	NG	0.072	-	0.069	0.13	0.13
Reactive Silica (SiO2)	mg/L	NG	NG	5.1	5.1	4.6	7.0	-
Saturation pH (@ 20C)	N/A	NG	NG	NC	-	NC	8.94	-
Saturation pH (@ 4C)	N/A	NG	NG	NC	-	NC	9.19	-
Total Alkalinity (Total as CaCO3)	mg/L	NG	NG	<5.0	<5.0	<5.0	39	-
Tannins/Lignins	mg/L	NG	NG	7.4	-	4.7	6.2	-
Total Chemical Oxygen Demand	mg/L	NG	NG	110	-	72	110	-
Total Kjeldahl Nitrogen	mg/L	NG	NG	3.4 (4)	-	2.0 (4)	2.9 (4)	-
Total Organic Carbon (C)	mg/L	NG	NG	21 (2)	-	12 (2)	22 (2)	-
Total Suspended Solids	mg/L	NG	NG	<1.0	-	3.2	26	-
Turbidity	NTU	Narrative	NG	6.0	-	3.9	11	-

Notes:
AO - Aesthetic Objective
MAC - Maximum Acceptable Concentration
NG - no guideline

value - exceeds CCME guidelines
value -exceeds NSE EQS
value -exceeds both CCME and NSE EQS

(1) Elevated reporting limit due to sample matrix.
(2) Reporting limit was increased due to turbidity.
(3) The sample was decanted due to sediment.
(4) Elevated reporting limit due to blank performance.

[1]Criteria taken from the Canadian Council of Ministers of the Environment (CCME) Fresh Water Aquatic Life Guidelines (Update 2015)

[2] Criteria taken from the 2013 Nova Scotia Environment (NSE) Tier 1 Environmental Quality Standards (EQS) for fresh water surface water

[3]Lowest acceptable dissolved oxygen concentration:
for warm water biota: early life stages = 6 mg/L
for warm water biota: other life stages = 5.5 mg/L
for cold water biota: early life stages = 9.5 mg/L
for cold water biota: other life stages = 6.5 mg/L

[4] Ammonia - calculations as per http://st-ts.ccme.ca/en/index.html?lang=en&factsheet=5#aql_fresh_concentration.

[5] Canadian Guidance Framework for Phosphorus is for developing phosphorus guidelines (does not provide guidance on other freshwater nutrients).
It provides Trigger Ranges for Total Phosphorus (µg/L) (see Guidance Framework for Phosphorus factsheet):
ultra-oligotrophic <4
oligotrophic 4-10
mesotrophic 10-20
meso-eutrophic 20-35
eutrophic 35-100
hyper-eutrophic >100

TABLE 5: TOTAL METALS in Surface Water
Client: Town of Yarmouth
Site Location: Lake George Road, Lake George, NS
Englobe Project No.: 21347

PARAMETER	UNITS	CCME FAL[1]	NSE Tier 1 EQS[2]	SAMPLE ID		
				SW1 Lake George Road W Side 2-Feb-16	SW2 Brook 2-Feb-16	SW3 Lake George Road E side 2-Feb-16
Aluminum	µg/L	5 or 100 [3]	5	*550*	*450*	*530*
Antimony	µg/L	NG	20	<1.0	<1.0	<1.0
Arsenic	µg/L	5	5	<1.0	<1.0	1.3
Barium	µg/L	NG	1000	3.0	3.0	9.5
Beryllium	µg/L	NG	5.3	<1.0	<1.0	<1.0
Bismuth	µg/L	NG	NG	<2.0	<2.0	<2.0
Boron	µg/L	1500	1200	<50	<50	<50
Cadmium	µg/L	0.04 - 0.37 [4]	0.01	*0.21*	*0.11*	*0.063*
Calcium	µg/L	NG	NG	1100	1000	6500
Chromium	µg/L	8.9	NG	1.1	<1.0	1.5
Cobalt	µg/L	NG	10	1.2	0.73	1.4
Copper	µg/L	2 - 4 [5]	2	*7.3*	*4.5*	*6.6*
Iron	µg/L	300	300	*820*	*560*	*2200*
Lead	µg/L	1 to 7 [6]	1	*13*	*5.9*	*1.5*
Magnesium	µg/L	NG	NG	620	660	2000
Manganese	µg/L	NG	820	13	16	160
Mercury	µg/L	0.026	0.026	*0.028*	0.022	0.020
Molybdenum	µg/L	73	73	<2.0	<2.0	<2.0
Nickel	µg/L	25 - 150 [7]	25	7.4	3.5	4.4
Phosphorus	µg/L	NG	NG	<100	100	160
Potassium	µg/L	NG	NG	5800	5500	14000
Selenium	µg/L	1	1	<1.0	<1.0	<1.0
Silver	µg/L	0.25	0.1	<0.10	<0.10	<0.10
Sodium	µg/L	NG	NG	13000	10000	17000
Strontium	µg/L	NG	21000	7.4	6.7	31
Thallium	µg/L	0.8	0.8	<0.10	<0.10	<0.10
Tin	µg/L	NG	NG	<2.0	<2.0	<2.0
Titanium	µg/L	NG	NG	12	8.4	10
Uranium	µg/L	15	300	<0.10	<0.10	0.15
Vanadium	µg/L	NG	6	2.4	<2.0	<2.0
Zinc	µg/L	30	30	11	11	21

Notes:
AO - Aesthetic Objective
MAC - Maximum Acceptable Concentration
NG - no guideline

value - exceeds CCME guidelines
value -exceeds NSE EQS
value -exceeds both CCME and NSE EQS

[1] Criteria taken from the Canadian Council of Ministers of the Environment (CCME) Fresh Water Aquatic Life Guidelines (Update 2015)
[2] Criteria taken from the 2013 Nova Scotia Environment (NSE) Tier 1 Environmental Quality Standards (EQS) for fresh water surface water

[3] Aluminium Guideline for pH < 6.5 = 5 ug/L
Aluminium Guideline for pH ≥ 6.5 = 100 ug/L

[4] At [CaCO3] = > 0 to < 17 mg/L, cadmium guideline = 0.04 µg/L
At [CaCO3] = ≥ 17 to ≤ 280 mg/L, cadmium guideline (µg/L) = $10^{\{0.83[\log(\text{hardness})] - 2.46\}}$
At [CaCO3] = > 280 mg/L, cadmium guideline = 0.37 µg/L

[5] At [$CaCO_3$] = 0 to 120 mg/L, copper guideline = 2 ug/L.
At [CaCO3] = 120 to 180 mg/L, copper guideline = 3 ug/L.
At [CaCO3] = > 180 mg/L, copper guideline = 4 ug/L.
If hardness unknown, the CWQG is 2 ug/L

[6] At [$CaCO_3$] = 0 to ≤60 mg/L, lead guideline = 1 ug/L
At [$CaCO_3$] = >60 to ≤180 mg/L, lead guideline = $e^{\{1.273[\ln(\text{hardness})]-4.705\}}$
At [$CaCO_3$] = >180 mg/L, lead guideline = 7 ug/L

[7] At [$CaCO_3$] = 0 to 60 mg/L, nickel guideline = 25 ug/L.
At [CaCO3] = > 60 to ≤ 180 mg/L, nickel guideline (µg/L) = $e^{\{0.76[\ln(\text{hardness})]+1.06\}}$
At [CaCO3] = > 180 mg/L, nickel guideline = 150 µg/L

TABLE 6: VOCs in Surface Water
Client: Town of Yarmouth
Site Location: Lake George Road, Lake George, NS
Englobe Project No.: 21347

PARAMETER	UNITS	CCME FAL[1]	NSE Tier 1 EQS[2]	SAMPLE ID		
				SW1 Lake George Road W Side	SW2 Brook	SW3 Lake George Road E side
				2-Feb-16	2-Feb-16	2-Feb-16
1,1,1-Trichloroethane	ug/L	NG	10	<1.0	<1.0	<1.0
1,1,2,2-Tetrachloroethane	ug/L	NG	70	<0.50	<0.50	<0.50
1,1,2-Trichloroethane	ug/L	NG	800	<1.0	<1.0	<1.0
1,1-Dichloroethane	ug/L	NG	200	<2.0	<2.0	<2.0
1,1-Dichloroethylene	ug/L	NG	40	<0.50	<0.50	<0.50
1,2-Dichlorobenzene	ug/L	0.7	0.7	<0.50	<0.50	<0.50
1,2-Dichloroethane	ug/L	100	100	<1.0	<1.0	<1.0
1,2-Dichloropropane	ug/L	NG	0.7	<0.50	<0.50	<0.50
1,3-Dichlorobenzene	ug/L	150	150	<1.0	<1.0	<1.0
1,4-Dichlorobenzene	ug/L	26	26	<1.0	<1.0	<1.0
Benzene	ug/L	370	2100	<1.0	<1.0	<1.0
Bromodichloromethane	ug/L	NG	200	<1.0	<1.0	<1.0
Bromoform	ug/L	NG	60	<1.0	<1.0	<1.0
Bromomethane	ug/L	NG	0.9	<0.50	<0.50	<0.50
Carbon Tetrachloride	ug/L	13.3	13.3	<0.50	<0.50	<0.50
Chlorobenzene	ug/L	1.3	1.3	<1.0	<1.0	<1.0
Chloroethane	ug/L	NG	1100	<8.0	<8.0	<8.0
Chloroform	ug/L	1.8	1.8	<1.0	<1.0	<1.0
Chloromethane	ug/L	NG	700	<8.0	<8.0	<8.0
cis-1,2-Dichloroethylene	ug/L	NG	200	<0.50	<0.50	<0.50
cis-1,3-Dichloropropene	ug/L	NG	NG	<0.50	<0.50	<0.50
Dibromochloromethane	ug/L	NG	40	<1.0	<1.0	<1.0
Ethylbenzene	ug/L	90	320	<1.0	<1.0	<1.0
Ethylene Dibromide	ug/L	NG	5	<0.20	<0.20	<0.20
Methyl t-butyl ether (MTBE)	ug/L	10,000	10,000	<2.0	<2.0	<2.0
Methylene Chloride(Dichloromethane)	ug/L	98.1	98.1	<3.0	<3.0	<3.0
o-Xylene	ug/L	NG	NG	<1.0	<1.0	<1.0
p+m-Xylene	ug/L	NG	NG	<2.0	<2.0	<2.0
Styrene	ug/L	72	72	<1.0	<1.0	<1.0
Tetrachloroethylene (PCE)	ug/L	110	111	<1.0	<1.0	<1.0
Toluene	ug/L	2	770	<1.0	<1.0	<1.0
Total Trihalomethanes	ug/L	NG	NG	<1.0	<1.0	<1.0
Total Xylenes	ug/L	NG	330	<1.0	<1.0	<1.0
trans-1,2-Dichloroethylene	ug/L	NG	200	<0.50	<0.50	<0.50
trans-1,3-Dichloropropene	ug/L	NG	NG	<0.50	<0.50	<0.50
Trichloroethylene	ug/L	21	21	<1.0	<1.0	<1.0
Trichlorofluoromethane (FREON 11)	ug/L	NG	2100	<8.0	<8.0	<8.0
Vinyl Chloride	ug/L	NG	600	<0.50	<0.50	<0.50

Notes:

value - exceeds CCME guidelines

value -exceeds NSE EQS

value -exceeds both CCME and NSE EQS

[1]Criteria taken from the Canadian Council of Ministers of the Environment (CCME) Fresh Water Aquatic Life Guidelines (Update 2015)

[2] Criteria taken from the 2013 Nova Scotia Environment (NSE) Tier 1 Environmental Quality Standards (EQS) for fresh water surface water

TABLE 7: GENERAL CHEMISTRY in Groundwater (Monitor Wells)
Client: Town of Yarmouth
Site Location: Lake George Road, Lake George, NS
Englobe Project No.: 21347

PARAMETER	UNITS	Health Canada Drinking Water Guidelines[1]	NSE Tier 1 EQS[2]	Sample ID (Civic No. Lake George Road)		
				MW1 (2014 Crock)		MW2 (2014)
				2-Feb-16	Lab Dup	2-Feb-16
Field pH	pH	6.5-8.5	NG	6.44	-	6.1
Field Conductivity	uS/cm	NG	NG	366	-	409
Field Temperature	°C	NG	NG	4.14	-	5.6
Anion Sum	me/L	NG	NG	6.12	-	6.29
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	NG	NG	220	-	120
Calculated TDS	mg/L	≤ 500 (AO)	NG	360	-	510
Carb. Alkalinity (calc. as CaCO3)	mg/L	NG	NG	<1.0	-	<1.0
Cation Sum	me/L	NG	NG	6.12	-	12.2
Colour	TCU	≤ 15 (AO)	NG	1100	-	14
Conductivity	uS/cm	NG	NG	530	-	600
Chloride (Cl)	mg/L	≤ 250 (AO)	250	41	-	90
Sulphate (SO4)	mg/L	≤ 500 (AO)	NG	18	-	45
Hardness (CaCO3)	mg/L	NG	NG	120	-	310
Ion Balance (% Difference)	%	NG	NG	0.00	-	31.9
Langelier Index (@ 20C)	N/A	NG	NG	-0.146	-	-0.571
Langelier Index (@ 4C)	N/A	NG	NG	-0.395	-	-0.819
Nitrate (N)	mg/L	10 (MAC)	NG	0.75	-	4.8
Nitrate + Nitrite	mg/L	NG	NG	0.75	-	4.8
Nitrite (N)	mg/L	3.2 (MAC)	NG	<0.010	-	0.044
Nitrogen (Ammonia Nitrogen)	mg/L	NG	NG	0.35	-	0.37
Orthophosphate (P)	mg/L	NG	NG	0.28	-	0.011
Phenol	mg/L	NG	0.0008	*0.040 (2)*	-	*0.0037 (3)*
pH	pH	6.5-8.5	NG	7.42	-	6.94
Phosphorous	mg/L	NG	NG	0.76	-	4.30
Reactive Silica (SiO2)	mg/L	NG	NG	8.0	-	6.7
Saturation pH (@ 20C)	N/A	NG	NG	7.56	-	7.51
Saturation pH (@ 4C)	N/A	NG	NG	7.81	-	7.76
Total Alkalinity (Total as CaCO3)	mg/L	NG	NG	230	-	120
Dissolved Organic Carbon	mg/L	NG	NG	41 (1)	-	14
Total Chemical Oxygen Demand	mg/L	NG	NG	230	-	110
Total Kjeldahl Nitrogen	mg/L	NG	NG	8.2 (4)	-	3.3 (4)
Total Organic Carbon (C)	mg/L	NG	NG	40 (1)	-	<50 (2)
Total Suspended Solids	mg/L	NG	NG	300	-	9300
Turbidity	NTU	1 (MAC)	NG	89	88	>1000

PARAMETER	UNITS	CCME FAL[3]	NSE Tier 1 EQS[4]	Sample ID (Civic No. Lake George Road)		
				MW1 (2014 Crock)		MW2 (2014)
				2-Feb-16	Lab Dup	2-Feb-16
Field pH	pH	6.5-9.0	NG	6.44	-	6.1
Field Conductivity	uS/cm	NG	NG	366	-	409
Field Temperature	°C	NG	NG	4.14	-	5.6
Anion Sum	me/L	NG	NG	6.12	-	6.29
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	NG	NG	220	-	120
Calculated TDS	mg/L	NG	NG	360	-	510
Carb. Alkalinity (calc. as CaCO3)	mg/L	NG	NG	<1.0	-	<1.0
Cation Sum	me/L	NG	NG	6.12	-	12.2
Colour	TCU	NG	NG	1100	-	14
Conductivity	uS/cm	NG	NG	530	-	600
Chloride (Cl)	mg/L	Narrative	NG	41	-	90
Sulphate (SO4)	mg/L	NG	NG	18	-	45
Hardness (CaCO3)	mg/L	NG	NG	120	-	310
Ion Balance (% Difference)	%	NG	NG	0.00	-	31.9
Langelier Index (@ 20C)	N/A	NG	NG	-0.146	-	-0.571
Langelier Index (@ 4C)	N/A	NG	NG	-0.395	-	-0.819
Nitrate (N)	mg/L	NG	NG	0.75	-	4.8
Nitrate + Nitrite	mg/L	NG	NG	0.75	-	4.8
Nitrite (N)	mg/L	13	NG	<0.010	-	0.044
Nitrogen (Ammonia Nitrogen)	mg/L	Varies [5]	NG	0.35	-	0.37
Orthophosphate (P)	mg/L	NG	NG	0.28	-	0.011
Phenol	mg/L	0.004	0.004	*0.040 (2)*	-	0.0037 (3)
pH	pH	6.5-9.0	NG	7.42	-	6.94
Phosphorous	mg/L	Framework[6]	NG	0.76	-	4.30
Reactive Silica (SiO2)	mg/L	NG	NG	8.0	-	6.7
Saturation pH (@ 20C)	N/A	NG	NG	7.56	-	7.51
Saturation pH (@ 4C)	N/A	NG	NG	7.81	-	7.76
Total Alkalinity (Total as CaCO3)	mg/L	NG	NG	230	-	120
Dissolved Organic Carbon	mg/L	NG	NG	41 (1)	-	14
Total Chemical Oxygen Demand	mg/L	NG	NG	230	-	110
Total Kjeldahl Nitrogen	mg/L	NG	NG	8.2 (4)	-	3.3 (4)
Total Organic Carbon (C)	mg/L	NG	NG	40 (1)	-	<50 (2)
Total Suspended Solids	mg/L	NG	NG	300	-	9300
Turbidity	NTU	Narrative	NG	89	88	>1000

Notes:
AO - Aesthetic Objective
MAC - Maximum Acceptable Concentration
NG - no guideline

value - exceeds CCME guidelines
value -exceeds NSE EQS
value -exceeds both CCME and NSE EQS

[1]Criteria taken from Health Canada's Canadian Water Quality Guidelines for Community (Drinking) Water (Update 2014)

[2] Criteria taken from the 2013 Nova Scotia Environment (NSE) Tier 1 Environmental Quality Standards (EQS) for potable water at a residential site with coarse-grained soil

[3]Criteria taken from the Canadian Council of Ministers of the Environment (CCME) Fresh Water Aquatic Life Guidelines (Update 2015)

[4] Criteria taken from the 2013 Nova Scotia Environment (NSE) Tier 1 Environmental Quality Standards (EQS) for fresh water surface water

[5] Ammonia - calculations as per http://st-ts.ccme.ca/en/index.html?lang=en&factsheet=5#aql_fresh_concentration.

[6] Canadian Guidance Framework for Phosphorus is for developing phosphorus guidelines (does not provide guidance on other freshwater nutrients).
It provides Trigger Ranges for Total Phosphorus (µg/L) (see Guidance Framework for Phosphorus factsheet):
ultra-oligotrophic <4
oligotrophic 4-10
mesotrophic 10-20
meso-eutrophic 20-35
eutrophic 35-100
hyper-eutrophic >100

TABLE 8: TOTAL METALS in Groundwater
Client: Town of Yarmouth
Site Location: Lake George Road, Lake George, NS
Englobe Project No.: 21347

PARAMETER	UNITS	Health Canada Drinking Water Guidelines[1]	NSE Tier 1 EQS[2]	Sample ID (Civic No. Lake George Road) MW1 (2014 Crock) 2-Feb-16	MW2 (onsite Monitor well) 2-Feb-16
Aluminum	µg/L	100	NG	810	70000
Antimony	µg/L	6 (MAC)	6	<1.0	<1.0
Arsenic	µg/L	10 (MAC)	10	10	*49*
Barium	µg/L	1000 (MAC)	1000	31	280
Beryllium	µg/L	NG	4	<1.0	3.2
Bismuth	µg/L	NG	NG	<2.0	<2.0
Boron	µg/L	5000 (MAC)	5000	75	250
Cadmium	µg/L	5 (MAC)	5	0.33	0.17
Calcium	µg/L	NG	NG	33000	74000
Chromium	µg/L	50 (MAC)	50	3.0	*110*
Cobalt	µg/L	NG	10	7.9	*61*
Copper	µg/L	≤1000 (AO)	NG	37	260
Iron	µg/L	≤300 (AO)	NG	14000	110000
Lead	µg/L	10 (MAC)	10	5.0	*30*
Magnesium	µg/L	NG	NG	9600	31000
Manganese	µg/L	≤50 (AO)	NG	1100	3600
Mercury	µg/L	1 (MAC)	1	0.020	<0.013
Molybdenum	µg/L	NG	70	2.2	<2.0
Nickel	µg/L	NG	100	10	*120*
Phosphorus	µg/L	NG	NG	740	3300
Potassium	µg/L	NG	NG	51000	21000
Selenium	µg/L	10 (MAC)	10	<1.0	<1.0
Silver	µg/L	NG	100	<0.10	0.24
Sodium	µg/L	≤ 200,000 (AO)	200,000	42000	33000
Strontium	µg/L	NG	4400	120	240
Thallium	µg/L	NG	2	<0.10	0.55
Tin	µg/L	NG	4400	<2.0	<2.0
Titanium	µg/L	NG	NG	22	1800
Uranium	µg/L	20 (MAC)	20	1.4	5.0
Vanadium	µg/L	NG	6.2	3.6	*100*
Zinc	µg/L	≤5000 (AO)	5000	54	210

PARAMETER	UNITS	CCME FAL[3]	NSE Tier 1 EQS[4]	Sample ID (Civic No. Lake George Road) MW1 (2014 Crock) 2-Feb-16	MW2 (onsite Monitor well) 2-Feb-16
Aluminum	µg/L	5 or 100 [5]	5	*810*	*70000*
Antimony	µg/L	NG	20	<1.0	<1.0
Arsenic	µg/L	5	5	*10*	*49*
Barium	µg/L	NG	1000	31	280
Beryllium	µg/L	NG	5.3	<1.0	3.2
Bismuth	µg/L	NG	NG	<2.0	<2.0
Boron	µg/L	1500	1200	75	250
Cadmium	µg/L	0.04 - 0.37 [6]	0.01	*0.33*	*0.17*
Calcium	µg/L	NG	NG	33000	74000
Chromium	µg/L	8.9	NG	3.0	110
Cobalt	µg/L	NG	10	7.9	*61*
Copper	µg/L	2 - 4 [7]	2	*37*	*260*
Iron	µg/L	300	300	*14000*	*110000*
Lead	µg/L	1 to 7 [8]	1	*5.0*	*30*
Magnesium	µg/L	NG	NG	9600	31000
Manganese	µg/L	NG	820	*1100*	*3600*
Mercury	µg/L	0.026	0.026	0.020	<0.013
Molybdenum	µg/L	73	73	2.2	<2.0
Nickel	µg/L	25 - 150 [9]	25	10	*120*
Phosphorus	µg/L	NG	NG	740	3300
Potassium	µg/L	NG	NG	51000	21000
Selenium	µg/L	1	1	<1.0	<1.0
Silver	µg/L	0.25	0.1	<0.10	*0.24*
Sodium	µg/L	NG	NG	42000	33000
Strontium	µg/L	NG	21000	120	240
Thallium	µg/L	0.8	0.8	<0.10	0.55
Tin	µg/L	NG	NG	<2.0	<2.0
Titanium	µg/L	NG	NG	22	1800
Uranium	µg/L	15	300	1.4	5.0
Vanadium	µg/L	NG	6	3.6	*100*
Zinc	µg/L	30	30	*54*	*210*

Notes:
AO - Aesthetic Objective
MAC - Maximum Acceptable Concentration
NG - no guideline

value - exceeds CCME guidelines
value -exceeds NSE EQS
value -exceeds both CCME and NSE EQS

[1] Criteria taken from Health Canada's Canadian Water Quality Guidelines for Community (Drinking) Water (Update 2014)

[2] Criteria taken from the 2013 Nova Scotia Environment (NSE) Tier 1 Environmental Quality Standards (EQS) for potable water at a residential site with coarse-grained soil

[3] Criteria taken from the Canadian Council of Ministers of the Environment (CCME) Fresh Water Aquatic Life Guidelines (Update 2015)

[4] Criteria taken from the 2013 Nova Scotia Environment (NSE) Tier 1 Environmental Quality Standards (EQS) for fresh water surface water

[5] Aluminium Guideline for pH < 6.5 = 5 ug/L
Aluminium Guideline for pH ≥ 6.5 = 100 ug/L

[6] At [CaCO3] = > 0 to < 17 mg/L, cadmium guideline = 0.04 µg/L
At [CaCO3] = ≥ 17 to ≤ 280 mg/L, cadmium guideline (µg/L) = $10^{\{0.83[\log[\text{hardness}]) - 2.46\}}$
At [CaCO3] = > 280 mg/L, cadmium guideline = 0.37 µg/L

[7] At [$CaCO_3$] = 0 to 120 mg/L, copper guideline = 2 ug/L.
At [CaCO3] = 120 to 180 mg/L, copper guideline = 3 ug/L.
At [CaCO3] = > 180 mg/L, copper guideline = 4 ug/L.
If hardness unknown, the CWQG is 2 ug/L

[8] At [$CaCO_3$] = 0 to ≤60 mg/L, lead guideline = 1 ug/L
At [$CaCO_3$] = >60 to ≤180 mg/L, lead guideline = $e^{(1.273[\ln(\text{hardness})]-4.705)}$
At [$CaCO_3$] = >180 mg/L, lead guideline = 7 ug/L

[9] At [$CaCO_3$] = 0 to 60 mg/L, nickel guideline = 25 ug/L.
At [CaCO3] = > 60 to ≤ 180 mg/L, nickel guideline (µg/L) = $e^{\{0.76[\ln(\text{hardness})]+1.06\}}$
At [CaCO3] = > 180 mg/L, nickel guideline = 150 µg/L

TABLE 9: VOCs in Groundwater
Client: Town of Yarmouth
Site Location: Lake George Road, Lake George, NS
Englobe Project No.: 21347

PARAMETER	UNITS	Drinking Water Quality Guidelines [1]		NSE Tier 1 EQS[2]	Sample ID (Civic No. Lake George Road)	
		MAC	AO (or OG)		MW1 (2014 Crock) 2-Feb-16	MW2 (2014) 2-Feb-16
1,1,1-Trichloroethane	ug/L	NG	NG	200	<1.0	<1.0
1,1,2,2-Tetrachloroethane	ug/L	NG	NG	1	<0.50	<0.50
1,1,2-Trichloroethane	ug/L	NG	NG	5	<1.0	<1.0
1,1-Dichloroethane	ug/L	NG	NG	5	<2.0	<2.0
1,1-Dichloroethylene	ug/L	14	NG	14	<0.50	<0.50
1,2-Dichlorobenzene	ug/L	200	≤3	200	<0.50	<0.50
1,2-Dichloroethane	ug/L	5	NG	5	<1.0	<1.0
1,2-Dichloropropane	ug/L	NG	NG	5	<0.50	<0.50
1,3-Dichlorobenzene	ug/L	NG	NG	59	<1.0	<1.0
1,4-Dichlorobenzene	ug/L	5	NG	5	<1.0	<1.0
Benzene	ug/L	5	NG	5	<1.0	<1.0
Bromodichloromethane	ug/L	NG	NG	100	<1.0	<1.0
Bromoform	ug/L	NG	NG	100	<1.0	<1.0
Bromomethane	ug/L	NG	NG	0.89	<0.50	<0.50
Carbon Tetrachloride	ug/L	2	NG	0.56	<0.50	<0.50
Chlorobenzene	ug/L	80	≤30	14	<1.0	<1.0
Chloroethane	ug/L	NG	NG	NG	<8.0	<8.0
Chloroform	ug/L	NG	NG	3	<1.0	<1.0
Chloromethane	ug/L	NG	NG	38	<8.0	<8.0
cis-1,2-Dichloroethylene	ug/L	NG	NG	1.6	<0.50	<0.50
cis-1,3-Dichloropropene	ug/L	NG	NG	NG	<0.50	<0.50
Dibromochloromethane	ug/L	NG	NG	100	<1.0	<1.0
Ethylbenzene	ug/L	NG	≤2.4	2	<1.0	<1.0
Ethylene Dibromide	ug/L	NG	NG	0.2	<0.20	<0.20
Methyl t-butyl ether (MTBE)	ug/L	NG	≤1.5	15	<2.0	<2.0
Methylene Chloride(Dichloromethane)	ug/L	NG	NG	50	<3.0	<3.0
o-Xylene	ug/L	NG	NG	NG	<1.0	<1.0
p+m-Xylene	ug/L	NG	NG	NG	<2.0	<2.0
Styrene	ug/L	NG	NG	1	<1.0	<1.0
Tetrachloroethylene	ug/L	30	NG	30	<1.0	<1.0
Toluene	ug/L	NG	≤2.4	24	<1.0	<1.0
Total Trihalomethanes	ug/L	100	NG	NG	<1.0	<1.0
Total Xylenes	ug/L	NG	≤300	300	<1.0	<1.0
trans-1,2-Dichloroethylene	ug/L	NG	NG	1.6	<0.50	<0.50
trans-1,3-Dichloropropene	ug/L	NG	NG	NG	<0.50	<0.50
Trichloroethylene	ug/L	5	NG	5	<1.0	<1.0
Trichlorofluoromethane (FREON 11)	ug/L	NG	NG	NG	<8.0	<8.0
Vinyl Chloride	ug/L	2	NG	1.1	<0.50	<0.50

PARAMETER	UNITS	CCME FAL[3]	NSE Tier 1 EQS[4]	Sample ID (Civic No. Lake George Road)	
				MW1 (2014 Crock) 2-Feb-16	MW2 (2014) 2-Feb-16
1,1,1-Trichloroethane	ug/L	NG	10	<1.0	<1.0
1,1,2,2-Tetrachloroethane	ug/L	NG	70	<0.50	<0.50
1,1,2-Trichloroethane	ug/L	NG	800	<1.0	<1.0
1,1-Dichloroethane	ug/L	NG	200	<2.0	<2.0
1,1-Dichloroethylene	ug/L	NG	40	<0.50	<0.50
1,2-Dichlorobenzene	ug/L	0.7	0.7	<0.50	<0.50
1,2-Dichloroethane	ug/L	100	100	<1.0	<1.0
1,2-Dichloropropane	ug/L	NG	0.7	<0.50	<0.50
1,3-Dichlorobenzene	ug/L	150	150	<1.0	<1.0
1,4-Dichlorobenzene	ug/L	26	26	<1.0	<1.0
Benzene	ug/L	370	2100	<1.0	<1.0
Bromodichloromethane	ug/L	NG	200	<1.0	<1.0
Bromoform	ug/L	NG	60	<1.0	<1.0
Bromomethane	ug/L	NG	0.9	<0.50	<0.50
Carbon Tetrachloride	ug/L	13.3	13.3	<0.50	<0.50
Chlorobenzene	ug/L	1.3	1.3	<1.0	<1.0
Chloroethane	ug/L	NG	1100	<8.0	<8.0
Chloroform	ug/L	1.8	1.8	<1.0	<1.0
Chloromethane	ug/L	NG	700	<8.0	<8.0
cis-1,2-Dichloroethylene	ug/L	NG	200	<0.50	<0.50
cis-1,3-Dichloropropene	ug/L	NG	NG	<0.50	<0.50
Dibromochloromethane	ug/L	NG	40	<1.0	<1.0
Ethylbenzene	ug/L	90	320	<1.0	<1.0
Ethylene Dibromide	ug/L	NG	5	<0.20	<0.20
Methyl t-butyl ether (MTBE)	ug/L	10,000	10,000	<2.0	<2.0
Methylene Chloride(Dichloromethane)	ug/L	98.1	98.1	<3.0	<3.0
o-Xylene	ug/L	NG	NG	<1.0	<1.0
p+m-Xylene	ug/L	NG	NG	<2.0	<2.0
Styrene	ug/L	72	72	<1.0	<1.0
Tetrachloroethylene	ug/L	110	111	<1.0	<1.0
Toluene	ug/L	2	770	<1.0	<1.0
Total Trihalomethanes	ug/L	NG	NG	<1.0	<1.0
Total Xylenes	ug/L	NG	330	<1.0	<1.0
trans-1,2-Dichloroethylene	ug/L	NG	200	<0.50	<0.50
trans-1,3-Dichloropropene	ug/L	NG	NG	<0.50	<0.50
Trichloroethylene	ug/L	21	21	<1.0	<1.0
Trichlorofluoromethane (FREON 11)	ug/L	NG	2100	<8.0	<8.0
Vinyl Chloride	ug/L	NG	600	<0.50	<0.50

Notes:
AO - Aesthetic Objective
MAC - Maximum Acceptable Concentration
NG - no guideline
OG - Operational Guideline

value - exceeds CCME guidelines
value -exceeds NSE EQS
value -exceeds both CCME and NSE EQS

[1] Criteria taken from Health Canada's Canadian Water Quality Guidelines for Community (Drinking) Water (Update 2014)
[2] Criteria taken from the 2013 Nova Scotia Environment (NSE) Tier 1 Environmental Quality Standards (EQS) for potable water at a residential site with coarse-grained soil
[3] Criteria taken from the Canadian Council of Ministers of the Environment (CCME) Fresh Water Aquatic Life Guidelines (Update 2015)
[4] Criteria taken from the 2013 Nova Scotia Environment (NSE) Tier 1 Environmental Quality Standards (EQS) for fresh water surface water

Appendix 3 Laboratory Certificates of Analysis

Your Project #: 21347
Your C.O.C. #: 547372-01-01, 547372-02-01

Attention:Lisa Ladouceur

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

Report Date: 2016/02/17
Report #: R3897347
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

MAXXAM JOB #: B622733
Received: 2016/02/03, 12:14

Sample Matrix: Adsorbable
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Total Suspended Solids	1	2016/02/08	2016/02/09	ATL SOP 00007	SM 22 2540D m

Sample Matrix: Drinking Water
Samples Received: 8

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Carbonate, Bicarbonate and Hydroxide	8	N/A	2016/02/05	N/A	SM 22 4500-CO2 D
Alkalinity	8	N/A	2016/02/09	ATL SOP 00013	EPA 310.2 R1974 m
Chloride	8	N/A	2016/02/08	ATL SOP 00014	SM 22 4500-Cl- E m
Chemical Oxygen Demand (COD)	8	N/A	2016/02/12	ATL SOP 00042	SM 22 5220D m
Colour	8	N/A	2016/02/08	ATL SOP 00020	SM 22 2120C m
Organic carbon - Diss (DOC) (as rec'd) (1)	8	N/A	2016/02/10	ATL SOP 00037	SM 22 5310C m
Conductance - water	8	N/A	2016/02/05	ATL SOP 00004	SM 22 2510B m
Hardness (calculated as CaCO3)	8	N/A	2016/02/08	ATL SOP 00048	SM 22 2340 B
Mercury - Total (CVAA,LL)	8	2016/02/09	2016/02/10	ATL SOP 00026	EPA 245.1 R3 m
Metals Water Total MS	8	2016/02/05	2016/02/05	ATL SOP 00058	EPA 6020A R1 m
Ion Balance (% Difference)	8	N/A	2016/02/10		Auto Calc.
Anion and Cation Sum	8	N/A	2016/02/10		Auto Calc.
Nitrogen Ammonia - water	8	N/A	2016/02/09	ATL SOP 00015	EPA 350.1 R2 m
Nitrogen - Nitrate + Nitrite	8	N/A	2016/02/09	ATL SOP 00016	USGS SOPINCF0452.2 m
Nitrogen - Nitrite	8	N/A	2016/02/08	ATL SOP 00017	SM 22 4500-NO2- B m
Nitrogen - Nitrate (as N)	8	N/A	2016/02/09	ATL SOP 00018	ASTM D3867
Phenols (4-AAP)	7	N/A	2016/02/11	ATL SOP 00039	EPA 420.2 m
Phenols (4-AAP)	1	N/A	2016/02/12	ATL SOP 00039	EPA 420.2 m
pH (2)	8	N/A	2016/02/05	ATL SOP 00003	SM 22 4500-H+ B m
Phosphorus - ortho	8	N/A	2016/02/08	ATL SOP 00021	EPA 365.2 m
Sat. pH and Langelier Index (@ 20C)	8	N/A	2016/02/10	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 4C)	8	N/A	2016/02/10	ATL SOP 00049	Auto Calc.
Reactive Silica	8	N/A	2016/02/09	ATL SOP 00022	EPA 366.0 m
Sulphate	8	N/A	2016/02/09	ATL SOP 00023	EPA 375.4 R1978 m
Total Dissolved Solids (TDS calc)	8	N/A	2016/02/10		Auto Calc.

Your Project #: 21347
Your C.O.C. #: 547372-01-01, 547372-02-01

Attention:Lisa Ladouceur

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

Report Date: 2016/02/17
Report #: R3897347
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

MAXXAM JOB #: B622733
Received: 2016/02/03, 12:14

Sample Matrix: Drinking Water
Samples Received: 8

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Nitrogen TKN - water (as N)	8	2016/02/08	2016/02/09	ATL SOP 00019	EPA 351.2 R2 m
Organic carbon - Total (TOC) (3)	8	N/A	2016/02/08	ATL SOP 00037	SM 22 5310C m
Phosphorus Total Colourimetry	8	2016/02/04	2016/02/08	ATL SOP 00057	EPA 365.1 R2 m
Total Suspended Solids	2	2016/02/08	2016/02/09	ATL SOP 00007	SM 22 2540D m
Total Suspended Solids	6	2016/02/08	2016/02/10	ATL SOP 00007	SM 22 2540D m
Turbidity	8	N/A	2016/02/05	ATL SOP 00011	EPA 180.1 R2 m
Volatile Organic Compounds in Water	1	N/A	2016/02/09	ATL SOP 00133	EPA 8260C R3 m
Volatile Organic Compounds in Water	7	N/A	2016/02/11	ATL SOP 00133	EPA 8260C R3 m

Sample Matrix: Water
Samples Received: 5

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Carbonate, Bicarbonate and Hydroxide	5	N/A	2016/02/05	N/A	SM 22 4500-CO2 D
Alkalinity	5	N/A	2016/02/09	ATL SOP 00013	EPA 310.2 R1974 m
Carbonaceous BOD	3	2016/02/04	2016/02/09	ATL SOP 00041	SM 22 5210B m
Chloride	5	N/A	2016/02/08	ATL SOP 00014	SM 22 4500-Cl- E m
Chemical Oxygen Demand (COD)	5	N/A	2016/02/12	ATL SOP 00042	SM 22 5220D m
Colour	5	N/A	2016/02/08	ATL SOP 00020	SM 22 2120C m
Organic carbon - Diss (DOC) (as rec'd) (1)	2	N/A	2016/02/10	ATL SOP 00037	SM 22 5310C m
Conductance - water	5	N/A	2016/02/05	ATL SOP 00004	SM 22 2510B m
Hardness (calculated as CaCO3)	3	N/A	2016/02/08	ATL SOP 00048	SM 22 2340 B
Hardness (calculated as CaCO3)	2	N/A	2016/02/09	ATL SOP 00048	SM 22 2340 B
Mercury - Total (CVAA,LL)	2	2016/02/04	2016/02/05	ATL SOP 00026	EPA 245.1 R3 m
Mercury - Total (CVAA,LL)	3	2016/02/09	2016/02/10	ATL SOP 00026	EPA 245.1 R3 m
Metals Water Total MS	3	2016/02/05	2016/02/05	ATL SOP 00058	EPA 6020A R1 m
Metals Water Total MS	2	2016/02/08	2016/02/09	ATL SOP 00058	EPA 6020A R1 m
Ion Balance (% Difference)	5	N/A	2016/02/10		Auto Calc.
Anion and Cation Sum	5	N/A	2016/02/10		Auto Calc.
Nitrogen Ammonia - water	5	N/A	2016/02/09	ATL SOP 00015	EPA 350.1 R2 m
Nitrogen - Nitrate + Nitrite	5	N/A	2016/02/09	ATL SOP 00016	USGS SOPINCF0452.2 m

Maxxam
A Bureau Veritas Group Company

Your Project #: 21347
Your C.O.C. #: 547372-01-01, 547372-02-01

Attention:Lisa Ladouceur

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

Report Date: 2016/02/17
Report #: R3897347
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

MAXXAM JOB #: B622733
Received: 2016/02/03, 12:14

Sample Matrix: Water
Samples Received: 5

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Nitrogen - Nitrite	5	N/A	2016/02/08	ATL SOP 00017	SM 22 4500-NO2- B m
Nitrogen - Nitrate (as N)	5	N/A	2016/02/09	ATL SOP 00018	ASTM D3867
Phenols (4-AAP)	5	N/A	2016/02/11	ATL SOP 00039	EPA 420.2 m
pH (2)	5	N/A	2016/02/05	ATL SOP 00003	SM 22 4500-H+ B m
Phosphorus - ortho	5	N/A	2016/02/08	ATL SOP 00021	EPA 365.2 m
Sat. pH and Langelier Index (@ 20C)	2	N/A	2016/02/09	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 20C)	3	N/A	2016/02/10	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 4C)	2	N/A	2016/02/09	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 4C)	3	N/A	2016/02/10	ATL SOP 00049	Auto Calc.
Reactive Silica	5	N/A	2016/02/09	ATL SOP 00022	EPA 366.0 m
Sulphate	5	N/A	2016/02/09	ATL SOP 00023	EPA 375.4 R1978 m
Tannins & Lignins (4)	3	N/A	2016/02/11	CAM SOP-00410	SM 22 5550 B m
Total Dissolved Solids (TDS calc)	5	N/A	2016/02/10		Auto Calc.
Nitrogen TKN - water (as N)	5	2016/02/08	2016/02/09	ATL SOP 00019	EPA 351.2 R2 m
Organic carbon - Total (TOC) (3)	5	N/A	2016/02/08	ATL SOP 00037	SM 22 5310C m
Phosphorus Total Colourimetry	5	2016/02/04	2016/02/08	ATL SOP 00057	EPA 365.1 R2 m
Total Suspended Solids	3	2016/02/08	2016/02/10	ATL SOP 00007	SM 22 2540D m
Total Suspended Solids	1	2016/02/10	2016/02/11	ATL SOP 00007	SM 22 2540D m
Turbidity	5	N/A	2016/02/05	ATL SOP 00011	EPA 180.1 R2 m
Volatile Organic Compounds in Water	2	N/A	2016/02/09	ATL SOP 00133	EPA 8260C R3 m
Volatile Organic Compounds in Water	3	N/A	2016/02/11	ATL SOP 00133	EPA 8260C R3 m

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) TOC / DOC present in the sample should be considered as non-purgeable TOC / DOC
(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.
(3) TOC / DOC present in the sample should be considered as non-purgeable TOC / DOC.
(4) This test was performed by Maxxam Analytics Mississauga

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

Your Project #: 21347
Your C.O.C. #: 547372-01-01, 547372-02-01

Attention:Lisa Ladouceur

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

Report Date: 2016/02/17
Report #: R3897347
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

MAXXAM JOB #: B622733
Received: 2016/02/03, 12:14

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Avery Withrow, Project Manager
Email: AWithrow@maxxam.ca
Phone# (902)420-0203 Ext:233

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

Maxxam Job #: B622733
Report Date: 2016/02/17

Englobe Corp.
Client Project #: 21347
Sampler Initials: LL

ATLANTIC RCAP-MS TOTAL METALS IN WATER (DRINKING WATER)

Maxxam ID		BUC622	BUC623		BUC624		BUC625			
Sampling Date		2016/02/02 10:00	2016/02/02 10:30		2016/02/02 11:00		2016/02/02 11:30			
COC Number		547372-01-01	547372-01-01		547372-01-01		547372-01-01			
	UNITS	PW1	PW2	QC Batch	PW3	QC Batch	PW4	RDL	QC Batch	MDL
Calculated Parameters										
Anion Sum	me/L	0.850	1.51	4369555	2.64	4369555	1.72	N/A	4369555	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	29	41	4369552	12	4369552	61	1.0	4369552	0.20
Calculated TDS	mg/L	54	97	4369559	150	4369559	110	1.0	4369559	0.20
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	<1.0	4369552	<1.0	4369552	<1.0	1.0	4369552	0.20
Cation Sum	me/L	0.820	1.36	4369555	2.30	4369555	1.57	N/A	4369555	N/A
Hardness (CaCO3)	mg/L	27	45	4369553	23	4369553	59	1.0	4369553	1.0
Ion Balance (% Difference)	%	1.80	5.23	4369554	6.88	4369554	4.56	N/A	4369554	N/A
Langelier Index (@ 20C)	N/A	-2.42	-1.58	4369557	-3.27	4369557	-0.896		4369557	
Langelier Index (@ 4C)	N/A	-2.67	-1.84	4369558	-3.52	4369558	-1.15		4369558	
Nitrate (N)	mg/L	0.54	0.45	4369507	0.15	4369507	0.18	0.050	4369507	N/A
Saturation pH (@ 20C)	N/A	9.00	8.59	4369557	9.47	4369557	8.27		4369557	
Saturation pH (@ 4C)	N/A	9.25	8.84	4369558	9.72	4369558	8.53		4369558	
Inorganics										
Total Alkalinity (Total as CaCO3)	mg/L	29	41	4373744	12	4373744	62	5.0	4373744	N/A
Dissolved Chloride (Cl)	mg/L	5.2	15	4373752	78	4373752	9.5	1.0	4373752	N/A
Colour	TCU	6.1	<5.0	4373757	<5.0	4373757	<5.0	5.0	4373757	N/A
Nitrate + Nitrite (N)	mg/L	0.54	0.45	4373771	0.15	4373771	0.18	0.050	4373771	N/A
Nitrite (N)	mg/L	<0.010	<0.010	4373774	<0.010	4373774	<0.010	0.010	4373774	N/A
Nitrogen (Ammonia Nitrogen)	mg/L	0.077	<0.050	4375798	0.051	4375798	0.17	0.050	4375798	N/A
Total Organic Carbon (C)	mg/L	3.1	<0.50	4373953	0.56	4373953	<0.50	0.50	4373963	N/A
Orthophosphate (P)	mg/L	0.011	0.015	4373758	<0.010	4373758	0.020	0.010	4373758	N/A
pH	pH	6.59	7.00	4371214	6.19	4371214	7.38	N/A	4371214	N/A
Reactive Silica (SiO2)	mg/L	8.0	16	4373754	5.9	4373754	18	0.50	4373754	N/A
Dissolved Sulphate (SO4)	mg/L	4.5	12	4373753	8.7	4373753	10	2.0	4373753	N/A
Turbidity	NTU	0.39	0.49	4371365	0.66	4371365	<0.10	0.10	4371365	0.10
Conductivity	uS/cm	75	130	4371213	260	4371213	140	1.0	4371213	N/A
Metals										
Total Aluminum (Al)	ug/L	85	12	4371212	110	4371349	<5.0	5.0	4371212	N/A
Total Antimony (Sb)	ug/L	<1.0	<1.0	4371212	<1.0	4371349	<1.0	1.0	4371212	N/A
Total Arsenic (As)	ug/L	1.2	<1.0	4371212	<1.0	4371349	3.1	1.0	4371212	N/A
Total Barium (Ba)	ug/L	12	8.1	4371212	18	4371349	6.2	1.0	4371212	N/A
Total Beryllium (Be)	ug/L	<1.0	<1.0	4371212	<1.0	4371349	<1.0	1.0	4371212	N/A
Total Bismuth (Bi)	ug/L	<2.0	<2.0	4371212	<2.0	4371349	<2.0	2.0	4371212	N/A
Total Boron (B)	ug/L	<50	<50	4371212	<50	4371349	<50	50	4371212	N/A

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

Maxxam Job #: B622733
Report Date: 2016/02/17

Englobe Corp.
Client Project #: 21347
Sampler Initials: LL

ATLANTIC RCAP-MS TOTAL METALS IN WATER (DRINKING WATER)

Maxxam ID		BUC622	BUC623		BUC624		BUC625			
Sampling Date		2016/02/02 10:00	2016/02/02 10:30		2016/02/02 11:00		2016/02/02 11:30			
COC Number		547372-01-01	547372-01-01		547372-01-01		547372-01-01			
	UNITS	PW1	PW2	QC Batch	PW3	QC Batch	PW4	RDL	QC Batch	MDL
Total Cadmium (Cd)	ug/L	0.086	0.025	4371212	0.072	4371349	0.016	0.010	4371212	N/A
Total Calcium (Ca)	ug/L	7100	14000	4371212	6500	4371349	19000	100	4371212	N/A
Total Chromium (Cr)	ug/L	<1.0	<1.0	4371212	<1.0	4371349	<1.0	1.0	4371212	N/A
Total Cobalt (Co)	ug/L	<0.40	<0.40	4371212	<0.40	4371349	<0.40	0.40	4371212	N/A
Total Copper (Cu)	ug/L	79	86	4371212	260	4371349	120	2.0	4371212	N/A
Total Iron (Fe)	ug/L	100	<50	4371212	120	4371349	<50	50	4371212	N/A
Total Lead (Pb)	ug/L	1.2	1.3	4371212	15	4371349	<0.50	0.50	4371212	N/A
Total Magnesium (Mg)	ug/L	2100	2600	4371212	1600	4371349	2800	100	4371212	N/A
Total Manganese (Mn)	ug/L	9.8	9.8	4371212	30	4371349	<2.0	2.0	4371212	N/A
Total Molybdenum (Mo)	ug/L	<2.0	<2.0	4371212	<2.0	4371349	<2.0	2.0	4371212	N/A
Total Nickel (Ni)	ug/L	<2.0	<2.0	4371212	7.5	4371349	2.2	2.0	4371212	N/A
Total Phosphorus (P)	ug/L	<100	<100	4371212	<100	4371349	<100	100	4371212	N/A
Total Potassium (K)	ug/L	2700	1700	4371212	690	4371349	1100	100	4371212	N/A
Total Selenium (Se)	ug/L	<1.0	<1.0	4371212	<1.0	4371349	<1.0	1.0	4371212	N/A
Total Silver (Ag)	ug/L	<0.10	<0.10	4371212	<0.10	4371349	<0.10	0.10	4371212	N/A
Total Sodium (Na)	ug/L	4700	9400	4371212	42000	4371349	7900	100	4371212	N/A
Total Strontium (Sr)	ug/L	51	77	4371212	33	4371349	73	2.0	4371212	N/A
Total Thallium (Tl)	ug/L	<0.10	<0.10	4371212	<0.10	4371349	<0.10	0.10	4371212	N/A
Total Tin (Sn)	ug/L	<2.0	<2.0	4371212	<2.0	4371349	<2.0	2.0	4371212	N/A
Total Titanium (Ti)	ug/L	<2.0	<2.0	4371212	<2.0	4371349	<2.0	2.0	4371212	N/A
Total Uranium (U)	ug/L	0.19	<0.10	4371212	<0.10	4371349	<0.10	0.10	4371212	N/A
Total Vanadium (V)	ug/L	<2.0	<2.0	4371212	<2.0	4371349	<2.0	2.0	4371212	N/A
Total Zinc (Zn)	ug/L	8.3	33	4371212	210	4371349	11	5.0	4371212	N/A

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

Maxxam Job #: B622733
Report Date: 2016/02/17

Englobe Corp.
Client Project #: 21347
Sampler Initials: LL

ATLANTIC RCAP-MS TOTAL METALS IN WATER (DRINKING WATER)

Maxxam ID		BUC625		BUC626	BUC627	BUC628			
Sampling Date		2016/02/02 11:30		2016/02/02 12:00	2016/02/02 12:30	2016/02/02 12:45			
COC Number		547372-01-01		547372-01-01	547372-01-01	547372-01-01			
	UNITS	PW4 Lab-Dup	QC Batch	PW5	PW6	PW7	RDL	QC Batch	MDL
Calculated Parameters									
Anion Sum	me/L		4369555	1.81	1.29	1.01	N/A	4369555	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L		4369552	59	26	14	1.0	4369552	0.20
Calculated TDS	mg/L		4369559	120	86	67	1.0	4369559	0.20
Carb. Alkalinity (calc. as CaCO3)	mg/L		4369552	<1.0	<1.0	<1.0	1.0	4369552	0.20
Cation Sum	me/L		4369555	1.66	1.13	0.890	N/A	4369555	N/A
Hardness (CaCO3)	mg/L		4369553	59	31	18	1.0	4369553	1.0
Ion Balance (% Difference)	%		4369554	4.32	6.61	6.32	N/A	4369554	N/A
Langelier Index (@ 20C)	N/A		4369557	-1.26	-2.16	-2.94		4369557	
Langelier Index (@ 4C)	N/A		4369558	-1.51	-2.41	-3.19		4369558	
Nitrate (N)	mg/L		4369507	0.26	0.15	0.16	0.050	4369507	N/A
Saturation pH (@ 20C)	N/A		4369557	8.36	8.97	9.57		4369557	
Saturation pH (@ 4C)	N/A		4369558	8.62	9.22	9.83		4369558	
Inorganics									
Total Alkalinity (Total as CaCO3)	mg/L		4373744	59	26	14	5.0	4373775	N/A
Dissolved Chloride (Cl)	mg/L		4373752	15	18	19	1.0	4373780	N/A
Colour	TCU		4373757	<5.0	<5.0	<5.0	5.0	4373786	N/A
Nitrate + Nitrite (N)	mg/L		4373771	0.26	0.15	0.16	0.050	4373790	N/A
Nitrite (N)	mg/L		4373774	<0.010	<0.010	<0.010	0.010	4373795	N/A
Nitrogen (Ammonia Nitrogen)	mg/L	0.11	4375798	<0.050	<0.050	<0.050	0.050	4375798	N/A
Total Organic Carbon (C)	mg/L	<0.50	4373963	<0.50	<0.50	<0.50	0.50	4373963	N/A
Orthophosphate (P)	mg/L		4373758	0.018	0.015	0.014	0.010	4373787	N/A
pH	pH		4371214	7.10	6.82	6.63	N/A	4371214	N/A
Reactive Silica (SiO2)	mg/L		4373754	22	17	12	0.50	4373783	N/A
Dissolved Sulphate (SO4)	mg/L		4373753	9.5	12	8.5	2.0	4373781	N/A
Turbidity	NTU		4371365	<0.10	7.3	0.49	0.10	4371365	0.10
Conductivity	uS/cm		4371213	150	110	95	1.0	4371213	N/A
Metals									
Total Aluminum (Al)	ug/L		4371212	<5.0	11	34	5.0	4371212	N/A
Total Antimony (Sb)	ug/L		4371212	<1.0	<1.0	<1.0	1.0	4371212	N/A
Total Arsenic (As)	ug/L		4371212	<1.0	<1.0	<1.0	1.0	4371212	N/A
Total Barium (Ba)	ug/L		4371212	4.0	6.8	4.2	1.0	4371212	N/A
Total Beryllium (Be)	ug/L		4371212	<1.0	<1.0	<1.0	1.0	4371212	N/A
Total Bismuth (Bi)	ug/L		4371212	<2.0	<2.0	<2.0	2.0	4371212	N/A

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

Maxxam Job #: B622733
Report Date: 2016/02/17

Englobe Corp.
Client Project #: 21347
Sampler Initials: LL

ATLANTIC RCAP-MS TOTAL METALS IN WATER (DRINKING WATER)

Maxxam ID		BUC625		BUC626	BUC627	BUC628			
Sampling Date		2016/02/02 11:30		2016/02/02 12:00	2016/02/02 12:30	2016/02/02 12:45			
COC Number		547372-01-01		547372-01-01	547372-01-01	547372-01-01			
	UNITS	PW4 Lab-Dup	QC Batch	PW5	PW6	PW7	RDL	QC Batch	MDL
Total Boron (B)	ug/L		4371212	<50	<50	<50	50	4371212	N/A
Total Cadmium (Cd)	ug/L		4371212	<0.010	<0.010	0.034	0.010	4371212	N/A
Total Calcium (Ca)	ug/L		4371212	16000	8900	4000	100	4371212	N/A
Total Chromium (Cr)	ug/L		4371212	<1.0	<1.0	<1.0	1.0	4371212	N/A
Total Cobalt (Co)	ug/L		4371212	<0.40	<0.40	<0.40	0.40	4371212	N/A
Total Copper (Cu)	ug/L		4371212	17	31	120	2.0	4371212	N/A
Total Iron (Fe)	ug/L		4371212	<50	620	66	50	4371212	N/A
Total Lead (Pb)	ug/L		4371212	<0.50	0.69	0.83	0.50	4371212	N/A
Total Magnesium (Mg)	ug/L		4371212	4400	2100	2000	100	4371212	N/A
Total Manganese (Mn)	ug/L		4371212	<2.0	65	9.1	2.0	4371212	N/A
Total Molybdenum (Mo)	ug/L		4371212	<2.0	<2.0	<2.0	2.0	4371212	N/A
Total Nickel (Ni)	ug/L		4371212	<2.0	<2.0	<2.0	2.0	4371212	N/A
Total Phosphorus (P)	ug/L		4371212	<100	<100	<100	100	4371212	N/A
Total Potassium (K)	ug/L		4371212	1500	980	590	100	4371212	N/A
Total Selenium (Se)	ug/L		4371212	<1.0	<1.0	<1.0	1.0	4371212	N/A
Total Silver (Ag)	ug/L		4371212	<0.10	<0.10	<0.10	0.10	4371212	N/A
Total Sodium (Na)	ug/L		4371212	10000	11000	12000	100	4371212	N/A
Total Strontium (Sr)	ug/L		4371212	84	46	29	2.0	4371212	N/A
Total Thallium (Tl)	ug/L		4371212	<0.10	<0.10	<0.10	0.10	4371212	N/A
Total Tin (Sn)	ug/L		4371212	<2.0	<2.0	<2.0	2.0	4371212	N/A
Total Titanium (Ti)	ug/L		4371212	<2.0	<2.0	<2.0	2.0	4371212	N/A
Total Uranium (U)	ug/L		4371212	0.16	0.14	<0.10	0.10	4371212	N/A
Total Vanadium (V)	ug/L		4371212	<2.0	<2.0	<2.0	2.0	4371212	N/A
Total Zinc (Zn)	ug/L		4371212	<5.0	12	40	5.0	4371212	N/A

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

Maxxam Job #: B622733
Report Date: 2016/02/17

Englobe Corp.
Client Project #: 21347
Sampler Initials: LL

ATLANTIC RCAP-MS TOTAL METALS IN WATER (DRINKING WATER)

Maxxam ID		BUC629			
Sampling Date		2016/02/02 13:00			
COC Number		547372-01-01			
	UNITS	PW8	RDL	QC Batch	MDL
Calculated Parameters					
Anion Sum	me/L	3.29	N/A	4369555	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	58	1.0	4369552	0.20
Calculated TDS	mg/L	190	1.0	4369559	0.20
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	1.0	4369552	0.20
Cation Sum	me/L	2.80	N/A	4369555	N/A
Hardness (CaCO3)	mg/L	83	1.0	4369553	1.0
Ion Balance (% Difference)	%	8.05	N/A	4369554	N/A
Langelier Index (@ 20C)	N/A	-0.950		4369557	
Langelier Index (@ 4C)	N/A	-1.20		4369558	
Nitrate (N)	mg/L	<0.050	0.050	4369507	N/A
Saturation pH (@ 20C)	N/A	8.24		4369557	
Saturation pH (@ 4C)	N/A	8.49		4369558	
Inorganics					
Total Alkalinity (Total as CaCO3)	mg/L	58	5.0	4373775	N/A
Dissolved Chloride (Cl)	mg/L	68	1.0	4373780	N/A
Colour	TCU	<5.0	5.0	4373786	N/A
Nitrate + Nitrite (N)	mg/L	<0.050	0.050	4373790	N/A
Nitrite (N)	mg/L	<0.010	0.010	4373795	N/A
Nitrogen (Ammonia Nitrogen)	mg/L	0.068	0.050	4375798	N/A
Total Organic Carbon (C)	mg/L	<0.50	0.50	4373963	N/A
Orthophosphate (P)	mg/L	0.017	0.010	4373787	N/A
pH	pH	7.29	N/A	4371214	N/A
Reactive Silica (SiO2)	mg/L	21	0.50	4373783	N/A
Dissolved Sulphate (SO4)	mg/L	10	2.0	4373781	N/A
Turbidity	NTU	12	0.10	4371365	0.10
Conductivity	uS/cm	290	1.0	4371213	N/A
Metals					
Total Aluminum (Al)	ug/L	5.7	5.0	4371212	N/A
Total Antimony (Sb)	ug/L	<1.0	1.0	4371212	N/A
Total Arsenic (As)	ug/L	1.1	1.0	4371212	N/A
Total Barium (Ba)	ug/L	18	1.0	4371212	N/A
Total Beryllium (Be)	ug/L	<1.0	1.0	4371212	N/A
Total Bismuth (Bi)	ug/L	<2.0	2.0	4371212	N/A
Total Boron (B)	ug/L	<50	50	4371212	N/A

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

Maxxam Job #: B622733
Report Date: 2016/02/17

Englobe Corp.
Client Project #: 21347
Sampler Initials: LL

ATLANTIC RCAP-MS TOTAL METALS IN WATER (DRINKING WATER)

Maxxam ID		BUC629			
Sampling Date		2016/02/02 13:00			
COC Number		547372-01-01			
	UNITS	PW8	RDL	QC Batch	MDL
Total Cadmium (Cd)	ug/L	<0.010	0.010	4371212	N/A
Total Calcium (Ca)	ug/L	24000	100	4371212	N/A
Total Chromium (Cr)	ug/L	<1.0	1.0	4371212	N/A
Total Cobalt (Co)	ug/L	<0.40	0.40	4371212	N/A
Total Copper (Cu)	ug/L	21	2.0	4371212	N/A
Total Iron (Fe)	ug/L	1000	50	4371212	N/A
Total Lead (Pb)	ug/L	7.5	0.50	4371212	N/A
Total Magnesium (Mg)	ug/L	5500	100	4371212	N/A
Total Manganese (Mn)	ug/L	420	2.0	4371212	N/A
Total Molybdenum (Mo)	ug/L	<2.0	2.0	4371212	N/A
Total Nickel (Ni)	ug/L	<2.0	2.0	4371212	N/A
Total Phosphorus (P)	ug/L	<100	100	4371212	N/A
Total Potassium (K)	ug/L	1600	100	4371212	N/A
Total Selenium (Se)	ug/L	<1.0	1.0	4371212	N/A
Total Silver (Ag)	ug/L	<0.10	0.10	4371212	N/A
Total Sodium (Na)	ug/L	25000	100	4371212	N/A
Total Strontium (Sr)	ug/L	140	2.0	4371212	N/A
Total Thallium (Tl)	ug/L	<0.10	0.10	4371212	N/A
Total Tin (Sn)	ug/L	<2.0	2.0	4371212	N/A
Total Titanium (Ti)	ug/L	<2.0	2.0	4371212	N/A
Total Uranium (U)	ug/L	<0.10	0.10	4371212	N/A
Total Vanadium (V)	ug/L	<2.0	2.0	4371212	N/A
Total Zinc (Zn)	ug/L	<5.0	5.0	4371212	N/A

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

Maxxam Job #: B622733
Report Date: 2016/02/17

Englobe Corp.
Client Project #: 21347
Sampler Initials: LL

ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Maxxam ID		BUC620	BUC620			BUC621			
Sampling Date		2016/02/02 16:30	2016/02/02 16:30			2016/02/02 14:00			
COC Number		547372-01-01	547372-01-01			547372-01-01			
	UNITS	MW1	MW1 Lab-Dup	RDL	QC Batch	MW2	RDL	QC Batch	MDL
Calculated Parameters									
Anion Sum	me/L	6.12		N/A	4369555	6.29	N/A	4369555	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	220		1.0	4369552	120	1.0	4369552	0.20
Calculated TDS	mg/L	360		1.0	4369559	510	1.0	4369559	0.20
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0		1.0	4369552	<1.0	1.0	4369552	0.20
Cation Sum	me/L	6.12		N/A	4369555	12.2	N/A	4369555	N/A
Hardness (CaCO3)	mg/L	120		1.0	4369553	310	1.0	4369553	1.0
Ion Balance (% Difference)	%	0.00		N/A	4369554	31.9	N/A	4369554	N/A
Langelier Index (@ 20C)	N/A	-0.146			4369557	-0.571		4369557	
Langelier Index (@ 4C)	N/A	-0.395			4369558	-0.819		4369558	
Nitrate (N)	mg/L	0.75		0.050	4369507	4.8	0.25	4369507	N/A
Saturation pH (@ 20C)	N/A	7.56			4369557	7.51		4369557	
Saturation pH (@ 4C)	N/A	7.81			4369558	7.76		4369558	
Inorganics									
Total Alkalinity (Total as CaCO3)	mg/L	230		25	4373744	120	25	4373744	N/A
Dissolved Chloride (Cl)	mg/L	41		1.0	4373752	90	1.0	4373752	N/A
Colour	TCU	1100		250	4373757	14	5.0	4373757	N/A
Nitrate + Nitrite (N)	mg/L	0.75		0.050	4373771	4.8	0.25	4373771	N/A
Nitrite (N)	mg/L	<0.010		0.010	4373774	0.044	0.010	4373774	N/A
Nitrogen (Ammonia Nitrogen)	mg/L	0.35		0.050	4375798	0.37	0.050	4375798	N/A
Total Organic Carbon (C)	mg/L	40 (1)		5.0	4373953	<50 (2)	50	4373953	N/A
Orthophosphate (P)	mg/L	0.28		0.010	4373758	0.011	0.010	4373758	N/A
pH	pH	7.42		N/A	4371214	6.94	N/A	4371214	N/A
Reactive Silica (SiO2)	mg/L	8.0		0.50	4373754	6.7	0.50	4373754	N/A
Dissolved Sulphate (SO4)	mg/L	18		2.0	4373753	45	10	4373753	N/A
Turbidity	NTU	89	88	0.10	4371370	>1000	1.0	4371365	0.10
Conductivity	uS/cm	530		1.0	4371213	600	1.0	4371213	N/A
Metals									
Total Aluminum (Al)	ug/L	810		5.0	4371212	70000	5.0	4371212	N/A
Total Antimony (Sb)	ug/L	<1.0		1.0	4371212	<1.0	1.0	4371212	N/A
Total Arsenic (As)	ug/L	10		1.0	4371212	49	1.0	4371212	N/A
Total Barium (Ba)	ug/L	31		1.0	4371212	280	1.0	4371212	N/A

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable
(1) Elevated reporting limit due to sample matrix.
(2) Reporting limit was increased due to turbidity.

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

Maxxam Job #: B622733
Report Date: 2016/02/17

Englobe Corp.
Client Project #: 21347
Sampler Initials: LL

ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Maxxam ID		BUC620	BUC620			BUC621			
Sampling Date		2016/02/02 16:30	2016/02/02 16:30			2016/02/02 14:00			
COC Number		547372-01-01	547372-01-01			547372-01-01			
	UNITS	MW1	MW1 Lab-Dup	RDL	QC Batch	MW2	RDL	QC Batch	MDL
Total Beryllium (Be)	ug/L	<1.0		1.0	4371212	3.2	1.0	4371212	N/A
Total Bismuth (Bi)	ug/L	<2.0		2.0	4371212	<2.0	2.0	4371212	N/A
Total Boron (B)	ug/L	75		50	4371212	250	50	4371212	N/A
Total Cadmium (Cd)	ug/L	0.33		0.010	4371212	0.17	0.10	4371212	N/A
Total Calcium (Ca)	ug/L	33000		100	4371212	74000	100	4371212	N/A
Total Chromium (Cr)	ug/L	3.0		1.0	4371212	110	1.0	4371212	N/A
Total Cobalt (Co)	ug/L	7.9		0.40	4371212	61	0.40	4371212	N/A
Total Copper (Cu)	ug/L	37		2.0	4371212	260	2.0	4371212	N/A
Total Iron (Fe)	ug/L	14000		50	4371212	110000	500	4371212	N/A
Total Lead (Pb)	ug/L	5.0		0.50	4371212	30	0.50	4371212	N/A
Total Magnesium (Mg)	ug/L	9600		100	4371212	31000	100	4371212	N/A
Total Manganese (Mn)	ug/L	1100		2.0	4371212	3600	2.0	4371212	N/A
Total Molybdenum (Mo)	ug/L	2.2		2.0	4371212	<2.0	2.0	4371212	N/A
Total Nickel (Ni)	ug/L	10		2.0	4371212	120	2.0	4371212	N/A
Total Phosphorus (P)	ug/L	740		100	4371212	3300	100	4371212	N/A
Total Potassium (K)	ug/L	51000		100	4371212	21000	100	4371212	N/A
Total Selenium (Se)	ug/L	<1.0		1.0	4371212	<1.0	1.0	4371212	N/A
Total Silver (Ag)	ug/L	<0.10		0.10	4371212	0.24	0.10	4371212	N/A
Total Sodium (Na)	ug/L	42000		100	4371212	33000	100	4371212	N/A
Total Strontium (Sr)	ug/L	120		2.0	4371212	240	2.0	4371212	N/A
Total Thallium (Tl)	ug/L	<0.10		0.10	4371212	0.55	0.10	4371212	N/A
Total Tin (Sn)	ug/L	<2.0		2.0	4371212	<2.0	2.0	4371212	N/A
Total Titanium (Ti)	ug/L	22		2.0	4371212	1800	2.0	4371212	N/A
Total Uranium (U)	ug/L	1.4		0.10	4371212	5.0	0.10	4371212	N/A
Total Vanadium (V)	ug/L	3.6		2.0	4371212	100	2.0	4371212	N/A
Total Zinc (Zn)	ug/L	54		5.0	4371212	210	5.0	4371212	N/A

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

Maxxam Job #: B622733
Report Date: 2016/02/17

Englobe Corp.
Client Project #: 21347
Sampler Initials: LL

ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Maxxam ID		BUC656	BUC656			BUC657	BUC658			
Sampling Date		2016/02/02 13:30	2016/02/02 13:30			2016/02/02 15:00	2016/02/02 16:00			
COC Number		547372-02-01	547372-02-01			547372-02-01	547372-02-01			
	UNITS	SW1	SW1 Lab-Dup	RDL	QC Batch	SW2	SW3	RDL	QC Batch	MDL
Calculated Parameters										
Anion Sum	me/L	0.790		N/A	4369555	0.530	1.50	N/A	4369555	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	<1.0		1.0	4369552	<1.0	39	1.0	4369552	0.20
Calculated TDS	mg/L	57		1.0	4369559	42	99	1.0	4369559	0.20
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0		1.0	4369552	<1.0	<1.0	1.0	4369552	0.20
Cation Sum	me/L	0.870		N/A	4369555	0.720	1.68	N/A	4369555	N/A
Hardness (CaCO3)	mg/L	5.3		1.0	4369553	5.2	25	1.0	4369553	1.0
Ion Balance (% Difference)	%	4.82		N/A	4369554	15.2	5.66	N/A	4369554	N/A
Langelier Index (@ 20C)	N/A	NC			4369557	NC	-2.19		4369557	
Langelier Index (@ 4C)	N/A	NC			4369558	NC	-2.45		4369558	
Nitrate (N)	mg/L	0.056		0.050	4369507	0.065	0.18	0.050	4369507	N/A
Saturation pH (@ 20C)	N/A	NC			4369557	NC	8.94		4369557	
Saturation pH (@ 4C)	N/A	NC			4369558	NC	9.19		4369558	
Inorganics										
Total Alkalinity (Total as CaCO3)	mg/L	<5.0	<5.0	5.0	4373775	<5.0	39	5.0	4373775	N/A
Dissolved Chloride (Cl)	mg/L	24	24	1.0	4373780	16	22	1.0	4373780	N/A
Colour	TCU	510	590	75	4373786	310	460	50	4373786	N/A
Nitrate + Nitrite (N)	mg/L	0.056	0.057	0.050	4373790	0.065	0.18	0.050	4373790	N/A
Nitrite (N)	mg/L	<0.010	<0.010	0.010	4373795	<0.010	<0.010	0.010	4373795	N/A
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050		0.050	4375798	<0.050	0.14	0.050	4375798	N/A
Total Organic Carbon (C)	mg/L	21 (1)		5.0	4373963	12 (1)	22 (1)	5.0	4373963	N/A
Orthophosphate (P)	mg/L	0.031	0.032	0.010	4373787	0.030	0.044	0.010	4373787	N/A
pH	pH	5.38		N/A	4371214	5.89	6.74	N/A	4371214	N/A
Reactive Silica (SiO2)	mg/L	5.1	5.1	0.50	4373783	4.6	7.0	0.50	4373783	N/A
Dissolved Sulphate (SO4)	mg/L	5.5	5.3	2.0	4373781	3.3	3.6	2.0	4373781	N/A
Turbidity	NTU	6.0		0.10	4371365	3.9	11	0.10	4371365	0.10
Conductivity	uS/cm	98		1.0	4371213	72	150	1.0	4371213	N/A
Metals										
Total Aluminum (Al)	ug/L	550		5.0	4371212	450	530	5.0	4373494	N/A
Total Antimony (Sb)	ug/L	<1.0		1.0	4371212	<1.0	<1.0	1.0	4373494	N/A
Total Arsenic (As)	ug/L	<1.0		1.0	4371212	<1.0	1.3	1.0	4373494	N/A
Total Barium (Ba)	ug/L	3.0		1.0	4371212	3.0	9.5	1.0	4373494	N/A
Total Beryllium (Be)	ug/L	<1.0		1.0	4371212	<1.0	<1.0	1.0	4373494	N/A

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable
(1) Reporting limit was increased due to turbidity.

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

Maxxam Job #: B622733
Report Date: 2016/02/17

Englobe Corp.
Client Project #: 21347
Sampler Initials: LL

ATLANTIC RCAP-MS TOTAL METALS IN WATER (WATER)

Maxxam ID		BUC656	BUC656			BUC657	BUC658			
Sampling Date		2016/02/02 13:30	2016/02/02 13:30			2016/02/02 15:00	2016/02/02 16:00			
COC Number		547372-02-01	547372-02-01			547372-02-01	547372-02-01			
	UNITS	SW1	SW1 Lab-Dup	RDL	QC Batch	SW2	SW3	RDL	QC Batch	MDL
Total Bismuth (Bi)	ug/L	<2.0		2.0	4371212	<2.0	<2.0	2.0	4373494	N/A
Total Boron (B)	ug/L	<50		50	4371212	<50	<50	50	4373494	N/A
Total Cadmium (Cd)	ug/L	0.21		0.010	4371212	0.11	0.063	0.010	4373494	N/A
Total Calcium (Ca)	ug/L	1100		100	4371212	1000	6500	100	4373494	N/A
Total Chromium (Cr)	ug/L	1.1		1.0	4371212	<1.0	1.5	1.0	4373494	N/A
Total Cobalt (Co)	ug/L	1.2		0.40	4371212	0.73	1.4	0.40	4373494	N/A
Total Copper (Cu)	ug/L	7.3		2.0	4371212	4.5	6.6	2.0	4373494	N/A
Total Iron (Fe)	ug/L	820		50	4371212	560	2200	50	4373494	N/A
Total Lead (Pb)	ug/L	13		0.50	4371212	5.9	1.5	0.50	4373494	N/A
Total Magnesium (Mg)	ug/L	620		100	4371212	660	2000	100	4373494	N/A
Total Manganese (Mn)	ug/L	13		2.0	4371212	16	160	2.0	4373494	N/A
Total Molybdenum (Mo)	ug/L	<2.0		2.0	4371212	<2.0	<2.0	2.0	4373494	N/A
Total Nickel (Ni)	ug/L	7.4		2.0	4371212	3.5	4.4	2.0	4373494	N/A
Total Phosphorus (P)	ug/L	<100		100	4371212	100	160	100	4373494	N/A
Total Potassium (K)	ug/L	5800		100	4371212	5500	14000	100	4373494	N/A
Total Selenium (Se)	ug/L	<1.0		1.0	4371212	<1.0	<1.0	1.0	4373494	N/A
Total Silver (Ag)	ug/L	<0.10		0.10	4371212	<0.10	<0.10	0.10	4373494	N/A
Total Sodium (Na)	ug/L	13000		100	4371212	10000	17000	100	4373494	N/A
Total Strontium (Sr)	ug/L	7.4		2.0	4371212	6.7	31	2.0	4373494	N/A
Total Thallium (Tl)	ug/L	<0.10		0.10	4371212	<0.10	<0.10	0.10	4373494	N/A
Total Tin (Sn)	ug/L	<2.0		2.0	4371212	<2.0	<2.0	2.0	4373494	N/A
Total Titanium (Ti)	ug/L	12		2.0	4371212	8.4	10	2.0	4373494	N/A
Total Uranium (U)	ug/L	<0.10		0.10	4371212	<0.10	0.15	0.10	4373494	N/A
Total Vanadium (V)	ug/L	2.4		2.0	4371212	<2.0	<2.0	2.0	4373494	N/A
Total Zinc (Zn)	ug/L	11		5.0	4371212	11	21	5.0	4373494	N/A

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

Maxxam Job #: B622733
Report Date: 2016/02/17

Englobe Corp.
Client Project #: 21347
Sampler Initials: LL

ATLANTIC VOC IN WATER (DRINKING WATER)

Maxxam ID		BUC622		BUC623	BUC623	BUC624			
Sampling Date		2016/02/02 10:00		2016/02/02 10:30	2016/02/02 10:30	2016/02/02 11:00			
COC Number		547372-01-01		547372-01-01	547372-01-01	547372-01-01			
	UNITS	PW1	QC Batch	PW2	PW2 Lab-Dup	PW3	RDL	QC Batch	MDL
Chlorobenzenes									
1,2-Dichlorobenzene	ug/L	<0.50	4375036	<0.50	<0.50	<0.50	0.50	4376377	N/A
1,3-Dichlorobenzene	ug/L	<1.0	4375036	<1.0	<1.0	<1.0	1.0	4376377	N/A
1,4-Dichlorobenzene	ug/L	<1.0	4375036	<1.0	<1.0	<1.0	1.0	4376377	N/A
Chlorobenzene	ug/L	<1.0	4375036	<1.0	<1.0	<1.0	1.0	4376377	N/A
Volatile Organics									
1,1,1-Trichloroethane	ug/L	<1.0	4375036	<1.0	<1.0	<1.0	1.0	4376377	N/A
1,1,2,2-Tetrachloroethane	ug/L	<0.50	4375036	<0.50	<0.50	<0.50	0.50	4376377	N/A
1,1,2-Trichloroethane	ug/L	<1.0	4375036	<1.0	<1.0	<1.0	1.0	4376377	N/A
1,1-Dichloroethane	ug/L	<2.0	4375036	<2.0	<2.0	<2.0	2.0	4376377	N/A
1,1-Dichloroethylene	ug/L	<0.50	4375036	<0.50	<0.50	<0.50	0.50	4376377	1.0
1,2-Dichloroethane	ug/L	<1.0	4375036	<1.0	<1.0	<1.0	1.0	4376377	N/A
1,2-Dichloropropane	ug/L	<0.50	4375036	<0.50	<0.50	<0.50	0.50	4376377	N/A
Benzene	ug/L	<1.0	4375036	<1.0	<1.0	<1.0	1.0	4376377	N/A
Bromodichloromethane	ug/L	<1.0	4375036	<1.0	<1.0	<1.0	1.0	4376377	0.20
Bromoform	ug/L	<1.0	4375036	<1.0	<1.0	<1.0	1.0	4376377	0.20
Bromomethane	ug/L	<0.50	4375036	<0.50	<0.50	<0.50	0.50	4376377	N/A
Carbon Tetrachloride	ug/L	<0.50	4375036	<0.50	<0.50	<0.50	0.50	4376377	N/A
Chloroethane	ug/L	<8.0	4375036	<8.0	<8.0	<8.0	8.0	4376377	N/A
Chloroform	ug/L	<1.0	4375036	<1.0	<1.0	1.1	1.0	4376377	0.20
Chloromethane	ug/L	<8.0	4375036	<8.0	<8.0	<8.0	8.0	4376377	N/A
cis-1,2-Dichloroethylene	ug/L	<0.50	4375036	<0.50	<0.50	<0.50	0.50	4376377	N/A
cis-1,3-Dichloropropene	ug/L	<0.50	4375036	<0.50	<0.50	<0.50	0.50	4376377	N/A
Dibromochloromethane	ug/L	<1.0	4375036	<1.0	<1.0	<1.0	1.0	4376377	0.20
Ethylbenzene	ug/L	<1.0	4375036	<1.0	<1.0	<1.0	1.0	4376377	N/A
Ethylene Dibromide	ug/L	<0.20	4375036	<0.20	<0.20	<0.20	0.20	4376377	0.50
Methyl t-butyl ether (MTBE)	ug/L	<2.0	4375036	<2.0	<2.0	<2.0	2.0	4376377	N/A
Methylene Chloride(Dichloromethane)	ug/L	<3.0	4375036	<3.0	<3.0	<3.0	3.0	4376377	N/A
o-Xylene	ug/L	<1.0	4375036	<1.0	<1.0	<1.0	1.0	4376377	N/A
p+m-Xylene	ug/L	<2.0	4375036	<2.0	<2.0	<2.0	2.0	4376377	N/A
Styrene	ug/L	<1.0	4375036	<1.0	<1.0	<1.0	1.0	4376377	N/A
Tetrachloroethylene	ug/L	<1.0	4375036	<1.0	<1.0	<1.0	1.0	4376377	N/A
Toluene	ug/L	<1.0	4375036	<1.0	<1.0	<1.0	1.0	4376377	N/A
Total Trihalomethanes	ug/L	<1.0	4375036	<1.0	<1.0	1.1	1.0	4376377	N/A

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

Maxxam Job #: B622733
Report Date: 2016/02/17

Englobe Corp.
Client Project #: 21347
Sampler Initials: LL

ATLANTIC VOC IN WATER (DRINKING WATER)

Maxxam ID		BUC622		BUC623	BUC623	BUC624			
Sampling Date		2016/02/02 10:00		2016/02/02 10:30	2016/02/02 10:30	2016/02/02 11:00			
COC Number		547372-01-01		547372-01-01	547372-01-01	547372-01-01			
	UNITS	PW1	QC Batch	PW2	PW2 Lab-Dup	PW3	RDL	QC Batch	MDL
Total Xylenes	ug/L	<1.0	4375036	<1.0	<1.0	<1.0	1.0	4376377	1.0
trans-1,2-Dichloroethylene	ug/L	<0.50	4375036	<0.50	<0.50	<0.50	0.50	4376377	N/A
trans-1,3-Dichloropropene	ug/L	<0.50	4375036	<0.50	<0.50	<0.50	0.50	4376377	N/A
Trichloroethylene	ug/L	<1.0	4375036	<1.0	<1.0	<1.0	1.0	4376377	N/A
Trichlorofluoromethane (FREON 11)	ug/L	<8.0	4375036	<8.0	<8.0	<8.0	8.0	4376377	N/A
Vinyl Chloride	ug/L	<0.50	4375036	<0.50	<0.50	<0.50	0.50	4376377	2.0
Surrogate Recovery (%)									
4-Bromofluorobenzene	%	94	4375036	97	96	97		4376377	
D4-1,2-Dichloroethane	%	111	4375036	105	101	102		4376377	
D8-Toluene	%	102	4375036	99	98	95		4376377	

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

Maxxam Job #: B622733
Report Date: 2016/02/17

Englobe Corp.
Client Project #: 21347
Sampler Initials: LL

ATLANTIC VOC IN WATER (DRINKING WATER)

Maxxam ID		BUC625	BUC626	BUC627	BUC628	BUC629			
Sampling Date		2016/02/02 11:30	2016/02/02 12:00	2016/02/02 12:30	2016/02/02 12:45	2016/02/02 13:00			
COC Number		547372-01-01	547372-01-01	547372-01-01	547372-01-01	547372-01-01			
	UNITS	PW4	PW5	PW6	PW7	PW8	RDL	QC Batch	MDL
Chlorobenzenes									
1,2-Dichlorobenzene	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	4376377	N/A
1,3-Dichlorobenzene	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	4376377	N/A
1,4-Dichlorobenzene	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	4376377	N/A
Chlorobenzene	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	4376377	N/A
Volatile Organics									
1,1,1-Trichloroethane	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	4376377	N/A
1,1,2,2-Tetrachloroethane	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	4376377	N/A
1,1,2-Trichloroethane	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	4376377	N/A
1,1-Dichloroethane	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	2.0	4376377	N/A
1,1-Dichloroethylene	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	4376377	1.0
1,2-Dichloroethane	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	4376377	N/A
1,2-Dichloropropane	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	4376377	N/A
Benzene	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	4376377	N/A
Bromodichloromethane	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	4376377	0.20
Bromoform	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	4376377	0.20
Bromomethane	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	4376377	N/A
Carbon Tetrachloride	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	4376377	N/A
Chloroethane	ug/L	<8.0	<8.0	<8.0	<8.0	<8.0	8.0	4376377	N/A
Chloroform	ug/L	<1.0	<1.0	<1.0	1.1	<1.0	1.0	4376377	0.20
Chloromethane	ug/L	<8.0	<8.0	<8.0	<8.0	<8.0	8.0	4376377	N/A
cis-1,2-Dichloroethylene	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	4376377	N/A
cis-1,3-Dichloropropene	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	4376377	N/A
Dibromochloromethane	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	4376377	0.20
Ethylbenzene	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	4376377	N/A
Ethylene Dibromide	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	4376377	0.50
Methyl t-butyl ether (MTBE)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	2.0	4376377	N/A
Methylene Chloride(Dichloromethane)	ug/L	<3.0	<3.0	<3.0	<3.0	<3.0	3.0	4376377	N/A
o-Xylene	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	4376377	N/A
p+m-Xylene	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	2.0	4376377	N/A
Styrene	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	4376377	N/A
Tetrachloroethylene	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	4376377	N/A
Toluene	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	4376377	N/A
Total Trihalomethanes	ug/L	<1.0	<1.0	<1.0	1.1	<1.0	1.0	4376377	N/A
Total Xylenes	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	4376377	1.0

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

Maxxam Job #: B622733
Report Date: 2016/02/17

Englobe Corp.
Client Project #: 21347
Sampler Initials: LL

ATLANTIC VOC IN WATER (DRINKING WATER)

Maxxam ID		BUC625	BUC626	BUC627	BUC628	BUC629			
Sampling Date		2016/02/02 11:30	2016/02/02 12:00	2016/02/02 12:30	2016/02/02 12:45	2016/02/02 13:00			
COC Number		547372-01-01	547372-01-01	547372-01-01	547372-01-01	547372-01-01			
	UNITS	**PW4**	**PW5**	**PW6**	**PW7**	**PW8**	**RDL**	**QC Batch**	**MDL**
trans-1,2-Dichloroethylene	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	4376377	N/A
trans-1,3-Dichloropropene	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	4376377	N/A
Trichloroethylene	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	4376377	N/A
Trichlorofluoromethane (FREON 11)	ug/L	<8.0	<8.0	<8.0	<8.0	<8.0	8.0	4376377	N/A
Vinyl Chloride	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	4376377	2.0
Surrogate Recovery (%)									
4-Bromofluorobenzene	%	101	97	95	95	95		4376377	
D4-1,2-Dichloroethane	%	100	100	103	105	102		4376377	
D8-Toluene	%	98	98	99	94	98		4376377	

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

Maxxam Job #: B622733
Report Date: 2016/02/17

Englobe Corp.
Client Project #: 21347
Sampler Initials: LL

ATLANTIC VOC IN WATER (WATER)

Maxxam ID		BUC620	BUC621		BUC656	BUC657			
Sampling Date		2016/02/02 16:30	2016/02/02 14:00		2016/02/02 13:30	2016/02/02 15:00			
COC Number		547372-01-01	547372-01-01		547372-02-01	547372-02-01			
	UNITS	MW1	MW2	QC Batch	SW1	SW2	RDL	QC Batch	MDL
Chlorobenzenes									
1,2-Dichlorobenzene	ug/L	<0.50	<0.50	4375036	<0.50	<0.50	0.50	4376377	N/A
1,3-Dichlorobenzene	ug/L	<1.0	<1.0	4375036	<1.0	<1.0	1.0	4376377	N/A
1,4-Dichlorobenzene	ug/L	<1.0	<1.0	4375036	<1.0	<1.0	1.0	4376377	N/A
Chlorobenzene	ug/L	<1.0	<1.0	4375036	<1.0	<1.0	1.0	4376377	N/A
Volatile Organics									
1,1,1-Trichloroethane	ug/L	<1.0	<1.0	4375036	<1.0	<1.0	1.0	4376377	N/A
1,1,2,2-Tetrachloroethane	ug/L	<0.50	<0.50	4375036	<0.50	<0.50	0.50	4376377	N/A
1,1,2-Trichloroethane	ug/L	<1.0	<1.0	4375036	<1.0	<1.0	1.0	4376377	N/A
1,1-Dichloroethane	ug/L	<2.0	<2.0	4375036	<2.0	<2.0	2.0	4376377	N/A
1,1-Dichloroethylene	ug/L	<0.50	<0.50	4375036	<0.50	<0.50	0.50	4376377	1.0
1,2-Dichloroethane	ug/L	<1.0	<1.0	4375036	<1.0	<1.0	1.0	4376377	N/A
1,2-Dichloropropane	ug/L	<0.50	<0.50	4375036	<0.50	<0.50	0.50	4376377	N/A
Benzene	ug/L	<1.0	<1.0	4375036	<1.0	<1.0	1.0	4376377	N/A
Bromodichloromethane	ug/L	<1.0	<1.0	4375036	<1.0	<1.0	1.0	4376377	0.20
Bromoform	ug/L	<1.0	<1.0	4375036	<1.0	<1.0	1.0	4376377	0.20
Bromomethane	ug/L	<0.50	<0.50	4375036	<0.50	<0.50	0.50	4376377	N/A
Carbon Tetrachloride	ug/L	<0.50	<0.50	4375036	<0.50	<0.50	0.50	4376377	N/A
Chloroethane	ug/L	<8.0	<8.0	4375036	<8.0	<8.0	8.0	4376377	N/A
Chloroform	ug/L	<1.0	<1.0	4375036	<1.0	<1.0	1.0	4376377	0.20
Chloromethane	ug/L	<8.0	<8.0	4375036	<8.0	<8.0	8.0	4376377	N/A
cis-1,2-Dichloroethylene	ug/L	<0.50	<0.50	4375036	<0.50	<0.50	0.50	4376377	N/A
cis-1,3-Dichloropropene	ug/L	<0.50	<0.50	4375036	<0.50	<0.50	0.50	4376377	N/A
Dibromochloromethane	ug/L	<1.0	<1.0	4375036	<1.0	<1.0	1.0	4376377	0.20
Ethylbenzene	ug/L	<1.0	<1.0	4375036	<1.0	<1.0	1.0	4376377	N/A
Ethylene Dibromide	ug/L	<0.20	<0.20	4375036	<0.20	<0.20	0.20	4376377	0.50
Methyl t-butyl ether (MTBE)	ug/L	<2.0	<2.0	4375036	<2.0	<2.0	2.0	4376377	N/A
Methylene Chloride(Dichloromethane)	ug/L	<3.0	<3.0	4375036	<3.0	<3.0	3.0	4376377	N/A
o-Xylene	ug/L	<1.0	<1.0	4375036	<1.0	<1.0	1.0	4376377	N/A
p+m-Xylene	ug/L	<2.0	<2.0	4375036	<2.0	<2.0	2.0	4376377	N/A
Styrene	ug/L	<1.0	<1.0	4375036	<1.0	<1.0	1.0	4376377	N/A
Tetrachloroethylene	ug/L	<1.0	<1.0	4375036	<1.0	<1.0	1.0	4376377	N/A
Toluene	ug/L	<1.0	<1.0	4375036	<1.0	<1.0	1.0	4376377	N/A
Total Trihalomethanes	ug/L	<1.0	<1.0	4375036	<1.0	<1.0	1.0	4376377	N/A
Total Xylenes	ug/L	<1.0	<1.0	4375036	<1.0	<1.0	1.0	4376377	1.0

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

Maxxam Job #: B622733
Report Date: 2016/02/17

Englobe Corp.
Client Project #: 21347
Sampler Initials: LL

ATLANTIC VOC IN WATER (WATER)

Maxxam ID		BUC620	BUC621		BUC656	BUC657			
Sampling Date		2016/02/02 16:30	2016/02/02 14:00		2016/02/02 13:30	2016/02/02 15:00			
COC Number		547372-01-01	547372-01-01		547372-02-01	547372-02-01			
	UNITS	MW1	MW2	QC Batch	SW1	SW2	RDL	QC Batch	MDL
trans-1,2-Dichloroethylene	ug/L	<0.50	<0.50	4375036	<0.50	<0.50	0.50	4376377	N/A
trans-1,3-Dichloropropene	ug/L	<0.50	<0.50	4375036	<0.50	<0.50	0.50	4376377	N/A
Trichloroethylene	ug/L	<1.0	<1.0	4375036	<1.0	<1.0	1.0	4376377	N/A
Trichlorofluoromethane (FREON 11)	ug/L	<8.0	<8.0	4375036	<8.0	<8.0	8.0	4376377	N/A
Vinyl Chloride	ug/L	<0.50	<0.50	4375036	<0.50	<0.50	0.50	4376377	2.0
Surrogate Recovery (%)									
4-Bromofluorobenzene	%	94	98	4375036	96 (1)	95 (1)		4376377	
D4-1,2-Dichloroethane	%	115	101	4375036	107	104		4376377	
D8-Toluene	%	102	95	4375036	92	103		4376377	

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

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

Maxxam Job #: B622733
Report Date: 2016/02/17

Englobe Corp.
Client Project #: 21347
Sampler Initials: LL

ATLANTIC VOC IN WATER (WATER)

Maxxam ID		BUC658			
Sampling Date		2016/02/02 16:00			
COC Number		547372-02-01			
	UNITS	SW3	RDL	QC Batch	MDL
Chlorobenzenes					
1,2-Dichlorobenzene	ug/L	<0.50	0.50	4376377	N/A
1,3-Dichlorobenzene	ug/L	<1.0	1.0	4376377	N/A
1,4-Dichlorobenzene	ug/L	<1.0	1.0	4376377	N/A
Chlorobenzene	ug/L	<1.0	1.0	4376377	N/A
Volatile Organics					
1,1,1-Trichloroethane	ug/L	<1.0	1.0	4376377	N/A
1,1,2,2-Tetrachloroethane	ug/L	<0.50	0.50	4376377	N/A
1,1,2-Trichloroethane	ug/L	<1.0	1.0	4376377	N/A
1,1-Dichloroethane	ug/L	<2.0	2.0	4376377	N/A
1,1-Dichloroethylene	ug/L	<0.50	0.50	4376377	1.0
1,2-Dichloroethane	ug/L	<1.0	1.0	4376377	N/A
1,2-Dichloropropane	ug/L	<0.50	0.50	4376377	N/A
Benzene	ug/L	<1.0	1.0	4376377	N/A
Bromodichloromethane	ug/L	<1.0	1.0	4376377	0.20
Bromoform	ug/L	<1.0	1.0	4376377	0.20
Bromomethane	ug/L	<0.50	0.50	4376377	N/A
Carbon Tetrachloride	ug/L	<0.50	0.50	4376377	N/A
Chloroethane	ug/L	<8.0	8.0	4376377	N/A
Chloroform	ug/L	<1.0	1.0	4376377	0.20
Chloromethane	ug/L	<8.0	8.0	4376377	N/A
cis-1,2-Dichloroethylene	ug/L	<0.50	0.50	4376377	N/A
cis-1,3-Dichloropropene	ug/L	<0.50	0.50	4376377	N/A
Dibromochloromethane	ug/L	<1.0	1.0	4376377	0.20
Ethylbenzene	ug/L	<1.0	1.0	4376377	N/A
Ethylene Dibromide	ug/L	<0.20	0.20	4376377	0.50
Methyl t-butyl ether (MTBE)	ug/L	<2.0	2.0	4376377	N/A
Methylene Chloride(Dichloromethane)	ug/L	<3.0	3.0	4376377	N/A
o-Xylene	ug/L	<1.0	1.0	4376377	N/A
p+m-Xylene	ug/L	<2.0	2.0	4376377	N/A
Styrene	ug/L	<1.0	1.0	4376377	N/A
Tetrachloroethylene	ug/L	<1.0	1.0	4376377	N/A
Toluene	ug/L	<1.0	1.0	4376377	N/A
Total Trihalomethanes	ug/L	<1.0	1.0	4376377	N/A
Total Xylenes	ug/L	<1.0	1.0	4376377	1.0

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

Maxxam Job #: B622733
Report Date: 2016/02/17

Englobe Corp.
Client Project #: 21347
Sampler Initials: LL

ATLANTIC VOC IN WATER (WATER)

Maxxam ID		BUC658			
Sampling Date		2016/02/02 16:00			
COC Number		547372-02-01			
	UNITS	SW3	RDL	QC Batch	MDL
trans-1,2-Dichloroethylene	ug/L	<0.50	0.50	4376377	N/A
trans-1,3-Dichloropropene	ug/L	<0.50	0.50	4376377	N/A
Trichloroethylene	ug/L	<1.0	1.0	4376377	N/A
Trichlorofluoromethane (FREON 11)	ug/L	<8.0	8.0	4376377	N/A
Vinyl Chloride	ug/L	<0.50	0.50	4376377	2.0
Surrogate Recovery (%)					
4-Bromofluorobenzene	%	92 (1)		4376377	
D4-1,2-Dichloroethane	%	103		4376377	
D8-Toluene	%	94		4376377	

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

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

Maxxam Job #: B622733
Report Date: 2016/02/17

Englobe Corp.
Client Project #: 21347
Sampler Initials: LL

RESULTS OF ANALYSES OF ADSORBABLE

Maxxam ID		BUC620			
Sampling Date		2016/02/02 16:30			
COC Number		547372-01-01			
	UNITS	**MW1**	**RDL**	**QC Batch**	**MDL**
Inorganics					
Total Suspended Solids	mg/L	300	20	4373537	N/A

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

Maxxam Job #: B622733
Report Date: 2016/02/17

Englobe Corp.
Client Project #: 21347
Sampler Initials: LL

RESULTS OF ANALYSES OF DRINKING WATER

Maxxam ID		BUC622	BUC622	BUC623		BUC624			
Sampling Date		2016/02/02 10:00	2016/02/02 10:00	2016/02/02 10:30		2016/02/02 11:00			
COC Number		547372-01-01	547372-01-01	547372-01-01		547372-01-01			
	UNITS	PW1	PW1 Lab-Dup	PW2	QC Batch	PW3	RDL	QC Batch	MDL
Inorganics									
Total Chemical Oxygen Demand	mg/L	7.7		<5.0	4380079	<5.0	5.0	4380079	N/A
Dissolved Organic Carbon (C)	mg/L	3.4	3.3	0.5	4376538	0.8	0.5	4376538	N/A
Phenols-4AAP	mg/L	0.0019		0.0011	4378919	<0.0010	0.0010	4378919	N/A
Total Phosphorus	mg/L	<0.020		<0.020	4369948	<0.020	0.020	4369948	N/A
Total Suspended Solids	mg/L	<1.0		<1.0	4373537	<1.0	1.0	4373700	N/A
Total Kjeldahl Nitrogen	mg/L	0.29 (1)		<0.20 (1)	4373731	<0.20 (1)	0.20	4373731	N/A

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable
(1) Elevated reporting limit due to blank performance.

Maxxam ID		BUC625		BUC626	BUC627		BUC628			
Sampling Date		2016/02/02 11:30		2016/02/02 12:00	2016/02/02 12:30		2016/02/02 12:45			
COC Number		547372-01-01		547372-01-01	547372-01-01		547372-01-01			
	UNITS	PW4	QC Batch	PW5	PW6	QC Batch	PW7	RDL	QC Batch	MDL
Inorganics										
Total Chemical Oxygen Demand	mg/L	<5.0	4380079	<5.0	<5.0	4380079	<5.0	5.0	4380079	N/A
Dissolved Organic Carbon (C)	mg/L	<0.5	4376538	<0.5	<0.5	4376538	<0.5	0.5	4376538	N/A
Phenols-4AAP	mg/L	<0.0010	4378919	<0.0010	<0.0010	4378919	<0.0010	0.0010	4378919	N/A
Total Phosphorus	mg/L	<0.020	4369948	<0.020	<0.020	4369948	<0.020	0.020	4369956	N/A
Total Suspended Solids	mg/L	<1.0	4373700	<1.0	<1.0	4373700	1.6	1.0	4373700	N/A
Total Kjeldahl Nitrogen	mg/L	<0.20 (1)	4373731	<0.20 (1)	<0.20 (1)	4373737	<0.20 (1)	0.20	4373737	N/A

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable
(1) Elevated reporting limit due to blank performance.

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

Maxxam Job #: B622733
Report Date: 2016/02/17

Englobe Corp.
Client Project #: 21347
Sampler Initials: LL

RESULTS OF ANALYSES OF DRINKING WATER

Maxxam ID		BUC628		BUC629			
Sampling Date		2016/02/02 12:45		2016/02/02 13:00			
COC Number		547372-01-01		547372-01-01			
	UNITS	PW7 Lab-Dup	QC Batch	PW8	RDL	QC Batch	MDL
Inorganics							
Total Chemical Oxygen Demand	mg/L	<5.0	4380079	<5.0	5.0	4380079	N/A
Dissolved Organic Carbon (C)	mg/L		4376538	<0.5	0.5	4376538	N/A
Phenols-4AAP	mg/L		4378919	<0.0010	0.0010	4380484	N/A
Total Phosphorus	mg/L		4369956	0.047	0.020	4369956	N/A
Total Suspended Solids	mg/L		4373700	<1.0	1.0	4373700	N/A
Total Kjeldahl Nitrogen	mg/L		4373737	<0.20 (1)	0.20	4373737	N/A

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable
(1) Elevated reporting limit due to blank performance.

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

Maxxam Job #: B622733
Report Date: 2016/02/17

Englobe Corp.
Client Project #: 21347
Sampler Initials: LL

MERCURY BY COLD VAPOUR AA (DRINKING WATER)

Maxxam ID		BUC622	BUC623	BUC624	BUC625	BUC626	BUC627			
Sampling Date		2016/02/02 10:00	2016/02/02 10:30	2016/02/02 11:00	2016/02/02 11:30	2016/02/02 12:00	2016/02/02 12:30			
COC Number		547372-01-01	547372-01-01	547372-01-01	547372-01-01	547372-01-01	547372-01-01			
	UNITS	PW1	PW2	PW3	PW4	PW5	PW6	RDL	QC Batch	MDL
Metals										
Total Mercury (Hg)	ug/L	0.015	<0.013	<0.013	<0.013	<0.013	<0.013	0.013	4375116	N/A

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

Maxxam ID		BUC628	BUC629			
Sampling Date		2016/02/02 12:45	2016/02/02 13:00			
COC Number		547372-01-01	547372-01-01			
	UNITS	PW7	PW8	RDL	QC Batch	MDL
Metals						
Total Mercury (Hg)	ug/L	<0.013	<0.013	0.013	4375116	N/A

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

Maxxam Job #: B622733
Report Date: 2016/02/17

Englobe Corp.
Client Project #: 21347
Sampler Initials: LL

RESULTS OF ANALYSES OF WATER

Maxxam ID		BUC620		BUC621			BUC656			
Sampling Date		2016/02/02 16:30		2016/02/02 14:00			2016/02/02 13:30			
COC Number		547372-01-01		547372-01-01			547372-02-01			
	UNITS	MW1	RDL	MW2	RDL	QC Batch	SW1	RDL	QC Batch	MDL
Inorganics										
Carbonaceous BOD	mg/L				5.0	4369645	<5.0	5.0	4369645	N/A
Total Chemical Oxygen Demand	mg/L	230	20	110	20	4378118	110	20	4378118	N/A
Dissolved Organic Carbon (C)	mg/L	41 (1)	5	14	0.5	4376538		0.5	4376538	N/A
Phenols-4AAP	mg/L	0.040 (2)	0.010	0.0037 (3)	0.0010	4378919	0.0085 (2)	0.0010	4378919	N/A
Total Phosphorus	mg/L	0.76	0.050	4.3	0.25	4369956	0.072	0.020	4369956	N/A
Total Suspended Solids	mg/L			9300	100	4376463	<1.0	1.0	4373700	N/A
Tannins & Lignins	mg/L						7.4	0.2	4378738	N/A
Total Kjeldahl Nitrogen	mg/L	8.2 (4)	1.0	3.3 (4)	0.20	4373731	3.4 (4)	0.20	4373737	N/A

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable
(1) Elevated reporting limit due to sample matrix.
(2) The reportable detection limit was elevated due to turbidity.
(3) The sample was decanted due to sediment.
(4) Elevated reporting limit due to blank performance.

Maxxam ID		BUC657	BUC658	BUC658			
Sampling Date		2016/02/02 15:00	2016/02/02 16:00	2016/02/02 16:00			
COC Number		547372-02-01	547372-02-01	547372-02-01			
	UNITS	SW2	SW3	SW3 Lab-Dup	RDL	QC Batch	MDL
Inorganics							
Carbonaceous BOD	mg/L	<5.0	<5.0		5.0	4369645	N/A
Total Chemical Oxygen Demand	mg/L	72	110		20	4378118	N/A
Phenols-4AAP	mg/L	0.0026 (1)	0.0052 (1)		0.0010	4378919	N/A
Total Phosphorus	mg/L	0.069	0.13	0.13	0.020	4369956	N/A
Total Suspended Solids	mg/L	3.2	26	27	2.0	4373700	N/A
Tannins & Lignins	mg/L	4.7	6.2		0.2	4378738	N/A
Total Kjeldahl Nitrogen	mg/L	2.0 (2)	2.9 (2)		0.20	4373737	N/A

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable
(1) The sample was decanted due to sediment.
(2) Elevated reporting limit due to blank performance.

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

Maxxam Job #: B622733
Report Date: 2016/02/17

Englobe Corp.
Client Project #: 21347
Sampler Initials: LL

MERCURY BY COLD VAPOUR AA (WATER)

Maxxam ID		BUC620	BUC621		BUC656	BUC657	BUC658			
Sampling Date		2016/02/02 16:30	2016/02/02 14:00		2016/02/02 13:30	2016/02/02 15:00	2016/02/02 16:00			
COC Number		547372-01-01	547372-01-01		547372-02-01	547372-02-01	547372-02-01			
	UNITS	**MW1**	**MW2**	**QC Batch**	**SW1**	**SW2**	**SW3**	**RDL**	**QC Batch**	**MDL**
Metals										
Total Mercury (Hg)	ug/L	0.020	<0.013	4369926	0.028	0.022	0.020	0.013	4375116	N/A

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

Maxxam Job #: B622733
Report Date: 2016/02/17

Englobe Corp.
Client Project #: 21347
Sampler Initials: LL

TEST SUMMARY

Maxxam ID: BUC620
Sample ID: MW1
Matrix: Adsorbable

Collected: 2016/02/02
Shipped:
Received: 2016/02/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	4369552	N/A	2016/02/05	Automated Statchk
Alkalinity	KONE	4373744	N/A	2016/02/09	Arlene Rossiter
Chloride	KONE	4373752	N/A	2016/02/08	Arlene Rossiter
Chemical Oxygen Demand (COD)	SPEC	4378118	N/A	2016/02/12	Zanxin Zhou
Colour	KONE	4373757	N/A	2016/02/08	Arlene Rossiter
Organic carbon - Diss (DOC) (as rec'd)	TECH	4376538	N/A	2016/02/10	Soraya Merchant
Conductance - water	AT	4371213	N/A	2016/02/05	Tiffany Morash
Hardness (calculated as CaCO3)		4369553	N/A	2016/02/08	Automated Statchk
Mercury - Total (CVAA,LL)	CV/AA	4369926	2016/02/04	2016/02/05	Wendy Vainer Inactive
Metals Water Total MS	CICP/MS	4371212	2016/02/05	2016/02/05	Bryon Angevine
Ion Balance (% Difference)	CALC	4369554	N/A	2016/02/10	Automated Statchk
Anion and Cation Sum	CALC	4369555	N/A	2016/02/10	Automated Statchk
Nitrogen Ammonia - water	KONE	4375798	N/A	2016/02/09	Nancy Rogers
Nitrogen - Nitrate + Nitrite	KONE	4373771	N/A	2016/02/09	Soraya Merchant
Nitrogen - Nitrite	KONE	4373774	N/A	2016/02/08	Arlene Rossiter
Nitrogen - Nitrate (as N)	CALC	4369507	N/A	2016/02/09	Automated Statchk
Phenols (4-AAP)	TECH	4378919	N/A	2016/02/11	Cliff Raymond
pH	AT	4371214	N/A	2016/02/05	Tiffany Morash
Phosphorus - ortho	KONE	4373758	N/A	2016/02/08	Arlene Rossiter
Sat. pH and Langelier Index (@ 20C)	CALC	4369557	N/A	2016/02/10	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	4369558	N/A	2016/02/10	Automated Statchk
Reactive Silica	KONE	4373754	N/A	2016/02/09	Arlene Rossiter
Sulphate	KONE	4373753	N/A	2016/02/09	Arlene Rossiter
Total Dissolved Solids (TDS calc)	CALC	4369559	N/A	2016/02/10	Automated Statchk
Nitrogen TKN - water (as N)	KONE	4373731	2016/02/08	2016/02/09	Nancy Rogers
Organic carbon - Total (TOC)	TECH	4373953	N/A	2016/02/08	Soraya Merchant
Phosphorus Total Colourimetry	KONE	4369956	2016/02/04	2016/02/08	Arlene Rossiter
Total Suspended Solids	BAL	4373537	2016/02/08	2016/02/09	Leslie Power
Turbidity	TURB	4371370	N/A	2016/02/05	Tiffany Morash
Volatile Organic Compounds in Water	HS/MS	4375036	N/A	2016/02/09	Shawn Helmkay

Maxxam ID: BUC620 Dup
Sample ID: MW1
Matrix: Adsorbable

Collected: 2016/02/02
Shipped:
Received: 2016/02/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Turbidity	TURB	4371370	N/A	2016/02/05	Tiffany Morash

Maxxam ID: BUC621
Sample ID: MW2
Matrix: Water

Collected: 2016/02/02
Shipped:
Received: 2016/02/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	4369552	N/A	2016/02/05	Automated Statchk
Alkalinity	KONE	4373744	N/A	2016/02/09	Arlene Rossiter

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

Maxxam Job #: B622733
Report Date: 2016/02/17

Englobe Corp.
Client Project #: 21347
Sampler Initials: LL

TEST SUMMARY

Maxxam ID: BUC621
Sample ID: MW2
Matrix: Water

Collected: 2016/02/02
Shipped:
Received: 2016/02/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Chloride	KONE	4373752	N/A	2016/02/08	Arlene Rossiter
Chemical Oxygen Demand (COD)	SPEC	4378118	N/A	2016/02/12	Zanxin Zhou
Colour	KONE	4373757	N/A	2016/02/08	Arlene Rossiter
Organic carbon - Diss (DOC) (as rec'd)	TECH	4376538	N/A	2016/02/10	Soraya Merchant
Conductance - water	AT	4371213	N/A	2016/02/05	Tiffany Morash
Hardness (calculated as CaCO3)		4369553	N/A	2016/02/08	Automated Statchk
Mercury - Total (CVAA,LL)	CV/AA	4369926	2016/02/04	2016/02/05	Wendy Vainer Inactive
Metals Water Total MS	CICP/MS	4371212	2016/02/05	2016/02/05	Bryon Angevine
Ion Balance (% Difference)	CALC	4369554	N/A	2016/02/10	Automated Statchk
Anion and Cation Sum	CALC	4369555	N/A	2016/02/10	Automated Statchk
Nitrogen Ammonia - water	KONE	4375798	N/A	2016/02/09	Nancy Rogers
Nitrogen - Nitrate + Nitrite	KONE	4373771	N/A	2016/02/09	Soraya Merchant
Nitrogen - Nitrite	KONE	4373774	N/A	2016/02/08	Arlene Rossiter
Nitrogen - Nitrate (as N)	CALC	4369507	N/A	2016/02/09	Automated Statchk
Phenols (4-AAP)	TECH	4378919	N/A	2016/02/11	Cliff Raymond
pH	AT	4371214	N/A	2016/02/05	Tiffany Morash
Phosphorus - ortho	KONE	4373758	N/A	2016/02/08	Arlene Rossiter
Sat. pH and Langelier Index (@ 20C)	CALC	4369557	N/A	2016/02/10	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	4369558	N/A	2016/02/10	Automated Statchk
Reactive Silica	KONE	4373754	N/A	2016/02/09	Arlene Rossiter
Sulphate	KONE	4373753	N/A	2016/02/09	Arlene Rossiter
Total Dissolved Solids (TDS calc)	CALC	4369559	N/A	2016/02/10	Automated Statchk
Nitrogen TKN - water (as N)	KONE	4373731	2016/02/08	2016/02/09	Nancy Rogers
Organic carbon - Total (TOC)	TECH	4373953	N/A	2016/02/08	Soraya Merchant
Phosphorus Total Colourimetry	KONE	4369956	2016/02/04	2016/02/08	Arlene Rossiter
Total Suspended Solids	BAL	4376463	2016/02/10	2016/02/11	Leslie Power
Turbidity	TURB	4371365	N/A	2016/02/05	Tiffany Morash
Volatile Organic Compounds in Water	HS/MS	4375036	N/A	2016/02/09	Shawn Helmkay

Maxxam ID: BUC622
Sample ID: PW1
Matrix: Drinking Water

Collected: 2016/02/02
Shipped:
Received: 2016/02/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	4369552	N/A	2016/02/05	Automated Statchk
Alkalinity	KONE	4373744	N/A	2016/02/09	Arlene Rossiter
Chloride	KONE	4373752	N/A	2016/02/08	Arlene Rossiter
Chemical Oxygen Demand (COD)	SPEC	4380079	N/A	2016/02/12	Zanxin Zhou
Colour	KONE	4373757	N/A	2016/02/08	Arlene Rossiter
Organic carbon - Diss (DOC) (as rec'd)	TECH	4376538	N/A	2016/02/10	Soraya Merchant
Conductance - water	AT	4371213	N/A	2016/02/05	Tiffany Morash
Hardness (calculated as CaCO3)		4369553	N/A	2016/02/08	Automated Statchk
Mercury - Total (CVAA,LL)	CV/AA	4375116	2016/02/09	2016/02/10	Virginia Wadden
Metals Water Total MS	CICP/MS	4371212	2016/02/05	2016/02/05	Bryon Angevine
Ion Balance (% Difference)	CALC	4369554	N/A	2016/02/10	Automated Statchk

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

Maxxam Job #: B622733
Report Date: 2016/02/17

Englobe Corp.
Client Project #: 21347
Sampler Initials: LL

TEST SUMMARY

Maxxam ID: BUC622
Sample ID: PW1
Matrix: Drinking Water

Collected: 2016/02/02
Shipped:
Received: 2016/02/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Anion and Cation Sum	CALC	4369555	N/A	2016/02/10	Automated Statchk
Nitrogen Ammonia - water	KONE	4375798	N/A	2016/02/09	Nancy Rogers
Nitrogen - Nitrate + Nitrite	KONE	4373771	N/A	2016/02/09	Soraya Merchant
Nitrogen - Nitrite	KONE	4373774	N/A	2016/02/08	Arlene Rossiter
Nitrogen - Nitrate (as N)	CALC	4369507	N/A	2016/02/09	Automated Statchk
Phenols (4-AAP)	TECH	4378919	N/A	2016/02/11	Cliff Raymond
pH	AT	4371214	N/A	2016/02/05	Tiffany Morash
Phosphorus - ortho	KONE	4373758	N/A	2016/02/08	Arlene Rossiter
Sat. pH and Langelier Index (@ 20C)	CALC	4369557	N/A	2016/02/10	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	4369558	N/A	2016/02/10	Automated Statchk
Reactive Silica	KONE	4373754	N/A	2016/02/09	Arlene Rossiter
Sulphate	KONE	4373753	N/A	2016/02/09	Arlene Rossiter
Total Dissolved Solids (TDS calc)	CALC	4369559	N/A	2016/02/10	Automated Statchk
Nitrogen TKN - water (as N)	KONE	4373731	2016/02/08	2016/02/09	Nancy Rogers
Organic carbon - Total (TOC)	TECH	4373953	N/A	2016/02/08	Soraya Merchant
Phosphorus Total Colourimetry	KONE	4369948	2016/02/04	2016/02/08	Arlene Rossiter
Total Suspended Solids	BAL	4373537	2016/02/08	2016/02/09	Leslie Power
Turbidity	TURB	4371365	N/A	2016/02/05	Tiffany Morash
Volatile Organic Compounds in Water	HS/MS	4375036	N/A	2016/02/09	Shawn Helmkay

Maxxam ID: BUC622 Dup
Sample ID: PW1
Matrix: Drinking Water

Collected: 2016/02/02
Shipped:
Received: 2016/02/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Organic carbon - Diss (DOC) (as rec'd)	TECH	4376538	N/A	2016/02/10	Soraya Merchant

Maxxam ID: BUC623
Sample ID: PW2
Matrix: Drinking Water

Collected: 2016/02/02
Shipped:
Received: 2016/02/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	4369552	N/A	2016/02/05	Automated Statchk
Alkalinity	KONE	4373744	N/A	2016/02/09	Arlene Rossiter
Chloride	KONE	4373752	N/A	2016/02/08	Arlene Rossiter
Chemical Oxygen Demand (COD)	SPEC	4380079	N/A	2016/02/12	Zanxin Zhou
Colour	KONE	4373757	N/A	2016/02/08	Arlene Rossiter
Organic carbon - Diss (DOC) (as rec'd)	TECH	4376538	N/A	2016/02/10	Soraya Merchant
Conductance - water	AT	4371213	N/A	2016/02/05	Tiffany Morash
Hardness (calculated as CaCO3)		4369553	N/A	2016/02/08	Automated Statchk
Mercury - Total (CVAA,LL)	CV/AA	4375116	2016/02/09	2016/02/10	Virginia Wadden
Metals Water Total MS	CICP/MS	4371212	2016/02/05	2016/02/05	Bryon Angevine
Ion Balance (% Difference)	CALC	4369554	N/A	2016/02/10	Automated Statchk
Anion and Cation Sum	CALC	4369555	N/A	2016/02/10	Automated Statchk
Nitrogen Ammonia - water	KONE	4375798	N/A	2016/02/09	Nancy Rogers

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

Maxxam Job #: B622733
Report Date: 2016/02/17

Englobe Corp.
Client Project #: 21347
Sampler Initials: LL

TEST SUMMARY

Maxxam ID: BUC623
Sample ID: PW2
Matrix: Drinking Water

Collected: 2016/02/02
Shipped:
Received: 2016/02/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Nitrogen - Nitrate + Nitrite	KONE	4373771	N/A	2016/02/09	Soraya Merchant
Nitrogen - Nitrite	KONE	4373774	N/A	2016/02/08	Arlene Rossiter
Nitrogen - Nitrate (as N)	CALC	4369507	N/A	2016/02/09	Automated Statchk
Phenols (4-AAP)	TECH	4378919	N/A	2016/02/11	Cliff Raymond
pH	AT	4371214	N/A	2016/02/05	Tiffany Morash
Phosphorus - ortho	KONE	4373758	N/A	2016/02/08	Arlene Rossiter
Sat. pH and Langelier Index (@ 20C)	CALC	4369557	N/A	2016/02/10	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	4369558	N/A	2016/02/10	Automated Statchk
Reactive Silica	KONE	4373754	N/A	2016/02/09	Arlene Rossiter
Sulphate	KONE	4373753	N/A	2016/02/09	Arlene Rossiter
Total Dissolved Solids (TDS calc)	CALC	4369559	N/A	2016/02/10	Automated Statchk
Nitrogen TKN - water (as N)	KONE	4373731	2016/02/08	2016/02/09	Nancy Rogers
Organic carbon - Total (TOC)	TECH	4373953	N/A	2016/02/08	Soraya Merchant
Phosphorus Total Colourimetry	KONE	4369948	2016/02/04	2016/02/08	Arlene Rossiter
Total Suspended Solids	BAL	4373537	2016/02/08	2016/02/09	Leslie Power
Turbidity	TURB	4371365	N/A	2016/02/05	Tiffany Morash
Volatile Organic Compounds in Water	HS/MS	4376377	N/A	2016/02/11	Shawn Helmkay

Maxxam ID: BUC623 Dup
Sample ID: PW2
Matrix: Drinking Water

Collected: 2016/02/02
Shipped:
Received: 2016/02/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Volatile Organic Compounds in Water	HS/MS	4376377	N/A	2016/02/11	Shawn Helmkay

Maxxam ID: BUC624
Sample ID: PW3
Matrix: Drinking Water

Collected: 2016/02/02
Shipped:
Received: 2016/02/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	4369552	N/A	2016/02/05	Automated Statchk
Alkalinity	KONE	4373744	N/A	2016/02/09	Arlene Rossiter
Chloride	KONE	4373752	N/A	2016/02/08	Arlene Rossiter
Chemical Oxygen Demand (COD)	SPEC	4380079	N/A	2016/02/12	Zanxin Zhou
Colour	KONE	4373757	N/A	2016/02/08	Arlene Rossiter
Organic carbon - Diss (DOC) (as rec'd)	TECH	4376538	N/A	2016/02/10	Soraya Merchant
Conductance - water	AT	4371213	N/A	2016/02/05	Tiffany Morash
Hardness (calculated as CaCO3)		4369553	N/A	2016/02/08	Automated Statchk
Mercury - Total (CVAA,LL)	CV/AA	4375116	2016/02/09	2016/02/10	Virginia Wadden
Metals Water Total MS	CICP/MS	4371349	2016/02/05	2016/02/05	Bryon Angevine
Ion Balance (% Difference)	CALC	4369554	N/A	2016/02/10	Automated Statchk
Anion and Cation Sum	CALC	4369555	N/A	2016/02/10	Automated Statchk
Nitrogen Ammonia - water	KONE	4375798	N/A	2016/02/09	Nancy Rogers
Nitrogen - Nitrate + Nitrite	KONE	4373771	N/A	2016/02/09	Soraya Merchant
Nitrogen - Nitrite	KONE	4373774	N/A	2016/02/08	Arlene Rossiter

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

Maxxam Job #: B622733
Report Date: 2016/02/17

Englobe Corp.
Client Project #: 21347
Sampler Initials: LL

TEST SUMMARY

Maxxam ID: BUC624
Sample ID: PW3
Matrix: Drinking Water

Collected: 2016/02/02
Shipped:
Received: 2016/02/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Nitrogen - Nitrate (as N)	CALC	4369507	N/A	2016/02/09	Automated Statchk
Phenols (4-AAP)	TECH	4378919	N/A	2016/02/11	Cliff Raymond
pH	AT	4371214	N/A	2016/02/05	Tiffany Morash
Phosphorus - ortho	KONE	4373758	N/A	2016/02/08	Arlene Rossiter
Sat. pH and Langelier Index (@ 20C)	CALC	4369557	N/A	2016/02/10	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	4369558	N/A	2016/02/10	Automated Statchk
Reactive Silica	KONE	4373754	N/A	2016/02/09	Arlene Rossiter
Sulphate	KONE	4373753	N/A	2016/02/09	Arlene Rossiter
Total Dissolved Solids (TDS calc)	CALC	4369559	N/A	2016/02/10	Automated Statchk
Nitrogen TKN - water (as N)	KONE	4373731	2016/02/08	2016/02/09	Nancy Rogers
Organic carbon - Total (TOC)	TECH	4373953	N/A	2016/02/08	Soraya Merchant
Phosphorus Total Colourimetry	KONE	4369948	2016/02/04	2016/02/08	Arlene Rossiter
Total Suspended Solids	BAL	4373700	2016/02/08	2016/02/10	Leslie Power
Turbidity	TURB	4371365	N/A	2016/02/05	Tiffany Morash
Volatile Organic Compounds in Water	HS/MS	4376377	N/A	2016/02/11	Shawn Helmkay

Maxxam ID: BUC625
Sample ID: PW4
Matrix: Drinking Water

Collected: 2016/02/02
Shipped:
Received: 2016/02/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	4369552	N/A	2016/02/05	Automated Statchk
Alkalinity	KONE	4373744	N/A	2016/02/09	Arlene Rossiter
Chloride	KONE	4373752	N/A	2016/02/08	Arlene Rossiter
Chemical Oxygen Demand (COD)	SPEC	4380079	N/A	2016/02/12	Zanxin Zhou
Colour	KONE	4373757	N/A	2016/02/08	Arlene Rossiter
Organic carbon - Diss (DOC) (as rec'd)	TECH	4376538	N/A	2016/02/10	Soraya Merchant
Conductance - water	AT	4371213	N/A	2016/02/05	Tiffany Morash
Hardness (calculated as CaCO3)		4369553	N/A	2016/02/08	Automated Statchk
Mercury - Total (CVAA,LL)	CV/AA	4375116	2016/02/09	2016/02/10	Virginia Wadden
Metals Water Total MS	CICP/MS	4371212	2016/02/05	2016/02/05	Bryon Angevine
Ion Balance (% Difference)	CALC	4369554	N/A	2016/02/10	Automated Statchk
Anion and Cation Sum	CALC	4369555	N/A	2016/02/10	Automated Statchk
Nitrogen Ammonia - water	KONE	4375798	N/A	2016/02/09	Nancy Rogers
Nitrogen - Nitrate + Nitrite	KONE	4373771	N/A	2016/02/09	Soraya Merchant
Nitrogen - Nitrite	KONE	4373774	N/A	2016/02/08	Arlene Rossiter
Nitrogen - Nitrate (as N)	CALC	4369507	N/A	2016/02/09	Automated Statchk
Phenols (4-AAP)	TECH	4378919	N/A	2016/02/11	Cliff Raymond
pH	AT	4371214	N/A	2016/02/05	Tiffany Morash
Phosphorus - ortho	KONE	4373758	N/A	2016/02/08	Arlene Rossiter
Sat. pH and Langelier Index (@ 20C)	CALC	4369557	N/A	2016/02/10	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	4369558	N/A	2016/02/10	Automated Statchk
Reactive Silica	KONE	4373754	N/A	2016/02/09	Arlene Rossiter
Sulphate	KONE	4373753	N/A	2016/02/09	Arlene Rossiter
Total Dissolved Solids (TDS calc)	CALC	4369559	N/A	2016/02/10	Automated Statchk

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

Maxxam Job #: B622733
Report Date: 2016/02/17

Englobe Corp.
Client Project #: 21347
Sampler Initials: LL

TEST SUMMARY

Maxxam ID: BUC625
Sample ID: PW4
Matrix: Drinking Water

Collected: 2016/02/02
Shipped:
Received: 2016/02/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Nitrogen TKN - water (as N)	KONE	4373731	2016/02/08	2016/02/09	Nancy Rogers
Organic carbon - Total (TOC)	TECH	4373963	N/A	2016/02/08	Soraya Merchant
Phosphorus Total Colourimetry	KONE	4369948	2016/02/04	2016/02/08	Arlene Rossiter
Total Suspended Solids	BAL	4373700	2016/02/08	2016/02/10	Leslie Power
Turbidity	TURB	4371365	N/A	2016/02/05	Tiffany Morash
Volatile Organic Compounds in Water	HS/MS	4376377	N/A	2016/02/11	Shawn Helmkay

Maxxam ID: BUC625 Dup
Sample ID: PW4
Matrix: Drinking Water

Collected: 2016/02/02
Shipped:
Received: 2016/02/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Nitrogen Ammonia - water	KONE	4375798	N/A	2016/02/10	Nancy Rogers
Organic carbon - Total (TOC)	TECH	4373963	N/A	2016/02/08	Soraya Merchant

Maxxam ID: BUC626
Sample ID: PW5
Matrix: Drinking Water

Collected: 2016/02/02
Shipped:
Received: 2016/02/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	4369552	N/A	2016/02/05	Automated Statchk
Alkalinity	KONE	4373775	N/A	2016/02/09	Arlene Rossiter
Chloride	KONE	4373780	N/A	2016/02/08	Arlene Rossiter
Chemical Oxygen Demand (COD)	SPEC	4380079	N/A	2016/02/12	Zanxin Zhou
Colour	KONE	4373786	N/A	2016/02/08	Arlene Rossiter
Organic carbon - Diss (DOC) (as rec'd)	TECH	4376538	N/A	2016/02/10	Soraya Merchant
Conductance - water	AT	4371213	N/A	2016/02/05	Tiffany Morash
Hardness (calculated as CaCO3)		4369553	N/A	2016/02/08	Automated Statchk
Mercury - Total (CVAA,LL)	CV/AA	4375116	2016/02/09	2016/02/10	Virginia Wadden
Metals Water Total MS	CICP/MS	4371212	2016/02/05	2016/02/05	Bryon Angevine
Ion Balance (% Difference)	CALC	4369554	N/A	2016/02/10	Automated Statchk
Anion and Cation Sum	CALC	4369555	N/A	2016/02/10	Automated Statchk
Nitrogen Ammonia - water	KONE	4375798	N/A	2016/02/09	Nancy Rogers
Nitrogen - Nitrate + Nitrite	KONE	4373790	N/A	2016/02/09	Soraya Merchant
Nitrogen - Nitrite	KONE	4373795	N/A	2016/02/08	Arlene Rossiter
Nitrogen - Nitrate (as N)	CALC	4369507	N/A	2016/02/09	Automated Statchk
Phenols (4-AAP)	TECH	4378919	N/A	2016/02/11	Cliff Raymond
pH	AT	4371214	N/A	2016/02/05	Tiffany Morash
Phosphorus - ortho	KONE	4373787	N/A	2016/02/08	Arlene Rossiter
Sat. pH and Langelier Index (@ 20C)	CALC	4369557	N/A	2016/02/10	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	4369558	N/A	2016/02/10	Automated Statchk
Reactive Silica	KONE	4373783	N/A	2016/02/09	Arlene Rossiter
Sulphate	KONE	4373781	N/A	2016/02/09	Arlene Rossiter
Total Dissolved Solids (TDS calc)	CALC	4369559	N/A	2016/02/10	Automated Statchk
Nitrogen TKN - water (as N)	KONE	4373737	2016/02/08	2016/02/09	Nancy Rogers

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

Maxxam Job #: B622733
Report Date: 2016/02/17

Englobe Corp.
Client Project #: 21347
Sampler Initials: LL

TEST SUMMARY

Maxxam ID: BUC626
Sample ID: PW5
Matrix: Drinking Water

Collected: 2016/02/02
Shipped:
Received: 2016/02/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Organic carbon - Total (TOC)	TECH	4373963	N/A	2016/02/08	Soraya Merchant
Phosphorus Total Colourimetry	KONE	4369948	2016/02/04	2016/02/08	Arlene Rossiter
Total Suspended Solids	BAL	4373700	2016/02/08	2016/02/10	Leslie Power
Turbidity	TURB	4371365	N/A	2016/02/05	Tiffany Morash
Volatile Organic Compounds in Water	HS/MS	4376377	N/A	2016/02/11	Shawn Helmkay

Maxxam ID: BUC627
Sample ID: PW6
Matrix: Drinking Water

Collected: 2016/02/02
Shipped:
Received: 2016/02/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	4369552	N/A	2016/02/05	Automated Statchk
Alkalinity	KONE	4373775	N/A	2016/02/09	Arlene Rossiter
Chloride	KONE	4373780	N/A	2016/02/08	Arlene Rossiter
Chemical Oxygen Demand (COD)	SPEC	4380079	N/A	2016/02/12	Zanxin Zhou
Colour	KONE	4373786	N/A	2016/02/08	Arlene Rossiter
Organic carbon - Diss (DOC) (as rec'd)	TECH	4376538	N/A	2016/02/10	Soraya Merchant
Conductance - water	AT	4371213	N/A	2016/02/05	Tiffany Morash
Hardness (calculated as CaCO3)		4369553	N/A	2016/02/08	Automated Statchk
Mercury - Total (CVAA,LL)	CV/AA	4375116	2016/02/09	2016/02/10	Virginia Wadden
Metals Water Total MS	CICP/MS	4371212	2016/02/05	2016/02/05	Bryon Angevine
Ion Balance (% Difference)	CALC	4369554	N/A	2016/02/10	Automated Statchk
Anion and Cation Sum	CALC	4369555	N/A	2016/02/10	Automated Statchk
Nitrogen Ammonia - water	KONE	4375798	N/A	2016/02/09	Nancy Rogers
Nitrogen - Nitrate + Nitrite	KONE	4373790	N/A	2016/02/09	Soraya Merchant
Nitrogen - Nitrite	KONE	4373795	N/A	2016/02/08	Arlene Rossiter
Nitrogen - Nitrate (as N)	CALC	4369507	N/A	2016/02/09	Automated Statchk
Phenols (4-AAP)	TECH	4378919	N/A	2016/02/11	Cliff Raymond
pH	AT	4371214	N/A	2016/02/05	Tiffany Morash
Phosphorus - ortho	KONE	4373787	N/A	2016/02/08	Arlene Rossiter
Sat. pH and Langelier Index (@ 20C)	CALC	4369557	N/A	2016/02/10	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	4369558	N/A	2016/02/10	Automated Statchk
Reactive Silica	KONE	4373783	N/A	2016/02/09	Arlene Rossiter
Sulphate	KONE	4373781	N/A	2016/02/09	Arlene Rossiter
Total Dissolved Solids (TDS calc)	CALC	4369559	N/A	2016/02/10	Automated Statchk
Nitrogen TKN - water (as N)	KONE	4373737	2016/02/08	2016/02/09	Nancy Rogers
Organic carbon - Total (TOC)	TECH	4373963	N/A	2016/02/08	Soraya Merchant
Phosphorus Total Colourimetry	KONE	4369948	2016/02/04	2016/02/08	Arlene Rossiter
Total Suspended Solids	BAL	4373700	2016/02/08	2016/02/10	Leslie Power
Turbidity	TURB	4371365	N/A	2016/02/05	Tiffany Morash
Volatile Organic Compounds in Water	HS/MS	4376377	N/A	2016/02/11	Shawn Helmkay

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

Maxxam Job #: B622733
Report Date: 2016/02/17

Englobe Corp.
Client Project #: 21347
Sampler Initials: LL

TEST SUMMARY

Maxxam ID: BUC628
Sample ID: PW7
Matrix: Drinking Water

Collected: 2016/02/02
Shipped:
Received: 2016/02/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	4369552	N/A	2016/02/05	Automated Statchk
Alkalinity	KONE	4373775	N/A	2016/02/09	Arlene Rossiter
Chloride	KONE	4373780	N/A	2016/02/08	Arlene Rossiter
Chemical Oxygen Demand (COD)	SPEC	4380079	N/A	2016/02/12	Zanxin Zhou
Colour	KONE	4373786	N/A	2016/02/08	Arlene Rossiter
Organic carbon - Diss (DOC) (as rec'd)	TECH	4376538	N/A	2016/02/10	Soraya Merchant
Conductance - water	AT	4371213	N/A	2016/02/05	Tiffany Morash
Hardness (calculated as CaCO3)		4369553	N/A	2016/02/08	Automated Statchk
Mercury - Total (CVAA,LL)	CV/AA	4375116	2016/02/09	2016/02/10	Virginia Wadden
Metals Water Total MS	CICP/MS	4371212	2016/02/05	2016/02/05	Bryon Angevine
Ion Balance (% Difference)	CALC	4369554	N/A	2016/02/10	Automated Statchk
Anion and Cation Sum	CALC	4369555	N/A	2016/02/10	Automated Statchk
Nitrogen Ammonia - water	KONE	4375798	N/A	2016/02/09	Nancy Rogers
Nitrogen - Nitrate + Nitrite	KONE	4373790	N/A	2016/02/09	Soraya Merchant
Nitrogen - Nitrite	KONE	4373795	N/A	2016/02/08	Arlene Rossiter
Nitrogen - Nitrate (as N)	CALC	4369507	N/A	2016/02/09	Automated Statchk
Phenols (4-AAP)	TECH	4378919	N/A	2016/02/11	Cliff Raymond
pH	AT	4371214	N/A	2016/02/05	Tiffany Morash
Phosphorus - ortho	KONE	4373787	N/A	2016/02/08	Arlene Rossiter
Sat. pH and Langelier Index (@ 20C)	CALC	4369557	N/A	2016/02/10	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	4369558	N/A	2016/02/10	Automated Statchk
Reactive Silica	KONE	4373783	N/A	2016/02/09	Arlene Rossiter
Sulphate	KONE	4373781	N/A	2016/02/09	Arlene Rossiter
Total Dissolved Solids (TDS calc)	CALC	4369559	N/A	2016/02/10	Automated Statchk
Nitrogen TKN - water (as N)	KONE	4373737	2016/02/08	2016/02/09	Nancy Rogers
Organic carbon - Total (TOC)	TECH	4373963	N/A	2016/02/08	Soraya Merchant
Phosphorus Total Colourimetry	KONE	4369956	2016/02/04	2016/02/08	Arlene Rossiter
Total Suspended Solids	BAL	4373700	2016/02/08	2016/02/10	Leslie Power
Turbidity	TURB	4371365	N/A	2016/02/05	Tiffany Morash
Volatile Organic Compounds in Water	HS/MS	4376377	N/A	2016/02/11	Shawn Helmkay

Maxxam ID: BUC628 Dup
Sample ID: PW7
Matrix: Drinking Water

Collected: 2016/02/02
Shipped:
Received: 2016/02/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Chemical Oxygen Demand (COD)	SPEC	4380079	N/A	2016/02/12	Zanxin Zhou

Maxxam ID: BUC629
Sample ID: PW8
Matrix: Drinking Water

Collected: 2016/02/02
Shipped:
Received: 2016/02/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	4369552	N/A	2016/02/05	Automated Statchk
Alkalinity	KONE	4373775	N/A	2016/02/09	Arlene Rossiter

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

Maxxam Job #: B622733
Report Date: 2016/02/17

Englobe Corp.
Client Project #: 21347
Sampler Initials: LL

TEST SUMMARY

Maxxam ID: BUC629
Sample ID: PW8
Matrix: Drinking Water

Collected: 2016/02/02
Shipped:
Received: 2016/02/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Chloride	KONE	4373780	N/A	2016/02/08	Arlene Rossiter
Chemical Oxygen Demand (COD)	SPEC	4380079	N/A	2016/02/12	Zanxin Zhou
Colour	KONE	4373786	N/A	2016/02/08	Arlene Rossiter
Organic carbon - Diss (DOC) (as rec'd)	TECH	4376538	N/A	2016/02/10	Soraya Merchant
Conductance - water	AT	4371213	N/A	2016/02/05	Tiffany Morash
Hardness (calculated as CaCO3)		4369553	N/A	2016/02/08	Automated Statchk
Mercury - Total (CVAA,LL)	CV/AA	4375116	2016/02/09	2016/02/10	Virginia Wadden
Metals Water Total MS	CICP/MS	4371212	2016/02/05	2016/02/05	Bryon Angevine
Ion Balance (% Difference)	CALC	4369554	N/A	2016/02/10	Automated Statchk
Anion and Cation Sum	CALC	4369555	N/A	2016/02/10	Automated Statchk
Nitrogen Ammonia - water	KONE	4375798	N/A	2016/02/09	Nancy Rogers
Nitrogen - Nitrate + Nitrite	KONE	4373790	N/A	2016/02/09	Soraya Merchant
Nitrogen - Nitrite	KONE	4373795	N/A	2016/02/08	Arlene Rossiter
Nitrogen - Nitrate (as N)	CALC	4369507	N/A	2016/02/09	Automated Statchk
Phenols (4-AAP)	TECH	4380484	N/A	2016/02/12	Cliff Raymond
pH	AT	4371214	N/A	2016/02/05	Tiffany Morash
Phosphorus - ortho	KONE	4373787	N/A	2016/02/08	Arlene Rossiter
Sat. pH and Langelier Index (@ 20C)	CALC	4369557	N/A	2016/02/10	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	4369558	N/A	2016/02/10	Automated Statchk
Reactive Silica	KONE	4373783	N/A	2016/02/09	Arlene Rossiter
Sulphate	KONE	4373781	N/A	2016/02/09	Arlene Rossiter
Total Dissolved Solids (TDS calc)	CALC	4369559	N/A	2016/02/10	Automated Statchk
Nitrogen TKN - water (as N)	KONE	4373737	2016/02/08	2016/02/09	Nancy Rogers
Organic carbon - Total (TOC)	TECH	4373963	N/A	2016/02/08	Soraya Merchant
Phosphorus Total Colourimetry	KONE	4369956	2016/02/04	2016/02/08	Arlene Rossiter
Total Suspended Solids	BAL	4373700	2016/02/08	2016/02/10	Leslie Power
Turbidity	TURB	4371365	N/A	2016/02/05	Tiffany Morash
Volatile Organic Compounds in Water	HS/MS	4376377	N/A	2016/02/11	Shawn Helmkay

Maxxam ID: BUC656
Sample ID: SW1
Matrix: Water

Collected: 2016/02/02
Shipped:
Received: 2016/02/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	4369552	N/A	2016/02/05	Automated Statchk
Alkalinity	KONE	4373775	N/A	2016/02/09	Arlene Rossiter
Carbonaceous BOD	SKAL/DO	4369645	2016/02/04	2016/02/09	Zanxin Zhou
Chloride	KONE	4373780	N/A	2016/02/08	Arlene Rossiter
Chemical Oxygen Demand (COD)	SPEC	4378118	N/A	2016/02/12	Zanxin Zhou
Colour	KONE	4373786	N/A	2016/02/08	Arlene Rossiter
Conductance - water	AT	4371213	N/A	2016/02/05	Tiffany Morash
Hardness (calculated as CaCO3)		4369553	N/A	2016/02/08	Automated Statchk
Mercury - Total (CVAA,LL)	CV/AA	4375116	2016/02/09	2016/02/10	Virginia Wadden
Metals Water Total MS	CICP/MS	4371212	2016/02/05	2016/02/05	Bryon Angevine
Ion Balance (% Difference)	CALC	4369554	N/A	2016/02/10	Automated Statchk

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

Maxxam Job #: B622733
Report Date: 2016/02/17

Englobe Corp.
Client Project #: 21347
Sampler Initials: LL

TEST SUMMARY

Maxxam ID: BUC656
Sample ID: SW1
Matrix: Water

Collected: 2016/02/02
Shipped:
Received: 2016/02/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Anion and Cation Sum	CALC	4369555	N/A	2016/02/10	Automated Statchk
Nitrogen Ammonia - water	KONE	4375798	N/A	2016/02/09	Nancy Rogers
Nitrogen - Nitrate + Nitrite	KONE	4373790	N/A	2016/02/09	Soraya Merchant
Nitrogen - Nitrite	KONE	4373795	N/A	2016/02/08	Arlene Rossiter
Nitrogen - Nitrate (as N)	CALC	4369507	N/A	2016/02/09	Automated Statchk
Phenols (4-AAP)	TECH	4378919	N/A	2016/02/11	Cliff Raymond
pH	AT	4371214	N/A	2016/02/05	Tiffany Morash
Phosphorus - ortho	KONE	4373787	N/A	2016/02/08	Arlene Rossiter
Sat. pH and Langelier Index (@ 20C)	CALC	4369557	N/A	2016/02/09	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	4369558	N/A	2016/02/09	Automated Statchk
Reactive Silica	KONE	4373783	N/A	2016/02/09	Arlene Rossiter
Sulphate	KONE	4373781	N/A	2016/02/09	Arlene Rossiter
Tannins & Lignins	SPEC	4378738	N/A	2016/02/11	Birenkumar Patel
Total Dissolved Solids (TDS calc)	CALC	4369559	N/A	2016/02/10	Automated Statchk
Nitrogen TKN - water (as N)	KONE	4373737	2016/02/08	2016/02/09	Nancy Rogers
Organic carbon - Total (TOC)	TECH	4373963	N/A	2016/02/08	Soraya Merchant
Phosphorus Total Colourimetry	KONE	4369956	2016/02/04	2016/02/08	Arlene Rossiter
Total Suspended Solids	BAL	4373700	2016/02/08	2016/02/10	Leslie Power
Turbidity	TURB	4371365	N/A	2016/02/05	Tiffany Morash
Volatile Organic Compounds in Water	HS/MS	4376377	N/A	2016/02/11	Shawn Helmkay

Maxxam ID: BUC656 Dup
Sample ID: SW1
Matrix: Water

Collected: 2016/02/02
Shipped:
Received: 2016/02/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	KONE	4373775	N/A	2016/02/09	Arlene Rossiter
Chloride	KONE	4373780	N/A	2016/02/08	Arlene Rossiter
Colour	KONE	4373786	N/A	2016/02/08	Arlene Rossiter
Nitrogen - Nitrate + Nitrite	KONE	4373790	N/A	2016/02/09	Soraya Merchant
Nitrogen - Nitrite	KONE	4373795	N/A	2016/02/08	Arlene Rossiter
Phosphorus - ortho	KONE	4373787	N/A	2016/02/08	Arlene Rossiter
Reactive Silica	KONE	4373783	N/A	2016/02/09	Arlene Rossiter
Sulphate	KONE	4373781	N/A	2016/02/09	Arlene Rossiter

Maxxam ID: BUC657
Sample ID: SW2
Matrix: Water

Collected: 2016/02/02
Shipped:
Received: 2016/02/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	4369552	N/A	2016/02/05	Automated Statchk
Alkalinity	KONE	4373775	N/A	2016/02/09	Arlene Rossiter
Carbonaceous BOD	SKAL/DO	4369645	2016/02/04	2016/02/09	Zanxin Zhou
Chloride	KONE	4373780	N/A	2016/02/08	Arlene Rossiter
Chemical Oxygen Demand (COD)	SPEC	4378118	N/A	2016/02/12	Zanxin Zhou

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

Maxxam Job #: B622733
Report Date: 2016/02/17

Englobe Corp.
Client Project #: 21347
Sampler Initials: LL

TEST SUMMARY

Maxxam ID: BUC657
Sample ID: SW2
Matrix: Water

Collected: 2016/02/02
Shipped:
Received: 2016/02/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Colour	KONE	4373786	N/A	2016/02/08	Arlene Rossiter
Conductance - water	AT	4371213	N/A	2016/02/05	Tiffany Morash
Hardness (calculated as CaCO3)		4369553	N/A	2016/02/09	Automated Statchk
Mercury - Total (CVAA,LL)	CV/AA	4375116	2016/02/09	2016/02/10	Virginia Wadden
Metals Water Total MS	CICP/MS	4373494	2016/02/08	2016/02/09	Bryon Angevine
Ion Balance (% Difference)	CALC	4369554	N/A	2016/02/10	Automated Statchk
Anion and Cation Sum	CALC	4369555	N/A	2016/02/10	Automated Statchk
Nitrogen Ammonia - water	KONE	4375798	N/A	2016/02/09	Nancy Rogers
Nitrogen - Nitrate + Nitrite	KONE	4373790	N/A	2016/02/09	Soraya Merchant
Nitrogen - Nitrite	KONE	4373795	N/A	2016/02/08	Arlene Rossiter
Nitrogen - Nitrate (as N)	CALC	4369507	N/A	2016/02/09	Automated Statchk
Phenols (4-AAP)	TECH	4378919	N/A	2016/02/11	Cliff Raymond
pH	AT	4371214	N/A	2016/02/05	Tiffany Morash
Phosphorus - ortho	KONE	4373787	N/A	2016/02/08	Arlene Rossiter
Sat. pH and Langelier Index (@ 20C)	CALC	4369557	N/A	2016/02/09	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	4369558	N/A	2016/02/09	Automated Statchk
Reactive Silica	KONE	4373783	N/A	2016/02/09	Arlene Rossiter
Sulphate	KONE	4373781	N/A	2016/02/09	Arlene Rossiter
Tannins & Lignins	SPEC	4378738	N/A	2016/02/11	Birenkumar Patel
Total Dissolved Solids (TDS calc)	CALC	4369559	N/A	2016/02/10	Automated Statchk
Nitrogen TKN - water (as N)	KONE	4373737	2016/02/08	2016/02/09	Nancy Rogers
Organic carbon - Total (TOC)	TECH	4373963	N/A	2016/02/08	Soraya Merchant
Phosphorus Total Colourimetry	KONE	4369956	2016/02/04	2016/02/08	Arlene Rossiter
Total Suspended Solids	BAL	4373700	2016/02/08	2016/02/10	Leslie Power
Turbidity	TURB	4371365	N/A	2016/02/05	Tiffany Morash
Volatile Organic Compounds in Water	HS/MS	4376377	N/A	2016/02/11	Shawn Helmkay

Maxxam ID: BUC658
Sample ID: SW3
Matrix: Water

Collected: 2016/02/02
Shipped:
Received: 2016/02/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	4369552	N/A	2016/02/05	Automated Statchk
Alkalinity	KONE	4373775	N/A	2016/02/09	Arlene Rossiter
Carbonaceous BOD	SKAL/DO	4369645	2016/02/04	2016/02/09	Zanxin Zhou
Chloride	KONE	4373780	N/A	2016/02/08	Arlene Rossiter
Chemical Oxygen Demand (COD)	SPEC	4378118	N/A	2016/02/12	Zanxin Zhou
Colour	KONE	4373786	N/A	2016/02/08	Arlene Rossiter
Conductance - water	AT	4371213	N/A	2016/02/05	Tiffany Morash
Hardness (calculated as CaCO3)		4369553	N/A	2016/02/09	Automated Statchk
Mercury - Total (CVAA,LL)	CV/AA	4375116	2016/02/09	2016/02/10	Virginia Wadden
Metals Water Total MS	CICP/MS	4373494	2016/02/08	2016/02/09	Bryon Angevine
Ion Balance (% Difference)	CALC	4369554	N/A	2016/02/10	Automated Statchk
Anion and Cation Sum	CALC	4369555	N/A	2016/02/10	Automated Statchk
Nitrogen Ammonia - water	KONE	4375798	N/A	2016/02/09	Nancy Rogers

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

Maxxam Job #: B622733
Report Date: 2016/02/17

Englobe Corp.
Client Project #: 21347
Sampler Initials: LL

TEST SUMMARY

Maxxam ID: BUC658
Sample ID: SW3
Matrix: Water

Collected: 2016/02/02
Shipped:
Received: 2016/02/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Nitrogen - Nitrate + Nitrite	KONE	4373790	N/A	2016/02/09	Soraya Merchant
Nitrogen - Nitrite	KONE	4373795	N/A	2016/02/08	Arlene Rossiter
Nitrogen - Nitrate (as N)	CALC	4369507	N/A	2016/02/09	Automated Statchk
Phenols (4-AAP)	TECH	4378919	N/A	2016/02/11	Cliff Raymond
pH	AT	4371214	N/A	2016/02/05	Tiffany Morash
Phosphorus - ortho	KONE	4373787	N/A	2016/02/08	Arlene Rossiter
Sat. pH and Langelier Index (@ 20C)	CALC	4369557	N/A	2016/02/10	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	4369558	N/A	2016/02/10	Automated Statchk
Reactive Silica	KONE	4373783	N/A	2016/02/09	Arlene Rossiter
Sulphate	KONE	4373781	N/A	2016/02/09	Arlene Rossiter
Tannins & Lignins	SPEC	4378738	N/A	2016/02/11	Birenkumar Patel
Total Dissolved Solids (TDS calc)	CALC	4369559	N/A	2016/02/10	Automated Statchk
Nitrogen TKN - water (as N)	KONE	4373737	2016/02/08	2016/02/09	Nancy Rogers
Organic carbon - Total (TOC)	TECH	4373963	N/A	2016/02/08	Soraya Merchant
Phosphorus Total Colourimetry	KONE	4369956	2016/02/04	2016/02/08	Arlene Rossiter
Total Suspended Solids	BAL	4373700	2016/02/08	2016/02/10	Leslie Power
Turbidity	TURB	4371365	N/A	2016/02/05	Tiffany Morash
Volatile Organic Compounds in Water	HS/MS	4376377	N/A	2016/02/11	Shawn Helmkay

Maxxam ID: BUC658 Dup
Sample ID: SW3
Matrix: Water

Collected: 2016/02/02
Shipped:
Received: 2016/02/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Phosphorus Total Colourimetry	KONE	4369956	2016/02/05	2016/02/08	Arlene Rossiter
Total Suspended Solids	BAL	4373700	2016/02/10	2016/02/10	Leslie Power

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

Maxxam Job #: B622733
Report Date: 2016/02/17

Englobe Corp.
Client Project #: 21347
Sampler Initials: LL

GENERAL COMMENTS

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

Package 1	1.7°C
Package 2	2.0°C
Package 3	1.7°C

Revised report: Re-issued to include full VOC scan as per Lisa L. 2016/02/17

Sample BUC621-01 : Total Suspended Solids: Dilution required, rework analysis conducted past hold time.

Poor RCAp Ion Balance due to sample matrix. Excess cations due to presence of turbidity.

Sample BUC623-01 : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample BUC624-01 : Poor RCAp Ion Balance due to sample matrix.

Sample BUC625-01 : NH4 vs TKN: Statistically, there is no significant difference between the values.

Sample BUC627-01 : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample BUC628-01 : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample BUC629-01 : Poor RCAp Ion Balance due to sample matrix.

Sample BUC657-01 : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample BUC658-01 : RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Results relate only to the items tested.

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

Maxxam Job #: B622733
Report Date: 2016/02/17

Englobe Corp.
Client Project #: 21347
Sampler Initials: LL

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
4369645	ZZH	QC Standard	Carbonaceous BOD	2016/02/09		102	%	80 - 120
4369645	ZZH	Spiked Blank	Carbonaceous BOD	2016/02/09		94	%	80 - 120
4369645	ZZH	Method Blank	Carbonaceous BOD	2016/02/09	<2.0		mg/L	
4369645	ZZH	RPD - Sample/Sample Dup	Carbonaceous BOD	2016/02/09	NC		%	25
4369926	WVA	Matrix Spike	Total Mercury (Hg)	2016/02/05		97	%	80 - 120
4369926	WVA	Spiked Blank	Total Mercury (Hg)	2016/02/05		101	%	80 - 120
4369926	WVA	Method Blank	Total Mercury (Hg)	2016/02/05	<0.013		ug/L	
4369926	WVA	RPD - Sample/Sample Dup	Total Mercury (Hg)	2016/02/05	NC		%	20
4369948	ARS	Matrix Spike	Total Phosphorus	2016/02/08		103	%	80 - 120
4369948	ARS	Spiked Blank	Total Phosphorus	2016/02/08		101	%	80 - 120
4369948	ARS	Method Blank	Total Phosphorus	2016/02/08	<0.020		mg/L	
4369948	ARS	RPD - Sample/Sample Dup	Total Phosphorus	2016/02/08	NC		%	25
4369956	ARS	Matrix Spike(BUC658)	Total Phosphorus	2016/02/08		109	%	80 - 120
4369956	ARS	Spiked Blank	Total Phosphorus	2016/02/08		97	%	80 - 120
4369956	ARS	Method Blank	Total Phosphorus	2016/02/08	<0.020		mg/L	
4369956	ARS	RPD - Sample/Sample Dup	Total Phosphorus	2016/02/08	3.0		%	25
4371212	BAN	Matrix Spike	Total Aluminum (Al)	2016/02/05		97	%	80 - 120
			Total Antimony (Sb)	2016/02/05		105	%	80 - 120
			Total Arsenic (As)	2016/02/05		95	%	80 - 120
			Total Barium (Ba)	2016/02/05		95	%	80 - 120
			Total Beryllium (Be)	2016/02/05		102	%	80 - 120
			Total Bismuth (Bi)	2016/02/05		95	%	80 - 120
			Total Boron (B)	2016/02/05		NC	%	80 - 120
			Total Cadmium (Cd)	2016/02/05		96	%	80 - 120
			Total Calcium (Ca)	2016/02/05		100	%	80 - 120
			Total Chromium (Cr)	2016/02/05		94	%	80 - 120
			Total Cobalt (Co)	2016/02/05		94	%	80 - 120
			Total Copper (Cu)	2016/02/05		89	%	80 - 120
			Total Iron (Fe)	2016/02/05		NC	%	80 - 120
			Total Lead (Pb)	2016/02/05		91	%	80 - 120
			Total Magnesium (Mg)	2016/02/05		103	%	80 - 120
			Total Manganese (Mn)	2016/02/05		96	%	80 - 120
			Total Molybdenum (Mo)	2016/02/05		NC	%	80 - 120
			Total Nickel (Ni)	2016/02/05		89	%	80 - 120
			Total Phosphorus (P)	2016/02/05		103	%	80 - 120
			Total Potassium (K)	2016/02/05		NC	%	80 - 120
			Total Selenium (Se)	2016/02/05		93	%	80 - 120
			Total Silver (Ag)	2016/02/05		97	%	80 - 120
			Total Sodium (Na)	2016/02/05		NC	%	80 - 120
			Total Strontium (Sr)	2016/02/05		NC	%	80 - 120
			Total Thallium (Tl)	2016/02/05		94	%	80 - 120
			Total Tin (Sn)	2016/02/05		107	%	80 - 120
			Total Titanium (Ti)	2016/02/05		104	%	80 - 120
			Total Uranium (U)	2016/02/05		104	%	80 - 120
			Total Vanadium (V)	2016/02/05		98	%	80 - 120
			Total Zinc (Zn)	2016/02/05		91	%	80 - 120
4371212	BAN	Spiked Blank	Total Aluminum (Al)	2016/02/05		96	%	80 - 120
			Total Antimony (Sb)	2016/02/05		100	%	80 - 120
			Total Arsenic (As)	2016/02/05		93	%	80 - 120
			Total Barium (Ba)	2016/02/05		93	%	80 - 120
			Total Beryllium (Be)	2016/02/05		98	%	80 - 120
			Total Bismuth (Bi)	2016/02/05		98	%	80 - 120
			Total Boron (B)	2016/02/05		99	%	80 - 120

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Total Cadmium (Cd)	2016/02/05		98	%	80 - 120
			Total Calcium (Ca)	2016/02/05		98	%	80 - 120
			Total Chromium (Cr)	2016/02/05		94	%	80 - 120
			Total Cobalt (Co)	2016/02/05		98	%	80 - 120
			Total Copper (Cu)	2016/02/05		97	%	80 - 120
			Total Iron (Fe)	2016/02/05		100	%	80 - 120
			Total Lead (Pb)	2016/02/05		94	%	80 - 120
			Total Magnesium (Mg)	2016/02/05		100	%	80 - 120
			Total Manganese (Mn)	2016/02/05		95	%	80 - 120
			Total Molybdenum (Mo)	2016/02/05		101	%	80 - 120
			Total Nickel (Ni)	2016/02/05		94	%	80 - 120
			Total Phosphorus (P)	2016/02/05		103	%	80 - 120
			Total Potassium (K)	2016/02/05		100	%	80 - 120
			Total Selenium (Se)	2016/02/05		97	%	80 - 120
			Total Silver (Ag)	2016/02/05		99	%	80 - 120
			Total Sodium (Na)	2016/02/05		98	%	80 - 120
			Total Strontium (Sr)	2016/02/05		92	%	80 - 120
			Total Thallium (Tl)	2016/02/05		97	%	80 - 120
			Total Tin (Sn)	2016/02/05		101	%	80 - 120
			Total Titanium (Ti)	2016/02/05		96	%	80 - 120
			Total Uranium (U)	2016/02/05		101	%	80 - 120
			Total Vanadium (V)	2016/02/05		94	%	80 - 120
			Total Zinc (Zn)	2016/02/05		97	%	80 - 120
4371212	BAN	Method Blank	Total Aluminum (Al)	2016/02/05	<5.0		ug/L	
			Total Antimony (Sb)	2016/02/05	<1.0		ug/L	
			Total Arsenic (As)	2016/02/05	<1.0		ug/L	
			Total Barium (Ba)	2016/02/05	<1.0		ug/L	
			Total Beryllium (Be)	2016/02/05	<1.0		ug/L	
			Total Bismuth (Bi)	2016/02/05	<2.0		ug/L	
			Total Boron (B)	2016/02/05	<50		ug/L	
			Total Cadmium (Cd)	2016/02/05	<0.010		ug/L	
			Total Calcium (Ca)	2016/02/05	<100		ug/L	
			Total Chromium (Cr)	2016/02/05	<1.0		ug/L	
			Total Cobalt (Co)	2016/02/05	<0.40		ug/L	
			Total Copper (Cu)	2016/02/05	<2.0		ug/L	
			Total Iron (Fe)	2016/02/05	<50		ug/L	
			Total Lead (Pb)	2016/02/05	<0.50		ug/L	
			Total Magnesium (Mg)	2016/02/05	<100		ug/L	
			Total Manganese (Mn)	2016/02/05	<2.0		ug/L	
			Total Molybdenum (Mo)	2016/02/05	<2.0		ug/L	
			Total Nickel (Ni)	2016/02/05	<2.0		ug/L	
			Total Phosphorus (P)	2016/02/05	<100		ug/L	
			Total Potassium (K)	2016/02/05	<100		ug/L	
			Total Selenium (Se)	2016/02/05	<1.0		ug/L	
			Total Silver (Ag)	2016/02/05	<0.10		ug/L	
			Total Sodium (Na)	2016/02/05	<100		ug/L	
			Total Strontium (Sr)	2016/02/05	<2.0		ug/L	
			Total Thallium (Tl)	2016/02/05	<0.10		ug/L	
			Total Tin (Sn)	2016/02/05	<2.0		ug/L	
			Total Titanium (Ti)	2016/02/05	<2.0		ug/L	
			Total Uranium (U)	2016/02/05	<0.10		ug/L	
			Total Vanadium (V)	2016/02/05	<2.0		ug/L	
			Total Zinc (Zn)	2016/02/05	<5.0		ug/L	

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
4371212	BAN	RPD - Sample/Sample Dup	Total Aluminum (Al)	2016/02/08	NC		%	20
			Total Antimony (Sb)	2016/02/08	NC		%	20
			Total Arsenic (As)	2016/02/08	NC		%	20
			Total Barium (Ba)	2016/02/08	0.15		%	20
			Total Beryllium (Be)	2016/02/08	NC		%	20
			Total Bismuth (Bi)	2016/02/08	NC		%	20
			Total Boron (B)	2016/02/08	1.6		%	20
			Total Cadmium (Cd)	2016/02/08	NC		%	20
			Total Calcium (Ca)	2016/02/08	0.48		%	20
			Total Chromium (Cr)	2016/02/08	NC		%	20
			Total Cobalt (Co)	2016/02/08	NC		%	20
			Total Copper (Cu)	2016/02/08	NC		%	20
			Total Iron (Fe)	2016/02/08	2.7		%	20
			Total Lead (Pb)	2016/02/08	NC		%	20
			Total Magnesium (Mg)	2016/02/08	1.4		%	20
			Total Manganese (Mn)	2016/02/08	2.4		%	20
			Total Molybdenum (Mo)	2016/02/08	2.1		%	20
			Total Nickel (Ni)	2016/02/08	NC		%	20
			Total Phosphorus (P)	2016/02/08	NC		%	20
			Total Potassium (K)	2016/02/08	1.3		%	20
			Total Selenium (Se)	2016/02/08	NC		%	20
			Total Silver (Ag)	2016/02/08	NC		%	20
			Total Sodium (Na)	2016/02/08	2.4		%	20
			Total Strontium (Sr)	2016/02/08	1.9		%	20
			Total Thallium (Tl)	2016/02/08	NC		%	20
			Total Tin (Sn)	2016/02/08	NC		%	20
			Total Titanium (Ti)	2016/02/08	NC		%	20
			Total Uranium (U)	2016/02/08	3.1		%	20
			Total Vanadium (V)	2016/02/08	NC		%	20
			Total Zinc (Zn)	2016/02/08	NC		%	20
4371213	TMO	Spiked Blank	Conductivity	2016/02/05		98	%	80 - 120
4371213	TMO	Method Blank	Conductivity	2016/02/05	1.0, RDL=1.0		uS/cm	
4371213	TMO	RPD - Sample/Sample Dup	Conductivity	2016/02/05	1.0		%	25
4371214	TMO	QC Standard	pH	2016/02/05		100	%	97 - 103
4371214	TMO	RPD - Sample/Sample Dup	pH	2016/02/05	0.93		%	N/A
4371349	BAN	Matrix Spike	Total Aluminum (Al)	2016/02/05		NC	%	80 - 120
			Total Antimony (Sb)	2016/02/05		102	%	80 - 120
			Total Arsenic (As)	2016/02/05		97	%	80 - 120
			Total Barium (Ba)	2016/02/05		96	%	80 - 120
			Total Beryllium (Be)	2016/02/05		102	%	80 - 120
			Total Bismuth (Bi)	2016/02/05		100	%	80 - 120
			Total Boron (B)	2016/02/05		102	%	80 - 120
			Total Cadmium (Cd)	2016/02/05		101	%	80 - 120
			Total Calcium (Ca)	2016/02/05		NC	%	80 - 120
			Total Chromium (Cr)	2016/02/05		97	%	80 - 120
			Total Cobalt (Co)	2016/02/05		99	%	80 - 120
			Total Copper (Cu)	2016/02/05		99	%	80 - 120
			Total Iron (Fe)	2016/02/05		103	%	80 - 120
			Total Lead (Pb)	2016/02/05		96	%	80 - 120
			Total Magnesium (Mg)	2016/02/05		100	%	80 - 120
			Total Manganese (Mn)	2016/02/05		NC	%	80 - 120
			Total Molybdenum (Mo)	2016/02/05		104	%	80 - 120

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Total Nickel (Ni)	2016/02/05		96	%	80 - 120
			Total Phosphorus (P)	2016/02/05		104	%	80 - 120
			Total Potassium (K)	2016/02/05		101	%	80 - 120
			Total Selenium (Se)	2016/02/05		100	%	80 - 120
			Total Silver (Ag)	2016/02/05		104	%	80 - 120
			Total Sodium (Na)	2016/02/05		99	%	80 - 120
			Total Strontium (Sr)	2016/02/05		95	%	80 - 120
			Total Thallium (Tl)	2016/02/05		99	%	80 - 120
			Total Tin (Sn)	2016/02/05		103	%	80 - 120
			Total Titanium (Ti)	2016/02/05		100	%	80 - 120
			Total Uranium (U)	2016/02/05		106	%	80 - 120
			Total Vanadium (V)	2016/02/05		97	%	80 - 120
			Total Zinc (Zn)	2016/02/05		100	%	80 - 120
4371349	BAN	Spiked Blank	Total Aluminum (Al)	2016/02/05		99	%	80 - 120
			Total Antimony (Sb)	2016/02/05		102	%	80 - 120
			Total Arsenic (As)	2016/02/05		96	%	80 - 120
			Total Barium (Ba)	2016/02/05		97	%	80 - 120
			Total Beryllium (Be)	2016/02/05		100	%	80 - 120
			Total Bismuth (Bi)	2016/02/05		101	%	80 - 120
			Total Boron (B)	2016/02/05		101	%	80 - 120
			Total Cadmium (Cd)	2016/02/05		99	%	80 - 120
			Total Calcium (Ca)	2016/02/05		101	%	80 - 120
			Total Chromium (Cr)	2016/02/05		96	%	80 - 120
			Total Cobalt (Co)	2016/02/05		99	%	80 - 120
			Total Copper (Cu)	2016/02/05		99	%	80 - 120
			Total Iron (Fe)	2016/02/05		103	%	80 - 120
			Total Lead (Pb)	2016/02/05		97	%	80 - 120
			Total Magnesium (Mg)	2016/02/05		101	%	80 - 120
			Total Manganese (Mn)	2016/02/05		97	%	80 - 120
			Total Molybdenum (Mo)	2016/02/05		103	%	80 - 120
			Total Nickel (Ni)	2016/02/05		97	%	80 - 120
			Total Phosphorus (P)	2016/02/05		107	%	80 - 120
			Total Potassium (K)	2016/02/05		103	%	80 - 120
			Total Selenium (Se)	2016/02/05		99	%	80 - 120
			Total Silver (Ag)	2016/02/05		103	%	80 - 120
			Total Sodium (Na)	2016/02/05		99	%	80 - 120
			Total Strontium (Sr)	2016/02/05		95	%	80 - 120
			Total Thallium (Tl)	2016/02/05		100	%	80 - 120
			Total Tin (Sn)	2016/02/05		102	%	80 - 120
			Total Titanium (Ti)	2016/02/05		98	%	80 - 120
			Total Uranium (U)	2016/02/05		106	%	80 - 120
			Total Vanadium (V)	2016/02/05		96	%	80 - 120
			Total Zinc (Zn)	2016/02/05		100	%	80 - 120
4371349	BAN	Method Blank	Total Aluminum (Al)	2016/02/05	<5.0		ug/L	
			Total Antimony (Sb)	2016/02/05	<1.0		ug/L	
			Total Arsenic (As)	2016/02/05	<1.0		ug/L	
			Total Barium (Ba)	2016/02/05	<1.0		ug/L	
			Total Beryllium (Be)	2016/02/05	<1.0		ug/L	
			Total Bismuth (Bi)	2016/02/05	<2.0		ug/L	
			Total Boron (B)	2016/02/05	<50		ug/L	
			Total Cadmium (Cd)	2016/02/05	<0.010		ug/L	
			Total Calcium (Ca)	2016/02/05	<100		ug/L	
			Total Chromium (Cr)	2016/02/05	<1.0		ug/L	

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Total Cobalt (Co)	2016/02/05	<0.40		ug/L	
			Total Copper (Cu)	2016/02/05	<2.0		ug/L	
			Total Iron (Fe)	2016/02/05	<50		ug/L	
			Total Lead (Pb)	2016/02/05	<0.50		ug/L	
			Total Magnesium (Mg)	2016/02/05	<100		ug/L	
			Total Manganese (Mn)	2016/02/05	<2.0		ug/L	
			Total Molybdenum (Mo)	2016/02/05	<2.0		ug/L	
			Total Nickel (Ni)	2016/02/05	<2.0		ug/L	
			Total Phosphorus (P)	2016/02/05	<100		ug/L	
			Total Potassium (K)	2016/02/05	<100		ug/L	
			Total Selenium (Se)	2016/02/05	<1.0		ug/L	
			Total Silver (Ag)	2016/02/05	<0.10		ug/L	
			Total Sodium (Na)	2016/02/05	<100		ug/L	
			Total Strontium (Sr)	2016/02/05	<2.0		ug/L	
			Total Thallium (Tl)	2016/02/05	<0.10		ug/L	
			Total Tin (Sn)	2016/02/05	<2.0		ug/L	
			Total Titanium (Ti)	2016/02/05	<2.0		ug/L	
			Total Uranium (U)	2016/02/05	<0.10		ug/L	
			Total Vanadium (V)	2016/02/05	<2.0		ug/L	
			Total Zinc (Zn)	2016/02/05	<5.0		ug/L	
4371349	BAN	RPD - Sample/Sample Dup	Total Aluminum (Al)	2016/02/05	3.3		%	20
			Total Antimony (Sb)	2016/02/05	NC		%	20
			Total Arsenic (As)	2016/02/05	NC		%	20
			Total Barium (Ba)	2016/02/05	0.88		%	20
			Total Beryllium (Be)	2016/02/05	NC		%	20
			Total Bismuth (Bi)	2016/02/05	NC		%	20
			Total Boron (B)	2016/02/05	NC		%	20
			Total Cadmium (Cd)	2016/02/05	NC		%	20
			Total Calcium (Ca)	2016/02/05	2.9		%	20
			Total Chromium (Cr)	2016/02/05	NC		%	20
			Total Cobalt (Co)	2016/02/05	NC		%	20
			Total Copper (Cu)	2016/02/05	NC		%	20
			Total Iron (Fe)	2016/02/05	NC		%	20
			Total Lead (Pb)	2016/02/05	NC		%	20
			Total Magnesium (Mg)	2016/02/05	1.2		%	20
			Total Manganese (Mn)	2016/02/05	1.4		%	20
			Total Molybdenum (Mo)	2016/02/05	NC		%	20
			Total Nickel (Ni)	2016/02/05	NC		%	20
			Total Phosphorus (P)	2016/02/05	NC		%	20
			Total Potassium (K)	2016/02/05	NC		%	20
			Total Selenium (Se)	2016/02/05	NC		%	20
			Total Silver (Ag)	2016/02/05	NC		%	20
			Total Sodium (Na)	2016/02/05	0.72		%	20
			Total Strontium (Sr)	2016/02/05	4.6		%	20
			Total Thallium (Tl)	2016/02/05	NC		%	20
			Total Tin (Sn)	2016/02/05	NC		%	20
			Total Titanium (Ti)	2016/02/05	NC		%	20
			Total Uranium (U)	2016/02/05	NC		%	20
			Total Vanadium (V)	2016/02/05	NC		%	20
			Total Zinc (Zn)	2016/02/05	NC		%	20
4371365	TMO	QC Standard	Turbidity	2016/02/05		90	%	80 - 120
4371365	TMO	Method Blank	Turbidity	2016/02/05	<0.10		NTU	
4371365	TMO	RPD - Sample/Sample Dup	Turbidity	2016/02/05	NC		%	20

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
4371370	TMO	QC Standard	Turbidity	2016/02/05		89	%	80 - 120
4371370	TMO	Method Blank	Turbidity	2016/02/05	<0.10		NTU	
4371370	TMO	RPD - Sample/Sample Dup	Turbidity	2016/02/05	0.98		%	20
4373494	BAN	Matrix Spike	Total Aluminum (Al)	2016/02/09		98	%	80 - 120
			Total Antimony (Sb)	2016/02/09		102	%	80 - 120
			Total Arsenic (As)	2016/02/09		91	%	80 - 120
			Total Barium (Ba)	2016/02/09		93	%	80 - 120
			Total Beryllium (Be)	2016/02/09		91	%	80 - 120
			Total Bismuth (Bi)	2016/02/09		94	%	80 - 120
			Total Boron (B)	2016/02/09		93	%	80 - 120
			Total Cadmium (Cd)	2016/02/09		96	%	80 - 120
			Total Calcium (Ca)	2016/02/09		NC	%	80 - 120
			Total Chromium (Cr)	2016/02/09		90	%	80 - 120
			Total Cobalt (Co)	2016/02/09		92	%	80 - 120
			Total Copper (Cu)	2016/02/09		90	%	80 - 120
			Total Iron (Fe)	2016/02/09		94	%	80 - 120
			Total Lead (Pb)	2016/02/09		93	%	80 - 120
			Total Magnesium (Mg)	2016/02/09		NC	%	80 - 120
			Total Manganese (Mn)	2016/02/09		NC	%	80 - 120
			Total Molybdenum (Mo)	2016/02/09		104	%	80 - 120
			Total Nickel (Ni)	2016/02/09		89	%	80 - 120
			Total Phosphorus (P)	2016/02/09		103	%	80 - 120
			Total Potassium (K)	2016/02/09		100	%	80 - 120
			Total Selenium (Se)	2016/02/09		94	%	80 - 120
			Total Silver (Ag)	2016/02/09		101	%	80 - 120
			Total Sodium (Na)	2016/02/09		93	%	80 - 120
			Total Strontium (Sr)	2016/02/09		NC	%	80 - 120
			Total Thallium (Tl)	2016/02/09		95	%	80 - 120
			Total Tin (Sn)	2016/02/09		103	%	80 - 120
			Total Titanium (Ti)	2016/02/09		94	%	80 - 120
			Total Uranium (U)	2016/02/09		103	%	80 - 120
			Total Vanadium (V)	2016/02/09		92	%	80 - 120
			Total Zinc (Zn)	2016/02/09		NC	%	80 - 120
4373494	BAN	Spiked Blank	Total Aluminum (Al)	2016/02/09		100	%	80 - 120
			Total Antimony (Sb)	2016/02/09		101	%	80 - 120
			Total Arsenic (As)	2016/02/09		91	%	80 - 120
			Total Barium (Ba)	2016/02/09		92	%	80 - 120
			Total Beryllium (Be)	2016/02/09		92	%	80 - 120
			Total Bismuth (Bi)	2016/02/09		97	%	80 - 120
			Total Boron (B)	2016/02/09		92	%	80 - 120
			Total Cadmium (Cd)	2016/02/09		94	%	80 - 120
			Total Calcium (Ca)	2016/02/09		98	%	80 - 120
			Total Chromium (Cr)	2016/02/09		91	%	80 - 120
			Total Cobalt (Co)	2016/02/09		94	%	80 - 120
			Total Copper (Cu)	2016/02/09		92	%	80 - 120
			Total Iron (Fe)	2016/02/09		97	%	80 - 120
			Total Lead (Pb)	2016/02/09		94	%	80 - 120
			Total Magnesium (Mg)	2016/02/09		99	%	80 - 120
			Total Manganese (Mn)	2016/02/09		95	%	80 - 120
			Total Molybdenum (Mo)	2016/02/09		101	%	80 - 120
			Total Nickel (Ni)	2016/02/09		92	%	80 - 120
			Total Phosphorus (P)	2016/02/09		103	%	80 - 120
			Total Potassium (K)	2016/02/09		99	%	80 - 120

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Total Selenium (Se)	2016/02/09		92	%	80 - 120
			Total Silver (Ag)	2016/02/09		100	%	80 - 120
			Total Sodium (Na)	2016/02/09		96	%	80 - 120
			Total Strontium (Sr)	2016/02/09		97	%	80 - 120
			Total Thallium (Tl)	2016/02/09		96	%	80 - 120
			Total Tin (Sn)	2016/02/09		102	%	80 - 120
			Total Titanium (Ti)	2016/02/09		94	%	80 - 120
			Total Uranium (U)	2016/02/09		103	%	80 - 120
			Total Vanadium (V)	2016/02/09		92	%	80 - 120
			Total Zinc (Zn)	2016/02/09		92	%	80 - 120
4373494	BAN	Method Blank	Total Aluminum (Al)	2016/02/09	<5.0		ug/L	
			Total Antimony (Sb)	2016/02/09	<1.0		ug/L	
			Total Arsenic (As)	2016/02/09	<1.0		ug/L	
			Total Barium (Ba)	2016/02/09	<1.0		ug/L	
			Total Beryllium (Be)	2016/02/09	<1.0		ug/L	
			Total Bismuth (Bi)	2016/02/09	<2.0		ug/L	
			Total Boron (B)	2016/02/09	<50		ug/L	
			Total Cadmium (Cd)	2016/02/09	<0.010		ug/L	
			Total Calcium (Ca)	2016/02/09	<100		ug/L	
			Total Chromium (Cr)	2016/02/09	<1.0		ug/L	
			Total Cobalt (Co)	2016/02/09	<0.40		ug/L	
			Total Copper (Cu)	2016/02/09	<2.0		ug/L	
			Total Iron (Fe)	2016/02/09	<50		ug/L	
			Total Lead (Pb)	2016/02/09	<0.50		ug/L	
			Total Magnesium (Mg)	2016/02/09	<100		ug/L	
			Total Manganese (Mn)	2016/02/09	<2.0		ug/L	
			Total Molybdenum (Mo)	2016/02/09	<2.0		ug/L	
			Total Nickel (Ni)	2016/02/09	<2.0		ug/L	
			Total Phosphorus (P)	2016/02/09	<100		ug/L	
			Total Potassium (K)	2016/02/09	<100		ug/L	
			Total Selenium (Se)	2016/02/09	<1.0		ug/L	
			Total Silver (Ag)	2016/02/09	<0.10		ug/L	
			Total Sodium (Na)	2016/02/09	<100		ug/L	
			Total Strontium (Sr)	2016/02/09	<2.0		ug/L	
			Total Thallium (Tl)	2016/02/09	<0.10		ug/L	
			Total Tin (Sn)	2016/02/09	<2.0		ug/L	
			Total Titanium (Ti)	2016/02/09	<2.0		ug/L	
			Total Uranium (U)	2016/02/09	<0.10		ug/L	
			Total Vanadium (V)	2016/02/09	<2.0		ug/L	
			Total Zinc (Zn)	2016/02/09	<5.0		ug/L	
4373494	BAN	RPD - Sample/Sample Dup	Total Calcium (Ca)	2016/02/09	0.22		%	20
			Total Copper (Cu)	2016/02/09	NC		%	20
			Total Iron (Fe)	2016/02/09	NC		%	20
			Total Lead (Pb)	2016/02/09	0.44		%	20
			Total Magnesium (Mg)	2016/02/09	1.0		%	20
			Total Zinc (Zn)	2016/02/09	0.55		%	20
4373537	LPW	QC Standard	Total Suspended Solids	2016/02/09		100	%	80 - 120
4373537	LPW	Method Blank	Total Suspended Solids	2016/02/09	<1.0		mg/L	
4373537	LPW	RPD - Sample/Sample Dup	Total Suspended Solids	2016/02/09	13		%	25
4373700	LPW	QC Standard	Total Suspended Solids	2016/02/10		96	%	80 - 120
4373700	LPW	Method Blank	Total Suspended Solids	2016/02/10	<1.0		mg/L	
4373700	LPW	RPD - Sample/Sample Dup	Total Suspended Solids	2016/02/10	3.8		%	25
4373731	NRG	Matrix Spike	Total Kjeldahl Nitrogen	2016/02/09		107	%	80 - 120

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

Maxxam Job #: B622733
Report Date: 2016/02/17

Englobe Corp.
Client Project #: 21347
Sampler Initials: LL

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
4373731	NRG	Spiked Blank	Total Kjeldahl Nitrogen	2016/02/09		97	%	80 - 120
4373731	NRG	Method Blank	Total Kjeldahl Nitrogen	2016/02/09	0.17, RDL=0.10		mg/L	
4373731	NRG	RPD - Sample/Sample Dup	Total Kjeldahl Nitrogen	2016/02/09	3.5 (1)		%	25
4373737	NRG	Matrix Spike	Total Kjeldahl Nitrogen	2016/02/09		76 (2)	%	80 - 120
4373737	NRG	Spiked Blank	Total Kjeldahl Nitrogen	2016/02/09		95	%	80 - 120
4373737	NRG	Method Blank	Total Kjeldahl Nitrogen	2016/02/09	0.19, RDL=0.10		mg/L	
4373737	NRG	RPD - Sample/Sample Dup	Total Kjeldahl Nitrogen	2016/02/09	NC (1)		%	25
4373744	ARS	Matrix Spike	Total Alkalinity (Total as CaCO3)	2016/02/09		NC	%	80 - 120
4373744	ARS	Spiked Blank	Total Alkalinity (Total as CaCO3)	2016/02/09		104	%	80 - 120
4373744	ARS	Method Blank	Total Alkalinity (Total as CaCO3)	2016/02/09	<5.0		mg/L	
4373744	ARS	RPD - Sample/Sample Dup	Total Alkalinity (Total as CaCO3)	2016/02/09	2.5		%	25
4373752	ARS	Matrix Spike	Dissolved Chloride (Cl)	2016/02/08		NC	%	80 - 120
4373752	ARS	QC Standard	Dissolved Chloride (Cl)	2016/02/08		109	%	80 - 120
4373752	ARS	Spiked Blank	Dissolved Chloride (Cl)	2016/02/08		108	%	80 - 120
4373752	ARS	Method Blank	Dissolved Chloride (Cl)	2016/02/08	<1.0		mg/L	
4373752	ARS	RPD - Sample/Sample Dup	Dissolved Chloride (Cl)	2016/02/08	1.6		%	25
4373753	ARS	Matrix Spike	Dissolved Sulphate (SO4)	2016/02/09		NC	%	80 - 120
4373753	ARS	Spiked Blank	Dissolved Sulphate (SO4)	2016/02/09		100	%	80 - 120
4373753	ARS	Method Blank	Dissolved Sulphate (SO4)	2016/02/09	<2.0		mg/L	
4373753	ARS	RPD - Sample/Sample Dup	Dissolved Sulphate (SO4)	2016/02/09	1.1		%	25
4373754	ARS	Matrix Spike	Reactive Silica (SiO2)	2016/02/09		NC	%	80 - 120
4373754	ARS	Spiked Blank	Reactive Silica (SiO2)	2016/02/09		99	%	80 - 120
4373754	ARS	Method Blank	Reactive Silica (SiO2)	2016/02/09	<0.50		mg/L	
4373754	ARS	RPD - Sample/Sample Dup	Reactive Silica (SiO2)	2016/02/09	2.8		%	25
4373757	ARS	Spiked Blank	Colour	2016/02/08		99	%	80 - 120
4373757	ARS	Method Blank	Colour	2016/02/08	<5.0		TCU	
4373757	ARS	RPD - Sample/Sample Dup	Colour	2016/02/08	NC		%	20
4373758	ARS	Matrix Spike	Orthophosphate (P)	2016/02/08		95	%	80 - 120
4373758	ARS	Spiked Blank	Orthophosphate (P)	2016/02/08		102	%	80 - 120
4373758	ARS	Method Blank	Orthophosphate (P)	2016/02/08	<0.010		mg/L	
4373758	ARS	RPD - Sample/Sample Dup	Orthophosphate (P)	2016/02/08	NC		%	25
4373771	SMT	Matrix Spike	Nitrate + Nitrite (N)	2016/02/09		99	%	80 - 120
4373771	SMT	Spiked Blank	Nitrate + Nitrite (N)	2016/02/09		105	%	80 - 120
4373771	SMT	Method Blank	Nitrate + Nitrite (N)	2016/02/09	<0.050		mg/L	
4373771	SMT	RPD - Sample/Sample Dup	Nitrate + Nitrite (N)	2016/02/09	0.29		%	25
4373774	ARS	Matrix Spike	Nitrite (N)	2016/02/08		67 (2)	%	80 - 120
4373774	ARS	Spiked Blank	Nitrite (N)	2016/02/08		96	%	80 - 120
4373774	ARS	Method Blank	Nitrite (N)	2016/02/08	<0.010		mg/L	
4373774	ARS	RPD - Sample/Sample Dup	Nitrite (N)	2016/02/08	NC		%	25
4373775	ARS	Matrix Spike(BUC656)	Total Alkalinity (Total as CaCO3)	2016/02/09		86	%	80 - 120
4373775	ARS	Spiked Blank	Total Alkalinity (Total as CaCO3)	2016/02/09		102	%	80 - 120
4373775	ARS	Method Blank	Total Alkalinity (Total as CaCO3)	2016/02/09	<5.0		mg/L	
4373775	ARS	RPD - Sample/Sample Dup	Total Alkalinity (Total as CaCO3)	2016/02/09	NC		%	25
4373780	ARS	Matrix Spike(BUC656)	Dissolved Chloride (Cl)	2016/02/08		NC	%	80 - 120
4373780	ARS	QC Standard	Dissolved Chloride (Cl)	2016/02/08		111	%	80 - 120
4373780	ARS	Spiked Blank	Dissolved Chloride (Cl)	2016/02/08		105	%	80 - 120
4373780	ARS	Method Blank	Dissolved Chloride (Cl)	2016/02/08	<1.0		mg/L	
4373780	ARS	RPD - Sample/Sample Dup	Dissolved Chloride (Cl)	2016/02/08	1.6		%	25
4373781	ARS	Matrix Spike(BUC656)	Dissolved Sulphate (SO4)	2016/02/09		118	%	80 - 120
4373781	ARS	Spiked Blank	Dissolved Sulphate (SO4)	2016/02/09		94	%	80 - 120

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

Maxxam Job #: B622733
Report Date: 2016/02/17

Englobe Corp.
Client Project #: 21347
Sampler Initials: LL

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
4373781	ARS	Method Blank	Dissolved Sulphate (SO4)	2016/02/09	3.0, RDL=2.0		mg/L	
4373781	ARS	RPD - Sample/Sample Dup	Dissolved Sulphate (SO4)	2016/02/09	NC		%	25
4373783	ARS	Matrix Spike(BUC656)	Reactive Silica (SiO2)	2016/02/09		NC	%	80 - 120
4373783	ARS	Spiked Blank	Reactive Silica (SiO2)	2016/02/09		101	%	80 - 120
4373783	ARS	Method Blank	Reactive Silica (SiO2)	2016/02/09	<0.50		mg/L	
4373783	ARS	RPD - Sample/Sample Dup	Reactive Silica (SiO2)	2016/02/09	0.59		%	25
4373786	ARS	Spiked Blank	Colour	2016/02/08		96	%	80 - 120
4373786	ARS	Method Blank	Colour	2016/02/08	<5.0		TCU	
4373786	ARS	RPD - Sample/Sample Dup	Colour	2016/02/08	14		%	20
4373787	ARS	Matrix Spike(BUC656)	Orthophosphate (P)	2016/02/08		80	%	80 - 120
4373787	ARS	Spiked Blank	Orthophosphate (P)	2016/02/08		98	%	80 - 120
4373787	ARS	Method Blank	Orthophosphate (P)	2016/02/08	<0.010		mg/L	
4373787	ARS	RPD - Sample/Sample Dup	Orthophosphate (P)	2016/02/08	NC		%	25
4373790	SMT	Matrix Spike(BUC656)	Nitrate + Nitrite (N)	2016/02/09		99	%	80 - 120
4373790	SMT	Spiked Blank	Nitrate + Nitrite (N)	2016/02/09		95	%	80 - 120
4373790	SMT	Method Blank	Nitrate + Nitrite (N)	2016/02/09	<0.050		mg/L	
4373790	SMT	RPD - Sample/Sample Dup	Nitrate + Nitrite (N)	2016/02/09	NC		%	25
4373795	ARS	Matrix Spike(BUC656)	Nitrite (N)	2016/02/08		75 (2)	%	80 - 120
4373795	ARS	Spiked Blank	Nitrite (N)	2016/02/08		94	%	80 - 120
4373795	ARS	Method Blank	Nitrite (N)	2016/02/08	<0.010		mg/L	
4373795	ARS	RPD - Sample/Sample Dup	Nitrite (N)	2016/02/08	NC		%	25
4373953	SMT	Matrix Spike	Total Organic Carbon (C)	2016/02/08		104	%	80 - 120
4373953	SMT	Spiked Blank	Total Organic Carbon (C)	2016/02/08		103	%	80 - 120
4373953	SMT	Method Blank	Total Organic Carbon (C)	2016/02/08	<0.50		mg/L	
4373953	SMT	RPD - Sample/Sample Dup	Total Organic Carbon (C)	2016/02/08	NC		%	20
4373963	SMT	Matrix Spike(BUC626)	Total Organic Carbon (C)	2016/02/08		96	%	80 - 120
4373963	SMT	Spiked Blank	Total Organic Carbon (C)	2016/02/08		97	%	80 - 120
4373963	SMT	Method Blank	Total Organic Carbon (C)	2016/02/08	<0.50		mg/L	
4373963	SMT	RPD - Sample/Sample Dup	Total Organic Carbon (C)	2016/02/08	NC		%	20
4375036	SHL	Matrix Spike(BUC620)	1,2-Dichlorobenzene	2016/02/09		95	%	70 - 130
			1,3-Dichlorobenzene	2016/02/09		96	%	70 - 130
			1,4-Dichlorobenzene	2016/02/09		100	%	70 - 130
			Chlorobenzene	2016/02/09		101	%	70 - 130
			1,1,1-Trichloroethane	2016/02/09		101	%	70 - 130
			1,1,2,2-Tetrachloroethane	2016/02/09		111	%	70 - 130
			1,1,2-Trichloroethane	2016/02/09		106	%	70 - 130
			1,1-Dichloroethane	2016/02/09		102	%	70 - 130
			1,1-Dichloroethylene	2016/02/09		102	%	70 - 130
			1,2-Dichloroethane	2016/02/09		103	%	70 - 130
			1,2-Dichloropropane	2016/02/09		114	%	70 - 130
			Benzene	2016/02/09		104	%	70 - 130
			Bromodichloromethane	2016/02/09		111	%	70 - 130
			Bromoform	2016/02/09		102	%	70 - 130
			Bromomethane	2016/02/09		97	%	60 - 140
			Carbon Tetrachloride	2016/02/09		100	%	70 - 130
			Chloroethane	2016/02/09		95	%	60 - 140
			Chloroform	2016/02/09		96	%	70 - 130
			Chloromethane	2016/02/09		100	%	60 - 140
			cis-1,2-Dichloroethylene	2016/02/09		103	%	70 - 130
			cis-1,3-Dichloropropene	2016/02/09		102	%	70 - 130
			Dibromochloromethane	2016/02/09		108	%	70 - 130
			Ethylbenzene	2016/02/09		115	%	70 - 130

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Ethylene Dibromide	2016/02/09		106	%	70 - 130
			Methyl t-butyl ether (MTBE)	2016/02/09		104	%	70 - 130
			Methylene Chloride(Dichloromethane)	2016/02/09		103	%	70 - 130
			o-Xylene	2016/02/09		127	%	70 - 130
			p+m-Xylene	2016/02/09		119	%	70 - 130
			Styrene	2016/02/09		115	%	70 - 130
			Tetrachloroethylene	2016/02/09		104	%	70 - 130
			Toluene	2016/02/09		107	%	70 - 130
			trans-1,2-Dichloroethylene	2016/02/09		101	%	70 - 130
			trans-1,3-Dichloropropene	2016/02/09		102	%	70 - 130
			Trichloroethylene	2016/02/09		110	%	70 - 130
			Trichlorofluoromethane (FREON 11)	2016/02/09		94	%	60 - 140
			Vinyl Chloride	2016/02/09		100	%	60 - 140
4375036	SHL	Matrix Spike	4-Bromofluorobenzene	2016/02/09		102	%	70 - 130
			D4-1,2-Dichloroethane	2016/02/09		93	%	70 - 130
			D8-Toluene	2016/02/09		101	%	70 - 130
4375036	SHL	Spiked Blank	1,2-Dichlorobenzene	2016/02/09		97	%	70 - 130
			1,3-Dichlorobenzene	2016/02/09		95	%	70 - 130
			1,4-Dichlorobenzene	2016/02/09		97	%	70 - 130
			Chlorobenzene	2016/02/09		100	%	70 - 130
			1,1,1-Trichloroethane	2016/02/09		99	%	70 - 130
			1,1,2,2-Tetrachloroethane	2016/02/09		108	%	70 - 130
			1,1,2-Trichloroethane	2016/02/09		101	%	70 - 130
			1,1-Dichloroethane	2016/02/09		103	%	70 - 130
			1,1-Dichloroethylene	2016/02/09		104	%	70 - 130
			1,2-Dichloroethane	2016/02/09		99	%	70 - 130
			1,2-Dichloropropane	2016/02/09		101	%	70 - 130
			4-Bromofluorobenzene	2016/02/09		102	%	70 - 130
			Benzene	2016/02/09		93	%	70 - 130
			Bromodichloromethane	2016/02/09		100	%	70 - 130
			Bromoform	2016/02/09		103	%	70 - 130
			Bromomethane	2016/02/09		104	%	60 - 140
			Carbon Tetrachloride	2016/02/09		97	%	70 - 130
			Chloroethane	2016/02/09		101	%	60 - 140
			Chloroform	2016/02/09		93	%	70 - 130
			Chloromethane	2016/02/09		105	%	60 - 140
			cis-1,2-Dichloroethylene	2016/02/09		109	%	70 - 130
			cis-1,3-Dichloropropene	2016/02/09		101	%	70 - 130
			D4-1,2-Dichloroethane	2016/02/09		92	%	70 - 130
			D8-Toluene	2016/02/09		102	%	70 - 130
			Dibromochloromethane	2016/02/09		105	%	70 - 130
			Ethylbenzene	2016/02/09		116	%	70 - 130
			Ethylene Dibromide	2016/02/09		107	%	70 - 130
			Methyl t-butyl ether (MTBE)	2016/02/09		102	%	70 - 130
			Methylene Chloride(Dichloromethane)	2016/02/09		106	%	70 - 130
			o-Xylene	2016/02/09		125	%	70 - 130
			p+m-Xylene	2016/02/09		124	%	70 - 130
			Styrene	2016/02/09		119	%	70 - 130
			Tetrachloroethylene	2016/02/09		104	%	70 - 130
			Toluene	2016/02/09		110	%	70 - 130
			trans-1,2-Dichloroethylene	2016/02/09		98	%	70 - 130
			trans-1,3-Dichloropropene	2016/02/09		101	%	70 - 130
			Trichloroethylene	2016/02/09		101	%	70 - 130

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Trichlorofluoromethane (FREON 11)	2016/02/09		94	%	60 - 140
			Vinyl Chloride	2016/02/09		101	%	60 - 140
4375036	SHL	Method Blank	1,2-Dichlorobenzene	2016/02/09	<0.50		ug/L	
			1,3-Dichlorobenzene	2016/02/09	<1.0		ug/L	
			1,4-Dichlorobenzene	2016/02/09	<1.0		ug/L	
			Chlorobenzene	2016/02/09	<1.0		ug/L	
			1,1,1-Trichloroethane	2016/02/09	<1.0		ug/L	
			1,1,2,2-Tetrachloroethane	2016/02/09	<0.50		ug/L	
			1,1,2-Trichloroethane	2016/02/09	<1.0		ug/L	
			1,1-Dichloroethane	2016/02/09	<2.0		ug/L	
			1,1-Dichloroethylene	2016/02/09	<0.50		ug/L	
			1,2-Dichloroethane	2016/02/09	<1.0		ug/L	
			1,2-Dichloropropane	2016/02/09	<0.50		ug/L	
			4-Bromofluorobenzene	2016/02/09		97	%	70 - 130
			Benzene	2016/02/09	<1.0		ug/L	
			Bromodichloromethane	2016/02/09	<1.0		ug/L	
			Bromoform	2016/02/09	<1.0		ug/L	
			Bromomethane	2016/02/09	<0.50		ug/L	
			Carbon Tetrachloride	2016/02/09	<0.50		ug/L	
			Chloroethane	2016/02/09	<8.0		ug/L	
			Chloroform	2016/02/09	<1.0		ug/L	
			Chloromethane	2016/02/09	<8.0		ug/L	
			cis-1,2-Dichloroethylene	2016/02/09	<0.50		ug/L	
			cis-1,3-Dichloropropene	2016/02/09	<0.50		ug/L	
			D4-1,2-Dichloroethane	2016/02/09		107	%	70 - 130
			D8-Toluene	2016/02/09		100	%	70 - 130
			Dibromochloromethane	2016/02/09	<1.0		ug/L	
			Ethylbenzene	2016/02/09	<1.0		ug/L	
			Ethylene Dibromide	2016/02/09	<0.20		ug/L	
			Methyl t-butyl ether (MTBE)	2016/02/09	<2.0		ug/L	
			Methylene Chloride(Dichloromethane)	2016/02/09	<3.0		ug/L	
			o-Xylene	2016/02/09	<1.0		ug/L	
			p+m-Xylene	2016/02/09	<2.0		ug/L	
			Styrene	2016/02/09	<1.0		ug/L	
			Tetrachloroethylene	2016/02/09	<1.0		ug/L	
			Toluene	2016/02/09	<1.0		ug/L	
			Total Trihalomethanes	2016/02/09	<1.0		ug/L	
			Total Xylenes	2016/02/09	<1.0		ug/L	
			trans-1,2-Dichloroethylene	2016/02/09	<0.50		ug/L	
			trans-1,3-Dichloropropene	2016/02/09	<0.50		ug/L	
			Trichloroethylene	2016/02/09	<1.0		ug/L	
			Trichlorofluoromethane (FREON 11)	2016/02/09	<8.0		ug/L	
			Vinyl Chloride	2016/02/09	<0.50		ug/L	
4375036	SHL	RPD - Sample/Sample Dup	1,2-Dichlorobenzene	2016/02/09	NC		%	40
			1,4-Dichlorobenzene	2016/02/09	NC		%	40
			1,1,1-Trichloroethane	2016/02/09	NC		%	40
			1,1,2,2-Tetrachloroethane	2016/02/09	NC		%	40
			1,1,2-Trichloroethane	2016/02/09	NC		%	40
			Chloroform	2016/02/09	13		%	40
			Methylene Chloride(Dichloromethane)	2016/02/09	NC		%	40
			Trichloroethylene	2016/02/09	NC		%	40
4375116	VWA	Matrix Spike	Total Mercury (Hg)	2016/02/10		100	%	80 - 120
4375116	VWA	Spiked Blank	Total Mercury (Hg)	2016/02/10		101	%	80 - 120

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
4375116	VWA	Method Blank	Total Mercury (Hg)	2016/02/10	<0.013		ug/L	
4375116	VWA	RPD - Sample/Sample Dup	Total Mercury (Hg)	2016/02/10	NC		%	20
4375798	NRG	Matrix Spike(BUC625)	Nitrogen (Ammonia Nitrogen)	2016/02/09		95	%	80 - 120
4375798	NRG	Spiked Blank	Nitrogen (Ammonia Nitrogen)	2016/02/09		92	%	80 - 120
4375798	NRG	Method Blank	Nitrogen (Ammonia Nitrogen)	2016/02/09	0.053, RDL=0.050		mg/L	
4375798	NRG	RPD - Sample/Sample Dup	Nitrogen (Ammonia Nitrogen)	2016/02/10	NC		%	20
4376377	SHL	Matrix Spike(BUC624)	1,2-Dichlorobenzene	2016/02/11		93	%	70 - 130
			1,3-Dichlorobenzene	2016/02/11		91	%	70 - 130
			1,4-Dichlorobenzene	2016/02/11		94	%	70 - 130
			Chlorobenzene	2016/02/11		96	%	70 - 130
			1,1,1-Trichloroethane	2016/02/11		98	%	70 - 130
			1,1,2,2-Tetrachloroethane	2016/02/11		99	%	70 - 130
			1,1,2-Trichloroethane	2016/02/11		100	%	70 - 130
			1,1-Dichloroethane	2016/02/11		95	%	70 - 130
			1,1-Dichloroethylene	2016/02/11		93	%	70 - 130
			1,2-Dichloroethane	2016/02/11		99	%	70 - 130
			1,2-Dichloropropane	2016/02/11		104	%	70 - 130
			Benzene	2016/02/11		98	%	70 - 130
			Bromodichloromethane	2016/02/11		105	%	70 - 130
			Bromoform	2016/02/11		101	%	70 - 130
			Bromomethane	2016/02/11		89	%	60 - 140
			Carbon Tetrachloride	2016/02/11		95	%	70 - 130
			Chloroethane	2016/02/11		84	%	60 - 140
			Chloroform	2016/02/11		85	%	70 - 130
			Chloromethane	2016/02/11		87	%	60 - 140
			cis-1,2-Dichloroethylene	2016/02/11		102	%	70 - 130
			cis-1,3-Dichloropropene	2016/02/11		100	%	70 - 130
			Dibromochloromethane	2016/02/11		101	%	70 - 130
			Ethylbenzene	2016/02/11		110	%	70 - 130
			Ethylene Dibromide	2016/02/11		104	%	70 - 130
			Methyl t-butyl ether (MTBE)	2016/02/11		101	%	70 - 130
			Methylene Chloride(Dichloromethane)	2016/02/11		92	%	70 - 130
			o-Xylene	2016/02/11		117	%	70 - 130
			p+m-Xylene	2016/02/11		118	%	70 - 130
			Styrene	2016/02/11		116	%	70 - 130
			Tetrachloroethylene	2016/02/11		102	%	70 - 130
			Toluene	2016/02/11		108	%	70 - 130
			trans-1,2-Dichloroethylene	2016/02/11		97	%	70 - 130
			trans-1,3-Dichloropropene	2016/02/11		100	%	70 - 130
			Trichloroethylene	2016/02/11		106	%	70 - 130
			Trichlorofluoromethane (FREON 11)	2016/02/11		85	%	60 - 140
			Vinyl Chloride	2016/02/11		85	%	60 - 140
4376377	SHL	Matrix Spike	4-Bromofluorobenzene	2016/02/11		101	%	70 - 130
			D4-1,2-Dichloroethane	2016/02/11		94	%	70 - 130
			D8-Toluene	2016/02/11		101	%	70 - 130
4376377	SHL	Spiked Blank	1,2-Dichlorobenzene	2016/02/11		90	%	70 - 130
			1,3-Dichlorobenzene	2016/02/11		90	%	70 - 130
			1,4-Dichlorobenzene	2016/02/11		92	%	70 - 130
			Chlorobenzene	2016/02/11		94	%	70 - 130
			1,1,1-Trichloroethane	2016/02/11		97	%	70 - 130
			1,1,2,2-Tetrachloroethane	2016/02/11		95	%	70 - 130
			1,1,2-Trichloroethane	2016/02/11		99	%	70 - 130

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			1,1-Dichloroethane	2016/02/11		99	%	70 - 130
			1,1-Dichloroethylene	2016/02/11		98	%	70 - 130
			1,2-Dichloroethane	2016/02/11		95	%	70 - 130
			1,2-Dichloropropane	2016/02/11		96	%	70 - 130
			4-Bromofluorobenzene	2016/02/11		99	%	70 - 130
			Benzene	2016/02/11		94	%	70 - 130
			Bromodichloromethane	2016/02/11		98	%	70 - 130
			Bromoform	2016/02/11		97	%	70 - 130
			Bromomethane	2016/02/11		93	%	60 - 140
			Carbon Tetrachloride	2016/02/11		94	%	70 - 130
			Chloroethane	2016/02/11		89	%	60 - 140
			Chloroform	2016/02/11		89	%	70 - 130
			Chloromethane	2016/02/11		90	%	60 - 140
			cis-1,2-Dichloroethylene	2016/02/11		102	%	70 - 130
			cis-1,3-Dichloropropene	2016/02/11		100	%	70 - 130
			D4-1,2-Dichloroethane	2016/02/11		95	%	70 - 130
			D8-Toluene	2016/02/11		101	%	70 - 130
			Dibromochloromethane	2016/02/11		98	%	70 - 130
			Ethylbenzene	2016/02/11		110	%	70 - 130
			Ethylene Dibromide	2016/02/11		101	%	70 - 130
			Methyl t-butyl ether (MTBE)	2016/02/11		103	%	70 - 130
			Methylene Chloride(Dichloromethane)	2016/02/11		95	%	70 - 130
			o-Xylene	2016/02/11		114	%	70 - 130
			p+m-Xylene	2016/02/11		116	%	70 - 130
			Styrene	2016/02/11		111	%	70 - 130
			Tetrachloroethylene	2016/02/11		100	%	70 - 130
			Toluene	2016/02/11		108	%	70 - 130
			trans-1,2-Dichloroethylene	2016/02/11		97	%	70 - 130
			trans-1,3-Dichloropropene	2016/02/11		102	%	70 - 130
			Trichloroethylene	2016/02/11		102	%	70 - 130
			Trichlorofluoromethane (FREON 11)	2016/02/11		89	%	60 - 140
			Vinyl Chloride	2016/02/11		86	%	60 - 140
4376377	SHL	Method Blank	1,2-Dichlorobenzene	2016/02/11	<0.50		ug/L	
			1,3-Dichlorobenzene	2016/02/11	<1.0		ug/L	
			1,4-Dichlorobenzene	2016/02/11	<1.0		ug/L	
			Chlorobenzene	2016/02/11	<1.0		ug/L	
			1,1,1-Trichloroethane	2016/02/11	<1.0		ug/L	
			1,1,2,2-Tetrachloroethane	2016/02/11	<0.50		ug/L	
			1,1,2-Trichloroethane	2016/02/11	<1.0		ug/L	
			1,1-Dichloroethane	2016/02/11	<2.0		ug/L	
			1,1-Dichloroethylene	2016/02/11	<0.50		ug/L	
			1,2-Dichloroethane	2016/02/11	<1.0		ug/L	
			1,2-Dichloropropane	2016/02/11	<0.50		ug/L	
			4-Bromofluorobenzene	2016/02/11		93	%	70 - 130
			Benzene	2016/02/11	<1.0		ug/L	
			Bromodichloromethane	2016/02/11	<1.0		ug/L	
			Bromoform	2016/02/11	<1.0		ug/L	
			Bromomethane	2016/02/11	<0.50		ug/L	
			Carbon Tetrachloride	2016/02/11	<0.50		ug/L	
			Chloroethane	2016/02/11	<8.0		ug/L	
			Chloroform	2016/02/11	<1.0		ug/L	
			Chloromethane	2016/02/11	<8.0		ug/L	
			cis-1,2-Dichloroethylene	2016/02/11	<0.50		ug/L	

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			cis-1,3-Dichloropropene	2016/02/11	<0.50		ug/L	
			D4-1,2-Dichloroethane	2016/02/11		101	%	70 - 130
			D8-Toluene	2016/02/11		98	%	70 - 130
			Dibromochloromethane	2016/02/11	<1.0		ug/L	
			Ethylbenzene	2016/02/11	<1.0		ug/L	
			Ethylene Dibromide	2016/02/11	<0.20		ug/L	
			Methyl t-butyl ether (MTBE)	2016/02/11	<2.0		ug/L	
			Methylene Chloride(Dichloromethane)	2016/02/11	<3.0		ug/L	
			o-Xylene	2016/02/11	<1.0		ug/L	
			p+m-Xylene	2016/02/11	<2.0		ug/L	
			Styrene	2016/02/11	<1.0		ug/L	
			Tetrachloroethylene	2016/02/11	<1.0		ug/L	
			Toluene	2016/02/11	<1.0		ug/L	
			Total Trihalomethanes	2016/02/11	<1.0		ug/L	
			Total Xylenes	2016/02/11	<1.0		ug/L	
			trans-1,2-Dichloroethylene	2016/02/11	<0.50		ug/L	
			trans-1,3-Dichloropropene	2016/02/11	<0.50		ug/L	
			Trichloroethylene	2016/02/11	<1.0		ug/L	
			Trichlorofluoromethane (FREON 11)	2016/02/11	<8.0		ug/L	
			Vinyl Chloride	2016/02/11	<0.50		ug/L	
4376377	SHL	RPD - Sample/Sample Dup	1,2-Dichlorobenzene	2016/02/11	NC		%	40
			1,3-Dichlorobenzene	2016/02/11	NC		%	40
			1,4-Dichlorobenzene	2016/02/11	NC		%	40
			Chlorobenzene	2016/02/11	NC		%	40
			1,1,1-Trichloroethane	2016/02/11	NC		%	40
			1,1,2,2-Tetrachloroethane	2016/02/11	NC		%	40
			1,1,2-Trichloroethane	2016/02/11	NC		%	40
			1,1-Dichloroethane	2016/02/11	NC		%	40
			1,1-Dichloroethylene	2016/02/11	NC		%	40
			1,2-Dichloroethane	2016/02/11	NC		%	40
			1,2-Dichloropropane	2016/02/11	NC		%	40
			Benzene	2016/02/11	NC		%	40
			Bromodichloromethane	2016/02/11	NC		%	40
			Bromoform	2016/02/11	NC		%	40
			Bromomethane	2016/02/11	NC		%	40
			Carbon Tetrachloride	2016/02/11	NC		%	40
			Chloroethane	2016/02/11	NC		%	40
			Chloroform	2016/02/11	NC		%	40
			Chloromethane	2016/02/11	NC		%	40
			cis-1,2-Dichloroethylene	2016/02/11	NC		%	40
			cis-1,3-Dichloropropene	2016/02/11	NC		%	40
			Dibromochloromethane	2016/02/11	NC		%	40
			Ethylbenzene	2016/02/11	NC		%	40
			Ethylene Dibromide	2016/02/11	NC		%	40
			Methyl t-butyl ether (MTBE)	2016/02/11	NC		%	40
			Methylene Chloride(Dichloromethane)	2016/02/11	NC		%	40
			o-Xylene	2016/02/11	NC		%	40
			p+m-Xylene	2016/02/11	NC		%	40
			Styrene	2016/02/11	NC		%	40
			Tetrachloroethylene	2016/02/11	NC		%	40
			Toluene	2016/02/11	NC		%	40
			Total Trihalomethanes	2016/02/11	NC		%	40
			Total Xylenes	2016/02/11	NC		%	40

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			trans-1,2-Dichloroethylene	2016/02/11	NC		%	40
			trans-1,3-Dichloropropene	2016/02/11	NC		%	40
			Trichloroethylene	2016/02/11	NC		%	40
			Trichlorofluoromethane (FREON 11)	2016/02/11	NC		%	40
			Vinyl Chloride	2016/02/11	NC		%	40
4376463	LPW	QC Standard	Total Suspended Solids	2016/02/11		98	%	80 - 120
4376463	LPW	Method Blank	Total Suspended Solids	2016/02/11	<1.0		mg/L	
4376463	LPW	RPD - Sample/Sample Dup	Total Suspended Solids	2016/02/11	4.2		%	25
4376538	SMT	Matrix Spike(BUC622)	Dissolved Organic Carbon (C)	2016/02/10		99	%	80 - 120
4376538	SMT	Spiked Blank	Dissolved Organic Carbon (C)	2016/02/10		100	%	80 - 120
4376538	SMT	Method Blank	Dissolved Organic Carbon (C)	2016/02/10	<0.5		mg/L	
4376538	SMT	RPD - Sample/Sample Dup	Dissolved Organic Carbon (C)	2016/02/10	4.6		%	20
4378118	ZZH	Matrix Spike(BUC628)	Total Chemical Oxygen Demand	2016/02/12		101	%	80 - 120
4378118	ZZH	QC Standard	Total Chemical Oxygen Demand	2016/02/12		97	%	80 - 120
4378118	ZZH	Spiked Blank	Total Chemical Oxygen Demand	2016/02/12		100	%	80 - 120
4378118	ZZH	Method Blank	Total Chemical Oxygen Demand	2016/02/12	<20		mg/L	
4378738	BIP	Matrix Spike	Tannins & Lignins	2016/02/11		98	%	80 - 120
4378738	BIP	Spiked Blank	Tannins & Lignins	2016/02/11		94	%	80 - 120
4378738	BIP	Method Blank	Tannins & Lignins	2016/02/11	<0.2		mg/L	
4378738	BIP	RPD - Sample/Sample Dup	Tannins & Lignins	2016/02/11	NC		%	25
4378919	CRA	Matrix Spike	Phenols-4AAP	2016/02/11		98	%	80 - 120
4378919	CRA	Spiked Blank	Phenols-4AAP	2016/02/11		103	%	80 - 120
4378919	CRA	Method Blank	Phenols-4AAP	2016/02/11	<0.0010		mg/L	
4378919	CRA	RPD - Sample/Sample Dup	Phenols-4AAP	2016/02/11	NC		%	25
4380079	ZZH	Matrix Spike(BUC628)	Total Chemical Oxygen Demand	2016/02/12		115	%	80 - 120
4380079	ZZH	QC Standard	Total Chemical Oxygen Demand	2016/02/12		98	%	80 - 120
4380079	ZZH	Spiked Blank	Total Chemical Oxygen Demand	2016/02/12		104	%	80 - 120
4380079	ZZH	Method Blank	Total Chemical Oxygen Demand	2016/02/12	<5.0		mg/L	
4380079	ZZH	RPD - Sample/Sample Dup	Total Chemical Oxygen Demand	2016/02/12	NC		%	25
4380484	CRA	Matrix Spike	Phenols-4AAP	2016/02/12		102	%	80 - 120
4380484	CRA	Spiked Blank	Phenols-4AAP	2016/02/12		100	%	80 - 120
4380484	CRA	Method Blank	Phenols-4AAP	2016/02/12	<0.0010		mg/L	
4380484	CRA	RPD - Sample/Sample Dup	Phenols-4AAP	2016/02/12	NC		%	25

N/A = Not Applicable

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

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

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 spiked amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than 2x that of 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 (one or both samples < 5x RDL).

(1) Elevated reporting limit due to blank performance.

(2) Poor spike recovery due to sample matrix. Results confirmed with repeat analysis.

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

Maxxam Job #: B622733
Report Date: 2016/02/17

Englobe Corp.
Client Project #: 21347
Sampler Initials: LL

VALIDATION SIGNATURE PAGE

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

Cristina Carriere

Cristina Carriere, Scientific Services

Mike MacGillivray

Mike MacGillivray, Scientific Specialist (Inorganics)

Phil Deveau

Phil Deveau

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

Maxxam Analytics International Corporation o/a Maxxam Analytics
200 Bluewater Road, Bedford, Nova Scotia Canada B4B 1G9 Tel:(902) 420-0203 Toll-Free:(800) 565-7227 Fax:(902) 420-8612 www.maxxam.ca

Chain Of Custody Record

INVOICE TO:		Report Information		Project Information		Laboratory Use Only	
Company Name	#41009 Englobe Corp.	Company Name		Quotation #	B42284	Maxxam Job #	Bottle Order #:
Contact Name	Accounts Payable	Contact Name	Lisa Ladouceur	P.O. #		B622733	547372
Address	97 Troop Ave Dartmouth NS B3B 2A7	Address		Project #	21347	Chain Of Custody Record	Project Manager
Phone	(902) 468-6486 Fax: (902) 468-4919	Phone	Fax:	Project Name		C#547372-01-01	Avery Withrow
Email	Dartmouth.AP@englobecorp.com	Email	lisa.ladouceur@englobecorp.com	Site #			
				Sampled By	LL		

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 MAXXAM

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): [X]
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	RCAp-MS Total Metals in Water	Mercury - Total (CVAA,LL)	Nitrogen TKN - water (as N)	Phosphorus Total Colourimetry	Total Suspended Solids	VOC in Water (Column 1)	Chemical Oxygen Demand (COD)	Dissolved Organic Carbon (Field Filt)	Phenols (4-AAP)	Carbonaceous BOD	# of Bottles	Comments / Hazards / Other Required Analysis
1		MW1	2/2/16	16h30	GW	X		X	X	X	X	X	X	X	X	X		11	
2		MW2	2/2/16	14h00	GW	X		X	X	X	X	X	X	X	X	X		11	
3		~~MW3~~						~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~		~~11~~	
4		~~MW4~~						~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~			
5		PW1	2/2/16	10h00	PW	X		X	X	X	X	X	X	X	X	X		11	
6		PW2		10h30	PW	X		X	X	X	X	X	X	X	X	X		11	
7		PW3		11h00	PW	X		X	X	X	X	X	X	X	X	X		11	
8		PW4		11h30	PW	X		X	X	X	X	X	X	X	X	X		11	
9		PW5		12h00	PW	X		X	X	X	X	X	X	X	X	X		11	2016 FEB 3 12:14
10		PW6		12h30	PW	X		X	X	X	X	X	X	X	X	X		11	

* 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?
	16/2/3	12h10	CAILA HENDERSON				[ ]	1, 2, 2 2, 3, 1 2, 1, 2	[ ] Yes [ ] No

* 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: Maxxam Yellow: Client

Maxxam Analytics International Corporation o/a Maxxam Analytics

MaxXam — A Bureau Veritas Group Company

Maxxam Analytics International Corporation o/a Maxxam Analytics
200 Bluewater Road, Bedford, Nova Scotia Canada B4B 1G9 Tel:(902) 420-0203 Toll-Free:(800) 565-7227 Fax:(902) 420-8612 www.maxxam.ca

Chain Of Custody Record

INVOICE TO:		Report Information		Project Information		Laboratory Use Only	
Company Name	#41009 Englobe Corp.	Company Name		Quotation #	B42284	Maxxam Job #	Bottle Order #:
Contact Name	Accounts Payable	Contact Name	Lisa Ladouceur	P.O. #		B622733	547372
Address	97 Troop Ave Dartmouth NS B3B 2A7	Address		Project #	21347	Chain Of Custody Record	Project Manager
Phone	(902) 468-6486 Fax: (902) 468-4919	Phone	Fax:	Project Name		C#547372-02-01	Avery Withrow
Email	Dartmouth.AP@englobecorp.com	Email	lisa.ladouceur@englobecorp.com	Site #			
				Sampled By	LL		

Regulatory Criteria:

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

Special Instructions

SAMPLES MUST BE KEPT COOL (< 10ºC) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

Turnaround Time (TAT) Required:

Please provide advance notice for rush projects

Regular (Standard) TAT: (will be applied if Rush TAT is not specified): X

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	RCAp-MS Total Metals in Water	Mercury - Total (CVAA,LL)	Nitrogen TKN - water (as N)	Phosphorus Total Colourimetry	Total Suspended Solids	VOC in Water (Column 1)	Chemical Oxygen Demand (COD)	Dissolved Organic Carbon (Field Filt)	Phenols (4-AAP)	Carbonaceous BOD	# of Bottles	Comments / Hazards / Other Required Analysis
1		PW7	2/2/16	12h45	PW	X		X	X	X	X	X	X	X	X	X		11	
2		PW8	2/2/16	13h00	PW	X		X	X	X	X	X	X	X	X	X		11	
3		PW9						X	X	X	X	X	X	X	X	X			
4		PW10						X	X	X	X	X	X	X	X	X			
5		PW11						X	X	X	X	X	X	X	X	X			
6		PW12						X	X	X	X	X	X	X	X	X			
7		SW1	2/2/16	13h30	SW			X	X	X	X	X		X		X	X	13	
8		SW2	↓	15h00				X	X	X	X	X		X		X	X	13	
9		SW3	↓	16h00	↓			X	X	X	X	X		X		X	X	13	2016 FEB 3 12:15
10																			

* * 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 (ºC) on Receipt	Custody Seal Intact on Cooler?
Lisa Ladouceur	16/2/3	12h10	CAILA HENDERSON				☐	1, 2, 2 2, 3, 1 2, 1, 2	☐ Yes ☐ No

* 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: Maxxam Yellow: Client

Maxxam Analytics International Corporation o/a Maxxam Analytics

Maxxam Analytics International Corporation o/a Maxxam Analytics
200 Bluewater Road, Bedford, Nova Scotia Canada B4B 1G9 Tel:(902) 420-0203 Toll-Free:(800) 565-7227 Fax:(902) 420-8612 www.maxxam.ca

Chain Of Custody Record

Page 3 of 5

INVOICE TO:		Report Information		Project Information		Laboratory Use Only	
Company Name	#41009 Englobe Corp.	Company Name		Quotation #	B42284	Maxxam Job #	Bottle Order #:
Contact Name	Accounts Payable	Contact Name	Lisa Ladouceur	P.O. #		B622733	547372
Address	97 Troop Ave Dartmouth NS B3B 2A7	Address		Project #	21347	Chain Of Custody Record	Project Manager
Phone	(902) 468-6486 Fax: (902) 468-4919	Phone	Fax:	Project Name		C#547372-02-02	Avery Withrow
Email	Dartmouth.AP@englobecorp.com	Email	lisa.ladouceur@englobecorp.com	Site #			
				Sampled By	LL		

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 MAXXAM

Turnaround Time (TAT) Required:

Please provide advance notice for rush projects

Regular (Standard) TAT:

(will be applied if Rush TAT is not specified): X

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	Tannins & Lignins	VOC in Water Column 3								# of Bottles	Comments / Hazards / Other Required Analysis
1		~~PW7~~																
2		~~PW8~~																
3		~~PW9~~																
4		~~PW10~~																
5		~~PW11~~																
6		~~PW12~~																
7		SW1	2/2/16	13h30	SW			X	X								13	
8		SW2	↓	15h00	↓			X	X								13	
9		SW3	↓	16h00	↓			X	X								13	2016 FEB 3 12:15
10																		

* 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?
Lisa Ladouceur	16/2/3	17h10	Caitlin HENDERSON				☐	1, 2, 2 2, 3, 1 2.1.7	☐ Yes ☐ No

* 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: Maxxam Yellow: Client

Maxxam Analytics International Corporation o/a Maxxam Analytics

Appendix 4 Compost Analytical Results

Maxxam
A Bureau Veritas Group Company

Your C.O.C. #: D 07514

Attention:Paul Arnold

Bio-Logic Enviro
18 Erin Dr
Dartmouth, NS
B2W 2B8

Report Date: 2016/02/19
Report #: R3900582
Version: 2 - Partial

CERTIFICATE OF ANALYSIS – PARTIAL RESULTS

MAXXAM JOB #: B626629
Received: 2016/02/08, 16:00

Sample Matrix: Soil
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Carbon Nitrogen Ratio by Calculation	1	2016/02/09	2016/02/11		Auto Calc.
Metals Solids Acid Extr. ICPMS	1	2016/02/11	2016/02/11	ATL SOP 00058	EPA 6020A R1 m
CHN/Protein by Combustion	1	2016/02/11	2016/02/11	ATL SOP 00046	AOAC 990.03 m

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.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Melissa DiPinto, Project Manager
Email: mdipinto@maxxam.ca
Phone# (902) 420-0203
==========
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B626629
Report Date: 2016/02/19

Bio-Logic Enviro

RESULTS OF ANALYSES OF SOIL

Maxxam ID		BVC199		
Sampling Date		2016/02/02		
COC Number		D 07514		
	UNITS	**BOTTLE #1**	**RDL**	**QC Batch**
Inorganics				
C:N RATIO	n/a	9.2	N/A	4375013
Carbon	%	19	0.50	4378099
Hydrogen	%	2.9	0.50	4378099
Nitrogen	%	2.0	0.20	4378099
Protein	%	NA	0.60	4378099

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Maxxam ID		BVC199		
Sampling Date		2016/02/02		
COC Number		D 07514		
	UNITS	**BOTTLE #1**	**RDL**	**QC Batch**
Metals				
Acid Extractable Aluminum (Al)	mg/kg	4900	10	4378140
Acid Extractable Antimony (Sb)	mg/kg	ND	2.0	4378140
Acid Extractable Arsenic (As)	mg/kg	5.5	2.0	4378140
Acid Extractable Barium (Ba)	mg/kg	75	5.0	4378140
Acid Extractable Beryllium (Be)	mg/kg	ND	2.0	4378140
Acid Extractable Bismuth (Bi)	mg/kg	ND	2.0	4378140
Acid Extractable Boron (B)	mg/kg	ND	50	4378140
Acid Extractable Cadmium (Cd)	mg/kg	0.50	0.30	4378140
Acid Extractable Chromium (Cr)	mg/kg	12	2.0	4378140
Acid Extractable Cobalt (Co)	mg/kg	2.7	1.0	4378140
Acid Extractable Copper (Cu)	mg/kg	54	2.0	4378140
Acid Extractable Iron (Fe)	mg/kg	9800	50	4378140
Acid Extractable Lead (Pb)	mg/kg	68	0.50	4378140
Acid Extractable Lithium (Li)	mg/kg	10	2.0	4378140
Acid Extractable Manganese (Mn)	mg/kg	370	2.0	4378140
Acid Extractable Mercury (Hg)	mg/kg	ND	0.10	4378140
Acid Extractable Molybdenum (Mo)	mg/kg	ND	2.0	4378140
Acid Extractable Nickel (Ni)	mg/kg	8.3	2.0	4378140
Acid Extractable Rubidium (Rb)	mg/kg	13	2.0	4378140
Acid Extractable Selenium (Se)	mg/kg	ND	1.0	4378140
Acid Extractable Silver (Ag)	mg/kg	ND	0.50	4378140
Acid Extractable Strontium (Sr)	mg/kg	190	5.0	4378140
Acid Extractable Thallium (Tl)	mg/kg	ND	0.10	4378140
Acid Extractable Tin (Sn)	mg/kg	3.4	2.0	4378140
Acid Extractable Uranium (U)	mg/kg	0.52	0.10	4378140
Acid Extractable Vanadium (V)	mg/kg	13	2.0	4378140
Acid Extractable Zinc (Zn)	mg/kg	180	5.0	4378140

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
ND = Not detected

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

GENERAL COMMENTS

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

Package 1	17.7°C

Samples received >10°C at the lab for analysis.

Results relate only to the items tested.

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

Maxxam Job #: B626629
Report Date: 2016/02/19

Bio-Logic Enviro

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
4378099	BBD	QC Standard	Carbon	2016/02/11		102	%	80 - 120
			Hydrogen	2016/02/11		109	%	80 - 120
			Nitrogen	2016/02/11		112	%	80 - 120
			Protein	2016/02/11		NA	%	90 - 110
4378099	BBD	Method Blank	Carbon	2016/02/11	ND, RDL=0.50		%	
			Hydrogen	2016/02/11	ND, RDL=0.50		%	
			Nitrogen	2016/02/11	ND, RDL=0.20		%	
			Protein	2016/02/11	NA, RDL=0.60		%	
4378099	BBD	RPD	Carbon	2016/02/11	0.63		%	25
			Hydrogen	2016/02/11	9.8		%	25
			Nitrogen	2016/02/11	11		%	25
			Protein	2016/02/11	NC		%	25
4378140	BAN	Matrix Spike	Acid Extractable Antimony (Sb)	2016/02/11		86	%	75 - 125
			Acid Extractable Arsenic (As)	2016/02/11		NC	%	75 - 125
			Acid Extractable Barium (Ba)	2016/02/11		NC	%	75 - 125
			Acid Extractable Beryllium (Be)	2016/02/11		96	%	75 - 125
			Acid Extractable Bismuth (Bi)	2016/02/11		99	%	75 - 125
			Acid Extractable Boron (B)	2016/02/11		83	%	75 - 125
			Acid Extractable Cadmium (Cd)	2016/02/11		99	%	75 - 125
			Acid Extractable Chromium (Cr)	2016/02/11		99	%	75 - 125
			Acid Extractable Cobalt (Co)	2016/02/11		99	%	75 - 125
			Acid Extractable Copper (Cu)	2016/02/11		97	%	75 - 125
			Acid Extractable Lead (Pb)	2016/02/11		NC	%	75 - 125
			Acid Extractable Lithium (Li)	2016/02/11		105	%	75 - 125
			Acid Extractable Manganese (Mn)	2016/02/11		NC	%	75 - 125
			Acid Extractable Mercury (Hg)	2016/02/11		92	%	75 - 125
			Acid Extractable Molybdenum (Mo)	2016/02/11		102	%	75 - 125
			Acid Extractable Nickel (Ni)	2016/02/11		99	%	75 - 125
			Acid Extractable Rubidium (Rb)	2016/02/11		95	%	75 - 125
			Acid Extractable Selenium (Se)	2016/02/11		98	%	75 - 125
			Acid Extractable Silver (Ag)	2016/02/11		99	%	75 - 125
			Acid Extractable Strontium (Sr)	2016/02/11		101	%	75 - 125
			Acid Extractable Thallium (Tl)	2016/02/11		97	%	75 - 125
			Acid Extractable Tin (Sn)	2016/02/11		99	%	75 - 125
			Acid Extractable Uranium (U)	2016/02/11		98	%	75 - 125
			Acid Extractable Vanadium (V)	2016/02/11		NC	%	75 - 125
			Acid Extractable Zinc (Zn)	2016/02/11		NC	%	75 - 125
4378140	BAN	Spiked Blank	Acid Extractable Antimony (Sb)	2016/02/11		95	%	75 - 125
			Acid Extractable Arsenic (As)	2016/02/11		97	%	75 - 125
			Acid Extractable Barium (Ba)	2016/02/11		95	%	75 - 125
			Acid Extractable Beryllium (Be)	2016/02/11		94	%	75 - 125
			Acid Extractable Bismuth (Bi)	2016/02/11		100	%	75 - 125
			Acid Extractable Boron (B)	2016/02/11		97	%	75 - 125
			Acid Extractable Cadmium (Cd)	2016/02/11		97	%	75 - 125
			Acid Extractable Chromium (Cr)	2016/02/11		95	%	75 - 125
			Acid Extractable Cobalt (Co)	2016/02/11		96	%	75 - 125
			Acid Extractable Copper (Cu)	2016/02/11		95	%	75 - 125
			Acid Extractable Lead (Pb)	2016/02/11		96	%	75 - 125
			Acid Extractable Lithium (Li)	2016/02/11		99	%	75 - 125
			Acid Extractable Manganese (Mn)	2016/02/11		98	%	75 - 125

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Acid Extractable Mercury (Hg)	2016/02/11		97	%	75 - 125
			Acid Extractable Molybdenum (Mo)	2016/02/11		98	%	75 - 125
			Acid Extractable Nickel (Ni)	2016/02/11		98	%	75 - 125
			Acid Extractable Rubidium (Rb)	2016/02/11		98	%	75 - 125
			Acid Extractable Selenium (Se)	2016/02/11		98	%	75 - 125
			Acid Extractable Silver (Ag)	2016/02/11		97	%	75 - 125
			Acid Extractable Strontium (Sr)	2016/02/11		97	%	75 - 125
			Acid Extractable Thallium (Tl)	2016/02/11		97	%	75 - 125
			Acid Extractable Tin (Sn)	2016/02/11		108	%	75 - 125
			Acid Extractable Uranium (U)	2016/02/11		97	%	75 - 125
			Acid Extractable Vanadium (V)	2016/02/11		95	%	75 - 125
			Acid Extractable Zinc (Zn)	2016/02/11		96	%	75 - 125
4378140	BAN	Method Blank	Acid Extractable Aluminum (Al)	2016/02/11	ND, RDL=10		mg/kg	
			Acid Extractable Antimony (Sb)	2016/02/11	ND, RDL=2.0		mg/kg	
			Acid Extractable Arsenic (As)	2016/02/11	ND, RDL=2.0		mg/kg	
			Acid Extractable Barium (Ba)	2016/02/11	ND, RDL=5.0		mg/kg	
			Acid Extractable Beryllium (Be)	2016/02/11	ND, RDL=2.0		mg/kg	
			Acid Extractable Bismuth (Bi)	2016/02/11	ND, RDL=2.0		mg/kg	
			Acid Extractable Boron (B)	2016/02/11	ND, RDL=50		mg/kg	
			Acid Extractable Cadmium (Cd)	2016/02/11	ND, RDL=0.30		mg/kg	
			Acid Extractable Chromium (Cr)	2016/02/11	ND, RDL=2.0		mg/kg	
			Acid Extractable Cobalt (Co)	2016/02/11	ND, RDL=1.0		mg/kg	
			Acid Extractable Copper (Cu)	2016/02/11	ND, RDL=2.0		mg/kg	
			Acid Extractable Iron (Fe)	2016/02/11	ND, RDL=50		mg/kg	
			Acid Extractable Lead (Pb)	2016/02/11	ND, RDL=0.50		mg/kg	
			Acid Extractable Lithium (Li)	2016/02/11	ND, RDL=2.0		mg/kg	
			Acid Extractable Manganese (Mn)	2016/02/11	ND, RDL=2.0		mg/kg	
			Acid Extractable Mercury (Hg)	2016/02/11	ND, RDL=0.10		mg/kg	
			Acid Extractable Molybdenum (Mo)	2016/02/11	ND, RDL=2.0		mg/kg	
			Acid Extractable Nickel (Ni)	2016/02/11	ND, RDL=2.0		mg/kg	
			Acid Extractable Rubidium (Rb)	2016/02/11	ND, RDL=2.0		mg/kg	
			Acid Extractable Selenium (Se)	2016/02/11	ND, RDL=1.0		mg/kg	

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Acid Extractable Silver (Ag)	2016/02/11	ND, RDL=0.50		mg/kg	
			Acid Extractable Strontium (Sr)	2016/02/11	ND, RDL=5.0		mg/kg	
			Acid Extractable Thallium (Tl)	2016/02/11	ND, RDL=0.10		mg/kg	
			Acid Extractable Tin (Sn)	2016/02/11	ND, RDL=2.0		mg/kg	
			Acid Extractable Uranium (U)	2016/02/11	ND, RDL=0.10		mg/kg	
			Acid Extractable Vanadium (V)	2016/02/11	ND, RDL=2.0		mg/kg	
			Acid Extractable Zinc (Zn)	2016/02/11	ND, RDL=5.0		mg/kg	
4378140	BAN	RPD	Acid Extractable Arsenic (As)	2016/02/11	1.7		%	35
			Acid Extractable Barium (Ba)	2016/02/11	6.5		%	35
			Acid Extractable Chromium (Cr)	2016/02/11	0.41		%	35
			Acid Extractable Copper (Cu)	2016/02/11	6.9		%	35
			Acid Extractable Lead (Pb)	2016/02/11	4.8		%	35
			Acid Extractable Zinc (Zn)	2016/02/11	4.9		%	35

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.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

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.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than 2x that of 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 (one or both samples < 5x RDL).

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

Maxxam Job #: B626629
Report Date: 2016/02/19

Bio-Logic Enviro

VALIDATION SIGNATURE PAGE

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

Colleen Acker, Supervisor, General Chemistry

Mike MacGillivray, Scientific Specialist (Inorganics)

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Analytics International Corporation o/a Maxxam Analytics 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.maxxamanalytics.com

Your Project #: DB626629
Your C.O.C. #: B626629

Attention:BEDFORD CLIENT SERVICE

MAXXAM ANALYTICS
200 BLUEWATER ROAD, SUITE 105
BEDFORD, NS
CANADA B4B 1G9

Report Date: 2016/02/18
Report #: R2131802
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B610290
Received: 2016/02/11, 08:35

Sample Matrix: Soil
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Potassium (Available)	1	2016/02/18	2016/02/18	CAL SOP-00153 / AB SOP-00042	EPA 200.7 CFR 2012 m
Nitrate-N (Available)	1	2016/02/18	2016/02/18	CAL SOP-00152 / AB SOP-00023	SM 22 4110 B m
Phosphorus (Available by ICP)	1	2016/02/18	2016/02/18	CAL SOP-00152 / AB SOP-00042	EPA 200.7 CFR 2012 m

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.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Curtis Templeton, Project Manager Assistant
Email: CTempleton@maxxam.ca
Phone# (403)219-3662
==========
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B610290
Report Date: 2016/02/18

MAXXAM ANALYTICS
Client Project #: DB626629
Sampler Initials: PA

NPK (AVAILABLE)

Maxxam ID		OC4073		
Sampling Date		2016/02/02		
COC Number		B626629		
	UNITS	BOTTLE #1 (BVC199-01)	RDL	QC Batch
Nutrients				
Available (NH4F) Nitrogen (N)	mg/kg	120 (1)	10	8194689
Available (NH4F) Phosphorus (P)	mg/kg	1000	5.0	8194702
Available (NH4OAc) Potassium (K)	mg/kg	1700	10	8194663

RDL = Reportable Detection Limit
(1) Detection limits raised due to sample matrix.

Maxxam Analytics International Corporation o/a Maxxam Analytics Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

Maxxam Job #: B610290
Report Date: 2016/02/18

MAXXAM ANALYTICS
Client Project #: DB626629
Sampler Initials: PA

GENERAL COMMENTS

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

Package 1	5.3°C

NPK (AVAILABLE) Comments

Sample OC4073-01 Phosphorus (Available by ICP): Due to the sample matrix, sample required dilution. Detection limit was adjusted accordingly
Sample OC4073-01 Potassium (Available): Due to the sample matrix, sample required dilution. Detection limit was adjusted accordingly

Results relate only to the items tested.

Maxxam Analytics International Corporation o/a Maxxam Analytics Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

Maxxam Job #: B610290
Report Date: 2016/02/18

QUALITY ASSURANCE REPORT

MAXXAM ANALYTICS
Client Project #: DB626629
Sampler Initials: PA

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8194663	Available (NH4OAc) Potassium (K)	2016/02/18			112	80 - 120	<2.0	mg/kg	2.8	35
8194689	Available (NH4F) Nitrogen (N)	2016/02/18	104	75 - 125	106	80 - 120	<2.0	mg/kg	NC	35
8194702	Available (NH4F) Phosphorus (P)	2016/02/18			113	80 - 120	<1.0	mg/kg	2.3	35

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.

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 (one or both samples < 5x RDL).

Maxxam Analytics International Corporation o/a Maxxam Analytics Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

Maxxam Job #: B610290
Report Date: 2016/02/18

MAXXAM ANALYTICS
Client Project #: DB626629
Sampler Initials: PA

VALIDATION SIGNATURE PAGE

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

Lili Zhou, Senior analyst, Inorganic department.

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Analytics International Corporation o/a Maxxam Analytics Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468