

**THE COLLECTION OF LANDFILL
MONITORING DATA AT THE FORMER
PIN-4 DISTANT EARLY WARNING LINE SITE**

Byron Bay, Nunavut

Final Report – 2017 Season
(O/Ref.: CD3654) (Y/Ref.: DLC MON (KITIK 13))

DEFENCE CONSTRUCTION CANADA

February 2018



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Presented to:

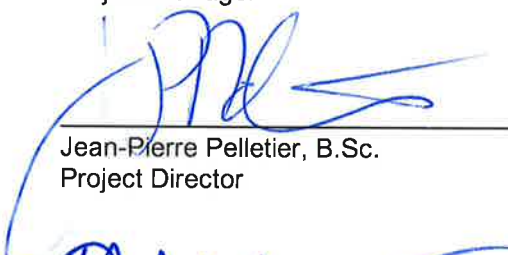
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Written by:



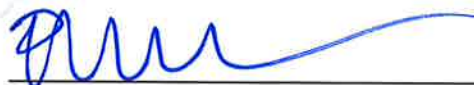
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1 OUTLINE

1.1 OBJECTIVE AND SCOPE OF WORK

The objective of the Defence Construction Canada (DCC) Landfill Monitoring Program is to collect sufficient information to assess the performance of landfills at former Distant Early Warning (DEW) Line Sites that have been remediated, from a geotechnical and environmental perspective. DCC has specified the requirements for the Landfill Monitoring Program in the document entitled “*Terms of Reference – Contracting Services for the Collection of Landfill Monitoring Data – PIN-2 Cape Young, PIN-4 Byron Bay, CAM-1 Jenny Lind Island - DEW LINE SITES, NUNAVUT, KITIKMEOT REGION, DCC PROJECT #: DLC MON(KITIK13), April 18, 2013*”. This report contains a summary of the findings from the 2017 inspection of the PIN-4 Byron Bay Site.

During the 2017 monitoring program, a visual inspection was completed at all landfills identified on the overall site plan (Figure PIN-4.1) in addition to soil and groundwater sampling, and thermal monitoring completed at the Tier II Disposal Facility. Table I summarizes the monitoring requirements of the 2017 season. No deviations from the Terms of Reference (TOR) were experienced while completing the 2017 monitoring.

Table I: 2017 Monitoring Requirements for PIN-4 Landfills

Landfill	Visual Inspection	Soil Sampling	Groundwater Sampling	Thermal Monitoring
Northwest Landfill	✓	✓		
North Landfill	✓	✓		
Non-Hazardous Waste Landfill	✓	✓	✓	
Station Area Landfill – West	✓	✓		
USAF Landfill	✓	✓		
Tier II Disposal Facility	✓	✓	✓	✓
Airstrip Landfill	✓	✓		

1.2 FIELD PROGRAM STAFF AND TIMING

The 2017 on-site field program at the PIN-4 Byron Bay Site took place on August 13-15, 2017. Englobe Corp.'s (Englobe) team, represented by Mr. Andrew Passalis, with the assistance of five local representatives, whose names and responsibilities are detailed below performed the fieldwork:

- Mr. Andrew Passalis, Project Engineer
- Laurie Etegik, Field Technician
- Justin Evalik, Field Technician
- Dyson Udlaoyak, Field Technician
- Susie Koaha, Field Technician
- Joe Koaha, Wildlife Monitor

1.3 2017 WEATHER CONDITIONS

Seasonally warm weather conditions were observed during the PIN-4 Byron Bay monitoring event with daytime temperatures ranging between 20 °C on August 13, 2017 and 12 °C on August 14 and 15, 2017. Skies were generally clear on August 13 and 14, 2017, and overcast with periods of morning fog on August 15, 2017. Winds ranged between 20 to 50 km/h from the northeast throughout the whole monitoring event. No precipitation was observed.

1.4 REPORT FORMAT

This report describes the work carried out in August 2017 at the seven landfill sites at PIN-4 Byron Bay. Results from soil and groundwater sampling, thermal monitoring, and visual inspection of the sites are also presented in the formats described in the TOR (Reference A in Section 2.8). An electronic version of the report and its associated tables, figures, and data files will be included in an Addendum DVD-ROM, which will be appended to the final report.

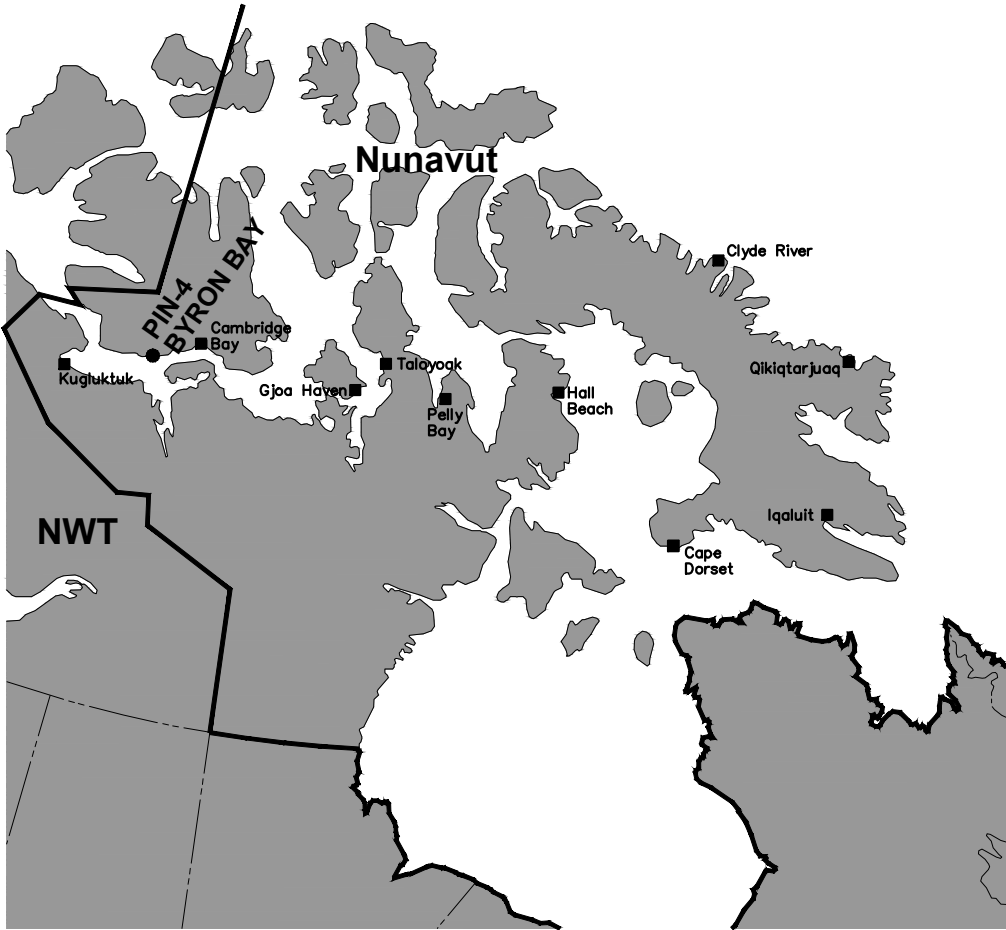
The report is organized with a separate section for each of the landfill sites. Each section contains all relevant information for that landfill area, for the 2017 Landfill Monitoring Program. The following information is provided in each landfill section:

- A visual inspection checklist
- A visual inspection drawing mark-up
- A selection of visual inspection photos

- Thermal monitoring inspection reports (where applicable)
- A summary of the 2017 soil analytical data
- A summary of the 2017 groundwater analytical data (where applicable)
- Monitoring well development/sampling reports (where applicable)

An overall site plan (Figure PIN-4.1) presents an overview of the former PIN-4 site with the localization of each landfill sites. Aerial photographs, as identified on the overall site plan, are provided on the Addendum DVD-ROM. For the photographic record, a photographic index has been completed as per the TOR for each of the landfill sites. The full resolution photos are included in electronic format in the Addendum DVD-ROM that will be attached to the final report. Certificates of Analyses, Quality Assurance/Quality Control (QA/QC) analytical results and field notes are included in the Annexes.

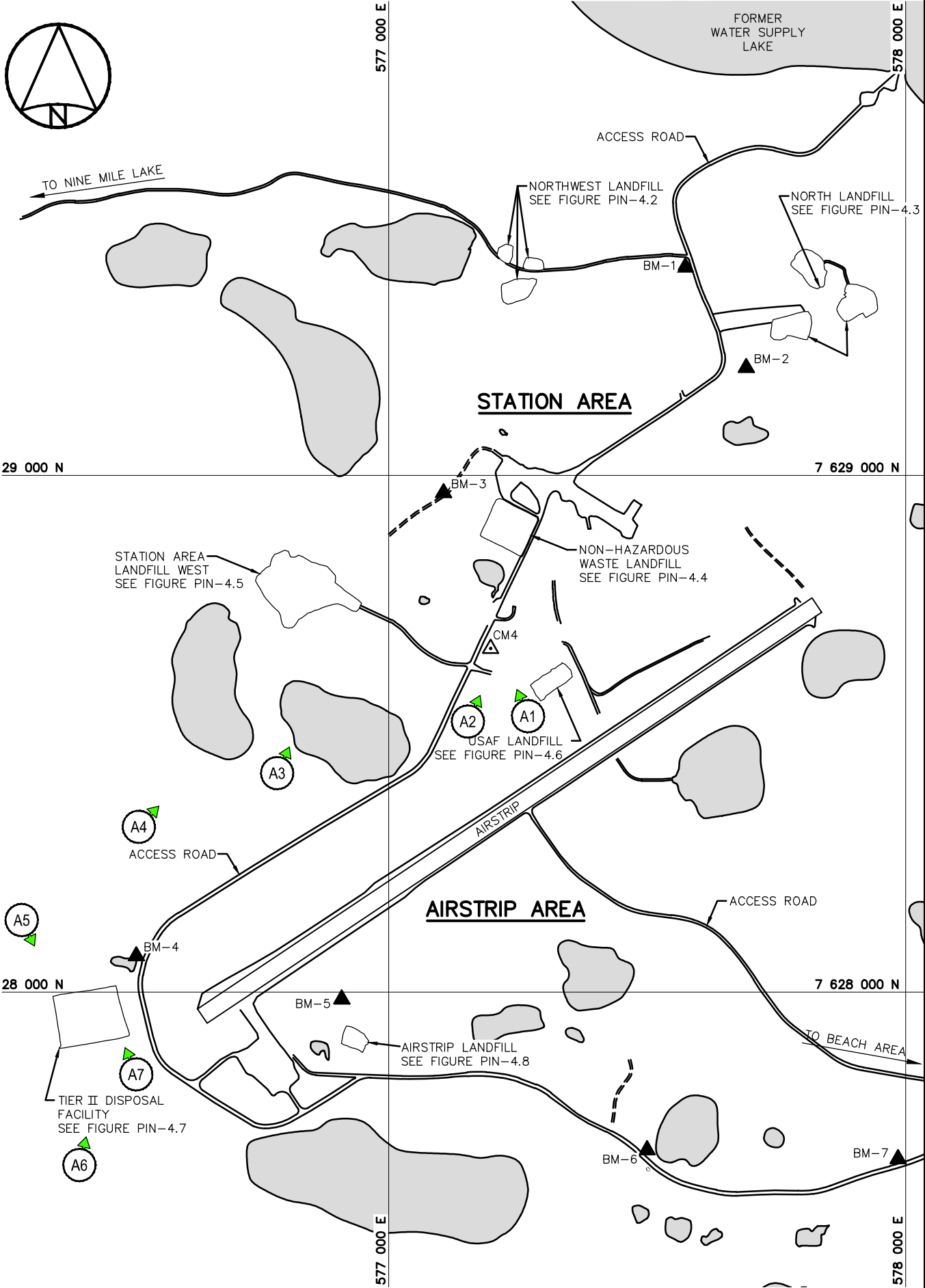
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LOCATION OF BYRON BAY WITHIN NUNAVUT TERRITORY
SCALE: NTS

SURVEY CONTROL MONUMENTS				
NO.	UTM COORDINATES		ELEV.	DESCRIPTION
	NORTHING	EASTING		
CM4	7 628 665.138	577 197.194	106.968	GEODETIC MONUMENT 649020

PERMANENT BENCHMARK (AS-BUILT)				
NO.	UTM COORDINATES		ELEV.	DESCRIPTION
	NORTHING	EASTING		
BM-1	7 629 402.938	577 573.748	105.711	25mm DIA. STEEL PIPE
BM-2	7 629 208.381	577 691.650	106.895	25mm DIA. STEEL PIPE
BM-3	7 628 966.171	577 106.215	102.610	25mm DIA. STEEL PIPE
BM-4	7 628 070.119	576 511.803	90.608	25mm DIA. STEEL PIPE
BM-5	7 627 986.564	576 909.188	87.778	25mm DIA. STEEL PIPE
BM-6	7 627 694.789	577 499.858	88.479	25mm DIA. STEEL PIPE
BM-7	7 627 677.411	577 985.417	88.710	25mm DIA. STEEL PIPE



LEGEND

- CM4 SURVEY CONTROL MONUMENT
- BM-1 PERMANENT BENCHMARK LOCATION
- BODY OF WATER
- XXX APPROX. PHOTOGRAPHIC VIEWPOINT



01	FINAL	18-01-26	J.P.	J-P.P.	P.G.
NO.	VERSION	DATE	PAR	VERIF.	APPR.



COLLECTION OF
LANDFILL MONITORING DATA
PIN-4, BYRON BAY, NUNAVUT

OVERALL SITE PLAN



1260 Lebourgneuf Boulevard
Suite 400
Quebec (Quebec) Canada, G2K 2G2
Phone : 418.704.8091
www.englobecorp.com

MEASUREMENT UNIT Metre	SCALE: 1 : 10,000	DATE (month-year): JANUARY 2018
DRAWN BY: J. POULIN	VERIFIED BY: J.-P. PELLETIER	APPROVED BY: P. GÉLINAS, ENG.
PROJECT NO: P-0009730-0-05-503	DRAWING NO: P-0009730-0-05-503-PIN-4A-PL	PAGE PL

FIGURE PIN-4.1

2 METHODOLOGY

2.1 VISUAL INSPECTION

Data and information collected during the visual inspection of the PIN-4 landfills are included in the visual inspection data sheets. These data sheets include inspection data such as the location of settlement, erosion, frost action, sloughing and cracking, animal burrows, vegetation cover and stress, staining, seepage points, exposed debris, and any other features of note.

Each feature was identified with an alphabetical or numerical tag to be used consistently each year in an effort to track changes in conditions for each specific feature.

Digital photos have been taken to illustrate the current state of the landfills as well as features of interest. Annotated sketches/diagrams are included in the report for each landfill.

The photos were taken with a Sony DSC-TX5 10.2 megapixel (MP) digital camera. Full resolution digital .jpg copies are available on the DVD-ROM appended to this report. The photo log, including the local coordinates from where the photo has been taken, orientation (relative to map north), features of note, and picture numbers are included with each landfill report.

2.2 SOIL SAMPLING

The soil sampling methodology conformed to guidance provided in the following Canadian Council of Ministers of the Environment (CCME) documents:

- CCME Guidance Document on the *Management of Contaminated Sites in Canada*, April 1997, CCME PN 1279. (CCME catalogue - http://www.ccme.ca/pdfs/cat_eng.pdf).
- CCME EPC-NCS62E Guidance Manual on *Sampling, Analysis, and Data Management for Contaminated Sites* - Volume I: Main Report, Dec 1993 (CCME catalogue - http://www.ccme.ca/pdfs/cat_eng.pdf).
- CCME EPC-NCS66E Guidance Manual on *Sampling, Analysis, and Data Management for Contaminated Sites* - Volume II: Analytical Method Summaries, Dec. 1993 (CCME catalogue - http://www.ccme.ca/pdfs/cat_eng.pdf).
- Reference method for the *Determination of Petroleum Hydrocarbons in Soil - Tier I Method*, 2001.
- CCME *Subsurface Assessment Handbook for Contaminated Sites*, March 1994, EPC-NCSRP-48E (CCME catalogue - http://www.ccme.ca/pdfs/cat_eng.pdf).

Specific methodologies used for the collection of soil samples during the August 2017 landfill monitoring program are summarized in Englobe's Standard Operating Procedures (SOPs), developed for the Kitik13 (DLCMON 53649) contract, dated July 7, 2016. No deviation from these procedures occurred during the 2017 field work.

The soil samples were analyzed for requested parameters (TPH [F1-F4], selected metals (As, Cd, Cr, Co, Cu, Pb, Ni, Zn and Hg) and PCBs), as specified by DCC.

Table II below summarizes the soil sampling at PIN-4 during the August 2017 field program:

Table II: Summary of Soil Sampling at PIN-4 - August 2017

Landfill Site	Soil Sample Locations				
Northwest Landfill	P4-1	P4-2	P4-3	P4-4	P4-5
North Landfill	P4-6	P4-7	P4-8	P4-9	P4-10
	P4-11	P4-12			
Non-Hazardous Waste Landfill	MW-5	MW-6	MW-7	P4-8	
Station Area Landfill - West	P4-13	P4-14	P4-15	P4-16	P4-17
USAF Landfill	P4-18	P4-19	P4-20	P4-21	
Tier II Disposal Facility	MW-1	MW-2	MW-3	MW-4	
Airstrip Landfill	P4-22	P4-23	P4-24		

2.3 GROUNDWATER SAMPLING

The groundwater sampling methodology conformed to guidance provided in the following CCME documents:

- CCME EPC-NCS62E Guidance Manual on *Sampling, Analysis and Data Management for Contaminated Sites* - Volume I: Main Report, Dec 1993 (CCME catalogue - http://www.ccme.ca/pdfs/cat_eng.pdf).
- CCME EPC-NCS66E Guidance Manual on *Sampling, Analysis and Data Management for Contaminated Sites* - Volume II: Analytical Method Summaries, Dec. 1993 (CCME catalogue - http://www.ccme.ca/pdfs/cat_eng.pdf).

Specific methodologies used for the measurement of water level and free product, and for the collection of groundwater samples during the August 2017 landfill monitoring program are summarized in Englobe's SOPs developed for the Kitik13 (DLCMON 53649) contract, dated July 7, 2016. No deviation from these procedures occurred during the 2017 field work.

The 2017 field program included sampling monitoring wells at the Tier II Disposal Facility and NHWLF. Groundwater samples were collected at all monitoring well locations, with the exception of MW-5, which was dry at the time of monitoring. A summary of the groundwater sampling undertaken at PIN-4 is summarized in Table III. In all monitoring wells, no evidence of free-phase hydrocarbon product was detected. Results of the free product monitoring and well purging observations are included in the Monitoring Well Development and Sampling Record forms, which are included in the appropriate sections of this report.

Table III: Summary of Groundwater Sampling at PIN-4 - August 2017

Landfill Site	Groundwater Sample Locations			
Tier II Disposal Facility	MW-1	MW-2	MW-3	MW-4
Non-Hazardous Waste Landfill	MW-5 (dry)	MW-6	MW-7	MW-8

2.4 THERMAL MONITORING

The 2017 thermal monitoring program at PIN-4 consisted in an inspection of four thermistors and data loggers, downloading of datasets and manual reading of thermistors at all data logger locations. VT-1 was replaced with a spare datalogger. Specific detailed information regarding temperature data is contained in the Tier II Disposal Facility section of this report.

2.5 FIELD NOTES

Field notes from the 2017 Landfill Monitoring program, including soil and water sampling, are included in Annex 3 for reference. Notes were written in field books, previously prepared logs or entered directly into a field computer. The notes were scanned to an Adobe PDF document for future reference and backup. Locations of all observations and features for the visual inspection were recorded using a Garmin Oregon 400 hand held GPS, which included a combination of continuous tracks and discrete way points. Data sets collected from the individual vertical thermistors were downloaded directly to a field lab top computer.

2.6 QUALITY CONTROL

Englobe implemented standard sample collection techniques to decrease the likelihood of compromising collected samples. The methods used for sample collection are summarized in Englobe's SOP. The following measures were taken to minimize sample cross-contamination:

- All samples were placed directly into the appropriate laboratory-supplied containers (for the particular analysis)
- Soil samples were collected with the use of decontaminated sampling equipment and/or nitrile gloves that were used only once
- Water samples were collected through the use of dedicated tubing

Chain-of-Custody (COC) forms were prepared prior to mobilization to the site, and completed by the Project Engineer after sample collection. The samples were refrigerated in chilled coolers prior to their off-site shipment by First Air Cargo directly to Exova in Edmonton and ESG, via Ottawa to Kingston, Ontario (via Yellowknife), where they were checked-in by laboratory representatives. All analyses were completed as specified on COC forms. At the request of DCC/DND, inter-laboratory samples were not submitted for analysis.

Annex 2 provides a sample integrity report from Exova. This report indicates that all samples received were acceptable for analysis.

2.7 QA/QC PROCEDURES

Sila used standard QA/QC procedures as specified in the TOR and CCME Guidance Documents for this project. The following is a summary of the analytical QA/QC samples collected:

- 10% field blind duplicate samples of soil and water have been sent to Exova. Results may be found in Annex 1
- 10% archival samples of soil were sent to ESG

Exova has QA/QC measures for sample analysis. QC samples are typically introduced into the analytical stream on a batch basis, normally comprising 20% – 30% of the total sample throughput. A batch size of 15 – 20 typically includes one of each control standard, reference standard, surrogate spike, duplicate sample, and method blank. A control sample is a blank matrix fortified with the analyte of interest, and carried through all analytical steps to monitor lab performance (recovery & basis) on clean matrix. A reference sample is a sample with predetermined certified characteristics that undergoes the same processing as samples used to evaluate accuracy of procedure. A surrogate spike is an organic compound with similar chemical composition and behaviour in the analytical process used to monitor recovery in each sample. A duplicate sample is done when client samples are analyzed in duplicate to monitor reproducibility in analysis and preparation. Finally, a method blank is a blank sample matrix carried through the same procedure as the samples, and is used to monitor the process contamination.

The Exova QA/QC reports may be found within the certificates of analyses in Annex 2.

2.8 PROJECT REFERENCES

The following references are specifically relevant to the 2017 Landfill Monitoring activities:

- A. Invitation to Tender - *Contractor Services for the Collection of Landfill Monitoring Data: PIN-2 Cape Young, PIN-4 Byron Bay, CAM-1 Jenny Lind Island - DEW LINE SITES, NUNAVUT, KITIKMEOT REGION, DCC PROJECT #: DLC MON(KITIK13)*,
- B. Terms of Reference – *Contracting Services for the Collection of Landfill Monitoring Data – PIN-2 Cape Young, PIN-4 Byron Bay, CAM-1 Jenny Lind Island - DEW LINE SITES, NUNAVUT, KITIKMEOT REGION, DCC PROJECT #: DLC MON (KITIK13)*, April 18, 2013.
- C. Technical Proposal – *The Collection of Landfill Monitoring Data for the DEW Line Sites: PIN-2 Cape Young, PIN-4 Byron Bay, CAM-1 Jenny Lind Island - DEW LINE SITES, NUNAVUT, KITIKMEOT REGION, DCC PROJECT #: DLC MON (KITIK13)*, April 18, 2013. *Project Ref 6121-150*, May 2013.
- D. *Post-Field Progress Report, PIN-4 Landfill Monitoring 2017*, September 2017.

3 NORTHWEST LANDFILL

3.1 SUMMARY

On August 14, 2017 a visual inspection was completed at the Northwest Landfill. Soil sampling was also completed at five stations located upgradient and downgradient of the landfill.

No PCBs or TPH were detected in any of the soil samples collected. Elevated levels of chromium (56.6 mg/kg) and nickel (28.7 mg/kg) were detected in the surface sample at upgradient sample location P4-1.

As of 2017, no features with “significant” or “unacceptable” severity ratings were identified in the Preliminary Stability Assessment of the Northwest Landfill. Indications of minor settlement were noted at two locations, including two minor depressions on the northwest side of Lobe B (Feature A) and two pot-hole type depressions on the northern side of Lobe D (Feature B). These features were consistent with observations noted during the previous 2014, 2015 and 2016 assessments. One isolated area of erosion was noted along the northern side of Lobe B (Feature C). The erosion extended along the toe of the lobe. The area was not in direct contact with the landfill and it appears to be the result of directed run-off and washing of fines along the toe. This feature (Feature C) was noted to have decreased in length from the previous observations during the 2014, 2015 and 2016 assessments. No exposed debris was present at the lobes. There was a minor increase in vegetation growth on the cover and side slope of the landfill from previous observations in 2016. Tension crack observed during the 2013 assessment not observed in 2017.

At this time, the overall performance of the landfill is rated as acceptable.

The Visual Inspection Checklist is included in Table IV of this report and has been completed as per the TOR. Please refer to Figure PIN-4.2 for a sketch of the Northwest Landfill detailing the location of photographs and features.

Table IV: Visual Inspection Checklist / Report – Northwest Landfill

**DEW LINE CLEANUP: POST-CONSTRUCTION – LANDFILL MONITORING
VISUAL INSPECTION CHECKLIST**

INSPECTION REPORT – PAGE 1 of 2

SITE NAME: PIN-4 Byron Bay
LANDFILL DESIGNATION: Northwest Landfill (Existing Regrade Landfill)
DATE OF INSPECTION: August 14, 2017
DATE OF PREVIOUS INSPECTION: August 14, 2016
INSPECTED BY: A. Passalis
REPORT PREPARED BY: A. Passalis
MONITORING EVENT NUMBER: 5
The inspector/reporter represents to the best of his/her knowledge that the following statements and observations are true and correct and to the best of the preparer's actual knowledge, no material facts have been suppressed or misstated.

TABLE IV : NORTHWEST LANDFILL VISUAL INSPECTION (PAGE 2 OF 2)

Site Name: PIN-4, Byron Bay
Landfill: Northwest Landfill
Designation: Existing Regrade Landfill
Date Inspected: August 14, 2017
Inspected by: Andrew Passalis, P.Eng.

Signature: 

[illegible]

3.2 PRELIMINARY STABILITY ASSESSMENT

The Preliminary Stability Assessment for Northwest Landfill has been completed as per the TOR and is included in Table V hereafter.

Table V: Preliminary Stability Assessment – Northwest Landfill

Feature	Severity Rating	Extent
Settlement	Acceptable	Isolated
Erosion	Acceptable	Isolated
Frost Action	Not observed	None
Staining	Not observed	None
Vegetation Stress	Not observed	None
Seepage/Ponded Water	Not observed	None
Debris exposure	Not observed	None
Overall Landfill Performance	Acceptable	

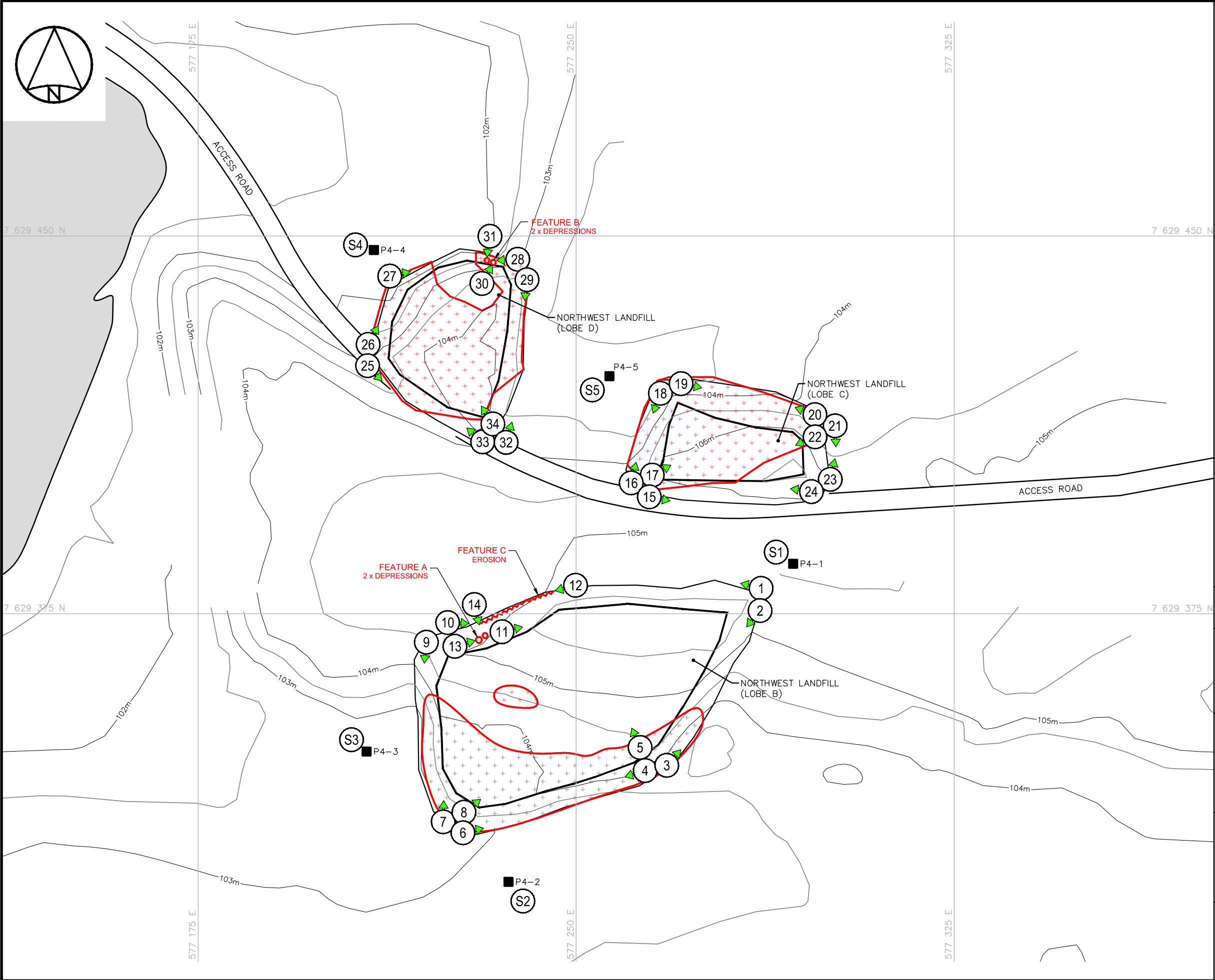
Performance/ Severity Rating	Description
Acceptable	Noted features are of little consequence. The landfill is performing as designed. Minor deviations in environmental or physical performance may be observed, such as isolated areas of erosion, settlement.
Marginal	Physical/environmental performance appears to be deteriorating with time. Observations may include an increase in size or number of features of note, such as differential settlement, erosion or cracking. No significant impact on landfill stability to date, but potential for failure is assessed as low or moderate.
Significant	Significant or potentially significant changes affecting landfill stability, such as significant changes in slope geometry, significant erosion or differential settlement; scarp development. The potential for failure is assessed as imminent.
Unacceptable	Stability of landfill is compromised to the extent that capacity to contain waste materials is compromised. Examples may include: - Debris exposed in erosion channels or areas of differential settlement. - Liner exposed. - Slope failure.

Extent	Description
Isolated	Singular feature
Occasional	Features of note occurring at irregular intervals/locations
Numerous	Many features of note, impacted less than 50% of the surface area of the landfill
Extensive	Impacting greater than 50% of the surface area of the landfill

3.3 LOCATION PLAN

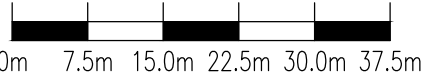
The Location Plan for the Northwest Landfill has been completed as per the TOR and is presented in Figure PIN-4.2.

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LEGEND

- MONITORING SOIL SAMPLE LOCATION
- BODY OF WATER
- SPARSE VEGETATION
- SETTLEMENT
- EROSION
- APPROX. PHOTOGRAPHIC VIEWPOINT



01	FINAL	18-01-26	J.P.	J-P.P.	P.G.
NO.	VERSION	DATE	PAR	VERIF.	APPR.



COLLECTION OF
LANDFILL MONITORING DATA
PIN-4, BYRON BAY, NUNAVUT
NORTHWEST LANDFILL



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Suite 400
Québec (Quebec) Canada, G2K 2G2
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MEASUREMENT UNIT Metre	SCALE: 1 : 750	DATE (month-year): JANUARY 2018
DRAWN BY: J. POULIN	VERIFIED BY: J.-P. PELLETIER	APPROVED BY: P. GÉLINAS, ENG.
PROJECT NO: P-0009730-0-05-503	DRAWING NO: P-0009730-0-05-503-PIN-4B-PL	PAGE PL

FIGURE PIN-4.2

3.4 PHOTOGRAPHIC RECORDS

The Photographic Record for the Northwest Landfill has been completed as per the TOR and is included in Table VI hereafter. Full-sized photographs are contained in the Addendum DVD-ROM.

Table VI: LANDFILL VISUAL INSPECTION PHOTO LOG

Site Name: PIN-4, Byron Bay
 Landfill: Northwest Landfill
 Date Inspected: August 14, 2017
 Inspected by: Andrew Passalis, P.Eng.

Photo (NWLF-)	Filename	Size (KB)	Date	Vantage Point		Caption
				Easting	Northing	
LOBE B						
1	P417-229	4,403	17/08/14	577286	7629380	View looking west along north side of Lobe B
2	P417-230	4,419	17/08/14	577286	7629378	View looking southwest along east side of Lobe B
3	P417-231	4,134	17/08/14	577268	7629345	View looking northeast along east side of Lobe B. Note vegetation
4	P417-232	4,209	17/08/14	577265	7629344	View looking southwest along south side of Lobe B. Note vegetation
5	P417-233	4,440	17/08/14	577263	7629347	View looking northwest across the cover of Lobe B
6	P417-234	4,028	17/08/14	577227	7629333	View looking northeast along south side of Lobe B. Note vegetation
7	P417-235	4,007	17/08/14	577226	7629333	View looking north along west side of Lobe B. Note vegetation
8	P417-236	4,166	17/08/14	577228	7629335	View looking northeast across the cover of Lobe B. Note vegetation
9	P417-237	4,457	17/08/14	577221	7629371	View looking south along west side of Lobe B. Note vegetation
10	P417-238	4,303	17/08/14	577223	7629372	View looking east along north side of Lobe B
11	P417-239	4,429	17/08/14	577233	7629372	View looking east at minor erosion along toe on north side of Lobe B - FEATURE C
12	P417-240	4,406	17/08/14	577247	7629380	View looking west at minor erosion along toe on north side of Lobe B - FEATURE C
13	P417-241	4,384	17/08/14	577227	7629369	View looking east at two minor depressions on northwest cover of Lobe B - FEATURE A
14	P417-242	4,272	17/08/14	577231	7629375	View looking south at two minor depressions on northwest cover of Lobe B - FEATURE A
LOBE C						
15	P417-245	4,341	17/08/14	577265	7629399	View looking east along south side of Lobe C. Note vegetation
16	P417-246	4,261	17/08/14	577263	7629400	View looking north along west side of Lobe C. Note vegetation
17	P417-247	4,430	17/08/14	577266	7629401	View looking northeast across cover of Lobe C. Note vegetation
18	P417-248	4,378	17/08/14	577268	7629421	View looking south along west side of Lobe C. Note vegetation
19	P417-249	4,347	17/08/14	577271	7629421	View looking east along north side of Lobe C. Note vegetation
20	P417-250	4,116	17/08/14	577298	7629415	View looking west along north side of Lobe C. Note vegetation
21	P417-251	4,231	17/08/14	577300	7629414	View looking south along east side of Lobe C. Note vegetation
22	P417-252	4,146	17/08/14	577297	7629413	View looking southwest across cover of Lobe C. Note vegetation
23	P417-253	4,265	17/08/14	577300	7629401	View looking north along east side of Lobe C
24	P417-254	4,020	17/08/14	577297	7629401	View looking west along south side of Lobe C

Table VI: Landfill Visual Inspection Photo Log – Northwest Landfill (page 2 of 2)

Photo (NWLF-)	Filename	Size (KB)	Date	Vantage Point		Caption
				Easting	Northing	
LOBE D						
25	P417-259	4,380	17/08/14	577209	7629424	View looking southeast along south side of Lobe D. Note vegetation
26	P417-260	4,412	17/08/14	577209	7629426	View looking north along west side of Lobe D. Note vegetation
27	P417-261	4,375	17/08/14	577214	7629442	View looking northeast along northwest toe of Lobe D. Note vegetation
28	P417-262	4,339	17/08/14	577239	7629444	View looking west along north side of Lobe D. Note vegetation
29	P417-263	4,228	17/08/14	577240	7629443	View looking south along east side of Lobe D. Note vegetation
30	P417-264	4,282	17/08/14	577232	7629442	View looking north at two pothole depressions below northeast crest - FEATURE B. Note vegetation
31	P417-265	4,377	17/08/14	577234	7629449	View looking south at two pothole depressions below northeast crest - FEATURE B. Note vegetation
32	P417-266	4,280	17/08/14	577235	7629411	View looking north along east side of Lobe D. Note vegetation
33	P417-267	4,046	17/08/14	577233	7629410	View looking northwest along south side of Lobe D. Note vegetation
34	P417-268	4,171	17/08/14	577233	7629413	View looking northwest at Lobe D. Note vegetation
Soil Sampling						
P4-1	P417-255	4,413	17/08/14	577293	7629385	Sample location P417-1A/B located upgradient of Lobe B
S1	P417-256	4,435	17/08/14	577295	7629387	View looking southeast at sample location P417-1A/B
P4-2	P417-257	4,323	17/08/14	577237	7629322	Sample location P417-2A/B located downgradient of Lobe B
S2	P417-258	4,373	17/08/14	577237	7629319	View looking northwest at sample location P417-2A/B
P4-3	P417-269	4,263	17/08/14	577209	7629347	Sample location P417-3A/B located downgradient of Lobe B
S3	P417-270	4,434	17/08/14	577206	7629347	View looking southeast at sample location P417-3A/B
P4-4	P417-228	4,426	17/08/14	577210	7629447	Sample location P417-4A/B located downgradient of Lobe D
S4	P417-227	4,379	17/08/14	577208	7629449	View looking east at sample location P417-4A/B
P4-5	P417-243	4,293	17/08/14	577255	7629423	Sample location P417-5A/B located downgradient of Lobe C
S5	P417-244	4,408	17/08/14	577253	7629423	View looking northeast at sample location P417-5A/B

3.5 SOIL SAMPLE ANALYTICAL DATA

The soil chemical analysis results for the 2017 Northwest Landfill samples are presented in Table VII hereafter. Certificates of analyses and results of field duplicates collected as part of the QA/QC program are respectively presented in Annexes 1 and 2 at the end of this report.

Table VII: Soil Chemical Analysis Results - Northwest Landfill

Sample #	Location	Depth (cm)	Parameters												F1 C ₆ -C ₁₀ [mg/kg]	F2 C ₁₀ -C ₁₆ [mg/kg]	F3 C ₁₆ -C ₃₄ [mg/kg]	F4 C ₃₄ -C ₅₀ [mg/kg]
			As [mg/kg]	Cd [mg/kg]	Cr [mg/kg]	Co [mg/kg]	Cu [mg/kg]	Pb [mg/kg]	Ni [mg/kg]	Zn [mg/kg]	Hg [mg/kg]	PCBs [mg/kg]						
Detection Limit			0.2	0.01	0.5	0.1	1.0	0.1	0.5	1	0.05	0.05	10	50	50	100		
Upgradient Soil Samples																		
P417-1A		P417-1	0-15	3.7	0.07	56.6	3.0	6.0	7.0	28.7	12	<0.05	<0.05	<10	<50	<50	<100	
P417-1B			40-50	4.2	0.06	18.1	3.2	6.2	14.9	12.0	7	<0.05	<0.05	<10	<50	<50	<100	
Dongradient Soil Samples																		
P417-2A		P417-2	0-15	4.9	0.06	15.4	4.5	18.4	8.1	11.7	8	<0.05	<0.05	<10	<50	<50	<100	
P417-2B			40-50	3.5	0.03	18.1	5.7	11.2	5.4	12.1	20	<0.05	<0.05	<10	<50	<50	<100	
P417-3A		P417-3	0-15	6.8	0.04	13.1	4.0	4.4	10.4	6.2	11	<0.05	<0.05	<10	<50	<50	<100	
P417-3B			40-50	5.7	0.05	26.3	5.0	15.3	9.4	16.8	13	<0.05	<0.05	<10	<50	<50	<100	
P417-4A		P417-4	0-15	5.2	0.03	14.2	3.7	10.3	12.1	12.1	5	<0.05	<0.05	<10	<50	<50	<100	
P417-BD1 (Intra-Lab Blind Duplicate)			0-15	5.0	0.03	13.1	3.6	10.7	12.9	12.3	4	<0.05	<0.05	<10	<50	<50	<100	
Average Value for P417-4A Sample			0-15	5.1 ± 0.1	--	13.7 ± 0.8	3.7 ± 0.07	10.5 ± 0.3	12.5 ± 0.6	12.2 ± 0.1	4.5 ± 0.7	--	--	--	--	--	--	
P417-4B			40-50	4.3	0.02	13.4	3.5	11.5	12.7	11.3	4	<0.05	<0.05	<10	<50	<50	<100	
P417-5A		P417-5	0-15	4.7	0.05	13.3	3.6	7.9	14.2	9.5	8	<0.05	<0.05	<10	<50	<50	<100	
P417-5B			40-50	4.7	0.03	29.7	3.2	6.8	8.4	17.3	6	<0.05	<0.05	<10	<50	<50	<100	

4 NORTH LANDFILL

4.1 SUMMARY

On August 14, 2017 a visual inspection was completed at the North Landfill. Soil sampling was completed at seven stations located upgradient and downgradient of the landfill.

No PCBs were detected in any of the soil samples collected. Detectable concentrations of TPH were noted in the surface and depth samples at downgradient locations P417-11 (surface: F3 -126 mg/kg and F4- 260 mg/kg; depth: F3 – 191 mg/kg and F4 – 496 mg/kg) and P417-12 (surface: F3 – 53 mg/kg). Slightly elevated levels of zinc were detected in the surface sample at upgradient location P417-6 (26 mg/kg), cadmium in the surface sample at upgradient location P417-6 (0.12 kg/kg) and downgradient location P417-11 (0.17 and 0.16 mg/kg) and lead in the depth sample at upgradient location P417-6 (22.0 mg/kg).

As of the 2017 monitoring event, no features were identified with “significant” or “unacceptable” severity ratings. Indications of minor settlement were noted at four locations, including two previously identified areas on Lobe A extending along the base of the south side slope (Feature A) and northeastern crest (Feature I); and two newly observed linear depressions on the north side slope (Feature J) and eastern toe (Feature K) of Lobe B. With the exception of a minor increase in the width of the settlement area along the northeast crest of Lobe A (Feature I), there were no other changes noted from the previous 2016 assessment.

Minor erosion features were observed in six areas on Lobes A, B and C at the North Landfill, including localized areas on the south cover of Lobe A (Feature B), southeast crest of Lobe B (Feature C), northwest corner of Lobe C (Feature D), northeast cover of Lobe C (Feature E), northeast side of Lobe C (Feature F) and east side of Lobe B (Feature G). Surface run-off in each area has resulted in the washing and re-deposition of finer grained materials. All features appear to be self-armouring and were consistent with observations made during the previous 2016 assessment, with the exception of one previously noted erosion feature on the west side of Lobe B (Feature H) that has not been observed during the 2017 assessment. There was notable increase in vegetation growth on Lobe A.

At this time, the overall performance of the landfill is rated as acceptable.

The Visual Inspection Checklist is included in Table VIII of this report and has been completed as per the TOR. Please refer to Figure PIN-4.3 for a sketch of the North Landfill detailing the location of photographs and features.

Table VIII: Visual Inspection Checklist - North Landfill
DEW Line Cleanup: Post-construction - Landfill Monitoring
Visual Inspection Checklist
Inspection Report - Page 1 of 2

SITE NAME: PIN-4 Byron Bay
LANDFILL DESIGNATION: North Landfill (Existing Regrade Landfill)
DATE OF INSPECTION: August 14, 2017
DATE OF PREVIOUS INSPECTION: August 14, 2016
INSPECTED BY: A. Passalis
REPORT PREPARED BY: A. Passalis
MONITORING EVENT: 5
The inspector/reporter represents to the best of his/her knowledge that the following statements and observations are true and correct and to the best of the preparer's actual knowledge, no material facts have been suppressed or misstated.

TABLE VIII: NORTH LANDFILL VISUAL INSPECTION (PAGE 2 OF 2)

Site Name: PIN-4, Byron Bay
Landfill: North Landfill
Designation: Existing Regrade Landfill
Date Inspected: August 14, 2017
Inspected by: Andrew Passalis, P.Eng.

Signature: 

[illegible]

4.2 PRELIMINARY STABILITY ASSESSMENT

The Preliminary Stability Assessment for North Landfill has been completed as per the TOR and is included in Table IX hereafter.

Table IX: Preliminary Stability Assessment – North Landfill

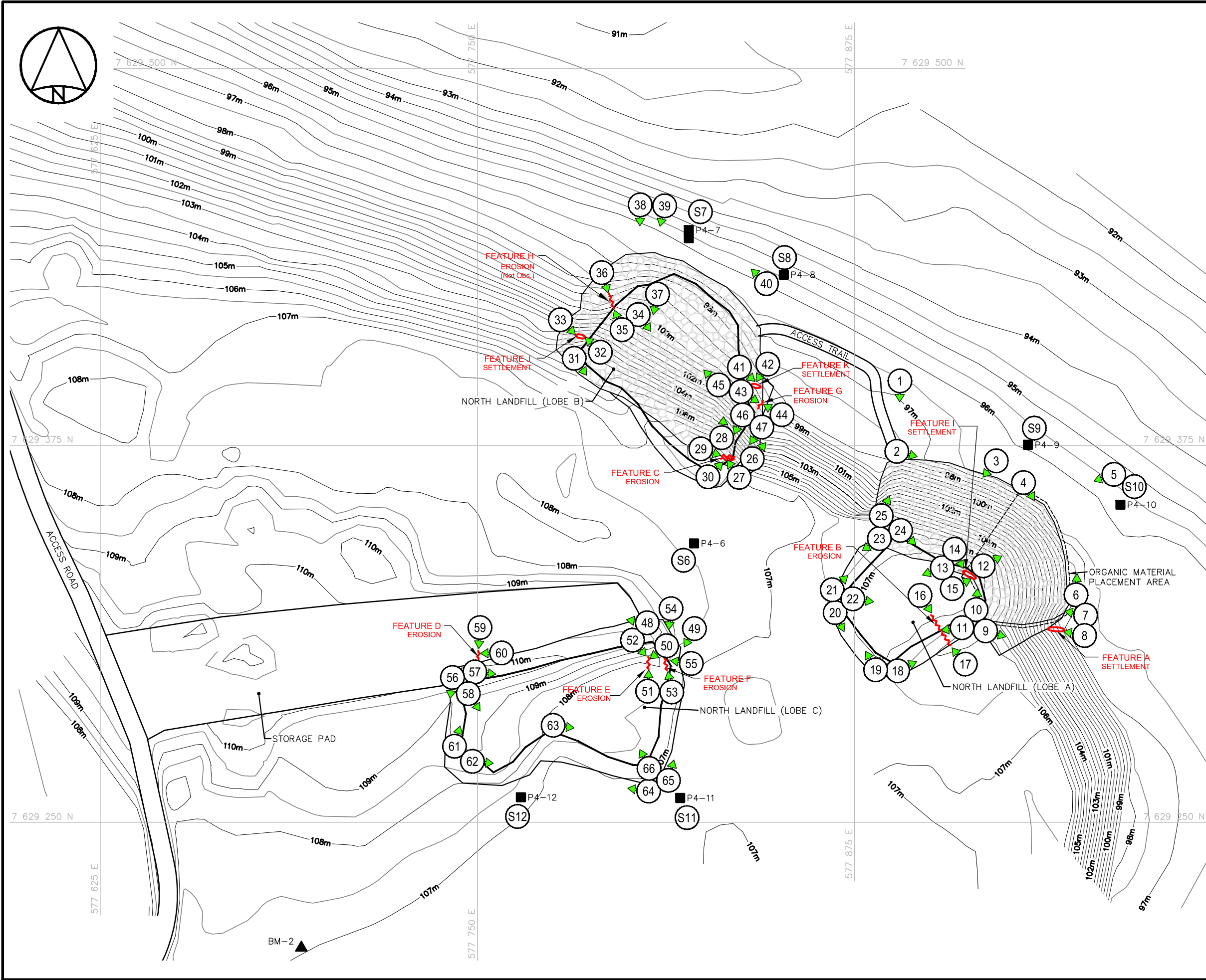
Feature	Severity Rating	Extent
Settlement	Acceptable	Occasional
Erosion	Acceptable	Occasional
Frost Action	Not observed	None
Staining	Not observed	None
Vegetation Stress	Not observed	None
Seepage/Ponded Water	Not observed	None
Debris exposure	Not observed	None
Overall Landfill Performance	Acceptable	

Performance/ Severity Rating	Description
Acceptable	Noted features are of little consequence. The landfill is performing as designed. Minor deviations in environmental or physical performance may be observed, such as isolated areas of erosion, settlement.
Marginal	Physical/environmental performance appears to be deteriorating with time. Observations may include an increase in size or number of features of note, such as differential settlement, erosion or cracking. No significant impact on landfill stability to date, but potential for failure is assessed as low or moderate.
Significant	Significant or potentially significant changes affecting landfill stability, such as significant changes in slope geometry, significant erosion or differential settlement; scarp development. The potential for failure is assessed as imminent.
Unacceptable	Stability of landfill is compromised to the extent that capacity to contain waste materials is compromised. Examples may include: - Debris exposed in erosion channels or areas of differential settlement. - Liner exposed. - Slope failure.
Extent	Description
Isolated	Singular feature
Occasional	Features of note occurring at irregular intervals/locations
Numerous	Many features of note, impacted less than 50% of the surface area of the landfill
Extensive	Impacting greater than 50% of the surface area of the landfill

4.3 LOCATION PLAN

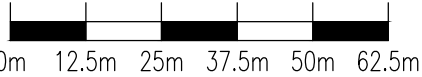
The Location Plan for the North Landfill has been completed as per the TOR and is presented in Figure PIN-4.3.

G:\129\B-0010209-1_KT1K12_13\1_Livables\0_LivClient\1_OTP_1\PIN-4\2017 Revised Final\Drawings\P-0009730-0-05-503-PIN-4C-01.dwg, 2018-02-06 08:54:14, DWG To PDF.pc3



LEGEND

- MONITORING SOIL SAMPLE LOCATION
- BM-2 PERMANENT BENCHMARK LOCATION
- SETTLEMENT
- EROSION
- APPROX. PHOTOGRAPHIC VIEWPOINT



01	FINAL	18-01-26	J.P.	J-P.P.	P.G.
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COLLECTION OF
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NORTH LANDFILL

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DRAWN BY: J. POULIN	VERIFIED BY: J.-P. PELLETIER	APPROVED BY: P. GÉLINAS, ENG.
PROJECT NO: P-0009730-0-05-503	DRAWING NO: P-0009730-0-05-503-PIN-4C-PL	PAGE PL

FIGURE PIN-4.3

4.4 PHOTOGRAPHIC RECORDS

The Photographic Record for the North Landfill has been completed as per the TOR and is included in the following page in Table X. Full-sized photographs are contained in the Addendum DVD-ROM.

Table X: LANDFILL VISUAL INSPECTION PHOTO LOG

Site Name: PIN-4, Byron Bay
 Landfill: North Landfill
 Date Inspected: August 14, 2017
 Inspected by: Andrew Passalis, P.Eng.

Photo (NLF-)	Filename	Size (KB)	Date	Vantage Point		Caption
				Eastings	Northing	
LOBE A						
1	P417-324	4,110	17/08/14	577890	7629394	View looking south-southeast at north slope on Lobe A
2	P417-325	4,055	17/08/14	577891	7629373	View looking east along toe of north slope on Lobe A
3	P417-326	4,393	17/08/14	577922	7629369	View looking southwest at west edge of organic cover placed on north slope of Lobe A
4	P417-328	4,085	17/08/14	577931	7629363	View looking southeast along toe of organic cover placed on north slope of Lobe A. Note vegetation
5	P417-329	3,926	17/08/14	577964	7629363	View looking southwest at organic cover placed on north slope of Lobe A. Note vegetation
6	P417-330	4,066	17/08/14	577948	7629324	View looking north along east toe of Lobe A. Note vegetation
7	P417-331	4,290	17/08/14	577950	7629319	View looking west upslope along edge of organic cover on Lobe A. Note vegetation
8	P417-332	4,353	17/08/14	577949	7629313	View looking west a minor settlement near base of side slope of Type I cover - FEATURE A
9	P417-338	4,291	17/08/14	577917	7629317	View looking east downslope from east crest of Lobe A. Note vegetation
10	P417-339	4,166	17/08/14	577915	7629318	View looking north along crest of Lobe A. Note vegetation
11	P417-340	4,186	17/08/14	577915	7629316	View looking west along west crest of Lobe A
12	P417-341	4,309	17/08/14	577913	7629334	View looking northeast at organic cover placed on crest of Lobe A. Note vegetation
13	P417-342	4,074	17/08/14	577909	7629334	View looking southwest across cover of Lobe A
14	P417-343	4,220	17/08/14	577910	7629336	View looking southeast at minor settlement at top of organic fill on Lobe A - FEATURE I. Note vegetation
15	P417-344	3,977	17/08/14	577910	7629331	View looking northeast at minor settlement at top of organic fill on Lobe A - FEATURE I. . Note vegetation
16	P417-345	4,244	17/08/14	577899	7629323	View looking southeast a minor erosion across south cover of Lobe A - FEATURE B
17	P417-346	4,235	17/08/14	577907	7629307	View looking northwest a minor erosion across south cover of Lobe A - FEATURE B
18	P417-347	4,218	17/08/14	577888	7629301	View looking northeast along southeast side of Lobe A
19	P417-348	3,871	17/08/14	577886	7629301	View looking northwest along southwest side of Lobe B
20	P417-349	4,048	17/08/14	577869	7629322	View looking southeast along west side of Lobe A
21	P417-350	4,131	17/08/14	577869	7629324	View looking northeast along north side of Lobe A
22	P417-351	4,118	17/08/14	577870	7629324	View looking east across cover of Lobe A
23	P417-352	4,387	17/08/14	577886	7629344	View looking southwest along northwest side of Lobe A
24	P417-353	4,292	17/08/14	577889	7629344	View looking southeast along crest side of Lobe A
25	P417-354	4,379	17/08/14	577883	7629349	View looking north downslope along west edge of Type 1 cover on northwest crest of Lobe A

Table X: Landfill Visual Inspection Photo Log – North Landfill (page 2 of 2)

Photo (NLF-)	Filename	Size (KB)	Date	Vantage Point		Caption
				Easting	Northing	
LOBE B						
26	P417-294	4,247	17/08/14	577837	7629369	View looking northeast from southeast corner of Lobe B
27	P417-295	4,271	17/08/14	577836	7629367	View looking northwest along southwest side of Lobe B
28	P417-296	4,235	17/08/14	577830	7629375	View looking north across cover of Lobe B
29	P417-299	4,153	17/08/14	577827	7629371	View looking east at scours on southeast crest of Lobe B - FEATURE C
30	P417-300	4,250	17/08/14	577830	7629369	View looking northeast at scours on southeast crest of Lobe B - FEATURE C
31	P417-301	4,344	17/08/14	577783	7629403	View looking southeast along southwest side of Lobe B
32	P417-302	4,171	17/08/14	577788	7629408	View looking northwest at minor depression on north side slope of Lobe B - FEATURE J (new)
33	P417-303	4,271	17/08/14	577779	7629414	View looking southeast at minor depression on north side slope of Lobe B - FEATURE J (new)
34	P417-306	3,953	17/08/14	577802	7629416	View looking southeast along slope break on cover of Lobe B
35	P417-307	4,069	17/08/14	577797	7629416	View looking northwest at erosion on north side slope of Lobe B - FEATURE H (not observed)
36	P417-308	4,266	17/08/14	577793	7629427	View looking southeast at erosion on north side slope of Lobe B - FEATURE H (not observed)
37	P417-309	4,219	17/08/14	577786	7629441	View looking south upslope from northwest corner of Lobe B
38	P417-310	3,981	17/08/14	577812	7629453	View looking south at northwest side of Lobe B
39	P417-311	4,045	17/08/14	577846	7629428	View looking south at north side of Lobe B
40	P417-312	4,076	17/08/14	577848	7629426	View looking northwest along northeast toe of Lobe B from access road
41	P417-313	4,418	17/08/14	577838	7629397	View looking southeast at minor depression on east side of Lobe B - FEATURE K (new)
42	P417-314	4,299	17/08/14	577844	7629397	View looking southwest at minor depression on east side of Lobe B - FEATURE K (new)
43	P417-315	4,208	17/08/14	577839	7629391	View looking southeast at minor erosion on east side of Lobe B - FEATURE G
44	P417-316	4,226	17/08/14	577848	7629387	View looking northwest at minor erosion on east side of Lobe B - FEATURE G
45	P417-317	4,372	17/08/14	577835	7629394	View looking northwest along mid-slope of Lobe B
46	P417-318	4,384	17/08/14	577840	7629387	View looking south along southeast side slope of Lobe B
47	P417-319	4,376	17/08/14	577844	7629383	View looking south at uneven grading near toe of slope on east side of Lobe B
LOBE C						
48	P417-271	4,257	17/08/14	577809	7629311	View looking west along north side of Lobe C
49	P417-272	4,038	17/08/14	577812	7629309	View looking south along east side of Lobe C
50	P417-273	4,359	17/08/14	577809	7629308	View looking southwest across cover from northeast corner of Lobe C
51	P417-274	4,178	17/08/14	577807	7629296	View looking north at minor erosion along mid-slope on east side of Lobe C - FEATURE E
52	P417-275	4,371	17/08/14	577805	7629305	View looking south at minor erosion along mid-slope on east side of Lobe C - FEATURE E
53	P417-276	4,308	17/08/14	577813	7629295	View looking north at minor erosion along mid-slope on east side of Lobe C- FEATURE F
54	P417-277	4,300	17/08/14	577812	7629306	View looking south at minor erosion along mid-slope on east side of Lobe C- FEATURE F
55	P417-278	4,070	17/08/14	577817	7629302	View looking west at minor erosion along mid-slope on east side of Lobe C - FEATURE F
56	P417-279	4,096	17/08/14	577745	7629298	View looking south along west side of Lobe C
57	P417-280	4,218	17/08/14	577747	7629301	View looking east along north side of Lobe C
58	P417-281	4,049	17/08/14	577748	7629297	View looking southeast from northwest corner of Lobe C
59	P417-282	4,205	17/08/14	577750	7629310	View looking south at minor erosion on northwest corner of Lobe C - FEATURE D
60	P417-283	4,013	17/08/14	577755	7629306	View looking west at minor erosion on northwest corner of Lobe C - FEATURE D
61	P417-286	4,380	17/08/14	577744	7629274	View looking north along west side of Lobe C
62	P417-287	4,340	17/08/14	577747	7629272	View looking east along south side of Lobe C
63	P417-288	4,055	17/08/14	577774	7629281	View looking east across south cover of Lobe C
64	P417-289	4,238	17/08/14	577809	7629263	View looking west along south side of Lobe C
65	P417-290	4,242	17/08/14	577810	7629266	View looking north along east side of Lobe C
66	P417-291	4,030	17/08/14	577807	7629267	Panoramic view looking southwest to north from southeast corner of Lobe C
Soil						
P4-6	P417-304	4,303	17/08/14	577821	7629343	Sample location P417-6A/B located between Lobes B & C
S6	P417-305	4,144	17/08/14	577819	7629339	View looking north at sample location P417-6A/B
P4-7	P417-320	4,351	17/08/14	577820	7629446	Sample location P417-7A/B located downgradient of Lobe B
S7	P417-321	4,277	17/08/14	577822	7629450	View looking south at sample location P417-7A/B
P4-8	P417-322	4,323	17/08/14	577851	7629431	Sample location P417-8A/B located downgradient of Lobe B
S8	P417-323	4,313	17/08/14	577852	7629434	View looking south at sample location P417-8A/B
P4-9	P417-333	4,305	17/08/14	577933	7629374	Sample location P417-9A/B located downgradient of Lobe A
S9	P417-334	4,039	17/08/14	577935	7629377	View looking southwest at sample location P417-9A/B
P4-10	P417-335	4,378	17/08/14	577964	7629355	Sample location P417-10A/B located downgradient of Lobe A
S10	P417-336	4,385	17/08/14	577967	7629358	View looking southwest at sample location P417-10A/B
P4-11	P417-284	4,250	17/08/14	577817	7629257	Sample location P417-11A/B located downgradient of Lobe C
S11	P417-285	4,229	17/08/14	577819	7629255	View looking northwest at sample location P417-11A/B
P4-12	P417-292	4,347	17/08/14	577765	7629257	Sample location P417-12A/B located downgradient of Lobe C
S12	P417-293	4,341	17/08/14	577765	7629254	View looking north at sample location P417-12A/B

4.5 SOIL SAMPLE ANALYTICAL DATA

The soil chemical analysis results for the 2017 North Landfill samples are presented in Table XI hereafter. Certificates of analyses and results of field duplicates collected as part of the QA/QC program are respectively presented in Annexes 1 and 2 at the end of this report.

Table XI: Soil Chemical Analysis Results - North Landfill

Sample #	Location	Depth (cm)	Parameters														F1 C ₆ -C ₁₀ [mg/kg]	F2 C ₁₀ -C ₁₆ [mg/kg]	F3 C ₁₆ -C ₃₄ [mg/kg]	F4 C ₃₄ -C ₅₀ [mg/kg]
			As [mg/kg]	Cd [mg/kg]	Cr [mg/kg]	Co [mg/kg]	Cu [mg/kg]	Pb [mg/kg]	Ni [mg/kg]	Zn [mg/kg]	Hg [mg/kg]	PCBs [mg/kg]								
Detection Limit			0.2	0.01	0.5	0.1	1.0	0.1	0.5	1	0.05	0.05	10	50	50	100				
Upgradient Soil Samples																				
P417-6A		P417-6	0-15	4.1	0.12	5.5	2.4	5.6	7.4	4.5	26	<0.05	<0.05	<10	<50	<50	<100			
P417-6B			40-50	7.6	0.08	6.9	4.2	6.9	22.0	7.8	12	<0.05	<0.05	<10	<50	<50	<100			
Downgradient Soil Samples																				
P417-7A		P417-7	0-15	3.7	0.02	10.0	4.0	8.8	5.5	9.8	6	<0.05	<0.05	<10	<50	<50	<100			
P417-7B			40-50	3.4	0.02	12.9	3.6	8.9	4.8	10.4	6	<0.05	<0.05	<10	<50	<50	<100			
P417-8A		P417-8	0-15	4.0	0.02	12.2	4.1	8.7	5.5	10.8	7	<0.05	<0.05	<10	<50	<50	<100			
P417-8B			40-50	4.1	0.02	15.2	4.1	10.5	5.5	11.9	6	<0.05	<0.05	<10	<50	<50	<100			
P417-9A		P417-9	0-15	4.8	0.04	12.2	5.2	9.6	7.4	13.6	9	<0.05	<0.05	<10	<50	<50	<100			
P417-9B			40-50	4.8	0.04	13.1	5.9	11.5	7.6	14.1	9	<0.05	<0.05	<10	<50	<50	<100			
P417-10A		P417-10	0-15	4.3	0.02	10.8	5.2	10.0	6.9	11.9	6	<0.05	<0.05	<10	<50	<50	<100			
P417-BD3 (Intra-Lab Blind Duplicate)			0-15	4.3	0.02	13.6	5.2	9.8	7.6	13.2	7	<0.05	<0.05	<10	<50	<50	<100			
Average Value for P417-10A Sample			0-15	--	--	12.2 ± 2.0	--	9.9 ± 0.1	7.3 ± 0.5	12.6 ± 0.9	6.5 ± 0.7	--	--	--	--	--	--			
P417-10B			40-50	4.3	0.03	13.5	4.2	8.1	6.3	14.1	6	<0.05	<0.05	<10	<50	<50	<100			
P417-11A		P417-11	0-15	1.8	0.17	5.3	1.6	9.4	5.9	5.0	18	0.06	<0.05	<10	<50	126	260			
P417-11B			40-50	2.1	0.16	6.0	2.0	11.2	5.3	5.3	10	0.07	<0.05	<10	<50	191	496			
P417-12A		P417-12	0-15	2.6	0.06	7.9	3.1	7.1	4.8	6.5	15	<0.05	<0.05	<10	<50	53	<100			
P417-BD2 (Intra-Lab Blind Duplicate)			0-15	2.8	0.06	18.4	3.0	7.1	6.2	12.9	15	0.06	<0.05	<10	<50	<50	<100			
Average Value for P417-12A Sample			0-15	2.7 ± 0.1	--	13.2 ± 7.4	3.1 ± 0.1	--	5.5 ± 1.0	9.7 ± 4.5	--	--	--	--	--	--	--			
P417-12B			40-50	3.1	0.03	11.8	3.1	8.0	7.1	7.6	9	<0.05	<0.05	<10	<50	<50	<100			

5 NON-HAZARDOUS WASTE LANDFILL

5.1 SUMMARY

The 2017 monitoring of the NHWLF conducted on August 14, 2017 consisted of a visual inspection, as per the TOR, and the collection of soil and groundwater samples.

No PCBs were detected in any of the soil samples collected. Detectable concentrations of TPH were noted in the surface sample at downgradient location P417-8W (F3 - 65 mg/kg). Slightly elevated levels of lead were detected in the surface sample at upgradient location P417-5W (66 mg/kg) and mercury in the depth sample at downgradient location P417-7W (0.07 mg/kg).

No PCBs or relatively high metal concentrations in groundwater were detected at any of the wells sampled. Detectable concentrations of TPH were observed in the sample collected from MW-8 (F2 – 0.4 mg/L and F3 – 0.3 mg/L).

As of the 2017 monitoring event, no features were identified with “significant” or “unacceptable” severity ratings. Three localized areas of minor settlement were noted on the NHWLF Landfill, including one existing feature on the north crest (Feature A) and two features respectively on the northeast crest (Feature B) and the northwest cover (Feature C). Several shallow ridges and depressions were also noted across the cover of the landfill. These features appear to be associated with final rough grading of organic material on the landfill surface. A minor increase in length of Feature A on the north crest, from 0.7 m to 1.0 m, was noted. One isolated area of minor erosion was noted on the northwest corner of the landfill (Feature D) with no notable changes from the 2016 assessment. A possible construction artifact (heavy equipment tracks and rough grading of landfill covered with organic material – ridges and depressions) was observed in the south corner of the landfill (Feature E). There was also a notable increase in vegetation growth noted across the cover of the NHWLF from the previous 2014, 2015 and 2016 assessments.

At this time, the overall performance of the landfill is rated as acceptable.

The Visual Inspection Checklist is included in Table XII of this report and has been completed as per the TOR. Please refer to Figure PIN-4.4 for a sketch of the NHWLF detailing the location of photographs and features.

Table XII: Visual Inspection Checklist / Report – NHWLF

**DEW Line Cleanup: Post-Construction - Landfill Monitoring
Visual Inspection Checklist**

Inspection Report - Page 1 of 2

SITE NAME: PIN-4 Byron Bay
LANDFILL DESIGNATION: Non-Hazardous Waste Landfill (New Landfill)
DATE OF INSPECTION: August 14, 2017
DATE OF PREVIOUS INSPECTION: August 14, 2016
INSPECTED BY: A. Passalis
REPORT PREPARED BY: A. Passalis
MONITORING EVENT: 5
The inspector/reporter represents to the best of his/her knowledge that the following statements and observations are true and correct and to the best of the preparer's actual knowledge, no material facts have been suppressed or misstated.

TABLE XII NON-HAZARDOUS WASTE LANDFILL VISUAL INSPECTION (PAGE 2 OF 2)

Site Name: PIN-4, Byron Bay
Landfill: Non-Hazardous Waste Landfill
Designation: New Landfill
Date Inspected: August 14, 2017
Inspected by: Andrew Passalis, P.Eng.

Signature: 

Checklist Item	Present (Yes/No)	Location	Length	Width	Depth	Extent	Description	Photographic Record	Severity Rating	Additional Comments
Settlement	Yes	FEATURE A See Figure PIN-4.4 (N crest)	1 m	0.3 m	0.15 m	Occasional	Minor depression	NHWLF-9, 10	Acceptable	Depression below crest. Slope appears stable. Minor increase in length from 0.7 to 1.0 m. No other changes from 2016 assessment.
		FEATURE B See Figure PIN-4.4 (NE crest)	1 m	0.25 m	0.05 - 0.07 m		Minor depression	NHWLF-7, 8	Acceptable	Linear depression parallel to crest. Slope appears stable. No notable changes from 2015 and 2016 assessments.
		FEATURE C See Figure PIN-4.4 (N cover)	3 m	0.15 m	0.05 m		Minor depression	NHWLF-20, 21	Acceptable	Slope appears stable. No notable changes from 2015 and 2016 assessments.
Erosion	Yes	FEATURE D See Figure PIN-4.4 (NW corner)	2 m	0.15 m	0.1 m	Isolated	Minor erosion	NHWLF- 18, 19	Acceptable	Self armouring. No notable changes from 2016 assessment.
Frost Action	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not Observable	N/A
Animal Burrows	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not Observable	N/A
Vegetation	Yes	See Figure PIN-4.4 (Landfill cover)	Variable	Variable	N/A	<4%	Sparse to moderate vegetation across cover	NHWLF-24-27	N/A	Notable increase in coverage since 2016 assessment.
Staining	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not Observable	N/A
Vegetation Stress	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not Observable	N/A
Seepage Points	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not Observable	N/A
Debris Exposed	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not Observable	N/A
Presence/Condition of Monitoring Instruments	Yes	See Figure PIN-4.4	N/A	N/A	N/A	N/A	MW-05, 06, 07, 08	N/A	Acceptable	N/A
Other Features of Note:	Yes	FEATURE E See Figure PIN-4.4 (S corner)	2 - 5 m	0.3 - 0.6 m	0.05 - 0.15 m	N/A	Ridges and depressions on cover	NHWLF-43	Acceptable	Possible construction artifact (rough grading of landfill cover with organic material). No notable changes from 2015 and 2016 assessments.
Additional Photos	Yes	See Figure PIN-4.4 and Photographic Record	N/A	N/A	N/A	N/A	General Photographic Record	N/A	Not Observable	General photos for documentation, no additional features of note.
Overall Landfill Performance:	Acceptable									

5.2 PRELIMINARY STABILITY ASSESSMENT

The Preliminary Stability Assessment for NHWLF has been completed as per the TOR and is included in Table XIII hereafter.

Table XIII: Preliminary Stability Assessment – NHWLF

Feature	Severity Rating	Extent
Settlement	Acceptable	Occasional
Erosion	Acceptable	Isolated
Frost Action	Not observed	None
Staining	Not observed	None
Vegetation Stress	Not observed	None
Seepage/Ponded Water	Not observed	None
Debris exposure	Not observed	None
Overall Landfill Performance	Acceptable	

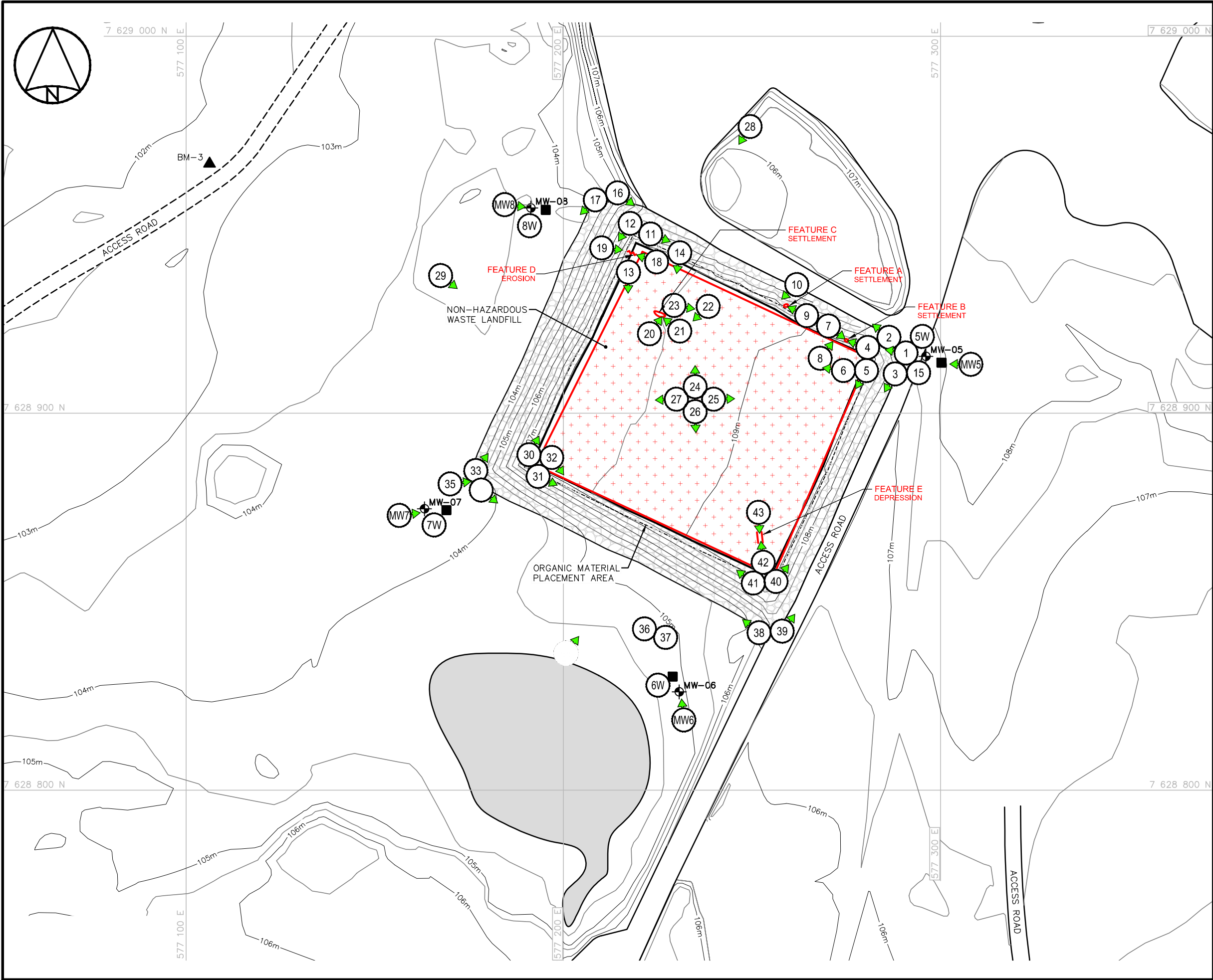
Performance/ Severity Rating	Description
Acceptable	Noted features are of little consequence. The landfill is performing as designed. Minor deviations in environmental or physical performance may be observed, such as isolated areas of erosion, settlement.
Marginal	Physical/environmental performance appears to be deteriorating with time. Observations may include an increase in size or number of features of note, such as differential settlement, erosion or cracking. No significant impact on landfill stability to date, but potential for failure is assessed as low or moderate.
Significant	Significant or potentially significant changes affecting landfill stability, such as significant changes in slope geometry, significant erosion or differential settlement; scarp development. The potential for failure is assessed as imminent.
Unacceptable	Stability of landfill is compromised to the extent that capacity to contain waste materials is compromised. Examples may include: - Debris exposed in erosion channels or areas of differential settlement. - Liner exposed. - Slope failure.

Extent	Description
Isolated	Singular feature
Occasional	Features of note occurring at irregular intervals/locations
Numerous	Many features of note, impacted less than 50% of the surface area of the landfill
Extensive	Impacting greater than 50% of the surface area of the landfill

5.3 LOCATION PLAN

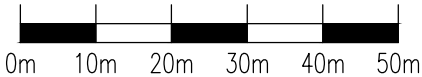
The Location Plan for the NHWLF has been completed as per the TOR and is presented in Figure PIN-4.4.

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LEGEND

- MONITORING SOIL SAMPLE LOCATION
- BM-3 PERMANENT BENCHMARK LOCATION
- MW-05 MONITORING WELL LOCATION
- MW-08 BACKGROUND MONITORING WELL LOCATION
- B BODY OF WATER
- SETTLEMENT
- SPARSE VEGETATION
- DEPRESSION
- EROSION
- APPROX. PHOTOGRAPHIC VIEWPOINT



01	FINAL	18-01-26	J.P.	J-P.P.	P.G.
NO.	VERSION	DATE	PAR	VERIF.	APPR.



Construction de Défense Canada
Défence Construction Canada

COLLECTION OF LANDFILL MONITORING DATA PIN-4, BYRON BAY, NUNAVUT

NON-HAZARDOUS WASTE LANDFILL



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MEASUREMENT UNIT Metre	SCALE: 1 : 1,000	DATE (month-year): JANUARY 2018
DRAWN BY: J. POULIN	VERIFIED BY: J.-P. PELLETIER	APPROVED BY: P. GÉLINAS, ENG.
PROJECT NO: P-0009730-0-05-503	DRAWING NO: P-0009730-0-05-503-PIN-4D-PL	PAGE PL

FIGURE PIN-4.4

5.4 PHOTOGRAPHIC RECORDS

The Photographic Record for the NHWLF has been completed as per the TOR and is included in the following pages as Table XIV. Full-sized photographs are contained in the Addendum DVD-ROM.

Table XIV: LANDFILL VISUAL INSPECTION PHOTO LOG

Site Name: PIN-4, Byron Bay
Landfill: Non-Hazardous Waste Landfill
Date Inspected: August 14, 2017
Inspected by: Andrew Passalis, P.Eng.

Photo (NHWLF-)	Filename	Size (KB)	Date	Vantage Point		Caption
				Easting	Northing	
A1	P417-0190	1,085	17/08/13	577271	7628534	View looking northwest at NHWLF
A2	P417-0191	1,028	17/08/13	577152	7628527	View looking north-northeast at NHWLF
1	P417-355	4,394	17/08/14	577291	7628916	View looking west at northeast corner of NHWLF
2	P417-356	4,014	17/08/14	577289	7628918	View looking northwest along north side slope of NHWLF
3	P417-357	4,435	17/08/14	577290	7628914	View looking southwest along east toe of NHWLF
4	P417-358	4,361	17/08/14	577278	7628915	View looking northwest along north crest of NHWLF
5	P417-359	4,169	17/08/14	577278	7628914	View looking southwest along east crest of NHWLF
6	P417-360	4,434	17/08/14	577277	7628913	View looking west from northeast corner of NHWLF
7	P417-361	4,230	17/08/14	577271	7628922	View looking southeast at linear depression below crest on northeast side of NHWLF - FEATURE B
8	P417-362	4,216	17/08/14	577272	7628917	View looking northeast at linear depression below crest on northeast side of NHWLF - FEATURE B
9	P417-363	4,307	17/08/14	577263	7628927	View looking northwest at minor depression along north crest of NHWLF - FEATURE A
10	P417-364	4,182	17/08/14	577260	7628931	View looking southwest at minor depression along north crest of NHWLF - FEATURE A
11	P417-365	4,109	17/08/14	577221	7628945	View looking southeast along north crest of NHWLF
12	P417-366	4,234	17/08/14	577218	7628945	View looking southwest along west crest of NHWLF
13	P417-367	4,276	17/08/14	577220	7628943	View looking south from northwest corner of NHWLF
14	P417-368	4,269	17/08/14	577230	7628942	View looking south at bulldozer mark on north cover area
15	P417-371	4,442	17/08/14	577294	7628914	Three small pieces of surficial metal debris near access road northeast of NHWLF
16	P417-374	4,198	17/08/14	577214	7628959	View looking southeast along north toe of NHWLF
17	P417-375	3,992	17/08/14	577211	7628958	View looking southwest along west toe of NHWLF
18	P417-376	4,398	17/08/14	577223	7628942	View looking west at minor erosion on northwest crest - FEATURE D
19	P417-377	4,287	17/08/14	577221	7628946	View looking southeast at minor erosion on northwest crest - FEATURE D
20	P417-378	4,391	17/08/14	577224	7628923	View looking northeast at linear depression on north cover of NHWLF - FEATURE C
21	P417-379	4,377	17/08/14	577230	7628924	View looking northwest at linear depression on north cover of NHWLF - FEATURE C
22	P417-380	4,397	17/08/14	577237	7628928	View looking southwest at a shallow depression on north cover (pushed stone)
23	P417-381	4,341	17/08/14	577232	7628927	View looking east at a shallow depression on north cover (pushed stone)
24	P417-382	4,241	17/08/14	577235	7628904	View looking north across cover of NHWLF. Note vegetation
25	P417-383	4,126	17/08/14	577236	7628903	View looking east across cover of NHWLF. Note vegetation
26	P417-384	4,144	17/08/14	577235	7628902	View looking south across cover of NHWLF. Note vegetation
27	P417-385	4,205	17/08/14	577232	7628904	View looking west across cover of NHWLF. Note vegetation
28	P417-388	4,103	17/08/14	577248	7628975	View looking southwest at north side of NHWLF
29	P417-389	4,264	17/08/14	577169	7628936	View looking southeast at west side of NHWLF
30	P417-390	4,447	17/08/14	577193	7628888	View looking northeast along west crest of NHWLF
31	P417-391	4,390	17/08/14	577193	7628885	View looking southeast along south crest of NHWLF
32	P417-392	4,257	17/08/14	577194	7628888	View looking southeast from southwest corner of NHWLF
33	P417-393	4,408	17/08/14	577177	7628884	View looking northeast along west toe of NHWLF
34	P417-394	4,260	17/08/14	577178	7628882	View looking southeast at west side of NHWLF
35	P417-395	4,266	17/08/14	577173	7628882	View looking east at southwest toe of NHWLF
36	P417-398	4,352	17/08/14	577223	7628843	Arctic hare near NHWLF
37	P417-399	4,299	17/08/14	577225	7628842	Arctic hare near NHWLF
38	P417-400	4,333	17/08/14	577254	7628841	View looking northwest along south toe of NHWLF
39	P417-401	4,363	17/08/14	577257	7628841	View looking northeast along east toe of NHWLF
40	P417-402	4,329	17/08/14	577255	7628858	View looking northeast along east crest of NHWLF
41	P417-403	4,282	17/08/14	577252	7628858	View looking north from south corner of NHWLF
42	P417-404	4,388	17/08/14	577254	7628860	View looking north from south corner of NHWLF
43	P417-405	4,398	17/08/14	577252	7628873	View looking south at typical ridges (heavy equipment tracks) on cover of NHWLF - FEATURE E
44	P417-406	4,150	17/08/14	577168	7628875	View looking northeast at south side of NHWLF
Soil Sampling						
5W	P417-372	4,295	17/08/14	577300	7628914	Sampling location P417-5W located upgradient of NHWLF
MW5	P417-373	4,291	17/08/14	577305	7628913	View looking west at MW-05 located upgradient of NHWLF
6W	P417-407	4,310	17/08/14	577229	7628829	Sampling location P417-6W located downgradient of NHWLF
MW6	P417-408	4,481	17/08/14	577231	7628824	View looking northwest at MW-06 located downgradient of NHWLF
7W	P417-396	4,327	17/08/14	577168	7628875	Sampling location P417-7W located downgradient of NHWLF
MW7	P417-397	4,216	17/08/14	577159	7628873	View looking northeast at MW-07 located downgradient of NHWLF
8W	P417-386	4,415	17/08/14	577195	7628954	Sampling location P417-8W located downgradient of NHWLF
MW8	P417-387	4,379	17/08/14	577188	7628955	View looking east at MW-08 located downgradient of NHWLF

5.5 SOIL SAMPLE ANALYTICAL DATA

The soil chemical analysis results for the 2017 NHWLF samples are presented in Table XV hereafter. Certificates of analyses and results of field duplicates collected as part of the QA/QC program are respectively presented in Annexes 1 and 2 at the end of this report.

Table XV: Soil Chemical Analysis Results - NHWLF

Sample #	Location	Depth (cm)	Parameters												F1	F2	F3	F4
			As [mg/kg]	Cd [mg/kg]	Cr [mg/kg]	Co [mg/kg]	Cu [mg/kg]	Pb [mg/kg]	Ni [mg/kg]	Zn [mg/kg]	Hg [mg/kg]	PCBs [mg/kg]						
			C ₆ -C ₁₀ [mg/kg]	C ₁₀ -C ₁₆ [mg/kg]	C ₁₆ -C ₃₄ [mg/kg]	C ₃₄ -C ₅₀ [mg/kg]												
Detection Limit			0.2	0.01	0.5	0.1	1.0	0.1	0.5	1	0.05	0.05	10	50	50	100		
Upgradient Soil Samples																		
P417-5WA	MW-05	0-15	2.6	0.07	9.7	4.5	12.5	66.0	8.1	26	<0.05	<0.05	<10	<50	<50	<100		
P417-5WB		40-50	3.0	0.05	9.2	3.7	8.6	11.1	7.5	19	<0.05	<0.05	<10	<50	<50	<100		
Downgradient Soil Samples																		
P417-6WA	MW-06	0-15	3.0	0.03	21.3	4.9	21.5	13.9	15.5	15	<0.05	<0.05	<10	<50	<50	<100		
P417-BD4 (Intra-Lab Blind Duplicate)		0-15	3.0	0.04	16.8	4.9	21.5	10.4	14.1	13	<0.05	<0.05	<10	<50	<50	<100		
Average Value for P417-6WA Sample		0-15	--	0.035 ± 0.01	19.1 ± 3.2	--	--	12.2 ± 2.5	14.8 ± 1.0	14 ± 1.4	--	--	--	--	--	--		
P417-6WB		40-50	3.7	0.04	16.8	4.9	16.0	7.0	12.0	14	<0.05	<0.05	<10	<50	<50	<100		
P417-7WA	MW-07	0-15	4.1	0.04	14.3	5.0	15.4	11.6	15.8	9	<0.05	<0.05	<10	<50	<50	<100		
P417-7WB		40-50	4.0	0.09	16.2	4.1	26.5	10.5	24.2	8	0.07	<0.05	<10	<50	<50	<100		
P417-8WA	MW-08	0-15	3.8	0.07	18.5	4.2	12.9	17.8	11.8	20	<0.05	<0.05	<10	<50	65	<100		
P417-8WB		40-50	4.7	0.08	12.8	4.1	10.1	13.3	11.0	18	<0.05	<0.05	<10	<50	<50	<100		

5.6 GROUNDWATER SAMPLE ANALYTICAL DATA

The groundwater chemical analysis results and evaluation of the analytical data for the 2017 NHWLF samples are presented in Table XVI hereafter. Certificates of analyses and results for groundwater samples collected as part of the QA/QC program are respectively presented in Annexes 1 and 2 at the end of this report.

Table XVI: Groundwater Chemical Analysis Results - NHWLF

Sample #	Location	Parameters													
		As	Cd	Cr	Co	Cu	Pb	Ni	Zn	Hg	PCBs	F1	F2	F3	F4
		[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[ug/L]	C ₆ -C ₁₀ [mg/L]	C ₁₀ -C ₁₆ [mg/L]	C ₁₆ -C ₃₄ [mg/L]	C ₃₄ -C ₅₀ [mg/L]
Detection Limit		0.0002	0.00001	0.0005	0.0001	0.001	0.0001	0.0005	0.001	0.000005	0.05	0.1	0.1	0.1	0.1
Upgradient Groundwater Sample															
Downgradient Groundwater Samples															
P417-6W	MW-6	0.0003	<0.00001	0.0010	0.0001	0.002	0.0010	0.0018	0.009	<0.000005	<0.05	<0.1	<0.1	<0.1	<0.1
P417-7W	MW-7	<0.0002	<0.00001	0.0009	<0.0001	0.002	<0.0001	0.0016	0.002	<0.000005	<0.05	<0.1	<0.1	<0.1	<0.1
P417-8W	MW-8	0.0004	0.00004	0.0034	0.0002	0.003	0.0002	0.0034	0.001	<0.000005	<0.05	<0.1	0.4	0.3	<0.1

5.7 MONITORING WELL SAMPLING / INSPECTION LOGS

The monitoring well sampling logs for MW-5 to MW-8 are presented in this section.

Monitoring Well Sampling Log

Site Name: PIN-4 Landfill Name: NHWLF
 Monitoring Well ID: MW-5
 Sample Number(s) include dups.: P417-5W
 Bottles filled (by parameter type): N/A
 Date of Sampling Event: N/A Time: N/A
 Weather: 5C, Foggy, 30-40 km/h NE
 Names of Samplers: A.Passalis
 Description of Well Condition and Surrounding ground conditions (note ponding of water):
Well in good condition, no ponding.
 Lock (condition, presence, model, manufacturer): Good, KA1

Pre-Measured Data (From Water Well Record Log)

*Depth of well installation (cm)= 450 Diameter of well (cm)= 5
 *Depth to top of screen (cm)= 50 Length screened section (cm)= 300
*note: *depths are from ground surface*

Field Measurements

Measurement method (interface probe, tape, etc): Interface
 Well pipe height above ground (cm) (to top of pipe)= 50
 Static water level (cm) from top of pipe = N/A
 Static water level (cm) (below ground surface) calculated = N/A
 Measured well refusal depth (cm) (measure after sampling)= 172 (ice)
 Thickness of water column (cm)= N/A Static volume of water in well (mL)= N/A
 Free product thickness (mm)= 0 Evidence of sludge or siltation: No

Purging Information Summary*

Purging/sampling equipment, sampling technique and equipment calibration information: N/A
 Well purged (Y/N): N Recharge Rate: N/A
 Volume Purged (L) (note multiple purging events if applicable): _____

Parameter	Initial	Stabilized	Final	Notes (if not stabilized)
pH	-	-	-	
Conductivity (uS/cm)	-	-	-	
Turbidity (NTU)	-	-	-	
Temperature (degC)	-	-	-	

Visual/olfactory observations (incl. colour, odour, presence of free product/sheen/globules, siltation...): N/A

Decontamination of sampling equipment

Type of decontamination fluid (s): N/A
 Number washes: _____ Number rinses: _____
 Other Relevant Comments: _____

* Complete field notes including full suite of water quality indicator parameters VS time as per EPA low flow sampling procedures should be appended to this summary.

Monitoring Well Sampling Log

Site Name: PIN-4 Landfill Name: NHWLF
 Monitoring Well ID: MW-6
 Sample Number(s) include dups.: P417-6W
 Bottles filled (by parameter type): 100 mL pl (Met), 2x500 mL amber (PCBs), 2x250 mL amber/2 x 40 mL (PHCs)
 Date of Sampling Event: 15-Aug-17 Time: 9:50
 Weather: 5C, Foggy, 30-40 km/h NE
 Names of Samplers: A. Passalis
 Description of Well Condition and Surrounding ground conditions (note ponding of water): _____
Well in good condition, no ponding.
 Lock (condition, presence, model, manufacturer): Good, KA1

Pre-Measured Data (From Water Well Record Log)

*Depth of well installation (cm)= 430 Diameter of well (cm)= 5
 *Depth to top of screen (cm)= 30 Length screened section (cm)= 300
*note: *depths are from ground surface*

Field Measurements

Measurement method (interface probe, tape, etc): Interface
 Well pipe height above ground (cm) (to top of pipe)= 50
 Static water level (cm) from top of pipe = 160
 Static water level (cm) (below ground surface) calculated = 110
 Measured well refusal depth (cm) (measure after sampling)= 197
 Thickness of water column (cm)= 37 Static volume of water in well (mL)= 750
 Free product thickness (mm)= 0 Evidence of sludge or siltation: No

Purging Information Summary*

Purging/sampling equipment, sampling technique and equipment calibration information: Peristaltic pump with dedicated 1/4" LDPE tubing, multimeter, turbidimeter with daily calibration check
 Well purged (Y/N): Y Recharge Rate: >200 mL/min
 Volume Purged (L) (note multiple purging events if applicable): 1.5

Parameter	Initial	Stabilized	Final	Notes (if not stabilized)
pH	8.2	8.1	8.1	
Conductivity (uS/cm)	622	630	628	
Turbidity (NTU)	7.4	6.1	5.9	
Temperature (degC)	2.8	2.6	2.6	

Visual/olfactory observations (incl. colour, odour, presence of free product/sheen/globules, siltation...): Clear, colourless, odourless

Decontamination of sampling equipment

Type of decontamination fluid (s): Non required, dedicated tubing
 Number washes: N/A Number rinses: N/A

Other Relevant Comments: _____

* Complete field notes including full suite of water quality indicator parameters VS time as per EPA low flow sampling procedures should be appended to this summary.

Monitoring Well Sampling Log

Site Name: PIN-4 Landfill Name: NHWLF
Monitoring Well ID: MW-7
Sample Number(s) include dups.: P417-7W
Bottles filled (by parameter type): 100 mL pl (Met), 2x500 mL amber (PCBs), 2x250 mL amber/2 x 40 mL (PHCs)
Date of Sampling Event: 15-Aug-17 Time: 9:10
Weather: 5C, Foggy, 30-40 km/h NE
Names of Samplers: A. Passalis
Description of Well Condition and Surrounding ground conditions (note ponding of water):
Well in good condition, no ponding.
Lock (condition, presence, model, manufacturer): Good, KA1

Pre-Measured Data (From Water Well Record Log)

*Depth of well installation (cm)= 450 Diameter of well (cm)= 5
*Depth to top of screen (cm)= 50 Length screened section (cm)= 300
*note: *depths are from ground surface*

Field Measurements

Measurement method (interface probe, tape, etc): Interface
Well pipe height above ground (cm) (to top of pipe)= 43
Static water level (cm) from top of pipe = 165
Static water level (cm) (below ground surface) calculated = 122
Measured well refusal depth (cm) (measure after sampling)= 350
Thickness of water column (cm)= 185 Static volume of water in well (mL)= 3748
Free product thickness (mm)= 0 Evidence of sludge or siltation: No

Purging Information Summary*

Purging/sampling equipment, sampling technique and equipment calibration information: Peristaltic pump with dedicated 1/4" LDPE tubing, multimeter, turbidimeter with daily calibration check
Well purged (Y/N): Y Recharge Rate: >200 mL/min
Volume Purged (L) (note multiple purging events if applicable): 7.5

Parameter	Initial	Stabilized	Final	Notes (if not stabilized)
pH	8.6	8.3	8.2	
Conductivity (uS/cm)	613	616	628	
Turbidity (NTU)	6.2	3.6	1.4	
Temperature (degC)	2.1	2.7	2.6	

Visual/olfactory observations (incl. colour, odour, presence of free product/sheen/globules, siltation...): Clear, colourless, odourless

Decontamination of sampling equipment

Type of decontamination fluid (s): Non required,dedicated tubing
Number washes: N/A Number rinses: N/A

Other Relevant Comments:

* Complete field notes including full suite of water quality indicator parameters VS time as per EPA low flow sampling procedures should be appended to this summary.

Monitoring Well Sampling Log

Site Name: PIN-4 Landfill Name: NHWLF
Monitoring Well ID: MW-8
Sample Number(s) include dups.: P417-8W
Bottles filled (by parameter type): 100 mL pl (Met), 2x500 mL amber (PCBs), 2x250 mL amber/2 x 40 mL (PHCs)
Date of Sampling Event: 15-Aug-17 Time: 8:30
Weather: 5C, Foggy, 30-40 km/h NE
Names of Samplers: A. Passalis
Description of Well Condition and Surrounding ground conditions (note ponding of water):
Well in good condition, no ponding.
Lock (condition, presence, model, manufacturer): Good, KA1

Pre-Measured Data (From Water Well Record Log)

*Depth of well installation (cm)= 450 Diameter of well (cm)= 5
*Depth to top of screen (cm)= 50 Length screened section (cm)= 300
*note: *depths are from ground surface*

Field Measurements

Measurement method (interface probe, tape, etc): Interface
Well pipe height above ground (cm) (to top of pipe)= 42
Static water level (cm) from top of pipe = 183
Static water level (cm) (below ground surface) calculated = 141
Measured well refusal depth (cm) (measure after sampling)= 240
Thickness of water column (cm)= 57 Static volume of water in well (mL)= 1155
Free product thickness (mm)= 0 Evidence of sludge or siltation: No

Purging Information Summary*

Purging/sampling equipment, sampling technique and equipment calibration information: Peristaltic pump with dedicated 1/4" LDPE tubing, multimeter, turbidimeter with daily calibration check
Well purged (Y/N): Y Recharge Rate: ~75 mL/min
Volume Purged (L) (note multiple purging events if applicable): 3.5

Parameter	Initial	Stabilized	Final	Notes (if not stabilized)
pH	9.0	8.9	8.9	
Conductivity (uS/cm)	605	843	844	
Turbidity (NTU)	7.8	8.4	8.6	
Temperature (degC)	2.2	2.2	2.0	

Visual/olfactory observations (incl. colour, odour, presence of free product/sheen/globules, siltation...): Clear, colourless, odourless

Decontamination of sampling equipment

Type of decontamination fluid (s): Non required, dedicated tubing
Number washes: N/A Number rinses: N/A
Other Relevant Comments: Slow recharge

* Complete field notes including full suite of water quality indicator parameters VS time as per EPA low flow sampling procedures should be appended to this summary.

6 STATION AREA LANDFILL - WEST

6.1 SUMMARY

On August 14, 2017 a visual inspection was completed at the Station Area Landfill - West. Soil sampling was completed at five stations located upgradient and downgradient of the landfill.

No PCBs, TPH or elevated levels of metals were detected in any of the soil samples collected.

As of the 2017 monitoring event, no features were identified with “significant” or “unacceptable” severity ratings. Eight localized areas of settlement were noted on the Station Area Landfill - West, including seven existing features located on the north cover and side slope (Feature A), south crest (Feature B) and east cover (Feature C), west crest (Feature G), southwest crest (Feature H), south central cover (Feature I), east side (Feature J); and one newly observed feature on the north cover (Feature K). The feature on the east cover (Feature C) marginally increased in width from 0.6 m to 0.7 m from the previous 2016 assessment.

Evidence of erosion was observed on two locations: on the northeast cover and side slope (Feature D) and south cover and side slope (Feature E) of the Station Area Landfill - West. Both erosion features were observed during the previous 2014, 2015 and 2016 assessments. The feature on the south side slope (Feature E) marginally decreased in depth from 0.05 m to 0.03 m from the 2016 assessment.

One area of minor staining (Feature F) was also noted on the northwest cover of the landfill with no observable change from the 2016 assessment.

At this time, the overall performance of the landfill is rated as acceptable.

The Visual Inspection Checklist is included in Table XVII of this report and has been completed as per the TOR. Please refer to Figure PIN-4.5 for a sketch of the Station Area Landfill - West detailing the location of photographs and features.

Table XVII: Visual Inspection Checklist - Station Area Landfill - West

**DEW Line Cleanup: Post-construction - Landfill Monitoring
Visual Inspection Checklist**

Inspection Report - Page 1 of 2

SITE NAME: PIN-4 Byron Bay
LANDFILL DESIGNATION: Station Area Landfill - West (Existing Regrade Landfill)
DATE OF INSPECTION: August 14, 2017
DATE OF PREVIOUS INSPECTION: August 14, 2016
INSPECTED BY: A. Passalis
REPORT PREPARED BY: A. Passalis
MONITORING EVENT: 5
The inspector/reporter represents to the best of his/her knowledge that the following statements and observations are true and correct and to the best of the preparer's actual knowledge, no material facts have been suppressed or misstated.

TABLE XVII: STATION AREA LANDFILL - WEST - VISUAL INSPECTION (PAGE 2 OF 2)

Site Name: PIN-4, Byron Bay
Landfill: Station Area Landfill - West
Designation: Existing Regrade Landfill
Date Inspected: August 14, 2017
Inspected by: Andrew Passalis, P.Eng.

Signature: 

Checklist Item	Present (Yes/No)	Location	Length	Width	Depth	Extent	Description	Photographic Record	Severity Rating	Additional Comments
Settlement	Yes	FEATURE A See Figure PIN-4.5 (N cover and side)	0.5 - 5 m	0.3 m	0.05 - 0.15 m	Occasional	Minor pothole and linear depressions	SLF-17-20	Acceptable	Slope and side slope appear stable. No notable change from 2016 assessment.
		FEATURE B See Figure PIN-4.5 (S crest)	2 m	0.5 - 1 m	0.05 - 0.15 m		Single depression	SLF-34, 35	Acceptable	Subtle depression on S crest. No significant change from 2016 assessment.
		FEATURE C See Figure PIN-4.5 (E cover)	0.4 m	0.7 m	0.1 m		Single minor depression	SLF-3, 4	Acceptable	Subtle depression on E crest. Minor increase in width (0.6 to 0.7 m) from 2016 assessment.
		FEATURE G See Figure PIN-4.5 (W crest)	1 m	0.45 m	0.05 m		Single minor depression	SLF-23, 24	Acceptable	Linear depression below W crest. No change from 2016 assessment.
		FEATURE H See Figure PIN-4.5 (SW crest)	2 m	0.5 - 1 m	0.1 m		Single minor depression	SLF-28, 29	Acceptable	Linear depression on SW crest. No change from 2016 assessment.
		FEATURE I See Figure PIN-4.5 (S Central cover)	4 - 5 m	0.2 m	0.05 - 0.1 m		Parallel depressions	SLF-38-40	Acceptable	Two parallel depressions on landfill cover. No notable change from 2016 assessment.
		FEATURE J See Figure PIN-4.5 (E side)	1.2 m	0.3 m	0.05 m		Single linear depression	SLF-9, 10	Acceptable	Linear depression. No notable change from 2016 assessment.
		FEATURE K See Figure PIN-4.5 (N cover) - New Obs.	0.4 m	0.5 m	0.1 m		Single pothole depression	SLF-14, 15	Acceptable	Isolated pothole depression. New observation.
Erosion	Yes	FEATURE D See Figure PIN-4.5 (NE cover and side slope)	10 - 18 m	0.1 m	0.01 - 0.02 m	Isolated	Two locations of minor erosion	SLF-7, 8, 12, 13	Acceptable	Washing of fines. Self armouring. No significant change from 2016 assessment.
		FEATURE E See Figure PIN-4.5 (S cover and side slope)	5 - 10 m	0.1 - 0.15 m	0.01 - 0.03 m	Isolated	Single area of minor erosion	SLF-37	Acceptable	Washing of fines. Self armouring. Decrease in depth (0.05 to 0.03 m) from 2016 assessment.
Frost Action	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not Observable	N/A
Animal Burrows	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not Observable	N/A
Vegetation	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not Observable	N/A
Staining	Yes	FEATURE F See Figure PIN-4.5 (NW cover)	0.3 m	0.5 m	Unknown	Isolated	Single area of dark staining	SLF-16	Acceptable	No notable change from 2016 assessment.
Vegetation Stress	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not Observable	N/A
Seepage Points	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not Observable	N/A
Debris Exposed	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not Observable	N/A
Presence/Condition of Monitoring Instruments	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not Observable	N/A
Other Features of Note:	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not Observable	N/A
Additional Photos	Yes	See Figure PIN-4.5 and Photographic Record	N/A	N/A	N/A	N/A	General Photographic Record	N/A	Not Observable	General photos for documentation, no additional features of note.
Overall Landfill Performance:	Acceptable									

6.2 PRELIMINARY STABILITY ASSESSMENT

The Preliminary Stability Assessment for Station Area Landfill - West has been completed as per the TOR and is included in Table XVIII hereafter.

Table XVIII: Preliminary Stability Assessment – Station Area Landfill - West

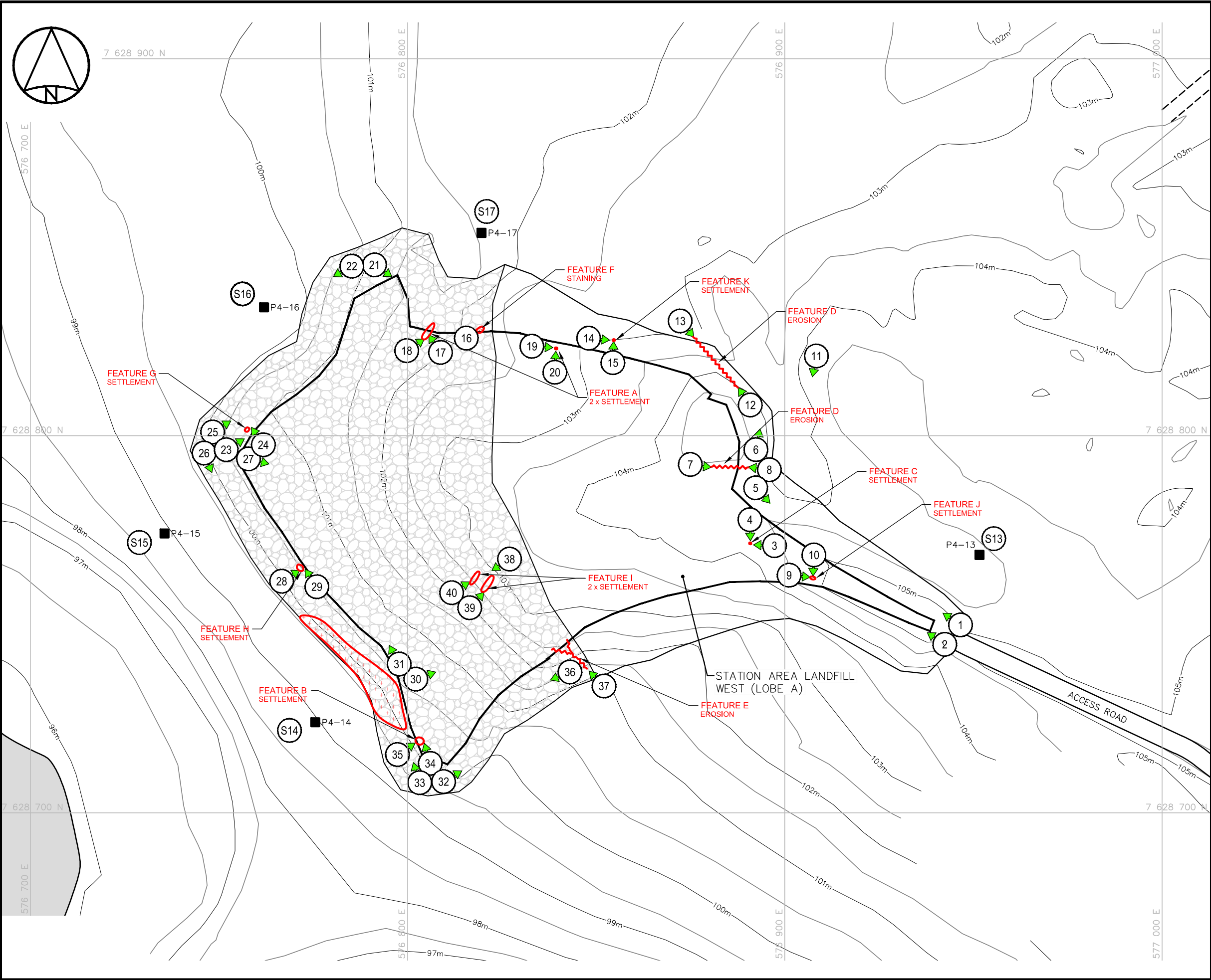
Feature	Severity Rating	Extent
Settlement	Acceptable	Occasional
Erosion	Acceptable	Isolated
Frost Action	Not observed	None
Staining	Acceptable	Isolated
Vegetation Stress	Not observed	None
Seepage/Ponded Water	Not observed	None
Debris exposure	Not observed	None
Overall Landfill Performance	Acceptable	

Performance/ Severity Rating	Description
Acceptable	Noted features are of little consequence. The landfill is performing as designed. Minor deviations in environmental or physical performance may be observed, such as isolated areas of erosion, settlement.
Marginal	Physical/environmental performance appears to be deteriorating with time. Observations may include an increase in size or number of features of note, such as differential settlement, erosion or cracking. No significant impact on landfill stability to date, but potential for failure is assessed as low or moderate.
Significant	Significant or potentially significant changes affecting landfill stability, such as significant changes in slope geometry, significant erosion or differential settlement; scarp development. The potential for failure is assessed as imminent.
Unacceptable	Stability of landfill is compromised to the extent that capacity to contain waste materials is compromised. Examples may include: • Debris exposed in erosion channels or areas of differential settlement. • Liner exposed. • Slope failure.
Extent	Description
Isolated	Singular feature
Occasional	Features of note occurring at irregular intervals/locations
Numerous	Many features of note, impacted less than 50% of the surface area of the landfill
Extensive	Impacting greater than 50% of the surface area of the landfill

6.3 LOCATION PLAN

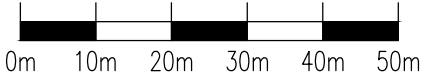
The Location Plan for the Station Area Landfill - West has been completed as per the TOR and is presented in Figure PIN-4.5.

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LEGEND

- MONITORING SOIL SAMPLE LOCATION
- BODY OF WATER
- SPARSE VEGETATION
- SETTLEMENT
- STAINING
- EROSION
- APPROX. PHOTOGRAPHIC VIEWPOINT



01	FINAL	18-01-26	J.P.	J-P.P.	P.G.
NO.	VERSION	DATE	PAR	VERIF.	APPR.



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COLLECTION OF LANDFILL MONITORING DATA PIN-4, BYRON BAY, NUNAVUT

STATION AREA LANDFILL-WEST



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MEASUREMENT UNIT Metre	SCALE: 1 : 1,000	DATE (month-year): JANUARY 2018
DRAWN BY: J. POULIN	VERIFIED BY: J.-P. PELLETIER	APPROVED BY: P. GÉLINAS, ENG.
PROJECT NO: P-0009730-0-05-503	DRAWING NO: P-0009730-0-05-503-PIN-4E-PL	PAGE PL

FIGURE PIN-4.5

6.4 PHOTOGRAPHIC RECORDS

The Photographic Record for the Station Area Landfill - West has been completed as per the TOR and is included in the following page as Table XIX. Full-sized photographs are contained in the Addendum DVD-ROM.

Table XIX: LANDFILL VISUAL INSPECTION PHOTO LOG

Site Name: PIN-4, Byron Bay
Landfill: Station Area Landfill - West
Date Inspected: August 14, 2017
Inspected by: Andrew Passalis, P.Eng.

Photo (SLF-)	Filename	Size (KB)	Date	Vantage Point		Caption
				Easting	Northing	
A3	P417-0192	832	17/08/13	576795	7628424	View looking north-northeast at Station Area LF - West
A4	P417-0193	993	17/08/13	576520	7628329	View looking northeast at Station Area LF - West
1	P417-409	3,982	17/08/14	576946	7628750	View looking northwest along north side of Station Area Landfill
2	P417-410	4,237	17/08/14	576943	7628745	View looking northwest along south side of Station Area Landfill
3	P417-411	4,269	17/08/14	576896	7628771	View looking west at minor depression on east access road at Station Area Landfill - FEATURE C
4	P417-412	4,425	17/08/14	576891	7628776	View looking south at minor depression on east access road at Station Area Landfill - FEATURE C
5	P417-413	4,144	17/08/14	576893	7628788	View looking southeast along north side of Station Area Landfill
6	P417-414	4,215	17/08/14	576892	7628791	View looking north along north side of Station Area Landfill
7	P417-415	4,096	17/08/14	576877	7628792	View looking east at minor erosion on cover of Station Area Landfill - FEATURE D
8	P417-416	4,229	17/08/14	576896	7628791	View looking west at minor erosion on cover of Station Area Landfill - FEATURE D
9	P417-417	4,420	17/08/14	576902	7628764	View looking east at linear depression on east access road at Station Area Landfill - FEATURE J
10	P417-418	4,331	17/08/14	576908	7628766	View looking south at linear depression on east access road at Station Area Landfill - FEATURE J
11	P417-421	4,153	17/08/14	576909	7628822	View looking south along north side of Station Area Landfill
12	P417-422	4,327	17/08/14	576888	7628813	View looking northwest at minor erosion on east side of Station Area Landfill - FEATURE D
13	P417-423	4,315	17/08/14	576876	7628827	View looking southeast at minor erosion on east side of Station Area Landfill - FEATURE D
14	P417-424	4,356	17/08/14	576851	7628826	View looking east at pothole depression on north cover of Station Area Landfill - FEATURE K (new)
15	P417-425	4,443	17/08/14	576854	7628821	View looking north at pothole depression on north cover of Station Area Landfill - FEATURE K (new)
16	P417-426	4,348	17/08/14	576817	7628828	View of surface stain on northwest cover of Station Area Landfill - FEATURE F
17	P417-427	4,263	17/08/14	576808	7628824	View looking northwest at linear depression on west side of Station Area Landfill - FEATURE A
18	P417-428	4,250	17/08/14	576801	7628825	View looking northeast at linear depression on west side of Station Area Landfill - FEATURE A
19	P417-429	4,290	17/08/14	576834	7628824	View looking east at pothole depression on north cover of Station Area Landfill - FEATURE A
20	P417-430	4,297	17/08/14	576840	7628819	View looking north at pothole depression on north cover of Station Area Landfill - FEATURE A
21	P417-433	4,257	17/08/14	576790	7628845	View looking southeast along north side of Station Area Landfill
22	P417-434	4,388	17/08/14	576787	7628845	View looking southwest along west side of Station Area Landfill
23	P417-437	4,305	17/08/14	576753	7628797	View looking northeast at linear depression on west crest of Station Area Landfill - FEATURE G
24	P417-438	4,300	17/08/14	576760	7628798	View looking northwest at linear depression on west crest of Station Area Landfill - FEATURE G
25	P417-439	4,032	17/08/14	576748	7628799	View looking northeast along west side of Station Area Landfill
26	P417-440	4,310	17/08/14	576748	7628798	View looking southeast along west side of Station Area Landfill
27	P417-441	4,204	17/08/14	576757	7628795	View looking east across cover from west side of Station Area Landfill
28	P417-442	4,449	17/08/14	576768	7628762	View looking northeast at depression on southwest crest of Station Area Landfill- FEATURE H
29	P417-443	4,338	17/08/14	576775	7628761	View looking northwest at depression on southwest crest of Station Area Landfill - FEATURE H
30	P417-446	4,049	17/08/14	576802	7628736	View looking northeast across west cover of Station Area Landfill
31	P417-447	4,095	17/08/14	576799	7628738	View looking northwest along west side of Station Area Landfill
32	P417-448	4,389	17/08/14	576809	7628710	View looking northeast along southeast side of Station Area Landfill
33	P417-449	4,440	17/08/14	576805	7628709	View looking northwest along southwest side of Station Area Landfill
34	P417-450	4,352	17/08/14	576805	7628713	View looking northwest at depression on south crest of Station Area Landfill - FEATURE B
35	P417-451	4,234	17/08/14	576798	7628716	View looking northeast at depression on south crest of Station Area Landfill - FEATURE B
36	P417-452	4,322	17/08/14	576844	7628737	View looking southwest along south side of Station Area Landfill
37	P417-453	4,229	17/08/14	576851	7628734	View looking northwest at minor erosion on south cover and side slope of Station Area Landfill - FEATURE E
38	P417-454	4,259	17/08/14	576827	7628766	View looking southwest at linear depression on south central cover of Station Area Landfill - FEATURE I
39	P417-455	4,399	17/08/14	576816	7628755	View looking northeast at linear depression on south central cover of Station Area Landfill - FEATURE I
40	P417-456	4,316	17/08/14	576814	7628758	View looking northeast at linear depression on south central cover of Station Area Landfill - FEATURE I
Soil Sampling						
P4-13	P417-419	4,409	17/08/14	576951	7628769	Sample location P417-13A/B located upgradient of Station Area Landfill
S13	P417-420	4,350	17/08/14	576954	7628772	View looking southwest at sample location P417-13A/B
P4-14	P417-458	4,354	17/08/14	576776	7628724	Sample location P417-14A/B located downgradient of Station Area Landfill
S14	P417-459	4,396	17/08/14	576771	7628723	View looking northeast at sample location P417-14A/B
P4-15	P417-444	4,402	17/08/14	576736	7628774	Sample location P417-15A/B located downgradient of Station Area Landfill
S15	P417-445	4,221	17/08/14	576730	7628772	View looking east at sample location P417-15A/B
P4-16	P417-435	4,338	17/08/14	576762	7628834	Sample location P417-16A/B located downgradient of Station Area Landfill
S16	P417-436	4,184	17/08/14	576758	7628837	View looking southeast at sample location P417-16A/B
P4-17	P417-431	4,376	17/08/14	576819	7628854	Sample location P417-17A/B located downgradient of Station Area Landfill
S17	P417-432	4,273	17/08/14	576821	7628859	View looking south at sample location P417-17A/B

6.5 SOIL SAMPLE ANALYTICAL DATA

The soil chemical analysis results for the 2017 Station Area Landfill - West samples are presented in Table XX hereafter. Certificates of analyses and results of field duplicates collected as part of the QA/QC program are respectively presented in Annexes 1 and 2 at the end of this report.

Table XX: Soil Chemical Analysis Results - Station Area Landfill - West

Sample #	Location	Depth (cm)	Parameters													
			As [mg/kg]	Cd [mg/kg]	Cr [mg/kg]	Co [mg/kg]	Cu [mg/kg]	Pb [mg/kg]	Ni [mg/kg]	Zn [mg/kg]	Hg [mg/kg]	PCBs [mg/kg]	F1	F2	F3	F4
													C ₆ -C ₁₀ [mg/kg]	C ₁₀ -C ₁₆ [mg/kg]	C ₁₆ -C ₃₄ [mg/kg]	C ₃₄ -C ₅₀ [mg/kg]
Detection Limit			0.2	0.01	0.5	0.1	1.0	0.1	0.5	1	0.05	0.05	10	50	50	100
Upgradient Soil Samples																
P417-13A	P417-13	0-15	4.0	0.06	14.4	5.3	18.8	10.0	14.6	17	<0.05	<0.05	<10	<50	<50	<100
P417-13B		40-50	4.7	0.02	11.2	4.8	12.3	10.7	10.3	7	<0.05	<0.05	<10	<50	<50	<100
Dongradient Soil Samples																
P417-14A	P417-14	0-15	2.7	0.07	7.7	2.9	8.8	8.7	5.8	19	<0.05	<0.05	<10	<50	<50	<100
P417-14B		40-50	3.1	0.06	10.1	3.2	10.0	8.2	8.1	11	<0.05	<0.05	<10	<50	<50	<100
P417-15A	P417-15	0-15	4.4	0.11	13.9	5.4	12.1	11.4	12.2	15	<0.05	<0.05	<10	<50	<50	<100
P417-15B		40-50	4.3	0.03	18.1	5.9	11.9	9.4	13.7	7	<0.05	<0.05	<10	<50	<50	<100
P417-16A	P417-16 P417-BD8 (Intra-Lab Blind Duplicate) Average Value for P417-16A Sample	0-15	4.1	0.02	15.3	4.9	12.8	12.0	11.6	5	<0.05	<0.05	<10	<50	<50	<100
		0-15	4.1	0.03	15.2	5.1	14.9	12.6	11.7	5	<0.05	<0.05	<10	<50	<50	<100
		0-15	--	0.025 ± 0.007	15.25 ± 0.07	5.0 ± 0.1	13.9 ± 1.5	12.3 ± 0.4	11.65 ± 0.07	--	--	--	--	--	--	--
P417-16B		40-50	4.4	0.03	14.0	5.0	12.5	12.5	10.9	5	<0.05	<0.05	<10	<50	<50	<100
P417-17A	P417-17	0-15	5.1	0.04	10.6	4.3	7.6	12.0	10.0	5	<0.05	<0.05	<10	<50	<50	<100
P417-17B		40-50	4.6	0.03	10.6	5.1	9.5	13.1	12.1	6	<0.05	<0.05	<10	<50	<50	<100

7 USAF LANDFILL

7.1 SUMMARY

On August 14, 2017 a visual inspection was completed at the USAF Landfill. Soil sampling was completed at four stations located upgradient and downgradient of the landfill.

No PCBs, TPH or elevated concentrations of metals were detected in any of the soil samples collected.

As of the 2017 monitoring event, no features were identified with “significant” or “unacceptable” severity ratings. Indications of minor settlement were noted at one location on the northeast crest of the landfill (Feature C). The feature consisted of a localized depression extending across the crest with no changes observed since this feature was initially observed during the 2016 assessment. Evidence of three former seepage areas, previously noted during the 2014 and 2015 assessments were observed along the south toe of the landfill (Feature A). Similar to 2016, the feature was dry at the time of the 2017 assessment with no active seepage.

One partially infilled tension crack (Feature B) was also noted on the northeast cover of the landfill. Observations indicate that there have been no significant changes from the previous 2016 assessment. No exposed debris or indications of erosion were noted during the 2017 assessment. Sparse vegetation was noted on the south side of the landfill.

At this time, the overall performance of the landfill is rated as acceptable.

The Visual Inspection Checklist is included in Table XXI of this report and has been completed as per the TOR. Please refer to Figure PIN-4.6 for a sketch of the USAF Landfill detailing the location of photographs and features.

Table XXI: Visual Inspection Checklist - USAF Landfill
DEW Line Cleanup: Post-construction - Landfill Monitoring
Visual Inspection Checklist
Inspection Report - Page 1 of 2

SITE NAME: PIN-4 Byron Bay
LANDFILL DESIGNATION: USAF Landfill (Existing Regrade Area)
DATE OF INSPECTION: August 14, 2017
DATE OF PREVIOUS INSPECTION: August 14, 2016
INSPECTED BY: A. Passalis
REPORT PREPARED BY: A. Passalis
MONITORING EVENT: 5
The inspector/reporter represents to the best of his/her knowledge that the following statements and observations are true and correct and to the best of the preparer's actual knowledge, no material facts have been suppressed or misstated.

TABLE XXI: USAF LANDFILL VISUAL INSPECTION (PAGE 2 OF 2)

Site Name: PIN-4, Byron Bay
Landfill: USAF Landfill
Designation: Existing Regrade Landfill
Date Inspected: August 14, 2017
Inspected by: Andrew Passalis, P.Eng.

Signature: 

[illegible]

7.2 PRELIMINARY STABILITY ASSESSMENT

The Preliminary Stability Assessment for USAF Landfill has been completed as per the TOR and is included in Table XXII hereafter.

Table XXII: Preliminary Stability Assessment – USAF Landfill

Feature	Severity Rating	Extent
Settlement	Acceptable	Isolated
Erosion	Not observed	None
Frost Action	Not observed	None
Staining	Not observed	None
Vegetation Stress	Not observed	None
Seepage/Ponded Water	Not observed	None
Debris exposure	Not observed	None
Overall Landfill Performance	Acceptable	

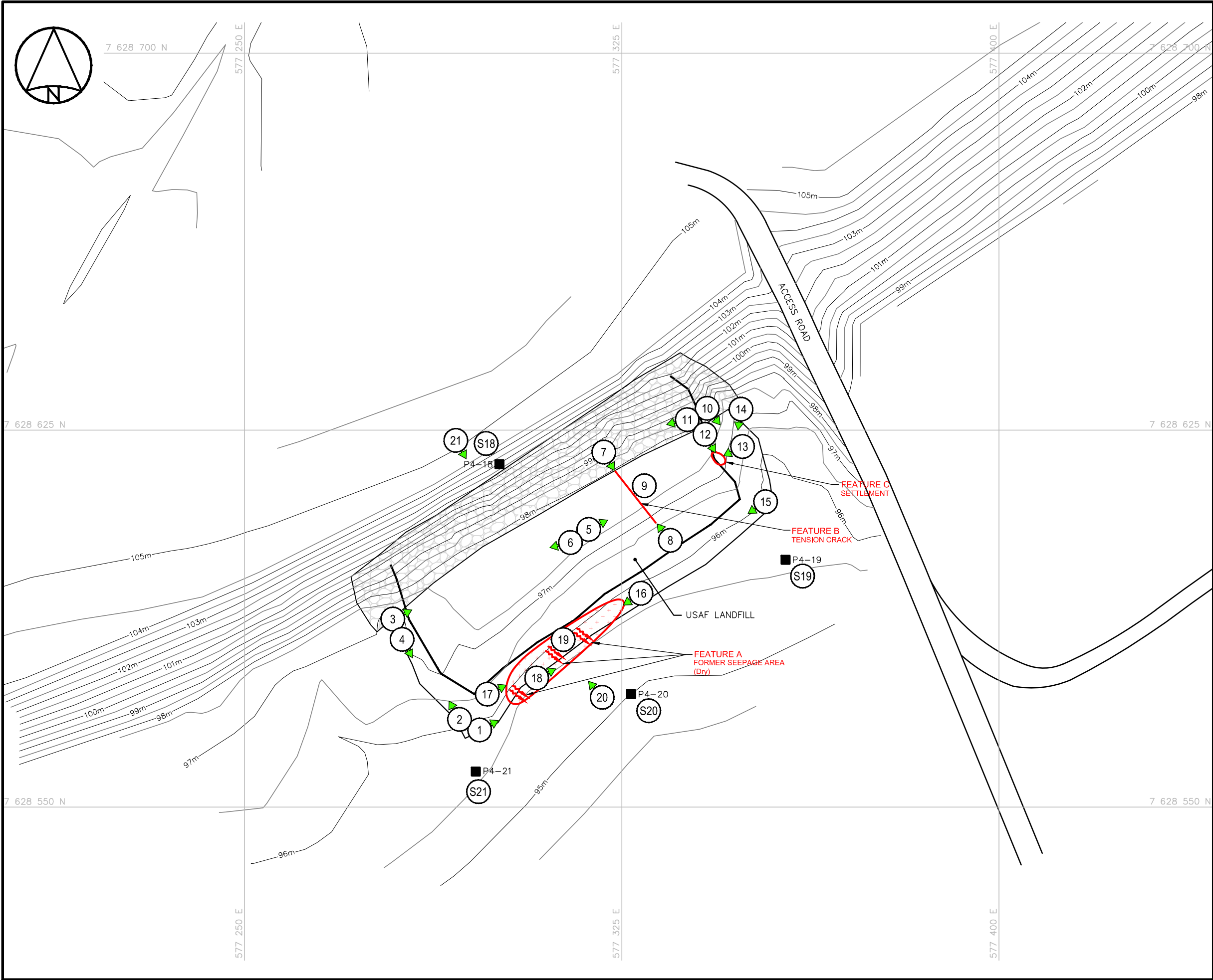
Performance/ Severity Rating	Description
Acceptable	Noted features are of little consequence. The landfill is performing as designed. Minor deviations in environmental or physical performance may be observed, such as isolated areas of erosion, settlement.
Marginal	Physical/environmental performance appears to be deteriorating with time. Observations may include an increase in size or number of features of note, such as differential settlement, erosion or cracking. No significant impact on landfill stability to date, but potential for failure is assessed as low or moderate.
Significant	Significant or potentially significant changes affecting landfill stability, such as significant changes in slope geometry, significant erosion or differential settlement; scarp development. The potential for failure is assessed as imminent.
Unacceptable	Stability of landfill is compromised to the extent that capacity to contain waste materials is compromised. Examples may include: - Debris exposed in erosion channels or areas of differential settlement. - Liner exposed. - Slope failure.

Extent	Description
Isolated	Singular feature
Occasional	Features of note occurring at irregular intervals/locations
Numerous	Many features of note, impacted less than 50% of the surface area of the landfill
Extensive	Impacting greater than 50% of the surface area of the landfill

7.3 LOCATION PLAN

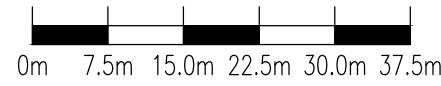
The Location Plan for the USAF Landfill has been completed as per the TOR and is presented in Figure PIN-4.6.

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LEGEND

- MONITORING SOIL SAMPLE LOCATION
- SPARSE VEGETATION
- SEEPAGE
- TENSION CRACK
- APPROX. PHOTOGRAPHIC VIEWPOINT
- SETTLEMENT



01	FINAL	18-01-26	J.P.	J-P.P	P.G.
NO.	VERSION	DATE	PAR	VERIF.	APPR.



COLLECTION OF
LANDFILL MONITORING DATA
PIN-4, BYRON BAY, NUNAVUT
USAF LANDFILL

1260 Lebourgneuf Boulevard
Suite 400
Québec (Quebec) Canada, G2K 2G2
Phone : 418.704.8091
www.englobecorp.com

MEASUREMENT UNIT Metre	SCALE: 1 : 750	DATE (month-year): JANUARY 2018
DRAWN BY: J. POULIN	VERIFIED BY: J.-P. PELLETIER	APPROVED BY: P. GÉLINAS, ENG.
PROJECT NO: P-0009730-0-05-503	DRAWING NO: P-0009730-0-05-503-PIN-4F-PL	PAGE PL

FIGURE PIN-4.6

7.4 PHOTOGRAPHIC RECORDS

The Photographic Record for the USAF Landfill has been completed as per the TOR and is included in the following page as Table XXIII. Full-sized photographs are contained in the Addendum DVD-ROM.

Table XXIII: LANDFILL VISUAL INSPECTION PHOTO LOG

Site Name: PIN-4, Byron Bay
 Landfill: USAF Landfill
 Date Inspected: August 14, 2017
 Inspected by: Andrew Passalis, P.Eng.

Photo (USAF-)	Filename	Size (KB)	Date	Vantage Point		Caption
				Eastings	Northing	
1	P417-524	4,120	17/08/14	577297	7628566	View looking northeast along south side of USAF Landfill
2	P417-525	4,446	17/08/14	577294	7628567	View looking northwest along west side of USAF Landfill
3	P417-526	4,181	17/08/14	577280	7628586	View looking northeast along north side of USAF Landfill
4	P417-527	3,964	17/08/14	577281	7628584	View looking southeast along west side of USAF Landfill
5	P417-528	4,202	17/08/14	577318	7628605	View looking northeast across east cover of USAF Landfill
6	P417-529	3,884	17/08/14	577316	7628603	View looking southwest across west cover of USAF Landfill
7	P417-530	3,964	17/08/14	577326	7628615	View looking southeast at partially infilled crack on northeast cover of USAF Landfill - FEATURE B
8	P417-531	4,353	17/08/14	577332	7628608	View looking northwest at partially infilled crack on northeast cover of USAF Landfill - FEATURE B
9	P417-532	4,261	17/08/14	577329	7628613	View of partially infilled crack on cover of USAF Landfill - FEATURE B
10	P417-533	3,984	17/08/14	577342	7628627	View looking southeast along east side of USAF Landfill
11	P417-534	4,339	17/08/14	577340	7628626	View looking southwest along north side of USAF Landfill
12	P417-535	3,870	17/08/14	577344	7628623	View looking southeast at depression on northeast crest of USAF Landfill - FEATURE C
13	P417-536	4,142	17/08/14	577348	7628621	View looking southwest at depression on northeast crest of USAF Landfill - FEATURE C
14	P417-537	4,263	17/08/14	577349	7628628	View looking south along east toe of USAF Landfill
15	P417-538	4,290	17/08/14	577353	7628610	View looking southwest along southeast toe of USAF Landfill
16	P417-541	4,185	17/08/14	577329	7628592	View looking southwest along southeast toe of USAF Landfill. Note vegetation
17	P417-542	4,185	17/08/14	577299	7628572	View looking northeast along southeast toe of USAF Landfill. Note vegetation
18	P417-543	4,103	17/08/14	577308	7628574	View looking northeast at former seepage points along south toe of USAF Landfill - FEATURE A. Note vegetation
19	P417-544	4,353	17/08/14	577312	7628581	View of former seepage points along south toe of USAF Landfill - FEATURE A
20	P417-545	4,076	17/08/14	577321	7628573	View looking northwest at former seepage point along south toe of USAF Landfill - FEATURE A
21	P417-550	4,102	17/08/14	577293	7628622	View looking southeast at north side of USAF Landfill
Soil Sampling						
P4-18	P417-551	3,961	17/08/14	577301	7628618	Sample location P417-18A/B located upgradient of USAF Landfill
S18	P417-552	4,072	17/08/14	577298	7628619	View looking southeast at sample location P417-18A/B
P4-19	P417-539	4,204	17/08/14	577358	7628599	Sample location P417-19A/B located downgradient of USAF Landfill
S19	P417-540	4,320	17/08/14	577360	7628597	View looking northwest at sample location P417-19A/B
P4-20	P417-546	4,227	17/08/14	577327	7628572	Sample location P417-20A/B located downgradient of USAF Landfill
S20	P417-547	3,968	17/08/14	577329	7628570	View looking northwest at sample location P417-20A/B
P4-21	P417-548	4,336	17/08/14	577296	7628557	Sample location P417-21A/B located downgradient of USAF Landfill
S21	P417-549	4,179	17/08/14	577296	7628553	View looking north at sample location P417-21A/B

7.5 SOIL SAMPLE ANALYTICAL DATA

The soil chemical analysis results for the 2017 USAF Landfill samples are presented in Table XXIV hereafter. Certificates of analyses and results of field duplicates collected as part of the QA/QC program are respectively presented in Annexes 1 and 2 at the end of this report.

Table XXIV: Soil Chemical Analysis Results - USAF Landfill

Sample #	Location	Depth (cm)	Parameters													
			As [mg/kg]	Cd [mg/kg]	Cr [mg/kg]	Co [mg/kg]	Cu [mg/kg]	Pb [mg/kg]	Ni [mg/kg]	Zn [mg/kg]	Hg [mg/kg]	PCBs [mg/kg]	F1	F2	F3	F4
													C ₆ -C ₁₀ [mg/kg]	C ₁₀ -C ₁₆ [mg/kg]	C ₁₆ -C ₃₄ [mg/kg]	C ₃₄ -C ₅₀ [mg/kg]
Detection Limit			0.2	0.01	0.5	0.1	1.0	0.1	0.5	1	0.05	0.05	10	50	50	100
Upgradient Soil Samples																
P417-18A	P417-18	0-15	5.2	0.02	10.0	4.2	8.1	13.2	9.2	6	<0.05	<0.05	<10	<50	<50	<100
P417-18B		40-50	5.3	0.02	10.0	4.3	8.6	10.9	9.2	6	<0.05	<0.05	<10	<50	<50	<100
Dongradient Soil Samples																
P417-19A	P417-19	0-15	4.0	0.04	12.7	5.2	10.2	8.1	14.4	8	<0.05	<0.05	<10	<50	<50	<100
P417-19B		40-50	4.3	0.04	13.4	5.7	11.4	9.3	16.0	9	<0.05	<0.05	<10	<50	<50	<100
P417-20A	P417-20 P417-BD6 (Intra-Lab Blind Duplicate) Average Value for P417-20A Sample	0-15	3.8	0.04	11.1	4.6	9.2	7.4	12.0	9	<0.05	<0.05	<10	<50	<50	<100
		0-15	4.3	0.04	11.0	5.3	10.8	8.6	13.2	10	<0.05	<0.05	<10	<50	<50	<100
		0-15	4.1 ± 0.4	--	11.05 ± 0.07	5.0 ± 0.5	10.0 ± 1.1	8.0 ± 0.9	12.6 ± 0.9	9.5 ± 0.7	--	--	--	--	--	--
P417-20B		40-50	4.2	0.04	11.1	4.7	9.6	7.9	12.7	9	<0.05	<0.05	<10	<50	<50	<100
P417-21A	P417-21	0-15	4.1	0.04	11.0	5.1	10.0	7.9	13.6	9	<0.05	<0.05	<10	<50	<50	<100
P417-21B		40-50	4.1	0.03	10.8	5.6	10.7	7.9	14.6	8	<0.05	<0.05	<10	<50	<50	<100

8 TIER II DISPOSAL FACILITY

8.1 SUMMARY

The 2017 monitoring of the Tier II Disposal Facility conducted on August 13 and 14, 2017 consisted of a visual inspection, as per the TOR, the collection of soil and groundwater samples, as well as thermal monitoring.

No PCBs were detected in any of the soil samples collected. Detectable concentrations of TPH (PHC F3-F4) were noted in the surface sample collected at downgradient location MW-02 (193 mg/kg and 134 mg/kg, respectively) while TPH (F3) was detected in the depth sample (128 mg/kg). Depth sample collected at MW-02 also showed elevated levels of cadmium (0.15 mg/kg) and copper (60.1 mg/kg). Detectable concentrations of mercury were also noted in the surface and depth samples at MW-02 (0.09 mg/kg and 0.08 mg/kg).

No PCBs or TPH was detected in any of the groundwater samples collected. Slightly elevated levels of metal concentrations in groundwater were detected at upgradient location MW-1, including: cadmium (0.00018 mg/L), chromium (0.19 mg/L), nickel (0.136 mg/L), and zinc (0.138 mg/L), and downgradient locations MW-2: arsenic (0.0026 mg/L), cadmium (0.0025 mg/L), lead (0.0042 mg/L), and zinc (1.82 mg/L), and MW-4: nickel (0.109 mg/L), and zinc (0.704 mg/L).

All thermistors at the Tier II Soil Disposal Facility have been inspected. VT-1 was replaced with a spare datalogger while communication errors occurred at VT-3.

As of the 2017 monitoring event, no features were identified with “significant” or “unacceptable” severity ratings. Indications of minor settlement were noted at five locations on the Tier II Disposal Facility, including one localized depression on the southeast corner (Feature A), one small linear type depression on the west crest (Feature B) and oval and linear shaped depressions on the east crest (Feature E). Each existing feature have remained unchanged since the previous 2016 assessment. Two areas of settlement detected in 2016 included one linear depression near VT-4 on the south crest (Feature G) and one localized oval depression on the east crest (Feature H) have remained unchanged since the 2016 assessment. Evidence of surface erosion has been noted at two proximate locations on the east crest and upper slope (Features C and I). These features had notable decrease in length since the 2016 assessment.

The depth of Feature D was noted to have marginally increased from the previous 2016 assessment. Minor staining (Feature F) was noted within a wetted area along the southeast toe of the facility, and was consistent with observations noted from the previous 2016 assessment. There was a notable increase in vegetation growth across the cover and in isolated areas on the east side slope of the facility since the 2016 assessment. There was a notable increase in the overall size of the wetted area around the southeast toe (Feature D) from the previous 2016 assessment. The increase appears to be attributed to variations in seasonal precipitation. No exposed debris or areas of seepage were noted. There were numerous linear ridges and depressions observed across the cover of the facility. These observations appear to be associated with construction methods (rough grading/tilling) that would have been used to incorporate the organic material into the final cover of the facility. Feature J, which is unchanged from previous observations, represents the most notable construction artifact (ridges and depressions).

At this time, the overall performance of the landfill is rated as acceptable.

The Visual Inspection Checklist is included in Table XXV of this report and has been completed as per the TOR. Please refer to Figure PIN-4.7 for a sketch of the Tier II Disposal Facility detailing the location of photographs and features.

Table XXV: Visual Inspection Checklist - Tier II Disposal Facility

**DEW Line Cleanup: Post-construction - Landfill Monitoring
Visual Inspection Checklist**

Inspection Report - Page 1 of 2

SITE NAME: PIN-4 Byron Bay
LANDFILL DESIGNATION: Tier II Disposal Facility (New Landfill)
DATE OF INSPECTION: August 14, 2017
DATE OF PREVIOUS INSPECTION: August 14, 2016
INSPECTED BY: A. Passalis
REPORT PREPARED BY: A. Passalis
MONITORING EVENT NUMBER: 5
The inspector/reporter represents to the best of his/her knowledge that the following statements and observations are true and correct and to the best of the preparer's actual knowledge, no material facts have been suppressed or misstated.

TABLE XXV: TIER II DISPOSAL FACILITY VISUAL INSPECTION (PAGE 2 OF 2)

Site Name: PIN-4, Byron Bay
Landfill: Tier II Disposal Facility
Designation: New Landfill
Date Inspected: August 14, 2017
Inspected by: Andrew Passalis, P.Eng.

Signature:

Checklist Item	Present (Yes/No)	Location	Length	Width	Depth	Extent	Description	Photographic Record	Severity Rating	Additional Comments
Settlement	Yes	FEATURE A See Figure PIN-4.7 (SE corner)	1.5 m	3 m	0.1 m	Occasional	Minor depression	Tier II-29, 30	Acceptable	Single depression below crest on southeast corner. Slope appears stable. No notable change from 2016 assessment.
		FEATURE B See Figure PIN-4.7 (W crest)	0.6 m	0.3 m	0.05 m		Linear depression	Tier II-51, 52	Acceptable	Single depression on W crest. Slope appears stable. No notable change from 2016 assessment.
		FEATURE E See Figure PIN-4.7 (E crest)	0.6 - 1 m	0.2 - 0.8 m	0.05 - 0.1 m		Oval and linear depressions	Tier II-17-19	Acceptable	Two depressions on and just below E crest. Slope appears stable. No significant change observed from 2016 assesement.
		FEATURE G See Figure PIN-4.7 (S crest)	1.4 m	0.4 m	0.1 m		Linear depression	Tier II-31-32	Acceptable	Single depresssion located below S crest. No notable change from 2016 assessment.
		FEATURE H See Figure PIN-4.7 (E crest)	0.6 m	0.5 m	0.1 m		Oval depression	Tier II-20, 21	Acceptable	Single depresssion located below E crest. No notable change from 2016 assessment.
Erosion	Yes	FEATURE C See Figure PIN-4.7 (E crest/slope)	2 m	0.2 m	0.05 m	Isolated	Minor erosion	Tier II-23	Acceptable	Self armouring. Slope appears stable. Notable decrease in length (8 to 2 m) and depth (0.1 to 0.05 m) from 2016 assessment.
		FEATURE I See Figure PIN-4.7 (E crest/slope)	6 m	0.1 m	0.01 - 0.05 m	Isolated	Minor erosion	Tier II-24, 25	Acceptable	Self armouring. Slope appears stable. Notable decrease in length (8 to 6 m) from 2016 assessment.
Frost Action	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not Observable	N/A
Animal Burrows	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not Observable	N/A
Vegetation	Yes	See Figure PIN-4.7 and Photographic Record	N/A	N/A	N/A	Isolated	Sparse vegetation on cover	Tier II-14-16, 17-21, 24, 26-28, 33-35, 42, 53-55	N/A	Notable increase in vegetation across cover area from past observations.
Staining	Yes	FEATURE F See Figure PIN-4.7 (SE toe)	1.5 m	0.3 m	Unknown	Isolated	Rust coloured staining	Tier II-46, 47	Acceptable	Minor staining in ponded water at southeast toe. No notable change from 2015 and 2016 assessments.
Vegetation Stress	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not Observable	N/A
Seepage Points	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not Observable	N/A
Debris Exposed	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not Observable	N/A
Presence/Condition of Monitoring Instruments	Yes	N/A	N/A	N/A	N/A	N/A	VT-1, 2, 3, 4 MW-1, 2, 3, 4	Tier II - 1-8 MW-1, MW-2, MW-3, MW-4	Acceptable	N/A
Other Features of Note:	Yes	FEATURE J See Figure PIN-4.7 and Photographic Record	2 - 5 m	0.3 - 0.5 m	0.1 - 0.15 m	N/A	Ridges and depressions on cover	Tier II-35, 55	Acceptable	Possible construction artifact (rough grading of landfill cover with organic material). No significant change from past observations.
		FEATURE D See Figure PIN-4.7 and Photographic Record (SE toe)	25 m	40 m	up to 0.3 m	N/A	Localized ponding and standing water SE of facility	Tier II-42, 50	Acceptable	Localized ponding/standing water in low lying area SE of facility. Marginal increase in depth of standing water (0.2 to 0.3 m) from 2016 assessment.
Additional Photos	Yes	See Figure PIN-4.7 and Photographic Record	N/A	N/A	N/A	N/A	General Photographic Record	N/A	Not Observable	General photos for documentation, no additional features of note.
Overall Landfill Performance:	Acceptable									

8.2 PRELIMINARY STABILITY ASSESSMENT

The Preliminary Stability Assessment for Tier II Disposal Facility has been completed as per the TOR and is included in Table XXVI hereafter.

Table XXVI: Preliminary Stability Assessment – Tier II Disposal Facility

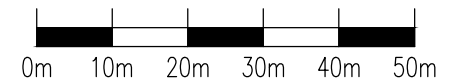
Feature	Severity Rating	Extent
Settlement/Cracks	Acceptable	Occasional
Erosion	Acceptable	Isolated
Frost Action	Not observed	None
Staining	Acceptable	Isolated
Vegetation Stress	Not observed	None
Seepage/Ponded Water	Acceptable	Isolated
Debris Exposure	Not observed	None
Overall Landfill Performance	Acceptable	

Performance/ Severity Rating	Description
Acceptable	Noted features are of little consequence. The landfill is performing as designed. Minor deviations in environmental or physical performance may be observed, such as isolated areas of erosion, settlement.
Marginal	Physical/environmental performance appears to be deteriorating with time. Observations may include an increase in size or number of features of note, such as differential settlement, erosion or cracking. No significant impact on landfill stability to date, but potential for failure is assessed as low or moderate.
Significant	Significant or potentially significant changes affecting landfill stability, such as significant changes in slope geometry, significant erosion or differential settlement; scarp development. The potential for failure is assessed as imminent.
Unacceptable	Stability of landfill is compromised to the extent that capacity to contain waste materials is compromised. Examples may include: • Debris exposed in erosion channels or areas of differential settlement. • Liner exposed. • Slope failure.
Extent	Description
Isolated	Singular feature
Occasional	Features of note occurring at irregular intervals/locations
Numerous	Many features of note, impacted less than 50% of the surface area of the landfill
Extensive	Impacting greater than 50% of the surface area of the landfill

8.3 LOCATION PLAN

The Location Plan for the Tier II Disposal Facility has been completed as per the TOR and is included in the following page as Figure PIN-4.7.

	MONITORING SOIL SAMPLE LOCATION
BM-4	PERMANENT BENCHMARK LOCATION
MW-02	MONITORING WELL LOCATION
MW-01 B	BACKGROUND MONITORING WELL LOCATION
VT-1	GROUND TEMPERATURE CABLE LOCATION
	BODY OF WATER
	SETTLEMENT
	PONDING
	STAINING
	EROSION
	APPROX. PHOTOGRAPHIC VIEWPOINT
	SPARSE VEGETATION
	RIDGES AND DEPRESSIONS ON COVER



01	FINAL	18-01-26	J.P.	J-P.P.	P.G.
NO.	VERSION	DATE	PAR	VERIF.	APPR.



Construction de Défense Canada
Defence Construction Canada

COLLECTION OF
LANDFILL MONITORING DATA
PIN-4, BYRON BAY, NUNAVUT

TIER II DISPOSAL FACILITY



1260 Lebourgneuf Boulevard
Suite 400
Québec (Quebec) Canada, G2K 2G2
Phone : 418.704.8091
www.englobecorp.com

MEASUREMENT UNIT		SCALE:	DATE (month-year):
Metre		1 : 1,000	JANUARY 2018
DRAWN BY:		VERIFIED BY:	APPROVED BY:
J. POULIN		J.-P. PELLETIER	P. GÉLINAS, ENG.
PROJECT NO:	DRAWING NO:		PAGE
P-0009730-0-05-503	P-0009730-0-05-503-PIN-4G-PL		PL

FIGURE PIN-4.7

8.4 PHOTOGRAPHIC RECORDS

The Photographic Record for Tier II Disposal Facility has been completed as per the TOR and is included as Table XXVII hereafter. Full-sized photographs are contained in an Addendum DVD-ROM.

Table XXVII: LANDFILL VISUAL INSPECTION PHOTO LOG

Site Name: PIN-4, Byron Bay
Landfill: Tier II Disposal Facility
Date Inspected: August 13-14, 2017
Inspected by: Andrew Passalis, P.Eng.

Photo (Tier II-)	Filename	Size (KB)	Date	Vantage Point		Caption
				Easting	Northing	
A5	P417-0194	967	17/08/13	576291	7628135	View looking southeast at Tier II DF
A6	P417-0195	883	17/08/13	576392	7627667	View looking north at Tier II DF
A7	P417-0196	932	17/08/13	576506	7627837	View looking northwest at Tier II DF
1	P417-199	4,026	17/08/13	576439	7627987	View looking north at VT-1
	P417-200	3,747	17/08/13	576439	7627987	View of existing non-specified 9V battery in VT-1
	P417-202	3,881	17/08/13	576439	7627987	View of existing non-specified ULB-5 battery in VT-1 (note expiry date)
2	P417-203	4,082	17/08/13	576444	7627991	View of datalogger with new specified batteries installed in VT-1 (ULB-1 and ULB-15)
3	P417-204	4,040	17/08/13	576448	7627962	View looking west at VT-2
4	P417-205	3,729	17/08/13	576442	7627960	View of datalogger at VT-2
5	P417-206	4,320	17/08/13	576397	7627958	View looking south at VT-3
6	P417-207	3,892	17/08/13	576397	7627953	View of datalogger at VT-3
	P417-208	3,672	17/08/13	576397	7627953	View of existing non-specified 9V and ULB-5 batteries in VT-3 (note expiry date)
	P417-209	4,152	17/08/13	576397	7627953	View of datalogger with new specified batteries installed in VT-3 (ULB-1 and ULB-15)
7	P417-210	4,007	17/08/13	576396	7627923	View looking east at VT-4
8	P417-211	3,883	17/08/13	576401	7627924	View of datalogger at VT-4
	P417-212	3,617	17/08/13	576401	7627924	View of existing non-specified 9V and ULB-5 batteries in VT-4 (note expiry date)
9	P417-460	3,891	17/08/14	576459	7628039	View looking south at northeast side of Tier II DF
10	P417-461	4,227	17/08/14	576474	7628015	View looking west along north toe of Tier II DF
11	P417-462	3,999	17/08/14	576476	7628013	View looking south along east toe of Tier II DF
12	P417-463	4,137	17/08/14	576463	7628003	View looking west along north mid-slope of Tier II DF
13	P417-464	4,194	17/08/14	576465	7628001	View looking south along east mid-slope of Tier II DF
14	P417-465	4,293	17/08/14	576455	7627993	View looking west along north crest of Tier II DF. Note vegetation
15	P417-466	4,312	17/08/14	576457	7627991	View looking south along east crest of Tier II DF. Note vegetation
16	P417-467	4,409	17/08/14	576454	7627990	View looking southwest across cover from northeast corner of Tier II DF. Note vegetation
17	P417-468	4,478	17/08/14	576458	7627981	View looking north at depression along crest on east side of Tier II DF - FEATURE E. Note vegetation
18	P417-469	4,403	17/08/14	576455	7627985	View looking east at north depression along crest on east side of Tier II DF - FEATURE E. Note vegetation
19	P417-470	4,131	17/08/14	576464	7627979	View looking northwest at north depression along crest on east side of Tier II DF - FEATURE E. Note vegetation
20	P417-471	4,341	17/08/14	576460	7627972	View looking north at south depression along crest on east side of Tier II DF - FEATURE H. Note vegetation
21	P417-472	4,396	17/08/14	576454	7627976	View looking east at south depression along crest on east side of Tier II DF - FEATURE H. Note vegetation
22	P417-473	4,371	17/08/14	576471	7627982	Isolated area of vegetation growth on east side slope
23	P417-474	4384	17/08/14	576463	7627948	View looking east at minor erosion at east crest of Tier II DF - FEATURE C
24	P417-475	4246	17/08/14	576463	7627945	View looking east at minor erosion at east crest of Tier II DF - FEATURE I. Note vegetation
25	P417-476	4294	17/08/14	576476	7627949	View looking west at minor erosion at east crest of Tier II DF - FEATURE I
26	P417-477	4084	17/08/14	576465	7627939	View looking north along east mid-slope of Tier II DF. Note vegetation
27	P417-478	4222	17/08/14	576463	7627936	View looking west along south mid-slope of Tier II DF. Note vegetation
28	P417-479	4025	17/08/14	576461	7627938	View looking northwest across cover of Tier II DF. Note vegetation
29	P417-480	4349	17/08/14	576468	7627936	View looking southeast at depression below crest on southeast corner of Tier II DF - FEATURE A
30	P417-481	4244	17/08/14	576467	7627931	View looking east at depression below crest on southeast corner of Tier II DF - FEATURE A
31	P417-482	4357	17/08/14	576406	7627922	View looking east at minor linear depression along south crest of Tier II DF - FEATURE G
32	P417-483	4342	17/08/14	576408	7627927	View looking south at minor linear depression along south crest of Tier II DF - FEATURE G
33	P417-484	4217	17/08/14	576386	7627919	View looking east along south crest of Tier II DF. Note vegetation

Table XXVII: Landfill Visual Inspection Photo Log – Tier II Disposal Facility (page 2 of 2)

Photo (Tier II-)	Filename	Size (KB)	Date	Vantage Point		Caption
				Easting	Northing	
34	P417-485	4275	17/08/14	576384	7627920	View looking north along west crest of Tier II DF. Note vegetation
35	P417-486	4184	17/08/14	576386	7627922	View looking northeast across cover from southwest corner of Tier II DF. Note ridges and depressions (FEATURE J) and vegetation
36	P417-487	3995	17/08/14	576376	7627909	View looking east along south mid-slope of Tier II DF
37	P417-488	4473	17/08/14	576373	7627911	View looking north along west mid-slope of Tier II DF
38	P417-489	4197	17/08/14	576366	7627895	View looking east along south toe of Tier II DF
39	P417-490	3982	17/08/14	576364	7627896	View looking north along west toe of Tier II DF
40	P417-491	4052	17/08/14	576367	7627898	View looking northeast from southwest corner of Tier II DF
41	P417-492	4068	17/08/14	576435	7627864	View looking north at south side of Tier II DF
42	P417-495	4132	17/08/14	576498	7627917	View looking southeast at standing water near MW-2 FEATURE D. Note vegetation
43	P417-497	4096	17/08/14	576496	7627920	View looking north along east toe of Tier II DF
44	P417-498	4178	17/08/14	576495	7627916	View looking west along south toe of Tier II DF
45	P417-499	4412	17/08/14	576495	7627918	View looking northwest upslope on southeast corner of Tier II DF
46	P417-500	4342	17/08/14	576500	7627920	View of orange staining at southeast toe of Tier II DF - FEATURE F
47	P417-501	4293	17/08/14	576502	7627926	View looking south at orange staining on southeast toe of Tier II DF - FEATURE F
48	P417-502	4117	17/08/14	576484	7627926	View looking north along east mid-slope of Tier II DF
49	P417-503	4218	17/08/14	576483	7627925	View looking west along south mid-slope of Tier II DF
50	P417-504	4225	17/08/14	576476	7627930	View looking southeast at standing water near southeast toe of Tier II DF - FEATURE D
51	P417-505	4331	17/08/14	576377	7627956	View looking north at linear depression along west crest of Tier II DF - FEATURE B
52	P417-506	4327	17/08/14	576380	7627961	View looking west at linear depression along west crest of Tier II DF - FEATURE B
53	P417-507	4023	17/08/14	576374	7627976	View looking south along west crest of Tier II DF. Note vegetation
54	P417-508	4323	17/08/14	576376	7627978	View looking east along north crest of Tier II DF. Note vegetation
55	P417-509	4274	17/08/14	576378	7627976	View looking southeast across cover from northwest corner of Tier II DF. Note ridges and depressions (FEATURE J) and vegetation
56	P417-510	3963	17/08/14	576362	7627986	View looking south along west mid-slope of Tier II DF
57	P417-511	4014	17/08/14	576364	7627989	View looking east along north mid-slope of Tier II DF
58	P417-512	3990	17/08/14	576346	7627995	View looking south along west toe of Tier II DF
59	P417-513	4263	17/08/14	576348	7627997	View looking east along north toe of Tier II DF
60	P417-514	4393	17/08/14	576349	7627994	View looking southeast upslope from northwest corner of Tier II DF
61	P417-515	4257	17/08/14	576395	7628033	View looking south at north side of Tier II DF
62	P417-522	4382	17/08/14	576323	7627940	View looking east at west side of Tier II DF
63	P417-523	3825	17/08/14	576540	7627904	View looking northwest at southeast side of Tier II DF
Soil Sampling						
P4-1W	P417-516	4,341	17/08/14	576445	7628016	Sampling location P417-1W located upgradient of Tier II DF
MW1	P417-517	4,032	17/08/14	576438	7628015	View looking east at MW-01 located upgradient of Tier II DF
P4-2W	P417-518	3,937	17/08/14	576510	7627909	Samples collected at P417-2W located downgradient of Tier II DF
MW2	P417-519	4,330	17/08/14	576506	7627909	View looking southeast at MW-02 located downgradient of Tier II DF
P4-3W	P417-493	4,268	17/08/14	576436	7627882	Sampling location P417-3W located downgradient of Tier II DF
MW3	P417-494	3,998	17/08/14	576437	7627874	View looking north at MW-03 located downgradient of Tier II DF
P4-4W	P417-520	4,312	17/08/14	576345	7627925	Sampling location P417-4W located downgradient of Tier II DF
MW4	P417-521	4,377	17/08/14	576346	7627919	View looking north at MW-04 located downgradient of Tier II DF

8.5 THERMISTOR ANNUAL MAINTENANCE REPORTS

All thermistors at the Tier II Soil Disposal Facility were inspected and found to be in good condition, with the exception of the datalogger installed at VT-1. Several error messages were noted during initial communication with the VT-1 datalogger, including bad recording rates, power interruptions, errors in calculating time, and no data downloading to the field computer. The internal batteries were replaced and efforts were made to reprogram the datalogger in the field with no success. There was also an error message encountered during communication with the datalogger at VT-3, which required a complete memory dump to be completed.

Data from thermistors VT-2 and VT-4 was successfully retrieved. Review of the downloaded thermal data identified all analogues/thermocouples to be functioning properly during the 2016/2017 monitoring period.

It was noted that existing batteries in dataloggers VT-1, 3 and 4 consisted of commercial 9V (Rayovac) and ULB-5 batteries that were reportedly installed in 2012 which did not meet specification for the intended 5-year battery replacement period specified by DCC/DND. The failure of these batteries is presumed to have caused the error messages that affected the data recording rate at the above mentioned dataloggers. Similar commercial 9V and ULB-5 batteries were replaced at VT-2 during off-site service in 2015.

The existing datalogger at VT-1 was replaced with the spare datalogger previously provided by DCC. The replacement datalogger installed at VT-1 was programmed and tested, and it is now fully operative. The inoperable datalogger was taken to Yellowknife and shipped to Lakewood Systems for repair (once approval from DCC was received). Batteries in all dataloggers were replaced during the 2017 inspection as per the TOR.

Internal memories were reset and clocks were synchronized using the Prolog Software. Manual resistive readings were collected from the thermistor strings as per the TOR. Manual readings and inspection results for each thermistor are presented on the Thermistor Annual Maintenance Reports (VT-1 to VT-4) included in this section of the report.

Thermistor Annual Maintenance Report

Contractor Name: Sila Remediation Inc.	Inspection Date: 13/08/2017
Prepared By: A.Passalis	

Thermistor Information

Site Name: PIN-4	Thermistor Location: Tier II Disposal Facility
Thermistor Number: VT-1	Inclination: Vertical
Install Date: 13/08/2012	First Date Event: 01/08/2012 Last Date Event: 14/08/2016
Coordinates and Elevation: N 7627991 E 576439.6 Elev 94.4	
Length of Cable (m): 9.2	Cable Lead Above Ground (m): 2.35 Nodal Points: 13
Datalogger Serial #: 12030012 (replaced with 108090)	Cable Serial Number: TS07060012

Thermistor Inspection

	Good		Problem/Maintenance
	Yes	No	
Casing	x		
Cover	x		Lubricate padlock
Data Logger		x	Changed with spare
Cable	x		
Beads	x		
Battery Installation Date	13/08/2017		
Battery Levels	Main	ULB1 - 11.34 V (8.34 old)	Aux
		Old battery - Rayovac 9V	ULB 15 - 13.95 V (11.44 old)
			Old battery - ULB-5

Manual Ground Temperature Readings

Bead	ohms	Degrees C
1	11.228	7.1719
2	14.351	2.6540
3	16.294	0.1278
4	16.960	-0.6185
5	18.212	-2.0467
6	19.145	-2.9433
7	20.04	-3.9918
8	20.94	-4.8497

Bead	ohms	Degrees C
9	21.70	-5.5274
10	33.39	-6.2135
11	22.96	-6.7813
12	23.58	-7.2687
13	24.14	-7.6106
-	-	-
-	-	-
-	-	-

Observations and Proposed Maintenance

Error messages during download - Bad Recording Rate, Power Interruption, Error in Calculating Time Clock error indicating 3/17/29. Memory at 100 %. Download thermistor data. File:Site_034_ % @P 8_Aug_13_2017. Complete full memory dump Improper batteries in existing datalogger. Change out batteries and attempt to reprogram - unsuccessful. Install replacement datalogger, replace batteries with new ULB1 and ULB15, reset clock and restart.
--

Thermistor Annual Maintenance Report

Contractor Name: Sila Remediation Inc.	Inspection Date:	13/08/2017
Prepared By: A.Passalis		

Thermistor Information

Site Name: PIN-4	Thermistor Location	Tier II Disposal Facility	
Thermistor Number: VT-2	Inclination	Vertical	
Install Date: 13/08/2012	First Date Event	01/08/2012	Last Date Event 14/08/2016
Coordinates and Elevation	N 7627960.9	E 576441.6	Elev 93.9
Length of Cable (m) 9.2	Cable Lead Above Ground (m) 3.7	Nodal Points	13
Datalogger Serial # 07060012		Cable Serial Number	TS07060014

Thermistor Inspection

	Good		Problem/Maintenance
	Yes	No	
Casing	x		
Cover	x		Lubricate padlock
Data Logger	x		
Cable	x		
Beads	x		
Battery Installation Date	8/13/2017		
Battery Levels	Main	ULB1 - 11.34 V (11.34 old)	Aux ULB15 - 14.23 (13.21 old)

Manual Ground Temperature Readings

Bead	ohms	Degrees C
1	7.008	17.9411
2	6.846	17.9713
3	9.061	12.0352
4	11.773	6.6468
5	13.985	3.1544
6	15.865	0.6462
7	16.959	-0.6745
8	17.912	-1.7381

Bead	ohms	Degrees C
9	19.088	-3.0037
10	19.265	-3.6243
11	20.70	-4.7171
12	21.92	-5.4574
13	22.38	-6.1729
-	-	-
-	-	-
-	-	-

Observations and Proposed Maintenance

Clock was min fast 45 min. Memory at 40 %.
 Download thermistor data. File: Site_12_lw_Aug_13_2017
 Replace batteries with new ULB1 and ULB15, reset clock and restart datalogger.
 Reset clock and restart datalogger.

Thermistor Annual Maintenance Report

Contractor Name: Sila Remediation Inc.	Inspection Date:	13/08/2017
Prepared By: A.Passalis		

Thermistor Information

Site Name: PIN-4	Thermistor Location	Tier II Disposal Facility	
Thermistor Number: VT-3	Inclination	Vertical	
Install Date: 13/08/2012	First Date Event	01/08/2012	Last Date Event 14/08/2016
Coordinates and Elevation	N 7627952.9	E 576398.7	Elev 93.8
Length of Cable (m) 9.2	Cable Lead Above Ground (m) 3.75	Nodal Points	13
Datalogger Serial # 07040011		Cable Serial Number	TS07060021

Thermistor Inspection

	Good		Problem/Maintenance
	Yes	No	
Casing	x		
Cover	x		Lubricate padlock
Data Logger	x		
Cable	x		
Beads	x		
Battery Installation Date	8/13/2017		
Battery Levels	Main	ULB1 - 11.34 V (11.34 old)	Aux ULB15 - 13.88 V (11.24 old)

Manual Ground Temperature Readings

Bead	ohms	Degrees C
1	7.606	16.7192
2	6.582	18.7602
3	7.516	15.9281
4	9.815	9.9058
5	12.677	5.1016
6	14.801	2.0301
7	16.42	-0.0318
8	17.322	-1.0647

Bead	ohms	Degrees C
9	18.498	-2.3949
10	19.598	-3.5224
11	20.320	-4.3600
12	21.060	-5.0997
13	21.950	-5.8089
-	-	-
-	-	-
-	-	-

Observations and Proposed Maintenance

Error messages during download - Error in Calculating Time
Memory at 38 %.
Download thermistor data. File: Site_003_VT-3 PIN-4_Aug_13_dump (complete memory dump completed)
Improper batteries in datalogger. (Rayovac 9V and ULB5). Replace batteries with new ULB1 and ULB15.
Reset clock and restart datalogger.

Thermistor Annual Maintenance Report

Contractor Name: Sila Remediation Inc.	Inspection Date: 13/08/2017
Prepared By: A. Passalis	

Thermistor Information

Site Name: PIN-4	Thermistor Location Tier II Disposal Facility
Thermistor Number: VT-4	Inclination Vertical
Install Date: 13/08/2012	First Date Event 01/08/2012 Last Date Event 14/08/2016
Coordinates and Elevation N 7627922.6 E 576401.2 Elev 93.3	
Length of Cable (m) 10.5	Cable Lead Above Ground (m) 4.35 Nodal Points 16
Datalogger Serial # 07060014	Cable Serial Number TS07040011

Thermistor Inspection

	Good		Problem/Maintenance
	Yes	No	
Casing	x		
Cover	x		Lubricate padlock
Data Logger	x		
Cable	x		
Beads	x		
Battery Installation Date	8/13/2017		
	Main	ULB1 - 11.34 V (11.34 old)	Aux ULB15 - 13.99 V (13.26 old)

Manual Ground Temperature Readings

Bead	ohms	Degrees C
1	7.175	16.7733
2	7.449	16.0514
3	9.644	10.7283
4	12.557	5.2937
5	14.354	2.5965
6	16.326	0.0214
7	17.110	-0.8835
8	18.052	-1.9823

Bead	ohms	Degrees C
9	18.782	-2.8038
10	19.660	-3.6688
11	20.180	-4.3310
12	20.850	-5.0065
13	21.250	-5.5271
14	21.830	-6.0676
15	22.010	-6.3950
16	22.030	-6.5688

Observations and Proposed Maintenance

Clock was 37 min slow. Memory at 40 %.

Download thermistor data. File: Site_004_VT-4 PIN-4_Aug_13_2017

Replace batteries with new ULB1 and ULB15.

Reset clock and restart datalogger.

8.6 SOIL SAMPLE ANALYTICAL DATA

The soil chemical analysis results for the 2017 Tier II Disposal Facility samples are presented in Table XXVIII hereafter. Certificates of analyses and results of field duplicates collected as part of the QA/QC program are respectively presented in Annexes 1 and 2 at the end of this report.

Table XXVIII: Soil Chemical Analysis Results - Tier II Disposal Facility

Sample #	Location	Depth (cm)	Parameters													
			As [mg/kg]	Cd [mg/kg]	Cr [mg/kg]	Co [mg/kg]	Cu [mg/kg]	Pb [mg/kg]	Ni [mg/kg]	Zn [mg/kg]	Hg [mg/kg]	PCBs [mg/kg]	F1	F2	F3	F4
													C ₆ -C ₁₀ [mg/kg]	C ₁₀ -C ₁₆ [mg/kg]	C ₁₆ -C ₃₄ [mg/kg]	C ₃₄ -C ₅₀ [mg/kg]
Detection Limit			0.2	0.01	0.5	0.1	1.0	0.1	0.5	1	0.05	0.05	10	50	50	100
Upgradient Soil Samples																
P417-1WA	MW-01	0-15	2.3	0.02	12.7	6.2	17.0	3.7	11.1	20	<0.05	<0.05	<10	<50	<50	<100
P417-1WB		40-50	2.3	0.02	12.2	6.4	18.9	3.7	10.9	23	<0.05	<0.05	<10	<50	<50	<100
Downgradient Soil Samples																
P417-2WA	MW-02	0-15	2.9	0.06	22.6	7.8	31.8	5.4	22.8	27	0.09	<0.05	<10	<50	193	134
P417-2WB		40-50	3.7	0.15	26.8	7.5	60.1	6.6	22.8	33	0.08	<0.05	<10	<50	128	<100
P417-3WA	MW-03	0-15	1.7	0.02	16.1	6.8	36.5	3.5	13.5	26	<0.05	<0.05	<10	<50	<50	<100
P417-3WB		40-50	1.9	0.01	17.7	7.6	34.2	4.0	15.6	25	<0.05	<0.05	<10	<50	<50	<100
P417-BD5 (Intra-Lab Blind Duplicate)		40-50	2.1	0.02	17.3	7.0	30.8	4.4	14.6	22	<0.05	<0.05	<10	<50	<50	<100
Average Value for P416-3WB Sample		40-50	2.0 ± 0.1	0.015 ± 0.01	17.5 ± 0.3	7.3 ± 0.4	32.5 ± 2.4	4.2 ± 0.3	15.1 ± 0.7	23.5 ± 2.1	--	--	--	--	--	--
P417-4WA	MW-04	0-15	2.9	<0.01	16.7	7.1	31.6	3.8	13.5	21	<0.05	<0.05	<10	<50	<50	<100
P417-4WB		40-50	2.4	<0.01	12.9	7.2	24.7	3.6	12.1	22	<0.05	<0.05	<10	<50	<50	<100

8.7 GROUNDWATER SAMPLE ANALYTICAL DATA

The groundwater chemical analysis results and evaluation for the analytical data for the 2017 Tier II Disposal Facility samples are presented in Table XXIX hereafter. Certificates of analyses and results for groundwater samples collected as part of the QA/QC program are respectively presented in Annexes 1 and 2 at the end of this report.

Table XXIX: Groundwater Chemical Analysis Results - Tier II Disposal Facility

Sample #	Location	Parameters													
		As [mg/L]	Cd [mg/L]	Cr [mg/L]	Co [mg/L]	Cu [mg/L]	Pb [mg/L]	Ni [mg/L]	Zn [mg/L]	Hg [mg/L]	PCBs [ug/L]	F1	F2	F3	F4
												C ₆ -C ₁₀ [mg/L]	C ₁₀ -C ₁₆ [mg/L]	C ₁₆ -C ₃₄ [mg/L]	C ₃₄ -C ₅₀ [mg/L]
Detection Limit		0.0002	0.00001	0.0005	0.0001	0.001	0.0001	0.0005	0.001	0.000005	0.05	0.1	0.1	0.1	0.1
Upgradient Groundwater Sample															
P417-1W	MW-1	0.0004	0.00018	0.1900	0.0134	0.005	0.0002	0.1360	0.138	<0.000005	<0.05	<0.1	<0.1	<0.1	<0.1
Downgradient Groundwater Samples															
P417-2W	MW-2	0.0026	0.00025	0.0073	0.0096	0.004	0.0042	0.0294	1.820	0.000011	<0.05	<0.1	<0.1	<0.1	<0.1
P417-3W	MW-3	0.0004	0.00001	0.0034	0.0055	0.010	<0.0001	0.0211	0.013	<0.000005	<0.05	<0.1	<0.1	<0.1	<0.1
P417-BDW1 (Intra-Lab Blind Duplicate)		0.0004	0.00002	0.0012	0.0055	0.010	<0.0001	0.0209	0.011	<0.000005	<0.05	<0.1	<0.1	<0.1	<0.1
Average Value for P416-3W Sample		--	0.000015 ± 0.0000007	0.0023 ± 0.0015	-	--	--	0.0210 ± 0.0001	0.012 ± 0.001	--	--	--	--	--	--
P417-4W	MW-4	0.0004	0.00007	0.0687	0.0045	0.007	<0.0001	0.1090	0.704	<0.000005	<0.05	<0.1	<0.1	<0.1	<0.1

8.8 MONITORING WELL SAMPLING / INSPECTION LOGS

The monitoring well sampling logs for MW-1 to MW-4 are presented in this section.

Monitoring Well Sampling Log

Site Name: PIN-4 Landfill Name: Tier II Disposal Facility
Monitoring Well ID: MW-1
Sample Number(s) include dups.: P417-1W
Bottles filled (by parameter type): 100 mL pl (Met), 2x500 mL amber (PCBs), 2x250 mL amber/2 x 40 mL (PHCs)
Date of Sampling Event: 14-Aug-17 Time: 19:00
Weather: 10C, Overcast, 30 km/h NE
Names of Samplers: A. Passalis
Description of Well Condition and Surrounding ground conditions (note ponding of water):
Good condition, no ponding.
Lock (condition, presence, model, manufacturer): Good, KA1

Pre-Measured Data (From Water Well Record Log)

*Depth of well installation (cm)= 450 Diameter of well (cm)= 5
*Depth to top of screen (cm)= 50 Length screened section (cm)= 300
*note: *depths are from ground surface*

Field Measurements

Measurement method (interface probe, tape, etc): Interface
Well pipe height above ground (cm) (to top of pipe)= 54
Static water level (cm) from top of pipe = 188
Static water level (cm) (below ground surface) calculated = 134
Measured well refusal depth (cm) (measure after sampling)= 235
Thickness of water column (cm)= 47 Static volume of water in well (mL)= 952
Free product thickness (mm)= 0 Evidence of sludge or siltation: No

Purging Information Summary*

Purging/sampling equipment, sampling technique and equipment calibration information: Peristaltic pump with dedicated 1/4" LDPE tubing, multimeter, turbidimeter with daily calibration check
Well purged (Y/N): Y Recharge Rate: >200 mL/min
Volume Purged (L) (note multiple purging events if applicable): 2.7

Parameter	Initial	Stabilized	Final	Notes (if not stabilized)
pH	9.2	8.4	8.3	
Conductivity (uS/cm)	1307	1291	1290	
Turbidity (NTU)	14.1	9.2	9.2	
Temperature (degC)	2.8	2.3	2.4	

Visual/olfactory observations (incl. colour, odour, presence of free product/sheen/globules, siltation...): Clear, colourless, odourless

Decontamination of sampling equipment

Type of decontamination fluid (s): None required, dedicated tubing
Number washes: N/A Number rinses: N/A

Other Relevant Comments:

* Complete field notes including full suite of water quality indicator parameters VS time as per EPA low flow sampling procedures should be appended to this summary.

Monitoring Well Sampling Log

Site Name: PIN-4 Landfill Name: Tier II Disposal Facility
 Monitoring Well ID: MW-2
 Sample Number(s) include dups.: P417-2W
 Bottles filled (by parameter type): 100 mL pl (Met), 2x500 mL amber (PCBs), 2x250 mL amber/2 x 40 mL (PHCs)
 Date of Sampling Event: 14-Aug-17 Time: 20:40
 Weather: 10C, Overcast, 30 km/h NE
 Names of Samplers: A. Passalis
 Description of Well Condition and Surrounding ground conditions (note ponding of water): Good condition, well located in standing water area near southeast corner of landfill
 Lock (condition, presence, model, manufacturer): Good, KA1

Pre-Measured Data (From Water Well Record Log)

*Depth of well installation (cm)= 450 Diameter of well (cm)= 4
 *Depth to top of screen (cm)= 60 Length screened section (cm)= 300
*note: *depths are from ground surface*

Field Measurements

Measurement method (interface probe, tape, etc): Interface
 Well pipe height above ground (cm) (to top of pipe)= 60
 Static water level (cm) from top of pipe = 55
 Static water level (cm) (below ground surface) calculated = -5
 Measured well refusal depth (cm) (measure after sampling)= 192
 Thickness of water column (cm)= 137 Static volume of water in well (mL)= 1721
 Free product thickness (mm)= 0 Evidence of sludge or siltation: No

Purging Information Summary*

Purging/sampling equipment, sampling technique and equipment calibration information: Peristaltic pump with dedicated 1/4" LDPE tubing, multimeter, turbidimeter with daily calibration check
 Well purged (Y/N): Y Recharge Rate: >200 mL/min
 Volume Purged (L) (note multiple purging events if applicable): 5.6

Parameter	Initial	Stabilized	Final	Notes (if not stabilized)
pH	7.7	7.2	7.2	
Conductivity (uS/cm)	2250	2160	2140	
Turbidity (NTU)	16.4	8.6	8.7	
Temperature (degC)	2.6	3.3	3.3	

Visual/olfactory observations (incl. colour, odour, presence of free product/sheen/globules, siltation...): Translucent, colourless, odourless

Decontamination of sampling equipment

Type of decontamination fluid (s): None required, dedicated tubing
 Number washes: N/A Number rinses: N/A

Other Relevant Comments:

* Complete field notes including full suite of water quality indicator parameters VS time as per EPA low flow sampling procedures should be appended to this summary.

Monitoring Well Sampling Log

Site Name: PIN-4 Landfill Name: Tier II Disposal Facility
 Monitoring Well ID: MW-3
 Sample Number(s) include dups.: P417-3W, P417-BDW1
 Bottles filled (by parameter type): 2x100 mL pl (Met), 4x500 mL amber (PCBs), 4x250 mL amber/4 x 40 mL (PHCs)
 Date of Sampling Event: 14-Aug-17 Time: 20:10
 Weather: 10C, Overcast, 30 km/h NE
 Names of Samplers: A.Passalis
 Description of Well Condition and Surrounding ground conditions (note ponding of water): Good condition (no ponding)
 Lock (condition, presence, model, manufacturer): Good, KA1

Pre-Measured Data (From Water Well Record Log)

*Depth of well installation (cm)= 450 Diameter of well (cm)= 4
 *Depth to top of screen (cm)= 40 Length screened section (cm)= 300
*note: *depths are from ground surface*

Field Measurements

Measurement method (interface probe, tape, etc): Interface
 Well pipe height above ground (cm) (to top of pipe)= 47
 Static water level (cm) from top of pipe = 105
 Static water level (cm) (below ground surface) calculated = 58
 Measured well refusal depth (cm) (measure after sampling)= 263
 Thickness of water column (cm)= 158 Static volume of water in well (mL)= 1984
 Free product thickness (mm)= 0 Evidence of sludge or siltation: No

Purging Information Summary*

Purging/sampling equipment, sampling technique and equipment calibration information: Peristaltic pump with dedicated 1/4" LDPE tubing, multimeter, turbidimeter with daily calibration check
 Well purged (Y/N): Y Recharge Rate: >200 mL/min
 Volume Purged (L) (note multiple purging events if applicable): 5.8

Parameter	Initial	Stabilized	Final	Notes (if not stabilized)
pH	8.4	7.7	7.6	
Conductivity (uS/cm)	2450	2240	2230	
Turbidity (NTU)	11.2	7.2	7.3	
Temperature (degC)	2	2.6	2.6	

Visual/olfactory observations (incl. colour, odour, presence of free product/sheen/globules, siltation...): Clear, colourless, odourless

Decontamination of sampling equipment

Type of decontamination fluid (s): None required, dedicated tubing
 Number washes: N/A Number rinses: N/A

Other Relevant Comments: _____

* Complete field notes including full suite of water quality indicator parameters VS time as per EPA low flow sampling procedures should be appended to this summary.

Monitoring Well Sampling Log

Site Name: PIN-4 Landfill Name: Tier II Disposal Facility
 Monitoring Well ID: MW-4
 Sample Number(s) include dups.: P417-4W
 Bottles filled (by parameter type): 100 mL pl (Met), 2x500 mL amber (PCBs), 2x250 mL amber/2 x 40 mL (PHCs)
 Date of Sampling Event: 14-Aug-17 Time: 19:40
 Weather: 10C, Overcast, 30 km/h NE
 Names of Samplers: A.Passalis
 Description of Well Condition and Surrounding ground conditions (note ponding of water): Good condition, no ponding.

Lock (condition, presence, model, manufacturer): Good, KA1 (lock shows signs of being chewed on) - no change from 2016

Pre-Measured Data (From Water Well Record Log)

*Depth of well installation (cm)= 450 Diameter of well (cm)= 4
 *Depth to top of screen (cm)= 50 Length screened section (cm)= 300
*note: *depths are from ground surface*

Field Measurements

Measurement method (interface probe, tape, etc): Interface
 Well pipe height above ground (cm) (to top of pipe)= 39
 Static water level (cm) from top of pipe = 107
 Static water level (cm) (below ground surface) calculated = 68
 Measured well refusal depth (cm) (measure after sampling)= 218
 Thickness of water column (cm)= 111 Static volume of water in well (mL)= 1394
 Free product thickness (mm)= 0 Evidence of sludge or siltation: No

Purging Information Summary*

Purging/sampling equipment, sampling technique and equipment calibration information: Peristaltic pump with dedicated 1/4" LDPE tubing, multimeter, turbidimeter with daily calibration check
 Well purged (Y/N): Y Recharge Rate: >200 mL/min
 Volume Purged (L) (note multiple purging events if applicable): 4.1

Parameter	Initial	Stabilized	Final	Notes (if not stabilized)
pH	8.3	8.1	8.0	
Conductivity (uS/cm)	1416	1118	1133	
Turbidity (NTU)	8.5	5.5	5.6	
Temperature (degC)	2.3	3.6	3.7	

Visual/olfactory observations (incl. colour, odour, presence of free product/sheen/globules, siltation...): Clear, colourless, odourless

Decontamination of sampling equipment

Type of decontamination fluid (s): None required, dedicated tubing
 Number washes: N/A Number rinses: N/A

Other Relevant Comments:

* Complete field notes including full suite of water quality indicator parameters VS time as per EPA low flow sampling procedures should be appended to this summary.

9 AIRSTRIP LANDFILL

9.1 SUMMARY

On August 14, 2017 a visual inspection has been completed at the Airstrip Landfill.

No PCBs or elevated levels of metals were detected in any of the soil samples collected. Detectable concentrations of TPH were noted in the depth sample collected at upgradient location P417-22 (F3 and F4 –67 mg/kg and 184 mg/kg, respectively).

As of the 2017 monitoring event, no features were identified with “significant” or “unacceptable” severity ratings. Unchanged (from 2016 assessment) isolated areas of minor settlement and erosion were respectively noted on the northeast cover (Feature A) and east side (Feature B) of the Airstrip Landfill. An existing infilled tension crack (Feature C) has been noted on the east side of the landfill with no notable change from the 2016 assessment. The second crack previously noted in 2014 has not been observed in 2016 nor 2017. The ponding at the southwest and southeast margins of the landfill noted in 2016 (Feature D) was also dry. A slight orange staining was also noted along the southwest toe of the landfill (Feature E) but has decreased in size from the 2016 assessment. A new tension crack (Feature F) was noted on the southeast cover of the landfill. Notable increase in vegetation cover from the 2016 assessment was observed.

At this time, the overall performance of the landfill is rated as acceptable.

The Visual Inspection Checklist is included in Table XXX of this report and has been completed as per the TOR. Please refer to Figure PIN-4.8 for a sketch of the Airstrip Landfill detailing the location of photographs and features.

Table XXX: Visual Inspection Checklist / Report – Airstrip Landfill

**DEW LINE CLEANUP: POST-CONSTRUCTION – LANDFILL MONITORING
VISUAL INSPECTION CHECKLIST**

INSPECTION REPORT – PAGE 1 of 2

SITE NAME: PIN-4 Byron Bay
LANDFILL DESIGNATION: Airstrip Landfill (Existing Regrade Landfill)
DATE OF INSPECTION: August 14, 2017
DATE OF PREVIOUS INSPECTION: August 14, 2016
INSPECTED BY: A. Passalis
REPORT PREPARED BY: A. Passalis
MONITORING EVENT NUMBER: 5
The inspector/reporter represents to the best of his/her knowledge that the following statements and observations are true and correct and to the best of the preparer's actual knowledge, no material facts have been suppressed or misstated.

TABLE XXX: AIRSTRIP LANDFILL VISUAL INSPECTION (PAGE 2 OF 2)

Site Name: PIN-4, Byron Bay
Landfill: Airstrip Landfill
Designation: Existing Regrade Landfill
Date Inspected: August 14, 2017
Inspected by: Andrew Passalis, P.Eng.

Signature: 

Checklist Item	Present (Yes/No)	Location	Length	Width	Depth	Extent	Description	Photographic Record	Severity Rating	Additional Comments
Settlement	Yes	FEATURE A See Figure PIN-4.8 (NE cover)	1.4 m	0.6 m	0.15 - 0.2 m	Isolated	Minor depression	ALF-15,16	Acceptable	Single depression on cover. No notable change from 2016 assesement.
Erosion	Yes	FEATURE B See Figure PIN-4.8 (E side slope)	7 m	0.3 m	0.02 - 0.05 m	Isolated	Minor erosion	ALF-19, 20	Acceptable	Self armouring. No notable change from 2016 assessment.
Frost Action	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not Observable	N/A
Animal Burrows	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not Observable	N/A
Vegetation	Yes	See Figure PIN-4.8 and Photographic Record	N/A	N/A	N/A	25%	Moderate vegetation on cover and side slopes	ALF-1, 4, 6-12, 18, 22, 23	Acceptable	Notable increase in vegetation growth from 2016 assessment.
Staining	Yes	FEATURE E See Figure PIN-4.8 (SW toe)	0.6 m	0.3 m	Unknown	Isolated	Orange staining	ALF-13, 14	Acceptable	Slight orange staining of soil near southwest toe. Decrease in size (L: 1.5 to 0.6 m, W: 0.5 to 0.3 m) from 2016 assessment.
Vegetation Stress	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not Observable	N/A
Seepage Points	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not Observable	N/A
Debris Exposed	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not Observable	N/A
Presence/Condition of Monitoring Instruments	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not Observable	N/A
Other Features of Note:	Yes	FEATURE C See Figure PIN-4.8 (E side)	3 m	0.01 m	0.05	Isolated	Tension crack	ALF-17, 18	Acceptable	Tension crack completely infilled. No notable change from 2016 assesement.
		FEATURE D See Figure PIN-4.8 (SW toe)	N/A	N/A	N/A	N/A	N/A	ALF-13	Not Observable	Localized ponding at southwest margin of landfill. Orange discolouration of soil near toe.
		FEATURE F See Figure PIN-4.8 (SE cover) - New Obs.	1.5 m	1 - 3 mm	Unknown	Isolated	Tension crack	ALF-21	Acceptable	Single tension crack on east side of cover. New observation.
Additional Photos	Yes	See Figure PIN-4.8 and Photographic Record	N/A	N/A	N/A	N/A	General Photographic Record	N/A	Not Observable	General photos for documentation, no additional features of note.
Overall Landfill Performance:	Acceptable									

9.2 PRELIMINARY STABILITY ASSESSMENT

The Preliminary Stability Assessment for Airstrip Landfill has been completed as per the TOR and is included as Table XXXI hereafter.

Table XXXI: Preliminary Stability Assessment – Airstrip Landfill

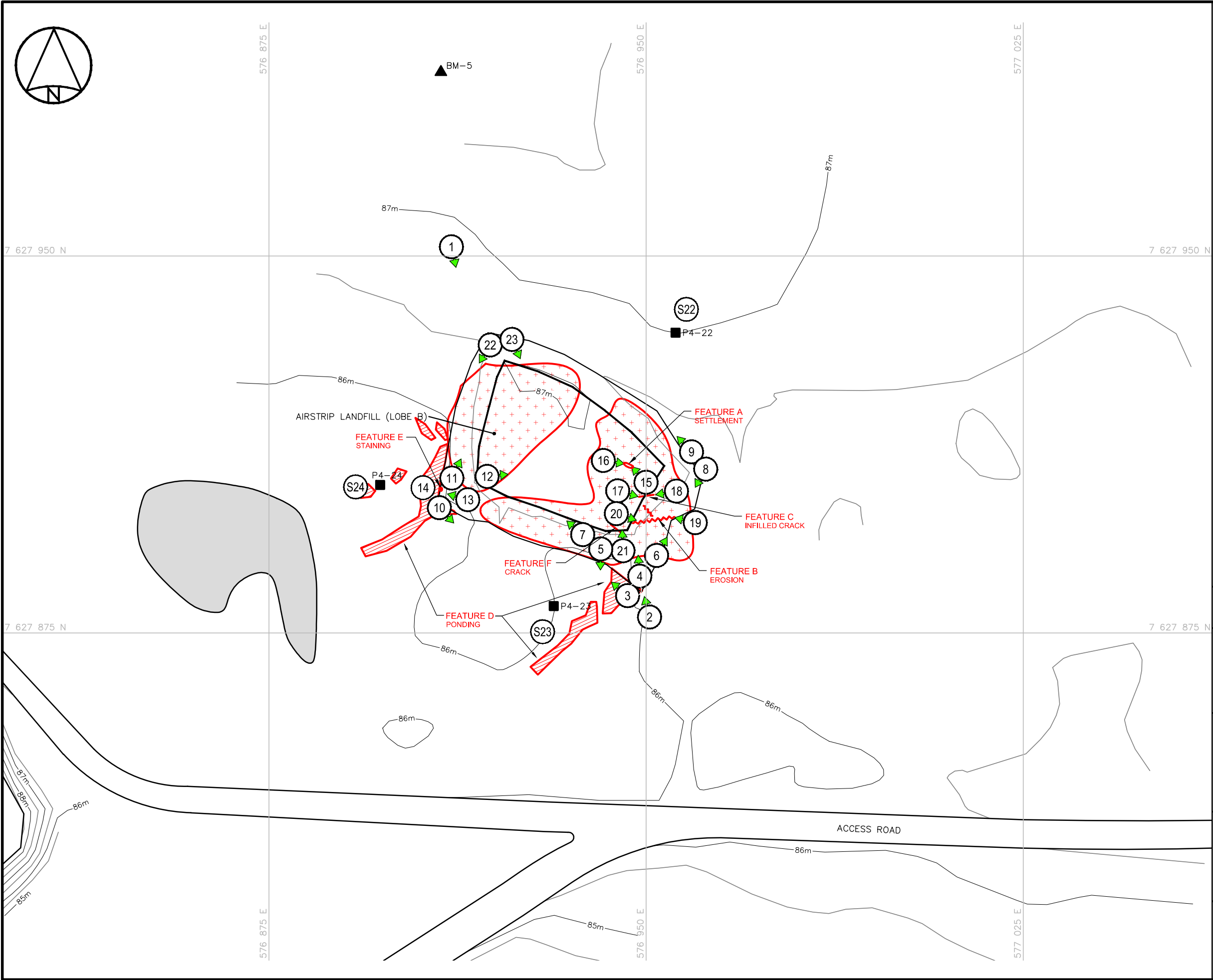
Feature	Severity Rating	Extent
Settlement/Cracks	Acceptable	Isolated
Erosion	Acceptable	Isolated
Frost Action	Not observed	None
Staining	Acceptable	Isolated
Vegetation Stress	Not observed	None
Seepage/Ponded Water	Acceptable	Isolated
Debris exposure	Not observed	None
Overall Landfill Performance	Acceptable	

Performance/ Severity Rating	Description
Acceptable	Noted features are of little consequence. The landfill is performing as designed. Minor deviations in environmental or physical performance may be observed, such as isolated areas of erosion, settlement.
Marginal	Physical/environmental performance appears to be deteriorating with time. Observations may include an increase in size or number of features of note, such as differential settlement, erosion or cracking. No significant impact on landfill stability to date, but potential for failure is assessed as low or moderate.
Significant	Significant or potentially significant changes affecting landfill stability, such as significant changes in slope geometry, significant erosion or differential settlement; scarp development. The potential for failure is assessed as imminent.
Unacceptable	Stability of landfill is compromised to the extent that capacity to contain waste materials is compromised. Examples may include: • Debris exposed in erosion channels or areas of differential settlement. • Liner exposed. • Slope failure.
Extent	Description
Isolated	Singular feature
Occasional	Features of note occurring at irregular intervals/locations
Numerous	Many features of note, impacted less than 50% of the surface area of the landfill
Extensive	Impacting greater than 50% of the surface area of the landfill

9.3 LOCATION PLAN

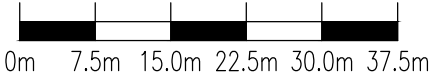
The Location Plan for the Airstrip Landfill has been completed as per the TOR and is presented in Figure PIN-4.8.

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LEGEND

- MONITORING SOIL SAMPLE LOCATION
- ▲ BM-5 PERMANENT BENCHMARK LOCATION
- BODY OF WATER
- SETTLEMENT
- SPARSE VEGETATION
- PONDING
- CRACK
- ~ EROSION
- XXX APPROX. PHOTOGRAPHIC VIEWPOINT
- STAINING



01	FINAL	18-01-26	J.P.	J-P.P.	P.G.
NO.	VERSION	DATE	PAR	VERIF.	APPR.



Construction de Défense Canada
Defence Construction Canada

COLLECTION OF LANDFILL MONITORING DATA PIN-4, BYRON BAY, NUNAVUT

AIRSTRIP LANDFILL



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MEASUREMENT UNIT Metre	SCALE: 1 : 750	DATE (month-year): JANUARY 2018
DRAWN BY: J. POULIN	VERIFIED BY: J.-P. PELLETIER	APPROVED BY: P. GÉLINAS, ENG.
PROJECT NO: P-0009730-0-05-503	DRAWING NO: P-0009730-0-05-503-PIN-4H-PL	PAGE PL

FIGURE PIN-4.8

9.4 PHOTOGRAPHIC RECORDS

The Photographic Record for Airstrip Landfill has been completed as per the TOR and is included as Table XXXII hereafter. Full-sized photographs are contained in the Addendum DVD-ROM.

TABLE XXXII: LANDFILL VISUAL INSPECTION PHOTO LOG

Site Name: PIN-4, Byron Bay
 Landfill: Airstrip Landfill
 Date Inspected: August 14, 2017
 Inspected by: Andrew Passalis, P.Eng.

Photo (ALF-)	Filename	Size (KB)	Date	Vantage Point		Caption
				Easting	Northing	
1	P417-553	4,115	17/08/14	576912	7627951	View looking southeast at north and west sides of Airstrip Landfill. Note vegetation
2	P417-554	4,160	17/08/14	576950	7627879	View looking north at northwest side of Airstrip Landfill
3	P417-555	4,218	17/08/14	576947	7627884	View looking northwest along south side of Airstrip Landfill (former ponded area)
4	P417-556	4,105	17/08/14	576948	7627887	View looking north across cover from southeast corner of Airstrip Landfill. Note vegetation
5	P417-557	4,155	17/08/14	576943	7627892	View looking south at former ponded area on southeast side of Airstrip Landfill
6	P417-558	4,105	17/08/14	576950	7627890	View looking northeast along east side of Airstrip Landfill. Note vegetation
7	P417-559	4,085	17/08/14	576940	7627895	View looking northwest along south side of Airstrip Landfill. Note vegetation
8	P417-560	4,184	17/08/14	576960	7627908	View looking southwest along east side of Airstrip Landfill. Note vegetation
9	P417-561	4,307	17/08/14	576959	7627910	View looking northwest along north side of Airstrip Landfill. Note vegetation
10	P417-564	4,250	17/08/14	576911	7627902	View looking southeast along south side of Airstrip Landfill. Note vegetation
11	P417-565	4,174	17/08/14	576911	7627904	View looking north along west side of Airstrip Landfill. Note vegetation
12	P417-566	4,192	17/08/14	576917	7627905	View looking northeast from southwest corner of Airstrip Landfill. Note vegetation
13	P417-567	4,246	17/08/14	576912	7627903	View looking southwest at staining on southwest toe - FEATURE E
14	P417-568	4,309	17/08/14	576908	7627905	View of orange staining of soil on southwest corner of Airstrip Landfill - FEATURE E
15	P417-569	4,025	17/08/14	576946	7627905	View looking north at linear depression on northeast cover of Airstrip Landfill - FEATURE A
16	P417-570	4,178	17/08/14	576943	7627908	View looking east at linear depression on northeast cover of Airstrip Landfill - FEATURE A
17	P417-573	4,275	17/08/14	576945	7627901	View looking northeast at completely infilled tension crack on east side of Airstrip Landfill - FEATURE C
18	P417-574	4,344	17/08/14	576955	7627904	View looking southwest at completely infilled tension crack on east side of Airstrip Landfill - FEATURE C. Note vegetation
19	P417-575	4,067	17/08/14	576956	7627898	View looking west at minor erosion on east side of Airstrip Landfill - FEATURE B
20	P417-577	4,214	17/08/14	576945	7627898	View looking east at minor erosion on east side of Airstrip Landfill - FEATURE B
21	P417-578	4,416	17/08/14	576946	7627893	View looking north at desiccation and cracking on southeast cover of Airstrip Landfill - FEATURE F (new)
22	P417-581	4,297	17/08/14	576920	7627933	View looking south along west side of Airstrip Landfill. Note vegetation
23	P417-583	4,400	17/08/14	576922	7627933	View looking southeast across cover of Airstrip Landfill. Note vegetation
Soil Sampling						
P4-22	P417-562	4,419	17/08/14	576955	7627935	Sampling location P417-22 located upgradient of Tier II DF
S22	P417-563	4,235	17/08/14	576958	7627938	View looking southwest at P417-24A/B located upgradient of Tier II DF
P4-23	P417-571	4,322	17/08/14	576932	7627880	Samples collected at P417-23 located downgradient of Tier II DF
S23	P417-572	4,063	17/08/14	576930	7627876	View looking northeast at P417-23 A/B located downgradient of Tier II DF
P4-24	P417-579	4,303	17/08/14	576897	7627905	Sampling location P417-24 located downgradient of Tier II DF
S24	P417-580	3,993	17/08/14	576894	7627904	View looking east at P417-24 located downgradient of Tier II DF

9.5 SOIL SAMPLE ANALYTICAL DATA

The soil chemical analysis results for the 2017 Airstrip Landfill samples are presented in Table XXXIII hereafter. Certificates of analyses and results of field duplicates collected as part of the QA/QC program are respectively presented in Annexes 1 and 2 at the end of this report.

Table XXXIII: Soil Chemical Analysis Results - Airstrip Landfill

Sample #	Location	Depth (cm)	Parameters												F1	F2	F3	F4
			As [mg/kg]	Cd [mg/kg]	Cr [mg/kg]	Co [mg/kg]	Cu [mg/kg]	Pb [mg/kg]	Ni [mg/kg]	Zn [mg/kg]	Hg [mg/kg]	PCBs [mg/kg]						
			C ₆ -C ₁₀ [mg/kg]	C ₁₀ -C ₁₆ [mg/kg]	C ₁₆ -C ₃₄ [mg/kg]	C ₃₄ -C ₅₀ [mg/kg]												
Detection Limit			0.2	0.01	0.5	0.1	1.0	0.1	0.5	1	0.05	0.05	10	50	50	100		
Upgradient Soil Samples																		
P417-22A	P417-22	0-15	3.1	0.05	11.9	6.0	14.1	3.5	9.5	22	<0.05	<0.05	<10	<50	<50	<100		
P417-22B		40-50	2.8	0.11	9.8	5.0	21.6	3.3	8.6	23	<0.05	<0.05	<10	<50	67	184		
Dongradient Soil Samples																		
P417-23A	P417-23	0-15	1.8	0.03	14.1	5.7	22.6	3.5	12.4	19	<0.05	<0.05	<10	<50	<50	<100		
P417-23B		40-50	1.6	0.05	13.5	5.0	25.0	3.5	13.8	17	<0.05	<0.05	<10	<50	<50	<100		
P417-BD7 (Intra-Lab Blind Duplicate)		40-50	1.7	0.05	17.2	5.2	23.7	3.8	15.2	17	<0.05	<0.05	<10	<50	<50	<100		
Average Value for P416-23B Sample		40-50	1.65 ± 0.07	--	15.4 ± 2.6	5.1 ± 0.1	24.4 ± 0.9	3.7 ± 0.2	14.5 ± 1.0	--	--	--	--	--	--	--		
P417-24A	P417-24	0-15	2.3	0.03	20.3	6.9	24.1	3.4	17.7	21	<0.05	<0.05	<10	<50	<50	<100		
P417-24B		40-50	2.0	0.02	16.6	5.1	18.3	3.6	15.0	17	<0.05	<0.05	<10	<50	<50	<100		

ANNEX 1

Laboratory Results

Report Transmission Cover Page

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

Contact	Company	Address
Andrew Passalis	SILA Remediation	350, rue Franquet Sainte-Foy, QC G1P 4P3 Phone: (204) 791-4938 Fax: (418) 653-3583 Email: andrew.passalis@gmail.com

Delivery	Format	Deliverables
Email - Single Report	PDF	COC / Test Report
Email - Single Report	Standard Crosstab	Test Report

Jean-Pierre Pelletier	Englobe	Office 400, 1260, Lebourgneuf Boulevard Quebec, QC G2K 2G2 Phone: (418) 704-8091 Fax: Email: jean-pierre.pelletier@englobecorp.
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Delivery	Format	Deliverables
Email - Merge Reports	PDF	COC / COA
Email - Merge Reports	PDF	COC / Test Report
Email - Merge Reports	PDF	COC / Test Report / Invoice

Notes To Clients:

- Oct 11, 2017 - Report was issued to include addition of a QC report requested by Jean-Pierre Pelletier of Englobe on Oct. 11, 2017. Previous report 2228937.
- Oct 12, 2017 - Report was issued to include changes to the metals reported for all samples, client would like As, Cd, Cr, Co, Cu, Pb, Ni, Zn and Hg as requested by Jean-Pierre Pelletier of Englobe on October 12, 2017. Previous Report #2229491.
- Oct 16, 2017 - Report was issued to include PCBs and PHCs results on all samples. Previous report #2230524.

Analytical Report

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

		Reference Number	1221175-1	1221175-2	1221175-3	
		Sample Date	Aug 14, 2017	Aug 14, 2017	Aug 14, 2017	
		Sample Time	NA	NA	NA	
		Sample Location				
		Sample Description	P417-1A / 3.2 C	P417-1B / 3.2 C	P417-2A / 3.2 C	
		Matrix	Soil	Soil	Soil	
Analyte		Units	Results	Results	Results	Nominal Detection Limit
Metals Strong Acid Digestion						
Arsenic	Strong Acid Extractable	mg/kg	3.7	4.2	4.9	0.2
Cadmium	Strong Acid Extractable	mg/kg	0.07	0.06	0.06	0.01
Chromium	Strong Acid Extractable	mg/kg	56.6	18.1	15.4	0.5
Cobalt	Strong Acid Extractable	mg/kg	3.0	3.2	4.5	0.1
Copper	Strong Acid Extractable	mg/kg	6.0	6.2	18.4	1
Lead	Strong Acid Extractable	mg/kg	7.0	14.9	8.1	0.1
Mercury	Strong Acid Extractable	mg/kg	<0.05	<0.05	<0.05	0.05
Nickel	Strong Acid Extractable	mg/kg	28.7	12.0	11.7	0.5
Zinc	Strong Acid Extractable	mg/kg	12	7	8	1
Mono-Aromatic Hydrocarbons - Soil						
Benzene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Toluene	Dry Weight	mg/kg	<0.02	<0.02	<0.02	0.02
Ethylbenzene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Total Xylenes (m,p,o)	Dry Weight	mg/kg	<0.03	<0.03	<0.03	0.03
Volatile Petroleum Hydrocarbons - Soil						
Methanol Field Preservation			No	No	No	
F1 C6-C10	Dry Weight	mg/kg	<10	<10	<10	10
F1 -BTEX	Dry Weight	mg/kg	<10	<10	<10	10
Extractable Petroleum Hydrocarbons - Soil						
Extraction Date	Total Extractables		19-Aug-17	19-Aug-17	19-Aug-17	
F2c C10-C16	Dry Weight	mg/kg	<50	<50	<50	50
F3c C16-C34	Dry Weight	mg/kg	<50	<50	<50	50
F4c C34-C50	Dry Weight	mg/kg	<100	<100	<100	100
F4HTGCCc C34-C50+	Dry Weight	mg/kg	<100	<100	<100	100
% C50+		%	<5	<5	<5	
Silica Gel Cleanup						
Silica Gel Cleanup			Done	Done	Done	
Polychlorinated Biphenyls - Soil						
Aroclor 1016	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1221	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1232	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1242	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1248	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1254	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1260	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1262	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1268	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Total PCBs	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05

Analytical Report

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

		Reference Number	1221175-1	1221175-2	1221175-3
		Sample Date	Aug 14, 2017	Aug 14, 2017	Aug 14, 2017
		Sample Time	NA	NA	NA
		Sample Location			
		Sample Description	P417-1A / 3.2 C	P417-1B / 3.2 C	P417-2A / 3.2 C
		Matrix	Soil	Soil	Soil
Analyte	Units	Results	Results	Results	Nominal Detection Limit
Polychlorinated Biphenyls - Soil - Surrogate					
Decachlorobiphenyl	Surrogate	%	85	95	74
					50-150

Analytical Report

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

		Reference Number	1221175-4	1221175-5	1221175-6	
		Sample Date	Aug 14, 2017	Aug 14, 2017	Aug 14, 2017	
		Sample Time	NA	NA	NA	
		Sample Location				
		Sample Description	P417-2B / 3.2 C	P417-3A / 3.2 C	P417-3B / 3.2 C	
		Matrix	Soil	Soil	Soil	
Analyte	Units	Results	Results	Results	Nominal Detection Limit	
Metals Strong Acid Digestion						
Arsenic	Strong Acid Extractable	mg/kg	3.5	6.8	5.7	0.2
Cadmium	Strong Acid Extractable	mg/kg	0.03	0.04	0.05	0.01
Chromium	Strong Acid Extractable	mg/kg	18.1	13.1	26.3	0.5
Cobalt	Strong Acid Extractable	mg/kg	5.7	4.0	5.0	0.1
Copper	Strong Acid Extractable	mg/kg	11.2	4.4	15.3	1
Lead	Strong Acid Extractable	mg/kg	5.4	10.4	9.4	0.1
Mercury	Strong Acid Extractable	mg/kg	<0.05	<0.05	<0.05	0.05
Nickel	Strong Acid Extractable	mg/kg	12.1	6.2	16.8	0.5
Zinc	Strong Acid Extractable	mg/kg	20	11	13	1
Mono-Aromatic Hydrocarbons - Soil						
Benzene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Toluene	Dry Weight	mg/kg	<0.02	0.02	<0.02	0.02
Ethylbenzene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Total Xylenes (m,p,o)	Dry Weight	mg/kg	<0.03	<0.03	<0.03	0.03
Volatile Petroleum Hydrocarbons - Soil						
Methanol Field Preservation			No	No	No	
F1 C6-C10	Dry Weight	mg/kg	<10	<10	<10	10
F1 -BTEX	Dry Weight	mg/kg	<10	<10	<10	10
Extractable Petroleum Hydrocarbons - Soil						
Extraction Date	Total Extractables		19-Aug-17	19-Aug-17	19-Aug-17	
F2c C10-C16	Dry Weight	mg/kg	<50	<50	<50	50
F3c C16-C34	Dry Weight	mg/kg	<50	<50	<50	50
F4c C34-C50	Dry Weight	mg/kg	<100	<100	<100	100
F4HTGCCc C34-C50+	Dry Weight	mg/kg	<100	<100	<100	100
% C50+	%		<5	<5	<5	
Silica Gel Cleanup						
Silica Gel Cleanup			Done	Done	Done	
Polychlorinated Biphenyls - Soil						
Aroclor 1016	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1221	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1232	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1242	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1248	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1254	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1260	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1262	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1268	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Total PCBs	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05

Analytical Report

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

		Reference Number	1221175-4	1221175-5	1221175-6
		Sample Date	Aug 14, 2017	Aug 14, 2017	Aug 14, 2017
		Sample Time	NA	NA	NA
		Sample Location			
		Sample Description	P417-2B / 3.2 C	P417-3A / 3.2 C	P417-3B / 3.2 C
		Matrix	Soil	Soil	Soil
Analyte	Units	Results	Results	Results	Nominal Detection Limit
Polychlorinated Biphenyls - Soil - Surrogate					
Decachlorobiphenyl	Surrogate	%	70	78	83
					50-150

Analytical Report

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

		Reference Number	1221175-7	1221175-8	1221175-9	
		Sample Date	Aug 14, 2017	Aug 14, 2017	Aug 14, 2017	
		Sample Time	NA	NA	NA	
		Sample Location				
		Sample Description	P417-4A / 3.2 C	P417-4B / 3.2 C	P417-5A / 3.2 C	
		Matrix	Soil	Soil	Soil	
Analyte		Units	Results	Results	Results	Nominal Detection Limit
Metals Strong Acid Digestion						
Arsenic	Strong Acid Extractable	mg/kg	5.2	4.3	4.7	0.2
Cadmium	Strong Acid Extractable	mg/kg	0.03	0.02	0.05	0.01
Chromium	Strong Acid Extractable	mg/kg	14.2	13.4	13.3	0.5
Cobalt	Strong Acid Extractable	mg/kg	3.7	3.5	3.6	0.1
Copper	Strong Acid Extractable	mg/kg	10.3	11.5	7.9	1
Lead	Strong Acid Extractable	mg/kg	12.1	12.7	14.2	0.1
Mercury	Strong Acid Extractable	mg/kg	<0.05	<0.05	<0.05	0.05
Nickel	Strong Acid Extractable	mg/kg	12.1	11.3	9.5	0.5
Zinc	Strong Acid Extractable	mg/kg	5	4	8	1
Mono-Aromatic Hydrocarbons - Soil						
Benzene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Toluene	Dry Weight	mg/kg	<0.02	<0.02	<0.02	0.02
Ethylbenzene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Total Xylenes (m,p,o)	Dry Weight	mg/kg	<0.03	<0.03	<0.03	0.03
Volatile Petroleum Hydrocarbons - Soil						
Methanol Field Preservation			No	No	No	
F1 C6-C10	Dry Weight	mg/kg	<10	<10	<10	10
F1 -BTEX	Dry Weight	mg/kg	<10	<10	<10	10
Extractable Petroleum Hydrocarbons - Soil						
Extraction Date	Total Extractables		19-Aug-17	19-Aug-17	19-Aug-17	
F2c C10-C16	Dry Weight	mg/kg	<50	<50	<50	50
F3c C16-C34	Dry Weight	mg/kg	<50	<50	<50	50
F4c C34-C50	Dry Weight	mg/kg	<100	<100	<100	100
F4HTGCc C34-C50+	Dry Weight	mg/kg	<100	<100	<100	100
% C50+		%	<5	<5	<5	
Silica Gel Cleanup						
Silica Gel Cleanup			Done	Done	Done	
Polychlorinated Biphenyls - Soil						
Aroclor 1016	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1221	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1232	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1242	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1248	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1254	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1260	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1262	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1268	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Total PCBs	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05

Analytical Report

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

		Reference Number	1221175-7	1221175-8	1221175-9
		Sample Date	Aug 14, 2017	Aug 14, 2017	Aug 14, 2017
		Sample Time	NA	NA	NA
		Sample Location			
		Sample Description	P417-4A / 3.2 C	P417-4B / 3.2 C	P417-5A / 3.2 C
		Matrix	Soil	Soil	Soil
Analyte	Units	Results	Results	Results	Nominal Detection Limit
Polychlorinated Biphenyls - Soil - Surrogate					
Decachlorobiphenyl	Surrogate	%	86	88	85
					50-150

Analytical Report

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

		Reference Number	1221175-10	1221175-11	1221175-12	
		Sample Date	Aug 14, 2017	Aug 14, 2017	Aug 14, 2017	
		Sample Time	NA	NA	NA	
		Sample Location				
		Sample Description	P417-5B / 3.2 C	P417-6A / 3.2 C	P417-6B / 3.2 C	
		Matrix	Soil	Soil	Soil	
Analyte	Units	Results	Results	Results	Nominal Detection Limit	
Metals Strong Acid Digestion						
Arsenic	Strong Acid Extractable	mg/kg	4.7	4.1	7.6	0.2
Cadmium	Strong Acid Extractable	mg/kg	0.03	0.12	0.08	0.01
Chromium	Strong Acid Extractable	mg/kg	29.7	5.5	6.9	0.5
Cobalt	Strong Acid Extractable	mg/kg	3.2	2.4	4.2	0.1
Copper	Strong Acid Extractable	mg/kg	6.8	5.6	6.9	1
Lead	Strong Acid Extractable	mg/kg	8.4	7.4	22.0	0.1
Mercury	Strong Acid Extractable	mg/kg	<0.05	<0.05	<0.05	0.05
Nickel	Strong Acid Extractable	mg/kg	17.3	4.5	7.8	0.5
Zinc	Strong Acid Extractable	mg/kg	6	26	12	1
Mono-Aromatic Hydrocarbons - Soil						
Benzene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Toluene	Dry Weight	mg/kg	<0.02	<0.02	<0.02	0.02
Ethylbenzene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Total Xylenes (m,p,o)	Dry Weight	mg/kg	<0.03	<0.03	<0.03	0.03
Volatile Petroleum Hydrocarbons - Soil						
Methanol Field Preservation			No	No	No	
F1 C6-C10	Dry Weight	mg/kg	<10	<10	<10	10
F1 -BTEX	Dry Weight	mg/kg	<10	<10	<10	10
Extractable Petroleum Hydrocarbons - Soil						
Extraction Date	Total Extractables		19-Aug-17	19-Aug-17	19-Aug-17	
F2c C10-C16	Dry Weight	mg/kg	<50	<50	<50	50
F3c C16-C34	Dry Weight	mg/kg	<50	<50	<50	50
F4c C34-C50	Dry Weight	mg/kg	<100	<100	<100	100
F4HTGCCc C34-C50+	Dry Weight	mg/kg	<100	<100	<100	100
% C50+	%		<5	<5	<5	
Silica Gel Cleanup						
Silica Gel Cleanup			Done	Done	Done	
Polychlorinated Biphenyls - Soil						
Aroclor 1016	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1221	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1232	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1242	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1248	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1254	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1260	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1262	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1268	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Total PCBs	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05

Analytical Report

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

		Reference Number	1221175-10	1221175-11	1221175-12
		Sample Date	Aug 14, 2017	Aug 14, 2017	Aug 14, 2017
		Sample Time	NA	NA	NA
		Sample Location			
		Sample Description	P417-5B / 3.2 C	P417-6A / 3.2 C	P417-6B / 3.2 C
		Matrix	Soil	Soil	Soil
Analyte	Units	Results	Results	Results	Nominal Detection Limit
Polychlorinated Biphenyls - Soil - Surrogate					
Decachlorobiphenyl	Surrogate	%	90	122	135
					50-150

Analytical Report

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

		Reference Number	1221175-13	1221175-14	1221175-15	
		Sample Date	Aug 14, 2017	Aug 14, 2017	Aug 14, 2017	
		Sample Time	NA	NA	NA	
		Sample Location				
		Sample Description	P417-7A / 3.2 C	P417-7B / 3.2 C	P417-8A / 3.2 C	
		Matrix	Soil	Soil	Soil	
Analyte		Units	Results	Results	Results	Nominal Detection Limit
Metals Strong Acid Digestion						
Arsenic	Strong Acid Extractable	mg/kg	3.7	3.4	4.0	0.2
Cadmium	Strong Acid Extractable	mg/kg	0.02	0.02	0.02	0.01
Chromium	Strong Acid Extractable	mg/kg	10.0	12.9	12.2	0.5
Cobalt	Strong Acid Extractable	mg/kg	4.0	3.6	4.1	0.1
Copper	Strong Acid Extractable	mg/kg	8.8	8.9	8.7	1
Lead	Strong Acid Extractable	mg/kg	5.5	4.8	5.5	0.1
Mercury	Strong Acid Extractable	mg/kg	<0.05	<0.05	<0.05	0.05
Nickel	Strong Acid Extractable	mg/kg	9.8	10.4	10.8	0.5
Zinc	Strong Acid Extractable	mg/kg	6	6	7	1
Mono-Aromatic Hydrocarbons - Soil						
Benzene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Toluene	Dry Weight	mg/kg	<0.02	<0.02	<0.02	0.02
Ethylbenzene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Total Xylenes (m,p,o)	Dry Weight	mg/kg	<0.03	<0.03	<0.03	0.03
Volatile Petroleum Hydrocarbons - Soil						
Methanol Field Preservation			No	No	No	
F1 C6-C10	Dry Weight	mg/kg	<10	<10	<10	10
F1 -BTEX	Dry Weight	mg/kg	<10	<10	<10	10
Extractable Petroleum Hydrocarbons - Soil						
Extraction Date	Total Extractables		19-Aug-17	19-Aug-17	19-Aug-17	
F2c C10-C16	Dry Weight	mg/kg	<50	<50	<50	50
F3c C16-C34	Dry Weight	mg/kg	<50	<50	<50	50
F4c C34-C50	Dry Weight	mg/kg	<100	<100	<100	100
F4HTGCc C34-C50+	Dry Weight	mg/kg	<100	<100	<100	100
% C50+	%		<5	<5	<5	
Silica Gel Cleanup						
Silica Gel Cleanup			Done	Done	Done	
Polychlorinated Biphenyls - Soil						
Aroclor 1016	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1221	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1232	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1242	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1248	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1254	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1260	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1262	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1268	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Total PCBs	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05

Analytical Report

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

		Reference Number	1221175-13	1221175-14	1221175-15
		Sample Date	Aug 14, 2017	Aug 14, 2017	Aug 14, 2017
		Sample Time	NA	NA	NA
		Sample Location			
		Sample Description	P417-7A / 3.2 C	P417-7B / 3.2 C	P417-8A / 3.2 C
		Matrix	Soil	Soil	Soil
Analyte	Units	Results	Results	Results	Nominal Detection Limit
Polychlorinated Biphenyls - Soil - Surrogate					
Decachlorobiphenyl	Surrogate	%	120	117	116
					50-150

Analytical Report

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

		Reference Number	1221175-16	1221175-17	1221175-18	
		Sample Date	Aug 14, 2017	Aug 14, 2017	Aug 14, 2017	
		Sample Time	NA	NA	NA	
		Sample Location				
		Sample Description	P417-8B / 3.2 C	P417-9A / 3.2 C	P417-9B / 3.2 C	
		Matrix	Soil	Soil	Soil	
Analyte	Units	Results	Results	Results	Nominal Detection Limit	
Metals Strong Acid Digestion						
Arsenic	Strong Acid Extractable	mg/kg	4.1	4.8	4.8	0.2
Cadmium	Strong Acid Extractable	mg/kg	0.02	0.04	0.04	0.01
Chromium	Strong Acid Extractable	mg/kg	15.2	12.2	13.1	0.5
Cobalt	Strong Acid Extractable	mg/kg	4.1	5.2	5.9	0.1
Copper	Strong Acid Extractable	mg/kg	10.5	9.6	11.5	1
Lead	Strong Acid Extractable	mg/kg	5.5	7.4	7.6	0.1
Mercury	Strong Acid Extractable	mg/kg	<0.05	<0.05	<0.05	0.05
Nickel	Strong Acid Extractable	mg/kg	11.9	13.6	14.1	0.5
Zinc	Strong Acid Extractable	mg/kg	6	9	9	1
Mono-Aromatic Hydrocarbons - Soil						
Benzene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Toluene	Dry Weight	mg/kg	<0.02	<0.02	<0.02	0.02
Ethylbenzene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Total Xylenes (m,p,o)	Dry Weight	mg/kg	<0.03	<0.03	<0.03	0.03
Volatile Petroleum Hydrocarbons - Soil						
Methanol Field Preservation			No	No	No	
F1 C6-C10	Dry Weight	mg/kg	<10	<10	<10	10
F1 -BTEX	Dry Weight	mg/kg	<10	<10	<10	10
Extractable Petroleum Hydrocarbons - Soil						
Extraction Date	Total Extractables		19-Aug-17	19-Aug-17	19-Aug-17	
F2c C10-C16	Dry Weight	mg/kg	<50	<50	<50	50
F3c C16-C34	Dry Weight	mg/kg	<50	<50	<50	50
F4c C34-C50	Dry Weight	mg/kg	<100	<100	<100	100
F4HTGCCc C34-C50+	Dry Weight	mg/kg	<100	<100	<100	100
% C50+	%		<5	<5	<5	
Silica Gel Cleanup						
Silica Gel Cleanup			Done	Done	Done	
Polychlorinated Biphenyls - Soil						
Aroclor 1016	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1221	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1232	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1242	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1248	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1254	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1260	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1262	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1268	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Total PCBs	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05

Analytical Report

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

		Reference Number	1221175-16	1221175-17	1221175-18
		Sample Date	Aug 14, 2017	Aug 14, 2017	Aug 14, 2017
		Sample Time	NA	NA	NA
		Sample Location			
		Sample Description	P417-8B / 3.2 C	P417-9A / 3.2 C	P417-9B / 3.2 C
		Matrix	Soil	Soil	Soil
Analyte	Units	Results	Results	Results	Nominal Detection Limit
Polychlorinated Biphenyls - Soil - Surrogate					
Decachlorobiphenyl	Surrogate	%	98	116	124
					50-150

Analytical Report

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

		Reference Number	1221175-19	1221175-20	1221175-21	
		Sample Date	Aug 14, 2017	Aug 14, 2017	Aug 14, 2017	
		Sample Time	NA	NA	NA	
		Sample Location				
		Sample Description	P417-10A / 3.2 C	P417-10B / 3.2 C	P417-11A / 3.2 C	
		Matrix	Soil	Soil	Soil	
Analyte		Units	Results	Results	Results	Nominal Detection Limit
Metals Strong Acid Digestion						
Arsenic	Strong Acid Extractable	mg/kg	4.3	4.3	1.8	0.2
Cadmium	Strong Acid Extractable	mg/kg	0.02	0.03	0.17	0.01
Chromium	Strong Acid Extractable	mg/kg	10.8	13.5	5.3	0.5
Cobalt	Strong Acid Extractable	mg/kg	5.2	4.2	1.6	0.1
Copper	Strong Acid Extractable	mg/kg	10.0	8.1	9.4	1
Lead	Strong Acid Extractable	mg/kg	6.9	6.3	5.9	0.1
Mercury	Strong Acid Extractable	mg/kg	<0.05	<0.05	0.06	0.05
Nickel	Strong Acid Extractable	mg/kg	11.9	14.1	5.0	0.5
Zinc	Strong Acid Extractable	mg/kg	6	6	18	1
Mono-Aromatic Hydrocarbons - Soil						
Benzene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Toluene	Dry Weight	mg/kg	<0.02	<0.02	<0.02	0.02
Ethylbenzene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Total Xylenes (m,p,o)	Dry Weight	mg/kg	<0.03	<0.03	<0.03	0.03
Volatile Petroleum Hydrocarbons - Soil						
Methanol Field Preservation			No	No	No	
F1 C6-C10	Dry Weight	mg/kg	<10	<10	<10	10
F1 -BTEX	Dry Weight	mg/kg	<10	<10	<10	10
Extractable Petroleum Hydrocarbons - Soil						
Extraction Date	Total Extractables		21-Aug-17	21-Aug-17	21-Aug-17	
F2c C10-C16	Dry Weight	mg/kg	<50	<50	<50	50
F3c C16-C34	Dry Weight	mg/kg	<50	<50	126	50
F4c C34-C50	Dry Weight	mg/kg	<100	<100	140	100
F4HTGCc C34-C50+	Dry Weight	mg/kg	<100	<100	260	100
% C50+	%		<5	<5	23.8	
Silica Gel Cleanup						
Silica Gel Cleanup			Done	Done	Done	
Polychlorinated Biphenyls - Soil						
Aroclor 1016	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1221	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1232	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1242	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1248	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1254	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1260	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1262	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1268	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Total PCBs	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05

Analytical Report

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

		Reference Number	1221175-19	1221175-20	1221175-21	
		Sample Date	Aug 14, 2017	Aug 14, 2017	Aug 14, 2017	
		Sample Time	NA	NA	NA	
		Sample Location				
		Sample Description	P417-10A / 3.2 C	P417-10B / 3.2 C	P417-11A / 3.2 C	
		Matrix	Soil	Soil	Soil	
Analyte		Units	Results	Results	Results	Nominal Detection Limit
Polychlorinated Biphenyls - Soil - Surrogate						
Decachlorobiphenyl	Surrogate	%	103	104	92	50-150

Analytical Report

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

		Reference Number	1221175-22	1221175-23	1221175-24	
		Sample Date	Aug 14, 2017	Aug 14, 2017	Aug 14, 2017	
		Sample Time	NA	NA	NA	
		Sample Location				
		Sample Description	P417-11B / 3.2 C	P417-12A / 3.2 C	P417-12B / 3.2 C	
		Matrix	Soil	Soil	Soil	
Analyte		Units	Results	Results	Results	Nominal Detection Limit
Metals Strong Acid Digestion						
Arsenic	Strong Acid Extractable	mg/kg	2.1	2.6	3.1	0.2
Cadmium	Strong Acid Extractable	mg/kg	0.16	0.06	0.03	0.01
Chromium	Strong Acid Extractable	mg/kg	6.0	7.9	11.8	0.5
Cobalt	Strong Acid Extractable	mg/kg	2.0	3.1	3.1	0.1
Copper	Strong Acid Extractable	mg/kg	11.2	7.1	8.0	1
Lead	Strong Acid Extractable	mg/kg	5.3	4.8	7.1	0.1
Mercury	Strong Acid Extractable	mg/kg	0.07	<0.05	<0.05	0.05
Nickel	Strong Acid Extractable	mg/kg	5.3	6.5	7.6	0.5
Zinc	Strong Acid Extractable	mg/kg	10	15	9	1
Mono-Aromatic Hydrocarbons - Soil						
Benzene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Toluene	Dry Weight	mg/kg	<0.02	<0.02	<0.02	0.02
Ethylbenzene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Total Xylenes (m,p,o)	Dry Weight	mg/kg	<0.03	<0.03	<0.03	0.03
Volatile Petroleum Hydrocarbons - Soil						
Methanol Field Preservation			No	No	No	
F1 C6-C10	Dry Weight	mg/kg	<10	<10	<10	10
F1 -BTEX	Dry Weight	mg/kg	<10	<10	<10	10
Extractable Petroleum Hydrocarbons - Soil						
Extraction Date	Total Extractables		21-Aug-17	21-Aug-17	21-Aug-17	
F2c C10-C16	Dry Weight	mg/kg	<50	<50	<50	50
F3c C16-C34	Dry Weight	mg/kg	191	53	<50	50
F4c C34-C50	Dry Weight	mg/kg	200	<100	<100	100
F4HTGCCc C34-C50+	Dry Weight	mg/kg	496	<100	<100	100
% C50+	%		33.7	25.0	18.5	
Silica Gel Cleanup						
Silica Gel Cleanup			Done	Done	Done	
Polychlorinated Biphenyls - Soil						
Aroclor 1016	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1221	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1232	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1242	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1248	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1254	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1260	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1262	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1268	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Total PCBs	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05

Analytical Report

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

		Reference Number	1221175-22	1221175-23	1221175-24
		Sample Date	Aug 14, 2017	Aug 14, 2017	Aug 14, 2017
		Sample Time	NA	NA	NA
		Sample Location			
		Sample Description	P417-11B / 3.2 C	P417-12A / 3.2 C	P417-12B / 3.2 C
		Matrix	Soil	Soil	Soil
Analyte	Units	Results	Results	Results	Nominal Detection Limit
Polychlorinated Biphenyls - Soil - Surrogate					
Decachlorobiphenyl	Surrogate	%	97	106	113
					50-150

Analytical Report

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

		Reference Number	1221175-25	1221175-26	1221175-27	
		Sample Date	Aug 14, 2017	Aug 14, 2017	Aug 14, 2017	
		Sample Time	NA	NA	NA	
		Sample Location				
		Sample Description	P417-13A / 3.2 C	P417-13B / 3.2 C	P417-14A / 3.2 C	
		Matrix	Soil	Soil	Soil	
Analyte		Units	Results	Results	Results	Nominal Detection Limit
Metals Strong Acid Digestion						
Arsenic	Strong Acid Extractable	mg/kg	4.0	4.7	2.7	0.2
Cadmium	Strong Acid Extractable	mg/kg	0.06	0.02	0.07	0.01
Chromium	Strong Acid Extractable	mg/kg	14.4	11.2	7.7	0.5
Cobalt	Strong Acid Extractable	mg/kg	5.3	4.8	2.9	0.1
Copper	Strong Acid Extractable	mg/kg	18.8	12.3	8.8	1
Lead	Strong Acid Extractable	mg/kg	10.0	10.7	8.7	0.1
Mercury	Strong Acid Extractable	mg/kg	<0.05	<0.05	<0.05	0.05
Nickel	Strong Acid Extractable	mg/kg	14.6	10.3	5.8	0.5
Zinc	Strong Acid Extractable	mg/kg	17	7	19	1
Mono-Aromatic Hydrocarbons - Soil						
Benzene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Toluene	Dry Weight	mg/kg	<0.02	<0.02	<0.02	0.02
Ethylbenzene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Total Xylenes (m,p,o)	Dry Weight	mg/kg	<0.03	<0.03	<0.03	0.03
Volatile Petroleum Hydrocarbons - Soil						
Methanol Field Preservation			No	No	No	
F1 C6-C10	Dry Weight	mg/kg	<10	<10	<10	10
F1 -BTEX	Dry Weight	mg/kg	<10	<10	<10	10
Extractable Petroleum Hydrocarbons - Soil						
Extraction Date	Total Extractables		21-Aug-17	21-Aug-17	21-Aug-17	
F2c C10-C16	Dry Weight	mg/kg	<50	<50	<50	50
F3c C16-C34	Dry Weight	mg/kg	<50	<50	<50	50
F4c C34-C50	Dry Weight	mg/kg	<100	<100	<100	100
F4HTGCc C34-C50+	Dry Weight	mg/kg	<100	<100	<100	100
% C50+		%	16.5	<5	31.6	
Silica Gel Cleanup						
Silica Gel Cleanup			Done	Done	Done	
Polychlorinated Biphenyls - Soil						
Aroclor 1016	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1221	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1232	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1242	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1248	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1254	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1260	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1262	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1268	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Total PCBs	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05

Analytical Report

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

		Reference Number	1221175-25	1221175-26	1221175-27
		Sample Date	Aug 14, 2017	Aug 14, 2017	Aug 14, 2017
		Sample Time	NA	NA	NA
		Sample Location			
		Sample Description	P417-13A / 3.2 C	P417-13B / 3.2 C	P417-14A / 3.2 C
		Matrix	Soil	Soil	Soil
Analyte	Units	Results	Results	Results	Nominal Detection Limit
Polychlorinated Biphenyls - Soil - Surrogate					
Decachlorobiphenyl	Surrogate	%	102	98	86
					50-150

Analytical Report

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

		Reference Number	1221175-28	1221175-29	1221175-30	
		Sample Date	Aug 14, 2017	Aug 14, 2017	Aug 14, 2017	
		Sample Time	NA	NA	NA	
		Sample Location				
		Sample Description	P417-14B / 3.2 C	P417-15A / 3.2 C	P417-15B / 3.2 C	
		Matrix	Soil	Soil	Soil	
Analyte		Units	Results	Results	Results	Nominal Detection Limit
Metals Strong Acid Digestion						
Arsenic	Strong Acid Extractable	mg/kg	3.1	4.4	4.3	0.2
Cadmium	Strong Acid Extractable	mg/kg	0.06	0.11	0.03	0.01
Chromium	Strong Acid Extractable	mg/kg	10.1	13.9	18.1	0.5
Cobalt	Strong Acid Extractable	mg/kg	3.2	5.4	5.9	0.1
Copper	Strong Acid Extractable	mg/kg	10.0	12.1	11.9	1
Lead	Strong Acid Extractable	mg/kg	8.2	11.4	9.4	0.1
Mercury	Strong Acid Extractable	mg/kg	<0.05	<0.05	<0.05	0.05
Nickel	Strong Acid Extractable	mg/kg	8.1	12.2	13.7	0.5
Zinc	Strong Acid Extractable	mg/kg	11	15	7	1
Mono-Aromatic Hydrocarbons - Soil						
Benzene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Toluene	Dry Weight	mg/kg	<0.02	<0.02	<0.02	0.02
Ethylbenzene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Total Xylenes (m,p,o)	Dry Weight	mg/kg	<0.03	<0.03	<0.03	0.03
Volatile Petroleum Hydrocarbons - Soil						
Methanol Field Preservation			No	No	No	
F1 C6-C10	Dry Weight	mg/kg	<10	<10	<10	10
F1 -BTEX	Dry Weight	mg/kg	<10	<10	<10	10
Extractable Petroleum Hydrocarbons - Soil						
Extraction Date	Total Extractables		21-Aug-17	21-Aug-17	21-Aug-17	
F2c C10-C16	Dry Weight	mg/kg	<50	<50	<50	50
F3c C16-C34	Dry Weight	mg/kg	<50	<50	<50	50
F4c C34-C50	Dry Weight	mg/kg	<100	<100	<100	100
F4HTGCCc C34-C50+	Dry Weight	mg/kg	<100	<100	<100	100
% C50+		%	<5	18.8	<5	
Silica Gel Cleanup						
Silica Gel Cleanup			Done	Done	Done	
Polychlorinated Biphenyls - Soil						
Aroclor 1016	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1221	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1232	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1242	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1248	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1254	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1260	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1262	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1268	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Total PCBs	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05

Analytical Report

Bill To:	Englobe	Project ID:	KITIK 13	Lot ID:	1221175
	Office 400	Project Name:	2017 LFM	Control Number:	C0085070
	1260, Lebourgneuf Boulevard	Project Location:	PIN-4	Date Received:	Aug 17, 2017
	Quebec, QC, Canada	LSD:	Byron Bay, NU	Date Reported:	Oct 16, 2017
	G2K 2G2	P.O.:		Report Number:	2231361
Attn:	Jean-Pierre Pelletier	Proj. Acct. code:			
Sampled By:	A. Passalis				
Company:	Englobe				

		Reference Number	1221175-28	1221175-29	1221175-30
		Sample Date	Aug 14, 2017	Aug 14, 2017	Aug 14, 2017
		Sample Time	NA	NA	NA
		Sample Location			
		Sample Description	P417-14B / 3.2 C	P417-15A / 3.2 C	P417-15B / 3.2 C
		Matrix	Soil	Soil	Soil
Analyte	Units	Results	Results	Results	Nominal Detection Limit
Polychlorinated Biphenyls - Soil - Surrogate					
Decachlorobiphenyl	Surrogate	%	91	78	89
					50-150

Analytical Report

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

		Reference Number	1221175-31	1221175-32	1221175-33	
		Sample Date	Aug 14, 2017	Aug 14, 2017	Aug 14, 2017	
		Sample Time	NA	NA	NA	
		Sample Location				
		Sample Description	P417-16A / 3.2 C	P417-16B / 3.2 C	P417-17A / 3.2 C	
		Matrix	Soil	Soil	Soil	
Analyte		Units	Results	Results	Results	Nominal Detection Limit
Metals Strong Acid Digestion						
Arsenic	Strong Acid Extractable	mg/kg	4.1	4.4	5.1	0.2
Cadmium	Strong Acid Extractable	mg/kg	0.02	0.03	0.04	0.01
Chromium	Strong Acid Extractable	mg/kg	15.3	14.0	10.6	0.5
Cobalt	Strong Acid Extractable	mg/kg	4.9	5.0	4.3	0.1
Copper	Strong Acid Extractable	mg/kg	12.8	12.5	7.6	1
Lead	Strong Acid Extractable	mg/kg	12.0	12.5	12.0	0.1
Mercury	Strong Acid Extractable	mg/kg	<0.05	<0.05	<0.05	0.05
Nickel	Strong Acid Extractable	mg/kg	11.6	10.9	10.0	0.5
Zinc	Strong Acid Extractable	mg/kg	5	5	5	1
Mono-Aromatic Hydrocarbons - Soil						
Benzene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Toluene	Dry Weight	mg/kg	<0.02	<0.02	<0.02	0.02
Ethylbenzene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Total Xylenes (m,p,o)	Dry Weight	mg/kg	<0.03	<0.03	<0.03	0.03
Volatile Petroleum Hydrocarbons - Soil						
Methanol Field Preservation			No	No	No	
F1 C6-C10	Dry Weight	mg/kg	<10	<10	<10	10
F1 -BTEX	Dry Weight	mg/kg	<10	<10	<10	10
Extractable Petroleum Hydrocarbons - Soil						
Extraction Date	Total Extractables		21-Aug-17	21-Aug-17	21-Aug-17	
F2c C10-C16	Dry Weight	mg/kg	<50	<50	<50	50
F3c C16-C34	Dry Weight	mg/kg	<50	<50	<50	50
F4c C34-C50	Dry Weight	mg/kg	<100	<100	<100	100
F4HTGCc C34-C50+	Dry Weight	mg/kg	<100	<100	<100	100
% C50+		%	<5	<5	<5	
Silica Gel Cleanup						
Silica Gel Cleanup			Done	Done	Done	
Polychlorinated Biphenyls - Soil						
Aroclor 1016	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1221	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1232	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1242	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1248	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1254	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1260	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1262	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1268	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Total PCBs	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05

Analytical Report

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

		Reference Number	1221175-31	1221175-32	1221175-33
		Sample Date	Aug 14, 2017	Aug 14, 2017	Aug 14, 2017
		Sample Time	NA	NA	NA
		Sample Location			
		Sample Description	P417-16A / 3.2 C	P417-16B / 3.2 C	P417-17A / 3.2 C
		Matrix	Soil	Soil	Soil
Analyte	Units	Results	Results	Results	Nominal Detection Limit
Polychlorinated Biphenyls - Soil - Surrogate					
Decachlorobiphenyl	Surrogate	%	80	81	65
					50-150

Analytical Report

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

		Reference Number	1221175-34	1221175-35	1221175-36	
		Sample Date	Aug 14, 2017	Aug 14, 2017	Aug 14, 2017	
		Sample Time	NA	NA	NA	
		Sample Location				
		Sample Description	P417-17B / 3.2 C	P417-18A / 3.2 C	P417-18B / 3.2 C	
		Matrix	Soil	Soil	Soil	
Analyte		Units	Results	Results	Results	Nominal Detection Limit
Metals Strong Acid Digestion						
Arsenic	Strong Acid Extractable	mg/kg	4.6	5.2	5.3	0.2
Cadmium	Strong Acid Extractable	mg/kg	0.03	0.02	0.02	0.01
Chromium	Strong Acid Extractable	mg/kg	10.6	10.0	10.0	0.5
Cobalt	Strong Acid Extractable	mg/kg	5.1	4.2	4.3	0.1
Copper	Strong Acid Extractable	mg/kg	9.5	8.1	8.6	1
Lead	Strong Acid Extractable	mg/kg	13.1	13.2	10.9	0.1
Mercury	Strong Acid Extractable	mg/kg	<0.05	<0.05	<0.05	0.05
Nickel	Strong Acid Extractable	mg/kg	12.1	9.2	9.2	0.5
Zinc	Strong Acid Extractable	mg/kg	6	6	6	1
Mono-Aromatic Hydrocarbons - Soil						
Benzene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Toluene	Dry Weight	mg/kg	<0.02	<0.02	<0.02	0.02
Ethylbenzene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Total Xylenes (m,p,o)	Dry Weight	mg/kg	<0.03	<0.03	<0.03	0.03
Volatile Petroleum Hydrocarbons - Soil						
Methanol Field Preservation			No	No	No	
F1 C6-C10	Dry Weight	mg/kg	<10	<10	<10	10
F1 -BTEX	Dry Weight	mg/kg	<10	<10	<10	10
Extractable Petroleum Hydrocarbons - Soil						
Extraction Date	Total Extractables		21-Aug-17	21-Aug-17	21-Aug-17	
F2c C10-C16	Dry Weight	mg/kg	<50	<50	<50	50
F3c C16-C34	Dry Weight	mg/kg	<50	<50	<50	50
F4c C34-C50	Dry Weight	mg/kg	<100	<100	<100	100
F4HTGCc C34-C50+	Dry Weight	mg/kg	<100	<100	<100	100
% C50+		%	<5	<5	<5	
Silica Gel Cleanup						
Silica Gel Cleanup			Done	Done	Done	
Polychlorinated Biphenyls - Soil						
Aroclor 1016	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1221	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1232	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1242	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1248	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1254	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1260	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1262	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1268	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Total PCBs	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05

Analytical Report

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

		Reference Number	1221175-34	1221175-35	1221175-36
		Sample Date	Aug 14, 2017	Aug 14, 2017	Aug 14, 2017
		Sample Time	NA	NA	NA
		Sample Location			
		Sample Description	P417-17B / 3.2 C	P417-18A / 3.2 C	P417-18B / 3.2 C
		Matrix	Soil	Soil	Soil
Analyte	Units	Results	Results	Results	Nominal Detection Limit
Polychlorinated Biphenyls - Soil - Surrogate					
Decachlorobiphenyl	Surrogate	%	93	90	84
					50-150

Analytical Report

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

		Reference Number	1221175-37	1221175-38	1221175-39	
		Sample Date	Aug 14, 2017	Aug 14, 2017	Aug 14, 2017	
		Sample Time	NA	NA	NA	
		Sample Location				
		Sample Description	P417-19A / 3.2 C	P417-19B / 3.2 C	P417-20A / 3.2 C	
		Matrix	Soil	Soil	Soil	
Analyte		Units	Results	Results	Results	Nominal Detection Limit
Metals Strong Acid Digestion						
Arsenic	Strong Acid Extractable	mg/kg	4.0	4.3	3.8	0.2
Cadmium	Strong Acid Extractable	mg/kg	0.04	0.04	0.04	0.01
Chromium	Strong Acid Extractable	mg/kg	12.7	13.4	11.1	0.5
Cobalt	Strong Acid Extractable	mg/kg	5.2	5.7	4.6	0.1
Copper	Strong Acid Extractable	mg/kg	10.2	11.4	9.2	1
Lead	Strong Acid Extractable	mg/kg	8.1	9.3	7.4	0.1
Mercury	Strong Acid Extractable	mg/kg	<0.05	<0.05	<0.05	0.05
Nickel	Strong Acid Extractable	mg/kg	14.4	16.0	12.0	0.5
Zinc	Strong Acid Extractable	mg/kg	8	9	9	1
Mono-Aromatic Hydrocarbons - Soil						
Benzene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Toluene	Dry Weight	mg/kg	<0.02	<0.02	<0.02	0.02
Ethylbenzene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Total Xylenes (m,p,o)	Dry Weight	mg/kg	<0.03	<0.03	<0.03	0.03
Volatile Petroleum Hydrocarbons - Soil						
Methanol Field Preservation			No	No	No	
F1 C6-C10	Dry Weight	mg/kg	<10	<10	<10	10
F1 -BTEX	Dry Weight	mg/kg	<10	<10	<10	10
Extractable Petroleum Hydrocarbons - Soil						
Extraction Date	Total Extractables		21-Aug-17	21-Aug-17	21-Aug-17	
F2c C10-C16	Dry Weight	mg/kg	<50	<50	<50	50
F3c C16-C34	Dry Weight	mg/kg	<50	<50	<50	50
F4c C34-C50	Dry Weight	mg/kg	<100	<100	<100	100
F4HTGCc C34-C50+	Dry Weight	mg/kg	<100	<100	<100	100
% C50+		%	26.5	<5	18.8	
Silica Gel Cleanup						
Silica Gel Cleanup			Done	Done	Done	
Polychlorinated Biphenyls - Soil						
Aroclor 1016	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1221	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1232	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1242	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1248	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1254	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1260	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1262	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1268	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Total PCBs	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05

Analytical Report

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

		Reference Number	1221175-37	1221175-38	1221175-39
		Sample Date	Aug 14, 2017	Aug 14, 2017	Aug 14, 2017
		Sample Time	NA	NA	NA
		Sample Location			
		Sample Description	P417-19A / 3.2 C	P417-19B / 3.2 C	P417-20A / 3.2 C
		Matrix	Soil	Soil	Soil
Analyte	Units	Results	Results	Results	Nominal Detection Limit
Polychlorinated Biphenyls - Soil - Surrogate					
Decachlorobiphenyl	Surrogate	%	91	93	98
					50-150

Analytical Report

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

		Reference Number	1221175-40	1221175-41	1221175-42	
		Sample Date	Aug 14, 2017	Aug 14, 2017	Aug 14, 2017	
		Sample Time	NA	NA	NA	
		Sample Location				
		Sample Description	P417-20B / 3.2 C	P417-21A / 3.2 C	P417-21B / 3.2 C	
		Matrix	Soil	Soil	Soil	
Analyte		Units	Results	Results	Results	Nominal Detection Limit
Metals Strong Acid Digestion						
Arsenic	Strong Acid Extractable	mg/kg	4.2	4.1	4.1	0.2
Cadmium	Strong Acid Extractable	mg/kg	0.04	0.04	0.03	0.01
Chromium	Strong Acid Extractable	mg/kg	11.1	11.0	10.8	0.5
Cobalt	Strong Acid Extractable	mg/kg	4.7	5.1	5.6	0.1
Copper	Strong Acid Extractable	mg/kg	9.6	10.0	10.7	1
Lead	Strong Acid Extractable	mg/kg	7.9	7.9	7.9	0.1
Mercury	Strong Acid Extractable	mg/kg	<0.05	<0.05	<0.05	0.05
Nickel	Strong Acid Extractable	mg/kg	12.7	13.6	14.6	0.5
Zinc	Strong Acid Extractable	mg/kg	9	9	8	1
Mono-Aromatic Hydrocarbons - Soil						
Benzene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Toluene	Dry Weight	mg/kg	<0.02	<0.02	<0.02	0.02
Ethylbenzene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Total Xylenes (m,p,o)	Dry Weight	mg/kg	<0.03	<0.03	<0.03	0.03
Volatile Petroleum Hydrocarbons - Soil						
Methanol Field Preservation			No	No	No	
F1 C6-C10	Dry Weight	mg/kg	<10	<10	<10	10
F1 -BTEX	Dry Weight	mg/kg	<10	<10	<10	10
Extractable Petroleum Hydrocarbons - Soil						
Extraction Date	Total Extractables		21-Aug-17	21-Aug-17	21-Aug-17	
F2c C10-C16	Dry Weight	mg/kg	<50	<50	<50	50
F3c C16-C34	Dry Weight	mg/kg	<50	<50	<50	50
F4c C34-C50	Dry Weight	mg/kg	<100	<100	<100	100
F4HTGCc C34-C50+	Dry Weight	mg/kg	<100	<100	<100	100
% C50+		%	20.3	31.6	<5	
Silica Gel Cleanup						
Silica Gel Cleanup			Done	Done	Done	
Polychlorinated Biphenyls - Soil						
Aroclor 1016	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1221	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1232	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1242	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1248	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1254	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1260	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1262	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1268	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Total PCBs	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05

Analytical Report

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

		Reference Number	1221175-40	1221175-41	1221175-42
		Sample Date	Aug 14, 2017	Aug 14, 2017	Aug 14, 2017
		Sample Time	NA	NA	NA
		Sample Location			
		Sample Description	P417-20B / 3.2 C	P417-21A / 3.2 C	P417-21B / 3.2 C
		Matrix	Soil	Soil	Soil
Analyte	Units	Results	Results	Results	Nominal Detection Limit
Polychlorinated Biphenyls - Soil - Surrogate					
Decachlorobiphenyl	Surrogate	%	103	94	83
					50-150

Analytical Report

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

		Reference Number	1221175-43	1221175-44	1221175-45	
		Sample Date	Aug 14, 2017	Aug 14, 2017	Aug 14, 2017	
		Sample Time	NA	NA	NA	
		Sample Location				
		Sample Description	P417-22A / 3.2 C	P417-22B / 3.2 C	P417-23A / 3.2 C	
		Matrix	Soil	Soil	Soil	
Analyte		Units	Results	Results	Results	Nominal Detection Limit
Metals Strong Acid Digestion						
Arsenic	Strong Acid Extractable	mg/kg	3.1	2.8	1.8	0.2
Cadmium	Strong Acid Extractable	mg/kg	0.05	0.11	0.03	0.01
Chromium	Strong Acid Extractable	mg/kg	11.9	9.8	14.1	0.5
Cobalt	Strong Acid Extractable	mg/kg	6.0	5.0	5.7	0.1
Copper	Strong Acid Extractable	mg/kg	14.1	21.6	22.6	1
Lead	Strong Acid Extractable	mg/kg	3.5	3.3	3.5	0.1
Mercury	Strong Acid Extractable	mg/kg	<0.05	<0.05	<0.05	0.05
Nickel	Strong Acid Extractable	mg/kg	9.5	8.6	12.4	0.5
Zinc	Strong Acid Extractable	mg/kg	22	23	19	1
Mono-Aromatic Hydrocarbons - Soil						
Benzene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Toluene	Dry Weight	mg/kg	<0.02	<0.02	<0.02	0.02
Ethylbenzene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Total Xylenes (m,p,o)	Dry Weight	mg/kg	<0.03	<0.03	<0.03	0.03
Volatile Petroleum Hydrocarbons - Soil						
Methanol Field Preservation			No	No	No	
F1 C6-C10	Dry Weight	mg/kg	<10	<10	<10	10
F1 -BTEX	Dry Weight	mg/kg	<10	<10	<10	10
Extractable Petroleum Hydrocarbons - Soil						
Extraction Date	Total Extractables		21-Aug-17	21-Aug-17	21-Aug-17	
F2c C10-C16	Dry Weight	mg/kg	<50	<50	<50	50
F3c C16-C34	Dry Weight	mg/kg	<50	67	<50	50
F4c C34-C50	Dry Weight	mg/kg	<100	<100	<100	100
F4HTGCc C34-C50+	Dry Weight	mg/kg	<100	184	<100	100
% C50+		%	33.2	37.1	<5	
Silica Gel Cleanup						
Silica Gel Cleanup			Done	Done	Done	
Polychlorinated Biphenyls - Soil						
Aroclor 1016	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1221	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1232	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1242	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1248	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1254	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1260	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1262	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1268	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Total PCBs	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05

Analytical Report

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

		Reference Number	1221175-43	1221175-44	1221175-45
		Sample Date	Aug 14, 2017	Aug 14, 2017	Aug 14, 2017
		Sample Time	NA	NA	NA
		Sample Location			
		Sample Description	P417-22A / 3.2 C	P417-22B / 3.2 C	P417-23A / 3.2 C
		Matrix	Soil	Soil	Soil
Analyte	Units	Results	Results	Results	Nominal Detection Limit
Polychlorinated Biphenyls - Soil - Surrogate					
Decachlorobiphenyl	Surrogate	%	84	89	93
					50-150

Analytical Report

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

		Reference Number	1221175-46	1221175-47	1221175-48	
		Sample Date	Aug 14, 2017	Aug 14, 2017	Aug 14, 2017	
		Sample Time	NA	NA	NA	
		Sample Location				
		Sample Description	P417-23B / 3.2 C	P417-24A / 3.2 C	P417-24B / 3.2 C	
		Matrix	Soil	Soil	Soil	
Analyte	Units	Results	Results	Results	Nominal Detection Limit	
Metals Strong Acid Digestion						
Arsenic	Strong Acid Extractable	mg/kg	1.6	2.3	2.0	0.2
Cadmium	Strong Acid Extractable	mg/kg	0.05	0.03	0.02	0.01
Chromium	Strong Acid Extractable	mg/kg	13.5	20.3	16.6	0.5
Cobalt	Strong Acid Extractable	mg/kg	5.0	6.9	5.1	0.1
Copper	Strong Acid Extractable	mg/kg	25.0	24.1	18.3	1
Lead	Strong Acid Extractable	mg/kg	3.5	3.4	3.6	0.1
Mercury	Strong Acid Extractable	mg/kg	<0.05	<0.05	<0.05	0.05
Nickel	Strong Acid Extractable	mg/kg	13.8	17.7	15.0	0.5
Zinc	Strong Acid Extractable	mg/kg	17	21	17	1
Mono-Aromatic Hydrocarbons - Soil						
Benzene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Toluene	Dry Weight	mg/kg	<0.02	<0.02	<0.02	0.02
Ethylbenzene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Total Xylenes (m,p,o)	Dry Weight	mg/kg	<0.03	<0.03	<0.03	0.03
Volatile Petroleum Hydrocarbons - Soil						
Methanol Field Preservation			No	No	No	
F1 C6-C10	Dry Weight	mg/kg	<10	<10	<10	10
F1 -BTEX	Dry Weight	mg/kg	<10	<10	<10	10
Extractable Petroleum Hydrocarbons - Soil						
Extraction Date	Total Extractables		21-Aug-17	21-Aug-17	21-Aug-17	
F2c C10-C16	Dry Weight	mg/kg	<50	<50	<50	50
F3c C16-C34	Dry Weight	mg/kg	<50	<50	<50	50
F4c C34-C50	Dry Weight	mg/kg	<100	<100	<100	100
F4HTGCCc C34-C50+	Dry Weight	mg/kg	<100	<100	<100	100
% C50+	%		14.4	14.6	15.4	
Silica Gel Cleanup						
Silica Gel Cleanup			Done	Done	Done	
Polychlorinated Biphenyls - Soil						
Aroclor 1016	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1221	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1232	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1242	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1248	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1254	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1260	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1262	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1268	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Total PCBs	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05

Analytical Report

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

		Reference Number	1221175-46	1221175-47	1221175-48
		Sample Date	Aug 14, 2017	Aug 14, 2017	Aug 14, 2017
		Sample Time	NA	NA	NA
		Sample Location			
		Sample Description	P417-23B / 3.2 C	P417-24A / 3.2 C	P417-24B / 3.2 C
		Matrix	Soil	Soil	Soil
Analyte	Units	Results	Results	Results	Nominal Detection Limit
Polychlorinated Biphenyls - Soil - Surrogate					
Decachlorobiphenyl	Surrogate	%	119	96	105
					50-150

Analytical Report

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

		Reference Number	1221175-49	1221175-50	1221175-51	
		Sample Date	Aug 14, 2017	Aug 14, 2017	Aug 14, 2017	
		Sample Time	NA	NA	NA	
		Sample Location				
		Sample Description	P417-1WA / 3.2 C	P417-1WB / 3.2 C	P417-2WA / 3.2 C	
		Matrix	Soil	Soil	Soil	
Analyte	Units	Results	Results	Results	Nominal Detection Limit	
Metals Strong Acid Digestion						
Arsenic	Strong Acid Extractable	mg/kg	2.3	2.3	2.9	0.2
Cadmium	Strong Acid Extractable	mg/kg	0.02	0.02	0.06	0.01
Chromium	Strong Acid Extractable	mg/kg	12.7	12.2	22.6	0.5
Cobalt	Strong Acid Extractable	mg/kg	6.2	6.4	7.8	0.1
Copper	Strong Acid Extractable	mg/kg	17.0	18.9	31.8	1
Lead	Strong Acid Extractable	mg/kg	3.7	3.7	5.4	0.1
Mercury	Strong Acid Extractable	mg/kg	<0.05	<0.05	0.09	0.05
Nickel	Strong Acid Extractable	mg/kg	11.1	10.9	22.8	0.5
Zinc	Strong Acid Extractable	mg/kg	20	23	27	1
Mono-Aromatic Hydrocarbons - Soil						
Benzene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Toluene	Dry Weight	mg/kg	<0.02	<0.02	<0.02	0.02
Ethylbenzene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Total Xylenes (m,p,o)	Dry Weight	mg/kg	<0.03	<0.03	<0.03	0.03
Volatile Petroleum Hydrocarbons - Soil						
Methanol Field Preservation			No	No	No	
F1 C6-C10	Dry Weight	mg/kg	<10	<10	<10	10
F1 -BTEX	Dry Weight	mg/kg	<10	<10	<10	10
Extractable Petroleum Hydrocarbons - Soil						
Extraction Date	Total Extractables		21-Aug-17	21-Aug-17	21-Aug-17	
F2c C10-C16	Dry Weight	mg/kg	<50	<50	<50	50
F3c C16-C34	Dry Weight	mg/kg	<50	<50	193	50
F4c C34-C50	Dry Weight	mg/kg	<100	<100	<100	100
F4HTGCCc C34-C50+	Dry Weight	mg/kg	<100	<100	134	100
% C50+	%		<5	19.8	8.8	
Silica Gel Cleanup						
Silica Gel Cleanup			Done	Done	Done	
Polychlorinated Biphenyls - Soil						
Aroclor 1016	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1221	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1232	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1242	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1248	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1254	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1260	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1262	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1268	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Total PCBs	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05

Analytical Report

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

		Reference Number	1221175-49	1221175-50	1221175-51
		Sample Date	Aug 14, 2017	Aug 14, 2017	Aug 14, 2017
		Sample Time	NA	NA	NA
		Sample Location			
		Sample Description	P417-1WA / 3.2 C	P417-1WB / 3.2 C	P417-2WA / 3.2 C
		Matrix	Soil	Soil	Soil
Analyte	Units	Results	Results	Results	Nominal Detection Limit
Polychlorinated Biphenyls - Soil - Surrogate					
Decachlorobiphenyl	Surrogate	%	103	91	110
					50-150

Analytical Report

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

		Reference Number	1221175-52	1221175-53	1221175-54	
		Sample Date	Aug 14, 2017	Aug 14, 2017	Aug 14, 2017	
		Sample Time	NA	NA	NA	
		Sample Location				
		Sample Description	P417-2WB / 3.2 C	P417-3WA / 3.2 C	P417-3WB / 3.2 C	
		Matrix	Soil	Soil	Soil	
Analyte		Units	Results	Results	Results	Nominal Detection Limit
Metals Strong Acid Digestion						
Arsenic	Strong Acid Extractable	mg/kg	3.7	1.7	1.9	0.2
Cadmium	Strong Acid Extractable	mg/kg	0.15	0.02	0.01	0.01
Chromium	Strong Acid Extractable	mg/kg	26.8	16.1	17.7	0.5
Cobalt	Strong Acid Extractable	mg/kg	7.5	6.8	7.6	0.1
Copper	Strong Acid Extractable	mg/kg	60.1	36.5	34.2	1
Lead	Strong Acid Extractable	mg/kg	6.6	3.5	4.0	0.1
Mercury	Strong Acid Extractable	mg/kg	0.08	<0.05	<0.05	0.05
Nickel	Strong Acid Extractable	mg/kg	22.8	13.5	15.6	0.5
Zinc	Strong Acid Extractable	mg/kg	33	26	25	1
Mono-Aromatic Hydrocarbons - Soil						
Benzene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Toluene	Dry Weight	mg/kg	<0.02	<0.02	<0.02	0.02
Ethylbenzene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Total Xylenes (m,p,o)	Dry Weight	mg/kg	<0.03	<0.03	<0.03	0.03
Volatile Petroleum Hydrocarbons - Soil						
Methanol Field Preservation			No	No	No	
F1 C6-C10	Dry Weight	mg/kg	<10	<10	<10	10
F1 -BTEX	Dry Weight	mg/kg	<10	<10	<10	10
Extractable Petroleum Hydrocarbons - Soil						
Extraction Date	Total Extractables		21-Aug-17	21-Aug-17	21-Aug-17	
F2c C10-C16	Dry Weight	mg/kg	<50	<50	<50	50
F3c C16-C34	Dry Weight	mg/kg	128	<50	<50	50
F4c C34-C50	Dry Weight	mg/kg	<100	<100	<100	100
F4HTGCc C34-C50+	Dry Weight	mg/kg	<100	<100	<100	100
% C50+	%		9.2	24.8	<5	
Silica Gel Cleanup						
Silica Gel Cleanup			Done	Done	Done	
Polychlorinated Biphenyls - Soil						
Aroclor 1016	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1221	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1232	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1242	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1248	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1254	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1260	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1262	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1268	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Total PCBs	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05

Analytical Report

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

		Reference Number	1221175-52	1221175-53	1221175-54
		Sample Date	Aug 14, 2017	Aug 14, 2017	Aug 14, 2017
		Sample Time	NA	NA	NA
		Sample Location			
		Sample Description	P417-2WB / 3.2 C	P417-3WA / 3.2 C	P417-3WB / 3.2 C
		Matrix	Soil	Soil	Soil
Analyte	Units	Results	Results	Results	Nominal Detection Limit
Polychlorinated Biphenyls - Soil - Surrogate					
Decachlorobiphenyl	Surrogate	%	97	118	95
					50-150

Analytical Report

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

		Reference Number	1221175-55	1221175-56	1221175-57	
		Sample Date	Aug 14, 2017	Aug 14, 2017	Aug 14, 2017	
		Sample Time	NA	NA	NA	
		Sample Location				
		Sample Description	P417-4WA / 3.2 C	P417-4WB / 3.2 C	P417-5WA / 3.2 C	
		Matrix	Soil	Soil	Soil	
Analyte		Units	Results	Results	Results	Nominal Detection Limit
Metals Strong Acid Digestion						
Arsenic	Strong Acid Extractable	mg/kg	2.9	2.4	2.6	0.2
Cadmium	Strong Acid Extractable	mg/kg	<0.01	<0.01	0.07	0.01
Chromium	Strong Acid Extractable	mg/kg	16.7	12.9	9.7	0.5
Cobalt	Strong Acid Extractable	mg/kg	7.1	7.2	4.5	0.1
Copper	Strong Acid Extractable	mg/kg	31.6	24.7	12.5	1
Lead	Strong Acid Extractable	mg/kg	3.8	3.6	66.0	0.1
Mercury	Strong Acid Extractable	mg/kg	<0.05	<0.05	<0.05	0.05
Nickel	Strong Acid Extractable	mg/kg	13.5	12.1	8.1	0.5
Zinc	Strong Acid Extractable	mg/kg	21	22	26	1
Mono-Aromatic Hydrocarbons - Soil						
Benzene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Toluene	Dry Weight	mg/kg	<0.02	<0.02	<0.02	0.02
Ethylbenzene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Total Xylenes (m,p,o)	Dry Weight	mg/kg	<0.03	<0.03	<0.03	0.03
Volatile Petroleum Hydrocarbons - Soil						
Methanol Field Preservation			No	No	No	
F1 C6-C10	Dry Weight	mg/kg	<10	<10	<10	10
F1 -BTEX	Dry Weight	mg/kg	<10	<10	<10	10
Extractable Petroleum Hydrocarbons - Soil						
Extraction Date	Total Extractables		21-Aug-17	21-Aug-17	21-Aug-17	
F2c C10-C16	Dry Weight	mg/kg	<50	<50	<50	50
F3c C16-C34	Dry Weight	mg/kg	<50	<50	<50	50
F4c C34-C50	Dry Weight	mg/kg	<100	<100	<100	100
F4HTGCc C34-C50+	Dry Weight	mg/kg	<100	<100	<100	100
% C50+	%		<5	<5	<5	
Silica Gel Cleanup						
Silica Gel Cleanup			Done	Done	Done	
Polychlorinated Biphenyls - Soil						
Aroclor 1016	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1221	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1232	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1242	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1248	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1254	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1260	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1262	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1268	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Total PCBs	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05

Analytical Report

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

		Reference Number	1221175-55	1221175-56	1221175-57
		Sample Date	Aug 14, 2017	Aug 14, 2017	Aug 14, 2017
		Sample Time	NA	NA	NA
		Sample Location			
		Sample Description	P417-4WA / 3.2 C	P417-4WB / 3.2 C	P417-5WA / 3.2 C
		Matrix	Soil	Soil	Soil
Analyte	Units	Results	Results	Results	Nominal Detection Limit
Polychlorinated Biphenyls - Soil - Surrogate					
Decachlorobiphenyl	Surrogate	%	95	95	102
					50-150

Analytical Report

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

		Reference Number	1221175-58	1221175-59	1221175-60	
		Sample Date	Aug 14, 2017	Aug 14, 2017	Aug 14, 2017	
		Sample Time	NA	NA	NA	
		Sample Location				
		Sample Description	P417-5WB / 3.2 C	P417-6WA / 3.2 C	P417-6WB / 3.2 C	
		Matrix	Soil	Soil	Soil	
Analyte	Units	Results	Results	Results	Nominal Detection Limit	
Metals Strong Acid Digestion						
Arsenic	Strong Acid Extractable	mg/kg	3.0	3.0	3.7	0.2
Cadmium	Strong Acid Extractable	mg/kg	0.05	0.03	0.04	0.01
Chromium	Strong Acid Extractable	mg/kg	9.2	21.3	16.8	0.5
Cobalt	Strong Acid Extractable	mg/kg	3.7	4.9	4.9	0.1
Copper	Strong Acid Extractable	mg/kg	8.6	21.5	16.0	1
Lead	Strong Acid Extractable	mg/kg	11.1	13.9	7.0	0.1
Mercury	Strong Acid Extractable	mg/kg	<0.05	<0.05	<0.05	0.05
Nickel	Strong Acid Extractable	mg/kg	7.5	15.5	12.0	0.5
Zinc	Strong Acid Extractable	mg/kg	19	15	14	1
Mono-Aromatic Hydrocarbons - Soil						
Benzene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Toluene	Dry Weight	mg/kg	<0.02	<0.02	<0.02	0.02
Ethylbenzene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Total Xylenes (m,p,o)	Dry Weight	mg/kg	<0.03	<0.03	<0.03	0.03
Volatile Petroleum Hydrocarbons - Soil						
Methanol Field Preservation			No	No	No	
F1 C6-C10	Dry Weight	mg/kg	<10	<10	<10	10
F1 -BTEX	Dry Weight	mg/kg	<10	<10	<10	10
Extractable Petroleum Hydrocarbons - Soil						
Extraction Date	Total Extractables		21-Aug-17	21-Aug-17	21-Aug-17	
F2c C10-C16	Dry Weight	mg/kg	<50	<50	<50	50
F3c C16-C34	Dry Weight	mg/kg	<50	<50	<50	50
F4c C34-C50	Dry Weight	mg/kg	<100	<100	<100	100
F4HTGCCc C34-C50+	Dry Weight	mg/kg	<100	<100	<100	100
% C50+	%		<5	<5	<5	
Silica Gel Cleanup						
Silica Gel Cleanup			Done	Done	Done	
Polychlorinated Biphenyls - Soil						
Aroclor 1016	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1221	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1232	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1242	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1248	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1254	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1260	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1262	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1268	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Total PCBs	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05

Analytical Report

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

		Reference Number	1221175-58	1221175-59	1221175-60
		Sample Date	Aug 14, 2017	Aug 14, 2017	Aug 14, 2017
		Sample Time	NA	NA	NA
		Sample Location			
		Sample Description	P417-5WB / 3.2 C	P417-6WA / 3.2 C	P417-6WB / 3.2 C
		Matrix	Soil	Soil	Soil
Analyte	Units	Results	Results	Results	Nominal Detection Limit
Polychlorinated Biphenyls - Soil - Surrogate					
Decachlorobiphenyl	Surrogate	%	98	97	96
					50-150

Analytical Report

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

		Reference Number	1221175-61	1221175-62	1221175-63	
		Sample Date	Aug 14, 2017	Aug 14, 2017	Aug 14, 2017	
		Sample Time	NA	NA	NA	
		Sample Location				
		Sample Description	P417-7WA / 3.2 C	P417-7WB / 3.2 C	P417-8WA / 3.2 C	
		Matrix	Soil	Soil	Soil	
Analyte	Units	Results	Results	Results	Nominal Detection Limit	
Metals Strong Acid Digestion						
Arsenic	Strong Acid Extractable	mg/kg	4.1	4.0	3.8	0.2
Cadmium	Strong Acid Extractable	mg/kg	0.04	0.09	0.07	0.01
Chromium	Strong Acid Extractable	mg/kg	14.3	16.2	18.5	0.5
Cobalt	Strong Acid Extractable	mg/kg	5.0	4.1	4.2	0.1
Copper	Strong Acid Extractable	mg/kg	15.4	26.5	12.9	1
Lead	Strong Acid Extractable	mg/kg	11.6	10.5	17.8	0.1
Mercury	Strong Acid Extractable	mg/kg	<0.05	0.07	<0.05	0.05
Nickel	Strong Acid Extractable	mg/kg	15.8	24.2	11.8	0.5
Zinc	Strong Acid Extractable	mg/kg	9	8	20	1
Mono-Aromatic Hydrocarbons - Soil						
Benzene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Toluene	Dry Weight	mg/kg	<0.02	<0.02	<0.02	0.02
Ethylbenzene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Total Xylenes (m,p,o)	Dry Weight	mg/kg	<0.03	<0.03	<0.03	0.03
Volatile Petroleum Hydrocarbons - Soil						
Methanol Field Preservation			No	No	No	
F1 C6-C10	Dry Weight	mg/kg	<10	<10	<10	10
F1 -BTEX	Dry Weight	mg/kg	<10	<10	<10	10
Extractable Petroleum Hydrocarbons - Soil						
Extraction Date	Total Extractables		21-Aug-17	21-Aug-17	21-Aug-17	
F2c C10-C16	Dry Weight	mg/kg	<50	<50	<50	50
F3c C16-C34	Dry Weight	mg/kg	<50	<50	65	50
F4c C34-C50	Dry Weight	mg/kg	<100	<100	<100	100
F4HTGCCc C34-C50+	Dry Weight	mg/kg	<100	<100	<100	100
% C50+	%		<5	<5	13.0	
Silica Gel Cleanup						
Silica Gel Cleanup			Done	Done	Done	
Polychlorinated Biphenyls - Soil						
Aroclor 1016	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1221	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1232	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1242	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1248	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1254	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1260	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1262	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1268	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Total PCBs	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05

Analytical Report

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

		Reference Number	1221175-61	1221175-62	1221175-63
		Sample Date	Aug 14, 2017	Aug 14, 2017	Aug 14, 2017
		Sample Time	NA	NA	NA
		Sample Location			
		Sample Description	P417-7WA / 3.2 C	P417-7WB / 3.2 C	P417-8WA / 3.2 C
		Matrix	Soil	Soil	Soil
Analyte	Units	Results	Results	Results	Nominal Detection Limit
Polychlorinated Biphenyls - Soil - Surrogate					
Decachlorobiphenyl	Surrogate	%	101	95	92
					50-150

Analytical Report

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

		Reference Number	1221175-64	1221175-73	1221175-74	
		Sample Date	Aug 14, 2017	Aug 14, 2017	Aug 14, 2017	
		Sample Time	NA	NA	NA	
		Sample Location				
		Sample Description	P417-8WB / 3.2 C	P417-BD1 / 3.2 C	P417-BD2 / 3.2 C	
		Matrix	Soil	Soil	Soil	
Analyte	Units	Results	Results	Results	Nominal Detection Limit	
Metals Strong Acid Digestion						
Arsenic	Strong Acid Extractable	mg/kg	4.7	5.0	2.8	0.2
Cadmium	Strong Acid Extractable	mg/kg	0.08	0.03	0.06	0.01
Chromium	Strong Acid Extractable	mg/kg	12.8	13.1	18.4	0.5
Cobalt	Strong Acid Extractable	mg/kg	4.1	3.6	3.0	0.1
Copper	Strong Acid Extractable	mg/kg	10.1	10.7	7.1	1
Lead	Strong Acid Extractable	mg/kg	13.3	12.9	6.2	0.1
Mercury	Strong Acid Extractable	mg/kg	<0.05	<0.05	0.06	0.05
Nickel	Strong Acid Extractable	mg/kg	11.0	12.3	12.9	0.5
Zinc	Strong Acid Extractable	mg/kg	18	4	15	1
Mono-Aromatic Hydrocarbons - Soil						
Benzene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Toluene	Dry Weight	mg/kg	<0.02	<0.02	<0.02	0.02
Ethylbenzene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Total Xylenes (m,p,o)	Dry Weight	mg/kg	<0.03	<0.03	<0.03	0.03
Volatile Petroleum Hydrocarbons - Soil						
Methanol Field Preservation			No	No	No	
F1 C6-C10	Dry Weight	mg/kg	<10	<10	<10	10
F1 -BTEX	Dry Weight	mg/kg	<10	<10	<10	10
Extractable Petroleum Hydrocarbons - Soil						
Extraction Date	Total Extractables		21-Aug-17	21-Aug-17	21-Aug-17	
F2c C10-C16	Dry Weight	mg/kg	<50	<50	<50	50
F3c C16-C34	Dry Weight	mg/kg	<50	<50	<50	50
F4c C34-C50	Dry Weight	mg/kg	<100	<100	<100	100
F4HTGCCc C34-C50+	Dry Weight	mg/kg	<100	<100	<100	100
% C50+	%		20.1	<5	28.0	
Silica Gel Cleanup						
Silica Gel Cleanup			Done	Done	Done	
Polychlorinated Biphenyls - Soil						
Aroclor 1016	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1221	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1232	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1242	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1248	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1254	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1260	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1262	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1268	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Total PCBs	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05

Analytical Report

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

		Reference Number	1221175-64	1221175-73	1221175-74
		Sample Date	Aug 14, 2017	Aug 14, 2017	Aug 14, 2017
		Sample Time	NA	NA	NA
		Sample Location			
		Sample Description	P417-8WB / 3.2 C	P417-BD1 / 3.2 C	P417-BD2 / 3.2 C
		Matrix	Soil	Soil	Soil
Analyte	Units	Results	Results	Results	Nominal Detection Limit
Polychlorinated Biphenyls - Soil - Surrogate					
Decachlorobiphenyl	Surrogate	%	101	101	94
					50-150

Analytical Report

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

		Reference Number	1221175-65	1221175-66	1221175-67	
		Sample Date	Aug 14, 2017	Aug 14, 2017	Aug 14, 2017	
		Sample Time	NA	NA	NA	
		Sample Location				
		Sample Description	P417-1W / 3.2 C	P417-2W / 3.2 C	P417-3W / 3.2 C	
		Matrix	Water	Water	Water	
Analyte	Units	Results	Results	Results	Nominal Detection Limit	
Metals Total						
Mercury	Total	mg/L	<0.000005	0.000011	<0.000005	0.000005
Arsenic	Total	mg/L	0.0004	0.0026	0.0004	0.0002
Cadmium	Total	mg/L	0.00018	0.00025	0.00001	0.00001
Chromium	Total	mg/L	0.190	0.0073	0.0034	0.0005
Cobalt	Total	mg/L	0.0134	0.0096	0.0055	0.0001
Copper	Total	mg/L	0.005	0.004	0.010	0.001
Lead	Total	mg/L	0.0002	0.0042	<0.0001	0.0001
Nickel	Total	mg/L	0.136	0.0294	0.0211	0.0005
Zinc	Total	mg/L	0.138	1.82	0.013	0.001
Mono-Aromatic Hydrocarbons - Water						
Benzene		mg/L	<0.001	<0.001	<0.001	0.001
Toluene		mg/L	<0.0004	<0.0004	<0.0004	0.0004
Ethylbenzene		mg/L	<0.0010	<0.0010	<0.0010	0.0010
Total Xylenes (m,p,o)		mg/L	<0.001	<0.001	<0.001	0.001
Volatile Petroleum Hydrocarbons - Water						
F1 -BTEX		mg/L	<0.1	<0.1	<0.1	0.1
F1 C6-C10		mg/L	<0.1	<0.1	<0.1	0.1
Extractable Petroleum Hydrocarbons - Water						
F2 C10-C16		mg/L	<0.1	<0.1	<0.1	0.1
F3 C16-C34		mg/L	<0.1	<0.1	<0.1	0.1
F4 C34-C50		mg/L	<0.1	<0.1	<0.1	0.1
F4HTGC C34-C50+		mg/L	<0.1	<0.1	<0.1	0.1
Polychlorinated Biphenyls - Water						
Aroclor 1016		µg/L	<0.05	<0.05	<0.05	0.05
Aroclor 1221		µg/L	<0.05	<0.05	<0.05	0.05
Aroclor 1232		µg/L	<0.05	<0.05	<0.05	0.05
Aroclor 1242		µg/L	<0.05	<0.05	<0.05	0.05
Aroclor 1248		µg/L	<0.05	<0.05	<0.05	0.05
Aroclor 1254		µg/L	<0.05	<0.05	<0.05	0.05
Aroclor 1260		µg/L	<0.05	<0.05	<0.05	0.05
Aroclor 1262		µg/L	<0.05	<0.05	<0.05	0.05
Aroclor 1268		µg/L	<0.05	<0.05	<0.05	0.05
Total PCBs		µg/L	<0.05	<0.05	<0.05	0.05
Polychlorinated Biphenyls - Water - Surrogate						
Decachlorobiphenyl	Surrogate	%	65	56	67	50-150

Analytical Report

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

		Reference Number	1221175-68	1221175-69	1221175-70	
		Sample Date	Aug 14, 2017	Aug 14, 2017	Aug 14, 2017	
		Sample Time	NA	NA	NA	
		Sample Location				
		Sample Description	P417-4W / 3.2 C	P417-6W / 3.2 C	P417-7W / 3.2 C	
		Matrix	Water	Water	Water	
Analyte	Units	Results	Results	Results	Nominal Detection Limit	
Metals Total						
Mercury	Total	mg/L	<0.000005	<0.000005	<0.000005	0.000005
Arsenic	Total	mg/L	0.0004	0.0003	<0.0002	0.0002
Cadmium	Total	mg/L	0.00007	<0.00001	<0.00001	0.00001
Chromium	Total	mg/L	0.0687	0.0010	0.0009	0.0005
Cobalt	Total	mg/L	0.0045	0.0001	<0.0001	0.0001
Copper	Total	mg/L	0.007	0.002	0.002	0.001
Lead	Total	mg/L	<0.0001	0.0010	<0.0001	0.0001
Nickel	Total	mg/L	0.109	0.0018	0.0016	0.0005
Zinc	Total	mg/L	0.704	0.009	0.002	0.001
Mono-Aromatic Hydrocarbons - Water						
Benzene		mg/L	<0.001	<0.001	<0.001	0.001
Toluene		mg/L	<0.0004	<0.0004	<0.0004	0.0004
Ethylbenzene		mg/L	<0.0010	<0.0010	<0.0010	0.0010
Total Xylenes (m,p,o)		mg/L	<0.001	<0.001	<0.001	0.001
Volatile Petroleum Hydrocarbons - Water						
F1 -BTEX		mg/L	<0.1	<0.1	<0.1	0.1
F1 C6-C10		mg/L	<0.1	<0.1	<0.1	0.1
Extractable Petroleum Hydrocarbons - Water						
F2 C10-C16		mg/L	<0.1	<0.1	<0.1	0.1
F3 C16-C34		mg/L	<0.1	<0.1	<0.1	0.1
F4 C34-C50		mg/L	<0.1	<0.1	<0.1	0.1
F4HTGC C34-C50+		mg/L	<0.1	<0.1	<0.1	0.1
Polychlorinated Biphenyls - Water						
Aroclor 1016		µg/L	<0.05	<0.05	<0.05	0.05
Aroclor 1221		µg/L	<0.05	<0.05	<0.05	0.05
Aroclor 1232		µg/L	<0.05	<0.05	<0.05	0.05
Aroclor 1242		µg/L	<0.05	<0.05	<0.05	0.05
Aroclor 1248		µg/L	<0.05	<0.05	<0.05	0.05
Aroclor 1254		µg/L	<0.05	<0.05	<0.05	0.05
Aroclor 1260		µg/L	<0.05	<0.05	<0.05	0.05
Aroclor 1262		µg/L	<0.05	<0.05	<0.05	0.05
Aroclor 1268		µg/L	<0.05	<0.05	<0.05	0.05
Total PCBs		µg/L	<0.05	<0.05	<0.05	0.05
Polychlorinated Biphenyls - Water - Surrogate						
Decachlorobiphenyl	Surrogate	%	64	55	74	50-150

Analytical Report

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

		Reference Number	1221175-71	1221175-72	1221175-80	
		Sample Date	Aug 14, 2017	Aug 14, 2017	Aug 14, 2017	
		Sample Time	NA	NA	NA	
		Sample Location				
		Sample Description	P417-8W / 3.2 C	P417-BDW1 / 3.2 C	P417-TB / 3.2 C	
		Matrix	Water	Water	Water	
Analyte	Units	Results	Results	Results	Nominal Detection Limit	
Metals Total						
Mercury	Total	mg/L	<0.000005	<0.000005	<0.000005	0.000005
Arsenic	Total	mg/L	0.0004	0.0004	<0.0002	0.0002
Cadmium	Total	mg/L	0.00004	0.00002	<0.00001	0.00001
Chromium	Total	mg/L	0.0034	0.0012	<0.0005	0.0005
Cobalt	Total	mg/L	0.0002	0.0055	<0.0001	0.0001
Copper	Total	mg/L	0.003	0.010	<0.001	0.001
Lead	Total	mg/L	0.0002	<0.0001	<0.0001	0.0001
Nickel	Total	mg/L	0.0034	0.0209	0.0006	0.0005
Zinc	Total	mg/L	0.001	0.011	<0.001	0.001
Mono-Aromatic Hydrocarbons - Water						
Benzene		mg/L	<0.001	<0.001	<0.001	0.001
Toluene		mg/L	<0.0004	<0.0004	<0.0004	0.0004
Ethylbenzene		mg/L	<0.0010	<0.0010	<0.0010	0.0010
Total Xylenes (m,p,o)		mg/L	<0.001	<0.001	<0.001	0.001
Volatile Petroleum Hydrocarbons - Water						
F1 -BTEX		mg/L	<0.1	<0.1	<0.1	0.1
F1 C6-C10		mg/L	<0.1	<0.1	<0.1	0.1
Extractable Petroleum Hydrocarbons - Water						
F2 C10-C16		mg/L	0.4	<0.1	<0.1	0.1
F3 C16-C34		mg/L	0.3	<0.1	<0.1	0.1
F4 C34-C50		mg/L	<0.1	<0.1	<0.1	0.1
F4HTGC C34-C50+		mg/L	<0.1	<0.1	<0.1	0.1
Polychlorinated Biphenyls - Water						
Aroclor 1016		µg/L	<0.05	<0.05	<0.05	0.05
Aroclor 1221		µg/L	<0.05	<0.05	<0.05	0.05
Aroclor 1232		µg/L	<0.05	<0.05	<0.05	0.05
Aroclor 1242		µg/L	<0.05	<0.05	<0.05	0.05
Aroclor 1248		µg/L	<0.05	<0.05	<0.05	0.05
Aroclor 1254		µg/L	<0.05	<0.05	<0.05	0.05
Aroclor 1260		µg/L	<0.05	<0.05	<0.05	0.05
Aroclor 1262		µg/L	<0.05	<0.05	<0.05	0.05
Aroclor 1268		µg/L	<0.05	<0.05	<0.05	0.05
Total PCBs		µg/L	<0.05	<0.05	<0.05	0.05
Polychlorinated Biphenyls - Water - Surrogate						
Decachlorobiphenyl	Surrogate	%	59	63	51	50-150

Analytical Report

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

		Reference Number	1221175-75	1221175-76	1221175-77	
		Sample Date	Aug 14, 2017	Aug 14, 2017	Aug 14, 2017	
		Sample Time	NA	NA	NA	
		Sample Location				
		Sample Description	P417-BD3 / 3.2 C	P417-BD4 / 3.2 C	P417-BD5 / 3.2 C	
		Matrix	Soil	Soil	Soil	
Analyte	Units	Results	Results	Results	Nominal Detection Limit	
Metals Strong Acid Digestion						
Arsenic	Strong Acid Extractable	mg/kg	4.3	3.0	2.1	0.2
Cadmium	Strong Acid Extractable	mg/kg	0.02	0.04	0.02	0.01
Chromium	Strong Acid Extractable	mg/kg	13.6	16.8	17.3	0.5
Cobalt	Strong Acid Extractable	mg/kg	5.2	4.9	7.0	0.1
Copper	Strong Acid Extractable	mg/kg	9.8	21.5	30.8	1
Lead	Strong Acid Extractable	mg/kg	7.6	10.4	4.4	0.1
Mercury	Strong Acid Extractable	mg/kg	<0.05	<0.05	<0.05	0.05
Nickel	Strong Acid Extractable	mg/kg	13.2	14.1	14.6	0.5
Zinc	Strong Acid Extractable	mg/kg	7	13	22	1
Mono-Aromatic Hydrocarbons - Soil						
Benzene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Toluene	Dry Weight	mg/kg	<0.02	<0.02	<0.02	0.02
Ethylbenzene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Total Xylenes (m,p,o)	Dry Weight	mg/kg	<0.03	<0.03	<0.03	0.03
Volatile Petroleum Hydrocarbons - Soil						
Methanol Field Preservation			No	No	No	
F1 C6-C10	Dry Weight	mg/kg	<10	<10	<10	10
F1 -BTEX	Dry Weight	mg/kg	<10	<10	<10	10
Extractable Petroleum Hydrocarbons - Soil						
Extraction Date	Total Extractables		21-Aug-17	21-Aug-17	21-Aug-17	
F2c C10-C16	Dry Weight	mg/kg	<50	<50	<50	50
F3c C16-C34	Dry Weight	mg/kg	<50	<50	<50	50
F4c C34-C50	Dry Weight	mg/kg	<100	<100	<100	100
F4HTGCCc C34-C50+	Dry Weight	mg/kg	<100	<100	<100	100
% C50+	%		36.0	23.9	<5	
Silica Gel Cleanup						
Silica Gel Cleanup			Done	Done	Done	
Polychlorinated Biphenyls - Soil						
Aroclor 1016	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1221	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1232	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1242	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1248	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1254	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1260	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1262	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1268	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Total PCBs	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05

Analytical Report

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

		Reference Number	1221175-75	1221175-76	1221175-77
		Sample Date	Aug 14, 2017	Aug 14, 2017	Aug 14, 2017
		Sample Time	NA	NA	NA
		Sample Location			
		Sample Description	P417-BD3 / 3.2 C	P417-BD4 / 3.2 C	P417-BD5 / 3.2 C
		Matrix	Soil	Soil	Soil
Analyte	Units	Results	Results	Results	Nominal Detection Limit
Polychlorinated Biphenyls - Soil - Surrogate					
Decachlorobiphenyl	Surrogate	%	99	99	110
					50-150

Analytical Report

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

		Reference Number	1221175-78	1221175-79	1221175-82	
		Sample Date	Aug 14, 2017	Aug 14, 2017	Aug 14, 2017	
		Sample Time	NA	NA	NA	
		Sample Location				
		Sample Description	P417-BD6 / 3.2 C	P417-BD7 / 3.2 C	P417-BD8 / 3.2 C	
		Matrix	Soil	Soil	Soil	
Analyte	Units	Results	Results	Results	Nominal Detection Limit	
Metals Strong Acid Digestion						
Arsenic	Strong Acid Extractable	mg/kg	4.3	1.7	4.1	0.2
Cadmium	Strong Acid Extractable	mg/kg	0.04	0.05	0.03	0.01
Chromium	Strong Acid Extractable	mg/kg	11.0	17.2	15.2	0.5
Cobalt	Strong Acid Extractable	mg/kg	5.3	5.2	5.1	0.1
Copper	Strong Acid Extractable	mg/kg	10.8	23.7	14.9	1
Lead	Strong Acid Extractable	mg/kg	8.6	3.8	12.6	0.1
Mercury	Strong Acid Extractable	mg/kg	<0.05	<0.05	<0.05	0.05
Nickel	Strong Acid Extractable	mg/kg	13.2	15.2	11.7	0.5
Zinc	Strong Acid Extractable	mg/kg	10	17	5	1
Mono-Aromatic Hydrocarbons - Soil						
Benzene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Toluene	Dry Weight	mg/kg	<0.02	<0.02	<0.02	0.02
Ethylbenzene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Total Xylenes (m,p,o)	Dry Weight	mg/kg	<0.03	<0.03	<0.03	0.03
Volatile Petroleum Hydrocarbons - Soil						
Methanol Field Preservation			No	No	No	
F1 C6-C10	Dry Weight	mg/kg	<10	<10	<10	10
F1 -BTEX	Dry Weight	mg/kg	<10	<10	<10	10
Extractable Petroleum Hydrocarbons - Soil						
Extraction Date	Total Extractables		21-Aug-17	21-Aug-17	21-Aug-17	
F2c C10-C16	Dry Weight	mg/kg	<50	<50	<50	50
F3c C16-C34	Dry Weight	mg/kg	<50	<50	<50	50
F4c C34-C50	Dry Weight	mg/kg	<100	<100	<100	100
F4HTGCCc C34-C50+	Dry Weight	mg/kg	<100	<100	<100	100
% C50+	%		<5	<5	<5	
Silica Gel Cleanup						
Silica Gel Cleanup			Done	Done	Done	
Polychlorinated Biphenyls - Soil						
Aroclor 1016	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1221	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1232	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1242	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1248	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1254	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1260	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1262	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Aroclor 1268	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Total PCBs	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05

Analytical Report

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

		Reference Number	1221175-78	1221175-79	1221175-82
		Sample Date	Aug 14, 2017	Aug 14, 2017	Aug 14, 2017
		Sample Time	NA	NA	NA
		Sample Location			
		Sample Description	P417-BD6 / 3.2 C	P417-BD7 / 3.2 C	P417-BD8 / 3.2 C
		Matrix	Soil	Soil	Soil
Analyte	Units	Results	Results	Results	Nominal Detection Limit
Polychlorinated Biphenyls - Soil - Surrogate					
Decachlorobiphenyl	Surrogate	%	107	99	98
					50-150

Analytical Report

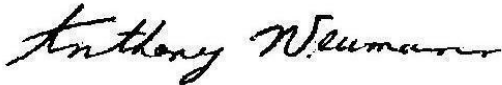
Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

Reference Number	1221175-81
Sample Date	Aug 14, 2017
Sample Time	NA
Sample Location	
Sample Description	P417-FB / 3.2 C

		Matrix	Water		
Analyte	Units	Results	Results	Results	Nominal Detection Limit
Metals Total					
Mercury	Total	mg/L	<0.000005		0.000005
Arsenic	Total	mg/L	<0.0002		0.0002
Cadmium	Total	mg/L	<0.00001		0.00001
Chromium	Total	mg/L	<0.0005		0.0005
Cobalt	Total	mg/L	<0.0001		0.0001
Copper	Total	mg/L	<0.001		0.001
Lead	Total	mg/L	<0.0001		0.0001
Nickel	Total	mg/L	<0.0005		0.0005
Zinc	Total	mg/L	<0.001		0.001
Mono-Aromatic Hydrocarbons - Water					
Benzene		mg/L	<0.001		0.001
Toluene		mg/L	<0.0004		0.0004
Ethylbenzene		mg/L	<0.0010		0.0010
Total Xylenes (m,p,o)		mg/L	<0.001		0.001
Volatile Petroleum Hydrocarbons - Water					
F1 -BTEX		mg/L	<0.1		0.1
F1 C6-C10		mg/L	<0.1		0.1
Extractable Petroleum Hydrocarbons - Water					
F2 C10-C16		mg/L	<0.1		0.1
F3 C16-C34		mg/L	<0.1		0.1
F4 C34-C50		mg/L	<0.1		0.1
F4HTGC C34-C50+		mg/L	<0.1		0.1
Polychlorinated Biphenyls - Water					
Aroclor 1016		µg/L	<0.05		0.05
Aroclor 1221		µg/L	<0.05		0.05
Aroclor 1232		µg/L	<0.05		0.05
Aroclor 1242		µg/L	<0.05		0.05
Aroclor 1248		µg/L	<0.05		0.05
Aroclor 1254		µg/L	<0.05		0.05
Aroclor 1260		µg/L	<0.05		0.05
Aroclor 1262		µg/L	<0.05		0.05
Aroclor 1268		µg/L	<0.05		0.05
Total PCBs		µg/L	<0.05		0.05
Polychlorinated Biphenyls - Water - Surrogate					
Decachlorobiphenyl	Surrogate	%	56		50-150

Analytical Report

Bill To:	Englobe	Project ID:	KITIK 13	Lot ID:	1221175
	Office 400	Project Name:	2017 LFM	Control Number:	C0085070
	1260, Lebourgneuf Boulevard	Project Location:	PIN-4	Date Received:	Aug 17, 2017
	Quebec, QC, Canada	LSD:	Byron Bay, NU	Date Reported:	Oct 16, 2017
	G2K 2G2	P.O.:		Report Number:	2231361
Attn:	Jean-Pierre Pelletier	Proj. Acct. code:			
Sampled By:	A. Passalis				
Company:	Englobe				


Approved by:
Anthony Neumann, MSc
Laboratory Operations Manager

Data have been validated by Analytical Quality Control and Exova's Integrated Data Validation System (IDVS).

Generation and distribution of the report, and approval by the digitized signature above, are performed through a secure and controlled automatic process.

Methodology and Notes

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

Method of Analysis

Method Name	Reference	Method	Date Analysis Started	Location
BTEX-CCME - Soil	CCME	* Reference Method for Canada-Wide Standard for PHC in Soil, CWS PHCS TIER 1	Aug 18, 2017	Exova Calgary
BTEX-CCME - Soil	US EPA	* Volatile Organic Compounds in Various Sample Matrices Using Equilibrium Headspace Analysis/Gas Chromatography Mass Spectrometry, 5021/8260	Aug 18, 2017	Exova Calgary
BTEX-CCME - Water	US EPA	* Volatile Organic Compounds in Various Sample Matrices Using Equilibrium Headspace Analysis/Gas Chromatography Mass Spectrometry, 5021/8260	Aug 18, 2017	Exova Calgary
Mercury (Total) in water	US EPA	* Determination of Hg in Sediment by Cold Vapor Atomic Absorption Spec, 245.5	Aug 18, 2017	Exova Edmonton
Metals ICP (Hot Block) in soil	EPA	* Sample Preparation Procedure for Spectrochemical Determination of Total Recoverable Elements, October 1999, 200.2	Aug 18, 2017	Exova Edmonton
Metals ICP (Hot Block) in soil	US EPA	* Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8	Aug 18, 2017	Exova Edmonton
Metals ICP-MS (Total) in water	US EPA	* Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8	Aug 21, 2017	Exova Edmonton
Metals ICP-MS (Total) in water	US EPA	* Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8	Aug 22, 2017	Exova Edmonton
PCB - Soil - Low	US EPA	* Polychlorinated Biphenyls (PCBs) by Gas Chromatography, 8082A	Aug 18, 2017	Exova Calgary
PCB - Water - Low	US EPA	* Polychlorinated Biphenyls (PCBs) by Gas Chromatography, 8082A	Aug 18, 2017	Exova Calgary
TEH-CCME - Water	EPA/CCME	* Separatory Funnel Liquid-liquid Extraction/CCME, EPA 3510/CCME	Aug 18, 2017	Exova Calgary
TEH-CCME-Soil (Shake)	CCME	* Reference Method for Canada-Wide Standard for PHC in Soil, CWS PHCS TIER 1	Aug 18, 2017	Exova Calgary

** Reference Method Modified*

References

APHA/USEPA	Standard Methods For Water/ Environmental Protection Agency
CCME	Canadian Council of Ministers of the Environment
EPA	Environmental Protection Agency Test Methods - US
EPA/CCME	Environmental Protection Agency Test Methods - US/CCME
US EPA	US Environmental Protection Agency Test Methods

Comments:

- Oct 11, 2017 - Report was issued to include addition of a QC report requested by Jean-Pierre Pelletier of Englobe on Oct. 11, 2017. Previous report

Methodology and Notes

Bill To:	Englobe	Project ID:	KITIK 13	Lot ID:	1221175
	Office 400	Project Name:	2017 LFM	Control Number:	C0085070
	1260, Lebourgneuf Boulevard	Project Location:	PIN-4	Date Received:	Aug 17, 2017
	Quebec, QC, Canada	LSD:	Byron Bay, NU	Date Reported:	Oct 16, 2017
	G2K 2G2	P.O.:		Report Number:	2231361
Attn:	Jean-Pierre Pelletier	Proj. Acct. code:			
Sampled By:	A. Passalis				
Company:	Englobe				

2228937.

- Oct 12, 2017 - Report was issued to include changes to the metals reported for all samples, client would like As, Cd, Cr, Co, Cu, Pb, Ni, Zn and Hg as requested by Jean-Pierre Pelletier of Englobe on October 12, 2017. Previous Report #2229491.
- Oct 16, 2017 - Report was issued to include PCBs and PHCs results on all samples. Previous report #2230524.

Please direct any inquiries regarding this report to our Client Services Group or to the Operations Manager at the coordinates indicated at the top left of this page.

Results relate only to samples as submitted.

The test report shall not be reproduced except in full, without the written approval of the laboratory.

Analytical Report

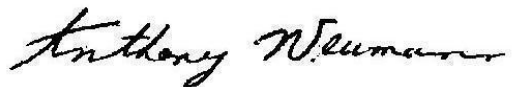
Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
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G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

Petroleum Hydrocarbons in Soil

Batch Notes

1. The method used complies with the *Reference Method for the Canada Wide Standards for Petroleum Hydrocarbons in Soil - Tier 1*, April 2001, including Addendum 1, and is accredited for use in Exova.
2. Modifications of the method: See *Notes and Methodology* for nonconformances (if applicable).
3. Qualifications on results: See *Notes and Methodology* for nonconformances (if applicable).
4. Silica gel treatment is performed for fractions F2, F3, F4.
5. F1-BTEX: BTEX has been subtracted from the F1 fraction.
6. If analyzed, naphthalene has been subtracted from fraction F2 and selected PAHs have been subtracted from fraction F3.
7. F4HTGC is reported when more than 5% of the total carbon envelope elutes past C₅₀.
8. Exova does not routinely report Gravimetric Heavy Hydrocarbons (F4G or F4G-sg), F4HTGC through extended range high temperature GC is reported instead.
9. When both F4(C₃₄-C₅₀) and F4HTGC are reported, F4HTGC is the final F4 that is to be used for interpreting the CWS.
10. Quality criteria met for the batch: Data is reported in Quality Control Section of report (if requested).
 - nC₆ and nC₁₀ response factors (RF) are within 30% of RF for toluene
 - nC₁₀, nC₁₆ and nC₃₄ RFs are within 10% of each other
 - nC₅₀ RF is within 30% of the average RF for nC₁₀+nC₁₆+nC₃₄
 - linearity is within 15% for each of the calibrated carbon ranges
11. Batch data for analytical quality control are available on request.
12. Extraction and analysis holding times were met: See *Notes and Methodology* for nonconformances (if applicable).

Approved by:



Anthony Neumann, MSc
Laboratory Operations Manager

Data have been validated by Analytical Quality Control and Exova's Integrated Data Validation System (IDVS).

Generation and distribution of the report, and approval by the digitized signature above, are performed through a secure and controlled automatic process.

ANNEX 2

QA/QC Discussion

QUALITY ASSURANCE / QUALITY CONTROL

Quality Assurance/Quality Control (QA/QC) program was implemented to monitor the quality of the analytical results. The main objective of this QA/QC program is to insure that sampling data and analysis results are complete, precise, exact, representative and comparable. The review consisted of evaluating sample collection/handling methodology, general laboratory comments and field and travel (blind) duplicate samples.

1. LABORATORIES

Samples collected during the monitoring program were submitted to laboratories accredited by the Canadian Association for Laboratory Accreditation (CALA):

- **Main Laboratory**
EXOVA
7217 Roper Road NW
Edmonton, Alberta
T6B 3J4, Canada
CALA Registration number: 2602

2. FIELD QA/QC

Standard sample collection techniques were implemented to decrease the likelihood of compromising collected samples, such as:

- Pre-cleaned sample containers were provided by the laboratory.
- Monitoring equipment was decontaminated between sampling stations and dedicated sampling systems were utilized.
- Soil samples were mixed prior to placement into the laboratory provided jars/bottles.
- Disposable nitrile glove were worn and disposed of after each sample collection.
- Jars/bottles were cleaned prior to placement into the cooler.
- Water samples were collected using low flow methods (peristaltic pump) and the use of dedicated tubing.
- Ice Packs or bagged ice (Ziploc bags) were used to ensure that sample temperature would be kept below 10°C during transportation.
- Samples were kept at the laboratory at temperatures below 4°C.

For more details, the reader is referred to the standard operating procedures produced by Englobe.

The Sample Integrity Sheet provided by Exova (provided in Annex 2) indicates that all samples received were acceptable for analysis.

The following is a summary of the analytical QA/QC procedure implemented in the field:

- 10% field Blind Duplicate Samples of soil and water were sent to Exova: 7 blind duplicate soil sample (P417-BD1-8 / P417-4A, 10A, 6WA, 16A, 20A, 3WB, 23B) and one blind duplicate groundwater sample (P417-BDW1 / P416-3W)) were submitted as an independent check on data reproducibility and to assess the field QA/QC protocols. One field blank (P417-FB) and one travel blank (P417-TB) were submitted for analysis.
- 10% Archival Samples of soil were sent to ESG.

3. LABORATORIES QA/QC

Quality assurance documents from Exova indicate that the soil samples were in the following batches:

- Batches 1667878-2, -41 and 1667879 for metals
- Batches 1668096 to 1668102 for PCBs
- Batches for PHCs:
 - F1: 1668119, 1668120, 1668121 to 1668126
 - F2-F4: 1668111 to 1668118

The water samples were analyzed was analyzed the following batches:

- Batch 1668686 for most metals
 - Batch 1667971 for mercury
- Batch 1668088 for PCBs
- Batch 1668128 for PHCs (F2-F4)
- Batch 1667969 for PHC (F1)

4. DATA MANAGEMENT AND INTERPRETATION

4.1. FIELD WORK

The relative percent difference (RPD) is used to evaluate the sample result variability. Average RPD values of 30% for each parameter analyzed from the same laboratory are considered an indication of acceptable duplicate sample variability. For groundwater samples, an RPD of greater

than 30% may reflect difference in sample turbidity or variance in the sample procedures. These performance criteria are applicable when the concentrations of the original and duplicate sample are five times or greater than the laboratory method detection limit, since the uncertainty increases dramatically as the concentration approaches the detection limit. Table I provides the detection limit for each parameter and the associated minimum concentration to be reached in order to be eligible for RPD calculation.

Table I: Minimum Concentration for QA/QC RPD Calculation

Parameter	Laboratory	Soil			Water		
		Units	MDL	RPD Minimum*	Units	MDL	RPD Minimum*
As	Exova	mg/kg	0.2	1.0	mg/L	0.0002	0.0010
Cd	Exova	mg/kg	0.01	0.05	mg/L	0.00001	0.00005
Cr	Exova	mg/kg	0.5	2.5	mg/L	0.0005	0.0025
Co	Exova	mg/kg	0.1	0.5	mg/L	0.0001	0.0005
Cu	Exova	mg/kg	1.0	5.0	mg/L	0.001	0.005
Pb	Exova	mg/kg	0.1	0.5	mg/L	0.0001	0.0005
Ni	Exova	mg/kg	0.5	2.5	mg/L	0.0005	0.0025
Zn	Exova	mg/kg	1	5	mg/L	0.001	0.005
Hg	Exova	mg/kg	0.05	0.25	mg/L	0.000005	0.000025
Total PCBs	Exova	mg/kg	0.05	0.25	ug/L	0.05	0.25
PHC F1	Exova	mg/kg	10	50	mg/L	0.1	0.5
PHC F2	Exova	mg/kg	50	250	mg/L	0.1	0.5
PHC F3	Exova	mg/kg	50	250	mg/L	0.1	0.5

* : The RPD Minimum is the minimum concentration to be reached for QA/QC Relative Percent Difference Calculation

4.1.1. SOIL SAMPLES

Eight blind duplicate soil sample was submitted for intra-laboratory comparisons. The original and duplicate intra-laboratory metal, PCBs and PHC soil sample results are summarized in Table II, along with the calculated RPD for each parameter. As noted in the tables, only the RPD for chromium and nickel in samples P417-12A and duplicate P417-BD2 exceed the 30% limit (79.8 and 66.0%, respectively). Although elevated, those two RPDs are isolated and are not representative of any trend.

4.1.2. WATER SAMPLES

One blind duplicate groundwater sample (P417-BDW1 / P417-3W) was submitted for intra- and inter-laboratory comparisons. The original and duplicate intra-laboratory metal, PCB and PHC sample results are summarized in Table III, along with the calculated RPD for each parameter. As noted in the table, all calculated RPDs are below the 30% limit.

The analytical results are considered to be acceptable and representative of the site conditions. The results also validate the field QA/QC procedures.

The results from field blank sample (P417-FB) and travel blank sample (P417-TB) that were submitted for metals, PCB and PHC analyses are also summarized in Tables III. Nickel was the only parameter with a concentration above the detection limit. As this value is so close to the detection limit, it does not raise concern on the quality of packaging during transport.

4.2. LABORATORIES

QA/QC results from the laboratory do not raise any concern.

4.2.1. BLANKS

All blanks from the laboratory, for both matrices and for all parameters were below the detection limits.

4.2.2. ANALYTICAL DUPLICATES

All analytical duplicates from the laboratory, for both matrices and for all parameters had RSD's at or below 20%.

4.2.3. CONTROL SAMPLES

All control samples from the laboratory, for both matrices and for all parameters had concentrations between the upper and lower concentration established for each parameter.

Table II: Soil Chemical Analysis Results - Quality Assurance Samples

Sample #	Laboratory	Parameters											F1	F2	F3
		As [mg/kg]	Cd [mg/kg]	Cr [mg/kg]	Co [mg/kg]	Cu [mg/kg]	Pb [mg/kg]	Ni [mg/kg]	Zn [mg/kg]	Hg [mg/kg]	PCBs [mg/kg]	C ₆ -C ₁₀ [mg/kg]	C ₁₀ -C ₁₆ [mg/kg]	C ₁₆ -C ₃₄ [mg/kg]	
MDL (Exova)		0.2	0.01	0.5	0.1	1.0	0.1	0.5	1	0.05	0.05	10	50	50	
RPD Minimum (Exova)		1.0	0.05	2.5	0.5	5.0	0.5	2.5	5	0.25	0.25	50	250	250	
Intra-Lab Duplicate Samples (Exova)															
P417-4A	Exova	5.2	0.03	14.2	3.7	10.3	12.1	12.1	5	<0.05	<0.05	<10	<50	<50	
P417-BD1		5.0	0.03	13.1	3.6	10.7	12.9	12.3	4	<0.05	<0.05	<10	<50	<50	
Relative % Difference		3.9	NA	8.1	2.7	3.8	6.4	1.6	NA	NA	NA	NA	NA	NA	
Intra-Lab Duplicate Samples (Exova)															
P417-12A	Exova	2.6	0.06	7.9	3.1	7.1	4.8	6.5	15	<0.05	<0.05	<10	<50	53	
P417-BD2		2.8	0.06	18.4	3.0	7.1	6.2	12.9	15	0.06	<0.05	<10	<50	<50	
Relative % Difference		7.4	NA	79.8	3.3	0.0	25.5	66.0	NA	NA	NA	NA	NA	NA	
Intra-Lab Duplicate Samples (Exova)															
P417-10A	Exova	4.3	0.02	10.8	5.2	10.0	6.9	11.9	6	<0.05	<0.05	<10	<50	<50	
P417-BD3		4.3	0.02	13.6	5.2	9.8	7.6	13.2	7	<0.05	<0.05	<10	<50	<50	
Relative % Difference		0.0	NA	23.0	0.0	2.0	9.7	10.4	15.4	NA	NA	NA	NA	NA	
Intra-Lab Duplicate Samples (Exova)															
P417-6WA	Exova	3.0	0.03	21.3	4.9	21.5	13.9	15.5	15	<0.05	<0.05	<10	<50	<50	
P417-BD4		3.0	0.04	16.8	4.9	21.5	10.4	14.1	13	<0.05	<0.05	<10	<50	<50	
Relative % Difference		0.0	NA	23.6	0.0	0.0	28.8	9.5	14.3	NA	NA	NA	NA	NA	
Intra-Lab Duplicate Samples (Exova)															
P417-16A	Exova	4.1	0.02	15.3	4.9	12.8	12.0	11.6	5	<0.05	<0.05	<10	<50	<50	
P417-BD8		4.1	0.03	15.2	5.1	14.9	12.6	11.7	5	<0.05	<0.05	<10	<50	<50	
Relative % Difference		0.0	NA	0.7	4.0	15.2	4.9	0.9	0.0	NA	NA	NA	NA	NA	
Intra-Lab Duplicate Samples (Exova)															
P417-20A	Exova	3.8	0.04	11.1	4.6	9.2	7.4	12.0	9	<0.05	<0.05	<10	<50	<50	
P417-BD6		4.3	0.04	11.0	5.3	10.8	8.6	13.2	10	<0.05	<0.05	<10	<50	<50	
Relative % Difference		12.3	NA	0.9	14.1	16.0	15.0	9.5	10.5	NA	NA	NA	NA	NA	
Intra-Lab Duplicate Samples (Exova)															
P417-3WB	Exova	1.9	0.01	17.7	7.6	34.2	4.0	15.6	25	<0.05	<0.05	<10	<50	<50	
P417-BD5		2.1	0.02	17.3	7.0	30.8	4.4	14.6	22	<0.05	<0.05	<10	<50	<50	
Relative % Difference		10.0	NA	2.3	8.2	10.5	9.5	6.6	12.8	NA	NA	NA	NA	NA	
Intra-Lab Duplicate Samples (Exova)															
P417-23B	Exova	1.6	0.05	13.5	5.0	25.0	3.5	13.8	17	<0.05	<0.05	<10	<50	<50	
P417-BD7		1.7	0.05	17.2	5.2	23.7	3.8	15.2	17	<0.05	<0.05	<10	<50	<50	
Relative % Difference		6.1	0.0	24.1	3.9	5.3	8.2	9.7	0.0	NA	NA	NA	NA	NA	

Table III: Groundwater Chemical Analysis Results - Quality Control Samples

Sample #	Laboratory	Parameters												
		As [mg/L]	Cd [mg/L]	Cr [mg/L]	Co [mg/L]	Cu [mg/L]	Pb [mg/L]	Ni [mg/L]	Zn [mg/L]	Hg [ug/L]	PCBs [ug/L]	F1	F2	F3
												C ₆ -C ₁₀ [mg/L]	C ₁₀ -C ₁₆ [mg/L]	C ₁₀ -C ₃₄ [mg/L]
MDL (Exova)		0.0002	0.00001	0.0005	0.0001	0.001	0.0001	0.0005	0.001	0.000005	0.05	0.1	0.1	0.1
RPD Minimum (Exova)		0.0010	0.00005	0.0025	0.0005	0.005	0.0005	0.0025	0.005	0.000025	0.25	0.5	0.5	0.5
Intra-Lab Duplicate Samples (Exova)														
P417-3W	Exova	0.0004	0.00001	0.0034	0.0055	0.010	<0.0001	0.0211	0.013	<0.000005	<0.05	<0.1	<0.1	<0.1
P417-BDW1		0.0004	0.00002	0.0012	0.0055	0.010	<0.0001	0.0209	0.011	<0.000005	<0.05	<0.1	<0.1	<0.1
Relative % Difference		N/A	N/A	N/A	0.0	0.0	N/A	1.0	16.7	N/A	N/A	N/A	N/A	N/A
P417-FB	Field Blank	<0.0002	<0.00001	<0.0005	<0.0001	<0.001	<0.0001	<0.0005	<0.001	<0.000005	<0.05	<0.1	<0.1	<0.1
P417-TB	Travel Blank	<0.0002	<0.00001	<0.0005	<0.0001	<0.001	<0.0001	0.0006	<0.001	<0.000005	<0.05	<0.1	<0.1	<0.1

Quality Control

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

Extractable Petroleum Hydrocarbons - Soil

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
1668111-14 August 18, 2017					
F2c C10-C16	µg/mL	0	-10	10	yes
F3c C16-C34	µg/mL	0	-30	30	yes
F4c C34-C50	µg/mL	0	-20	20	yes
F4HTGCc C34-C50+	µg/mL	0	-20	20	yes
1668112-14 August 18, 2017					
F2c C10-C16	µg/mL	0	-10	10	yes
F3c C16-C34	µg/mL	0	-30	30	yes
F4c C34-C50	µg/mL	0	-20	20	yes
F4HTGCc C34-C50+	µg/mL	0	-20	20	yes
1668113-14 August 18, 2017					
F2c C10-C16	µg/mL	0	-10	10	yes
F3c C16-C34	µg/mL	0	-30	30	yes
F4c C34-C50	µg/mL	0	-20	20	yes
F4HTGCc C34-C50+	µg/mL	0	-20	20	yes
1668114-14 August 18, 2017					
F2c C10-C16	µg/mL	0	-10	10	yes
F3c C16-C34	µg/mL	0	-30	30	yes
F4c C34-C50	µg/mL	0	-20	20	yes
F4HTGCc C34-C50+	µg/mL	0	-20	20	yes
1668115-14 August 18, 2017					
F2c C10-C16	µg/mL	0	-10	10	yes
F3c C16-C34	µg/mL	0	-30	30	yes
F4c C34-C50	µg/mL	0	-20	20	yes
F4HTGCc C34-C50+	µg/mL	0	-20	20	yes
1668116-14 August 18, 2017					
F2c C10-C16	µg/mL	0	-10	10	yes
F3c C16-C34	µg/mL	0	-30	30	yes
F4c C34-C50	µg/mL	0	-20	20	yes
F4HTGCc C34-C50+	µg/mL	0	-20	20	yes
1668117-14 August 18, 2017					
F2c C10-C16	µg/mL	0	-10	10	yes
F3c C16-C34	µg/mL	0	-30	30	yes
F4c C34-C50	µg/mL	0	-20	20	yes
F4HTGCc C34-C50+	µg/mL	0	-20	20	yes
1668118-14 August 18, 2017					
F2c C10-C16	µg/mL	0	-10	10	yes
F3c C16-C34	µg/mL	0	-30	30	yes
F4c C34-C50	µg/mL	12.8958	-20	20	yes
F4HTGCc C34-C50+	µg/mL	14.3375	-20	20	yes
Calibration Check	Units	% Recovery	Lower Limit	Upper Limit	Passed QC

Sample Integrity Scorecard

Lot ID: 1221175

Client: Englobe

Agreement Name: Master

PROCESS	DATA QUALITY
Was the waybill clearly filled in? Yes	Were the samples received within recommended holding times? Yes
Were the sample containers packaged well? Yes If No, please explain:	Were samples received in containers appropriate to the matrix and analysis required? Yes
Was the COC received? Yes	Were the expected number of samples received? No * If No, please explain:
Was the COC filled in adequately and legibly? Yes If No, please explain:	Was the sample received in the prescribed temperature range? Yes Please provide temperature °C:
Was the COC received without damage? Yes If No, please explain:	Were all samples received intact (not damaged/broken)? Yes If No, please explain:
Were Exova supplies used? Yes If No, please explain:	Were all samples received without adhesive tape sealing the lids? Yes If No, please explain:
Were the sample containers clearly labelled? Yes If No, please explain:	For water samples only, were they received without a noticeable layer of sediment? Yes If No, please explain:
	Was sufficient sample volume received? Yes If No, please explain:

Were non-conformance/verification notes entered into Sample Login for any of the above items that did not meet Exova's sample or COC requirements?
Yes

NON-CONFORMANCES

Process	0
Data Quality	1
TOTAL	1

Created by: Wayne Vo

Date created: August 17, 2017

* is a non-conformance

Quality Control

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
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G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

Extractable Petroleum Hydrocarbons - Soil - Continued

Calibration Check	Units	% Recovery	Lower Limit	Upper Limit		Passed QC
1668111-13 August 18, 2017						
F2c C10-C16	µg/mL	104.08	80	120		yes
F3c C16-C34	µg/mL	104.98	80	120		yes
F4c C34-C50	µg/mL	98.03	80	120		yes
F4HTGCc C34-C50+	µg/mL	92.92	80	120		yes
1668112-13 August 18, 2017						
F2c C10-C16	µg/mL	104.08	80	120		yes
F3c C16-C34	µg/mL	104.98	80	120		yes
F4c C34-C50	µg/mL	98.03	80	120		yes
F4HTGCc C34-C50+	µg/mL	92.92	80	120		yes
1668113-13 August 18, 2017						
F2c C10-C16	µg/mL	95.69	80	120		yes
F3c C16-C34	µg/mL	99.61	80	120		yes
F4c C34-C50	µg/mL	95.98	80	120		yes
F4HTGCc C34-C50+	µg/mL	93.59	80	120		yes
1668114-13 August 18, 2017						
F2c C10-C16	µg/mL	95.69	80	120		yes
F3c C16-C34	µg/mL	99.61	80	120		yes
F4c C34-C50	µg/mL	95.98	80	120		yes
F4HTGCc C34-C50+	µg/mL	93.59	80	120		yes
1668115-13 August 18, 2017						
F2c C10-C16	µg/mL	95.69	80	120		yes
F3c C16-C34	µg/mL	99.61	80	120		yes
F4c C34-C50	µg/mL	95.98	80	120		yes
F4HTGCc C34-C50+	µg/mL	93.59	80	120		yes
1668116-13 August 18, 2017						
F2c C10-C16	µg/mL	98.41	80	120		yes
F3c C16-C34	µg/mL	98.74	80	120		yes
F4c C34-C50	µg/mL	95.51	80	120		yes
F4HTGCc C34-C50+	µg/mL	92.89	80	120		yes
1668117-13 August 18, 2017						
F2c C10-C16	µg/mL	98.41	80	120		yes
F3c C16-C34	µg/mL	98.74	80	120		yes
F4c C34-C50	µg/mL	95.51	80	120		yes
F4HTGCc C34-C50+	µg/mL	92.89	80	120		yes
1668118-13 August 18, 2017						
F2c C10-C16	µg/mL	98.41	80	120		yes
F3c C16-C34	µg/mL	98.74	80	120		yes
F4c C34-C50	µg/mL	95.51	80	120		yes
F4HTGCc C34-C50+	µg/mL	92.89	80	120		yes
Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC

Quality Control

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

Extractable Petroleum Hydrocarbons - Soil - Continued

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
1668111-3		August 18, 2017				
F2c C10-C16	mg/kg	<50	<50	50	10	yes
F3c C16-C34	mg/kg	<50	<50	50	10	yes
F4c C34-C50	mg/kg	<100	<100	50	10	yes
F4HTGCc C34-C50+	mg/kg	<100	<100	50	10	yes
1668112-3		August 18, 2017				
F2c C10-C16	mg/kg	<50	<50	50	10	yes
F3c C16-C34	mg/kg	<50	<50	50	10	yes
F4c C34-C50	mg/kg	<100	<100	50	10	yes
F4HTGCc C34-C50+	mg/kg	<100	<100	50	10	yes
1668113-3		August 18, 2017				
F2c C10-C16	mg/kg	<50	<50	50	10	yes
F3c C16-C34	mg/kg	<50	<50	50	10	yes
F4c C34-C50	mg/kg	<100	<100	50	10	yes
F4HTGCc C34-C50+	mg/kg	<100	<100	50	10	yes
1668114-3		August 18, 2017				
F2c C10-C16	mg/kg	<50	<50	50	10	yes
F3c C16-C34	mg/kg	<50	<50	50	10	yes
F4c C34-C50	mg/kg	<100	<100	50	10	yes
F4HTGCc C34-C50+	mg/kg	<100	<100	50	10	yes
1668115-3		August 18, 2017				
F2c C10-C16	mg/kg	<50	<50	50	10	yes
F3c C16-C34	mg/kg	<50	<50	50	10	yes
F4c C34-C50	mg/kg	<100	<100	50	10	yes
F4HTGCc C34-C50+	mg/kg	<100	<100	50	10	yes
1668116-3		August 18, 2017				
F2c C10-C16	mg/kg	<50	<50	50	10	yes
F3c C16-C34	mg/kg	<50	<50	50	10	yes
F4c C34-C50	mg/kg	<100	<100	50	10	yes
F4HTGCc C34-C50+	mg/kg	<100	<100	50	10	yes
1668117-3		August 18, 2017				
F2c C10-C16	mg/kg	<50	<50	50	10	yes
F3c C16-C34	mg/kg	<50	<50	50	10	yes
F4c C34-C50	mg/kg	<100	<100	50	10	yes
F4HTGCc C34-C50+	mg/kg	<100	<100	50	10	yes
1668118-3		August 18, 2017				
F2c C10-C16	mg/kg	<50	<50	50	10	yes
F3c C16-C34	mg/kg	<50	<50	50	10	yes
F4c C34-C50	mg/kg	<100	<100	50	10	yes
F4HTGCc C34-C50+	mg/kg	<100	<100	50	10	yes
Matrix Spike	Units	% Recovery	Lower Limit	Upper Limit		Passed QC

Quality Control

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

Extractable Petroleum Hydrocarbons - Soil - Continued

Matrix Spike	Units	% Recovery	Lower Limit	Upper Limit	Passed QC
1668111-2		August 18, 2017			
F2c C10-C16	mg/kg	89	70	130	yes
F3c C16-C34	mg/kg	109	70	130	yes
F4c C34-C50	mg/kg	93	70	130	yes
F4HTGCc C34-C50+	mg/kg	90	70	130	yes
1668112-2		August 18, 2017			
F2c C10-C16	mg/kg	91	70	130	yes
F3c C16-C34	mg/kg	115	70	130	yes
F4c C34-C50	mg/kg	97	70	130	yes
F4HTGCc C34-C50+	mg/kg	93	70	130	yes
1668113-2		August 18, 2017			
F2c C10-C16	mg/kg	91	70	130	yes
F3c C16-C34	mg/kg	101	70	130	yes
F4c C34-C50	mg/kg	108	70	130	yes
F4HTGCc C34-C50+	mg/kg	108	70	130	yes
1668114-2		August 18, 2017			
F2c C10-C16	mg/kg	98	70	130	yes
F3c C16-C34	mg/kg	110	70	130	yes
F4c C34-C50	mg/kg	115	70	130	yes
F4HTGCc C34-C50+	mg/kg	115	70	130	yes
1668115-2		August 18, 2017			
F2c C10-C16	mg/kg	85	70	130	yes
F3c C16-C34	mg/kg	105	70	130	yes
F4c C34-C50	mg/kg	105	70	130	yes
F4HTGCc C34-C50+	mg/kg	103	70	130	yes
1668116-2		August 18, 2017			
F2c C10-C16	mg/kg	85	70	130	yes
F3c C16-C34	mg/kg	107	70	130	yes
F4c C34-C50	mg/kg	107	70	130	yes
F4HTGCc C34-C50+	mg/kg	103	70	130	yes
1668117-2		August 18, 2017			
F2c C10-C16	mg/kg	86	70	130	yes
F3c C16-C34	mg/kg	107	70	130	yes
F4c C34-C50	mg/kg	101	70	130	yes
F4HTGCc C34-C50+	mg/kg	98	70	130	yes
1668118-2		August 18, 2017			
F2c C10-C16	mg/kg	86	70	130	yes
F3c C16-C34	mg/kg	113	70	130	yes
F4c C34-C50	mg/kg	119	70	130	yes
F4HTGCc C34-C50+	mg/kg	119	70	130	yes

Quality Control

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

Extractable Petroleum Hydrocarbons -

Water

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC	
1668128-16		August 18, 2017				
F2 C10-C16	µg/mL	0	-0.2	0.2		yes
F3 C16-C34	µg/mL	0	-0.2	0.2		yes
F3+ C34+	µg/mL	0	-0.2	0.2		yes
F4 C34-C50	µg/mL	0	-0.2	0.2		yes
F4HTGC C34-C50+	µg/mL	0	-0.2	0.2		yes
Calibration Check	Units	% Recovery	Lower Limit	Upper Limit	Passed QC	
1668128-15		August 18, 2017				
F2 C10-C16	µg/mL	97.59	80	120		yes
F3 C16-C34	µg/mL	105.04	80	120		yes
F3+ C34+	µg/mL	90.46	80	120		yes
F4 C34-C50	µg/mL	94.65	80	120		yes
F4HTGC C34-C50+	µg/mL	90.46	80	120		yes
Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
1668128-4		August 18, 2017				
F2 C10-C16	mg/L	86.5	93.5	15	0.2	yes
F3 C16-C34	mg/L	97.3	109	15	0.2	yes
F3+ C34+	mg/L	109	105	15	0.2	yes
F4 C34-C50	mg/L	103	106	15	0.2	yes
F4HTGC C34-C50+	mg/L	109	105	15	0.2	yes
Matrix Spike	Units	% Recovery	Lower Limit	Upper Limit	Passed QC	
1668128-2		August 18, 2017				
F2 C10-C16	mg/L	87	70	130		yes
F3 C16-C34	mg/L	97	70	130		yes
F3+ C34+	mg/L	109	70	130		yes
F4 C34-C50	mg/L	103	70	130		yes
F4HTGC C34-C50+	mg/L	109	70	130		yes

Metals Strong Acid Digestion

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
1667878-2		August 18, 2017			
Antimony	µg/L	-0.00189859	-0.1	0.2	yes
Arsenic	µg/L	0.0107532	-0.2	0.2	yes
Barium	µg/L	0.176706	-1	1	yes
Beryllium	µg/L	-0.00599631	-0.1	0.1	yes
Cadmium	µg/L	0.00190244	-0.01	0.01	yes
Chromium	µg/L	0.0011356	-0.5	0.5	yes
Cobalt	µg/L	0.00433011	-0.1	0.1	yes
Copper	µg/L	0.0166301	-0.6	1.2	yes
Lead	µg/L	0.0117417	-5.0	5.0	yes
Mercury	µg/L	0.000192773	-0.04	0.04	yes
Molybdenum	µg/L	-0.0170794	-1.0	1.0	yes
Nickel	µg/L	0.00794848	-0.4	0.7	yes

Quality Control

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

Metals Strong Acid Digestion - Continued

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Selenium	µg/L	-0.0357489	-0.3	0.3	yes
Silver	µg/L	-0.000694728	-0.09	0.14	yes
Thallium	µg/L	0.00419893	-0.04	0.04	yes
Tin	µg/L	-0.0346618	-0.4	0.4	yes
Uranium	µg/L	0.00155841	-0.5	0.5	yes
Vanadium	µg/L	0.00951084	-0.1	0.1	yes
Zinc	µg/L	0.225653	-1	1	yes
1667878-41 August 18, 2017					
Antimony	µg/L	0.000656985	-0.1	0.2	yes
Arsenic	µg/L	0.0198503	-0.2	0.2	yes
Barium	µg/L	0.102354	-1	1	yes
Beryllium	µg/L	-0.000251355	-0.1	0.1	yes
Cadmium	µg/L	0.000817165	-0.01	0.01	yes
Chromium	µg/L	0.00219508	-0.5	0.5	yes
Cobalt	µg/L	0.00364794	-0.1	0.1	yes
Copper	µg/L	0.00715215	-0.6	1.2	yes
Lead	µg/L	0.00135457	-5.0	5.0	yes
Mercury	µg/L	-3.97342e-005	-0.04	0.04	yes
Molybdenum	µg/L	-0.0318735	-1.0	1.0	yes
Nickel	µg/L	0.105661	-0.4	0.7	yes
Selenium	µg/L	-0.050425	-0.3	0.3	yes
Silver	µg/L	2.29075e-005	-0.09	0.14	yes
Thallium	µg/L	-0.000528013	-0.04	0.04	yes
Tin	µg/L	-0.0315898	-0.4	0.4	yes
Uranium	µg/L	-0.00311174	-0.5	0.5	yes
Vanadium	µg/L	-0.0138292	-0.1	0.1	yes
Zinc	µg/L	0.172436	-1	1	yes
1667879-2 August 18, 2017					
Antimony	µg/L	-0.00168731	-0.1	0.2	yes
Arsenic	µg/L	0.00913777	-0.2	0.2	yes
Barium	µg/L	0.095245	-1	1	yes
Beryllium	µg/L	0	-0.1	0.1	yes
Cadmium	µg/L	0.000788238	-0.01	0.01	yes
Chromium	µg/L	0.140071	-0.5	0.5	yes
Cobalt	µg/L	0.00727688	-0.1	0.1	yes
Copper	µg/L	0.0899492	-0.6	1.2	yes
Lead	µg/L	0.0188039	-5.0	5.0	yes
Mercury	µg/L	0.00173786	-0.04	0.04	yes
Molybdenum	µg/L	0.00897501	-1.0	1.0	yes
Nickel	µg/L	0.183277	-0.4	0.7	yes
Selenium	µg/L	-0.0077087	-0.3	0.3	yes
Silver	µg/L	-0.00133125	-0.09	0.14	yes
Thallium	µg/L	0.00709984	-0.04	0.04	yes
Tin	µg/L	-0.0013253	-0.4	0.4	yes

Quality Control

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

Metals Strong Acid Digestion - Continued

Blanks	Units	Measured	Lower Limit	Upper Limit		Passed QC
Uranium	µg/L	0.00830067	-0.5	0.5		yes
Vanadium	µg/L	-0.00150756	-0.1	0.1		yes
Zinc	µg/L	0.260533	-1	1		yes
Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
1667878-4 August 18, 2017						
Antimony	mg/kg	<0.2	0.4	20	0.4	yes
Arsenic	mg/kg	3.7	3.6	20	0.4	yes
Barium	mg/kg	27	30	20	2	yes
Beryllium	mg/kg	0.2	0.2	20	0.2	yes
Cadmium	mg/kg	0.07	0.08	20	0.02	yes
Chromium	mg/kg	56.6	47.5	20	1.1	yes
Cobalt	mg/kg	3.0	3.1	20	0.2	yes
Copper	mg/kg	6.0	6.3	20	2.2	yes
Lead	mg/kg	7.0	8.0	20	0.2	yes
Mercury	mg/kg	<0.05	<0.05	20	0.05	yes
Molybdenum	mg/kg	<1.0	<1.0	20	2.2	yes
Nickel	mg/kg	28.7	25.6	20	1.1	yes
Selenium	mg/kg	<0.3	<0.3	20	0.7	yes
Silver	mg/kg	<0.1	<0.1	20	0.22	yes
Thallium	mg/kg	<0.05	<0.05	20	0.11	yes
Tin	mg/kg	<1.0	<1.0	20	2.2	yes
Uranium	mg/kg	<0.5	<0.5	20	1.1	yes
Vanadium	mg/kg	14.4	14.6	20	0.2	yes
Zinc	mg/kg	12	13	20	2	yes
1667878-21 August 18, 2017						
Antimony	mg/kg	<0.2	<0.2	20	0.4	yes
Arsenic	mg/kg	4.1	4.1	20	0.4	yes
Barium	mg/kg	19	18	20	2	yes
Beryllium	mg/kg	0.3	0.3	20	0.2	yes
Cadmium	mg/kg	0.02	0.02	20	0.02	yes
Chromium	mg/kg	15.2	14.6	20	1.1	yes
Cobalt	mg/kg	4.1	3.7	20	0.2	yes
Copper	mg/kg	10.5	9.2	20	2.2	yes
Lead	mg/kg	5.5	5.5	20	0.2	yes
Mercury	mg/kg	<0.05	<0.05	20	0.05	yes
Molybdenum	mg/kg	<1.0	<1.0	20	2.2	yes
Nickel	mg/kg	11.9	11.6	20	1.1	yes
Selenium	mg/kg	<0.3	<0.3	20	0.7	yes
Silver	mg/kg	<0.1	<0.1	20	0.22	yes
Thallium	mg/kg	0.07	0.07	20	0.11	yes
Tin	mg/kg	<1.0	<1.0	20	2.2	yes
Uranium	mg/kg	0.8	0.7	20	1.1	yes
Vanadium	mg/kg	21.2	18.6	20	0.2	yes
Zinc	mg/kg	6	5	20	2	yes

Quality Control

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

Metals Strong Acid Digestion - Continued

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
1667878-38 August 18, 2017						
Antimony	mg/kg	<0.2	<0.2	20	0.4	yes
Arsenic	mg/kg	4.4	4.6	20	0.4	yes
Barium	mg/kg	16	19	20	2	yes
Beryllium	mg/kg	0.4	0.5	20	0.2	yes
Cadmium	mg/kg	0.03	0.03	20	0.02	yes
Chromium	mg/kg	14.0	15.8	20	1.1	yes
Cobalt	mg/kg	5.0	5.4	20	0.2	yes
Copper	mg/kg	12.5	14.5	20	2.2	yes
Lead	mg/kg	12.5	13.1	20	0.2	yes
Mercury	mg/kg	<0.05	<0.05	20	0.05	yes
Molybdenum	mg/kg	<1.0	<1.0	20	2.2	yes
Nickel	mg/kg	10.9	12.5	20	1.1	yes
Selenium	mg/kg	<0.3	<0.3	20	0.7	yes
Silver	mg/kg	<0.1	<0.1	20	0.22	yes
Thallium	mg/kg	0.14	0.15	20	0.11	yes
Tin	mg/kg	<1.0	<1.0	20	2.2	yes
Uranium	mg/kg	0.6	0.7	20	1.1	yes
Vanadium	mg/kg	21.4	23.7	20	0.2	yes
Zinc	mg/kg	5	6	20	2	yes
1667879-4 August 18, 2017						
Antimony	mg/kg	<0.2	<0.2	20	0.4	yes
Arsenic	mg/kg	2.0	2.0	20	0.4	yes
Barium	mg/kg	56	58	20	2	yes
Beryllium	mg/kg	0.4	0.5	20	0.2	yes
Cadmium	mg/kg	0.02	0.02	20	0.02	yes
Chromium	mg/kg	16.6	17.0	20	1.1	yes
Cobalt	mg/kg	5.1	5.1	20	0.2	yes
Copper	mg/kg	18.3	19.9	20	2.2	yes
Lead	mg/kg	3.6	4.1	20	0.2	yes
Mercury	mg/kg	<0.05	<0.05	20	0.05	yes
Molybdenum	mg/kg	1.3	1.3	20	2.2	yes
Nickel	mg/kg	15.0	14.5	20	1.1	yes
Selenium	mg/kg	<0.3	<0.3	20	0.7	yes
Silver	mg/kg	<0.1	<0.1	20	0.22	yes
Thallium	mg/kg	0.14	0.15	20	0.11	yes
Tin	mg/kg	<1.0	<1.0	20	2.2	yes
Uranium	mg/kg	0.9	1.0	20	1.1	yes
Vanadium	mg/kg	16.1	16.5	20	0.2	yes
Zinc	mg/kg	17	19	20	2	yes
1667879-21 August 18, 2017						
Antimony	mg/kg	0.2	<0.2	20	0.4	yes
Arsenic	mg/kg	3.8	4.3	20	0.4	yes
Barium	mg/kg	51	52	20	2	yes

Quality Control

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

Metals Strong Acid Digestion - Continued

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
Beryllium	mg/kg	0.3	0.4	20	0.2	yes
Cadmium	mg/kg	0.07	0.07	20	0.02	yes
Chromium	mg/kg	18.5	16.1	20	1.1	yes
Cobalt	mg/kg	4.2	4.4	20	0.2	yes
Copper	mg/kg	12.9	13.0	20	2.2	yes
Lead	mg/kg	17.8	21.3	20	0.2	yes
Mercury	mg/kg	<0.05	<0.05	20	0.05	yes
Molybdenum	mg/kg	<1.0	<1.0	20	2.2	yes
Nickel	mg/kg	11.8	11.8	20	1.1	yes
Selenium	mg/kg	<0.3	<0.3	20	0.7	yes
Silver	mg/kg	<0.1	<0.1	20	0.22	yes
Thallium	mg/kg	0.11	0.11	20	0.11	yes
Tin	mg/kg	<1.0	<1.0	20	2.2	yes
Uranium	mg/kg	0.5	0.6	20	1.1	yes
Vanadium	mg/kg	20.3	21.3	20	0.2	yes
Zinc	mg/kg	20	19	20	2	yes
Control Sample	Units	Measured	Lower Limit	Upper Limit		Passed QC
1667878-1		August 18, 2017				
Antimony	mg/kg	39.7	36.1	43.9		yes
Arsenic	mg/kg	41.1	36.3	43.9		yes
Barium	mg/kg	197	183	225		yes
Beryllium	mg/kg	19.0	17.4	22.2		yes
Cadmium	mg/kg	2.05	1.88	2.28		yes
Chromium	mg/kg	103	94.2	107.8		yes
Cobalt	mg/kg	20.3	17.0	23.0		yes
Copper	mg/kg	195	183.1	212.7		yes
Lead	mg/kg	19.4	18.6	21.8		yes
Mercury	mg/kg	2.93	2.24	4.16		yes
Molybdenum	mg/kg	208	174.8	234.8		yes
Nickel	mg/kg	99.6	91.6	108.4		yes
Selenium	mg/kg	41.6	34.0	46.0		yes
Silver	mg/kg	19.9	18.20	22.40		yes
Thallium	mg/kg	9.66	9.20	11.00		yes
Tin	mg/kg	197	191.0	221.0		yes
Uranium	mg/kg	98.8	86.0	116.0		yes
Vanadium	mg/kg	20.3	18.4	22.4		yes
Zinc	mg/kg	204	170	230		yes
1667878-40		August 18, 2017				
Antimony	mg/kg	40.6	36.1	43.9		yes
Arsenic	mg/kg	40.8	36.3	43.9		yes
Barium	mg/kg	200	183	225		yes
Beryllium	mg/kg	19.8	17.4	22.2		yes
Cadmium	mg/kg	1.99	1.88	2.28		yes
Chromium	mg/kg	103	94.2	107.8		yes

Quality Control

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

Metals Strong Acid Digestion - Continued

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Cobalt	mg/kg	20.2	17.0	23.0	yes
Copper	mg/kg	198	183.1	212.7	yes
Lead	mg/kg	20.1	18.6	21.8	yes
Mercury	mg/kg	2.95	2.24	4.16	yes
Molybdenum	mg/kg	205	174.8	234.8	yes
Nickel	mg/kg	97.0	91.6	108.4	yes
Selenium	mg/kg	37.4	34.0	46.0	yes
Silver	mg/kg	19.5	18.20	22.40	yes
Thallium	mg/kg	9.88	9.20	11.00	yes
Tin	mg/kg	200	191.0	221.0	yes
Uranium	mg/kg	102	86.0	116.0	yes
Vanadium	mg/kg	20.2	18.4	22.4	yes
Zinc	mg/kg	203	170	230	yes
1667879-1 August 18, 2017					
Antimony	mg/kg	40.0	36.1	43.9	yes
Arsenic	mg/kg	38.7	36.3	43.9	yes
Barium	mg/kg	205	183	225	yes
Beryllium	mg/kg	20.5	17.4	22.2	yes
Cadmium	mg/kg	2.13	1.88	2.28	yes
Chromium	mg/kg	97.2	94.2	107.8	yes
Cobalt	mg/kg	19.5	17.0	23.0	yes
Copper	mg/kg	194	183.1	212.7	yes
Lead	mg/kg	21.1	18.6	21.8	yes
Mercury	mg/kg	3.10	2.24	4.16	yes
Molybdenum	mg/kg	204	174.8	234.8	yes
Nickel	mg/kg	95.6	91.6	108.4	yes
Selenium	mg/kg	42.0	34.0	46.0	yes
Silver	mg/kg	20.2	18.20	22.40	yes
Thallium	mg/kg	10.4	9.20	11.00	yes
Tin	mg/kg	202	191.0	221.0	yes
Uranium	mg/kg	107	86.0	116.0	yes
Vanadium	mg/kg	19.2	18.4	22.4	yes
Zinc	mg/kg	195	170	230	yes
1667878-3 August 18, 2017					
Antimony	mg/kg	3.9	2.3	6.0	yes
Arsenic	mg/kg	4.4	2.6	6.8	yes
Barium	mg/kg	104	58	154	yes
Beryllium	mg/kg	0.3	0.2	0.5	yes
Cadmium	mg/kg	1.12	0.57	1.47	yes
Chromium	mg/kg	86.3	48.8	128.8	yes
Cobalt	mg/kg	7.2	3.9	10.4	yes
Copper	mg/kg	136	76.1	200.5	yes
Lead	mg/kg	265	145.9	384.7	yes
Mercury	mg/kg	0.06	0.04	0.10	yes

Quality Control

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

Metals Strong Acid Digestion - Continued

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Molybdenum	mg/kg	1.0	0.6	1.5	yes
Nickel	mg/kg	28.6	15.8	41.5	yes
Selenium	mg/kg	<0.3	0.1	0.4	yes
Silver	mg/kg	4.1	2.28	6.00	yes
Thallium	mg/kg	0.07	0.04	0.11	yes
Tin	mg/kg	10.0	4.0	16.0	yes
Uranium	mg/kg	<0.5	0.3	0.7	yes
Vanadium	mg/kg	32.0	17.8	46.9	yes
Zinc	mg/kg	356	195	514	yes
1667878-42 August 18, 2017					
Antimony	mg/kg	3.8	2.3	6.0	yes
Arsenic	mg/kg	4.2	2.6	6.8	yes
Barium	mg/kg	98	58	154	yes
Beryllium	mg/kg	0.3	0.2	0.5	yes
Cadmium	mg/kg	0.92	0.57	1.47	yes
Chromium	mg/kg	83.5	48.8	128.8	yes
Cobalt	mg/kg	6.8	3.9	10.4	yes
Copper	mg/kg	127	76.1	200.5	yes
Lead	mg/kg	260	145.9	384.7	yes
Mercury	mg/kg	0.06	0.04	0.10	yes
Molybdenum	mg/kg	<1.0	0.6	1.5	yes
Nickel	mg/kg	26.9	15.8	41.5	yes
Selenium	mg/kg	<0.3	0.1	0.4	yes
Silver	mg/kg	3.7	2.28	6.00	yes
Thallium	mg/kg	0.07	0.04	0.11	yes
Tin	mg/kg	9.4	4.0	16.0	yes
Uranium	mg/kg	<0.5	0.3	0.7	yes
Vanadium	mg/kg	29.9	17.8	46.9	yes
Zinc	mg/kg	336	195	514	yes
1667879-3 August 18, 2017					
Antimony	mg/kg	3.8	2.3	6.0	yes
Arsenic	mg/kg	4.4	2.6	6.8	yes
Barium	mg/kg	105	58	154	yes
Beryllium	mg/kg	0.5	0.2	0.5	yes
Cadmium	mg/kg	0.99	0.57	1.47	yes
Chromium	mg/kg	83.1	48.8	128.8	yes
Cobalt	mg/kg	6.9	3.9	10.4	yes
Copper	mg/kg	133	76.1	200.5	yes
Lead	mg/kg	319	145.9	384.7	yes
Mercury	mg/kg	0.07	0.04	0.10	yes
Molybdenum	mg/kg	1.1	0.6	1.5	yes
Nickel	mg/kg	27.1	15.8	41.5	yes
Selenium	mg/kg	<0.3	0.1	0.4	yes
Silver	mg/kg	3.7	2.28	6.00	yes

Quality Control

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

Metals Strong Acid Digestion - Continued

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Thallium	mg/kg	0.07	0.04	0.11	yes
Tin	mg/kg	9.8	4.0	16.0	yes
Uranium	mg/kg	<0.5	0.3	0.7	yes
Vanadium	mg/kg	30.7	17.8	46.9	yes
Zinc	mg/kg	357	195	514	yes

Metals Total

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
1667971-4		August 18, 2017			
Mercury	µg/L	0.0005334	-0.038000	0.070000	yes
1668660-44		August 21, 2017			
Aluminum	mg/L	-0.00385	-0.02	0.02	yes
Calcium	mg/L	-0.0096	-0.1	0.1	yes
Iron	mg/L	-0.005	-0.01	0.02	yes
Magnesium	mg/L	-0.013	-0.04	0.04	yes
Manganese	mg/L	-0.0002	-0.003	0.003	yes
Potassium	mg/L	-0.082	-0.1	0.2	yes
Silicon	mg/L	0.003	-0.03	0.04	yes
Sodium	mg/L	-0.1134	-0.1	0.2	yes
Sulfur	mg/L	-0.0157	-0.1	0.2	yes
1668686-5		August 21, 2017			
Antimony	µg/L	0.00767088	-0.2	0.2	yes
Arsenic	µg/L	0.00445725	-0.2	0.2	yes
Barium	µg/L	0.0276761	-1	1	yes
Beryllium	µg/L	0.000783614	-0.1	0.1	yes
Bismuth	µg/L	0.00451755	-0.5	0.5	yes
Boron	µg/L	1.10056	-1	3	yes
Cadmium	µg/L	-0.00027092	-0.007	0.012	yes
Chromium	µg/L	0.210309	-0.7	0.3	yes
Cobalt	µg/L	0.00305501	-0.1	0.1	yes
Copper	µg/L	0.137589	-1	1	yes
Lead	µg/L	0.00576393	-0.1	0.1	yes
Lithium	µg/L	0.0833326	-1	1	yes
Molybdenum	µg/L	0.0883773	-1	1	yes
Nickel	µg/L	0.0158191	-0.5	0.5	yes
Selenium	µg/L	0.000827514	-0.2	0.2	yes
Silver	µg/L	0.00223503	-0.02	0.10	yes
Strontium	µg/L	0.0174997	-1	1	yes
Thallium	µg/L	0.00104144	-0.05	0.05	yes
Tin	µg/L	0.041375	-1	1	yes
Titanium	µg/L	0.0987137	-0.5	0.5	yes
Uranium	µg/L	0.0019497	-0.5	0.5	yes
Vanadium	µg/L	0.0335943	-0.1	0.1	yes
Zinc	µg/L	0.584783	-0	1	yes

Quality Control

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

Metals Total - Continued

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Zirconium	µg/L	0.0116102	-1	1	yes
1668686-44		August 21, 2017			
Antimony	µg/L	0.00230722	-0.2	0.2	yes
Arsenic	µg/L	0.00625911	-0.2	0.2	yes
Barium	µg/L	0.0205837	-1	1	yes
Beryllium	µg/L	-1.19251e-005	-0.1	0.1	yes
Bismuth	µg/L	0.00319679	-0.5	0.5	yes
Boron	µg/L	0.890244	-1	3	yes
Cadmium	µg/L	0.000705013	-0.007	0.012	yes
Chromium	µg/L	0.0417141	-0.7	0.3	yes
Cobalt	µg/L	0.00210255	-0.1	0.1	yes
Copper	µg/L	0.0946537	-1	1	yes
Lead	µg/L	0.00977976	-0.1	0.1	yes
Lithium	µg/L	0.0946431	-1	1	yes
Molybdenum	µg/L	0.0808521	-1	1	yes
Nickel	µg/L	0.0133478	-0.5	0.5	yes
Selenium	µg/L	0.000775967	-0.2	0.2	yes
Silver	µg/L	0.00213514	-0.02	0.10	yes
Strontium	µg/L	0.0387816	-1	1	yes
Thallium	µg/L	0.000291592	-0.05	0.05	yes
Tin	µg/L	0.0568663	-1	1	yes
Titanium	µg/L	0.0925678	-0.5	0.5	yes
Uranium	µg/L	0.000968684	-0.5	0.5	yes
Vanadium	µg/L	0.0406047	-0.1	0.1	yes
Zinc	µg/L	0.342419	-0	1	yes
Zirconium	µg/L	0.00785331	-1	1	yes
1669035-5		August 22, 2017			
Aluminum	mg/L	-0.002	-0.02	0.02	yes
Calcium	mg/L	0.0042	-0.1	0.1	yes
Iron	mg/L	0.0064	-0.01	0.02	yes
Magnesium	mg/L	-0.0081	-0.04	0.04	yes
Manganese	mg/L	0.0001	-0.003	0.003	yes
Potassium	mg/L	0.0313	-0.1	0.2	yes
Silicon	mg/L	0.0023	-0.03	0.04	yes
Sodium	mg/L	0.0224	-0.1	0.2	yes
Sulfur	mg/L	-0.0006	-0.1	0.2	yes
1669035-43		August 22, 2017			
Aluminum	mg/L	-0.0198	-0.02	0.02	yes
Calcium	mg/L	-0.0109	-0.1	0.1	yes
Iron	mg/L	-0.0104	-0.01	0.02	yes
Magnesium	mg/L	-0.0218	-0.04	0.04	yes
Manganese	mg/L	-0.0002	-0.003	0.003	yes
Potassium	mg/L	-0.0659	-0.1	0.2	yes
Silicon	mg/L	-0.0024	-0.03	0.04	yes

Quality Control

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

Metals Total - Continued

Blanks	Units	Measured	Lower Limit	Upper Limit		Passed QC
Sodium	mg/L	-0.0855	-0.1	0.2		yes
Sulfur	mg/L	-0.0115	-0.1	0.2		yes
1669036-5		August 22, 2017				
Antimony	µg/L	0.00356153	-0.2	0.2		yes
Arsenic	µg/L	0.000974935	-0.2	0.2		yes
Barium	µg/L	-0.00544433	-1	1		yes
Beryllium	µg/L	0.00203363	-0.1	0.1		yes
Bismuth	µg/L	0.00530136	-0.5	0.5		yes
Boron	µg/L	0.768013	-1	3		yes
Cadmium	µg/L	-0.000727149	-0.007	0.012		yes
Chromium	µg/L	0.0459239	-0.7	0.3		yes
Cobalt	µg/L	0.00157126	-0.1	0.1		yes
Copper	µg/L	0.0438735	-1	1		yes
Lead	µg/L	0.002707	-0.1	0.1		yes
Lithium	µg/L	0.0453971	-1	1		yes
Molybdenum	µg/L	0.0415909	-1	1		yes
Nickel	µg/L	0.00702018	-0.5	0.5		yes
Selenium	µg/L	0.00410724	-0.2	0.2		yes
Silver	µg/L	-0.00178634	-0.02	0.10		yes
Strontium	µg/L	-0.0797522	-1	1		yes
Thallium	µg/L	0.00156334	-0.05	0.05		yes
Tin	µg/L	-0.109836	-1	1		yes
Titanium	µg/L	0.0502044	-0.5	0.5		yes
Uranium	µg/L	0.00165382	-0.5	0.5		yes
Vanadium	µg/L	0.00173264	-0.1	0.1		yes
Zinc	µg/L	0.0413749	-0	1		yes
Zirconium	µg/L	0.00140833	-1	1		yes
Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
1667971-5		August 18, 2017				
Mercury	mg/L	<0.000005	<0.000005	10	0.000030	yes
1667971-22		August 18, 2017				
Mercury	mg/L	<0.000005	<0.000005	10	0.000030	yes
1668660-39		August 21, 2017				
Aluminum	mg/L	5.48	5.22	15	0.03	yes
Calcium	mg/L	101	99.3	15	0.6	yes
Iron	mg/L	41.2	40.2	15	0.20	yes
Magnesium	mg/L	29.2	28.5	15	0.40	yes
Manganese	mg/L	1.02	0.990	15	0.010	yes
Potassium	mg/L	14	13	15	1.2	yes
Silicon	mg/L	21.0	20.2	15	0.10	yes
Sodium	mg/L	416	403	15	1.2	yes
Sulfur	mg/L	59.7	57.8	15	0.1	yes

1668660-57 August 21, 2017

Quality Control

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

Metals Total - Continued

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
Aluminum	mg/L	1.04	0.94	15	0.03	yes
Calcium	mg/L	69.5	70.4	15	0.6	yes
Iron	mg/L	0.43	0.39	15	0.20	yes
Magnesium	mg/L	30.2	30.7	15	0.40	yes
Manganese	mg/L	0.006	0.006	15	0.010	yes
Potassium	mg/L	2.5	2.5	15	1.2	yes
Silicon	mg/L	4.68	4.12	15	0.10	yes
Sodium	mg/L	12.2	12.3	15	1.2	yes
Sulfur	mg/L	27.6	28.1	15	0.1	yes
1668686-25 August 21, 2017						
Antimony	µg/L	<0.2	<0.2	15	0.4	yes
Arsenic	µg/L	0.3	0.3	15	0.4	yes
Barium	µg/L	187	182	15	2	yes
Beryllium	µg/L	<0.1	<0.1	15	0.2	yes
Bismuth	µg/L	<0.5	<0.5	15	1.1	yes
Boron	µg/L	197	199	15	4	yes
Cadmium	µg/L	0.03	0.04	15	0.022	yes
Chromium	µg/L	1.2	0.7	15	1.1	yes
Cobalt	µg/L	0.3	0.3	15	0.2	yes
Copper	µg/L	2	2	15	2	yes
Lead	µg/L	0.2	0.2	15	0.2	yes
Lithium	µg/L	7	7	15	2	yes
Molybdenum	µg/L	1	1	15	2	yes
Nickel	µg/L	1.3	1.3	15	1.1	yes
Selenium	µg/L	0.5	0.4	15	0.4	yes
Silver	µg/L	0.01	0.01	15	0.22	yes
Strontium	µg/L	491	467	15	2	yes
Thallium	µg/L	<0.05	<0.05	15	0.11	yes
Tin	µg/L	<1	<1	15	2	yes
Titanium	µg/L	4.2	3.6	15	1.1	yes
Uranium	µg/L	1.2	1.2	15	1.1	yes
Vanadium	µg/L	0.5	0.5	15	0.2	yes
Zinc	µg/L	4	4	15	2	yes
Zirconium	µg/L	<1	<1	15	2	yes
1668686-47 August 21, 2017						
Antimony	µg/L	<0.4	<0.4	15	0.4	yes
Arsenic	µg/L	<0.4	<0.4	15	0.4	yes
Barium	µg/L	<2	<2	15	2	yes
Boron	µg/L	218	227	15	4	yes
Cadmium	µg/L	<0.02	<0.02	15	0.022	yes
Chromium	µg/L	<1	<1	15	1.1	yes
Copper	µg/L	20	22	15	2	yes
Lead	µg/L	1	2	15	0.2	yes
Selenium	µg/L	<0.4	<0.4	15	0.4	yes

Quality Control

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

Metals Total - Continued

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
Silver	µg/L	<0.02	<0.02	15	0.22	yes
Uranium	µg/L	<1	<1	15	1.1	yes
Zinc	µg/L	32	32	15	2	yes
1669035-15 August 22, 2017						
Aluminum	mg/L	<0.5	<0.5	15	0.03	yes
Calcium	mg/L	624	633	15	0.6	yes
Iron	mg/L	10	9.9	15	0.20	yes
Magnesium	mg/L	323	326	15	0.40	yes
Manganese	mg/L	0.67	0.67	15	0.010	yes
Potassium	mg/L	272	273	15	1.2	yes
Silicon	mg/L	4.1	3.8	15	0.10	yes
Sodium	mg/L	18200	18400	15	1.2	yes
Sulfur	mg/L	<8	<8	15	0.1	yes
1669035-31 August 22, 2017						
Aluminum	mg/L	1.1	1.0	15	0.03	yes
Calcium	mg/L	55.3	56.8	15	0.6	yes
Iron	mg/L	8.19	8.26	15	0.20	yes
Magnesium	mg/L	19	19.9	15	0.40	yes
Manganese	mg/L	0.991	1.02	15	0.010	yes
Potassium	mg/L	12	13	15	1.2	yes
Silicon	mg/L	8.09	7.25	15	0.10	yes
Sodium	mg/L	554	574	15	1.2	yes
Sulfur	mg/L	116	120	15	0.1	yes
1669036-20 August 22, 2017						
Antimony	µg/L	<0.4	<0.4	15	0.4	yes
Arsenic	µg/L	5.9	6.0	15	0.4	yes
Barium	µg/L	68	67	15	2	yes
Beryllium	µg/L	<0.2	<0.2	15	0.2	yes
Bismuth	µg/L	<1	<1	15	1.1	yes
Boron	µg/L	2510	2470	15	4	yes
Cadmium	µg/L	0.25	0.27	15	0.022	yes
Chromium	µg/L	2.4	2.4	15	1.1	yes
Cobalt	µg/L	6.8	6.6	15	0.2	yes
Copper	µg/L	5	6	15	2	yes
Lead	µg/L	2.2	2.2	15	0.2	yes
Lithium	µg/L	235	233	15	2	yes
Molybdenum	µg/L	19	19	15	2	yes
Nickel	µg/L	18	19	15	1.1	yes
Selenium	µg/L	<0.4	<0.4	15	0.4	yes
Silver	µg/L	<0.02	<0.02	15	0.22	yes
Strontium	µg/L	945	931	15	2	yes
Thallium	µg/L	<0.1	<0.1	15	0.11	yes
Tin	µg/L	<2	<2	15	2	yes
Titanium	µg/L	27.1	27.3	15	1.1	yes

Quality Control

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

Metals Total - Continued

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
Uranium	µg/L	3.7	3.6	15	1.1	yes
Vanadium	µg/L	3.2	3.1	15	0.2	yes
Zinc	µg/L	18	18	15	2	yes
Zirconium	µg/L	4	4	15	2	yes
Control Sample	Units	Measured	Lower Limit	Upper Limit		Passed QC
1668660-43		August 21, 2017				
Aluminum	mg/L	4.23	3.61	4.45		yes
Calcium	mg/L	52.1	47.9	57.9		yes
Iron	mg/L	2.11	1.91	2.27		yes
Magnesium	mg/L	19.9	18.14	22.14		yes
Manganese	mg/L	0.532	0.472	0.568		yes
Potassium	mg/L	52.8	46.8	56.8		yes
Silicon	mg/L	2.14	1.90	2.30		yes
Sodium	mg/L	54.1	47.6	57.6		yes
Sulfur	mg/L	10.5	9.2	11.2		yes
1668686-4		August 21, 2017				
Antimony	µg/L	12.1	10.8	13.2		yes
Arsenic	µg/L	12.2	11.3	12.9		yes
Barium	µg/L	62	54	68		yes
Beryllium	µg/L	6.2	4.9	6.8		yes
Bismuth	µg/L	30.3	26.2	35.8		yes
Boron	µg/L	128	102	139		yes
Cadmium	µg/L	0.62	0.567	0.687		yes
Chromium	µg/L	31.1	26.5	33.7		yes
Cobalt	µg/L	6.1	5.2	6.8		yes
Copper	µg/L	60	53	67		yes
Lead	µg/L	6.1	5.2	7.1		yes
Lithium	µg/L	64	53	77		yes
Molybdenum	µg/L	61	56	66		yes
Nickel	µg/L	31.6	28.9	33.1		yes
Selenium	µg/L	12.0	9.9	13.5		yes
Silver	µg/L	6.36	5.39	7.13		yes
Strontium	µg/L	61	54	69		yes
Thallium	µg/L	3.15	2.81	3.89		yes
Tin	µg/L	63	56	66		yes
Titanium	µg/L	30.8	26.6	35.7		yes
Uranium	µg/L	31.0	25.7	36.3		yes
Vanadium	µg/L	6.2	5.1	7.2		yes
Zinc	µg/L	62	53	67		yes
Zirconium	µg/L	63	53	67		yes
1668686-43		August 21, 2017				
Antimony	µg/L	11.5	10.8	13.2		yes
Arsenic	µg/L	11.9	11.3	12.9		yes
Barium	µg/L	59	54	68		yes

Quality Control

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

Metals Total - Continued

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Beryllium	µg/L	5.8	4.9	6.8	yes
Bismuth	µg/L	29.2	26.2	35.8	yes
Boron	µg/L	121	102	139	yes
Cadmium	µg/L	0.58	0.567	0.687	yes
Chromium	µg/L	29.9	26.5	33.7	yes
Cobalt	µg/L	5.9	5.2	6.8	yes
Copper	µg/L	58	53	67	yes
Lead	µg/L	6.0	5.2	7.1	yes
Lithium	µg/L	60	53	77	yes
Molybdenum	µg/L	59	56	66	yes
Nickel	µg/L	29.9	28.9	33.1	yes
Selenium	µg/L	11.7	9.9	13.5	yes
Silver	µg/L	5.99	5.39	7.13	yes
Strontium	µg/L	58	54	69	yes
Thallium	µg/L	3.01	2.81	3.89	yes
Tin	µg/L	60	56	66	yes
Titanium	µg/L	29.4	26.6	35.7	yes
Uranium	µg/L	29.9	25.7	36.3	yes
Vanadium	µg/L	6.0	5.1	7.2	yes
Zinc	µg/L	60	53	67	yes
Zirconium	µg/L	61	53	67	yes
1669035-4 August 22, 2017					
Aluminum	mg/L	4.09	3.61	4.45	yes
Calcium	mg/L	50.9	47.9	57.9	yes
Iron	mg/L	2.03	1.91	2.27	yes
Magnesium	mg/L	19.4	18.14	22.14	yes
Manganese	mg/L	0.518	0.472	0.568	yes
Potassium	mg/L	50.4	46.8	56.8	yes
Silicon	mg/L	2.08	1.90	2.30	yes
Sodium	mg/L	52.0	47.6	57.6	yes
Sulfur	mg/L	10.3	9.2	11.2	yes
1669035-42 August 22, 2017					
Aluminum	mg/L	4.15	3.61	4.45	yes
Calcium	mg/L	51.5	47.9	57.9	yes
Iron	mg/L	2.08	1.91	2.27	yes
Magnesium	mg/L	19.7	18.14	22.14	yes
Manganese	mg/L	0.524	0.472	0.568	yes
Potassium	mg/L	51.3	46.8	56.8	yes
Silicon	mg/L	2.12	1.90	2.30	yes
Sodium	mg/L	53.4	47.6	57.6	yes
Sulfur	mg/L	10.4	9.2	11.2	yes
1669036-4 August 22, 2017					
Antimony	µg/L	11.8	10.8	13.2	yes
Arsenic	µg/L	11.4	11.3	12.9	yes

Quality Control

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

Metals Total - Continued

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Barium	µg/L	60	54	68	yes
Beryllium	µg/L	5.8	4.9	6.8	yes
Bismuth	µg/L	30.6	26.2	35.8	yes
Boron	µg/L	119	102	139	yes
Cadmium	µg/L	0.60	0.567	0.687	yes
Chromium	µg/L	29.2	26.5	33.7	yes
Cobalt	µg/L	5.8	5.2	6.8	yes
Copper	µg/L	58	53	67	yes
Lead	µg/L	6.2	5.2	7.1	yes
Lithium	µg/L	59	53	77	yes
Molybdenum	µg/L	57	56	66	yes
Nickel	µg/L	29.3	28.9	33.1	yes
Selenium	µg/L	11.6	9.9	13.5	yes
Silver	µg/L	5.84	5.39	7.13	yes
Strontium	µg/L	58	54	69	yes
Thallium	µg/L	3.11	2.81	3.89	yes
Tin	µg/L	60	56	66	yes
Titanium	µg/L	29.4	26.6	35.7	yes
Uranium	µg/L	30.9	25.7	36.3	yes
Vanadium	µg/L	5.7	5.1	7.2	yes
Zinc	µg/L	59	53	67	yes
Zirconium	µg/L	58	53	67	yes
1667971-3 August 18, 2017					
Mercury	mg/L	0.000412	0.000310	0.000490	yes
1668686-30 August 21, 2017					
Antimony	µg/L	40.7	37.5	43.1	yes
Arsenic	µg/L	39.9	36.5	43.5	yes
Barium	µg/L	189	186	216	yes
Beryllium	µg/L	20.0	17.1	21.9	yes
Bismuth	µg/L	97.1	91.3	106.3	yes
Boron	µg/L	381	343	436	yes
Cadmium	µg/L	2.08	1.915	2.205	yes
Chromium	µg/L	98.6	90.0	110.0	yes
Cobalt	µg/L	19.7	18.1	21.7	yes
Copper	µg/L	196	189	214	yes
Lead	µg/L	19.9	18.0	24.0	yes
Lithium	µg/L	194	173	222	yes
Molybdenum	µg/L	205	189	225	yes
Nickel	µg/L	99.4	90.0	110.0	yes
Selenium	µg/L	40.7	37.2	43.6	yes
Silver	µg/L	20.3	18.00	22.00	yes
Strontium	µg/L	196	171	231	yes
Thallium	µg/L	9.48	9.16	10.96	yes
Tin	µg/L	204	190	218	yes

Quality Control

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

Metals Total - Continued

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Titanium	µg/L	97.7	93.2	107.0	yes
Uranium	µg/L	101	90.2	109.0	yes
Vanadium	µg/L	19.7	16.9	22.1	yes
Zinc	µg/L	200	183	218	yes
1669036-3 August 22, 2017					
Antimony	µg/L	40.6	37.5	43.1	yes
Arsenic	µg/L	39.6	36.5	43.5	yes
Barium	µg/L	199	186	216	yes
Beryllium	µg/L	19.8	17.1	21.9	yes
Bismuth	µg/L	98.7	91.3	106.3	yes
Boron	µg/L	376	343	436	yes
Cadmium	µg/L	2.01	1.915	2.205	yes
Chromium	µg/L	97.7	90.0	110.0	yes
Cobalt	µg/L	19.8	18.1	21.7	yes
Copper	µg/L	197	189	214	yes
Lead	µg/L	20.4	18.0	24.0	yes
Lithium	µg/L	192	173	222	yes
Molybdenum	µg/L	195	189	225	yes
Nickel	µg/L	97.9	90.0	110.0	yes
Selenium	µg/L	39.6	37.2	43.6	yes
Silver	µg/L	19.9	18.00	22.00	yes
Strontium	µg/L	199	171	231	yes
Thallium	µg/L	9.77	9.16	10.96	yes
Tin	µg/L	203	190	218	yes
Titanium	µg/L	97.5	93.2	107.0	yes
Uranium	µg/L	102	90.2	109.0	yes
Vanadium	µg/L	19.5	16.9	22.1	yes
Zinc	µg/L	200	183	218	yes
1669036-29 August 22, 2017					
Antimony	µg/L	40.7	37.5	43.1	yes
Arsenic	µg/L	38.8	36.5	43.5	yes
Barium	µg/L	196	186	216	yes
Beryllium	µg/L	20.1	17.1	21.9	yes
Bismuth	µg/L	99.0	91.3	106.3	yes
Boron	µg/L	376	343	436	yes
Cadmium	µg/L	2.00	1.915	2.205	yes
Chromium	µg/L	96.5	90.0	110.0	yes
Cobalt	µg/L	19.7	18.1	21.7	yes
Copper	µg/L	194	189	214	yes
Lead	µg/L	20.3	18.0	24.0	yes
Lithium	µg/L	190	173	222	yes
Molybdenum	µg/L	195	189	225	yes
Nickel	µg/L	96.9	90.0	110.0	yes
Selenium	µg/L	39.2	37.2	43.6	yes

Quality Control

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

Metals Total - Continued

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Silver	µg/L	19.8	18.00	22.00	yes
Strontium	µg/L	193	171	231	yes
Thallium	µg/L	9.60	9.16	10.96	yes
Tin	µg/L	202	190	218	yes
Titanium	µg/L	96.9	93.2	107.0	yes
Uranium	µg/L	103	90.2	109.0	yes
Vanadium	µg/L	19.2	16.9	22.1	yes
Zinc	µg/L	196	183	218	yes
1667971-2		August 18, 2017			
Mercury	mg/L	0.000103	0.000091	0.000109	yes
1668686-29		August 21, 2017			
Antimony	µg/L	12.4	10.8	13.2	yes
Arsenic	µg/L	12.2	10.8	13.2	yes
Barium	µg/L	60	55	67	yes
Beryllium	µg/L	6.1	5.2	6.5	yes
Bismuth	µg/L	31.4	27.5	33.5	yes
Boron	µg/L	124	108	132	yes
Cadmium	µg/L	0.63	0.560	0.692	yes
Chromium	µg/L	31.0	27.0	33.0	yes
Cobalt	µg/L	6.1	5.4	6.6	yes
Copper	µg/L	60	54	66	yes
Lead	µg/L	6.3	5.4	6.6	yes
Lithium	µg/L	63	53	66	yes
Molybdenum	µg/L	62	54	66	yes
Nickel	µg/L	31.7	27.0	33.0	yes
Selenium	µg/L	12.8	10.3	13.4	yes
Silver	µg/L	6.34	5.40	6.60	yes
Strontium	µg/L	61	54	66	yes
Thallium	µg/L	3.07	0.00	6.00	yes
Tin	µg/L	63	54	66	yes
Titanium	µg/L	31.4	27.0	33.0	yes
Uranium	µg/L	31.2	27.0	33.0	yes
Vanadium	µg/L	6.1	5.4	6.6	yes
Zinc	µg/L	64	57	66	yes
Zirconium	µg/L	63	54	66	yes
1669036-2		August 22, 2017			
Antimony	µg/L	12.2	10.8	13.2	yes
Arsenic	µg/L	12.2	10.8	13.2	yes
Barium	µg/L	61	55	67	yes
Beryllium	µg/L	6.0	5.2	6.5	yes
Bismuth	µg/L	30.3	27.5	33.5	yes
Boron	µg/L	120	108	132	yes
Cadmium	µg/L	0.61	0.560	0.692	yes
Chromium	µg/L	30.1	27.0	33.0	yes

Quality Control

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

Metals Total - Continued

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Cobalt	µg/L	6.0	5.4	6.6	yes
Copper	µg/L	60	54	66	yes
Lead	µg/L	6.2	5.4	6.6	yes
Lithium	µg/L	62	53	66	yes
Molybdenum	µg/L	59	54	66	yes
Nickel	µg/L	30.4	27.0	33.0	yes
Selenium	µg/L	11.7	10.3	13.4	yes
Silver	µg/L	6.10	5.40	6.60	yes
Strontium	µg/L	59	54	66	yes
Thallium	µg/L	3.02	0.00	6.00	yes
Tin	µg/L	63	54	66	yes
Titanium	µg/L	30.4	27.0	33.0	yes
Uranium	µg/L	31.3	27.0	33.0	yes
Vanadium	µg/L	6.0	5.4	6.6	yes
Zinc	µg/L	60	57	66	yes
Zirconium	µg/L	61	54	66	yes
1669036-28 August 22, 2017					
Antimony	µg/L	12.3	10.8	13.2	yes
Arsenic	µg/L	12.1	10.8	13.2	yes
Barium	µg/L	61	55	67	yes
Beryllium	µg/L	6.2	5.2	6.5	yes
Bismuth	µg/L	30.7	27.5	33.5	yes
Boron	µg/L	125	108	132	yes
Cadmium	µg/L	0.62	0.560	0.692	yes
Chromium	µg/L	29.9	27.0	33.0	yes
Cobalt	µg/L	6.0	5.4	6.6	yes
Copper	µg/L	61	54	66	yes
Lead	µg/L	6.4	5.4	6.6	yes
Lithium	µg/L	64	53	66	yes
Molybdenum	µg/L	59	54	66	yes
Nickel	µg/L	30.6	27.0	33.0	yes
Selenium	µg/L	11.7	10.3	13.4	yes
Silver	µg/L	6.10	5.40	6.60	yes
Strontium	µg/L	60	54	66	yes
Thallium	µg/L	3.10	0.00	6.00	yes
Tin	µg/L	64	54	66	yes
Titanium	µg/L	29.6	27.0	33.0	yes
Uranium	µg/L	32.7	27.0	33.0	yes
Vanadium	µg/L	6.0	5.4	6.6	yes
Zinc	µg/L	61	57	66	yes
Zirconium	µg/L	61	54	66	yes
1667971-1 August 18, 2017					
Mercury	mg/L	0.000021	0.000015	0.000025	yes
1668686-28 August 21, 2017					

Quality Control

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

Metals Total - Continued

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Antimony	µg/L	2.0	1.8	2.2	yes
Arsenic	µg/L	2.1	1.7	2.2	yes
Barium	µg/L	10	9	11	yes
Beryllium	µg/L	1.0	0.8	1.1	yes
Bismuth	µg/L	5.0	4.8	5.7	yes
Boron	µg/L	22	17	23	yes
Cadmium	µg/L	0.11	0.089	0.113	yes
Chromium	µg/L	5.1	4.6	5.4	yes
Cobalt	µg/L	1.0	0.9	1.1	yes
Copper	µg/L	10	9	11	yes
Lead	µg/L	1.0	0.9	1.1	yes
Lithium	µg/L	10	9	11	yes
Molybdenum	µg/L	10	9	11	yes
Nickel	µg/L	5.2	4.5	5.5	yes
Selenium	µg/L	2.0	1.6	2.2	yes
Silver	µg/L	1.04	0.89	1.13	yes
Strontium	µg/L	10	9	11	yes
Thallium	µg/L	0.50	0.47	0.57	yes
Tin	µg/L	10	9	11	yes
Titanium	µg/L	4.9	4.2	5.7	yes
Uranium	µg/L	5.2	4.7	5.6	yes
Vanadium	µg/L	1.1	0.9	1.2	yes
Zinc	µg/L	10	9	11	yes
Zirconium	µg/L	10	9	11	yes
1669036-1 August 22, 2017					
Antimony	µg/L	2.0	1.8	2.2	yes
Arsenic	µg/L	2.0	1.7	2.2	yes
Barium	µg/L	10	9	11	yes
Beryllium	µg/L	1.0	0.8	1.1	yes
Bismuth	µg/L	5.1	4.8	5.7	yes
Boron	µg/L	20	17	23	yes
Cadmium	µg/L	0.11	0.089	0.113	yes
Chromium	µg/L	5.0	4.6	5.4	yes
Cobalt	µg/L	1.0	0.9	1.1	yes
Copper	µg/L	10	9	11	yes
Lead	µg/L	1.0	0.9	1.1	yes
Lithium	µg/L	10	9	11	yes
Molybdenum	µg/L	10	9	11	yes
Nickel	µg/L	5.0	4.5	5.5	yes
Selenium	µg/L	1.9	1.6	2.2	yes
Silver	µg/L	0.99	0.89	1.13	yes
Strontium	µg/L	10	9	11	yes
Thallium	µg/L	0.49	0.47	0.57	yes
Tin	µg/L	10	9	11	yes

Quality Control

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

Metals Total - Continued

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Titanium	µg/L	5.0	4.2	5.7	yes
Uranium	µg/L	5.3	4.7	5.6	yes
Vanadium	µg/L	1.0	0.9	1.2	yes
Zinc	µg/L	10	9	11	yes
Zirconium	µg/L	11	9	11	yes
1669036-27 August 22, 2017					
Antimony	µg/L	2.0	1.8	2.2	yes
Arsenic	µg/L	2.0	1.7	2.2	yes
Barium	µg/L	10	9	11	yes
Beryllium	µg/L	1.0	0.8	1.1	yes
Bismuth	µg/L	5.3	4.8	5.7	yes
Boron	µg/L	21	17	23	yes
Cadmium	µg/L	0.10	0.089	0.113	yes
Chromium	µg/L	5.0	4.6	5.4	yes
Cobalt	µg/L	1.0	0.9	1.1	yes
Copper	µg/L	10	9	11	yes
Lead	µg/L	1.1	0.9	1.1	yes
Lithium	µg/L	10	9	11	yes
Molybdenum	µg/L	10	9	11	yes
Nickel	µg/L	5.0	4.5	5.5	yes
Selenium	µg/L	1.9	1.6	2.2	yes
Silver	µg/L	1.01	0.89	1.13	yes
Strontium	µg/L	10	9	11	yes
Thallium	µg/L	0.51	0.47	0.57	yes
Tin	µg/L	10	9	11	yes
Titanium	µg/L	5.3	4.2	5.7	yes
Uranium	µg/L	5.4	4.7	5.6	yes
Vanadium	µg/L	1.0	0.9	1.2	yes
Zinc	µg/L	10	9	11	yes
Zirconium	µg/L	11	9	11	yes
1668660-3 August 21, 2017					
Aluminum	mg/L	19.7	18.80	20.60	yes
Calcium	mg/L	242	236.0	263.6	yes
Iron	mg/L	9.42	9.16	10.24	yes
Magnesium	mg/L	95.5	92.78	104.72	yes
Manganese	mg/L	2.40	2.290	2.590	yes
Potassium	mg/L	252	234.2	261.8	yes
Silicon	mg/L	9.92	9.13	10.93	yes
Sodium	mg/L	250	228.8	269.4	yes
Sulfur	mg/L	150	135.5	165.3	yes
1669035-3 August 22, 2017					
Aluminum	mg/L	20.1	18.80	20.60	yes
Calcium	mg/L	244	236.0	263.6	yes
Iron	mg/L	9.45	9.16	10.24	yes

Quality Control

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

Metals Total - Continued

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Magnesium	mg/L	96.0	92.78	104.72	yes
Manganese	mg/L	2.41	2.290	2.590	yes
Potassium	mg/L	257	234.2	261.8	yes
Silicon	mg/L	10.1	9.13	10.93	yes
Sodium	mg/L	252	228.8	269.4	yes
Sulfur	mg/L	151	135.5	165.3	yes
1668660-2 August 21, 2017					
Aluminum	mg/L	4.03	3.49	4.47	yes
Calcium	mg/L	51.1	46.5	56.5	yes
Iron	mg/L	2.02	1.87	2.27	yes
Magnesium	mg/L	19.5	18.05	22.07	yes
Manganese	mg/L	0.514	0.466	0.568	yes
Potassium	mg/L	51.8	45.4	55.5	yes
Silicon	mg/L	2.06	1.93	2.24	yes
Sodium	mg/L	51.8	45.9	55.9	yes
Sulfur	mg/L	10.1	9.3	11.3	yes
1669035-2 August 22, 2017					
Aluminum	mg/L	4.07	3.49	4.47	yes
Calcium	mg/L	51.4	46.5	56.5	yes
Iron	mg/L	2.03	1.87	2.27	yes
Magnesium	mg/L	19.6	18.05	22.07	yes
Manganese	mg/L	0.516	0.466	0.568	yes
Potassium	mg/L	52.3	45.4	55.5	yes
Silicon	mg/L	2.10	1.93	2.24	yes
Sodium	mg/L	52.1	45.9	55.9	yes
Sulfur	mg/L	10.2	9.3	11.3	yes
1668660-1 August 21, 2017					
Aluminum	mg/L	0.38	0.36	0.44	yes
Calcium	mg/L	5.1	4.8	5.8	yes
Iron	mg/L	0.21	0.19	0.25	yes
Magnesium	mg/L	1.9	1.84	2.20	yes
Manganese	mg/L	0.053	0.047	0.059	yes
Potassium	mg/L	5.4	4.7	5.7	yes
Silicon	mg/L	0.20	0.17	0.23	yes
Sodium	mg/L	5.3	4.8	5.6	yes
Sulfur	mg/L	3.0	2.8	3.3	yes
1669035-1 August 22, 2017					
Aluminum	mg/L	0.39	0.36	0.44	yes
Calcium	mg/L	5.1	4.8	5.8	yes
Iron	mg/L	0.22	0.19	0.25	yes
Magnesium	mg/L	2.0	1.84	2.20	yes
Manganese	mg/L	0.053	0.047	0.059	yes
Potassium	mg/L	5.4	4.7	5.7	yes
Silicon	mg/L	0.21	0.17	0.23	yes

Quality Control

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

Metals Total - Continued

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Sodium	mg/L	5.3	4.8	5.6	yes
Sulfur	mg/L	3.0	2.8	3.3	yes

Mono-Aromatic Hydrocarbons - Soil

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
1668119-16		August 18, 2017			
Benzene	ng	0	-0.005	0.005	yes
Toluene	ng	0	-0.06	0.06	yes
Ethylbenzene	ng	0	-0.030	0.030	yes
Total Xylenes (m,p,o)	ng	0	-0.09	0.09	yes
Styrene	ng	0	-0.030	0.030	yes
1668120-16		August 18, 2017			
Benzene	ng	0	-0.005	0.005	yes
Toluene	ng	0	-0.06	0.06	yes
Ethylbenzene	ng	0	-0.030	0.030	yes
Total Xylenes (m,p,o)	ng	0	-0.09	0.09	yes
Styrene	ng	0	-0.030	0.030	yes
1668121-16		August 18, 2017			
Benzene	ng	0	-0.005	0.005	yes
Toluene	ng	0	-0.06	0.06	yes
Ethylbenzene	ng	0	-0.030	0.030	yes
Total Xylenes (m,p,o)	ng	0	-0.09	0.09	yes
Styrene	ng	0	-0.030	0.030	yes
1668122-16		August 18, 2017			
Benzene	ng	0	-0.005	0.005	yes
Toluene	ng	0	-0.06	0.06	yes
Ethylbenzene	ng	0	-0.030	0.030	yes
Total Xylenes (m,p,o)	ng	0	-0.09	0.09	yes
Styrene	ng	0	-0.030	0.030	yes
1668123-16		August 18, 2017			
Benzene	ng	0	-0.005	0.005	yes
Toluene	ng	0	-0.06	0.06	yes
Ethylbenzene	ng	0	-0.030	0.030	yes
Total Xylenes (m,p,o)	ng	0	-0.09	0.09	yes
Styrene	ng	0	-0.030	0.030	yes
1668124-16		August 18, 2017			
Benzene	ng	0	-0.005	0.005	yes
Toluene	ng	0	-0.06	0.06	yes
Ethylbenzene	ng	0	-0.030	0.030	yes
Total Xylenes (m,p,o)	ng	0	-0.09	0.09	yes
Styrene	ng	0	-0.030	0.030	yes
1668125-16		August 18, 2017			
Benzene	ng	0	-0.005	0.005	yes

Quality Control

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

Mono-Aromatic Hydrocarbons - Soil - Continued

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Toluene	ng	0	-0.06	0.06	yes
Ethylbenzene	ng	0	-0.030	0.030	yes
Total Xylenes (m,p,o)	ng	0	-0.09	0.09	yes
Styrene	ng	0	-0.030	0.030	yes
1668126-16		August 18, 2017			
Benzene	ng	0	-0.005	0.005	yes
Toluene	ng	0	-0.06	0.06	yes
Ethylbenzene	ng	0	-0.030	0.030	yes
Total Xylenes (m,p,o)	ng	0	-0.09	0.09	yes
Styrene	ng	0	-0.030	0.030	yes
Calibration Check	Units	% Recovery	Lower Limit	Upper Limit	Passed QC
1668119-15		August 18, 2017			
Benzene	ng	94.80	80	120	yes
Toluene	ng	101.60	80	120	yes
Ethylbenzene	ng	104.20	80	120	yes
Total Xylenes (m,p,o)	ng	106.67	80	120	yes
Styrene	ng	101.60	80	120	yes
1668120-15		August 18, 2017			
Benzene	ng	106.60	80	120	yes
Toluene	ng	99.20	80	120	yes
Ethylbenzene	ng	96.40	80	120	yes
Total Xylenes (m,p,o)	ng	104.00	80	120	yes
Styrene	ng	100.20	80	120	yes
1668121-15		August 18, 2017			
Benzene	ng	98.00	80	120	yes
Toluene	ng	91.40	80	120	yes
Ethylbenzene	ng	96.60	80	120	yes
Total Xylenes (m,p,o)	ng	102.00	80	120	yes
Styrene	ng	98.60	80	120	yes
1668122-15		August 18, 2017			
Benzene	ng	98.00	80	120	yes
Toluene	ng	91.40	80	120	yes
Ethylbenzene	ng	96.60	80	120	yes
Total Xylenes (m,p,o)	ng	102.00	80	120	yes
Styrene	ng	98.60	80	120	yes
1668123-15		August 18, 2017			
Benzene	ng	111.80	80	120	yes
Toluene	ng	102.60	80	120	yes
Ethylbenzene	ng	111.40	80	120	yes
Total Xylenes (m,p,o)	ng	106.67	80	120	yes
Styrene	ng	100.40	80	120	yes
1668124-15		August 18, 2017			

Quality Control

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

Mono-Aromatic Hydrocarbons - Soil - Continued

Calibration Check	Units	% Recovery	Lower Limit	Upper Limit		Passed QC
Benzene	ng	111.80	80	120		yes
Toluene	ng	100.60	80	120		yes
Ethylbenzene	ng	111.40	80	120		yes
Total Xylenes (m,p,o)	ng	106.67	80	120		yes
Styrene	ng	100.40	80	120		yes
1668125-15		August 18, 2017				
Benzene	ng	111.80	80	120		yes
Toluene	ng	100.60	80	120		yes
Ethylbenzene	ng	111.40	80	120		yes
Total Xylenes (m,p,o)	ng	106.67	80	120		yes
Styrene	ng	100.40	80	120		yes
1668126-15		August 18, 2017				
Benzene	ng	83.00	80	120		yes
Toluene	ng	88.60	80	120		yes
Ethylbenzene	ng	88.80	80	120		yes
Total Xylenes (m,p,o)	ng	90.00	80	120		yes
Styrene	ng	81.20	80	120		yes
Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
1668119-5		August 18, 2017				
Benzene	mg/kg	<0.005	<0.005	50	0.010	yes
Toluene	mg/kg	<0.02	0.02	50	0.04	yes
Ethylbenzene	mg/kg	<0.005	<0.005	50	0.020	yes
m,p-Xylene	mg/kg	<0.02	<0.02	50	0.04	yes
o-Xylene	mg/kg	<0.02	<0.02	50	0.04	yes
Total Xylenes (m,p,o)	mg/kg	<0.03	<0.03	50	0.06	yes
Styrene	mg/kg	<0.010	<0.010	50	0.020	yes
1668120-5		August 18, 2017				
Benzene	mg/kg	<0.005	<0.005	50	0.010	yes
Toluene	mg/kg	<0.02	<0.02	50	0.04	yes
Ethylbenzene	mg/kg	<0.005	<0.005	50	0.020	yes
m,p-Xylene	mg/kg	<0.02	<0.02	50	0.04	yes
o-Xylene	mg/kg	<0.02	<0.02	50	0.04	yes
Total Xylenes (m,p,o)	mg/kg	<0.03	<0.03	50	0.06	yes
Styrene	mg/kg	<0.010	<0.010	50	0.020	yes
1668121-5		August 18, 2017				
Benzene	mg/kg	<0.005	<0.005	50	0.010	yes
Toluene	mg/kg	<0.02	<0.02	50	0.04	yes
Ethylbenzene	mg/kg	<0.005	<0.005	50	0.020	yes
m,p-Xylene	mg/kg	<0.02	<0.02	50	0.04	yes
o-Xylene	mg/kg	<0.02	<0.02	50	0.04	yes
Total Xylenes (m,p,o)	mg/kg	<0.03	<0.03	50	0.06	yes
Styrene	mg/kg	<0.010	<0.010	50	0.020	yes

Quality Control

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

Mono-Aromatic Hydrocarbons - Soil - Continued

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
1668122-5		August 18, 2017				
Benzene	mg/kg	<0.005	<0.005	50	0.010	yes
Toluene	mg/kg	<0.02	<0.02	50	0.04	yes
Ethylbenzene	mg/kg	<0.005	<0.005	50	0.020	yes
m,p-Xylene	mg/kg	<0.02	<0.02	50	0.04	yes
o-Xylene	mg/kg	<0.02	<0.02	50	0.04	yes
Total Xylenes (m,p,o)	mg/kg	<0.03	<0.03	50	0.06	yes
Styrene	mg/kg	<0.010	<0.010	50	0.020	yes
1668123-5		August 18, 2017				
Benzene	mg/kg	<0.005	<0.005	50	0.010	yes
Toluene	mg/kg	<0.02	<0.02	50	0.04	yes
Ethylbenzene	mg/kg	<0.005	<0.005	50	0.020	yes
m,p-Xylene	mg/kg	<0.02	<0.02	50	0.04	yes
o-Xylene	mg/kg	<0.02	<0.02	50	0.04	yes
Total Xylenes (m,p,o)	mg/kg	<0.03	<0.03	50	0.06	yes
Styrene	mg/kg	<0.010	<0.010	50	0.020	yes
1668124-5		August 18, 2017				
Benzene	mg/kg	<0.005	<0.005	50	0.010	yes
Toluene	mg/kg	<0.02	<0.02	50	0.04	yes
Ethylbenzene	mg/kg	<0.005	<0.005	50	0.020	yes
m,p-Xylene	mg/kg	<0.02	<0.02	50	0.04	yes
o-Xylene	mg/kg	<0.02	<0.02	50	0.04	yes
Total Xylenes (m,p,o)	mg/kg	<0.03	<0.03	50	0.06	yes
Styrene	mg/kg	<0.010	<0.010	50	0.020	yes
1668125-5		August 18, 2017				
Benzene	mg/kg	<0.005	<0.005	50	0.010	yes
Toluene	mg/kg	<0.02	<0.02	50	0.04	yes
Ethylbenzene	mg/kg	<0.005	<0.005	50	0.020	yes
m,p-Xylene	mg/kg	<0.02	<0.02	50	0.04	yes
o-Xylene	mg/kg	<0.02	<0.02	50	0.04	yes
Total Xylenes (m,p,o)	mg/kg	<0.03	<0.03	50	0.06	yes
Styrene	mg/kg	<0.010	<0.010	50	0.020	yes
1668126-5		August 18, 2017				
Benzene	mg/kg	<0.005	<0.005	50	0.010	yes
Toluene	mg/kg	<0.02	<0.02	50	0.04	yes
Ethylbenzene	mg/kg	<0.005	<0.005	50	0.020	yes
m,p-Xylene	mg/kg	<0.02	<0.02	50	0.04	yes
o-Xylene	mg/kg	<0.02	<0.02	50	0.04	yes
Total Xylenes (m,p,o)	mg/kg	<0.03	<0.03	50	0.06	yes
Styrene	mg/kg	<0.010	<0.010	50	0.020	yes
Matrix Spike	Units	% Recovery	Lower Limit	Upper Limit		Passed QC
1668119-4		August 18, 2017				

Quality Control

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

Mono-Aromatic Hydrocarbons - Soil - Continued

Matrix Spike	Units	% Recovery	Lower Limit	Upper Limit	Passed QC
Benzene	mg/kg	88	70	130	yes
Toluene	mg/kg	88	70	130	yes
Ethylbenzene	mg/kg	85	70	130	yes
Total Xylenes (m,p,o)	mg/kg	85	70	130	yes
1668120-4		August 18, 2017			
Benzene	mg/kg	122	70	130	yes
Toluene	mg/kg	119	70	130	yes
Ethylbenzene	mg/kg	114	70	130	yes
Total Xylenes (m,p,o)	mg/kg	115	70	130	yes
1668121-4		August 18, 2017			
Benzene	mg/kg	101	70	130	yes
Toluene	mg/kg	99	70	130	yes
Ethylbenzene	mg/kg	98	70	130	yes
Total Xylenes (m,p,o)	mg/kg	100	70	130	yes
1668122-4		August 18, 2017			
Benzene	mg/kg	128	70	130	yes
Toluene	mg/kg	126	70	130	yes
Ethylbenzene	mg/kg	120	70	130	yes
Total Xylenes (m,p,o)	mg/kg	120	70	130	yes
1668123-4		August 18, 2017			
Benzene	mg/kg	104	70	130	yes
Toluene	mg/kg	90	70	130	yes
Ethylbenzene	mg/kg	83	70	130	yes
Total Xylenes (m,p,o)	mg/kg	124	70	130	yes
1668124-4		August 18, 2017			
Benzene	mg/kg	104	70	130	yes
Toluene	mg/kg	89	70	130	yes
Ethylbenzene	mg/kg	82	70	130	yes
Total Xylenes (m,p,o)	mg/kg	84	70	130	yes
1668125-4		August 18, 2017			
Benzene	mg/kg	101	70	130	yes
Toluene	mg/kg	87	70	130	yes
Ethylbenzene	mg/kg	80	70	130	yes
Total Xylenes (m,p,o)	mg/kg	80	70	130	yes
1668126-4		August 18, 2017			
Benzene	mg/kg	89	70	130	yes
Toluene	mg/kg	89	70	130	yes
Ethylbenzene	mg/kg	88	70	130	yes
Total Xylenes (m,p,o)	mg/kg	88	70	130	yes

Mono-Aromatic Hydrocarbons - Water

Quality Control

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

Mono-Aromatic Hydrocarbons - Water

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
1667969-12		August 18, 2017			
Benzene	ng	0	-0.002	0.002	yes
Toluene	ng	0	-0.0015	0.0015	yes
Ethylbenzene	ng	0	-0.0015	0.0015	yes
Total Xylenes (m,p,o)	ng	0	-0.002	0.002	yes
Calibration Check	Units	% Recovery	Lower Limit	Upper Limit	Passed QC
1667969-11		August 18, 2017			
Benzene	ng	80.00	80	120	yes
Toluene	ng	82.20	80	120	yes
Ethylbenzene	ng	95.60	80	120	yes
Total Xylenes (m,p,o)	ng	95.33	80	120	yes

Polychlorinated Biphenyls - Soil

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
1668096-14		August 18, 2017			
Aroclor 1016	µg/mL	0	-0.00	0.00	yes
Aroclor 1221	µg/mL	0	-0.00	0.00	yes
Aroclor 1232	µg/mL	0	-0.00	0.00	yes
Aroclor 1242	µg/mL	0	-0.00	0.00	yes
Aroclor 1248	µg/mL	0	-0.00	0.00	yes
Aroclor 1254	µg/mL	0	-0.00	0.00	yes
Aroclor 1260	µg/mL	0	-0.00	0.00	yes
Aroclor 1262	µg/mL	0	-0.00	0.00	yes
Aroclor 1268	µg/mL	0	-0.00	0.00	yes
1668097-14		August 18, 2017			
Aroclor 1016	µg/mL	0	-0.00	0.00	yes
Aroclor 1221	µg/mL	0	-0.00	0.00	yes
Aroclor 1232	µg/mL	0	-0.00	0.00	yes
Aroclor 1242	µg/mL	0	-0.00	0.00	yes
Aroclor 1248	µg/mL	0	-0.00	0.00	yes
Aroclor 1254	µg/mL	0	-0.00	0.00	yes
Aroclor 1260	µg/mL	0	-0.00	0.00	yes
Aroclor 1262	µg/mL	0	-0.00	0.00	yes
Aroclor 1268	µg/mL	0	-0.00	0.00	yes
1668098-14		August 18, 2017			
Aroclor 1016	µg/mL	0	-0.00	0.00	yes
Aroclor 1221	µg/mL	0	-0.00	0.00	yes
Aroclor 1232	µg/mL	0	-0.00	0.00	yes
Aroclor 1242	µg/mL	0	-0.00	0.00	yes
Aroclor 1248	µg/mL	0	-0.00	0.00	yes
Aroclor 1254	µg/mL	0	-0.00	0.00	yes
Aroclor 1260	µg/mL	0	-0.00	0.00	yes
Aroclor 1262	µg/mL	0	-0.00	0.00	yes

Quality Control

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

Polychlorinated Biphenyls - Soil -

Continued

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Aroclor 1268	µg/mL	0	-0.00	0.00	yes
1668099-14		August 18, 2017			
Aroclor 1016	µg/mL	0	-0.00	0.00	yes
Aroclor 1221	µg/mL	0	-0.00	0.00	yes
Aroclor 1232	µg/mL	0	-0.00	0.00	yes
Aroclor 1242	µg/mL	0	-0.00	0.00	yes
Aroclor 1248	µg/mL	0	-0.00	0.00	yes
Aroclor 1254	µg/mL	0	-0.00	0.00	yes
Aroclor 1260	µg/mL	0	-0.00	0.00	yes
Aroclor 1262	µg/mL	0	-0.00	0.00	yes
Aroclor 1268	µg/mL	0	-0.00	0.00	yes
1668100-14		August 18, 2017			
Aroclor 1016	µg/mL	0	-0.00	0.00	yes
Aroclor 1221	µg/mL	0	-0.00	0.00	yes
Aroclor 1232	µg/mL	0	-0.00	0.00	yes
Aroclor 1242	µg/mL	0	-0.00	0.00	yes
Aroclor 1248	µg/mL	0	-0.00	0.00	yes
Aroclor 1254	µg/mL	0	-0.00	0.00	yes
Aroclor 1260	µg/mL	0	-0.00	0.00	yes
Aroclor 1262	µg/mL	0	-0.00	0.00	yes
Aroclor 1268	µg/mL	0	-0.00	0.00	yes
1668101-14		August 18, 2017			
Aroclor 1016	µg/mL	0	-0.00	0.00	yes
Aroclor 1221	µg/mL	0	-0.00	0.00	yes
Aroclor 1232	µg/mL	0	-0.00	0.00	yes
Aroclor 1242	µg/mL	0	-0.00	0.00	yes
Aroclor 1248	µg/mL	0	-0.00	0.00	yes
Aroclor 1254	µg/mL	0	-0.00	0.00	yes
Aroclor 1260	µg/mL	0	-0.00	0.00	yes
Aroclor 1262	µg/mL	0	-0.00	0.00	yes
Aroclor 1268	µg/mL	0	-0.00	0.00	yes
1668102-14		August 18, 2017			
Aroclor 1016	µg/mL	0	-0.00	0.00	yes
Aroclor 1221	µg/mL	0	-0.00	0.00	yes
Aroclor 1232	µg/mL	0	-0.00	0.00	yes
Aroclor 1242	µg/mL	0	-0.00	0.00	yes
Aroclor 1248	µg/mL	0	-0.00	0.00	yes
Aroclor 1254	µg/mL	0	-0.00	0.00	yes
Aroclor 1260	µg/mL	0	-0.00	0.00	yes
Aroclor 1262	µg/mL	0	-0.00	0.00	yes
Aroclor 1268	µg/mL	0	-0.00	0.00	yes
1668103-14		August 18, 2017			

Quality Control

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

Polychlorinated Biphenyls - Soil - Continued

Blanks	Units	Measured	Lower Limit	Upper Limit		Passed QC
Aroclor 1016	µg/mL	0	-0.00	0.00		yes
Aroclor 1221	µg/mL	0	-0.00	0.00		yes
Aroclor 1232	µg/mL	0	-0.00	0.00		yes
Aroclor 1242	µg/mL	0	-0.00	0.00		yes
Aroclor 1248	µg/mL	0	-0.00	0.00		yes
Aroclor 1254	µg/mL	0	-0.00	0.00		yes
Aroclor 1260	µg/mL	0	-0.00	0.00		yes
Aroclor 1262	µg/mL	0	-0.00	0.00		yes
Aroclor 1268	µg/mL	0	-0.00	0.00		yes
Calibration Check	Units	% Recovery	Lower Limit	Upper Limit		Passed QC
1668096-13		August 18, 2017				
Aroclor 1260	µg/mL	110.00	80	120		yes
1668097-13		August 18, 2017				
Aroclor 1260	µg/mL	110.00	80	120		yes
1668098-13		August 18, 2017				
Aroclor 1254	µg/mL	120.00	80	120		yes
Aroclor 1260	µg/mL	90.00	80	120		yes
1668099-13		August 18, 2017				
Aroclor 1260	µg/mL	90.00	80	120		yes
1668100-13		August 18, 2017				
Aroclor 1254	µg/mL	120.00	80	120		yes
Aroclor 1260	µg/mL	100.00	80	120		yes
1668101-13		August 18, 2017				
Aroclor 1254	µg/mL	120.00	80	120		yes
Aroclor 1260	µg/mL	100.00	80	120		yes
1668102-13		August 18, 2017				
Aroclor 1260	µg/mL	110.00	80	120		yes
1668103-13		August 18, 2017				
Aroclor 1254	µg/mL	120.00	80	120		yes
Aroclor 1260	µg/mL	100.00	80	120		yes
Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
1668096-3		August 18, 2017				
Aroclor 1016	mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1221	mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1232	mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1242	mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1248	mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1254	mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1260	mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1262	mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1268	mg/kg	<0.05	<0.05	50	0.10	yes

Quality Control

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

Polychlorinated Biphenyls - Soil - Continued

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
Total PCBs	mg/kg	<0.05	<0.05	50	0.10	yes
1668097-3		August 18, 2017				
Aroclor 1016	mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1221	mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1232	mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1242	mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1248	mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1254	mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1260	mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1262	mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1268	mg/kg	<0.05	<0.05	50	0.10	yes
Total PCBs	mg/kg	<0.05	<0.05	50	0.10	yes
1668098-3		August 18, 2017				
Aroclor 1016	mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1221	mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1232	mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1242	mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1248	mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1254	mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1260	mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1262	mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1268	mg/kg	<0.05	<0.05	50	0.10	yes
Total PCBs	mg/kg	<0.05	<0.05	50	0.10	yes
1668099-3		August 18, 2017				
Aroclor 1016	mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1221	mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1232	mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1242	mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1248	mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1254	mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1260	mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1262	mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1268	mg/kg	<0.05	<0.05	50	0.10	yes
Total PCBs	mg/kg	<0.05	<0.05	50	0.10	yes
1668100-3		August 18, 2017				
Aroclor 1016	mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1221	mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1232	mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1242	mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1248	mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1254	mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1260	mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1262	mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1268	mg/kg	<0.05	<0.05	50	0.10	yes

Quality Control

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

Polychlorinated Biphenyls - Soil - Continued

Client Sample	Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
Aroclor 1268		mg/kg	<0.05	<0.05	50	0.10	yes
Total PCBs		mg/kg	<0.05	<0.05	50	0.10	yes
1668101-3 August 18, 2017							
Aroclor 1016		mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1221		mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1232		mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1242		mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1248		mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1254		mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1260		mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1262		mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1268		mg/kg	<0.05	<0.05	50	0.10	yes
Total PCBs		mg/kg	<0.05	<0.05	50	0.10	yes
1668102-3 August 18, 2017							
Aroclor 1016		mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1221		mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1232		mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1242		mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1248		mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1254		mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1260		mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1262		mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1268		mg/kg	<0.05	<0.05	50	0.10	yes
Total PCBs		mg/kg	<0.05	<0.05	50	0.10	yes
1668103-3 August 18, 2017							
Aroclor 1016		mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1221		mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1232		mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1242		mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1248		mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1254		mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1260		mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1262		mg/kg	<0.05	<0.05	50	0.10	yes
Aroclor 1268		mg/kg	<0.05	<0.05	50	0.10	yes
Total PCBs		mg/kg	<0.05	<0.05	50	0.10	yes
Matrix Spike	Units		% Recovery	Lower Limit	Upper Limit		Passed QC
1668096-2 August 18, 2017							
Aroclor 1260	mg/kg		103	10	190		yes
1668097-2 August 18, 2017							
Aroclor 1260	mg/kg		139	10	190		yes
1668098-2 August 18, 2017							
Aroclor 1260	mg/kg		116	10	190		yes

Quality Control

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

Polychlorinated Biphenyls - Soil -

Continued

Matrix Spike	Units	% Recovery	Lower Limit	Upper Limit	Passed QC
1668099-2		August 18, 2017			
Aroclor 1260	mg/kg	116	10	190	yes
1668100-2		August 18, 2017			
Aroclor 1260	mg/kg	105	10	190	yes
1668101-2		August 18, 2017			
Aroclor 1260	mg/kg	122	10	190	yes
1668102-2		August 18, 2017			
Aroclor 1260	mg/kg	72	10	190	yes
1668103-2		August 18, 2017			
Aroclor 1260	mg/kg	129	10	190	yes

Polychlorinated Biphenyls - Soil -

Surrogate

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
1668096-14		August 18, 2017			
Decachlorobiphenyl	%	109.398	50	140	yes
1668097-14		August 18, 2017			
Decachlorobiphenyl	%	87.8245	50	140	yes
1668098-14		August 18, 2017			
Decachlorobiphenyl	%	106.353	50	140	yes
1668099-14		August 18, 2017			
Decachlorobiphenyl	%	79.6878	50	140	yes
1668100-14		August 18, 2017			
Decachlorobiphenyl	%	86.885	50	140	yes
1668101-14		August 18, 2017			
Decachlorobiphenyl	%	97.6469	50	140	yes
1668102-14		August 18, 2017			
Decachlorobiphenyl	%	90.2225	50	140	yes
1668103-14		August 18, 2017			
Decachlorobiphenyl	%	95.6897	50	140	yes

Polychlorinated Biphenyls - Water

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
1668088-16		August 18, 2017			
Aroclor 1016	µg/mL	0	-0.00	0.00	yes
Aroclor 1221	µg/mL	0	-0.00	0.00	yes
Aroclor 1232	µg/mL	0	-0.00	0.00	yes
Aroclor 1242	µg/mL	0	-0.00	0.00	yes
Aroclor 1248	µg/mL	0	-0.00	0.00	yes
Aroclor 1254	µg/mL	0	-0.00	0.00	yes
Aroclor 1260	µg/mL	0	-0.00	0.00	yes

Quality Control

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

Polychlorinated Biphenyls - Water - Continued

Blanks	Units	Measured	Lower Limit	Upper Limit		Passed QC
Aroclor 1262	µg/mL	0	-0.00	0.00		yes
Aroclor 1268	µg/mL	0	-0.00	0.00		yes
Calibration Check	Units	% Recovery	Lower Limit	Upper Limit		Passed QC
1668088-15		August 18, 2017				
Aroclor 1260	µg/mL	90.00	80	120		yes
Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
1668088-4		August 18, 2017				
Aroclor 1016	µg/L	<0.05	<0.05	20	0.01	yes
Aroclor 1221	µg/L	<0.05	<0.05	20	0.01	yes
Aroclor 1232	µg/L	<0.05	<0.05	20	0.01	yes
Aroclor 1242	µg/L	<0.05	<0.05	20	0.01	yes
Aroclor 1248	µg/L	<0.05	<0.05	20	0.01	yes
Aroclor 1254	µg/L	<0.05	<0.05	20	0.01	yes
Aroclor 1260	µg/L	1.40	1.40	20	0.01	yes
Aroclor 1262	µg/L	<0.05	<0.05	20	0.01	yes
Aroclor 1268	µg/L	<0.05	<0.05	20	0.01	yes
Matrix Spike	Units	% Recovery	Lower Limit	Upper Limit		Passed QC
1668088-2		August 18, 2017				
Aroclor 1260	µg/L	137	50	150		yes

Polychlorinated Biphenyls - Water - Surrogate

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
1668088-16		August 18, 2017			
Decachlorobiphenyl	%	72.1223	50	140	yes

Volatile Petroleum Hydrocarbons - Soil

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
1668119-16		August 18, 2017			
F1 C6-C10	ng	0	-10	10	yes
1668120-16		August 18, 2017			
F1 C6-C10	ng	0	-10	10	yes
1668121-16		August 18, 2017			
F1 C6-C10	ng	0	-10	10	yes
1668122-16		August 18, 2017			
F1 C6-C10	ng	0	-10	10	yes
1668123-16		August 18, 2017			
F1 C6-C10	ng	0	-10	10	yes
1668124-16		August 18, 2017			
F1 C6-C10	ng	0	-10	10	yes
1668125-16		August 18, 2017			

Quality Control

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

Volatile Petroleum Hydrocarbons - Soil -

Continued

Blanks	Units	Measured	Lower Limit	Upper Limit		Passed QC
F1 C6-C10	ng	0	-10	10		yes
1668126-16		August 18, 2017				
F1 C6-C10	ng	0	-10	10		yes
Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
1668119-5		August 18, 2017				
F1 C6-C10	mg/kg	<10	<10	50	0	yes
F1 -BTEX	mg/kg	<10	<10	50	0	yes
1668120-5		August 18, 2017				
F1 C6-C10	mg/kg	<10	<10	50	0	yes
F1 -BTEX	mg/kg	<10	<10	50	0	yes
1668121-5		August 18, 2017				
F1 C6-C10	mg/kg	<10	<10	50	0	yes
F1 -BTEX	mg/kg	<10	<10	50	0	yes
1668122-5		August 18, 2017				
F1 C6-C10	mg/kg	<10	<10	50	0	yes
F1 -BTEX	mg/kg	<10	<10	50	0	yes
1668123-5		August 18, 2017				
F1 C6-C10	mg/kg	<10	<10	50	0	yes
F1 -BTEX	mg/kg	<10	<10	50	0	yes
1668124-5		August 18, 2017				
F1 C6-C10	mg/kg	<10	<10	50	0	yes
F1 -BTEX	mg/kg	<10	<10	50	0	yes
1668125-5		August 18, 2017				
F1 C6-C10	mg/kg	<10	<10	50	0	yes
F1 -BTEX	mg/kg	<10	<10	50	0	yes
1668126-5		August 18, 2017				
F1 C6-C10	mg/kg	<10	<10	50	0	yes
F1 -BTEX	mg/kg	<10	<10	50	0	yes
Matrix Spike	Units	% Recovery	Lower Limit	Upper Limit		Passed QC
1668119-2		August 18, 2017				
F1 C6-C10	mg/kg	104	80	120		yes
1668120-2		August 18, 2017				
F1 C6-C10	mg/kg	95	80	120		yes
1668121-2		August 18, 2017				
F1 C6-C10	mg/kg	117	80	120		yes
1668122-2		August 18, 2017				
F1 C6-C10	mg/kg	111	80	120		yes
1668123-2		August 18, 2017				
F1 C6-C10	mg/kg	92	80	120		yes
1668124-2		August 18, 2017				

Quality Control

Bill To: Englobe	Project ID: KITIK 13	Lot ID: 1221175
Office 400	Project Name: 2017 LFM	Control Number: C0085070
1260, Lebourgneuf Boulevard	Project Location: PIN-4	Date Received: Aug 17, 2017
Quebec, QC, Canada	LSD: Byron Bay, NU	Date Reported: Oct 16, 2017
G2K 2G2	P.O.:	Report Number: 2231361
Attn: Jean-Pierre Pelletier	Proj. Acct. code:	
Sampled By: A. Passalis		
Company: Englobe		

Volatile Petroleum Hydrocarbons - Soil -

Continued

Matrix Spike	Units	% Recovery	Lower Limit	Upper Limit	Passed QC
F1 C6-C10	mg/kg	88	80	120	yes
1668125-2		August 18, 2017			
F1 C6-C10	mg/kg	95	80	120	yes
1668126-2		August 18, 2017			
F1 C6-C10	mg/kg	94	80	120	yes

Volatile Petroleum Hydrocarbons - Water

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
1667969-12		August 18, 2017			
F1 -BTX	ng	0	-0.3	0.3	yes
F1 C6-C10	ng	0	-0.300	0.300	yes
F2 C10-C16	ng	0	-0.3	0.3	yes
Calibration Check	Units	% Recovery	Lower Limit	Upper Limit	Passed QC
1667969-13		August 18, 2017			
F2 C10-C16	ng	113.00	80	120	yes

Samples and Related Quality Checks

1221175-1

BTEX-CCME - Soil

Spike	1668119-2
Spike	1668119-4
Duplicate - Cli	1668119-5
Calibration Ck	1668119-15
Blank	1668119-16

Metals ICP (Hot Block) in soil

Internal Std	1667878-1
Blank	1667878-2
Internal Std	1667878-3
Duplicate - Cli	1667878-4
Duplicate - Cli	1667878-21
Internal Std	1667878-40
Blank	1667878-41
Internal Std	1667878-42

PCB - Soil - Low

Spike	1668096-2
Duplicate - Cli	1668096-3

Calibration Ck	1668096-13
Blank	1668096-14

TEH-CCME-Soil (Shake)

Spike	1668111-2
Duplicate - Cli	1668111-3
Calibration Ck	1668111-13
Blank	1668111-14

1221175-2**BTEX-CCME - Soil**

Spike	1668119-2
Spike	1668119-4
Duplicate - Cli	1668119-5
Calibration Ck	1668119-15
Blank	1668119-16

Metals ICP (Hot Block) in soil

Internal Std	1667878-1
Blank	1667878-2
Internal Std	1667878-3
Duplicate - Cli	1667878-4
Duplicate - Cli	1667878-21
Internal Std	1667878-40
Blank	1667878-41
Internal Std	1667878-42

PCB - Soil - Low

Spike	1668096-2
Duplicate - Cli	1668096-3
Calibration Ck	1668096-13
Blank	1668096-14

TEH-CCME-Soil (Shake)

Spike	1668111-2
Duplicate - Cli	1668111-3
Calibration Ck	1668111-13
Blank	1668111-14

1221175-3**BTEX-CCME - Soil**

Spike	1668119-2
Spike	1668119-4
Duplicate - Cli	1668119-5
Calibration Ck	1668119-15
Blank	1668119-16

Metals ICP (Hot Block) in soil

Internal Std	1667878-1
Blank	1667878-2
Internal Std	1667878-3
Duplicate - Cli	1667878-4
Duplicate - Cli	1667878-21

Internal Std	1667878-40
Blank	1667878-41
Internal Std	1667878-42

PCB - Soil - Low

Spike	1668096-2
Duplicate - Cli	1668096-3
Calibration Ck	1668096-13
Blank	1668096-14

TEH-CCME-Soil (Shake)

Spike	1668111-2
Duplicate - Cli	1668111-3
Calibration Ck	1668111-13
Blank	1668111-14

1221175-4**BTEX-CCME - Soil**

Spike	1668119-2
Spike	1668119-4
Duplicate - Cli	1668119-5
Calibration Ck	1668119-15
Blank	1668119-16

Metals ICP (Hot Block) in soil

Internal Std	1667878-1
Blank	1667878-2
Internal Std	1667878-3
Duplicate - Cli	1667878-4
Duplicate - Cli	1667878-21
Internal Std	1667878-40
Blank	1667878-41
Internal Std	1667878-42

PCB - Soil - Low

Spike	1668096-2
Duplicate - Cli	1668096-3
Calibration Ck	1668096-13
Blank	1668096-14

TEH-CCME-Soil (Shake)

Spike	1668111-2
Duplicate - Cli	1668111-3
Calibration Ck	1668111-13
Blank	1668111-14

1221175-5**BTEX-CCME - Soil**

Spike	1668119-2
Spike	1668119-4
Duplicate - Cli	1668119-5
Calibration Ck	1668119-15
Blank	1668119-16

Metals ICP (Hot Block) in soil

Internal Std	1667878-1
Blank	1667878-2
Internal Std	1667878-3
Duplicate - Cli	1667878-4
Duplicate - Cli	1667878-21
Internal Std	1667878-40
Blank	1667878-41
Internal Std	1667878-42

PCB - Soil - Low

Spike	1668096-2
Duplicate - Cli	1668096-3
Calibration Ck	1668096-13
Blank	1668096-14

TEH-CCME-Soil (Shake)

Spike	1668111-2
Duplicate - Cli	1668111-3
Calibration Ck	1668111-13
Blank	1668111-14

1221175-6**BTEX-CCME - Soil**

Spike	1668119-2
Spike	1668119-4
Duplicate - Cli	1668119-5
Calibration Ck	1668119-15
Blank	1668119-16

Metals ICP (Hot Block) in soil

Internal Std	1667878-1
Blank	1667878-2
Internal Std	1667878-3
Duplicate - Cli	1667878-4
Duplicate - Cli	1667878-21
Internal Std	1667878-40
Blank	1667878-41
Internal Std	1667878-42

PCB - Soil - Low

Spike	1668096-2
Duplicate - Cli	1668096-3
Calibration Ck	1668096-13
Blank	1668096-14

TEH-CCME-Soil (Shake)

Spike	1668111-2
Duplicate - Cli	1668111-3
Calibration Ck	1668111-13
Blank	1668111-14

1221175-7

BTEX-CCME - Soil

Spike	1668119-2
Spike	1668119-4
Duplicate - Cli	1668119-5
Calibration Ck	1668119-15
Blank	1668119-16

Metals ICP (Hot Block) in soil

Internal Std	1667878-1
Blank	1667878-2
Internal Std	1667878-3
Duplicate - Cli	1667878-4
Duplicate - Cli	1667878-21
Internal Std	1667878-40
Blank	1667878-41
Internal Std	1667878-42

PCB - Soil - Low

Spike	1668096-2
Duplicate - Cli	1668096-3
Calibration Ck	1668096-13
Blank	1668096-14

TEH-CCME-Soil (Shake)

Spike	1668111-2
Duplicate - Cli	1668111-3
Calibration Ck	1668111-13
Blank	1668111-14

1221175-8**BTEX-CCME - Soil**

Spike	1668119-2
Spike	1668119-4
Duplicate - Cli	1668119-5
Calibration Ck	1668119-15
Blank	1668119-16

Metals ICP (Hot Block) in soil

Internal Std	1667878-1
Blank	1667878-2
Internal Std	1667878-3
Duplicate - Cli	1667878-4
Duplicate - Cli	1667878-21
Internal Std	1667878-40
Blank	1667878-41
Internal Std	1667878-42

PCB - Soil - Low

Spike	1668096-2
Duplicate - Cli	1668096-3
Calibration Ck	1668096-13
Blank	1668096-14

TEH-CCME-Soil (Shake)

Spike	1668111-2
Duplicate - Cli	1668111-3
Calibration Ck	1668111-13
Blank	1668111-14

1221175-9**BTEX-CCME - Soil**

Spike	1668119-2
Spike	1668119-4
Duplicate - Cli	1668119-5
Calibration Ck	1668119-15
Blank	1668119-16

Metals ICP (Hot Block) in soil

Internal Std	1667878-1
Blank	1667878-2
Internal Std	1667878-3
Duplicate - Cli	1667878-4
Duplicate - Cli	1667878-21
Internal Std	1667878-40
Blank	1667878-41
Internal Std	1667878-42

PCB - Soil - Low

Spike	1668096-2
Duplicate - Cli	1668096-3
Calibration Ck	1668096-13
Blank	1668096-14

TEH-CCME-Soil (Shake)

Spike	1668111-2
Duplicate - Cli	1668111-3
Calibration Ck	1668111-13
Blank	1668111-14

1221175-10**BTEX-CCME - Soil**

Spike	1668120-2
Spike	1668120-4
Duplicate - Cli	1668120-5
Calibration Ck	1668120-15
Blank	1668120-16

Metals ICP (Hot Block) in soil

Internal Std	1667878-1
Blank	1667878-2
Internal Std	1667878-3
Duplicate - Cli	1667878-4
Duplicate - Cli	1667878-21
Internal Std	1667878-40
Blank	1667878-41

Internal Std	1667878-42
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PCB - Soil - Low

Spike	1668097-2
Duplicate - Cli	1668097-3
Calibration Ck	1668097-13
Blank	1668097-14

TEH-CCME-Soil (Shake)

Spike	1668112-2
Duplicate - Cli	1668112-3
Calibration Ck	1668112-13
Blank	1668112-14

1221175-11**BTEX-CCME - Soil**

Spike	1668120-2
Spike	1668120-4
Duplicate - Cli	1668120-5
Calibration Ck	1668120-15
Blank	1668120-16

Metals ICP (Hot Block) in soil

Internal Std	1667878-1
Blank	1667878-2
Internal Std	1667878-3
Duplicate - Cli	1667878-4
Duplicate - Cli	1667878-21
Internal Std	1667878-40
Blank	1667878-41
Internal Std	1667878-42

PCB - Soil - Low

Spike	1668097-2
Duplicate - Cli	1668097-3
Calibration Ck	1668097-13
Blank	1668097-14

TEH-CCME-Soil (Shake)

Spike	1668112-2
Duplicate - Cli	1668112-3
Calibration Ck	1668112-13
Blank	1668112-14

1221175-12**BTEX-CCME - Soil**

Spike	1668120-2
Spike	1668120-4
Duplicate - Cli	1668120-5
Calibration Ck	1668120-15
Blank	1668120-16

Metals ICP (Hot Block) in soil

Internal Std	1667878-1
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Blank	1667878-2
Internal Std	1667878-3
Duplicate - Cli	1667878-4
Duplicate - Cli	1667878-21
Internal Std	1667878-40
Blank	1667878-41
Internal Std	1667878-42

PCB - Soil - Low

Spike	1668097-2
Duplicate - Cli	1668097-3
Calibration Ck	1668097-13
Blank	1668097-14

TEH-CCME-Soil (Shake)

Spike	1668112-2
Duplicate - Cli	1668112-3
Calibration Ck	1668112-13
Blank	1668112-14

1221175-13**BTEX-CCME - Soil**

Spike	1668120-2
Spike	1668120-4
Duplicate - Cli	1668120-5
Calibration Ck	1668120-15
Blank	1668120-16

Metals ICP (Hot Block) in soil

Internal Std	1667878-1
Blank	1667878-2
Internal Std	1667878-3
Duplicate - Cli	1667878-4
Duplicate - Cli	1667878-21
Internal Std	1667878-40
Blank	1667878-41
Internal Std	1667878-42

PCB - Soil - Low

Spike	1668097-2
Duplicate - Cli	1668097-3
Calibration Ck	1668097-13
Blank	1668097-14

TEH-CCME-Soil (Shake)

Spike	1668112-2
Duplicate - Cli	1668112-3
Calibration Ck	1668112-13
Blank	1668112-14

1221175-14**BTEX-CCME - Soil**

Spike	1668120-2
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Spike	1668120-4
Duplicate - Cli	1668120-5
Calibration Ck	1668120-15
Blank	1668120-16

Metals ICP (Hot Block) in soil

Internal Std	1667878-1
Blank	1667878-2
Internal Std	1667878-3
Duplicate - Cli	1667878-4
Duplicate - Cli	1667878-21
Internal Std	1667878-40
Blank	1667878-41
Internal Std	1667878-42

PCB - Soil - Low

Spike	1668097-2
Duplicate - Cli	1668097-3
Calibration Ck	1668097-13
Blank	1668097-14

TEH-CCME-Soil (Shake)

Spike	1668112-2
Duplicate - Cli	1668112-3
Calibration Ck	1668112-13
Blank	1668112-14

1221175-15**BTEX-CCME - Soil**

Spike	1668120-2
Spike	1668120-4
Duplicate - Cli	1668120-5
Calibration Ck	1668120-15
Blank	1668120-16

Metals ICP (Hot Block) in soil

Internal Std	1667878-1
Blank	1667878-2
Internal Std	1667878-3
Duplicate - Cli	1667878-4
Duplicate - Cli	1667878-21
Internal Std	1667878-40
Blank	1667878-41
Internal Std	1667878-42

PCB - Soil - Low

Spike	1668097-2
Duplicate - Cli	1668097-3
Calibration Ck	1668097-13
Blank	1668097-14

TEH-CCME-Soil (Shake)

Spike	1668112-2
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Duplicate - Cli	1668112-3
Calibration Ck	1668112-13
Blank	1668112-14

1221175-16**BTEX-CCME - Soil**

Spike	1668120-2
Spike	1668120-4
Duplicate - Cli	1668120-5
Calibration Ck	1668120-15
Blank	1668120-16

Metals ICP (Hot Block) in soil

Internal Std	1667878-1
Blank	1667878-2
Internal Std	1667878-3
Duplicate - Cli	1667878-4
Duplicate - Cli	1667878-21
Internal Std	1667878-40
Blank	1667878-41
Internal Std	1667878-42

PCB - Soil - Low

Spike	1668097-2
Duplicate - Cli	1668097-3
Calibration Ck	1668097-13
Blank	1668097-14

TEH-CCME-Soil (Shake)

Spike	1668112-2
Duplicate - Cli	1668112-3
Calibration Ck	1668112-13
Blank	1668112-14

1221175-17**BTEX-CCME - Soil**

Spike	1668120-2
Spike	1668120-4
Duplicate - Cli	1668120-5
Calibration Ck	1668120-15
Blank	1668120-16

Metals ICP (Hot Block) in soil

Internal Std	1667878-1
Blank	1667878-2
Internal Std	1667878-3
Duplicate - Cli	1667878-21
Duplicate - Cli	1667878-38
Internal Std	1667878-40
Blank	1667878-41
Internal Std	1667878-42

PCB - Soil - Low

Spike	1668097-2
Duplicate - Cli	1668097-3
Calibration Ck	1668097-13
Blank	1668097-14

TEH-CCME-Soil (Shake)

Spike	1668112-2
Duplicate - Cli	1668112-3
Calibration Ck	1668112-13
Blank	1668112-14

1221175-18**BTEX-CCME - Soil**

Spike	1668120-2
Spike	1668120-4
Duplicate - Cli	1668120-5
Calibration Ck	1668120-15
Blank	1668120-16

Metals ICP (Hot Block) in soil

Internal Std	1667878-1
Blank	1667878-2
Internal Std	1667878-3
Duplicate - Cli	1667878-21
Duplicate - Cli	1667878-38
Internal Std	1667878-40
Blank	1667878-41
Internal Std	1667878-42

PCB - Soil - Low

Spike	1668097-2
Duplicate - Cli	1668097-3
Calibration Ck	1668097-13
Blank	1668097-14

TEH-CCME-Soil (Shake)

Spike	1668112-2
Duplicate - Cli	1668112-3
Calibration Ck	1668112-13
Blank	1668112-14

1221175-19**BTEX-CCME - Soil**

Spike	1668121-2
Spike	1668121-4
Duplicate - Cli	1668121-5
Calibration Ck	1668121-15
Blank	1668121-16

Metals ICP (Hot Block) in soil

Internal Std	1667878-1
Blank	1667878-2
Internal Std	1667878-3

Duplicate - Cli	1667878-21
Duplicate - Cli	1667878-38
Internal Std	1667878-40
Blank	1667878-41
Internal Std	1667878-42

PCB - Soil - Low

Spike	1668098-2
Duplicate - Cli	1668098-3
Calibration Ck	1668098-13
Blank	1668098-14

TEH-CCME-Soil (Shake)

Spike	1668113-2
Duplicate - Cli	1668113-3
Calibration Ck	1668113-13
Blank	1668113-14

1221175-20**BTEX-CCME - Soil**

Spike	1668121-2
Spike	1668121-4
Duplicate - Cli	1668121-5
Calibration Ck	1668121-15
Blank	1668121-16

Metals ICP (Hot Block) in soil

Internal Std	1667878-1
Blank	1667878-2
Internal Std	1667878-3
Duplicate - Cli	1667878-21
Duplicate - Cli	1667878-38
Internal Std	1667878-40
Blank	1667878-41
Internal Std	1667878-42

PCB - Soil - Low

Spike	1668098-2
Duplicate - Cli	1668098-3
Calibration Ck	1668098-13
Blank	1668098-14

TEH-CCME-Soil (Shake)

Spike	1668113-2
Duplicate - Cli	1668113-3
Calibration Ck	1668113-13
Blank	1668113-14

1221175-21**BTEX-CCME - Soil**

Spike	1668121-2
Spike	1668121-4
Duplicate - Cli	1668121-5

Calibration Ck	1668121-15
Blank	1668121-16

Metals ICP (Hot Block) in soil

Internal Std	1667878-1
Blank	1667878-2
Internal Std	1667878-3
Duplicate - Cli	1667878-21
Duplicate - Cli	1667878-38
Internal Std	1667878-40
Blank	1667878-41
Internal Std	1667878-42

PCB - Soil - Low

Spike	1668098-2
Duplicate - Cli	1668098-3
Calibration Ck	1668098-13
Blank	1668098-14

TEH-CCME-Soil (Shake)

Spike	1668113-2
Duplicate - Cli	1668113-3
Calibration Ck	1668113-13
Blank	1668113-14

1221175-22**BTEX-CCME - Soil**

Spike	1668121-2
Spike	1668121-4
Duplicate - Cli	1668121-5
Calibration Ck	1668121-15
Blank	1668121-16

Metals ICP (Hot Block) in soil

Internal Std	1667878-1
Blank	1667878-2
Internal Std	1667878-3
Duplicate - Cli	1667878-21
Duplicate - Cli	1667878-38
Internal Std	1667878-40
Blank	1667878-41
Internal Std	1667878-42

PCB - Soil - Low

Spike	1668098-2
Duplicate - Cli	1668098-3
Calibration Ck	1668098-13
Blank	1668098-14

TEH-CCME-Soil (Shake)

Spike	1668113-2
Duplicate - Cli	1668113-3
Calibration Ck	1668113-13

Blank

1668113-14

1221175-23**BTEX-CCME - Soil**

Spike

1668121-2

Spike

1668121-4

Duplicate - Cli

1668121-5

Calibration Ck

1668121-15

Blank

1668121-16

Metals ICP (Hot Block) in soil

Internal Std

1667878-1

Blank

1667878-2

Internal Std

1667878-3

Duplicate - Cli

1667878-21

Duplicate - Cli

1667878-38

Internal Std

1667878-40

Blank

1667878-41

Internal Std

1667878-42

PCB - Soil - Low

Spike

1668098-2

Duplicate - Cli

1668098-3

Calibration Ck

1668098-13

Blank

1668098-14

TEH-CCME-Soil (Shake)

Spike

1668113-2

Duplicate - Cli

1668113-3

Calibration Ck

1668113-13

Blank

1668113-14

1221175-24**BTEX-CCME - Soil**

Spike

1668121-2

Spike

1668121-4

Duplicate - Cli

1668121-5

Calibration Ck

1668121-15

Blank

1668121-16

Metals ICP (Hot Block) in soil

Internal Std

1667878-1

Blank

1667878-2

Internal Std

1667878-3

Duplicate - Cli

1667878-21

Duplicate - Cli

1667878-38

Internal Std

1667878-40

Blank

1667878-41

Internal Std

1667878-42

PCB - Soil - Low

Spike

1668098-2

Duplicate - Cli

1668098-3

Calibration Ck	1668098-13
Blank	1668098-14

TEH-CCME-Soil (Shake)

Spike	1668113-2
Duplicate - Cli	1668113-3
Calibration Ck	1668113-13
Blank	1668113-14

1221175-25**BTEX-CCME - Soil**

Spike	1668121-2
Spike	1668121-4
Duplicate - Cli	1668121-5
Calibration Ck	1668121-15
Blank	1668121-16

Metals ICP (Hot Block) in soil

Internal Std	1667878-1
Blank	1667878-2
Internal Std	1667878-3
Duplicate - Cli	1667878-21
Duplicate - Cli	1667878-38
Internal Std	1667878-40
Blank	1667878-41
Internal Std	1667878-42

PCB - Soil - Low

Spike	1668098-2
Duplicate - Cli	1668098-3
Calibration Ck	1668098-13
Blank	1668098-14

TEH-CCME-Soil (Shake)

Spike	1668113-2
Duplicate - Cli	1668113-3
Calibration Ck	1668113-13
Blank	1668113-14

1221175-26**BTEX-CCME - Soil**

Spike	1668121-2
Spike	1668121-4
Duplicate - Cli	1668121-5
Calibration Ck	1668121-15
Blank	1668121-16

Metals ICP (Hot Block) in soil

Internal Std	1667878-1
Blank	1667878-2
Internal Std	1667878-3
Duplicate - Cli	1667878-21
Duplicate - Cli	1667878-38

Internal Std	1667878-40
Blank	1667878-41
Internal Std	1667878-42

PCB - Soil - Low

Spike	1668098-2
Duplicate - Cli	1668098-3
Calibration Ck	1668098-13
Blank	1668098-14

TEH-CCME-Soil (Shake)

Spike	1668113-2
Duplicate - Cli	1668113-3
Calibration Ck	1668113-13
Blank	1668113-14

1221175-27**BTEX-CCME - Soil**

Spike	1668121-2
Spike	1668121-4
Duplicate - Cli	1668121-5
Calibration Ck	1668121-15
Blank	1668121-16

Metals ICP (Hot Block) in soil

Internal Std	1667878-1
Blank	1667878-2
Internal Std	1667878-3
Duplicate - Cli	1667878-21
Duplicate - Cli	1667878-38
Internal Std	1667878-40
Blank	1667878-41
Internal Std	1667878-42

PCB - Soil - Low

Spike	1668098-2
Duplicate - Cli	1668098-3
Calibration Ck	1668098-13
Blank	1668098-14

TEH-CCME-Soil (Shake)

Spike	1668113-2
Duplicate - Cli	1668113-3
Calibration Ck	1668113-13
Blank	1668113-14

1221175-28**BTEX-CCME - Soil**

Spike	1668122-2
Spike	1668122-4
Duplicate - Cli	1668122-5
Calibration Ck	1668122-15
Blank	1668122-16

Metals ICP (Hot Block) in soil

Internal Std	1667878-1
Blank	1667878-2
Internal Std	1667878-3
Duplicate - Cli	1667878-21
Duplicate - Cli	1667878-38
Internal Std	1667878-40
Blank	1667878-41
Internal Std	1667878-42

PCB - Soil - Low

Spike	1668099-2
Duplicate - Cli	1668099-3
Calibration Ck	1668099-13
Blank	1668099-14

TEH-CCME-Soil (Shake)

Spike	1668114-2
Duplicate - Cli	1668114-3
Calibration Ck	1668114-13
Blank	1668114-14

1221175-29**BTEX-CCME - Soil**

Spike	1668122-2
Spike	1668122-4
Duplicate - Cli	1668122-5
Calibration Ck	1668122-15
Blank	1668122-16

Metals ICP (Hot Block) in soil

Internal Std	1667878-1
Blank	1667878-2
Internal Std	1667878-3
Duplicate - Cli	1667878-21
Duplicate - Cli	1667878-38
Internal Std	1667878-40
Blank	1667878-41
Internal Std	1667878-42

PCB - Soil - Low

Spike	1668099-2
Duplicate - Cli	1668099-3
Calibration Ck	1668099-13
Blank	1668099-14

TEH-CCME-Soil (Shake)

Spike	1668114-2
Duplicate - Cli	1668114-3
Calibration Ck	1668114-13
Blank	1668114-14

1221175-30

BTEX-CCME - Soil

Spike	1668122-2
Spike	1668122-4
Duplicate - Cli	1668122-5
Calibration Ck	1668122-15
Blank	1668122-16

Metals ICP (Hot Block) in soil

Internal Std	1667878-1
Blank	1667878-2
Internal Std	1667878-3
Duplicate - Cli	1667878-21
Duplicate - Cli	1667878-38
Internal Std	1667878-40
Blank	1667878-41
Internal Std	1667878-42

PCB - Soil - Low

Spike	1668099-2
Duplicate - Cli	1668099-3
Calibration Ck	1668099-13
Blank	1668099-14

TEH-CCME-Soil (Shake)

Spike	1668114-2
Duplicate - Cli	1668114-3
Calibration Ck	1668114-13
Blank	1668114-14

1221175-31**BTEX-CCME - Soil**

Spike	1668122-2
Spike	1668122-4
Duplicate - Cli	1668122-5
Calibration Ck	1668122-15
Blank	1668122-16

Metals ICP (Hot Block) in soil

Internal Std	1667878-1
Blank	1667878-2
Internal Std	1667878-3
Duplicate - Cli	1667878-21
Duplicate - Cli	1667878-38
Internal Std	1667878-40
Blank	1667878-41
Internal Std	1667878-42

PCB - Soil - Low

Spike	1668099-2
Duplicate - Cli	1668099-3
Calibration Ck	1668099-13
Blank	1668099-14

TEH-CCME-Soil (Shake)

Spike	1668114-2
Duplicate - Cli	1668114-3
Calibration Ck	1668114-13
Blank	1668114-14

1221175-32**BTEX-CCME - Soil**

Spike	1668122-2
Spike	1668122-4
Duplicate - Cli	1668122-5
Calibration Ck	1668122-15
Blank	1668122-16

Metals ICP (Hot Block) in soil

Internal Std	1667878-1
Blank	1667878-2
Internal Std	1667878-3
Duplicate - Cli	1667878-21
Duplicate - Cli	1667878-38
Internal Std	1667878-40
Blank	1667878-41
Internal Std	1667878-42

PCB - Soil - Low

Spike	1668099-2
Duplicate - Cli	1668099-3
Calibration Ck	1668099-13
Blank	1668099-14

TEH-CCME-Soil (Shake)

Spike	1668114-2
Duplicate - Cli	1668114-3
Calibration Ck	1668114-13
Blank	1668114-14

1221175-33**BTEX-CCME - Soil**

Spike	1668122-2
Spike	1668122-4
Duplicate - Cli	1668122-5
Calibration Ck	1668122-15
Blank	1668122-16

Metals ICP (Hot Block) in soil

Internal Std	1667878-1
Blank	1667878-2
Internal Std	1667878-3
Duplicate - Cli	1667878-38
Internal Std	1667878-40
Blank	1667878-41
Internal Std	1667878-42

PCB - Soil - Low

Spike	1668099-2
Duplicate - Cli	1668099-3
Calibration Ck	1668099-13
Blank	1668099-14

TEH-CCME-Soil (Shake)

Spike	1668114-2
Duplicate - Cli	1668114-3
Calibration Ck	1668114-13
Blank	1668114-14

1221175-34**BTEX-CCME - Soil**

Spike	1668122-2
Spike	1668122-4
Duplicate - Cli	1668122-5
Calibration Ck	1668122-15
Blank	1668122-16

Metals ICP (Hot Block) in soil

Duplicate - Cli	1667878-38
Internal Std	1667878-40
Blank	1667878-41
Internal Std	1667878-42

PCB - Soil - Low

Spike	1668099-2
Duplicate - Cli	1668099-3
Calibration Ck	1668099-13
Blank	1668099-14

TEH-CCME-Soil (Shake)

Spike	1668114-2
Duplicate - Cli	1668114-3
Calibration Ck	1668114-13
Blank	1668114-14

1221175-35**BTEX-CCME - Soil**

Spike	1668122-2
Spike	1668122-4
Duplicate - Cli	1668122-5
Calibration Ck	1668122-15
Blank	1668122-16

Metals ICP (Hot Block) in soil

Duplicate - Cli	1667878-38
Internal Std	1667878-40
Blank	1667878-41
Internal Std	1667878-42

PCB - Soil - Low

Spike	1668099-2
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Duplicate - Cli	1668099-3
Calibration Ck	1668099-13
Blank	1668099-14

TEH-CCME-Soil (Shake)

Spike	1668114-2
Duplicate - Cli	1668114-3
Calibration Ck	1668114-13
Blank	1668114-14

1221175-36**BTEX-CCME - Soil**

Spike	1668122-2
Spike	1668122-4
Duplicate - Cli	1668122-5
Calibration Ck	1668122-15
Blank	1668122-16

Metals ICP (Hot Block) in soil

Duplicate - Cli	1667878-38
Internal Std	1667878-40
Blank	1667878-41
Internal Std	1667878-42

PCB - Soil - Low

Spike	1668099-2
Duplicate - Cli	1668099-3
Calibration Ck	1668099-13
Blank	1668099-14

TEH-CCME-Soil (Shake)

Spike	1668114-2
Duplicate - Cli	1668114-3
Calibration Ck	1668114-13
Blank	1668114-14

1221175-37**BTEX-CCME - Soil**

Spike	1668123-2
Spike	1668123-4
Duplicate - Cli	1668123-5
Calibration Ck	1668123-15
Blank	1668123-16

Metals ICP (Hot Block) in soil

Duplicate - Cli	1667878-38
Internal Std	1667878-40
Blank	1667878-41
Internal Std	1667878-42

PCB - Soil - Low

Spike	1668100-2
Duplicate - Cli	1668100-3
Calibration Ck	1668100-13

Blank	1668100-14
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TEH-CCME-Soil (Shake)

Spike	1668115-2
Duplicate - Cli	1668115-3
Calibration Ck	1668115-13
Blank	1668115-14

1221175-38**BTEX-CCME - Soil**

Spike	1668123-2
Spike	1668123-4
Duplicate - Cli	1668123-5
Calibration Ck	1668123-15
Blank	1668123-16

Metals ICP (Hot Block) in soil

Duplicate - Cli	1667878-38
Internal Std	1667878-40
Blank	1667878-41
Internal Std	1667878-42

PCB - Soil - Low

Spike	1668100-2
Duplicate - Cli	1668100-3
Calibration Ck	1668100-13
Blank	1668100-14

TEH-CCME-Soil (Shake)

Spike	1668115-2
Duplicate - Cli	1668115-3
Calibration Ck	1668115-13
Blank	1668115-14

1221175-39**BTEX-CCME - Soil**

Spike	1668123-2
Spike	1668123-4
Duplicate - Cli	1668123-5
Calibration Ck	1668123-15
Blank	1668123-16

Metals ICP (Hot Block) in soil

Duplicate - Cli	1667878-38
Internal Std	1667878-40
Blank	1667878-41
Internal Std	1667878-42

PCB - Soil - Low

Spike	1668100-2
Duplicate - Cli	1668100-3
Calibration Ck	1668100-13
Blank	1668100-14

TEH-CCME-Soil (Shake)

Spike	1668115-2
Duplicate - Cli	1668115-3
Calibration Ck	1668115-13
Blank	1668115-14

1221175-40**BTEX-CCME - Soil**

Spike	1668123-2
Spike	1668123-4
Duplicate - Cli	1668123-5
Calibration Ck	1668123-15
Blank	1668123-16

Metals ICP (Hot Block) in soil

Duplicate - Cli	1667878-38
Internal Std	1667878-40
Blank	1667878-41
Internal Std	1667878-42

PCB - Soil - Low

Spike	1668100-2
Duplicate - Cli	1668100-3
Calibration Ck	1668100-13
Blank	1668100-14

TEH-CCME-Soil (Shake)

Spike	1668115-2
Duplicate - Cli	1668115-3
Calibration Ck	1668115-13
Blank	1668115-14

1221175-41**BTEX-CCME - Soil**

Spike	1668123-2
Spike	1668123-4
Duplicate - Cli	1668123-5
Calibration Ck	1668123-15
Blank	1668123-16

Metals ICP (Hot Block) in soil

Duplicate - Cli	1667878-38
Internal Std	1667878-40
Blank	1667878-41
Internal Std	1667878-42

PCB - Soil - Low

Spike	1668100-2
Duplicate - Cli	1668100-3
Calibration Ck	1668100-13
Blank	1668100-14

TEH-CCME-Soil (Shake)

Spike	1668115-2
Duplicate - Cli	1668115-3

Calibration Ck	1668115-13
Blank	1668115-14

1221175-42**BTEX-CCME - Soil**

Spike	1668123-2
Spike	1668123-4
Duplicate - Cli	1668123-5
Calibration Ck	1668123-15
Blank	1668123-16

Metals ICP (Hot Block) in soil

Duplicate - Cli	1667878-38
Internal Std	1667878-40
Blank	1667878-41
Internal Std	1667878-42

PCB - Soil - Low

Spike	1668100-2
Duplicate - Cli	1668100-3
Calibration Ck	1668100-13
Blank	1668100-14

TEH-CCME-Soil (Shake)

Spike	1668115-2
Duplicate - Cli	1668115-3
Calibration Ck	1668115-13
Blank	1668115-14

1221175-43**BTEX-CCME - Soil**

Spike	1668123-2
Spike	1668123-4
Duplicate - Cli	1668123-5
Calibration Ck	1668123-15
Blank	1668123-16

Metals ICP (Hot Block) in soil

Duplicate - Cli	1667878-38
Internal Std	1667878-40
Blank	1667878-41
Internal Std	1667878-42

PCB - Soil - Low

Spike	1668100-2
Duplicate - Cli	1668100-3
Calibration Ck	1668100-13
Blank	1668100-14

TEH-CCME-Soil (Shake)

Spike	1668115-2
Duplicate - Cli	1668115-3
Calibration Ck	1668115-13
Blank	1668115-14

1221175-44**BTEX-CCME - Soil**

Spike	1668123-2
Spike	1668123-4
Duplicate - Cli	1668123-5
Calibration Ck	1668123-15
Blank	1668123-16

Metals ICP (Hot Block) in soil

Duplicate - Cli	1667878-38
Internal Std	1667878-40
Blank	1667878-41
Internal Std	1667878-42

PCB - Soil - Low

Spike	1668100-2
Duplicate - Cli	1668100-3
Calibration Ck	1668100-13
Blank	1668100-14

TEH-CCME-Soil (Shake)

Spike	1668115-2
Duplicate - Cli	1668115-3
Calibration Ck	1668115-13
Blank	1668115-14

1221175-45**BTEX-CCME - Soil**

Spike	1668123-2
Spike	1668123-4
Duplicate - Cli	1668123-5
Calibration Ck	1668123-15
Blank	1668123-16

Metals ICP (Hot Block) in soil

Duplicate - Cli	1667878-38
Internal Std	1667878-40
Blank	1667878-41
Internal Std	1667878-42

PCB - Soil - Low

Spike	1668100-2
Duplicate - Cli	1668100-3
Calibration Ck	1668100-13
Blank	1668100-14

TEH-CCME-Soil (Shake)

Spike	1668115-2
Duplicate - Cli	1668115-3
Calibration Ck	1668115-13
Blank	1668115-14

1221175-46**BTEX-CCME - Soil**

Spike	1668124-2
Spike	1668124-4
Duplicate - Cli	1668124-5
Calibration Ck	1668124-15
Blank	1668124-16

Metals ICP (Hot Block) in soil

Duplicate - Cli	1667878-38
Internal Std	1667878-40
Blank	1667878-41
Internal Std	1667878-42

PCB - Soil - Low

Spike	1668101-2
Duplicate - Cli	1668101-3
Calibration Ck	1668101-13
Blank	1668101-14

TEH-CCME-Soil (Shake)

Spike	1668116-2
Duplicate - Cli	1668116-3
Calibration Ck	1668116-13
Blank	1668116-14

1221175-47**BTEX-CCME - Soil**

Spike	1668124-2
Spike	1668124-4
Duplicate - Cli	1668124-5
Calibration Ck	1668124-15
Blank	1668124-16

Metals ICP (Hot Block) in soil

Duplicate - Cli	1667878-38
Internal Std	1667878-40
Blank	1667878-41
Internal Std	1667878-42

PCB - Soil - Low

Spike	1668101-2
Duplicate - Cli	1668101-3
Calibration Ck	1668101-13
Blank	1668101-14

TEH-CCME-Soil (Shake)

Spike	1668116-2
Duplicate - Cli	1668116-3
Calibration Ck	1668116-13
Blank	1668116-14

1221175-48**BTEX-CCME - Soil**

Spike	1668124-2
Spike	1668124-4

Duplicate - Cli	1668124-5
Calibration Ck	1668124-15
Blank	1668124-16

Metals ICP (Hot Block) in soil

Internal Std	1667879-1
Blank	1667879-2
Internal Std	1667879-3
Duplicate - Cli	1667879-4
Duplicate - Cli	1667879-21

PCB - Soil - Low

Spike	1668101-2
Duplicate - Cli	1668101-3
Calibration Ck	1668101-13
Blank	1668101-14

TEH-CCME-Soil (Shake)

Spike	1668116-2
Duplicate - Cli	1668116-3
Calibration Ck	1668116-13
Blank	1668116-14

1221175-49**BTEX-CCME - Soil**

Spike	1668124-2
Spike	1668124-4
Duplicate - Cli	1668124-5
Calibration Ck	1668124-15
Blank	1668124-16

Metals ICP (Hot Block) in soil

Internal Std	1667879-1
Blank	1667879-2
Internal Std	1667879-3
Duplicate - Cli	1667879-4
Duplicate - Cli	1667879-21

PCB - Soil - Low

Spike	1668101-2
Duplicate - Cli	1668101-3
Calibration Ck	1668101-13
Blank	1668101-14

TEH-CCME-Soil (Shake)

Spike	1668116-2
Duplicate - Cli	1668116-3
Calibration Ck	1668116-13
Blank	1668116-14

1221175-50**BTEX-CCME - Soil**

Spike	1668124-2
Spike	1668124-4

Duplicate - Cli	1668124-5
Calibration Ck	1668124-15
Blank	1668124-16

Metals ICP (Hot Block) in soil

Internal Std	1667879-1
Blank	1667879-2
Internal Std	1667879-3
Duplicate - Cli	1667879-4
Duplicate - Cli	1667879-21

PCB - Soil - Low

Spike	1668101-2
Duplicate - Cli	1668101-3
Calibration Ck	1668101-13
Blank	1668101-14

TEH-CCME-Soil (Shake)

Spike	1668116-2
Duplicate - Cli	1668116-3
Calibration Ck	1668116-13
Blank	1668116-14

1221175-51**BTEX-CCME - Soil**

Spike	1668124-2
Spike	1668124-4
Duplicate - Cli	1668124-5
Calibration Ck	1668124-15
Blank	1668124-16

Metals ICP (Hot Block) in soil

Internal Std	1667879-1
Blank	1667879-2
Internal Std	1667879-3
Duplicate - Cli	1667879-4
Duplicate - Cli	1667879-21

PCB - Soil - Low

Spike	1668101-2
Duplicate - Cli	1668101-3
Calibration Ck	1668101-13
Blank	1668101-14

TEH-CCME-Soil (Shake)

Spike	1668116-2
Duplicate - Cli	1668116-3
Calibration Ck	1668116-13
Blank	1668116-14

1221175-52**BTEX-CCME - Soil**

Spike	1668124-2
Spike	1668124-4

Duplicate - Cli	1668124-5
Calibration Ck	1668124-15
Blank	1668124-16

Metals ICP (Hot Block) in soil

Internal Std	1667879-1
Blank	1667879-2
Internal Std	1667879-3
Duplicate - Cli	1667879-4
Duplicate - Cli	1667879-21

PCB - Soil - Low

Spike	1668101-2
Duplicate - Cli	1668101-3
Calibration Ck	1668101-13
Blank	1668101-14

TEH-CCME-Soil (Shake)

Spike	1668116-2
Duplicate - Cli	1668116-3
Calibration Ck	1668116-13
Blank	1668116-14

1221175-53**BTEX-CCME - Soil**

Spike	1668124-2
Spike	1668124-4
Duplicate - Cli	1668124-5
Calibration Ck	1668124-15
Blank	1668124-16

Metals ICP (Hot Block) in soil

Internal Std	1667879-1
Blank	1667879-2
Internal Std	1667879-3
Duplicate - Cli	1667879-4
Duplicate - Cli	1667879-21

PCB - Soil - Low

Spike	1668101-2
Duplicate - Cli	1668101-3
Calibration Ck	1668101-13
Blank	1668101-14

TEH-CCME-Soil (Shake)

Spike	1668116-2
Duplicate - Cli	1668116-3
Calibration Ck	1668116-13
Blank	1668116-14

1221175-54**BTEX-CCME - Soil**

Spike	1668124-2
Spike	1668124-4

Duplicate - Cli	1668124-5
Calibration Ck	1668124-15
Blank	1668124-16

Metals ICP (Hot Block) in soil

Internal Std	1667879-1
Blank	1667879-2
Internal Std	1667879-3
Duplicate - Cli	1667879-4
Duplicate - Cli	1667879-21

PCB - Soil - Low

Spike	1668101-2
Duplicate - Cli	1668101-3
Calibration Ck	1668101-13
Blank	1668101-14

TEH-CCME-Soil (Shake)

Spike	1668116-2
Duplicate - Cli	1668116-3
Calibration Ck	1668116-13
Blank	1668116-14

1221175-55**BTEX-CCME - Soil**

Spike	1668125-2
Spike	1668125-4
Duplicate - Cli	1668125-5
Calibration Ck	1668125-15
Blank	1668125-16

Metals ICP (Hot Block) in soil

Internal Std	1667879-1
Blank	1667879-2
Internal Std	1667879-3
Duplicate - Cli	1667879-4
Duplicate - Cli	1667879-21

PCB - Soil - Low

Spike	1668102-2
Duplicate - Cli	1668102-3
Calibration Ck	1668102-13
Blank	1668102-14

TEH-CCME-Soil (Shake)

Spike	1668117-2
Duplicate - Cli	1668117-3
Calibration Ck	1668117-13
Blank	1668117-14

1221175-56**BTEX-CCME - Soil**

Spike	1668125-2
Spike	1668125-4

Duplicate - Cli	1668125-5
Calibration Ck	1668125-15
Blank	1668125-16

Metals ICP (Hot Block) in soil

Internal Std	1667879-1
Blank	1667879-2
Internal Std	1667879-3
Duplicate - Cli	1667879-4
Duplicate - Cli	1667879-21

PCB - Soil - Low

Spike	1668102-2
Duplicate - Cli	1668102-3
Calibration Ck	1668102-13
Blank	1668102-14

TEH-CCME-Soil (Shake)

Spike	1668117-2
Duplicate - Cli	1668117-3
Calibration Ck	1668117-13
Blank	1668117-14

1221175-57**BTEX-CCME - Soil**

Spike	1668125-2
Spike	1668125-4
Duplicate - Cli	1668125-5
Calibration Ck	1668125-15
Blank	1668125-16

Metals ICP (Hot Block) in soil

Internal Std	1667879-1
Blank	1667879-2
Internal Std	1667879-3
Duplicate - Cli	1667879-4
Duplicate - Cli	1667879-21

PCB - Soil - Low

Spike	1668102-2
Duplicate - Cli	1668102-3
Calibration Ck	1668102-13
Blank	1668102-14

TEH-CCME-Soil (Shake)

Spike	1668117-2
Duplicate - Cli	1668117-3
Calibration Ck	1668117-13
Blank	1668117-14

1221175-58**BTEX-CCME - Soil**

Spike	1668125-2
Spike	1668125-4

Duplicate - Cli	1668125-5
Calibration Ck	1668125-15
Blank	1668125-16

Metals ICP (Hot Block) in soil

Internal Std	1667879-1
Blank	1667879-2
Internal Std	1667879-3
Duplicate - Cli	1667879-4
Duplicate - Cli	1667879-21

PCB - Soil - Low

Spike	1668102-2
Duplicate - Cli	1668102-3
Calibration Ck	1668102-13
Blank	1668102-14

TEH-CCME-Soil (Shake)

Spike	1668117-2
Duplicate - Cli	1668117-3
Calibration Ck	1668117-13
Blank	1668117-14

1221175-59**BTEX-CCME - Soil**

Spike	1668125-2
Spike	1668125-4
Duplicate - Cli	1668125-5
Calibration Ck	1668125-15
Blank	1668125-16

Metals ICP (Hot Block) in soil

Internal Std	1667879-1
Blank	1667879-2
Internal Std	1667879-3
Duplicate - Cli	1667879-4
Duplicate - Cli	1667879-21

PCB - Soil - Low

Spike	1668102-2
Duplicate - Cli	1668102-3
Calibration Ck	1668102-13
Blank	1668102-14

TEH-CCME-Soil (Shake)

Spike	1668117-2
Duplicate - Cli	1668117-3
Calibration Ck	1668117-13
Blank	1668117-14

1221175-60**BTEX-CCME - Soil**

Spike	1668125-2
Spike	1668125-4

Duplicate - Cli	1668125-5
Calibration Ck	1668125-15
Blank	1668125-16

Metals ICP (Hot Block) in soil

Internal Std	1667879-1
Blank	1667879-2
Internal Std	1667879-3
Duplicate - Cli	1667879-4
Duplicate - Cli	1667879-21

PCB - Soil - Low

Spike	1668102-2
Duplicate - Cli	1668102-3
Calibration Ck	1668102-13
Blank	1668102-14

TEH-CCME-Soil (Shake)

Spike	1668117-2
Duplicate - Cli	1668117-3
Calibration Ck	1668117-13
Blank	1668117-14

1221175-61**BTEX-CCME - Soil**

Spike	1668125-2
Spike	1668125-4
Duplicate - Cli	1668125-5
Calibration Ck	1668125-15
Blank	1668125-16

Metals ICP (Hot Block) in soil

Internal Std	1667879-1
Blank	1667879-2
Internal Std	1667879-3
Duplicate - Cli	1667879-4
Duplicate - Cli	1667879-21

PCB - Soil - Low

Spike	1668102-2
Duplicate - Cli	1668102-3
Calibration Ck	1668102-13
Blank	1668102-14

TEH-CCME-Soil (Shake)

Spike	1668117-2
Duplicate - Cli	1668117-3
Calibration Ck	1668117-13
Blank	1668117-14

1221175-62**BTEX-CCME - Soil**

Spike	1668125-2
Spike	1668125-4

Duplicate - Cli	1668125-5
Calibration Ck	1668125-15
Blank	1668125-16

Metals ICP (Hot Block) in soil

Internal Std	1667879-1
Blank	1667879-2
Internal Std	1667879-3
Duplicate - Cli	1667879-4
Duplicate - Cli	1667879-21

PCB - Soil - Low

Spike	1668102-2
Duplicate - Cli	1668102-3
Calibration Ck	1668102-13
Blank	1668102-14

TEH-CCME-Soil (Shake)

Spike	1668117-2
Duplicate - Cli	1668117-3
Calibration Ck	1668117-13
Blank	1668117-14

1221175-63**BTEX-CCME - Soil**

Spike	1668125-2
Spike	1668125-4
Duplicate - Cli	1668125-5
Calibration Ck	1668125-15
Blank	1668125-16

Metals ICP (Hot Block) in soil

Internal Std	1667879-1
Blank	1667879-2
Internal Std	1667879-3
Duplicate - Cli	1667879-4
Duplicate - Cli	1667879-21

PCB - Soil - Low

Spike	1668102-2
Duplicate - Cli	1668102-3
Calibration Ck	1668102-13
Blank	1668102-14

TEH-CCME-Soil (Shake)

Spike	1668117-2
Duplicate - Cli	1668117-3
Calibration Ck	1668117-13
Blank	1668117-14

1221175-64**BTEX-CCME - Soil**

Spike	1668126-2
Spike	1668126-4

Duplicate - Cli	1668126-5
Calibration Ck	1668126-15
Blank	1668126-16

Metals ICP (Hot Block) in soil

Internal Std	1667879-1
Blank	1667879-2
Internal Std	1667879-3
Duplicate - Cli	1667879-21

PCB - Soil - Low

Spike	1668103-2
Duplicate - Cli	1668103-3
Calibration Ck	1668103-13
Blank	1668103-14

TEH-CCME-Soil (Shake)

Spike	1668118-2
Duplicate - Cli	1668118-3
Calibration Ck	1668118-13
Blank	1668118-14

1221175-65**BTEX-CCME - Water**

Calibration Ck	1667969-11
Blank	1667969-12
Calibration Ck	1667969-13

Mercury (Total) in water

Internal Std	1667971-1
Internal Std	1667971-2
Internal Std	1667971-3
Blank	1667971-4
Duplicate - Cli	1667971-5
Duplicate - Cli	1667971-22

Metals ICP-MS (Total) in water

Internal Std	1668686-4
Blank	1668686-5
Duplicate - Cli	1668686-25
Internal Std	1668686-28
Internal Std	1668686-29
Internal Std	1668686-30
Internal Std	1668686-43
Blank	1668686-44
Duplicate - Cli	1668686-47

Metals Trace (Total) in water

Internal Std	1668660-1
Internal Std	1668660-2
Internal Std	1668660-3
Duplicate - Cli	1668660-39
Internal Std	1668660-43

Blank	1668660-44
Duplicate - Cli	1668660-57

PCB - Water - Low

Spike	1668088-2
Int. Duplicate	1668088-4
Calibration Ck	1668088-15
Blank	1668088-16

TEH-CCME - Water

Spike	1668128-2
Int. Duplicate	1668128-4
Calibration Ck	1668128-15
Blank	1668128-16

1221175-66**BTEX-CCME - Water**

Calibration Ck	1667969-11
Blank	1667969-12
Calibration Ck	1667969-13

Mercury (Total) in water

Internal Std	1667971-1
Internal Std	1667971-2
Internal Std	1667971-3
Blank	1667971-4
Duplicate - Cli	1667971-5
Duplicate - Cli	1667971-22

Metals ICP-MS (Total) in water

Internal Std	1668686-4
Blank	1668686-5
Duplicate - Cli	1668686-25
Internal Std	1668686-28
Internal Std	1668686-29
Internal Std	1668686-30
Internal Std	1668686-43
Blank	1668686-44
Duplicate - Cli	1668686-47

Metals Trace (Total) in water

Internal Std	1668660-1
Internal Std	1668660-2
Internal Std	1668660-3
Duplicate - Cli	1668660-39
Internal Std	1668660-43
Blank	1668660-44
Duplicate - Cli	1668660-57

PCB - Water - Low

Spike	1668088-2
Int. Duplicate	1668088-4
Calibration Ck	1668088-15

Blank	1668088-16
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TEH-CCME - Water

Spike	1668128-2
Int. Duplicate	1668128-4
Calibration Ck	1668128-15
Blank	1668128-16

1221175-67**BTEX-CCME - Water**

Calibration Ck	1667969-11
Blank	1667969-12
Calibration Ck	1667969-13

Mercury (Total) in water

Internal Std	1667971-1
Internal Std	1667971-2
Internal Std	1667971-3
Blank	1667971-4
Duplicate - Cli	1667971-5
Duplicate - Cli	1667971-22

Metals ICP-MS (Total) in water

Internal Std	1668686-4
Blank	1668686-5
Duplicate - Cli	1668686-25
Internal Std	1668686-28
Internal Std	1668686-29
Internal Std	1668686-30
Internal Std	1668686-43
Blank	1668686-44
Duplicate - Cli	1668686-47

Metals Trace (Total) in water

Internal Std	1668660-1
Internal Std	1668660-2
Internal Std	1668660-3
Duplicate - Cli	1668660-39
Internal Std	1668660-43
Blank	1668660-44
Duplicate - Cli	1668660-57

PCB - Water - Low

Spike	1668088-2
Int. Duplicate	1668088-4
Calibration Ck	1668088-15
Blank	1668088-16

TEH-CCME - Water

Spike	1668128-2
Int. Duplicate	1668128-4
Calibration Ck	1668128-15
Blank	1668128-16

1221175-68**BTEX-CCME - Water**

Calibration Ck	1667969-11
Blank	1667969-12
Calibration Ck	1667969-13

Mercury (Total) in water

Internal Std	1667971-1
Internal Std	1667971-2
Internal Std	1667971-3
Blank	1667971-4
Duplicate - Cli	1667971-5
Duplicate - Cli	1667971-22

Metals ICP-MS (Total) in water

Internal Std	1668686-4
Blank	1668686-5
Duplicate - Cli	1668686-25
Internal Std	1668686-28
Internal Std	1668686-29
Internal Std	1668686-30
Internal Std	1668686-43
Blank	1668686-44
Duplicate - Cli	1668686-47

Metals Trace (Total) in water

Internal Std	1668660-1
Internal Std	1668660-2
Internal Std	1668660-3
Duplicate - Cli	1668660-39
Internal Std	1668660-43
Blank	1668660-44
Duplicate - Cli	1668660-57

PCB - Water - Low

Spike	1668088-2
Int. Duplicate	1668088-4
Calibration Ck	1668088-15
Blank	1668088-16

TEH-CCME - Water

Spike	1668128-2
Int. Duplicate	1668128-4
Calibration Ck	1668128-15
Blank	1668128-16

1221175-69**BTEX-CCME - Water**

Calibration Ck	1667969-11
Blank	1667969-12
Calibration Ck	1667969-13

Mercury (Total) in water

Internal Std	1667971-1
Internal Std	1667971-2
Internal Std	1667971-3
Blank	1667971-4
Duplicate - Cli	1667971-5
Duplicate - Cli	1667971-22

Metals ICP-MS (Total) in water

Internal Std	1668686-4
Blank	1668686-5
Duplicate - Cli	1668686-25
Internal Std	1668686-28
Internal Std	1668686-29
Internal Std	1668686-30
Internal Std	1668686-43
Blank	1668686-44
Duplicate - Cli	1668686-47

Metals Trace (Total) in water

Internal Std	1668660-1
Internal Std	1668660-2
Internal Std	1668660-3
Duplicate - Cli	1668660-39
Internal Std	1668660-43
Blank	1668660-44
Duplicate - Cli	1668660-57

PCB - Water - Low

Spike	1668088-2
Int. Duplicate	1668088-4
Calibration Ck	1668088-15
Blank	1668088-16

TEH-CCME - Water

Spike	1668128-2
Int. Duplicate	1668128-4
Calibration Ck	1668128-15
Blank	1668128-16

1221175-70**BTEX-CCME - Water**

Calibration Ck	1667969-11
Blank	1667969-12
Calibration Ck	1667969-13

Mercury (Total) in water

Internal Std	1667971-1
Internal Std	1667971-2
Internal Std	1667971-3
Blank	1667971-4
Duplicate - Cli	1667971-5
Duplicate - Cli	1667971-22

Metals ICP-MS (Total) in water

Internal Std	1668686-4
Blank	1668686-5
Duplicate - Cli	1668686-25
Internal Std	1668686-28
Internal Std	1668686-29
Internal Std	1668686-30
Internal Std	1668686-43
Blank	1668686-44
Duplicate - Cli	1668686-47

Metals Trace (Total) in water

Internal Std	1668660-1
Internal Std	1668660-2
Internal Std	1668660-3
Internal Std	1668660-43
Blank	1668660-44
Duplicate - Cli	1668660-57

PCB - Water - Low

Spike	1668088-2
Int. Duplicate	1668088-4
Calibration Ck	1668088-15
Blank	1668088-16

TEH-CCME - Water

Spike	1668128-2
Int. Duplicate	1668128-4
Calibration Ck	1668128-15
Blank	1668128-16

1221175-71**BTEX-CCME - Water**

Calibration Ck	1667969-11
Blank	1667969-12
Calibration Ck	1667969-13

Mercury (Total) in water

Internal Std	1667971-1
Internal Std	1667971-2
Internal Std	1667971-3
Blank	1667971-4
Duplicate - Cli	1667971-22

Metals ICP-MS (Total) in water

Internal Std	1668686-4
Blank	1668686-5
Duplicate - Cli	1668686-25
Internal Std	1668686-28
Internal Std	1668686-29
Internal Std	1668686-30
Internal Std	1668686-43

Blank	1668686-44
Duplicate - Cli	1668686-47

Metals Trace (Total) in water

Internal Std	1668660-1
Internal Std	1668660-2
Internal Std	1668660-3
Internal Std	1668660-43
Blank	1668660-44
Duplicate - Cli	1668660-57

PCB - Water - Low

Spike	1668088-2
Int. Duplicate	1668088-4
Calibration Ck	1668088-15
Blank	1668088-16

TEH-CCME - Water

Spike	1668128-2
Int. Duplicate	1668128-4
Calibration Ck	1668128-15
Blank	1668128-16

1221175-72**BTEX-CCME - Water**

Calibration Ck	1667969-11
Blank	1667969-12
Calibration Ck	1667969-13

Mercury (Total) in water

Internal Std	1667971-1
Internal Std	1667971-2
Internal Std	1667971-3
Blank	1667971-4
Duplicate - Cli	1667971-22

Metals ICP-MS (Total) in water

Internal Std	1668686-4
Blank	1668686-5
Duplicate - Cli	1668686-25
Internal Std	1668686-28
Internal Std	1668686-29
Internal Std	1668686-30
Internal Std	1668686-43
Blank	1668686-44
Duplicate - Cli	1668686-47

Metals Trace (Total) in water

Internal Std	1668660-1
Internal Std	1668660-2
Internal Std	1668660-3
Internal Std	1668660-43
Blank	1668660-44

Duplicate - Cli	1668660-57
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PCB - Water - Low

Spike	1668088-2
Int. Duplicate	1668088-4
Calibration Ck	1668088-15
Blank	1668088-16

TEH-CCME - Water

Spike	1668128-2
Int. Duplicate	1668128-4
Calibration Ck	1668128-15
Blank	1668128-16

1221175-73**BTEX-CCME - Soil**

Spike	1668126-2
Spike	1668126-4
Duplicate - Cli	1668126-5
Calibration Ck	1668126-15
Blank	1668126-16

Metals ICP (Hot Block) in soil

Internal Std	1667879-1
Blank	1667879-2
Internal Std	1667879-3
Duplicate - Cli	1667879-21

PCB - Soil - Low

Spike	1668103-2
Duplicate - Cli	1668103-3
Calibration Ck	1668103-13
Blank	1668103-14

TEH-CCME-Soil (Shake)

Spike	1668118-2
Duplicate - Cli	1668118-3
Calibration Ck	1668118-13
Blank	1668118-14

1221175-74**BTEX-CCME - Soil**

Spike	1668126-2
Spike	1668126-4
Duplicate - Cli	1668126-5
Calibration Ck	1668126-15
Blank	1668126-16

Metals ICP (Hot Block) in soil

Internal Std	1667879-1
Blank	1667879-2
Internal Std	1667879-3
Duplicate - Cli	1667879-21

PCB - Soil - Low

Spike	1668103-2
Duplicate - Cli	1668103-3
Calibration Ck	1668103-13
Blank	1668103-14

TEH-CCME-Soil (Shake)

Spike	1668118-2
Duplicate - Cli	1668118-3
Calibration Ck	1668118-13
Blank	1668118-14

1221175-75**BTEX-CCME - Soil**

Spike	1668126-2
Spike	1668126-4
Duplicate - Cli	1668126-5
Calibration Ck	1668126-15
Blank	1668126-16

Metals ICP (Hot Block) in soil

Internal Std	1667879-1
Blank	1667879-2
Internal Std	1667879-3
Duplicate - Cli	1667879-21

PCB - Soil - Low

Spike	1668103-2
Duplicate - Cli	1668103-3
Calibration Ck	1668103-13
Blank	1668103-14

TEH-CCME-Soil (Shake)

Spike	1668118-2
Duplicate - Cli	1668118-3
Calibration Ck	1668118-13
Blank	1668118-14

1221175-76**BTEX-CCME - Soil**

Spike	1668126-2
Spike	1668126-4
Duplicate - Cli	1668126-5
Calibration Ck	1668126-15
Blank	1668126-16

Metals ICP (Hot Block) in soil

Internal Std	1667879-1
Blank	1667879-2
Internal Std	1667879-3
Duplicate - Cli	1667879-21

PCB - Soil - Low

Spike	1668103-2
Duplicate - Cli	1668103-3

Calibration Ck	1668103-13
Blank	1668103-14

TEH-CCME-Soil (Shake)

Spike	1668118-2
Duplicate - Cli	1668118-3
Calibration Ck	1668118-13
Blank	1668118-14

1221175-77**BTEX-CCME - Soil**

Spike	1668126-2
Spike	1668126-4
Duplicate - Cli	1668126-5
Calibration Ck	1668126-15
Blank	1668126-16

Metals ICP (Hot Block) in soil

Internal Std	1667879-1
Blank	1667879-2
Internal Std	1667879-3
Duplicate - Cli	1667879-21

PCB - Soil - Low

Spike	1668103-2
Duplicate - Cli	1668103-3
Calibration Ck	1668103-13
Blank	1668103-14

TEH-CCME-Soil (Shake)

Spike	1668118-2
Duplicate - Cli	1668118-3
Calibration Ck	1668118-13
Blank	1668118-14

1221175-78**BTEX-CCME - Soil**

Spike	1668126-2
Spike	1668126-4
Duplicate - Cli	1668126-5
Calibration Ck	1668126-15
Blank	1668126-16

Metals ICP (Hot Block) in soil

Internal Std	1667879-1
Blank	1667879-2
Internal Std	1667879-3
Duplicate - Cli	1667879-21

PCB - Soil - Low

Spike	1668103-2
Duplicate - Cli	1668103-3
Calibration Ck	1668103-13
Blank	1668103-14

TEH-CCME-Soil (Shake)

Spike	1668118-2
Duplicate - Cli	1668118-3
Calibration Ck	1668118-13
Blank	1668118-14

1221175-79**BTEX-CCME - Soil**

Spike	1668126-2
Spike	1668126-4
Duplicate - Cli	1668126-5
Calibration Ck	1668126-15
Blank	1668126-16

Metals ICP (Hot Block) in soil

Internal Std	1667879-1
Blank	1667879-2
Internal Std	1667879-3
Duplicate - Cli	1667879-21

PCB - Soil - Low

Spike	1668103-2
Duplicate - Cli	1668103-3
Calibration Ck	1668103-13
Blank	1668103-14

TEH-CCME-Soil (Shake)

Spike	1668118-2
Duplicate - Cli	1668118-3
Calibration Ck	1668118-13
Blank	1668118-14

1221175-80**BTEX-CCME - Water**

Calibration Ck	1667969-11
Blank	1667969-12
Calibration Ck	1667969-13

Mercury (Total) in water

Internal Std	1667971-1
Internal Std	1667971-2
Internal Std	1667971-3
Blank	1667971-4
Duplicate - Cli	1667971-22

Metals ICP-MS (Total) in water

Internal Std	1669036-1
Internal Std	1669036-2
Internal Std	1669036-3
Internal Std	1669036-4
Blank	1669036-5
Duplicate - Cli	1669036-20
Internal Std	1669036-27

Internal Std	1669036-28
Internal Std	1669036-29

Metals Trace (Total) in water

Internal Std	1669035-1
Internal Std	1669035-2
Internal Std	1669035-3
Internal Std	1669035-4
Blank	1669035-5
Duplicate - Cli	1669035-15
Duplicate - Cli	1669035-31
Internal Std	1669035-42
Blank	1669035-43

PCB - Water - Low

Spike	1668088-2
Int. Duplicate	1668088-4
Calibration Ck	1668088-15
Blank	1668088-16

TEH-CCME - Water

Spike	1668128-2
Int. Duplicate	1668128-4
Calibration Ck	1668128-15
Blank	1668128-16

1221175-81**BTEX-CCME - Water**

Calibration Ck	1667969-11
Blank	1667969-12
Calibration Ck	1667969-13

Mercury (Total) in water

Internal Std	1667971-1
Internal Std	1667971-2
Internal Std	1667971-3
Blank	1667971-4
Duplicate - Cli	1667971-22

Metals ICP-MS (Total) in water

Internal Std	1669036-1
Internal Std	1669036-2
Internal Std	1669036-3
Internal Std	1669036-4
Blank	1669036-5
Duplicate - Cli	1669036-20
Internal Std	1669036-27
Internal Std	1669036-28
Internal Std	1669036-29

Metals Trace (Total) in water

Internal Std	1669035-1
Internal Std	1669035-2

Internal Std	1669035-3
Internal Std	1669035-4
Blank	1669035-5
Duplicate - Cli	1669035-15
Duplicate - Cli	1669035-31
Internal Std	1669035-42
Blank	1669035-43

PCB - Water - Low

Spike	1668088-2
Int. Duplicate	1668088-4
Calibration Ck	1668088-15
Blank	1668088-16

TEH-CCME - Water

Spike	1668128-2
Int. Duplicate	1668128-4
Calibration Ck	1668128-15
Blank	1668128-16

1221175-82**BTEX-CCME - Soil**

Spike	1668126-2
Spike	1668126-4
Duplicate - Cli	1668126-5
Calibration Ck	1668126-15
Blank	1668126-16

Metals ICP (Hot Block) in soil

Internal Std	1667879-1
Blank	1667879-2
Internal Std	1667879-3
Duplicate - Cli	1667879-21

PCB - Soil - Low

Spike	1668103-2
Duplicate - Cli	1668103-3
Calibration Ck	1668103-13
Blank	1668103-14

TEH-CCME-Soil (Shake)

Spike	1668118-2
Duplicate - Cli	1668118-3
Calibration Ck	1668118-13
Blank	1668118-14

ANNEX 3

Field Notes and Chain of Custody Forms

① AUGUST 13, 2017,
5-6 MOS TO P.N. 4
6-730 SETUP CAMP

TIER II DF.

VT-1	WP 001	V-N
VT-2	WP 002	V-W
VT-3	WP 003	V-S
VT-4	WP 004	V-E

NHWLF * WELLS SAMPLED ON
M.W. 5 WP 4 1 1/2 AVG 14

SLUP 50 Edgy TOTAL 172

MW 8 WP 5
SLUP 42 183 Bot 240
PURGE 35L

T 22/1.9/2.0/2.2/2.0V
COND 605/608/757/843/844 ✓
PH 8.8/8.9/8.9/8.9 ✓
TURB 7.8/9.2/8.4/8.6 ✓
6 BOTTLES

MW 7 WP 6 2"
SLUP 58-15 165 Bot 350
PURGE 75L
T 2.1/2.2/2.6/2.8/2.9/2.6 ✓
COND 613/616/618/616/628 ✓

NE 30-50 km/h
15°C, Hazy

PH 8.6/8.5/8.3/8.2/8.1 ✓
TURB 6.2/5.4/5.1/3.6/1.8
(6 BOTTLES)

MW 6 - WP 7 2"
SLUP 50 160 Bot 197

T 2.8/3.1/2.6/2.6 ✓ PURGE 1.5
COND 6.22/628/630/628 (6 BOTTLES)
PH 8.2/8.3/8.1/8.1 ✓
TURB 7.4/6.7/6.1/5.9 ✓

TIER II DF 1x1L, 1x200PL, 3x40. 1x100 AM
(6 BOTTLES)

MW-1 WP 8 2"
SLUP 54 188 Bot 235

PURGE 2.7L. RATE 100ML/MIN
T 2.8/2.3/2.3/2.4 ✓
COND 1307/1290/1291/1290 ✓
PH 9.8/8.8/8.4/8.3 ✓
TURB 14.1/9.4/9.2/9.2 ✓

MW-4 WP 9 1 1/2
SLUP 39 107 Bot 218
PURGE 4.1L

T 2.3/2.6/2.9/3.6/3.7 ✓
COND 14.6/13.3/11.8/11.33
PH 8.3/8.2/8.1/8.0 ✓
TURB 8.5/5.6/5.5/5.6 ✓
collect 6 bottles

(3)

6 BOTTLES EACH 4 INTER. (M)

MW-3 ~~STOP~~ WP 10 + BDW1SUP 47 ~~2~~ 105 bot 263

T 2.0/2.3/2.6/2.6 v PURGE 5.8L

COND 2459/2420/2240/2230 v

PH 8.4/7.7/7.7/7.6 v

TURB 11.2/10.6/7.2/7.3 v

NW-2 - WP 11 standy II.

SUP 60 ~~2~~ 55 bot 192

PURGE 5.6L

T 2.6/2.9/3.1/3.3/3.3 v

COND 2250/2220/2160/2140 v

PH 7.7/7.5/7.3/7.2/7.2 v

TURB 16.4/12.9/8.6/8.7 v

NORTHWEST LF AUGUST 14, 2017

6°C-10°C, NE 20-30 km/h

12 - P417-4 (A/B) BRN. SILTY SAND + G.

NO 2 A - BD1 0-10

B - 40-50

13 P417-5 A/B LT BRN S+G A/B v

LOBE B

14 V-W/SW-@ CRNR

15 V-NE/SW/

16 V-W

(4)

17 V-E NNW NE 12 V-Sparse.

Veg on crest, more on SW slope

18 V-S/E-CRNR

19 V-E 20-V-W @ MIN CRUS

Feat C- 18 mL x 1-2 ↓ 10W. @ toe.

21 Feat B - 2x Potholes NO change
V-E/S.

13 V-W @ P417-5 A/B

LOBE C

22 V-E/N/NE @ CRNR SPARSE OVER ALL

23 V-S/E @ CRNR

24 V-W/S/SW @ CRNR

25 V-NW @ CRNR

26 P417-1 A/B - GRAVEL, TR-SAND, DRY

27 P417-2 A/B - DK BRN SAND + GRAV.

LOBE D

28 V-SE/N. 29 V-NW

30 V-W/S @ CRNR

31 V-N/S E 2x POTHOLE'S FEET B
30x30x5 SAME.

32 V-N/WW/NW @ CRNR

33 P417-3 A/B dk brn S+G.

5

NORTH LF (LOBE C) (cent ^{v. sp.} ~~veg~~ ^{cover})

- 34 V-W/S/SW @ CRNR
- 35 FEAT E V-NIS NO change
- 36 FEAT F V-NIS/W NO change
- 37 V-S/E NE/SE
- ~~38~~ FEAT D V-S/W NO change

ON slope

- 38 P417-11A/B Bk ORG + G. DRY.
- 39 V-N/E @ CRNR 40 V-E
- 41 V-W/N/NW
- 42 P417-12A/B BDZ DK BRN S W/G

LOBE B

- 43 V-NE/NW NO change
- 44 V-N/E @ Feat C 2 sets of photos w/ book
- 45 V-SE @ CRNR 47 V-NE/SE @ New settlement 1m x 30 x 10 ↓
- 48 P417-6A/B dk brn ^{any} s/g Bezo da BDR.
- 49 V-SE ALONG BENCH
- 50 V-NIS Feat H NOT OBS.
- 51 V-S @ NW SIDE SWP
- 52 V-S @ N TOE
- 53 V-NW/SW
- 54 New settlement @ toe NW/SE dir ^{V-SE/SW} 4m x 20 x 5 ↓

6

- 55 FEAT G NO change V-SE/NW.
- V-NW ALONG BENCH
- V-S - up slope crest / V-S @ SIDE slope
- 56 P417-7A/B - BRN G. DRY
- 57 P417-8A/B BRN S + G DRY

LOBE A

- 58 V-S @ NW TOE 59 V-E @ TOE
- 60 V-S/E @ ORG MARGIN.
- 61 V-SE along toe. 62 V-SW @ S
- 63 V-SW up slope - org + veg
- 64 V-N/W @ toe
- 65 FEAT A V-W NO change
- 66 P417-9A/B BRN S + G. DRY.
- 67 P417-10A/B BD3. BRN SILT. SAND, GRAVEL @ 0.1 ft.

MISSING ~~68~~ V-E/NW @ CRST

- 68 V-NE/SW @ CRST 5 @ ↓
- FEAT I V-SE/NNE ^{3m x 0.2-0.3W} slightly wider + deeper on W side
- 69 V-SE FEAT B → 70 NO change
- 71 V-NE/NW @ CRNR
- 72 V-SE/NE/E @ CRNR - sp. veg on CRNR
- 73 V-SW/SE/N @ CRST

(7)

2 MWLF

74- v- W|NW|SW|E|CRNR. TDS

75 V-NW/SW/W @ E CRIST

76	FEAT B.	V-SE/NE	NO CHANGE
----	---------	---------	-----------

17 FEAT A- V- NW/SE 1 ML. 40w, 10d

slightly larger

78. V-SE/SW/SE N. CREST

79 v. s e dozer edge black mark on
cover of org.

~~80) V. N / W @ Feet D Net 10000000~~

Q1 DISCUSS OF METAL DILUTION @ TDE. (5)

~~12~~ P417.5W A/B - 4m SE

02 V-SE/SWE N-TOE

4-NW/4 @ FEAT D. - N/S DIR.

NO CHANGE - CRIST

83	FOATC.	V- NNE / NW.	NO CHANGE
	3 x	15 x 5 d.	

84 push stone, LINEAR FBAT. V-E/SW
CONST. ARTIFACT

65 - N - N/E (S/W) MID COVER

86. -p4-7-8WA/B. 2m ~~to~~ E

87. V-SE N-SIDE. 88. V-SEEW.

88- P417-7W 2m. E. BUKORG, DRY

90 V-NNW/ESE/NEO SW COAST.

91. VĚNĚ / SE / NĚ E TOE.



V. RABBITX2.

BD 4

92. P417-600(A)B 2.75m, Nu

LT BDN SILT, some SAND & GR.

93 V-NW/NE ES. TDE

94 V. NE/NW/N.C.S. CREST

V-S-E EQUIV TRACKS. SAME:

45 V - NNE @ S 91.0E

STATION: WEST LF.

96 - V. NW. A. W. 2 IN. S. SIDE OF RD

97	"	"	S. SIDE.	"
----	---	---	----------	---

98	FEAT (C)	- 70x40x 110 ↓	FRD
	V- WIS	12m N of S edge	

99 v-SE/N.4 → Qv-W → 999WR

100 - V - ESE @ OLD FEAT^D BARREN NATC.

101 FERT J., NO CHANGE. V-W/S
LOC. CLOSER TO N edge of Rd

102 P417-13A/B. ✓ LT BZN STG DAY

103 V-S. e. N. S. DE

104/105 V-NW/SE E FERT D.

NO CHANGE, ALONG TOE

106	FERT A.	V-E/N.	NO BLANK
	POT HOLE		

107 STAINING - NO CHANGE

108 LINEAR FEATURE A. $5m \times 0.3 \times 10d$
V-NW/NE

(11)

- 135 V-E/N/NE @ SW CREST
 136 V-E/N-MID SLOPE
 137 V-E/N/NE @ SW TOE
 138 D417-3WA(B) BDS
 BRN SANDY SLT, DAMP 3m N.
 139 V-N @ S SIDE
 140 V-SE @ MWZ FEAT. D - UP TO 30cm
 some standing water around toe w/in
 5m @ toe, heavily vegetated.
 V-N/W/NW @ toe
 141 MIN. STAIN @ TOE SAME.
 V-S FEATURE F, NO SCREEN
 142 V-N/W MID SLOPE ALSO V-SE @
 FEAT. D.
 143 FEAT. B, DEPR. @ W CREST
 V-N/W. NO CHANGE
 144 V-S/E/SE @ NW CREST
 145 V-S/E MID SLOPE
 146 V-S/E/SE @ NW TOE
 147 V-S @ N SIDE.
 148 P417-1WA/B - BRN/CREST STG DRY
 150 P417-4WA/B 35m S @ MWZ
 LT. GRAY SLT DRY
 151 V-E @ W SIDE
 152 V-NW from R.D.

(12)

USAF LF

- 153 V-NE/NW @ SW TOE
 154 V-NE/SE @ NW TOE
 155 V-NE/SW @ C.
 156 FEAT B. CRACK V-SE
 157 V-NW, 158 CLOSE UP - MW
 NO SIGN CHANCE 12m L x 5 W - 1 UPTO 4cm PIN FIL
 EXT. ACROSS SURFACE / LOW TO CREST
 159 V-SE/SW @ NE CORN
 160 FEAT. C. V-SE/SW
 161 V-S @ E SIDE
 162 V-SW ALONG S TOE
 163 D417-19A/B BRN GRAV. DRY
 164 P417-26A/B BDG. BRN GRAV
 165 DRY.
 165 V-SW along toe - former seepage
 166 V-NE " "
 167 V-NE 1 ~ 6m down slope @ LF
 former seepage
 168 DRIED VEH / ALGAE
 169 V-NW NO ACTIVE
 SPACE
 170 P417-21A/B SEE TRACKS
 170 D417-18A/B IN TOP RIDGE
 V-SE. LT BRN GRAV. DRY

(13)

AIRSTRIPE LF.

121 V-SSW - @ NW SIDE

172 V- S @ N. SIDE

VEZ ACROSS ENTIRE COVER

173 V- N @ FORMER ponded area @ SE toe.

174 V- NW along S toe

V- N ACROSS COVER - VEZ

V- S @ FORMER POND AREA @ SE TOE

V- NNE ALONG E SIDE SLOPE

V- NW ALONG S SIDE SLOPE

176 V- S / NW @ NE CORNER

177 P417-22A/B. BUK ORG + GRAV. DRY

178 P417-23A/B BDT

GRAY SAND, SOME SILT + G. DAMP

179 U- SE / N / @ SW CORNER

V- S W @ FORMER POND / STAINED
AREA, 60x30 AREA - 3'

353 V- N / E FEAT A. DEPR

1.5x60x15-20 - SAME (NO CHANGE)

354 P417-24A/B. GRAY SANDY SILT

MOIST.

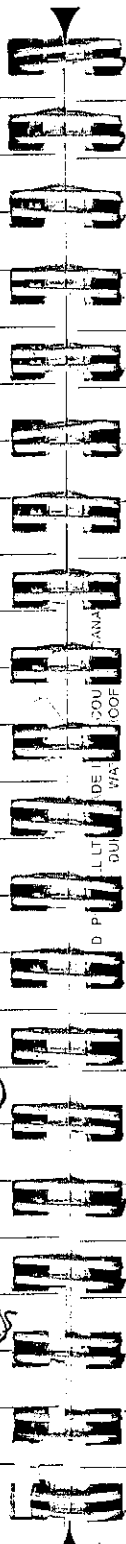
355 ✓ KEEP V- ENE / WSW IN FILL CRACK

✓ OK (NOT NOTICEABLE) BUT ZIRKUS
FEAT B CROSS SAME.

356 COMPLETELY IN FILL

↳ DEGRADATION CRACK 1.5m L. W3

V- N. (NEW) mm W



357

V- SSW / ESE / SE @ NW CORNER

- Water sampling

AUGUST 15 2017

AM 5°C Foggy, 1st mist, overcast

NE @ 30-40 km/h.

Water sampling

Demob. to CB / YK.

300-400

YK 410 → 700 PM.

ALL SAMPLES IN COOLERS @ SUMMIT

AUGUST 16, 2017

830 DROP SA

518-32505992 get receipt for Exo
Coolers
Brandon

(14)

Project Information

Project ID: K1713
 Project Name: PIN-4
 Project Location: PIN-4
 Legal Location:
 PO/AFE#:
 Proj. Acct. Code:
 Quote #: 23596

Invoice to:

Company: Englobe Corp
 Address:
 Attention:
 Phone:
 Cell:
 Fax:
 E-mail:
 Agreement ID:
 Copy of report:

Report To:

Company:
 Address:
 Attention:
 Phone:
 Cell:
 Fax:
 E-mail 1:
 E-mail 2:
 Copy of invoice:

Report Results

E-Mail		HCDWQG	
Mail		Ab Tier 1	
Online		SPIGEC	
Fax		BCCSR	
PDF		Other (list below)	
Excel			
QA/QC			

Regulatory Requirement

Sample Custody (please print)

Sampled by: A. Passalun

Company: Englobe

This section for Lab use only

Date/Time stamp:

RUSH Priority

Emergency (contact lab for turnaround and pricing)

Priority 1-2 working days (100% surcharge)

Urgent 2-3 working days (50% surcharge)

When "ASAP" is requested, turn around will default to a 100% RUSH priority, with pricing and turn around time to match. Please contact the lab prior to submitting RUSH samples. If not all samples require RUSH, please indicate in the special instructions.

Date Required:

Signature:

Special Instructions/Comments (please include contact information including ph. # if different from above).

	Site I.D.	Sample Description	Depth start end in cm m	Date/Time Sampled	Matrix	Sampling Method
1		P417-16A		2017/08/	Soil	
2		- 16B				
3		- 17A				
4		- 17B				
5		- 18A				
6		- 18B				
7		- 19A				
8		- 19B				
9		- 20A				
10		- 20B				
11		- 21A				
12		- 21B				
13		- 22A				
14		- 22B				
15		- 23A				

Number of Containers

PCBS
PbC FI-P4
CME Metals + Hg

Enter tests above
(√ relevant samples below)

Indicate in the space allotted any deficiencies by the corresponding number.

1. Indicate any samples that were not packaged well
2. Indicate any samples not received in Exova supplies
3. Indicate any samples that were not clearly labeled
4. Indicate any samples not received within the required hold time or temp.
5. Indicate any missing or extra samples
6. Indicate any samples that were received broken
7. Indicate any samples where sufficient volume was not received
8. Indicate any samples received in an inappropriate container

Submission of this form acknowledges acceptance of Exova's Standard Terms and Conditions (<http://www.exova.com/about/terms-and-conditions/>)

Indicate lot # or affix barcode here

Shipping: COD Y/ N

and size of coolers

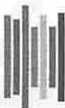
Temp. received:

Delivery Method:

Waybill:

Received by:

Please indicate any potentially hazardous samples



Project Information

Project ID: KJTKB
 Project Name: _____
 Project Location: PIN-4
 Legal Location: _____
 PO/AFE#: _____
 Proj. Acct. Code: _____
 Quote #: 23596

Invoice to:

Company: ENZOBE
 Address: _____
 Attention: _____
 Phone: _____
 Cell: _____
 Fax: _____
 E-mail: _____
 Agreement ID: _____
 Copy of report: _____

Report To:

Company: _____
 Address: _____
 Attention: _____
 Phone: _____
 Cell: _____
 Fax: _____
 E-mail 1: _____
 E-mail 2: _____
 Copy of invoice: _____

Report Results

E-Mail: _____
 Mail: _____
 Online: _____
 Fax: _____
 PDF: _____
 Excel: _____
 QA/QC: _____

Regulatory Requirement

HCDWQG
 Ab Tier 1
 SPIGEC
 BCCSR
 Other (list below)

Sample Custody (please print)

Sampled by: A PASSALIS

Company: ENZOBE

This section for Lab use only

Date/Time stamp: _____

Emergency (contact lab for turnaround and pricing)

Priority 1-2 working days (100% surcharge)

Urgent 2-3 working days (50% surcharge)

When "ASAP" is requested, turn around will default to a 100% RUSH priority, with pricing and turn around time to match. Please contact the lab prior to submitting RUSH samples. If not all samples require RUSH, please indicate in the special instructions.

Date Required: _____ Signature: _____

Special Instructions/Comments (please include contact information including ph. # if different from above).

	Site I.D.	Sample Description	Depth start end in cm m	Date/Time Sampled	Matrix	Sampling Method
1		P417-23B		2017/08/	SOIL	
2		24A				
3		24B				
4		1WA				
5		1WB				
6		2WA				
7		2WB				
8		3WA				
9		3WB				
10		4WA				
11		4WB				
12		5WA				
13		5WB				
14		6WA				
15		6WB				

Number of Containers

PCBS
 PHC 51-FA
 CCMF Metals/Hg

Enter tests above
(√ relevant samples below)

Indicate in the space allotted any deficiencies by the corresponding number.

1. Indicate any samples that were not packaged well
2. Indicate any samples not received in Exova supplies
3. Indicate any samples that were not clearly labeled
4. Indicate any samples not received within the required hold time or temp.
5. Indicate any missing or extra samples
6. Indicate any samples that were received broken
7. Indicate any samples where sufficient volume was not received
8. Indicate any samples received in an inappropriate container

Submission of this form acknowledges acceptance of Exova's Standard Terms and Conditions (<http://www.exova.com/about/terms-and-conditions/>)

Please indicate any potentially hazardous samples

Indicate lot # or affix barcode here

Shipping: COD Y/ N

and size of coolers

Temp. received:

Delivery Method:

Waybill:

Received by:



Project Information

Project ID: K17K13
Project Name: _____
Project Location: PIN-4
Legal Location: _____
PO/AFE#: _____
Proj. Acct. Code: _____
Quote # 22596

Invoice to:

Company: ENZLOBE
Address: _____
Attention: _____
Phone: _____
Cell: _____
Fax: _____
E-mail: _____
Agreement ID: _____
Copy of report: _____

Report To:

Company: _____
Address: _____
Attention: _____
Phone: _____
Cell: _____
Fax: _____
E-mail 1: _____
E-mail 2: _____
Copy of invoice: _____

Report Results

E-Mail: _____
Mail: _____
Online: _____
Fax: _____
PDF: _____
Excel: _____
QA/QC: _____

Regulatory Requirement

HCDWQG
Ab Tier 1
SPIGEC
BCCSR
Other (list below)

Sample Custody (please print)

Sampled by: A. PASSALIS

Company: ENZLOBE

This section for Lab use only

Date/Time stamp: _____

RUSH Priority

Emergency (contact lab for turnaround and pricing)

Priority 1-2 working days (100% surcharge)

Urgent 2-3 working days (50% surcharge)

When "ASAP" is requested, turn around will default to a 100% RUSH priority, with pricing and turn around time to match. Please contact the lab prior to submitting RUSH samples. If not all samples require RUSH, please indicate in the special instructions.

Date Required: _____ Signature: _____

Special Instructions/Comments (please include contact information including ph. # if different from above).

	Site I.D.	Sample Description	Depth start end in cm m	Date/Time Sampled	Matrix	Sampling Method
1		- ~~FWA~~		2017/08/14	SOIL	
2		- FWB				
3		- 8WA				
4		- 8WB				
5		P417-1W		2017/08/14	Water	
6		- 2W				
7		- 3W				
8		- 4W				
9		- 5W				
10		- 6W				
11		- 7W				
12		- 8W				
13		- BDI				
14		- BDI		2017/08/14	SOIL	
15		- BDI				

Number of Containers

PCBs-
PHC FI-F4
CME Mobilist-Hg

Enter tests above
(√ relevant samples below)

Indicate in the space allotted any deficiencies by the corresponding number.

1. Indicate any samples that were not packaged well
2. Indicate any samples not received in Exova supplies
3. Indicate any samples that were not clearly labeled
4. Indicate any samples not received within the required hold time or temp.
5. Indicate any missing or extra samples
6. Indicate any samples that were received broken
7. Indicate any samples where sufficient volume was not received
8. Indicate any samples received in an inappropriate container

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Please indicate any potentially hazardous samples

Page 5 of 6

Control # C 0085074

Indicate lot # or affix barcode here

Shipping: COD Y/ N

and size of coolers

Temp. received:

Delivery Method:

Waybill:

Received by:



Project Information

Project ID: KITK13
Project Name: _____
Project Location: P1N-4
Legal Location: _____
PO/AFE#: _____
Proj. Acct. Code: _____
Quote #: 23596

Invoice to:

Company: ENZLORE
Address: _____
Attention: _____
Phone: _____
Cell: _____
Fax: _____
E-mail: _____
Agreement ID: _____
Copy of report: _____

Report To:

Company: _____
Address: _____
Attention: _____
Phone: _____
Cell: _____
Fax: _____
E-mail 1: _____
E-mail 2: _____
Copy of invoice: _____

Report Results

E-Mail: _____
Mail: _____
Online: _____
Fax: _____
PDF: _____
Excel: _____
QA/QC: _____

Regulatory Requirement

HCDWQG
Ab Tier 1
SPIGEC
BCCSR
Other (list below)

Sample Custody (please print)

Sampled by: A. Passalus

Company: ENZLORE

This section for Lab use only

Date/Time stamp: _____

Emergency (contact lab for turnaround and pricing)

Priority 1-2 working days (100% surcharge)

Urgent 2-3 working days (50% surcharge)

When "ASAP" is requested, turn around will default to a 100% RUSH priority, with pricing and turn around time to match. Please contact the lab prior to submitting RUSH samples. If not all samples require RUSH, please indicate in the special instructions.

Date Required: _____ Signature: _____

Special Instructions/Comments (please include contact information including ph. # if different from above).

TOTAL METALS FOR WATER (REPORT As, Cr, Cu, Cd, Hg, Ni, Zn)

Site I.D.	Sample Description	Depth start end in cm m	Date/Time Sampled	Matrix	Sampling Method	Enter tests above (✓ relevant samples below)	Indicate in the space allotted any deficiencies by the corresponding number.
1	P417-BD3		2017-08-	SOIL		2 X X X X	1. Indicate any samples that were not packaged well
2	BD4					2 X X X X	
3	BD5					2 X X X X	2. Indicate any samples not received in Exova supplies
4	BD6					2 X X X X	
5	BD7					2 X X X X	3. Indicate any samples that were not clearly labeled
6	P417-TB		2017-08-14	Water		7 X X X	4. Indicate any samples not received within the required hold time or temp.
7	P417-TB			"		7 X X X	
8	P417-BD8			SOIL		2 X X X	5. Indicate any missing or extra samples
9							
10							6. Indicate any samples that were received broken
11							
12							7. Indicate any samples where sufficient volume was not received
13							
14							8. Indicate any samples received in an inappropriate container
15							

Submission of this form acknowledges acceptance of Exova's Standard Terms and Conditions (<http://www.exova.com/about/terms-and-conditions/>)

Please indicate any potentially hazardous samples

Page 6 of 6

Control # C 0085075

Indicate lot # or affix barcode here

Shipping: COD Y/ N

and size of coolers

Temp. received:

Delivery Method:

Waybill:

Received by:

ANNEX 4

Scope of the Report and Limitation of Liability

SCOPE OF THE REPORT AND LIMITATION OF LIABILITY

A – Recipient and Use

This report (“Report”) was prepared by Englobe Corp. (“Englobe”) at the request and for the sole benefit of the Client (“Client”), and is intended to be used exclusively by the Client.

B –Site Conditions

Any description of the target site (“Site”), soil and/or groundwater included in the Report is only provided as an indication to the Client, and unless otherwise specifically mentioned in the Report such description shall not at any time and under any circumstances be used for purposes other than to gain a better understanding of the Site and to fulfil the requirements of the mandate assigned to Englobe by the Client (“Mandate”).

All information, including but not limiting the comprehensiveness of the data, charts, descriptions, drawings, tables, analysis results, compilations, and any conclusion and recommendation included in the Report, shall arise from the direct observation of the Site during a specific period, namely the fulfilment of the Mandate, and from the interpretation of such information and data available during the same period.

The content of the Report shall not apply in any way or to any part of the Site or to any parameter, material or analysis excluded from the Mandate.

Englobe shall not be held responsible for the presence of any substance or material of a different nature, or of a similar nature but with different concentrations, as those indicated in the Report, and this in any part or parts of the Site excluded from the Mandate.

The content of the Report, including its conclusions and recommendations, shall not apply to any period preceding or following the Mandate. The physiochemical conditions of the Site, and the type and degree of contamination identified on the Site, may vary within a given period depending on a number of factors, especially the current activities taking place on the Site and/or on lands adjacent to the Site.

A review of the Report and/or changes in the parameters, conclusions and/or recommendations may prove to be necessary in the event of a change in the Site conditions or the discovery of pertinent information subsequent to the production of the Report.

C - Legislation, Regulations, Guidelines and Policies

The interpretation of the data and observations concerning the Site, as well as the conclusions and recommendations resulting from these, shall take into account the laws, regulations, standards, policies and/or guidelines applicable to the Project and that are in effect at the time of the fulfilment of the Mandate. In the event no current law, regulation, policy, guideline or standard applies to the project, Englobe shall take into account proven environmental and professional rules and practices when drawing up the Report.

Any change in the legislation, regulations, standards, policies and/or guidelines applicable to the project may result in the need to review the Report and/or modify its parameters, conclusions and/or recommendations.

D – Use of Report

The Report is intended for the exclusive use of the Client and shall only be used for the purpose it was meant for.

The content of the Report and its conclusions and recommendations only apply to the Site and may not, at any time and under any circumstances, apply to any land adjacent to the Site or to any other land located in the vicinity of the Site.

Any reproduction in any form whatsoever and any distribution or use of the Report, in whole or in part, by a person other than the Client, is strictly forbidden without the prior written consent of Englobe. Englobe makes no declaration and pledges no responsibility towards any person other than the Client with regard to the content of the Report and the conclusions and recommendations expressed therein.

Englobe is in no way responsible for any loss, fine or penalty, or for any expense, damage or other prejudice of any type whatsoever, sustained by a person other than the Client as a result of the unauthorized use of the Report.

No provision of the Report shall be construed as or considered to be a legal opinion of Englobe's.