BASELINE SURFACE SOIL SURVEY
FOR
PROPOSED WABUSH 3 MINE SITE
LABRADOR CITY, NEWFOUNDLAND AND LABRADOR

Submitted to:

Iron Ore Company of Canada
2 Avalon Drive
Labrador City, NL
Canada A2V 2Y6

Submitted by:

AMEC Environment & Infrastructure
a Division of AMEC Americas Limited
133 Crosbie Road, PO Box 13216
St. John's, NL
Canada A1B 4A5

November 2012

Project No. TF1243033.2005

EXECUTIVE SUMMARY

AMEC Environment & Infrastructure, a division of AMEC Americas Limited (AMEC), was retained by Iron Ore Company of Canada (IOC) to conduct a Baseline Surface Soil Sampling Program (BSSSP) at Wabush 3, a proposed area for a new open pit mine at its Labrador West mine site, herein referred to as "the Site". The Site is located approximately four kilometers via gravel road, north of the intersection of Circular Road and the Trans Labrador Highway. The BSSSP was completed to establish baseline concentrations of petroleum hydrocarbons and metals in surface soil throughout the Site prior to its development as an open pit mine.

The scope of work for the BSSSP included the completion of the following tasks:

- Collecting 30 surface soil samples (WABUSH3-SS1 to WABUSH3-SS26), including four field duplicate samples (WABUSH3-DUP-01 to WABUSH3-DUP-04), for the analyses of metals.
- Collecting 10 surface soil samples (WABUSH3-SS15 to WABUSH3-SS17, WABUSH3-SS20 to WABUSH3-SS24 and WABUSH3-SS26), including one field duplicate sample (WABUSH3-DUP-04) for the analyses of benzene, toluene, ethylbenzene, xylene (BTEX) and total petroleum hydrocarbons (TPH).

Based on the findings of the BSSSP, the following conclusions have been made and are offered concerning the concentrations of petroleum hydrocarbons and metals in surface soil at the Site:

- Concentrations of petroleum hydrocarbons (BTEX/TPH) detected in all soil samples analyzed were either non-detect or detected at levels below the 2012 Atlantic Partners in RBCA Implementation (PIRI) Risk Based Corrective Action (RBCA) Risk Based Screening Levels (RBSLs) for both ecological and human receptors at a commercial site with coarse-grained soil and non-potable groundwater.
- Concentrations of metals detected in all soil samples analyzed were either non-detect or detected at levels below the Canadian Council of Ministers of the Environment (CCME) - Canadian Soil Quality Guidelines (CSQGs) for metals in soil at an industrial site.
- Given that the concentrations of BTEX/TPH and metals in soil did not exceed the applicable 2012 Atlantic PIRI Tier I RBCA RBSLs and CCME-CSQGs, it has been concluded that the overburden material within the footprint of the proposed Wabush 3 Pit does not pose any health risk to human and ecological receptors present at the Site and, therefore, no restrictions need to be implemented concerning the excavation, stockpiling, reuse or disposal of the overburden material. In the event that the excavated overburden would be disposed of at a landfill facility, approval from Service NL (SNL) and the landfill owner/operator would be required.

Based on the findings of the BSSSP, no additional environmental assessment activities are recommended for the Site at this time. Should future sampling of the Site be undertaken or potential environmental concerns be identified at the Site during development of the property into an open pit mine, the potential impact on the outcome/conclusions of this assessment should be re-examined at that time.

TABLE OF CONTENTS

LIST OF APPENDICES

LIST OF FIGURES

LIST OF TABLES

1.0 INTRODUCTION

AMEC Environment & Infrastructure, a division of AMEC Americas Limited (AMEC), was retained by Iron Ore Company of Canada (IOC) to conduct a Baseline Surface Soil Sampling Program (BSSSP) at Wabush 3, a proposed area for a new open pit mine at its Labrador West mine site, herein referred to as "the Site". The Site is located approximately four kilometers via gravel road, north of the intersection of Circular Road and the Circular Road and the Trans Labrador Highway. The BSSSP was completed to establish baseline concentrations of petroleum hydrocarbons and metals in surface soil throughout the Site prior to its development as an open pit mine.

1.1 BACKGROUND

IOC has been operating the Carol Project in Labrador West since the early 1960s. The company's current mining operations consist of open pit mines, mineral processing (concentrator and pellet plant) and tailings management facilities, as well as transportation infrastructure and other associated components and activities. The facilities cover an area of approximately 11,000 hectares.

IOC is proposing to construct and operate a new open pit mine, the Wabush 3 Pit, at its Labrador West mine site.

The Wabush 3 Pit will be a conventional open pit mine which will serve the IOC operations in two fundamental ways:

- allow flexibility in providing iron ore feed to its existing concentrator plant to achieve and maintain production of iron concentrate at the mill's rated capacity of 23 million tonnes per year; and
- provide a new source of iron ore to extend the operating life of its Carol Project.

The proposed project, as currently planned, will have a footprint of approximately 220 hectares and will include:

- an open pit mine, located just southeast of the existing Luce Pit, which contains an estimated 700 million tonnes of iron ore and has a planned operating life of 25 years;
- a waste rock disposal site, to be located just west of Wabush 3; and
- a haulage road to the northeast of Wabush 3, linking the open pit with existing ore conveyor and concentrator facilities.

In the development of the Mine Plan and also for planning for environmental assessment of the Wabush 3 Pit, IOC has to consider the fate of and potential use for the overburden material to be removed from the open pit. The results of the BSSSP will be valuable for these considerations.

1.2 SITE DESCRIPTION

The Site is currently undeveloped, is approximately 220 hectares and its southern border is approximately four kilometers north of the intersection of Circular Road and the Circular Road and the Trans Labrador Highway. The Site is accessible through use of an existing gravel road. The Site has numerous trails and gravel access roads located throughout its footprint which are mainly utilized for exploration activity and recreation. The general Site location is presented in Figure 1, Appendix A. This figure is based on available topographic mapping of the area. The locations of the soil samples collected at the Site as part of the BSSSP are illustrated on Figure 2, Appendix A.

1.3 PURPOSE

The BSSSP was designed to provide baseline data for petroleum hydrocarbons and metals in surface soil in the area of the proposed Wabush 3 Pit (refer to Figures 1 and 2, Appendix A). Specific objectives of the BSSSP are:

- the gathering of baseline analytical data for petroleum hydrocarbons and metals in soil throughout the Site;
- the provision of guidance on soil management for the proposed project; and,
- the provision of recommendations for any supplemental environment site assessment work that may be required prior to implementation of the proposed project.

Because the Site has had past exploration activity, soil samples collected from the area of the former exploration camp were assessed for potential petroleum hydrocarbon contamination (refer to Figure 2, Appendix A). It is likely that fuel storage and vehicle refueling activities had taken place at the location of the former exploration camp. All soil samples collected at the Site as part of the BSSSP were analyzed for metals.

1.4 ASSESSMENT STANDARDS

The Site will potentially house IOC infrastructure in the future and for the purposes of this assessment is considered to be an industrial property. Groundwater at the Site is not used for human consumption and, therefore, is considered to be non-potable.

The guidelines used to assess the environmental quality of overburden materials present at the Site were selected to answer three important questions:

1) Do the concentrations of metals and petroleum hydrocarbons in the overburden material pose any potential health risk to human and ecological receptors present at the Site?
2) Are there any restrictions that need to be implemented concerning the excavation, stockpiling, reuse or disposal of the overburden material?
3) Does the material require off-Site treatment and disposal at a soil treatment facility?

1.4.1 Soil

Analytical results for benzene, toluene, ethylbenzene and xylenes (BTEX) and total petroleum hydrocarbons (TPH) in soil were compared against the 2012 Atlantic Partners in RBCA Implementation (PIRI) Risk Based Corrective Action (RBCA) Risk Based Screening Levels (RBSLs) for both ecological and human receptors at a commercial site with coarse-grained soil and non-potable groundwater.

Analytical soil data for metals was compared against the Canadian Council of Ministers of the Environment (CCME) - Canadian Soil Quality Guidelines (CSQGs) for the protection of environmental and human health at an industrial site with coarse-grained soil.

AMEC also completed a desktop search for background / reference concentrations of metals in soil from the Newfoundland and Labrador Department of Natural Resources (DNR). According to the DNR Geoscience Atlas (www.gis.geosurv.gov.nl.ca, accessed on September 6, 2012), it was determined that there is no relevant background metals in soil data available for the general area of the Site.

2.0 SURFACE SOIL SAMPLING PROGRAM

Brief discussions of the surface soil sampling program, field observations, laboratory analytical program and Quality Assurance/Quality Control (QA/QC) programs are presented in this section.

2.1 SCOPE OF WORK

The scope of work for the BSSSP included the completion of the following tasks at the Site:

- the collection of 30 surface soil samples (WABUSH3-SS1 to WABUSH3-SS26), including four field duplicate samples (WABUSH3-DUP-01 to WABUSH3-DUP-04), for the analyses of metals; and,
- the collection of 10 surface soil samples (WABUSH3-SS15 to WABUSH3-SS17, WABUSH3-SS20 to WABUSH3-SS24, and WABUSH3-SS26), including one field duplicate sample (WABUSH3-DUP-04), for the analyses of BTEX/TPH.

Fieldwork was carried out by Steven Downer, CET, and Cheryl Tucker, B.Tech., of AMEC's St. John's, NL office during the period of June 25 to 27, 2012. Sample locations are presented on Figure 2, Appendix A and the test pit logs are presented in Appendix B.

2.2 METHODOLOGY

2.2.1 Surface Soil Sampling Program

Composite surface soil samples were collected at a depth interval of 0 to 0.30 meters below ground surface (mbgs) using a stainless steel spatula, with the exception of soil samples WABUSH3-SS22 (0-0.2 m), WABUSH3-SS25 (0-0.25 m), WABUSH3-SS26 (0-0.2 m) that were terminated on bedrock at shallower depths. The spatula was washed with biodegradable soap, followed by a clean water rinse, between all sampling events. A handheld GPS was used to record coordinates for the surface soil sample locations. Descriptions of the surface soil samples collected throughout the Site are provided in the test pit logs in Appendix B.

All soil samples were placed in pre-cleaned laboratory supplied sample containers and stored inside a cooler with ice for shipment to the laboratory. No visual or olfactory evidence of petroleum hydrocarbon impacts were noted at the time of sample collection.

2.2.2 Laboratory Analytical Program

Laboratory analyses for BTEX and TPH in soil were performed by the Maxxam Analytics Inc. (Maxxam) laboratory located in St. John's, NL. Laboratory analyses for metals in soil were performed by the Maxxam laboratory located in Bedford, Nova Scotia. These laboratories meet the requirements of ISO/IEC Guide 25 (General Requirements for the Competence of Calibration and Testing Laboratories) and are accredited member of the Canadian Association for Laboratory Accreditation Inc. (CALA). The detailed laboratory analytical program is outlined in Table 2-1 below.

Table 2-1: Detailed Laboratory Analytical Program

Media	Sample ID	Analyses
Soil	WABUSH3-SS15, WABUSH3-SS16, WABUSH3-SS17, WABUSH3-SS20, WABUSH3-SS21, WABUSH3-SS22, WABUSH3-SS23, WABUSH3-SS24, WABUSH3-SS26 and WABUSH3-DUP04.	BTEX/TPH & Metals
	WABUSH3-SS1, WABUSH3-SS2, WABUSH3-SS3, WABUSH3-SS4, WABUSH3-SS5, WABUSH3-SS6, WABUSH3-SS7, WABUSH3-SS8, WABUSH3-SS9, WABUSH3-SS10, WABUSH3-SS11, WABUSH3-SS12, WABUSH3-SS13, WABUSH3-SS14, WABUSH3-SS15, WABUSH3-SS16, WABUSH3-SS17, WABUSH3-SS18, WABUSH3-SS19, WABUSH3-SS20, WABUSH3-SS21, WABUSH3-SS22, WABUSH3-SS23, WABUSH3-SS24, WABUSH3-SS25, WABUSH3-SS26, WABUSH3-DUP01, WABUSH3-DUP02, WABUSH3-DUP03 and WABUSH3-DUP4.	Metals

Notes:
WABUSH3-DUP-01 is a blind field duplicate of WABUSH3-SS10
WABUSH3-DUP-02 is a blind field duplicate of WABUSH3-SS12
WABUSH3-DUP-03 is a blind field duplicate of WABUSH3-SS18
WABUSH3-DUP-04 is a blind field duplicate of WABUSH3-SS21

2.2.3 Quality Assurance/Quality Control Program

Three blind field duplicate soil samples (WABUSH3-DUP01, a duplicate of WABUSH3-SS10; WABUSH3-DUP02, a duplicate of WABUS30SS12; and WABUSH3-DUP03, a duplicate of WABUSH3-SS18) were submitted to the laboratory for the analyses of metals. One additional blind field duplicate soil sample (WABUSH3-DUP04, a blind field duplicate of WABUSH3-SS21) was submitted to the laboratory for the analyses of BTEX/TPH and metals. Laboratory replicate samples were also analyzed with the samples to assess the reliability of the analyses. The QA/QC results are reported on the Laboratory Certificates of Analyses included in Appendix D and discussed in Section 3.3.
In order to minimize cross contamination during sampling, a field QA/QC program was followed, which included the following measures:

- Latex gloves were worn during all sampling (new pair of gloves for each sample);
- Soil sampling equipment was cleaned with biodegradable soap and distilled water between sample sampling locations;
- Pre-cleaned laboratory-supplied jars were used to collect soil samples; and
- Soil samples were stored in a cooler with ice to keep cool during shipment to the laboratory.

The Maxxam Laboratory has an extensive QA/QC program in place to ensure that reliable results are consistently obtained. Specific laboratory QA/QC measures include:

- Chain of Custody and sample integrity inspection.
- Strict documentation control and files.
- Trained personnel prepare and analyze samples according to Standard Operating Procedures (SOPs).
- All analytical methods are based on accepted (e.g. MOE, US EPA, ASTM) Procedures and are fully validated prior to use.
- Precision is monitored by performing replicate analysis of samples within each batch.
- Accuracy is verified by analyzing spiked samples and reference materials within each batch.
- Instrument calibration integrity is ensured by analyzing calibration check standards within each run sequence.
- Matrix effects in organic analyses are assessed with surrogate fortification of each sample.
- Extensive use is made of reference material for routine procedure evaluation.
- Highest available purity analytical standards.
- Predefined analytical sequences ensure all results are traceable to calibration and QA/QC data.
- Hard copy reports displaying all of the required data are generated for each instrument.

- Analytical results are determined only from instrument responses that fall within the calibration range.
- Acceptable QA/QC performance must be demonstrated prior to data authorization (data are subject to three levels of QC review: chemist, supervisor and manager).
- On-going method and instrument performance records are maintained for all analyses.
- Records containing all pertinent data are securely archived for three years.
- A full-time QA/QC Scientist evaluates the QA/QC program on an on-going basis.

3.0 RESULTS OF THE INVESTIGATION

3.1 FIELD OBSERVATIONS

Detailed field observations pertaining to soil stratigraphy and groundwater conditions are discussed in this section. Weather conditions during the days of the assessment were as follows:

- June 25, sunny, 22 ^{o}C, ground surfaces dry.
- June 26, cloudy/foggy, 17 ^{o}C, ground surfaces dry.
- June 27, scattered rain showers, 17 ^{o}C, ground surfaces wet.

3.1.1 Stratigraphy

Soil stratigraphy consists primarily of grey and brown sand and gravel with some organics, cobbles and boulders. Detailed soil descriptions and sampling depths are provided on the test pit logs presented in Appendix B.

3.1.2 Groundwater Conditions

Groundwater was encountered in test pit WABUSH3-SS16 and WABUSH3-SS20 at 0.2 m bgs. No evidence of petroleum hydrocarbon sheens was observed on the groundwater table within test pits WABUSH3-SS16 and WABUSH3-SS20.

3.1.3 Petroleum Hydrocarbon Odours

No olfactory evidence of petroleum hydrocarbon contamination was identified within any of the test pits manually excavated at the Site.

3.2 LABORATORY ANALYTICAL RESULTS

This section provides a summary of the laboratory analytical results for the soil samples collected at the Site. Laboratory analytical data tables are presented in Tables C-1 and C-2, Appendix C and the Laboratory Certificates of Analyses are presented in Appendix D.

3.2.1 Petroleum Hydrocarbons in Soil

A total of 10 surface soil samples (WABUSH3-SS15 through to WABUSH3-SS17, WABUSH3-SS20 through to WABUSH3-SS24, and WABUSH3-SS26), including one field duplicate sample (WABUSH3-DUP-04, a blind field duplicate of WABUSH3-SS21) were submitted to the laboratory for the analyses of BTEX/TPH. The analytical results for BTEX/TPH in soil are presented in Table C-1, Appendix C.

BTEX was not detected in any of the soil samples analyzed, and therefore, did no exceed the applicable assessment criteria.

Concentrations of modified TPH in all samples analyzed were either non-detect, or detected at levels below the applicable 2012 Atlantic PIRI Tier I RBCA RBSLs for the protection of ecological and human health receptors at the Site. Product resemblance in the soil samples was reported as “no resemblance to petroleum products in the lube oil range”.

3.2.2 Metals in Surface Soil

A total of 30 surface soil samples (WABUSH3-SS1 to WABUSH3-SS26), including four blind field duplicate samples (WABUSH3-DUP-01 to WABUSH3-DUP-04), were submitted to the laboratory for the analyses of metals. The analytical results for metals are presented in Table C-2, Appendix C.

Concentrations of metals in all surface soil samples analyzed were either non-detect or detected at levels below the CCME-CSQGs for metals in soil at an industrial site.

3.3 QA/QC DISCUSSION

Details regarding the QA/QC assessment of the surrogate recoveries, blind field duplicate samples and laboratory duplicate are presented in this section. To assess the quality of both the sampling and laboratory analytical program, a review of the QA/QC results was completed. The laboratory QA/QC results are reported on the copies of the Laboratory Certificates of Analyses included in Appendix D.

3.3.1 Surrogate Recoveries

Surrogate recoveries have been reviewed to evaluate the effectiveness and accuracy of the method on a sample-specific basis. It is noted that the acceptable range for surrogate recovery

for volatile Isobutylbenzene in soil is 60% to 140%. The acceptable range for surrogate recoveries for extractable Isobutylbenzene and n-Dotriacontane in soil is 30% to 130%. A summary of the reported surrogate recovery data for soil is provided in Table 3-1.

Table 3-1: Surrogate Recovery Summary

Media	Parameter	Surrogate Recovery
Soil	BTEX/TPH	Isobutylbenzene - Extractable: 96% to 103% Isobutylbenzene - Volatile: 90% to 113% n-Dotriacontane - Extractable: 95% to 103%

For all soil samples analyzed during the current investigation, all surrogate recoveries were reported within the acceptable ranges.

3.3.2 Blind Field Duplicates

The analytical data for the blind field duplicate soil samples WABUSH3-DUP-01 (blind field duplicate of WABUSH3-SS10 for metals), WABUSH3-DUP-02 (blind field duplicate of WABUSH3-SS12 for metals), WABUSH3-DUP-03 (blind field duplicate of WABUSH3-SS18 for metals) and WABUSH3-DUP-04 (blind field duplicate of WABUSH3-SS21 for BTEX/TPH and metals) were compared as relative percent differences (RPDs), which are given by the absolute difference in two results times 100 divided by the arithmetic mean of the two results:

$$RPD = \frac{(\text{Original Concentration} - \text{Duplicate Concentration}) * 100}{(\text{Original Concentration} + \text{Duplicate Concentration}) / 2}$$

These evaluations are only applicable when both results are at least three times the reporting limit. For discrete soil samples, where there is no theoretical reason for the samples to be equivalent, RPDs of 100% or less are considered to be acceptable proof of equivalency.

A review of the soil data for soil sample WABUSH3-DUP01 and its original sample WABUSH3-SS10 revealed a maximum RPD of 22.78% for vanadium, within the 100% proof of equivalency.

A review of the soil data for soil sample WABUSH3-DUP02 and its original sample WABUSH3-SS12 revealed a maximum RPD of 16.22% for barium, within the 100% proof of equivalency.

A review of the soil data for soil sample WABUSH3-DUP03 and its original sample WABUSH3-SS18 revealed a maximum RPD of 12.76% for iron, within the 100% proof of equivalency.

A review of the soil data for soil sample WABUSH3-DUP04 and its original sample WABUSH3-SS21 revealed maximum RPDs of 30.76% for cobalt and 60.9% for modified TPH, all within the 100% proof of equivalency.

3.3.3 Laboratory Duplicates

The analytical data for the laboratory replicates were also compared as RPDs. Laboratory replicate results are presented on the Laboratory Certificates of Analysis provided in Appendix D. A summary of the results are presented below:

A review of the soil data for soil sample WABUSH3-S15 Lab-Dup and its original sample WABUSH3-SS15 for BTEX/TPH revealed identical results (RPD = 0%), within the 100% proof of equivalency.

A review of the soil data for soil sample WABUSH3-S23 Lab-Dup and its original sample WABUSH3-SS23 for BTEX/TPH revealed identical results (RPD = 0%), within the 100% proof of equivalency.

A review of the soil data for soil sample WABUSH3-SS2 Lab-Dup and its original sample WABUSH3-SS2 for metals revealed a maximum RPD of 19.17% for manganese, within the 100% proof of equivalency.

A review of the soil data for soil sample WABUSH3-SS22 Lab-Dup and its original sample WABUSH3-SS22 for metals revealed a maximum RPD of 17.39% for arsenic, within the 100% proof of equivalency.

3.3.4 Summary of QA/QC Review

Overall, based on the QA/QC review, the analytical results are considered representative of the Site conditions in the immediate vicinity of the sample locations. There were no discrepancies to report.

4.0 CONCLUSIONS

Based on the findings of the BSSSP, the following conclusions have been made and are offered concerning the concentrations of petroleum hydrocarbons and metals in surface soil at the Site:

- Concentrations of petroleum hydrocarbons (BTEX/TPH) detected in all soil samples analyzed were either non-detect or detected at levels below the 2012 Atlantic PIRI Tier I RBCA RBSLs for a commercial site with coarse-grained soil and non-potable groundwater.
- Concentrations of metals detected in all soil samples analyzed were either non-detect or detected at levels below the CCME-CSQGs for metals in soil at industrial sites.
- Given that the concentrations of BTEX/TPH and metals in soil did not exceed the applicable 2012 Atlantic PIRI Tier I RBCA RBSLs and CCME-CSQGs, it has been concluded that the overburden material within the footprint of the proposed Wabush 3 Pit does not pose any health risk to human and ecological receptors present at the Site and, therefore, no restrictions need to be implemented concerning the excavation, stockpiling,

reuse or disposal of the overburden material. In the event that the excavated overburden would be disposed of at a landfill facility, approval from Service NL and the landfill owner/operator would be required.

Based on the findings of the BSSSP, no additional environmental assessment activities are recommended for the Site at this time. Should future sampling of the Site be undertaken or potential environmental concerns be identified at the Site during development of the property into an open pit mine, the potential impact on the outcome/conclusions of this assessment should be re-examined at that time.

5.0 CLOSURE

This report has been prepared for the exclusive use of IOC. The assessment was conducted using standard assessment practices and in accordance with verbal and written requests from the Client. No further warranty, expressed or implied, is made. The conclusions presented herein are based solely upon the scope of services and time and budgetary limitations described in our contract. Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. AMEC Environment & Infrastructure accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report. The limitations of this report are attached in Appendix E.

Yours very truly,

AMEC Environment & Infrastructure
a division of AMEC Americas Limited

Prepared by:

Cheryl Tucker, B. Tech.
Project Assessor

Prepared by:

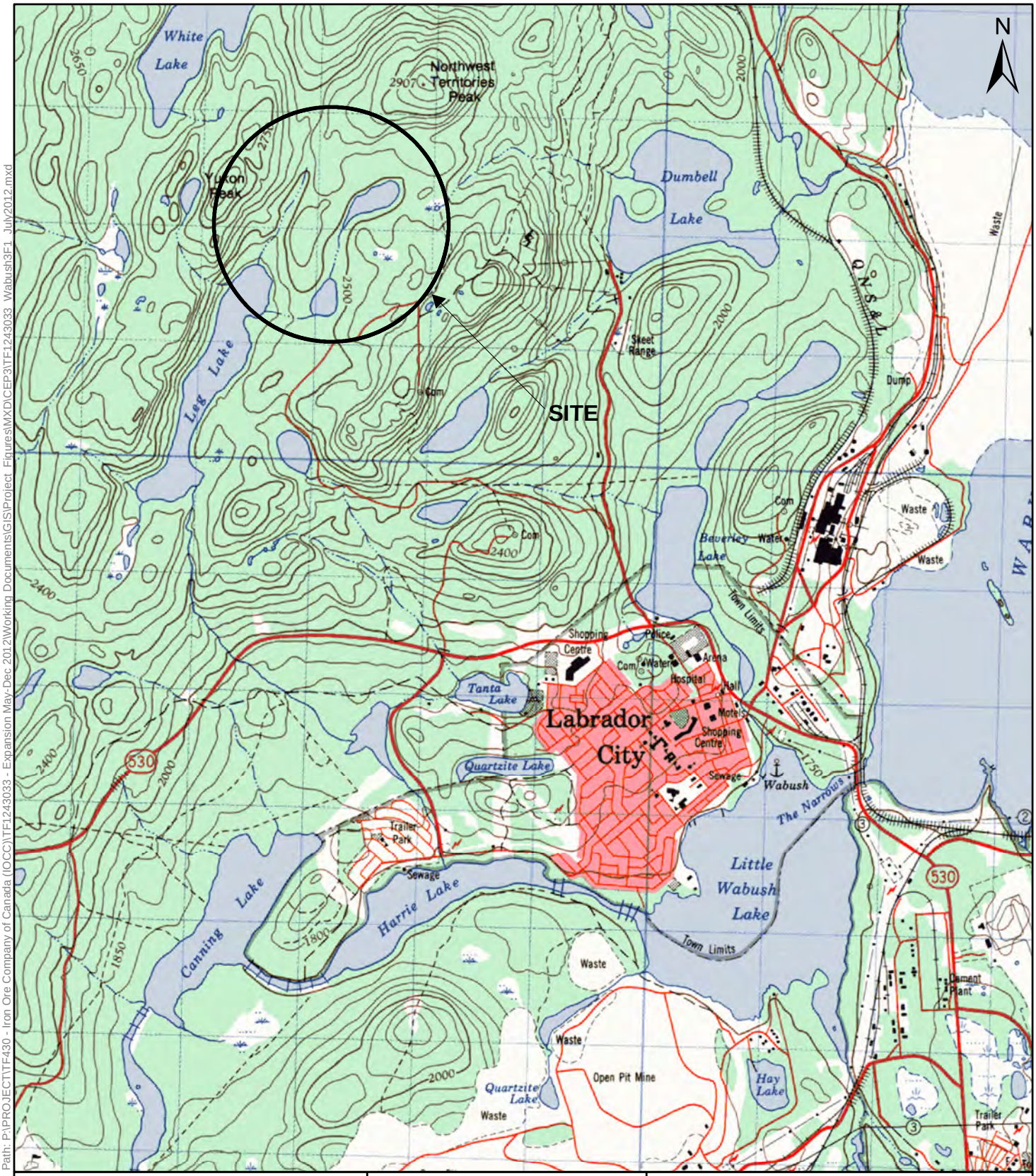
Andrea Parsons, P.Geo.
Environmental Geoscientist

Reviewed by:

Gary Warren, M.A.Sc.
Senior Environmental Scientist

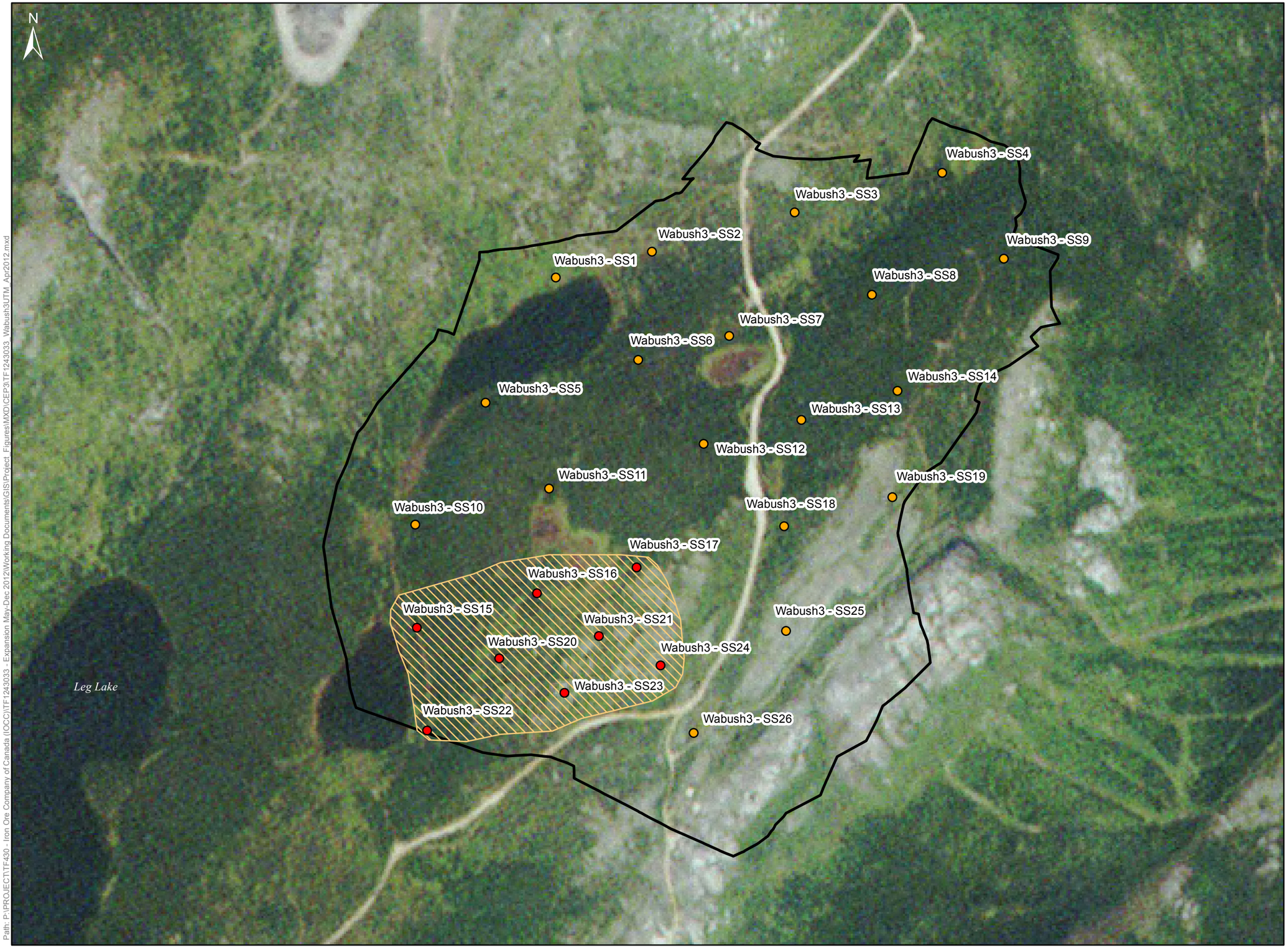
APPENDIX A

Figures



Path: P:\PROJECT\TF430 - Iron Ore Company of Canada (IOCC)\TF1243033 - Expansion May-Dec 2012\Working Documents\GIS\Project Figures\MXD\CEP3\TF1243033 Wabush3F1 July2012.mxd

amec	Date: November 2012	Project: Baseline Surface Soil Sampling Program		
	Drawn by: J. Abbott	Title: Site Location Plan		
Rio Tinto Iron Ore Company of Canada	Approved by: G. Warren	Scale: NTS	Project No. TF1243033	Figure No. 1



Path: P:\PROJECT\TF430 - Iron Ore Company of Canada (IOCC)\TF1243033 - Expansion May-Dec 2012\Working Documents\GIS\Project_Figures\MXD\CEP3\TF1243033_Wabush3UTM_Apr2012.mxd

NOTES

1. ALL DIMENSIONS ARE IN METRES.
2. DO NOT SCALE FROM DRAWING.
3. THIS DRAWING IS INTENDED TO SHOW RELATIVE LOCATIONS AND CONFIGURATION OF THE STUDY AREA IN SUPPORT OF THIS REPORT.
4. ALL LOCATIONS, DIMENSIONS, AND ORIENTATIONS ARE APPROXIMATE.
5. ALL DATA IN NAD83 ZONE 19.

No.	Date	Description	Drawn	Chk'd	App'd

LEGEND

Soil Sample

- Sample Metals
- Sample Metals + BTEX/TPH
- Mine
- Approximate Location of Former Exploration Camp

AMEC Environment & Infrastructure
AMEC Americas Limited

CLIENT
Rio Tinto
Iron Ore Company of Canada

PROJECT DESCRIPTION
Baseline Surface Soil Sampling Program

DRAWING TITLE
Test Pit Locations
Wabush 3

PROJECT NUMBER
TF1243033

SCALE
0 95 190 380
Meters

DRAWN BY	APPROVED BY	REVIEWED BY
J Abbott	G Warren	B Power

FIGURE NO.	DATE	REV
2	November 2012	0

APPENDIX B

Test Pit Logs

Iron Ore Company of Canada
Baseline Surface Soil Sampling Program
Wabush 3, Labrador City, NL
November 2012

Soil Sample Number	Depth (m) From – To	Description
WABUSH3-SS1	0.0 – 0.02	**TOPSOIL** – Dark brown/black silty topsoil. Loose, wet, and no hydrocarbon odor.
	0.02 – 0.3	Brown silty sand with trace gravel and organics. Loose-compact, wet, and no hydrocarbon odor.
		Note: 1) Test pit excavated using a shovel. 2) Water table not encountered.

Test pit excavation for WABUSH3-SS1.

Location: Wabush 3, Labrador City, NL
Date: June 25, 2012
Notes: Soil Sample WABUSH3-SS1 collected at 0.00 – 0.30 m bgs.

GPS Coordinates: 637597 E
(UTM, Zone 27) 5872651 N

Iron Ore Company of Canada
Baseline Surface Soil Sampling Program
Wabush 3, Labrador City, NL
November 2012

Soil Sample Number	Depth (m) From – To	Description
WABUSH3-SS2	0.0 – 0.02	**TOPSOIL** – Grey silty sand with trace organics, cobbles and gravel. Loose, moist, and no hydrocarbon odor.
	0.02 – 0.3	Brown silty sand with trace gravel, cobbles and organics. Loose-compact, moist, and no hydrocarbon odor.
		Note: 1) Test pit excavated using a shovel. 2) Water table not encountered.

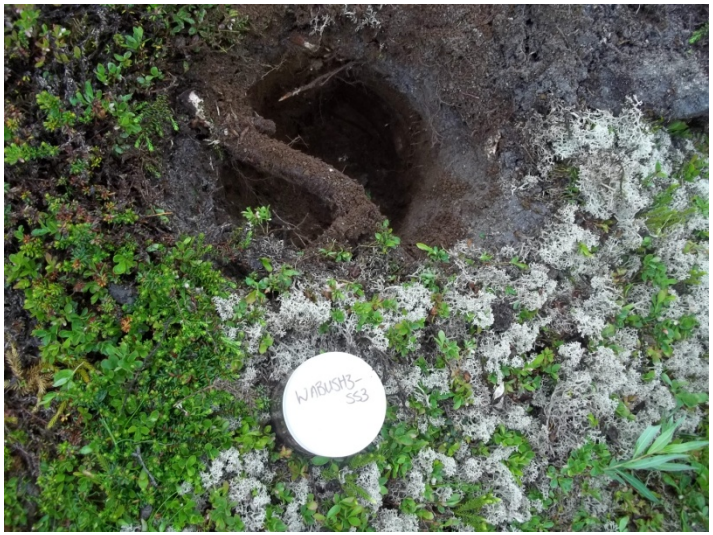
Test pit excavation for WABUSH3-SS2.

Location: Wabush 3, Labrador City, NL
Date: June 25, 2012
Notes: Soil Sample WABUSH3-SS2 collected at 0.00 – 0.30 m bgs.

GPS Coordinates: 637836 E
(UTM, Zone 27) 5872715 N

Iron Ore Company of Canada
Baseline Surface Soil Sampling Program
Wabush 3, Labrador City, NL
November 2012

Soil Sample Number	Depth (m) From – To	Description
WABUSH3-SS3	0.0 – 0.08	**TOPSOIL** – Grey silty sand with trace organics, cobbles and gravel. Loose-compact, moist, and no hydrocarbon odor.
	0.08 – 0.3	Brown sand with some silt, trace gravel, and organics. Loose-compact, moist, and no hydrocarbon odor.
		Note: 1) Test pit excavated using a shovel. 2) Water table not encountered.



Test pit excavation for WABUSH3-SS3.

Location: Wabush 3, Labrador City, NL
Date: June 25, 2012
Notes: Soil Sample WABUSH3-SS3 collected at 0.00 – 0.30 m bgs.

GPS Coordinates: 638190 E
(UTM, Zone 27) 5872814 N

Iron Ore Company of Canada
Baseline Surface Soil Sampling Program
Wabush 3, Labrador City, NL
November 2012

Soil Sample Number	Depth (m) From – To	Description
WABUSH3-SS4	0.0 – 0.03	**TOPSOIL** – Dark brown silty sand with trace organics. Loose-compact, wet, and no hydrocarbon odor. Note: 1) Test pit excavated using a shovel. 2) Water table not encountered.

Test pit excavation for WABUSH3-SS4.

Location: Wabush 3, Labrador City, NL
Date: June 25, 2012
Notes: Soil Sample WABUSH3-SS4 collected at 0.00 – 0.30 m bgs.

GPS Coordinates: 638557 E
(UTM, Zone 27) 5872912 N

Iron Ore Company of Canada
Baseline Surface Soil Sampling Program
Wabush 3, Labrador City, NL
November 2012

Soil Sample Number	Depth (m) From – To	Description
WABUSH3-SS5	0.0 – 0.04	Grey silty sand with trace organics and gravel. Loose-compact, moist, and no hydrocarbon odor.
	0.04 – 0.3	Brown silty sand, trace gravel and organics. Loose-compact, moist, and no hydrocarbon odor.
		Note: 1) Test pit excavated using a shovel. 2) Water table not encountered.

Test pit excavation for WABUSH3-SS5.

Location: Wabush 3, Labrador City, NL
Date: June 25, 2012
Notes: Soil Sample WABUSH3-SS5 collected at 0.00 – 0.30 m bgs.

GPS Coordinates: 637422 E
(UTM, Zone 27) 5872340 N

Iron Ore Company of Canada
Baseline Surface Soil Sampling Program
Wabush 3, Labrador City, NL
November 2012

Soil Sample Number	Depth (m) From – To	Description
WABUSH3-SS6	0.0 – 0.04	Grey silty sand with trace organics and gravel. Loose-compact, moist, and no hydrocarbon odor.
	0.04 – 0.3	Brown silty sand, trace gravel and organics. Loose-compact, moist, and no hydrocarbon odor.
		Note: 1) Test pit excavated using a shovel. 2) Water table not encountered.

Test pit excavation for WABUSH3-SS6.

Location: Wabush 3, Labrador City, NL
Date: June 25, 2012
Notes: Soil Sample WABUSH3-SS6 collected at 0.00 – 0.30 m bgs.

GPS Coordinates: 637802 E
(UTM, Zone 27) 5872446 N

Iron Ore Company of Canada
Baseline Surface Soil Sampling Program
Wabush 3, Labrador City, NL
November 2012

Soil Sample Number	Depth (m) From – To	Description
WABUSH3-SS7	0.0 – 0.03	TOPSOIL – Black silty organics. Loose, moist, and no hydrocarbon odor.
	0.03 – 0.10	Grey sand and gravel with trace silt, trace gravel and organics. Loose-compact, moist, and no hydrocarbon odor.
	0.10 – 0.30	Brown silty sand, cobbles and some organics. Loose-compact, moist, and no hydrocarbon odor.
		Note: 1) Test pit excavated using a shovel. 2) Water table not encountered.


Test pit excavation for WABUSH3-SS7.

Location: Wabush 3, Labrador City, NL
Date: June 25, 2012
Notes: Soil Sample WABUSH3-SS7 collected at 0.00 – 0.30 m bgs.

GPS Coordinates: 638028 E
(UTM, Zone 27) 5872506 N

Iron Ore Company of Canada
Baseline Surface Soil Sampling Program
Wabush 3, Labrador City, NL
November 2012

Soil Sample Number	Depth (m) From – To	Description
WABUSH3-SS8	0.0 – 0.03	Grey sand with trace organics and gravel. Loose-compact, moist, and no hydrocarbon odor.
	0.03 – 0.3	Brown silty sand, trace gravel and organics. Loose-compact, moist, and no hydrocarbon odor.
		Note: 1) Test pit excavated using a shovel. 2) Water table not encountered.


Test pit excavation for WABUSH3-SS8.

Location: Wabush 3, Labrador City, NL
Date: June 25, 2012
Notes: Soil Sample WABUSH3-SS8 collected at 0.00 – 0.30 m bgs.

GPS Coordinates: 638328 E
(UTM, Zone 27) 5872609 N

Iron Ore Company of Canada
Baseline Surface Soil Sampling Program
Wabush 3, Labrador City, NL
November 2012

Soil Sample Number	Depth (m) From – To	Description
WABUSH3-SS9	0.0 – 0.06	Grey fine sand with traces of travel and silt. Loose-compact, moist, and no hydrocarbon odor.
	0.06 – 0.30	Brown fine silty sand, gravel and some organics. Loose-compact, moist and no hydrocarbon odor.
		Note: 1) Test pit excavated using a shovel. 2) Water table not encountered.

Test pit excavation for WABUSH3-SS9.

Location: Wabush 3, Labrador City, NL
Date: June 25, 2012
Notes: Soil Sample WABUSH3-SS9 collected at 0.00 – 0.30 m bgs.

GPS Coordinates: 638711 E
(UTM, Zone 27) 5872698 N

Iron Ore Company of Canada
Baseline Surface Soil Sampling Program
Wabush 3, Labrador City, NL
November 2012

Soil Sample Number	Depth (m) From – To	Description
WABUSH3-SS10	0.0 – 0.03	Grey silt and fine sand with trace gravel. Loose-compact, moist, and no hydrocarbon odor.
	0.03-0.07	Dark brown silty sand with trace gravel. Compact, moist, and no hydrocarbon odor.
	0.07-0.30	Brown sand and gravel with trace fines. Compact, moist, and no hydrocarbon odor.
		Note: 1) Test pit excavated using a shovel. 2) Water table not encountered.


Test pit excavation WABUSH3-SS10.

Location: Wabush 3, Labrador City, NL
Date: June 26, 2012
Notes: Soil Sample WABUSH3-SS10 collected at 0.00 – 0.30 m bgs.

GPS Coordinates: 637247 E
(UTM, Zone 27) 5872037 N

Iron Ore Company of Canada
Baseline Surface Soil Sampling Program
Wabush 3, Labrador City, NL
November 2012

Soil Sample Number	Depth (m) From – To	Description
WABUSH3-SS11	0.0 – 0.03	Dark brown/black silty sand with some organics. Loose, very moist, and no hydrocarbon odor.
	0.03 – 0.30	Brown fine-medium sand with trace silt and gravel. Loose-compact, moist, and no hydrocarbon odor.
		Note: 1) Test pit excavated using a shovel. 2) Water table not encountered.

Location: Wabush 3, Labrador City, NL
Date: June 26, 2012
Notes: Soil Sample WABUSH3-SS11 collected at 0.00 – 0.30 m bgs.

GPS Coordinates: 637580 E
(UTM, Zone 27) 5872126 N

Test pit excavation for WABUSH3-SS11.

Iron Ore Company of Canada
Baseline Surface Soil Sampling Program
Wabush 3, Labrador City, NL
November 2012

Soil Sample Number	Depth (m) From – To	Description
WABUSH3-SS12	0.0 – 0.0	Grey medium-fine sand with trace silt, gravel and organics. Loose-compact, moist, and no hydrocarbon odor.
	0.2 – 0.3	Brown fine-medium sand with trace silt and gravel. Loose-compact, moist, and no hydrocarbon odor.
		Note: 1) Test pit excavated using a shovel. 2) Water table not encountered.

Test pit excavation for WABUSH3-SS12.

Location: Wabush 3, Labrador City, NL
Date: June 26, 2012
Notes: Soil Sample WABUSH3-SS12 collected at 0.00 – 0.30 m bgs.

GPS Coordinates: 637964 E
(UTM, Zone 27) 5872237 N

Iron Ore Company of Canada
Baseline Surface Soil Sampling Program
Wabush 3, Labrador City, NL
November 2012

Soil Sample Number	Depth (m) From – To	Description
WABUSH3-SS13	0.0 – 0.1	Grey fine sand with silt and gravel with trace organics. Loose-compact, moist, and no hydrocarbon odor.
	0.1 – 0.3	Brown silty sand with trace gravel, silt and cobbles. Loose-compact, moist, and no hydrocarbon odor.
		Note: 1) Test pit excavated using a shovel. 2) Water table not encountered.

Test pit excavation for WABUSH3-SS13.

Location: Wabush 3, Labrador City, NL
Date: June 26, 2012
Notes: Soil Sample WABUSH3-SS13 collected at 0.00 – 0.30 m bgs.

GPS Coordinates: 638207 E
(UTM, Zone 27) 5872297 N

Iron Ore Company of Canada
Baseline Surface Soil Sampling Program
Wabush 3, Labrador City, NL
November 2012

Soil Sample Number	Depth (m) From – To	Description
WABUSH3-SS14	0.0 – 0.1	Grey sand and gravel with trace silt and cobbles. Loose-compact, moist, and no hydrocarbon odor.
	0.1 – 0.3	Brown silty sand and gravel with trace silt cobbles. Loose-compact, moist, and no hydrocarbon odor.
		Note: 1) Test pit excavated using a shovel. 2) Water table not encountered.

Test pit excavation for WABUSH3-SS14.

Location: Wabush 3, Labrador City, NL
Date: June 26, 2012
Notes: Soil Sample WABUSH3-SS14 collected at 0.00 – 0.30 m bgs.

GPS Coordinates: 638446 E
(UTM, Zone 27) 5872370 N

Iron Ore Company of Canada
Baseline Surface Soil Sampling Program
Wabush 3, Labrador City, NL
November 2012

Soil Sample Number	Depth (m) From – To	Description
WABUSH3-SS15	0.0 – 0.07	Grey fine-medium sand with trace silt, gravel and organics. Loose-compact, moist, and no hydrocarbon odor.
	0.07 – 0.3	Brown medium sand with trace silt and gravel. Loose-compact, moist, and no hydrocarbon odor.
		Note: 1) Test pit excavated using a shovel. 2) Water table not encountered.

Test pit excavation for WABUSH3-SS15.

Location: Wabush 3, Labrador City, NL
Date: June 26, 2012
Notes: Soil Sample WABUSH3-SS15 collected at 0.00 – 0.30 m bgs.

GPS Coordinates: 637251 E
(UTM, Zone 27) 5871780 N

Iron Ore Company of Canada
Baseline Surface Soil Sampling Program
Wabush 3, Labrador City, NL
November 2012

Soil Sample Number	Depth (m) From – To	Description
WABUSH3-SS16	0.0 – 0.07	Grey/dark grey dine sand with trace organics. Loose, wet, and no hydrocarbon odor.
	0.07 – 0.3	Brown silty sand and gravel with trace silt cobbles. Loose-compact, moist, and no hydrocarbon odor.
		Note: 1) Test pit excavated using a shovel. 2) Water table not encountered.


Test pit excavation for WABUSH3-SS16.

Location: Wabush 3, Labrador City, NL
Date: June 26, 2012
Notes: Soil Sample WABUSH3-SS16 collected at 0.00 – 0.30 m bgs.

GPS Coordinates: 637550 E
(UTM, Zone 27) 5871866 N

Iron Ore Company of Canada
Baseline Surface Soil Sampling Program
Wabush 3, Labrador City, NL
November 2012

Soil Sample Number	Depth (m) From – To	Description
WABUSH3-SS17	0.0 – 0.08	Grey sand and gravel with trace silt. Loose-compact, moist, and no hydrocarbon odor.
	0.08 – 0.3	Brown sand and gravel with trace silt. Loose-compact, moist, and no hydrocarbon odor.
		Note: 1) Test pit excavated using a shovel. 2) Water table not encountered.

Test pit excavation for WABUSH3-SS17.

Location: Wabush 3, Labrador City, NL
Date: June 27, 2012
Notes: Soil Sample WABUSH3-SS17 collected at 0.00 – 0.30 m bgs.

GPS Coordinates: 637797 E
(UTM, Zone 27) 5871930 N

Iron Ore Company of Canada
Baseline Surface Soil Sampling Program
Wabush 3, Labrador City, NL
November 2012

Soil Sample Number	Depth (m) From – To	Description
WABUSH3-SS18	0.0 – 0.12	Grey sand with trace silt and gravel with organics. Loose-compact, moist, and no hydrocarbon odor.
	0.12 – 0.3	Brown silty sand with trace gravel and organics. Loose, moist, and no hydrocarbon odor.
		Note: 1) Test pit excavated using a shovel. 2) Water table not encountered.

Test pit excavation for WABUSH3-SS18.

Location: Wabush 3, Labrador City, NL
Date: June 26, 2012
Notes: Soil Sample WABUSH3-SS18 collected at 0.00 – 0.30 m bgs.

GPS Coordinates: 638165 E
(UTM, Zone 27) 5872032 N

Iron Ore Company of Canada
Baseline Surface Soil Sampling Program
Wabush 3, Labrador City, NL
November 2012

Soil Sample Number	Depth (m) From – To	Description
WABUSH3-SS19	0.0 – 0.1	Grey sand with trace gravel, silt and organics. Loose-compact, moist, and no hydrocarbon odor.
	0.1 – 0.3	Brown silty sand with trace gravel and organics. Loose-compact, moist, and no hydrocarbon odor.
		Note: 1) Test pit excavated using a shovel. 2) Water table not encountered.

Test pit excavation for WABUSH3-SS19.

Location: Wabush 3, Labrador City, NL
Date: June 26, 2012
Notes: Soil Sample WABUSH3-SS19 collected at 0.00 – 0.30 m bgs.

GPS Coordinates: 638433 E
(UTM, Zone 27) 5872105 N

Iron Ore Company of Canada
Baseline Surface Soil Sampling Program
Wabush 3, Labrador City, NL
November 2012

Soil Sample Number	Depth (m) From – To	Description
WABUSH3-SS20	0.0 – 0.05	Grey medium sand with trace silt and gravel with some organics. Loose-compact, moist, and no hydrocarbon odor.
	0.05 – 0.3	Brown fine-medium sand with trace gravel and cobbles. Loose-compact, moist, and no hydrocarbon odor.
		Note: 1) Test pit excavated using a shovel. 2) Water table encountered at 0.25 m.

Test pit excavation for WABUSH3-SS20.

Location: Wabush 3, Labrador City, NL
Date: June 27, 2012
Notes: Soil Sample WABUSH3-SS20 collected at 0.00 – 0.30 m bgs.

GPS Coordinates: 637456 E
(UTM, Zone 27) 5871704 N

Iron Ore Company of Canada
Baseline Surface Soil Sampling Program
Wabush 3, Labrador City, NL
November 2012

Soil Sample Number	Depth (m) From – To	Description
WABUSH3-SS21	0.0 – 0.1	Grey sand with trace silt, gravel and organics. Loose-compact, moist, and no hydrocarbon odor.
	0.1 – 0.15	Brown silty sand with trace gravel and organics. Loose-compact, moist, and no hydrocarbon odor.
	0.15 – 0.30	Grey sand with trace silt, gravel and organics. Loose-compact, moist, and no hydrocarbon odor.
		Note: 1) Test pit excavated using a shovel. 2) Water table encountered at 2.5 m.


Test pit excavation for WABUSH3-SS21.

Location: Wabush 3, Labrador City, NL
Date: June 27, 2012
Notes: Soil Sample WABUSH3-SS21 collected at 0.00 – 0.30 m bgs.

GPS Coordinates: 637703 E
(UTM, Zone 27) 5871759 N

Iron Ore Company of Canada
Baseline Surface Soil Sampling Program
Wabush 3, Labrador City, NL
November 2012

Soil Sample Number	Depth (m) From – To	Description
WABUSH3-SS22	0.0 – 0.2	Brown silty sand with trace gravel and organics. Loose-compact, moist, and no hydrocarbon odor. Note: 1) Test pit excavated using a shovel. 2) Water table not encountered.

Test pit excavation for WABUSH3-SS22.

Location: Wabush 3, Labrador City, NL
Date: June 26, 2012
Notes: Soil Sample WABUSH3-SS22 collected at 0.00 – 0.20 m bgs.

GPS Coordinates: 637276 E
(UTM, Zone 27) 5871524 N

Iron Ore Company of Canada
Baseline Surface Soil Sampling Program
Wabush 3, Labrador City, NL
November 2012

Soil Sample Number	Depth (m) From – To	Description
WABUSH3-SS23	0.0 – 0.08	Grey sand and gravel with trace silt. Loose-compact, moist, and no hydrocarbon odor.
	0.08 – 0.3	Brown sand and gravel with trace silt. Loose-compact, moist, and no hydrocarbon odor.
		Note: 1) Test pit excavated using a shovel. 2) Water table not encountered.

Test pit excavation for WABUSH3-SS23.

Location: Wabush 3, Labrador City, NL
Date: June 27, 2012
Notes: Soil Sample WABUSH3-SS23 collected at 0.00 – 0.30 m bgs.

GPS Coordinates: 637618 E
(UTM, Zone 27) 5871618 N

Iron Ore Company of Canada
Baseline Surface Soil Sampling Program
Wabush 3, Labrador City, NL
November 2012

Soil Sample Number	Depth (m) From – To	Description
WABUSH3-SS24	0.0 – 0.05	Grey sand with trace gravel, silt and organics. Loose-compact, moist, and no hydrocarbon odor.
	0.05 – 0.3	Brown silty sand with trace gravel and organics. Loose-compact, moist, and no hydrocarbon odor.
		Note: 1) Test pit excavated using a shovel. 2) Water table not encountered.

Test pit excavation for WABUSH3-SS24.

Location: Wabush 3, Labrador City, NL
Date: June 27, 2012
Notes: Soil Sample WABUSH3-SS24 collected at 0.00 – 0.30 m bgs.

GPS Coordinates: 637857 E
(UTM, Zone 27) 5871687 N

Iron Ore Company of Canada
Baseline Surface Soil Sampling Program
Wabush 3, Labrador City, NL
November 2012

Soil Sample Number	Depth (m) From – To	Description
WABUSH3-SS25	0.0 – 0.08	Grey silty sand with trace gravel and organics. Loose-compact, moist, and no hydrocarbon odor.
	0.08 – 0.25	Brown silty sand with trace gravel. Loose-compact, moist, and no hydrocarbon odor.
	0.25 – 0.30	Weathered hard sandstone.
		Note: 1) Test pit excavated using a shovel. 2) Water table not encountered.


Test pit excavation for WABUSH3-SS25.

Location: Wabush 3, Labrador City, NL
Date: June 26, 2012
Notes: Soil Sample WABUSH3-SS25 collected at 0.00 – 0.30 m bgs.

GPS Coordinates: 638169 E
(UTM, Zone 27) 5871772 N

Iron Ore Company of Canada
Baseline Surface Soil Sampling Program
Wabush 3, Labrador City, NL
November 2012

Soil Sample Number	Depth (m) From – To	Description
WABUSH3-SS26	0.0 – 0.2	Grey/brown fine – medium sand with silt and trace organics. Loose-compact, moist, and no hydrocarbon odor.
	0.2	Bedrock
		Note: 1) Test pit excavated using a shovel. 2) Water table not encountered.

Test pit excavation for WABUSH3-SS26.

Location: Wabush 3, Labrador City, NL
Date: June 26, 2012
Notes: Soil Sample WABUSH3-SS26 collected at 0.00 – 0.20 m bgs.

GPS Coordinates: 637930 E
(UTM, Zone 27) 5871418 N

APPENDIX C

Laboratory Analytical Results

Table C-1: BTEX/TPH in Soil (Wabush 3, Labrador City, NL) - Baseline Surface Soil Sampling Program

		DATA						GUIDELINES	
SAMPLE INTERVAL DEPTH (m)		0-0.3	0-0.3	0-0.3	0-0.3	0-0.3	0-0.3	2012 ATLANTIC PIRI	
LAB ID		NZ1625	NZ1626	NZ1627	NZ1628	NZ1629	NZ1634	TIER I RBSLs[1]	
FIELD ID		WABUSH3-SS15	WABUSH3-SS16	WABUSH3-SS17	WABUSH3-SS20	WABUSH3-SS21	WABUSH3-DUP04		
DATE (D/M/Y)		6/26/2012	6/26/2012	6/27/2012	6/27/2012	6/27/2012	6/26/2012	Ecological RBSLs	Human Health RBSLs
PARAMETERS	RDL (mg/kg)	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Benzene	0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	**180**	**2.5**
Toluene	0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	**250**	**10000**
Ethylbenzene	0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	**300**	**10000**
Xylene (Total)	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**350**	**110**
C6 - C10 (less BTEX)	2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	**320 (F1)**	**-**
>C10-C16 Hydrocarbons	10	<10	<10	<10	<10	<10	<10	**260 (F2)**	**-**
>C16-C21 Hydrocarbons	10	<10	<10	<10	<10	<10	<10	**1700 (F3)** [2]	**-**
>C21-<C32 Hydrocarbons	15	<15	36	22	<15	120	64		**-**
Modified TPH (Tier1)	15	<15	36	22	<15	120	64	**-**	**870 / 4000 / 1000** [3]
Hydrocarbon Identification		–	No resemblance to petroleum products in lube oil range.	No resemblance to petroleum products in lube oil range.	–	No resemblance to petroleum products in lube oil range.	No resemblance to petroleum products in lube oil range.		

Notes:
RDL: Reportable detection limit
PIRI: Partnership in RBCA Implementation
RBCA: Risk Based Corrective Action
RBSL: Risk Based Screening Level
-: Value not established
WABUSH3-DUP04 is a blind field duplicate of WABUSH3-SS21
Shaded and bold faced data exceeds recommended 2012 Atlantic PIRI RBSL
1: Tier I RBSLs for coarse-grained soils at commercial sites where groundwater is non-potable
2: F3 = C16-C34 Hydrocarbons
3: Gasoline/Diesel/Lube Oil

Table C-1: BTEX/TPH in Soil (Wabush 3, Labrador City, NL) - Baseline Surface Soil Sampling Program (Continued)

		DATA				GUIDELINES	
SAMPLE INTERVAL DEPTH (m) LAB ID FIELD ID DATE (D/M/Y)		0-0.2 NZ1630 WABUSH3-SS22 6/27/2012	0-0.3 NZ1631 WABUSH3-SS23 6/27/2012	0-0.3 NZ1632 WABUSH3-SS24 6/27/2012	0-0.2 NZ1633 WABUSH3-SS26 6/26/2012	2012 ATLANTIC PIRI TIER I RBSLs[1]	
PARAMETERS	RDL (mg/kg)	mg/kg	mg/kg	mg/kg	mg/kg	Ecological RBSLs mg/kg	Human Health RBSLs mg/kg
Benzene	0.025	<0.025	<0.025	<0.025	<0.025	**180**	**2.5**
Toluene	0.025	<0.025	<0.025	<0.025	<0.025	**250**	**10000**
Ethylbenzene	0.025	<0.025	<0.025	<0.025	<0.025	**300**	**10000**
Xylene (Total)	0.050	<0.050	<0.050	<0.050	<0.050	**350**	**110**
C6 - C10 (less BTEX)	2.5	<2.5	<2.5	<2.5	<2.5	**320 (F1)**	**-**
>C10-C16 Hydrocarbons	10	<10	<10	<10	<10	**260 (F2)**	**-**
>C16-C21 Hydrocarbons	10	<10	<10	<10	<10	**1700 (F3)** [2]	**-**
>C21-<C32 Hydrocarbons	15	60	<15	46	24		**-**
Modified TPH (Tier1)	15	60	<15	46	24	**-**	**870 / 4000 / 1000** [3]
Hydrocarbon Identification		No resemblance to petroleum products in lube oil range.	-	No resemblance to petroleum products in lube oil range.	No resemblance to petroleum products in lube oil range.		

Notes:
RDL: Reportable detection limit
PIRI: Partnership in RBCA Implementation
RBCA: Risk Based Corrective Action
RBSL: Risk Based Screening Level
WABUSH3-DUP04 is a blind field duplicate of WABUSH3-SS26
-: Value not established
Shaded and bold faced data exceeds recommended 2012 Atlantic PIRI RBSL
1: Tier I RBSLs for coarse-grained soils at commercial sites where groundwater is non-potable
2: F3 = C16-C34 Hydrocarbons
3: Gasoline/Diesel/Lube Oil

Table C-2: Metals in Soil (Wabush 3, Labrador City, NL) - Baseline Surface Soil Sampling Program

		DATA						GUIDELINES
LAB ID		NZ4786	NZ4787	NZ4788	NZ4789	NZ4790	NZ4791	1999 CCME CSQG
FIELD ID		WABUSH3-SS1	WABUSH3-SS2	WABUSH3-SS3	WABUSH3-SS4	WABUSH3-SS5	WABUSH3-SS6	(UPDATED 2008)
SAMPLE INTERVAL DEPTH (m)		0-0.3	0-0.3	0-0.3	0-0.3	0-0.3	0-0.3	
SAMPLING DATE (D/M/Y)		6/25/2012	6/25/2012	6/25/2012	6/25/2012	6/25/2012	6/25/2012	INDUSTRIAL
PARAMETERS	RDL (mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	mg/kg
Available Aluminum (Al)	10	14000	6600	14000	16000	13000	14000	-
Available Antimony (Sb)	2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	40
Available Arsenic (As)	2	2.7	2.5	3.4	4.1	3.1	2.3	12
Available Barium (Ba)	5	58	41	42	170	68	42	2000
Available Beryllium (Be)	2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	8
Available Bismuth (Bi)	2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	-
Available Boron (B)	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	-
Available Cadmium (Cd)	0.3	<0.30	<0.30	<0.30	0.71	<0.30	<0.30	22
Available Chromium (Cr)	2	61	23	54	56	46	55	87
Available Cobalt (Co)	1	11	4.3	8.9	27	13	8.0	300
Available Copper (Cu)	2	14	4.2	11	18	19	13	91
Available Iron (Fe)	50	41000	28000	64000	48000	56000	45000	-
Available Lead (Pb)	0.5	7.1	9.3	9.1	15	6.6	9.8	260
Available Lithium (Li)	2	9.2	2.1	6.4	10	9.0	7.4	-
Available Manganese (Mn)	2	810	400	920	9300	1300	680	-
Available Mercury (Hg)	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	24
Available Molybdenum (Mo)	2	<2.0	<2.0	<2.0	2.6	<2.0	<2.0	40
Available Nickel (Ni)	2	22	9.0	20	27	22	20	50
Available Rubidium (Rb)	2	28	14	18	19	29	21	-
Available Selenium (Se)	2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.9
Available Silver (Ag)	0.5	<0.50	<0.50	<0.50	1.0	<0.50	<0.50	40
Available Strontium (Sr)	5	12	8.1	11	22	11	8.2	-
Available Thallium (Tl)	0.1	0.20	0.13	0.17	0.82	0.26	0.22	1
Available Tin (Sn)	2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	300
Available Uranium (U)	0.1	0.57	0.48	0.82	1.4	0.82	0.71	33
Available Vanadium (V)	2	39	31	39	38	34	43	130
Available Zinc (Zn)	5	43	21	37	77	43	35	360

Notes:

RDL: Reportable Detection Limit

<X: Concentration below the RDL

CCME: Canadian Council of Ministers of the Environment

CSQG: Canadian Soil Quality Guidelines for the Protection of Environmental and Human Health

-: Value Not Established

Shaded, bold and underlined data exceed CCME CSQG for metals in soil at a industrial site

Table C-2: Metals in Soil (Wabush 3, Labrador City, NL) - Baseline Surface Soil Sampling Program (Continued)

		DATA						GUIDELINES
LAB ID		NZ4792	NZ4793	NZ4794	NZ4795	NZ4796	NZ4797	1999 CCME CSQG
FIELD ID		WABUSH3-SS7	WABUSH3-SS8	WABUSH3-SS9	WABUSH3-SS10	WABUSH3-DUP-01	WABUSH3-SS11	(UPDATED 2008)
SAMPLE INTERVAL DEPTH (m)		0-0.3	0-0.3	0-0.3	0-0.3	0-0.3	0-0.3	
SAMPLING DATE (D/M/Y)		6/25/2012	6/25/2012	6/25/2012	6/26/2012	6/26/2012	6/26/2012	INDUSTRIAL
PARAMETERS	RDL (mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	mg/kg
Available Aluminum (Al)	10	16000	10000	9100	20000	19000	16000	-
Available Antimony (Sb)	2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	**40**
Available Arsenic (As)	2	2.5	<2.0	2.4	2.4	2.5	2.1	**12**
Available Barium (Ba)	5	47	34	28	51	57	67	**2000**
Available Beryllium (Be)	2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	**8**
Available Bismuth (Bi)	2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	-
Available Boron (B)	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	-
Available Cadmium (Cd)	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	**22**
Available Chromium (Cr)	2	58	55	35	80	69	74	**87**
Available Cobalt (Co)	1	7.1	6.1	5.4	12	10	16	**300**
Available Copper (Cu)	2	9.9	6.2	5.8	17	18	8.1	**91**
Available Iron (Fe)	50	49000	34000	43000	55000	45000	45000	-
Available Lead (Pb)	0.5	9.9	8.6	6.9	7.3	7.5	7.2	**600**
Available Lithium (Li)	2	7.5	4.4	4.3	11	10	9.1	-
Available Manganese (Mn)	2	810	530	950	610	510	3500	-
Available Mercury (Hg)	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	**50**
Available Molybdenum (Mo)	2	<2.0	<2.0	<2.0	<2.0	<2.0	3.6	**40**
Available Nickel (Ni)	2	19	15	11	28	28	26	**50**
Available Rubidium (Rb)	2	19	16	13	29	29	22	-
Available Selenium (Se)	2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	**2.9**
Available Silver (Ag)	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**40**
Available Strontium (Sr)	5	10	11	8.3	13	14	9.9	-
Available Thallium (Tl)	0.1	0.24	0.15	0.15	0.30	0.25	0.37	**1**
Available Tin (Sn)	2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	**300**
Available Uranium (U)	0.1	0.68	0.62	0.58	0.62	0.68	0.75	**33**
Available Vanadium (V)	2	42	36	36	44	35	49	**130**
Available Zinc (Zn)	5	38	28	28	56	50	48	**360**

Notes:

RDL: Reportable Detection Limit

<X: Concentration below the RDL

CCME: Canadian Council of Ministers of the Environment

CSQG: Canadian Soil Quality Guidelines for the Protection of Environmental and Human Health

WABUSH3-DUP-01 is a blind field duplicate of WABUSH3-SS10

-: Value Not Established

Shaded, bold and underlined data exceed CCME CSQG for metals in soil at a industrial site

Table C-2: Metals in Soil (Wabush 3, Labrador City, NL) - Baseline Surface Soil Sampling Program (Continued)

		DATA						GUIDELINES
LAB ID		NZ4797	NZ4813	NZ4798	NZ4799	NZ4800	NZ4801	1999 CCME CSQG
FIELD ID		WABUSH3-SS12	WABUSH3-DUP02	WABUSH3-SS13	WABUSH3-SS14	WABUSH3-SS15	WABUSH3-SS16	(UPDATED 2008)
SAMPLE INTERVAL DEPTH (m)		0-0.3	0-0.3	0-0.3	0-0.3	0-0.3	0-0.3	
SAMPLING DATE (D/M/Y)		6/26/2012	6/26/2012	6/26/2012	6/26/2012	6/26/2012	6/26/2012	INDUSTRIAL
PARAMETERS	RDL (mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	mg/kg
Available Aluminum (Al)	10	13000	13000	7100	13000	11000	21000	-
Available Antimony (Sb)	2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	**40**
Available Arsenic (As)	2	2.4	2.6	<2.0	<2.0	2.4	2.4	**12**
Available Barium (Ba)	5	34	40	21	73	40	160	**2000**
Available Beryllium (Be)	2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	**8**
Available Bismuth (Bi)	2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	-
Available Boron (B)	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	-
Available Cadmium (Cd)	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	**22**
Available Chromium (Cr)	2	49	52	24	78	44	130	**87**
Available Cobalt (Co)	1	5.9	6.7	3.0	8.7	6.0	20	**300**
Available Copper (Cu)	2	7.6	8.1	3.4	7.7	11	23	**91**
Available Iron (Fe)	50	50000	47000	25000	54000	41000	48000	-
Available Lead (Pb)	0.5	8.2	9.2	7.6	8.5	7.9	13	**600**
Available Lithium (Li)	2	6.0	6.2	2.6	5.2	5.1	14	-
Available Manganese (Mn)	2	530	610	270	750	490	2400	-
Available Mercury (Hg)	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	0.12	**50**
Available Molybdenum (Mo)	2	<2.0	<2.0	<2.0	<2.0	<2.0	5.5	**40**
Available Nickel (Ni)	2	14	16	7.2	20	16	47	**50**
Available Rubidium (Rb)	2	16	17	8.5	25	16	50	-
Available Selenium (Se)	2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	**2.9**
Available Silver (Ag)	0.5	<0.50	<0.50	0.53	<0.50	<0.50	<0.50	**40**
Available Strontium (Sr)	5	8.1	9.8	6.4	9.0	11	19	-
Available Thallium (Tl)	0.1	0.15	0.14	<0.10	0.19	0.14	0.54	**1**
Available Tin (Sn)	2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	**300**
Available Uranium (U)	0.1	0.55	0.50	0.66	0.47	0.68	3.9	**33**
Available Vanadium (V)	2	38	38	36	57	38	65	**130**
Available Zinc (Zn)	5	33	31	14	34	31	76	**360**

Notes:

RDL: Reportable Detection Limit

<X: Concentration below the RDL

CCME: Canadian Council of Ministers of the Environment

CSQG: Canadian Soil Quality Guidelines for the Protection of Environmental and Human Health

WABUSH3-DUP-02 is a blind field duplicate of WABUSH3-SS12

-: Value Not Established

Shaded, bold and underlined data exceed CCME CSQG for metals in soil at a industrial site

Table C-2: Metals in Soil (Wabush 3, Labrador City, NL) - Baseline Surface Soil Sampling Program (Continued)

		DATA							GUIDELINES
LAB ID		NZ4802	NZ4803	NZ4814	NZ4804	NZ4805	NZ4806	NZ4815	1999 CCME CSQG
FIELD ID		WABUSH3-SS17	WABUSH3-SS18	WABUSH3-DUP03	WABUSH3-SS19	WABUSH3-SS20	WABUSH3-SS21	WABUSH3-DUP04	(UPDATED 2008)
SAMPLE INTERVAL DEPTH (m)		0-0.3	0-0.3	0-0.3	0-0.3	0-0.3	0-0.3	0-0.3	
SAMPLING DATE (D/M/Y)		6/27/2012	6/26/2012	6/26/2012	6/26/2012	6/27/2012	6/27/2012	6/28/2012	INDUSTRIAL
PARAMETERS	RDL (mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	mg/kg
Available Aluminum (Al)	10	16000	15000	15000	15000	13000	6000	6200	-
Available Antimony (Sb)	2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	**40**
Available Arsenic (As)	2	2.8	2.2	2.1	2.8	2.4	<2.0	<2.0	**12**
Available Barium (Ba)	5	61	30	33	38	62	31	28	**2000**
Available Beryllium (Be)	2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	**8**
Available Bismuth (Bi)	2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	-
Available Boron (B)	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	-
Available Cadmium (Cd)	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	**22**
Available Chromium (Cr)	2	53	58	59	59	53	25	29	**87**
Available Cobalt (Co)	1	8.0	6.6	6.4	8.9	8.1	2.2	3.0	**300**
Available Copper (Cu)	2	16	8.3	7.6	8.9	15	2.8	3.3	**91**
Available Iron (Fe)	50	46000	50000	44000	58000	40000	23000	27000	-
Available Lead (Pb)	0.5	7.8	8.1	7.7	11	8.5	7.5	8.1	**600**
Available Lithium (Li)	2	10	6.1	6.4	5.4	9.0	2.3	<2.0	-
Available Manganese (Mn)	2	550	370	430	1900	830	260	270	-
Available Mercury (Hg)	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	**50**
Available Molybdenum (Mo)	2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	**40**
Available Nickel (Ni)	2	21	21	22	19	22	5.4	6.5	**50**
Available Rubidium (Rb)	2	24	14	14	12	25	8.6	9.2	-
Available Selenium (Se)	2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	**2.9**
Available Silver (Ag)	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**40**
Available Strontium (Sr)	5	11	8.8	9.4	8.2	13	7.6	7.5	-
Available Thallium (Tl)	0.1	0.24	0.16	0.17	0.21	0.27	0.14	0.12	**1**
Available Tin (Sn)	2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	**300**
Available Uranium (U)	0.1	0.91	0.63	0.66	0.61	0.70	0.65	0.66	**33**
Available Vanadium (V)	2	45	52	52	50	33	26	28	**130**
Available Zinc (Zn)	5	41	32	31	31	37	13	9.8	**360**

Notes:

RDL: Reportable Detection Limit

<X: Concentration below the RDL

CCME: Canadian Council of Ministers of the Environment

CSQG: Canadian Soil Quality Guidelines for the Protection of Environmental and Human Health

WABUSH3-DUP-04 is a blind field duplicate of WABUSH3-SS21

-: Value Not Established

Shaded, bold and underlined data exceed CCME CSQG for metals in soil at a industrial site

Table C-2: Metals in Soil (Wabush 3, Labrador City, NL) - Baseline Surface Soil Sampling Program (Continued)

		DATA					GUIDELINES
LAB ID		NZ4807	NZ4808	NZ4809	NZ4810	NZ4811	1999 CCME CSQG
FIELD ID		WABUSH3-SS22	WABUSH3-SS23	WABUSH3-SS24	WABUSH3-SS25	WABUSH3-SS26	(UPDATED 2008)
SAMPLE INTERVAL DEPTH (m)		0-0.2	0-0.3	0-0.3	0-0.25	0-0.2	
SAMPLING DATE (D/M/Y)		6/27/2012	6/27/2012	6/27/2012	6/26/2012	6/26/2012	INDUSTRIAL
PARAMETERS	RDL (mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	mg/kg
Available Aluminum (Al)	10	15000	16000	12000	4900	6100	-
Available Antimony (Sb)	2	<2.0	<2.0	<2.0	<2.0	<2.0	**40**
Available Arsenic (As)	2	2.5	2.1	2.1	<2.0	<2.0	**12**
Available Barium (Ba)	5	76	50	64	22	33	**2000**
Available Beryllium (Be)	2	<2.0	<2.0	<2.0	<2.0	<2.0	**8**
Available Bismuth (Bi)	2	<2.0	<2.0	<2.0	<2.0	<2.0	-
Available Boron (B)	5	<5.0	<5.0	<5.0	<5.0	<5.0	-
Available Cadmium (Cd)	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	**22**
Available Chromium (Cr)	2	63	60	46	17	30	**87**
Available Cobalt (Co)	1	5.9	9.9	5.5	2.4	2.3	**300**
Available Copper (Cu)	2	12	8.6	14	3.5	<2.0	**91**
Available Iron (Fe)	50	42000	46000	33000	24000	15000	-
Available Lead (Pb)	0.5	10	9.2	6.8	5.4	11	**600**
Available Lithium (Li)	2	6.4	7.8	6.8	<2.0	2.2	-
Available Manganese (Mn)	2	380	2300	390	280	120	-
Available Mercury (Hg)	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	**50**
Available Molybdenum (Mo)	2	<2.0	<2.0	<2.0	2.2	<2.0	**40**
Available Nickel (Ni)	2	21	21	17	6.1	9.5	**50**
Available Rubidium (Rb)	2	36	20	22	4.2	7.7	-
Available Selenium (Se)	2	<2.0	<2.0	<2.0	<2.0	<2.0	**2.9**
Available Silver (Ag)	0.5	0.65	<0.50	<0.50	<0.50	<0.50	**40**
Available Strontium (Sr)	5	11	9.6	11	7.7	10	-
Available Thallium (Tl)	0.1	0.30	0.26	0.24	<0.10	<0.10	**1**
Available Tin (Sn)	2	<2.0	<2.0	<2.0	<2.0	<2.0	**300**
Available Uranium (U)	0.1	1.0	0.71	0.81	0.34	0.30	**33**
Available Vanadium (V)	2	47	41	33	25	23	**130**
Available Zinc (Zn)	5	42	38	33	11	14	**360**

Notes:

RDL: Reportable Detection Limit

<X: Concentration below the RDL

CCME: Canadian Council of Ministers of the Environment

CSQG: Canadian Soil Quality Guidelines for the Protection of Environmental and Human Health

-: Value Not Established

Shaded, bold and underlined data exceed CCME CSQG for metals in soil at a industrial site

APPENDIX D

Laboratory Certificates of Analyses

Your Project #: TF1243033
Site Location: WABUSH3
Your C.O.C. #: B 088269, B 088270, B 088271

Attention: Gary Warren
AMEC Environment & Infrastructure
St John's - Standing Offer
PO Box 13216
133 Crosbie Rd, Suite 202
St John's, NL
A1B 4A5

Report Date: 2012/07/09

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B298184
Received: 2012/06/30, 12:01

Sample Matrix: Soil
Samples Received: 30

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Metals Solid Avail. Unified MS - Nper (1)	2	2012/07/04	2012/07/06	ATL SOP 00024	Based on EPA6020A
Metals Solid Avail. Unified MS - Nper (1)	19	2012/07/05	2012/07/05	ATL SOP 00024	Based on EPA6020A
Metals Solid Avail. Unified MS - Nper (1)	3	2012/07/06	2012/07/06	ATL SOP 00024	Based on EPA6020A
Metals Solid Avail. Unified MS - Nper (1)	6	2012/07/06	2012/07/07	ATL SOP 00024	Based on EPA6020A

Remarks:

Reporting results to two significant figures at the RDL is to permit statistical evaluation and is not intended to be an indication of analytical precision.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
* Results relate only to the items tested.

(1) This test was performed by Bedford

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Michelle Hill, Project Manager
Email: MHill@maxxam.ca
Phone# (902) 420-0203 Ext:289

==========

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

Total cover pages: 1

Maxxam Job #: B298184
Report Date: 2012/07/09

AMEC Environment & Infrastructure
Client Project #: TF1243033
Site Location: WABUSH3

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Maxxam ID		NZ4786	NZ4787	NZ4787		NZ4788	NZ4789	NZ4790		
Sampling Date		2012/06/25	2012/06/25	2012/06/25		2012/06/25	2012/06/25	2012/06/25		
	Units	**WABUSH3-SS1**	**WABUSH3-SS2**	**WABUSH3-SS2 Lab-Dup**	**QC Batch**	**WABUSH3-SS3**	**WABUSH3-SS4**	**WABUSH3-SS5**	**RDL**	**QC Batch**
Metals										
Available Aluminum (Al)	mg/kg	14000	6600	6700	2898196	14000	16000	13000	10	2899378
Available Antimony (Sb)	mg/kg	<2.0	<2.0	<2.0	2898196	<2.0	<2.0	<2.0	2.0	2899378
Available Arsenic (As)	mg/kg	2.7	2.5	2.3	2898196	3.4	4.1	3.1	2.0	2899378
Available Barium (Ba)	mg/kg	58	41	41	2898196	42	170	68	5.0	2899378
Available Beryllium (Be)	mg/kg	<2.0	<2.0	<2.0	2898196	<2.0	<2.0	<2.0	2.0	2899378
Available Bismuth (Bi)	mg/kg	<2.0	<2.0	<2.0	2898196	<2.0	<2.0	<2.0	2.0	2899378
Available Boron (B)	mg/kg	<5.0	<5.0	<5.0	2898196	<5.0	<5.0	<5.0	5.0	2899378
Available Cadmium (Cd)	mg/kg	<0.30	<0.30	<0.30	2898196	<0.30	0.71	<0.30	0.30	2899378
Available Chromium (Cr)	mg/kg	61	23	25	2898196	54	56	46	2.0	2899378
Available Cobalt (Co)	mg/kg	11	4.3	4.5	2898196	8.9	27	13	1.0	2899378
Available Copper (Cu)	mg/kg	14	4.2	4.5	2898196	11	18	19	2.0	2899378
Available Iron (Fe)	mg/kg	41000	28000	28000	2898196	64000	48000	56000	50	2899378
Available Lead (Pb)	mg/kg	7.1	9.3	8.5	2898196	9.1	15	6.6	0.50	2899378
Available Lithium (Li)	mg/kg	9.2	2.1	2.4	2898196	6.4	10	9.0	2.0	2899378
Available Manganese (Mn)	mg/kg	810	400	330	2898196	920	9300	1300	2.0	2899378
Available Mercury (Hg)	mg/kg	<0.10	<0.10	<0.10	2898196	<0.10	<0.10	<0.10	0.10	2899378
Available Molybdenum (Mo)	mg/kg	<2.0	<2.0	<2.0	2898196	<2.0	2.6	<2.0	2.0	2899378
Available Nickel (Ni)	mg/kg	22	9.0	10	2898196	20	27	22	2.0	2899378
Available Rubidium (Rb)	mg/kg	28	14	15	2898196	18	19	29	2.0	2899378
Available Selenium (Se)	mg/kg	<2.0	<2.0	<2.0	2898196	<2.0	<2.0	<2.0	2.0	2899378
Available Silver (Ag)	mg/kg	<0.50	<0.50	<0.50	2898196	<0.50	1.0	<0.50	0.50	2899378
Available Strontium (Sr)	mg/kg	12	8.1	8.6	2898196	11	22	11	5.0	2899378
Available Thallium (Tl)	mg/kg	0.20	0.13	0.15	2898196	0.17	0.82	0.26	0.10	2899378
Available Tin (Sn)	mg/kg	<2.0	<2.0	<2.0	2898196	<2.0	<2.0	<2.0	2.0	2899378
Available Uranium (U)	mg/kg	0.57	0.48	0.44	2898196	0.82	1.4	0.82	0.10	2899378
Available Vanadium (V)	mg/kg	39	31	32	2898196	39	38	34	2.0	2899378
Available Zinc (Zn)	mg/kg	43	21	22	2898196	37	77	43	5.0	2899378

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Analytics International Corporation o/a Maxxam Analytics 49-55 Elizabeth Ave, Suite 101A, St.John's, NL, Canada A1A 1W9 Tel: 709-754-0203 Toll Free: 888-492-7227 Fax:709-754-8612 www.maxxam.ca

Maxxam Job #: B298184
Report Date: 2012/07/09

AMEC Environment & Infrastructure
Client Project #: TF1243033
Site Location: WABUSH3

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Maxxam ID		NZ4791	NZ4792	NZ4793	NZ4794	NZ4795	NZ4796	NZ4797		
Sampling Date		2012/06/25	2012/06/25	2012/06/25	2012/06/25	2012/06/26	2012/06/26	2012/06/26		
	Units	**WABUSH3-SS6**	**WABUSH3-SS7**	**WABUSH3-SS8**	**WABUSH3-SS9**	**WABUSH3-SS10**	**WABUSH3-SS11**	**WABUSH3-SS12**	**RDL**	**QC Batch**
Metals										
Available Aluminum (Al)	mg/kg	14000	16000	10000	9100	20000	16000	13000	10	2899378
Available Antimony (Sb)	mg/kg	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0	2899378
Available Arsenic (As)	mg/kg	2.3	2.5	<2.0	2.4	2.4	2.1	2.4	2.0	2899378
Available Barium (Ba)	mg/kg	42	47	34	28	51	67	34	5.0	2899378
Available Beryllium (Be)	mg/kg	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0	2899378
Available Bismuth (Bi)	mg/kg	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0	2899378
Available Boron (B)	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.0	2899378
Available Cadmium (Cd)	mg/kg	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	0.30	2899378
Available Chromium (Cr)	mg/kg	55	58	55	35	80	74	49	2.0	2899378
Available Cobalt (Co)	mg/kg	8.0	7.1	6.1	5.4	12	16	5.9	1.0	2899378
Available Copper (Cu)	mg/kg	13	9.9	6.2	5.8	17	8.1	7.6	2.0	2899378
Available Iron (Fe)	mg/kg	45000	49000	34000	43000	55000	45000	50000	50	2899378
Available Lead (Pb)	mg/kg	9.8	9.9	8.6	6.9	7.3	7.2	8.2	0.50	2899378
Available Lithium (Li)	mg/kg	7.4	7.5	4.4	4.3	11	9.1	6.0	2.0	2899378
Available Manganese (Mn)	mg/kg	680	810	530	950	610	3500	530	2.0	2899378
Available Mercury (Hg)	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	2899378
Available Molybdenum (Mo)	mg/kg	<2.0	<2.0	<2.0	<2.0	<2.0	3.6	<2.0	2.0	2899378
Available Nickel (Ni)	mg/kg	20	19	15	11	28	26	14	2.0	2899378
Available Rubidium (Rb)	mg/kg	21	19	16	13	29	22	16	2.0	2899378
Available Selenium (Se)	mg/kg	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0	2899378
Available Silver (Ag)	mg/kg	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	2899378
Available Strontium (Sr)	mg/kg	8.2	10	11	8.3	13	9.9	8.1	5.0	2899378
Available Thallium (Tl)	mg/kg	0.22	0.24	0.15	0.15	0.30	0.37	0.15	0.10	2899378
Available Tin (Sn)	mg/kg	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0	2899378
Available Uranium (U)	mg/kg	0.71	0.68	0.62	0.58	0.62	0.75	0.55	0.10	2899378
Available Vanadium (V)	mg/kg	43	42	36	36	44	49	38	2.0	2899378
Available Zinc (Zn)	mg/kg	35	38	28	28	56	48	33	5.0	2899378

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Analytics International Corporation o/a Maxxam Analytics 49-55 Elizabeth Ave, Suite 101A, St.John's, NL, Canada A1A 1W9 Tel: 709-754-0203 Toll Free: 888-492-7227 Fax:709-754-8612 www.maxxam.ca

Maxxam Job #: B298184
Report Date: 2012/07/09

AMEC Environment & Infrastructure
Client Project #: TF1243033
Site Location: WABUSH3

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Maxxam ID		NZ4798	NZ4799	NZ4800		NZ4801	NZ4802	NZ4803		
Sampling Date		2012/06/26	2012/06/26	2012/06/26		2012/06/26	2012/06/27	2012/06/26		
	Units	**WABUSH3-SS13**	**WABUSH3-SS14**	**WABUSH3-SS15**	**QC Batch**	**WABUSH3-SS16**	**WABUSH3-SS17**	**WABUSH3-SS18**	**RDL**	**QC Batch**
Metals										
Available Aluminum (Al)	mg/kg	7100	13000	11000	2899378	21000	16000	15000	10	2900384
Available Antimony (Sb)	mg/kg	<2.0	<2.0	<2.0	2899378	<2.0	<2.0	<2.0	2.0	2900384
Available Arsenic (As)	mg/kg	<2.0	<2.0	2.4	2899378	2.4	2.8	2.2	2.0	2900384
Available Barium (Ba)	mg/kg	21	73	40	2899378	160	61	30	5.0	2900384
Available Beryllium (Be)	mg/kg	<2.0	<2.0	<2.0	2899378	<2.0	<2.0	<2.0	2.0	2900384
Available Bismuth (Bi)	mg/kg	<2.0	<2.0	<2.0	2899378	<2.0	<2.0	<2.0	2.0	2900384
Available Boron (B)	mg/kg	<5.0	<5.0	<5.0	2899378	<5.0	<5.0	<5.0	5.0	2900384
Available Cadmium (Cd)	mg/kg	<0.30	<0.30	<0.30	2899378	<0.30	<0.30	<0.30	0.30	2900384
Available Chromium (Cr)	mg/kg	24	78	44	2899378	130	53	58	2.0	2900384
Available Cobalt (Co)	mg/kg	3.0	8.7	6.0	2899378	20	8.0	6.6	1.0	2900384
Available Copper (Cu)	mg/kg	3.4	7.7	11	2899378	23	16	8.3	2.0	2900384
Available Iron (Fe)	mg/kg	25000	54000	41000	2899378	48000	46000	50000	50	2900384
Available Lead (Pb)	mg/kg	7.6	8.5	7.9	2899378	13	7.8	8.1	0.50	2900384
Available Lithium (Li)	mg/kg	2.6	5.2	5.1	2899378	14	10	6.1	2.0	2900384
Available Manganese (Mn)	mg/kg	270	750	490	2899378	2400	550	370	2.0	2900384
Available Mercury (Hg)	mg/kg	<0.10	<0.10	<0.10	2899378	0.12	<0.10	<0.10	0.10	2900384
Available Molybdenum (Mo)	mg/kg	<2.0	<2.0	<2.0	2899378	5.5	<2.0	<2.0	2.0	2900384
Available Nickel (Ni)	mg/kg	7.2	20	16	2899378	47	21	21	2.0	2900384
Available Rubidium (Rb)	mg/kg	8.5	25	16	2899378	50	24	14	2.0	2900384
Available Selenium (Se)	mg/kg	<2.0	<2.0	<2.0	2899378	<2.0	<2.0	<2.0	2.0	2900384
Available Silver (Ag)	mg/kg	0.53	<0.50	<0.50	2899378	<0.50	<0.50	<0.50	0.50	2900384
Available Strontium (Sr)	mg/kg	6.4	9.0	11	2899378	19	11	8.8	5.0	2900384
Available Thallium (Tl)	mg/kg	<0.10	0.19	0.14	2899378	0.54	0.24	0.16	0.10	2900384
Available Tin (Sn)	mg/kg	<2.0	<2.0	<2.0	2899378	<2.0	<2.0	<2.0	2.0	2900384
Available Uranium (U)	mg/kg	0.66	0.47	0.68	2899378	3.9	0.91	0.63	0.10	2900384
Available Vanadium (V)	mg/kg	36	57	38	2899378	65	45	52	2.0	2900384
Available Zinc (Zn)	mg/kg	14	34	31	2899378	76	41	32	5.0	2900384

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Analytics International Corporation o/a Maxxam Analytics 49-55 Elizabeth Ave, Suite 101A, St.John's, NL, Canada A1A 1W9 Tel: 709-754-0203 Toll Free: 888-492-7227 Fax:709-754-8612 www.maxxam.ca

Maxxam Job #: B298184
Report Date: 2012/07/09

AMEC Environment & Infrastructure
Client Project #: TF1243033
Site Location: WABUSH3

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Maxxam ID		NZ4804	NZ4805		NZ4806	NZ4807	NZ4807		
Sampling Date		2012/06/26	2012/06/27		2012/06/27	2012/06/27	2012/06/27		
	Units	**WABUSH3-SS19**	**WABUSH3-SS20**	**QC Batch**	**WABUSH3-SS21**	**WABUSH3-SS22**	**WABUSH3-SS22 Lab-Dup**	**RDL**	**QC Batch**
Metals									
Available Aluminum (Al)	mg/kg	15000	13000	2900384	6000	15000	15000	10	2899386
Available Antimony (Sb)	mg/kg	<2.0	<2.0	2900384	<2.0	<2.0	<2.0	2.0	2899386
Available Arsenic (As)	mg/kg	2.8	2.4	2900384	<2.0	2.5	2.1	2.0	2899386
Available Barium (Ba)	mg/kg	38	62	2900384	31	76	74	5.0	2899386
Available Beryllium (Be)	mg/kg	<2.0	<2.0	2900384	<2.0	<2.0	<2.0	2.0	2899386
Available Bismuth (Bi)	mg/kg	<2.0	<2.0	2900384	<2.0	<2.0	<2.0	2.0	2899386
Available Boron (B)	mg/kg	<5.0	<5.0	2900384	<5.0	<5.0	<5.0	5.0	2899386
Available Cadmium (Cd)	mg/kg	<0.30	<0.30	2900384	<0.30	<0.30	<0.30	0.30	2899386
Available Chromium (Cr)	mg/kg	59	53	2900384	25	63	63	2.0	2899386
Available Cobalt (Co)	mg/kg	8.9	8.1	2900384	2.2	5.9	5.6	1.0	2899386
Available Copper (Cu)	mg/kg	8.9	15	2900384	2.8	12	11	2.0	2899386
Available Iron (Fe)	mg/kg	58000	40000	2900384	23000	42000	38000	50	2899386
Available Lead (Pb)	mg/kg	11	8.5	2900384	7.5	10	9.2	0.50	2899386
Available Lithium (Li)	mg/kg	5.4	9.0	2900384	2.3	6.4	6.5	2.0	2899386
Available Manganese (Mn)	mg/kg	1900	830	2900384	260	380	260(1)	2.0	2899386
Available Mercury (Hg)	mg/kg	<0.10	<0.10	2900384	<0.10	<0.10	<0.10	0.10	2899386
Available Molybdenum (Mo)	mg/kg	<2.0	<2.0	2900384	<2.0	<2.0	<2.0	2.0	2899386
Available Nickel (Ni)	mg/kg	19	22	2900384	5.4	21	20	2.0	2899386
Available Rubidium (Rb)	mg/kg	12	25	2900384	8.6	36	35	2.0	2899386
Available Selenium (Se)	mg/kg	<2.0	<2.0	2900384	<2.0	<2.0	<2.0	2.0	2899386
Available Silver (Ag)	mg/kg	<0.50	<0.50	2900384	<0.50	0.65	0.55	0.50	2899386
Available Strontium (Sr)	mg/kg	8.2	13	2900384	7.6	11	11	5.0	2899386
Available Thallium (Tl)	mg/kg	0.21	0.27	2900384	0.14	0.30	0.28	0.10	2899386
Available Tin (Sn)	mg/kg	<2.0	<2.0	2900384	<2.0	<2.0	<2.0	2.0	2899386
Available Uranium (U)	mg/kg	0.61	0.70	2900384	0.65	1.0	0.92	0.10	2899386
Available Vanadium (V)	mg/kg	50	33	2900384	26	47	44	2.0	2899386
Available Zinc (Zn)	mg/kg	31	37	2900384	13	42	42	5.0	2899386

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) - Violation is not applicable.

Maxxam Analytics International Corporation o/a Maxxam Analytics 49-55 Elizabeth Ave, Suite 101A, St.John's, NL, Canada A1A 1W9 Tel: 709-754-0203 Toll Free: 888-492-7227 Fax:709-754-8612 www.maxxam.ca

Maxxam Job #: B298184
Report Date: 2012/07/09

AMEC Environment & Infrastructure
Client Project #: TF1243033
Site Location: WABUSH3

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Maxxam ID		NZ4808	NZ4809	NZ4810	NZ4811		
Sampling Date		2012/06/27	2012/06/27	2012/06/26	2012/06/26		
	Units	**WABUSH3-SS23**	**WABUSH3-SS24**	**WABUSH3-SS25**	**WABUSH3-SS26**	**RDL**	**QC Batch**
Metals							
Available Aluminum (Al)	mg/kg	16000	12000	4900	6100	10	2899386
Available Antimony (Sb)	mg/kg	<2.0	<2.0	<2.0	<2.0	2.0	2899386
Available Arsenic (As)	mg/kg	2.1	2.1	<2.0	<2.0	2.0	2899386
Available Barium (Ba)	mg/kg	50	64	22	33	5.0	2899386
Available Beryllium (Be)	mg/kg	<2.0	<2.0	<2.0	<2.0	2.0	2899386
Available Bismuth (Bi)	mg/kg	<2.0	<2.0	<2.0	<2.0	2.0	2899386
Available Boron (B)	mg/kg	<5.0	<5.0	<5.0	<5.0	5.0	2899386
Available Cadmium (Cd)	mg/kg	<0.30	<0.30	<0.30	<0.30	0.30	2899386
Available Chromium (Cr)	mg/kg	60	46	17	30	2.0	2899386
Available Cobalt (Co)	mg/kg	9.9	5.5	2.4	2.3	1.0	2899386
Available Copper (Cu)	mg/kg	8.6	14	3.5	<2.0	2.0	2899386
Available Iron (Fe)	mg/kg	46000	33000	24000	15000	50	2899386
Available Lead (Pb)	mg/kg	9.2	6.8	5.4	11	0.50	2899386
Available Lithium (Li)	mg/kg	7.8	6.8	<2.0	2.2	2.0	2899386
Available Manganese (Mn)	mg/kg	2300	390	280	120	2.0	2899386
Available Mercury (Hg)	mg/kg	<0.10	<0.10	<0.10	<0.10	0.10	2899386
Available Molybdenum (Mo)	mg/kg	<2.0	<2.0	2.2	<2.0	2.0	2899386
Available Nickel (Ni)	mg/kg	21	17	6.1	9.5	2.0	2899386
Available Rubidium (Rb)	mg/kg	20	22	4.2	7.7	2.0	2899386
Available Selenium (Se)	mg/kg	<2.0	<2.0	<2.0	<2.0	2.0	2899386
Available Silver (Ag)	mg/kg	<0.50	<0.50	<0.50	<0.50	0.50	2899386
Available Strontium (Sr)	mg/kg	9.6	11	7.7	10	5.0	2899386
Available Thallium (Tl)	mg/kg	0.26	0.24	<0.10	<0.10	0.10	2899386
Available Tin (Sn)	mg/kg	<2.0	<2.0	<2.0	<2.0	2.0	2899386
Available Uranium (U)	mg/kg	0.71	0.81	0.34	0.30	0.10	2899386
Available Vanadium (V)	mg/kg	41	33	25	23	2.0	2899386
Available Zinc (Zn)	mg/kg	38	33	11	14	5.0	2899386

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Analytics International Corporation o/a Maxxam Analytics 49-55 Elizabeth Ave, Suite 101A, St.John's, NL, Canada A1A 1W9 Tel: 709-754-0203 Toll Free: 888-492-7227 Fax:709-754-8612 www.maxxam.ca

Maxxam Job #: B298184
Report Date: 2012/07/09

AMEC Environment & Infrastructure
Client Project #: TF1243033
Site Location: WABUSH3

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Maxxam ID		NZ4812	NZ4813	NZ4814	NZ4815		
Sampling Date		2012/06/26	2012/06/26	2012/06/26	2012/06/26		
	Units	**WABUSH3-DUP01**	**WABUSH3-DUP02**	**WABUSH3-DUP03**	**WABUSH3-DUP04**	**RDL**	**QC Batch**
Metals							
Available Aluminum (Al)	mg/kg	19000	13000	15000	6200	10	2900384
Available Antimony (Sb)	mg/kg	<2.0	<2.0	<2.0	<2.0	2.0	2900384
Available Arsenic (As)	mg/kg	2.5	2.6	2.1	<2.0	2.0	2900384
Available Barium (Ba)	mg/kg	57	40	33	28	5.0	2900384
Available Beryllium (Be)	mg/kg	<2.0	<2.0	<2.0	<2.0	2.0	2900384
Available Bismuth (Bi)	mg/kg	<2.0	<2.0	<2.0	<2.0	2.0	2900384
Available Boron (B)	mg/kg	<5.0	<5.0	<5.0	<5.0	5.0	2900384
Available Cadmium (Cd)	mg/kg	<0.30	<0.30	<0.30	<0.30	0.30	2900384
Available Chromium (Cr)	mg/kg	69	52	59	29	2.0	2900384
Available Cobalt (Co)	mg/kg	10	6.7	6.4	3.0	1.0	2900384
Available Copper (Cu)	mg/kg	18	8.1	7.6	3.3	2.0	2900384
Available Iron (Fe)	mg/kg	45000	47000	44000	27000	50	2900384
Available Lead (Pb)	mg/kg	7.5	9.2	7.7	8.1	0.50	2900384
Available Lithium (Li)	mg/kg	10	6.2	6.4	<2.0	2.0	2900384
Available Manganese (Mn)	mg/kg	510	610	430	270	2.0	2900384
Available Mercury (Hg)	mg/kg	<0.10	<0.10	<0.10	<0.10	0.10	2900384
Available Molybdenum (Mo)	mg/kg	<2.0	<2.0	<2.0	<2.0	2.0	2900384
Available Nickel (Ni)	mg/kg	28	16	22	6.5	2.0	2900384
Available Rubidium (Rb)	mg/kg	29	17	14	9.2	2.0	2900384
Available Selenium (Se)	mg/kg	<2.0	<2.0	<2.0	<2.0	2.0	2900384
Available Silver (Ag)	mg/kg	<0.50	<0.50	<0.50	<0.50	0.50	2900384
Available Strontium (Sr)	mg/kg	14	9.8	9.4	7.5	5.0	2900384
Available Thallium (Tl)	mg/kg	0.25	0.14	0.17	0.12	0.10	2900384
Available Tin (Sn)	mg/kg	<2.0	<2.0	<2.0	<2.0	2.0	2900384
Available Uranium (U)	mg/kg	0.68	0.50	0.66	0.66	0.10	2900384
Available Vanadium (V)	mg/kg	35	38	52	28	2.0	2900384
Available Zinc (Zn)	mg/kg	50	31	31	9.8	5.0	2900384

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Analytics International Corporation o/a Maxxam Analytics 49-55 Elizabeth Ave, Suite 101A, St.John's, NL, Canada A1A 1W9 Tel: 709-754-0203 Toll Free: 888-492-7227 Fax:709-754-8612 www.maxxam.ca

Maxxam Job #: B298184
Report Date: 2012/07/09

AMEC Environment & Infrastructure
Client Project #: TF1243033
Site Location: WABUSH3

QUALITY ASSURANCE REPORT

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
2898196	Available Antimony (Sb)	2012/07/06	94	75 - 125	112	75 - 125	<2.0	mg/kg	NC	35
2898196	Available Arsenic (As)	2012/07/06	98	75 - 125	99	75 - 125	<2.0	mg/kg	NC	35
2898196	Available Barium (Ba)	2012/07/06	NC	75 - 125	93	75 - 125	<5.0	mg/kg	1.1	35
2898196	Available Beryllium (Be)	2012/07/06	98	75 - 125	93	75 - 125	<2.0	mg/kg	NC	35
2898196	Available Bismuth (Bi)	2012/07/06	106	75 - 125	102	75 - 125	<2.0	mg/kg	NC	35
2898196	Available Boron (B)	2012/07/06	96	75 - 125	98	75 - 125	<5.0	mg/kg	NC	35
2898196	Available Cadmium (Cd)	2012/07/06	96	75 - 125	97	75 - 125	<0.30	mg/kg	NC	35
2898196	Available Chromium (Cr)	2012/07/06	103	75 - 125	99	75 - 125	<2.0	mg/kg	9.0	35
2898196	Available Cobalt (Co)	2012/07/06	102	75 - 125	99	75 - 125	<1.0	mg/kg	NC	35
2898196	Available Copper (Cu)	2012/07/06	103	75 - 125	98	75 - 125	<2.0	mg/kg	NC	35
2898196	Available Lead (Pb)	2012/07/06	99	75 - 125	99	75 - 125	<0.50	mg/kg	8.6	35
2898196	Available Lithium (Li)	2012/07/06	103	75 - 125	98	75 - 125	<2.0	mg/kg	NC	35
2898196	Available Manganese (Mn)	2012/07/06	NC	75 - 125	97	75 - 125	<2.0	mg/kg	19.2	35
2898196	Available Mercury (Hg)	2012/07/06	99	75 - 125	101	75 - 125	<0.10	mg/kg	NC	35
2898196	Available Molybdenum (Mo)	2012/07/06	99	75 - 125	107	75 - 125	<2.0	mg/kg	NC	35
2898196	Available Nickel (Ni)	2012/07/06	100	75 - 125	98	75 - 125	<2.0	mg/kg	NC	35
2898196	Available Rubidium (Rb)	2012/07/06	97	75 - 125	95	75 - 125	<2.0	mg/kg	7.7	35
2898196	Available Selenium (Se)	2012/07/06	97	75 - 125	100	75 - 125	<2.0	mg/kg	NC	35
2898196	Available Silver (Ag)	2012/07/06	96	75 - 125	107	75 - 125	<0.50	mg/kg	NC	35
2898196	Available Strontium (Sr)	2012/07/06	103	75 - 125	97	75 - 125	<5.0	mg/kg	NC	35
2898196	Available Thallium (Tl)	2012/07/06	103	75 - 125	102	75 - 125	<0.10	mg/kg	NC	35
2898196	Available Tin (Sn)	2012/07/06	99	75 - 125	105	75 - 125	<2.0	mg/kg	NC	35
2898196	Available Uranium (U)	2012/07/06	109	75 - 125	105	75 - 125	<0.10	mg/kg	NC	35
2898196	Available Vanadium (V)	2012/07/06	NC	75 - 125	98	75 - 125	<2.0	mg/kg	3.9	35
2898196	Available Zinc (Zn)	2012/07/06	103	75 - 125	101	75 - 125	<5.0	mg/kg	NC	35
2898196	Available Aluminum (Al)	2012/07/06					<10	mg/kg	1.6	35
2898196	Available Iron (Fe)	2012/07/06					<50	mg/kg	1.6	35
2899378	Available Antimony (Sb)	2012/07/05	95	75 - 125	116	75 - 125	<2.0	mg/kg	NC	35
2899378	Available Arsenic (As)	2012/07/05	102	75 - 125	102	75 - 125	<2.0	mg/kg	NC	35
2899378	Available Barium (Ba)	2012/07/05	94	75 - 125	90	75 - 125	<5.0	mg/kg	NC	35
2899378	Available Beryllium (Be)	2012/07/05	98	75 - 125	98	75 - 125	<2.0	mg/kg	NC	35
2899378	Available Bismuth (Bi)	2012/07/05	108	75 - 125	104	75 - 125	<2.0	mg/kg	NC	35
2899378	Available Boron (B)	2012/07/05	96	75 - 125	100	75 - 125	<5.0	mg/kg	NC	35
2899378	Available Cadmium (Cd)	2012/07/05	91	75 - 125	90	75 - 125	<0.30	mg/kg	NC	35
2899378	Available Chromium (Cr)	2012/07/05	97	75 - 125	99	75 - 125	<2.0	mg/kg	NC	35
2899378	Available Cobalt (Co)	2012/07/05	98	75 - 125	97	75 - 125	<1.0	mg/kg	5.5	35
2899378	Available Copper (Cu)	2012/07/05	96	75 - 125	97	75 - 125	<2.0	mg/kg	7.0	35
2899378	Available Lead (Pb)	2012/07/05	105	75 - 125	96	75 - 125	<0.50	mg/kg	15.1	35
2899378	Available Lithium (Li)	2012/07/05	NC	75 - 125	103	75 - 125	<2.0	mg/kg	4.0	35
2899378	Available Manganese (Mn)	2012/07/05	NC	75 - 125	97	75 - 125	<2.0	mg/kg	2.8	35

Maxxam Analytics International Corporation o/a Maxxam Analytics 49-55 Elizabeth Ave, Suite 101A, St.John's, NL, Canada A1A 1W9 Tel: 709-754-0203 Toll Free: 888-492-7227 Fax:709-754-8612 www.maxxam.ca

Maxxam Job #: B298184
Report Date: 2012/07/09

AMEC Environment & Infrastructure
Client Project #: TF1243033
Site Location: WABUSH3

QUALITY ASSURANCE REPORT

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
2899378	Available Mercury (Hg)	2012/07/05	98	75 - 125	100	75 - 125	<0.10	mg/kg	NC	35
2899378	Available Molybdenum (Mo)	2012/07/05	96	75 - 125	111	75 - 125	<2.0	mg/kg	NC	35
2899378	Available Nickel (Ni)	2012/07/05	94	75 - 125	95	75 - 125	<2.0	mg/kg	NC	35
2899378	Available Rubidium (Rb)	2012/07/05	95	75 - 125	95	75 - 125	<2.0	mg/kg	NC	35
2899378	Available Selenium (Se)	2012/07/05	102	75 - 125	104	75 - 125	<2.0	mg/kg	NC	35
2899378	Available Silver (Ag)	2012/07/05	96	75 - 125	108	75 - 125	<0.50	mg/kg	NC	35
2899378	Available Strontium (Sr)	2012/07/05	111	75 - 125	97	75 - 125	<5.0	mg/kg	NC	35
2899378	Available Thallium (Tl)	2012/07/05	104	75 - 125	103	75 - 125	<0.10	mg/kg	NC	35
2899378	Available Tin (Sn)	2012/07/05	88	75 - 125	108	75 - 125	<2.0	mg/kg	NC	35
2899378	Available Uranium (U)	2012/07/05	114	75 - 125	96	75 - 125	<0.10	mg/kg	NC	35
2899378	Available Vanadium (V)	2012/07/05	102	75 - 125	99	75 - 125	<2.0	mg/kg	6.8	35
2899378	Available Zinc (Zn)	2012/07/05	NC	75 - 125	101	75 - 125	<5.0	mg/kg	7.6	35
2899378	Available Aluminum (Al)	2012/07/05					<10	mg/kg	6.4	35
2899378	Available Iron (Fe)	2012/07/05					<50	mg/kg	20.5	35
2899386	Available Antimony (Sb)	2012/07/05	84	75 - 125	110	75 - 125	<2.0	mg/kg	NC	35
2899386	Available Arsenic (As)	2012/07/05	98	75 - 125	103	75 - 125	<2.0	mg/kg	NC	35
2899386	Available Barium (Ba)	2012/07/05	NC	75 - 125	93	75 - 125	<5.0	mg/kg	2.6	35
2899386	Available Beryllium (Be)	2012/07/05	101	75 - 125	101	75 - 125	<2.0	mg/kg	NC	35
2899386	Available Bismuth (Bi)	2012/07/05	106	75 - 125	105	75 - 125	<2.0	mg/kg	NC	35
2899386	Available Boron (B)	2012/07/05	98	75 - 125	103	75 - 125	<5.0	mg/kg	NC	35
2899386	Available Cadmium (Cd)	2012/07/05	89	75 - 125	91	75 - 125	<0.30	mg/kg	NC	35
2899386	Available Chromium (Cr)	2012/07/05	NC	75 - 125	100	75 - 125	<2.0	mg/kg	0.6	35
2899386	Available Cobalt (Co)	2012/07/05	97	75 - 125	98	75 - 125	<1.0	mg/kg	5.0	35
2899386	Available Copper (Cu)	2012/07/05	95	75 - 125	96	75 - 125	<2.0	mg/kg	10	35
2899386	Available Lead (Pb)	2012/07/05	95	75 - 125	97	75 - 125	<0.50	mg/kg	8.5	35
2899386	Available Lithium (Li)	2012/07/05	103	75 - 125	102	75 - 125	<2.0	mg/kg	NC	35
2899386	Available Manganese (Mn)	2012/07/05	NC	75 - 125	99	75 - 125	<2.0	mg/kg	37.7 (1, 2)	35
2899386	Available Mercury (Hg)	2012/07/05	96	75 - 125	102	75 - 125	<0.10	mg/kg	NC	35
2899386	Available Molybdenum (Mo)	2012/07/05	100	75 - 125	106	75 - 125	<2.0	mg/kg	NC	35
2899386	Available Nickel (Ni)	2012/07/05	94	75 - 125	96	75 - 125	<2.0	mg/kg	1.6	35
2899386	Available Rubidium (Rb)	2012/07/05	95	75 - 125	95	75 - 125	<2.0	mg/kg	2.1	35
2899386	Available Selenium (Se)	2012/07/05	97	75 - 125	103	75 - 125	<2.0	mg/kg	NC	35
2899386	Available Silver (Ag)	2012/07/05	92	75 - 125	105	75 - 125	<0.50	mg/kg	NC	35
2899386	Available Strontium (Sr)	2012/07/05	98	75 - 125	99	75 - 125	<5.0	mg/kg	NC	35
2899386	Available Thallium (Tl)	2012/07/05	104	75 - 125	104	75 - 125	<0.10	mg/kg	NC	35
2899386	Available Tin (Sn)	2012/07/05	91	75 - 125	103	75 - 125	<2.0	mg/kg	NC	35
2899386	Available Uranium (U)	2012/07/05	111	75 - 125	107	75 - 125	<0.10	mg/kg	12.6	35
2899386	Available Vanadium (V)	2012/07/05	NC	75 - 125	99	75 - 125	<2.0	mg/kg	6.1	35
2899386	Available Zinc (Zn)	2012/07/05	NC	75 - 125	101	75 - 125	<5.0	mg/kg	1.1	35
2899386	Available Aluminum (Al)	2012/07/05					<10	mg/kg	0.9	35

Maxxam Job #: B298184
Report Date: 2012/07/09

AMEC Environment & Infrastructure
Client Project #: TF1243033
Site Location: WABUSH3

QUALITY ASSURANCE REPORT

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
2899386	Available Iron (Fe)	2012/07/05					<50	mg/kg	10.0	35
2900384	Available Antimony (Sb)	2012/07/07	103	75 - 125	105	75 - 125	<2.0	mg/kg	NC	35
2900384	Available Arsenic (As)	2012/07/07	98	75 - 125	100	75 - 125	<2.0	mg/kg	NC	35
2900384	Available Barium (Ba)	2012/07/07	NC	75 - 125	97	75 - 125	<5.0	mg/kg	3.7	35
2900384	Available Beryllium (Be)	2012/07/07	98	75 - 125	95	75 - 125	<2.0	mg/kg	NC	35
2900384	Available Bismuth (Bi)	2012/07/07	102	75 - 125	101	75 - 125	<2.0	mg/kg	NC	35
2900384	Available Boron (B)	2012/07/07	98	75 - 125	102	75 - 125	<5.0	mg/kg	NC	35
2900384	Available Cadmium (Cd)	2012/07/07	95	75 - 125	95	75 - 125	<0.30	mg/kg	NC	35
2900384	Available Chromium (Cr)	2012/07/07	101	75 - 125	100	75 - 125	<2.0	mg/kg	4.0	35
2900384	Available Cobalt (Co)	2012/07/07	99	75 - 125	99	75 - 125	<1.0	mg/kg	2.7	35
2900384	Available Copper (Cu)	2012/07/07	NC	75 - 125	98	75 - 125	<2.0	mg/kg	25.7	35
2900384	Available Lead (Pb)	2012/07/07	100	75 - 125	96	75 - 125	<0.50	mg/kg	9.8	35
2900384	Available Lithium (Li)	2012/07/07	NC	75 - 125	104	75 - 125	<2.0	mg/kg	1.8	35
2900384	Available Manganese (Mn)	2012/07/07	NC	75 - 125	104	75 - 125	<2.0	mg/kg	2.3	35
2900384	Available Mercury (Hg)	2012/07/07	97	75 - 125	102	75 - 125	<0.10	mg/kg	NC	35
2900384	Available Molybdenum (Mo)	2012/07/07	105	75 - 125	105	75 - 125	<2.0	mg/kg	NC	35
2900384	Available Nickel (Ni)	2012/07/07	99	75 - 125	100	75 - 125	<2.0	mg/kg	0.4	35
2900384	Available Rubidium (Rb)	2012/07/07	97	75 - 125	98	75 - 125	<2.0	mg/kg	3.9	35
2900384	Available Selenium (Se)	2012/07/07	101	75 - 125	101	75 - 125	<2.0	mg/kg	NC	35
2900384	Available Silver (Ag)	2012/07/07	101	75 - 125	99	75 - 125	<0.50	mg/kg	NC	35
2900384	Available Strontium (Sr)	2012/07/07	92	75 - 125	101	75 - 125	<5.0	mg/kg	NC	35
2900384	Available Thallium (Tl)	2012/07/07	102	75 - 125	101	75 - 125	<0.10	mg/kg	NC	35
2900384	Available Tin (Sn)	2012/07/07	107	75 - 125	103	75 - 125	<2.0	mg/kg	NC	35
2900384	Available Uranium (U)	2012/07/07	99	75 - 125	98	75 - 125	<0.10	mg/kg	5.7	35
2900384	Available Vanadium (V)	2012/07/07	94	75 - 125	98	75 - 125	<2.0	mg/kg	7.1	35
2900384	Available Zinc (Zn)	2012/07/07	NC	75 - 125	94	75 - 125	<5.0	mg/kg	0.3	35
2900384	Available Aluminum (Al)	2012/07/07					<10	mg/kg	1.1	35
2900384	Available Iron (Fe)	2012/07/07					<50	mg/kg	3.1	35

N/A = Not Applicable
RPD = Relative Percent Difference
Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was not sufficiently significant to permit a reliable recovery calculation.
NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.
(1) - Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.
(2) - Violation is not applicable.

Maxxam Analytics International Corporation o/a Maxxam Analytics 49-55 Elizabeth Ave, Suite 101A, St.John's, NL, Canada A1A 1W9 Tel: 709-754-0203 Toll Free: 888-492-7227 Fax:709-754-8612 www.maxxam.ca

Validation Signature Page

Maxxam Job #: B298184

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

Mike Macgillivray, Scientific Specialist (Inorganics)

==========

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

Maxxam Analytics International Corporation o/a Maxxam Analytics 49-55 Elizabeth Ave, Suite 101A, St.John's, NL, Canada A1A 1W9 Tel: 709-754-0203 Toll Free: 888-492-7227 Fax:709-754-8612 www.maxxam.ca

Maxxam Analytics International Corporation

200 Bluewater Road, Suite 105, Bedford, Nova Scotia B4B 1G9 Tel: 902-420-0203 Fax: 902-420-8612 Toll Free: 1-800-565-7227
49 Elizabeth Ave., St John's, NL A1A 1W9 Tel: 709-754-0203 Fax: 709-754-8612 Toll Free: 1-888-492-7227
90 Esplanade Sydney, NS B1P 1A1 Tel: 902-567-1255 Fax: 902-539-6504 Toll Free: 1-888-535-7770
www.maxxamanalytics.com E-mail: Clientservicesbedford@maxxamanalytics.com

MAXXAM Chain of Custody Record

COC #: B 088269 Page 1 of 3

This column for lab use only:

Client Code 10970

Maxxam Job # B248184

Cooler ID	Seal Present	Seal Intact	Temp 1	Temp 2	Temp 3	Average Temp
			4.0	5.5	6.1	

Integrity: YES NO

Integrity / Checklist by:

Labelled by:

Location / Bin #:

INVOICE INFORMATION:

Company Name: AMEC

Contact Name: Gary, Warren

Address: 133 Crosbie Rd.

Postal Code:

Email: gary.warren@amec.com

Ph: 722 7023 Fax: 722 7353

REPORT INFORMATION (if differs from invoice):

Company Name:

Contact Name:

Address:

Postal Code:

Email:

Ph: Fax:

PO #:

Project # / Phase #: TF1243033

Project Name / Site Location: WABUSH 3

Quote:

Site #:

Task Order #:

Sampled by: SD / CT

TURNAROUND TIME

Standard ☒

10 day ☐

If RUSH Specify Date:

Pre-schedule rush work

Charge for # Jars used but not submitted

Guideline Requirements / Detection Limits / Special Instructions

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

Field Sample Identification	Matrix*	Date/Time Sampled	# & type of bottles	Field Filtered & Preserved	Lab Filtration Required	RCAP-30 Choose Total or Diss Metals	RCAP-MS Choose Total or Diss Metals	Metals Water: Total Digest (Default Method) for well water, surface water	Metals Water: Dissolved for ground water	Metals Water: Mercury	Metals Soil: Metals & Mercury Default Available Digest Method	Metals Soil: Metals Total Digest - for Ocean sediments (HNO3/HF/HCLO4)	Metals Soil: Mercury Low level by Cold Vapour AA	Metals Soil: Selenium (low level) Req'd for COME Residential, Parklands, Agricultural	Metals Soil: Hot Water soluble Boron (required for COME Agricultural)	Hydrocarbons: RBCA Hydrocarbons (BTEX, C6-C32)	Hydrocarbons: Hydrocarbons Soil (Potable), NS Fuel Oil Spill Policy Low Level BTEX, C6-C32	Hydrocarbons: NB Potable Water BTEX, VPH, Low level T.E.H.	Hydrocarbons: TPH Fractionation	Hydrocarbons: PAH's	Hydrocarbons: PAH's with Acridine, Quinoline
1 WABUSH3-SS1	Soil	Jun 25	1x250					WAS			✓									
2 WABUSH3-SS2											✓									
3 WABUSH3-SS3											✓									
4 WABUSH3-SS4											✓									
5 WABUSH3-SS5											✓									
6 WABUSH3-SS6											✓									
7 WABUSH3-SS7											✓									
8 WABUSH3-SS8											✓									
9 WABUSH3-SS9											✓									
10 WABUSH3-SS10		Jun 26									✓									

TPH Must Done in NL

RELINQUISHED BY: (Signature/Print) Date: Jun 29/12 Time:

RECEIVED BY: (Signature/Print) Date: Time: 4.0, 5.5, 6.1 2012/06/29 8:20

White: Maxxam Yellow : Mail Pink: Client

ATL FCD 00149 / Revision 10

Page 12 of 14

Maxxam Analytics International Corporation
200 Bluewater Road, Suite 105, Bedford, Nova Scotia B4B 1G9 Tel: 902-420-0203 Fax: 902-420-8612 Toll Free: 1-800-565-7227
49 Elizabeth Ave., St John's, NL A1A 1W9 Tel: 709-754-0203 Fax: 709-754-8612 Toll Free: 1-888-492-7227
90 Esplanade Sydney, NS B1P 1A1 Tel: 902-567-1255 Fax: 902-539-6504 Toll Free: 1-888-535-7770
www.maxxamanalytics.com E-mail: Clientservicesbedford@maxxamanalytics.com

MAXXAM Chain of Custody Record

COC #: B 088270 Page 2 of 3

This column for lab use only:
Client Code
Maxxam Job #

Cooler ID	Seal Present	Seal Intact	Temp 1	Temp 2	Temp 3	Average Temp
			4.0	5.3	6.1	

Integrity: YES NO
Integrity / Checklist by
Labelled by
Location / Bin #

INVOICE INFORMATION:
Company Name: AMEC
Contact Name: Gary Warren
Address: 133 Crosbie Rd
Postal Code
Email: gary.warren@amec.com
Ph: 722 7023 Fax: 722-7353

REPORT INFORMATION (if differs from invoice):
Company Name:
Contact Name:
Address:
Postal Code
Email:
Ph: Fax:

PO #
Project # / Phase # TF123033
Project Name / Site Location WABUSH3
Quote
Site #
Task Order #
Sampled by SD/CT

TURNAROUND TIME
Standard ☒
10 day ☐
If RUSH Specify Date:
Pre-schedule rush work
Charge for # Jars used but not submitted

Guideline Requirements / Detection Limits / Special Instructions

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

Field Sample Identification	Matrix*	Date/Time Sampled	# & type of bottles	Field Filtered & Preserved	Lab Filtration Required	RCAP-30 Choose Total or Diss Metals	RCAP-MS Choose Total or Diss Metals	Metals Water: Total Digest (Default Method) for well water, surface water	Metals Water: Dissolved for ground water	Metals Water: Mercury	Metals Soil: Metals & Mercury Default Available Digest Method	Metals Soil: Metals Total Digest - for Ocean sediments (HNO3/HF/HCLO4)	Metals Soil: Mercury Low level by Cold Vapour AA	Metals Soil: Selenium (low level) Req'd for CCME Residential, Parklands, Agricultural	Metals Soil: Hot Water soluble Boron (required for CCME Agricultural)	Hydrocarbons: RBCA Hydrocarbons (BTEX, C6-C32)	Hydrocarbons: Hydrocarbons Soil (Potable), NS Fuel Oil Soil Policy Low Level BTEX, C6-C32	Hydrocarbons: NB Potable Water BTEX, VPH, Low level T.E.H.	Hydrocarbons: TPH Fractionation	Hydrocarbons: PAH's	Hydrocarbons: PAH's with Acridine, Quinoline
1 WABUSH3-5511	Soil	Jun26/12	1x250								✓										
2 WABUSH3-5512		"	"								✓										
3 WABUSH3-5513		"	"								✓										
4 WABUSH3-5514		"	"								✓										
5 WABUSH3-5515		Jun26/12	2x250ml								✓					✓					
6 WABUSH3-5516		"	"								✓					✓					
7 WABUSH3-5517		Jun27	"								✓					✓					
8 WABUSH3-5518		Jun26/12	1x250								✓										
9 WABUSH3-5519		Jun26/12	"								✓										
10 WABUSH3-5520	▽	Jun27/12	2x250ml								✓					✓					

TPH Must Done in NL

RELINQUISHED BY: (Signature/Print)	Date	Time	RECEIVED BY: (Signature/Print)	Date	Time
	Jun29/12				4:05:61
				2012/06/29	2:20 pm

White: Maxxam Yellow : Mail Pink: Client

ATL FCD 00149 / Revision 10

Maxxam Analytics International Corporation

200 Bluewater Road, Suite 105, Bedford, Nova Scotia B4B 1G9 Tel: 902-420-0203 Fax: 902-420-8612 Toll Free: 1-800-565-7227
49 Elizabeth Ave., St John's, NL A1A 1W9 Tel: 709-754-0203 Fax: 709-754-8612 Toll Free: 1-888-492-7227
90 Esplanade Sydney, NS B1P 1A1 Tel: 902-567-1255 Fax: 902-539-6504 Toll Free: 1-888-535-7770
www.maxxamanalytics.com E-mail: Clientservicesbedford@maxxamanalytics.com

MAXXAM Chain of Custody Record

COC #: B 088271 Page 3 of 3

This column for lab use only

Client Code

Maxxam Job #

Cooler ID	Seal Present	Seal Intact	Temp 1	Temp 2	Temp 3	Average Temp
		4.0	5.5	6.1		

Integrity: YES NO

Integrity / Checklist by

Labelled by

Location / Bin #

INVOICE INFORMATION:

Company Name: AMEC

Contact Name: GARY WARREN

Address: 133 Crosbie Rd

Postal Code

Email: GARY.WARREN@AMEC.COM

Ph: 722-7023 Fax: 722 7353

REPORT INFORMATION (if differs from invoice):

Company Name:

Contact Name:

Address:

Postal Code

Email:

Ph: Fax:

PO #

Project # / Phase # TF1243033

Project Name / Site Location WABUSH 3

Quote

Site #

Task Order #

Sampled by SO / CT

TURNAROUND TIME

Standard ☒

10 day ☐

If RUSH Specify Date:

Pre-schedule rush work

Charge for # Jars used but not submitted

Guideline Requirements / Detection Limits / Special Instructions

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

	Field Sample Identification	Matrix*	Date/Time Sampled	# & type of bottles	Field Filtered & Preserved	Lab Filtration Required	RCAP-30 Choose Total or Diss Metals	RCAP-MS Choose Total or Diss Metals	Metals Water: Total Digest (Default Method) for well water, surface water	Metals Water: Dissolved for ground water	Metals Water: Mercury	Metals Soil: Metals & Mercury Default Available Digest Method	Metals Soil: Metals Total Digest - for Ocean sediments (HNO3/HF/HClO4)	Metals Soil: Mercury Low level by Cold Vapour AA	Metals Soil: Selenium (low level) Req'd for CCME Residential, Parklands, Agricultural	Metals Soil: Hot Water soluble Boron (required for CCME Agricultural)	Hydrocarbons: RBCA Hydrocarbons (BTEX, C6-C32)	Hydrocarbons: Hydrocarbons Soil (Potable), NS Fuel Oil Spill Policy Low Level BTEX, C6-C32	Hydrocarbons: NB Potable Water BTEX, VPH, Low level T.E.H.	Hydrocarbons: TPH Fractionation	Hydrocarbons: PAH's	Hydrocarbons: PAH's with Acridine, Quinoline
1	WABUSH3-5521	Soil	JUN 27/12	2x250					✓			✓					✓					
2	WABUSH3-5522		"	"					✓			✓					✓					
3	WABUSH3-5523		"	"					✓			✓					✓					
4	WABUSH3-5524		"	"					✓			✓					✓					
5	WABUSH3-5525		JUN 26/12	1x250					✓			✓										
6	WABUSH3-5526		"	2x250					✓			✓					✓					
7	WABUSH3-DUP01			1x250					✓			✓										
8	WABUSH3-DUP02			1x250ml					✓			✓										
9	WABUSH3-DUP03			1x250ml					✓			✓										
10	WABUSH3-DUP04			2x250ml					✓			✓					✓					

TPH Must Done in NL

RELINQUISHED BY: (Signature/Print)	Date	Time	RECEIVED BY: (Signature/Print)	Date	Time
	JUN 29/12			4.0 5.5 6.1	

White: Maxxam Yellow : Mail Pink: Client

ATL FCD 00149 / Revision 10

Your Project #: TF1243033
Site Location: WABUSH3
Your C.O.C. #: B 088270

Attention: Gary Warren
AMEC Environment & Infrastructure
St John's - Standing Offer
PO Box 13216
133 Crosbie Rd, Suite 202
St John's, NL
A1B 4A5

Report Date: 2012/07/09

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B297623
Received: 2012/06/29, 14:20

Sample Matrix: Soil
Samples Received: 10

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
TEH in Soil (PIRI) (1,2)	4	2012/07/03	2012/07/04	ATL SOP-00197	Based on Atl. PIRI
TEH in Soil (PIRI) (1,2)	3	2012/07/04	2012/07/05	ATL SOP-00197	Based on Atl. PIRI
TEH in Soil (PIRI) (1,2)	3	2012/07/05	2012/07/06	ATL SOP-00197	Based on Atl. PIRI
Moisture	10	N/A	2012/07/04	ATL SOP-00196	MOE Handbook 1983
VPH in Soil (PIRI) (1)	4	2012/07/03	2012/07/03	ATL SOP 00199	Based on Atl. PIRI
VPH in Soil (PIRI) (1)	3	2012/07/04	2012/07/04	ATL SOP 00199	Based on Atl. PIRI
VPH in Soil (PIRI) (1)	3	2012/07/05	2012/07/05	ATL SOP 00199	Based on Atl. PIRI
ModTPH (T1) Calc. for Soil	4	2012/06/29	2012/07/04		Based on Atl. PIRI
ModTPH (T1) Calc. for Soil	3	2012/06/29	2012/07/05		Based on Atl. PIRI
ModTPH (T1) Calc. for Soil	3	2012/06/29	2012/07/06		Based on Atl. PIRI

Remarks:

Reporting results to two significant figures at the RDL is to permit statistical evaluation and is not intended to be an indication of analytical precision.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
* Results relate only to the items tested.

(1) Reported on a dry weight basis.
(2) Soils are reported on a dry weight basis unless otherwise specified.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Rob Whelan, Project Manager
Email: RWhelan@maxxam.ca
Phone# (709) 754-0203

==========

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

Total cover pages: 1

Maxxam Job #: B297623
Report Date: 2012/07/09

AMEC Environment & Infrastructure
Client Project #: TF1243033
Site Location: WABUSH3
Sampler Initials: SD

RESULTS OF ANALYSES OF SOIL

Maxxam ID		NZ1625	NZ1625	NZ1626		NZ1627	NZ1628	NZ1629		
Sampling Date		2012/06/26	2012/06/26	2012/06/26		2012/06/27	2012/06/27	2012/06/27		
Received Temperature (°C)		5.2C	5.2C	5.2C		5.2C	5.2C	5.2C		
	Units	**Wabush3-SS15**	**Wabush3-SS15 Lab-Dup**	**Wabush3-SS16**	**QC Batch**	**Wabush3-SS17**	**Wabush3-SS20**	**Wabush3-SS21**	**RDL**	**QC Batch**
Inorganics										
Moisture	%	24	24	37	2896724	24	31	27	1	2897916

Maxxam ID		NZ1630	NZ1631	NZ1631	NZ1632		NZ1633	NZ1634		
Sampling Date		2012/06/27	2012/06/27	2012/06/27	2012/06/27		2012/06/26	2012/06/26		
Received Temperature (°C)		5.2C	5.2C	5.2C	5.2C		5.2C	5.2C		
	Units	**Wabush3-SS22**	**Wabush3-SS23**	**Wabush3-SS23 Lab-Dup**	**Wabush3-SS24**	**QC Batch**	**Wabush3-SS26**	**Wabush3-DUP04**	**RDL**	**QC Batch**
Inorganics										
Moisture	%	45	16	17	30	2898015	17	23	1	2896724

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Analytics International Corporation o/a Maxxam Analytics 49-55 Elizabeth Ave, Suite 101A, St.John's, NL, Canada A1A 1W9 Tel: 709-754-0203 Toll Free: 888-492-7227 Fax:709-754-8612 www.maxxam.ca

Maxxam Job #: B297623
Report Date: 2012/07/09

AMEC Environment & Infrastructure
Client Project #: TF1243033
Site Location: WABUSH3
Sampler Initials: SD

ATLANTIC RBCA HYDROCARBONS (SOIL)

Maxxam ID		NZ1625	NZ1625	NZ1626		NZ1627	NZ1628	NZ1629		
Sampling Date		2012/06/26	2012/06/26	2012/06/26		2012/06/27	2012/06/27	2012/06/27		
Received Temperature (°C)		5.2C	5.2C	5.2C		5.2C	5.2C	5.2C		
	Units	**Wabush3-SS15**	**Wabush3-SS15 Lab-Dup**	**Wabush3-SS16**	**QC Batch**	**Wabush3-SS17**	**Wabush3-SS20**	**Wabush3-SS21**	**RDL**	**QC Batch**
Petroleum Hydrocarbons										
Benzene	mg/kg	<0.025	<0.025	<0.025	2896726	<0.025	<0.025	<0.025	0.025	2898329
Toluene	mg/kg	<0.025	<0.025	<0.025	2896726	<0.025	<0.025	<0.025	0.025	2898329
Ethylbenzene	mg/kg	<0.025	<0.025	<0.025	2896726	<0.025	<0.025	<0.025	0.025	2898329
Xylene (Total)	mg/kg	<0.050	<0.050	<0.050	2896726	<0.050	<0.050	<0.050	0.050	2898329
C6 - C10 (less BTEX)	mg/kg	<2.5	<2.5	<2.5	2896726	<2.5	<2.5	<2.5	2.5	2898329
>C10-C16 Hydrocarbons	mg/kg	<10	<10	<10	2896730	<10	<10	<10	10	2898335
>C16-C21 Hydrocarbons	mg/kg	<10	<10	<10	2896730	<10	<10	<10	10	2898335
>C21-<C32 Hydrocarbons	mg/kg	<15	<15	36	2896730	22	<15	120	15	2898335
Modified TPH (Tier1)	mg/kg	<15		36	2895018	22	<15	120	15	2895018
Reached Baseline at C32	mg/kg	YES	YES	NO	2896730	NO	YES	NO	N/A	2898335
Hydrocarbon Resemblance	mg/kg			SEECOMMENT(1)	2896730	SEECOMMENT(1)		SEECOMMENT(1)	N/A	2898335
Surrogate Recovery (%)										
Isobutylbenzene - Extractable	%	102	101	102	2896730	103	102	102		2898335
Isobutylbenzene - Volatile	%	90	98	106	2896726	113	111	106		2898329
n-Dotriacontane - Extractable	%	99	96	101	2896730	97	96	101		2898335

N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) - No resemblance to petroleum products in lube oil range.

Maxxam Analytics International Corporation o/a Maxxam Analytics 49-55 Elizabeth Ave, Suite 101A, St.John's, NL, Canada A1A 1W9 Tel: 709-754-0203 Toll Free: 888-492-7227 Fax:709-754-8612 www.maxxam.ca

Maxxam Job #: B297623
Report Date: 2012/07/09

AMEC Environment & Infrastructure
Client Project #: TF1243033
Site Location: WABUSH3
Sampler Initials: SD

ATLANTIC RBCA HYDROCARBONS (SOIL)

Maxxam ID		NZ1630	NZ1631	NZ1631	NZ1632		NZ1633	NZ1634		
Sampling Date		2012/06/27	2012/06/27	2012/06/27	2012/06/27		2012/06/26	2012/06/26		
Received Temperature (°C)		5.2C	5.2C	5.2C	5.2C		5.2C	5.2C		
	Units	**Wabush3-SS22**	**Wabush3-SS23**	**Wabush3-SS23 Lab-Dup**	**Wabush3-SS24**	**QC Batch**	**Wabush3-SS26**	**Wabush3-DUP04**	**RDL**	**QC Batch**
Petroleum Hydrocarbons										
Benzene	mg/kg	<0.025	<0.025	<0.025	<0.025	2899128	<0.025	<0.025	0.025	2896726
Toluene	mg/kg	<0.025	<0.025	<0.025	<0.025	2899128	<0.025	<0.025	0.025	2896726
Ethylbenzene	mg/kg	<0.025	<0.025	<0.025	<0.025	2899128	<0.025	<0.025	0.025	2896726
Xylene (Total)	mg/kg	<0.050	<0.050	<0.050	<0.050	2899128	<0.050	<0.050	0.050	2896726
C6 - C10 (less BTEX)	mg/kg	<2.5	<2.5	<2.5	<2.5	2899128	<2.5	<2.5	2.5	2896726
>C10-C16 Hydrocarbons	mg/kg	<10	<10	<10	<10	2899130	<10	<10	10	2896730
>C16-C21 Hydrocarbons	mg/kg	<10	<10	<10	<10	2899130	<10	<10	10	2896730
>C21-<C32 Hydrocarbons	mg/kg	60	<15	<15	46	2899130	24	64	15	2896730
Modified TPH (Tier1)	mg/kg	60	<15		46	2895018	24	64	15	2895018
Reached Baseline at C32	mg/kg	NO	YES	YES	NO	2899130	NO	NO	N/A	2896730
Hydrocarbon Resemblance	mg/kg	SEECOMMENT(1)			SEECOMMENT(1)	2899130	SEECOMMENT(1)	SEECOMMENT(1)	N/A	2896730
Surrogate Recovery (%)										
Isobutylbenzene - Extractable	%	96	98	100	98	2899130	101	102		2896730
Isobutylbenzene - Volatile	%	107	101	93	98	2899128	98	90		2896726
n-Dotriacontane - Extractable	%	97	95	96	103	2899130	100	100		2896730

N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) - No resemblance to petroleum products in lube oil range.

Maxxam Analytics International Corporation o/a Maxxam Analytics 49-55 Elizabeth Ave, Suite 101A, St.John's, NL, Canada A1A 1W9 Tel: 709-754-0203 Toll Free: 888-492-7227 Fax:709-754-8612 www.maxxam.ca

Maxxam Job #: B297623
Report Date: 2012/07/09

AMEC Environment & Infrastructure
Client Project #: TF1243033
Site Location: WABUSH3
Sampler Initials: SD

QUALITY ASSURANCE REPORT

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
2896724	Moisture	2012/07/04							0	25
2896726	Isobutylbenzene - Volatile	2012/07/03			95	60 - 140	104	%		
2896726	Benzene	2012/07/03			81	60 - 140	<0.025	mg/kg	NC	50
2896726	Toluene	2012/07/03			89	60 - 140	<0.025	mg/kg	NC	50
2896726	Ethylbenzene	2012/07/03			90	60 - 140	<0.025	mg/kg	NC	50
2896726	Xylene (Total)	2012/07/03			93	60 - 140	<0.050	mg/kg	NC	50
2896726	C6 - C10 (less BTEX)	2012/07/03					<2.5	mg/kg	NC	50
2896730	Isobutylbenzene - Extractable	2012/07/04	97	30 - 130	102	30 - 130	100	%		
2896730	n-Dotriacontane - Extractable	2012/07/04	105	30 - 130	119	30 - 130	108	%		
2896730	>C10-C16 Hydrocarbons	2012/07/04	90	30 - 130	91	30 - 130	<10	mg/kg	NC	50
2896730	>C16-C21 Hydrocarbons	2012/07/04	93	30 - 130	98	30 - 130	<10	mg/kg	NC	50
2896730	>C21-<C32 Hydrocarbons	2012/07/04	99	30 - 130	101	30 - 130	<15	mg/kg	NC	50
2897916	Moisture	2012/07/04							3.9	25
2898015	Moisture	2012/07/04							4.3	25
2898329	Isobutylbenzene - Volatile	2012/07/04			103	60 - 140	98	%		
2898329	Benzene	2012/07/04			80	60 - 140	<0.025	mg/kg	NC	50
2898329	Toluene	2012/07/04			98	60 - 140	<0.025	mg/kg	NC	50
2898329	Ethylbenzene	2012/07/04			97	60 - 140	<0.025	mg/kg	NC	50
2898329	Xylene (Total)	2012/07/04			101	60 - 140	<0.050	mg/kg	NC	50
2898329	C6 - C10 (less BTEX)	2012/07/04					<2.5	mg/kg	NC	50
2898335	Isobutylbenzene - Extractable	2012/07/05	106	30 - 130	102	30 - 130	101	%		
2898335	n-Dotriacontane - Extractable	2012/07/05	118	30 - 130	111	30 - 130	99	%		
2898335	>C10-C16 Hydrocarbons	2012/07/05	NC	30 - 130	90	30 - 130	<10	mg/kg	0.3	50
2898335	>C16-C21 Hydrocarbons	2012/07/05	101	30 - 130	95	30 - 130	<10	mg/kg	3.6	50
2898335	>C21-<C32 Hydrocarbons	2012/07/05	105	30 - 130	94	30 - 130	<15	mg/kg	1.7	50
2899128	Isobutylbenzene - Volatile	2012/07/05			92	60 - 140	90	%		
2899128	Benzene	2012/07/05			84	60 - 140	<0.025	mg/kg	NC	50
2899128	Toluene	2012/07/05			93	60 - 140	<0.025	mg/kg	NC	50
2899128	Ethylbenzene	2012/07/05			93	60 - 140	<0.025	mg/kg	NC	50
2899128	Xylene (Total)	2012/07/05			95	60 - 140	<0.050	mg/kg	NC	50
2899128	C6 - C10 (less BTEX)	2012/07/05					<2.5	mg/kg	NC	50
2899130	Isobutylbenzene - Extractable	2012/07/06	88	30 - 130	103	30 - 130	100	%		
2899130	n-Dotriacontane - Extractable	2012/07/06	100	30 - 130	112	30 - 130	100	%		
2899130	>C10-C16 Hydrocarbons	2012/07/06	88	30 - 130	87	30 - 130	<10	mg/kg	NC	50

Maxxam Analytics International Corporation o/a Maxxam Analytics 49-55 Elizabeth Ave, Suite 101A, St.John's, NL, Canada A1A 1W9 Tel: 709-754-0203 Toll Free: 888-492-7227 Fax:709-754-8612 www.maxxam.ca

Maxxam Job #: B297623
Report Date: 2012/07/09

AMEC Environment & Infrastructure
Client Project #: TF1243033
Site Location: WABUSH3
Sampler Initials: SD

QUALITY ASSURANCE REPORT

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
2899130	>C16-C21 Hydrocarbons	2012/07/06	91	30 - 130	92	30 - 130	<10	mg/kg	NC	50
2899130	>C21-<C32 Hydrocarbons	2012/07/06	101	30 - 130	94	30 - 130	<15	mg/kg	NC	50

N/A = Not Applicable
RPD = Relative Percent Difference
Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.
NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was not sufficiently significant to permit a reliable recovery calculation.
NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

Maxxam Analytics International Corporation o/a Maxxam Analytics 49-55 Elizabeth Ave, Suite 101A, St.John's, NL, Canada A1A 1W9 Tel: 709-754-0203 Toll Free: 888-492-7227 Fax:709-754-8612 www.maxxam.ca

Validation Signature Page

Maxxam Job #: B297623

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

Paula Chaplin, Project Manager

==========

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

Maxxam Analytics International Corporation o/a Maxxam Analytics 49-55 Elizabeth Ave, Suite 101A, St.John's, NL, Canada A1A 1W9 Tel: 709-754-0203 Toll Free: 888-492-7227 Fax:709-754-8612 www.maxxam.ca

Maxxam Analytics International Corporation

200 Bluewater Road, Suite 105, Bedford, Nova Scotia B4B 1G9 Tel: 902-420-0203 Fax: 902-420-8612 Toll Free: 1-800-565-7227
49 Elizabeth Ave., St John's, NL A1A 1W9 Tel: 709-754-0203 Fax: 709-754-8612 Toll Free: 1-888-492-7227
90 Esplanade Sydney, NS B1P 1A1 Tel: 902-567-1255 Fax: 902-539-6504 Toll Free: 1-888-535-7770
www.maxxamanalytics.com E-mail: Clientservicesbedford@maxxamanalytics.com

MAXXAM Chain of Custody Record

COC #: B 088270 Page 2 of 3

This column for lab use only:

Client Code: 10970

Maxxam Job #: B297623

Cooler ID	Seal Present	Seal Intact	Temp 1	Temp 2	Temp 3	Average Temp
			4.0	5.5	6.1	5.2

Integrity: YES (NO) Integrity / Checklist by: PMC

Labelled by: PMC Location / Bin #:

INVOICE INFORMATION:

Company Name: AMEC
Contact Name: Gary, Warren
Address: 133 Crosbie Rd
Postal Code:
Email: gary.warren@amec.com
Ph: 722 7023 Fax: 722-7353

REPORT INFORMATION (if differs from invoice):

Company Name:
Contact Name:
Address:
Postal Code:
Email:
Ph: Fax:

PO #:
Project # / Phase #: TF1243033
Project Name / Site Location: WABUSH3
Quote:
Site #:
Task Order #:
Sampled by: SD/CT

TURNAROUND TIME

Standard ☒
10 day ☐
If RUSH Specify Date:
Pre-schedule rush work

Charge for # Jars used but not submitted: Ø

Guideline Requirements / Detection Limits / Special Instructions

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

Field Sample Identification	Matrix*	Date/Time Sampled	# & type of bottles	Field Filtered & Preserved	Lab Filtration Required	RCAP-30 Choose Total or Diss Metals	RCAP-MS Choose Total or Diss Metals	Metals Water: Total Digest (Default Method) for well water, surface water	Metals Water: Dissolved for ground water	Metals Water: Mercury	Metals Soil: Metals & Mercury Default Available Digest Method	Metals Soil: Metals Total Digest - for Ocean sediments (HNO3/HF/HCLO4)	Metals Soil: Mercury Low level by Cold Vapour AA	Metals Soil: Selenium (low level) Req'd for CCME Residential, Parklands, Agricultural	Metals Soil: Hot Water soluble Boron (required for CCME Agricultural)	Hydrocarbons: RBCA Hydrocarbons (BTEX, C6-C32)	Hydrocarbons: Soil (Potable), NS Fuel Oil Spill Policy Low Level BTEX, C6-C32	Hydrocarbons: NB Potable Water BTEX, VPH, Low level T.E.H.	Hydrocarbons: TPH Fractionation	Hydrocarbons: PAH's	Hydrocarbons: PAH's with Acridine, Quinoline
1 WABUSH3-5511	Soil	Jun26/12	1x250								✓										
2 WABUSH3-5512		"	"								✓										
3 WABUSH3-5513		"	"								✓										
4 WABUSH3-5514		"	"								✓										
5 WABUSH3-5515		Jun26/12	2x250ml								✓					✓					
6 WABUSH3-5516		"	"								✓					✓					
7 WABUSH3-5517		Jun27	"								✓					✓					
8 WABUSH3-5518		Jun26/12	1x250								✓										
9 WABUSH3-5519		Jun26/12	"								✓										
10 WABUSH3-5520	▼	Jun27/12	2x250ml								✓					✓					

RELINQUISHED BY: (Signature/Print)	Date	Time	RECEIVED BY: (Signature/Print)	Date	Time
	Jun29/12			2012/06/29	4.0, 5.5, 6.1 2:20

Maxxam Analytics International Corporation
200 Bluewater Road, Suite 105, Bedford, Nova Scotia B4B 1G9 Tel: 902-420-0203 Fax: 902-420-8612 Toll Free: 1-800-565-7227
49 Elizabeth Ave., St John's, NL A1A 1W9 Tel: 709-754-0203 Fax: 709-754-8612 Toll Free: 1-888-492-7227
90 Esplanade Sydney, NS B1P 1A1 Tel: 902-567-1255 Fax: 902-539-6504 Toll Free: 1-888-535-7770
www.maxxamanalytics.com E-mail: Clientservicesbedford@maxxamanalytics.com

MAXXAM Chain of Custody Record

COC #: B 088271 Page 3 of 3

This column for lab use only:
Client Code 10970
Maxxam Job # B297623

Cooler ID	Seal Present	Seal Intact	Temp 1	Temp 2	Temp 3	Average Temp
		4.0	5.5	6.1		5.2

Integrity: YES (NO) Integrity / Checklist by: PMC
Labelled by: PMC Location / Bin #:

INVOICE INFORMATION:
Company Name: AMEC
Contact Name: GARY WARREN
Address: 133 Crosbie Rd
Postal Code:
Email: GARY.WARREN@AMEC.COM
Ph: 722-7023 Fax: 722 7353

REPORT INFORMATION (if differs from invoice):
Company Name:
Contact Name:
Address:
Postal Code:
Email:
Ph: Fax:

PO #:
Project # / Phase #: TF1243033
Project Name / Site Location: WABUSH 3
Quote:
Site #:
Task Order #:
Sampled by: SO / CT

TURNAROUND TIME
Standard ☒
10 day ☐
If RUSH Specify Date:
Pre-schedule rush work
Charge for # Jars used but not submitted: Ø

Guideline Requirements / Detection Limits / Special Instructions

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

	Field Sample Identification	Matrix*	Date/Time Sampled	# & type of bottles	Field Filtered & Preserved	Lab Filtration Required	RCAP-30 Choose Total or Diss Metals	RCAP-MS Choose Total or Diss Metals	Metals Water: Total Digest (Default Method) for well water, surface water	Metals Water: Dissolved for ground water	Metals Water: Mercury	Metals Soil: Metals & Mercury Default Available Digest Method	Metals Soil: Metals Total Digest - for Ocean sediments (HNO3/HF/HCLO4)	Metals Soil: Mercury Low level by Cold Vapour AA	Metals Soil: Selenium (low level) Req'd for CCME Residential, Parklands, Agricultural	Metals Soil: Hot Water soluble Boron (required for CCME Agricultural)	Hydrocarbons: RBCA Hydrocarbons (BTEX, C6-C32)	Hydrocarbons: Hydrocarbons Soil (Potable), NS Fuel Oil Spill Policy Low Level BTEX, C6-C32	Hydrocarbons: NB Potable Water BTEX, VPH, Low level T.E.H.	Hydrocarbons: TPH Fractionation	Hydrocarbons: PAH's	Hydrocarbons: PAH's with Acridine, Quinoline
1	WABUSH3-5521	Soil	JUN 27/12	2x250					✓			✓					✓					
2	WABUSH3-5522		"	"					✓			✓					✓					
3	WABUSH3-5523		"	"					✓			✓					✓					
4	WABUSH3-5524		"	"					✓			✓					✓					
5	WABUSH3-5525		JUN 26/12	1x250					✓			✓										
6	WABUSH3-5526		"	2x250					✓			✓					✓					
7	WABUSH3-DUP01			1x250					✓			✓										
8	WABUSH3-DUP02			1x250ml					✓			✓										
9	WABUSH3-DUP03			1x250ml					✓			✓										
10	WABUSH3-DUP04			2x250ml					✓			✓					✓					

RELINQUISHED BY: (Signature/Print) Date: JUN 29/12 Time:
RECEIVED BY: (Signature/Print) Date: 2012/6/29 Time: 4.0, 5.5, 6.1 2:40

APPENDIX E

Report Limitations

LIMITATIONS

1. The work performed in this report was carried out in accordance with the Standard Terms of Conditions made as part of our contract. The conclusions presented herein are based solely upon the scope of services and time and budgetary limitations described in our contract.

2. The report has been prepared in accordance with generally accepted environmental study and/or engineering practices. No other warranties, either expressed or implied, are made as to the professional services provided under the terms of our contract and included in this report.

3. The services performed and outlined in this report were based, in part, upon visual observations of the site and attendant structures. Our opinion cannot be extended to portions of the site which are unavailable for direct observation reasonably beyond the control of AMEC Environment & Infrastructure.

4. The objective of this report was to assess the environmental conditions at the site, given the context of our contract, with respect to existing environmental regulations within the applicable jurisdiction. Compliance of past owners with applicable local, provincial and federal government laws and regulations was not included in our contract for services.

5. The site history research performed herein relies on information supplied by others, such as local, provincial and federal agencies. No attempt has been made to independently verify the accuracy of such information, unless specifically noted in our report.

6. Our visual observations relating to potential contaminant materials in the environment at the site are described in this report. Testing of soil samples included field screening and analytical testing for specific parameters referred to in the report. It should be noted that other compounds or material may be present in the site environment.

7. The conclusions of this report are based in part, on the information provided by others. The possibility remains that unexpected environmental conditions may be encountered at the site in locations not specifically investigated. Should such an event occur, AMEC Environment & Infrastructure must be notified in order that we may determine if modifications to our conclusions are necessary.

8. This report was prepared specifically for the Client (Iron Ore Company of Canada). Any other use which a third party makes of this report, or any reliance on or decisions to be made based on it are the responsibility of such third parties. AMEC Environment & Infrastructure accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions taken based on this report.