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August 14, 2019

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Sent via Email: derek.donald@nwb-oen.ca

Re: Water License 2AM-DOH1335 – Naartok East Crown Pillar Recovery at Madrid North – Proposed Site-Specific Geochemical Criteria for use of Non-Mineralized Waste Rock for Construction

Dear Mr. Donald,

TMAC Resources Inc (TMAC) is requesting approval from the Nunavut Water Board (NWB) to implement site-specific geochemical criteria to be used to determine the suitability of waste rock produced from Naartok East (NE) Crown Pillar Recovery (CPR), part of the Madrid North deposit, for construction.

This request is being provided to the NWB as required under the Type 'A' Water License 2AM-DOH1335, Part F, Item 12:

> *The Licensee shall submit to the Board for approval in writing, at least sixty (60) days prior to planned implementation, any changes that are contemplated to the geochemical confirmatory sampling and testing program or the criteria for using non-mineralized Waste Rock for construction including a description of and justification for the change.*

As described in Step 1 of TMAC's approved[1] 'Waste Rock for Construction Flowchart', appended to the Waste Rock, Ore and Mine Backfill Management Plan (TMAC, 2019), TMAC engaged SRK to conduct a geochemical characterization program to assess the ML/ARD potential for the NE CPR waste rock. As shown in Attachment A, the results of the site specific program, as well as an extensive review of the overall results from Madrid North, Madrid South and Boston kinetic test programs[2], indicated that although the overall risk of acid rock drainage (ARD) is low owing to high carbonate mineral content,

[1] NWB Approval, issued March 25, 2019, via letter from D. Donald. Subject: *Update to Hope Bay Project, Waste Rock, Ore and Mine Backfill Management Plan for implementation under 2AM-DOH1335, 2AMBOS1835, and 2BB-MAE1727; Type "A" Water Licence 2AM-DOH1335; Hope Bay Phase 2 Project, TMAC Resources Inc.*
[2] TMAC Resources. Boston-Madrid Project, Final Environmental Impact Statement, December 2017. Package 5, Section 7

neutral-pH metal leaching (ML) of arsenic should be considered for Madrid North waste rock management. Based on that, SRK developed site-specific geochemical criteria (ML and ARD) for the use of non-mineralized waste rock from NE CPR for construction.

The site-specific criteria developed consists of a metal leaching criterion based on arsenic and ARD classification criterion based on total sulphur. A ML criterion based on an arsenic content of 70 ppm for select rock types was recommended by SRK to define the ML risk from NE CPR waste rock. The characterization program also established the viability of using portable X-ray fluorescence (pXRF) as a practical field tool to expedite the quantification of arsenic content and total sulphur content in waste rock. The field level arsenic pXRF screening is an additional practical mitigation to minimize the risk of neutral-pH ML in waste rock that has been classified as suitable for construction under the project-wide ML/ARD criteria specified in the 'Waste Rock for Construction Flowchart' (TMAC, 2019). SRK determined that sulphur content is important to ARD classifications, where all samples having sulphur <1% classified as non-PAG.

It is on this basis that TMAC requests the NWB approve the implementation of site-specific ML/ARD geochemical criteria of "70 ppm or lower of arsenic (ML criterion) and 1% or lower of total sulphur (ARD criterion) in NE CPR waste rock" to determine the suitability of waste rock for construction. External lab submission monitoring requirements would still apply for NE CPR waste rock.

The results of the geochemical program and technical rationale for site specific ML/ARD criteria are presented in Attachment A. A site-specific flowchart with the proposed ML/ARD criteria has been developed for the NE CPR and is also included in this package (Attachment B). As per Part F, Item 12 of the Type 'A' Water License 2AM-DOH1335, TMAC requests approval of the site-specific flowchart, with the proposed ML/ARD criteria, for use at the NE CPR.

Should you have any questions please feel free to contact me at
Oliver.curran@tmacresources.com

Sincerely,

Oliver Curran
Vice-President, Environmental Affairs TMAC Resources Inc.

Cc:
Licencing (NWB)
Kyle Conway / Sarah Warnock (TMAC)
Ashley Mathai (TMAC)
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Adam Grzegorczyk (TMAC)

Attachments

- Attachment A – Classification of Waste Rock in Support of Segregating Construction Rock from Naartok East Crown Pillar Recovery, Madrid North, Hope Bay Project (SRK, 2019)
- Attachment B – NE CPR Site-Specific Waste Rock for Construction Flowchart

Attachment A – Classification of Waste Rock in Support of Segregating Construction Rock from Naartok East Crown Pillar Recovery, Madrid North, Hope Bay Project

Classification of Waste Rock in Support of Segregating Construction Rock from Naartok East Crown Pillar Recovery, Madrid North, Hope Bay Project

Prepared for

TMAC Resources Inc.

Prepared by

SRK Consulting (Canada) Inc.
1CT022.037
August 2019

Classification of Waste Rock in Support of Segregating Construction Rock from Naartok East Crown Pillar Recovery, Madrid North, Hope Bay Project

August 2019

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Appendices

Appendix A – Criteria and pXRF Calibration Factors in Support of Classifying Waste Rock as Construction Rock, NE CPR

Appendix B – Elemental Analysis Data (Aqua Regia Digestion)

Appendix C – Elemental Analysis Data (4-Acid Digestion)

Appendix D – Acid-Base Accounting Summary of Naartok East Crown Pillar Waste Rock, Madrid North, Hope Bay

Appendix E – Arsenic and Sulphur Data by pXRF

List of Abbreviations

Abbreviation	Term
ARD	Acid Rock Drainage
CCME	Canadian Council of Ministers of the Environment
CPR	Crown Pillar Recovery
CRM	Certified Reference Material
HCT	Humidity Cell Testing
LOD	Limit of Detection
MDMER	Metal and Diamond Mining Effluent Regulations
ML	Metal Leaching
MLA	Mineral Liberation Assessment
NE	Naartok East
pXRF	Portable X-ray Fluorescence
SRK	SRK Consulting (Canada), Inc.

1 Introduction

TMAC Resources Inc. (TMAC) is advancing plans to develop the Madrid North Mine under the existing water license 2AM-DOH1335. The Madrid North Mine includes development of an underground decline and surface mining of ore at the proposed Naartok East crown pillar recovery (NE CPR). SRK (2017a) concluded that in terms of metal leaching and/or acid rock drainage (ML/ARD), the risk of ARD was low but that neutral pH leaching of arsenic, and to a lesser degree cobalt and nickel was the most significant factor for Madrid North waste rock. Subsequent geochemical characterization of outcrop from within the NE CPR boundaries indicated that arsenic content is low, suggesting that waste rock from NE CPR could potentially have a low risk for neutral pH leaching and be geochemically suitable as construction rock (SRK 2019a).

As part of Step 1 of TMAC's 'Waste Rock for Construction Flowchart', appended to the Waste Rock, Ore and Mine Backfill Management Plan (TMAC, 2019), TMAC retained SRK Consulting (Canada) Inc. to conduct a geochemical characterization program to assess the ML/ARD potential, including arsenic content, of NE CPR waste rock; and also methods for identifying and classifying waste rock with low risk of ARD and neutral pH arsenic metal leaching that would be suitable for use in construction. The latter includes establishing criteria to identify waste rock with low risk of ML/ARD and evaluating the viability of using portable X-ray fluorescence (pXRF) as a field tool to geochemically classify waste rock as construction rock.

This report was prepared for submission to the Nunavut Water Board (NWB) as part of the requirement under Part F, Item 12 of the Type 'A' Water License 2AM-DOH1335. This report includes the technical rationale for a metal leaching criterion based on arsenic and ARD classification criterion based on total sulphur, and a field classification method to identify waste rock that is non-PAG and with low potential for neutral pH arsenic leaching. The report also includes recommendations for operational implementation of the field-based geochemical characterization program that identifies waste rock that is suitable for use as construction rock.

2 Background

The kinetic test program of waste rock and ore from Madrid North, Madrid South and Boston (SRK 2017a, 2017b, 2017c) indicated neutral pH leaching of arsenic, and to a lesser degree cobalt and nickel, in relation to the presence of the trace sulphide mineral gersdorffite ((Fe,Co,Ni)AsS). Conceptually, samples containing low levels of solid-phase arsenic and with low risk of arsenic leaching will also have low risk of cobalt and nickel leaching. This is due to the relationship between arsenic, cobalt and nickel leaching and the presence of the mineral gersdorffite. In terms of acid rock drainage (ARD), the overall risk of ARD is low for Madrid North waste rock owing to high carbonate mineral content, with a small proportion of waste rock classified as potentially ARD generating (PAG) on the basis of high sulphide content.

Mineralogy of the kinetic test samples indicated the occurrence of other arsenic-bearing minerals, including arsenopyrite (FeAsS) and cobaltite (CoAsS), at trace levels below detection of the MLA mineralogical method (<0.01 to 0.001%). Furthermore, TMAC geologists indicated that arsenic can potentially be a trace element in arsenical pyrite (FeS_2), olivine ($(Mg,Fe)_2SiO_4$) and pyroxene

($(Na,Ca)(Mg,Fe,Al)(Al,Si)_2O_6$). A more extensive review of the data from the Madrid North, Madrid South and Boston kinetic test program is presented in Appendix A.

Seepage monitoring of Doris waste rock from the underground mine indicates that chloride and ammonia are leachable constituents of concern. The source of chloride and ammonia are drilling brines and blast residues, respectively. SRK understands that the proposed drilling and blasting practices for NE CPR waste rock would be the same as quarry development, which does not include the use of brines and uses lower amounts of explosives, therefore chloride and ammonia are not anticipated to be issues.

3 Methods

3.1 Naartok East CPR Drillhole Sample Set

A total of 43 weight-averaged composite samples were created from coarse assay rejects (-2 mm) from selected TMAC exploration drillholes that intersected the NE CPR. Each assay sample represented approximately 1 m of core length. Of the 43 samples, four different waste rock lithologies were intersected (Table 3-1).

Table 3-1: Distribution of Sample Set According to Rock Type

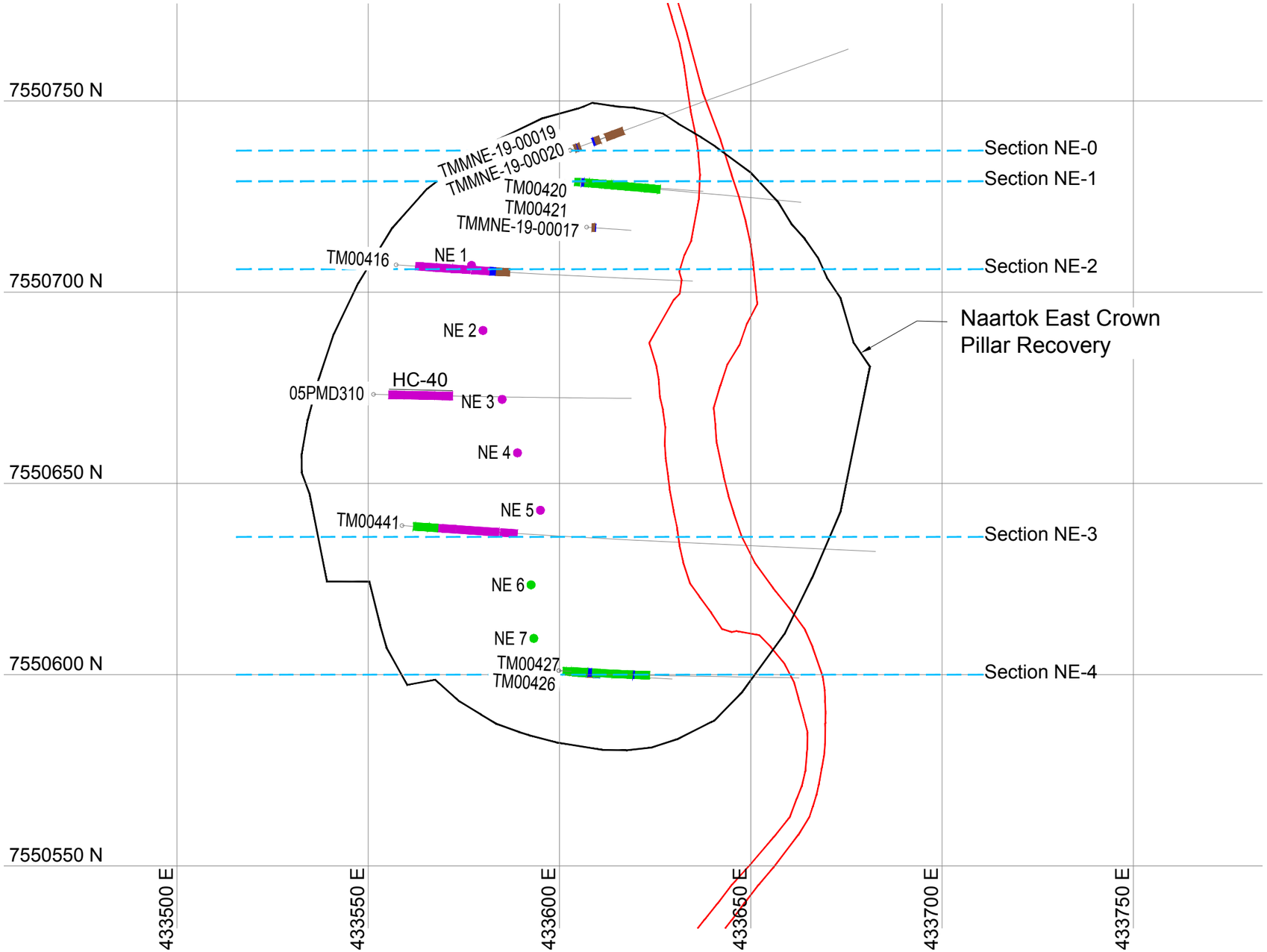
Rock Type	Rock Code	Number of Samples
Mafic Metavolcanics	1	18
Mafic Volcanics with Sediments	1aj	9
Sedimentary Units	5	7
Early Gabbro	7a	9
Total	All	43

SRK conducted sample selection and created composite instructions. Sample selection was limited to waste rock samples, which are located in the hanging wall (or western extent) of the NE CPR (Figure 3-1). Waste rock was defined based on TMAC's cut-off definition of high-grade ore, and as indicated in assay sample lists provided to SRK. Accordingly, waste rock proximal to the ore body presented in the Figure 3-1 includes material that is within TMAC's definition of low-grade ore. For all samples, composite selection was based on review of the geological logs with each sample length ranging between 1 and 5 m, with final length defined by geological contacts (samples did not cross lithological boundaries).

The first phase of sample collection included 34 samples that were selected from six TMAC exploration holes drilled in 2018. Composites were selected continuously downhole based on geology and TMAC's bench assay composite program (TMAC 2019). Minor gaps in the downhole characterization program represents unavailable samples of assay rejects.

To increase the lithological representation of sedimentary units (5) and mafic volcanics with sediments (1aj), SRK selected nine additional composite samples from three 2019 drillholes. SRK based sample selection on a review of the targeted rock types, availability of assay sample rejects, TMAC's high-grade ore solid and the NE CPR boundary.

ALS created the sample composites under the instruction of SRK, including the preparation of duplicate splits of five samples. Following sample compositing and for all samples, ALS shipped splits of the coarse reject (-2 mm) and pulps to TMAC at the Hope Bay Project for pXRF analysis.



Legend

Rock Types

	1	Mafic Volcanics
	1aj	Mafic Volcanics with Sediments
	5	Sedimentary units
	7a	Early Gabbro

TM00416 ABA Sample Interval

NE 2 Surface Outcrop ABA sample (SRK 2019)

High Grade Resource Outline - Surface Projection (Provided by TMAC to SRK in June 2019)

Section line location

Note: For figure clarity, only drill holes with ABA samples are shown.

Sample from 05PMD310 is HC-40 (refer to SRK 2017)

0 10 20 30 40 50

Scale in Metres

J:\01_SITES\Hope.Bay\ACAD\2019 Drawings\Madrid_NECPTGeochemPlan.dwg

srk consulting

SRK JOB NO.: 1CT022.037

FILE NAME: Madrid_NECPTGeochemPlan.dwg

TMAC RESOURCES

HOPE BAY PROJECT

Assessment of pXRF to Segregate Waste Rock from NE CPRT - DRAFT

2019 NE CPRT Wasste Rock Geochemical Sample Set

DATE:	APPROVED:	FIGURE:
June 2019	LNB	3-1

3.2 Geochemical Analyses

3.2.1 Lab Test Work Program

A total of 48 samples, including 5 sample duplicate splits, were analyzed by ALS Minerals in North Vancouver, BC under the direction of SRK. The sample duplicate splits represent 10% of the overall sample set and follows QA/QC procedures outlined by SRK (2019b). Except for Modified Neutralization Potential (NP), all samples were analyzed for ABA by ALS (Vancouver) under the instruction of SRK for:

- Trace element content by aqua regia digestion followed by ICP-MS finish. This method was selected because it was used for all baseline geochemical characterization of waste rock and ore, including the Hope Bay kinetic test work program, e.g., SRK (2017a).
- Trace element content by 4-acid digestion followed by ICP-MS finish. This method is more aggressive and includes aluminosilicate minerals. This method was selected with the objective of quantifying arsenic content of all potential arsenic-bearing mineral phases and also total arsenic content, for comparison with pXRF data.
- Paste pH,
- Fizz Rating,
- Total sulphur by Leco,
- Sulphate sulphur by HCl-leach,
- Total inorganic carbon (TIC) by $HClO_4$ digestion and CO_2 coulometer, and
- Modified NP (Coastech Research 1991) by Bureau Veritas (BV) Maxxam in Burnaby, BC.

3.2.2 TMAC pXRF Test Work Program

A pXRF trial was conducted on 43 samples plus 5 duplicate samples of both the -2 mm and pulp size fraction (Table 3-2). The focus of the trial was primarily arsenic, but sulphur was also assessed . The trial was conducted by TMAC geologists as per SRK instructions (SRK 2019c). To assess geologic heterogeneity of samples and size fractions, pXRF analyses were conducted in triplicate, with each replicate measurement on a unique area of the sample. The QA/QC analytical program included analysis of the split duplicates produced by ALS (pulps and -2 mm fraction), blanks and certified reference materials (CRM).

The pXRF model was a Thermo Scientific Niton ZL3t GOLDD+. TMAC defined the optimal setting for analysis of arsenic with some input from SRK. The final pXRF settings were consistent with the settings used by TMAC for pXRF analysis of exploration drill core (mining mode with a total beam time of 150 s). TMAC conducted post-processing of data, which included defining values that were less than the limit of detection (LOD) as equal to the pXRF error value for that parameter. SRK accepted TMAC's definition of values LOD.

Table 3-2: Sample Sets for pXRF Analysis

Sample Set	No. of Samples[1]	Grain Size
NE CPR Assay Sample Composites (2018)	34 (37)	-2 mm
		Pulp
NE CPR Assay Sample Composites (2019)	9 (11)	-2 mm
		Pulp

[1]. Numbers in parentheses represent the number of samples including split sample duplicates generated by ALS.

3.3 Data QA/QC

3.3.1 Laboratory Data

SRK conducted a QC assessment of all data produced by the lab including analysis of sample split duplicates, lab analytical duplicates, CRM and lab blanks. The results of the QA/QC assessment for trace element and ABA data are summarized in Table 3-3 and Table 3-4, respectively. SRK deemed all data acceptable.

Table 3-3: QA/QC Assessment Summary for Aqua Regia and 4-Acid Digestion Data

QC Test	SRK QC Criteria	Results
4-Acid ICP-MS (ME-MS61)		
Lab Blank (n=8)	Within specified tolerance ranges.	All passed.
Split Duplicate (n=5)	For samples >10X detection limit (DL), % RPD within +/- 30%, For ICP metal scan, it is acceptable for 10% of parameters to be outside of this criterion.	All passed.
Lab Duplicate (n=3)	For samples >10X detection limit (DL), % RPD within +/- 20%, For ICP metal scan, it is acceptable for 10% of parameters to be outside of this criterion.	All passed.
Certified Reference Material (n=1)	Within specified tolerance ranges.	All passed.
Aqua Regia ICP-MS (ME-MS41)		
Lab Blank (n=8)	Within specified tolerance ranges.	All passed.
Split Duplicate (n=5)	For samples >10X detection limit (DL), % RPD within +/- 30%, For ICP metal scan, it is acceptable for 10% of parameters to be outside of this criterion.	All passed.
Lab Duplicate (n=3)	For samples >10X detection limit (DL), % RPD within +/- 20%, For ICP metal scan, it is acceptable for 10% of parameters to be outside of this criterion.	All passed.
Certified Reference Material (n=2)	Within specified tolerance ranges.	All passed

Sources: \\van-svr0\projects\01_SITES\Hope.Bay\1CT022.037_2019 Geochem Compliance\!020_Project_Data\Lab\NE CPRT\pXRF program\YW19131909_SRK_QAQC_NV.xlsx

Table 3-4: QA/QC ABA Data Summary

QC Test	SRK QC Criteria	Results
paste pH		
Crush Duplicate (n=5)	For any samples, +/- 0.5 difference pH unit.	All passed.
Pulp Duplicate (n=6)	For any samples, +/- 0.5 difference pH unit.	All passed.
Standard Reference Material (n=2)	Within specified tolerance ranges.	All passed.
Total Inorganic Carbon		
Lab Blank (n=5)	<5X detection limit (DL).	All passed.
Crush Duplicate (n=5)	For samples > 10X the detection limit (DL), % RPD within +/-20%.	All passed.
Pulp Duplicate (n=4)	For samples > 10X the detection limit (DL), % RPD within +/-20%.	All passed.
Standard Reference Material (n=8)	Within specified tolerance ranges.	All passed.
Total S & Total SO4		
Lab Blank (n=4 for Total S, n=3 for SO_4)	<5X detection limit (DL).	All passed.
Sulphur balance (Total S > sulphate S) (n=43)	For samples > 10X the detection limit (DL), Total Sulphur should be greater than Total Sulphate, if not the % difference should be within +/-20%.	All passed.
Crush Duplicate (n=5)	For samples > 10X the detection limit (DL), % RPD within +/-20%.	All passed.
Pulp Duplicate (n=1)	For samples > 10X the detection limit (DL), % RPD within +/-20%.	All passed.
Standard Reference Material (n=5)	Within specified tolerance ranges.	All passed.
Modified NP		
Lab Blank (n=2)	-2.50 to 2.50 NP Kg $CaCO_3$/t.	All passed.
NP consistent with paste pH (n=43)	Negative NP has paste pH <= 5.	All passed.
Crush Duplicate (n=5)	% RPD better than +/-15% for NP>20 kg/t, % RPD better than +/-20% for NP>10 kg/t, Difference within +/-5kg/t for NP<10 kg/t.	All passed.
Pulp Duplicate (n=6)	% RPD better than +/-15% for NP>20 kg/t, % RPD better than +/-20% for NP>10 kg/t, Difference within +/-5kg/t for NP<10 kg/t.	All passed.
Fizz test rating with NP (n=43)	Max NP does not exceed fizz test rating.	All passed.
Standard Reference Material (n=2)	Within specified tolerance ranges.	All passed.

Sources:

Z:\01_SITES\Hope.Bay\1CT022.037_2019 Geochem Compliance\!020_Project_Data\Lab\Maxxam\B946319-TMAC-Hope Bay, 11 samples Mod NP_QAQC_NV.xlsx

Z:\01_SITES\Hope.Bay\1CT022.037_2019 Geochem Compliance\!020_Project_Data\Lab\Maxxam\B945583-TMAC Hope Bay, 37 samples, Mod NP_QAQC_NV.xlsx

3.3.2 pXRF Data

The QA/QC program for pXRF is detailed in SRK (2019c) and included the following: i) three pXRF sample replicate readings for each sample, where a replicate is defined as the analysis of the sample in unique area; ii) analysis of a blank every 30 pXRF runs; and iii) analysis of a CRM every 60 pXRF runs. CRMs were selected by TMAC based on availability. SRK conducted a QC assessment of all pXRF arsenic and sulphur data, including triplicate analyses, split duplicates, blanks and CRM, and as summarized in Table 3-5 and Table 3-6, respectively.

A summary of samples that did not pass the QC screening tests for arsenic are summarized as follows:

- Of the 48 samples, one sample of pulp (TM00421-SRK-WR-15-DUP) and one sample of -2 mm fraction (TMMNE-19-00020-SRK-WR-036) each had one triplicate reading outside the acceptable %RPD range of 30%. In both cases the samples were not re-run and SRK interpreted the variance to be a result of sample heterogeneity.
- The failure of one of the triplicate readings for sample TM00421-SRK-WR-15-DUP resulting in one failure when the results were compared to paired split duplicate (TM00421-SRK-WR-15).
- Arsenic content for CRM NIST 2780 was below LOD for all runs except one (n=6). The one run when arsenic was detected passed the QC criterion. TMAC suspects the LOD arsenic data is due to the replacement of the original film cover of the pXRF puck with a piece of cling wrap plastic. SRK suspects that LOD arsenic readings are due to the thickness and/or composition of the cling wrap resulting absorption in the x-rays. The data for the NIST 2780 were removed from the QA/QC program. Arsenic analysis of CRM Till-4 were all determined to be acceptable.

For pXRF sulphur data, results of the QC are summarized as follows:

- Pulp sample for TM00421-SRK-WR-15-DUP had one triplicate reading fail resulting in failure of this replicate with its split duplicate. The failing replicate reading also failed for arsenic (SRK 2019a) indicating that heterogeneity in the sample. Sulphur analysis of the -2 mm fraction of TM00421-SRK-WR-15-DUP of both replicate and split duplicates all passed the QC criteria.
- The sulphur value for the CRM Till-4 was within the range of analytical error for pXRF and is therefore not a recommended CRM. Measured sulphur values were uniformly higher than the standard values for Till-4.
- For CRM NIST-2780, all six analyses indicated sulphur levels with an RPD% ranging from 22 to 25%, which is above the 20% criterion. Measured sulphur values were uniformly higher than the standard values for NIST-780.

SRK accepted all pXRF for arsenic and sulphur data as received.

Table 3-5: Summary of QAQC Assessment for pXRF Arsenic Data

QC Test	Sample Type	SRK QC Criteria	Arsenic
Lab Blank (n=10)	Sand or empty chamber?	Within specified tolerance ranges, <5X the detection limit (DL).	All passed.
Triplicate pXRF readings (n=48)	Pulp	RPD% comparison between i) minimum and median and ii) maximum and median values. For samples >10X detection limit (DL), % RPD within +/- 30%. For pXRF scan, it is acceptable for 10% of parameters to be outside of this criterion.	TM00421-SRK-WR-15-DUP: RPD% of 117% between median and maximum values (95 and 360 ppm, respectively). Re-run not requested based on passing of TM00421-SRK-WR-15-DUP.
	-2 mm	RPD% comparison between i) minimum and median and ii) maximum and median values. For samples >10X detection limit (DL), % RPD within +/- 30%, For pXRF scan, it is acceptable for 10% of parameters to be outside of this criterion.	TMMNE-19-00020-SRK-WR-036: RPD% of 50% for minimum and median values (37 and 61 ppm, respectively). Data accepted as is, re-run not requested.
Split Duplicates prepared by ALS (n=5)	Pulp	For samples >10X detection limit (DL), % RPD within +/- 30%, For pXRF scan, it is acceptable for 10% of parameters to be outside of this criterion.	TM00421-SRK-WR-15: related to maximum value of 360 ppm for TM00421-SRK-WR-15 (refer to text for triplicate readings.
	-2 mm	For samples >10X detection limit (DL), % RPD within +/- 30%, For pXRF scan, it is acceptable for 10% of parameters to be outside of this criterion.	All passed.
Certified Reference Materials	Till-4 (n=7)	Within specified tolerance ranges (% RPD within +/- 20%), compared to CRM certificate of analysis values.	All passed.
	NIST-2780 (n=6)	Within specified tolerance ranges (% RPD within +/- 20%), compared to CRM certificate of analysis values.	Five samples failed (values less than detection). CRM sample was damaged. Data excluded from program. Refer to text.

Source: \\srk.ad\dfs\na\van\Projects\01_SITES\Hope.Bay\1CT022.037_2019 Geochem Compliance\!020_Project_Data\020_Client\WR\Madrid N\2019_06 - NE CPPRT TMAC pXRF data\QAQC\Copy of SRK_pXRF_WasteRockData_Final_QAQC_NV_rev00.xlsx

Table 3-6: Summary of QA/QC Assessment for pXRF Sulphur Data

QC Test	Sample Type	SRK QC Criteria	Sulphur
Lab Blank (n=10)	Pure Silica Sand	Within specified tolerance ranges, <5X the detection limit (DL).	All passed.
Triplicate pXRF readings (n=48)	Pulp	RPD% comparison between i) minimum and median and ii) maximum and median values. For samples >10X detection limit (DL), % RPD within +/- 20%. For pXRF scan, it is acceptable for 10% of parameters to be outside of this criterion.	TM00421-SRK-WR-15-DUP: RPD% of 122% between median and minimum values (5162 and 1241 ppm, respectively). Minimum sulphur from pXRF run 54 (same run as failing as value of 360 ppm). Re-run not requested because RPD% for all replicates acceptable for TM00421-SRK-WR-15. As and S from pXRF run 54 likely representative of sample heterogeneity.
	-2 mm	RPD% comparison between i) minimum and median and ii) maximum and median values. For samples >10X detection limit (DL), % RPD within +/- 20%, For pXRF scan, it is acceptable for 10% of parameters to be outside of this criterion.	All passed.
Split Duplicates prepared by ALS (n=5)	Pulp	For samples >10X detection limit (DL), % RPD within +/- 30%, For pXRF scan, it is acceptable for 10% of parameters to be outside of this criterion.	TM00421-SRK-WR-15: related to maximum value of 5162 ppm for TM00421-SRK-WR-15-DUP (refer to text for triplicate readings).
	-2 mm	For samples >10X detection limit (DL), % RPD within +/- 30%, For pXRF scan, it is acceptable for 10% of parameters to be outside of this criterion.	All passed.
Certified Reference Materials	Till-4 (n=7)	Within specified tolerance ranges (% RPD within +/- 20%), compared to CRM certificate of analysis values.	COA value for total sulphur in Till-4 is 800 ppm, which is within 10x the DL (125 ppm) for pXRF and therefore the data could not be assessed. pXRF values were uniformly higher than CRM (1207 to 1300 ppm).
	NIST-2780 (n=6)	Within specified tolerance ranges (% RPD within +/- 20%), compared to CRM certificate of analysis values.	All six analyses had RPD% above 20%, with pXRF sulphur ranging from 15765 to 16275 ppm and RPD% ranging from 22 to 25%. pXRF sulphur values were uniformly higher than the CRM.

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4 Results and Discussion

4.1 Arsenic

4.1.1 Comparison of Aqua Regia and 4-Acid Digestion Methods

The 4-acid digestion method is more aggressive than aqua regia in that the 4-acid digestion method targets silicate minerals and aqua regia does not. The purpose of including both digestion methods in the test work program was to assess arsenic deportment according to bulk mineral groups. Complete trace element data by aqua regia and 4-acid digestions are presented in Appendix B and Appendix C, respectively.

Arsenic content by aqua regia and 4-acid digestion is at near parity (Figure 4-1), indicating that arsenic is not associated with silicate minerals and that the aqua regia method sufficiently quantifies total arsenic content. This suggests that arsenic by 4-acid digestion, such as the Hope Bay Project exploration database, can be used to assess total arsenic content in waste rock. However, the relationship between arsenic by these digestions methods needs to be determined for rock types and waste rock from areas other than NE CPR.

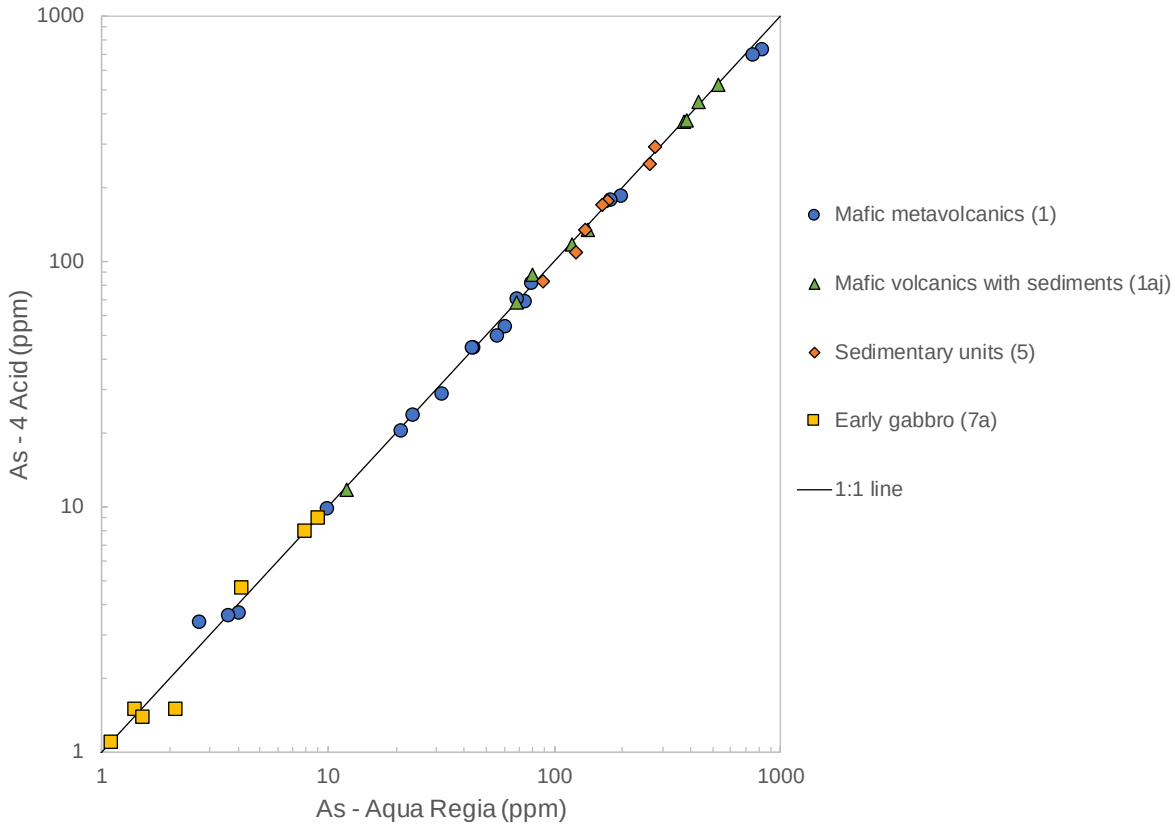

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Figure 4-1: Comparison of Arsenic Content by Aqua Regia and 4-Acid Methods

4.1.2 Assessment by Rock Type

Table 4-1 and Figure 4-2 present the statistical distribution of arsenic content by aqua regia digestion according to rock types for the NE CPR drillhole sample set. The four waste rock lithologies included in the sample set are mafic metavolcanics (1), mafic volcanics with sediments (1aj), sedimentary units (5) and early gabbro (7a).

Arsenic content by waste rock lithology is presented in Figure 4-2 and summarized as follows:

- Metavolcanics (1): concentrations were the most variable of all the rock types, with values ranging from 2.7 to 826 ppm, with 75% of samples containing less than 80 ppm arsenic.
- Mafic volcanics with sediment (1aj): arsenic content ranged from 12 to 526 ppm, with 25th percentile and median concentrations of 80 and 141 ppm, respectively.
- Sedimentary Units (5): arsenic content was the highest, with minimum values of 89 ppm and median values of 163 ppm.
- Gabbro (7a): concentrations for all samples were below 10 ppm.

Table 4-1: Arsenic Content by Aqua Regia Digestion, NE CPR Drillhole Samples

Statistic	Rock Type			
	Mafic metavolcanics (1)	Mafic volcanics with sediments (1aj)	Sedimentary units (5)	Early gabbro (7a)
Minimum	2.7	12	89	0.8
P5	3.5	34	100	0.8
P25	22	80	130	1.1
Average	137	237	174	3.2
P50	49	141	163	1.5
P75	78	385	216	4.1
P95	761	489	273	8.5
Maximum	826	526	277	9
Count	18	9	7	9

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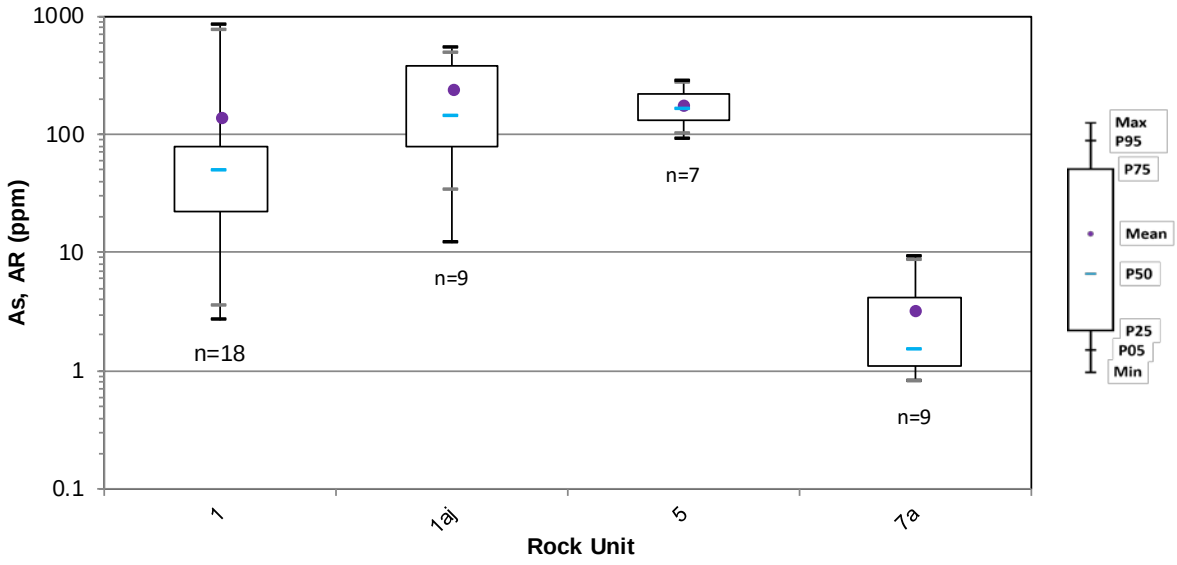

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Figure 4-2: Distribution of Arsenic Concentration by Rock Type (Aqua Regia Digestion)

4.1.3 Spatial Distribution within NE CPR

Figure 4-3 to Figure 4-7 present the downhole distribution of waste rock lithologies and arsenic content (aqua regia digestion) for selected cross-sections in the NE CPR (refer to Figure 3-1). Also presented in Figure 4-4 to Figure 4-8 are the outcrop samples collected from within the boundaries of the NE CPR (SRK 2019).

The spatial distribution of the samples presented in Figure 4-4 to Figure 4-8 according to rock type and arsenic content is summarized as follows:

- Mafic metavolcanics (1) were the most volumetrically significant and ubiquitous sample type. Samples with high arsenic content (>150 ppm) tended to be (but not necessarily) in contact with sedimentary units or proximal to the ore body.
- Mafic metavolcanics with sediments (1aj) and sedimentary units (5) were located in the northern extent of the pit and/or proximal to the ore body. Rock type 5 is typically present in thin intervals (~1 m). These rock types typically had arsenic content >100 ppm, with a few exceptions for rock type 1aj with arsenic content <100 ppm.
- Gabbro (7a) samples were present in outcrop and in continuous and long (10's of metres) intervals in Figure 4-5 and Figure 4-6. Interpolation of gabbro observations in outcrop and drill core suggest that gabbro could be a volumetrically significant waste rock type (Figure 3-1). Gabbro samples, both drillhole and outcrop, were uniformly low in arsenic content (<10 ppm).

Legend

Rock Types

1	Mafic Metavolcanics
1aj	Mafic Volcanics with Sediments
5	Sedimentary Units
7a	Early Gabbro

Note

- Labels to left of drillhole denote geochemical rock types
- Values to right represent arsenic concentration
- Refer to Figure 3-1 for plan view

GEOLITHO

1	
1aj	
5	
7a	

srk consulting

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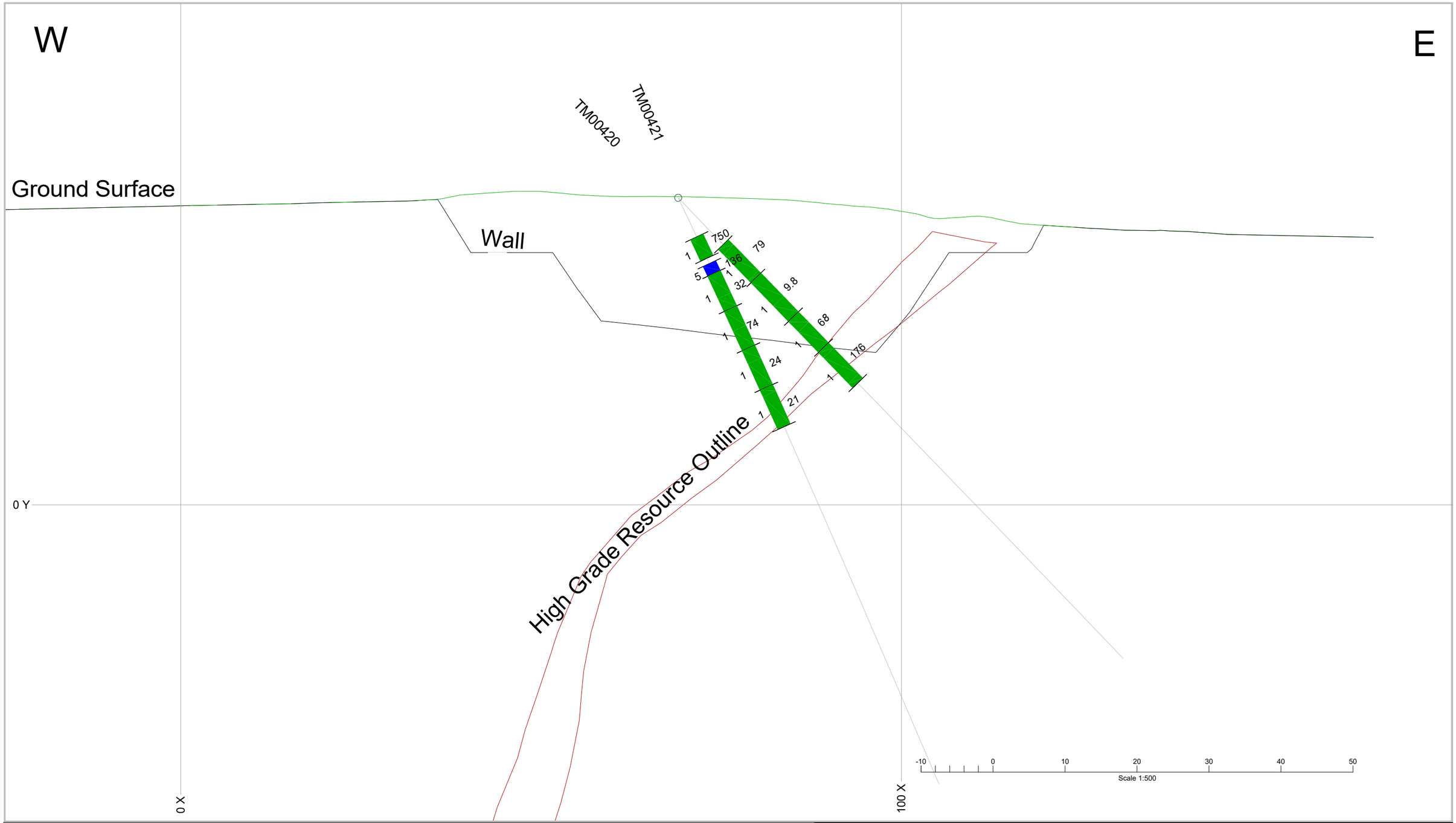
Figure __

Madrid NE CPT

Vertical Section NE-0



Legend

Rock Types

1	Mafic Metavolcanics
1aj	Mafic Volcanics with Sediments
5	Sedimentary Units
7a	Early Gabbro

Note

- Labels to left of drillhole denote geochemical rock types
- Values to right represent arsenic concentration
- Refer to Figure 3-1 for plan view

GEOLITHO

1	
1aj	
5	
7a	

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Figure __

Madrid NE CPT

Vertical Section NE-1

Legend

Rock Types

1	Mafic Metavolcanics
1aj	Mafic Volcanics with Sediments
5	Sedimentary Units
7a	Early Gabbro

Note

- Labels to left of drillhole denote geochemical rock types
- Values to right represent arsenic concentration
- Refer to Figure 3-1 for plan view
- Surface ABA outcrop sample, number represents As value

GEOLITHO

1	
1aj	
5	
7a	

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Figure __

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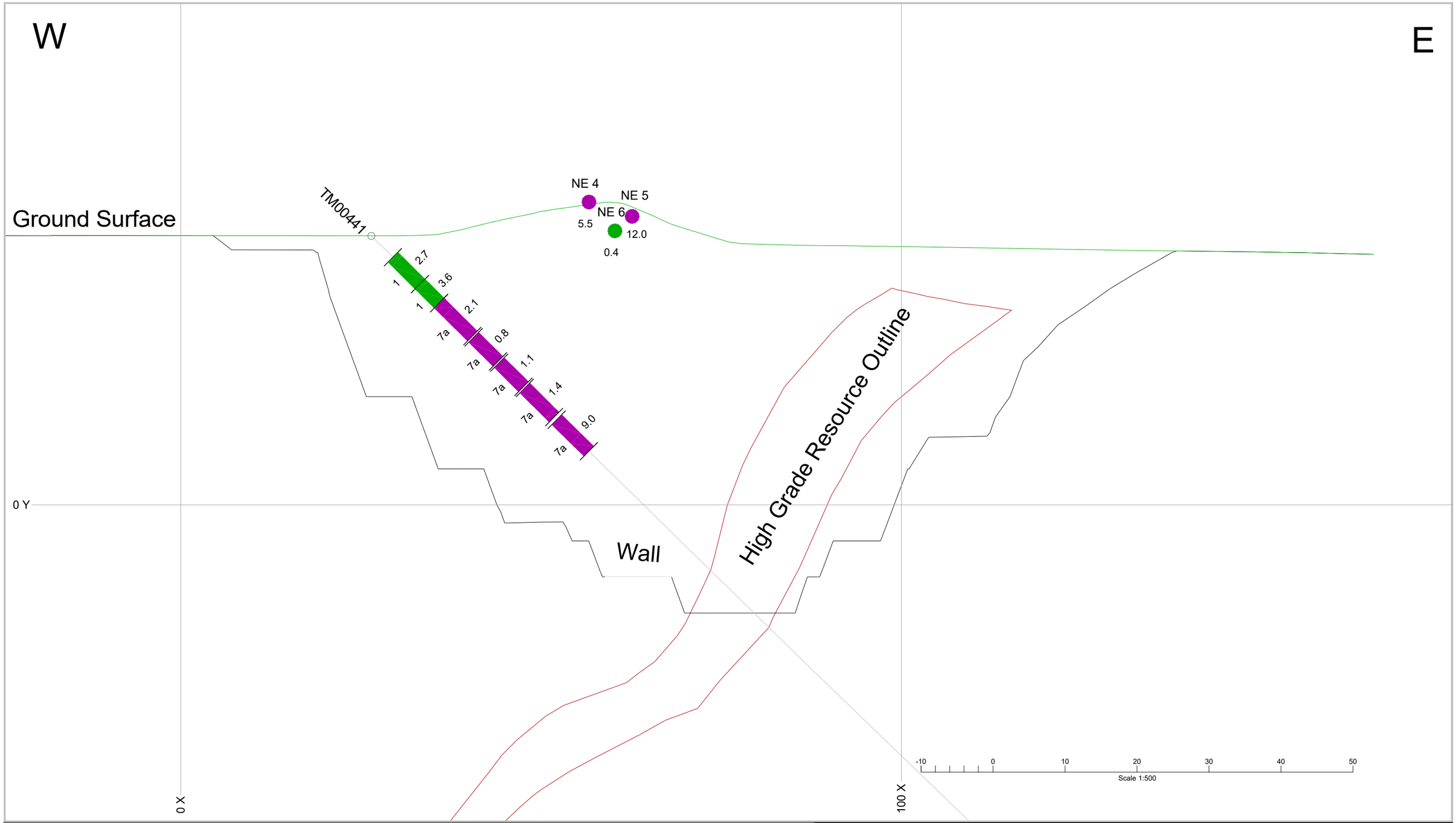
Vertical Section NE-2



Legend

Rock Types

1	Mafic Metavolcanics
1aj	Mafic Volcanics with Sediments
5	Sedimentary Units
7a	Early Gabbro

Note

- Labels to left of drillhole denote geochemical rock types
- Values to right represent arsenic concentration
- Refer to Figure 3-1 for plan view
- Surface ABA outcrop sample, number represents As value

GEOLITHO

1	
1aj	
5	
7a	

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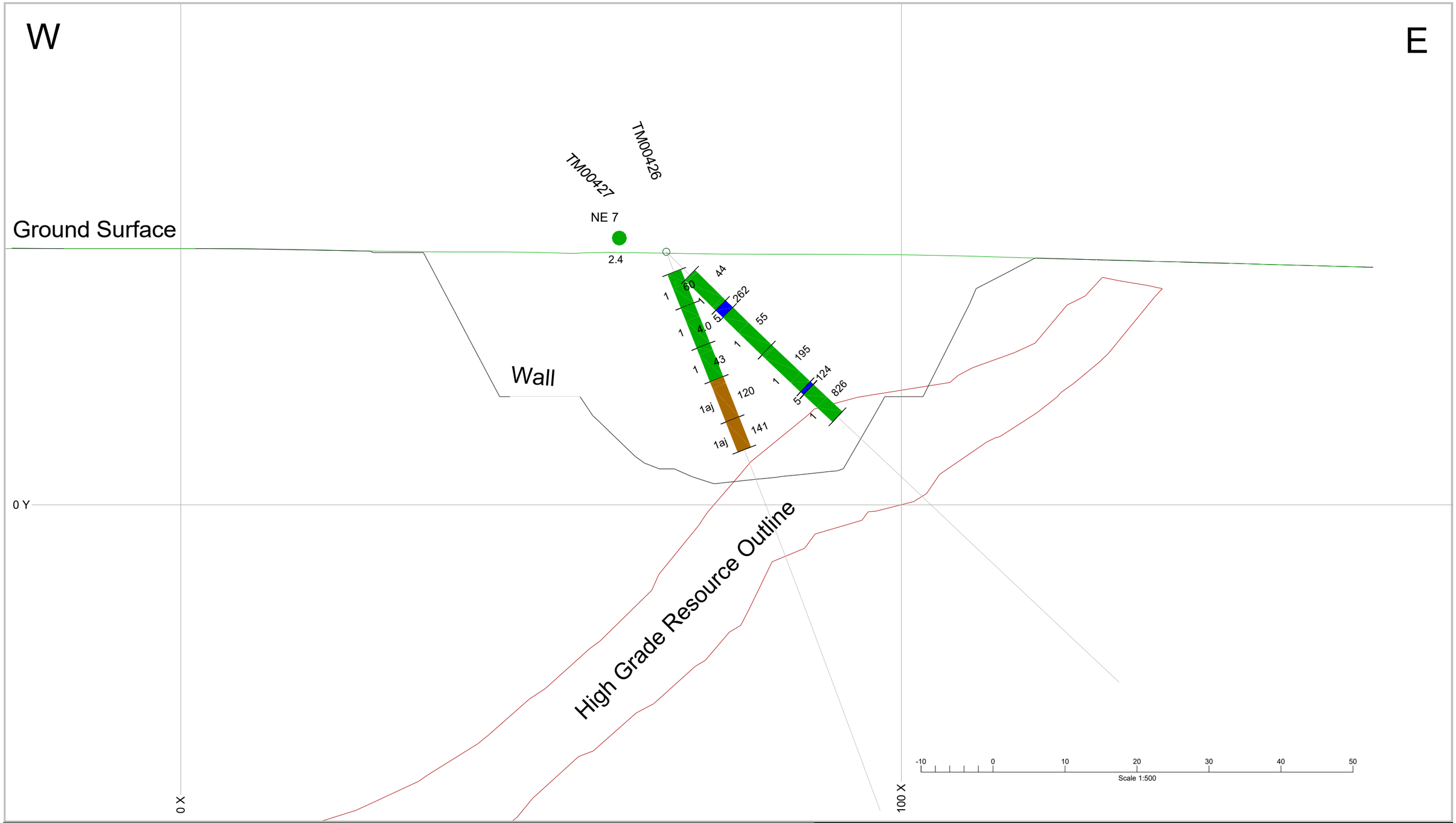
Figure __

Madrid NE CPT

Vertical Section NE-3



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Rock Types

1	Mafic Metavolcanics
1aj	Mafic Volcanics with Sediments
5	Sedimentary Units
7a	Early Gabbro

Note

- Labels to left of drillhole denote geochemical rock types
- Values to right represent arsenic concentration
- Refer to Figure 3-1 for plan view
- Surface ABA outcrop sample, number represents As value

GEOLITHO

1	
1aj	
5	
7a	

srk consulting

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Figure __

Madrid NE CPT

Vertical Section NE-4

4.2 ARD Potential

Appendix D presents a complete interpretation of the ABA data with this section summarizing key results including a statistical summary of ABA data by rock type. This section presents a summary of ARD potential as it relates to identifying waste rock that is suitable as construction rock.

Acid potential (AP) can be calculated based on total sulphur owing to sulphide content being at near parity to total sulphur. Figure 4-8 presents the statistical distribution total sulphur according to rock type. Samples of sedimentary units contained the highest sulphur content (median = 1.5%), followed by mafic volcanics with sediments (1aj, median sulphur of 0.42%), mafic metavolcanics (1, median sulphur content of 0.18%) then early gabbro (7a, median sulphur of 0.08%). The 75th percentile levels of sulphur for mafic volcanics (0.53%) were higher than equivalent levels for mafic metavolcanics with sediments (0.25%).

All samples are classified as non-PAG on the basis of NP/AP and TIC/AP with the exception of three samples from sedimentary units which range from uncertain to PAG (Figure 4-9). Ratios of NP/AP were more conservative than TIC/AP for samples containing higher sulphur owing to lower values of Modified NP as compared to TIC. Figure 4-9 indicates that ARD classifications are sensitive to sulphur content, with all samples with sulphur <1% classified as non-PAG. Conversely, all uncertain or PAG samples contained sulphur > 1%. Figure 4-10 indicates that samples classified non-PAG have arsenic content less than 80 ppm. However, when the accounting for rock types other than sedimentary units (5), all samples were classified as non-PAG with arsenic as high as 800 ppm.

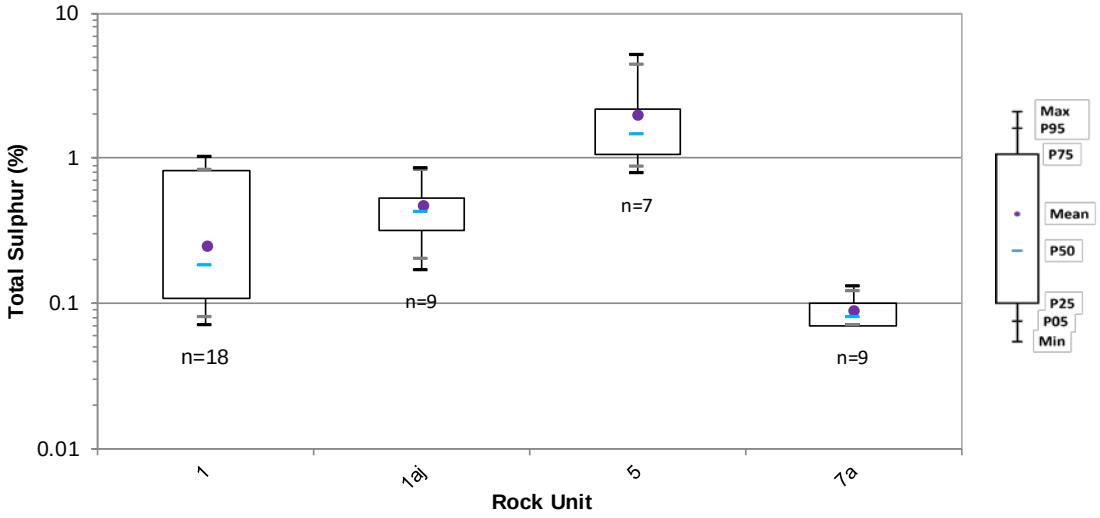

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Figure 4-8: Comparison of Total Sulphur by Rock Type

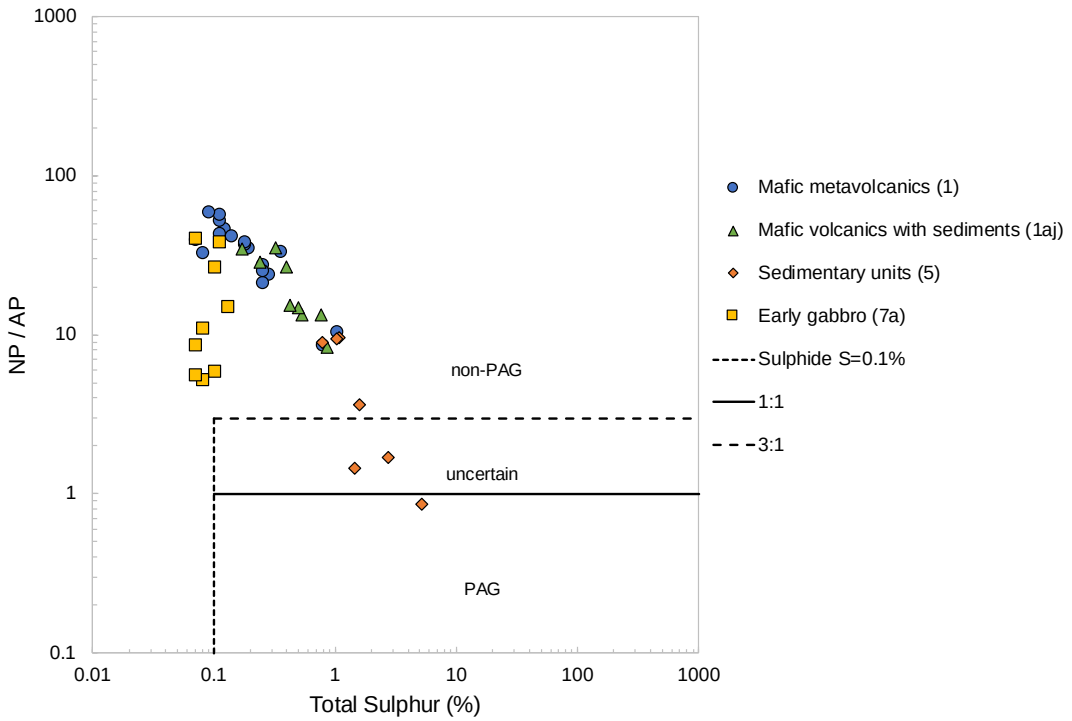

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Figure 4-9: Comparison of Total Sulphur to NP/AP

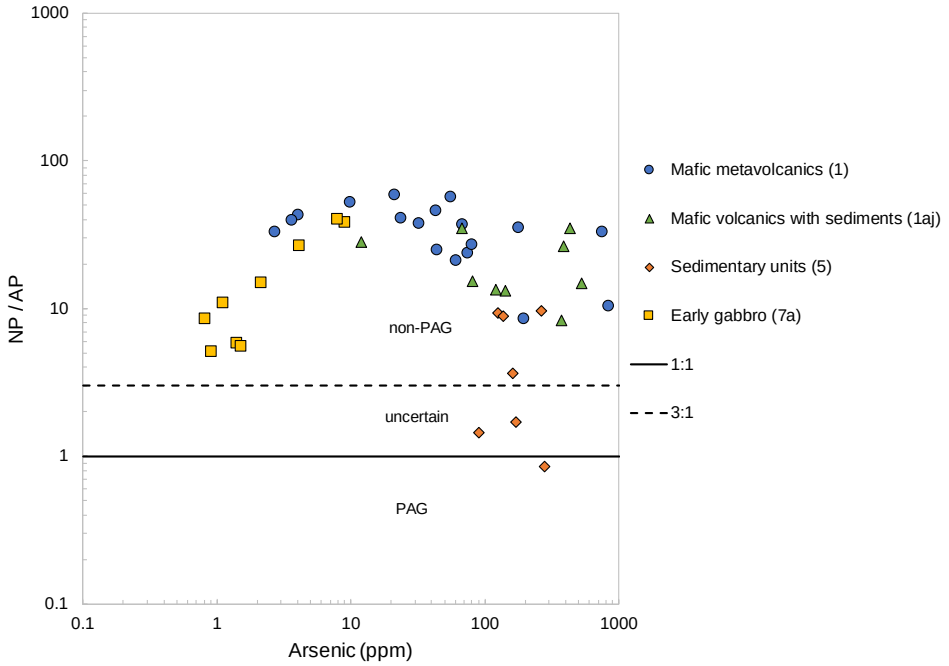

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Figure 4-10: Comparison of Arsenic by Aqua Regia Digestion to NP/AP

4.3 Results of pXRF Trial

TMAC conducted a pXRF trial on pulps and -2 mm size fraction for 43 samples of NE CPR waste rock. The pXRF results for arsenic and sulphur are presented in Appendix D. The purpose of the trial was to assess the suitability of pXRF as a field tool to quantify arsenic and sulphur content to identify waste rock with a low risk of neutral pH arsenic leaching and non-PAG waste rock. As previously discussed, all samples were classified as non-PAG with sulphur content <1% (Figure 4-9).

Figure 4-11 and Figure 4-12 presents a comparison of arsenic content by aqua regia digestion and pXRF for pulp and -2 mm samples, respectively, where the pXRF data series presents the triplicate measurements, with the data point representing the median value and error bars representing the minimum and maximum values.

As discussed in Table 3-5, the assessment of RPD% of pXRF data for triplicate measurements and between duplicate sample pairs indicated that the variability of pXRF measurements were within acceptable range. Exceptions included one sample each of pulp and -2 mm size fraction (details in Table 3-5). This suggests that arsenic content was sufficiently homogenous in both size fractions and that one pXRF measurement of arsenic per sample is sufficiently representative. Of note, is that the five duplicate QA/QC samples (-DUP) are not presented in Figure 4-11 and Figure 4-12.

Arsenic by pXRF exhibits strong linear relationships with arsenic by aqua regia digestion for both the pulp (r^2 = 0.99) and -2 mm size fractions (r^2 = 0.98). Exceptions include samples containing <5 ppm arsenic by aqua regia digestion, which uniformly exhibit pXRF arsenic content of approximately 10 ppm, which is within the range of analytical uncertainty for pXRF. The linear relationship and strong correlations between pXRF and aqua regia arsenic for both size fractions indicates that the pXRF can be used as a field tool to measure arsenic content in either size fraction. Measurement of the -2 mm size fraction is more practical in the field because the sample can be prepared for pXRF analysis with a sieve rather than crushing to a fine grain size.

For -2 mm samples with aqua regia arsenic content >30 ppm, arsenic values by pXRF are uniformly lower than aqua regia resulting in an underprediction of actual arsenic content. Accordingly, to use pXRF for the purposes of field screening, a calibration factor is required to adjust pXRF arsenic so that values are equivalent to arsenic by aqua regia digestion.

Sulphur by pXRF exhibits a linear relationship with sulphur by Leco with a strong correlation for both the pulp (r^2 = 0.99; Figure 4-13) and -2 mm size fractions (r^2 = 0.99; Figure 4-14). For both size fractions, sulphur by pXRF are uniformly lower than total sulphur by Leco. Exceptions include selected gabbro samples in the -2 mm fraction only and with Leco sulphur less than 0.1%. For these aforementioned samples, sulphur by pXRF are at near parity with sulphur by Leco. The linear relationship and strong correlation between pXRF and Leco sulphur for the -2 mm fraction indicates that the pXRF can be used as a field tool to measure sulphur.

Calibration of pXRF data is discussed in Section 5.2.

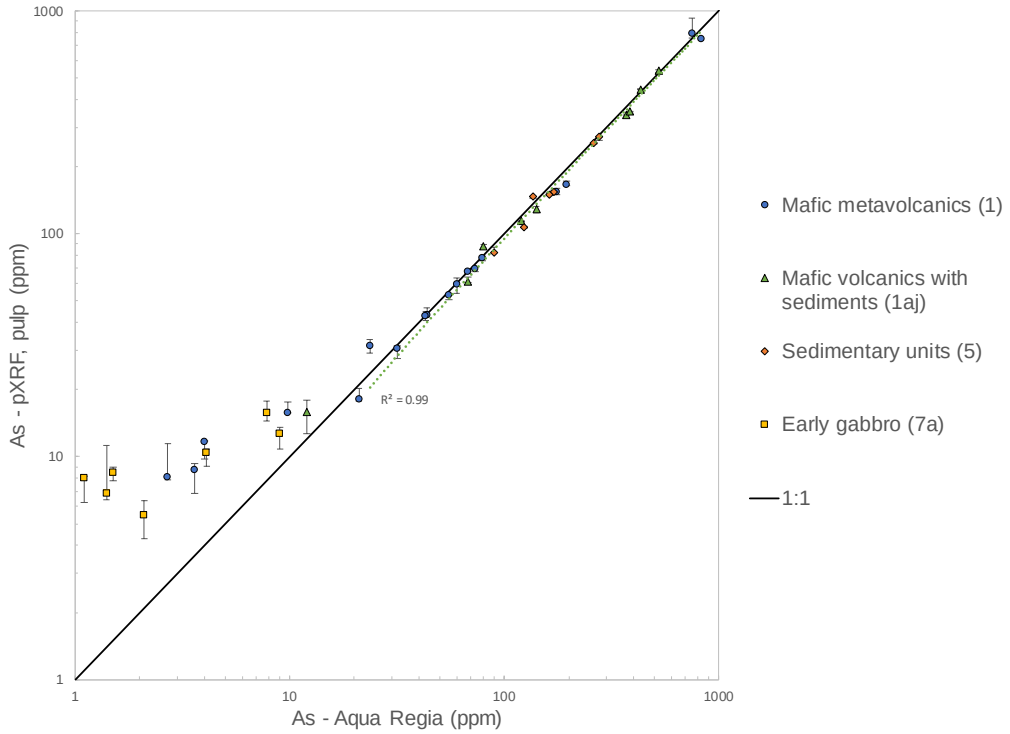

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Figure 4-11: Comparison of Arsenic Content by Aqua Regia Digestion and pXRF, Pulp Samples

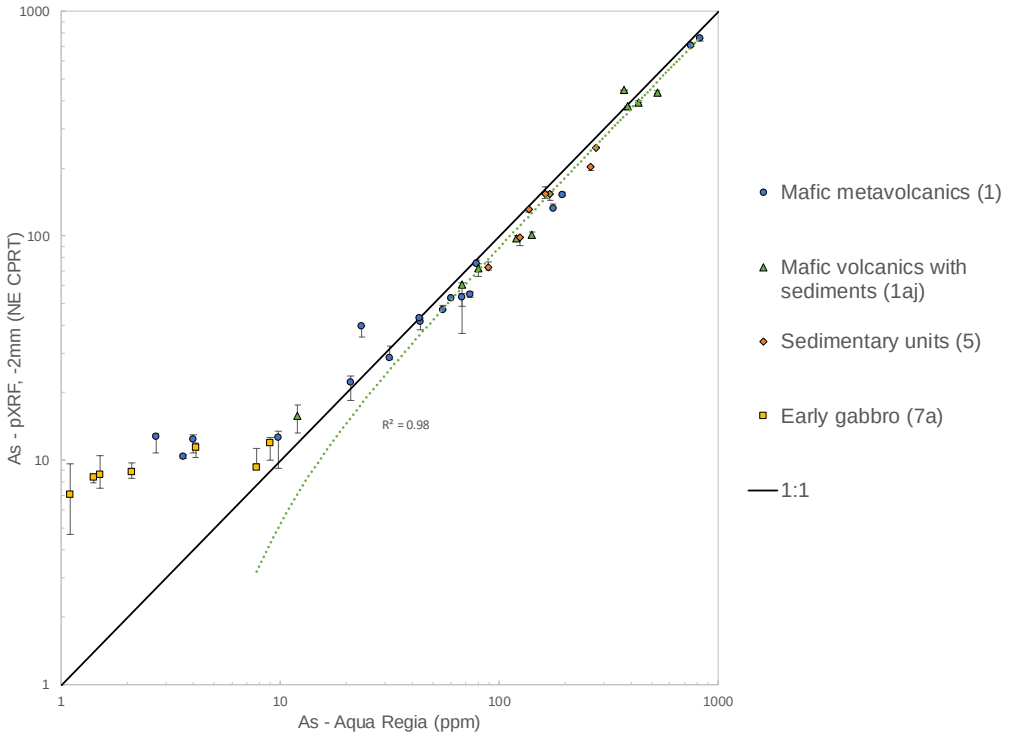

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Figure 4-12: Comparison of Arsenic Content by Aqua Regia Digestion and pXRF, -2 mm Samples

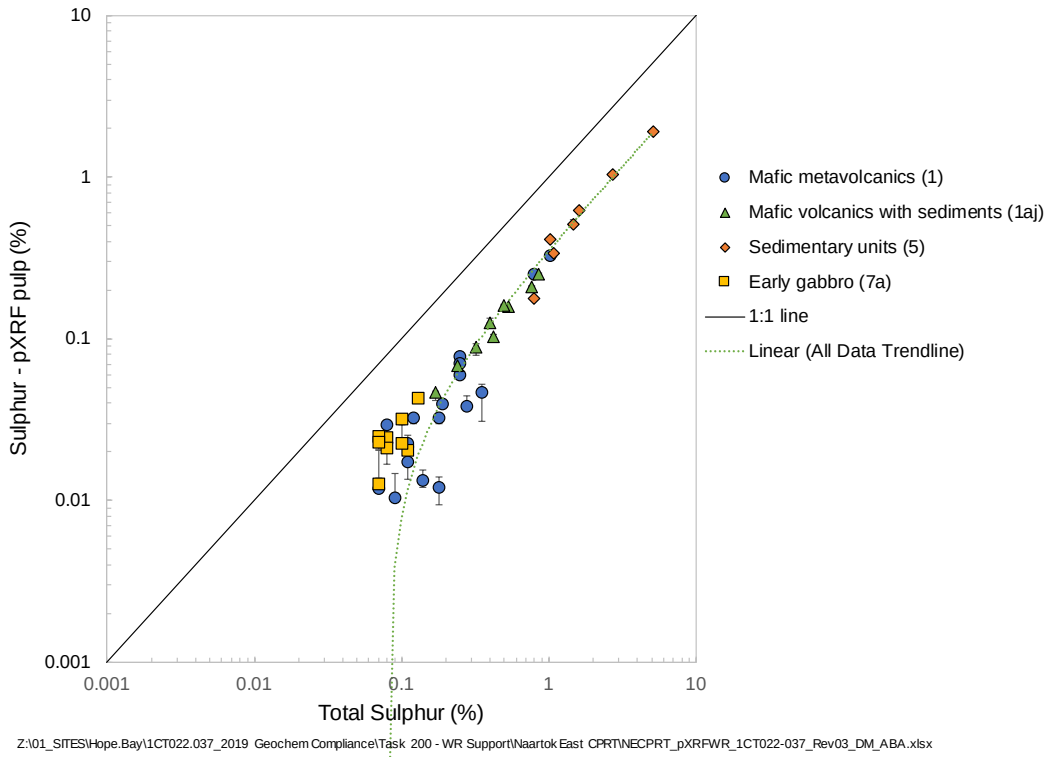


Figure 4-13: Comparison of Total Sulphur by Leco to Sulphur by pXRF (pulp)

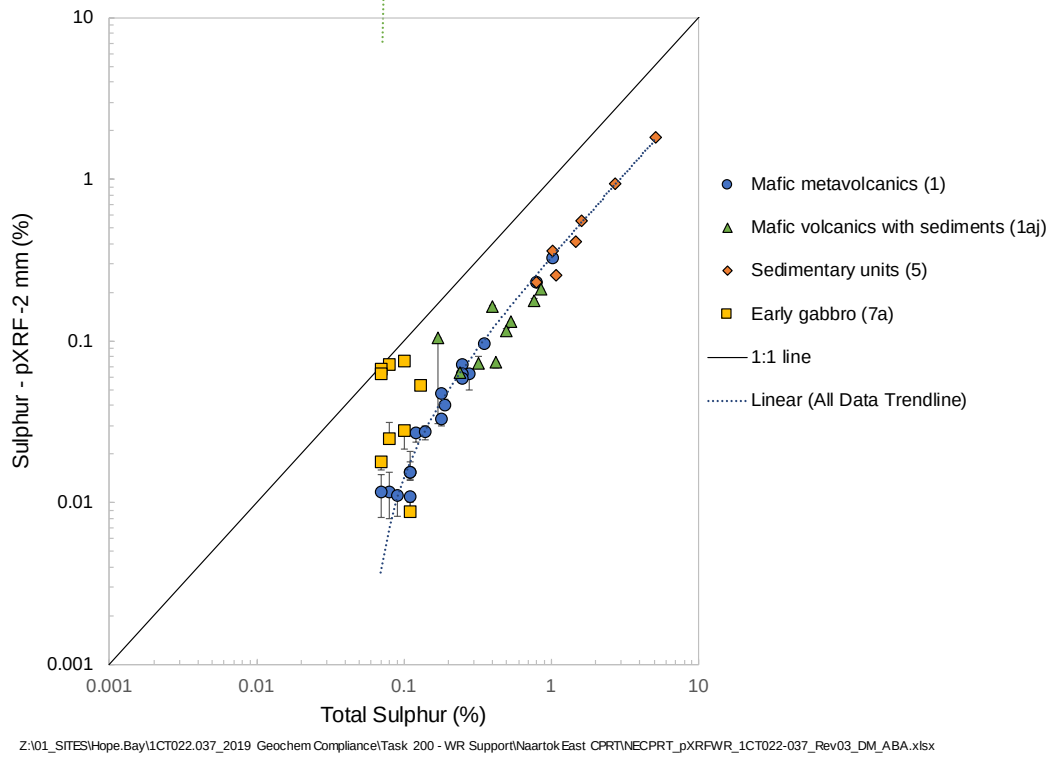


Figure 4-14: Comparison of Total Sulphur by Leco to Sulphur by pXRF (-2 mm)

5 Field Classification of Construction Rock

5.1 Field Segregation Criterion

NE CPR waste rock that is geochemically suitable as construction rock has a low risk of neutral pH arsenic leaching and is classified as non-PAG. Table 5-1 outlines the field classification criteria to identify NE CPR waste rock that has a low risk of ML/ARD and is therefore suitable for use as construction rock. The criteria for arsenic and sulphur must both be satisfied for NE CPR west rock to be suitable for use as construction rock.

Table 5-1: ML/ARD Criteria for Classifying Waste Rock as Construction Rock

Geochemical Risk	Classification Parameter	Criterion	Field Classification	Technical Rationale
Metal Leaching	Arsenic	As < 70 ppm	Low risk of metal leaching	Appendix A
		As > 70 ppm	Moderate to high risk of metal leaching	
ARD	Total Sulphur	Total Sulphur < 1%	Non-PAG	Figure 4-9
		Total Sulphur > 1%	PAG*	

*PAG is used in the context of field classification for the purposes of assessing waste rock as construction rock, however the majority of waste rock will likely be geochemically defined as non-PAG on the basis of NP/AP (refer to Figure 4-9).

5.2 pXRF as a Field Tool for Classification

Section 4.3 demonstrates that pXRF is a reliable field tool for quantifying arsenic and sulphur content but that pXRF data must by calibrated, or adjusted. The methods to derive the pXRF calibration factors for arsenic and total sulphur are presented in Appendix A and are summarized herein.

5.2.1 Arsenic

The purpose of the arsenic pXRF calibration factor is to calculate the equivalent arsenic content by aqua regia digestion. The pXRF arsenic calibration factor for -2 mm sample material is:

$$As(aqua\ regia) = 1.1 * (pXRF\ As) + 8.9 \qquad \text{Equation 1}$$

where As(aqua regia) is the calculated equivalent arsenic content by aqua regia digestion in units of ppm and (pXRF As) is raw pXRF data in units of ppm. The pXRF can be programmed to automatically calculate the calibrated pXRF arsenic value.

Replicate pXRF measurements indicate that waste rock classification based on the pXRF arsenic method may result in misclassification of some construction material. To mitigate misclassifications, SRK recommends that for samples with calibrated pXRF content between 50 and 90 pp, TMAC take triplicate pXRF arsenic measurements of each sample and classify samples based on the maximum pXRF arsenic value.

5.2.2 Sulphur

The purpose of the sulphur pXRF calibration factor is to calculate the equivalent sulphur content determined by the Leco method. The pXRF sulphur calibration factor for -2 mm sample material is:

$$S(Leco) = 2.7 * (pXRF\ S) + 0.22 \qquad \text{Equation 2}$$

where S(Leco) is the calculated equivalent sulphur content by Leco in units of % and (pXRF S) is raw pXRF data in units of %. The pXRF can be programmed to automatically calculate the calibrated pXRF sulphur value.

Replicate measurements of pXRF sulphur are not required for classification of waste rock as non-PAG.

5.3 Field Classification Method

This section provides field classification method to identify waste rock that is suitable for use as construction material and requires segregation. Based on review of arsenic and sulphur data, a combination of geological observations (rock type) and pXRF data are recommended for identifying and classifying waste rock that is suitable for construction.

The rationale for segregating according to geology is to avoid rock types with high potential of ML and/or ARD and is summarized as follows (Figure 4-2 and Figure 4-9):

- More than half of samples of mafic metavolcanics with sediments (1aj) contained arsenic content above the criterion of 70 ppm. Rock type 1aj will not be used for construction.
- All samples of sedimentary units (5) contained arsenic content above the criterion of 70 ppm and selected samples were classified as uncertain or PAG. All samples of rock type 5 classified as non-PAG contained less than (<) 1% total sulphur. Rock type 5 was the only rock type to be classified as uncertain or PAG therefore it is anticipated that all other waste rock types, including 1aj, will have a low risk for ARD. Nevertheless, a 1% sulphur criterion will be applied as a geochemical criterion to segregate waste rock. Rock type 5 will not be used for construction.

pXRF is the recommended screening tool to quantify arsenic content in the field. Sections 5.1 and 5.2 outline the arsenic criterion to identify waste rock with low risk for pH neutral arsenic leaching and pXRF calibration factor for -2 mm samples. Conceptually, the steps in the segregation plan are outlined in Figure 5-1 and are summarized as follows:

- Prior to blasting, collect representative sample(s) of drill cuttings. Conduct geological inspection to determine rock type.
- For each blast round, collect representative sample(s) of drill cuttings for pXRF analysis. The frequency and pattern of blasthole sampling will be sufficiently representative of the blast round and be determined by TMAC geology.

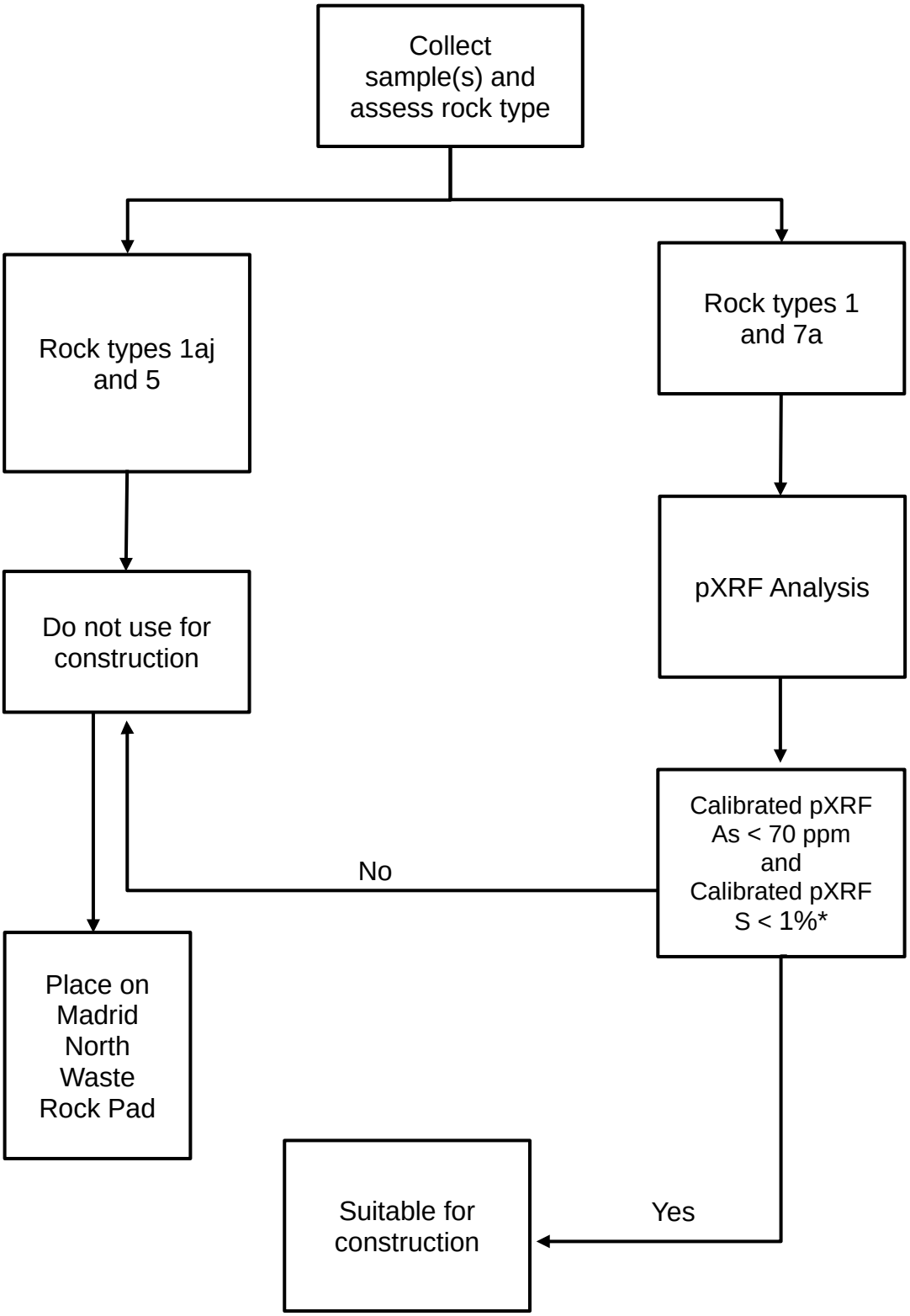
- Isolate the -2 mm size fraction using a sieve and analyze by pXRF to determine the calibrated value of arsenic and sulphur content (Equations 1 and 2).

Sample collection, classification and segregation methods need to consider the following

- Identify waste rock that is suitable for construction within a blast round;
- Define dig limits to delineate waste rock to be used from construction from that with risk of arsenic leaching and/or ARD, with segregation based on rock type, arsenic and/or sulphur.
- The practicalities of segregation, e.g. segregation of rock types 1aj and 5, which can be present at thin intervals and typically have arsenic content above the criterion.
- Operational sampling methods are to be developed by TMAC and in consultation with SRK.

5.4 Monitoring and Verification

Monitoring and verification is outlined in TMAC's Waste Rock, Ore and Mine Backfill Management Plan (TMAC 2019), including: geological inspection; solids sampling of as-built structures; freshet seepage surveys and maintaining records of volumes of waste rock placed on the waste stockpile pad; and volumes and locations of waste rock deemed acceptable for use as construction rock.



***Refer to Table 5-1, Equation 1 and Equation 2**

Figure 5-1: Schematic Outlining Method of Identifying Waste Rock for Construction

6 Conclusions and Recommendations

SRK conducted a geochemical test work program to determine if NE CPR waste rock is geochemically suitable for use as construction rock. The specific objectives of the study are summarized as follows:

- Assess the metal leaching and acid rock drainage potential of waste rock from the NE CPR, where the risk of metal leaching risk is neutral pH leaching of arsenic.
- Establish geochemical criterion to identify NE CPR with low risk of ML/ARD.
- Assess pXRF as a field monitoring tool to classify waste rock with low risk of ML/ARD that is geochemically suitable for use as construction rock.

6.1 Summary of Geochemical Characterization Program

The findings of the study are summarized as follows:

- The criteria for classify waste rock as construction rock are as follows:
  - As < 70 ppm classifies waste rock as having a low risk of neutral pH arsenic leaching. Rock types mafic metavolcanics with sediments (1aj) and sedimentary units (5) had a high proportion of samples with arsenic content greater than 70 ppm.
  - Sulphur < 1% classifies waste rock as non-PAG. Only samples of sedimentary units (5) were classified as uncertain or PAG whereas all other rock types were classified as non-PAG.
- The pXRF trial indicated the following:
  - pXRF is a suitable field tool to measure arsenic and sulphur content in waste rock.
  - A -2 mm size fraction can be analyzed by pXRF to measure arsenic and sulphur content.
  - pXRF requires a calibration factor for arsenic and sulphur that is specific to the -2 mm fraction and NE CPR waste rock to accurately quantify arsenic and sulphur by aqua regia digestion and Leco, respectively. This study provides the basis for determining the calibration factors.
  - To mitigate misclassifications by pXRF, SRK recommends that for samples with calibrated pXRF arsenic content between 50 and 90 pp, TMAC take triplicate pXRF arsenic measurements of each sample and classify samples based on the maximum pXRF arsenic value. One measurement of pXRF sulphur consistently classified waste rock as non-PAG or PAG.

- Exploration drilling intersected four rock types within NE CPR, with arsenic content and potential construction suitability summarized as follows:
  - Mafic metavolcanics (1) were the most volumetrically significant and ubiquitous sample type. Samples with high arsenic content (>150 ppm) tended to be (but not necessarily) in contact with sedimentary units or proximal to the ore body. A high proportion of this rock type is expected to be suitable for construction with 75% of samples containing less than 80 ppm arsenic and should be assessed using the pXRF method described in this report.
  - Mafic metavolcanics with sediments (1aj) tended to be localized in the northern extent of the pit and/or proximal to the ore body with downhole drillhole as thin as 2 m (but thicker intervals were also present). Approximately 25% of this rock type is projected to be geochemically suitable for construction, based on 25th percentile concentrations of 80 ppm.
  - Sedimentary Units (5): arsenic content was the highest, with minimum values of 89 ppm and median values of 163 ppm. Rock type 5 is typically present in thin intervals (~1 m). This rock type is not considered suitable for construction.
  - Gabbro (7a): concentrations for all samples were below 10 ppm with distribution within NE CPR in outcrop and also continuous and long (10's of metres) intervals. Outcrop mapping and logging of drillcore suggests that gabbro is potentially a volumetrically significant waste rock type in NE CPR. This rock type is expected to be suitable for construction and should be assessed using the pXRF method described in this report.
- Arsenic by 4-acid digestion can be used to assess the distribution of waste rock in NE CPR with low risk pH neutral arsenic leaching.

6.2 Summary of Field Classification Method of Construction Rock

Conceptually, the steps in the field-based segregation program to identify waste rock as construction rock are outlined in Figure 5-1. The conceptual segregation program is based on identification and classification of waste rock according to ML/ARD potential based on geological inspection and calibrated pXRF values of arsenic and sulphur, as determined on samples of sieved drill cone cuttings that are representative of the blast round.

In summary, waste rock suitable for use as construction rock will satisfy the following criteria:

- Geologically defined as mafic metavolcanics (1) or gabbro (7a);
- Low risk of metal leaching (As < 70 ppm); and
- Low risk of ARD (S < 1%).

Waste rock that is not suitable for use as construction rock will be placed on the Madrid North waste rock stockpile pad and be classified as any of the following:

- Geologically defined as mafic metavolcanics with sediments (1aj) or sedimentary units (5);

- Moderate to high risk of metal leaching (As > 70 ppm); OR
- Potential risk of ARD (S > 1%). Of note is that the only samples classified as uncertain or PAG were rock type 5, therefore waste rock with sulphur content greater than 1% that are not rock type 5 will likely be classified as non-PAG on the basis of NP/AP (owing to the high carbonate content in the waste rock).

Moreover, the waste rock geochemical monitoring program as outlined in TMAC's Waste Rock, Ore and Mine Backfill Management Plan (TMAC 2019) will be implemented by TMAC.

6.3 Recommendations

- SRK and TMAC to collaboratively develop a practical and implementable operational segregation plan based on the results of this study. The plan should include methods for collecting representative samples, identifying geochemically suitable construction rock, defining dig limits, and ultimately segregating waste rock. Further to this, once segregated, all waste rock needs to be volumetrically and spatially tracked to assess the implemented plan.
- Implement drilling and blasting practices for NE CPR waste rock as currently used for quarry development, which does not include the use of brines and uses lower amounts of explosives.

This report, Classification of Waste Rock in Support of Segregating Construction Rock from Naartok East Crown Pillar Recovery, Madrid North, Hope Bay Project, was prepared by:

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All data used as source material plus the text, tables, figures, and attachments of this document have been reviewed and prepared in accordance with generally accepted professional engineering and environmental practices.

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The opinions expressed in this report have been based on the information available to SRK at the time of preparation. SRK has exercised all due care in reviewing information supplied by others for use on this project. Whilst SRK has compared key supplied data with expected values, the accuracy of the results and conclusions from the review are entirely reliant on the accuracy and completeness of the supplied data. SRK does not accept responsibility for any errors or omissions in the supplied information, except to the extent that SRK was hired to verify the data.

7 References

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Appendix A – Criteria and pXRF Calibration Factors in Support of Classifying Waste Rock as Construction Rock, NE CPR

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Memo

To:	Ashley Mathai	**Client:**	TMAC Resources Inc.
From:	Lisa Barazzuol	**Project No:**	1CT022.037
Cc:		**Date:**	July 26, 2019
Subject:	Criteria and pXRF Calibration Factors in Support of Classifying Waste Rock as Construction Rock, NE CPR		

1 Introduction

TMAC retained SRK Consulting (Canada) Inc. to conduct a geochemical characterization program to assess the ML/ARD potential, including arsenic content, for NE CPR waste rock; and also methods for identifying and classifying waste rock with low risk of neutral pH arsenic leaching that would be suitable for use in construction. The latter includes establishing a segregation criterion for arsenic and evaluating the viability of using portable X-ray fluorescence (pXRF) as a field tool to quantify arsenic content in waste rock.

This memorandum documents the following:

- Technical rationale for an arsenic content criterion to classify Naartok East Crown Pillar Recovery (NE CPR) waste rock as low risk for neutral pH arsenic, cobalt and nickel leaching.
- Site-specific pXRF arsenic calibration factor for NE CPR waste rock.

2 Conceptual Geochemical Model

The conceptual geochemical model (CGM) provides a framework to identify geochemical parameters indicative of pH neutral arsenic leaching from waste rock with the overall objective of identifying and segregating waste rock with low potential for arsenic leaching that would be suitable for use as construction rock. The CGM is outlined as follows:

- The kinetic test program of waste rock and ore for Madrid North, Madrid South and Boston (SRK 2017a, 2017b and 2017c) suggested that neutral pH leaching of arsenic, and to a lesser degree cobalt and nickel were related to the presence of the trace sulphide mineral gersdorffite ((Fe,Co,Ni)AsS). Given that the arsenic leaching potential is governed by similar controls, the combined kinetic test sample set for these deposits can be used to assess arsenic leaching of Madrid North waste rock. Kinetic test data for humidity cell and barrel tests from these three aforementioned areas are summarized in Table 2-1.

- Trace levels of gersdorffite (i.e. above the analytical detection of the MLA mineralogical method) were identified for samples with arsenic content greater than approximately 100 ppm (Figure 2-1).
- Samples containing lower solid-phase arsenic content exhibited lower arsenic leaching rates and concentrations for HCTs and barrel tests (Figure 2-2 to Figure 2-4).
- A sample collected from within the boundaries of the NE CPR (HC-40 - gabbro) had low initial and stable arsenic release rates of 0.004 and 0.002 mg/kg/week respectively.
- Conceptually, samples containing low levels of solid-phase arsenic and with low risk of arsenic leaching will also have low risk of cobalt and nickel leaching (Table 2-1). This is due to the relationship between arsenic, cobalt and nickel leaching and the presence of the mineral gersdorffite.
- Barrel average rates are lower than HCT stable rates, owing to (but not limited to) factors such as differences in grain size, solid to solution ratio and temperature (site versus lab conditions).
- Barrel tests contain Hope Bay waste rock that weathers under site climatic conditions. Accordingly, barrel leachate concentrations are more representative of potential arsenic seepage concentrations from waste rock.
- For NE CPR waste rock, the blasting practices will be the same as quarry rock, so the leaching of ammonia and chloride will be similar. Brines are not used for drilling; therefore, chloride leaching not an issue

Table 2-1: Selected Mineralogy, Solids and Kinetic Test Data from the Madrid North, Madrid South and Boston Kinetic Test Program

Rock Type[1]	Description	Mine Area	Humidity Cell/ Barrel ID	Preliminary Economic Classification	Arsenopyrite (FeAsS)	Cobaltite (CoAsS)	Gersdorfite (Fe,Co,Ni)AsS	Arsenic					Sulphur		Cobalt		Nickel	Nickel
								Solids	Release Rate[2]	Concentrations			Solids as Total S	SO4 Release Rate[2]	Solids	Release Rate[2]	Solids	Release Rate[2]
										HC initial	Barrel Av.	Barrel Max						
					%	%	%	ppm	mg/kg/week	mg/L	mg/L	mg/L	%S	mg/kg/week	ppm	mg/kg/week	ppm	mg/kg/week
1	Ultramafic to Mafic Metavolcanic Rocks	Madrid North	HC-9	Waste	bd	-0.01	bd	2.6	0.00023	0.001	--	--	0.07	0.66	33	0.000036	65	0.000065
		Madrid North	HC-3	Waste	--	--	--	6.7	0.0008	0.001	--	--	0.17	0.75	46	0.000033	68	0.000055
		Madrid North	HC-26	Ore	bd	bd	0.015	630	0.0067	0.068	--	--	3.9	25	70	0.0003	390	0.0021
		Madrid North	HC-8	Mixed	bd	-0.01	0.011	120	0.013	0.027	--	--	0.26	2.2	70	0.000029	480	0.00012
		Madrid North	HC-25	Waste	bd	0.013	0.014	110	0.065	0.28	--	--	0.4	2.1	47	0.00047	150	0.00076
		Madrid North	HC-28	Ore	bd	-0.001	0.02	430	0.077	0.037	--	--	1.3	10	44	0.00055	130	0.00089
		Madrid North	HC-27	Waste	bd	-0.01	0.014	120	0.16	0.081	--	--	0.15	1.3	45	0.00062	140	0.00055
		Madrid North	HC-24	Ore	bd	-0.001	0.029	630	0.16	0.15	--	--	2.2	3.1	47	0.00025	260	0.001
		Madrid South	W7	Waste	bd	bd	bd	2.6	0.000002	--	0.00019	--	0.07	0.019	33	0.00000029	#N/A	0.0000024
		Madrid South	W4	Waste	--	--	--	6.7	0.0000097	--	0.0006	0.014	0.17	0.028	46	0.0000003	#N/A	0.0000015
		Boston	W6	Mixed	bd	bd	0.011	120	0.0018	--	0.088	2.4	0.26	0.066	70	0.00000082	#N/A	0.000014
1 w. sediments	Mafic Metavolcanic Rocks with Sediments	Boston	HC-17	Waste	bd	-0.01	bd	11	0.00032	0.0025	--	--	0.37	1.7	57	0.000022	190	0.00003
		Boston	W11	Mixed	--	--	--	#N/A	0.00042	--	--	--	0.66	0.25	76	0.0000018	#N/A	0.000015
2pg	Pale Green Pillow	Madrid North	HC-4	Mixed	--	--	--	3.1	0.00021	0.0012	--	--	0.1	1.1	42	0.000028	140	0.00011
		Madrid North	HC-18	Waste	bd	-0.01	bd	10	0.0073	0.0018	--	--	0.12	0.8	46	0.000029	150	0.000045
		Madrid North	W3	Mixed	--	--	--	#N/A	0.00021	--	--	--	0.1	0.016	#N/A	0.00000056	#N/A	0.0000038
2pg mixed	Mixed Pale Green Pillow	Madrid South	HC-19	Waste	bd	-0.001	bd	8.2	0.00032	0.0047	--	--	0.24	4.8	51	0.000055	140	0.00022
5	Sedimentary Units (Argillite)	Boston	HC-21	Waste	bd	-0.001	bd	86	0.00018	0.0008	--	--	3.5	41	41	0.0001	76	0.00019
		Boston	HC-20	Waste	bd	-0.001	0.094	160	0.33	1.1	--	--	0.43	2.9	15	0.0015	95	0.018
5 mixed3	Mixed Sedimentary Units	Boston	W14	Mixed	--	--	--	#N/A	0.01	--	--	--	0.85	0.22	#N/A	0.000041	#N/A	0.00098
7a	Early Gabbro	Madrid North	HC-40	Waste	bd	-0.001	bd	7.1	0.0022	0.0063	--	--	0.11	1.1	45	0.000017	110	0.00003
		Madrid North	HC-41	Waste	bd	-0.001	0.035	270	0.27	0.2	--	--	0.27	1.6	52	0.00041	180	0.00092
		Boston	W8	Waste	--	--	--	#N/A	0.0000078	--	--	--	0.08	0.017	#N/A	0.00000021	#N/A	0.0000012
11c	Diabase	Boston	HC-22	Waste	bd	bd	bd	3.1	0.00062	0.008	--	--	0.02	2.2	20	0.000017	25	0.00012
		Boston	HC-23	Waste	bd	bd	bd	27	0.0013	0.016	--	--	0.07	1.5	22	0.0000093	52	0.000019
13a	Deformation Zone	Madrid North	HC-30	Waste	bd	bd	bd	2	0.00016	0.0022	--	--	0.55	4.1	80	0.000017	310	0.00003
		Madrid North	HC-39	Waste	bd	bd	<0.01	64	0.0029	0.063	--	--	0.54	1.7	14	0.000056	24	0.00029
		Madrid North	HC-5	Waste	<0.01	<0.01	<0.01	73	0.037	0.035	--	--	0.16	0.87	30	0.00029	45	0.00019
		Madrid North	HC-29	Waste	bd	<0.001	0.01	77	0.065	0.31	--	--	0.19	1	36	0.00064	120	0.00053
		Madrid North	W2	Waste	<0.01	<0.01	<0.01	#N/A	0.0052	--	--	--	0.16	0.14	#N/A	0.000048	#N/A	0.000056

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Note:

[2]Rate is average for barrel tests and stable rate for humidity cell test (HCT).

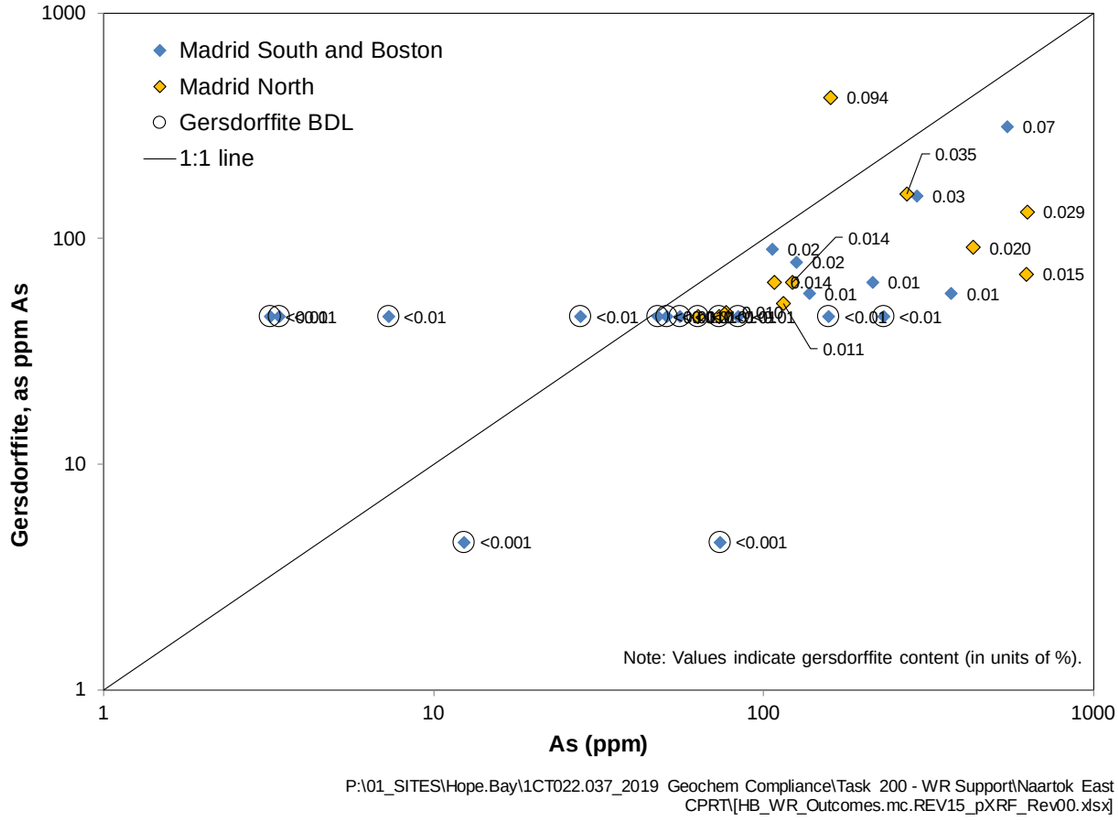

Figure 2-1: Comparison of Arsenic and Gersdorffite Content, Hope Bay Samples

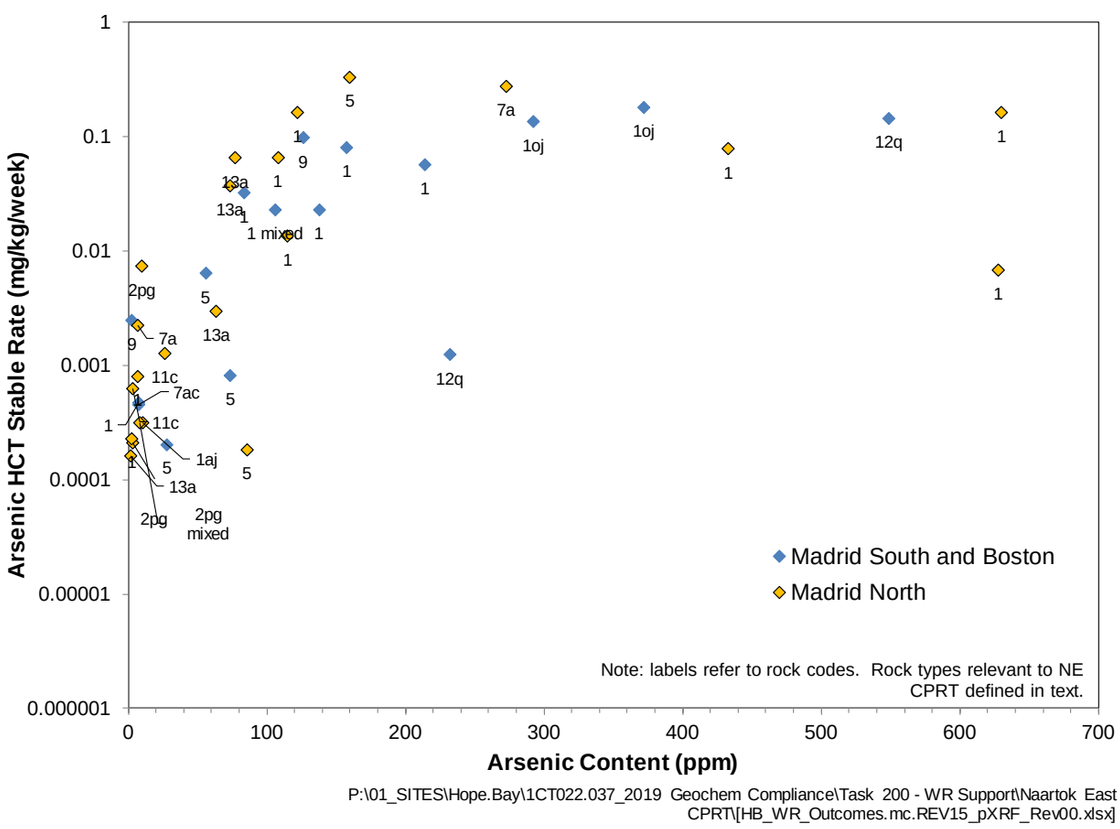

Figure 2-2: Comparison of Arsenic Content and HCT Stable Rates, Hope Bay Samples

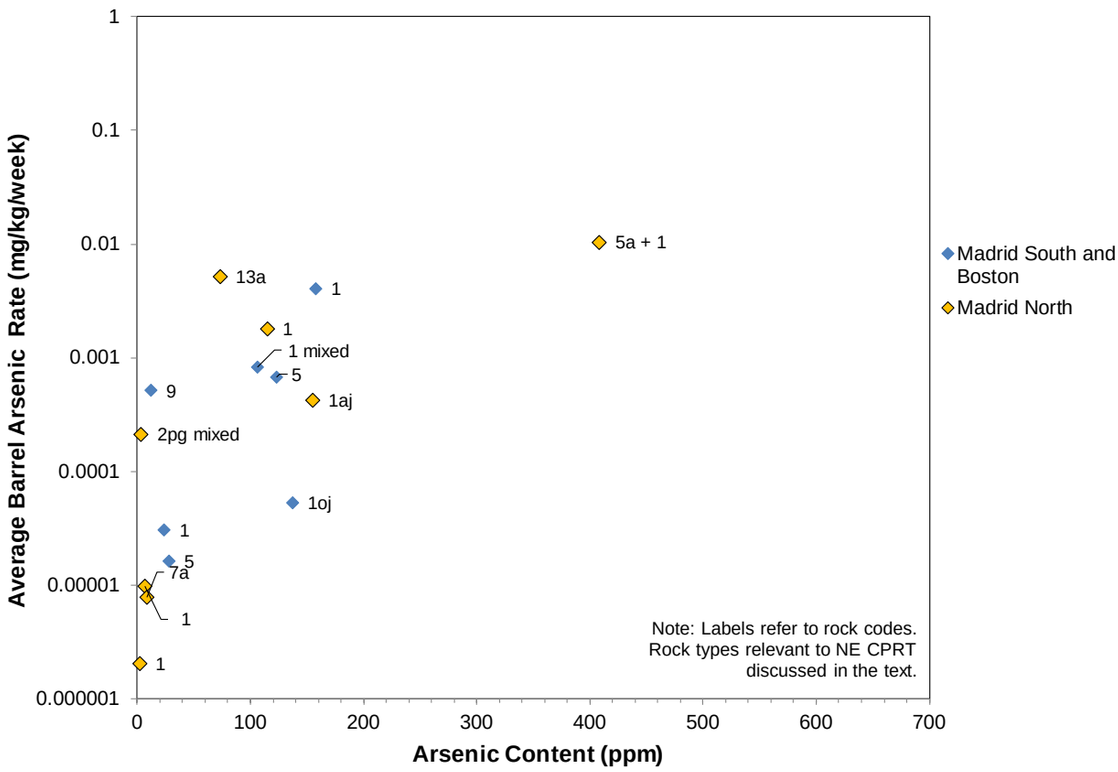

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Figure 2-3: Comparison of Arsenic Content and Average Barrel Rates, Hope Bay Samples

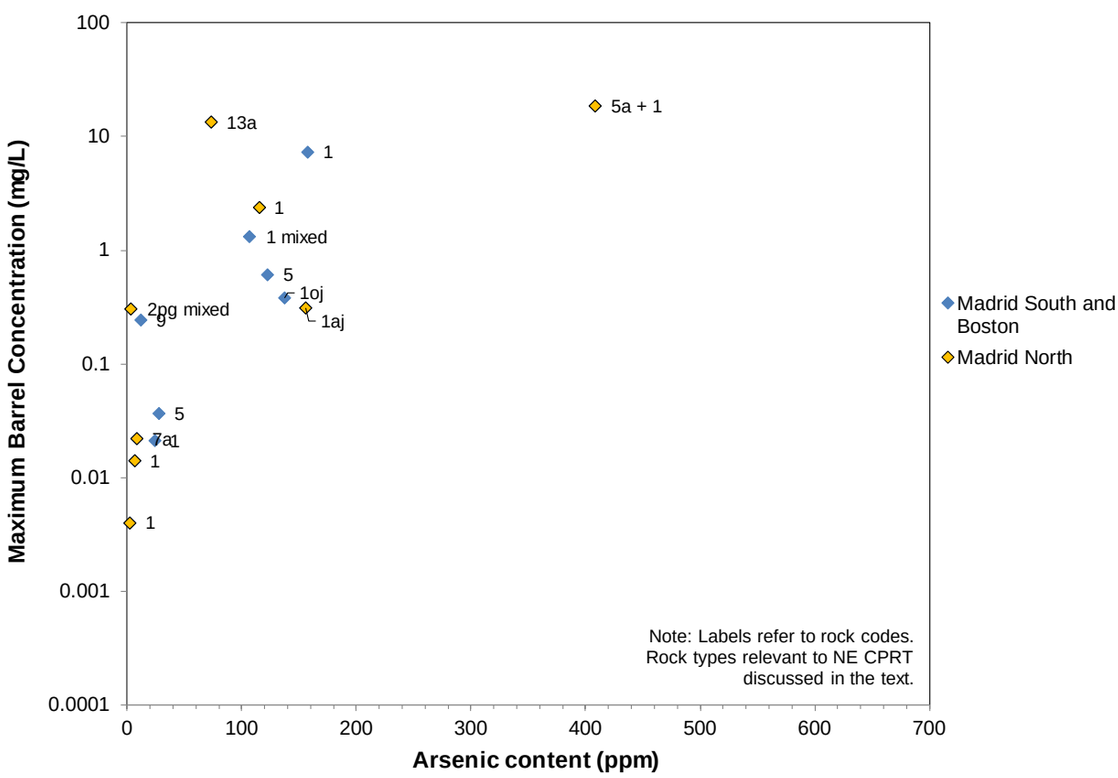

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Figure 2-4: Comparison of Arsenic Content and Maximum Barrel Leachate Concentrations

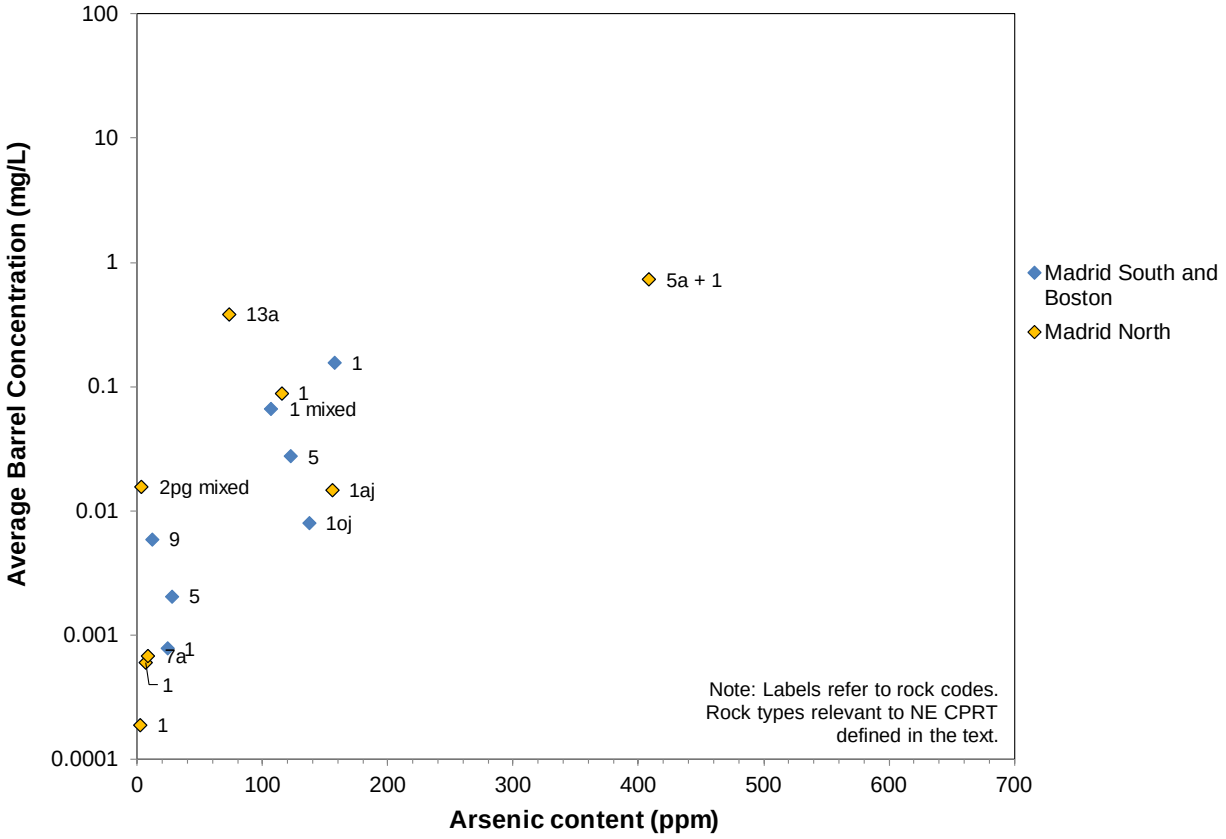

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Figure 2-5: Comparison of Arsenic Content and Average Barrel Leachate Concentrations

3 Application of pXRF to Segregate Waste Rock

3.1 Derivation of Arsenic Criterion

As outlined in Section 2, there is a relationship between arsenic content and neutral pH arsenic leaching. On the basis of the CGM, Table 3-1 compares solid-phase arsenic content and variables related to neutral pH arsenic leaching and provides the basis of deriving the arsenic criterion to classify waste rock as construction rock. An arsenic criterion of 70 ppm was derived based on the following:

- For all rock types with As < 100 ppm, samples contain gersdorffite below the limit of detection. Kinetic test samples exhibiting neutral pH leaching of arsenic contained trace levels of gersdorffite and As > 100 ppm.
- For all rock types with As < 70 ppm, arsenic stable leaching rates in HCTs were uniformly low (<0.1 mg/kg/week), with average barrel leaching rates at least an order of magnitude lower. When considering only NE CPR rock types (1, 7a, 5) average barrel rates are two orders of magnitude lower than HCT rates. There are no barrel tests with As content between 30 and 70 ppm, however the HCT samples with As < 70 ppm have uniformly low leaching rates.
- For barrel containing for NE CPR rock types (1, 7a, 5) with As < 30 ppm, average and maximum concentrations were <0.002 and <0.037 mg/, respectively and were the lowest of the overall sample set.

Table 3-1: Comparison of Arsenic Solid-Phase Content and pH Neutral Arsenic Leaching

As content	Variable				Comment
	Figure	Parameter	Rock Type	Value	
As < 100 ppm	Figure 2-1	Gersdorffite	All	Below detection	Selected samples with arsenic > 100 ppm have gersdorffite BD.
As < 70 ppm	Figure 2-2	HCT As stable rate	All	<0.0073 mg/kg/week	For As > 70 ppm, rates > 0.01 mg/kg/week
	Figure 2-3	Barrel As average rate	No barrel samples with arsenic content between 30 and 70 ppm		
As < 30 ppm	Figure 2-3	Barrel As average rate	All	<0.0024 mg/kg/week	
			NE CPR rock types[1]	<0.00003 mg/kg/week	
	Figure 2-4	Barrel As maximum concentration	All	<0.31 mg/L	
			NE CPR rock types	<0.037 mg/L	
	Figure 2-5	Barrel As average concentration	All	<0.00018 to 0.15 mg/L	
			NE CPR rock types	<0.002 mg/L	

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[1]NE CPR waste rock types include 1, 1oj/1aj, 5 and 7a

3.2 pXRF Calibration

3.2.1 Arsenic

SRK derived the calibration factor for pXRF arsenic based on sensitivity analyses of the results of different calibration factors for values above and below the arsenic criterion of 70 ppm. The calibration factor was based on the following data set (Figure 3-1):

- NE CPR pXRF waste rock sample set (SRK 2019a)
- -2 mm size fraction with aqua regia arsenic content greater than (>) 12 ppm. For samples with aqua regia arsenic <12 ppm, pXRF data were excluded because values were within the range of analytical uncertainty.
- Minimum pXRF arsenic value.

The purpose of the arsenic pXRF calibration factor is to calculate the equivalent arsenic content by aqua regia digestion. The pXRF arsenic calibration factor for -2 mm sample material is:

$$\text{pXRF As(aqua regia)} = 1.1 * (\text{pXRF As}) + 8.9 \qquad \text{Equation 1}$$

where As(aqua regia) is the calculated equivalent arsenic content by aqua regia digestion in units of ppm and (pXRF As) is raw pXRF data in units of ppm. The pXRF can be programmed to automatically calculate the calibrated pXRF arsenic value.

For each sample, TMAC conducted pXRF analyses in triplicate to assess sample heterogeneity. To assess the classification of waste rock for use as construction rock using pXRF, Figure 3-2 and Figure 3-3 present the calibrated values of minimum and maximum pXRF arsenic content, respectively (as calculated using Equation 1) compared to arsenic content as determined by aqua regia digestion.

Table 2 summarizes the outcome of the waste rock classification method using pXRF of the NE CPR sample set based on a 70 ppm arsenic criterion and indicates that pXRF classified waste rock samples correctly with one exception. One sample of mafic metavolcanics with arsenic by aqua regia of 74 ppm would not be suitable for construction; however, based on the calibrated minimum value of pXRF (67 ppm), this sample would be operationally classified as suitable for construction. The calibrated pXRF value based on maximum pXRF arsenic resulted in the correct classification.

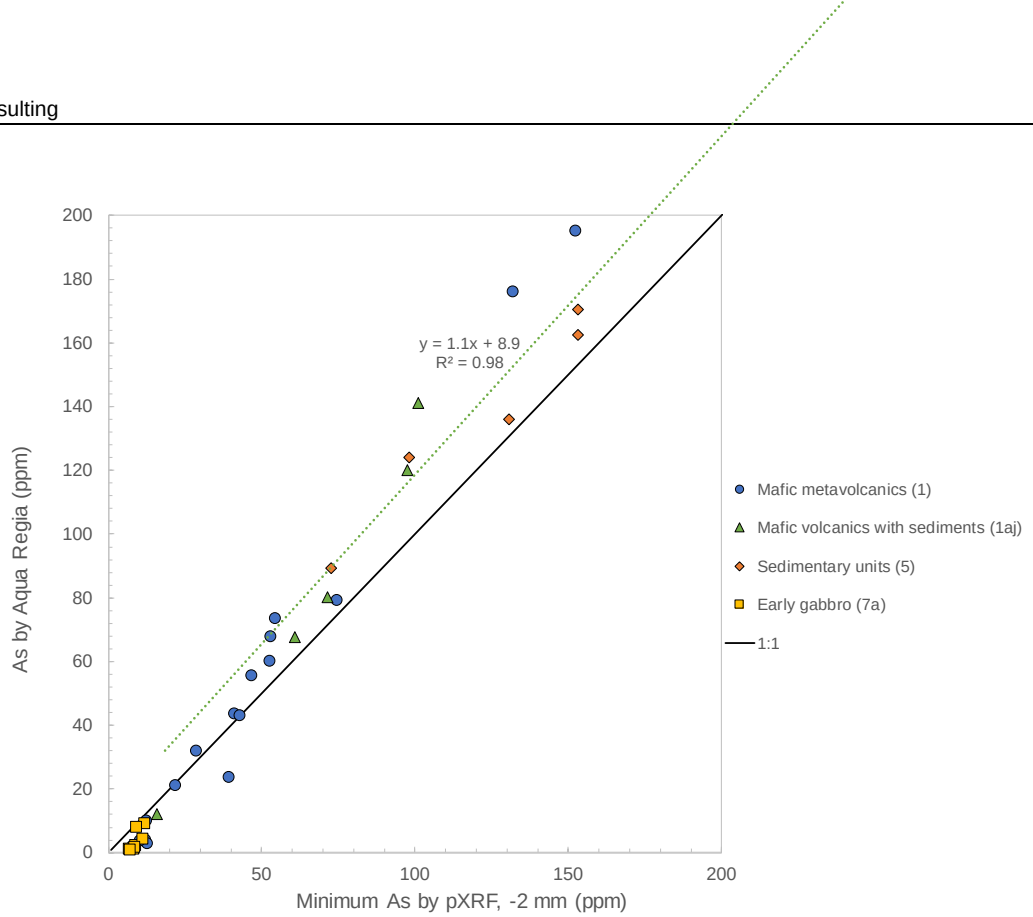

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Figure 3-1: Comparison of Arsenic Content by Aqua Regia Digestion and pXRF, -2 mm Fraction

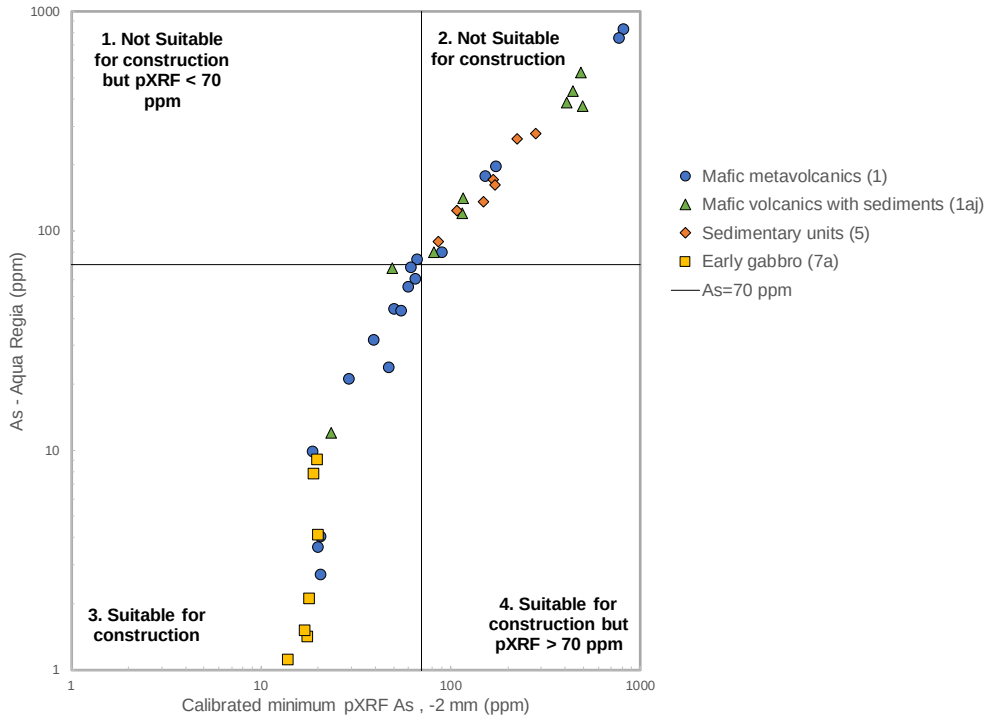

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Figure 3-2: Comparison of Arsenic Content by Aqua Regia Digestion and Calibrated Minimum pXRF Value, -2 mm Fraction

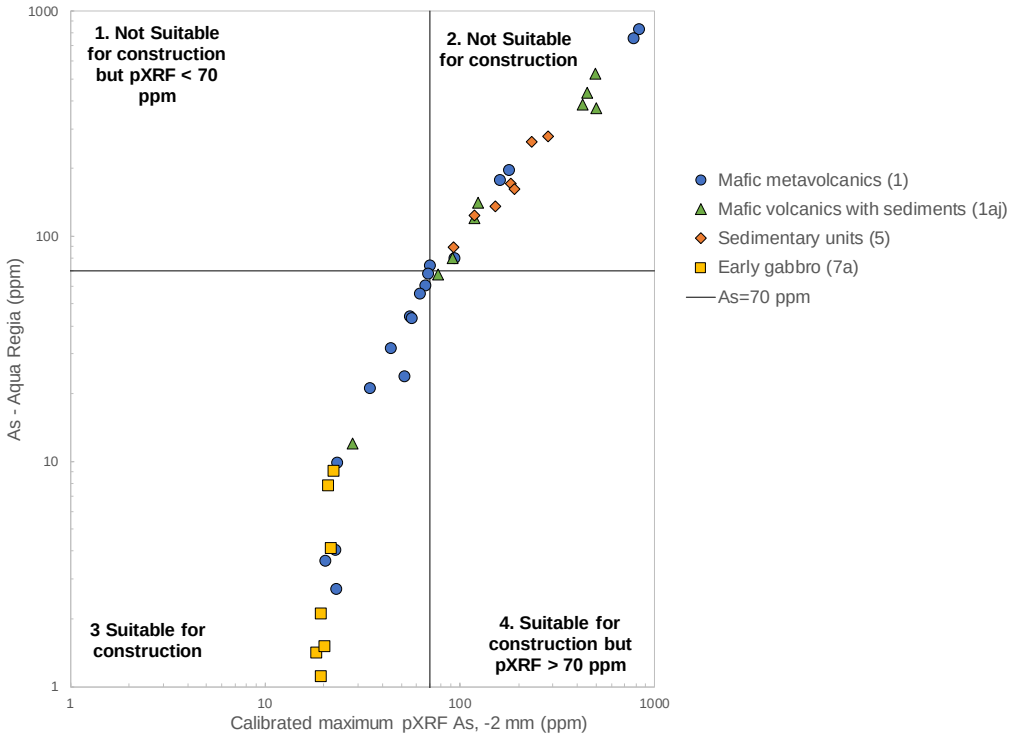

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Figure 3-3: Comparison of Arsenic Content by Aqua Regia Digestion and Calibrated Maximum pXRF Value, -2 mm Fraction

Table 2: Summary of Sample Classification by Calibrated pXRF (Figure 3-2 and Figure 3-3)

Quadrant #	Waste Rock Classification As(AR) > 70 ppm	Operational Classification pXRF < 70 ppm	Interpretation of Samples within this Quadrant	SRK Comment
1.	Not suitable for construction	Suitable for construction	Incorrect classification by pXRF	One sample within this quadrant in Figure 3-2 (minimum pXRF value).
2	Not suitable for construction		Correct classification by pXRF	
3	Suitable for construction		Correct classification by pXRF	
4	Suitable for construction	Not suitable for construction	Incorrect classification by pXRF	No samples within this category

Recommendations for pXRF analysis of Arsenic

Replicate pXRF measurements indicate that waste rock classification based on the pXRF arsenic method may result in misclassification of some construction material. To mitigate misclassifications, SRK recommends that for samples with calibrated pXRF arsenic content between 50 and 90 pp, TMAC take triplicate pXRF arsenic measurements of each sample and classify samples based on the maximum pXRF arsenic value.

3.2.2 Total Sulphur

SRK derived the calibration factor for pXRF sulphur based on the following data set (Figure 3-1):

- NE CPR pXRF waste rock sample set (SRK 2019a)
- -2 mm size fraction with total sulphur content greater than (>) 01%. For samples with total sulphur <0.1%, pXRF data were excluded to improve the accuracy of the calibration factor near the sulphur criterion of 1%.
- Median pXRF sulphur value.

The purpose of the sulphur pXRF calibration factor is to calculate the equivalent sulphur content determined by the Leco method. The pXRF sulphur calibration factor for -2 mm sample material is:

$$S(Leco) = 2.7 * (pXRF\ S) + 0.22 \qquad \text{Equation 2}$$

where S(Leco) is the calculated equivalent sulphur content by Leco in units of % and (pXRF S) is raw pXRF data in units of %. The pXRF can be programmed to automatically calculate the calibrated pXRF sulphur value.

For each sample, TMAC conducted pXRF analyses in triplicate to assess sample heterogeneity. To assess the pXRF sulphur calibration factor, Figure 3-5 and Figure 3-6 present the calibrated values of maximum pXRF sulphur content (as calculated using Equation 2) compared to total sulphur by Leco and NP/AP, respectively. These comparisons indicate that the calibration factor for pXRF sulphur sufficiently calculates equivalent values of sulphur by Leco to identify non-PAG waste rock.

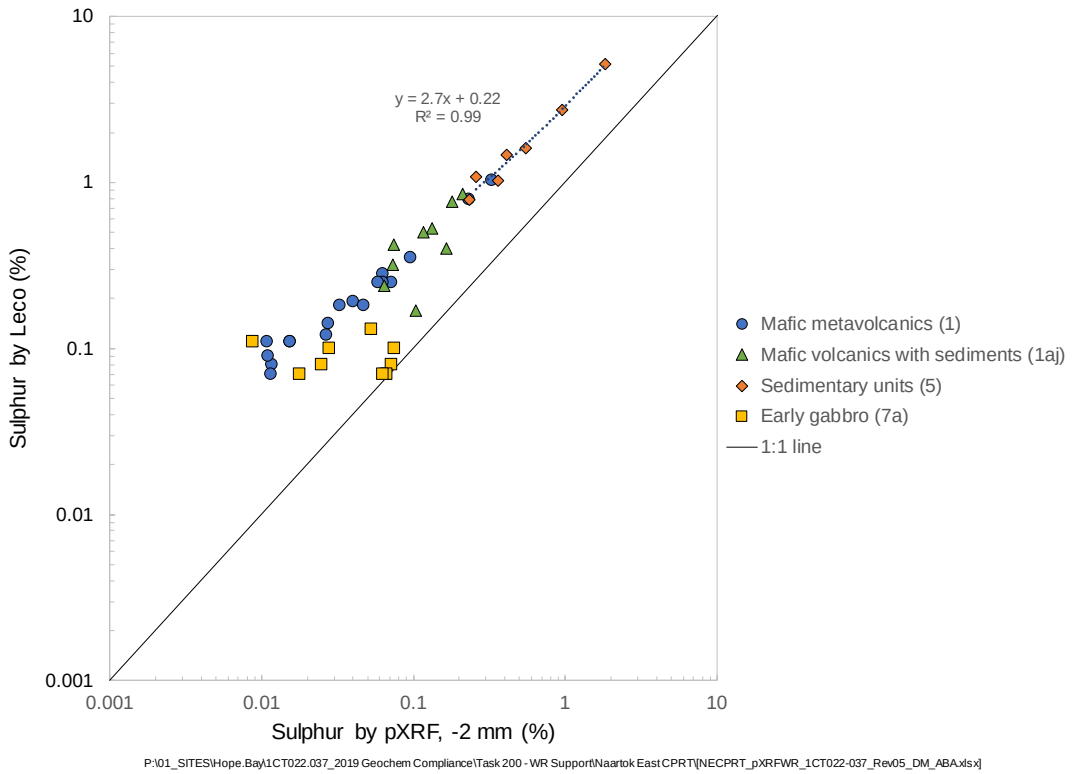

Figure 3-4: Comparison of Sulphur by Leco and pXRF, -2 mm Fraction

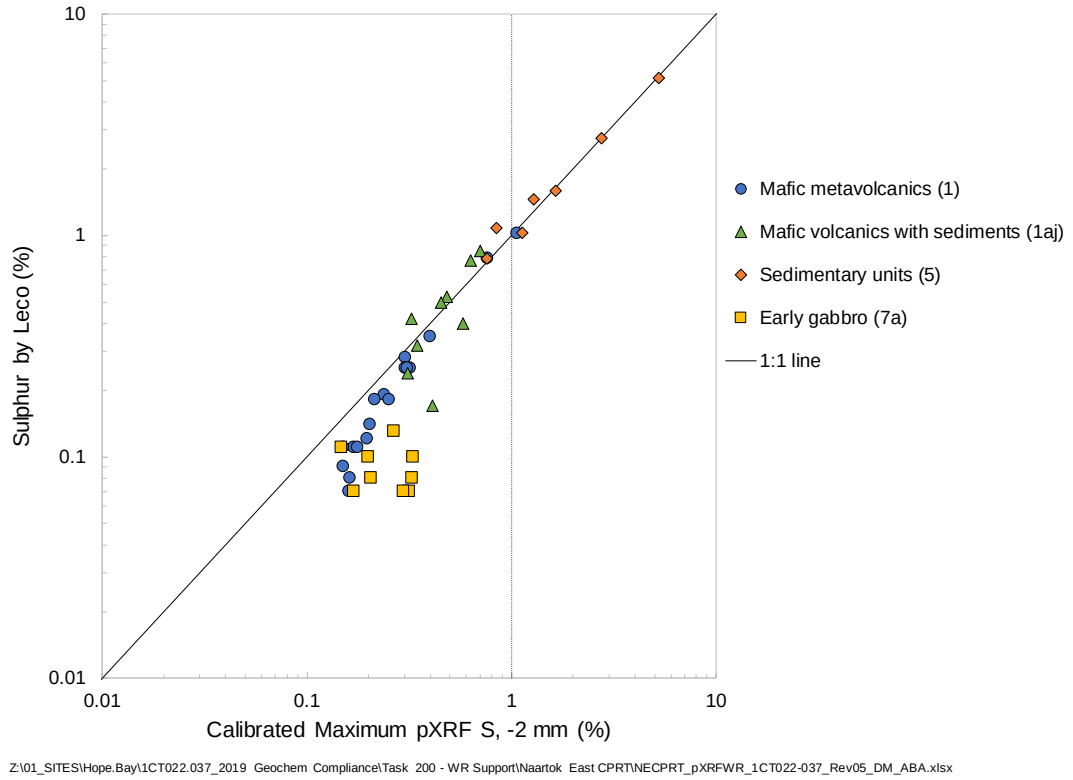

Figure 3-5: Comparison of Sulphur by Leco and Calibrated Maximum pXRF Value, -2 mm Fraction

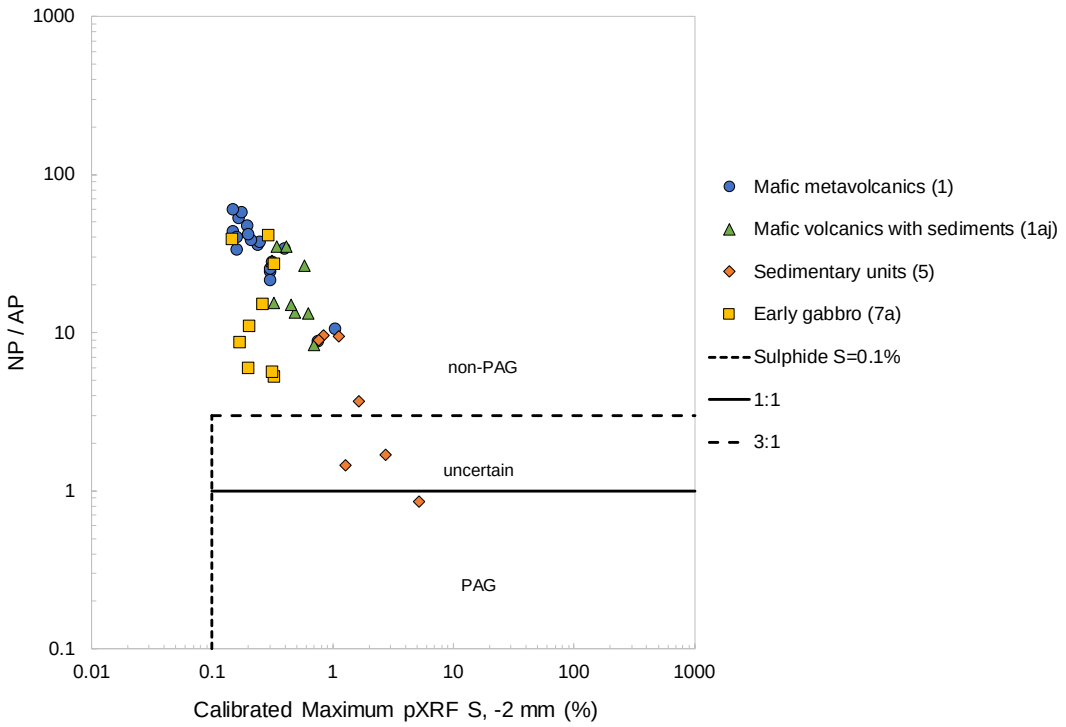

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Figure 3-6: Comparison of Maximum pXRF Value and NP/AP, -2 mm Fraction

Recommendations for pXRF analysis of Arsenic

One measurement of pXRF sulphur was sufficient for classifying waste rock as non-PAG or PAG.

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The opinions expressed in this report have been based on the information available to SRK at the time of preparation. SRK has exercised all due care in reviewing information supplied by others for use on this project. Whilst SRK has compared key supplied data with expected values, the accuracy of the results and conclusions from the review are entirely reliant on the accuracy and completeness of the supplied data. SRK does not accept responsibility for any errors or omissions in the supplied information, except to the extent that SRK was hired to verify the data.

4 References

SRK Consulting (Canada) Inc., 2017a. Geochemical Characterization of Waste Rock and Ore from the Madrid North Deposit, Hope Bay Project. Prepared for TMAC Resources Inc., 1CT022.013, November 2017.

SRK Consulting (Canada) Inc., 2017b Geochemical Characterization of Waste Rock and Ore from the Madrid South Deposit, Hope Bay Project. Prepared for TMAC Resources Inc., 1CT022.013, November 2017

SRK Consulting (Canada) Inc., 2017c. Geochemical Characterization of Waste Rock and Ore from the Boston Deposit, Hope Bay Project. Report Prepared for TMAC Resources Inc., 1CT022.013. November 2017.

Appendix B – Elemental Analysis Data (Aqua Regia Digestion)

Sample Descriptions							Aqua Regia Digestion (ME-MS41)																							
Location	ABA Sample ID	Geochem Unit	BHID	From	To	Length	Ag	Al	As	Au	B	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Cu	Fe	Ga	Ge	Hf	Hg	In	K	La	Li
				m	m	m	ppm	pct	ppm	ppm	ppm	ppm	ppm	ppm	pct	ppm	ppm	ppm	ppm	ppm	ppm	pct	ppm	ppm	ppm	ppm	ppm	pct	ppm	ppm
NE CPRT	TM00420-SRK-WR-07	1	TM00420	9	15.5	6.5	0.02	1.69	79	0.03	10	10	0.12	0.01	6.62	0.04	5.56	44.1	120	0.22	91.4	7.48	4.93	0.06	0.05	<0.01	0.029	0.13	2.3	23.1
NE CPRT	TM00420-SRK-WR-08	1	TM00420	15.5	23	7.5	0.03	4.66	9.8	<0.02	10	10	0.11	0.01	5.65	0.06	7.69	51	222	0.13	103.5	8.85	10.5	0.11	0.03	<0.01	0.044	0.07	3	84.4
NE CPRT	TM00420-SRK-WR-09	1	TM00420	23	29	6	0.02	3.64	67.7	0.02	10	10	0.14	0.01	5.42	0.02	7.4	46.5	169	0.24	95.6	8.87	7.72	0.08	0.03	<0.01	0.044	0.12	2.9	62.1
NE CPRT	TM00420-SRK-WR-10	1	TM00420	29	35.85	6.85	0.04	3.56	176	0.04	10	10	0.4	0.02	6.22	0.03	10.85	82.1	486	0.18	183	9.66	12.1	0.16	0.06	<0.01	0.062	0.06	4	70.2
NE CPRT	TM00421-SRK-WR-01	1	TM00421	6	9.29	3.29	0.15	1.3	750	0.77	10	20	0.41	0.02	9.83	0.09	11.05	82.7	317	0.12	206	7.76	4.18	0.06	0.07	<0.01	0.059	0.11	3.9	25.9
NE CPRT	TM00421-SRK-WR-03	1	TM00421	11.6	17	5.4	0.04	2.23	31.7	<0.02	10	10	0.12	0.02	6.27	0.03	7.92	50.7	121	0.17	108	7.63	5.02	0.05	0.03	<0.01	0.045	0.16	3	44.6
NE CPRT	TM00421-SRK-WR-04	1	TM00421	17	23	6	0.05	3.46	73.5	0.09	10	10	0.15	0.01	5.46	0.02	7.4	51	174	0.24	103.5	8.42	8.23	0.07	0.03	0.01	0.057	0.12	2.9	69.6
NE CPRT	TM00421-SRK-WR-05	1	TM00421	23	29	6	0.1	4.39	23.6	0.08	10	<10	0.12	0.01	7.26	0.32	7.47	46.7	210	0.07	90.5	8.29	10.1	0.13	0.03	<0.01	0.065	0.04	2.9	90.3
NE CPRT	TM00421-SRK-WR-05-DUP	1	TM00421	23	29	6	0.14	4.32	22.3	0.02	<10	<10	0.11	0.01	7.09	0.27	7.05	45.3	206	0.07	89.5	8.08	9.78	0.11	0.03	<0.01	0.058	0.04	2.8	85.4
NE CPRT	TM00421-SRK-WR-06	1	TM00421	29	35	6	0.02	4.58	21	<0.02	<10	10	0.14	0.01	5.16	0.04	9.42	52.8	209	0.1	105.5	8.67	10.6	0.11	0.03	<0.01	0.049	0.06	3.5	85.9
NE CPRT	TM00426-SRK-WR-24	1	TM00426	3	8	5	0.04	4.2	60	0.07	10	10	0.13	0.01	6.28	0.03	8.12	49.9	189	0.09	106.5	8.78	10.6	0.09	0.04	<0.01	0.053	0.05	3.1	35.9
NE CPRT	TM00426-SRK-WR-25	1	TM00426	8	14	6	0.03	5.2	4	<0.02	10	<10	0.11	0.01	6.5	0.07	9.16	49.5	218	0.07	108.5	9.27	11.85	0.14	0.05	<0.01	0.047	0.03	3.4	43.2
NE CPRT	TM00426-SRK-WR-25-DUP	1	TM00426	8	14	6	0.03	5.19	4	<0.02	10	<10	0.11	0.01	6.4	0.06	9.2	49.5	219	0.08	104.5	9.24	11.85	0.15	0.04	<0.01	0.045	0.03	3.4	42.6
NE CPRT	TM00426-SRK-WR-26	1	TM00426	14	19	5	0.02	4.33	43	0.02	10	10	0.13	0.01	4.93	0.02	7.07	49	196	0.11	93.5	9	9.4	0.06	0.02	<0.01	0.046	0.09	2.7	51.1
NE CPRT	TM00427-SRK-WR-29A	1	TM00427	4.6	10.6	6	0.03	4.05	43.6	0.1	10	10	0.14	0.01	4.87	0.01	7.65	51.5	195	0.09	107	8.81	10	0.07	0.04	<0.01	0.056	0.08	3.1	37.1
NE CPRT	TM00427-SRK-WR-30	1	TM00427	12	19.5	7.5	0.03	3.19	55.3	0.07	10	10	0.14	0.01	5.89	0.03	7.8	49.2	161	0.14	83.4	7.89	7.77	0.05	0.02	<0.01	0.045	0.1	2.8	38.2
NE CPRT	TM00427-SRK-WR-31A	1	TM00427	19.5	26.9	7.4	0.09	1.92	195	0.59	10	10	0.15	0.01	6.71	0.05	4.17	45.1	115	0.21	80.6	7.89	4.87	0.05	0.02	<0.01	0.039	0.13	1.6	21.9
NE CPRT	TM00427-SRK-WR-33	1	TM00427	27.46	33	5.54	0.16	1.2	826	1.04	<10	10	0.28	0.03	9.64	0.1	7.28	82.7	243	0.1	201	8.29	4.02	0.05	0.06	<0.01	0.057	0.08	2.6	14.5
NE CPRT	TM00441-SRK-WR-17	1	TM00441	4.2	9.5	5.3	0.03	4.76	2.7	<0.02	20	<10	0.11	0.01	2.81	0.07	9.04	47.1	182	0.06	103	8.5	9.69	0.16	0.15	<0.01	0.031	0.03	3.4	43.5
NE CPRT	TM00441-SRK-WR-18	1	TM00441	9.5	13.25	3.75	0.03	4.97	3.6	<0.02	20	<10	0.19	0.01	2.83	0.03	9.44	52.3	171	0.06	99.5	9.1	10.8	0.16	0.14	<0.01	0.041	0.05	3.4	67.8
NE CPRT	TM00416-SRK-WR-15	5	TM00416	34.83	37.17	2.34	0.21	0.49	89.3	0.18	10	20	0.09	0.19	1.84	0.02	27.2	17.4	16	0.2	79	2.69	1.63	<0.05	0.4	0.01	0.027	0.14	13.9	6.3
NE CPRT	TM00416-SRK-WR-15-DUP	5	TM00416	34.83	37.17	2.34	0.19	0.47	88.3	0.1	10	20	0.1	0.19	1.83	0.02	26.1	17	19	0.2	76.6	2.64	1.63	<0.05	0.39	0.01	0.026	0.13	13.4	6
NE CPRT	TM00421-SRK-WR-02	5	TM00421	10.1	11.6	1.5	0.18	0.48	136	0.08	10	10	0.12	0.08	7.51	0.03	9.56	40.6	44	0.24	128.5	5.46	2.04	<0.05	0.1	0.01	0.051	0.12	4	6.6
NE CPRT	TM00427-SRK-WR-32A	5	TM00427	26.92	27.5	0.58	0.11	0.11	124	0.21	<10	<10	0.15	0.06	7.92	0.06	13.35	12.1	16	0.05	15.3	4.56	0.5	<0.05	0.4	<0.01	0.028	0.03	6.3	3.2
NE CPRT	TM00427-SRK-WR-34	5	TM00427	10.6	12	1.4	0.25	2.18	262	1.1	10	10	0.18	0.01	8.21	0.04	4.27	39.6	109	0.14	116.5	8.31	5.8	0.05	0.03	<0.01	0.049	0.1	1.7	20
NE CPRT	TMMNE-19-00017-SRK-WR-043	5	TMMNE-19-00017	14.11	15.8	1.69	0.73	0.27	277	0.79	10	<10	0.12	0.33	3.42	0.09	17.7	33.2	12	0.17	149	6.06	1.05	<0.05	0.5	0.02	0.044	0.11	7.2	4.6
NE CPRT	TMMNE-19-00019-SRK-WR-040	5	TMMNE-19-00019	13.22	14.3	1.08	0.29	0.64	170.5	0.18	20	10	0.26	0.21	3.63	0.04	17.55	29.2	32	0.13	123	4.6	2.38	<0.05	0.51	0.02	0.072	0.14	7.5	16.2
NE CPRT	TMMNE-19-00020-SRK-WR-040-DUP	5	TMMNE-19-00019	13.22	14.3	1.08	0.29	0.63	165	0.23	20	10	0.25	0.21	3.69	0.04	17.15	27.6	33	0.14	112	4.59	2.31	<0.05	0.49	0.01	0.069	0.13	7.3	15.5
NE CPRT	TMMNE-19-00020-SRK-WR-035	5	TMMNE-19-00020	8.94	9.5	0.56	0.26	0.3	162.5	0.24	10	10	0.11	0.14	4.55	0.07	13.95	29.1	27	0.16	146.5	4.08	1.31	<0.05	0.31	0.01	0.079	0.13	5.7	4.8
NE CPRT	TM00416-SRK-WR-16	1aj	TM00416	37.17	42.5	5.33	0.06	0.95	385	0.1	10	10	0.29	0.02	8.67	0.1	9.14	76	285	0.11	173.5	8.32	3.36	0.06	0.11	<0.01	0.045	0.1	3.5	16.2
NE CPRT	TM00426-SRK-WR-27	1aj	TM00426	19	25	6	0.08	2.31	120	0.52	10	10	0.09	0.01	6.67	0.05	4.98	46.1	129	0.16	96.4	8.46	5.69	<0.05	0.03	<0.01	0.042	0.11	2	24.1
NE CPRT	TM00426-SRK-WR-28	1aj	TM00426	25	29.5	4.5	0.2	1.64	141	1.34	10	10	0.12	0.01	7.13	0.05	4.1	45.6	106	0.16	101	8.15	4.43	<0.05	0.02	<0.01	0.042	0.11	1.6	17.3
NE CPRT	TMMNE-19-00017-SRK-WR-042	1aj	TMMNE-19-00017	9	14.11	5.11	0.14	0.87	526	0.68	20	10	0.4	0.03	7.77	0.06	10.55	69.6	145	0.11	199	6.77	2.3	<0.05	0.08	<0.01	0.065	0.1	3.6	25.4
NE CPRT	TMMNE-19-00019-SRK-WR-039	1aj	TMMNE-19-00019	8.63	13.22	4.59	0.08	1.3	433	0.32	10	20	0.38	0.03	9.5	0.07	12.25	78.4	352	0.07	253	6.67	5.07	<0.05	0.07	<0.01	0.067	0.09	4	25.2
NE CPRT	TMMNE-19-00019-SRK-WR-041	1aj	TMMNE-19-00019	14.3	19.74	5.44	0.1	1.41	371	0.26	<10	10	0.4	0.05	6.92	0.08	12.75	80.5	478	0.1	182	9.4	6	0.09	0.09	<0.01	0.062	0.07	4.1	27.4
NE CPRT	TMMNE-19-00020-SRK-WR-036	1aj	TMMNE-19-00020	9.5	11.75	2.25	0.03	2.7	67.6	<0.02	10	10	0.12	0.02	5.6	0.04	7.5	49.5	142	0.16	115.5	7.56	6.07	<0.05	0.02	<0.01	0.036	0.13	3	56.6
NE CPRT	TMMNE-19-00020-SRK-WR-037	1aj	TMMNE-19-00020	14	17	3	0.06	3.06	12	<0.02	10	10	0.11	0.01	5.93	0.06	7.32	49.9	149	0.14	106.5	8.04	6.51	0.05	0.04	<0.01	0.039	0.13	3	57.3
NE CPRT	TMMNE-19-00020-SRK-WR-038	1aj	TMMNE-19-00020	17	21.03	4.03	0.06	2.44	80.2	0.12	10	10	0.13	0.01	6.75	0.07	6.28	47.8	129	0.49	95.1	7.77	5.85	0.05	0.04	<0.01	0.041	0.13	2.5	40.7
NE CPRT	TMMNE-19-00020-SRK-WR-038-DUP	1aj	TMMNE-19-00020	17	21.03	4.03	0.05	2.46	81.8	0.09	10	10	0.12	0.01	6.68	0.07	6.56	48.4	130	0.52	95.2	7.7	6.02	<0.05	0.04	<0.01	0.042	0.13	2.6	41.5
NE CPRT	TM00416-SRK-WR-11	7a	TM00416	7.3	14	6.7	0.02	3.88	7.8	<0.02	10	10	0.07	<0.01	2.68	0.02	9.16	41.2	130	0.09	117.5	7.62	9.34	0.13	0.16	<0.01	0.03	0.03	3.3	33.3
NE CPRT	TM00416-SRK-WR-12	7a	TM00416	14	21	7	0.03	3.28	1.5	<0.02	10	10	0.08	0.01	0.9	0.04	9.27	38.4	107	0.12	111.5	6.55	7.18	0.11	0.21	<0.01	0.018	0.02	3.4	26
NE CPRT	TM00416-SRK-WR-13	7a	TM00416	21	27.75	6.75	0.03	3.54	0.9	<0.02	10	10	<0.05	<0.01	0.83	0.04	7.49	42	201	0.12	98.1	6.42	6.84	0.1	0.17	<0.01	0.014	0.02	2.7	27.3
NE CPRT	TM00416-SRK-WR-14	7a	TM00416	28.25	34.83	6.58	0.02	4.31	4.1	0.02	10	<10	0.08	<0.01	3.19	0.02	9.83	48.6	270	0.12	93.5	7.78	9.61	0.16	0.14	<0.01	0.037	0.02	3.7	30.9
NE CPRT	TM00441-SRK-WR-19	7a	TM00441	13.25	19.75	6.5	0.03	4.1	2.1	<0.02	10	<10	0.07	<0.01	2.34	0.03	8.37	40.8	138	0.05	109.5	7.56	8.45	0.14	0.17	<0.01	0.025	0.02	3	38.4
NE CPRT	TM00441-SRK-WR-20	7a	TM00441	20	24.75	4.75	0.03	3.66	0.8	<0.02	10	<10	<0.05	<0.01	1.16	0.05	7.95	40.4	154	0.08	97.5	6.67	7.7	0.11	0.19	<0.01	0.014	0.01	2.8	27.7
NE CPRT	TM00441-SRK-WR-21	7a	TM00441	25	29.75	4.75	0.03	3.66	1.1	<0.02	10	20	0.06	<0.01	1.33	0.03	7.21	39.8	146	0.09	99.6	6.77	7.24	0.12	0.18	<0.01	0.015	0.01	2.6	24
NE CPRT	TM00441-SRK-WR-22	7a	TM00441	30	35.75	5.75	0.02	4.15	1.4	<0.02	10	<10	0.05	<0.01	1.05	0.01	7.73	47.7	269	0.11	96.6	7.17	8.49	0.13	0.14	<0.01	0.016	0.01	2.8	28.1
NE CPRT	TM00441-SRK-WR-23	7a	TM00441	36.25	42.5	6.25	0.02	5.93	9	0.02	10	<10	0.15	<0.01	3.48	0.01	9.51	55	343	0.17	84.5	9.46	11.95	0.19	0.03	<0.01	0.052	0.03	3.5	37

Note:

Less than sign indicates less than LOD

Source: Z:\01_SITES\Hope.Bay\1CT022.037_2019 Geochem Compliance\Task 200 - WR Support\Naartok East CPRT\NECPRT_pXRFWR_1CT022-037_Rev00_lnb.xlsx

Mg	Mn	Mo	Na	Nb	Ni	P	Pb	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	Ti	Tl	U	V	W	Y	Zn	Zr
pct	ppm	ppm	pct	ppm	ppm	ppm	ppm	ppm	ppm	pct	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	pct	ppm	ppm	ppm	ppm	ppm	ppm	ppm
2.97	1580	0.27	0.03	<0.05	139.5	390	0.5	3.1	0.001	0.29	0.24	14.2	0.3	<0.2	54	<0.01	0.02	<0.2	0.006	<0.02	<0.05	83	0.15	2.71	51	1.1
3.83	1600	0.13	0.02	<0.05	176	400	0.3	1.3	0.001	0.14	0.18	20	0.3	<0.2	30.5	<0.01	0.02	<0.2	0.009	<0.02	<0.05	170	<0.05	3.93	103	1.1
4.39	1880	0.16	0.02	<0.05	165.5	380	0.4	2.4	0.001	0.22	0.17	14.1	0.3	<0.2	19.6	<0.01	0.01	<0.2	0.005	<0.02	<0.05	112	<0.05	4.45	84	0.9
5.03	1860	0.42	0.02	<0.05	566	470	0.4	1.2	0.001	0.23	0.2	27.5	0.4	<0.2	36.5	<0.01	0.02	0.2	0.009	<0.02	<0.05	210	0.06	6.87	65	1.9
5.99	1660	0.67	0.04	<0.05	793	380	1.4	3.1	0.001	0.39	1.64	17.3	0.7	<0.2	175.5	<0.01	0.07	0.3	<0.005	<0.02	0.07	70	1.38	5.69	22	3.1
3.01	1800	0.24	0.03	<0.05	159.5	400	0.5	3.6	0.001	0.2	0.41	10.3	0.3	<0.2	30.2	<0.01	0.02	<0.2	<0.005	0.04	<0.05	68	<0.05	3.51	59	1.1
3.9	1900	0.2	0.03	<0.05	166	400	0.4	2.6	0.001	0.31	0.21	15.9	0.3	<0.2	17.4	<0.01	0.02	<0.2	<0.005	0.02	<0.05	119	<0.05	4.84	82	1.1
3.45	1700	0.3	0.03	<0.05	162	370	0.6	0.9	0.001	0.16	0.18	21.7	0.2	<0.2	41.1	<0.01	0.01	<0.2	0.009	<0.02	<0.05	169	<0.05	4.07	165	1
3.38	1660	0.27	0.03	<0.05	157	360	0.4	0.9	0.001	0.16	0.13	21.3	0.4	<0.2	39.7	<0.01	0.01	<0.2	0.009	<0.02	<0.05	166	<0.05	3.91	155	1.3
3.94	1490	0.17	0.03	<0.05	175	390	0.2	1.3	0.001	0.1	0.13	19.6	0.2	<0.2	29.7	<0.01	0.02	<0.2	0.008	<0.02	<0.05	160	<0.05	4.43	95	1
3.68	1880	0.25	0.03	<0.05	165.5	370	0.4	1.3	0.001	0.28	0.14	24.5	0.4	<0.2	40.4	<0.01	0.03	<0.2	0.014	0.02	<0.05	166	<0.05	4.86	95	1
3.89	1780	0.13	0.03	<0.05	172	400	0.4	0.7	0.001	0.14	0.07	26.8	0.3	<0.2	39.2	<0.01	0.02	<0.2	0.035	<0.02	<0.05	204	<0.05	6.27	103	1.2
3.89	1760	0.14	0.03	<0.05	169.5	410	0.5	0.7	0.001	0.14	0.07	26.6	0.4	<0.2	37.4	<0.01	0.02	<0.2	0.038	<0.02	0.06	206	<0.05	6.3	103	1.1
4.68	1600	0.18	0.04	<0.05	170	410	0.2	2	0.001	0.17	0.09	21.8	0.2	<0.2	21.3	<0.01	0.02	<0.2	0.005	<0.02	<0.05	149	0.09	4.52	92	0.8
4.2	1750	0.21	0.03	<0.05	173.5	420	0.3	1.7	0.001	0.28	0.12	20.1	0.4	<0.2	15.7	<0.01	0.02	<0.2	<0.005	0.02	<0.05	149	<0.05	4.91	96	0.9
4.21	1590	0.2	0.04	<0.05	176	450	0.3	2.2	0.001	0.14	0.11	21	0.4	<0.2	29.1	<0.01	0.01	<0.2	<0.005	<0.02	<0.05	123	<0.05	4.64	73	0.6
3.38	1520	0.22	0.04	<0.05	156	440	0.8	2.9	0.001	0.87	0.19	16.4	0.4	<0.2	85.3	<0.01	0.05	<0.2	<0.005	0.02	<0.05	75	0.17	3.44	56	0.8
4.51	1800	0.63	0.02	<0.05	759	370	1.2	2.3	0.001	1.08	1.24	19.2	0.6	<0.2	234	<0.01	0.16	0.2	<0.005	0.02	<0.05	81	0.22	5.56	23	2.1
4.83	1280	0.32	0.05	<0.05	136.5	440	0.6	0.7	0.001	0.12	0.06	15	<0.2	0.2	17.6	<0.01	0.01	<0.2	0.152	<0.02	<0.05	156	<0.05	11.2	96	3.7
5.53	1520	0.53	0.04	<0.05	140.5	440	0.4	1.3	0.001	0.09	0.05	18.2	0.4	0.2	19.8	<0.01	0.01	<0.2	0.15	<0.02	<0.05	167	0.05	13.2	83	3.5
0.96	442	1.91	0.05	<0.05	50.4	510	4.6	3	0.001	1.54	0.62	1.8	1	<0.2	27.2	<0.01	0.21	1.8	<0.005	0.22	0.25	8	0.07	2.42	17	15.9
0.95	440	2.22	0.04	<0.05	50.3	510	4.4	2.8	0.001	1.52	0.61	1.7	0.9	<0.2	27.4	<0.01	0.2	1.7	<0.005	0.19	0.24	8	0.07	2.33	17	15.1
2.94	1380	0.53	0.04	<0.05	93.3	780	2.3	2.8	0.001	0.83	1.09	10.8	0.8	<0.2	71.2	<0.01	0.08	0.4	<0.005	0.12	0.07	35	0.18	3.63	25	3.8
3.06	2200	1.37	0.04	<0.05	80	1960	3.7	0.7	0.001	1.12	1.09	3.8	0.7	<0.2	133	<0.01	0.25	0.9	<0.005	0.1	0.2	19	0.13	3.42	28	15.6
4.4	2110	0.44	0.03	<0.05	138	330	0.8	2.3	0.001	1.16	0.15	15.3	0.4	<0.2	73.9	<0.01	0.06	<0.2	<0.005	0.03	<0.05	83	0.09	3.99	77	1.1
1.51	699	2.33	0.05	<0.05	78.4	690	16.3	1.7	0.002	4.99	4.4	5.4	1.3	<0.2	59.7	<0.01	0.75	1.2	<0.005	0.64	0.22	10	0.41	4.47	36	20.2
1.98	640	2	0.05	<0.05	185.5	490	6.5	1.9	0.001	2.71	1.78	4.8	1.4	<0.2	73.1	<0.01	0.32	1.3	<0.005	0.26	0.25	15	0.31	4.1	20	22.8
1.99	639	2.13	0.05	<0.05	179	500	6.3	1.8	0.001	2.7	1.79	4.6	1.3	<0.2	72.1	<0.01	0.31	1.3	<0.005	0.26	0.25	15	0.31	4.02	20	20.6
1.98	831	1.56	0.05	0.06	95.3	490	5.3	2.9	0.001	1.69	1.55	7.7	0.9	<0.2	103.5	<0.01	0.26	1.1	0.005	0.13	0.18	18	0.2	5.74	32	11.3
5.4	1660	0.64	0.02	<0.05	750	450	0.9	2.9	<0.001	0.44	0.6	15.7	0.6	<0.2	122.5	<0.01	0.05	0.2	<0.005	0.03	<0.05	67	0.11	4.68	26	4
3.29	1750	0.17	0.04	<0.05	160	640	0.5	2.5	0.001	0.58	0.18	15.7	0.6	<0.2	49.5	<0.01	0.03	<0.2	<0.005	0.02	<0.05	87	0.06	2.95	70	0.8
2.9	1780	0.15	0.05	<0.05	153	380	0.7	2.7	0.001	0.8	0.25	16.5	0.3	<0.2	59.7	<0.01	0.04	<0.2	<0.005	0.03	<0.05	67	0.08	2.68	55	0.9
4.51	1140	0.86	0.06	<0.05	593	250	1	2.5	0.001	0.5	1.83	17.2	0.5	<0.2	124	<0.01	0.14	0.2	0.011	0.02	0.14	50	1.99	4.62	12	3.5
5.44	1440	0.57	0.02	<0.05	554	420	0.7	2	0.002	0.33	1.58	19.9	0.3	<0.2	134.5	<0.01	0.04	0.2	0.007	<0.02	0.05	95	0.8	5.29	22	2.8
6.14	1260	0.59	0.01	<0.05	685	610	1.4	2	0.001	0.88	1.03	18.4	0.7	<0.2	141.5	<0.01	0.06	0.3	<0.005	0.03	<0.05	118	0.28	5.7	58	3.9
3.71	1260	0.24	0.02	<0.05	156	370	0.7	2.7	0.001	0.16	0.33	16.1	0.4	<0.2	38.4	<0.01	0.04	<0.2	<0.005	0.02	<0.05	89	0.07	3.24	66	0.8
3.92	1860	0.27	0.02	<0.05	160.5	350	0.7	2.6	0.001	0.26	0.43	13.3	0.2	<0.2	19.8	<0.01	0.03	<0.2	<0.005	<0.02	<0.05	92	<0.05	4.15	80	1.1
3.86	2160	0.23	0.02	<0.05	153	520	0.7	3	0.002	0.45	0.24	13.7	<0.2	<0.2	38	<0.01	0.04	<0.2	<0.005	0.02	<0.05	83	0.05	4.1	75	1.1
3.85	2140	0.23	0.02	<0.05	153.5	510	0.7	3.2	0.001	0.42	0.27	13.4	0.3	<0.2	37.1	<0.01	0.04	<0.2	<0.005	0.03	<0.05	84	<0.05	4.14	75	2
4.09	1160	0.13	0.05	<0.05	109.5	450	0.4	0.7	0.001	0.09	0.07	13.3	0.2	<0.2	18.4	<0.01	0.02	<0.2	0.181	<0.02	<0.05	154	<0.05	12.35	69	4.2
3.02	873	0.15	0.05	<0.05	99.8	490	0.4	0.6	0.001	0.11	<0.05	6.3	0.2	<0.2	23.4	<0.01	0.01	0.2	0.221	0.03	<0.05	100	<0.05	12	65	6.7
3.42	875	0.11	0.05	<0.05	166	440	0.4	0.6	<0.001	0.12	<0.05	3.8	0.4	<0.2	18.1	<0.01	0.01	<0.2	0.22	<0.02	<0.05	87	<0.05	9.84	69	5.2
4.47	1200	0.14	0.04	<0.05	198.5	410	0.3	0.6	0.001	0.12	<0.05	14.9	0.2	0.2	20.2	<0.01	0.01	<0.2	0.129	<0.02	<0.05	139	<0.05	12.45	89	3.3
4.13	1120	0.17	0.05	<0.05	102	470	0.5	0.5	0.001	0.16	<0.05	10.8	0.4	<0.2	22	<0.01	0.01	<0.2	0.216	0.03	0.05	138	0.06	11.7	68	4.3
3.47	953	0.15	0.04	<0.05	123.5	460	0.4	0.2	0.001	0.1	<0.05	5.1	0.2	<0.2	23.7	<0.01	0.01	<0.2	0.229	0.03	<0.05	102	<0.05	11.2	69	5.8
3.48	1050	0.11	0.04	<0.05	128.5	450	0.4	0.3	0.001	0.12	<0.05	4.4	0.2	<0.2	19.8	<0.01	0.01	<0.2	0.251	<0.02	0.08	102	<0.05	10.5	76	5
4.63	1080	0.12	0.04	<0.05	196.5	420	0.2	0.3	0.001	0.13	<0.05	5.2	0.4	<0.2	16.5	<0.01	0.01	<0.2	0.212	<0.02	0.05	108	<0.05	10.85	74	3.9
7.13	1500	0.12	0.02	<0.05	244	410	0.2	0.8	0.001	0.15	<0.05	27.5	0.3	<0.2	14.8	<0.01	0.01	<0.2	0.01	<0.02	<0.05	190	<0.05	10.05	87	0.8

Appendix C – Elemental Analysis Data (4-Acid Digestion)

Sample Descriptions							4-Acid Digestion (ME-MS61)																																															
Location	ABA Sample ID	Geochem Unit	BHID	From	To	Length	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Cu	Fe	Ga	Ge	Hf	In	K	La	Li	Mg	Mn	Mo	Na	Nb	Ni	P	Pb	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	Ti	Tl	U	V	W	Y	Zn	Zr
				m	m	m	ppm	pct	ppm	ppm	ppm	ppm	ppm	ppm	pct	ppm	ppm	ppm	ppm	ppm	ppm	pct	ppm	ppm	ppm	ppm	ppm	pct	ppm	ppm	pct	ppm	ppm	pct	ppm	ppm	ppm	ppm	ppm	ppm	pct	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	pct	ppm	ppm	ppm	ppm
NE CPRT	TM00420-SRK-WR-07	1	TM00420	9	15.5	6.5	0.03	6.97	81.6	80	0.27	0.01	7.29	0.04	13.15	48.4	203	0.96	96.1	7.74	13.35	0.07	0.9	0.052	1.78	5	23.4	3.19	1680	0.33	2.12	1.5	154	400	0.9	38.8	<0.002	0.29	0.48	33.6	<1	0.4	99.3	0.09	<0.05	0.35	0.361	0.16	0.1	213	2.5	7.3	58	34.2
NE CPRT	TM00420-SRK-WR-08	1	TM00420	15.5	23	7.5	0.03	7.4	9.9	70	0.23	0.01	6.05	0.06	12.7	51.6	215	0.48	99.6	8.91	13.45	0.07	1	0.058	1.56	4.4	74	3.95	1680	0.16	0.87	1.3	179	430	0.7	17.1	<0.002	0.14	0.34	35	<1	0.3	42.3	0.07	<0.05	0.26	0.354	0.06	0.1	233	0.1	7.1	110	36.9
NE CPRT	TM00420-SRK-WR-09	1	TM00420	23	29	6	0.03	6.77	71	100	0.29	0.01	5.74	0.03	12.65	50.4	203	1.04	97.7	8.84	12.8	0.07	0.9	0.064	1.88	4.8	56.1	4.52	1960	0.21	0.47	1.5	173.5	390	0.5	34.7	<0.002	0.21	0.3	33.1	1	0.4	28.1	0.08	<0.05	0.27	0.387	0.11	0.1	214	1.4	7.7	90	36.7
NE CPRT	TM00420-SRK-WR-10	1	TM00420	29	35.85	6.85	0.03	5.36	179	50	0.53	0.02	6.6	0.03	20.6	78.8	784	0.45	173	9.56	13.55	0.09	1.4	0.069	1.35	7.1	59.2	5.14	1940	0.4	0.46	4.2	551	470	0.8	12.9	0.002	0.22	0.4	33.7	1	0.7	38	0.24	<0.05	0.5	0.607	0.04	0.1	261	2.5	11.1	113	57.4
NE CPRT	TM00421-SRK-WR-01	1	TM00421	6	9.29	3.29	0.05	3.09	700	210	0.95	0.02	9.71	0.1	20.6	80.6	996	0.86	188.5	7.43	11.7	0.07	1.4	0.073	1.18	6.6	31.7	6.02	1680	0.73	0.08	4.3	759	380	1.3	35.9	<0.002	0.38	2.24	26.1	1	0.8	171	0.26	0.1	0.59	0.523	0.17	0.2	233	31.2	8.6	83	61.4
NE CPRT	TM00421-SRK-WR-03	1	TM00421	11.6	17	5.4	0.04	7.01	29.1	70	0.27	0.01	6.55	0.04	14	51.1	214	1.17	109.5	7.5	13.1	0.09	1	0.072	2.33	5	38.4	3.11	1840	0.57	0.49	1.6	167	410	1.6	54.6	<0.002	0.2	0.76	34.1	<1	0.4	52.3	0.09	<0.05	0.39	0.388	0.28	0.1	217	0.6	6.7	65	41.6
NE CPRT	TM00421-SRK-WR-04	1	TM00421	17	23	6	0.04	7.19	68.5	70	0.29	0.01	5.71	0.02	12.9	48	214	1	97.8	8.36	13.2	0.07	0.9	0.071	2.01	4.6	60.4	4	1950	0.23	0.81	1.4	167	410	0.9	34.6	0.002	0.31	0.39	33.3	<1	0.4	29.8	0.07	<0.05	0.28	0.391	0.14	0.1	224	1.2	7.4	87	36.6
NE CPRT	TM00421-SRK-WR-05	1	TM00421	23	29	6	0.11	7.1	23.8	40	0.2	0.01	7.63	0.32	13.3	48.2	205	0.35	89.2	8.33	12.75	0.06	0.9	0.069	0.67	4.6	76.3	3.6	1800	0.43	1.42	1.5	167.5	400	0.9	11.7	<0.002	0.16	0.3	33.9	1	0.3	64.5	0.08	<0.05	0.26	0.394	0.06	0.1	218	1.7	6.6	174	35.4
NE CPRT	TM00421-SRK-WR-05-DUP	1	TM00421	23	29	6	0.06	6.99	25.4	40	0.21	0.01	7.55	0.3	13.35	50.3	203	0.37	87.3	8.21	13.1	0.07	0.9	0.076	0.65	4.7	79.5	3.54	1770	0.51	1.4	1.6	168	380	0.9	11.9	<0.002	0.16	0.4	34.8	1	0.4	65.7	0.08	<0.05	0.26	0.392	0.06	0.1	214	1.8	6.7	166	33.9
NE CPRT	TM00421-SRK-WR-06	1	TM00421	29	35	6	0.03	7.65	20.6	90	0.24	0.01	5.67	0.03	13.35	51.9	218	0.58	101	8.95	13.6	0.08	1	0.058	0.91	4.7	72.2	4.17	1620	0.23	1.29	1.7	181.5	430	0.8	18.4	<0.002	0.1	0.3	35.1	1	0.4	44.4	0.08	<0.05	0.29	0.444	0.07	0.1	241	0.2	8.5	107	38.1
NE CPRT	TM00426-SRK-WR-24	1	TM00426	3	8	5	0.04	7.14	54.4	100	0.31	0.01	6.83	0.02	11.75	51.3	210	0.47	106.5	8.85	13.05	0.06	1	0.057	1.11	4.4	35.5	3.84	2010	0.29	1.22	1.7	169	380	0.8	16.7	<0.002	0.28	0.22	34.2	1	0.5	76.9	0.09	<0.05	0.31	0.411	0.11	0.1	223	1.7	9.1	106	38.1
NE CPRT	TM00426-SRK-WR-25	1	TM00426	8	14	6	0.03	7.19	3.7	30	0.22	0.01	6.93	0.07	12.35	52.6	211	0.22	111.5	9.08	13.45	0.05	1	0.058	0.69	4.6	44.8	3.96	1830	0.15	1.18	1.8	176	400	0.6	6.9	<0.002	0.13	0.12	35.4	<1	0.4	78.7	0.09	<0.05	0.31	0.441	0.03	0.1	227	0.2	11.6	116	38.3
NE CPRT	TM00426-SRK-WR-25-DUP	1	TM00426	8	14	6	0.04	7.03	4.1	30	0.18	0.01	6.64	0.06	11.35	50.8	198	0.2	104.5	8.89	13.1	0.06	0.9	0.054	0.67	4.3	46.3	3.86	1800	0.15	1.15	1.8	166	410	0.7	6.6	<0.002	0.12	0.16	35.6	1	0.4	76.8	0.1	<0.05	0.3	0.43	0.03	0.1	221	0.1	10.8	113	36.4
NE CPRT	TM00426-SRK-WR-26	1	TM00426	14	19	5	0.02	7.03	44.7	70	0.27	0.01	5.1	0.02	13.6	50.9	211	0.81	93.5	8.93	13.45	0.06	0.9	0.063	1.37	4.6	58.6	4.82	1640	0.26	0.39	1.6	173.5	410	0.5	25.8	<0.002	0.16	0.2	35.7	1	0.4	50.6	0.09	<0.05	0.28	0.412	0.11	0.1	222	1.6	8.3	98	37.6
NE CPRT	TM00427-SRK-WR-29A	1	TM00427	4.6	10.6	6	0.04	7.14	44.5	100	0.29	0.01	5.11	<0.02	14.3	52.3	205	0.66	107.5	8.69	13.85	0.08	1	0.067	1.93	5.2	44.6	4.27	1790	0.23	0.66	1.7	173.5	410	0.5	29.5	<0.002	0.29	0.21	37	1	0.4	34.9	0.09	<0.05	0.34	0.393	0.13	0.1	224	0.8	8.2	104	40.8
NE CPRT	TM00427-SRK-WR-30	1	TM00427	12	19.5	7.5	0.03	6.87	49.8	80	0.34	0.01	6.24	0.03	12.1	48.6	191	0.87	83.1	7.73	12.9	0.07	1	0.057	1.97	4.6	45.4	4.32	1650	0.32	0.59	1.4	176	450	<0.5	32.7	<0.002	0.13	0.21	35.1	<1	0.4	63.8	0.08	<0.05	0.25	0.374	0.13	0.1	216	1	8.8	79	36.3
NE CPRT	TM00427-SRK-WR-31A	1	TM00427	19.5	26.9	7.4	0.05	6.4	186.5	120	0.45	0.01	6.99	0.05	10.8	47.9	197	1.13	75.5	7.7	12.5	0.07	0.7	0.052	2	4.1	25.4	3.43	1560	0.26	1.24	1.5	158.5	450	1.1	41.4	<0.002	0.87	0.35	32.5	<1	0.4	114	0.07	0.05	0.25	0.359	0.16	0.1	206	5	6.2	64	29.6
NE CPRT	TM00427-SRK-WR-33	1	TM00427	27.46	33	5.54	0.17	3.13	738	140	0.61	0.03	9.96	0.1	21.1	81.9	1040	0.69	196.5	8.12	11.8	0.07	1.5	0.069	0.92	7	15.5	4.55	1860	0.78	0.31	4.3	729	390	1.6	31.2	<0.002	1.06	1.54	29	1	0.7	239	0.25	0.19	0.59	0.501	0.14	0.2	235	10.8	8.4	97	66.7
NE CPRT	TM00441-SRK-WR-17	1	TM00441	4.2	9.5	5.3	0.04	7.28	3.4	30	0.24	0.01	4.99	0.06	12.7	56.8	186	0.13	109.5	9.56	14.4	0.06	1	0.064	0.42	4.7	43	5.53	1620	0.46	1.42	2	153.5	450	1.2	3.5	<0.002	0.11	0.22	32.9	<1	0.5	110	0.1	<0.05	0.28	0.479	<0.02	0.1	245	0.1	21.2	110	38.7
NE CPRT	TM00441-SRK-WR-18	1	TM00441	9.5	13.25	3.75	0.03	6.33	3.6	30	0.29	0.01	4.43	<0.02	11.1	52.2	160	0.14	93	9.38	14.55	0.06	1	0.074	0.47	4.1	59.4	5.32	1690	0.67	1.07	1.9	142.5	430	0.8	4.7	<0.002	0.08	0.13	21.4	1	0.4	110.5	0.1	<0.05	0.21	0.463	0.03	0.1	243	0.1	19.7	89	34.7
NE CPRT	TM00416-SRK-WR-15	5	TM00416	34.83	37.17	2.34	0.25	5.9	83.3	260	0.56	0.17	1.88	0.02	40.6	16.8	70	1.22	78.8	2.81	13.45	0.07	2.8	0.041	2.18	19.5	8.4	1.09	438	2.88	2.32	3.1	56.4	520	5	38.2	0.002	1.53	0.87	4.6	1	1.3	52.8	0.24	0.2	3.91	0.147	0.43	0.9	33	3.5	6.9	21	118
NE CPRT	TM00416-SRK-WR-15-DUP	5	TM00416	34.83	37.17	2.34	0.24	6	84.5	260	0.59	0.16	1.9	0.03	40.3	17	61	1.19	78.6	2.81	13.35	0.08	2.6	0.043	2.19	19.3	8.6	1.1	437	2.31	2.35	3	55	520	5.1	38	<0.002	1.55	0.82	4.6	1	1.3	52.4	0.24	0.23	4	0.146	0.42	0.9	33	3.2	6.9	21	117.5
NE CPRT	TM00421-SRK-WR-02	5	TM00421	10.1	11.6	1.5	0.12	6.07	134	70	0.28	0.07	7.48	0.03	21.2	41.2	147	0.87	126.5	5.28	10.65	0.07	1.3	0.07	2.23	8.3	7.3	2.87	1340	1.3	2.68	2.2	101	730	5.3	32.7	0.002	0.81	1.67	25.4	<1	0.8	95.4	0.15	0.09	1.17	0.294	0.28	0.3	154	4.9	8.3	30	53.2
NE CPRT	TM00427-SRK-WR-32A	5	TM00427	26.92	27.5	0.58	0.12	3.43	109.5	20	0.24	0.05	8.04	0.06	19.95	10.8	64	0.11	15.3	4.46	7.22	0.07	1.2	0.031	0.33	8.3	3.5	2.97	2200	2.4	2.54	1.8	77.6	1850	4	3.8	<0.002	1.11	1.14	4.6	<1	0.3	151.5	0.14	0.29	1.79	0.088	0.13	0.5	37	6.1	5.1	30	58.5
NE CPRT	TM00427-SRK-WR-34	5	TM00427	10.6	12	1.4	0.64	6.15	249	220	0.52	0.02	8.36	0.05	10.9	40.2	184	0.87	117.5	7.99	12.65	0.08	0.8	0.064	1.84	4.2	20.9	4.42	2150	0.64	1.14	1.2	140.5	330	0.9	38.1	0.002	1.15	0.25	29.6	1	0.5	93.7	0.07	<0.05	0.27	0.297	0.2	0.1	190	5.8	6.3	81	32
NE CPRT	TMMNE-19-00017-SRK-WR-043	5	TMMNE-19-00017	14.11	15.8	1.69	0.64	6.39	292	50	0.3	0.34	3.65	0.08	49.2	34.8	51	0.66	153	6.21	11.9	0.09	3.2	0.051	2.38	24.3	5.7	1.63	713	2.63	3.42	6.1	86.2	710	17.8	24.8	0.002	5.23	6.07	9.5	3	1.3	97	0.45	0.77	4.29	0.202	0.71	1.1	49	27	14.9	38	139.5
NE CPRT	TMMNE-19-00019-SRK-WR-040	5	TMMNE-19-00019	13.22	14.3	1.08	0.32	6.29	177	90	0.52	0.22	3.95	0.03	44.7	32.5	109	0.6	125	4.97	11.9	0.09	3	0.08	3.48	22.2	18.7	2.24	671	2.38	2.19	5.7	196	530	7.1	34	0.002	2.87	2.94	8.2	2	1.6	99.7	0.42	0.31	3.79	0.198	0.36	1	60	30.2	12.3	23	130.5
NE CPRT	TMMNE-19-00019-SRK-WR-040-DUP	5	TMMNE-19-00019	13.22	14.3	1.08	0.28	6.16	172	90	0.58	0.22	3.88	0.04	44.9	31.9	108	0.58	117.5	4.83	11.6	0.11	3.1	0.083	3.42	22.3	18.1	2.18	672	2.45	2.18	5.6	188	530	7.3	34.4	0.002	2.79	2.87	8.1	2	1.6	99.1	0.43	0.32	3.98	0.195	0.36	1.1	58	30.3	12.6	23	131
NE CPRT	TMMNE-19-00020-SRK-WR-035	5	TMMNE-19-00020	8.94	9.5	0.56	0.24	5.25	169.5	120	0.38	0.17	5.08	0.09	29.5	34.1	135	0.59	153	4.41	10.4	0.1	1.8	0.094	3.03	14.2	7.1	2.25	915	2.02	1.77	3.5	106.5	500	5.5	32	<0.002	1.72	2.31	15.6	1	1.1	140	0.24	0.29	2.26	0.187	0.23	0.6	86	15.8	11.3	39	77.1
NE CPRT	TM00416-SRK-WR-16	1aj	TM00416	37.17	42.5	5.33	0.06	3.19	375	120	0.65	0.03	8.98	0.1	20.8	78	984	0.85	172	8.32	10.5	0.05	1.7	0.062	1.02	7	17.2	5.61	1740	0.96	0.5	4	768	460	1.3	32.6	<0.002	0.44	0.82	24.3	<1	0.7	124.5	0.26	<0.05	0.67	0.498	0.19	0.2	217	3.9	8.4	96	68.6
NE CPRT	TM00426-SRK-WR-27	1aj	TM00426	19	25	6	0.17	6.62	117	130	0.38	0.01	6.97	0.05	11.45	48.3	200	0.88	93.9	8.21	12.65	0.07	0.8	0.065	1.38	4.3	29.2	3.29	1760	0.18	1.27	1.5	164	650	0.7	36.8	<0.002	0.59	0.29	32.9	<1	0.4	93.3	0.08	0.05	0.29	0.357	0.18	0.1	207	2.2	7	75	29.3
NE CPRT	TM00426-SRK-WR-28	1aj	TM00426	25	29.5	4.5	0.18	6.36	134	80	0.34	0.02	7.29	0.05	11.65	45.7	188	0.82	101.5	7.85	12.35	0.08	0.7	0.06	1.08	4.5	22	2.86	1810	0.19	1.66	1.3	155	370	1	32.3	<0.002	0.79	0.43	33.8	1	0.4	109.5	0.07	0.07	0.28	0.335	0.19	0.1	200	2.2	7.6	59	28.1
NE CPRT	TMMNE-19-00017-SRK-WR-042	1aj	TMMNE-19-00017	9	14.11	5.11	0.11	2.83	522	120	0.73	0.04	8.02	0.05	19.85	72.8	953	0.75	199	6.71	10.5	0.07	1.3	0.071	1.25	6.7	25.1	4.79	1200	1.7	0.2	4.5	596	270	1.4	35.9	<0.002	0.51	2.54	23.4	1	0.9	129	0.27	0.14	0.57	0.513	0.15	0.3	214	52.2	8.3	74	56
NE CPRT	TMMNE-19-00019-SRK-WR-039	1aj	TMMNE-19-00019	8.63	13.22	4.59	0.08	3.13	446	200	0.65	0.05	9.85	0.08	20.9	85.6	966	0.67	268	6.71	12.15	0.06	1.4	0.083	1.2	7.3	24.9	5.88	1560	0.54	0.11	5.4	564	440	0.9	31.9	0.002	0.34	2.46	26.3	1	0.8	142.5	0.33	0.05	0.62	0.604	0.15	0.2	230	22.7	9.1	81	60.7
NE CPRT	TMMNE-19-00019-SRK-WR-041	1aj	TMMNE-19-00019	14.3	19.74	5.44	0.09	2.76	371	100	0.73	0.06	7.24	0.09	29.5	84.2	845	0.74	190.5	9.45	13.15	0.09	1.9	0.073	0.78	11	25.1	6.73	1380	0.77	0.07	8.5	691	670	1.6	26.4	<0.002	0.9	1.72	24.4	1	1.1	146	0.48	0.06	0.89	0.732	0.14	0.2	241	12.2	10.8	93	83.7
NE CPRT	TMMNE-19-00020-SRK-WR-036	1aj	TMMNE-19-00020	9.5	11.75	2.25	0.03	6.93	67.9	80	0.33	0.03	5.93	0.03	14	53.2	202	1.05	124	7.59	14.8	0.08	0.8	0.055	1.82	5.1	58.3	3.97	1350	0.2	1.18	1.7	161	390	0.9	43.1	0.002	0.17	0.67	37.1	1	0.6	60.1	0.09	0.05	0.34	0.386	0.21	0.1	214	1.3	6.8	70	35.1
NE CPRT	TMMNE-19-00020-SRK-WR-037	1aj	TMMNE-19-00020	14	17	3	0.16	6.84	11.7	60	0.23	0.02	6.43	0.07	13.7	54.1	210	1.1	112.5	8.21	14.3	0.09	1	0.065	2.11	4.9	60.2	4.28	2020	0.22	0.26	1.6	170	380	0.7	46.7	<0.002	0.27	0.65	35.6	1	0.3	30.6	0.09	<0.05	0.31	0.376	0.23	0.1	213	0.1	7.2	88	35
NE CPRT	TMMNE-19-00020-SRK-WR-038	1aj	TMMNE-19-00020	17	21.03	4.03	0.05	6.95	88.2	90	0.27	0.02	7.56	0.06	13.95	54.1	204	1.65	105	8.2	14.7	0.07	0.9	0.061	1.99	5.2	41.4	4.39	2380	0.22	1.14	1.6	169.5	550	0.7	42.6	0.002	0.49	0.48	35.6	1	0.4	53.4	0.08	<0.05	0.33	0.373	0.19	0.1	217	2.6	8.2	83	37.1
NE CPRT	TMMNE-19-00020-SRK-WR-038-DUP	1aj	TMMNE-19-00020	17	21.03	4.03	0.06	6.7	87.9	80	0.28	0.02	7.24	0.07	13.9	53.9	200	1.66	99.8	7.9	14.35	0.07	0.9	0.06	1.91	5.1	40.9	4.21	2310	0.21	1.09	1.5	163.5	540	0.7	42.6	<0.002	0.45	0.41	35.1	1	0.4	51.8	0.08	<0.05	0.32	0.353	0.17	0.1	207	2.5	7.4	81	35.4
NE CPRT	TM00416-SRK-WR-11	7a	TM00416	7.3	14	6.7	0.02	7.26	8	100	0.2	0.01	5.12	0.04	13	49.1	150	0.18	120.5	9.02	13.3	0.06	1	0.055	0.71	4.8	30.5	5.04	1520	0.16	1.78	1.9	127.5	450	0.6	5.3	<0.002	0.09	0.16	36.9	1	0.4	109	0.1	<0.05	0.3	0.48	0.02	0.1	240	0.1	22.6	84	38.1
NE CPRT	TM00416-SRK-WR-12	7a	TM00416	14	21	7	0.03	7.05	1.4	80	0.2	0.01	5.87	0.07	14.45	54.6	165	0.17	117	10.1	14.9	0.05	1	0.076	0.15	5	23.4	4.73	1590	0.21	2.25	2.2	128	490	0.9	1.7	<0.002	0.1	0.09	27.7	<1	0.4	211	0.12	<0.05	0.27	0.528	0.05	0.1	269	0.1	24.5	94	44.3
NE CPRT	TM00416-SRK-WR-13	7a	TM00416	21	27.75	6.75	0.04	7.88	0.7	90	0.16	0.01	5.81	0.06	13.1	56.5	241	0.17	100	9.8	13.95	0.06	1.1	0.062	0.13	4.9	24.1	5.58	1580	0.12	2.12	1.9	206	440	0.6	2	<0.002	0.11	0.06	36.6	<1	0.4	172	0.1	<0.05	0.3	0.483	0.02	0.1	243	<0.1	23.2	94	38.1
NE CPRT	TM00416-SRK-WR-14	7a	TM00416	28.25	34.83	6.58	0.03	6.97	4.7	50	0.18	0.01	5.91	0.03	12.1	58	269	0.19	94.4	9.55	13.45	0.05	0.9	0.071	0.54	4.5	27.4	5.77	1600	0.17	1.47	1.8	234	400	<0.5	3.5	0.003	0.12	0.11	28.4	1	0.5	98.3	0.11	<0.05	0.28	0.446	<0.02	0.1	226	0.1	19.9	109	35.2
NE CPRT	TM00441-SRK-WR-19	7a	TM00441	13.25	19.75	6.5	0.04	7.29	1.5	40	0.17	<0.01	5.58	0.04	13.75	51.1	146	0.1	111.5	9.41	14.2	0.06	1.1	0.064	0.21	4.7	38.5	5.25	1520	0.2	1.64	2.1	120	480	0.8	2	<0.002	0.15	0.11	36.1	<1	0.4	181	0.11	<0.05	0.29	0.511	0.05	0.1	257	0.2	23	84	38.4
NE CPRT	TM00441-SRK-WR-20	7a	TM00441	20	24.75	4.75	0.03	7.71	0.7	70	0.19	0.01	5.92	0.08	14.1	54.2	185	0.11	95.9	9.7	14.9	0.06	1.1	0.067	0.09	5.2	25.6	5.36	1680	0.16	2.08	2.1	157.5	460	0.5	1.2	<0.002	0.09	0.06	38.6	1	0.4	192	0.1	<0.05	0.31	0.498	0.04	0.1	250	0.1	25	95	38.9
NE CPRT	TM00441-SRK-WR-21	7a	TM00441	25	29.75	4.75	0.03	7.17	1.1	90	0.23	0.01	5.73	0.08	11.65	53.3	176	0.12	103	9.6	14.25	0.05	0.9	0.069	0.11	4.3	22.6	4.98	1710	0.14	2.19	1.8	162	440	0.6	1.2	<0.002	0.11	0.05	24.2	1	0.4	171	0.11	<0.05	0.23	0.471	0.02	0.1	244	<0.1	20.9	102	34.2
NE CPRT	TM00441-SRK-WR-22	7a	TM00441	30	35.75	5.75	0.02	6.53	1.5	60	0.17	0.01	4.71	0.07	11.1	60.2	269	0.14	94.8	9.44	13.15	0.07	0.9	0.064	0.06	4.1	26	6.14	1620	0.13	1.9	1.8	238	420	<0.5	0.9	<0.002	0.12	0.08	20.8	<1	0.3	130	0.1	<0.05	0.21	0.431	<0.02	0.1	227	<0.1	19.4	96	33.9
NE CPRT	TM00441-SRK-WR-23	7a	TM00441	36.25	42.5	6.25	0.02	6.78	9	40	0.18	0.01	3.68	<0.02	11.25	58.8	305	0.31	85.7	9.65	13.2	0.05	0.9	0.063	0.67	4.2	38.8	7.48	1620	0.15	0.42	1.7	248	410	<0.5	5.8	0.003	0.14	0.11	29.5	1	0.4	20.7	0.08	<0.05	0.25	0.417	0.02	0.1	220	0.6	16.7	97	35.9

Note:

Less than sign indicates less than LOD

Source: Z:\01_SITES\Hope.Bay\1CT022.037_2019 Geochem Compliance\Task 200 - WR Support\Naartok East CPRT\NECPRT_pXRFWR_1CT022-037_Rev00_lnb.xlsx

Appendix D – Acid-Base Accounting Summary of Naartok East Crown Pillar Waste Rock, Madrid North, Hope Bay

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Memorandum

To:	Ashley Mathai	**Client:**	TMAC Resources Inc.
From:	Derrick Midwinter Lisa Barazzuol	**Project No:**	1CT022.037
Cc:	Sarah Warnock (TMAC), Kyle Conway (TMAC)	**Date:**	August 9, 2019
Subject:	Acid-Base Accounting Summary of Naartok East Crown Pillar Waste Rock, Madrid North, Hope Bay		

1 Introduction

TMAC Resources Inc. is advancing plans to develop Madrid North, including development of an underground decline and surface mining of ore at the proposed Naartok East crown pillar recovery (CPR). TMAC retained SRK Consulting (Canada) Inc. to conduct a geochemical characterization program of NE CPR waste rock to assess arsenic content and the viability of using portable X-ray fluorescence (pXRF) as a field tool to identify and segregate waste rock with low risk of neutral pH metal leaching. Arsenic data were reported by the lab in advance of ABA, and the arsenic data was interpreted under a separate report (SRK 2019a). This memorandum documents the results of the acid-base accounting (ABA) data of the NE CPR drillhole samples.

2 Methods

2.1 Sample Collection

2.1.1 Naartok East CPR Drillhole Sample Set

The sample set, comprised of 43 weight-averaged composite samples, was created from TMAC exploration drillhole assay coarse rejects (-2 mm) as documented by SRK (2019a). Of the 43 samples, 4 different lithologies were encountered (Table 2-1). Details of the sample set including selection rationale are presented in SRK (2019a).

ALS (Yellowknife) shipped pulps to ALS (Vancouver) for ABA analysis and pulps and coarse rejects (-2 mm) to the Hope Bay Project.

Table 2-1: Distribution of Sample Set According to Rock Type

Rock Type	Rock Code	Number of Samples
Mafic Metavolcanics	1	18
Mafic Volcanics with Sediments	1aj	9
Sedimentary Units	5	7
Early Gabbro	7a	9
Total	All	43

2.2 Test Work Program

2.2.1 Laboratory Program

With the exception of Modified Neutralization Potential (NP), all samples were analyzed for ABA by ALS (Vancouver) under the instruction of SRK for:

- Paste pH,
- Fizz Rating,
- Total sulphur by Leco,
- Sulphate sulphur by HCl-leach,
- Total inorganic carbon (TIC) by $HClO_4$ digestion and CO_2 coulometer, and
- Modified NP (Coastech Research 1991) by Bureau Veritas (BV) Maxxam in Burnaby, BC.

Samples were also analyzed for trace metals content using aqua regia and 4-acid digestion methods followed by ICP-MS finish and previously reported in SRK (2019a).

2.2.2 TMAC Field Work Program

Fizz Test

The fizz test is a field observation of carbonate content whereby drops of 10% HCl are applied to the sample and the resulting fizz rated according to the definitions in Table 2-2. The objective of the fizz rating descriptions is to standardize the definition of each TMAC-conducted fizz test on a split of the -2 mm and pulp size fractions.

Table 2-2: Fizz Test Ratings and Definitions

Fizz Rating		Definition
None	1	no bubbles observed within 30 seconds
Slight	2	less than 6 bubbles observed within 30 seconds
Moderate	3	more than 6 bubbles observed but reaction was not immediate
Strong	4	more than 6 bubbles observed with an immediate reaction after adding the acid, audible fizz

Visual Sulphide (-2 mm fraction only)

For the -2 mm fraction only, samples were visually inspected for sulphides, with the amount (%), mineral type and habit noted.

pXRF Analysis

A pXRF trial was conducted on 43 samples plus 5 duplicate samples of both the -2 mm and pulp size fraction (Table 2-4). The focus of the trial was primarily arsenic but sulphur was also assessed. The trial was conducted by TMAC geologists as per SRK instructions (SRK 2019b). To

assess geologic heterogeneity of samples and size fractions, pXRF analyses were conducted in triplicate, with each replicate measurement on a unique area of the sample. The QA/QC analytical program included analysis of the split duplicates produced by ALS (pulps and -2 mm fraction), blanks and certified reference materials (CRM). Further details can be found in SRK (2019b).

2.3 Data QA/QC

SRK reviewed all data for QA/QC purposes, including BV-Maxxam and ALS's internal QC program. All data passed the QC criteria for the ABA data as summarized in Table 2-3.

For pXRF data, results of the QC are summarized as follows:

- Pulp sample for TM00421-SRK-WR-15-DUP had one triplicate reading fail resulting in failure of this replicate with its split duplicate. The failing replicate reading also failed for arsenic (SRK 2019a) indicating that heterogeneity in the sample. Sulphur analysis of the -2 mm fraction of TM00421-SRK-WR-15-DUP of both replicate and split duplicates all passed the QC criteria.
- The sulphur value for the CRM Till-4 was within the range of analytical error for pXRF and is therefore not a recommended CRM. Measured sulphur values were uniformly higher than the standard values for Till-4.
- For CRM NIST-2780, all six analyses indicated sulphur levels with a RPD% ranging from 22 to 25%, which is above the 20% criterion. Measured sulphur values were uniformly higher than the standard values for NIST-780.

All sulphur data were accepted as is.

Table 2-3: QA/QC ABA Data Summary

QC Test	SRK QC Criteria	Results
paste pH		
Crush Duplicate (n=5)	For any samples, +/- 0.5 difference pH unit.	All passed.
Pulp Duplicate (n=6)	For any samples, +/- 0.5 difference pH unit.	All passed.
Standard Reference Material (n=2)	Within specified tolerance ranges.	All passed.
Total Inorganic Carbon		
Lab Blank (n=5)	<5X detection limit (DL).	All passed.
Crush Duplicate (n=5)	For samples > 10X the detection limit (DL), % RPD within +/-20%.	All passed.
Pulp Duplicate (n=4)	For samples > 10X the detection limit (DL), % RPD within +/-20%.	All passed.
Standard Reference Material (n=8)	Within specified tolerance ranges.	All passed.
Total S & Total SO4		
Lab Blank (n=4 for Total S, n=3 for SO_4)	<5X detection limit (DL).	All passed.
Sulphur balance (Total S > sulphate S) (n=43)	For samples > 10X the detection limit (DL), Total Sulphur should be greater than Total Sulphate, if not the % difference should be within +/-20%.	All passed.
Crush Duplicate (n=5)	For samples > 10X the detection limit (DL), % RPD within +/-20%.	All passed.
Pulp Duplicate (n=1)	For samples > 10X the detection limit (DL), % RPD within +/-20%.	All passed.
Standard Reference Material (n=5)	Within specified tolerance ranges.	All passed.
Modified NP		
Lab Blank (n=2)	-2.50 to 2.50 NP Kg $CaCO_3$/t.	All passed.
NP consistent with paste pH (n=43)	Negative NP has paste pH <= 5.	All passed.
Crush Duplicate (n=5)	% RPD better than +/-15% for NP>20 kg/t, % RPD better than +/-20% for NP>10 kg/t, Difference within +/-5kg/t for NP<10 kg/t.	All passed.
Pulp Duplicate (n=6)	% RPD better than +/-15% for NP>20 kg/t, % RPD better than +/-20% for NP>10 kg/t, Difference within +/-5kg/t for NP<10 kg/t.	All passed.
Fizz test rating with NP (n=43)	Max NP does not exceed fizz test rating.	All passed.
Standard Reference Material (n=2)	Within specified tolerance ranges.	All passed.

Sources:
Z:\01_SITES\Hope.Bay\1CT022.037_2019 Geochem Compliance\!020_Project_Data\Lab\Maxxam\B946319-TMAC-Hope Bay, 11 samples Mod NP_QAQC_NV.xlsx

Z:\01_SITES\Hope.Bay\1CT022.037_2019 Geochem Compliance\!020_Project_Data\Lab\Maxxam\B945583-TMAC Hope Bay, 37 samples, Mod NP_QAQC_NV.xlsx

Table 2-4: QA/QC pXRF Data Summary

QC Test	Sample Type	SRK QC Criteria	Sulphur
Lab Blank (n=10)	Pure Silica Sand	Within specified tolerance ranges, <5X the detection limit (DL).	All passed.
Triplicate pXRF readings (n=48)	Pulp	RPD% comparison between i) minimum and median and ii) maximum and median values. For samples >10X detection limit (DL), % RPD within +/- 20%. For pXRF scan, it is acceptable for 10% of parameters to be outside of this criterion.	TM00421-SRK-WR-15-DUP: RPD% of 122% between median and minimum values (5162 and 1241 ppm, respectively). Minimum sulphur from pXRF run 54 (same run as failing as value of 360 ppm). Re-run not requested because RPD% for all replicates acceptable for TM00421-SRK-WR-15. As and S from pXRF run 54 likely representative of sample heterogeneity.
	-2 mm	RPD% comparison between i) minimum and median and ii) maximum and median values. For samples >10X detection limit (DL), % RPD within +/- 20%, For pXRF scan, it is acceptable for 10% of parameters to be outside of this criterion.	All passed.
Split Duplicates prepared by ALS (n=5)	Pulp	For samples >10X detection limit (DL), % RPD within +/- 30%, For pXRF scan, it is acceptable for 10% of parameters to be outside of this criterion.	TM00421-SRK-WR-15: related to maximum value of 5162 ppm for TM00421-SRK-WR-15-DUP (refer to text for triplicate readings).
	-2 mm	For samples >10X detection limit (DL), % RPD within +/- 30%, For pXRF scan, it is acceptable for 10% of parameters to be outside of this criterion.	All passed.
Certified Reference Materials	Till-4 (n=7)	Within specified tolerance ranges (% RPD within +/- 20%), compared to CRM certificate of analysis values.	COA value for total sulphur in Till-4 is 800 ppm, which is within 10x the DL (125 ppm) for pXRF and therefore the data could not be assessed. pXRF values were uniformly higher than CRM (1207 to 1300 ppm).
	NIST-2780 (n=6)	Within specified tolerance ranges (% RPD within +/- 20%), compared to CRM certificate of analysis values.	All six analyses had RPD% above 20%, with pXRF sulphur ranging from 15765 to 16275 ppm and RPD% ranging from 22 to 25%. pXRF sulphur values were uniformly higher than the CRM.

Source: P:\01_SITES\Hope.Bay\1CT022.037_2019 Geochem Compliance\!020_Project_Data\020_Client\WR\Madrid N\2019_06 - NE CPPRT TMAC pXRF data\QAQC\Copy of SRK_pXRF_WasteRockData_Final_QAQC_NV_rev00.xlsx

2.4 Data Interpretation

ARD potential was evaluated on the basis of the ratio of Modified NP to AP, where AP was calculated from total sulphur. An ARD potential classification criterion was applied based on total sulphur content such that all wastes that contain less than 0.1% sulphide sulphur were classified as non-PAG irrespective of values of NP/AP. Any acidity produced by these low sulphide materials is expected to be readily consumed through reaction with silicate minerals or alkalinity produced by silicate weathering. Accordingly, the ARD potential classifications are:

- PAG: NP/AP<1 and sulphide S ≥0.1%.
- Uncertain: 3>NP/AP ≥1 and sulphide S ≥0.1%.
- Non-PAG: NP/AP≥3 or sulphide S <0.1 %.

The ARD potential of samples was also evaluated on the basis of TIC/AP with the same criteria applied as for NP/AP.

3 Results and Discussion

3.1 Acid-Base Accounting

3.1.1 Lab Data

Table 3-1 presents a statistical summary of ABA data by rock type with complete results presented in Attachment 1.

Values of paste pH ranged from 8.4 to 9.4 for all NE CPR rock types.

Sulphur speciation data indicates that sulphate levels were below or within the range of the level of analytical detection (<0.01%). Sulphide content, calculated as the difference between total sulphur and sulphate, is at near parity to total sulphur and therefore the dominant sulphur species (Figure 3-1). Accordingly, acid production (AP) was calculated using total sulphur.

Samples of sedimentary units contained the highest sulphur content (median = 1.5%), followed by mafic volcanics with sediments (1aj, median sulphur of 0.42%), mafic metavolcanics (1, median sulphur content of 0.18%) then early gabbro (7a, median sulphur of 0.08%). The 75th percentile levels of sulphur for mafic volcanics (0.53%) were higher than equivalent levels for mafic metavolcanics with sediments (0.25%).

TIC content is a measurement of carbonate minerals. The relationship between TIC and Modified NP was variable (Figure 3-3). For samples with NP < 30, which were all gabbro samples, levels of NP were greater than TIC indicating the presence of silicate minerals as quantified by the titration method. For samples with NP between 50 and 110 kg $CaCO_3$/t, TIC is at near parity with NP indicating that the NP was likely present as calcium or magnesium carbonates. For samples with NP greater than 110 kg $CaCO_3$/t, TIC is greater than NP, indicating the presence of iron carbonates which are NP-neutral due to the hydrolysis of iron.

ARD classifications for all rock samples according to NP/AP and TIC/AP are shown graphically in Figure 3-4 and Figure 3-5 with statistics presented in Table 3-1. All samples are classified as non-PAG on the basis of NP/AP and TIC/AP and total sulphur content with the exception of three samples from sedimentary units which range from uncertain to PAG.

Figure 3-6 indicates that ARD classifications are sensitive to sulphur content, with all samples with sulphur <1% classified as non-PAG. Conversely, all uncertain or PAG samples contained sulphur > 1%. Figure 3-7 indicates that samples classified non-PAG have arsenic content less than 80 ppm. However, when the accounting for rock types other than sedimentary units (5), all samples were classified as non-PAG with arsenic as high as 800 ppm. For samples with arsenic < 80 ppm, the maximum total sulphur content was 0.28% (Figure 3-8).

Table 3-1: ABA Statistics for NE CPR Drillhole Sample Rock Types

Rock Type	Statistic	ABA Data					
		Total Sulphur	AP	TIC	NP	NP/AP	TIC/AP
		(%)	(kgCaCO3/t)				
1 (n=18)	Minimum	0.07	2.2	80	83	8.7	13
	P5	0.08	2.5	100	86	10	15
	P25	0.11	3.4	200	170	26	30
	Average	0.25	7.9	260	200	25	33
	P50	0.18	5.6	250	200	36	48
	P75	0.25	7.8	310	210	43	55
	P95	0.82	26	480	340	58	70
	Maximum	1.0	32	510	370	59	85
1aj (n=9)	Minimum	0.17	5.3	280	190	8.4	15
	P5	0.20	6.2	290	190	10	17
	P25	0.32	10	330	210	13	20
	Average	0.37	15	87	250	17	27
	P50	0.42	13	360	220	15	26
	P75	0.53	17	480	320	28	40
	P95	0.82	26	490	340	35	51
	Maximum	0.85	27	500	350	35	53
5 (n=7)	Minimum	0.79	25	77	66	0.9	1.0
	P5	0.86	27	100	88	1.0	1.2
	P25	1.1	33	170	140	1.6	1.9
	Average	2.0	62	250	200	3.2	4.1
	P50	1.5	46	230	180	3.7	4.5
	P75	2.2	68	360	260	9.2	11
	P95	4.4	140	380	320	9.6	14
	Maximum	5.1	160	390	330	9.7	15
7a (n=9)	Minimum	0.07	2.2	6.8	12	5.2	2.7
	P5	0.07	2.2	7.7	13	5.4	3.3
	P25	0.07	2.2	14	19	5.9	6.2
	Average	0.09	2.8	48	51	18	16
	P50	0.08	2.5	21	27	11	7.3
	P75	0.10	3.1	82	84	27	26
	P95	0.12	3.8	120	120	40	40
	Maximum	0.13	4.1	140	130	41	41

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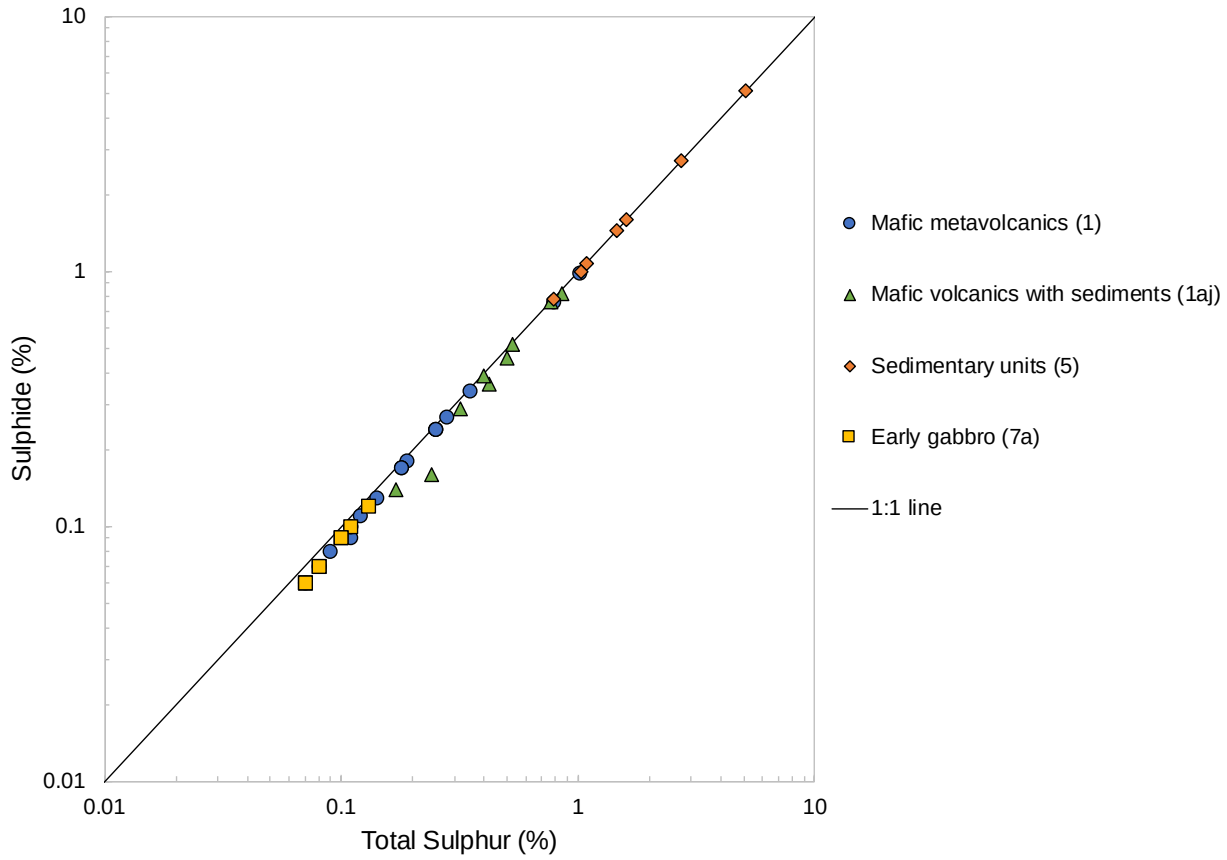

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Figure 3-1: Comparison of Total Sulphur and Calculated Sulphide

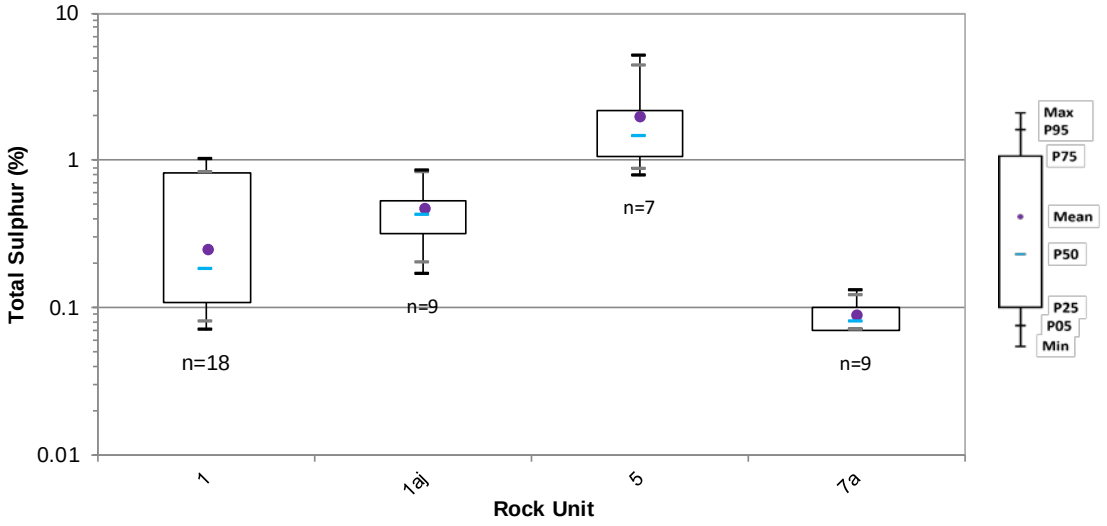

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Figure 3-2: Comparison of Total Sulphur by Rock Type

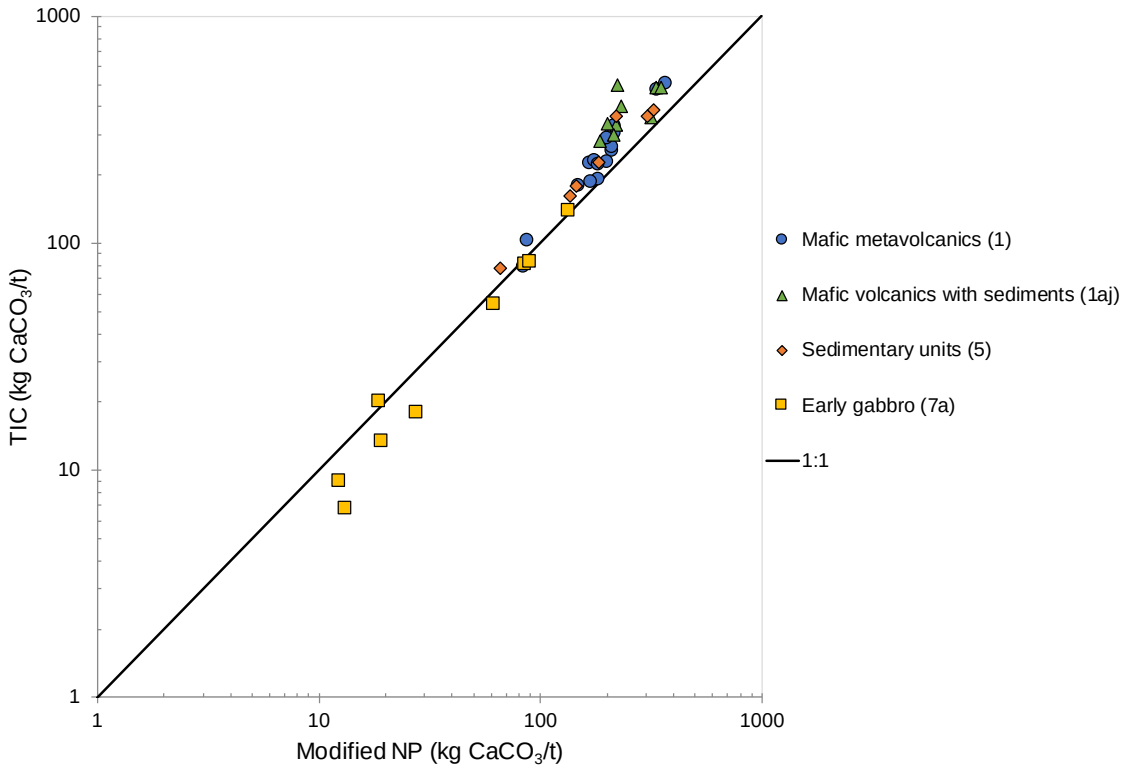

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Figure 3-3: Comparison of Modified NP to TIC

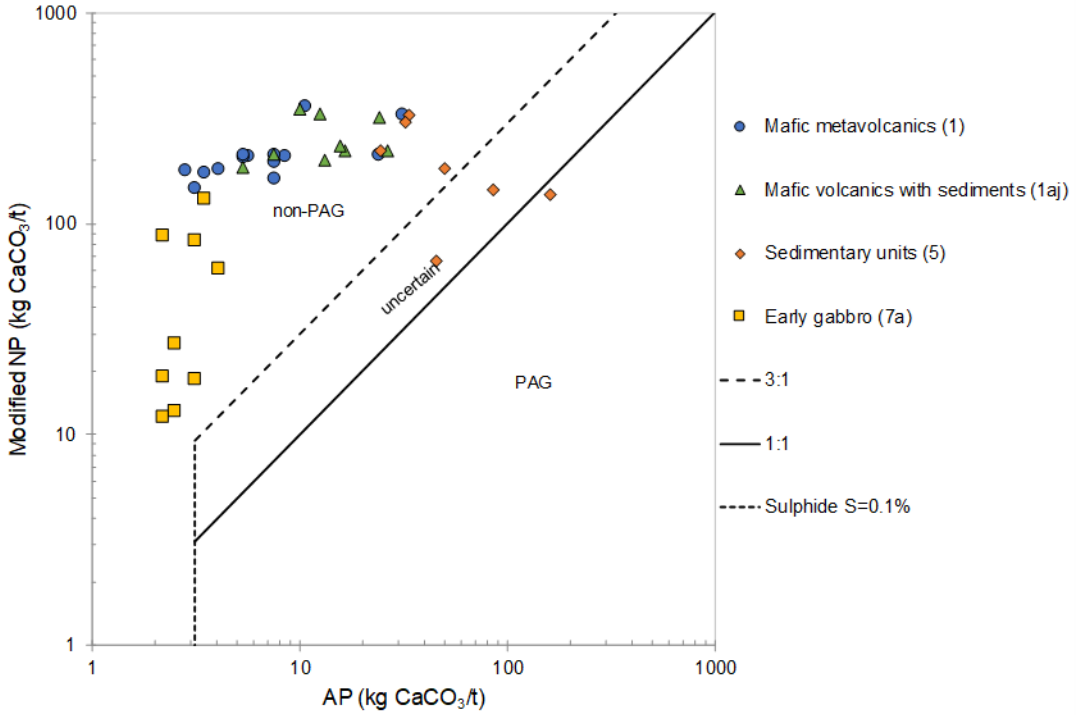

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Figure 3-4: ARD Classifications by Modified NP to AP

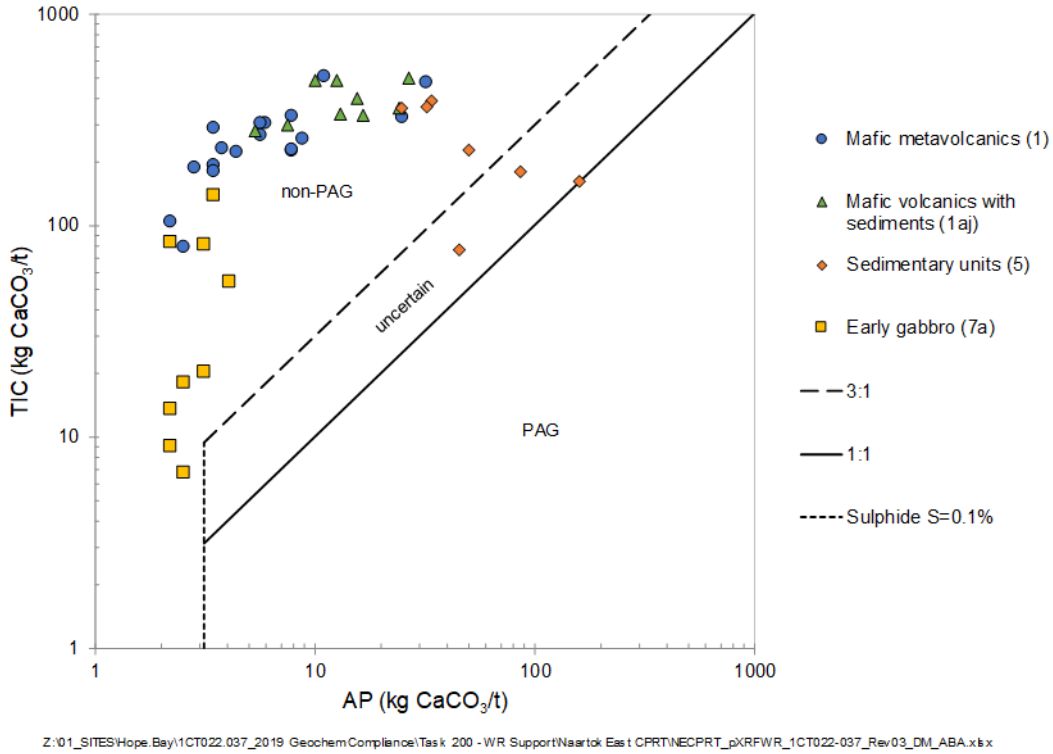

Figure 3-5: ARD Classifications by TIC to AP

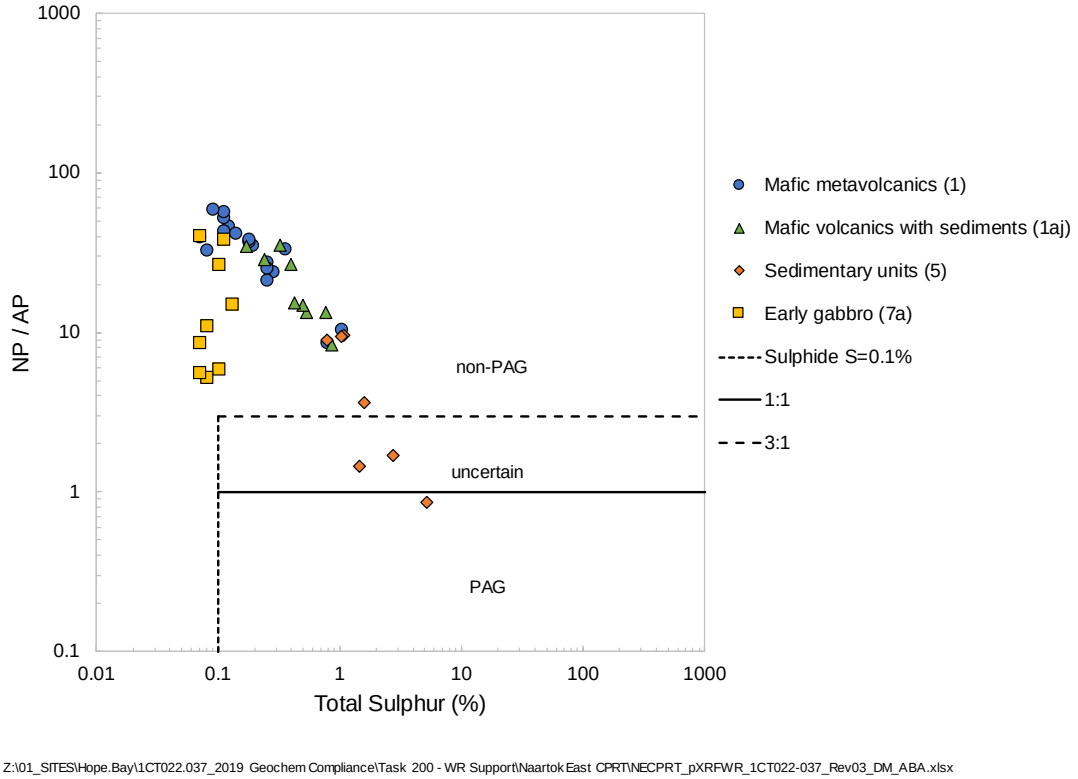

Figure 3-6: Comparison of Total Sulphur to NP/AP

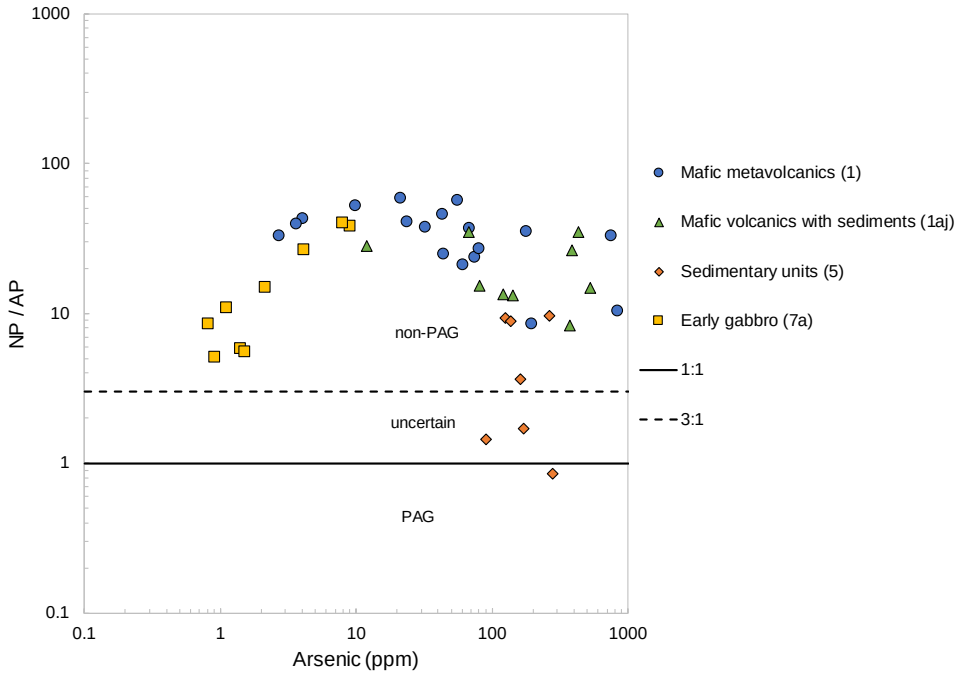

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Figure 3-7: Comparison of Arsenic by Aqua Regia Digestion to NP/AP

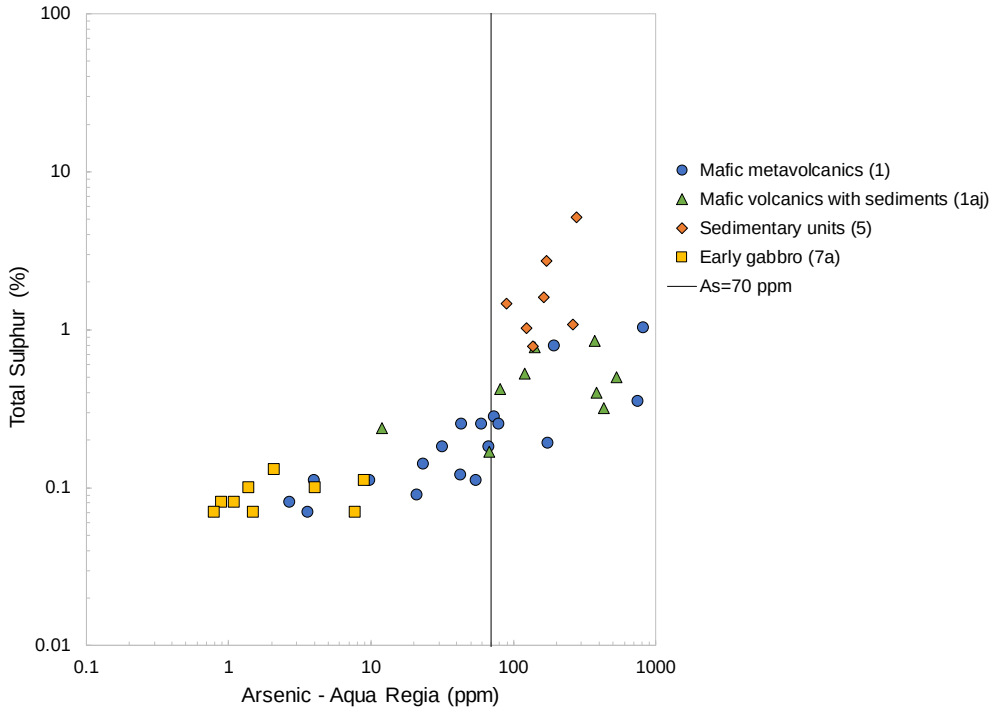

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Figure 3-8: Comparison of Arsenic by Aqua Regia Digestion and Sulphur by Leco

3.1.2 pXRF Analysis of Sulphur

The pXRF data are presented in Appendix D of SRK (2019a).

Sulphur by pXRF exhibits a linear relationship with sulphur by Leco with a strong correlation for both the pulp (r^2 = 0.99; Figure 3-9) and -2 mm size fractions (r^2 = 0.99; Figure 3-10). For both size fractions, sulphur by pXRF are uniformly lower than total sulphur by Leco. Exceptions include selected gabbro samples in the -2 mm fraction only and with Leco sulphur less than 0.1%. For these aforementioned samples, sulphur by pXRF are at near parity with sulphur by Leco. The linear relationship and strong correlation between pXRF and Leco sulphur for the -2 mm fraction indicates that the pXRF can be used as a field tool to measure sulphur.

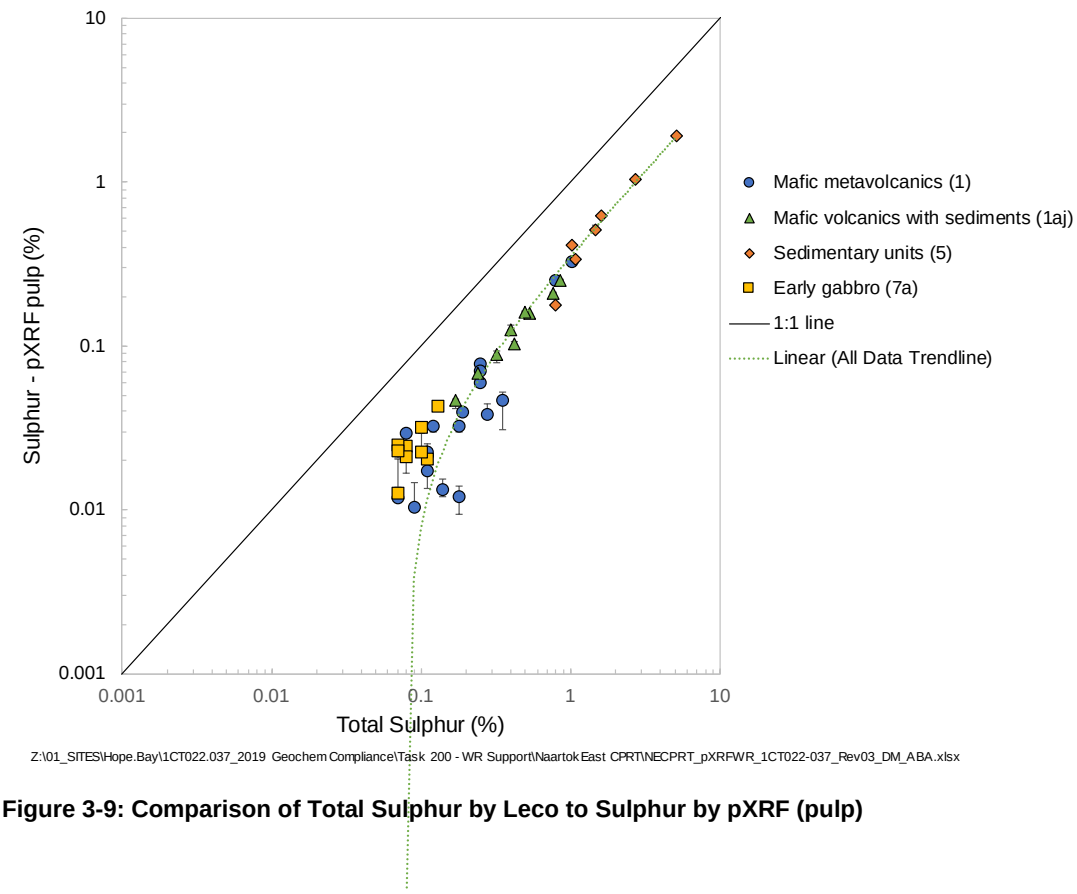

Figure 3-9: Comparison of Total Sulphur by Leco to Sulphur by pXRF (pulp)

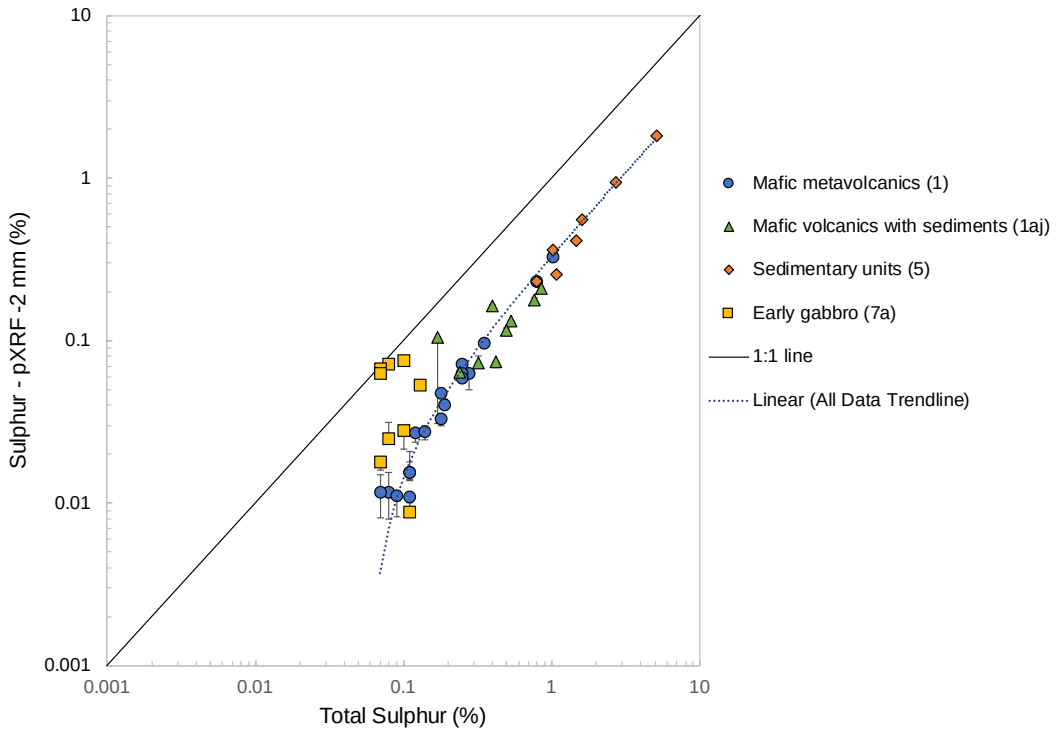

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Figure 3-10: Comparison of Total Sulphur by Leco to Sulphur by pXRF (-2 mm)

3.2 Trace Element Content

A summary of complete trace element results by aqua regia and 4-acid digestions is presented in Appendix B and Appendix C, respectively of SRK (2019a).

For screening purposes, trace element content by aqua regia was compared to ten times the average crustal abundance for basalt (Price 1997) as an indicator of enrichment and not element mobility or element release rates. Arsenic was elevated in each lithology except gabbro (Figure 3-11). For selenium, it was only elevated in sedimentary units (Figure 3-12). Trace element content were below the screening criteria for all other parameters indicating no appreciable enrichment. Trace element for each rock type compared to ten times crustal abundance are presented in Attachment 2.

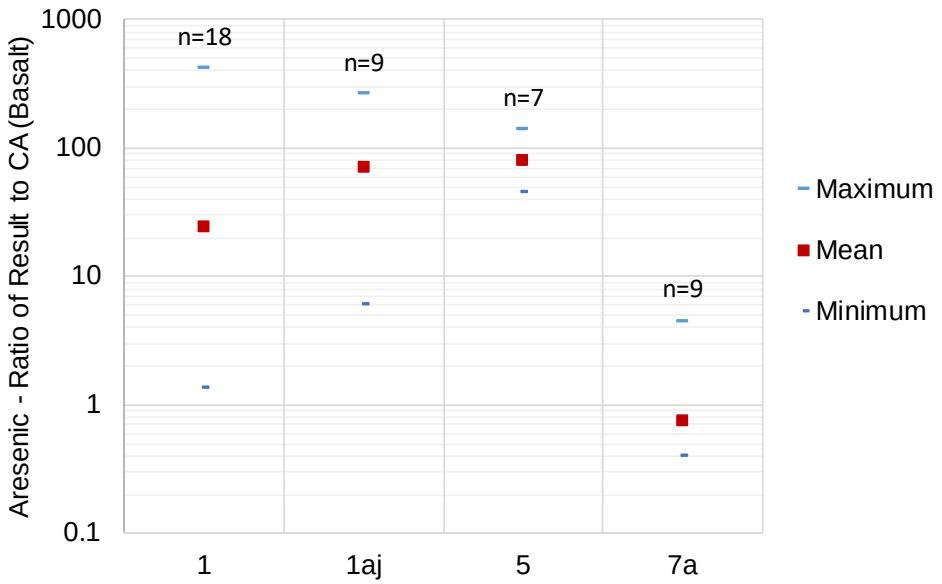

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Figure 3-11: Ratio of Arsenic Content to Crustal Abundance of Basalt by Rock Type

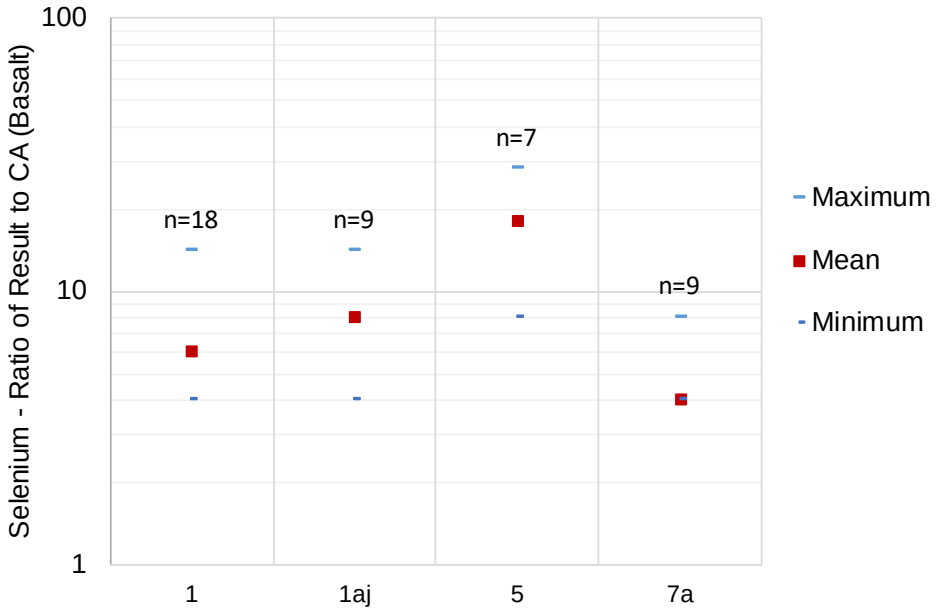

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Figure 3-12: Selenium Concentrations Compared against Crustal Abundance of Basalt

4 Conclusions

A summary of the ABA data for the NE CPR waste rock sample set is a as follows:

- Samples of sedimentary units contained the highest sulphur content (median = 1.5%), followed by mafic volcanics with sediments (1aj, median sulphur of 0.42%), mafic metavolcanics (1, median sulphur content of 0.18%) then early gabbro (7a, median sulphur of 0.08%).
- All rock types contain high levels of NP as carbonate minerals (66 to 370 kg $CaCO_3$/t), except for early gabbro (7a) samples, which had levels varying from 12 to 130 kg $CaCO_3$/t.
- All samples were classified as non-PAG except for three sedimentary unit samples which were classified as uncertain or PAG owing to high sulphur content.
- All samples classified as non-PAG contained arsenic less than 80 ppm and total sulphur less than 1%. However, if samples of sedimentary unit are excluded, samples classified as non-PAG have arsenic content as high as 800 ppm.
- pXRF can be used as a field tool to quantify sulphur content.

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Attachment 1 – ABA Data and TMAC Field Observations

Sample Information		Acid-Base Accounting														TMAC Field Observations				
Sample ID	Geochem Unit	Paste pH	Total Sulphur	ICP Sulphur	Tot S RPD%	Sulphate	Sulphide	AP	TIC-NP	Modified NP	TIC-NP/AP	NP/AP	ARD Classification	Fizz Test	Fizz Test	Fizz Test	Fizz Test	Visual Sulphide (-2 mm)		
			%S (Leco)	%S	Leco vs. AR	%S	Calc	kg CaCO3/t	kg CaCO3/t	kg CaCO3/t	kg CaCO3/t	kg CaCO3/t				Pulp	2mm	%	Mineral	Habit
			0.01	0.01		0.01														
TM00427-SRK-WR-33	1	8.9	1.0	1.1	-5.7%	0.03	0.99	32	480	330	16	11	non-PAG	moderate	3	4	4	3.0	pyrite, pyrrhotite (?)	mostly fine grained, evenly distributed within matrix
TM00427-SRK-WR-31A	1	9.0	0.79	0.87	-10%	0.03	0.76	25	330	210	14	9.0	non-PAG	moderate	3	4	3	5.0	pyrite, pyrrhotite (?)	mostly cubic, remainder too fine grained, locally massive
TM00421-SRK-WR-01	1	8.4	0.35	0.39	-11%	0.01	0.34	11	510	370	48	34	non-PAG	moderate	3	4	4	0.75	pyrite	cubic, disseminated
TM00421-SRK-WR-04	1	8.6	0.28	0.31	-10%	0.01	0.27	8.8	260	210	31	25	non-PAG	moderate	3	4	3	0.25	pyrrhotite (?)	too fine grained, no habit
TM00420-SRK-WR-07	1	9.1	0.25	0.29	-15%	0.01	0.24	7.8	330	220	44	29	non-PAG	moderate	3	4	4	0.50	pyrite / pyrrhotite	too fine grained, no habit
TM00426-SRK-WR-24	1	8.6	0.25	0.28	-11%	0.01	0.24	7.8	230	170	30	22	non-PAG	moderate	3	4	4	0.75	pyrite, pyrrhotite (?)	mostly cubic, remainder too fine grained
TM00427-SRK-WR-29A	1	8.7	0.25	0.28	-11%	0.01	0.24	7.8	230	200	31	26	non-PAG	moderate	3	4	3	0.5	pyrite	cubic, disseminated
TM00420-SRK-WR-10	1	8.4	0.19	0.23	-19%	0.01	0.18	5.9	310	210	55	37	non-PAG	moderate	3	4	4	0	-	-
TM00420-SRK-WR-09	1	8.5	0.18	0.22	-20%	0.01	0.17	5.6	270	210	51	39	non-PAG	moderate	3	3	4	0.75	pyrite	cubic
TM00421-SRK-WR-03	1	8.9	0.18	0.2	-11%	0.01	0.17	5.6	310	220	58	40	non-PAG	moderate	3	4	4	0	-	-
TM00426-SRK-WR-26	1	8.7	0.12	0.17	-34%	0.01	0.11	3.8	230	180	68	51	non-PAG	moderate	3	3	3	0.25	pyrite	cubic, trace, disseminated
TM00421-SRK-WR-05	1	8.6	0.14	0.16	-13%	0.01	0.13	4.4	230	180	55	45	non-PAG	moderate	3	4	4	0.25	pyrite	cubic, trace, disseminated
TM00421-SRK-WR-05 DUP	1	9.0	0.13	0.16	-21%	0.01	0.12	4.1	220	210	55	52	non-PAG	moderate	3	4	4	0.25	pyrite	cubic, trace, disseminated
TM00420-SRK-WR-08	1	8.5	0.11	0.14	-24%	0.02	0.09	3.4	190	180	69	64	non-PAG	moderate	3	4	4	0.25	pyrite	cubic, trace, disseminated
TM00426-SRK-WR-25	1	8.5	0.11	0.14	-24%	0.01	0.1	3.4	180	150	58	47	non-PAG	moderate	3	4	4	0.50	pyrite	cubic
TM00421-SRK-WR-25 DUP	1	8.5	0.1	0.12	-18%	0.01	0.09	3.1	180	180	58	58	non-PAG	moderate	3	4	4	0.25	pyrite	cubic, fine grained
TM00427-SRK-WR-30	1	8.8	0.11	0.14	-24%	0.01	0.1	3.4	290	200	94	63	non-PAG	moderate	3	4	3	0.50	pyrite	cubic, disseminated
TM00441-SRK-WR-17	1	8.8	0.08	0.12	-40%	0.01	0.07	2.5	80	80	36	38	non-PAG	moderate	3	4	4	0.25	pyrite	cubic, trace, disseminated
TM00421-SRK-WR-06	1	8.6	0.09	0.1	-11%	0.01	0.08	2.8	190	170	76	67	non-PAG	moderate	3	4	4	0	-	-
TM00441-SRK-WR-18	1	8.8	0.07	0.09	-25%	0.01	0.06	2.2	110	87	56	46	non-PAG	moderate	3	4	4	0	-	-
TMMNE-19-00019-SRK-WR-041	1aj	9.0	0.85	0.88	-3.5%	0.03	0.82	27	500	220	19	8.4	non-PAG	moderate	3	4	2	2.0	pyrite	localized 6-8% pyrite (fine-grained, semi-massive, cubic sulfide) localized to mafic grains.
TM00426-SRK-WR-28	1aj	9.3	0.77	0.8	-3.8%	0.01	0.76	24	360	320	15	13	non-PAG	moderate	3	4	4	3.0	pyrite	cubic
TM00426-SRK-WR-27	1aj	9.1	0.53	0.58	-9.0%	0.01	0.52	17	330	220	20	13	non-PAG	moderate	3	4	4	2.0	pyrite	cubic, fine grained, localized to quartz fragments
TMMNE-19-00017-SRK-WR-042	1aj	8.5	0.5	0.5	0.0%	0.04	0.46	16	400	230	26	15	non-PAG	moderate	3	3	3	0.50	pyrite	medium-grained, cubic
TMMNE-19-00020-SRK-WR-038	1aj	8.7	0.42	0.45	-6.9%	0.06	0.36	13	340	200	26	15	non-PAG	moderate	3	4	4	1.0	pyrite	cubic, disseminated amoungst mafic grains
TMMNE-19-00020-SRK-WR-038 DUP	1aj	8.7	0.4	0.42	-4.9%	0.05	0.35	13	340	230	27	18	non-PAG	moderate	3	4	4	1.0	pyrite	cubic, disseminated
TM00416-SRK-WR-16	1aj	8.9	0.4	0.44	-10%	0.01	0.39	13	490	330	39	27	non-PAG	moderate	3	4	4	1.0	pyrite	cubic
TMMNE-19-00019-SRK-WR-039	1aj	8.6	0.32	0.33	-3.1%	0.03	0.29	10	490	350	49	35	non-PAG	moderate	3	3	3	0.75	pyrite, pyrrhotite (?)	mostly cubic pyrite, localized patches of fine-grained sulphide with no habbit
TMMNE-19-00020-SRK-WR-037	1aj	8.7	0.24	0.26	-8.0%	0.08	0.16	7.5	300	210	40	28	non-PAG	moderate	3	4	3	0.5	pyrite	cubic, limited to rare mafic grains
TMMNE-19-00020-SRK-WR-036	1aj	8.9	0.17	0.16	6.1%	0.03	0.14	5.3	280	190	53	35	non-PAG	moderate	3	4	4	0.5	pyrite	cubic, limited to rare mafic grains
TMMNE-19-00017-SRK-WR-043	5	8.8	5.1	5.0	2.8%	0.03	5.1	160	160	140	1.0	0.9	PAG	moderate	3	3	2	3.0	pyrite, pyrrhotite (?)	fine grained, locally semi-massive pyrite / pyrrhotite on localized grains
TMMNE-19-00019-SRK-WR-040	5	8.7	2.7	2.7	1.1%	0.02	2.7	86	180	150	2.1	1.7	Uncertain	moderate	3	2	2	1.5	pyrite, pyrrhotite (?)	fine grained, locally semi-massive pyrite / pyrrhotite on localized grains
TMMNE-19-00020-SRK-WR-040 DUP	5	8.7	2.6	2.7	-2.6%	0.01	2.6	82	180	170	2.2	2.1	Uncertain	moderate	3	2	2	2.0	pyrite	localized 6-8% pyrite (fine-grained, semi-massive, cubic sulfide) localized to mafic grains.
TMMNE-19-00020-SRK-WR-035	5	8.7	1.6	1.7	-5.5%	0.01	1.6	50	230	180	4.5	3.7	non-PAG	moderate	3	2	2	3.0	pyrite	localized 6-8% pyrite (cubic) localized to mafic grains.
TM00416-SRK-WR-15	5	9.0	1.5	1.5	-5.3%	0.01	1.5	46	77	66	1.7	1.5	Uncertain	slight	2	2	2	7.0	pyrite, pyrrhotite	cubic, remainder too fine grained, locally massive
TM00421-SRK-WR-15 DUP	5	9.0	1.5	1.5	-2.7%	0.01	1.5	46	77	60	1.7	1.3	Uncertain	slight	2	3	1	4.0	pyrite, pyrrhotite (?)	mostly cubic, remainder too fine grained, locally massive
TM00427-SRK-WR-34	5	8.7	1.1	1.2	-7.1%	0.01	1.1	34	390	330	12	9.7	non-PAG	moderate	3	3	4	5.0	pyrite, pyrrhotite (?)	mostly fine grained, locally massive and concentrated around quartz fragments
TM00427-SRK-WR-32A	5	9.2	1.0	1.1	-8.4%	0.03	1	32	360	300	11	9.4	non-PAG	moderate	3	3	4	4.0	pyrite	mostly cubic, remainder too fine grained, locally massive
TM00421-SRK-WR-02	5	9.2	0.79	0.83	-4.9%	0.01	0.78	25	360	220	15	9.1	non-PAG	moderate	3	4	4	0.75	pyrite, pyrrhotite (?)	cubic, disseminated
TM00441-SRK-WR-19	7a	9.2	0.13	0.16	-21%	0.01	0.12	4.1	55	61	13	15	non-PAG	moderate	3	4	4	0.25	pyrite	fine grained
TM00441-SRK-WR-23	7a	8.3	0.11	0.15	-31%	0.01	0.1	3.4	140	130	41	38	non-PAG	moderate	3	4	4	0.25	pyrite	cubic, trace, disseminated
TM00441-SRK-WR-22	7a	9.3	0.1	0.13	-26%	0.01	0.09	3.1	20	19	6.6	5.9	non-PAG	slight	2	3	2	0.25	pyrite	cubic, trace, disseminated
TM00416-SRK-WR-13	7a	9.4	0.08	0.12	-40%	0.01	0.07	2.5	6.8	13	2.7	5.2	non-PAG	none	1	3	1	0	-	-
TM00416-SRK-WR-14	7a	9.1	0.1	0.12	-18%	0.01	0.09	3.1	82	84	26	27	non-PAG	moderate	3	4	4	0.50	pyrite, pyrrhotite (?)	cubic, remainder too fine grained
TM00441-SRK-WR-21	7a	9.4	0.08	0.12	-40%	0.01	0.07	2.5	18	27	7.3	11	non-PAG	slight	2	4	4	0.25	pyrite	cubic, trace, disseminated
TM00416-SRK-WR-12	7a	9.4	0.07	0.11	-44%	0.01	0.06	2.2	9.1	12	4.2	5.6	non-PAG	none	1	3	3	0.25	pyrite	cubic, trace, disseminated
TM00441-SRK-WR-20	7a	9.4	0.07	0.1	-35%	0.01	0.06	2.2	14	19	6.2	8.6	non-PAG	slight	2	4	4	0	-	-
TM00416-SRK-WR-11	7a	9.1	0.07	0.09	-25%	0.01	0.06	2.2	84	89	38	41	non-PAG	moderate	3	4	4	0	-	-

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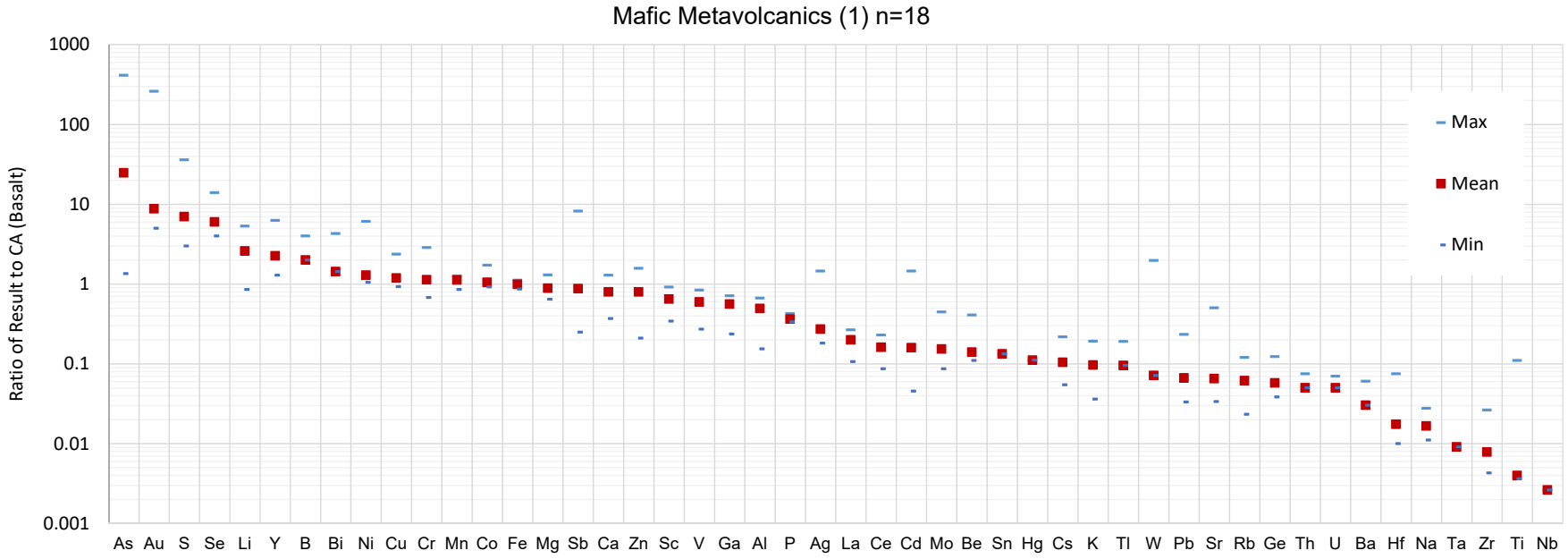
Attachment 2 – Crustal Abundance Charts



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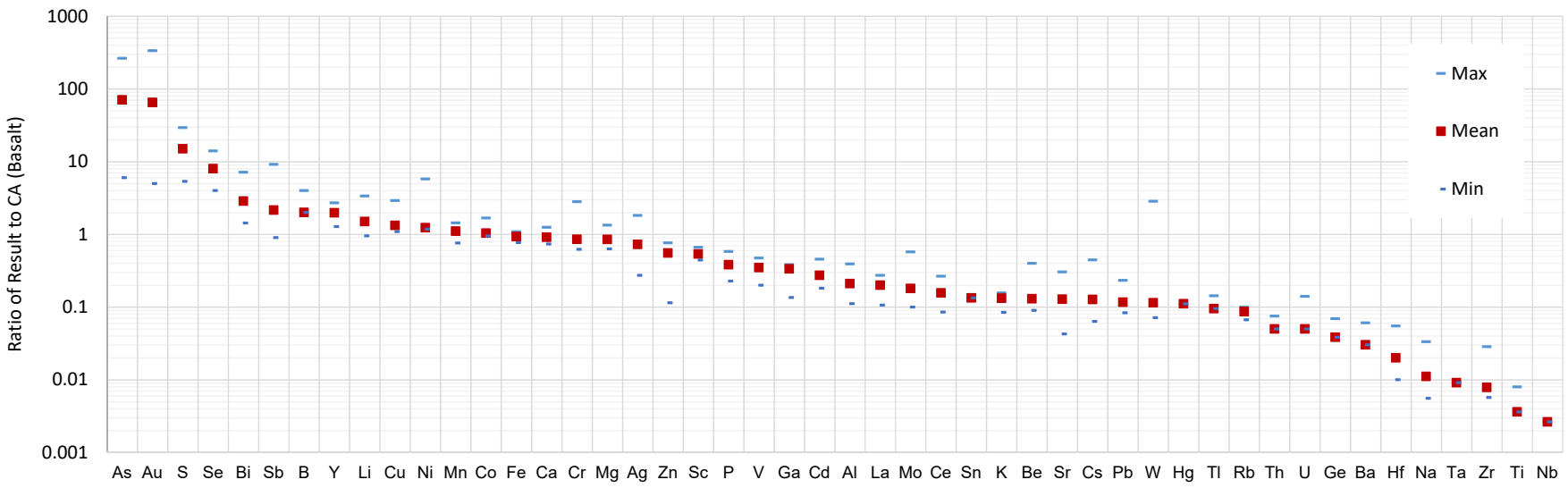

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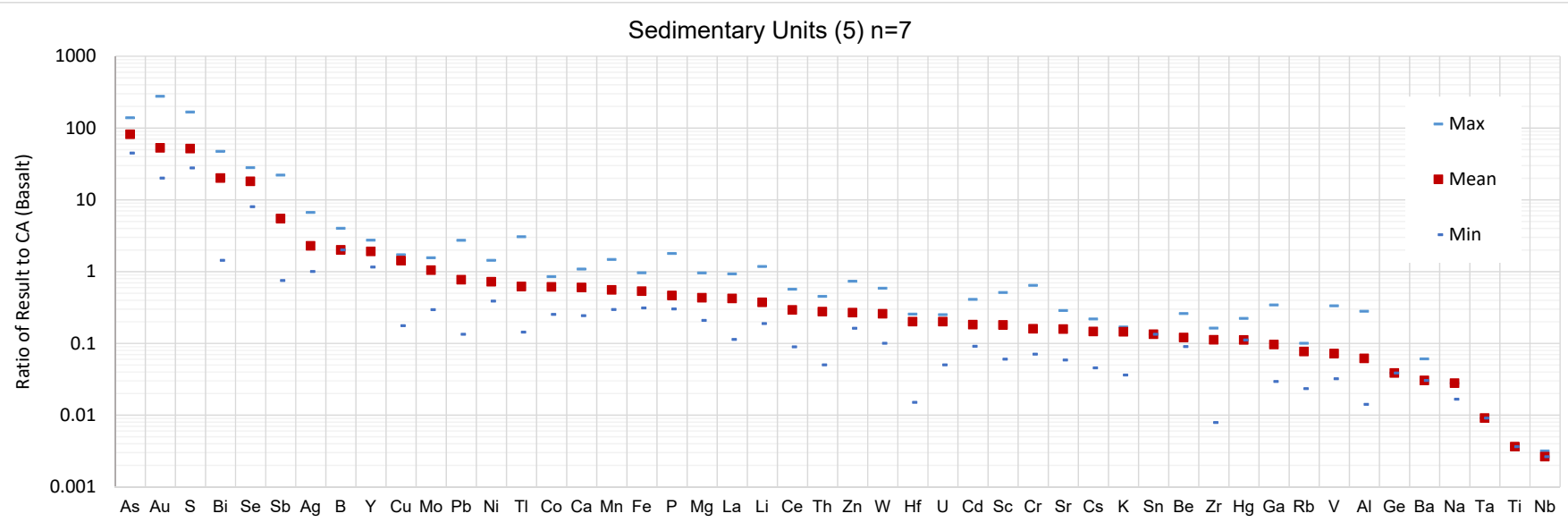

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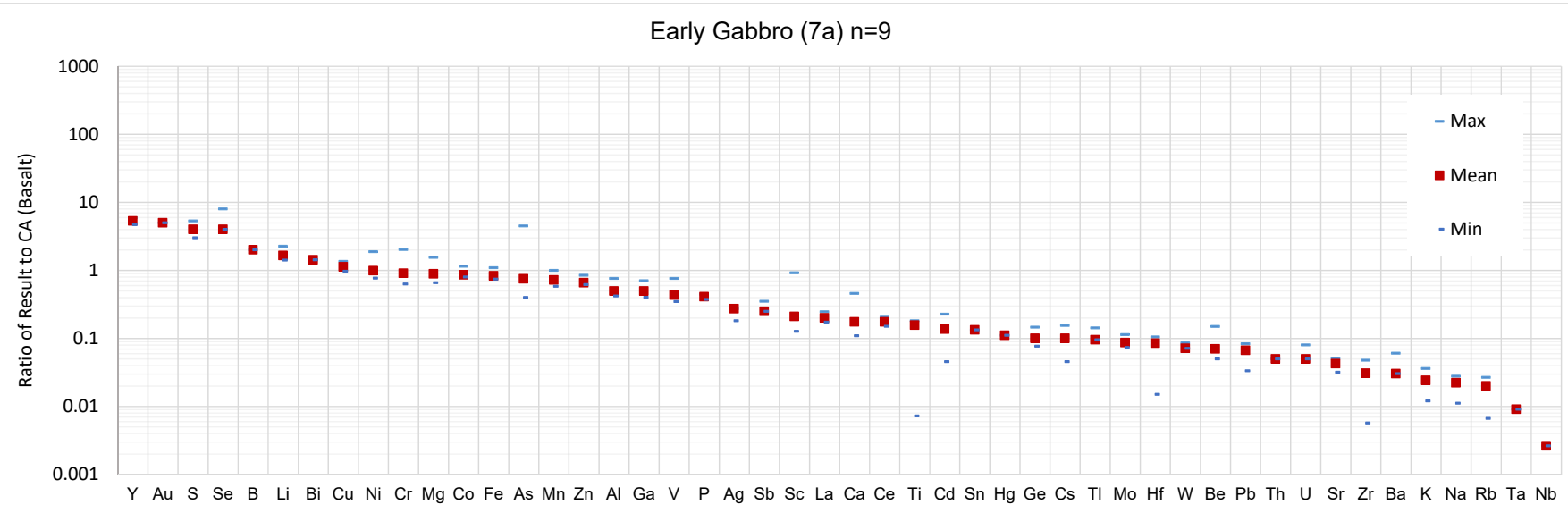

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Appendix E – Arsenic and Sulphur Data by pXRF

Sample Descriptions			pXRF data - 2mm																		
SAMPLE	SRK ID	Geochem Unit	Sb	Sb Error	Sn	Sn Error	Cd	Cd Error	Bal	Bal Error	Mo	Mo Error	Nb	Nb Error	Zr	Zr Error	Sr	Sr Error	Rb	Rb Error	Bi
			ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm
YW19131909X001-1	TM00421-SRK-WR-01	1	<18	18	<24.67	24.67	<9.06	9.06	746573.31	1063.35	<2.19	2.19	7.4	1.3	62.42	2.38	103.24	2.41	12.87	1	<3.21
YW19131909X001-2	TM00421-SRK-WR-01	1	<17.98	17.98	<28.58	28.58	<9.35	9.35	751329.75	1070.26	<1.5	1.5	5.97	1.29	62.42	2.41	103.36	2.44	12.34	1	<3.47
YW19131909X001-3	TM00421-SRK-WR-01	1	<18.61	18.61	<31.76	31.76	<9.52	9.52	750106.94	1065.14	<1.59	1.59	7.05	1.3	62.34	2.38	101.21	2.39	13.06	1	<3.39
YW19131909X003-1	TM00421-SRK-WR-03	1	<18.17	18.17	<26.9	26.9	<9.08	9.08	786166.38	931.58	<1.5	1.5	3.14	1.24	33.87	1.84	32.41	1.44	20.21	1	<3.49
YW19131909X003-2	TM00421-SRK-WR-03	1	<18.27	18.27	31.56	16.91	<9.34	9.34	784464.25	927.21	<1.69	1.69	4.55	1.25	33.32	1.82	32.43	1.43	19.55	1	<3.36
YW19131909X003-3	TM00421-SRK-WR-03	1	<18.46	18.46	<25.41	25.41	<9.44	9.44	783147.88	933.57	<2.45	2.45	3.66	1.24	32.42	1.81	31.47	1.42	20.22	1	<3.43
YW19131909X004-1	TM00421-SRK-WR-04	1	<18.73	18.73	<31.19	31.19	<9.67	9.67	773093.56	980.93	<2.25	2.25	4.13	1.27	33.15	1.81	20.37	1.22	12.75	1	<3.31
YW19131909X004-2	TM00421-SRK-WR-04	1	<18.62	18.62	<23.8	23.8	<9.42	9.42	775352.94	973.15	<2.15	2.15	4.17	1.25	33.15	1.79	19.41	1.19	12.52	1	<3.26
YW19131909X004-3	TM00421-SRK-WR-04	1	<20.17	20.17	<31.67	31.67	<8.96	8.96	774387.31	963.17	<1.5	1.5	3.64	1.24	34.02	1.79	18.05	1.15	14.25	1	<3.2
YW19131909X005-1	TM00421-SRK-WR-05	1	<18.34	18.34	<25.21	25.21	<9.26	9.26	769887.56	975.73	<2.11	2.11	5.38	1.27	32.32	1.84	39.41	1.55	4.29	1	<2.97
YW19131909X005-2	TM00421-SRK-WR-05	1	<24.97	24.97	<25.07	25.07	<9.44	9.44	769512.31	981.33	<2.17	2.17	4.56	1.27	32.52	1.85	40.21	1.57	4.94	1	<2.89
YW19131909X005-3	TM00421-SRK-WR-05	1	<18.46	18.46	<26.85	26.85	<9.27	9.27	770478.13	979.34	3.11	1.44	4.4	1.25	32.5	1.83	38.98	1.54	4.23	1	<2.81
YW19131909X006-1	TM00421-SRK-WR-05 DUP	1	<22.82	22.82	30.46	17.02	<9.29	9.29	773941.5	980.77	2.26	1.47	3.36	1.27	32.09	1.88	41.33	1.62	3.89	1	<2.99
YW19131909X006-2	TM00421-SRK-WR-05 DUP	1	<18.6	18.6	<25.59	25.59	<9.42	9.42	775920	964.88	<2.17	2.17	3.55	1.25	29.08	1.83	44.91	1.66	3.31	1	<2.99
YW19131909X006-3	TM00421-SRK-WR-05 DUP	1	<21.58	21.58	<25.91	25.91	<9.66	9.66	774523.63	978.59	<2.16	2.16	4	1.26	30.89	1.85	45.34	1.66	3.87	1	<2.97
YW19131909X007-1	TM00421-SRK-WR-06	1	<21.54	21.54	<35.83	35.83	<9.8	9.8	793449	917.2	<2.2	2.2	3.07	1.27	33.94	1.87	28.69	1.4	7.89	1	<3.35
YW19131909X007-2	TM00421-SRK-WR-06	1	<19.31	19.31	<26.11	26.11	<9.8	9.8	793524.5	918.63	<1.5	1.5	4.02	1.29	34.2	1.89	29.56	1.42	7.18	1	<3.02
YW19131909X007-3	TM00421-SRK-WR-06	1	<18.44	18.44	<30.93	30.93	<9.55	9.55	790381.94	916.28	<1.84	1.84	2.62	1.24	33.18	1.83	26.38	1.34	5.9	1	<2.85
YW19131909X008-1	TM00420-SRK-WR-07	1	<18.32	18.32	<34.12	34.12	<9.44	9.44	784962.63	910.6	<2.38	2.38	4.69	1.24	34.48	1.87	53.2	1.74	13.95	1	<3.05
YW19131909X008-2	TM00420-SRK-WR-07	1	<21.15	21.15	<25.04	25.04	<9.07	9.07	785109.69	916.68	<1.5	1.5	4.55	1.24	34.76	1.89	54.4	1.77	13.37	1	<3.3
YW19131909X008-3	TM00420-SRK-WR-07	1	<23.42	23.42	<24.83	24.83	<9.27	9.27	784964.75	926.53	<2.45	2.45	4.05	1.24	34.4	1.88	52.7	1.74	13.17	1	<3.15
YW19131909X009-1	TM00420-SRK-WR-08	1	<18.83	18.83	<38.57	38.57	<9.74	9.74	774304.69	990.71	<2.19	2.19	3.57	1.27	34.05	1.86	27.37	1.37	6.57	1	<3.26
YW19131909X009-2	TM00420-SRK-WR-08	1	<22.06	22.06	<36.86	36.86	<9.64	9.64	773195.44	996.91	<2.2	2.2	4.22	1.28	35.41	1.89	27.34	1.37	6.54	1	<2.84
YW19131909X009-3	TM00420-SRK-WR-08	1	<18.82	18.82	<39.1	39.1	<9.44	9.44	772549.81	986.66	<1.89	1.89	4.72	1.29	31.36	1.83	28.73	1.4	6.18	1	<2.69
YW19131909X010-1	TM00420-SRK-WR-09	1	<22.38	22.38	<29.57	29.57	<9.67	9.67	772189.81	984.03	<2.54	2.54	3.71	1.27	32.11	1.79	15.1	1.11	10.85	1	<3.1
YW19131909X010-2	TM00420-SRK-WR-09	1	<18.62	18.62	<30.77	30.77	<9.56	9.56	770779.13	1008.15	<2.2	2.2	3.67	1.28	31.67	1.8	15.13	1.12	11.22	1	<3.28
YW19131909X010-3	TM00420-SRK-WR-09	1	<18.6	18.6	<39.34	39.34	<9.67	9.67	773112.94	983.4	<2.39	2.39	2.08	1.24	33.17	1.81	14.69	1.11	11.42	1	<3.25
YW19131909X011-1	TM00420-SRK-WR-10	1	<19.47	19.47	<37.95	37.95	<10.2	10.2	756252.5	1058.5	2.37	1.52	6.22	1.33	54.65	2.18	24.07	1.33	5.15	1	<3.12
YW19131909X011-2	TM00420-SRK-WR-10	1	<20.19	20.19	<41.74	41.74	<9.8	9.8	756797.63	1077.02	<1.93	1.93	5.98	1.34	54.55	2.19	24.69	1.35	5.32	1	<2.91
YW19131909X011-3	TM00420-SRK-WR-10	1	<19.16	19.16	<38.16	38.16	<9.82	9.82	752712.88	1096.25	<2.64	2.64	5.82	1.35	53.97	2.2	23.5	1.33	4.56	1	<3.27
YW19131909X019-1	TM00441-SRK-WR-17	1	<22.87	22.87	30.2	17.01	<10.95	10.95	787680.19	926.65	<1.53	1.53	3.55	1.26	34.13	1.95	59.82	1.89	<1.5	1.5	<2.64
YW19131909X019-2	TM00441-SRK-WR-17	1	<18.63	18.63	<25.54	25.54	<9.52	9.52	787777.88	930.95	<2.2	2.2	3.15	1.26	34.04	1.97	63.34	1.95	<1.5	1.5	<2.74
YW19131909X019-3	TM00441-SRK-WR-17	1	<27.63	27.63	<24.9	24.9	<10.92	10.92	783720.56	934.12	<2.17	2.17	3.23	1.25	35.8	1.96	60.9	1.9	<1.5	1.5	<2.7
YW19131909X020-1	TM00441-SRK-WR-18	1	<18.54	18.54	<39.55	39.55	<9.65	9.65	786233.13	942.03	<2.22	2.22	3.77	1.28	32.18	1.97	67.19	2.02	<1.5	1.5	<2.58
YW19131909X020-2	TM00441-SRK-WR-18	1	<18.76	18.76	<33.21	33.21	<9.62	9.62	781925.13	953.12	<2.21	2.21	4.51	1.29	33.52	1.98	66.85	2.01	2.36	1	<2.85
YW19131909X020-3	TM00441-SRK-WR-18	1	<18.62	18.62	<38.94	38.94	<9.33	9.33	785360.13	956.89	<2.23	2.23	3.22	1.29	31.37	1.98	66.6	2.04	1.91	1	<2.67
YW19131909X026-1	TM00426-SRK-WR-24	1	<17.87	17.87	<39.57	39.57	<9.47	9.47	760443.88	1010.26	<2.18	2.18	3.39	1.24	32.03	1.85	47.69	1.68	6.95	1	<2.95
YW19131909X026-2	TM00426-SRK-WR-24	1	<17.98	17.98	<26.68	26.68	<9.25	9.25	759951.31	1026.11	<2.14	2.14	5.06	1.26	33.15	1.87	47.63	1.68	6.54	1	<2.91
YW19131909X026-3	TM00426-SRK-WR-24	1	<18.05	18.05	31.96	16.6	<9.21	9.21	762457	1018.21	<1.91	1.91	3.2	1.24	30.3	1.83	46.52	1.67	7.09	1	<3
YW19131909X027-1	TM00426-SRK-WR-25	1	<26.84	26.84	<24.91	24.91	<10.62	10.62	761748.19	1009.86	<1.76	1.76	4.78	1.26	30.97	1.83	46.98	1.67	1.54	1	<2.78
YW19131909X027-2	TM00426-SRK-WR-25	1	<18.16	18.16	<29.22	29.22	<9.39	9.39	762838	1013.88	<1.5	1.5	3.2	1.24	32.03	1.86	47.32	1.69	1.76	1	<2.54
YW19131909X027-3	TM00426-SRK-WR-25	1	<18.11	18.11	<32.92	32.92	<16.31	16.31	762427.88	990.19	<2.07	2.07	3.45	1.23	31.92	1.85	48.61	1.69	1.63	1	<2.92
YW19131909X028-1	TM00421-SRK-WR-25 DUP	1	<18.71	18.71	<25.72	25.72	<9.67	9.67	755624.38	1056.91	<1.84	1.84	4.12	1.27	30.93	1.88	50.62	1.76	1.62	1	<2.83
YW19131909X028-2	TM00421-SRK-WR-25 DUP	1	<18.47	18.47	<38.59	38.59	<9.56	9.56	754409.31	1050.23	<2.16	2.16	3.73	1.27	30.11	1.87	48.99	1.75	1.9	1	<2.88

Sample Descriptions			pXRF data - 2mm																		
SAMPLE	SRK ID	Geochem Unit	Sb	Sb Error	Sn	Sn Error	Cd	Cd Error	Bal	Bal Error	Mo	Mo Error	Nb	Nb Error	Zr	Zr Error	Sr	Sr Error	Rb	Rb Error	Bi
			ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm
YW19131909X028-3	TM00421-SRK-WR-25 DUP	1	<18.5	18.5	<41.12	41.12	<9.58	9.58	752704.19	1059.33	<1.86	1.86	3.48	1.25	31.87	1.87	48.75	1.71	1.97	1	<2.92
YW19131909X029-1	TM00426-SRK-WR-26	1	<18.03	18.03	<27.13	27.13	<9.17	9.17	777593.69	951.49	<2.42	2.42	4.22	1.26	33.43	1.84	32.09	1.43	9.39	1	<2.99
YW19131909X029-2	TM00426-SRK-WR-26	1	<20.03	20.03	<31.21	31.21	<9.27	9.27	780511.06	942.19	<1.52	1.52	4.94	1.27	34.28	1.85	32.76	1.45	9.51	1	<3.02
YW19131909X029-3	TM00426-SRK-WR-26	1	<18.56	18.56	<28.62	28.62	<9.01	9.01	781380.31	955.26	<2.17	2.17	3.53	1.26	33.5	1.86	32.31	1.45	9.58	1	<3.04
YW19131909X032-1	TM00427-SRK-WR-29A	1	<18.26	18.26	<33	33	<9.27	9.27	774754.19	979.94	<1.73	1.73	4.7	1.27	35.02	1.84	21.09	1.23	10.81	1	<3.14
YW19131909X032-2	TM00427-SRK-WR-29A	1	<18.03	18.03	<25.04	25.04	<9.43	9.43	770584.5	981.49	<2.55	2.55	4.31	1.25	33.97	1.8	21.2	1.22	10.42	1	<3.06
YW19131909X032-3	TM00427-SRK-WR-29A	1	<18.42	18.42	<23.94	23.94	<9.51	9.51	772730.44	975.17	<1.67	1.67	4.39	1.26	35.41	1.83	19.87	1.2	10.46	1	<3.16
YW19131909X033-1	TM00427-SRK-WR-30	1	<17.86	17.86	<24.6	24.6	<9.03	9.03	786730.44	930.59	<1.75	1.75	4.6	1.28	29.38	1.8	34.46	1.49	10.4	1	<3.23
YW19131909X033-2	TM00427-SRK-WR-30	1	<26.67	26.67	<24.24	24.24	<9.05	9.05	786280.81	906.27	<2.21	2.21	4.47	1.24	27.7	1.73	34.45	1.45	10.65	1	<2.89
YW19131909X033-3	TM00427-SRK-WR-30	1	<17.88	17.88	<24.68	24.68	<9.02	9.02	785618.5	927.85	<2.2	2.2	4.62	1.25	30.81	1.79	34.09	1.46	11.18	1	<3.23
YW19131909X034-1	TM00427-SRK-WR-31A	1	<18.21	18.21	<37.41	37.41	<9.37	9.37	770721.75	998.54	<2.16	2.16	2.94	1.24	31.63	1.92	69.59	2.01	16.57	1	<3.4
YW19131909X034-2	TM00427-SRK-WR-31A	1	<19.68	19.68	31.32	17.09	<9.31	9.31	771330.81	972.47	<1.56	1.56	4.02	1.24	29.43	1.86	68.63	1.97	16.25	1	<3.47
YW19131909X034-3	TM00427-SRK-WR-31A	1	<18.66	18.66	<34.99	34.99	<9.48	9.48	772176.56	986.73	<1.77	1.77	3.18	1.23	28.39	1.86	68.14	1.98	16.16	1	<3.26
YW19131909X036-1	TM00427-SRK-WR-33	1	<18.1	18.1	<24.6	24.6	19.08	7.51	726943.19	1213.79	2.68	1.61	9.51	1.46	61.41	2.66	141.39	3.06	11.5	1	<3.52
YW19131909X036-2	TM00427-SRK-WR-33	1	<21.04	21.04	<34.86	34.86	13.09	7.68	711831.56	1324.77	3.31	1.7	8.77	1.51	61.07	2.77	142.89	3.2	11.28	1	<3.82
YW19131909X036-3	TM00427-SRK-WR-33	1	<23.59	23.59	<27.65	27.65	15.62	8.16	703686.63	1384.93	4.36	1.75	9.92	1.57	61.12	2.84	143.23	3.29	11.91	1	<3.88
YW19131909X002-1	TM00421-SRK-WR-02	5	<16.36	16.36	<22.27	22.27	<8.36	8.36	798749.56	831.37	<2.03	2.03	4.99	1.17	51.29	1.99	57.85	1.71	12.21	1	<2.95
YW19131909X002-2	TM00421-SRK-WR-02	5	<25.4	25.4	<22.12	22.12	<9.96	9.96	799516.13	829.66	<2.03	2.03	5.09	1.18	53.64	2.02	57.84	1.71	12.01	1	<3
YW19131909X002-3	TM00421-SRK-WR-02	5	<18.29	18.29	<22.44	22.44	<9.64	9.64	799751.75	830.81	<1.86	1.86	4.23	1.16	52.4	2.01	57.95	1.71	12.77	1	<3.03
YW19131909X016-1	TM00416-SRK-WR-15	5	<16.51	16.51	<20.17	20.17	<7.56	7.56	847336.56	656.88	<1.5	1.5	4.01	1.11	107.33	2.44	30.96	1.26	16.69	1	<5.53
YW19131909X016-2	TM00416-SRK-WR-15	5	<15.61	15.61	<28.89	28.89	<8.54	8.54	847345.81	645.56	2.09	1.33	4.76	1.11	107.13	2.4	31.12	1.24	16.48	1	<4.03
YW19131909X016-3	TM00416-SRK-WR-15	5	<14.91	14.91	<19.09	19.09	<7.57	7.57	845940.88	650.92	2.83	1.34	4.12	1.1	104.83	2.37	30.76	1.24	16.8	1	<4.05
YW19131909X017-1	TM00421-SRK-WR-15 DUP	5	<15.37	15.37	<20.49	20.49	<9.37	9.37	852075.44	613.65	3.01	1.3	3.11	1.05	103.36	2.3	34.06	1.25	14.87	1	<3.8
YW19131909X017-2	TM00421-SRK-WR-15 DUP	5	<14.11	14.11	<25.83	25.83	<11.07	11.07	849985.38	621.72	3.32	1.3	4.46	1.07	102.62	2.29	33.69	1.25	14.61	1	<5.05
YW19131909X017-3	TM00421-SRK-WR-15 DUP	5	<13.89	13.89	<22.45	22.45	<7.84	7.84	850364.56	615.99	3.86	1.31	3.93	1.06	105.05	2.3	34.39	1.25	14.05	1	<4.42
YW19131909X035-1	TM00427-SRK-WR-32A	5	<16.01	16.01	<21.9	21.9	<10.05	10.05	777047.81	882.35	2.4	1.32	2	1.1	48.02	1.99	97.15	2.12	<1.5	1.5	<3.59
YW19131909X035-2	TM00427-SRK-WR-32A	5	<15.76	15.76	<21.48	21.48	<8.1	8.1	776451.56	875.08	3.4	1.32	2.73	1.1	49.09	1.98	94.72	2.09	<1.5	1.5	<2.6
YW19131909X035-3	TM00427-SRK-WR-32A	5	<15.55	15.55	<26.38	26.38	<8.04	8.04	778229.44	873.53	2.69	1.31	2.76	1.1	46.46	1.95	94.33	2.08	<1.5	1.5	<2.7
YW19131909X037-1	TM00427-SRK-WR-34	5	<18.03	18.03	<24.86	24.86	<9.23	9.23	762785.56	995.64	2.34	1.41	4.5	1.24	28.58	1.81	55.86	1.78	14.65	1	<3.19
YW19131909X037-2	TM00427-SRK-WR-34	5	<18.09	18.09	<24.99	24.99	<12.82	12.82	762142.19	1022.66	<2.1	2.1	3.15	1.23	25.67	1.79	55.83	1.8	14.44	1	<3.13
YW19131909X037-3	TM00427-SRK-WR-34	5	<18.04	18.04	<27.93	27.93	<9.37	9.37	761960.25	1006.64	<1.68	1.68	3.18	1.23	28.22	1.82	55.91	1.8	13.83	1	<3.4
YW19138940X001-1	TMMNE-19-00020-SRK-WR-035	5	<22.04	22.04	<33.64	33.64	<8.08	8.08	829619	701.47	<1.8	1.8	4.49	1.12	64.24	2.09	75.5	1.85	9.78	1	<4.41
YW19138940X001-2	TMMNE-19-00020-SRK-WR-035	5	<22.3	22.3	<23.69	23.69	<12.03	12.03	832676.63	694.43	<1.98	1.98	5.55	1.15	63.51	2.1	73.83	1.85	10.21	1	<3
YW19138940X001-3	TMMNE-19-00020-SRK-WR-035	5	<15.15	15.15	<19.22	19.22	<10.69	10.69	833128.38	686.09	<2.21	2.21	4.39	1.12	62.6	2.07	73.66	1.83	10.26	1	<5.19
YW19138940X007-1	TMMNE-19-00019-SRK-WR-040	5	<18.57	18.57	<29.42	29.42	<9.54	9.54	818074.81	760.36	<2.06	2.06	5.26	1.16	97.18	2.45	56.96	1.67	12.18	1	<4.56
YW19138940X007-2	TMMNE-19-00019-SRK-WR-040	5	<18.28	18.28	<22.43	22.43	<8.28	8.28	818014.75	759.6	<2.07	2.07	6.02	1.17	98.71	2.46	56.6	1.67	12.37	1	<4.11
YW19138940X007-3	TMMNE-19-00019-SRK-WR-040	5	<20.61	20.61	<21.95	21.95	<8.18	8.18	817733.44	760.6	<2.07	2.07	6.11	1.18	101.21	2.5	54.76	1.65	12.54	1	<4.15
YW19138940X008-1	TMMNE-19-00020-SRK-WR-040 DUP	5	<20.79	20.79	<20.55	20.55	<8.09	8.09	818956.38	754.04	2.97	1.4	7.21	1.19	111.48	2.58	59.41	1.69	10.85	1	<4.59
YW19138940X008-2	TMMNE-19-00020-SRK-WR-040 DUP	5	<23.29	23.29	<26.53	26.53	<9.89	9.89	818469.94	754.59	<2.07	2.07	5.87	1.16	111.5	2.57	59.16	1.69	10.45	1	4.38
YW19138940X008-3	TMMNE-19-00020-SRK-WR-040 DUP	5	<16	16	<23.32	23.32	<8.12	8.12	817856.31	757.97	<1.86	1.86	6.32	1.18	111.67	2.59	58.29	1.69	11.42	1	<5.62
YW19138940X011-1	TMMNE-19-00017-SRK-WR-043	5	<16.71	16.71	<31.79	31.79	<9.89	9.89	795554.56	855.72	3.82	1.46	7.95	1.24	117.52	2.73	57.77	1.74	9.33	1	<4.18
YW19138940X011-2	TMMNE-19-00017-SRK-WR-043	5	<28.31	28.31	<22.96	22.96	<8.63	8.63	795078.69	850.72	2.86	1.43	6.88	1.21	114.09	2.65	58.07	1.71	9.64	1	<4.12
YW19138940X011-3	TMMNE-19-00017-SRK-WR-043	5	<17.94	17.94	<30.86	30.86	<8.61	8.61	794878.38	862.84	2.65	1.45	7.09	1.23	113.5	2.7	57.85	1.74	8.87	1	<3.88
YW19131909X018-1	TM00416-SRK-WR-16	1aj	<18.78	18.78	<24.76	24.76	<9.78	9.78	759205.75	1048.76	<2.24	2.24	6.68	1.32	57.48	2.31	76.15	2.13	10.78	1	<3.37

Sample Descriptions			pXRF data - 2mm																		
SAMPLE	SRK ID	Geochem Unit	Sb	Sb Error	Sn	Sn Error	Cd	Cd Error	Bal	Bal Error	Mo	Mo Error	Nb	Nb Error	Zr	Zr Error	Sr	Sr Error	Rb	Rb Error	Bi
			ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm
YW19131909X018-2	TM00416-SRK-WR-16	1aj	<18.95	18.95	<42.1	42.1	<9.69	9.69	758413.88	1029.61	2.55	1.5	6.83	1.32	57.13	2.31	77.85	2.14	10.74	1	<3.36
YW19131909X018-3	TM00416-SRK-WR-16	1aj	<23.48	23.48	<41.04	41.04	<9.21	9.21	758088.06	1030.13	<1.5	1.5	5.37	1.29	57.3	2.3	75.78	2.12	10.77	1	<3.22
YW19131909X030-1	TM00426-SRK-WR-27	1aj	<22.43	22.43	<24.48	24.48	<10.55	10.55	784740.63	907.62	<1.5	1.5	2.56	1.21	31.62	1.85	56.76	1.79	13.33	1	<3.07
YW19131909X030-2	TM00426-SRK-WR-27	1aj	<17.98	17.98	<27.43	27.43	<10.88	10.88	784088.31	919.42	<2.28	2.28	4.89	1.26	31.41	1.86	57.51	1.82	13.23	1	<3.17
YW19131909X030-3	TM00426-SRK-WR-27	1aj	<22.1	22.1	<25.14	25.14	<10.2	10.2	783757.31	927.05	<1.65	1.65	2.99	1.22	28.83	1.82	56.83	1.8	13.2	1	<3.04
YW19131909X031-1	TM00426-SRK-WR-28	1aj	<18.44	18.44	<38.68	38.68	<10.04	10.04	780405.88	951.73	<2.15	2.15	4.28	1.26	29.23	1.88	68.64	1.99	12.28	1	<3.1
YW19131909X031-2	TM00426-SRK-WR-28	1aj	<18.59	18.59	<36.77	36.77	<9.41	9.41	781202.69	948.03	<1.5	1.5	2.29	1.22	29.82	1.88	67.17	1.96	11.68	1	<3.79
YW19131909X031-3	TM00426-SRK-WR-28	1aj	<19.95	19.95	<24.91	24.91	<13.59	13.59	780763.75	941.87	<2.14	2.14	3.91	1.25	28.09	1.86	67.81	1.98	11.87	1	<3.2
YW19138940X002-1	TMMNE-19-00020-SRK-WR-036	1aj	<18.02	18.02	<26.27	26.27	<9.17	9.17	795098.31	885.61	<1.5	1.5	4.17	1.24	34.4	1.83	33.37	1.44	14.65	1	<3.19
YW19138940X002-2	TMMNE-19-00020-SRK-WR-036	1aj	<18.28	18.28	<26.27	26.27	<9.36	9.36	802288.69	854.57	<1.53	1.53	3.01	1.23	31.77	1.81	36.1	1.49	15.68	1	<3.33
YW19138940X002-3	TMMNE-19-00020-SRK-WR-036	1aj	<17.79	17.79	<24.38	24.38	<12.7	12.7	800600.75	868.12	<2.3	2.3	3.08	1.23	28.85	1.77	38.44	1.53	16.23	1	<3.31
YW19138940X003-1	TMMNE-19-00020-SRK-WR-037	1aj	<20.06	20.06	<41.97	41.97	<12.14	12.14	778447.5	958.8	<2.18	2.18	4.2	1.27	33.92	1.82	18.51	1.18	16.73	1	<3.43
YW19138940X003-2	TMMNE-19-00020-SRK-WR-037	1aj	<18.57	18.57	<24.1	24.1	<9.56	9.56	778726.94	949.06	<2.46	2.46	4.58	1.27	31.47	1.77	18.28	1.17	15.73	1	<3.31
YW19138940X003-3	TMMNE-19-00020-SRK-WR-037	1aj	<20.4	20.4	<24.36	24.36	<9.56	9.56	780436.25	943.42	<1.64	1.64	3.63	1.25	33.59	1.8	17.56	1.15	16.32	1	<3.45
YW19138940X004-1	TMMNE-19-00020-SRK-WR-038	1aj	<22.51	22.51	<34.7	34.7	<9.36	9.36	776375.06	969.45	<2.56	2.56	4.24	1.26	30.71	1.81	37.09	1.52	15.17	1	<3.19
YW19138940X004-2	TMMNE-19-00020-SRK-WR-038	1aj	<19.52	19.52	<26.43	26.43	<9.45	9.45	777045.31	969.49	<1.52	1.52	3.46	1.25	31.04	1.82	35.74	1.5	15.12	1	<3.26
YW19138940X004-3	TMMNE-19-00020-SRK-WR-038	1aj	<18.51	18.51	<24.41	24.41	<10.56	10.56	777330.75	964.96	<2.33	2.33	3.52	1.25	31.31	1.82	38.4	1.54	14.81	1	<3.48
YW19138940X005-1	TMMNE-19-00020-SRK-WR-038 DUP	1aj	<18.55	18.55	<41.06	41.06	<9.38	9.38	781987.56	944.93	<1.84	1.84	4.81	1.26	31.77	1.81	33.44	1.45	13.76	1	<3.3
YW19138940X005-2	TMMNE-19-00020-SRK-WR-038 DUP	1aj	<18.8	18.8	<26.65	26.65	<9.7	9.7	779719.25	955.14	<2.12	2.12	4.44	1.27	30.79	1.82	33.38	1.47	15.09	1	<3.33
YW19138940X005-3	TMMNE-19-00020-SRK-WR-038 DUP	1aj	<18.74	18.74	<26.31	26.31	<9.35	9.35	779969.56	959.67	<2.17	2.17	2.96	1.24	32.39	1.84	35	1.49	13.85	1	<3.33
YW19138940X006-1	TMMNE-19-00019-SRK-WR-039	1aj	<27.7	27.7	<31.07	31.07	<9.33	9.33	753548.56	1054.13	2.77	1.48	6.72	1.3	58.24	2.29	82.3	2.17	11.56	1	<3.32
YW19138940X006-2	TMMNE-19-00019-SRK-WR-039	1aj	<24.67	24.67	<29.78	29.78	<9.22	9.22	754242.25	1046.1	<2.2	2.2	6.9	1.3	62.68	2.33	80.36	2.13	11.18	1	<3.24
YW19138940X006-3	TMMNE-19-00019-SRK-WR-039	1aj	<18.71	18.71	<25.51	25.51	<9.57	9.57	751936.19	1054.53	<1.66	1.66	7.05	1.3	61.39	2.32	78.76	2.12	11.6	1	<3.08
YW19138940X009-1	TMMNE-19-00019-SRK-WR-041	1aj	<19.86	19.86	<40.49	40.49	<10.17	10.17	771955.63	1010.22	<2.67	2.67	8.14	1.37	67.26	2.5	87.45	2.31	12.11	1	<3.45
YW19138940X009-2	TMMNE-19-00019-SRK-WR-041	1aj	<25.81	25.81	<26.48	26.48	<9.87	9.87	772313.94	1020.99	<1.91	1.91	8.62	1.39	69.33	2.55	87.6	2.34	11.86	1	<3.49
YW19138940X009-3	TMMNE-19-00019-SRK-WR-041	1aj	<19.62	19.62	<26.75	26.75	<9.8	9.8	771274.13	1016.42	<2.33	2.33	8.1	1.39	68.14	2.54	85.36	2.32	11.83	1	<3.46
YW19138940X010-1	TMMNE-19-00017-SRK-WR-042	1aj	<18.18	18.18	<34.38	34.38	<9.4	9.4	786805.44	891.88	<2.12	2.12	5.62	1.24	53.12	2.15	75.16	2.02	12.15	1	<3.23
YW19138940X010-2	TMMNE-19-00017-SRK-WR-042	1aj	<20.01	20.01	<30.89	30.89	<9.18	9.18	786063	915.77	<1.5	1.5	6.15	1.26	52.89	2.17	73.48	2.02	11.99	1	<3.32
YW19138940X010-3	TMMNE-19-00017-SRK-WR-042	1aj	<24.57	24.57	<27.18	27.18	<9.07	9.07	785068.81	922.28	<2.34	2.34	7.52	1.29	54.41	2.2	76.11	2.06	12.07	1	<3.11
YW19131909X012-1	TM00416-SRK-WR-11	7a	<20.34	20.34	<28.77	28.77	<9.94	9.94	773530.5	1001.8	<2.26	2.26	3.31	1.28	31.86	1.97	64.94	2.01	<1.5	1.5	<2.81
YW19131909X012-2	TM00416-SRK-WR-11	7a	<18.89	18.89	26.14	17.38	<9.55	9.55	775089.44	985.19	<2.16	2.16	5.1	1.32	29.34	1.93	64.18	1.99	<1.5	1.5	<3.01
YW19131909X012-3	TM00416-SRK-WR-11	7a	<19.2	19.2	<38.17	38.17	<9.51	9.51	773488.69	997.19	<2.02	2.02	3.63	1.3	29.91	1.95	65.16	2.02	<1.5	1.5	<2.85
YW19131909X013-1	TM00416-SRK-WR-12	7a	<18.81	18.81	<40.51	40.51	<9.72	9.72	783403.88	958.16	<2.11	2.11	5.99	1.33	37.38	2.19	116.6	2.66	<1.5	1.5	<3.02
YW19131909X013-2	TM00416-SRK-WR-12	7a	<19.04	19.04	<27.57	27.57	<9.52	9.52	782325.44	982.68	<1.96	1.96	4.98	1.34	36.75	2.23	117.37	2.73	<1.5	1.5	<2.94
YW19131909X013-3	TM00416-SRK-WR-12	7a	<18.58	18.58	<34.31	34.31	<9.46	9.46	783162.56	959.44	<2.24	2.24	4.02	1.3	37.03	2.19	117.62	2.67	<1.5	1.5	<2.97
YW19131909X014-1	TM00416-SRK-WR-13	7a	<19.46	19.46	<34.02	34.02	<9.74	9.74	792391.44	928.72	<1.84	1.84	4.52	1.31	34.23	2.12	103.73	2.52	<1.5	1.5	<2.81
YW19131909X014-2	TM00416-SRK-WR-13	7a	<19.31	19.31	<25.08	25.08	<9.93	9.93	791412.19	929	<2.04	2.04	4.41	1.3	36.83	2.15	103.7	2.51	<1.5	1.5	<3.79
YW19131909X014-3	TM00416-SRK-WR-13	7a	<19.25	19.25	<33.21	33.21	<9.94	9.94	791594.38	935.24	<2.26	2.26	3.39	1.29	35.77	2.15	103.07	2.52	<1.5	1.5	<2.99
YW19131909X015-1	TM00416-SRK-WR-14	7a	<20.99	20.99	<37.57	37.57	<9.32	9.32	753329.25	1052.1	<1.76	1.76	4.1	1.27	32.21	1.9	56.82	1.84	<1.5	1.5	<2.58
YW19131909X015-2	TM00416-SRK-WR-14	7a	<19.46	19.46	<39.17	39.17	<9.26	9.26	755802.13	1046.94	<2.11	2.11	4.13	1.28	30.77	1.91	56.14	1.86	<1.5	1.5	<2.69
YW19131909X015-3	TM00416-SRK-WR-14	7a	<25.24	25.24	<25.19	25.19	<9.51	9.51	753775.31	1066.57	<2.5	2.5	4.51	1.29	31.08	1.92	55.07	1.85	<1.5	1.5	<2.84
YW19131909X021-1	TM00441-SRK-WR-19	7a	<19.67	19.67	<41	41	<10	10	781087.44	973.58	<2.52	2.52	3.33	1.29	33.95	2.09	95.13	2.41	<1.5	1.5	<2.81
YW19131909X021-2	TM00441-SRK-WR-19	7a	<23.84	23.84	<39.54	39.54	<9.83	9.83	781670.25	966.19	2.48	1.49	3.47	1.28	32.98	2.07	97.14	2.42	<1.5	1.5	<2.61
YW19131909X021-3	TM00441-SRK-WR-19	7a	<19.24	19.24	<26.91	26.91	<10	10	779010.75	959.71	3.14	1.49	4.44	1.29	32.23	2.04	94.56	2.37	<1.5	1.5	<2.95

Sample Descriptions			pXRF data - 2mm																		
SAMPLE	SRK ID	Geochem Unit	Sb	Sb Error	Sn	Sn Error	Cd	Cd Error	Bal	Bal Error	Mo	Mo Error	Nb	Nb Error	Zr	Zr Error	Sr	Sr Error	Rb	Rb Error	Bi
			ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm
YW19131909X022-1	TM00441-SRK-WR-20	7a	<23.3	23.3	27.19	17.62	<9.61	9.61	784068.69	963.37	<2.25	2.25	3.96	1.3	34.16	2.13	105.6	2.55	<1.5	1.5	<3.14
YW19131909X022-2	TM00441-SRK-WR-20	7a	<18.87	18.87	<24.67	24.67	<9.85	9.85	784797.38	963.21	<2.28	2.28	3.53	1.31	35.64	2.17	104.17	2.56	<1.5	1.5	<2.86
YW19131909X022-3	TM00441-SRK-WR-20	7a	<19.38	19.38	<31.93	31.93	<9.74	9.74	784713.88	962.1	<1.8	1.8	4.78	1.32	36.94	2.17	102.68	2.52	<1.5	1.5	<2.95
YW19131909X023-1	TM00441-SRK-WR-21	7a	<18.83	18.83	<25.9	25.9	<9.72	9.72	783011.63	960.75	<2.24	2.24	3.7	1.29	36.36	2.12	94.35	2.4	<1.5	1.5	<2.93
YW19131909X023-2	TM00441-SRK-WR-21	7a	<25.12	25.12	<26.3	26.3	<9.5	9.5	784414.81	953.12	<2.45	2.45	5.18	1.32	33.76	2.09	92.01	2.38	<1.5	1.5	<3.08
YW19131909X023-3	TM00441-SRK-WR-21	7a	<19.31	19.31	<28.04	28.04	<9.75	9.75	783658.75	963.65	<2.25	2.25	4.48	1.32	34.07	2.1	94.46	2.41	<1.5	1.5	<2.87
YW19131909X024-1	TM00441-SRK-WR-22	7a	<19.09	19.09	<26.6	26.6	<9.67	9.67	797266.63	917.75	<1.51	1.51	3.67	1.31	30.55	2.03	78.71	2.23	<1.5	1.5	<2.94
YW19131909X024-2	TM00441-SRK-WR-22	7a	<19.16	19.16	<26.45	26.45	<9.47	9.47	797527.75	907.06	<1.88	1.88	4.04	1.31	30.57	2	76.26	2.18	<1.5	1.5	<3.04
YW19131909X024-3	TM00441-SRK-WR-22	7a	<19.48	19.48	<35.63	35.63	<9.87	9.87	796396.13	913.62	<2.7	2.7	3.84	1.3	30.52	2	77.19	2.19	<1.5	1.5	<2.62
YW19131909X025-1	TM00441-SRK-WR-23	7a	<18.28	18.28	<26.93	26.93	<9.3	9.3	796740.06	896.97	<1.5	1.5	4.13	1.28	30.42	1.76	10.08	1	2.16	1	<2.75
YW19131909X025-2	TM00441-SRK-WR-23	7a	<18.51	18.51	<38.51	38.51	<9.16	9.16	799967.5	885.33	<1.71	1.71	3.28	1.27	31.15	1.78	10.65	1.01	2.47	1	<2.73
YW19131909X025-3	TM00441-SRK-WR-23	7a	<18.58	18.58	<25.42	25.42	<9.45	9.45	798144.5	901.54	<1.5	1.5	3.11	1.29	29.88	1.79	10.87	1.03	2.28	1	<2.9

Note:

Less than sign indicates less than LOD

Source: Z:\01_SITES\Hope.Bay\1CT022.037_2019 Geochem Compliance\!020_Project_Data\020_Client\WR\Madrid N\2019_06 - NE CPPRT TMAC pXRF data\QAQC\Copy of SRK_pXRF_WasteRockData_Final_QAQC_NV_rev00.xlsx

Sample Descriptions																					
SAMPLE	SRK ID	Geochem Unit	Bi Error	As	As Error	Se	Se Error	Pb	Pb Error	W	W Error	Zn	Zn Error	Cu	Cu Error	Ni	Ni Error	Co	Co Error	Fe	Fe Error
			+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-
YW19131909X001-1	TM00421-SRK-WR-01	1	3.21	700.6	13.59	<2.47	2.47	<3.93	3.93	<58.54	58.54	63.69	7.94	121.3	14.57	631.85	36.23	<138.18	138.18	77692	462.46
YW19131909X001-2	TM00421-SRK-WR-01	1	3.47	704.19	13.76	<2.38	2.38	<3.79	3.79	<55.6	55.6	63.93	7.95	129.34	14.86	623.05	36.5	<139.51	139.51	77693.48	472.37
YW19131909X001-3	TM00421-SRK-WR-01	1	3.39	710.65	13.69	<2.51	2.51	<3.63	3.63	<80.65	80.65	64.14	8	120.09	14.59	630.76	36.33	<141.33	141.33	77671.18	469.72
YW19131909X003-1	TM00421-SRK-WR-03	1	3.49	32.36	3.79	<2.29	2.29	<3.77	3.77	<51.11	51.11	52.44	7.52	51.85	12.62	99.3	30.01	<175.22	175.22	79660.23	466.65
YW19131909X003-2	TM00421-SRK-WR-03	1	3.36	28.71	3.69	<2.31	2.31	<3.82	3.82	<50.9	50.9	52.07	7.44	57.86	12.71	102.61	29.78	<138.34	138.34	79596.46	462.77
YW19131909X003-3	TM00421-SRK-WR-03	1	3.43	27.98	3.67	<2.19	2.19	<3.8	3.8	<51.01	51.01	48.61	7.37	64.68	12.89	111.61	29.98	<138.79	138.79	79368.38	462.47
YW19131909X004-1	TM00421-SRK-WR-04	1	3.31	53.15	4.36	<2.33	2.33	<3.7	3.7	<52.74	52.74	78.69	8.3	61.26	12.93	117.88	30.33	<146.38	146.38	90550.21	509.27
YW19131909X004-2	TM00421-SRK-WR-04	1	3.26	54.65	4.37	<2.26	2.26	<3.66	3.66	<51.06	51.06	64.46	7.84	54.17	12.64	111.7	29.95	<144.23	144.23	89340.3	502.1
YW19131909X004-3	TM00421-SRK-WR-04	1	3.2	56.25	4.45	<2.17	2.17	<3.79	3.79	<50.32	50.32	74.21	8.04	46.65	12.38	83.31	29.54	<144.35	144.35	89642.34	498.22
YW19131909X005-1	TM00421-SRK-WR-05	1	2.97	35.25	3.84	<2.24	2.24	<3.7	3.7	<51.52	51.52	99.38	8.76	40.7	12.27	71.43	29.3	<144.03	144.03	88335.32	500.02
YW19131909X005-2	TM00421-SRK-WR-05	1	2.89	39.46	3.86	<2.19	2.19	<3.45	3.45	<51.76	51.76	105.15	8.93	53.7	12.65	81.28	29.63	<144.96	144.96	88500.81	502.71
YW19131909X005-3	TM00421-SRK-WR-05	1	2.81	39.75	3.81	<2.26	2.26	<3.38	3.38	<50.33	50.33	92.45	8.53	48.28	12.39	76.77	29.21	<143.15	143.15	88226.34	501.08
YW19131909X006-1	TM00421-SRK-WR-05 DUP	1	2.99	27.48	3.69	<2.37	2.37	<3.87	3.87	<52.55	52.55	103.9	9.03	30.36	12.42	136.41	31.03	<148.43	148.43	89437.88	514.16
YW19131909X006-2	TM00421-SRK-WR-05 DUP	1	2.99	25.52	3.53	<2.25	2.25	<3.68	3.68	<52.34	52.34	105	9.01	60.62	12.94	114.14	30.29	<145.94	145.94	88550.21	505.63
YW19131909X006-3	TM00421-SRK-WR-05 DUP	1	2.97	20.17	3.48	<2.34	2.34	<3.96	3.96	<51.76	51.76	108.42	9	36.8	12.35	134.79	30.38	<144.94	144.94	88792.48	508.66
YW19131909X007-1	TM00421-SRK-WR-06	1	3.35	18.51	3.29	<2.4	2.4	<3.74	3.74	<51.87	51.87	87.04	8.62	57.32	13.09	94.36	30.49	<149.03	149.03	93373.89	525.22
YW19131909X007-2	TM00421-SRK-WR-06	1	3.02	22.18	3.46	<2.42	2.42	<3.79	3.79	<52.48	52.48	90.53	8.71	48.38	12.92	107.89	30.92	<150.84	150.84	94271.32	529.79
YW19131909X007-3	TM00421-SRK-WR-06	1	2.85	23.77	3.42	<2.16	2.16	<3.61	3.61	<52.07	52.07	75.95	8.2	35.59	12.32	93.9	29.95	<147.48	147.48	94282.77	523.47
YW19131909X008-1	TM00420-SRK-WR-07	1	3.05	74.07	4.84	<2.23	2.23	<3.7	3.7	<49.57	49.57	43.28	7.08	53.46	12.37	103.35	29.36	<137.61	137.61	80220.07	459.74
YW19131909X008-2	TM00420-SRK-WR-07	1	3.3	74.82	4.98	<2.22	2.22	<3.98	3.98	<50.44	50.44	50.84	7.35	44.69	12.23	94.89	29.43	<138.26	138.26	80079.55	462.03
YW19131909X008-3	TM00420-SRK-WR-07	1	3.15	77.8	4.97	<2.13	2.13	<3.75	3.75	<50.37	50.37	47.18	7.25	44.58	12.22	88.73	29.32	<138.01	138.01	79973.57	464.47
YW19131909X009-1	TM00420-SRK-WR-08	1	3.26	13.46	3.07	<2.31	2.31	<3.67	3.67	<53.07	53.07	90.38	8.72	50.27	12.81	103.64	30.38	<149.43	149.43	94035.08	532.09
YW19131909X009-2	TM00420-SRK-WR-08	1	2.84	9.17	3.13	<2.23	2.23	<4.02	4.02	<53.07	53.07	96.93	8.94	45.63	12.75	100.12	30.48	<150.12	150.12	94097.16	533.11
YW19131909X009-3	TM00420-SRK-WR-08	1	2.69	12.63	3.12	<2.37	2.37	<3.82	3.82	<53.09	53.09	84.25	8.56	64.54	13.16	120.1	30.64	<149.55	149.55	94243.85	528.97
YW19131909X010-1	TM00420-SRK-WR-09	1	3.1	55.3	4.33	<2.34	2.34	<3.5	3.5	<51.85	51.85	73.04	8.13	40.03	12.46	86.03	30.02	<151.42	151.42	99147.95	543.95
YW19131909X010-2	TM00420-SRK-WR-09	1	3.28	48.53	4.42	<2.38	2.38	<4.11	4.11	<52.66	52.66	83.51	8.55	50.5	12.84	86.63	30.37	<152.85	152.85	98718.42	550.32
YW19131909X010-3	TM00420-SRK-WR-09	1	3.25	53.17	4.41	<2.28	2.28	<3.79	3.79	<52.24	52.24	75.03	8.31	42.51	12.62	108.82	30.55	<151.94	151.94	98125.3	541.8
YW19131909X011-1	TM00420-SRK-WR-10	1	3.12	131.86	6.35	<2.4	2.4	<3.95	3.95	<54.3	54.3	82.99	8.68	112.08	14.78	432.96	35.3	<156.74	156.74	103350.42	573.63
YW19131909X011-2	TM00420-SRK-WR-10	1	2.91	132.09	6.31	<2.44	2.44	<3.75	3.75	<53.32	53.32	80.16	8.56	99.99	14.57	439.65	35.42	<156.41	156.41	102706.62	577.96
YW19131909X011-3	TM00420-SRK-WR-10	1	3.27	138.67	6.51	<2.53	2.53	<3.81	3.81	<55.64	55.64	90.16	8.94	86.07	14.41	445.4	35.86	<158.31	158.31	103040.79	579.31
YW19131909X019-1	TM00441-SRK-WR-17	1	2.64	12.76	2.85	<2.26	2.26	<3.38	3.38	<50.62	50.62	82.73	8.35	40.33	12.38	49.13	29.39	<151.69	151.69	101189.59	551.33
YW19131909X019-2	TM00441-SRK-WR-17	1	2.74	10.77	2.98	<2.35	2.35	<3.75	3.75	<52.07	52.07	80.14	8.37	41.87	12.5	54.39	29.69	<152.89	152.89	101450.02	555.88
YW19131909X019-3	TM00441-SRK-WR-17	1	2.7	13.13	2.91	<2.38	2.38	<3.5	3.5	<50.39	50.39	77.24	8.25	32.99	12.15	48.01	29.4	<156.2	156.2	101270.02	545.04
YW19131909X020-1	TM00441-SRK-WR-18	1	2.58	10.42	2.93	<2.4	2.4	<3.73	3.73	<52.11	52.11	68.1	8.14	44.01	12.68	68.59	30.14	<156.08	156.08	106427.56	575.48
YW19131909X020-2	TM00441-SRK-WR-18	1	2.85	10.17	3.08	<2.4	2.4	<3.97	3.97	<52.62	52.62	69.17	8.14	48.56	12.75	70.25	30.1	<155.83	155.83	106643.77	571.23
YW19131909X020-3	TM00441-SRK-WR-18	1	2.67	10.62	3.11	<2.57	2.57	<4.02	4.02	<52.03	52.03	68.5	8.15	52.28	13.02	97.67	30.73	<157.06	157.06	106178.04	581.36
YW19131909X026-1	TM00426-SRK-WR-24	1	2.95	52.78	4.35	<2.18	2.18	<3.73	3.73	<51.17	51.17	75.7	8.17	86.24	13.27	68.93	29.17	<145.03	145.03	90360.64	508.17
YW19131909X026-2	TM00426-SRK-WR-24	1	2.91	52.95	4.34	<2.21	2.21	<3.72	3.72	<50.38	50.38	81.47	8.28	59.86	12.7	89.91	29.53	<145.38	145.38	90540.05	512.76
YW19131909X026-3	TM00426-SRK-WR-24	1	3	51.96	4.36	<2.18	2.18	<3.8	3.8	<51.15	51.15	79.84	8.27	73.28	13.02	80.95	29.46	<145.25	145.25	89833.85	511.16
YW19131909X027-1	TM00426-SRK-WR-25	1	2.78	10.74	2.87	<2.1	2.1	<3.5	3.5	<52.38	52.38	142.72	9.75	46.24	12.28	47.07	28.83	<147.72	147.72	95084.14	531.71
YW19131909X027-2	TM00426-SRK-WR-25	1	2.54	13.04	2.98	<2.2	2.2	<3.54	3.54	<52.21	52.21	142.09	9.84	47.48	12.43	61.06	29.14	<148.18	148.18	95107.02	535.7
YW19131909X027-3	TM00426-SRK-WR-25	1	2.92	12.39	2.91	<2.14	2.14	<3.47	3.47	<51.71	51.71	137.77	9.65	47.65	12.31	<43.2	43.2	<147.76	147.76	94980.56	524.59
YW19131909X028-1	TM00421-SRK-WR-25 DUP	1	2.83	10.1	3.03	<2.37	2.37	<3.83	3.83	<52.03	52.03	86.72	8.57	55.8	12.89	102.91	30.35	<151.04	151.04	94571.45	542.5
YW19131909X028-2	TM00421-SRK-WR-25 DUP	1	2.88	11.76	3.03	<2.29	2.29	<3.71	3.71	<52.35	52.35	88.77	8.63	53.88	12.84	82.61	30.05	<151.61	151.61	95474.16	542.25

Sample Descriptions																					
SAMPLE	SRK ID	Geochem Unit	Bi Error	As	As Error	Se	Se Error	Pb	Pb Error	W	W Error	Zn	Zn Error	Cu	Cu Error	Ni	Ni Error	Co	Co Error	Fe	Fe Error
			+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-
YW19131909X028-3	TM00421-SRK-WR-25 DUP	1	2.92	12.51	2.99	<2.3	2.3	<3.61	3.61	<51.77	51.77	91.67	8.59	60.42	12.83	96.31	29.95	<153.27	153.27	95530.08	540.9
YW19131909X029-1	TM00426-SRK-WR-26	1	2.99	43.61	4.12	<2.21	2.21	<3.81	3.81	<51.6	51.6	81.88	8.3	52.27	12.56	100.82	29.73	<147.94	147.94	97220.35	527.77
YW19131909X029-2	TM00426-SRK-WR-26	1	3.02	43	4	<2.24	2.24	<3.6	3.6	<50.41	50.41	86.12	8.38	48.15	12.47	103.31	29.88	<148.31	148.31	96537.73	526.1
YW19131909X029-3	TM00426-SRK-WR-26	1	3.04	42.42	3.91	<2.36	2.36	<3.42	3.42	<51.78	51.78	88.22	8.57	36.77	12.28	89.11	29.87	<149.32	149.32	96754.54	533.9
YW19131909X032-1	TM00427-SRK-WR-29A	1	3.14	42.92	3.99	<2.29	2.29	<3.55	3.55	<52.36	52.36	83.14	8.4	52.6	12.65	131.56	30.33	<147.39	147.39	94089.51	522.71
YW19131909X032-2	TM00427-SRK-WR-29A	1	3.06	38.25	3.83	<2.37	2.37	<3.57	3.57	<51.48	51.48	87.6	8.43	49.51	12.43	123.11	30.04	<158.5	158.5	94547.48	516.03
YW19131909X032-3	TM00427-SRK-WR-29A	1	3.16	41.35	4.1	<2.28	2.28	<3.9	3.9	<51.56	51.56	84.69	8.4	48.13	12.49	121.97	30.25	<148.21	148.21	94680.77	520.72
YW19131909X033-1	TM00427-SRK-WR-30	1	3.23	46.84	4.17	<2.21	2.21	<3.62	3.62	<52.03	52.03	74.4	8.24	37.04	12.37	128.24	30.52	<144.49	144.49	86575.25	495.03
YW19131909X033-2	TM00427-SRK-WR-30	1	2.89	46.74	4.08	<2.28	2.28	<3.58	3.58	<51.05	51.05	69.09	7.85	36.68	11.99	119.59	29.61	<140.86	140.86	86392.11	480.66
YW19131909X033-3	TM00427-SRK-WR-30	1	3.23	49.15	4.14	<2.19	2.19	<3.5	3.5	<50.44	50.44	69.66	7.93	49.55	12.42	105.75	29.79	<142.72	142.72	86717.18	490.19
YW19131909X034-1	TM00427-SRK-WR-31A	1	3.4	151.36	6.59	<2.08	2.08	<3.85	3.85	<52.13	52.13	51.68	7.51	35.61	12.29	124.96	30.32	<139.03	139.03	78112.99	464.37
YW19131909X034-2	TM00427-SRK-WR-31A	1	3.47	152.68	6.45	<2.43	2.43	<3.6	3.6	<50.97	50.97	54.29	7.44	54.45	12.53	118.03	29.84	<137.41	137.41	77979.61	455.24
YW19131909X034-3	TM00427-SRK-WR-31A	1	3.26	156.02	6.65	<2.39	2.39	<3.92	3.92	<51.95	51.95	46.74	7.3	28.42	12.02	129.51	30.06	<137.24	137.24	77799.3	460.68
YW19131909X036-1	TM00427-SRK-WR-33	1	3.52	740	15.14	<2.87	2.87	<4.22	4.22	<60.46	60.46	83.01	9.19	122.25	16.15	454.95	37.5	<210.26	210.26	84640.5	532.55
YW19131909X036-2	TM00427-SRK-WR-33	1	3.82	758.66	15.93	<3	3	<4.33	4.33	<63.12	63.12	95.34	10.06	165.33	18	442.52	39.05	<164.92	164.92	89633.96	586.33
YW19131909X036-3	TM00427-SRK-WR-33	1	3.88	757.93	16.25	<3.23	3.23	<4.03	4.03	<74.07	74.07	87.26	10.14	179.8	18.88	457.79	40.15	<168.77	168.77	91871.67	605.32
YW19131909X002-1	TM00421-SRK-WR-02	5	2.95	130.69	5.66	<2.05	2.05	<3.11	3.11	<46.27	46.27	19.14	5.96	82.43	12.14	<38.95	38.95	<139.81	139.81	53489.32	340.11
YW19131909X002-2	TM00421-SRK-WR-02	5	3	130.79	5.7	<2.07	2.07	<3.25	3.25	<45.95	45.95	15.79	5.89	71.51	11.92	<38.88	38.88	<112.53	112.53	53108.6	338.47
YW19131909X002-3	TM00421-SRK-WR-02	5	3.03	127.52	5.68	<1.97	1.97	<3.32	3.32	<46.96	46.96	15.09	5.9	71.31	11.95	<39.21	39.21	<115.51	115.51	53040	338.54
YW19131909X016-1	TM00416-SRK-WR-15	5	5.53	72.67	4.47	<1.86	1.86	<3.24	3.24	<43.14	43.14	13.14	5.54	29.5	10.5	<36.95	36.95	<81.82	81.82	25849.99	213.77
YW19131909X016-2	TM00416-SRK-WR-15	5	4.03	70.43	4.39	<1.72	1.72	<3.26	3.26	<42.71	42.71	<7.96	7.96	28.14	10.3	<36.3	36.3	<80.71	80.71	26106.93	211.39
YW19131909X016-3	TM00416-SRK-WR-15	5	4.05	76.45	4.51	<1.78	1.78	<3.28	3.28	<42.64	42.64	13.04	5.43	27.56	10.25	<35.96	35.96	<86.73	86.73	25903.92	210.39
YW19131909X017-1	TM00421-SRK-WR-15 DUP	5	3.8	57.09	4.01	<1.64	1.64	<3.22	3.22	<39.56	39.56	<7.58	7.58	17.03	9.68	<33.95	33.95	<74.59	74.59	23491.31	194.45
YW19131909X017-2	TM00421-SRK-WR-15 DUP	5	5.05	57.03	3.97	<1.7	1.7	<3.14	3.14	<40.33	40.33	<7.69	7.69	19.11	9.74	<33.88	33.88	<74.67	74.67	23716.57	195.46
YW19131909X017-3	TM00421-SRK-WR-15 DUP	5	4.42	61.59	3.93	<1.59	1.59	<2.81	2.81	<39.3	39.3	<7.53	7.53	16.54	9.64	<33.86	33.86	<74.32	74.32	23783.21	194.71
YW19131909X035-1	TM00427-SRK-WR-32A	5	3.59	99.55	5.07	<1.85	1.85	<3.33	3.33	<45.41	45.41	18.02	5.76	<14.13	14.13	<37.81	37.81	<143.83	143.83	41316.94	284.64
YW19131909X035-2	TM00427-SRK-WR-32A	5	2.6	98.1	4.99	<1.77	1.77	<3.25	3.25	<44.62	44.62	16.31	5.69	<13.93	13.93	<37.09	37.09	<98.91	98.91	41369.65	282.29
YW19131909X035-3	TM00427-SRK-WR-32A	5	2.7	90.39	4.84	<1.85	1.85	<3.28	3.28	<43.97	43.97	15.27	5.58	<14.06	14.06	<37.25	37.25	<98.05	98.05	41115.57	281.11
YW19131909X037-1	TM00427-SRK-WR-34	5	3.19	202.75	7.29	<2.4	2.4	<3.61	3.61	<50.56	50.56	70.97	7.9	44.76	12.15	<42.82	42.82	<139.11	139.11	81447.08	469.68
YW19131909X037-2	TM00427-SRK-WR-34	5	3.13	196.24	7.3	<2.17	2.17	<3.72	3.72	<51.85	51.85	65.04	7.84	60.47	12.67	44.96	28.97	<140.94	140.94	81619.61	479.21
YW19131909X037-3	TM00427-SRK-WR-34	5	3.4	205.48	7.43	<2.27	2.27	<3.74	3.74	<51.73	51.73	57.46	7.63	47.92	12.34	49.94	28.81	<139.81	139.81	81697.65	475.14
YW19138940X001-1	TMMNE-19-00020-SRK-WR-035	5	4.41	165.67	6.15	<1.79	1.79	<3.3	3.3	<44.33	44.33	15.9	5.66	34.14	10.66	<36.72	36.72	<93.58	93.58	36976.75	260.63
YW19138940X001-2	TMMNE-19-00020-SRK-WR-035	5	3	153.21	6.02	<1.9	1.9	<3.4	3.4	<44.93	44.93	17.83	5.77	28.25	10.57	<36.7	36.7	<94.83	94.83	37526.55	264.05
YW19138940X001-3	TMMNE-19-00020-SRK-WR-035	5	5.19	147.13	5.89	<1.92	1.92	<3.41	3.41	<44.97	44.97	15.25	5.63	24.68	10.35	<35.98	35.98	<93.4	93.4	37302.54	260.87
YW19138940X007-1	TMMNE-19-00019-SRK-WR-040	5	4.56	143.42	5.99	<2.09	2.09	<3.63	3.63	<48.92	48.92	16.97	6.03	48.14	11.48	99.32	27.61	<103.91	103.91	45220.41	299.2
YW19138940X007-2	TMMNE-19-00019-SRK-WR-040	5	4.11	157.51	6.19	<2.15	2.15	<3.54	3.54	<78.25	78.25	<8.56	8.56	39.57	11.27	101.04	27.54	<103.62	103.62	45607.35	301.16
YW19138940X007-3	TMMNE-19-00019-SRK-WR-040	5	4.15	153.26	6.16	<2.08	2.08	<3.56	3.56	<77.77	77.77	12.8	5.88	40.42	11.3	79.34	27.43	<111.1	111.1	45712.29	301.15
YW19138940X008-1	TMMNE-19-00020-SRK-WR-040 DUP	5	4.59	128.93	5.6	<2.01	2.01	<3.24	3.24	<48.44	48.44	10.42	5.77	47.5	11.31	55.17	26.79	<101.04	101.04	43172.88	289.99
YW19138940X008-2	TMMNE-19-00020-SRK-WR-040 DUP	5	2.72	131.37	5.69	<1.91	1.91	<3.43	3.43	<66.58	66.58	11.53	5.77	42.18	11.2	82.33	27.15	<101.16	101.16	42983.05	288.94
YW19138940X008-3	TMMNE-19-00020-SRK-WR-040 DUP	5	5.62	133.53	5.77	<1.92	1.92	<3.45	3.45	<47.1	47.1	9.13	5.71	50.05	11.38	65.01	26.97	<101.43	101.43	43162.35	289.58
YW19138940X011-1	TMMNE-19-00017-SRK-WR-043	5	4.18	246.21	7.92	<2.64	2.64	6.06	3.44	<52.59	52.59	19.27	6.34	92.8	12.63	<39.99	39.99	<114.71	114.71	53736.39	338.76
YW19138940X011-2	TMMNE-19-00017-SRK-WR-043	5	4.12	247.62	7.77	<3.95	3.95	<6.73	6.73	<82.07	82.07	19.96	6.25	85.63	12.33	<39.49	39.49	<148.63	148.63	53450	336.43
YW19138940X011-3	TMMNE-19-00017-SRK-WR-043	5	3.88	249.3	7.93	<2.26	2.26	<7.28	7.28	<52.15	52.15	20.15	6.36	83.5	12.43	<39.65	39.65	<114.6	114.6	53054.72	337.08
YW19131909X018-1	TM00416-SRK-WR-16	1aj	3.37	379.79	10.19	<2.48	2.48	<3.92	3.92	<54.4	54.4	66.25	8	98.63	14.44	601.65	36.89	<202.52	202.52	87651.49	518.41

Sample Descriptions																					
SAMPLE	SRK ID	Geochem Unit	Bi Error	As	As Error	Se	Se Error	Pb	Pb Error	W	W Error	Zn	Zn Error	Cu	Cu Error	Ni	Ni Error	Co	Co Error	Fe	Fe Error
			+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-
YW19131909X018-2	TM00416-SRK-WR-16	1aj	3.36	377.19	10.11	<2.47	2.47	<3.87	3.87	<54.22	54.22	61.34	7.92	103.35	14.56	640.73	37.14	<146.91	146.91	88258.08	512.61
YW19131909X018-3	TM00416-SRK-WR-16	1aj	3.22	364.95	9.98	<2.55	2.55	<4.11	4.11	<53.02	53.02	60.07	7.84	96.47	14.4	645.57	37.26	<169.39	169.39	88010.72	511.98
YW19131909X030-1	TM00426-SRK-WR-27	1aj	3.07	99.8	5.32	<2.29	2.29	<3.47	3.47	<49.92	49.92	56.46	7.46	49.05	12.26	53.63	28.67	<141.77	141.77	88202.69	489.03
YW19131909X030-2	TM00426-SRK-WR-27	1aj	3.17	96.74	5.38	<2.26	2.26	<3.74	3.74	<50.1	50.1	61.46	7.7	48.03	12.35	54.27	28.9	<142.63	142.63	88098.64	492.99
YW19131909X030-3	TM00426-SRK-WR-27	1aj	3.04	97.59	5.45	<2.17	2.17	<3.88	3.88	<50.2	50.2	57.97	7.54	38.25	12.11	89.07	29.28	<142.22	142.22	87914.96	493.93
YW19131909X031-1	TM00426-SRK-WR-28	1aj	3.1	104.46	5.58	<2.25	2.25	<3.7	3.7	<51.87	51.87	54.62	7.55	44.38	12.4	91.21	29.81	<150.94	150.94	83818.69	484.48
YW19131909X031-2	TM00426-SRK-WR-28	1aj	3.79	97.1	5.49	<2.24	2.24	<3.92	3.92	<51.34	51.34	56.75	7.58	55.69	12.61	93.23	29.7	<141.65	141.65	83702.81	482.81
YW19131909X031-3	TM00426-SRK-WR-28	1aj	3.2	100.92	5.46	<2.15	2.15	<3.54	3.54	<50.99	50.99	51.81	7.42	41.86	12.33	97.44	29.91	<163.14	163.14	83672.7	481.76
YW19138940X002-1	TMMNE-19-00020-SRK-WR-036	1aj	3.19	36.69	3.87	<2.14	2.14	<3.7	3.7	<49.72	49.72	57.16	7.57	86.53	13.17	<57.99	57.99	<156.55	156.55	84473.9	478.79
YW19138940X002-2	TMMNE-19-00020-SRK-WR-036	1aj	3.33	60.79	4.53	<2.37	2.37	<3.7	3.7	<49.67	49.67	57.8	7.56	85.66	13.27	98.18	29.71	<139.06	139.06	81215.73	464.79
YW19138940X002-3	TMMNE-19-00020-SRK-WR-036	1aj	3.31	61.98	4.58	<2.14	2.14	<3.71	3.71	<50.61	50.61	54.55	7.55	120.08	13.97	71.51	29.37	<139.29	139.29	81233.75	466.54
YW19138940X003-1	TMMNE-19-00020-SRK-WR-037	1aj	3.43	13.18	3.31	<2.33	2.33	<4.1	4.1	<52.1	52.1	74.29	8.21	80.67	13.44	108.45	30.36	<147.34	147.34	91211.81	513.94
YW19138940X003-2	TMMNE-19-00020-SRK-WR-037	1aj	3.31	15.79	3.21	<2.39	2.39	<3.8	3.8	<50.29	50.29	81.28	8.26	65.9	12.99	117.16	30.31	<165.02	165.02	90447.62	506.59
YW19138940X003-3	TMMNE-19-00020-SRK-WR-037	1aj	3.45	17.56	3.17	<2.3	2.3	<3.6	3.6	<51.42	51.42	67.7	7.93	57.93	12.78	102.75	29.98	<145.44	145.44	90204.7	505.71
YW19138940X004-1	TMMNE-19-00020-SRK-WR-038	1aj	3.19	71.46	4.8	<2.41	2.41	<3.66	3.66	<59.33	59.33	62.42	7.91	45.18	12.51	85.05	29.77	<142.17	142.17	83739.94	485.56
YW19138940X004-2	TMMNE-19-00020-SRK-WR-038	1aj	3.26	65.83	4.76	<2.24	2.24	<3.85	3.85	<59.25	59.25	62.37	7.93	46.53	12.55	62.78	29.59	<142.75	142.75	83647.28	486.03
YW19138940X004-3	TMMNE-19-00020-SRK-WR-038	1aj	3.48	74.99	4.98	<2.31	2.31	<3.88	3.88	<52.4	52.4	67.15	7.98	44.64	12.47	84.41	29.78	<142.44	142.44	83981.77	485.51
YW19138940X005-1	TMMNE-19-00020-SRK-WR-038 DUP	1aj	3.3	82.86	5.15	<2.22	2.22	<3.86	3.86	<52.95	52.95	75.38	8.2	48.05	12.49	80.59	29.68	<175.71	175.71	84082.95	484.84
YW19138940X005-2	TMMNE-19-00020-SRK-WR-038 DUP	1aj	3.33	86.19	5.17	<2.33	2.33	<3.59	3.59	<54.03	54.03	59.52	7.95	54.74	12.83	99.59	30.09	<143.07	143.07	84585.7	489.26
YW19138940X005-3	TMMNE-19-00020-SRK-WR-038 DUP	1aj	3.33	84.53	5.11	<2.23	2.23	<3.54	3.54	<54.1	54.1	68.89	8.11	54.91	12.76	82.93	29.94	<164.17	164.17	84492.27	490.32
YW19138940X006-1	TMMNE-19-00019-SRK-WR-039	1aj	3.32	392.61	10.16	<2.51	2.51	<3.75	3.75	56.54	37.09	63.27	8.16	269.7	17.29	457.61	34.54	<181.06	181.06	75845.98	462.42
YW19138940X006-2	TMMNE-19-00019-SRK-WR-039	1aj	3.24	393.77	10.14	<2.34	2.34	<3.76	3.76	<82.68	82.68	64.21	8.11	285.13	17.43	442.12	34.16	<170.06	170.06	76332.78	463.13
YW19138940X006-3	TMMNE-19-00019-SRK-WR-039	1aj	3.08	400.52	10.19	<2.42	2.42	<3.51	3.51	<67.22	67.22	64.03	8.09	276.47	17.33	457.86	34.39	<151.34	151.34	77198.38	467.01
YW19138940X009-1	TMMNE-19-00019-SRK-WR-041	1aj	3.45	443.23	11.15	<2.59	2.59	<4.1	4.1	<56.65	56.65	71.65	8.42	136.33	15.55	647.01	37.95	<154.04	154.04	98184.3	558.51
YW19138940X009-2	TMMNE-19-00019-SRK-WR-041	1aj	3.49	447.36	11.27	<2.61	2.61	<3.79	3.79	<58.61	58.61	71.6	8.56	142.29	15.82	616.52	38.07	<155.87	155.87	98160.25	563.87
YW19138940X009-3	TMMNE-19-00019-SRK-WR-041	1aj	3.46	445.64	11.34	<2.63	2.63	<4.08	4.08	<70.73	70.73	68.96	8.58	133.72	15.77	646.97	38.69	<189.77	189.77	98336.27	563.9
YW19138940X010-1	TMMNE-19-00017-SRK-WR-042	1aj	3.23	431.18	10.37	<2.39	2.39	<3.84	3.84	<75.41	75.41	59.37	7.68	131.55	14.37	561.61	34.61	<130.82	130.82	73279.83	430.64
YW19138940X010-2	TMMNE-19-00017-SRK-WR-042	1aj	3.32	444.18	10.59	<2.58	2.58	<3.57	3.57	90.94	37.43	54.58	7.75	111.92	14.16	557.49	35.01	<132.77	132.77	73204.86	437.29
YW19138940X010-3	TMMNE-19-00017-SRK-WR-042	1aj	3.11	434.58	10.5	<2.41	2.41	<3.51	3.51	76.51	37.93	54.57	7.77	135.88	14.7	584.72	35.36	<132.71	132.71	73512.34	440.15
YW19131909X012-1	TM00416-SRK-WR-11	7a	2.81	9.31	3.09	<2.37	2.37	<4.03	4.03	<51.99	51.99	80.51	8.48	37.39	12.65	86.34	30.67	<157.33	157.33	105375.93	579.61
YW19131909X012-2	TM00416-SRK-WR-11	7a	3.01	9.31	3.07	<2.41	2.41	<4	4	<53.06	53.06	70.19	8.27	45.09	12.85	84.56	30.69	<157.15	157.15	105051.87	574.14
YW19131909X012-3	TM00416-SRK-WR-11	7a	2.85	11.27	3.08	<2.4	2.4	<3.89	3.89	<53.95	53.95	66.53	8.17	45.24	12.92	90.43	30.85	<157.95	157.95	105760.9	579.84
YW19131909X013-1	TM00416-SRK-WR-12	7a	3.02	10.53	3.05	<2.45	2.45	<3.94	3.94	<53.26	53.26	79.02	8.55	55.48	13.06	56.72	30.2	<158.08	158.08	109348.56	588.14
YW19131909X013-2	TM00416-SRK-WR-12	7a	2.94	7.49	3.14	<2.46	2.46	<4.27	4.27	<54.1	54.1	71.95	8.49	55.96	13.39	75.94	31.12	<161.55	161.55	109872.13	603.09
YW19131909X013-3	TM00416-SRK-WR-12	7a	2.97	8.59	2.99	<2.44	2.44	<3.97	3.97	<52.7	52.7	76.52	8.43	68.67	13.36	68.07	30.23	<157.59	157.59	109426.2	588.59
YW19131909X014-1	TM00416-SRK-WR-13	7a	2.81	5.99	3.04	<2.46	2.46	<4.17	4.17	<53.67	53.67	80.89	8.61	53.97	13.24	170.55	32.03	<156.97	156.97	104611.8	572.92
YW19131909X014-2	TM00416-SRK-WR-13	7a	3.79	8.34	3.01	<2.5	2.5	<4	4	<52.13	52.13	83.09	8.59	56.05	13.23	170.14	31.76	<155.89	155.89	105021.95	572.92
YW19131909X014-3	TM00416-SRK-WR-13	7a	2.99	8.62	3.03	<2.43	2.43	<3.98	3.98	<54.32	54.32	79.25	8.64	56.81	13.37	183.53	32.25	<157.28	157.28	104996.98	576.13
YW19131909X015-1	TM00416-SRK-WR-14	7a	2.58	11.96	3.02	<2.35	2.35	<3.77	3.77	<51.25	51.25	94.76	8.68	37.68	12.41	154.29	30.92	<188.58	188.58	104599.27	562.57
YW19131909X015-2	TM00416-SRK-WR-14	7a	2.69	11.36	3.14	<2.29	2.29	<3.97	3.97	<51.57	51.57	84.29	8.5	34.72	12.48	142.08	30.95	<155.36	155.36	104671.18	570.97
YW19131909X015-3	TM00416-SRK-WR-14	7a	2.84	10.26	3.03	<2.28	2.28	<3.86	3.86	<51.67	51.67	86.28	8.57	44.49	12.75	129.45	30.89	<155.77	155.77	104394.11	571.46
YW19131909X021-1	TM00441-SRK-WR-19	7a	2.81	8.9	3.05	<2.45	2.45	<4	4	<52.76	52.76	69.62	8.26	58.26	13.19	76.43	30.6	<156.55	156.55	103540.13	573
YW19131909X021-2	TM00441-SRK-WR-19	7a	2.61	9.71	3.07	<2.51	2.51	<3.99	3.99	<53.3	53.3	66.91	8.14	59.72	13.15	95.46	30.56	<155.04	155.04	103277.73	569.09
YW19131909X021-3	TM00441-SRK-WR-19	7a	2.95	8.31	2.87	<2.28	2.28	<3.73	3.73	<52.69	52.69	78.3	8.39	54.95	12.94	97.77	30.41	<154.07	154.07	103310.11	560.93

Sample Descriptions																					
SAMPLE	SRK ID	Geochem Unit	Bi Error	As	As Error	Se	Se Error	Pb	Pb Error	W	W Error	Zn	Zn Error	Cu	Cu Error	Ni	Ni Error	Co	Co Error	Fe	Fe Error
			+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-
YW19131909X022-1	TM00441-SRK-WR-20	7a	3.14	10.32	2.88	<2.5	2.5	<3.69	3.69	<52.87	52.87	84.34	8.7	49.66	13.09	122.1	31.46	<159.36	159.36	107539.3	588.18
YW19131909X022-2	TM00441-SRK-WR-20	7a	2.86	7.28	3.04	<2.42	2.42	<4.09	4.09	<55.27	55.27	82.66	8.86	49.5	13.28	143.12	32.13	<161.22	161.22	107620.38	591.99
YW19131909X022-3	TM00441-SRK-WR-20	7a	2.95	6.35	3.12	<2.37	2.37	<4.28	4.28	<54.11	54.11	79.14	8.67	41.67	13.01	122.06	31.62	<159.25	159.25	106518.45	586.52
YW19131909X023-1	TM00441-SRK-WR-21	7a	2.93	9.62	3.04	<2.37	2.37	<3.96	3.96	<52.81	52.81	94.28	8.88	38.94	12.77	124.07	31.07	<157.67	157.67	108786.04	589.26
YW19131909X023-2	TM00441-SRK-WR-21	7a	3.08	4.69	4.69	<2.4	2.4	<4.41	4.41	<54.09	54.09	83.42	8.68	38.44	12.8	99.43	31	<158.91	158.91	108513.64	587.64
YW19131909X023-3	TM00441-SRK-WR-21	7a	2.87	7.05	3.01	<2.46	2.46	<4.09	4.09	<54.16	54.16	89.18	8.91	33.37	12.74	117.11	31.4	<159.57	159.57	108660.03	592.35
YW19131909X024-1	TM00441-SRK-WR-22	7a	2.94	8.4	2.99	<2.44	2.44	<3.97	3.97	<53.71	53.71	84.06	8.77	45.96	13.26	217.38	33	<160.36	160.36	109687.1	595.52
YW19131909X024-2	TM00441-SRK-WR-22	7a	3.04	8.73	3.04	<2.51	2.51	<4.05	4.05	<53.67	53.67	87.26	8.85	52.61	13.31	214.53	32.66	<158.95	158.95	109907.18	591.28
YW19131909X024-3	TM00441-SRK-WR-22	7a	2.62	7.93	3.1	<2.47	2.47	<4.18	4.18	<53.59	53.59	86.85	8.76	52.71	13.26	191.54	32.39	<159.26	159.26	109819.05	590.92
YW19131909X025-1	TM00441-SRK-WR-23	7a	2.75	9.97	2.92	<2.25	2.25	<3.72	3.72	<51.62	51.62	71.03	8.2	33.92	12.47	165.83	31.5	<156.34	156.34	108716.05	572.28
YW19131909X025-2	TM00441-SRK-WR-23	7a	2.73	11.99	3.17	<2.33	2.33	<4.01	4.01	<51.72	51.72	83.61	8.54	33.24	12.5	178.12	31.7	<156.45	156.45	108756.91	575.88
YW19131909X025-3	TM00441-SRK-WR-23	7a	2.9	12.62	2.98	<2.41	2.41	<3.66	3.66	<52.49	52.49	81.11	8.59	28.63	12.56	176.98	32.04	<158.44	158.44	109253.29	583.95

Note:

Less than sign indicates less than LOD

Source: Z:\01_SITES\Hope.Bay\1CT022.037_2019 Geochem Compliance\!020_Pr

Sample Descriptions																				
SAMPLE	SRK ID	Geochem Unit	Mn	Mn Error	Cr	Cr Error	V	V Error	Ti	Ti Error	Ca	Ca Error	K	K Error	Al	Al Error	P	P Error	Si	Si Error
			ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-
YW19131909X001-1	TM00421-SRK-WR-01	1	1728.69	85.08	1532.04	52.8	348.44	68.75	6500.31	157.53	95963.05	1425.62	12126.41	376.16	5617.32	731.76	<205	205	43940.8	631.67
YW19131909X001-2	TM00421-SRK-WR-01	1	1787.41	86.72	1526.03	52.09	387.81	68.9	6518.68	156.58	95441.13	1410.64	11830.35	370.27	6465.75	744.5	<208.61	208.61	43075.56	628.4
YW19131909X001-3	TM00421-SRK-WR-01	1	1669.66	84.63	1507.47	53.11	413.9	70.51	6644.14	160.19	96934.68	1444.05	12043.01	379.6	5932.7	721.21	<202.62	202.62	43158.93	618.42
YW19131909X003-1	TM00421-SRK-WR-03	1	1981.63	85.84	406.18	38.75	319.28	53.74	3870.35	116.23	57780.18	1153.4	18486.14	428.27	7118.8	632.81	<182.51	182.51	42938.82	571.68
YW19131909X003-2	TM00421-SRK-WR-03	1	1951.21	85.18	386.72	41.19	298.8	56.02	3903.23	120.3	59131	1171.25	18128.7	435.45	7118.58	653.1	<190.08	190.08	43695.47	591.12
YW19131909X003-3	TM00421-SRK-WR-03	1	2118.2	87.71	386.01	39.65	337.89	54.88	3898.53	117.96	59991.54	1172.54	18407.17	431.78	7621.85	656.8	<186.43	186.43	43367.62	583.9
YW19131909X004-1	TM00421-SRK-WR-04	1	2005.77	85.78	400.98	43.23	339.65	59.36	4451.25	128.13	50193.89	1158.57	17162.12	443.67	9210.61	681.8	<188.38	188.38	50905.54	621.44
YW19131909X004-2	TM00421-SRK-WR-04	1	1848.47	82.73	430.61	43.22	360.19	60.85	4308.48	129.26	49295.48	1146.65	17091.46	439.84	9699.8	681.15	<228.57	228.57	50489.69	611.53
YW19131909X004-3	TM00421-SRK-WR-04	1	1926.98	83.43	433.82	43.59	404.74	60.44	4426.02	127.76	49557.02	1136.26	17294.53	440.8	9648.87	695.65	<191.68	191.68	50581.81	626.72
YW19131909X005-1	TM00421-SRK-WR-05	1	1823.96	83.17	423.67	44.29	331.27	60.19	3766.72	129.02	78621.05	1339.93	5267.7	283.33	7318.67	692.72	<189.74	189.74	43024.01	599.69
YW19131909X005-2	TM00421-SRK-WR-05	1	1850.24	83.62	407.31	43.5	343.37	59.15	3882.73	127.56	77840.69	1328.54	5612.96	285.61	7198.42	681.4	<185.34	185.34	43596.36	595.9
YW19131909X005-3	TM00421-SRK-WR-05	1	1884.3	83.37	413.78	43.94	319.57	59.05	3881.02	127.6	78060.6	1326.14	5451.62	283.09	6488.21	678.03	<191.02	191.02	43570.93	603.05
YW19131909X006-1	TM00421-SRK-WR-05 DUP	1	1849.98	84.85	395.02	44.23	346.3	58.05	3682.52	124.27	75258.23	1323.97	5207.01	281.7	6306.69	656.53	<185.71	185.71	42298.96	584.3
YW19131909X006-2	TM00421-SRK-WR-05 DUP	1	1784.93	83.36	400.06	42.26	343.34	57.32	3711.4	123.03	74452.41	1292.46	5122.68	272.88	6445.13	644.42	<180.26	180.26	41804.9	572.49
YW19131909X006-3	TM00421-SRK-WR-05 DUP	1	1755.07	82.64	389.92	43.19	339.66	57.16	3806.98	122.89	74602.6	1292.85	5211.08	275.98	7028.91	656.21	<181.74	181.74	42058.47	574.72
YW19131909X007-1	TM00421-SRK-WR-06	1	1543.57	79.84	431.11	42.12	346.95	59.08	4321.09	126.6	48699.73	1122.2	7684.53	316.15	6958.87	612.02	<187.96	187.96	41979.7	555.66
YW19131909X007-2	TM00421-SRK-WR-06	1	1507.4	79.57	399.85	42.57	302.72	58.5	4178.03	125.74	48916.91	1126.42	7350.06	311.58	6826.83	597.86	<168.83	168.83	41521.36	544.54
YW19131909X007-3	TM00421-SRK-WR-06	1	1701.63	80.93	385.19	41.66	345.39	57.8	4054.04	122.85	52891.11	1135.29	7164.09	301.57	6346.98	588.96	<167.87	167.87	41380.2	540.49
YW19131909X008-1	TM00420-SRK-WR-07	1	1799.47	81.91	396.32	40.87	333.74	55.06	3778.71	118.6	65723.79	1227.38	15034.71	401.74	6397.38	641.88	<182.4	182.4	39693.8	565.26
YW19131909X008-2	TM00420-SRK-WR-07	1	1751.37	81.87	398.06	41.55	306.85	56.12	3698.02	120.57	65140.45	1231.31	15142.14	405.82	6815.77	633.83	<178.32	178.32	39889.81	555.54
YW19131909X008-3	TM00420-SRK-WR-07	1	1778.28	82.23	403.14	40.24	305.76	55.21	3640.66	118.15	65708	1202.35	15141.65	396.08	6458.71	641.8	<183.66	183.66	39927.35	566.08
YW19131909X009-1	TM00420-SRK-WR-08	1	1711.44	82.25	429.6	42.93	350.19	58.54	4057.26	124.95	60452.59	1211.39	11245.47	367.8	7725.08	680.5	<187.15	187.15	44490.91	597.05
YW19131909X009-2	TM00420-SRK-WR-08	1	1734.28	82.71	458.67	45.16	341.25	60.81	3936.35	129.02	59946.89	1249.09	11621.99	381.9	7731.7	670.83	<186.32	186.32	45680.81	599.97
YW19131909X009-3	TM00420-SRK-WR-08	1	1806.56	83.48	457.93	43.89	355.58	60.77	3939.72	129.06	60092.72	1247.97	11826.5	383.58	7889.2	688.78	<188.86	188.86	45663.11	610.23
YW19131909X010-1	TM00420-SRK-WR-09	1	1889.98	83.77	438.33	45.52	345.16	62.58	3878.22	131.25	50535.4	1202.48	14403.26	426.72	8217.04	671.39	<185.23	185.23	47352.69	601.4
YW19131909X010-2	TM00420-SRK-WR-09	1	1982	85.46	464.2	44.65	293.66	62.28	3968.72	132.56	51201.49	1202.51	15030.55	431.68	8486.57	689.39	<190.37	190.37	47464.55	615.36
YW19131909X010-3	TM00420-SRK-WR-09	1	1933.84	84.55	460.65	43.01	326.9	59.09	3939.3	126.18	50306.28	1180.44	14727.42	421.15	7538.79	659.89	<186.87	186.87	47897.5	607.66
YW19131909X011-1	TM00420-SRK-WR-10	1	1987.08	87.94	1019.42	50.37	428.63	71.02	6614.73	157.94	59825.62	1261.75	11316.16	382.23	7179.12	682.87	<191.04	191.04	50000.23	628.98
YW19131909X011-2	TM00420-SRK-WR-10	1	1976.95	88.06	1002.33	49.66	466.11	69.47	6641.27	154.58	59100.99	1252.8	11102.29	375.99	8252.58	695.54	<235.9	235.9	49875.7	626.83
YW19131909X011-3	TM00420-SRK-WR-10	1	1969.65	88.9	1018.62	49.65	424.2	70.73	6734.37	158.25	59027.85	1254.33	11002.41	377.35	7157.86	671.44	<187.58	187.58	49910.85	619.02
YW19131909X019-1	TM00441-SRK-WR-17	1	1741.66	80.75	395.3	43.72	361.99	57.34	3240.26	118.42	56419.84	1212.6	2934.8	232.81	6232.2	591.32	<223.02	223.02	38839.14	528.99
YW19131909X019-2	TM00441-SRK-WR-17	1	1620.48	79.65	395.84	43.13	355.13	57.6	3178.03	118.44	56557.74	1195.36	2853.18	228.77	5606.27	564.75	<159.52	159.52	39226.92	519.76
YW19131909X019-3	TM00441-SRK-WR-17	1	1756.64	80.62	384.33	43.24	335.48	57.68	3088.09	118.43	56183.69	1190.26	2756.7	227.4	5674.74	596.63	<168.35	168.35	39915.93	544.42
YW19131909X020-1	TM00441-SRK-WR-18	1	1860.4	82.84	393.33	42.37	345.09	57.29	3218.26	117.53	48635.56	1123.08	3517.44	239.24	6569.68	619.89	<173.18	173.18	41827.78	565.96
YW19131909X020-2	TM00441-SRK-WR-18	1	1982.73	84.2	430.58	43.99	361.71	58.53	3237.14	120.02	49099.27	1164.71	3831.12	253.8	6441.09	601.28	<175.28	175.28	41865.98	549.97
YW19131909X020-3	TM00441-SRK-WR-18	1	1960.39	84.97	365.68	43.66	388.41	57.46	3261.32	116.92	48496.43	1140.18	3608.28	246.25	7092.71	625.96	<171.45	171.45	42115.72	563.69
YW19131909X026-1	TM00426-SRK-WR-24	1	1979.14	84.81	386.17	43.29	318.69	59.28	3847.25	128.03	77114.46	1329.59	9475.13	345.11	7989.21	686.99	<187.04	187.04	46305.63	602.46
YW19131909X026-2	TM00426-SRK-WR-24	1	2084.72	85.87	355.72	43.34	350.32	57.21	3987.59	123.54	75890.33	1301.06	9413.97	340.67	8652.02	706.16	<191.43	191.43	47075.99	611.23
YW19131909X026-3	TM00426-SRK-WR-24	1	2105.94	86.55	402.52	42.98	297.76	59	3780.24	126.96	75070.77	1301.97	9469.35	343.42	7545.08	701.05	<194.17	194.17	47302.92	626.39
YW19131909X027-1	TM00426-SRK-WR-25	1	2021.58	84.29	403.6	43.96	347.6	58.34	3591.58	125.75	87842.06	1398.29	4299.71	270.18	5939.46	686.32	<186.46	186.46	37643.34	569.28
YW19131909X027-2	TM00426-SRK-WR-25	1	2013.37	84.68	396.46	43.42	307.14	56.48	3425.92	122.04	86916.18	1369.42	4355.27	263.75	5999.22	680.5	<181.04	181.04	37718.76	566.21
YW19131909X027-3	TM00426-SRK-WR-25	1	1950.91	83.57	426.32	43.37	325.54	59.22	3373.85	127.33	87347.99	1406.76	4596	272.03	5739.74	657.03	<177.87	177.87	37916.92	551.37
YW19131909X028-1	TM00421-SRK-WR-25 DUP	1	2071.75	87.03	394.39	44.24	357.53	58.63	3467.18	125.77	89243.98	1417.87	4603.31	277.02	6928.34	706.29	<188.59	188.59	41612.41	591.69
YW19131909X028-2	TM00421-SRK-WR-25 DUP	1	2095.24	87.9	384.75	44.38	337.05	57.89	3627.81	125.53	89246.53	1403.28	4903.81	276.57	7072.85	712.91	<188.22	188.22	41485.68	595.46

Sample Descriptions																				
SAMPLE	SRK ID	Geochem Unit	Mn	Mn Error	Cr	Cr Error	V	V Error	Ti	Ti Error	Ca	Ca Error	K	K Error	Al	Al Error	P	P Error	Si	Si Error
			ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-
YW19131909X028-3	TM00421-SRK-WR-25 DUP	1	2031.54	85.58	394.38	44.45	296.57	57.93	3494.55	125.61	89149.56	1400.65	4765.07	275.86	8328.09	750.81	<194.07	194.07	42195.86	608.5
YW19131909X029-1	TM00426-SRK-WR-26	1	1663.62	79.49	432.91	43.02	359.15	60.09	3961.56	126.39	49789.63	1146.68	11014.49	370.07	8627.85	656.11	<178.07	178.07	47911.02	595.06
YW19131909X029-2	TM00426-SRK-WR-26	1	1664.03	79.71	379.72	43.56	341.26	58.84	4003.24	124.3	48800.64	1133.75	11050.67	367.94	7787.11	636.19	<179.96	179.96	47466.88	593.17
YW19131909X029-3	TM00426-SRK-WR-26	1	1667.83	80.11	428.02	42.63	354.83	58.52	3909.86	123.35	48355.23	1133.25	10645.82	362.29	8051.17	636.84	<176.51	176.51	47040.97	588.27
YW19131909X032-1	TM00427-SRK-WR-29A	1	1967.12	84.45	395.31	45.18	349.37	61.01	4258.14	129.23	47556.07	1150.79	15182.99	428.13	9313.38	684.87	<188.93	188.93	50475.8	625.19
YW19131909X032-2	TM00427-SRK-WR-29A	1	1909.25	82.85	434.01	43.52	324.52	59.93	4212.51	127.87	47269.73	1132.48	15452.27	423.51	8927.27	686.26	<190.25	190.25	51026.56	630.08
YW19131909X032-3	TM00427-SRK-WR-29A	1	2036.67	85.28	456.15	43.5	363.79	60.33	4304.04	128.84	47280.8	1151.71	15648.83	430.4	9294.89	676.66	<188.22	188.22	51557.82	624.46
YW19131909X033-1	TM00427-SRK-WR-30	1	1596.33	80.73	380.84	42.14	316.01	56.68	3922.95	121.46	54036.25	1167.37	14859.53	408.21	7211.55	627.94	<180.16	180.16	42815.97	568.55
YW19131909X033-2	TM00427-SRK-WR-30	1	1659.8	79.24	392.86	40.93	354.18	56.48	3903.76	120.1	54189.21	1154.94	15444.93	410.34	7229.25	642.04	<183.35	183.35	42711.59	577.73
YW19131909X033-3	TM00427-SRK-WR-30	1	1674.05	80.44	406.05	41.6	345.26	57.32	3948	121.97	54558.44	1163.27	15297.98	410.97	7352.01	652.28	<259.65	259.65	42674.78	581.48
YW19131909X034-1	TM00427-SRK-WR-31A	1	1536.9	80.39	418.24	38.54	302.22	53.32	3650.42	115.56	64041.88	1195.61	17754.12	420.21	9554.05	711.36	<303.36	303.36	50401.37	634.35
YW19131909X034-2	TM00427-SRK-WR-31A	1	1664.93	81.29	418.14	38.55	296.99	54.22	3511.52	116.54	63988.93	1195.17	17530.89	418.33	9003.96	712.38	<203.39	203.39	50678.48	640.97
YW19131909X034-3	TM00427-SRK-WR-31A	1	1605.17	80.93	400.88	40.02	298.06	53.6	3618.28	115.44	64065.18	1196.88	17455.83	420.53	8973.73	696.79	<198.54	198.54	50118.84	626.74
YW19131909X036-1	TM00427-SRK-WR-33	1	1895.7	93.54	1450.46	57.8	373.1	76.13	7559.74	177.07	107828.23	1558.89	9918.31	368.72	5426.18	856.44	<247.46	247.46	48789.39	715.7
YW19131909X036-2	TM00427-SRK-WR-33	1	2006.49	98.97	1573.6	61.59	360.08	81.57	7855.55	188.61	112251.49	1628.92	10333.71	386.41	6653	952.18	<262.05	262.05	52190.09	767.59
YW19131909X036-3	TM00427-SRK-WR-33	1	2060.84	101.65	1651.05	64.46	457.28	84.59	8429.09	196.3	116613.88	1684.72	10759.7	399.64	5969.05	979.78	<273.39	273.39	53038.3	786.4
YW19131909X002-1	TM00421-SRK-WR-02	5	1349.07	74.01	286.19	35.8	213.43	46.32	3313.26	103.01	73838.01	1164.73	19200.57	405.57	5196.99	592.42	<186.8	186.8	41206.67	562.33
YW19131909X002-2	TM00421-SRK-WR-02	5	1337.1	73.93	306.13	35.31	236.05	47.14	3252.72	104.02	72883.66	1168.54	19396.52	409.44	5402.48	602.01	<189.28	189.28	41464.77	570.48
YW19131909X002-3	TM00421-SRK-WR-02	5	1364.4	74.44	277.13	35.19	224.03	46.91	3185.36	102.98	72293.23	1149.03	19302.36	402.64	6043.92	615.54	<192.1	192.1	41380.19	571.43
YW19131909X016-1	TM00416-SRK-WR-15	5	300.91	56.53	127.09	24.73	92.83	29.51	1682.66	60.66	21243.21	571.57	18314.91	319.14	5240.97	443.16	<183.55	183.55	74791.1	659.67
YW19131909X016-2	TM00416-SRK-WR-15	5	357.37	56.61	128.31	25.16	77.01	29.69	1681.32	61.43	21151.12	580.83	18238.93	323.18	4880.41	431.89	<181.56	181.56	75018.46	652.45
YW19131909X016-3	TM00416-SRK-WR-15	5	351.74	56.45	134.54	24.56	82.78	29.45	1638.79	60.52	21419.45	568.2	18373.89	317.43	5354.47	461.78	<285.3	285.3	75681.47	678.67
YW19131909X017-1	TM00421-SRK-WR-15 DUP	5	359.34	55.18	131.04	23.88	82.92	28.33	1569.08	57.86	20208.16	541.28	18321	310.79	5181.22	428.9	<181.41	181.41	73800.6	639.87
YW19131909X017-2	TM00421-SRK-WR-15 DUP	5	275.29	53.53	135.86	24.42	71.29	28.59	1531.47	58.58	19984.17	553.56	18083.31	314.47	5471.02	425.89	<176.84	176.84	76022.62	640.36
YW19131909X017-3	TM00421-SRK-WR-15 DUP	5	267.69	52.98	135.06	23.96	64.68	27.93	1526.64	57.3	20267.1	542.84	18428.64	310.5	4705.33	446.02	<190.14	190.14	75685.88	673.32
YW19131909X035-1	TM00427-SRK-WR-32A	5	2278.54	86.8	234.42	31.54	106.06	33.27	974.34	71.82	83863.48	1139.6	3342.56	204.78	4638.19	604.75	1107.5	159.89	80808.77	780.36
YW19131909X035-2	TM00427-SRK-WR-32A	5	2219.22	85.63	204.09	32.5	98.26	32.27	966.91	69.34	83308	1123.84	3356.6	203.49	5353.08	617.56	1116.34	160.83	81296.76	783.36
YW19131909X035-3	TM00427-SRK-WR-32A	5	2292.91	86.35	190.19	32.15	93.37	33.28	919.39	71.11	82570.09	1122.37	3478.23	204.2	5615.87	619.84	1030.88	159.42	80289.65	779.28
YW19131909X037-1	TM00427-SRK-WR-34	5	2147.03	86.89	390.74	41.99	333.7	58.97	3919.15	127.83	77080.33	1326.39	17508.22	434.06	8327.71	752.01	<206.57	206.57	42339.02	615.95
YW19131909X037-2	TM00427-SRK-WR-34	5	2138.61	87.81	420.24	41.05	334.23	57.3	4048.78	125.49	77194.04	1312.62	17476.3	429.54	8538.53	722.28	<197.37	197.37	42147.58	589.19
YW19131909X037-3	TM00427-SRK-WR-34	5	2155.23	87.87	394.21	41.74	310.6	59.25	4002.75	129.46	78403.93	1333.65	17086.04	430.23	8120.62	725.11	<200.06	200.06	42032.1	594.29
YW19138940X001-1	TMMNE-19-00020-SRK-WR-035	5	625.3	60.97	248.8	29.68	123.84	36	2138.64	77.46	49452.31	901.24	20512.52	373.4	3924.65	502.77	<231.73	231.73	49889.96	580.93
YW19138940X001-2	TMMNE-19-00020-SRK-WR-035	5	673.31	62.19	228.31	28.87	103.84	35.33	1963.21	75.73	48383.27	880.16	19512.98	358.56	4058.84	494.2	<185.54	185.54	48419.68	565.15
YW19138940X001-3	TMMNE-19-00020-SRK-WR-035	5	665.17	61.41	223.76	27.99	137.46	34.23	1982.8	72.98	48313.13	863.96	19975.97	357.14	3482.84	488.05	<186.51	186.51	48441.91	569.33
YW19138940X007-1	TMMNE-19-00019-SRK-WR-040	5	582.46	61.56	283.51	30.06	125.38	36.34	2107.36	77.31	37136.31	844.19	25344.87	424.64	5478.46	529.85	<201.23	201.23	54864.58	599.83
YW19138940X007-2	TMMNE-19-00019-SRK-WR-040	5	598.9	61.55	279.21	29.36	138.54	36.44	2068.1	76.84	36912.18	830.74	25375.22	419.93	5327.89	533.7	<199.71	199.71	54966.39	605.66
YW19138940X007-3	TMMNE-19-00019-SRK-WR-040	5	539.79	60.68	265.11	29.88	121.42	36.1	2108.88	76.85	36889.64	834.77	25363.04	419.79	5611.49	543.77	<279.81	279.81	54953.05	610.93
YW19138940X008-1	TMMNE-19-00020-SRK-WR-040 DUP	5	607.8	61.64	277.05	29.41	135.52	36.79	2604.7	80.4	38341.57	840.23	25442.59	418.57	5215.83	530.04	<333.06	333.06	55078.26	607.39
YW19138940X008-2	TMMNE-19-00020-SRK-WR-040 DUP	5	626.51	61.82	231.81	29.58	142.56	37.66	2529.73	81.03	38813.82	838.75	24998.21	414.26	5628.18	546.02	<206.64	206.64	55262.75	616.36
YW19138940X008-3	TMMNE-19-00020-SRK-WR-040 DUP	5	633.15	62.16	266.59	30	115.44	38.09	2522.83	83.01	38775.6	856.81	25228.34	423	5820.24	533.78	<197.01	197.01	55441.59	603.48
YW19138940X011-1	TMMNE-19-00017-SRK-WR-043	5	682.41	63.64	188.07	31.37	135.66	39.15	2377.58	83.63	38220.98	875.27	20214.89	395.3	6229.21	620.29	483.5	160.97	62236.91	677.29
YW19138940X011-2	TMMNE-19-00017-SRK-WR-043	5	735.69	64.1	169.92	31.79	107.09	38.12	2355.17	82.12	38657.34	879.53	19752.11	393.18	6528.93	588.84	353.34	151.35	63154.11	649.83
YW19138940X011-3	TMMNE-19-00017-SRK-WR-043	5	668.63	63.44	175	31.26	110.89	38.51	2327.59	82.81	38858.99	877.15	19751.08	391.11	7533.25	620.39	389.21	155.19	62615.89	663.1
YW19131909X018-1	TM00416-SRK-WR-16	1aj	1817.91	86.91	1215.1	51.42	385.91	66.48	6235.94	151.48	90128.71	1408.04	8719.4	336.68	4317.3	671.18	<192.18	192.18	36800.41	566.36

Sample Descriptions																				
SAMPLE	SRK ID	Geochem Unit	Mn	Mn Error	Cr	Cr Error	V	V Error	Ti	Ti Error	Ca	Ca Error	K	K Error	Al	Al Error	P	P Error	Si	Si Error
			ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-
YW19131909X018-2	TM00416-SRK-WR-16	1aj	1842.99	87.16	1207.67	52.33	354.31	68.01	5980.93	153.77	91000.1	1424.69	8845.96	342.82	3911.21	660.39	<187.8	187.8	36522.67	562.25
YW19131909X018-3	TM00416-SRK-WR-16	1aj	1802.83	86.39	1231.1	51.46	378.23	67.52	6217.92	153.74	91148.04	1418.72	8898.52	342.06	3821.14	654.44	<186.05	186.05	36821.6	561.57
YW19131909X030-1	TM00426-SRK-WR-27	1aj	1824.43	81.36	396.16	43.31	341.38	57.4	3786.36	122.01	63970.52	1233.45	11905.22	374.49	5639.45	650.95	<188.64	188.64	36867.39	559.47
YW19131909X030-2	TM00426-SRK-WR-27	1aj	1841.59	82.25	362.36	42.45	326.02	56.06	3766.73	119.84	63676.74	1220.61	11614.03	366.27	6217.36	644.85	<183.87	183.87	37758.71	553.69
YW19131909X030-3	TM00426-SRK-WR-27	1aj	1850.37	82	439.32	41.18	335.84	57.33	3646.43	122	64279.65	1232.38	11639.4	367.33	6055.74	634.65	<179.83	179.83	37798.09	548.68
YW19131909X031-1	TM00426-SRK-WR-28	1aj	1849.63	83.66	407.63	40.34	294.34	54.91	3716.51	119.43	68733.87	1242.84	9965.9	339.67	6933.33	650.87	<183.85	183.85	41070.06	568.49
YW19131909X031-2	TM00426-SRK-WR-28	1aj	1900.16	84.18	384.26	40.83	338.95	55.63	3633.67	118.98	67764.98	1237.45	9820.08	337.34	7531.4	669.08	<185.65	185.65	40923.57	573.32
YW19131909X031-3	TM00426-SRK-WR-28	1aj	1906.03	84.69	386.52	39.93	288.82	54.52	3653.17	117.72	68100.65	1210.46	9810.96	331.34	6955.66	665.51	<186.01	186.01	41474.25	579.29
YW19138940X002-1	TMMNE-19-00020-SRK-WR-036	1aj	1326.89	75.07	416.36	40.01	309.5	53.67	3472.6	113.88	54052.77	1137.15	14951.1	397.12	5768.35	593.68	<171.51	171.51	38925.31	539.55
YW19138940X002-2	TMMNE-19-00020-SRK-WR-036	1aj	1417.72	76.96	355.11	38.84	279.78	52.36	3096.74	110.27	54251.24	1126.74	13926.52	383.12	5121.54	582.38	<174.09	174.09	35990.36	526.05
YW19138940X002-3	TMMNE-19-00020-SRK-WR-036	1aj	1425.87	76.96	351.89	38.44	291.29	51.54	3180.8	108.75	54022.19	1112.37	14116.92	379.28	5770.75	588.5	<173.69	173.69	36911.65	525.95
YW19138940X003-1	TMMNE-19-00020-SRK-WR-037	1aj	1914.66	84.76	429.58	41.9	315.47	57.42	3952.52	123.64	57355.7	1202.09	16895.34	431.94	6759.22	661	<187.2	187.2	40570.32	573.84
YW19138940X003-2	TMMNE-19-00020-SRK-WR-037	1aj	2041.42	85.89	355.11	43.44	329.6	57.19	3912.03	121.89	57010.2	1196.76	16752.06	430.33	6606.24	653.2	<185.81	185.81	41777.65	578.23
YW19138940X003-3	TMMNE-19-00020-SRK-WR-037	1aj	1946.7	84.5	369.88	43.32	307.01	58.52	3845.53	124.81	56630.53	1206.9	16952.45	436.48	6482.36	645.41	<183.95	183.95	40751.23	570.02
YW19138940X004-1	TMMNE-19-00020-SRK-WR-038	1aj	2365.07	90.84	437.11	42.12	317.26	57.63	4169.15	125.03	64757.84	1228.93	17312.54	427.67	6996.68	676.32	<193.45	193.45	41752.84	588.21
YW19138940X004-2	TMMNE-19-00020-SRK-WR-038	1aj	2394.13	91.39	452.46	41.95	327.43	58.32	4150.56	126.63	64150.16	1245.66	16962.45	429.77	7220.08	643.71	<181.36	181.36	41815.18	562.49
YW19138940X004-3	TMMNE-19-00020-SRK-WR-038	1aj	2327.99	90.29	455.55	41.1	344.06	56.78	4123.84	123.1	63535.89	1222.36	17176.1	424.69	7046	688.9	<197.69	197.69	41971.94	600.28
YW19138940X005-1	TMMNE-19-00020-SRK-WR-038 DUP	1aj	2310.68	89.64	422.15	40.93	330.12	57.13	4022.95	123.01	62788.27	1205.69	16832.16	419.09	6556	646.08	<183.68	183.68	38896.32	557.68
YW19138940X005-2	TMMNE-19-00020-SRK-WR-038 DUP	1aj	2250.51	89.85	386.38	42.82	297.4	58.53	4013.1	126.46	63120.56	1239.26	16544.69	427.03	7198.2	664.02	<181.95	181.95	39963.34	564.82
YW19138940X005-3	TMMNE-19-00020-SRK-WR-038 DUP	1aj	2254.44	89.47	385.13	43.34	314.36	58.15	4162.58	125.91	63857.78	1240.01	16724.79	428.62	6592.48	661.99	<187.52	187.52	39403.5	571.67
YW19138940X006-1	TMMNE-19-00019-SRK-WR-039	1aj	1584.24	83.64	1349.07	51.17	334.05	68.54	6939.81	158.33	94890.86	1400.76	11354.79	361.96	5865.25	708.6	<203.49	203.49	45190.87	626
YW19138940X006-2	TMMNE-19-00019-SRK-WR-039	1aj	1527.24	82.45	1378.36	50.48	378.09	68.77	6809.87	157.97	94680.2	1407.28	11643.67	366.41	5268.71	698.45	<199.69	199.69	44699.71	625.24
YW19138940X006-3	TMMNE-19-00019-SRK-WR-039	1aj	1587.82	83.48	1385.81	50.94	377.91	69.71	7143.79	160.44	96526.05	1403.8	11271.94	361.07	4846.27	705.4	<232.9	232.9	44737.22	633.57
YW19138940X009-1	TMMNE-19-00019-SRK-WR-041	1aj	1479.63	81.3	1023.96	48.83	376.77	67.76	6716.75	152	66091.07	1233.84	10264.56	348.2	4206.98	628.34	<185.81	185.81	35443.91	539.91
YW19138940X009-2	TMMNE-19-00019-SRK-WR-041	1aj	1429.38	81.56	1047.84	47.38	425.92	69.19	6669.19	154.48	64492.49	1247.31	10300.96	349.52	4584.97	625.8	<227.07	227.07	36203.3	538.58
YW19138940X009-3	TMMNE-19-00019-SRK-WR-041	1aj	1515	83.23	1124.21	46.46	451.93	68.16	6871.72	153.33	65424.64	1237.4	10388.14	346.42	4300.89	627.83	<185.82	185.82	35934.55	541.56
YW19138940X010-1	TMMNE-19-00017-SRK-WR-042	1aj	1315.88	77.18	1227.31	45.57	325.2	61.74	6019.7	140.84	76271.73	1250.44	10944.95	344.08	3880.99	597.58	<182.2	182.2	36172.45	540.72
YW19138940X010-2	TMMNE-19-00017-SRK-WR-042	1aj	1279.8	77.91	1225.46	47.4	332.12	63.07	6106.27	143.5	75741.49	1271.05	11390.52	353.18	3768.05	601.06	<183.44	183.44	36930.82	550.18
YW19138940X010-3	TMMNE-19-00017-SRK-WR-042	1aj	1289.59	78.1	1245.57	45.62	317.38	61.88	6009.63	141.33	76522.14	1256.47	11346.58	347.68	3650.42	598.99	<184.16	184.16	37047.44	550.27
YW19131909X012-1	TM00416-SRK-WR-11	7a	1873.86	83.93	370.47	43.29	365.61	58.35	3262.05	120.09	55931.73	1201.97	3130.52	235.76	7842.6	649.72	<296.49	296.49	46707.69	592.39
YW19131909X012-2	TM00416-SRK-WR-11	7a	1814.93	83.31	390.47	42.63	349.9	57.81	3143.65	119.31	54863.05	1201.49	3128.06	236.49	7385.62	626.56	<178.58	178.58	47226.3	581.51
YW19131909X012-3	TM00416-SRK-WR-11	7a	1788.48	83.29	396.7	43.54	347.92	58.94	3235.89	122.01	54726.91	1216.88	3203.97	240.8	7749.1	641.96	<177.11	177.11	47759.56	594.47
YW19131909X013-1	TM00416-SRK-WR-12	7a	1718.38	80.98	416.04	43.46	380.88	61.68	3669.09	126.98	43866.52	1108.92	1576.74	197.12	7302.77	629.87	<256.6	256.6	46724.96	592.45
YW19131909X013-2	TM00416-SRK-WR-12	7a	1701.25	82.71	403.06	43.11	363.71	59.99	3708.34	124.79	43979.55	1112.33	1594.23	196.93	7002.62	604.57	<194.84	194.84	47410.72	580.44
YW19131909X013-3	TM00416-SRK-WR-12	7a	1784.51	82.02	392.17	44	414.99	60.42	3707.49	123.96	43846.89	1111.96	1619.99	199.86	7231.78	620.27	<205.29	205.29	46808.67	586.47
YW19131909X014-1	TM00416-SRK-WR-13	7a	1812.79	83.56	517.98	44.75	352.68	58.69	3193.15	119.46	44714.53	1108.56	1174.27	187.17	6283.52	593.97	<224.2	224.2	43095.99	561.95
YW19131909X014-2	TM00416-SRK-WR-13	7a	1771.35	82.65	512.04	45.44	324.68	58.38	3231.12	119.85	44953.15	1120.93	1305.69	192.24	6157.56	579.47	<168.54	168.54	43493.48	552.01
YW19131909X014-3	TM00416-SRK-WR-13	7a	1828.15	83.93	527.3	44.27	338.1	57.71	3203.12	118.31	44438.2	1106.74	1184.63	186.83	6585.32	602.84	<234.99	234.99	43451.78	566.6
YW19131909X015-1	TM00416-SRK-WR-14	7a	1848.91	82.11	571.07	45.17	300.56	56.76	2821.88	117.95	65002.4	1287.79	4560.48	271.84	9001.32	711.69	<189.68	189.68	50710.63	628.46
YW19131909X015-2	TM00416-SRK-WR-14	7a	1716.31	81.67	548.97	46.85	349.26	58.62	2964.36	120.5	66228.97	1308.68	4589.24	278	9201.07	722.52	<190.96	190.96	51647.82	639.41
YW19131909X015-3	TM00416-SRK-WR-14	7a	1755.13	82.4	532.95	46.06	330.05	57.62	3008.05	119.38	65492.62	1291.08	4424.46	270.9	8874.02	702.1	<189.01	189.01	51305.33	628.38
YW19131909X021-1	TM00441-SRK-WR-19	7a	1745.28	82.58	379.2	42.6	359.16	57.73	3294.55	119.08	54993.69	1176.48	1909.63	203.51	6617.19	628.98	<178.63	178.63	44470.22	584.33
YW19131909X021-2	TM00441-SRK-WR-19	7a	1712.19	81.77	354.36	43.46	342	57.6	3214	118.98	54840.98	1196.91	1912.8	208.17	6378.35	602.25	<173	173	44690.07	568.59
YW19131909X021-3	TM00441-SRK-WR-19	7a	1723.63	81.32	388.98	43.25	340.83	58.13	3375.63	121.39	55974.61	1213.95	2222.02	216.85	7092.51	636.53	<246.75	246.75	44965.33	584.67

Sample Descriptions																				
SAMPLE	SRK ID	Geochem Unit	Mn	Mn Error	Cr	Cr Error	V	V Error	Ti	Ti Error	Ca	Ca Error	K	K Error	Al	Al Error	P	P Error	Si	Si Error
			ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-
YW19131909X022-1	TM00441-SRK-WR-20	7a	2044.97	86.56	462.75	44.21	403.57	58.61	3396.67	119.95	49829.21	1160.66	927.8	181.83	6295.16	611.31	<174.12	174.12	43724.57	573.3
YW19131909X022-2	TM00441-SRK-WR-20	7a	1965.22	86.77	411.46	43.16	310.24	57.06	3252.95	118.49	50418.12	1146.51	866.79	178.15	5962.47	604.45	<172.62	172.62	43152.17	571.14
YW19131909X022-3	TM00441-SRK-WR-20	7a	1925.1	85.35	430.97	45.67	365.92	60.96	3516.46	125.85	51559.91	1195.1	912.09	187.19	5780.34	608.24	<174.18	174.18	43090.62	572.25
YW19131909X023-1	TM00441-SRK-WR-21	7a	2006.36	85.3	405.97	45.47	319.54	57.52	3026.4	117.49	50369.7	1170.43	913.92	185.67	6339.41	602.57	<169.84	169.84	43446.95	563.32
YW19131909X023-2	TM00441-SRK-WR-21	7a	1963.79	85.15	463.44	44.45	303.71	57.66	2909.47	117.83	49772.39	1157.58	985.76	183.31	6516.85	621.15	<173.9	173.9	42774.11	572.65
YW19131909X023-3	TM00441-SRK-WR-21	7a	2040.72	86.22	458.4	41.84	362.55	54.77	2986.16	111.94	49840.71	1139.74	1015.26	179.6	6426.66	613.86	<170.47	170.47	43165.96	566.77
YW19131909X024-1	TM00441-SRK-WR-22	7a	1935.8	85.85	537.45	46.4	328.74	57.46	3044.02	115.96	37462.35	1045.75	587.6	168.42	6510.06	586.57	<167.35	167.35	41295.09	548.48
YW19131909X024-2	TM00441-SRK-WR-22	7a	1978.94	85.43	581.29	45.64	332.2	55.89	3105.14	113.42	37494.53	1033.08	688.37	169.68	5532.53	553.12	<176.26	176.26	41418.05	535.4
YW19131909X024-3	TM00441-SRK-WR-22	7a	1860.22	84.01	583.46	44.41	344.22	57.33	2934.23	114.93	37289.01	1021.37	655.46	166.17	6784.61	583.31	<164.65	164.65	41982.09	544.51
YW19131909X025-1	TM00441-SRK-WR-23	7a	1720.85	80.59	590.4	44.73	374.75	57.13	2835.56	112.45	30218.04	947.34	6060.75	290.54	7383.2	592.39	<180.4	180.4	41538.62	544.34
YW19131909X025-2	TM00441-SRK-WR-23	7a	1681.77	80.1	602.09	45.41	359.11	56.67	2742.87	111.29	29868.22	950.4	6079.3	293.63	6881.04	572.73	<205.17	205.17	41986.65	541.35
YW19131909X025-3	TM00441-SRK-WR-23	7a	1620.56	80.57	602.99	43.9	347.97	56.51	2719.73	111.36	30165.84	933.24	6120.63	288.36	7655.93	573.86	<159.66	159.66	42277.29	532.23

Note:

Less than sign indicates less than LOD

Source: Z:\01_SITES\Hope.Bay\1CT022.037_2019 Geochem Compliance\!020_Pr

Sample Descriptions																			
SAMPLE	SRK ID	Geochem Unit	Cl	Cl Error	S	S Error	Mg	Mg Error	MgO	Al2O3	SiO2	P2O5	SO3	K2O	CaO	TiO2	Cr2O3	MnO	Fe2O3
			ppm	+/-	ppm	+/-	ppm	+/-	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
YW19131909X001-1	TM00421-SRK-WR-01	1	972.92	40.59	958.85	75.13	<5800.93	5800.93	6641.88	10616.74	94033.32	<469.45	2397.13	14672.96	134348.27	10855.52	2236.77	2230.01	111099.55
YW19131909X001-2	TM00421-SRK-WR-01	1	891.89	40.1	1024.52	76.36	<5519.65	5519.65	<9162.619	12220.26	92181.7	<477.7169	2561.3	14314.72	133617.58	10886.2	2228	2305.76	111101.66
YW19131909X001-3	TM00421-SRK-WR-01	1	949.82	39.76	956.51	74.04	<5527.82	5527.82	<9176.1812	11212.81	92360.13	<463.9998	2391.29	14572.04	135708.55	11095.72	2200.9	2153.86	111069.78
YW19131909X003-1	TM00421-SRK-WR-03	1	414.16	32.82	299.63	59.65	<4423.1	4423.1	<7342.346	13454.53	91889.08	<417.9479	749.06	22368.23	80892.26	6463.48	593.03	2556.3	113914.12
YW19131909X003-2	TM00421-SRK-WR-03	1	380.11	33.51	330.44	61.82	<4612.71	4612.71	<7657.0986	13454.12	93508.3	<435.2832	826.1	21935.73	82783.39	6518.4	564.61	2517.06	113822.94
YW19131909X003-3	TM00421-SRK-WR-03	1	392.28	33.33	342.89	61.43	<4510.39	4510.39	<7487.2474	14405.29	92806.71	<426.9247	857.23	22272.68	83988.15	6510.54	563.58	2732.48	113496.78
YW19131909X004-1	TM00421-SRK-WR-04	1	610.08	34.18	502.97	61.48	<5927.85	5927.85	<9840.231	17408.05	108937.87	<431.3902	1257.42	20766.16	70271.45	7433.59	585.43	2587.44	129486.8
YW19131909X004-2	TM00421-SRK-WR-04	1	614.89	33.83	670.25	62.83	<6558.93	6558.93	<10887.8238	18332.63	108047.94	<523.4253	1675.62	20680.67	69013.68	7195.15	628.69	2384.53	127756.62
YW19131909X004-3	TM00421-SRK-WR-04	1	601.27	34.71	628.05	64.18	<4689.36	4689.36	<7784.3376	18236.36	108245.09	<438.9472	1570.14	20926.38	69379.83	7391.45	633.38	2485.81	128188.54
YW19131909X005-1	TM00421-SRK-WR-05	1	414.01	33.89	246.51	61.16	<4868.19	4868.19	<8081.1954	13832.29	92071.38	<434.5046	616.29	6373.91	110069.48	6290.43	618.55	2352.91	126319.5
YW19131909X005-2	TM00421-SRK-WR-05	1	401.29	33.34	301.18	61.12	<4705.87	4705.87	<7811.7442	13605	93296.2	<424.4286	752.95	6791.69	108976.96	6484.16	594.67	2386.81	126556.16
YW19131909X005-3	TM00421-SRK-WR-05	1	448.99	34.16	276.18	61.69	<4764.7	4764.7	<7909.402	12262.72	93241.8	<437.4358	690.45	6596.46	109284.84	6481.3	604.12	2430.75	126163.66
YW19131909X006-1	TM00421-SRK-WR-05 DUP	1	413.09	33.19	204.97	59.51	<4707.08	4707.08	<7813.7528	11919.63	90519.78	<425.2759	512.43	6300.48	105361.52	6149.8	576.72	2386.48	127896.16
YW19131909X006-2	TM00421-SRK-WR-05 DUP	1	527.72	33.45	281.71	59.24	<4616.98	4616.98	<7664.1868	12181.3	89462.48	<412.7954	704.27	6198.44	104233.38	6198.03	584.09	2302.55	126626.8
YW19131909X006-3	TM00421-SRK-WR-05 DUP	1	525.39	33.44	292.12	59.37	<4599.19	4599.19	<7634.6554	13284.63	90005.13	<416.1846	730.29	6305.41	104443.64	6357.66	569.28	2264.04	126973.25
YW19131909X007-1	TM00421-SRK-WR-06	1	571.3	33.12	<82.09	82.09	<5958.63	5958.63	<9891.3258	13152.27	89836.56	<430.4284	193.1	9298.28	68179.62	7216.22	629.42	1991.21	133524.66
YW19131909X007-2	TM00421-SRK-WR-06	1	579.68	32.48	<110.43	110.43	<5695.05	5695.05	<9453.783	12902.71	88855.7	<386.6207	<8.65	8893.58	68483.66	6977.31	583.79	1944.54	134807.98
YW19131909X007-3	TM00421-SRK-WR-06	1	513.41	31.46	113.82	53.13	<6436.61	6436.61	<10684.7726	11995.8	88553.63	<384.4223	284.54	8668.55	74047.55	6770.25	562.38	2195.1	134824.36
YW19131909X008-1	TM00420-SRK-WR-07	1	312.15	32.53	708.99	66.11	<4679.62	4679.62	<7768.1692	12091.04	84944.75	<417.696	1772.47	18192	92013.3	6310.45	578.63	2321.31	114714.7
YW19131909X008-2	TM00420-SRK-WR-07	1	314.61	31.78	723.47	64.72	<4511.62	4511.62	<7489.2892	12881.81	85364.2	<408.3528	1808.67	18321.99	91196.63	6175.69	581.17	2259.27	114513.76
YW19131909X008-3	TM00420-SRK-WR-07	1	321.19	32.52	728.14	66.16	<4687.67	4687.67	<7781.5322	12206.96	85444.53	<420.5814	1820.36	18321.4	91991.2	6079.91	588.59	2293.98	114362.2
YW19131909X009-1	TM00420-SRK-WR-08	1	495.74	34.03	137.09	58.3	<7152.59	7152.59	<11873.2994	14600.41	95210.56	<428.5735	342.73	13607.02	84633.63	6775.62	627.21	2207.76	134470.16
YW19131909X009-2	TM00420-SRK-WR-08	1	464.73	33.45	179.44	58.41	<4599.09	4599.09	<7634.4894	14612.92	97756.94	<426.6728	448.59	14062.6	83925.65	6573.7	669.66	2237.22	134558.92
YW19131909X009-3	TM00420-SRK-WR-08	1	450.03	34	154.99	59.12	<5596.75	5596.75	<9290.605	14910.6	97719.06	<432.4894	387.47	14310.06	84129.81	6579.34	668.58	2330.47	134768.7
YW19131909X010-1	TM00420-SRK-WR-09	1	586.85	33.87	471.75	60.9	<7193.42	7193.42	<11941.0772	15530.21	101334.76	<424.1767	1179.38	17427.94	70749.55	6476.63	639.96	2438.07	141781.56
YW19131909X010-2	TM00420-SRK-WR-09	1	576.68	34.68	482.97	62.72	<4664.66	4664.66	<7743.3356	16039.61	101574.14	<435.9473	1207.43	18186.96	71682.09	6627.77	677.74	2556.78	141167.34
YW19131909X010-3	TM00420-SRK-WR-09	1	592.94	34.12	461.56	61.2	<5920.68	5920.68	<9828.3288	14248.31	102500.65	<427.9323	1153.9	17820.18	70428.79	6578.63	672.54	2494.66	140319.17
YW19131909X011-1	TM00420-SRK-WR-10	1	541	33.8	400.75	60.91	<7177.23	7177.23	<11914.2018	13568.53	107000.5	<437.4816	1001.88	13692.55	83755.86	11046.59	1488.36	2563.34	147791.09
YW19131909X011-2	TM00420-SRK-WR-10	1	535.01	33.66	390.24	60.63	<4622.89	4622.89	<7673.9974	15597.38	106734.01	<540.211	975.59	13433.77	82741.39	11090.92	1463.41	2550.27	146870.45
YW19131909X011-3	TM00420-SRK-WR-10	1	566.51	33.3	437.73	60.07	<4924.49	4924.49	8126.6	13528.36	106809.22	<429.5582	1094.32	13312.92	82638.98	11246.39	1487.19	2540.85	147348.33
YW19131909X019-1	TM00441-SRK-WR-17	1	424.16	30.7	<128.41	128.41	<4163.64	4163.64	<6911.6424	11778.87	83115.76	<510.7158	<7.125	3551.11	78987.78	5411.24	577.13	2246.74	144701.11
YW19131909X019-2	TM00441-SRK-WR-17	1	420.12	29.84	79.99	50.97	<4116.08	4116.08	<6832.6928	10595.84	83945.62	<365.3008	199.97	3452.34	79180.84	5307.31	577.92	2090.41	145073.52
YW19131909X019-3	TM00441-SRK-WR-17	1	426.12	31.19	154.92	54.18	<4443.13	4443.13	6326.21	10725.25	85420.09	<385.5215	387.29	3335.61	78657.16	5157.11	561.13	2266.07	144816.13
YW19131909X020-1	TM00441-SRK-WR-18	1	484.22	32.36	<80.82	80.82	<4390.96	4390.96	<7288.9936	12416.69	89511.45	<396.5822	148.19	4256.1	68089.79	5374.49	574.27	2399.92	152191.41
YW19131909X020-2	TM00441-SRK-WR-18	1	525.53	31.54	81.45	52.27	<4324.5	4324.5	5155.49	12173.66	89593.21	<401.3912	203.63	4635.66	68738.98	5406.03	628.64	2557.72	152500.59
YW19131909X020-3	TM00441-SRK-WR-18	1	552.4	32.5	150.79	54.4	<6822.13	6822.13	<11324.7358	13405.22	90127.64	<392.6205	376.99	4366.02	67894.99	5446.4	533.89	2528.9	151834.59
YW19131909X026-1	TM00426-SRK-WR-24	1	507.88	33.42	668.47	64.35	<4788.89	4788.89	<7949.5574	15099.61	99094.06	<428.3216	1671.17	11464.9	107960.24	6424.91	563.81	2553.09	129215.71
YW19131909X026-2	TM00426-SRK-WR-24	1	509.49	33.8	629.42	64.55	<4845.44	4845.44	<8043.4304	16352.31	100742.63	<438.3747	1573.56	11390.91	106246.46	6659.27	519.35	2689.29	129472.27
YW19131909X026-3	TM00426-SRK-WR-24	1	525.14	34.7	584.79	65.52	<4932.25	4932.25	<8187.535	14260.19	101228.26	<444.6493	1461.97	11457.92	105099.07	6312.99	587.68	2716.66	128462.41
YW19131909X027-1	TM00426-SRK-WR-25	1	458.41	34.3	110.71	59.58	<5018.48	5018.48	<8330.6768	11225.58	80556.74	<426.9934	276.78	5202.65	122978.88	5997.94	589.26	2607.84	135970.31
YW19131909X027-2	TM00426-SRK-WR-25	1	464.55	34.08	<87.62	87.62	<5078.39	5078.39	<8430.1274	11338.53	80718.16	<414.5816	179.46	5269.88	121682.65	5721.28	578.83	2597.25	136003.03
YW19131909X027-3	TM00426-SRK-WR-25	1	444.13	32.8	<109.07	109.07	<7851.43	7851.43	<13033.3738	10848.11	81142.22	<407.3223	<7.275	5561.16	122287.19	5634.33	622.43	2516.67	135822.2
YW19131909X028-1	TM00421-SRK-WR-25 DUP	1	446.92	33.97	151.17	59.7	<6747.1	6747.1	<11200.186	13094.56	89050.56	<431.8711	377.93	5570.01	124941.56	5790.2	575.81	2672.55	135237.16
YW19131909X028-2	TM00421-SRK-WR-25 DUP	1	417.77	33.89	94.54	59.11	<5095.5	5095.5	<8458.53	13367.69	88779.35	<431.0238	236.34	5933.61	124945.14	6058.44	561.73	2702.86	136528.03

Sample Descriptions																			
SAMPLE	SRK ID	Geochem Unit	Cl	Cl Error	S	S Error	Mg	Mg Error	MgO	Al2O3	SiO2	P2O5	SO3	K2O	CaO	TiO2	Cr2O3	MnO	Fe2O3
			ppm	+/-	ppm	+/-	ppm	+/-	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
YW19131909X028-3	TM00421-SRK-WR-25 DUP	1	401.3	34.42	144.22	61.08	<5055.21	5055.21	<8391.6486	15740.1	90299.13	<444.4203	360.55	5765.73	124809.38	5835.9	575.8	2620.69	136608
YW19131909X029-1	TM00426-SRK-WR-26	1	657.3	33.59	236.26	56.11	<6259.15	6259.15	<10390.189	16306.64	102529.59	<407.7803	590.65	13327.54	69705.48	6615.8	632.04	2146.07	139025.09
YW19131909X029-2	TM00426-SRK-WR-26	1	648.17	33.46	280.18	56.72	<4184.97	4184.97	<6947.0502	14717.63	101579.13	<412.1084	700.46	13371.32	68320.9	6685.41	554.4	2146.59	138048.94
YW19131909X029-3	TM00426-SRK-WR-26	1	652.61	33.22	269.31	56.02	<5200.9	5200.9	<8633.494	15216.72	100667.68	<404.2079	673.27	12881.44	67697.32	6529.47	624.9	2151.5	138358.98
YW19131909X032-1	TM00427-SRK-WR-29A	1	470.02	33.14	591.15	62.56	<4500.46	4500.46	<7470.7636	17602.28	108018.21	<432.6497	1477.87	18371.42	66578.5	7111.09	577.16	2537.58	134547.98
YW19131909X032-2	TM00427-SRK-WR-29A	1	486.06	33.28	687.61	63.82	<4684.27	4684.27	5855.6	16872.54	109196.84	<435.6725	1719.02	18697.25	66177.62	7034.88	633.65	2462.93	135202.89
YW19131909X032-3	TM00427-SRK-WR-29A	1	482.67	32.7	581.23	61.52	<4241.16	4241.16	<7040.3256	17567.35	110333.73	<431.0238	1453.08	18935.08	66193.12	7187.75	665.98	2627.3	135393.48
YW19131909X033-1	TM00427-SRK-WR-30	1	714.43	34.52	209.35	57.06	<4359.35	4359.35	<7236.521	13629.83	91626.19	<412.5664	523.39	17980.04	75650.74	6551.33	556.02	2059.26	123802.6
YW19131909X033-2	TM00427-SRK-WR-30	1	661.53	34.84	140.17	57.3	<4443.26	4443.26	<7375.8116	13663.28	91402.8	<419.8715	350.42	18688.37	75864.89	6519.27	573.57	2141.15	123540.71
YW19131909X033-3	TM00427-SRK-WR-30	1	719.58	35.53	154.99	57.97	<6002.92	6002.92	<9964.8472	13895.3	91324.04	<594.5985	387.47	18510.56	76381.81	6593.15	592.84	2159.53	124005.56
YW19131909X034-1	TM00427-SRK-WR-31A	1	353.97	33.2	2322.66	84.7	<4773.37	4773.37	<7923.7942	18057.16	107858.94	<694.6944	5806.65	21482.48	89658.63	6096.2	610.63	1982.59	111701.58
YW19131909X034-2	TM00427-SRK-WR-31A	1	366.48	33.65	2315.66	85.54	<6422.23	6422.23	<10660.9018	17017.48	108451.95	<465.7631	5789.15	21212.38	89584.49	5864.24	610.49	2147.76	111510.84
YW19131909X034-3	TM00427-SRK-WR-31A	1	374.71	32.86	2325.63	83.69	<6886.91	6886.91	<11432.2706	16960.36	107254.33	<454.6566	5814.08	21121.55	89691.24	6042.53	585.29	2070.67	111252.99
YW19131909X036-1	TM00427-SRK-WR-33	1	251.11	41.14	3239.23	112.92	<6681.78	6681.78	<11091.7548	10255.47	104409.3	<566.6834	8098.09	12001.16	150959.52	12624.77	2117.67	2445.45	121035.91
YW19131909X036-2	TM00427-SRK-WR-33	1	291.03	44.75	3299.25	120.12	<7286.01	7286.01	<12094.7766	12574.18	111686.8	<600.0945	8248.12	12503.79	157152.09	13118.77	2297.45	2588.37	128176.56
YW19131909X036-3	TM00427-SRK-WR-33	1	304.62	46.47	3415.96	124.43	<7869.58	7869.58	<13063.5028	11281.51	113501.98	<626.0631	8539.89	13019.23	163259.42	14076.58	2410.54	2658.49	131376.48
YW19131909X002-1	TM00421-SRK-WR-02	5	346.15	32.48	2319.72	83	<4389.02	4389.02	<7285.7732	9822.31	88182.27	<427.772	5799.29	23232.69	103373.21	5533.14	417.84	1740.3	76489.72
YW19131909X002-2	TM00421-SRK-WR-02	5	358.25	32.96	2245.14	83.19	<4546.24	4546.24	<7546.7584	10210.69	88734.6	<433.4512	5612.86	23469.79	102037.13	5432.04	446.95	1724.86	75945.29
YW19131909X002-3	TM00421-SRK-WR-02	5	358.02	33.11	2319.95	84.24	<4570.12	4570.12	<7586.3992	11423.02	88553.62	<439.909	5799.88	23355.85	101210.52	5319.56	404.62	1760.08	75847.2
YW19131909X016-1	TM00416-SRK-WR-15	5	379.23	27.78	4069.22	84.58	<2879.86	2879.86	<4780.5676	9905.43	160052.97	<420.3295	10173.04	22161.04	29740.49	2810.04	185.54	388.18	36965.49
YW19131909X016-2	TM00416-SRK-WR-15	5	368.55	27.28	4115.72	83.83	<2674.21	2674.21	<4439.1886	9223.97	160539.52	<415.7724	10289.29	22069.11	29611.56	2807.81	187.34	461.01	37332.91
YW19131909X016-3	TM00416-SRK-WR-15	5	399.15	28.9	4193.41	88.33	<2995.52	2995.52	<4972.5632	10119.96	161958.34	<653.337	10483.52	22232.4	29987.23	2736.77	196.42	453.75	37042.61
YW19131909X017-1	TM00421-SRK-WR-15 DUP	5	471.31	27.84	3753.5	80.52	<2719.55	2719.55	<4514.453	9792.51	157933.3	278.92	9383.75	22168.41	28291.42	2620.37	191.31	463.54	33592.57
YW19131909X017-2	TM00421-SRK-WR-15 DUP	5	483.3	27.41	3846.26	79.7	<2572.98	2572.98	<4271.1468	10340.22	162688.41	<404.9636	9615.64	21880.81	27977.83	2557.55	198.36	355.12	33914.69
YW19131909X017-3	TM00421-SRK-WR-15 DUP	5	517.38	29.7	3862.24	85.51	<2909.27	2909.27	<4829.3882	8893.07	161967.8	<435.4206	9655.6	22298.66	28373.95	2549.49	197.19	345.33	34009.99
YW19131909X035-1	TM00427-SRK-WR-32A	5	259.01	30.98	3627.08	95.37	<6493.08	6493.08	<10778.5128	8766.18	172930.77	2536.18	9067.7	4044.49	117408.87	1627.15	342.26	2939.32	59083.22
YW19131909X035-2	TM00427-SRK-WR-32A	5	270.97	31.18	3615.19	95.68	<4210.63	4210.63	<6989.6458	10117.32	173975.06	2556.41	9037.96	4061.48	116631.2	1614.74	297.97	2862.79	59158.59
YW19131909X035-3	TM00427-SRK-WR-32A	5	263.11	31.08	3564.09	95.1	<4296.4	4296.4	<7132.024	10613.99	171819.86	2360.71	8910.22	4208.66	115598.13	1535.38	277.68	2957.86	58795.26
YW19131909X037-1	TM00427-SRK-WR-34	5	503.59	36.65	2469.87	91.87	<5192.46	5192.46	<8619.4836	15739.37	90605.51	<473.0453	6174.67	21184.95	107912.46	6544.98	570.49	2769.67	116469.32
YW19131909X037-2	TM00427-SRK-WR-34	5	541.26	35.27	2607.67	89.02	<5072.27	5072.27	<8419.9682	16137.83	90195.83	<451.9773	6519.18	21146.32	108071.66	6761.46	613.54	2758.81	116716.04
YW19131909X037-3	TM00427-SRK-WR-34	5	529.9	35.46	2569.97	89.47	<7024.65	7024.65	<11660.919	15347.97	89948.7	<458.1374	6424.93	20674.11	109765.5	6684.59	575.55	2780.25	116827.63
YW19138940X001-1	TMMNE-19-00020-SRK-WR-035	5	544.39	32.56	5496.47	104.86	<3733.29	3733.29	<6197.2614	7417.59	106764.53	<530.6617	13741.18	24820.15	69233.23	3571.53	363.25	806.64	52876.75
YW19138940X001-2	TMMNE-19-00020-SRK-WR-035	5	476.81	31.36	5525.93	103.33	<3551.46	3551.46	<5895.4236	7671.21	103618.13	<424.8866	13814.82	23610.71	67736.57	3278.57	333.33	868.57	53662.96
YW19138940X001-3	TMMNE-19-00020-SRK-WR-035	5	469.22	31.53	5522.91	104.11	<4486.97	4486.97	<7448.3702	6582.56	103665.69	<427.1079	13807.28	24170.93	67638.38	3311.28	326.69	858.06	53342.63
YW19138940X007-1	TMMNE-19-00019-SRK-WR-040	5	626.81	32.59	9292.93	129.42	<3842.15	3842.15	<6377.969	10354.28	117410.2	444.56	23232.33	30667.29	51990.84	3519.29	413.92	751.37	64665.18
YW19138940X007-2	TMMNE-19-00019-SRK-WR-040	5	625.74	32.86	9472.83	131.75	<4975.05	4975.05	<8258.583	10069.7	117628.07	<457.3359	23682.07	30704.02	51677.05	3453.74	407.65	772.58	65218.51
YW19138940X007-3	TMMNE-19-00019-SRK-WR-040	5	627.58	33.24	9492.82	133	<3806.07	3806.07	<6318.0762	10605.72	117599.53	<640.7649	23732.06	30689.28	51645.5	3521.82	387.07	696.33	65368.57
YW19138940X008-1	TMMNE-19-00020-SRK-WR-040 DUP	5	571.94	32.4	8980.06	128.69	<3834.06	3834.06	<6364.5396	9857.91	117867.48	<762.7074	22450.15	30785.53	53678.2	4349.84	404.49	784.06	61737.21
YW19138940X008-2	TMMNE-19-00020-SRK-WR-040 DUP	5	554.67	32.87	8975.45	130.55	<3843.51	3843.51	<6380.2266	10637.26	118262.28	419.72	22438.63	30247.84	54339.35	4224.64	338.45	808.19	61465.75
YW19138940X008-3	TMMNE-19-00020-SRK-WR-040 DUP	5	553.24	31.86	9043.17	127.64	<3747.78	3747.78	<6221.3148	11000.25	118645.02	<451.1529	22607.92	30526.29	54285.84	4213.13	389.22	816.76	61722.16
YW19138940X011-1	TMMNE-19-00017-SRK-WR-043	5	592.16	35.3	18486.98	195.03	<5153.85	5153.85	<8555.391	11773.21	133187	1107.21	46217.46	24460.02	53509.37	3970.55	274.58	880.31	76843.04
YW19138940X011-2	TMMNE-19-00017-SRK-WR-043	5	583.51	33.27	18346.9	185.47	<4036.5	4036.5	<6700.59	12339.68	135149.8	809.14	45867.25	23900.05	54120.27	3933.14	248.09	949.04	76433.49
YW19138940X011-3	TMMNE-19-00017-SRK-WR-043	5	584.66	34.11	18254.95	189.24	<4360.51	4360.51	<7238.4466	14237.85	133998	891.3	45637.36	23898.81	54402.59	3887.07	255.5	862.53	75868.25
YW19131909X018-1	TM00416-SRK-WR-16	1aj	320.83	33.91	1606.88	80.01	<5348.42	5348.42	<8878.3772	8159.7	78752.89	<440.0922	4017.2	10550.48	126180.2	10414.01	1774.05	2345.11	125341.63

Sample Descriptions																			
SAMPLE	SRK ID	Geochem Unit	Cl	Cl Error	S	S Error	Mg	Mg Error	MgO	Al2O3	SiO2	P2O5	SO3	K2O	CaO	TiO2	Cr2O3	MnO	Fe2O3
			ppm	+/-	ppm	+/-	ppm	+/-	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
YW19131909X018-2	TM00416-SRK-WR-16	1aj	325.6	33.69	1658.88	80.17	<6182.88	6182.88	<10263.5808	7392.19	78158.52	<430.062	4147.21	10703.61	127400.14	9988.15	1763.19	2377.46	126209.05
YW19131909X018-3	TM00416-SRK-WR-16	1aj	347.28	33.57	1640.83	79.37	<8248.31	8248.31	<13692.1946	7221.95	78798.23	<426.0545	4102.08	10767.21	127607.25	10383.93	1797.41	2325.65	125855.32
YW19131909X030-1	TM00426-SRK-WR-27	1aj	445.08	34.7	1320.27	75.52	<6458.21	6458.21	<10720.6286	10658.56	78896.22	<431.9856	3300.69	14405.32	89558.73	6323.22	578.4	2353.52	126129.84
YW19131909X030-2	TM00426-SRK-WR-27	1aj	448.88	33.88	1306.69	73.47	<5490.43	5490.43	<9114.1138	11750.81	80803.65	<421.0623	3266.73	14052.98	89147.44	6290.43	529.04	2375.66	125981.05
YW19131909X030-3	TM00426-SRK-WR-27	1aj	437.71	33.41	1321.15	72.84	<4700.87	4700.87	<7803.4442	11445.36	80887.91	<411.8107	3302.88	14083.67	89991.51	6089.54	641.41	2386.98	125718.39
YW19131909X031-1	TM00426-SRK-WR-28	1aj	356.32	32.5	1754.66	77.25	<4570.12	4570.12	<7586.3992	13104	87889.94	<421.0165	4386.64	12058.74	96227.41	6206.57	595.14	2386.02	119860.72
YW19131909X031-2	TM00426-SRK-WR-28	1aj	347.96	32.72	1793.88	78.35	<5956.41	5956.41	<9887.6406	14234.35	87576.45	<425.1385	4484.71	11882.29	94870.97	6068.23	561.02	2451.21	119695.02
YW19131909X031-3	TM00426-SRK-WR-28	1aj	386.33	33.17	1849.6	79.34	<7964.36	7964.36	<13220.8376	13146.19	88754.89	<425.9629	4624	11871.27	95340.91	6100.8	564.32	2458.78	119651.96
YW19138940X002-1	TMMNE-19-00020-SRK-WR-036	1aj	470.76	32.65	310.05	58.76	<4070.44	4070.44	<6756.9304	10902.19	83300.16	<392.7579	775.12	18090.83	75673.88	5799.25	607.88	1711.69	120797.67
YW19138940X002-2	TMMNE-19-00020-SRK-WR-036	1aj	414.81	32.57	1053.6	68.41	<4381.4	4381.4	<7273.124	9679.71	77019.37	<398.6661	2634	16851.09	75951.73	5171.56	518.46	1828.86	116138.49
YW19138940X002-3	TMMNE-19-00020-SRK-WR-036	1aj	395.65	32.04	1043.41	67.44	<4324.73	4324.73	<7179.0518	10906.71	78990.94	<397.7501	2608.52	17081.48	75631.07	5311.94	513.76	1839.37	116164.26
YW19138940X003-1	TMMNE-19-00020-SRK-WR-037	1aj	860.51	37.54	695.85	67.03	<4614.05	4614.05	<7659.323	12774.92	86820.48	<428.688	1739.63	20443.37	80297.97	6600.71	627.18	2469.91	130432.89
YW19138940X003-2	TMMNE-19-00020-SRK-WR-037	1aj	870.91	37.37	641.43	65.82	<4733.53	4733.53	<7857.6598	12485.79	89404.18	<425.5049	1603.57	20270	79814.28	6533.09	518.46	2633.43	129340.09
YW19138940X003-3	TMMNE-19-00020-SRK-WR-037	1aj	908.22	37.37	617.35	65.01	<4722	4722	<7838.52	12251.66	87207.63	<421.2455	1543.37	20512.47	79282.73	6422.04	540.02	2511.24	128992.72
YW19138940X004-1	TMMNE-19-00020-SRK-WR-038	1aj	523.8	35.29	743.01	68.57	<4852.73	4852.73	<8055.5318	13223.73	89351.08	<443.0005	1857.53	20948.18	90660.98	6962.47	638.18	3050.94	119748.11
YW19138940X004-2	TMMNE-19-00020-SRK-WR-038	1aj	499.84	33.27	741.64	64.92	<4590.45	4590.45	<7620.147	13645.95	89484.48	<415.3144	1854.1	20524.56	89810.23	6931.44	660.59	3088.43	119615.61
YW19138940X004-3	TMMNE-19-00020-SRK-WR-038	1aj	500.95	35.7	678.66	68.97	<4902.96	4902.96	<8138.9136	13316.94	89819.96	<452.7101	1696.65	20783.08	88950.24	6886.82	665.11	3003.11	120093.92
YW19138940X005-1	TMMNE-19-00020-SRK-WR-038 DUP	1aj	501.14	34.14	717.3	66.32	<4714.3	4714.3	<7825.738	12390.84	83238.13	<420.6272	1793.25	20366.92	87903.58	6718.33	616.34	2980.77	120238.62
YW19138940X005-2	TMMNE-19-00020-SRK-WR-038 DUP	1aj	499.66	34.17	759.2	66.71	<8050.39	8050.39	<13363.6474	13604.59	85521.55	<416.6655	1898.01	20019.07	88368.79	6701.88	564.12	2903.15	120957.55
YW19138940X005-3	TMMNE-19-00020-SRK-WR-038 DUP	1aj	513.16	34.99	740.45	67.99	<4823.62	4823.62	<8007.2092	12459.79	84323.5	<429.4208	1851.12	20237	89400.89	6951.51	562.28	2908.23	120823.95
YW19138940X006-1	TMMNE-19-00019-SRK-WR-039	1aj	604.15	36.63	811.67	71.68	<5305.55	5305.55	<8807.213	11085.32	96708.46	<465.9921	2029.19	13739.3	132847.2	11589.48	1969.64	2043.67	108459.75
YW19138940X006-2	TMMNE-19-00019-SRK-WR-039	1aj	641.08	36.98	730.69	70.74	<5343.39	5343.39	<8870.0274	9957.85	95657.38	<457.2901	1826.73	14088.84	132552.27	11372.48	2012.41	1970.14	109155.88
YW19138940X006-3	TMMNE-19-00019-SRK-WR-039	1aj	607.43	37.27	729.82	71.87	<6232.03	6232.03	<10345.1698	9159.45	95737.66	<533.341	1824.55	13639.04	135136.47	11930.12	2023.29	2048.28	110393.67
YW19138940X009-1	TMMNE-19-00019-SRK-WR-041	1aj	493.48	34.24	2013.57	81.63	<8008.03	8008.03	<13293.3298	7951.19	75849.97	<425.5049	5033.94	12420.12	92527.5	11216.97	1494.99	1908.72	140403.55
YW19138940X009-2	TMMNE-19-00019-SRK-WR-041	1aj	461.02	33.49	2106.79	81.43	<6283.4	6283.4	<10430.444	8665.59	77475.08	<519.9903	5266.98	12464.16	90289.48	11137.55	1529.85	1843.9	140369.16
YW19138940X009-3	TMMNE-19-00019-SRK-WR-041	1aj	466.14	33.82	2108.19	82.26	<7641.83	7641.83	<12685.4378	8128.68	76899.95	<425.5278	5270.48	12569.65	91594.49	11475.78	1641.35	1954.35	140620.86
YW19138940X010-1	TMMNE-19-00017-SRK-WR-042	1aj	1137.51	38.98	1087.45	71.19	<4519.91	4519.91	<7503.0506	7335.07	77409.05	<417.238	2718.63	13243.39	106780.43	10052.9	1791.87	1697.49	104790.15
YW19138940X010-2	TMMNE-19-00017-SRK-WR-042	1aj	1109.79	39.05	1200.05	72.99	<4703.73	4703.73	<7808.1918	7121.61	79031.96	<420.0776	3000.12	13782.53	106038.09	10197.46	1789.17	1650.94	104682.95
YW19138940X010-3	TMMNE-19-00017-SRK-WR-042	1aj	1135.17	39.16	1160.32	72.41	<4770.32	4770.32	<7918.7312	6899.3	79281.53	<421.7264	2900.81	13729.36	107130.99	10036.09	1818.53	1663.57	105122.65
YW19131909X012-1	TM00416-SRK-WR-11	7a	345.39	30.87	642.1	61.29	<4238.62	4238.62	<7036.1092	14822.51	99954.45	<678.9621	1605.25	3787.93	78304.41	5447.62	540.89	2417.28	150687.58
YW19131909X012-2	TM00416-SRK-WR-11	7a	356.29	30.07	615.64	59.15	<7005.31	7005.31	<11628.8146	13958.82	101064.3	<408.9482	1539.1	3784.96	76808.27	5249.9	570.09	2341.26	150224.17
YW19131909X012-3	TM00416-SRK-WR-11	7a	329.96	30.48	631.24	60.57	<4328.47	4328.47	<7185.2602	14645.8	102205.47	<405.5819	1578.09	3876.81	76617.66	5403.94	579.18	2307.14	151238.08
YW19131909X013-1	TM00416-SRK-WR-12	7a	348.01	30.94	671.85	61.41	<4213.67	4213.67	<6994.6922	13802.24	99991.41	<587.614	1679.61	1907.85	61413.13	6127.39	607.42	2216.71	156368.44
YW19131909X013-2	TM00416-SRK-WR-12	7a	325.91	29.73	716.58	59.9	<4093.58	4093.58	<6795.3428	13234.95	101458.95	<446.1836	1791.45	1929.02	61571.37	6192.92	588.47	2194.61	157117.14
YW19131909X013-3	TM00416-SRK-WR-12	7a	337.22	30.41	626.5	60.02	<4035.48	4035.48	<6698.8968	13668.06	100170.55	<470.1141	1566.26	1960.19	61385.65	6191.51	572.57	2302.02	156479.45
YW19131909X014-1	TM00416-SRK-WR-13	7a	316.43	30.26	752.64	61.64	<4025.27	4025.27	<6681.9482	11875.85	92225.42	<513.418	1881.59	1420.86	62600.34	5332.56	756.26	2338.49	149594.88
YW19131909X014-2	TM00416-SRK-WR-13	7a	351.59	29.78	705.84	59.5	<5734.85	5734.85	<9519.851	11637.78	93076.06	<385.9566	1764.59	1579.88	62934.41	5395.98	747.58	2285.04	150181.38
YW19131909X014-3	TM00416-SRK-WR-13	7a	315.74	30.39	722.69	61.52	<4109.88	4109.88	<6822.4008	12446.26	92986.8	<538.1271	1806.73	1433.4	62213.48	5349.22	769.86	2358.31	150145.67
YW19131909X015-1	TM00416-SRK-WR-14	7a	1037.62	37.32	737.06	64.49	<4947.53	4947.53	8172.49	17012.49	108520.75	<434.3672	1842.66	5518.18	91003.36	4712.53	833.76	2385.09	149576.94
YW19131909X015-2	TM00416-SRK-WR-14	7a	1021.64	37.51	754.35	65.25	<7870.9	7870.9	<13065.694	17390.02	110526.34	<437.2984	1885.87	5552.98	92720.55	4950.48	801.49	2214.04	149679.78
YW19131909X015-3	TM00416-SRK-WR-14	7a	997.41	36.67	762.65	64.22	<4852.32	4852.32	6296.41	16771.9	109793.41	<432.8329	1906.64	5353.59	91689.66	5023.45	778.1	2264.11	149283.58
YW19131909X021-1	TM00441-SRK-WR-19	7a	447.98	32.13	529.16	60.66	<4234.94	4234.94	<7030.0004	12506.48	95166.28	<409.0627	1322.91	2310.66	76991.16	5501.9	553.64	2251.41	148062.38
YW19131909X021-2	TM00441-SRK-WR-19	7a	425.75	30.79	513.02	58.22	<4225.64	4225.64	<7014.5624	12055.09	95636.77	<396.17	1282.55	2314.48	76777.38	5367.39	517.36	2208.73	147687.16
YW19131909X021-3	TM00441-SRK-WR-19	7a	427.06	31.83	530.02	60.32	<5085.9	5085.9	<8442.594	13404.85	96225.8	<565.0575	1325.05	2688.65	78364.45	5637.31	567.91	2223.49	147733.45

Sample Descriptions																			
SAMPLE	SRK ID	Geochem Unit	Cl	Cl Error	S	S Error	Mg	Mg Error	MgO	Al2O3	SiO2	P2O5	SO3	K2O	CaO	TiO2	Cr2O3	MnO	Fe2O3
			ppm	+/-	ppm	+/-	ppm	+/-	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
YW19131909X022-1	TM00441-SRK-WR-20	7a	383.75	31.12	178.94	54.95	<4147.1	4147.1	<6884.186	11897.85	93570.58	<398.7348	447.34	1122.64	69760.9	5672.44	675.61	2638.01	153781.2
YW19131909X022-2	TM00441-SRK-WR-20	7a	346.06	30.75	182.95	54.87	<4139.01	4139.01	<6870.7566	11269.06	92345.65	<395.2998	457.37	1048.82	70585.37	5432.43	600.74	2535.13	153897.14
YW19131909X022-3	TM00441-SRK-WR-20	7a	436.99	31.91	158.86	55.34	<6554.82	6554.82	<10881.0012	10924.84	92213.94	<398.8722	397.16	1103.63	72183.88	5872.49	629.22	2483.38	152321.38
YW19131909X023-1	TM00441-SRK-WR-21	7a	437.96	31.05	250.66	55.06	<4160.26	4160.26	<6906.0316	11981.49	92976.48	<388.9336	626.64	1105.84	70517.59	5054.08	592.71	2588.2	155564.03
YW19131909X023-2	TM00441-SRK-WR-21	7a	435.98	31.94	240.88	56.47	<4255.59	4255.59	<7064.2794	12316.84	91536.61	<398.231	602.2	1192.77	69681.34	4858.82	676.62	2533.29	155174.5
YW19131909X023-3	TM00441-SRK-WR-21	7a	443.94	31.46	315.55	56.5	<7270.38	7270.38	<12068.8308	12146.38	92375.17	<390.3763	788.88	1228.46	69776.99	4986.88	669.27	2632.52	155383.84
YW19131909X024-1	TM00441-SRK-WR-22	7a	376.38	30.45	214.5	53.92	<3863.84	3863.84	<6413.9744	12304	88371.51	<383.2315	536.26	710.99	52447.29	5083.51	784.68	2497.18	156852.55
YW19131909X024-2	TM00441-SRK-WR-22	7a	378.7	29.58	292.7	53.39	<3868.43	3868.43	<6421.5938	10456.49	88634.63	<403.6354	731.74	832.93	52492.34	5185.59	848.69	2552.84	157167.27
YW19131909X024-3	TM00441-SRK-WR-22	7a	370.85	29.96	278.8	53.87	<4173.59	4173.59	<6928.1594	12822.91	89841.69	<377.0485	697	793.1	52204.61	4900.17	851.85	2399.68	157041.23
YW19131909X025-1	TM00441-SRK-WR-23	7a	535.58	31.25	<100.14	100.14	<4005.14	4005.14	4500.33	13954.24	88892.66	<413.116	<7.3	7333.51	42305.26	4735.38	861.98	2219.9	155463.94
YW19131909X025-2	TM00441-SRK-WR-23	7a	517.22	30.69	<87.52	87.52	<3768.33	3768.33	<6255.4278	13005.16	89851.44	<469.8393	<7.925	7355.95	41815.52	4580.59	879.05	2169.49	155522.38
YW19131909X025-3	TM00441-SRK-WR-23	7a	557.66	30.34	<86.58	86.58	<3733.24	3733.24	<6197.1784	14469.72	90473.4	<365.6214	<7.45	7405.96	42232.17	4541.95	880.36	2090.52	156232.2

Note:

Less than sign indicates less than LOD

Source: Z:\01_SITES\Hope.Bay\1CT022.037_2019 Geochem Compliance\!020_Pr

Sample Descriptions			pXRF data - pulp																	
SAMPLE	SRK ID	Geochem Unit	Sb	Sb Error	Sn	Sn Error	Cd	Cd Error	Bal	Bal Error	Mo	Mo Error	Nb	Nb Error	Zr	Zr Error	Sr	Sr Error	Rb	Rb Error
			ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-
YW19131909Z001-1	TM00421-SRK-WR-01	1	<23.05	23.05	<23.99	23.99	22.7	8.19	733817.69	1255.39	7.08	1.81	10.82	1.6	66.94	2.86	115.22	2.95	15.33	1
YW19131909Z001-2	TM00421-SRK-WR-01	1	<23.18	23.18	<28.72	28.72	11.87	7.07	769491.56	999.41	2.54	1.53	8.61	1.37	63.41	2.49	106.57	2.54	14.68	1
YW19131909Z001-3	TM00421-SRK-WR-01	1	<24.2	24.2	<22.91	22.91	18.08	7.05	768519.5	1010.93	3.58	1.55	7.75	1.36	62.73	2.48	107.51	2.54	14.07	1
YW19131909Z003-1	TM00421-SRK-WR-03	1	<25.57	25.57	<34.46	34.46	<14.73	14.73	796883.31	882.47	<2.13	2.13	3.68	1.24	35.54	1.86	31.64	1.42	19.48	1
YW19131909Z003-2	TM00421-SRK-WR-03	1	<29.98	29.98	<30.09	30.09	<15.64	15.64	796490.19	886.28	<1.95	1.95	3.71	1.24	34.42	1.84	32.3	1.43	19.5	1
YW19131909Z003-3	TM00421-SRK-WR-03	1	<21.9	21.9	<31.46	31.46	<10.34	10.34	798808	874	<1.67	1.67	3.49	1.24	35.14	1.84	30.47	1.4	18.68	1
YW19131909Z004-1	TM00421-SRK-WR-04	1	<23.98	23.98	<29.81	29.81	10.98	6.69	785085.94	924.39	3.1	1.45	4.56	1.26	35.11	1.82	21.16	1.22	13.25	1
YW19131909Z004-2	TM00421-SRK-WR-04	1	<26.16	26.16	<22.34	22.34	13.19	6.76	786614.06	917.71	<2.16	2.16	4.46	1.26	35.41	1.84	19.79	1.2	13.68	1
YW19131909Z004-3	TM00421-SRK-WR-04	1	<19.39	19.39	<33.3	33.3	14.95	6.79	784817.88	926.06	2.88	1.46	5.9	1.29	36.01	1.85	20.58	1.22	13.52	1
YW19131909Z005-1	TM00421-SRK-WR-05	1	<27.7	27.7	<33.64	33.64	<10.38	10.38	797065.88	887.71	<1.73	1.73	3.91	1.26	31.74	1.86	40.66	1.6	3.93	1
YW19131909Z005-2	TM00421-SRK-WR-05	1	<20.01	20.01	<24.78	24.78	12.18	7.51	769579.88	1101.81	6.68	1.73	7.5	1.51	31.54	2.1	45.14	1.87	4.3	1
YW19131909Z005-3	TM00421-SRK-WR-05	1	<26.78	26.78	<23.38	23.38	13.81	7.67	762971.5	1152.36	6.07	1.76	9.39	1.57	34.13	2.18	43.8	1.88	4.32	1
YW19131909Z006-1	TM00421-SRK-WR-05 DUP	1	<16.95	16.95	<22.5	22.5	10.23	6.75	761858.5	1020.55	2.37	1.46	6.65	1.31	33.2	1.88	43.52	1.63	4.15	1
YW19131909Z006-2	TM00421-SRK-WR-05 DUP	1	<17.98	17.98	<22.16	22.16	12.05	6.66	761030.88	1011.65	5.08	1.48	5.78	1.28	33.9	1.87	43.61	1.62	3.7	1
YW19131909Z006-3	TM00421-SRK-WR-05 DUP	1	<18.68	18.68	<28.41	28.41	11.72	6.63	759953.63	1023.89	3.43	1.47	6.43	1.3	33.71	1.88	42.46	1.61	3.97	1
YW19131909Z007-1	TM00421-SRK-WR-06	1	<16.96	16.96	<33.38	33.38	<11.11	11.11	784957.81	908.81	<2.1	2.1	4.5	1.23	33.21	1.78	28.3	1.33	5.72	1
YW19131909Z007-2	TM00421-SRK-WR-06	1	<17.12	17.12	<35.73	35.73	<15.62	15.62	784325.19	915.45	<1.63	1.63	3.73	1.23	34.14	1.8	28.74	1.35	6.36	1
YW19131909Z007-3	TM00421-SRK-WR-06	1	<16.45	16.45	<26.84	26.84	14.95	6.71	771989.44	983.87	2.94	1.48	6.14	1.31	35.44	1.88	29.02	1.39	7.06	1
YW19131909Z008-1	TM00420-SRK-WR-07	1	<19.51	19.51	<28.63	28.63	11.92	6.62	776739.81	916	<2.04	2.04	4.98	1.2	32.88	1.8	58.95	1.76	12.38	1
YW19131909Z008-2	TM00420-SRK-WR-07	1	<16.63	16.63	<31.14	31.14	<14.92	14.92	776967.94	933.33	<2.08	2.08	3.81	1.2	33.22	1.84	58.4	1.78	12.27	1
YW19131909Z008-3	TM00420-SRK-WR-07	1	<17.07	17.07	<25.33	25.33	<10.01	10.01	775867.94	929.55	<2.37	2.37	4.16	1.21	33.28	1.84	57.87	1.78	12.95	1
YW19131909Z009-1	TM00420-SRK-WR-08	1	<27.64	27.64	<27.02	27.02	12.56	7.14	767624.38	1009.11	<2.21	2.21	3.03	1.27	33.1	1.86	27.68	1.39	5.84	1
YW19131909Z009-2	TM00420-SRK-WR-08	1	<17.32	17.32	<24.15	24.15	<11.92	11.92	771227.94	970.88	2.16	1.42	4.31	1.24	33.52	1.8	28.06	1.34	6.4	1
YW19131909Z009-3	TM00420-SRK-WR-08	1	<17.03	17.03	<35.61	35.61	<10.1	10.1	765276.44	992.26	<2.13	2.13	5.08	1.26	33.81	1.81	28.57	1.35	5.73	1
YW19131909Z010-1	TM00420-SRK-WR-09	1	<22.17	22.17	25.36	16.51	<14.81	14.81	785005.94	928.56	<2.24	2.24	4.52	1.27	30.17	1.75	15.58	1.11	11.39	1
YW19131909Z010-2	TM00420-SRK-WR-09	1	<18.03	18.03	<26.04	26.04	<15.63	15.63	778286.13	959.99	<2.16	2.16	4.4	1.26	30.1	1.74	15.53	1.11	11.45	1
YW19131909Z010-3	TM00420-SRK-WR-09	1	<18.28	18.28	<35.6	35.6	<9.34	9.34	785214.69	935.91	<2.17	2.17	4	1.27	29.37	1.74	16.84	1.14	11.78	1
YW19131909Z011-1	TM00420-SRK-WR-10	1	<19.1	19.1	<36.24	36.24	<9.39	9.39	765166.94	1005.53	<2.2	2.2	7.26	1.31	56.44	2.13	24.48	1.29	5.1	1
YW19131909Z011-2	TM00420-SRK-WR-10	1	<17.81	17.81	<37.54	37.54	<10.09	10.09	765226.88	1014.23	<2.22	2.22	6.61	1.31	55.41	2.14	24.68	1.31	4.1	1
YW19131909Z011-3	TM00420-SRK-WR-10	1	<17.67	17.67	<24.01	24.01	<9.04	9.04	764078.31	995.68	<1.5	1.5	8.02	1.32	56.1	2.13	25.69	1.32	4.69	1
YW19131909Z019-1	TM00441-SRK-WR-17	1	<23.23	23.23	<23.09	23.09	<10.07	10.07	781812.13	918.75	<2.14	2.14	4.6	1.25	33.97	1.91	64.24	1.91	<1.5	1.5
YW19131909Z019-2	TM00441-SRK-WR-17	1	<21.06	21.06	<22.34	22.34	11.37	6.64	783523.19	925.78	<2.15	2.15	5.16	1.27	31.99	1.9	64.57	1.93	<1.5	1.5
YW19131909Z019-3	TM00441-SRK-WR-17	1	<17.3	17.3	<23.19	23.19	<10.25	10.25	782714.63	934.04	<1.5	1.5	3.52	1.25	33.37	1.92	62.87	1.91	<1.5	1.5
YW19131909Z020-1	TM00441-SRK-WR-18	1	<19.49	19.49	<22.25	22.25	13.88	6.7	774718.31	952.68	2.3	1.44	5.48	1.27	34.55	1.95	68.99	1.99	<1.5	1.5
YW19131909Z020-2	TM00441-SRK-WR-18	1	<23.26	23.26	<22.27	22.27	<9.86	9.86	774137.56	955.74	<2.46	2.46	5.02	1.27	35	1.95	65.16	1.94	1.59	1
YW19131909Z020-3	TM00441-SRK-WR-18	1	<25.58	25.58	<22.34	22.34	<13.93	13.93	775430.94	939.93	<2.48	2.48	4.25	1.24	35.31	1.93	66.74	1.94	1.74	1
YW19131909Z026-1	TM00426-SRK-WR-24	1	<26.03	26.03	<23.66	23.66	12.84	6.69	746888.25	1074.83	2.28	1.45	6.72	1.3	35.77	1.92	48.19	1.7	6.6	1
YW19131909Z026-2	TM00426-SRK-WR-24	1	<20.55	20.55	<28.21	28.21	10.52	6.6	740936.06	1093.35	4.28	1.47	6.78	1.3	34.94	1.91	50.29	1.73	6.39	1
YW19131909Z026-3	TM00426-SRK-WR-24	1	<16.14	16.14	<28.11	28.11	12.54	6.55	743169.56	1061.6	3.42	1.45	5.71	1.27	34.73	1.88	47.88	1.67	6.34	1
YW19131909Z027-1	TM00426-SRK-WR-25	1	<17.99	17.99	<25.77	25.77	12.52	6.59	729788.81	1155.3	4.76	1.52	4.86	1.3	36.62	1.97	50.36	1.77	2.26	1
YW19131909Z027-2	TM00426-SRK-WR-25	1	<17.08	17.08	<27.5	27.5	<12.83	12.83	745833.81	1051.82	2.43	1.43	4.02	1.24	32.87	1.85	47.67	1.67	1.77	1
YW19131909Z027-3	TM00426-SRK-WR-25	1	<18.23	18.23	<28.97	28.97	<9.93	9.93	746426.31	1039.86	<2.11	2.11	4.54	1.24	33.78	1.85	48.2	1.66	1.61	1
YW19131909Z028-1	TM00421-SRK-WR-25 DUP	1	<17.45	17.45	<26.94	26.94	<9.04	9.04	733178.88	1130.9	<2.16	2.16	4.11	1.26	32.12	1.87	48.03	1.7	1.88	1
YW19131909Z028-2	TM00421-SRK-WR-25 DUP	1	<17.56	17.56	<22.42	22.42	<11.51	11.51	731448.56	1121.04	<1.87	1.87	4.44	1.26	31.12	1.85	47.11	1.68	2	1

Sample Descriptions			pXRF data - pulp																	
SAMPLE	SRK ID	Geochem Unit	Sb	Sb Error	Sn	Sn Error	Cd	Cd Error	Bal	Bal Error	Mo	Mo Error	Nb	Nb Error	Zr	Zr Error	Sr	Sr Error	Rb	Rb Error
			ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-
YW19131909Z028-3	TM00421-SRK-WR-25 DUP	1	<21.37	21.37	<22	22	<11.1	11.1	725339	1142.22	<2.14	2.14	4.09	1.24	31.56	1.84	48.2	1.69	<1.5	1.5
YW19131909Z029-1	TM00426-SRK-WR-26	1	<20.79	20.79	<23.53	23.53	<10.33	10.33	755037.63	1034.54	<2.13	2.13	4.01	1.24	30.88	1.78	31.36	1.41	9.75	1
YW19131909Z029-2	TM00426-SRK-WR-26	1	<21.28	21.28	<23.91	23.91	<10.54	10.54	755837.63	1020.19	<2.2	2.2	4.05	1.24	33.1	1.8	31.39	1.4	8.73	1
YW19131909Z029-3	TM00426-SRK-WR-26	1	<18.26	18.26	<31.45	31.45	<10.39	10.39	751964.94	1045.15	<2.13	2.13	4.15	1.24	31.86	1.8	31.47	1.41	9.44	1
YW19131909Z032-1	TM00427-SRK-WR-29A	1	<22.34	22.34	<29.71	29.71	<14.68	14.68	763824.31	1002.59	<1.5	1.5	4.28	1.26	32.79	1.78	19.2	1.18	10.06	1
YW19131909Z032-2	TM00427-SRK-WR-29A	1	<18.55	18.55	<21.86	21.86	<14.27	14.27	762870.94	1000.84	<2.03	2.03	4.57	1.25	34.15	1.8	20.15	1.19	10	1
YW19131909Z032-3	TM00427-SRK-WR-29A	1	<21.6	21.6	<29.75	29.75	<12.53	12.53	763424.13	1000.25	<2.02	2.02	3.96	1.25	33.19	1.79	20.02	1.19	10.15	1
YW19131909Z033-1	TM00427-SRK-WR-30	1	<19.75	19.75	<22.27	22.27	<15.43	15.43	773551.5	934.56	2.86	1.39	4.21	1.21	30.24	1.74	39.65	1.5	11.34	1
YW19131909Z033-2	TM00427-SRK-WR-30	1	<16.78	16.78	<21.48	21.48	<10.42	10.42	770416.19	961.34	2.66	1.4	4.15	1.22	30.5	1.76	39.31	1.51	11.61	1
YW19131909Z033-3	TM00427-SRK-WR-30	1	<17.63	17.63	<32.49	32.49	<13.25	13.25	771579.56	954.19	<2.09	2.09	3.53	1.21	30.34	1.77	39.92	1.53	11.45	1
YW19131909Z034-1	TM00427-SRK-WR-31A	1	<17.5	17.5	<37.71	37.71	<12.52	12.52	755142.56	1033.19	<2.02	2.02	4.16	1.23	29.2	1.85	68.86	1.96	15.44	1
YW19131909Z034-2	TM00427-SRK-WR-31A	1	<17.41	17.41	<35.03	35.03	<15.77	15.77	755144.13	1020.75	<2.14	2.14	3.9	1.23	28.52	1.84	70.16	1.97	14.01	1
YW19131909Z034-3	TM00427-SRK-WR-31A	1	<20.72	20.72	29.29	15.69	<11.91	11.91	754186.13	1037.64	2.67	1.42	3.78	1.23	28.38	1.84	69.86	1.98	14.24	1
YW19131909Z036-1	TM00427-SRK-WR-33	1	<23.41	23.41	<24.36	24.36	<9.36	9.36	719126.38	1181.56	<2.23	2.23	7.28	1.32	63.05	2.5	139.94	2.85	10.74	1
YW19131909Z036-2	TM00427-SRK-WR-33	1	<17.26	17.26	<34.89	34.89	<11.85	11.85	717617.81	1183.71	<1.94	1.94	8.38	1.33	64.5	2.51	137.88	2.82	11.01	1
YW19131909Z036-3	TM00427-SRK-WR-33	1	<17.88	17.88	<28.37	28.37	<10.07	10.07	719052.56	1179.77	<2.23	2.23	7.95	1.32	64.19	2.5	138.06	2.82	10.84	1
YW19131909Z002-1	TM00421-SRK-WR-02	5	<21.53	21.53	<25.92	25.92	10.57	6.3	802089.63	837.96	2.78	1.41	5.96	1.23	51.46	2.07	63.34	1.83	13.08	1
YW19131909Z002-2	TM00421-SRK-WR-02	5	<17.99	17.99	<21.04	21.04	13.66	6.43	802282.69	835.26	3.07	1.41	5.07	1.22	53.14	2.09	63.59	1.84	12.82	1
YW19131909Z002-3	TM00421-SRK-WR-02	5	<18.02	18.02	<24.45	24.45	10.8	6.21	803011.5	833.39	3.49	1.42	6.51	1.24	51.91	2.09	65.01	1.87	12.91	1
YW19131909Z016-1	TM00416-SRK-WR-15	5	<19.91	19.91	<17.9	17.9	12.11	5.44	806228.25	766.52	3.67	1.32	7.19	1.11	112.81	2.38	36.97	1.29	16.68	1
YW19131909Z016-2	TM00416-SRK-WR-15	5	<22.26	22.26	<21.42	21.42	11.47	5.34	816900.94	722.85	3.46	1.28	5.18	1.06	107.13	2.29	34.97	1.24	15.39	1
YW19131909Z016-3	TM00416-SRK-WR-15	5	<18.61	18.61	<22.49	22.49	9.72	5.41	819574.13	717.68	3.92	1.3	5.5	1.07	107.5	2.31	34.88	1.25	15.92	1
YW19131909Z017-1	TM00421-SRK-WR-15 DUP	5	<18.21	18.21	<27.14	27.14	18.45	5.73	819201	720.54	4.77	1.36	7.75	1.15	110.65	2.42	37.38	1.33	16.79	1
YW19131909Z017-2	TM00421-SRK-WR-15 DUP	5	<18.37	18.37	<23.49	23.49	10.98	5.6	818475.06	741.44	6.84	1.39	8.19	1.16	111.47	2.44	37.99	1.34	17.28	1
YW19131909Z017-3	TM00421-SRK-WR-15 DUP	5	<16.94	16.94	<25.33	25.33	<10.07	10.07	753956.13	1036.13	2.26	1.46	6.81	1.29	58.41	2.25	72.72	2.02	10.69	1
YW19131909Z035-1	TM00427-SRK-WR-32A	5	<22.55	22.55	<18.97	18.97	<9.04	9.04	774211.56	880.72	3.07	1.32	3.2	1.11	47.64	1.96	94.84	2.08	<1.5	1.5
YW19131909Z035-2	TM00427-SRK-WR-32A	5	<14.99	14.99	<23.87	23.87	13.6	6.08	772359.31	886.24	4.49	1.34	3.01	1.11	49.6	1.99	92.58	2.07	<1.5	1.5
YW19131909Z035-3	TM00427-SRK-WR-32A	5	<15.39	15.39	<20.23	20.23	<12.09	12.09	772310.5	877.3	2.55	1.31	3.55	1.11	51.52	1.99	92.06	2.04	<1.5	1.5
YW19131909Z037-1	TM00427-SRK-WR-34	5	<16.32	16.32	<28.72	28.72	9.77	6.51	723169.69	1157.09	3.85	1.45	5.09	1.26	29.74	1.85	60.3	1.86	14.5	1
YW19131909Z037-2	TM00427-SRK-WR-34	5	<21.74	21.74	<31	31	<10.01	10.01	721335	1161.1	3.09	1.44	6.02	1.28	28.91	1.84	59.42	1.85	14.23	1
YW19131909Z037-3	TM00427-SRK-WR-34	5	<17.38	17.38	<21.7	21.7	17.84	6.67	723586.38	1146.52	2.44	1.44	4.6	1.26	27.27	1.83	60.22	1.87	13.38	1
YW19138940Z001-1	TMMNE-19-00020-SRK-WR-035	5	<24.52	24.52	<20.18	20.18	13.48	6.09	797791.75	819.21	2.5	1.35	4.9	1.14	76.05	2.25	82.16	1.96	10.68	1
YW19138940Z001-2	TMMNE-19-00020-SRK-WR-035	5	<22.17	22.17	<20.64	20.64	<11.84	11.84	797858.06	814.72	2.38	1.34	5.44	1.14	77.41	2.26	82.34	1.96	11.34	1
YW19138940Z001-3	TMMNE-19-00020-SRK-WR-035	5	<16.95	16.95	<31.89	31.89	<10.21	10.21	796708.25	824.57	2.19	1.35	5.8	1.16	75.13	2.25	83.08	1.97	10.44	1
YW19138940Z007-1	TMMNE-19-00019-SRK-WR-040	5	<16.67	16.67	<20.77	20.77	<13.02	13.02	794219.13	837.09	3.67	1.4	7.93	1.2	107.25	2.55	60.78	1.72	12.07	1
YW19138940Z007-2	TMMNE-19-00019-SRK-WR-040	5	<25.05	25.05	<21.04	21.04	<9.22	9.22	793925.75	848.57	2.24	1.4	7.05	1.2	106.04	2.57	61.02	1.74	11.34	1
YW19138940Z007-3	TMMNE-19-00019-SRK-WR-040	5	<16.76	16.76	<21.14	21.14	<9.22	9.22	794793.25	846.11	2.96	1.41	6.19	1.18	106.04	2.56	60.69	1.73	11.26	1
YW19138940Z008-1	TMMNE-19-00020-SRK-WR-040 DUP	5	<20.95	20.95	<30.53	30.53	10.74	6.03	799167.88	818.93	3.08	1.4	7.21	1.19	107	2.55	63.28	1.75	11.63	1
YW19138940Z008-2	TMMNE-19-00020-SRK-WR-040 DUP	5	<23.94	23.94	<20.39	20.39	13.15	6.11	798884.06	826.76	2.3	1.4	7.69	1.21	108.95	2.6	63.03	1.76	11.96	1
YW19138940Z008-3	TMMNE-19-00020-SRK-WR-040 DUP	5	<16.53	16.53	<20.73	20.73	13.55	6.22	796884.63	822.35	3.64	1.4	8.54	1.2	107.03	2.52	62.19	1.72	11.93	1
YW19138940Z011-1	TMMNE-19-00017-SRK-WR-043	5	<16.66	16.66	<33.2	33.2	<8.39	8.39	785803.06	887.95	2.58	1.44	8.92	1.24	116.48	2.7	59.19	1.74	8.13	1
YW19138940Z011-2	TMMNE-19-00017-SRK-WR-043	5	<24.55	24.55	<22.07	22.07	<13.46	13.46	784632.75	886.16	3.28	1.44	7.34	1.21	114.45	2.67	62.41	1.77	7.75	1
YW19138940Z011-3	TMMNE-19-00017-SRK-WR-043	5	<27.35	27.35	<20.83	20.83	<8.38	8.38	783152.31	888.98	3.04	1.43	9	1.23	114.58	2.66	61.66	1.75	8.08	1
YW19131909Z018-1	TM00416-SRK-WR-16	1aj	<23.16	23.16	<24.08	24.08	<13.45	13.45	755805.88	1033.39	<2.18	2.18	6.82	1.29	59.29	2.27	72.25	2.02	11.39	1

Sample Descriptions			pXRF data - pulp																	
SAMPLE	SRK ID	Geochem Unit	Sb	Sb Error	Sn	Sn Error	Cd	Cd Error	Bal	Bal Error	Mo	Mo Error	Nb	Nb Error	Zr	Zr Error	Sr	Sr Error	Rb	Rb Error
			ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-
YW19131909Z018-2	TM00416-SRK-WR-16	1aj	<17.83	17.83	<23.94	23.94	<9.98	9.98	753272.56	1026.47	<1.9	1.9	8.2	1.3	58.02	2.24	73.01	2.02	11.43	1
YW19131909Z018-3	TM00416-SRK-WR-16	1aj	<17.99	17.99	<28.22	28.22	<9.11	9.11	756532.44	1021.98	<1.67	1.67	6.42	1.29	60.31	2.3	72.1	2.04	10.59	1
YW19131909Z030-1	TM00426-SRK-WR-27	1aj	<22.36	22.36	<24.09	24.09	<12.75	12.75	747720.19	1050.75	2.31	1.43	4.25	1.24	29.48	1.83	57.97	1.82	12.32	1
YW19131909Z030-2	TM00426-SRK-WR-27	1aj	<17.31	17.31	<23.7	23.7	<10.2	10.2	742546.88	1086.04	<2.15	2.15	4.28	1.25	30.76	1.86	56.64	1.81	12.99	1
YW19131909Z030-3	TM00426-SRK-WR-27	1aj	<19.93	19.93	<33.02	33.02	11.38	6.83	746587.25	1063.07	<1.5	1.5	4.52	1.26	30.81	1.86	57.54	1.83	13.26	1
YW19131909Z031-1	TM00426-SRK-WR-28	1aj	<17.2	17.2	<27.54	27.54	<10.21	10.21	754760	1023.41	<2.23	2.23	3.88	1.22	28.62	1.83	68.97	1.95	12.09	1
YW19131909Z031-2	TM00426-SRK-WR-28	1aj	<18.15	18.15	<28.05	28.05	<10.91	10.91	754131.94	1014.55	<2.1	2.1	4.13	1.23	31.97	1.87	68	1.93	11.76	1
YW19131909Z031-3	TM00426-SRK-WR-28	1aj	<17.18	17.18	<21.55	21.55	<8.82	8.82	756660.13	995.12	<2.08	2.08	3.91	1.21	29.77	1.83	69.22	1.93	11.61	1
YW19138940Z002-1	TMMNE-19-00020-SRK-WR-036	1aj	<18.62	18.62	<22.07	22.07	<9.58	9.58	777325	922.44	2.31	1.39	5.04	1.23	32.82	1.78	38.74	1.49	14.23	1
YW19138940Z002-2	TMMNE-19-00020-SRK-WR-036	1aj	<16.44	16.44	<32.62	32.62	<13.44	13.44	777427.81	921.49	2.2	1.39	4.2	1.21	33.41	1.78	37.54	1.47	13.6	1
YW19138940Z002-3	TMMNE-19-00020-SRK-WR-036	1aj	<25.2	25.2	<31.43	31.43	<14.55	14.55	776788.63	927.21	<1.74	1.74	4.25	1.2	33.89	1.77	36.88	1.45	14.23	1
YW19138940Z003-1	TMMNE-19-00020-SRK-WR-037	1aj	<16.85	16.85	<22.61	22.61	<9.91	9.91	765968.94	985.86	<2.1	2.1	4.98	1.24	31.77	1.73	18.26	1.14	16.28	1
YW19138940Z003-2	TMMNE-19-00020-SRK-WR-037	1aj	<16.71	16.71	<32.92	32.92	<9.93	9.93	765344.38	974.42	2.65	1.41	3.68	1.21	32.14	1.73	17.09	1.11	15.54	1
YW19138940Z003-3	TMMNE-19-00020-SRK-WR-037	1aj	<22.02	22.02	<35.28	35.28	<14.47	14.47	765110.63	987.93	2.84	1.41	3.87	1.22	30.02	1.7	18.26	1.14	16.35	1
YW19138940Z004-1	TMMNE-19-00020-SRK-WR-038	1aj	<22.22	22.22	<33.82	33.82	<12.93	12.93	770467.5	964.56	<2.09	2.09	4.46	1.23	31.6	1.76	31.02	1.38	13.74	1
YW19138940Z004-2	TMMNE-19-00020-SRK-WR-038	1aj	<17.32	17.32	<33.89	33.89	<15.72	15.72	761854.25	1004.58	<1.53	1.53	4.73	1.24	33.47	1.8	30.75	1.38	13.48	1
YW19138940Z004-3	TMMNE-19-00020-SRK-WR-038	1aj	<17.91	17.91	<22.55	22.55	11	6.62	768288.13	959.95	2.3	1.4	4.17	1.22	31.54	1.75	31.58	1.38	14.1	1
YW19138940Z005-1	TMMNE-19-00020-SRK-WR-038 DUP	1aj	<27.58	27.58	<22.02	22.02	12.31	6.61	739087.25	1110.43	3.7	1.48	6.23	1.3	34.7	1.87	33.57	1.47	14.86	1
YW19138940Z005-2	TMMNE-19-00020-SRK-WR-038 DUP	1aj	<21.42	21.42	<30.15	30.15	14.72	6.76	734120.5	1120.29	2.75	1.47	6.47	1.31	33.89	1.87	34.61	1.49	15.49	1
YW19138940Z005-3	TMMNE-19-00020-SRK-WR-038 DUP	1aj	<16.47	16.47	<20.65	20.65	12.76	6.67	735650.5	1121.88	5.37	1.52	6.49	1.32	32.92	1.87	34.77	1.51	15.66	1
YW19138940Z006-1	TMMNE-19-00019-SRK-WR-039	1aj	<16	16	<21.52	21.52	<9.49	9.49	748925.75	1007.12	<2.11	2.11	8.01	1.26	60.42	2.23	86.55	2.13	10.92	1
YW19138940Z006-2	TMMNE-19-00019-SRK-WR-039	1aj	<24.29	24.29	<28.71	28.71	10.42	6.49	749320.25	1020.55	2.36	1.44	7.14	1.27	65.38	2.32	85.96	2.15	10.47	1
YW19138940Z006-3	TMMNE-19-00019-SRK-WR-039	1aj	<18.65	18.65	<21.33	21.33	11.89	6.36	750275.75	1028.02	3.22	1.44	7.59	1.27	60.42	2.25	86.27	2.15	10.64	1
YW19138940Z009-1	TMMNE-19-00019-SRK-WR-041	1aj	<17.11	17.11	<28.79	28.79	<14.29	14.29	748330.25	1078.72	3.57	1.53	10.12	1.37	76.54	2.55	88.22	2.27	8.54	1
YW19138940Z009-2	TMMNE-19-00019-SRK-WR-041	1aj	<19.41	19.41	26.21	15.65	<10.32	10.32	740370.31	1095.69	<2.26	2.26	10.21	1.36	80.44	2.58	89.61	2.27	8.1	1
YW19138940Z009-3	TMMNE-19-00019-SRK-WR-041	1aj	<18.86	18.86	<31.7	31.7	<14.38	14.38	749084.19	1053.37	<1.5	1.5	11.21	1.39	79.89	2.58	88.7	2.27	8.91	1
YW19138940Z010-1	TMMNE-19-00017-SRK-WR-042	1aj	<19.77	19.77	<28.47	28.47	13.2	6.5	753126.44	1003.66	2.21	1.4	7.25	1.24	56.91	2.16	79.65	2.03	12.88	1
YW19138940Z010-2	TMMNE-19-00017-SRK-WR-042	1aj	<25.05	25.05	<31.63	31.63	10.52	6.42	754566.94	1007.48	3.21	1.42	6.97	1.25	57.26	2.19	81.25	2.07	13.06	1
YW19138940Z010-3	TMMNE-19-00017-SRK-WR-042	1aj	<16.28	16.28	<33	33	13.68	6.57	750023.94	1007.48	<2.1	2.1	6.44	1.23	58.49	2.19	79.8	2.04	12.21	1
YW19131909Z012-1	TM00416-SRK-WR-11	7a	<25.83	25.83	<22.32	22.32	16.97	6.79	771671.69	980.73	2.87	1.47	6.36	1.31	35.48	1.99	69.46	2.02	<1.5	1.5
YW19131909Z012-2	TM00416-SRK-WR-11	7a	<22.23	22.23	<32.8	32.8	11.58	6.6	771936.94	973.22	3.2	1.47	5.81	1.29	34.69	1.96	70.75	2.02	<1.5	1.5
YW19131909Z012-3	TM00416-SRK-WR-11	7a	<18.05	18.05	<34.23	34.23	<9.93	9.93	771314.25	981.85	3.67	1.48	7.09	1.32	36.1	2	71.68	2.05	<1.5	1.5
YW19131909Z013-1	TM00416-SRK-WR-12	7a	<20.13	20.13	<23.57	23.57	<12.77	12.77	775605.5	976.76	<2.21	2.21	5.83	1.31	38.22	2.18	120.95	2.67	<1.5	1.5
YW19131909Z013-2	TM00416-SRK-WR-12	7a	<23.04	23.04	<27.64	27.64	<10.3	10.3	777272.81	973.9	<2.23	2.23	6.62	1.33	36.85	2.18	121.76	2.7	<1.5	1.5
YW19131909Z013-3	TM00416-SRK-WR-12	7a	<18.3	18.3	<35.13	35.13	<10.7	10.7	777711.5	968.26	2.48	1.5	5.3	1.31	37.24	2.18	119.13	2.67	<1.5	1.5
YW19131909Z014-1	TM00416-SRK-WR-13	7a	<18.36	18.36	<35.01	35.01	<9.5	9.5	774210.81	983.99	2.21	1.47	5.98	1.31	32.54	2.04	98.9	2.41	<1.5	1.5
YW19131909Z014-2	TM00416-SRK-WR-13	7a	<18.3	18.3	<25.56	25.56	<9.33	9.33	774876.63	981.41	<2.28	2.28	5.05	1.29	33.72	2.06	98.67	2.41	<1.5	1.5
YW19131909Z014-3	TM00416-SRK-WR-13	7a	<19.15	19.15	<23.75	23.75	<10.27	10.27	773543.94	978.95	<2.08	2.08	4.06	1.28	33.81	2.07	103.06	2.46	<1.5	1.5
YW19131909Z015-1	TM00416-SRK-WR-14	7a	<16.86	16.86	<31.73	31.73	<10	10	768073.06	987.61	<2.15	2.15	4.34	1.26	33.1	1.9	58.56	1.85	<1.5	1.5
YW19131909Z015-2	TM00416-SRK-WR-14	7a	<25.2	25.2	26.64	15.21	17.29	6.86	769021.44	976.8	<2.14	2.14	4.59	1.25	34	1.91	59.8	1.85	<1.5	1.5
YW19131909Z015-3	TM00416-SRK-WR-14	7a	<23.27	23.27	<30.15	30.15	<14.07	14.07	769699.69	970.48	4.5	1.47	5.22	1.27	33.02	1.9	59.33	1.86	<1.5	1.5
YW19131909Z021-1	TM00441-SRK-WR-19	7a	<21.78	21.78	<25.39	25.39	<9.06	9.06	774767.75	964.09	<2.18	2.18	4	1.26	33.38	2.05	104.04	2.45	<1.5	1.5
YW19131909Z021-2	TM00441-SRK-WR-19	7a	<24.73	24.73	<26.56	26.56	<9.05	9.05	774012.69	970.52	<2.52	2.52	4.11	1.26	35.49	2.07	104.26	2.44	<1.5	1.5
YW19131909Z021-3	TM00441-SRK-WR-19	7a	<17.88	17.88	<22.8	22.8	<10.45	10.45	774392	965.52	2.21	1.46	5.23	1.28	35.87	2.08	102.9	2.44	<1.5	1.5

Sample Descriptions			pXRF data - pulp																	
SAMPLE	SRK ID	Geochem Unit	Sb	Sb Error	Sn	Sn Error	Cd	Cd Error	Bal	Bal Error	Mo	Mo Error	Nb	Nb Error	Zr	Zr Error	Sr	Sr Error	Rb	Rb Error
			ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-
YW19131909Z022-1	TM00441-SRK-WR-20	7a	<18.54	18.54	<40.07	40.07	<9.9	9.9	765003.19	1020.11	<1.91	1.91	3.85	1.27	36.25	2.13	112.75	2.58	<1.5	1.5
YW19131909Z022-2	TM00441-SRK-WR-20	7a	<18.21	18.21	<24.91	24.91	<13.1	13.1	768348.06	999.57	<2.41	2.41	3.24	1.26	35.48	2.11	109.16	2.53	<1.5	1.5
YW19131909Z022-3	TM00441-SRK-WR-20	7a	<21.11	21.11	<24.89	24.89	<13.88	13.88	768874.88	1000.64	<2.18	2.18	4.38	1.28	32.28	2.06	111.12	2.55	<1.5	1.5
YW19131909Z023-1	TM00441-SRK-WR-21	7a	<18.21	18.21	<34.15	34.15	<9.33	9.33	768649.69	993.73	<2.13	2.13	4.72	1.28	34.25	2.05	98.11	2.39	<1.5	1.5
YW19131909Z023-2	TM00441-SRK-WR-21	7a	<20.73	20.73	<29.31	29.31	<10.02	10.02	762897.13	1038.43	<2.21	2.21	3.99	1.28	34.14	2.08	99.42	2.44	<1.5	1.5
YW19131909Z023-3	TM00441-SRK-WR-21	7a	<18.24	18.24	<23.47	23.47	<9.4	9.4	768929.88	988.88	<2.12	2.12	4.33	1.27	34.05	2.04	98.42	2.38	<1.5	1.5
YW19131909Z024-1	TM00441-SRK-WR-22	7a	<18.28	18.28	<29.55	29.55	<9.45	9.45	778748.63	961.78	<1.9	1.9	4.36	1.28	33.31	2	77.49	2.15	<1.5	1.5
YW19131909Z024-2	TM00441-SRK-WR-22	7a	<18.14	18.14	<37.76	37.76	<15.7	15.7	779122.06	946.24	<1.76	1.76	3.68	1.25	32.61	1.96	78.23	2.13	<1.5	1.5
YW19131909Z024-3	TM00441-SRK-WR-22	7a	<24.84	24.84	<34.63	34.63	<10.37	10.37	780089.81	948.63	<2	2	2.91	1.25	32.79	1.97	77.54	2.13	<1.5	1.5
YW19131909Z025-1	TM00441-SRK-WR-23	7a	<18.02	18.02	<35.64	35.64	<9.18	9.18	780947.44	922.12	<1.51	1.51	3.45	1.22	30.61	1.7	11.72	1	1.71	1
YW19131909Z025-2	TM00441-SRK-WR-23	7a	<19.22	19.22	<36.65	36.65	<9.6	9.6	778055.06	945.93	2.71	1.42	3.64	1.23	28.74	1.68	12.11	1.01	1.51	1
YW19131909Z025-3	TM00441-SRK-WR-23	7a	<18.41	18.41	<25.38	25.38	<8.93	8.93	783664.88	925.9	2.58	1.43	4.07	1.25	30.43	1.72	11.65	1.01	<1.5	1.5

Note:

Less than sign indicates less than LOD

Source: Z:\01_SITES\Hope.Bay\1CT022.037_2019 Geochem Compliance\!020_Project_Data\020_Client\WR\Madrid N\2019_06 - NE CPPRT TMAC pXRF data\QAQC\Copy of SRK_pXRF_WasteRockData_Final_QAQC_NV_rev00.xlsx

Sample Descriptions																					
SAMPLE	SRK ID	Geochem Unit	Bi	Bi Error	As	As Error	Se	Se Error	Pb	Pb Error	W	W Error	Zn	Zn Error	Cu	Cu Error	Ni	Ni Error	Co	Co Error	Fe
			ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm
YW19131909Z001-1	TM00421-SRK-WR-01	1	<3.85	3.85	930.28	18.26	<3.2	3.2	<4.28	4.28	<68.65	68.65	74.13	9.88	158.54	18.65	602.9	42.13	<175.37	175.37	104138.08
YW19131909Z001-2	TM00421-SRK-WR-01	1	<3.21	3.21	758.25	14.69	<2.56	2.56	<3.86	3.86	<83.9	83.9	56.77	8.06	121.26	15.15	453.57	35.36	<146.25	146.25	85263.77
YW19131909Z001-3	TM00421-SRK-WR-01	1	<3.22	3.22	789.7	14.9	<2.47	2.47	<3.67	3.67	<57.3	57.3	52.01	7.98	131.89	15.4	453.45	35.36	<146.63	146.63	85655.41
YW19131909Z003-1	TM00421-SRK-WR-03	1	<3.16	3.16	31.31	3.6	<2.19	2.19	<3.44	3.44	<49.2	49.2	44.9	7.25	49.41	12.53	<42.35	42.35	<137.2	137.2	78111.54
YW19131909Z003-2	TM00421-SRK-WR-03	1	<3.23	3.23	27.57	3.54	<2.16	2.16	<3.57	3.57	<49.5	49.5	49.62	7.41	65.92	12.93	<42.49	42.49	<137.18	137.18	78003.18
YW19131909Z003-3	TM00421-SRK-WR-03	1	<3.24	3.24	30.59	3.49	<2.13	2.13	<3.25	3.25	<48.97	48.97	46.38	7.31	58.74	12.75	<42.53	42.53	<136.11	136.11	77534.41
YW19131909Z004-1	TM00421-SRK-WR-04	1	<3.14	3.14	70.84	4.66	<2.18	2.18	<3.4	3.4	<49.38	49.38	69.39	7.96	46.99	12.39	<40.69	40.69	<146.74	146.74	96920.53
YW19131909Z004-2	TM00421-SRK-WR-04	1	<2.98	2.98	67.51	4.64	<2.09	2.09	<3.48	3.48	<50	50	75.43	8.14	40	12.27	<41.21	41.21	<147.88	147.88	96750.68
YW19131909Z004-3	TM00421-SRK-WR-04	1	<3.01	3.01	69.73	4.72	<2	2	<3.53	3.53	<49.86	49.86	78.81	8.27	52.84	12.59	<41.11	41.11	<147.54	147.54	97485.76
YW19131909Z005-1	TM00421-SRK-WR-05	1	<2.81	2.81	29.03	3.56	<2.29	2.29	<3.5	3.5	<52.15	52.15	154.57	10.21	32.95	12.26	<42.14	42.14	<144.84	144.84	88092.21
YW19131909Z005-2	TM00421-SRK-WR-05	1	<3.42	3.42	31.36	4.02	<2.75	2.75	<4.01	4.01	<60.72	60.72	161.63	11.74	28.28	14.42	<45.89	45.89	<170.17	170.17	99780.18
YW19131909Z005-3	TM00421-SRK-WR-05	1	<3.28	3.28	33.62	4.4	<2.95	2.95	<4.58	4.58	<62.4	62.4	142.14	11.49	26.12	14.81	<47.46	47.46	<174.38	174.38	102150.8
YW19131909Z006-1	TM00421-SRK-WR-05 DUP	1	<2.69	2.69	28.35	3.46	<2.17	2.17	<3.38	3.38	<50.42	50.42	127.4	9.49	36.26	12.25	<40.78	40.78	<147.83	147.83	92176.02
YW19131909Z006-2	TM00421-SRK-WR-05 DUP	1	<2.81	2.81	29.75	3.31	<2.17	2.17	<3	3	<50.12	50.12	130.62	9.51	34.39	12.13	<40.78	40.78	<146.3	146.3	92839.7
YW19131909Z006-3	TM00421-SRK-WR-05 DUP	1	<2.61	2.61	32.09	3.49	<2.2	2.2	<3.18	3.18	<51.25	51.25	137.43	9.71	21.32	11.87	<40.75	40.75	<147.66	147.66	93038.45
YW19131909Z007-1	TM00421-SRK-WR-06	1	<2.83	2.83	17.76	3.02	<2.17	2.17	<3.34	3.34	<48.69	48.69	81.32	8.1	56.73	12.27	<41.42	41.42	<144.32	144.32	94952.08
YW19131909Z007-2	TM00421-SRK-WR-06	1	<2.82	2.82	18.1	3.18	<2.24	2.24	<3.61	3.61	<48.97	48.97	87.17	8.25	53.23	12.27	<41.92	41.92	<145.28	145.28	95190.86
YW19131909Z007-3	TM00421-SRK-WR-06	1	<2.87	2.87	20.19	3.18	<2.11	2.11	<3.43	3.43	<49.38	49.38	88.91	8.56	39.92	12.41	<41.17	41.17	<151.64	151.64	100256.33
YW19131909Z008-1	TM00420-SRK-WR-07	1	<2.71	2.71	77.56	4.68	<2.02	2.02	<3.35	3.35	<45.19	45.19	43.83	6.71	57.13	11.79	<38.85	38.85	<139	139	81262.27
YW19131909Z008-2	TM00420-SRK-WR-07	1	<2.93	2.93	79.05	4.8	<2.09	2.09	<3.42	3.42	<47.36	47.36	42.89	6.9	31.25	11.47	<40.19	40.19	<136.32	136.32	81287.02
YW19131909Z008-3	TM00420-SRK-WR-07	1	<2.88	2.88	75.69	4.71	<1.98	1.98	<3.34	3.34	<47.36	47.36	43.93	6.96	38.48	11.67	<39.95	39.95	<136.77	136.77	81409.36
YW19131909Z009-1	TM00420-SRK-WR-08	1	<2.91	2.91	15.78	3.09	<2.19	2.19	<3.54	3.54	<50.33	50.33	90.66	8.69	43.71	12.65	<41.96	41.96	<150.03	150.03	95759.51
YW19131909Z009-2	TM00420-SRK-WR-08	1	<2.64	2.64	15.71	3.08	<2.02	2.02	<3.54	3.54	<49.64	49.64	91.14	8.46	55.99	12.42	<41.66	41.66	<145.69	145.69	95375.08
YW19131909Z009-3	TM00420-SRK-WR-08	1	<2.64	2.64	17.58	3.05	<2.08	2.08	<3.38	3.38	<49.13	49.13	83.47	8.22	54.98	12.34	<41.33	41.33	<146.83	146.83	95907.3
YW19131909Z010-1	TM00420-SRK-WR-09	1	<3	3	66.35	4.63	<2.17	2.17	<3.49	3.49	<50.18	50.18	67.84	7.99	38.6	12.34	<42.84	42.84	<147.42	147.42	93502.37
YW19131909Z010-2	TM00420-SRK-WR-09	1	<3.1	3.1	67.96	4.61	<2.25	2.25	<3.39	3.39	<49.7	49.7	74.16	8.09	45.19	12.46	<46.61	46.61	<151.68	151.68	93462.04
YW19131909Z010-3	TM00420-SRK-WR-09	1	<2.98	2.98	67.81	4.57	<2.26	2.26	<3.24	3.24	<52.45	52.45	66.5	8.02	41.05	12.44	<43.26	43.26	<148.46	148.46	93484.43
YW19131909Z011-1	TM00420-SRK-WR-10	1	<2.89	2.89	159.71	6.59	<2.33	2.33	<3.47	3.47	<51.5	51.5	77.95	8.27	101.28	13.98	336.29	32.83	<150.63	150.63	101561.45
YW19131909Z011-2	TM00420-SRK-WR-10	1	<2.73	2.73	154.45	6.64	<2.39	2.39	<3.88	3.88	<50.87	50.87	85.4	8.49	103.86	14.14	332.79	33.19	<152.5	152.5	101216.71
YW19131909Z011-3	TM00420-SRK-WR-10	1	<2.67	2.67	150.39	6.46	<2.29	2.29	<3.63	3.63	<50.64	50.64	84.93	8.39	106.79	14.09	367.39	33.24	<151.18	151.18	101827.63
YW19131909Z019-1	TM00441-SRK-WR-17	1	<2.45	2.45	7.87	2.7	<2.15	2.15	<3.48	3.48	<48.69	48.69	87.56	8.33	47.5	12.17	<40.87	40.87	<149.46	149.46	103312.88
YW19131909Z019-2	TM00441-SRK-WR-17	1	<2.56	2.56	11.44	2.8	<2.19	2.19	<3.42	3.42	<48.59	48.59	89.92	8.39	38.16	12	<41.13	41.13	<149.93	149.93	103096.73
YW19131909Z019-3	TM00441-SRK-WR-17	1	<2.54	2.54	8.09	2.84	<2.19	2.19	<3.69	3.69	<49.2	49.2	79.86	8.22	43.03	12.2	<41.56	41.56	<150.73	150.73	102956.48
YW19131909Z020-1	TM00441-SRK-WR-18	1	<2.61	2.61	8.74	2.75	<2.15	2.15	<3.54	3.54	<48.49	48.49	74.36	8.02	18.68	11.56	<41.22	41.22	<151.7	151.7	107623.29
YW19131909Z020-2	TM00441-SRK-WR-18	1	<2.59	2.59	9.32	2.68	<2.07	2.07	<3.37	3.37	<48.89	48.89	76.34	8.1	36.32	11.97	<40.81	40.81	<152.13	152.13	107720.72
YW19131909Z020-3	TM00441-SRK-WR-18	1	<2.66	2.66	6.83	2.72	<1.94	1.94	<3.57	3.57	<48.28	48.28	66.93	7.75	37.27	11.84	<40.28	40.28	<149.61	149.61	107341.9
YW19131909Z026-1	TM00426-SRK-WR-24	1	<2.56	2.56	63.1	4.45	<2.19	2.19	<3.32	3.32	<49.3	49.3	76.95	8.19	44.94	12.32	<41.02	41.02	<149.82	149.82	98141.84
YW19131909Z026-2	TM00426-SRK-WR-24	1	<2.93	2.93	53.83	4.39	<2.22	2.22	<3.82	3.82	<49.6	49.6	90.3	8.51	44.28	12.29	<41.23	41.23	<149.55	149.55	98728.42
YW19131909Z026-3	TM00426-SRK-WR-24	1	<2.74	2.74	59.5	4.27	<2.06	2.06	<3.2	3.2	<48.96	48.96	85.63	8.26	43.57	12.12	<40.8	40.8	<148.12	148.12	98111.77
YW19131909Z027-1	TM00426-SRK-WR-25	1	<2.64	2.64	11.78	2.89	<2.2	2.2	<3.55	3.55	<50.72	50.72	102.35	9.04	53.44	12.87	<42.58	42.58	<157.93	157.93	107878.79
YW19131909Z027-2	TM00426-SRK-WR-25	1	<2.42	2.42	11.65	2.8	<2.24	2.24	<3.4	3.4	<48.38	48.38	101.3	8.67	44.2	12.14	<46.47	46.47	<148.87	148.87	100081.53
YW19131909Z027-3	TM00426-SRK-WR-25	1	<2.5	2.5	9.8	2.75	<2	2	<3.39	3.39	<47.94	47.94	96.7	8.48	47.91	12.06	<40.96	40.96	<147.31	147.31	99438
YW19131909Z028-1	TM00421-SRK-WR-25 DUP	1	<2.68	2.68	12.98	2.93	<2.08	2.08	<3.48	3.48	<49.24	49.24	94.72	8.6	53.05	12.55	<61.74	61.74	<150.65	150.65	99312.25
YW19131909Z028-2	TM00421-SRK-WR-25 DUP	1	<2.61	2.61	10.83	2.77	<2.18	2.18	<3.38	3.38	<49.47	49.47	97.61	8.69	44.04	12.3	<42.49	42.49	<151.06	151.06	99238.77

Sample Descriptions																					
SAMPLE	SRK ID	Geochem Unit	Bi	Bi Error	As	As Error	Se	Se Error	Pb	Pb Error	W	W Error	Zn	Zn Error	Cu	Cu Error	Ni	Ni Error	Co	Co Error	Fe
			ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm
YW19131909Z028-3	TM00421-SRK-WR-25 DUP	1	<2.82	2.82	11.95	2.86	<2.18	2.18	<3.45	3.45	<50.08	50.08	94.4	8.57	42.99	12.23	<42.84	42.84	<149.15	149.15	99640.45
YW19131909Z029-1	TM00426-SRK-WR-26	1	<2.83	2.83	40.84	4.01	<2.14	2.14	<3.8	3.8	<49.21	49.21	84.1	8.25	34.51	11.93	47.38	28.77	<147.64	147.64	97367.8
YW19131909Z029-2	TM00426-SRK-WR-26	1	<2.85	2.85	44.71	3.93	<2.2	2.2	<3.39	3.39	<50.6	50.6	83.29	8.22	41.88	12.03	<42.71	42.71	<147.16	147.16	97956.47
YW19131909Z029-3	TM00426-SRK-WR-26	1	<3.12	3.12	42.71	3.98	<2.14	2.14	<3.61	3.61	<49.21	49.21	77.05	8.03	38.22	12.03	66.42	29	<148.05	148.05	98354.48
YW19131909Z032-1	TM00427-SRK-WR-29A	1	<2.84	2.84	42.57	4	<2.19	2.19	<3.62	3.62	<49.85	49.85	76.55	8.12	52.92	12.47	<41.9	41.9	<146.98	146.98	94258.36
YW19131909Z032-2	TM00427-SRK-WR-29A	1	<2.97	2.97	46.73	4.14	<2.14	2.14	<3.7	3.7	<49.52	49.52	84.56	8.29	53.51	12.43	<42.1	42.1	<146.21	146.21	94337.2
YW19131909Z032-3	TM00427-SRK-WR-29A	1	<2.91	2.91	43.02	4	<1.96	1.96	<3.56	3.56	<48.97	48.97	75.45	8.07	52.29	12.44	<42.12	42.12	<146.39	146.39	94341.02
YW19131909Z033-1	TM00427-SRK-WR-30	1	<2.93	2.93	50.82	4.03	<2.01	2.01	<3.26	3.26	<47.2	47.2	59.5	7.37	35.29	11.61	<40.72	40.72	<136.71	136.71	83233.34
YW19131909Z033-2	TM00427-SRK-WR-30	1	<2.91	2.91	52.88	4.04	<2.16	2.16	<3.14	3.14	<47.81	47.81	59.25	7.43	30.35	11.58	<41.02	41.02	<137.83	137.83	83462.14
YW19131909Z033-3	TM00427-SRK-WR-30	1	<2.96	2.96	52.92	4.1	<2.03	2.03	<3.22	3.22	<48.08	48.08	58.76	7.48	37.1	11.82	<41.26	41.26	<138.18	138.18	83419.8
YW19131909Z034-1	TM00427-SRK-WR-31A	1	<3.19	3.19	166.48	6.65	<2.25	2.25	<3.51	3.51	<49.67	49.67	50.53	7.28	29.15	11.73	<41.52	41.52	<161.95	161.95	80039.34
YW19131909Z034-2	TM00427-SRK-WR-31A	1	<3.71	3.71	172.88	6.81	<2.11	2.11	<3.68	3.68	<49.46	49.46	50.51	7.29	33.81	11.86	<41.86	41.86	<150.77	150.77	80624.17
YW19131909Z034-3	TM00427-SRK-WR-31A	1	<3.17	3.17	164.81	6.72	<2.26	2.26	<3.85	3.85	<50.99	50.99	47.84	7.26	23.59	11.65	<42.43	42.43	<138.72	138.72	80631.52
YW19131909Z036-1	TM00427-SRK-WR-33	1	<3.08	3.08	756.99	14.29	<2.43	2.43	<3.56	3.56	<54.84	54.84	66.64	8.02	103.6	14.29	489.01	34.94	<145.28	145.28	85894.73
YW19131909Z036-2	TM00427-SRK-WR-33	1	<3.16	3.16	744.48	14.15	<2.4	2.4	<3.77	3.77	<54.91	54.91	64.23	7.95	121.82	14.57	448.35	34.23	<144.33	144.33	86080.79
YW19131909Z036-3	TM00427-SRK-WR-33	1	<3.06	3.06	750.94	14.21	<2.44	2.44	<3.66	3.66	<54.26	54.26	67.32	8	108.31	14.33	474.99	34.64	<144.75	144.75	86050.55
YW19131909Z002-1	TM00421-SRK-WR-02	5	<3.04	3.04	146.62	6.11	<2.09	2.09	<3.23	3.23	<45.5	45.5	14.33	5.98	64.85	12.22	<37.5	37.5	<120.01	120.01	60075.38
YW19131909Z002-2	TM00421-SRK-WR-02	5	<3.09	3.09	146.74	6.12	<1.95	1.95	<3.17	3.17	<46.22	46.22	14.63	6.08	72.11	12.36	<36.93	36.93	<120.84	120.84	60241.8
YW19131909Z002-3	TM00421-SRK-WR-02	5	<2.97	2.97	144.54	6.17	<2.04	2.04	<3.44	3.44	<46	46	14.53	6.02	67.29	12.26	<36.8	36.8	<121.15	121.15	60064.11
YW19131909Z016-1	TM00416-SRK-WR-15	5	<4.58	4.58	87.2	4.51	<1.51	1.51	<2.91	2.91	<40.13	40.13	8.05	5.15	27.44	9.91	<32.11	32.11	<81.79	81.79	29080.69
YW19131909Z016-2	TM00416-SRK-WR-15	5	<3.66	3.66	82.51	4.35	<1.63	1.63	<2.9	2.9	<39.99	39.99	13.8	5.22	32.43	9.79	<31.87	31.87	<78.99	78.99	27924.79
YW19131909Z016-3	TM00416-SRK-WR-15	5	<3.44	3.44	81.21	4.41	<1.56	1.56	<3.05	3.05	<39.85	39.85	15.57	5.29	33.27	9.87	<32.08	32.08	<81.04	81.04	27910.11
YW19131909Z017-1	TM00421-SRK-WR-15 DUP	5	<3.97	3.97	92.1	4.73	<1.82	1.82	<3.11	3.11	<44	44	<10.31	10.31	28.57	10.24	<32.16	32.16	<85.51	85.51	30744.76
YW19131909Z017-2	TM00421-SRK-WR-15 DUP	5	<3.65	3.65	94.35	4.77	<1.61	1.61	<3.04	3.04	<54.91	54.91	<10.95	10.95	37.22	10.47	<32.15	32.15	<102.63	102.63	30733.04
YW19131909Z017-3	TM00421-SRK-WR-15 DUP	5	<2.97	2.97	359.73	9.58	<2.25	2.25	<3.43	3.43	<50.16	50.16	64.06	7.82	108.7	14.06	428.49	33.61	<142.4	142.4	86342.62
YW19131909Z035-1	TM00427-SRK-WR-32A	5	<2.49	2.49	108.11	5.13	<1.8	1.8	<3.15	3.15	<42.99	42.99	17.26	5.62	<13.32	13.32	<35.65	35.65	<102.21	102.21	45191.79
YW19131909Z035-2	TM00427-SRK-WR-32A	5	<2.53	2.53	107.39	5.22	<1.75	1.75	<3.37	3.37	<43.18	43.18	11.5	5.46	<13.63	13.63	<35.39	35.39	<103.22	103.22	45818.95
YW19131909Z035-3	TM00427-SRK-WR-32A	5	<2.29	2.29	105.53	5.07	<1.68	1.68	<3.15	3.15	<42.88	42.88	19.84	5.68	<13.27	13.27	<34.6	34.6	<101.6	101.6	45376.06
YW19131909Z037-1	TM00427-SRK-WR-34	5	<3.08	3.08	251.81	8.04	<2.19	2.19	<3.28	3.28	<49.06	49.06	64.6	7.75	51.97	12.3	<40.02	40.02	<145.07	145.07	89358.66
YW19131909Z037-2	TM00427-SRK-WR-34	5	<2.99	2.99	255.53	8.19	<2.22	2.22	<3.73	3.73	<49.1	49.1	71.19	7.92	61.47	12.54	<39.74	39.74	<170.18	170.18	89515.44
YW19131909Z037-3	TM00427-SRK-WR-34	5	<3.03	3.03	255.18	8.16	<2.22	2.22	<3.38	3.38	<50.5	50.5	62.14	7.79	56.9	12.57	<40.38	40.38	<144.92	144.92	89253.66
YW19138940Z001-1	TMMNE-19-00020-SRK-WR-035	5	<3.21	3.21	148.55	5.99	<1.94	1.94	<3.53	3.53	<44.66	44.66	23.36	6.02	85.31	11.85	<36.09	36.09	<121.56	121.56	42650.09
YW19138940Z001-2	TMMNE-19-00020-SRK-WR-035	5	<2.78	2.78	152.45	5.99	<1.92	1.92	<3.31	3.31	<45.21	45.21	16.41	5.8	75.84	11.62	<35.99	35.99	<99.84	99.84	42284.36
YW19138940Z001-3	TMMNE-19-00020-SRK-WR-035	5	<2.82	2.82	149.42	5.93	<1.93	1.93	<3.23	3.23	<45.04	45.04	22.34	6.01	90.47	12	<35.81	35.81	<100.4	100.4	42335.54
YW19138940Z007-1	TMMNE-19-00019-SRK-WR-040	5	<3.02	3.02	157.5	6.19	<1.95	1.95	<3.55	3.55	<59.98	59.98	8.88	5.68	63.13	11.63	<38.75	38.75	<105.27	105.27	47121.36
YW19138940Z007-2	TMMNE-19-00019-SRK-WR-040	5	<4.66	4.66	153.36	6.22	<2.06	2.06	<3.7	3.7	<46.94	46.94	<8.47	8.47	66.07	11.84	<39.5	39.5	<155.05	155.05	46800.79
YW19138940Z007-3	TMMNE-19-00019-SRK-WR-040	5	<3.05	3.05	153.76	6.23	<2.1	2.1	<3.74	3.74	<51.81	51.81	9.69	5.75	67.89	11.87	<39.42	39.42	<106.11	106.11	46745.67
YW19138940Z008-1	TMMNE-19-00020-SRK-WR-040 DUP	5	<3.42	3.42	156.41	6.18	<2.05	2.05	<3.58	3.58	<62.7	62.7	13.3	5.82	68.86	11.76	<38.52	38.52	<105.55	105.55	48211.8
YW19138940Z008-2	TMMNE-19-00020-SRK-WR-040 DUP	5	<4.08	4.08	157.61	6.19	<2.05	2.05	<3.4	3.4	<59.04	59.04	9.78	5.74	62.35	11.68	<38.31	38.31	<107.21	107.21	48290.86
YW19138940Z008-3	TMMNE-19-00020-SRK-WR-040 DUP	5	<2.94	2.94	159.16	6.12	<1.98	1.98	<3.42	3.42	<53.48	53.48	9.23	5.63	54.8	11.34	<37.52	37.52	<105.31	105.31	48581.05
YW19138940Z011-1	TMMNE-19-00017-SRK-WR-043	5	<4.08	4.08	272.19	8.2	<2.22	2.22	5.44	3.39	<49.5	49.5	24.25	6.32	100.19	12.57	<38.3	38.3	120.68	78.86	58390.57
YW19138940Z011-2	TMMNE-19-00017-SRK-WR-043	5	<4.66	4.66	262.6	8.06	<2.18	2.18	8.81	3.49	<49.14	49.14	26.16	6.28	93.4	12.38	<38.62	38.62	<116.42	116.42	58548.32
YW19138940Z011-3	TMMNE-19-00017-SRK-WR-043	5	<4.91	4.91	272.63	8.15	<2.2	2.2	7.76	3.45	<48.71	48.71	21.61	6.18	111.73	12.72	<38.6	38.6	<116.95	116.95	58578.81
YW19131909Z018-1	TM00416-SRK-WR-16	1aj	<3.04	3.04	352.53	9.54	<2.23	2.23	<3.63	3.63	<50.6	50.6	67.52	7.83	107.4	14.05	444.01	33.94	<142.69	142.69	85717.18

Sample Descriptions																					
SAMPLE	SRK ID	Geochem Unit	Bi	Bi Error	As	As Error	Se	Se Error	Pb	Pb Error	W	W Error	Zn	Zn Error	Cu	Cu Error	Ni	Ni Error	Co	Co Error	Fe
			ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm
YW19131909Z018-2	TM00416-SRK-WR-16	1aj	<3.07	3.07	353.64	9.46	<2.2	2.2	<3.42	3.42	<51.36	51.36	66.06	7.83	106.94	13.99	464.71	33.94	<141.16	141.16	85359.76
YW19131909Z018-3	TM00416-SRK-WR-16	1aj	<3.06	3.06	347.67	9.59	<2.28	2.28	<3.83	3.83	<52.56	52.56	56.04	7.71	107.09	14.26	486.01	34.77	<143.68	143.68	85401.16
YW19131909Z030-1	TM00426-SRK-WR-27	1aj	<3.04	3.04	114.38	5.69	<2.13	2.13	<3.59	3.59	<48.88	48.88	52.54	7.39	37.78	12.1	<41.82	41.82	<144.25	144.25	90018.23
YW19131909Z030-2	TM00426-SRK-WR-27	1aj	<3.06	3.06	113.93	5.67	<2.3	2.3	<3.47	3.47	<50.41	50.41	55.02	7.58	30.07	11.99	<41.76	41.76	<145.11	145.11	90358.85
YW19131909Z030-3	TM00426-SRK-WR-27	1aj	<3.01	3.01	114.03	5.74	<2.22	2.22	<3.66	3.66	<49.84	49.84	59.47	7.67	39.28	12.2	<41.63	41.63	<145.06	145.06	90826.02
YW19131909Z031-1	TM00426-SRK-WR-28	1aj	<2.9	2.9	124.78	5.89	<2.08	2.08	<3.68	3.68	<48.67	48.67	44.61	7.04	64.04	12.39	<40.73	40.73	<139.28	139.28	85425.03
YW19131909Z031-2	TM00426-SRK-WR-28	1aj	<2.85	2.85	132.09	5.97	<2.13	2.13	<3.47	3.47	<48.46	48.46	44.7	7.08	52.63	12.13	<40.39	40.39	<140.22	140.22	85876.89
YW19131909Z031-3	TM00426-SRK-WR-28	1aj	<2.91	2.91	129.37	5.86	<2.17	2.17	<3.44	3.44	<48.3	48.3	40.7	6.9	51.69	11.97	<39.83	39.83	<157.08	157.08	85362.88
YW19138940Z002-1	TMMNE-19-00020-SRK-WR-036	1aj	<3.08	3.08	61.15	4.4	<1.97	1.97	<3.48	3.48	<47.68	47.68	52.54	7.24	69.64	12.4	<40.53	40.53	<137.35	137.35	84470.32
YW19138940Z002-2	TMMNE-19-00020-SRK-WR-036	1aj	<3.01	3.01	60.24	4.42	<2.02	2.02	<3.62	3.62	<47.19	47.19	48.43	7.09	68.33	12.33	<40.1	40.1	<137.16	137.16	84316.44
YW19138940Z002-3	TMMNE-19-00020-SRK-WR-036	1aj	<2.85	2.85	63.88	4.31	<2.04	2.04	<3.17	3.17	<46.39	46.39	57.04	7.26	64.67	12.15	<40	40	<136.71	136.71	84077.67
YW19138940Z003-1	TMMNE-19-00020-SRK-WR-037	1aj	<3.07	3.07	17.85	3.1	<2.14	2.14	<3.45	3.45	<48.36	48.36	72.55	7.84	59.26	12.31	<41.26	41.26	<141.46	141.46	88109.63
YW19138940Z003-2	TMMNE-19-00020-SRK-WR-037	1aj	<3.07	3.07	15.83	3.11	<2.05	2.05	<3.6	3.6	<47.58	47.58	65.02	7.61	43.38	11.93	<43.86	43.86	<141.62	141.62	88384.28
YW19138940Z003-3	TMMNE-19-00020-SRK-WR-037	1aj	<3.11	3.11	12.74	3.01	<2.18	2.18	<3.64	3.64	<48.02	48.02	73.86	7.86	52.8	12.15	<41.02	41.02	<141.77	141.77	88394.05
YW19138940Z004-1	TMMNE-19-00020-SRK-WR-038	1aj	<3	3	86.1	5.03	<2.07	2.07	<3.53	3.53	<48.35	48.35	57.32	7.44	33.2	11.74	<40.79	40.79	<153.08	153.08	83387.66
YW19138940Z004-2	TMMNE-19-00020-SRK-WR-038	1aj	<3.13	3.13	89.71	5.09	<2.22	2.22	<3.43	3.43	<48.4	48.4	59.09	7.51	44.95	12.07	<40.84	40.84	<139.59	139.59	83766.95
YW19138940Z004-3	TMMNE-19-00020-SRK-WR-038	1aj	<2.98	2.98	88.15	5.1	<2.12	2.12	<3.62	3.62	<48.92	48.92	58.42	7.45	42.45	11.92	<40.43	40.43	<137.82	137.82	83824.05
YW19138940Z005-1	TMMNE-19-00020-SRK-WR-038 DUP	1aj	<2.99	2.99	86.41	5.13	<2.38	2.38	<3.56	3.56	<50.84	50.84	69.64	8.08	51.48	12.65	<40.89	40.89	<148.8	148.8	94270.48
YW19138940Z005-2	TMMNE-19-00020-SRK-WR-038 DUP	1aj	<3.25	3.25	83.15	5.1	<2.31	2.31	<3.67	3.67	<50.17	50.17	73.08	8.16	54.89	12.79	<41.14	41.14	<150.63	150.63	95575.18
YW19138940Z005-3	TMMNE-19-00020-SRK-WR-038 DUP	1aj	<3.09	3.09	91.55	5.24	<2.18	2.18	<3.37	3.37	<50.2	50.2	75.24	8.25	48.54	12.72	<41.54	41.54	<151.45	151.45	95448.99
YW19138940Z006-1	TMMNE-19-00019-SRK-WR-039	1aj	<3	3	448.1	10.35	<2.1	2.1	<3.21	3.21	<49.72	49.72	55.27	7.38	177.96	14.83	331.16	31.37	<131.36	131.36	73949.56
YW19138940Z006-2	TMMNE-19-00019-SRK-WR-039	1aj	<2.97	2.97	444.02	10.46	<2.12	2.12	<3.32	3.32	<50.58	50.58	56.94	7.5	172.18	14.93	336.3	31.77	<132.53	132.53	74243.07
YW19138940Z006-3	TMMNE-19-00019-SRK-WR-039	1aj	<2.94	2.94	444.07	10.41	<2.2	2.2	<3.34	3.34	<54.39	54.39	55.3	7.46	176.04	14.92	332.33	31.59	<132	132	73903.54
YW19138940Z009-1	TMMNE-19-00019-SRK-WR-041	1aj	<3.31	3.31	332.16	9.45	<2.3	2.3	<3.84	3.84	<57.98	57.98	69.08	8.17	132.28	14.82	389.08	33.88	<155.31	155.31	104883.91
YW19138940Z009-2	TMMNE-19-00019-SRK-WR-041	1aj	<2.99	2.99	341.85	9.49	<2.29	2.29	<3.66	3.66	<52.37	52.37	77.26	8.27	122.84	14.54	395.03	33.64	<153.79	153.79	105141.14
YW19138940Z009-3	TMMNE-19-00019-SRK-WR-041	1aj	<2.84	2.84	340.51	9.53	<2.43	2.43	<3.8	3.8	<52.26	52.26	68.66	8.06	110	14.35	405.03	33.97	<154.53	154.53	104588.84
YW19138940Z010-1	TMMNE-19-00017-SRK-WR-042	1aj	<2.85	2.85	541.88	11.37	<2.12	2.12	<3.37	3.37	<65.96	65.96	51.29	7.23	112.95	13.52	370.44	31.63	<130.05	130.05	74300.01
YW19138940Z010-2	TMMNE-19-00017-SRK-WR-042	1aj	<2.9	2.9	530.64	11.36	<2.23	2.23	<3.56	3.56	<80.28	80.28	48.35	7.27	129.01	13.93	353.73	31.73	<131.39	131.39	74210.95
YW19138940Z010-3	TMMNE-19-00017-SRK-WR-042	1aj	<2.94	2.94	541.07	11.36	<2.12	2.12	<3.28	3.28	<52.87	52.87	48.36	7.23	116.43	13.61	366.54	31.7	<144.19	144.19	73865.3
YW19131909Z012-1	TM00416-SRK-WR-11	7a	<2.7	2.7	14.43	2.96	<2.11	2.11	<3.47	3.47	<49.6	49.6	65.16	7.93	65.71	12.89	<40.18	40.18	<152.42	152.42	105327.05
YW19131909Z012-2	TM00416-SRK-WR-11	7a	<2.6	2.6	15.66	2.96	<2.1	2.1	<3.4	3.4	<48.74	48.74	74.54	8.09	70.07	12.9	<40.38	40.38	<151.95	151.95	105742.49
YW19131909Z012-3	TM00416-SRK-WR-11	7a	<2.34	2.34	17.76	3.1	<2.3	2.3	<3.52	3.52	<49.2	49.2	64.35	7.88	83.37	13.28	<40.63	40.63	<153.78	153.78	106493.7
YW19131909Z013-1	TM00416-SRK-WR-12	7a	<2.65	2.65	7.81	2.73	<2.16	2.16	<3.56	3.56	<50.91	50.91	73.35	8.23	65.35	13.03	<42.32	42.32	<156.39	156.39	108321.62
YW19131909Z013-2	TM00416-SRK-WR-12	7a	<2.61	2.61	8.94	2.77	<2.32	2.32	<3.58	3.58	<51.52	51.52	73.43	8.28	64.88	13.14	<42.87	42.87	<156.43	156.43	107756.07
YW19131909Z013-3	TM00416-SRK-WR-12	7a	<2.78	2.78	8.45	2.86	<2.27	2.27	<3.73	3.73	<51.16	51.16	69.83	8.16	58.95	13.07	<43.19	43.19	<156.55	156.55	107574.07
YW19131909Z014-1	TM00416-SRK-WR-13	7a	<2.68	2.68	4.97	2.8	<2.32	2.32	<3.84	3.84	<51.7	51.7	72.95	8.2	55.21	12.91	70.37	29.99	<153.26	153.26	102979.57
YW19131909Z014-2	TM00416-SRK-WR-13	7a	<2.5	2.5	6.87	2.88	<2.28	2.28	<3.84	3.84	<52.22	52.22	79.43	8.38	49.89	12.84	115.38	30.5	<152.73	152.73	102898.52
YW19131909Z014-3	TM00416-SRK-WR-13	7a	<2.67	2.67	7.15	2.83	<2.33	2.33	<3.76	3.76	<51.81	51.81	80.69	8.41	64.04	13.11	69.36	29.92	<152.89	152.89	103178.14
YW19131909Z015-1	TM00416-SRK-WR-14	7a	<2.55	2.55	10.44	2.88	<2.07	2.07	<3.6	3.6	<48.65	48.65	92.34	8.5	50.89	12.47	<57.74	57.74	<151.43	151.43	104620.18
YW19131909Z015-2	TM00416-SRK-WR-14	7a	<2.43	2.43	9.03	2.82	<2.08	2.08	<3.59	3.59	<48.14	48.14	83.5	8.25	36.52	12.05	<50.23	50.23	<150.3	150.3	104532.2
YW19131909Z015-3	TM00416-SRK-WR-14	7a	<2.51	2.51	10.86	2.78	<2.01	2.01	<3.4	3.4	<48.4	48.4	86.7	8.35	46.5	12.33	<53.28	53.28	<150.75	150.75	104232.11
YW19131909Z021-1	TM00441-SRK-WR-19	7a	<2.68	2.68	4.27	4.27	<2.18	2.18	<3.97	3.97	<49.93	49.93	63.73	7.84	57.66	12.64	<42.03	42.03	<151.44	151.44	101797.52
YW19131909Z021-2	TM00441-SRK-WR-19	7a	<2.56	2.56	6.34	2.84	<2.05	2.05	<3.77	3.77	<49.9	49.9	68	7.9	48.55	12.43	<70.85	70.85	<150.21	150.21	101988.33
YW19131909Z021-3	TM00441-SRK-WR-19	7a	<2.66	2.66	5.49	2.89	<2.18	2.18	<3.93	3.93	<49.38	49.38	63.34	7.81	40.67	12.29	<45.91	45.91	<151.58	151.58	101968.02

Sample Descriptions																					
SAMPLE	SRK ID	Geochem Unit	Bi	Bi Error	As	As Error	Se	Se Error	Pb	Pb Error	W	W Error	Zn	Zn Error	Cu	Cu Error	Ni	Ni Error	Co	Co Error	Fe
			ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm
YW19131909Z022-1	TM00441-SRK-WR-20	7a	<2.67	2.67	8.95	2.93	<2.27	2.27	<3.78	3.78	<53.07	53.07	77.29	8.33	51.47	12.81	50.58	29.63	<153.29	153.29	103388.27
YW19131909Z022-2	TM00441-SRK-WR-20	7a	<2.66	2.66	8.86	2.81	<2.28	2.28	<3.6	3.6	<50.91	50.91	78.21	8.34	45.45	12.61	<44.12	44.12	<152.87	152.87	102190.08
YW19131909Z022-3	TM00441-SRK-WR-20	7a	<2.79	2.79	9.25	2.93	<2.26	2.26	<3.76	3.76	<51.42	51.42	74.12	8.2	42.72	12.51	<43.75	43.75	<151.95	151.95	102091.48
YW19131909Z023-1	TM00441-SRK-WR-21	7a	<2.6	2.6	6.22	2.81	<2.2	2.2	<3.76	3.76	<51.48	51.48	81.76	8.37	38.59	12.4	<70.08	70.08	<151.79	151.79	102543.17
YW19131909Z023-2	TM00441-SRK-WR-21	7a	<2.79	2.79	8.2	2.87	<2.3	2.3	<3.75	3.75	<51.65	51.65	76.01	8.35	48.58	12.84	<44.55	44.55	<154.47	154.47	103528.2
YW19131909Z023-3	TM00441-SRK-WR-21	7a	<2.63	2.63	7.99	2.86	<2.13	2.13	<3.71	3.71	<50.78	50.78	75.61	8.21	49.89	12.61	<64.45	64.45	<151.49	151.49	103145.55
YW19131909Z024-1	TM00441-SRK-WR-22	7a	<2.99	2.99	6.4	2.83	<2.27	2.27	<3.8	3.8	<51.02	51.02	80.9	8.4	46.42	12.71	102.58	30.4	<153.69	153.69	104362.44
YW19131909Z024-2	TM00441-SRK-WR-22	7a	<2.51	2.51	11.19	2.87	<2.29	2.29	<3.56	3.56	<50.74	50.74	73.55	8.11	44.01	12.51	132.98	30.3	<150.89	150.89	103896.47
YW19131909Z024-3	TM00441-SRK-WR-22	7a	<2.69	2.69	6.84	2.78	<2.18	2.18	<3.68	3.68	<51.62	51.62	74.96	8.22	53.46	12.79	114.47	30.31	<152.13	152.13	103825.22
YW19131909Z025-1	TM00441-SRK-WR-23	7a	<2.49	2.49	13.57	2.87	<2.07	2.07	<3.39	3.39	<47.56	47.56	71.85	7.8	21.46	11.51	63.43	28.66	<148.42	148.42	105300.58
YW19131909Z025-2	TM00441-SRK-WR-23	7a	<2.61	2.61	12.72	2.91	<2.19	2.19	<3.52	3.52	<48.97	48.97	78.03	8.02	43.02	12.14	105.86	29.54	<170.56	170.56	104175.48
YW19131909Z025-3	TM00441-SRK-WR-23	7a	<2.57	2.57	10.87	2.97	<2.11	2.11	<3.73	3.73	<48.14	48.14	67.48	7.81	31.37	11.95	108.68	29.66	<150.17	150.17	104779.57

Note:

Less than sign indicates less than LOD

Source: Z:\01_SITES\Hope.Bay\1CT022.037_2019 Geochem Compliance\!020_Project_Da

Sample Descriptions																			
SAMPLE	SRK ID	Geochem Unit	Fe Error	Mn	Mn Error	Cr	Cr Error	V	V Error	Ti	Ti Error	Ca	Ca Error	K	K Error	Al	Al Error	P	P Error
			+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-
YW19131909Z001-1	TM00421-SRK-WR-01	1	653.87	2280.6	103.24	1284.84	56.53	380.25	73.3	6845.57	167.33	102407.05	1509.08	11234.63	382.24	2795.67	721.93	<196.46	196.46
YW19131909Z001-2	TM00421-SRK-WR-01	1	501.39	1741.32	85.75	1182.41	44.96	302.78	61	5726.12	140.54	88864.52	1315.49	10107.21	331.65	3089.69	600.26	<171.81	171.81
YW19131909Z001-3	TM00421-SRK-WR-01	1	507.82	1788.3	86.57	1169.69	46.83	263.42	62.11	5593.03	142.66	88354.37	1343.31	10149.83	338.73	3068.3	601.59	<171.13	171.13
YW19131909Z003-1	TM00421-SRK-WR-03	1	453	1733.06	81.59	333.33	34.72	266.8	47.61	3337.67	103.24	53115.59	1064.42	17014.99	395.92	6832.29	576.66	<163.07	163.07
YW19131909Z003-2	TM00421-SRK-WR-03	1	455.22	1802.21	82.76	346.46	34.77	246.97	47.73	3318.38	103.48	52813.87	1057.54	17407.4	397.15	6791.62	580.65	<165.77	165.77
YW19131909Z003-3	TM00421-SRK-WR-03	1	449.86	1793.64	82.29	318.22	35.98	232.15	48.99	3206.05	105.69	52536.82	1077.53	16813.64	401.43	6809.87	595.51	<172.61	172.61
YW19131909Z004-1	TM00421-SRK-WR-04	1	526.15	2118.54	84.56	402.56	39.11	280.31	53.82	3925.48	116.49	47563.61	1081.47	15512.19	402.41	7029.05	585.85	<162.59	162.59
YW19131909Z004-2	TM00421-SRK-WR-04	1	522.72	2096.96	84.56	360.46	39.47	320.96	55.07	3715.7	116.82	47660.25	1090.56	15509.11	405.76	6627.46	583.67	<162.98	162.98
YW19131909Z004-3	TM00421-SRK-WR-04	1	526.14	1993.07	83.16	387.71	39.68	343.69	55.41	3756.14	117.14	47881.87	1092.47	15474.74	404.83	7194.87	598.2	<161.66	161.66
YW19131909Z005-1	TM00421-SRK-WR-05	1	497.54	1718.97	81.35	329.15	37.98	279.63	51.45	3235.54	110.44	63832.32	1175.21	5408.14	261.57	5165.42	567.37	<161.75	161.75
YW19131909Z005-2	TM00421-SRK-WR-05	1	617.69	1902.93	92.83	438.31	52	319.44	65.49	4086.34	140.87	80431.59	1451.87	5833.2	321.31	3693.99	747.44	<214.68	214.68
YW19131909Z005-3	TM00421-SRK-WR-05	1	641.05	2019.85	96.48	486.11	52.37	371.41	66.64	4282.98	142.92	81731.54	1461.86	6426.65	330.36	4511.72	788.23	<218.5	218.5
YW19131909Z006-1	TM00421-SRK-WR-05 DUP	1	522.75	1796.57	82.11	412.6	47.97	359.16	64.28	3993.83	137.26	80046.7	1405.73	5885.18	306.6	7159.53	747.37	<206.67	206.67
YW19131909Z006-2	TM00421-SRK-WR-05 DUP	1	520.28	1814.65	81.59	428.23	48.26	361.7	63.23	4191.84	135.93	80324.8	1393.63	5754.38	303.6	6267.87	729.04	<207.74	207.74
YW19131909Z006-3	TM00421-SRK-WR-05 DUP	1	524.96	1745.58	81.21	446.59	47.34	338.24	63.87	4093.15	137.45	80762.18	1397.99	5753.32	302.72	6947.55	726.31	<202.22	202.22
YW19131909Z007-1	TM00421-SRK-WR-06	1	510.34	1564.35	76.17	459.05	44.85	361.22	63.83	4274.12	135.28	53782	1209.15	7653.5	325.8	7228.95	652.83	<184.16	184.16
YW19131909Z007-2	TM00421-SRK-WR-06	1	514.27	1595.53	76.97	461.99	45.05	333.7	63.68	4248.83	135.14	53937.24	1199.74	7674.08	324	6748.77	648.14	<191.08	191.08
YW19131909Z007-3	TM00421-SRK-WR-06	1	548.42	1526.47	77.56	464.71	48.53	360.46	66.41	4490.3	140.64	56781.78	1253.14	8159.12	344.72	7162.18	702.09	<200.73	200.73
YW19131909Z008-1	TM00420-SRK-WR-07	1	451.96	1650.38	76.47	406.16	42.51	317.16	58.88	3704.51	125.6	71172.36	1279.57	15453.67	415.38	6277.67	668.76	<191.9	191.9
YW19131909Z008-2	TM00420-SRK-WR-07	1	461.06	1692.62	78.68	415.75	42.8	353.74	58.58	3814.51	125.32	70856.94	1296.87	14838.49	415.93	5974.44	657.03	<189.57	189.57
YW19131909Z008-3	TM00420-SRK-WR-07	1	459.47	1607.46	77.67	383.16	43.53	286.17	58.65	3816.29	126.67	71078.04	1294.43	14902.44	413.91	6765.27	675.93	<190.09	190.09
YW19131909Z009-1	TM00420-SRK-WR-08	1	533.49	1644.56	80.62	431.39	46.84	354.74	64.96	4089.86	136.79	61550.55	1271.98	12768.2	404.38	7881.24	728.01	<201.58	201.58
YW19131909Z009-2	TM00420-SRK-WR-08	1	520.95	1628.27	77.76	457.74	45.74	362.67	62.69	4175.92	133.24	59959.45	1264.89	12600.69	398.91	7981.33	691.86	<189.85	189.85
YW19131909Z009-3	TM00420-SRK-WR-08	1	520.06	1684.07	78.71	416.67	46.31	404.07	63.17	4182.14	133.27	60545.51	1277.47	12884.38	405.88	8026.18	690.03	<187.86	187.86
YW19131909Z010-1	TM00420-SRK-WR-09	1	519.31	1962.45	84.28	424.03	46.13	309.17	61.39	3810.53	129.31	53389.84	1212.73	14689.94	428.02	5717.66	637.2	<183.3	183.3
YW19131909Z010-2	TM00420-SRK-WR-09	1	516.37	1990.01	84.27	378.77	47.05	351.43	63.43	3683.75	131.01	53865.3	1221.46	14752.56	431.74	6150.84	664.76	<185.5	185.5
YW19131909Z010-3	TM00420-SRK-WR-09	1	522.14	1973.45	84.43	412.07	46.45	320.61	60.06	3925.43	126.96	53772.09	1207.31	14373.06	420.85	5794.79	646.05	<186.75	186.75
YW19131909Z011-1	TM00420-SRK-WR-10	1	555.22	2026.64	85.1	1082.29	51.14	431.99	73.87	6649.15	163.35	64039.47	1308.94	10855.29	380.39	5503.02	688.64	<210.29	210.29
YW19131909Z011-2	TM00420-SRK-WR-10	1	558.16	2100.21	86.84	1003.69	52.12	453.94	71.82	6838.31	159.46	64356.94	1293.67	10629.27	375.61	6005.35	693.96	<194.42	194.42
YW19131909Z011-3	TM00420-SRK-WR-10	1	550.9	1961.27	84.61	1056.26	52.56	386.84	72.97	6856.08	163.37	64475.73	1309.76	10827.8	381.48	5749.52	669.55	<194.45	194.45
YW19131909Z019-1	TM00441-SRK-WR-17	1	541.24	1654.78	77.21	397.89	45.42	407.79	60.65	3734.62	124.71	48013.11	1152.71	3367	245.92	6911.4	630.58	<186.13	186.13
YW19131909Z019-2	TM00441-SRK-WR-17	1	546.43	1668.02	77.79	381.38	46.77	372.28	62.44	3671.1	128.43	47189.82	1169.26	3311.8	250.24	7277.97	628.52	<274.99	274.99
YW19131909Z019-3	TM00441-SRK-WR-17	1	548.31	1684.46	78.36	397.31	45.79	334.27	60.57	3618.23	125.19	47431.75	1137.7	3366.7	244.69	7799.44	644.69	<271.84	271.84
YW19131909Z020-1	TM00441-SRK-WR-18	1	559.7	1796.6	78.9	407.51	47.19	336.45	63.98	3778.81	132.35	44537.1	1146.82	3971.38	263.32	9159.87	668.1	<214.12	214.12
YW19131909Z020-2	TM00441-SRK-WR-18	1	561.22	1823.29	79.35	434.26	45.3	373.06	62.78	3863.89	129.88	44871.69	1126.89	4013.91	258.98	9087.59	678.14	<268.39	268.39
YW19131909Z020-3	TM00441-SRK-WR-18	1	552.2	1793.47	78.04	410	45.25	402.9	60.91	3964.85	126.11	43380.92	1109.27	4122.42	258.57	9197.56	676.24	<184.69	184.69
YW19131909Z026-1	TM00426-SRK-WR-24	1	543.12	2078.91	84.88	460.7	47.25	408.66	64.38	4343.02	136.94	71936.8	1347.5	9675.7	363.33	9861.88	769.52	<206.7	206.7
YW19131909Z026-2	TM00426-SRK-WR-24	1	544.53	2103.76	84.81	450.95	46.8	400.49	65.89	4262.78	139.56	72915.76	1356.58	9875.58	367.31	10822.85	812.9	<210.58	210.58
YW19131909Z026-3	TM00426-SRK-WR-24	1	531.58	2105.44	84.12	414.85	47.54	376.37	64.37	4263.18	137.23	72282.1	1352.28	9505.87	361.59	10467.66	794.27	<211.19	211.19
YW19131909Z027-1	TM00426-SRK-WR-25	1	594.79	2032.56	84.92	479.38	49.54	439.05	66.7	4198.37	141	79986.45	1436.08	6270.73	319.65	10430.66	827.6	<316	316
YW19131909Z027-2	TM00426-SRK-WR-25	1	539.93	1920.52	81.82	435.5	46.45	357.29	61.59	3842.03	131.22	74323.97	1355.69	5916.55	301.43	9714.88	784.22	<210.13	210.13
YW19131909Z027-3	TM00426-SRK-WR-25	1	532.53	1931.78	81.21	457.9	45.51	364.65	62.61	3810.32	133.31	74624.47	1367.81	5584.68	297.67	9676.27	766.31	<233.34	233.34
YW19131909Z028-1	TM00421-SRK-WR-25 DUP	1	550.3	1943.76	83.35	426.37	45.36	351.19	60.73	3931.69	130.43	74325.08	1353.03	5856.55	300.7	13375.27	826.64	<269.34	269.34
YW19131909Z028-2	TM00421-SRK-WR-25 DUP	1	544.24	1912.58	83.03	451.41	46.1	383.24	63.1	3973.86	134.52	74912.81	1374.05	6117.63	308.14	13358.05	820.94	<210.74	210.74

Sample Descriptions																			
SAMPLE	SRK ID	Geochem Unit	Fe Error	Mn	Mn Error	Cr	Cr Error	V	V Error	Ti	Ti Error	Ca	Ca Error	K	K Error	Al	Al Error	P	P Error
			+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-
YW19131909Z028-3	TM00421-SRK-WR-25 DUP	1	540.04	1962.28	82.88	440.37	46.76	363.08	62.59	4009.52	134.04	74838.71	1372.18	5950.56	304.91	14076.5	860.66	<264.29	264.29
YW19131909Z029-1	TM00426-SRK-WR-26	1	525.01	1785.42	80.35	463.78	43.79	361.85	61.25	4004.45	129.36	51752.69	1190.04	12025.59	388.04	11650.83	729.11	<308.83	308.83
YW19131909Z029-2	TM00426-SRK-WR-26	1	525.37	1752.05	79.47	424.24	45.64	360.8	62.28	4092.62	131.06	52837.32	1199.46	11626.44	387.75	11875.62	733.69	<194.32	194.32
YW19131909Z029-3	TM00426-SRK-WR-26	1	529.43	1752.47	79.89	416.44	45.23	387.43	61.81	4170.76	130.13	53137.87	1199.98	12123.89	393.68	11632.26	739.54	<238.56	238.56
YW19131909Z032-1	TM00427-SRK-WR-29A	1	517.98	1837.25	81.72	437.24	44.75	393.47	63.34	4222.08	133.05	51324.18	1190.91	16048.02	441.34	9918.32	716.52	<195.2	195.2
YW19131909Z032-2	TM00427-SRK-WR-29A	1	514.95	1893.2	81.82	435.81	45.81	351.88	64.15	4289.9	136.02	50922.37	1210.89	16626.78	452.9	10563.53	708.47	<193.01	193.01
YW19131909Z032-3	TM00427-SRK-WR-29A	1	516.59	1928.18	82.59	474.32	44.79	365.08	64.17	4184.02	135.4	51127	1202.91	16027.72	443.2	9767.43	722.7	<200.84	200.84
YW19131909Z033-1	TM00427-SRK-WR-30	1	462.44	1552.15	76.21	411.99	42.57	332.1	57.9	3908.15	123.57	62189.23	1218.47	16413.29	424.9	7896.03	707.47	<197.71	197.71
YW19131909Z033-2	TM00427-SRK-WR-30	1	468.63	1661.66	78.27	435.51	44.24	316.04	60.34	4057.89	129.21	63091.96	1252.15	16779.61	441.9	8734.04	708.62	<194.91	194.91
YW19131909Z033-3	TM00427-SRK-WR-30	1	469.11	1615.72	78.14	399.16	43.51	304.46	58.29	3966.98	125.23	62534.38	1231.96	16381.23	428.47	8327.37	680.08	<192.79	192.79
YW19131909Z034-1	TM00427-SRK-WR-31A	1	465.42	1570.72	78.57	413.32	43.41	313.33	58.95	3517.84	125.5	71388.94	1312.01	17864.18	448.36	9882.56	748.69	<208.25	208.25
YW19131909Z034-2	TM00427-SRK-WR-31A	1	464.38	1544.6	78.14	393.47	43.37	339.23	58.68	3615.56	124.77	71330.18	1304.78	17525.47	443.06	9735.66	758.17	<210.11	210.11
YW19131909Z034-3	TM00427-SRK-WR-31A	1	468.56	1608.79	79.13	351.22	43.59	297.14	59.56	3601.28	126.59	72029.29	1296.37	17828.57	442.21	9570.03	744.28	<207.44	207.44
YW19131909Z036-1	TM00427-SRK-WR-33	1	511.17	1930.74	87.42	1305.58	54.54	414.55	73.44	7241.09	169.75	108253.9	1537.59	9181.26	357.45	5974.65	795.28	<228.31	228.31
YW19131909Z036-2	TM00427-SRK-WR-33	1	510.78	1967.3	87.52	1298	53.08	387.64	73.7	6920.73	168.63	108136.91	1515.96	9193.92	350.87	6597.25	835.78	<234.33	234.33
YW19131909Z036-3	TM00427-SRK-WR-33	1	510.33	1942.57	87.3	1291.59	54.17	394.67	73.69	7103.66	169.28	107504.01	1521.44	9377.93	355.83	6409.93	802.26	<227.1	227.1
YW19131909Z002-1	TM00421-SRK-WR-02	5	373.99	1438.59	75.89	280.48	33.13	203.48	43.54	2876.99	95.89	69432.87	1118.47	17471.69	382.83	5407.86	582.21	<178.88	178.88
YW19131909Z002-2	TM00421-SRK-WR-02	5	372.75	1410.62	75.59	254.39	31.8	201.07	43.18	2844.12	95.41	68306.17	1104.9	17472.74	376.91	5567.97	577.78	<176.25	176.25
YW19131909Z002-3	TM00421-SRK-WR-02	5	373.12	1408.89	75.78	232.88	33.42	199.67	43.47	2913.28	95.8	68596.61	1110.45	17325.68	380.03	4534.87	556.99	<175.93	175.93
YW19131909Z016-1	TM00416-SRK-WR-15	5	217.38	217.44	50.45	94.38	28.66	94.59	33.45	1772.68	67.56	20608.54	605.26	19961.1	355.29	7982.69	548.81	402.29	153.12
YW19131909Z016-2	TM00416-SRK-WR-15	5	209.01	225.88	49.8	78.28	27.5	76.61	31.35	1639.91	63.27	19379.57	572.93	18985.06	338.16	8186.32	525.14	304.93	143.84
YW19131909Z016-3	TM00416-SRK-WR-15	5	210.47	213.87	50.02	106.21	27.12	75.7	32.29	1605.95	65.4	18881.62	579.99	18952.36	342.86	7020.62	510.21	<214.96	214.96
YW19131909Z017-1	TM00421-SRK-WR-15 DUP	5	229.26	223.32	51.33	111.46	30.42	84.21	34.9	1718.46	70.09	21080.21	628.51	20458.32	369.23	6800.21	544.24	<224.91	224.91
YW19131909Z017-2	TM00421-SRK-WR-15 DUP	5	230.01	196.39	51.03	120.1	29.95	99.76	35.45	1768.61	71.16	21578.14	632.46	20655.23	369.83	6276.61	554.27	<233.28	233.28
YW19131909Z017-3	TM00421-SRK-WR-15 DUP	5	498.53	1819.14	83.77	1199.36	53.76	366.93	69.25	6211.1	156.01	92300.98	1430.96	9032.84	349.78	3993.25	684.37	<203.93	203.93
YW19131909Z035-1	TM00427-SRK-WR-32A	5	297.06	2216.35	83.88	168.85	32.69	96.2	33.33	966.85	72.07	87016.36	1165.81	3297.84	206.49	4569.86	644.95	685.84	164.02
YW19131909Z035-2	TM00427-SRK-WR-32A	5	300.63	2244.36	84.78	124.26	33.69	82.16	32.49	977.17	70.51	87263.94	1171.88	3194.55	207.77	4868.9	634.45	771.9	160.53
YW19131909Z035-3	TM00427-SRK-WR-32A	5	295.95	2264.38	84.13	156.53	33.65	72.9	34.49	917.76	74.09	87692.16	1174.92	3235.6	209.14	4689.31	617.51	711.09	156.83
YW19131909Z037-1	TM00427-SRK-WR-34	5	512.64	2329.68	88.47	420.25	45.5	357.23	61.13	3974.99	132.97	91743	1449.14	18235.67	458.15	11782.45	880.61	<223.71	223.71
YW19131909Z037-2	TM00427-SRK-WR-34	5	513.35	2362.77	88.86	403.43	46.82	332.69	63.65	3985.87	138.67	93002.47	1492.65	18317.1	471.74	11519.44	878.07	<220.97	220.97
YW19131909Z037-3	TM00427-SRK-WR-34	5	510.54	2364.9	89.67	423.38	45.68	284.3	61.96	3869.85	135.87	91054.87	1456.39	18118.44	457.85	11642.48	891.34	<229.07	229.07
YW19138940Z001-1	TMMNE-19-00020-SRK-WR-035	5	287.7	805.51	63.91	201.19	32.21	145.03	37.79	2112.9	79.96	52601.86	958.16	24570.92	420.51	4634.91	571.6	<216.09	216.09
YW19138940Z001-2	TMMNE-19-00020-SRK-WR-035	5	283.76	820.08	63.8	211.75	32.94	137.01	37.72	2048.74	79.82	52220.2	967.51	24054.4	421	5176.58	591.24	<220.13	220.13
YW19138940Z001-3	TMMNE-19-00020-SRK-WR-035	5	286.71	846.48	64.8	197.04	33.16	155.16	38.08	2126.71	80.56	52426.75	979.24	24585.91	428.62	5041.36	577.94	<227.3	227.3
YW19138940Z007-1	TMMNE-19-00019-SRK-WR-040	5	304.92	550.87	59.37	221.59	32.82	146.81	39.21	2166.53	82.39	40990.69	914.76	27533	460.64	6411.5	603.31	<290.75	290.75
YW19138940Z007-2	TMMNE-19-00019-SRK-WR-040	5	307.66	580.38	60.68	230.6	32.82	141.93	38.69	2169.12	81.83	40751.39	920.26	27885.48	465.49	6377.45	610.29	<335.51	335.51
YW19138940Z007-3	TMMNE-19-00019-SRK-WR-040	5	306.56	506.34	59.34	195.6	31.68	93.33	37.31	2084.24	79.39	40198.04	880.55	27372.95	444.73	7407.63	617.92	<224.02	224.02
YW19138940Z008-1	TMMNE-19-00020-SRK-WR-040 DUP	5	309.17	563.55	59.44	216.44	33.06	136.69	39.81	2142.68	83.83	41643.77	931.02	27884.89	466.65	6212.86	608.44	<232.99	232.99
YW19138940Z008-2	TMMNE-19-00020-SRK-WR-040 DUP	5	312.36	584	60.32	229.57	33.06	148.49	38.79	2227.1	81.8	42326.69	918.5	27685.94	459.27	5751.38	594.29	<280.15	280.15
YW19138940Z008-3	TMMNE-19-00020-SRK-WR-040 DUP	5	309.36	611.42	59.86	186.15	34.32	144.75	40.17	2232.04	84.03	42573.85	933.8	27932.27	467.66	6421.05	611.29	<242.55	242.55
YW19138940Z011-1	TMMNE-19-00017-SRK-WR-043	5	356.61	687.81	62.57	132.44	33	141.07	39.6	2197.64	82.75	38265.86	888.08	19414.53	398.11	7143.79	631.83	437.58	160.32
YW19138940Z011-2	TMMNE-19-00017-SRK-WR-043	5	354.99	718.43	62.8	155.9	34.34	114.82	39.86	2231.15	83.93	38690.11	903.54	19517.02	405.14	6902.28	635.64	564.6	163.24
YW19138940Z011-3	TMMNE-19-00017-SRK-WR-043	5	353.83	726.53	62.62	152.67	33.82	92.56	40.3	2248.1	85.87	38775.7	914.96	19323.98	407.82	7804.38	644.88	457.08	161.28
YW19131909Z018-1	TM00416-SRK-WR-16	1aj	497.07	1822.71	84.27	1145.32	52.22	353.46	69.02	6152.85	156.46	91490.73	1439.48	9191.62	350.56	4419.5	685.67	<200.61	200.61

Sample Descriptions																			
SAMPLE	SRK ID	Geochem Unit	Fe Error	Mn	Mn Error	Cr	Cr Error	V	V Error	Ti	Ti Error	Ca	Ca Error	K	K Error	Al	Al Error	P	P Error
			+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-
YW19131909Z018-2	TM00416-SRK-WR-16	1aj	486.3	1840.6	84.14	1184.23	51.45	387.62	68.13	6003.52	153.94	90279.01	1430.35	9363.89	351.16	4406.12	691.1	<200.71	200.71
YW19131909Z018-3	TM00416-SRK-WR-16	1aj	494.51	1773.83	84.43	1171.4	52.4	359.36	69.39	6024.57	156.64	91610.63	1442.2	9237.89	351.67	4337.53	689.47	<202.65	202.65
YW19131909Z030-1	TM00426-SRK-WR-27	1aj	501.69	1798.37	81.17	408.47	45.14	334.17	61.13	4031.81	131.8	71911.87	1338.53	12755.79	398.49	11184.44	784.41	<306.31	306.31
YW19131909Z030-2	TM00426-SRK-WR-27	1aj	506.55	1828.94	82.07	436.78	43.76	325.44	60.1	3900.96	129.45	71925.27	1318.21	12666.33	391.86	11618.67	813.47	<223.01	223.01
YW19131909Z030-3	TM00426-SRK-WR-27	1aj	508.57	1896.73	83.02	417.28	44.62	332.85	60.43	3931.3	129.71	71834.76	1320.57	12588.07	393.42	11470.21	798.27	<217.28	217.28
YW19131909Z031-1	TM00426-SRK-WR-28	1aj	482.71	1929.73	82.22	412.3	44.35	301.56	60.15	3894.52	130.58	77829.09	1355.65	10629.6	366.72	9398.84	756.3	<205.61	205.61
YW19131909Z031-2	TM00426-SRK-WR-28	1aj	481.18	1926.27	82.31	387.29	43.49	328.91	59.14	3932.08	128	77409.18	1329.95	10606.7	358.91	9736.3	758.44	<205.06	205.06
YW19131909Z031-3	TM00426-SRK-WR-28	1aj	474.81	1912.49	81.4	396.47	43.13	333.03	59.09	3822.5	127.5	76812.75	1332.93	10391.01	359.25	8781.74	746.61	<209.26	209.26
YW19138940Z002-1	TMMNE-19-00020-SRK-WR-036	1aj	468	1334.89	73.08	370.02	43.69	333.73	58.89	3960.09	125.51	61847.47	1233.05	15663.3	423.28	6925.04	668.8	<190.65	190.65
YW19138940Z002-2	TMMNE-19-00020-SRK-WR-036	1aj	466.89	1313.73	72.76	414.53	42.29	313.34	58.63	3916.68	125.55	61186.64	1220.36	15823.19	418.89	7084.67	664.65	<191.31	191.31
YW19138940Z002-3	TMMNE-19-00020-SRK-WR-036	1aj	464.87	1316.12	72.14	403.77	43.07	415.86	58.73	3943.93	122.97	61179.12	1211.94	15672.66	417.22	8114.41	694.47	<193.74	193.74
YW19138940Z003-1	TMMNE-19-00020-SRK-WR-037	1aj	492.04	2021.67	83.32	432.79	43.85	336.62	60.41	3926.18	128.75	63607.61	1268.36	17835.74	451.98	7811.17	692.47	<193.86	193.86
YW19138940Z003-2	TMMNE-19-00020-SRK-WR-037	1aj	488.2	2014.64	83.08	458.33	42.8	311.48	58.79	4022.96	127.26	62777	1256.43	18016.02	449.1	8270.39	714.06	<196.28	196.28
YW19138940Z003-3	TMMNE-19-00020-SRK-WR-037	1aj	493	2029.29	83.29	444.61	42.88	355.8	58.36	4010.33	124.84	63792.64	1244.19	18332.55	446.48	7733.45	690.28	<193.21	193.21
YW19138940Z004-1	TMMNE-19-00020-SRK-WR-038	1aj	473.69	2319.78	87.42	425.22	43.8	327.41	59.79	4015.3	128.7	70532.55	1296.06	16506.95	432.8	6528.59	697.55	<198.91	198.91
YW19138940Z004-2	TMMNE-19-00020-SRK-WR-038	1aj	474.22	2332.16	88.05	417.64	44.89	336.76	59.38	4147.06	128.58	71150.41	1311.36	16469.39	437.42	7953.66	728.93	<197.6	197.6
YW19138940Z004-3	TMMNE-19-00020-SRK-WR-038	1aj	471.25	2265.23	86.61	448.85	43.89	318.67	60.25	3972.46	129.28	72253.28	1292.89	16766.74	431.79	6864.54	718.84	<204.1	204.1
YW19138940Z005-1	TMMNE-19-00020-SRK-WR-038 DUP	1aj	534.74	2567.81	92.24	484.85	47.82	368.88	65.84	4475	142.49	78417.37	1420.84	18154.74	473.77	9335.86	819.18	<217.67	217.67
YW19138940Z005-2	TMMNE-19-00020-SRK-WR-038 DUP	1aj	539.21	2633.48	93.45	441.69	49.35	409.87	66.98	4644.8	144.01	80248.72	1428.2	18478.81	474.3	9386.71	828.33	<221.1	221.1
YW19138940Z005-3	TMMNE-19-00020-SRK-WR-038 DUP	1aj	542.12	2620.12	93.63	448.59	49.19	365.82	66.42	4584.8	144.08	79366.25	1435.36	18016.27	474.34	9410.86	816.09	<214.19	214.19
YW19138940Z006-1	TMMNE-19-00019-SRK-WR-039	1aj	434.03	1555.51	79.55	1242.18	51.49	378.56	69.4	6698.58	158.95	107444.56	1452.69	11284.24	365.68	4786.05	733.86	<208.49	208.49
YW19138940Z006-2	TMMNE-19-00019-SRK-WR-039	1aj	441.42	1595.17	80.84	1262.17	51.67	342.61	67.88	6731.41	157.69	106658.77	1458.83	11232.93	365.75	4757.29	739.04	<209.87	209.87
YW19138940Z006-3	TMMNE-19-00019-SRK-WR-039	1aj	441.91	1653.17	81.1	1251.36	52.09	417.26	69.85	6619.52	159.24	106273.22	1471.97	11234.4	369.16	4142.77	716.33	<210.47	210.47
YW19138940Z009-1	TMMNE-19-00019-SRK-WR-041	1aj	582.09	1479.59	78.77	1180.63	55.18	432.82	80.27	7956.25	180.44	80483.82	1417.01	8061.34	344.28	4386.12	686.32	<196.6	196.6
YW19138940Z009-2	TMMNE-19-00019-SRK-WR-041	1aj	570.2	1438.79	77.79	1174.85	56.69	368.15	79.17	8059.19	181.31	80162.13	1442.03	7522.46	343	4020.21	683.67	<199.46	199.46
YW19138940Z009-3	TMMNE-19-00019-SRK-WR-041	1aj	570.59	1426.69	77.77	1159.9	54.41	396.75	77.49	8084.12	177.16	80400.09	1405.94	7784.17	335.73	4466.13	697.49	<312.03	312.03
YW19138940Z010-1	TMMNE-19-00017-SRK-WR-042	1aj	432.98	1139.84	72.12	1182.79	48.13	309.3	65.11	6251.67	148.44	86932.54	1327.01	11668.18	360.39	4897.56	697.49	<217.2	217.2
YW19138940Z010-2	TMMNE-19-00017-SRK-WR-042	1aj	436.55	1196.86	73.7	1168.42	47.86	323.71	64.5	6211.87	147.86	85835.65	1342.14	11745.77	363.66	5037.06	683.18	<208.98	208.98
YW19138940Z010-3	TMMNE-19-00017-SRK-WR-042	1aj	428.09	1212.15	73.57	1091.43	49.39	292.53	64.59	6266.43	148.51	86874.91	1348.16	11799.47	368.2	4616.68	690.9	<214.02	214.02
YW19131909Z012-1	TM00416-SRK-WR-11	7a	563.58	1647.32	78.18	379.19	47.73	420.11	66.06	3913.42	135.44	51685.8	1220.97	6018.21	309.2	7471.68	677.1	197.22	131.36
YW19131909Z012-2	TM00416-SRK-WR-11	7a	560.73	1632.16	77.29	404.35	46.58	381.53	64.27	3884.39	133.39	50807.87	1214.45	6176.36	310.41	7912.18	665.3	<187.04	187.04
YW19131909Z012-3	TM00416-SRK-WR-11	7a	567.97	1627.98	77.73	366.77	47.14	390.75	64.43	3768.38	132.26	51154.14	1207.49	5692.65	303.77	7748.24	691.49	<317.85	317.85
YW19131909Z013-1	TM00416-SRK-WR-12	7a	578.9	1619.6	78.44	394.77	46.67	393.44	64.69	4228.69	135.04	48509.79	1176.45	1453.47	204.61	8244.08	680.75	<193.06	193.06
YW19131909Z013-2	TM00416-SRK-WR-12	7a	578.97	1671.25	79.56	429.98	46.26	370.26	64.75	4102.68	135.42	47488.92	1175.78	1623.03	207.39	8043.03	678.9	<189.36	189.36
YW19131909Z013-3	TM00416-SRK-WR-12	7a	577.8	1561.7	78.27	367.51	46.06	395.36	65.46	4019.6	135.33	47780.49	1167.54	1567.55	206.26	7420.5	653.11	<310.47	310.47
YW19131909Z014-1	TM00416-SRK-WR-13	7a	557.01	1736.91	80.88	494.26	45.53	360.83	59.61	3602.1	123.15	47341.88	1135.72	1164.52	192.04	10027.74	684.01	<191.22	191.22
YW19131909Z014-2	TM00416-SRK-WR-13	7a	556.84	1664.7	79.8	508.21	45.89	402.83	60.84	3618.29	124.64	47444.19	1146.91	1091.77	191.37	9925.5	691.08	<284.19	284.19
YW19131909Z014-3	TM00416-SRK-WR-13	7a	555.29	1626.48	79.23	478.87	45.79	369.25	61.08	3644.62	126.18	47805.37	1154.2	1189.24	194.19	9909.74	698.54	<228.15	228.15
YW19131909Z015-1	TM00416-SRK-WR-14	7a	557.7	1742.21	79.27	527.29	47.83	339.18	61.01	3159.82	124.37	56132.55	1229.45	4598.67	276.82	8473.5	672.02	<185.08	185.08
YW19131909Z015-2	TM00416-SRK-WR-14	7a	553.83	1671.51	77.86	555.78	46.61	368.56	60.06	3280.46	123.37	55732.01	1236.79	4772.22	281.68	7707.83	681.93	<256.77	256.77
YW19131909Z015-3	TM00416-SRK-WR-14	7a	551.8	1631.4	77.74	541.52	46.34	330.19	59.75	3198.3	123.24	55952.69	1230.67	4465.25	272.73	7875.97	665.23	<249.42	249.42
YW19131909Z021-1	TM00441-SRK-WR-19	7a	545.7	1659.11	78.96	363.3	44.7	392.38	61.27	3861.84	126.85	50592.1	1156.36	1987.92	212.45	9045.57	681.32	<193.32	193.32
YW19131909Z021-2	TM00441-SRK-WR-19	7a	548.1	1649.82	78.36	399.79	43.76	392.38	60.92	3859.37	126.79	51247.29	1168.86	1884.2	209.15	8899.05	671.69	<191.04	191.04
YW19131909Z021-3	TM00441-SRK-WR-19	7a	547.99	1683.78	79.45	399.12	43.71	397.16	60.41	3837.33	125.71	51265.49	1166.24	2076.82	212.58	8046.06	675.15	219.81	131.13

Sample Descriptions																			
SAMPLE	SRK ID	Geochem Unit	Fe Error	Mn	Mn Error	Cr	Cr Error	V	V Error	Ti	Ti Error	Ca	Ca Error	K	K Error	Al	Al Error	P	P Error
			+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-
YW19131909Z022-1	TM00441-SRK-WR-20	7a	560.74	1853.87	82.24	442.02	44.93	376.92	61.94	3980.04	129.82	51232.61	1183.61	887.95	187.07	10952.06	739.25	<203.73	203.73
YW19131909Z022-2	TM00441-SRK-WR-20	7a	552.4	1777.24	81.34	410.51	44.45	359.96	60.49	3861.02	127.12	50358.46	1176.42	996.25	186.96	10583.27	727.34	<330.46	330.46
YW19131909Z022-3	TM00441-SRK-WR-20	7a	553.07	1794.89	81.3	443.59	44.12	351.04	62.34	3719.18	129.94	50850.73	1179.71	1069.57	189.49	10200.81	706.22	<292.92	292.92
YW19131909Z023-1	TM00441-SRK-WR-21	7a	551.17	1841.88	81.69	422.19	44.73	371.8	61.27	3656.81	127.11	50313.23	1180.64	1107.86	191.46	10873.39	733.07	<255.52	255.52
YW19131909Z023-2	TM00441-SRK-WR-21	7a	561.14	1825.87	82.39	421.77	45.33	372.64	61.86	3536.52	127.66	49728.61	1190.12	1132.77	192.9	10512.79	706.9	<259.47	259.47
YW19131909Z023-3	TM00441-SRK-WR-21	7a	551.19	1804.46	80.76	436.75	43.45	389.24	60.86	3577.86	125.38	49225.76	1152.97	1229.01	191.01	10745.46	716.62	321.51	133.18
YW19131909Z024-1	TM00441-SRK-WR-22	7a	557.69	1730.92	80.64	562.46	46.13	381.12	59.09	3343.59	120.08	40506.83	1086.94	827.26	177.97	10228.5	667.38	212.9	125.66
YW19131909Z024-2	TM00441-SRK-WR-22	7a	548.04	1802.71	80.52	554.84	47.1	325.78	58.92	3426.7	121.43	40631.3	1093.67	551.86	174.95	9934.9	653.33	294.12	125
YW19131909Z024-3	TM00441-SRK-WR-22	7a	551.15	1770.82	80.75	563.81	45.5	361.67	58.4	3517.17	120.3	39797.69	1073.42	699.68	174.17	9802.38	658.48	<306.29	306.29
YW19131909Z025-1	TM00441-SRK-WR-23	7a	542.33	1669.93	76.58	578.15	46.98	353.44	60.09	3377.83	121.94	36622.04	1050.95	5836.22	295.75	9841.41	664.72	<184.63	184.63
YW19131909Z025-2	TM00441-SRK-WR-23	7a	539.93	1650	77.04	592.54	45.69	323.09	58.52	3264.62	119.39	36246.6	1032.85	5877.86	291.9	9113.93	658.82	<185.86	185.86
YW19131909Z025-3	TM00441-SRK-WR-23	7a	547.49	1709.51	78.3	588.65	45.31	390.41	59.69	3322.11	120.32	35603.91	1031.53	5729.96	289	9722.3	616.09	<169.69	169.69

Note:

Less than sign indicates less than LOD

Source: Z:\01_SITES\Hope.Bay\1CT022.037_2019 Geochem Compliance\!020_Project_Da

Sample Descriptions																		
SAMPLE	SRK ID	Geochem Unit	Si	Si Error	Cl	Cl Error	S	S Error	Mg	Mg Error	MgO	Al2O3	SiO2	P2O5	SO3	K2O	CaO	TiO2
			ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
YW19131909Z001-1	TM00421-SRK-WR-01	1	32127.3	553.7	303.87	37.41	309.56	72.77	<6171	6171	<10243.86	5283.82	68752.42	<449.8934	773.9	13593.9	143369.88	11432.11
YW19131909Z001-2	TM00421-SRK-WR-01	1	31821.97	509.63	334.62	31.95	463.47	64.2	<4889.97	4889.97	<8117.3502	5839.52	68099.02	<393.4449	1158.68	12229.72	124410.32	9562.63
YW19131909Z001-3	TM00421-SRK-WR-01	1	32795.83	518.15	346.71	32.12	528.25	65.13	<4850.05	4850.05	<8051.083	5799.09	70183.08	<391.8877	1320.63	12281.3	123696.11	9340.37
YW19131909Z003-1	TM00421-SRK-WR-03	1	41868.62	539.11	177.03	28.19	93.81	53.54	<3985.88	3985.88	<6616.5608	12913.03	89598.85	<373.4303	234.52	20588.14	74361.83	5573.91
YW19131909Z003-2	TM00421-SRK-WR-03	1	42189.36	544.82	174.82	28.45	120.07	54.46	<3883.19	3883.19	<6446.0954	12836.16	90285.24	<379.6133	300.17	21062.96	73939.41	5541.7
YW19131909Z003-3	TM00421-SRK-WR-03	1	41373.84	552.88	138.7	28.92	140.75	56.23	<3829.13	3829.13	<6356.3558	12870.66	88540.02	<395.2769	351.88	20344.51	73551.54	5354.1
YW19131909Z004-1	TM00421-SRK-WR-04	1	40149.27	524.2	270.28	28.44	446.62	56.83	<3884.89	3884.89	<6448.9174	13284.91	85919.43	<372.3311	1116.55	18769.75	66589.05	6555.55
YW19131909Z004-2	TM00421-SRK-WR-04	1	39363.48	523.48	287.61	28.77	386.36	56.51	<3985.03	3985.03	<6615.1498	12525.9	84237.86	<373.2242	965.9	18766.02	66724.35	6205.21
YW19131909Z004-3	TM00421-SRK-WR-04	1	39676.97	527.08	296.63	29	381.42	56.64	<4825.58	4825.58	<8010.4628	13598.31	84908.73	<370.2014	953.56	18724.44	67034.62	6272.75
YW19131909Z005-1	TM00421-SRK-WR-05	1	34307.48	503.39	242.4	28.92	<119.72	119.72	<4033.47	4033.47	<6695.5602	9762.64	73418.02	<370.4075	<8.9	6543.85	89365.25	5403.35
YW19131909Z005-2	TM00421-SRK-WR-05	1	33488.17	582.8	79.61	40.27	<134.16	134.16	<6922.08	6922.08	<11490.6528	6981.65	71664.68	<491.6172	<10.05	7058.17	112604.23	6824.19
YW19131909Z005-3	TM00421-SRK-WR-05	1	34643.78	600.66	75.31	41.42	<154.73	154.73	<6398.16	6398.16	<10620.9456	8527.14	74137.7	<500.365	<11	7776.24	114424.16	7152.58
YW19131909Z006-1	TM00421-SRK-WR-05 DUP	1	45454.46	642.98	332.18	36.3	195.92	66.24	<5439.99	5439.99	<9030.3834	13531.5	97272.55	<473.2743	489.81	7121.06	112065.38	6669.7
YW19131909Z006-2	TM00421-SRK-WR-05 DUP	1	46068.71	643.49	322.91	36	239.62	66.58	<5306.91	5306.91	<8809.4706	11846.27	98587.05	<475.7246	599.06	6962.8	112454.73	7000.38
YW19131909Z006-3	TM00421-SRK-WR-05 DUP	1	46140.37	632.44	266.1	34.75	202.04	64.53	<5304.95	5304.95	<8806.217	13130.88	98740.4	<463.0838	505.1	6961.52	113067.05	6835.56
YW19131909Z007-1	TM00421-SRK-WR-06	1	44086.84	592.08	288.02	32.13	148.01	57.81	<4431.37	4431.37	<7356.0742	13662.72	94345.84	<421.7264	370.03	9260.73	75294.8	7137.79
YW19131909Z007-2	TM00421-SRK-WR-06	1	44649.27	597.48	295.49	32.36	103.21	57.46	<4553.4	4553.4	<7558.644	12755.17	95549.43	433.72	258.02	9285.64	75512.13	7095.55
YW19131909Z007-3	TM00421-SRK-WR-06	1	48020.67	637.33	424.26	35.79	102.01	62	<4892.37	4892.37	<8121.3342	13536.51	102764.23	<459.6717	255.03	9872.53	79494.49	7498.8
YW19131909Z008-1	TM00420-SRK-WR-07	1	41706.45	588.15	211.77	32.69	782.27	69	<6258.07	6258.07	<10388.3962	11864.79	89251.81	<439.451	1955.68	18698.95	99641.3	6186.53
YW19131909Z008-2	TM00420-SRK-WR-07	1	42628.36	592.28	160.44	32.02	732.16	67.93	<4781.62	4781.62	<7937.4892	11291.69	91224.7	<434.1153	1830.39	17954.57	99199.71	6370.23
YW19131909Z008-3	TM00420-SRK-WR-07	1	42601.87	594.23	207.19	32.65	779.8	68.93	<5006.75	5006.75	<8311.205	12786.37	91168.01	<435.3061	1949.51	18031.95	99509.25	6373.21
YW19131909Z009-1	TM00420-SRK-WR-08	1	47195.16	636.52	315.93	35.44	136.45	63.51	<5097.55	5097.55	<8461.933	14895.54	100997.64	<461.6182	341.13	15449.52	86170.77	6830.06
YW19131909Z009-2	TM00420-SRK-WR-08	1	45509.82	605.77	293.24	32.9	172.39	59.61	<5910.59	5910.59	<9811.5794	15084.71	97391.02	<434.7565	430.98	15246.83	83943.23	6973.79
YW19131909Z009-3	TM00420-SRK-WR-08	1	45086.76	597.43	337.51	32.71	255.7	59.68	<4985.5	4985.5	7869.41	15169.48	96485.67	<430.1994	639.24	15590.1	84763.72	6984.17
YW19131909Z010-1	TM00420-SRK-WR-09	1	40201.11	569.54	301.75	33.53	324.24	62.45	<4691.06	4691.06	<7787.1596	10806.37	86030.38	<419.757	810.59	17774.83	74745.78	6363.58
YW19131909Z010-2	TM00420-SRK-WR-09	1	40311.59	578	288.81	34.02	323.98	63.4	5843.33	3419.08	9699.93	11625.08	86266.8	<424.795	809.95	17850.59	75411.42	6151.87
YW19131909Z010-3	TM00420-SRK-WR-09	1	39806.37	572.39	305.87	33.98	301.63	62.98	<4682.23	4682.23	<7772.5018	10952.15	85185.64	<427.6575	754.06	17391.4	75280.92	6555.46
YW19131909Z011-1	TM00420-SRK-WR-10	1	40944.87	601.22	442.12	35.49	409.45	65.61	<6392.61	6392.61	<10611.7326	10400.7	87622.03	<481.5641	1023.63	13134.9	89655.26	11104.09
YW19131909Z011-2	TM00420-SRK-WR-10	1	40511.55	596.2	472.81	35.62	381.89	65	<4979.84	4979.84	<8266.5344	11350.12	86694.71	<445.2218	954.73	12861.42	90099.71	11419.98
YW19131909Z011-3	TM00420-SRK-WR-10	1	41007.94	584.76	470.67	34.44	395.75	63.05	<4967.68	4967.68	<8246.3488	10866.59	87756.99	<445.2905	989.38	13101.64	90266.02	11449.65
YW19131909Z019-1	TM00441-SRK-WR-17	1	49371.76	609.73	370.06	31.68	233.09	56.8	<4296.76	4296.76	<7132.6216	13062.54	105655.58	290.92	582.72	4074.07	67218.36	6236.81
YW19131909Z019-2	TM00441-SRK-WR-17	1	48598.4	599.72	310.83	30.68	308.6	56.79	<5890.75	5890.75	<9778.645	13755.36	104000.58	<629.7271	771.49	4007.28	66065.74	6130.73
YW19131909Z019-3	TM00441-SRK-WR-17	1	48821.46	607.36	308.92	31.13	294.09	57.48	<4241.84	4241.84	<7041.4544	14740.94	104477.92	<622.5136	735.23	4073.71	66404.45	6042.44
YW19131909Z020-1	TM00441-SRK-WR-18	1	52830.35	624.49	442.07	31.87	137.22	54.56	<5291.55	5291.55	<8783.973	17312.15	113056.95	<490.3348	343.06	4805.36	62351.94	6310.61
YW19131909Z020-2	TM00441-SRK-WR-18	1	52831.14	629.51	450.99	32.21	119.3	54.76	<7070.21	7070.21	<11736.5486	17175.54	113058.66	<614.6131	298.26	4856.83	62820.37	6452.7
YW19131909Z020-3	TM00441-SRK-WR-18	1	53159.91	633.43	428.16	32.21	113.46	55.03	<4175.47	4175.47	<6931.2802	17383.39	113762.22	<422.9401	283.65	4988.13	60733.29	6621.3
YW19131909Z026-1	TM00426-SRK-WR-24	1	54942.96	676.29	344.57	34.24	598.71	67.42	<5129.39	5129.39	<8514.7874	18638.94	117577.95	<473.343	1496.79	11707.59	100711.52	7252.84
YW19131909Z026-2	TM00426-SRK-WR-24	1	58277.53	703.31	336.46	34.67	568.11	67.85	<8796.67	8796.67	<14602.4722	20455.18	124713.92	<482.2282	1420.27	11949.45	102082.06	7118.85
YW19131909Z026-3	TM00426-SRK-WR-24	1	58056.84	703.38	333.18	34.61	593.9	68.33	<5002.86	5002.86	<8304.7476	19783.87	124241.64	<483.6251	1484.75	11502.1	101194.94	7119.52
YW19131909Z027-1	TM00426-SRK-WR-25	1	57731.46	712.24	298.35	34.96	172.48	63.87	<5462.99	5462.99	<9068.5634	19713.94	123545.34	<723.64	431.21	7587.58	111981.03	7011.28
YW19131909Z027-2	TM00426-SRK-WR-25	1	56772.73	703.34	323.38	34.09	216.93	62.43	<5046.69	5046.69	<8377.5054	18361.12	121493.66	<481.1977	542.32	7159.03	104053.55	6416.18
YW19131909Z027-3	TM00426-SRK-WR-25	1	56892.37	691.68	312.76	33.28	214.05	61.01	<4947.42	4947.42	<8212.7172	18288.15	121749.68	<534.3486	535.13	6757.46	104474.26	6363.23
YW19131909Z028-1	TM00421-SRK-WR-25 DUP	1	66574.39	738.27	249.83	32.28	211.1	59.94	<5004.75	5004.75	<8307.885	25279.26	142469.2	<616.7886	527.76	7086.42	104055.11	6565.92
YW19131909Z028-2	TM00421-SRK-WR-25 DUP	1	67470.78	738.46	261.54	32.11	217.59	59.58	<4984.12	4984.12	<8273.6392	25246.72	144387.48	<482.5946	543.97	7402.33	104877.94	6636.34

Sample Descriptions																		
SAMPLE	SRK ID	Geochem Unit	Si	Si Error	Cl	Cl Error	S	S Error	Mg	Mg Error	MgO	Al2O3	SiO2	P2O5	SO3	K2O	CaO	TiO2
			ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
YW19131909Z028-3	TM00421-SRK-WR-25 DUP	1	67778.14	752.17	291.02	33.18	284.45	61.88	<5367.89	5367.89	7869.6	26604.59	145045.23	<605.2241	711.12	7200.18	104774.2	6695.9
YW19131909Z029-1	TM00426-SRK-WR-26	1	61201.85	675.74	387	31.55	299.62	57.06	<4608.06	4608.06	5396.61	22020.07	130971.96	<707.2207	749.04	14550.97	72453.77	6687.44
YW19131909Z029-2	TM00426-SRK-WR-26	1	62014.75	680.62	420	31.88	339.83	57.69	<5437.66	5437.66	<9026.5156	22444.93	132711.56	<444.9928	849.58	14067.99	73972.24	6834.67
YW19131909Z029-3	TM00426-SRK-WR-26	1	61743.66	684.42	412.68	32.09	326.09	58.06	<4683.2	4683.2	5317.14	21984.98	132131.44	<546.3024	815.23	14669.91	74393.02	6965.18
YW19131909Z032-1	TM00427-SRK-WR-29A	1	56331.78	662.9	405.03	33.37	701.15	65.61	<5345.91	5345.91	<8874.2106	18745.62	120550.02	<447.008	1752.87	19418.11	71853.85	7050.87
YW19131909Z032-2	TM00427-SRK-WR-29A	1	56398.75	649.52	374.88	32.34	665.09	63.6	<4535.64	4535.64	<7529.1624	19965.07	120693.34	<441.9929	1662.74	20118.4	71291.32	7164.14
YW19131909Z032-3	TM00427-SRK-WR-29A	1	56911.71	668.99	405.69	33.63	726.11	66.41	<6677.93	6677.93	<11085.3638	18460.45	121791.06	<459.9236	1815.28	19393.55	71577.8	6987.32
YW19131909Z033-1	TM00427-SRK-WR-30	1	49644.25	647.33	394.73	34.86	224.32	62.59	<6484.86	6484.86	<10764.8676	14923.51	106238.7	<452.7559	560.81	19860.08	87064.92	6526.61
YW19131909Z033-2	TM00427-SRK-WR-30	1	50255.35	640.75	360.96	33.94	178.76	60.83	<4852.11	4852.11	<8054.5026	16507.34	107546.45	<446.3439	446.9	20303.33	88328.75	6776.68
YW19131909Z033-3	TM00427-SRK-WR-30	1	50619.8	626.46	356.2	32.84	241.6	59.73	<4999.33	4999.33	<8298.8878	15738.72	108326.38	<441.4891	604.01	19821.29	87548.13	6624.86
YW19131909Z034-1	TM00427-SRK-WR-31A	1	56813.66	680.74	216.67	32.88	2406.78	87.4	<4967.2	4967.2	<8245.552	18678.04	121581.24	<476.8925	6016.95	21615.66	99944.51	5874.79
YW19131909Z034-2	TM00427-SRK-WR-31A	1	56611.17	683.83	248.97	33.48	2497.63	89.08	<7048.41	7048.41	<11700.3606	18400.4	121147.91	<481.1519	6244.07	21205.82	99862.25	6037.98
YW19131909Z034-3	TM00427-SRK-WR-31A	1	56602.27	672.68	246.88	32.78	2561.95	87.96	<7716.71	7716.71	<12809.7386	18087.36	121128.88	<475.0376	6404.87	21572.57	100841	6014.13
YW19131909Z036-1	TM00427-SRK-WR-33	1	55461.42	718.09	221.52	35	3258.24	103	<6073.36	6073.36	<10081.7776	11292.09	118687.45	<522.8299	8145.6	11109.32	151555.45	12092.61
YW19131909Z036-2	TM00427-SRK-WR-33	1	56569.28	740.43	228.02	36.03	3307.01	106.12	<10685.74	10685.74	<17738.3284	12468.81	121058.26	<536.6157	8267.52	11124.65	151391.67	11557.61
YW19131909Z036-3	TM00427-SRK-WR-33	1	55678.28	717.44	196.24	34.79	3279.48	103.03	<5984.38	5984.38	<9934.0708	12114.78	119151.53	<520.059	8198.69	11347.29	150505.61	11863.11
YW19131909Z002-1	TM00421-SRK-WR-02	5	38418.93	541.26	131.75	29.53	1782.75	77.19	<4227.38	4227.38	<7017.4508	10220.85	82216.51	<409.6352	4456.88	21140.74	97206.02	4804.57
YW19131909Z002-2	TM00421-SRK-WR-02	5	39078.71	538.83	147.75	29.29	1772.19	76.04	<4272.94	4272.94	<7093.0804	10523.46	83628.45	<403.6125	4430.47	21142.01	95628.64	4749.68
YW19131909Z002-3	TM00421-SRK-WR-02	5	39419.31	539.54	153.53	29.19	1743.99	75.53	<4126.6	4126.6	<6850.156	8570.9	84357.34	<402.8797	4359.97	20964.07	96035.25	4865.17
YW19131909Z016-1	TM00416-SRK-WR-15	5	107377.1	815.09	323.15	30.53	5466.23	101.31	<3477.68	3477.68	<5772.9488	15087.28	229787.02	921.23	13665.58	24152.93	28851.96	2960.38
YW19131909Z016-2	TM00416-SRK-WR-15	5	100533.3	772.15	264.17	28.69	5115.15	95.52	<3157.39	3157.39	<5241.2674	15472.14	215141.28	698.3	12787.87	22971.93	27131.39	2738.64
YW19131909Z016-3	TM00416-SRK-WR-15	5	99918.53	775.82	243.04	28.67	4986.27	95.22	<3048.73	3048.73	<5060.8918	13268.97	213825.67	359.17	12465.68	22932.36	26434.26	2681.93
YW19131909Z017-1	TM00421-SRK-WR-15 DUP	5	93511.15	777.77	408.13	32.92	5162.22	102.75	<3402.77	3402.77	<5648.5982	12852.39	200113.88	358.63	12905.54	24754.57	29512.29	2869.83
YW19131909Z017-2	TM00421-SRK-WR-15 DUP	5	93832.57	799.66	406.56	33.91	5287.07	106.47	<3590.86	3590.86	<5960.8276	11862.79	200801.7	511.88	13217.68	24992.82	30209.4	2953.59
YW19131909Z017-3	TM00421-SRK-WR-15 DUP	5	42127.39	611.2	274.94	34.2	1240.76	77.34	<5541.95	5541.95	<9199.637	7547.25	90152.62	<466.9997	3101.89	10929.74	129221.37	10372.54
YW19131909Z035-1	TM00427-SRK-WR-32A	5	76930.84	792.26	165.79	32.42	4182.02	105.94	<4734.16	4734.16	<7858.7056	8637.04	164632	1570.58	10455.05	3990.38	121822.9	1614.64
YW19131909Z035-2	TM00427-SRK-WR-32A	5	77747.69	778.59	171.85	31.58	4074.43	102.19	<5420.18	5420.18	<8997.4988	9202.22	166380.06	1767.65	10186.07	3865.4	122169.51	1631.87
YW19131909Z035-3	TM00427-SRK-WR-32A	5	77977.02	766.5	192.49	31.06	4113.17	100.49	<4523.01	4523.01	<7508.1966	8862.8	166870.84	1628.4	10282.92	3915.07	122769.02	1532.66
YW19131909Z037-1	TM00427-SRK-WR-34	5	54267.88	698.48	412.35	36.95	3438.38	103.48	<7700.92	7700.92	<12783.5272	22268.84	116133.27	<512.2959	8595.95	22065.17	128440.2	6638.23
YW19131909Z037-2	TM00427-SRK-WR-34	5	54881.41	701.11	455.19	37.42	3362.24	102.7	<8129.4	8129.4	<13494.804	21771.74	117446.23	<506.0213	8405.59	22163.69	130203.45	6656.39
YW19131909Z037-3	TM00427-SRK-WR-34	5	55135.84	715.06	515.75	38.76	3203.93	103.35	<6805.26	6805.26	<11296.7316	22004.28	117990.7	<524.5703	8009.83	21923.32	127476.81	6462.65
YW19138940Z001-1	TMMNE-19-00020-SRK-WR-035	5	67440.45	697.06	375.15	33.11	6196.39	115.19	<4235.04	4235.04	<7030.1664	8759.98	144322.56	<494.8461	15490.97	29730.82	73642.61	3528.55
YW19138940Z001-2	TMMNE-19-00020-SRK-WR-035	5	68170.47	710.11	338.71	33.57	6237.93	117.24	<4341.78	4341.78	<7207.3548	9783.73	145884.81	<504.0977	15594.82	29105.83	73108.28	3421.4
YW19138940Z001-3	TMMNE-19-00020-SRK-WR-035	5	68402.16	698.5	379.2	33.27	6341.59	115.82	<4275.67	4275.67	<7097.6122	9528.17	146380.64	<520.517	15853.97	29748.95	73397.45	3551.61
YW19138940Z007-1	TMMNE-19-00019-SRK-WR-040	5	69285.27	700.28	488.29	34.02	10399.84	143.14	<5731.77	5731.77	<9514.7382	12117.73	148270.5	<665.8175	25999.6	33314.93	57386.96	3618.11
YW19138940Z007-2	TMMNE-19-00019-SRK-WR-040	5	69755.1	712.94	461.18	34.38	10403.25	145.37	<4222.26	4222.26	<7008.9516	12053.38	149275.92	<768.3179	26008.14	33741.43	57051.95	3622.43
YW19138940Z007-3	TMMNE-19-00019-SRK-WR-040	5	69358.57	702.24	464.27	34	10269.83	142.75	<4201.45	4201.45	<6974.407	14000.41	148427.34	<513.0058	25674.59	33121.27	56277.25	3480.68
YW19138940Z008-1	TMMNE-19-00020-SRK-WR-040 DUP	5	63120.73	680.67	491.91	34.99	9751.31	141.51	<4340.65	4340.65	<7205.479	11742.31	135078.38	<533.5471	24378.27	33740.72	58301.28	3578.28
YW19138940Z008-2	TMMNE-19-00020-SRK-WR-040 DUP	5	63223.28	675.67	495.45	34.52	9681.16	139.72	<4258.4	4258.4	<7068.944	10870.11	135297.83	<641.5435	24202.89	33499.98	59257.36	3719.25
YW19138940Z008-3	TMMNE-19-00020-SRK-WR-040 DUP	5	63427.79	678.85	511.74	35.04	10016.46	142.77	<4317.23	4317.23	<7166.6018	12135.79	135735.48	<555.4395	25041.15	33798.05	59603.39	3727.51
YW19138940Z011-1	TMMNE-19-00017-SRK-WR-043	5	67088.55	689.33	284.12	32.35	19281.16	196.17	<4342.72	4342.72	<7208.9152	13501.76	143569.5	1002.07	48202.91	23491.58	53572.21	3670.06
YW19138940Z011-2	TMMNE-19-00017-SRK-WR-043	5	67620.46	697.7	289.55	32.69	19306.78	197.88	<4460.37	4460.37	<7404.2142	13045.31	144707.8	1292.93	48266.94	23615.6	54166.16	3726.03
YW19138940Z011-3	TMMNE-19-00017-SRK-WR-043	5	68379.95	696.12	267.14	32.3	19332.96	196.61	<4380.08	4380.08	<7270.9328	14750.29	146333.09	1046.71	48332.39	23382.02	54285.97	3754.32
YW19131909Z018-1	TM00416-SRK-WR-16	1aj	40919.3	601	300.83	34.16	1344.33	77.99	<6274.77	6274.77	<10416.1182	8352.86	87567.31	<459.3969	3360.82	11121.85	128087.02	10275.27

Sample Descriptions																		
SAMPLE	SRK ID	Geochem Unit	Si	Si Error	Cl	Cl Error	S	S Error	Mg	Mg Error	MgO	Al2O3	SiO2	P2O5	SO3	K2O	CaO	TiO2
			ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
YW19131909Z018-2	TM00416-SRK-WR-16	1aj	40754.91	601.02	323.97	34.44	1263.83	77.17	<5671.47	5671.47	7212.78	8327.57	87215.52	<459.6259	3159.57	11330.31	126390.61	10025.87
YW19131909Z018-3	TM00416-SRK-WR-16	1aj	40797.89	605.29	264.05	34.13	1259.34	77.78	<6097.46	6097.46	<10121.7836	8197.94	87307.49	<464.0685	3148.35	11177.85	128254.88	10061.04
YW19131909Z030-1	TM00426-SRK-WR-27	1aj	57732.48	686.33	199.73	33.27	1578.47	79.2	<4916.76	4916.76	<8161.8216	21138.58	123547.52	<701.4499	3946.18	15434.51	100676.61	6733.12
YW19131909Z030-2	TM00426-SRK-WR-27	1aj	57984.3	698.63	230.49	34.04	1593.59	80.53	<5447.37	5447.37	7068.5	21959.28	124086.42	<510.6929	3983.97	15326.26	100695.38	6514.6
YW19131909Z030-3	TM00426-SRK-WR-27	1aj	57755.08	692.19	224.79	33.68	1592.77	79.89	<5543.01	5543.01	<9201.3966	21678.7	123595.88	446.78	3981.93	15231.57	100568.66	6565.27
YW19131909Z031-1	TM00426-SRK-WR-28	1aj	52742.85	667.19	174.3	32.64	2131.12	85.39	<5334.35	5334.35	<8855.021	17763.81	112869.7	<470.8469	5327.8	12861.82	108960.73	6503.85
YW19131909Z031-2	TM00426-SRK-WR-28	1aj	53049.73	662.17	166.38	32.26	2086.44	84.04	<6776.19	6776.19	<11248.4754	18401.6	113526.43	<469.5874	5216.1	12834.11	108372.85	6566.58
YW19131909Z031-3	TM00426-SRK-WR-28	1aj	52890	669.64	175.52	32.76	2108.17	85.52	<5144.21	5144.21	<8539.3886	16597.49	113184.59	<479.2054	5270.43	12573.12	107537.85	6383.58
YW19138940Z002-1	TMMNE-19-00020-SRK-WR-036	1aj	46670.02	616.88	313.87	33.37	464.62	64.35	<4628.14	4628.14	<7682.7124	13088.33	99873.84	<436.5885	1161.56	18952.6	86586.45	6613.34
YW19138940Z002-2	TMMNE-19-00020-SRK-WR-036	1aj	47166.2	613.68	338.41	33.21	415.38	62.99	<4725.06	4725.06	<7843.5996	13390.03	100935.66	<438.0999	1038.44	19146.06	85661.29	6540.85
YW19138940Z002-3	TMMNE-19-00020-SRK-WR-036	1aj	47015.63	620.41	307.04	33.45	471.44	64.57	<5690.35	5690.35	<9445.981	15336.24	100613.45	<443.6646	1178.61	18963.91	85650.77	6586.37
YW19138940Z003-1	TMMNE-19-00020-SRK-WR-037	1aj	48672.91	626.39	299.35	33	717.72	67.11	<4642.36	4642.36	<7706.3176	14763.11	104160.03	<443.9394	1794.3	21581.24	89050.66	6556.72
YW19138940Z003-2	TMMNE-19-00020-SRK-WR-037	1aj	49224.3	639.91	272.54	33.42	679.73	67.86	<4814.44	4814.44	<7991.9704	15631.04	105340	<449.4812	1699.32	21799.38	87887.8	6718.34
YW19138940Z003-3	TMMNE-19-00020-SRK-WR-037	1aj	48590.27	623.1	315.89	33.08	660.93	66.15	<5302.21	5302.21	<8801.6686	14616.22	103983.19	<442.4509	1652.33	22182.39	89309.7	6697.25
YW19138940Z004-1	TMMNE-19-00020-SRK-WR-038	1aj	43826.03	612.17	323.7	34.81	1062.61	74.51	<7653.71	7653.71	<12705.1586	12339.04	93787.71	<455.5039	2656.52	19973.41	98745.56	6705.55
YW19138940Z004-2	TMMNE-19-00020-SRK-WR-038	1aj	43357.76	606.93	326.85	34.72	1030.29	73.72	6562.03	3638.58	10892.96	15032.42	92785.62	<452.504	2575.72	19927.96	99610.58	6925.59
YW19138940Z004-3	TMMNE-19-00020-SRK-WR-038	1aj	43306.28	621.4	351.25	35.82	1003.27	75.58	<5174.07	5174.07	<8588.9562	12973.98	92675.44	<467.389	2508.18	20287.75	101154.59	6634.01
YW19138940Z005-1	TMMNE-19-00020-SRK-WR-038 DUP	1aj	50727.11	680.17	432.85	37.99	1321.81	82.09	<5620.5	5620.5	<9330.03	17644.78	108556.02	<498.4643	3304.53	21967.23	109784.31	7473.25
YW19138940Z005-2	TMMNE-19-00020-SRK-WR-038 DUP	1aj	51951.07	688.68	408.03	37.92	1360.91	82.85	<5772.31	5772.31	<9582.0346	17740.88	111175.3	<506.319	3402.27	22359.36	112348.2	7756.82
YW19138940Z005-3	TMMNE-19-00020-SRK-WR-038 DUP	1aj	51930.23	673.62	417.32	36.99	1399.49	81.01	<9812.42	9812.42	<16288.6172	17786.52	111130.7	<490.4951	3498.72	21799.68	111112.75	7656.62
YW19138940Z006-1	TMMNE-19-00019-SRK-WR-039	1aj	41220.5	624.71	409.68	37	883.31	76.55	<6079.34	6079.34	<10091.7044	9045.64	88211.88	<477.4421	2208.27	13653.93	150422.39	11186.62
YW19138940Z006-2	TMMNE-19-00019-SRK-WR-039	1aj	41364.38	630.27	427.22	37.41	796.43	75.98	<6616.42	6616.42	<10983.2572	8991.28	88519.77	<480.6023	1991.08	13591.84	149322.28	11241.45
YW19138940Z006-3	TMMNE-19-00019-SRK-WR-039	1aj	41633.71	624.62	395.71	36.57	937.03	76.78	<5677.21	5677.21	<9424.1686	7829.84	89096.15	<481.9763	2342.58	13593.62	148782.5	11054.6
YW19138940Z009-1	TMMNE-19-00019-SRK-WR-041	1aj	38911.81	580.6	226.53	33.02	2543.34	89.75	<7594.08	7594.08	<12606.1728	8289.78	83271.28	<450.214	6358.35	9754.22	112677.34	13286.94
YW19138940Z009-2	TMMNE-19-00019-SRK-WR-041	1aj	39480.48	579.24	269.15	33.02	2523.81	88.67	8157.44	3868.41	13541.35	7598.2	84488.24	337.71	6309.52	9102.18	112226.98	13458.84
YW19138940Z009-3	TMMNE-19-00019-SRK-WR-041	1aj	38722.79	587.14	258.49	33.87	2499.87	90.82	<5982.15	5982.15	<9930.369	8440.98	82866.78	<714.5487	6249.68	9418.85	112560.13	13500.48
YW19138940Z010-1	TMMNE-19-00017-SRK-WR-042	1aj	56250.96	697.53	999.26	40.55	1637.29	82.59	<5236.59	5236.59	<8692.7394	9256.39	120377.05	<497.388	4093.24	14118.5	121705.55	10440.29
YW19138940Z010-2	TMMNE-19-00017-SRK-WR-042	1aj	55729.85	682.59	1028.35	39.84	1622.22	80.41	<7132.69	7132.69	<11840.2654	9520.05	119261.88	<478.5642	4055.56	14212.38	120169.91	10373.82
YW19138940Z010-3	TMMNE-19-00017-SRK-WR-042	1aj	56167.32	694.17	983.94	40.07	1615.83	81.56	<5498.31	5498.31	6466.23	8725.53	120198.07	<490.1058	4039.58	14277.36	121624.87	10464.94
YW19131909Z012-1	TM00416-SRK-WR-11	7a	50329.2	631.23	421.19	33.9	203.6	59.93	<4626.44	4626.44	<7679.8904	14121.48	107704.5	451.63	509	7282.04	72360.12	6535.42
YW19131909Z012-2	TM00416-SRK-WR-11	7a	50272.03	616.05	417.57	32.92	125.47	57.11	<4500.73	4500.73	<7471.2118	14954.02	107582.14	<428.3216	313.68	7473.4	71131.02	6486.94
YW19131909Z012-3	TM00416-SRK-WR-11	7a	50591.19	637.56	397.73	33.87	126.34	59.05	<7315.87	7315.87	<12144.3442	14644.17	108265.15	<727.8765	315.86	6888.11	71615.8	6293.19
YW19131909Z013-1	TM00416-SRK-WR-12	7a	50143.33	629.92	322.4	32.45	248.37	59.02	<4477.17	4477.17	<7432.1022	15581.31	107306.73	384.89	620.92	1758.7	67913.71	7061.91
YW19131909Z013-2	TM00416-SRK-WR-12	7a	50287.7	629.62	381.45	33.03	232.37	59	<6749.49	6749.49	<11204.1534	15201.33	107615.69	<433.6344	580.93	1963.86	66484.49	6851.47
YW19131909Z013-3	TM00416-SRK-WR-12	7a	50662.04	618.68	357.66	32.08	253.88	57.97	<7571.48	7571.48	<12568.6568	14024.75	108416.76	<710.9763	634.71	1896.73	66892.68	6712.73
YW19131909Z014-1	TM00416-SRK-WR-13	7a	57044.88	652.17	236.33	30.33	247.35	56.47	<4161.51	4161.51	<6908.1066	18952.43	122076.04	297.29	618.38	1409.06	66278.63	6015.5
YW19131909Z014-2	TM00416-SRK-WR-13	7a	56673.48	656.25	217.41	30.49	216.92	56.65	<5171.12	5171.12	<8584.0592	18759.19	121281.27	<650.7951	542.3	1321.04	66421.86	6042.54
YW19131909Z014-3	TM00416-SRK-WR-13	7a	57275.91	660.35	228.41	30.68	283.52	57.65	<7118.53	7118.53	<11816.7598	18729.42	122570.46	<522.4635	708.8	1438.98	66927.52	6086.51
YW19131909Z015-1	TM00416-SRK-WR-14	7a	51372.91	620.87	359.15	31.65	320.81	58.31	<4442.27	4442.27	<7374.1682	16014.92	109938.03	<423.8332	802.02	5564.38	78585.57	5276.89
YW19131909Z015-2	TM00416-SRK-WR-14	7a	51434.61	639.67	292.21	32.19	340.76	60.67	<4558.56	4558.56	<7567.2096	14567.79	110070.07	<588.0033	851.91	5774.39	78024.81	5478.37
YW19131909Z015-3	TM00416-SRK-WR-14	7a	51208.2	624.15	292.51	31.29	309.97	58.51	<4398.13	4398.13	<7300.8958	14885.58	109585.55	<571.1718	774.93	5402.95	78333.76	5341.16
YW19131909Z021-1	TM00441-SRK-WR-19	7a	54180.68	643.48	379.24	31.99	429.77	59.84	<5314.98	5314.98	<8822.8668	17096.12	115946.66	422.53	1074.42	2405.39	70828.94	6449.26
YW19131909Z021-2	TM00441-SRK-WR-19	7a	54408.44	639.9	368.6	31.37	423.1	58.79	<5534.84	5534.84	<9187.8344	16819.21	116434.06	421.85	1057.74	2279.88	71746.2	6445.15
YW19131909Z021-3	TM00441-SRK-WR-19	7a	54643.51	655.07	353.6	32.04	440.58	60.55	<6535.15	6535.15	<10848.349	15207.05	116937.12	503.37	1101.45	2512.95	71771.68	6408.33

Sample Descriptions																		
SAMPLE	SRK ID	Geochem Unit	Si	Si Error	Cl	Cl Error	S	S Error	Mg	Mg Error	MgO	Al2O3	SiO2	P2O5	SO3	K2O	CaO	TiO2
			ppm	+/-	ppm	+/-	ppm	+/-	ppm	+/-	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
YW19131909Z022-1	TM00441-SRK-WR-20	7a	60715.66	695.18	273.58	31.98	228.67	58.7	<5241.33	5241.33	<8700.6078	20699.4	129931.53	438.43	571.66	1074.42	71725.66	6646.67
YW19131909Z022-2	TM00441-SRK-WR-20	7a	60143.97	693.02	251.75	31.69	235.45	58.67	<4363.47	4363.47	<7243.3602	20002.39	128708.11	<756.7534	588.64	1205.46	70501.84	6447.9
YW19131909Z022-3	TM00441-SRK-WR-20	7a	59642.45	678.32	250.5	31	207.85	57.04	<4690.73	4690.73	<7786.6118	19279.54	127634.84	<670.7868	519.62	1294.18	71191.02	6211.03
YW19131909Z023-1	TM00441-SRK-WR-21	7a	59289.11	687.62	391.9	33.16	233.66	59.12	<4454.91	4454.91	<7395.1506	20550.7	126878.7	<585.1408	584.16	1340.51	70438.52	6106.88
YW19131909Z023-2	TM00441-SRK-WR-21	7a	59462.16	666.8	387.58	31.75	169.16	55.75	5699.68	3067.29	9461.47	19869.17	127249.03	<594.1863	422.9	1370.65	69620.05	5905.99
YW19131909Z023-3	TM00441-SRK-WR-21	7a	59253.89	672.65	379.67	32.18	212.36	57.27	<5583.77	5583.77	<9269.0582	20308.91	126803.32	736.26	530.91	1487.1	68916.06	5975.03
YW19131909Z024-1	TM00441-SRK-WR-22	7a	58171.49	649.32	345.95	30.43	211.44	54.38	<4005.67	4005.67	<6649.4122	19331.86	124487	487.55	528.59	1000.99	56709.56	5583.8
YW19131909Z024-2	TM00441-SRK-WR-22	7a	58449.14	643.05	307.34	29.67	294.05	54.74	<3873.69	3873.69	<6430.3254	18776.96	125081.16	673.54	735.12	667.75	56883.82	5722.58
YW19131909Z024-3	TM00441-SRK-WR-22	7a	58568.95	650.48	322.64	30.13	227.29	54.44	<3993.48	3993.48	<6629.1768	18526.49	125337.55	<701.4041	568.21	846.61	55716.77	5873.67
YW19131909Z025-1	TM00441-SRK-WR-23	7a	54457.62	626.32	417	30.97	224.75	54.21	<6729.22	6729.22	<11170.5052	18600.27	116539.31	324.69	561.89	7061.83	51270.86	5640.97
YW19131909Z025-2	TM00441-SRK-WR-23	7a	53364.57	628.1	390.42	30.93	196.49	54.1	6282.17	2918.75	10428.39	17225.33	114200.2	382.1	491.23	7112.21	50745.24	5451.91
YW19131909Z025-3	TM00441-SRK-WR-23	7a	53618.27	594.04	383.47	28.75	204.55	50.63	<3669.27	3669.27	<6090.9882	18375.15	114743.1	<388.5901	511.38	6933.25	49845.47	5547.92

Note:

Less than sign indicates less than LOD

Source: Z:\01_SITES\Hope.Bay\1CT022.037_2019 Geochem Compliance\!020_Project_Da

Sample Descriptions					
SAMPLE	SRK ID	Geochem Unit	Cr2O3	MnO	Fe2O3
			ppm	ppm	ppm
YW19131909Z001-1	TM00421-SRK-WR-01	1	1875.87	2941.97	148917.45
YW19131909Z001-2	TM00421-SRK-WR-01	1	1726.32	2246.31	121927.18
YW19131909Z001-3	TM00421-SRK-WR-01	1	1707.74	2306.9	122487.23
YW19131909Z003-1	TM00421-SRK-WR-03	1	486.66	2235.64	111699.5
YW19131909Z003-2	TM00421-SRK-WR-03	1	505.84	2324.85	111544.54
YW19131909Z003-3	TM00421-SRK-WR-03	1	464.61	2313.79	110874.21
YW19131909Z004-1	TM00421-SRK-WR-04	1	587.74	2732.91	138596.36
YW19131909Z004-2	TM00421-SRK-WR-04	1	526.26	2705.08	138353.47
YW19131909Z004-3	TM00421-SRK-WR-04	1	566.06	2571.06	139404.63
YW19131909Z005-1	TM00421-SRK-WR-05	1	480.56	2217.47	125971.86
YW19131909Z005-2	TM00421-SRK-WR-05	1	639.93	2454.78	142685.66
YW19131909Z005-3	TM00421-SRK-WR-05	1	709.72	2605.61	146075.64
YW19131909Z006-1	TM00421-SRK-WR-05 DUP	1	602.4	2317.58	131811.7
YW19131909Z006-2	TM00421-SRK-WR-05 DUP	1	625.21	2340.9	132760.77
YW19131909Z006-3	TM00421-SRK-WR-05 DUP	1	652.02	2251.8	133044.97
YW19131909Z007-1	TM00421-SRK-WR-06	1	670.22	2018.01	135781.47
YW19131909Z007-2	TM00421-SRK-WR-06	1	674.51	2058.23	136122.92
YW19131909Z007-3	TM00421-SRK-WR-06	1	678.48	1969.15	143366.55
YW19131909Z008-1	TM00420-SRK-WR-07	1	593	2128.99	116205.05
YW19131909Z008-2	TM00420-SRK-WR-07	1	607	2183.48	116240.44
YW19131909Z008-3	TM00420-SRK-WR-07	1	559.41	2073.63	116415.38
YW19131909Z009-1	TM00420-SRK-WR-08	1	629.83	2121.48	136936.09
YW19131909Z009-2	TM00420-SRK-WR-08	1	668.31	2100.47	136386.36
YW19131909Z009-3	TM00420-SRK-WR-08	1	608.34	2172.45	137147.44
YW19131909Z010-1	TM00420-SRK-WR-09	1	619.08	2531.56	133708.38
YW19131909Z010-2	TM00420-SRK-WR-09	1	553	2567.11	133650.72
YW19131909Z010-3	TM00420-SRK-WR-09	1	601.62	2545.75	133682.73
YW19131909Z011-1	TM00420-SRK-WR-10	1	1580.14	2614.37	145232.88
YW19131909Z011-2	TM00420-SRK-WR-10	1	1465.38	2709.27	144739.89
YW19131909Z011-3	TM00420-SRK-WR-10	1	1542.14	2530.04	145613.5
YW19131909Z019-1	TM00441-SRK-WR-17	1	580.92	2134.66	147737.41
YW19131909Z019-2	TM00441-SRK-WR-17	1	556.81	2151.75	147428.33
YW19131909Z019-3	TM00441-SRK-WR-17	1	580.07	2172.95	147227.77
YW19131909Z020-1	TM00441-SRK-WR-18	1	594.97	2317.61	153901.3
YW19131909Z020-2	TM00441-SRK-WR-18	1	634.03	2352.05	154040.63
YW19131909Z020-3	TM00441-SRK-WR-18	1	598.6	2313.58	153498.91
YW19131909Z026-1	TM00426-SRK-WR-24	1	672.62	2681.8	140342.83
YW19131909Z026-2	TM00426-SRK-WR-24	1	658.39	2713.85	141181.64
YW19131909Z026-3	TM00426-SRK-WR-24	1	605.68	2716.02	140299.81
YW19131909Z027-1	TM00426-SRK-WR-25	1	699.89	2622	154266.66
YW19131909Z027-2	TM00426-SRK-WR-25	1	635.83	2477.47	143116.58
YW19131909Z027-3	TM00426-SRK-WR-25	1	668.53	2491.99	142196.33
YW19131909Z028-1	TM00421-SRK-WR-25 DUP	1	622.51	2507.45	142016.52
YW19131909Z028-2	TM00421-SRK-WR-25 DUP	1	659.05	2467.23	141911.44

Sample Descriptions					
SAMPLE	SRK ID	Geochem Unit	Cr2O3	MnO	Fe2O3
			ppm	ppm	ppm
YW19131909Z028-3	TM00421-SRK-WR-25 DUP	1	642.94	2531.34	142485.83
YW19131909Z029-1	TM00426-SRK-WR-26	1	677.12	2303.19	139235.95
YW19131909Z029-2	TM00426-SRK-WR-26	1	619.39	2260.14	140077.75
YW19131909Z029-3	TM00426-SRK-WR-26	1	608	2260.69	140646.91
YW19131909Z032-1	TM00427-SRK-WR-29A	1	638.38	2370.06	134789.45
YW19131909Z032-2	TM00427-SRK-WR-29A	1	636.28	2442.23	134902.2
YW19131909Z032-3	TM00427-SRK-WR-29A	1	692.5	2487.35	134907.66
YW19131909Z033-1	TM00427-SRK-WR-30	1	601.51	2002.27	119023.66
YW19131909Z033-2	TM00427-SRK-WR-30	1	635.84	2143.54	119350.86
YW19131909Z033-3	TM00427-SRK-WR-30	1	582.77	2084.28	119290.3
YW19131909Z034-1	TM00427-SRK-WR-31A	1	603.45	2026.23	114456.25
YW19131909Z034-2	TM00427-SRK-WR-31A	1	574.47	1992.54	115292.56
YW19131909Z034-3	TM00427-SRK-WR-31A	1	512.78	2075.34	115303.08
YW19131909Z036-1	TM00427-SRK-WR-33	1	1906.15	2490.65	122829.47
YW19131909Z036-2	TM00427-SRK-WR-33	1	1895.09	2537.82	123095.52
YW19131909Z036-3	TM00427-SRK-WR-33	1	1885.73	2505.91	123052.29
YW19131909Z002-1	TM00421-SRK-WR-02	5	409.5	1855.78	85907.79
YW19131909Z002-2	TM00421-SRK-WR-02	5	371.42	1819.7	86145.77
YW19131909Z002-3	TM00421-SRK-WR-02	5	340	1817.46	85891.66
YW19131909Z016-1	TM00416-SRK-WR-15	5	137.79	280.5	41585.39
YW19131909Z016-2	TM00416-SRK-WR-15	5	114.29	291.39	39932.45
YW19131909Z016-3	TM00416-SRK-WR-15	5	155.06	275.9	39911.45
YW19131909Z017-1	TM00421-SRK-WR-15 DUP	5	162.74	288.08	43965
YW19131909Z017-2	TM00421-SRK-WR-15 DUP	5	175.34	253.35	43948.25
YW19131909Z017-3	TM00421-SRK-WR-15 DUP	5	1751.07	2346.69	123469.94
YW19131909Z035-1	TM00427-SRK-WR-32A	5	246.52	2859.09	64624.26
YW19131909Z035-2	TM00427-SRK-WR-32A	5	181.42	2895.22	65521.09
YW19131909Z035-3	TM00427-SRK-WR-32A	5	228.54	2921.05	64887.77
YW19131909Z037-1	TM00427-SRK-WR-34	5	613.57	3005.28	127782.88
YW19131909Z037-2	TM00427-SRK-WR-34	5	589.01	3047.97	128007.07
YW19131909Z037-3	TM00427-SRK-WR-34	5	618.13	3050.72	127632.73
YW19138940Z001-1	TMMNE-19-00020-SRK-WR-035	5	293.74	1039.11	60989.63
YW19138940Z001-2	TMMNE-19-00020-SRK-WR-035	5	309.16	1057.9	60466.64
YW19138940Z001-3	TMMNE-19-00020-SRK-WR-035	5	287.67	1091.96	60539.82
YW19138940Z007-1	TMMNE-19-00019-SRK-WR-040	5	323.52	710.62	67383.54
YW19138940Z007-2	TMMNE-19-00019-SRK-WR-040	5	336.67	748.69	66925.13
YW19138940Z007-3	TMMNE-19-00019-SRK-WR-040	5	285.58	653.18	66846.3
YW19138940Z008-1	TMMNE-19-00020-SRK-WR-040 DUP	5	316	726.97	68942.88
YW19138940Z008-2	TMMNE-19-00020-SRK-WR-040 DUP	5	335.17	753.36	69055.93
YW19138940Z008-3	TMMNE-19-00020-SRK-WR-040 DUP	5	271.78	788.73	69470.9
YW19138940Z011-1	TMMNE-19-00017-SRK-WR-043	5	193.36	887.27	83498.52
YW19138940Z011-2	TMMNE-19-00017-SRK-WR-043	5	227.61	926.77	83724.09
YW19138940Z011-3	TMMNE-19-00017-SRK-WR-043	5	222.9	937.23	83767.7
YW19131909Z018-1	TM00416-SRK-WR-16	1aj	1672.17	2351.3	122575.56

Sample Descriptions					
SAMPLE	SRK ID	Geochem Unit	Cr2O3	MnO	Fe2O3
			ppm	ppm	ppm
YW19131909Z018-2	TM00416-SRK-WR-16	1aj	1728.98	2374.37	122064.45
YW19131909Z018-3	TM00416-SRK-WR-16	1aj	1710.25	2288.24	122123.66
YW19131909Z030-1	TM00426-SRK-WR-27	1aj	596.37	2319.9	128726.06
YW19131909Z030-2	TM00426-SRK-WR-27	1aj	637.7	2359.33	129213.16
YW19131909Z030-3	TM00426-SRK-WR-27	1aj	609.22	2446.78	129881.2
YW19131909Z031-1	TM00426-SRK-WR-28	1aj	601.96	2489.36	122157.79
YW19131909Z031-2	TM00426-SRK-WR-28	1aj	565.44	2484.88	122803.95
YW19131909Z031-3	TM00426-SRK-WR-28	1aj	578.84	2467.11	122068.91
YW19138940Z002-1	TMMNE-19-00020-SRK-WR-036	1aj	540.23	1722.01	120792.55
YW19138940Z002-2	TMMNE-19-00020-SRK-WR-036	1aj	605.22	1694.71	120572.5
YW19138940Z002-3	TMMNE-19-00020-SRK-WR-036	1aj	589.51	1697.79	120231.06
YW19138940Z003-1	TMMNE-19-00020-SRK-WR-037	1aj	631.87	2607.95	125996.77
YW19138940Z003-2	TMMNE-19-00020-SRK-WR-037	1aj	669.16	2598.88	126389.52
YW19138940Z003-3	TMMNE-19-00020-SRK-WR-037	1aj	649.13	2617.79	126403.48
YW19138940Z004-1	TMMNE-19-00020-SRK-WR-038	1aj	620.82	2992.51	119244.35
YW19138940Z004-2	TMMNE-19-00020-SRK-WR-038	1aj	609.75	3008.48	119786.74
YW19138940Z004-3	TMMNE-19-00020-SRK-WR-038	1aj	655.32	2922.15	119868.38
YW19138940Z005-1	TMMNE-19-00020-SRK-WR-038 DUP	1aj	707.88	3312.48	134806.78
YW19138940Z005-2	TMMNE-19-00020-SRK-WR-038 DUP	1aj	644.87	3397.19	136672.5
YW19138940Z005-3	TMMNE-19-00020-SRK-WR-038 DUP	1aj	654.94	3379.95	136492.05
YW19138940Z006-1	TMMNE-19-00019-SRK-WR-039	1aj	1813.58	2006.61	105747.87
YW19138940Z006-2	TMMNE-19-00019-SRK-WR-039	1aj	1842.77	2057.77	106167.59
YW19138940Z006-3	TMMNE-19-00019-SRK-WR-039	1aj	1826.98	2132.58	105682.05
YW19138940Z009-1	TMMNE-19-00019-SRK-WR-041	1aj	1723.71	1908.67	149983.98
YW19138940Z009-2	TMMNE-19-00019-SRK-WR-041	1aj	1715.28	1856.04	150351.83
YW19138940Z009-3	TMMNE-19-00019-SRK-WR-041	1aj	1693.46	1840.43	149562.05
YW19138940Z010-1	TMMNE-19-00017-SRK-WR-042	1aj	1726.88	1470.39	106249.01
YW19138940Z010-2	TMMNE-19-00017-SRK-WR-042	1aj	1705.9	1543.95	106121.65
YW19138940Z010-3	TMMNE-19-00017-SRK-WR-042	1aj	1593.48	1563.68	105627.37
YW19131909Z012-1	TM00416-SRK-WR-11	7a	553.61	2125.04	150617.67
YW19131909Z012-2	TM00416-SRK-WR-11	7a	590.34	2105.49	151211.77
YW19131909Z012-3	TM00416-SRK-WR-11	7a	535.49	2100.1	152285.98
YW19131909Z013-1	TM00416-SRK-WR-12	7a	576.36	2089.29	154899.91
YW19131909Z013-2	TM00416-SRK-WR-12	7a	627.77	2155.91	154091.17
YW19131909Z013-3	TM00416-SRK-WR-12	7a	536.56	2014.59	153830.92
YW19131909Z014-1	TM00416-SRK-WR-13	7a	721.62	2240.61	147260.78
YW19131909Z014-2	TM00416-SRK-WR-13	7a	741.99	2147.46	147144.89
YW19131909Z014-3	TM00416-SRK-WR-13	7a	699.15	2098.16	147544.73
YW19131909Z015-1	TM00416-SRK-WR-14	7a	769.84	2247.45	149606.84
YW19131909Z015-2	TM00416-SRK-WR-14	7a	811.44	2156.24	149481.05
YW19131909Z015-3	TM00416-SRK-WR-14	7a	790.62	2104.51	149051.91
YW19131909Z021-1	TM00441-SRK-WR-19	7a	530.41	2140.25	145570.45
YW19131909Z021-2	TM00441-SRK-WR-19	7a	583.69	2128.26	145843.3
YW19131909Z021-3	TM00441-SRK-WR-19	7a	582.71	2172.07	145814.27

Sample Descriptions					
SAMPLE	SRK ID	Geochem Unit	Cr2O3	MnO	Fe2O3
			ppm	ppm	ppm
YW19131909Z022-1	TM00441-SRK-WR-20	7a	645.35	2391.49	147845.22
YW19131909Z022-2	TM00441-SRK-WR-20	7a	599.35	2292.64	146131.81
YW19131909Z022-3	TM00441-SRK-WR-20	7a	647.63	2315.41	145990.81
YW19131909Z023-1	TM00441-SRK-WR-21	7a	616.39	2376.03	146636.73
YW19131909Z023-2	TM00441-SRK-WR-21	7a	615.78	2355.37	148045.33
YW19131909Z023-3	TM00441-SRK-WR-21	7a	637.65	2327.75	147498.14
YW19131909Z024-1	TM00441-SRK-WR-22	7a	821.19	2232.89	149238.28
YW19131909Z024-2	TM00441-SRK-WR-22	7a	810.06	2325.5	148571.94
YW19131909Z024-3	TM00441-SRK-WR-22	7a	823.16	2284.35	148470.06
YW19131909Z025-1	TM00441-SRK-WR-23	7a	844.1	2154.22	150579.83
YW19131909Z025-2	TM00441-SRK-WR-23	7a	865.1	2128.49	148970.94
YW19131909Z025-3	TM00441-SRK-WR-23	7a	859.44	2205.27	149834.78

Note:

Less than sign indicates less than LOD

Source: Z:\01_SITES\Hope.Bay\1CT022.037_2019 Geochem Compliance\!020_Project_Da

Attachment B – NE CPR Site-Specific Waste Rock for Construction Flowchart

NAARTOK EAST CPR- Waste Rock for Construction
SITE-SPECIFIC PROCESS FOR SUITABILITY DETERMINATION

PURPOSE: Testing is required to demonstrate the geochemical suitability of waste rock for construction (low risk of ARD and/or metal leaching). The following process has been developed for use by TMAC Geology to assess whether Naartok East CPR waste rock is suitable for construction. See notes below for additional details regarding each of the process steps.

STEP 1: CONFIRM SUITABILITY OF BLAST GEOLOGY VIA DRILLHOLE RECORDS

✗ → **ML WASTE ROCK NOT FOR USE IN CONSTRUCTION, TO BE STORED IN WASTE ROCK AREA**

✓ ↓

STEP 2: PROCEED TO COLLECT REPRESENTATIVE SAMPLES FROM A MINIMUM OF 25% OF BLAST HOLES EVENLY SPACED THROUGHOUT BLAST PATTERN

✓ ↓

STEP 3: ASSESS ROCK TYPE AND TAKE pXRF MEASUREMENTS OF EACH SAMPLE.
NON-PAG/LOW RISK OF ML IF:
ROCK TYPE 1 OR 7A AND
CALIBRATED PXRF: % SULPHUR ≤ 1% AND ARSENIC ≤ 70 PPM

✗ → **ML WASTE ROCK NOT FOR USE IN CONSTRUCTION, TO BE STORED IN WASTE ROCK AREA (See note 1)**

✓ ↓

WASTE ROCK SUITABLE FOR CONSTRUCTION, NOTIFY ENVIRONMENTAL SUPERVISOR AND PIT SUPERINTENDENT. VERIFY VOLUMES AND PLACEMENT IN CONSTRUCTION IS RECORDED BY PIT SUPERINTENDENT. REPEAT AT STEPS 1-3 EVERY BLAST

✓ ↓

STEP 4: CONFIRMATORY SAMPLING EVERY 20,000 TONNES FOR EXTERNAL LAB SUBMISSION :
(See Note 2)
NON-PAG/LOW RISK OF ML IF:
NP/AP RATIO GREATER THAN 3 *OR*
TOTAL SULPHUR CONTENT OF LESS THAN 0.1%
AND
ARSENIC ≤ 70 PPM

✗ → **MONITORING AND FURTHER INVESTIGATION AS PER WASTE ROCK, ORE AND BACKFILL MANAGEMENT PLAN**

✓ ↓

PERFORM POST-CONSTRUCTION INSPECTIONS AND MONITORING

NOTES:

1. If rock is determined to be ML, store in waste rock area. Subject to professional judgement, waste rock suitability is re-assessed at the next blast round, and Steps 2-3 can be repeated prior to use.
2. During blasting, the construction waste rock will be inspected every 20,000 tonnes. At these intervals, a representative sample of blasted rock is collected and sent for lab testing of total Sulphur, ABA and SFE.
    1. ABA to include: Paste pH, sulphate by HCl leach, total inorganic carbon, modified NP (MEND 1991) and trace elemental content by aqua regia digestion followed by ICP finish
    2. Shake Flask Leachate analysis to include pH, EC, SO4, acidity, alkalinity, chloride, ammonia, and low-level dissolved metals