Maxxam Analytics 4606 Canada Way, Burnaby, BC Canada V5G 1K5 Tel: 604 734 7276 Fax: 604 731 2386 www.maxxam.ca

Client: TETRA TECH

Table 1: ABA Test Results for project N/A

Maxxam Sample No	Sample ID	Paste pH	CO2	CaCO3 Equiv.	Total S	HCl Extractable Sulphur	HNO3 Extractable Sulphur	Non Extractable Sulphur (by diff.)	Acid Generation Potential	Std Sobek Neutralization Potential	Fizz Rating	Net Neutralization Potential	Neutralization Potential Ratio
	Units	pH Units	wt%	Kg CaCO3/T	wt%	wt%	wt%	wt%	Kg CaCO3/T	Kg CaCO3/T	N/A	Kg CaCO3/T	N/A
GY5566	QUARRY 1	9.75	0.03	0.7	0.04	0.02	0.01	<0.02	0.3	15.5	NONE	15.2	51.7
GY5567	QUARRY 2	9.60	<0.02	<0.5	0.05	<0.01	<0.01	0.05	<0.3	13.0	NONE	13.0	#N/A
GY5568	QUARRY 3	8.98	0.57	13.0	0.10	0.01	<0.01	0.09	<0.3	38.0	SLIGHT	38.0	#N/A
Detection Limits		*N/A*	*0.02*	*0.5*	*0.02*	*0.01*	*0.01*	*0.02*	*0.3*	*0.1*	*N/A*	*0.1*	*N/A*
Maxxam SOP #		*BBY0-00003*		*Calculation*	*Acme*	*BBY0-00010*	*BBY0-00010*	*Calculation*	*Calculation*	*BBY0-00023*	*BBY0-00020*	*Calculation*	*Calculation*

Notes:

Lawrence, R.W. 1991. Acid Rock Drainage Prediction Manual

References:

Acid Generation Potential = HNO3 Extractable Sulphide Sulphur*31.25

CaCO3 Equivalency = Carbonate Carbon (CO2)*(100/44)*10

Carbonate carbon (CO2; HCl direct method) by Leco done at Acme Labs.

Fizz Rating - Reference method used is based on NP method.

Non Extractable Sulphur = (Total Sulphur)-(HCl Extractable Sulphate Sulphur)-(HNO3 Extractable Sulphide Sulphur)

Net Neutralization Potential = (Standard Sobek Neutralization Potential)-(Acid Generation Potential (HNO3 Extr))

Neutralization Potential Ratio = (Neutralization Potential)/(Acid Generation Potential)

Std Sobek Neutralization Potential - Field and Laboratory Methods Applicable to Overburdens and Minesoils, (EPA 600 / 2-78-054, March 1978)

Paste pH - Field and Laboratory Methods Applicable to Overburdens and Minesoils, (EPA 600 / 2-78-054, March 1978).

HCl Extractable Sulphur and HNO3 Extractable Sulphur is based on a modified version of ASTM Method D 2492-02

Total sulphur, total carbon & carbonate carbon (CO2; HCl direct method) by Leco done at Acme Labs.

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Table 2: ABA QAQC Test Results for project N/A

	Duplicate QC												
Maxxam Sample No	**Sample ID**	Paste pH Reported	**Paste pH Dup**			HCl Extractable Sulphur Reported	**HCl Extractable Sulphur Dup**	HNO3 Extractable Sulphur Reported	**HNO3 Extractable Sulphur Dup**	Std Sobek Neutralization Potential Reported	**Std Sobek Neutralization Potential Dup**	Fizz Rating Reported	**Fizz Rating Dup**
	Units	pH Units	pH Units			wt%	wt%	wt%	wt%	Kg CaCO3/T	Kg CaCO3/T	N/A	N/A
GY5566 Dup	QUARRY 1	9.75	9.74			0.02	0.03	0.01	<0.01	15.5	16.0	NONE	NONE

	Reference Material QC									
		Paste pH		CO2	Total S	HCl Extractable Sulphur		HNO3 Extractable Sulphur		Std Sobek Neutralization Potential
	Units	pH Units		wt%	wt%	wt%		wt%		Kg CaCO3/T
	Reference Material									
	ARD Ref Mat C&S (0.16 wt%)				0.18					
	ARD Spike CO2 (1.55 wt%)			1.32						
	PPHARD 2012-1 (8.34 pH Units)	8.16								
	KZK-1NP Sob Slight (59 Kg CaCO3/T)									63.3
	ARD Ref Mat C&S (2.35 wt%)				2.42					
	ARD Spike CO2 (1.55 wt%)			1.27						
	ARD Ref Mat SO4-S (0.06 wt%)					0.06				
	ARD Ref Mat S-S (0.37 wt%)							0.36		
	Blank QC									
	Method Blank				<0.02					
	Method Blank			<0.02						
	Method Blank					<0.01				
	Method Blank							<0.01		

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Table 3: Sample List Test Results for project N/A

Maxxam Sample ID	Client Sample ID	Sample Form	Dry Weight Received (kg)
GY5566	QUARRY 1	ROCK	2.559
GY5567	QUARRY 2	ROCK	3.736
GY5568	QUARRY 3	ROCK	3.515

Total Weight	9.81
Total Samples Received	3

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Table 4: Sample Summary for project N/A

Date Samples Rec'd by Maxxam:	3 sample were rec'd on 17-Jul-2013.
Sample Prep Conducted by Maxxam:	YES
Date of Analysis:	July 2013

Client:	TETRA TECH
Client Project Name:	N/A
Client Project No:	1301660200
ARD Project #:	2-21-900
Maxxam Job No:	B361755
Contact Person:	Jackie L. Dunn German Martinez
E-mail Address:	Jackie.Dunn@tetratech.com gmartinez@eba.ca

Data Validated by:	Kevin Bunten
Position:	ARD - Senior Scientific Specialist

Sample Storage

Sample rejects (and selected test residues where applicable) have been archived
Standard archive protocol is archiving for samples for 3 months after testing is complete.
If archiving is required past 3 months a fee will be required.