APPENDIX F

LABORATORY SOIL CHEMISTRY TESTING





December 13, 2013

Mr. Mike St Pierre S. W. Cole 555 Eastern Ave. Augusta,ME 04430

RE:	Katahdin Lab Number:	SG9560
	Project ID:	Bingham/ 10-0014.3
	Project Manager:	Ms. Shelly Brown
	Sample Receipt Date(s):	December 06, 2013

Dear Mr. St Pierre:

Please find enclosed the following information:

- * Report of Analysis (Analytical and/or Field)
- * Quality Control Data Summary
- * Chain of Custody (COC)
- * Login Report

A copy of the Chain of Custody is included in the paginated report. The original COC is attached as an addendum to this report.

Should you have any questions or comments concerning this Report of Analysis, please do not hesitate to contact the project manager listed above. The results contained in this report relate only to the submitted samples. This cover letter is an integral part of the ROA.

We certify that the test results provided in this report meet all the requirements of the NELAC standards unless otherwise noted in an attached technical narrative or in the Report of Analysis.

We appreciate your continued use of our laboratory and look forward to working with you in the future. The following signature indicates technical review and acceptance of the data.

Please go to http://www.katahdinlab.com/cert.html for copies of Katahdin Analytical Services Inc. current certificates and analyte lists.

Sincerely, KATAHDIN ANALYTICAL SERVICES

rah & nadeau

Authorized Signature

12/13/2013 Date

<u>KATAHDIN ANALYTICAL SERVICES – INORGANIC DATA QUALIFIERS</u> (Refer to BOD Qualifiers Page for BOD footnotes)

The sampled date indicated on the attached Report(s) of Analysis (ROA) is the date for which a grab sample was collected or the date for which a composite sample was completed. Beginning and start times for composite samples can be found on the Chain-of-Custody.

U Indicates the compound was analyzed for but not detected above the specified level. This level may be the Limit of Quantitation (LOQ)(previously called Practical Quantitation Level (PQL)), the Limit of Detection (LOD) or Method Detection Limit (MDL) as required by the client.

Note: All results reported as "U" MDL have a 50% rate for false negatives compared to those results reported as "U" PQL/LOQ or "U" LOD, where the rate of false negatives is <1%.

- E Estimated value. This flag identifies compounds whose concentrations exceed the upper level of the calibration range of the instrument for that specific analysis.
- J Estimated value. The analyte was detected in the sample at a concentration less than the laboratory Limit of Quantitation (LOQ)(previously called Practical Quantitation Limit (PQL)), but above the Method Detection Limit (MDL).
- I-7 The laboratory's Practical Quantitation Level could not be achieved for this parameter due to sample composition, matrix effects, sample volume, or quantity used for analysis.
- A-4 Please refer to cover letter or narrative for further information.
- MCL Maximum Contaminant Level
- NL No limit
- NFL No Free Liquid Present
- FLP Free Liquid Present
- NOD No Odor Detected
- TON Threshold Odor Number
- H_ Please note that the regulatory holding time for _____ is "analyze immediately". Ideally, this analysis must be performed in the field at the time of sample collection. _____ for this sample was not performed at the time of sample collection. The analysis was performed as soon as possible after receipt by the laboratory.
 - H1 pH
 - H2 DO
 - H3 sulfite
 - H4 residual chlorine
- T1 The client did not provide the full volume of at least one liter for analysis of TSS. Therefore, the PQL of 2.5 mg/L could not be achieved.
- T2 The client provided the required volume of at least one liter for analysis of TSS, but the laboratory could not filter the full one liter volume due to the sample matrix. Therefore, the PQL of 2.5 mg/L could not be achieved.





Client: Mike St Pierre S. W. Cole 555 Eastern Ave.	Lab Sample ID: Report Date:			
Augusta, ME 04430	•	Bingham/ 10-0014.3 SG9560		
Sample Description	Matrix	Date Sampled	Date Received	
8060A, TP-175	SL	05-DEC-13	06-DEC-13	

	Parameter	Result	Adj PQL	Adj MDL	Anal. Method	QC Batch	Analysis Date	Prep. Method	Prep. Date	Analyst	Footnotes
Kata	Chloride	35. mg/Kgdrywt	20.	3.43	SW846 9251	WG136057	11-DEC-13 16:48:00	N/A	11-DEC-13	RO	
ahdi	Sulfate-Turbidimetric	U10. mg/Kgdrywt	10.	2.02	SW846 9038	WG136063	11-DEC-13 16:48:00	N/A	11-DEC-13	RO	
n A	Total Solids	98. %	1		SM2540G	WG135805	10-DEC-13 07:53:38	SM2540G	09-DEC-13	KP	
Katahdin Analytical Services SG9560 page 0000003 of 000001	pH(Soil)	. 6.7 pH	0.10	0,10	SW846 9045D	WG135841	09-DEC-13 07:40:00	SW846 9045C	N/A	ZS	
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600 Technology V P.O. Box 540, Sc.	Way arborough, ME 04070										http://katahd sales@katah





Sample Description	Matrix	Date Sampled	Date Received
	SDG:	SG9560	
Augusta,ME 04430	Project:	Bingham/ 10-0014.3	
555 Eastern Ave.	Client PO:		
S. W. Cole	Report Date:	13-DEC-13	
Client: Mike St Pierre	Lab Sample ID:	SG9560-2	

8033A, TP-144

	Parameter	Result	Adj PQL	Adj MDL	Anal. Method	QC Batch	Analysis Date	Prep. Method	Prep. Date	Analyst	Footnotes
Kata	Chloride	30. mg/Kgdrywt	20.	3.43	SW846 9251	WG136057	11-DEC-13 16:48:00	N/A	11-DEC-13	RO	
ahdi	Sulfate-Turbidimetric	U10. mg/Kgdrywt	10.	2.02	SW846 9038	WG136063	11-DEC-13 16:48:00	N/A	11-DEC-13	RO	
n A	Total Solids	95. %	1		SM2540G	WG135805	10-DEC-13 07:54:50	SM2540G	09-DEC-13	KP	
Katahdin Analytical Services SG9560 page 0000004 of 000001	pH(Soil)	6.4 pH	0.10	0.10	SW846 9045D	WG135841	09-DEC-13 07:40:00	SW846 9045C	N/A	ZS	
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05-DEC-13





Client: Mike St Pierre	Lab Sample ID:	SG9560-3	
S. W. Cole	Report Date:	13-DEC-13	
555 Eastern Ave.	Client PO:		
Augusta, ME 04430	Project:		
	SDG:	SG9560	
Sample Description	Matrix	Date Sampled	Date Received

8034A, TP-154

	Parameter	Result	Adj PQL	Adj MDL	Anal. Method	QC Batch	Analysis Date	Prep. Method	Prep. Date	Analyst	Footnotes
Kata	Chloride	22. mg/Kgdrywt	20.	3.43	SW846 9251	WG136057	11-DEC-13 16:48:00	N/A	11-DEC-13	RO	11.071.0810_1_000
ahdi	Sulfate-Turbidimetric	U10. mg/Kgdrywt	10.	2.02	SW846 9038	WG136063	11-DEC-13 16:48:00	N/A	11-DEC-13	RO	
n A	Total Solids	95. %	1		SM2540G	WG135805	10-DEC-13 07:55:00	SM2540G	09-DEC-13	KP	
nalytic	pH(Soil)	5.9 pH	0.10	0.10	SW846 9045D	WG135841	09-DEC-13 07:40:00	SW846 9045C	N/A	ZS	
I Services SG9560 page 0000005 of 00	Parameter Chloride Sulfate-Turbidimetric Total Solids pH(Soil)										
00018	0 Technology Way D. Box 540, Scarborough, ME 04070							************			http://kataho sales@katal

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05-DEC-13





Client: Mike St Pierre	Lab Sample ID:	SG9560-4	
S. W. Cole	Report Date:	13-DEC-13	
555 Eastern Ave.	Client PO:		
Augusta, ME 04430	Project:	Bingham/ 10-0014.3	
	SDG:	SG9560	
Sample Description	Matrix	Date Sampled	Date Received

8036A, TP-161

	Parameter	Result	Adj PQL	Adj MDL	Anal. Method	QC Batch	Analysis Date	Prep. Method	Prep. Date	Analyst	Footnotes
Kata	Chloride	U20. mg/Kgdrywt	20.	3.43	SW846 9251	WG136057	11-DEC-13 16:48:00	N/A	11-DEC-13	RO	
ahdi	Sulfate-Turbidimetric	U10. mg/Kgdrywt	10.	2.02	SW846 9038	WG136063	11-DEC-13 16:48:00	N/A	11-DEC-13	RO	
n A	Total Solids	93. %	1		SM2540G	WG135805	10-DEC-13 07:55:10	SM2540G	09-DEC-13	KP	
nalytic	pH(Soil)	6.1 pH	0.10	0.10	SW846 9045D	WG135841	09-DEC-13 07:40:00	SW846 9045C	N/A	ZS	
Katahdin Analytical Services SG9560 page 0000006 of 0000018											
600 Technology P.O. Box 540, Sc 8	Way arborough, ME 04070	,	*****								http://kataho sales@katal

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05-DEC-13





Client: Mike St Pierre	Lab Sample ID:	SG9560-5	
S. W. Cole	Report Date:	13-DEC-13	
555 Eastern Ave.	Client PO:		
Augusta, ME 04430	Project:	Bingham/ 10-0014.3	
	SDG:	SG9560	
Sample Description	Matrix	Date Sampled	Date Received

8035A, TP-159

05-DEC-13

06-DEC-13

	Parameter	Result	Adj PQL	Adj MDL	Anal. Method	QC Batch	Analysis Date	Prep. Method	Prep. Date	Analyst	Footnotes
Kata	Chloride	24. mg/Kgdrywt	20.	3.43	SW846 9251	WG136057	11-DEC-13 16:48:00	N/A	11-DEC-13	RO	
ahdi	Sulfate-Turbidimetric	U10. mg/Kgdrywt	10.	2.02	SW846 9038	WG136063	11-DEC-13 16:48:00	N/A	11-DEC-13	RŎ	
n A	Total Solids	92. %	1		SM2540G	WG135805	10-DEC-13 07:55:20	SM2540G	09-DEC-13	KP	
Katahdin Analytical Services SG9560 page 0000007 of 000001	pH(Soil)	6.0 pH	0.10	0.10	SW846 9045D	WG135841	09-DEC-13 07:40:00	SW846 9045C	N/A	ZS	
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Client: Mike St Pierre	Lab Sample ID:	SG9560-6				
S. W. Cole	Report Date:	13-DEC-13				
555 Eastern Ave.	Client PO:	'O:				
Augusta, ME 04430	Project:	Bingham/ 10-0014.3				
	SDG:	SG9560				
Sample Description	Matrix	Date Sampled	Date Received			
8037A, TP-104-105	SL	05-DEC-13	06-DEC-13			

Parameter Result Adj PQL Adj MDL Anal. Method QC Batch **Analysis Date** Prep. Method Prep. Date Analyst Footnotes 23. 20. 3.43 SW846 9251 WG136057 11-DEC-13 16:48:00 N/A 11-DEC-13 RO mg/Kgdrywt Sulfate-Turbidimetric U10. 10. 2.02 SW846 9038 WG136063 11-DEC-13 16:48:00 N/A 11-DEC-13 RO mg/Kgdrywt 93. % SM2540G 1 WG135805 10-DEC-13 07:55:30 SM2540G 09-DEC-13 KΡ 5.8 pH 0.10 0.10 SW846 9045D WG135841 09-DEC-13 07:40:00 SW846 9045C N/A ZS

05-DEC-13





Sample Description	Matrix	Date Sampled	Date Received
	SDG:	SG9560	
Augusta, ME 04430	Project:	Bingham/ 10-0014.3	
555 Eastern Ave.	Client PO:		
S. W. Cole	Report Date:	13-DEC-13	
Client: Mike St Pierre	Lab Sample ID:	SG9560-7	

8059A, TP-163

	Parameter	Result	Adj PQL	Adj MDL	Anal. Method	QC Batch	Analysis Date	Prep. Method	Prep. Date	Analyst	Footnotes
Kata	Chloride	23. mg/Kgdrywt	20.	3.43	SW846 9251	WG136057	11-DEC-13 16:48:00	N/A	11-DEC-13	RO	
ahdi	Sulfate-Turbidimetric	U10. mg/Kgdrywt	10.	2.02	SW846 9038	WG136063	11-DEC-13 16:48:00	N/A	11-DEC-13	RO	
	Total Solids	95. %	1		SM2540G	WG135805	10-DEC-13 07:55:40	SM2540G	09-DEC-13	KP	
Katahdin Analytical Services SG9560 page 0000009 of 0000018	pH(Soil)	6.0 pH	0.10	0.10	SW846 9045D	WG135841	09-DEC-13 07:40:00	SW846 9045C	N/A	ZS	
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05-DEC-13



8041A, TP-129



Report of Analytical Results

Sample	e Description	<u>Matrix</u>	Da	te Sampled	Date Received	
	Augusta,ME 04430	U U	Binghar SG9560	n/ 10-0014.3		
	555 Eastern Ave.	Client PO:				
	S. W. Cole	Report Date:	13-DEC	-13		
Client:	Mike St Pierre	Lab Sample ID:	SG9560	-8		

Adj MDL Parameter Result Adj PQL Anal. Method QC Batch **Analysis Date** Prep. Method Prep. Date Analyst Footnotes 21. 20. 3.43 SW846 9251 WG136058 11-DEC-13 16:48:00 N/A 11-DEC-13 RO mg/Kgdrywt Sulfate-Turbidimetric U10 10 2.02 SW846 9038 WG136063 11-DEC-13 16:48:00 N/A 11-DEC-13 RO mg/Kgdrywt 97. % 1 SM2540G WG135805 10-DEC-13 07:55:51 SM2540G 09-DEC-13 KP 6.5 pH 0.10 0.10 SW846 9045D WG135841 09-DEC-13 07:40:00 SW846 9045C ZS N/A

SL

05-DEC-13





Client: Mike St Pierre S. W. Cole 555 Eastern Ave. Augusta,ME 04430	•		
Sample Description	Matrix	Date Sampled	Date Received
8061A, TP-178	SL	05-DEC-13	06-DEC-13

	Parameter	Result	Adj PQL	Adj MDL	Anal. Method	QC Batch	Analysis Date	Prep. Method	Prep. Date	Analyst	Footnotes
Kata	Chloride	U20 mg/Kgdrywt	20	3.43	SW846 9251	WG136058	11-DEC-13 16:48:00	N/A	11-DEC-13	RO	
ahdi	Sulfate-Turbidimetric	U10 mg/Kgdrywt	10	2.02	SW846 9038	WG136063	11-DEC-13 16:48:00	N/A	11-DEC-13	RO	
n A	Total Solids	98. %	1		SM2540G	WG135805	10-DEC-13 07:56:02	SM2540G	09-DEC-13	KP	
nalyti	pH(Soil)	6.5 pH	0.10	0.10	SW846 9045D	WG135841	09-DEC-13 07:40:00	SW846 9045C	N/A	ZS	
al Services SG9560 page 0000011 of 0	Parameter Chloride Sulfate-Turbidimetric Total Solids pH(Soil)										
000 600 Te P.O. Bo	chnology Way ox 540, Scarborough, ME 04070										http://kataho sales@katah





Client: Mike St Pierre	Lab Sample ID:	SG9560-10	
S. W. Cole	Report Date:	13-DEC-13	
555 Eastern Ave.	Client PO:		
Augusta, ME 04430	Project:	Bingham/ 10-0014.3	
	SDG:	SG9560	
Sample Description	Matrix	Date Sampled	Date Received

8040A, TP-128

	Parameter	Result	Adj PQL	Adj MDL	Anal. Method	QC Batch	Analysis Date	Prep. Method	Prep. Date	Analyst	Footnotes
Kata	Chloride	U20 mg/Kgdrywt	20	3.43	SW846 9251	WG136058	11-DEC-13 17:02:24	N/A	11-DEC-13	RO	
ahdi	Sulfate-Turbidimetric	U10 mg/Kgdrywt	10	2.02	SW846 9038	WG136063	11-DEC-13 16:48:00	N/A	11-DEC-13	RO	
n A	Total Solids	96. %	1		SM2540G	WG135805	10-DEC-13 07:56:12	SM2540G	09-DEC-13	KP	
nalytical	pH(Soil)	5.8 pH	0.10	0.10	SW846 9045D	WG135841	09-DEC-13 07:40:00	SW846 9045C	N/A	ZS	
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05-DEC-13



Cert No E87604

IN ACCORD

Quality Control Report Blank Sample Summary Report

Chloride

<u>Samp Type</u> MBLANK	<u>QC Batch</u> WG136057	Anal. Method SW846 9251	Anal. Date 11-DEC-13	Prep. Date 11-DEC-13	<u>Result</u> U 2.0 mg/L	<u>PQL</u> 2.0 mg/L
MBLANK	WG136058	SW846 9251	11-DEC-13	11-DEC-13	U 2.0 mg/L	2.0 mg/L 2.0 mg/L
Sulfate-Turbidin	<i>ietric</i>					
Samp Type	QC Batch	Anal. Method	Anal. Date	Prep. Date	Result	PQL
MBLANK	WG136063	SW846 9038	11-DEC-13	N/A	U 1.0 mg/L	1.0 mg/L
Total Solids						
Samp Type	QC Batch	Anal. Method	Anal. Date	Prep. Date	<u>Result</u>	PQL
MBLANK	WG135805	SM2540	10-DEC-13	09-DEC-13	U1%	1 %





Quality Control Report

Cert No E87604

80-120

Acceptance

Range

90-110

RPD

Recovery

96

Recovery

100

86.

Result

7,0

Laboratory Control Sample Summary Report

Chloride

WG135805-2

Lab Sample Id

WG135841-1

LCS

Samp Type

LCS

WG135805

QC Batch

WG135841

10-DEC-13

Analysis

Date

09-DEC-13

Lab Sample Id	Samp Type	QC Batch	Analysis Date	Prep Date	Units	Spike Amt.	Result	Recovery	Acceptance Range	RPD
WG136057-2	LCS	WG136057	11-DEC-13	11-DEC-13	mg/L	35	35.4805	101	80-120	
WG136058-2	LCS	WG136058	11-DEC-13	11-DEC-13	mg/L	35	36.0963	103	80-120	
Sulfate-Turb	idimetric									
Lab Sample Id	Samp Type	QC Batch	Analysis Date	Prep Date	Units	Spike Amt.	Result	Recovery	Acceptance Range	RPD
WG136063-2	LCS	WG136063	11-DEC-13	N/A	mg/L	15	15.6885	104	80-120	
Total Solids										
Lab Sample Id	Samp Туре	QC Batch	Analysis Date	Prep Date	Units	Spike Amt.	Result	Recovery	Acceptance Range	RPD

%

Units

pН

90

Spike Amt.

7

09-DEC-13

Prep Date

N/A

Katahdin Analytical Service	<mark>s, Inc. S</mark> amp	Sample Receipt Condition Report								
Client: S.W. Cole	KAS PM: SY	MB Sampled By: Client								
Project:	KIMS Entry By:	Delivered By: UPS								
KAS Work Order#: SG 9560	KIMS Review By:	D Received By: DM								
SDG #:	Cooler: N/A of	Date/Time Rec.: 12-6-13 1140								

Receipt Criteria	Y	N	EX*	NA	Comments and/or Resolution
1. Custody seals present / intact?					
2. Chain of Custody present in cooler?	~				
3. Chain of Custody signed by client?		~			
4. Chain of Custody matches samples?					
5. Temperature Blanks present? If not, take temperature of any sample w/ IR gun.		\checkmark			Temp (°C): 17.7
Samples received at <6 °C w/o freezing?		\checkmark	~		Note: Not required for metals analysis.
Ice packs or ice present?		\checkmark	-		The lack of ice or ice packs (i.e. no attempt to begin cooling process) or insufficient ice may
If yes, was there sufficient ice to meet temperature requirements?		\checkmark			not meet certain regulatory requirements and may invalidate certain data.
If temp. out, has the cooling process begun (i.e. ice or packs present) and sample collection times <6hrs., but samples are not yet cool?				\checkmark	Note: No cooling process required for metals analysis.
6. Volatiles:			·		-
Aqueous: No bubble larger than a pea? Soil/Sediment:					
Received in airtight container?				\smile	-
Received in methanol?					
Methanol covering soil?					-
D.I. Water - Received within 48 hour HT?					~
7. Trip Blank present in cooler?				\leq	
8. Proper sample containers and volume?					
9. Samples within hold time upon receipt?					
10. Aqueous samples properly preserved?					_
Metals, COD, NH3, TKN, O/G, phenol, TPO4, N+N, TOC, DRO, TPH – pH <2				1	
Sulfide - >9				$ \rightarrow $	
Cyanide – pH >12					
* Log-In Notes to Exceptions: document any p	roblem	us with	sami	nles o	r discrenancies or nH adjustments
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QA-048 -- Revision 3 - 10/01/2013



600 Technology Way P.O. Box 540 Scarborough, ME 04070 Tel: (207) 874-2400 Fax: (207) 775-4029

Chain of Custody

Client: S.W. Cole Engineering, Inc.			Contact: Phone #: Mike St.Pierre 207-626-0600						Fax #: ()							
	Iress: 555 Eastern Ave								Zip Code: 04330							
	chase Order #:								* 1·w·v	in Quote						
<u> </u>	(if different than above):		Address:													
	npler (Print/Sign):									To			·····			
	LAB USE ONLY	Work Order #	¥:	Copies To: Analysis and Container Type												
Rer	narks:	Katahdin Pro	oject Number 5 G-9540			Filt. Y / N	Filt. Y / N	Filt. Y / N	Filt. Y / N	Presei Filt. Y / N	vatives Filt. Y / N	Filt. Y / N	Filt. Y / N	Filt. Y / N	Filt. Y / N	
	oping Info: vill No:	FEDEX	UPS CLIENT		171	171	171			171	T / IN	1711		17/N		
		Temp Blank	k Intact Not Intact													
*	Sample Description	Date/Time Collected	Matrix	1	o. of tainers											
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Reli	Relinquished By: Date/Time		Received By:	<u>uu</u>	Relinqu	ished B	y:		Date/Time Received By:				ed By:			

The terms and conditions on the following page hereof shall govern services, except when a signed contractual agreement exists.



Katahdin Analytical Services

Login Chain of Custody Report (Ino1) Dec. 08, 2013

10:37 AM

Quote/Incoming:

Page: 1 of 2

Login	Number:	SG9560
-		

		•	
Account:SWCOLEAUG001 S.W. Cole	NoWeb	Login Information:	
Project:		ANALYSIS INSTRUCTIONS CHECK NO. CLIENT PO#	:
Primary Report Address: Mike St Pierre		CLIENT PROJECT MANAGE CONTRACT	:
S. W. Cole 555 Eastern Ave.		COOLER TEMPERATURE DELIVERY SERVICES	: 17.7 : UPS
Augusta,ME 04430		EDD FORMAT LOGIN INITIALS	: : DM
Primary Invoice Address:		PM PROJECT NAME	: SMB : Bingham/ 10-0014.3
Accounts Payable S. W. Cole 555 Eastern Ave.		QC LEVEL REGULATORY LIST REPORT INSTRUCTIONS	 II email pdf and invoice to Mike and to email invoice/pdf also to crosenberg@swcole.com

SDG ID

SDG STATUS

:

:

Augusta,ME 04430

Report CC Addresses: Invoice CC Addresses:

Laborator Sample ID	• • • • •	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed	
SG9560-1	8060A, TP-175	05-DEC-13 00:00	06-DEC-13			16-DEC-13		
Matrix	Product	Hold Date (shortest)	Bottle Type		Bottle C	ount	Comments	
Solid	S SW9038-SULFATE	02-JAN-14	100g Glass					
Solid	S SW9045C-PH SOIL	02-JAN-14	100g Glass					
Solid	S SW9251-CHLORIDE	02-JAN-14	100g Glass					
Solid	S TS	04-JAN-14	100g Glass					
SG9560-2	8033A, TP-144	05-DEC-13 00:00	06-DEC-13			16-DEC-13		
Matrix	Product	Hold Date (shortest)	Bottle Type		Bottle C	ount	Comments	
Solid	S SW9038-SULFATE	02-JAN-14	100g Glass					
Solid	S SW9045C-PH SOIL	02-JAN-14	100g Glass					
Solid	S SW9251-CHLORIDE	02-JAN-14	100g Glass					
Solid	S TS	04-JAN-14	100g Glass					
SG9560-3	8034A, TP-154	05-DEC-13 00:00	06-DEC-13			16-DEC-13		
Matrix	Product	Hold Date (shortest)	Bottle Type		Bottle C	ount	Comments	
Solid	S SW9038-SULFATE	02-JAN-14	100g Glass					
Solid	S SW9045C-PH SOIL	02-JAN-14	100g Glass					
Solid	S SW9251-CHLORIDE	02-JAN-14	100g Glass					
Solid	S TS	04-JAN-14	100g Glass					
SG9560-4	8036A, TP-161	05-DEC-13 00:00	06-DEC-13			16-DEC-13		
Matrix	Product	Hold Date (shortest)	Bottle Type		Bottle Co	ount	Comments	
Solid	S SW9038-SULFATE	02-JAN-14	100g Glass					
Solid	S SW9045C-PH SOIL	02-JAN-14	100g Glass					
Solid	S SW9251-CHLORIDE	02-JAN-14	100g Glass					
Solid	S TS	04-JAN-14	100g Glass					
SG9560-5	8035A, TP-159	05-DEC-13 00:00	06-DEC-13			16-DEC-13		
Matrix	Product	Hold Date (shortest)	Bottle Type		Bottle Co	ount	Comments	
Solid	S SW9038-SULFATE	02-JAN-14	100g Glass					
Solid	S SW9045C-PH SOIL	02-JAN-14	100g Glass					
Solid	S SW9251-CHLORIDE	02-JAN-14	100g Glass					
Solid	S TS	04-JAN-14	100g Glass					
SG9560-6	8037A, TP-104-105	05-DEC-13 00:00	06-DEC-13			16-DEC-13		
Matrix	Product	Hold Date (shortest)	Bottle Type		Bottle Co	ount	Comments	
Solid	S SW9038-SULFATE	02-JAN-14	100g Glass					
Solid	S SW9045C-PH SOIL	02-JAN-14	100g Glass					
Solid	S SW9251-CHLORIDE	02-JAN-14	100g Glass					
Solid	S TS	04-JAN-14	100g Glass					

Katahdin Analytical Services SG9560 page 0000017 of 0000018



Katahdin Analytical Services

Login Chain of Custody Report (Ino1)

Dec. 08, 2013 10:37 AM

NoWeb

Quote/Incoming:

Page: 2 of 2

Login Number: SG9560

Account:SWCOLEAUG001 S.W. Cole

Project:

Laborator Sample ID		Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed	
SG9560-7	8059A, TP-163	05-DEC-13 00:00	06-DEC-13			16-DEC-13	· · · ·	
Matrix	Product	Hold Date (shortest)	Bottle Type		Bottie C	ount	Comments	
Solid	S SW9038-SULFATE	02-JAN-14	100g Glass					
Solid	S SW9045C-PH SOIL	02-JAN-14	100g Glass					
Solid	S SW9251-CHLORIDE	02-JAN-14	100g Glass					
Solid	S TS	04-JAN-14	100g Glass					
SG9560-8	8041A, TP-129	05-DEC-13 00:00	06-DEC-13			16-DEC-13		
Matrix	Product	Hold Date (shortest)	Bottle Type		Bottie C	ount	Comments	
Solid	S SW9038-SULFATE	02-JAN-14	100g Glass					
Solid	S SW9045C-PH SOIL	02-JAN-14	100g Glass					
Solid	S SW9251-CHLORIDE	02-JAN-14	100g Glass					
Solid	S TS	04-JAN-14	100g Glass					
SG9560-9	8061A, TP-178	05-DEC-13 00:00	06-DEC-13			16-DEC-13	······	
Matrix	Product	Hold Date (shortest)	Bottle Type		Bottle C	ount	Comments	
Solid	S SW9038-SULFATE	02-JAN-14	100g Glass					
Solid	S SW9045C-PH SOIL	02-JAN-14	100g Glass					
Solid	S SW9251-CHLORIDE	02-JAN-14	100g Glass					
Solid	S TS	04-JAN-14	100g Glass					
SG9560-10	8040A, TP-128	05-DEC-13 00:00	06-DEC-13			16-DEC-13		·
Matríx	Product	Hold Date (shortest)	Bottle Type		Bottle C	ount	Comments	
Solid	S SW9038-SULFATE	02-JAN-14	100g Glass					
Solid	S SW9045C-PH SOIL	02-JAN-14	100g Glass					
Solid	S SW9251-CHLORIDE	02-JAN-14	100g Glass					
Solid	S TS	04-JAN-14	100g Glass					
Total Sam	ples: 10	Total Analyses:	40			<u>United - Lot - Lot</u>	· · · · · · · · · · · · · · · · · · ·	





December 3, 2012

Mr. Pat Otto S. W. Cole Engineering, Inc. 286 Portland Road Gray,ME 04039

RE:	Katahdin Lab Number:	SF8278
	Project ID:	10-0014.2
	Project Manager:	Ms. Shelly Brown
	Sample Receipt Date(s):	November 21, 2012

Dear Mr. Otto:

Please find enclosed the following information:

- * Report of Analysis (Analytical and/or Field)
- * Quality Control Data Summary
- * Chain of Custody (COC)
- * Login Report

A copy of the Chain of Custody is included in the paginated report. The original COC is attached as an addendum to this report.

Should you have any questions or comments concerning this Report of Analysis, please do not hesitate to contact the project manager listed above. The results contained in this report relate only to the submitted samples. This cover letter is an integral part of the ROA.

We certify that the test results provided in this report meet all the requirements of the NELAC standards unless otherwise noted in an attached technical narrative or in the Report of Analysis.

We appreciate your continued use of our laboratory and look forward to working with you in the future. The following signature indicates technical review and acceptance of the data.

Please go to http://www.katahdinlab.com/cert.html for copies of Katahdin Analytical Services Inc. current certificates and analyte lists.

Sincerely, KATAHDIN ANALYTICAL SERVICES

Nadeau

Authorized Signature

12/03/2012

Date

<u>KATAHDIN ANALYTICAL SERVICES – INORGANIC DATA QUALIFIERS</u> (Refer to BOD Qualifiers Page for BOD footnotes)

The sampled date indicated on the attached Report(s) of Analysis (ROA) is the date for which a grab sample was collected or the date for which a composite sample was completed. Beginning and start times for composite samples can be found on the Chain-of-Custody.

U Indicates the compound was analyzed for but not detected above the specified level. This level may be the Limit of Quantitation (LOQ)(previously called Practical Quantitation Level (PQL)), the Limit of Detection (LOD) or Method Detection Limit (MDL) as required by the client.

Note: All results reported as "U" MDL have a 50% rate for false negatives compared to those results reported as "U" PQL/LOQ or "U" LOD, where the rate of false negatives is <1%.

- E Estimated value. This flag identifies compounds whose concentrations exceed the upper level of the calibration range of the instrument for that specific analysis.
- J Estimated value. The analyte was detected in the sample at a concentration less than the laboratory Limit of Quantitation (LOQ)(previously called Practical Quantitation Limit (PQL)), but above the Method Detection Limit (MDL).
- I-7 The laboratory's Practical Quantitation Level could not be achieved for this parameter due to sample composition, matrix effects, sample volume, or quantity used for analysis.
- A-4 Please refer to cover letter or narrative for further information.
- MCL Maximum Contaminant Level
- NL No limit
- NFL No Free Liquid Present
- FLP Free Liquid Present
- NOD No Odor Detected
- TON Threshold Odor Number
- H_ Please note that the regulatory holding time for _____ is "analyze immediately". Ideally, this analysis must be performed in the field at the time of sample collection. _____ for this sample was not performed at the time of sample collection. The analysis was performed as soon as possible after receipt by the laboratory.
 - H1 pH
 - H2 DO
 - H3 sulfite
 - H4 residual chlorine
- T1 The client did not provide the full volume of at least one liter for analysis of TSS. Therefore, the PQL of 2.5 mg/L could not be achieved.
- T2 The client provided the required volume of at least one liter for analysis of TSS, but the laboratory could not filter the full one liter volume due to the sample matrix. Therefore, the PQL of 2.5 mg/L could not be achieved.



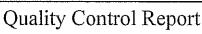


Report of Analytical Results

Client: Pat Otto	Lab Sample ID:						
S. W. Cole Engineering, Inc.	Report Date:						
286 Portland Road	Client PO:						
Gray.ME 04039	Project:	10-0014.2					
	SDG:	SF8278					
Sample Description	Matrix	Date Sampled	Date Received				
16135G	SL	20-NOV-12	21-NOV-12				

Parameter	Result	Adj PQL	Adj MDL	Anal. Method	QC Batch	Analysis Date	Prep. Method	Prep. Date	•	Footnotes
Chloride	U22. mg/Kgdrywt	22.	1.1	SW846 9056	WG117254	29-NOV-12 19:09:00	E300.0	28-NOV-12	LNP	
Sulfate	U11. me/Kgdrywt	11.	0.70	SW846 9056	WG117254	29-NOV-12 19:09:00	E300.0	28-NOV-12	LNP	
Total Solids	92. %	1		SM2540G	WG117051	28-NOV-12 09;01;42	ASTM D2216	27-NOV-12	KP	
pH(Soil)	4.8 pH	0.10	0,10	SW846 9045C	WG116996	26-NOV-12 14:20:00	SW846 9045C	26-NOV-12	КР	







Blank Sample Summary Report

Chloride

<u>Samp Type</u> MBLANK Sulfate	<u>QC Batch</u> WG117254	<u>Anal. Method</u> SW846 9056	<u>Anal. Date</u> 29-NOV-12	Prep. Date 28-NOV-12	Result U 2.0 mg/L	<u>PQL</u> 2.0 mg/L
<u>Samp Type</u> MBLANK Total Solids	<u>QC Batch</u> WG117254	Anal. Method SW846 9056	<u>Anal. Date</u> 29-NOV-12	<u>Prep. Date</u> 28-NOV-12	<u>Result</u> U 1.0 mg/L	PQL_ 1.0 mg/L
<u>Samp Type</u> MBLANK	<u>QC Batch</u> WG117051	<u>Anal. Method</u> ASTM D2216	Anal. Date 28-NOV-12	Prep. Date 27-NOV-12	Result_ U 1 %	<u>PQL</u> 1 %





Quality Control Report

Laboratory Control Sample Summary Report

Chloride

Lab Sample Id	Samp Type	QC Batch	Analysis Date	Prep Date	Units	Spike Amt.	Result	Recovery	Acceptance Range	RPD
WG117254-2	LCS	WG117254	29-NOV-12	28-NOV-12	mg/L	3.75	3.9015	104	90-110	
Sulfate										
Lab Sample Id	Samp Type	QC Batch	Analysis Date	Prep Date	Units	Spike Amt.	Result	Recovery	Acceptance Range	RPD
WG117254-2	LCS	WG117254	29-NOV-12	28-NOV-12	mg/L	3.75	3.8764	103	90-110	
Total Solids										
Lab Sample Id	Samp Type	QC Batch	Analysis Date	Prep Date	Units	Spike Amt.	Result	Recovery	Acceptance Range	RPD
WG117051-2	LCS	WG117051	28-NOV-12	27-NOV-12	%	90	89.	98	80-120	
pH(Soil)										
Lab Sample Id	Samp Type	QC Batch	Analysis Date	Prep Date	Units	Spike Amt.	Result	Recovery	Acceptance Range	RPD
WG116996-1	LCS	WG116996	26-NOV-12	26-NOV-12	рН	7	7.0	101	90-110	

Katahdin Analytical Services	, inc	Sample Receipt Condition Re					
Client: Sw (ile		M: SMB	Sampled By: Chef				
Project:	KIMS E	ntry By: G	Delivered By: 4125				
KAS Work Order#: 56 8277 568.	278 KIMSR	eview By:	Received By: G~				
SDG #: (Cooler: <u>NA</u> of <u>NA</u>	Date/T	ime Rec.: 11-21-12 / 11:00				

Receipt Criteria	Y	Ν	EX*	NA	Comments and/or Resolution				
1. Custody seals present / intact?		/							
2. Chain of Custody present in cooler?	\checkmark								
3. Chain of Custody signed by client?									
4. Chain of Custody matches samples?									
 Temperature Blanks present? If not, take temperature of any sample w/ IR gun. 				Y	Temp (°C):				
Samples received at <6 °C w/o freezing?		1		4	Note: Not required for metals analysis.				
Ice packs or ice present?		V	v	C J	The lack of ice or ice packs (i.e. no attempt to begin cooling process) may not meet certain regulatory requirements and may invalidate certain data.				
If temp. out, has the cooling process begun (i.e. ice or packs present) and sample collection times <6hrs., but samples are not yet cool?		J		ł	Note: No cooling process required for metals analysis.				
 6. Volatiles free of headspace: Aqueous: No bubble larger than a pea Soil/Sediment: Received in airtight container? 									
Received in methanol? Methanol covering soil?									
7. Trip Blank present in cooler?				1					
8. Proper sample containers and volume?	/								
9. Samples within hold time upon receipt?									
 Aqueous samples properly preserved? Metals, COD, NH3, TKN, O/G, phenol, TPO4, N+N, TOC, DRO, TPH – pH <2 Sulfide - >9 Cyanide – pH >12 									

* Log-In Notes to Exceptions: document any problems with samples or discrepancies or pH adjustments

QA-048 - Revision 1 - 04/16/2010



600 Technology Way P.O. Box 540 Scarborough, ME 04070 Tel: (207) 874-2400 Fax: (207) 775-4029



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Clier S	nt: W CoLe	Eng,	eering	Contact: PAF OTTC City: GRAY)	Phone (² c7)	#: 657-2	544		Fax #: ()			· · · · · ·			
Add	ress: 286 P	crt1 Ann	s RD	City: GRIAY		State:	ME			Zip Co	de:		e Alimin	**		
	hase Order #:				: 10.	-00/4	1. 2				lin Quot	e #:				
Bill (if different thar	1 above):			Address:											
Sam	pler (Print/Sig	n):					Copies To:									
	LAB USE O	NLY	Work Order #	# SA-87	78	-				승규는 가슴.		Containe				
Rem	arks:		Katandin Pro	roject Number			Fitt. Y / N	Filt. Y / N	Filt. Y / N	Filt. Y / N	Filt.	Filt. Y / N				
	Shipping Info: FEDEX		FEDEX	UPS CLIENT				.9	5							
Airbi Tem	ll No: p C		Temp Blank	Intact	t Not Intact		SW E46 Sw9251	846 Wgo3	50 246 US							
*	Sample Des	cription	Date/Time Collected	Matrix		. of ainers	S S V	3 S	3 v							
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Relir	nquished By:		Date/Time	Received By:		Relinqu	ished By	r:		Date/T	ime		Receiv	ed By:		

The terms and conditions on the following page hereof shall govern services, except when a signed contractual agreement exists.

Katahdin Analytical Services SF8278 page 0000007 of 0000008

	Katahdin Analytical Services	
/ W Katahdin	Login Chain of Custody Report (Ino1) Nov. 21, 2012 12:08 PM	Page: 1 of 1
Login Number: SF8278	Quote/Incoming:	
Account:SWCOLE001 S. W. Cole Engineering, Inc.	NoWeb Login Information:	
Project:	ANALYSIS INSTRUCTIONS CHECK NO. CLIENT PO#	:
Primary Report Address: Pat Otto S. W. Cole Engineering, Inc. 286 Portland Road	CLIENT PROJECT MANAGE CONTRACT COOLER TEMPERATURE DELIVERY SERVICES EDD FORMAT	: 21.5 : UPS
Gray,ME 04039 Primary Invoice Address:	LOGIN INITIALS PM	: GN : SMB
Accounts Payable S. W. Cole Engineering, Inc. 286 Portland Road	PROJECT NAME QC LEVEL REGULATORY LIST REPORT INSTRUCTIONS	 10-0014.2 II email pdf and invoice Patrick, email invoice/pdf
Gray,ME 04039	SDG ID	also to crosenberg@swcole.com
Report CC Addresses: Invoice CC Addresses	SDG STATUS	:

Invoice CC Addresses: Client Laboratory Collect Receive Verbal Due Sample Number Sample ID Date/Time Date Date PR Date Mailed SF8278-1 16135G 20-NOV-12 00:00 21-NOV-12 30-NOV-12 Matrix Product Hold Date (shortest) Bottle Type Bottle Count Comments 18-DEC-12 Solid s SW9045C-PH SOIL 4oz Glass Solid S SW9056-CL 18-DEC-12 4oz Glass Solid S SW9056-S04 18-DEC-12 4oz Glass Solid S TS 20-DEC-12 4oz Glass

4

Total Samples:

1

Total Analyses:





December 3, 2012

Mr. Pat Otto S. W. Cole Engineering, Inc. 286 Portland Road Gray,ME 04039

RE:	Katahdin Lab Number:	SF8146
	Project ID:	10-0014.2
	Project Manager:	Ms. Shelly Brown
	Sample Receipt Date(s):	November 16, 2012

Dear Mr. Otto:

Please find enclosed the following information:

- * Report of Analysis (Analytical and/or Field)
- * Quality Control Data Summary
- * Chain of Custody (COC)
- * Login Report

A copy of the Chain of Custody is included in the paginated report. The original COC is attached as an addendum to this report.

Should you have any questions or comments concerning this Report of Analysis, please do not hesitate to contact the project manager listed above. The results contained in this report relate only to the submitted samples. This cover letter is an integral part of the ROA.

We certify that the test results provided in this report meet all the requirements of the NELAC standards unless otherwise noted in an attached technical narrative or in the Report of Analysis.

We appreciate your continued use of our laboratory and look forward to working with you in the future. The following signature indicates technical review and acceptance of the data.

Please go to http://www.katahdinlab.com/cert.html for copies of Katahdin Analytical Services Inc. current certificates and analyte lists.

Sincerely, KATAHDIN ANALYTICAL SERVICES

Nadeau

Authorized Signature

12/03/2012

Date

<u>KATAHDIN ANALYTICAL SERVICES – INORGANIC DATA QUALIFIERS</u> (Refer to BOD Qualifiers Page for BOD footnotes)

The sampled date indicated on the attached Report(s) of Analysis (ROA) is the date for which a grab sample was collected or the date for which a composite sample was completed. Beginning and start times for composite samples can be found on the Chain-of-Custody.

U Indicates the compound was analyzed for but not detected above the specified level. This level may be the Limit of Quantitation (LOQ)(previously called Practical Quantitation Level (PQL)), the Limit of Detection (LOD) or Method Detection Limit (MDL) as required by the client.

Note: All results reported as "U" MDL have a 50% rate for false negatives compared to those results reported as "U" PQL/LOQ or "U" LOD, where the rate of false negatives is <1%.

- E Estimated value. This flag identifies compounds whose concentrations exceed the upper level of the calibration range of the instrument for that specific analysis.
- J Estimated value. The analyte was detected in the sample at a concentration less than the laboratory Limit of Quantitation (LOQ)(previously called Practical Quantitation Limit (PQL)), but above the Method Detection Limit (MDL).
- I-7 The laboratory's Practical Quantitation Level could not be achieved for this parameter due to sample composition, matrix effects, sample volume, or quantity used for analysis.
- A-4 Please refer to cover letter or narrative for further information.
- MCL Maximum Contaminant Level
- NL No limit
- NFL No Free Liquid Present
- FLP Free Liquid Present
- NOD No Odor Detected
- TON Threshold Odor Number
- H_ Please note that the regulatory holding time for _____ is "analyze immediately". Ideally, this analysis must be performed in the field at the time of sample collection. _____ for this sample was not performed at the time of sample collection. The analysis was performed as soon as possible after receipt by the laboratory.
 - H1 pH
 - H2 DO
 - H3 sulfite
 - H4 residual chlorine
- T1 The client did not provide the full volume of at least one liter for analysis of TSS. Therefore, the PQL of 2.5 mg/L could not be achieved.
- T2 The client provided the required volume of at least one liter for analysis of TSS, but the laboratory could not filter the full one liter volume due to the sample matrix. Therefore, the PQL of 2.5 mg/L could not be achieved.





Client: Pat	Otto				Lab San	nple ID:	SF8146-1				
S. V	Report Date: 30-NOV-12										
	Portland Road			Client PO:							
Gra	y,ME 04039				l	Project:					
						SDG:	SF8146				
Sample Des	cription_					<u>Matrix</u>	Date S	Sampled	Date Rece	ived	
16133G						SL	05-NO	V-12	16-NOV-12	1	
Parameter	Result	Adj PQL	Adj MDL	Anal. Method	QC Batch	Anal	ysis Date	Prep. Method	Prep. Date	Analyst	Footnotes
Chloride	U22. mg/Kgdrywt	22.	1.1	SW846 9056	WG117254	29-NOV	/-12 18:36:00	E300,0	28-NOV-12	LNP	
Sulfate	U11. mg/Kgdrywt	11.	0.70	SW846 9056	WG117254	29-NOV	/-12 18:36:00	E300.0	28-NOV-12	LNP	
Total Solids	90. %	1		SM2540G	WG116771	20-NOV	7-12 10:07:18	ASTM D2216	19-NOV-12	GFB	
nH(Soil)	4.7 nH	0.10	0.10	SW846 9045C	WG117179	29-NOV	7-12 13-28-00	SW846-9045C	29-NOV-12	КР	



Quality Control Report

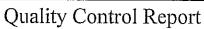


Blank Sample Summary Report

Chloride

<u>Samp Type</u> MBLANK Sulfate	<u>QC Batch</u> WG117254	Anal. Method SW846 9056	<u>Anal. Date</u> 29-NOV-12	Prep. Date 28-NOV-12	<u>Result</u> U 2.0 mg/L	PQL 2.0 mg/L
<u>Samp Type</u> MBLANK Total Solids	<u>QC Batch</u> WG117254	<u>Anal. Method</u> SW846 9056	<u>Anal, Date</u> 29-NOV-12	Prep. Date 28-NOV-12	<u>Result</u> U 1.0 mg/L	POL 1.0 mg/L
<u>Samp Type</u> MBLANK	<u>QC Batch</u> WG116771	<u>Anal. Method</u> ASTM D2216	<u>Anal. Date</u> 20-NOV-12	<u>Prep. Date</u> 19-NOV-12	<u>Result</u> U1%	<u>PQL</u> 1 %







Laboratory Control Sample Summary Report

Chloride

Lab Sample Id	Samp Type	QC Batch	Analysis Date	Prep Date	Units	Spike Amt.	Result	Recovery	Acceptance Range	RPD
WG117254-2	LCS	WG117254	29-NOV-12	28-NOV-12	mg/L	3.75	3.9015	104	90-110	/,·
Sulfate										
Lab Sample Id	Samp Type	QC Butch	Analysis Date	Prep Date	Units	Spike Amt.	Result	Recovery	Acceptance Range	RPD
WG117254-2	LCS	WG117254	29-NOV-12	28-NOV-12	mg/L	3.75	3.8764	103	90-110	
Total Solids										
Lab Sample Id	Samp Type	QC Batch	Analysis Date	Prep Date	Units	Spike Amt.	Result	Recovery	Acceptance Range	RPD
WG116771-2	LCS	WG116771	20-NOV-12	19-NOV-12	20	90	90.	100	80-120	
pH(Soil)										
Lub Sample Id	Samp Type	QC Batch	Analysis Date	Prep Date	Units	Spike Amt.	Result	Recovery	Acceptance Range	RPD
WG117179-1	LCS	WG117179	29-NOV-12	29-NOV-12	pН	7	7.0	100	90-110	

Katahdin Analytical Services, Inc.

Sample Receipt Condition Report

Client: SwiCole	KAS PM: SMB	Sampled By: C(rent
Project:	KIMS Entry By: G	- Delivered By: UPS
KAS Work Order#: SF 8146	KIMS Review_By:	Received By: C
SDG #:	Cooler: <u>IV4</u> of <u>IV4</u> Bux	Date/Time Rec.: 11-16-12/10.40

Receipt Criteria	Y	N	EX*	NA	Comments and/or Resolution
1. Custody seals present / intact?		/			
2. Chain of Custody present in cooler?	/				
3. Chain of Custody signed by client?					
4. Chain of Custody matches samples?	~				
5. Temperature Blanks present? If not, take temperature of any sample w/ IR gun.					Temp (°C): 13.1
Samples received at <6 °C w/o freezing?		/			Note: Not required for metals analysis.
Ice packs or ice present?					The lack of ice or ice packs (i.e. no attempt to begin cooling process) may not meet certain regulatory requirements and may invalidate certain data.
If temp. out, has the cooling process begun (i.e. ice or packs present) and sample collection times <6hrs., but samples are not yet cool?		1			Note: No cooling process required for metals analysis.
 6. Volatiles free of headspace: Aqueous: No bubble larger than a pea Soil/Sediment: Received in airtight container? 				$\langle \langle \rangle$	
Received in methanol? Methanol covering soil?				/	
7. Trip Blank present in cooler?				/	
8. Proper sample containers and volume?					
9. Samples within hold time upon receipt?	1			7	
 Aqueous samples properly preserved? Metals, COD, NH3, TKN, O/G, phenol, TPO4, N+N, TOC, DRO, TPH – pH <2 Sulfide - >9 Cyanide – pH >12 					

* Log-In Notes to Exceptions: document any problems with samples or discrepancies or pH adjustments



600 Technology Way P.O. Box 540 Scarborough, ME 04070 Tel: (207) 874-2400 Fax: (207) 775-4029

Chain of Custody

Client: SW Cole Ensine	crins	Contact: Patricle O	Pho TTO (CO	one #: 7)657-3	1864		Fax #: ()						
Address: 206 Po.Al	AND RO		iy Sta				Zip Co	de; C	94039				
Purchase Order #:		Proj. Name/No						lin Quoi					
Bill (if different than abov	re):		Address:										
Sampler (Print/Sign):							Copies	s To:					
LAB USE ONLY	Work Order	#: SF-G Y oject Number	6				Analy		Contain				
Remarks:		јестиониен		Filt. Y / N	Filt. Y / N	Filt. Y / N	Filt. Y / N	Filt.	Filt. Y / N	Fill. Y/N	Fill. Y / N	Filt. Y / N	Fil Y / I
Shipping Info: Airbill No:	FEDEX	UPS	CLIENT									1	1
Temp C	Temp Blank	Intact	Not Intact	16-	46 - 9036	50 846 . SW 9045							
* Sample Description	n Date/Time Collected	Matrix	No. of Containe	- JhBNS	8 2 8 9 3 8 9 3	5 tr 5 tr							
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The terms and conditions on the following page hereof shall govern services, except when a signed contractual agreement exists.

	Katahdin Analytical Services	
/ VV 'L Natahdin ANALYTICAL SERVICES	Login Chain of Custody Report (Ino1) Nov. 16, 2012 04:58 PM	. The Page: 1 of 1
Login Number: SF8146	Quote/Incoming:	
Account: SWCOLE001 S. W. Cole Engineering, Inc.	NoWeb Login Information:	
Project:	ANALYSIS INSTRUCTIONS CHECK NO. CLIENT PO#	: : :
Primary Report Address: Pat Otto S. W. Cole Engineering, Inc. 286 Portland Road	DELIVERY SERVICES EDD FORMAT	: : 13.1 : UPS :
Gray,ME 04039 Primary Invoice Address:		: DM : SMB
Accounts Payable S. W. Cole Engineering, Inc. 286 Portland Road		 10-0014.2 II email pdf and invoice Patrick, email invoice/pdf also to crosenberg@swcole.com
Gray,ME 04039 Report CC Addresses:	SDG ID SDG STATUS	:

Invoice CC Addresses:

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed	
SF8146-1	16133G	05-NOV-12 00:00	16-NOV-12			28-NOV-1	2	
Matrix	Product	Hold Date (shortest)	Bottle Type		Bottle C	Count	Comments	
Solid	S SW9045C-PH SOIL	03-DEC-12	4oz Glass					
Solid	S SW9055-CL	03-DEC-12	4oz Glass					
Solid	S SW9056-SD4	03-DEC-12	4oz Glass					
Solid	S TS	05-DEC-12	4oz Glass					

Total Samples: 1

Total Analyses: 4

.





December 3, 2012

Mr. Pat Otto S. W. Cole Engineering, Inc. 286 Portland Road Gray,ME 04039

RE:	Katahdin Lab Number:	SF8277
	Project ID:	10-0014.2
	Project Manager:	Ms. Shelly Brown
	Sample Receipt Date(s):	November 21, 2012

Dear Mr. Otto:

Please find enclosed the following information:

- * Report of Analysis (Analytical and/or Field)
- * Quality Control Data Summary
- * Chain of Custody (COC)
- * Login Report

A copy of the Chain of Custody is included in the paginated report. The original COC is attached as an addendum to this report.

Should you have any questions or comments concerning this Report of Analysis, please do not hesitate to contact the project manager listed above. The results contained in this report relate only to the submitted samples. This cover letter is an integral part of the ROA.

We certify that the test results provided in this report meet all the requirements of the NELAC standards unless otherwise noted in an attached technical narrative or in the Report of Analysis.

We appreciate your continued use of our laboratory and look forward to working with you in the future. The following signature indicates technical review and acceptance of the data.

Please go to http://www.katahdinlab.com/cert.html for copies of Katahdin Analytical Services Inc. current certificates and analyte lists.

Sincerely, KATAHDIN ANALYTICAL SERVICES

Nadeau

Authorized Signature

12/03/2012

Date

<u>KATAHDIN ANALYTICAL SERVICES – INORGANIC DATA QUALIFIERS</u> (Refer to BOD Qualifiers Page for BOD footnotes)

The sampled date indicated on the attached Report(s) of Analysis (ROA) is the date for which a grab sample was collected or the date for which a composite sample was completed. Beginning and start times for composite samples can be found on the Chain-of-Custody.

U Indicates the compound was analyzed for but not detected above the specified level. This level may be the Limit of Quantitation (LOQ)(previously called Practical Quantitation Level (PQL)), the Limit of Detection (LOD) or Method Detection Limit (MDL) as required by the client.

Note: All results reported as "U" MDL have a 50% rate for false negatives compared to those results reported as "U" PQL/LOQ or "U" LOD, where the rate of false negatives is <1%.

- E Estimated value. This flag identifies compounds whose concentrations exceed the upper level of the calibration range of the instrument for that specific analysis.
- J Estimated value. The analyte was detected in the sample at a concentration less than the laboratory Limit of Quantitation (LOQ)(previously called Practical Quantitation Limit (PQL)), but above the Method Detection Limit (MDL).
- I-7 The laboratory's Practical Quantitation Level could not be achieved for this parameter due to sample composition, matrix effects, sample volume, or quantity used for analysis.
- A-4 Please refer to cover letter or narrative for further information.
- MCL Maximum Contaminant Level
- NL No limit
- NFL No Free Liquid Present
- FLP Free Liquid Present
- NOD No Odor Detected
- TON Threshold Odor Number
- H_ Please note that the regulatory holding time for _____ is "analyze immediately". Ideally, this analysis must be performed in the field at the time of sample collection. _____ for this sample was not performed at the time of sample collection. The analysis was performed as soon as possible after receipt by the laboratory.
 - H1 pH
 - H2 DO
 - H3 sulfite
 - H4 residual chlorine
- T1 The client did not provide the full volume of at least one liter for analysis of TSS. Therefore, the PQL of 2.5 mg/L could not be achieved.
- T2 The client provided the required volume of at least one liter for analysis of TSS, but the laboratory could not filter the full one liter volume due to the sample matrix. Therefore, the PQL of 2.5 mg/L could not be achieved.





Client: Pat Otto	Lab Sample ID:	SF8277-1		
S. W. Cole Engineering, Inc.	Report Date:	30-NOV-12		
286 Portland Road	Client PO:			
Gray,ME 04039	Project:	10-0014.2		
	SDG:	SF8277		
Sample Description	Matrix	Date Sampled	Date Received	
16134G	SL	20-NOV-12	21-NOV-12	

7	Parameter	Result	Adj PQL	Adj MDL	Anal. Method	QC Batch	Analysis Date	Prep. Method	Prep. Date	Analyst	Footnotes
atah	Chloride	25. mg/Kgdrywt	22.	1.1	SW846 9056	WG117254	29-NOV-12 18:53:00	E300.0	28-NOV-12	LNP	
ndin	Sulfate	U11. mg/Kgdrywt	11.	0.70	SW846 9056	WG117254	29-NOV-12 18:53:00	E300.0	28-NOV-12	LNP	
Ar	Total Solids	91.%	1		SM2540G	WG117051	28-NOV-12 09:01:31	ASTM D2216	27-NOV-12	KP	
nalytic	pH(Soil)	5.7 pH	0,10	0,10	SW846 9045C	WG116996	26-NOV-12 14:18:00	SW846 9045C	26-NOV-12	КР	
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00 Technology 00. Box 540, St	Parameter Chloride Sulfate Total Solids pH(Soil)										http://katahdinl sales@katahdin



Quality Control Report



Blank Sample Summary Report

Chloride

<u>Samp Type</u> MBLANK Sulfate	<u>QC Batch</u> WG117254	<u>Anal. Method</u> SW846 9056	<u>Anal. Date</u> 29-NOV-12	<u>Prep. Date</u> 28-NOV-12	Result U 2.0 mg/L	<u>PQL</u> 2.0 mg/L
<u>Samp Type</u> MBLANK Total Solids	<u>QC Batch</u> WG117254	<u>Anal. Method</u> SW846 9056	<u>Anal. Date</u> 29-NOV-12	Prep. Date 28-NOV-12	<u>Result</u> U 1.0 mg/L	POL 1.0 mg/L
<u>Samp Type</u> MBLANK	<u>QC Batch</u> WG117051	<u>Anal. Method</u> ASTM D2216	<u>Anal. Date</u> 28-NOV-12	Prep. Date 27-NOV-12	<u>Result</u> U 1 %	<u>PQL</u> 1 %



Quality Control Report



Laboratory Control Sample Summary Report

Chloride

Lah Sample Id	Samp Type	QC Batch	Analysis Date	Prep Date	Units	Spike Amt.	Result	Recovery	Acceptance Range	RPD
WG117254-2	LCS	WG117254	29-NOV-12	28-NOV-12	mg/L	3.75	3.9015	104	90-110	
Sulfate										
Lab Sample Id	Samp Type	QC Batch	Analysis Date	Prep Date	Units	Spike Amt.	Result	Recovery	Acceptance Range	RPD
WG117254-2	LCS	WG117254	29-NOV-12	28-NOV-12	mg/L	3.75	3.8764	103	90-110	
Total Solids										
Lab Sample Id	Samp Type	QC Batch	Analysis Date	Prep Date	Units	Spike Amt.	Result	Recovery	Acceptance Range	RPD
WG117051-2	LCS	WG117051	28-NOV-12	27-NOV-12	9/0	90	89.	98	80-120	, p.,
pH(Soil)										
Lab Sample Id	Samp Туре	QC Batch	Analysis Date	Prep Date	Units	Spike Amt.	Result	Recovery	Acceptance Range	RPD
WG116996-1	LCS	WG116996	26-NOV-12	26-NOV-12	pH	7	7.0	101	90-110	

Katahdin Analytical Services, Inc.

Sample Receipt Condition Report

Client: Sw (de		KASPM: SMB		Sampled By: Chert			
Project:		KIMS Entry By:		Delivered By: 4PS			
KAS Work Order#: 57 8277, 573	8278	KIMS Review By:	<i>S</i>	Received By: G			
SDG #:	Cooler: <u>NA</u>	of <u>MA</u>	Date/Time	Rec.: 11-21-12 /00 11:00			

Receipt Criteria	Y	N	EX*	NA	Comments and/or Resolution
1. Custody seals present / intact?		1			
2. Chain of Custody present in cooler?	~				
3. Chain of Custody signed by client?					
4. Chain of Custody matches samples?		*			
5. Temperature Blanks present? If not, take temperature of any sample w/ IR gun.		V		4	Temp (°C):
Samples received at <6 °C w/o freezing?		1		X	Note: Not required for metals analysis.
Ice packs or ice present?		V	į	3	The lack of ice or ice packs (i.e. no attempt to begin cooling process) may not meet certain regulatory requirements and may invalidate certain data.
If temp. out, has the cooling process begun (i.e. ice or packs present) and sample collection times <6hrs., but samples are not yet cool?		J		X	Note: No cooling process required for metals analysis.
 6. Volatiles free of headspace: Aqueous: No bubble larger than a pea Soil/Sediment: Received in airtight container? 					
Received in methanol?					
Methanol covering soil?				/	
7. Trip Blank present in cooler?				/	
8. Proper sample containers and volume?					
9. Samples within hold time upon receipt?	~				·
 Aqueous samples properly preserved? Metals, COD, NH3, TKN, O/G, phenol, TPO4, N+N, TOC, DRO, TPH – pH <2 Sulfide - >9 Cyanide – pH >12 				\ \ \ \	

* Log-In Notes to Exceptions: document any problems with samples or discrepancies or pH adjustments



600 Technology Way P.O. Box 540 Scarborough, ME 04070 Tel: (207) 874-2400 Fax: (207) 775-4029

Chain of Custody

Client: SW Colo E	ne ver chan	Contact: PA+ 6++	0	Phone (201)	#: 657 -	2866	, ,	Fax #:						
Address: 266 B-	+1120 ED	City: GRAU	1	State:	ME			Zip Code: 04039						
Purchase Order #:	T	Proj. Name/No						Katahdin Quote #:						
Bill (if different than a	bove):		Addres									<u></u>		
Sampler (Print/Sign):							Copies	s To:						
LAB USE ONL	Y Work Order	#: 5787	-77						sis and					
Remarks:	Katahdin Pro	oject Number			Filt. Y / N	Filt.	Filt.	Filt.	Filt.	Filt.	Filt.	Filt.	Filt.	Filt.
Shipping Info: Airbill No:	FEDEX	UPS	CLIEN	Г				Y/N	Y/N	Y/N	T/N	Y/N	Y/N	Y/N
Temp C	Temp Blank	Intact	Not Inte	act	246	9 - 10 - 10 - 10 - 10 - 10 - 10 - 10 - 10	3284							
* Sample Descri	Collected		No. of Containers		Sweye Swazsi	33	25							
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Relinquished By:	Date/Time	Received By:		Relinqu	ished By	r:		Date/Ti	me		Receiv	ed By:		
Relinquished By:	Date/Time	Received By:		Relinqu	ished By	r:		Date/Ti	те		Receive	ed By:		

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	Katahdin Analytical Services	
ANALYTICAL SERVICES	Login Chain of Custody Report (Ino1) Nov. 21, 2012 12:07 PM	Page: 1 of 1
Login Number: SF8277	Quote/Incoming:	
Account:SWCOLE001 S. W. Cole Engineering, Inc.	NoWeb Login Information:	
Project:	ANALYSIS INSTRUCTIONS CHECK NO. CLIENT PO#	: : :
Primary Report Address: Pat Otto S. W. Cole Engineering, Inc. 286 Portland Road	CLIENT PROJECT MANAGE CONTRACT COOLER TEMPERATURE DELIVERY SERVICES EDD FORMAT	: : : 21.5 : UPS :
Gray,ME 04039	LOGIN INITIALS	: GN
Primary Invoice Address: Accounts Payable S. W. Cole Engineering, Inc. 286 Portland Road	PM PROJECT NAME QC LEVEL REGULATORY LIST REPORT INSTRUCTIONS	 SMB 10-0014.2 II email pdf and invoice Patrick, email invoice/pdf
Gray,ME 04039	SDG ID	also to crosenberg@swcole.com .
Report CC Addresses: Invoice CC Addresses:	SDG STATUS	:

Client Laboratory Collect Verbal Receive Due Sample Number Sample ID Date/Time Date Date PR Date Mailed SF8277-1 16134G 20-NOV-12 00:00 21-NOV-12 30-NOV-12 Matrix Product Hold Date (shortest) Bottle Type Bottle Count Comments Solid S SW9045C-PH SOIL 18-DEC-12 4oz Glass Solid s SW9056-CL 18-DEC-12 4oz Glass Solid SW9055-S04 18-DEC-12 5 4oz Glass Solid 20-DEC-12 S TS 4oz Glass

4

Total Samples:

1

Total Analyses: