

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



Authorized Signature

12/13/2013

Date

KATAHDIN ANALYTICAL SERVICES – INORGANIC DATA QUALIFIERS
(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: Mike St Pierre
S. W. Cole
555 Eastern Ave.
Augusta, ME 04430

Lab Sample ID: SG9560-1
Report Date: 13-DEC-13
Client PO:
Project: Bingham/ 10-0014.3
SDG: SG9560

Sample Description

8060A, TP-175

Matrix **Date Sampled** **Date Received**
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
Chloride	35. mg/Kgdrywt	20.	3.43	SW846 9251	WG136057	11-DEC-13 16:48:00	N/A	11-DEC-13	RO	
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	98. %	1		SM2540G	WG135805	10-DEC-13 07:53:38	SM2540G	09-DEC-13	KP	
pH(Soil)	6.7 pH	0.10	0.10	SW846 9045D	WG135841	09-DEC-13 07:40:00	SW846 9045C	N/A	ZS	

Report of Analytical Results

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

Lab Sample ID: SG9560-2
Report Date: 13-DEC-13
Client PO:
Project: Bingham/ 10-0014.3
SDG: SG9560

Sample Description

8033A, TP-144

Matrix **Date Sampled** **Date Received**
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
Chloride	30. mg/Kgdrywt	20.	3.43	SW846 9251	WG136057	11-DEC-13 16:48:00	N/A	11-DEC-13	RO	
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 07:54:50	SM2540G	09-DEC-13	KP	
pH(Soil)	6.4 pH	0.10	0.10	SW846 9045D	WG135841	09-DEC-13 07:40:00	SW846 9045C	N/A	ZS	

Report of Analytical Results

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

Lab Sample ID: SG9560-3
Report Date: 13-DEC-13
Client PO:
Project: Bingham/ 10-0014.3
SDG: SG9560

Sample Description

8034A, TP-154

Matrix Date Sampled Date Received
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
Chloride	22. mg/Kgdrywt	20.	3.43	SW846 9251	WG136057	11-DEC-13 16:48:00	N/A	11-DEC-13	RO	
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 07:55:00	SM2540G	09-DEC-13	KP	
pH(Soil)	5.9 pH	0.10	0.10	SW846 9045D	WG135841	09-DEC-13 07:40:00	SW846 9045C	N/A	ZS	

Katahdin Analytical Services SG9560 page 0000005 of 0000018

Report of Analytical Results

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

Lab Sample ID: SG9560-4
Report Date: 13-DEC-13
Client PO:
Project: Bingham/ 10-0014.3
SDG: SG9560

Sample Description

8036A, TP-161

Matrix Date Sampled Date Received
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
Chloride	U20. mg/Kgdrywt	20.	3.43	SW846 9251	WG136057	11-DEC-13 16:48:00	N/A	11-DEC-13	RO	
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	93. %	1		SM2540G	WG135805	10-DEC-13 07:55:10	SM2540G	09-DEC-13	KP	
pH(Soil)	6.1 pH	0.10	0.10	SW846 9045D	WG135841	09-DEC-13 07:40:00	SW846 9045C	N/A	ZS	

Report of Analytical Results

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

Lab Sample ID: SG9560-5
Report Date: 13-DEC-13
Client PO:
Project: Bingham/ 10-0014.3
SDG: SG9560

Sample Description

8035A, TP-159

Matrix Date Sampled Date Received
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
Chloride	24. mg/Kgdrywt	20.	3.43	SW846 9251	WG136057	11-DEC-13 16:48:00	N/A	11-DEC-13	RO	
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	92. %	1		SM2540G	WG135805	10-DEC-13 07:55:20	SM2540G	09-DEC-13	KP	
pH(Soil)	6.0 pH	0.10	0.10	SW846 9045D	WG135841	09-DEC-13 07:40:00	SW846 9045C	N/A	ZS	

Report of Analytical Results

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

Lab Sample ID: SG9560-6
Report Date: 13-DEC-13
Client PO:
Project: Bingham/ 10-0014.3
SDG: SG9560

Sample Description

8037A, TP-104-105

Matrix

SL

Date Sampled

05-DEC-13

Date Received

06-DEC-13

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

Report of Analytical Results

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

Lab Sample ID: SG9560-7
Report Date: 13-DEC-13
Client PO:
Project: Bingham/ 10-0014.3
SDG: SG9560

Sample Description

8059A, TP-163

Matrix Date Sampled Date Received
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
Chloride	23. mg/Kgdrywt	20.	3.43	SW846 9251	WG136057	11-DEC-13 16:48:00	N/A	11-DEC-13	RO	
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	
pH(Soil)	6.0 pH	0.10	0.10	SW846 9045D	WG135841	09-DEC-13 07:40:00	SW846 9045C	N/A	ZS	

Report of Analytical Results

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

Lab Sample ID: SG9560-8
Report Date: 13-DEC-13
Client PO:
Project: Bingham/ 10-0014.3
SDG: SG9560

Sample Description

8041A, TP-129

Matrix

SL

Date Sampled

05-DEC-13

Date Received

06-DEC-13

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

Report of Analytical Results

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

Lab Sample ID: SG9560-9
Report Date: 13-DEC-13
Client PO:
Project: Bingham/ 10-0014.3
SDG: SG9560

Sample Description

8061A, TP-178

Matrix

SL

Date Sampled

05-DEC-13

Date Received

06-DEC-13

Parameter	Result	Adj PQL	Adj MDL	Anal. Method	QC Batch	Analysis Date	Prep. Method	Prep. Date	Analyst	Footnotes
Chloride	U20 mg/Kgdrywt	20	3.43	SW846 9251	WG136058	11-DEC-13 16:48:00	N/A	11-DEC-13	RO	
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	98. %	1		SM2540G	WG135805	10-DEC-13 07:56:02	SM2540G	09-DEC-13	KP	
pH(Soil)	6.5 pH	0.10	0.10	SW846 9045D	WG135841	09-DEC-13 07:40:00	SW846 9045C	N/A	ZS	

Report of Analytical Results

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

Lab Sample ID: SG9560-10
Report Date: 13-DEC-13
Client PO:
Project: Bingham/ 10-0014.3
SDG: SG9560

Sample Description

8040A, TP-128

Matrix Date Sampled Date Received
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
Chloride	U20 mg/Kgdrywt	20	3.43	SW846 9251	WG136058	11-DEC-13 17:02:24	N/A	11-DEC-13	RO	
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	96. %	1		SM2540G	WG135805	10-DEC-13 07:56:12	SM2540G	09-DEC-13	KP	
pH(Soil)	5.8 pH	0.10	0.10	SW846 9045D	WG135841	09-DEC-13 07:40:00	SW846 9045C	N/A	ZS	

Quality Control Report

Blank Sample Summary Report

Chloride

<u>Samp Type</u>	<u>QC Batch</u>	<u>Anal. Method</u>	<u>Anal. Date</u>	<u>Prep. Date</u>	<u>Result</u>	<u>PQL</u>
MBLANK	WG136057	SW846 9251	11-DEC-13	11-DEC-13	U 2.0 mg/L	2.0 mg/L
MBLANK	WG136058	SW846 9251	11-DEC-13	11-DEC-13	U 2.0 mg/L	2.0 mg/L

Sulfate-Turbidimetric

<u>Samp Type</u>	<u>QC Batch</u>	<u>Anal. Method</u>	<u>Anal. Date</u>	<u>Prep. Date</u>	<u>Result</u>	<u>PQL</u>
MBLANK	WG136063	SW846 9038	11-DEC-13	N/A	U 1.0 mg/L	1.0 mg/L

Total Solids

<u>Samp Type</u>	<u>QC Batch</u>	<u>Anal. Method</u>	<u>Anal. Date</u>	<u>Prep. Date</u>	<u>Result</u>	<u>PQL</u>
MBLANK	WG135805	SM2540	10-DEC-13	09-DEC-13	U 1 %	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
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-Turbidimetric

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 Type	QC Batch	Analysis Date	Prep Date	Units	Spike Amt.	Result	Recovery	Acceptance Range	RPD
WG135805-2	LCS	WG135805	10-DEC-13	09-DEC-13	%	90	86.	96	80-120	

pH(Soil)

Lab Sample Id	Samp Type	QC Batch	Analysis Date	Prep Date	Units	Spike Amt.	Result	Recovery	Acceptance Range	RPD
WG135841-1	LCS	WG135841	09-DEC-13	N/A	pH	7	7.0	100	90-110	

Katahdin Analytical Services, Inc.

Sample Receipt Condition Report

Client: <u>S.W. Cole</u>	KAS PM: <u>SMB</u>	Sampled By: <u>Client</u>
Project:	KIMS Entry By: <u>DM</u>	Delivered By: <u>URS</u>
KAS Work Order#: <u>SG 9560</u>	KIMS Review By: <u>DM</u>	Received By: <u>DM</u>
SDG #:	Cooler: <u>N/A</u> of _____	Date/Time Rec.: <u>12-6-13 1140</u>

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): <u>17.7</u>
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) or insufficient ice may not meet certain regulatory requirements and may invalidate certain data.
If yes, was there sufficient ice to meet temperature requirements?		✓			
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?				✓	Note: No cooling process required for metals analysis.
6. Volatiles:				✓	
Aqueous: No bubble larger than a pea?				✓	
Soil/Sediment:				✓	
Received in airtight container?				✓	
Received in methanol?				✓	
Methanol covering soil?				✓	
D.I. Water - Received within 48 hour HT?				✓	
7. Trip Blank present in cooler?				✓	
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				✓	
Sulfide - >9				✓	
Cyanide – pH >12				✓	

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



Katahdin Analytical Services
Login Chain of Custody Report (Ino1)
 Dec. 08, 2013
 10:37 AM

Login Number: SG9560

Account: SWCOLEAUG001
 S.W. Cole

NoWeb

Quote/Incoming:

Login Information:

ANALYSIS INSTRUCTIONS :
 CHECK NO. :
 CLIENT PO# :
 CLIENT PROJECT MANAGE :
 CONTRACT :
 COOLER TEMPERATURE : 17.7
 DELIVERY SERVICES : UPS
 EDD FORMAT :
 LOGIN INITIALS : DM
 PM : SMB
 PROJECT NAME : Bingham/ 10-0014.3
 QC LEVEL : II
 REGULATORY LIST :
 REPORT INSTRUCTIONS : email pdf and invoice to Mike and to email
 invoice/pdf also to crosenberg@swcole.com
 SDG ID :
 SDG STATUS :

Project:

Primary Report Address:

Mike St Pierre
 S. W. Cole
 555 Eastern Ave.

Augusta, ME 04430

Primary Invoice Address:

Accounts Payable
 S. W. Cole
 555 Eastern Ave.

Augusta, ME 04430

Report CC Addresses:

Invoice CC Addresses:

Laboratory Sample ID	Client Sample Number	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	
<i>Matrix</i>	<i>Product</i>	<i>Hold Date (shortest)</i>	<i>Bottle Type</i>			<i>Bottle Count</i>	<i>Comments</i>
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	
<i>Matrix</i>	<i>Product</i>	<i>Hold Date (shortest)</i>	<i>Bottle Type</i>			<i>Bottle Count</i>	<i>Comments</i>
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	
<i>Matrix</i>	<i>Product</i>	<i>Hold Date (shortest)</i>	<i>Bottle Type</i>			<i>Bottle Count</i>	<i>Comments</i>
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	
<i>Matrix</i>	<i>Product</i>	<i>Hold Date (shortest)</i>	<i>Bottle Type</i>			<i>Bottle Count</i>	<i>Comments</i>
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	
<i>Matrix</i>	<i>Product</i>	<i>Hold Date (shortest)</i>	<i>Bottle Type</i>			<i>Bottle Count</i>	<i>Comments</i>
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	
<i>Matrix</i>	<i>Product</i>	<i>Hold Date (shortest)</i>	<i>Bottle Type</i>			<i>Bottle Count</i>	<i>Comments</i>
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
Login Chain of Custody Report (Ino1)
 Dec. 08, 2013
 10:37 AM

Login Number: SG9560

Quote/Incoming:

Account: SWCOLEAUG001
 S.W. Cole

NoWeb

Project:

Laboratory Sample ID	Client Sample Number	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	
<i>Matrix</i>	<i>Product</i>	<i>Hold Date (shortest)</i>	<i>Bottle Type</i>			<i>Bottle Count</i>	<i>Comments</i>
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	
<i>Matrix</i>	<i>Product</i>	<i>Hold Date (shortest)</i>	<i>Bottle Type</i>			<i>Bottle Count</i>	<i>Comments</i>
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	
<i>Matrix</i>	<i>Product</i>	<i>Hold Date (shortest)</i>	<i>Bottle Type</i>			<i>Bottle Count</i>	<i>Comments</i>
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	
<i>Matrix</i>	<i>Product</i>	<i>Hold Date (shortest)</i>	<i>Bottle Type</i>			<i>Bottle Count</i>	<i>Comments</i>
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 Samples: 10

Total Analyses: 40

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



Authorized Signature

12/03/2012

Date

KATAHDIN ANALYTICAL SERVICES – INORGANIC DATA QUALIFIERS
(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
S. W. Cole Engineering, Inc.
286 Portland Road
Gray, ME 04039

Lab Sample ID: SF8278-1
Report Date: 30-NOV-12
Client PO:
Project: 10-0014.2
SDG: SF8278

Sample Description

16135G

<u>Matrix</u>	<u>Date Sampled</u>	<u>Date Received</u>
SL	20-NOV-12	21-NOV-12

Parameter	Result	Adj PQL	Adj MDL	Anal. Method	QC Batch	Analysis Date	Prep. Method	Prep. Date	Analyst	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. mg/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	KP	

Katahdin Analytical Services SF8278 page 0000003 of 0000008

Quality Control Report

Blank Sample Summary Report

Chloride

<u>Samp Type</u>	<u>QC Batch</u>	<u>Anal. Method</u>	<u>Anal. Date</u>	<u>Prep. Date</u>	<u>Result</u>	<u>PQL</u>
MBLANK	WG117254	SW846 9056	29-NOV-12	28-NOV-12	U 2.0 mg/L	2.0 mg/L

Sulfate

<u>Samp Type</u>	<u>QC Batch</u>	<u>Anal. Method</u>	<u>Anal. Date</u>	<u>Prep. Date</u>	<u>Result</u>	<u>PQL</u>
MBLANK	WG117254	SW846 9056	29-NOV-12	28-NOV-12	U 1.0 mg/L	1.0 mg/L

Total Solids

<u>Samp Type</u>	<u>QC Batch</u>	<u>Anal. Method</u>	<u>Anal. Date</u>	<u>Prep. Date</u>	<u>Result</u>	<u>PQL</u>
MBLANK	WG117051	ASTM D2216	28-NOV-12	27-NOV-12	U 1 %	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	pH	7	7.0	101	90-110	

Katahdin Analytical Services, Inc.

Sample Receipt Condition Report

Client: <i>Sw Cole</i>	KAS PM: <i>SMB</i>	Sampled By: <i>Cref</i>
Project:	KIMS Entry By: <i>GW</i>	Delivered By: <i>UPS</i>
KAS Work Order#: <i>SF 8277, SF8278</i>	KIMS Review By: <i>[Signature]</i>	Received By: <i>GW</i>
SDG #:	Cooler: <i>NA</i> of <i>NA</i>	Date/Time Rec.: <i>11-21-12 / 11:00</i>

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): <i>NA 21.5</i> <i>GW</i>
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?		✓		✓	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?	✓				
10. 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
no dates / Times

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



Authorized Signature

12/03/2012

Date

KATAHDIN ANALYTICAL SERVICES – INORGANIC DATA QUALIFIERS
(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
S. W. Cole Engineering, Inc.
286 Portland Road
Gray, ME 04039

Lab Sample ID: SF8146-1
Report Date: 30-NOV-12
Client PO:
Project: 10-0014.2
SDG: SF8146

Sample Description

16133G

Matrix Date Sampled Date Received
SL 05-NOV-12 16-NOV-12

Parameter	Result	Adj PQL	Adj MDL	Anal. Method	QC Batch	Analysis 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-12 10:07:18	ASTM D2216	19-NOV-12	GFB	
pH(Soil)	4.7 pH	0.10	0.10	SW846 9045C	WG117179	29-NOV-12 13:28:00	SW846 9045C	29-NOV-12	KP	

Katahdin Analytical Services SF8146 page 0000003 of 0000008

Quality Control Report

Blank Sample Summary Report

Chloride

<u>Samp Type</u>	<u>QC Batch</u>	<u>Anal. Method</u>	<u>Anal. Date</u>	<u>Prep. Date</u>	<u>Result</u>	<u>PQL</u>
MBLANK	WG117254	SW846 9056	29-NOV-12	28-NOV-12	U 2.0 mg/L	2.0 mg/L

Sulfate

<u>Samp Type</u>	<u>QC Batch</u>	<u>Anal. Method</u>	<u>Anal. Date</u>	<u>Prep. Date</u>	<u>Result</u>	<u>PQL</u>
MBLANK	WG117254	SW846 9056	29-NOV-12	28-NOV-12	U 1.0 mg/L	1.0 mg/L

Total Solids

<u>Samp Type</u>	<u>QC Batch</u>	<u>Anal. Method</u>	<u>Anal. Date</u>	<u>Prep. Date</u>	<u>Result</u>	<u>PQL</u>
MBLANK	WG116771	ASTM D2216	20-NOV-12	19-NOV-12	U 1 %	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
WG116771-2	LCS	WG116771	20-NOV-12	19-NOV-12	%	90	90.	100	80-120	

pH(Soil)

Lab 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	pH	7	7.0	100	90-110	

Client: <u>Sw Cole</u>	KAS PM: <u>SMB</u>	Sampled By: <u>CBT</u>
Project:	KIMS Entry By: <u>GV</u>	Delivered By: <u>UPS</u>
KAS Work Order#: <u>SF 8146</u>	KIMS Review By: <u>SD</u>	Received By: <u>GV</u>
SDG #:	Cooler: <u>NA</u> of <u>NA</u> <u>Box</u>	Date/Time Rec.: <u>11-16-12/10:40</u>

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): <u>13.1</u>
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?		✓			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?	✓			✓	
10. 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: <u>SW Cole Engineering</u>		Contact: <u>Patrick OTTO</u>		Phone #: <u>(207) 657-2866</u>		Fax #: <u>()</u>	
Address: <u>286 Portland RD</u>		City: <u>GRAY</u>		State: <u>ME</u>		Zip Code: <u>04039</u>	
Purchase Order #:		Proj. Name/No.: <u>10-0014.2</u>		Katahdin Quote #:			
Bill (if different than above):				Address:			
Sampler (Print/Sign):				Copies To:			
LAB USE ONLY		Work Order #: <u>SF8146</u>		Analysis and Container Type			
		Katahdin Project Number		Preservatives			
Remarks:				Filt.	Filt.	Filt.	Filt.
				Y/N	Y/N	Y/N	Y/N
Shipping Info: FEDEX UPS CLIENT				Filt.	Filt.	Filt.	Filt.
Airbill No:				Y/N	Y/N	Y/N	Y/N
Temp C Temp Blank Intact Not Intact				Filt.	Filt.	Filt.	Filt.
				Y/N	Y/N	Y/N	Y/N
*	Sample Description	Date/Time Collected	Matrix	No. of Containers	Filt.	Filt.	Filt.
					Y/N	Y/N	Y/N
	<u>1613G</u>	<u>11/5/12</u>		<u>1</u>	<u>X</u>	<u>X</u>	<u>X</u>
COMMENTS:							
<u>11-16-12 / 10:40</u>							
Relinquished By: <u>[Signature]</u>	Date/Time: <u>11-15/11:45</u>	Received By: <u>[Signature]</u>	Date/Time: <u>11-16-12 / 10:40</u>	Relinquished By:	Date/Time:	Received By:	
Relinquished By:	Date/Time:	Received By:	Date/Time:	Relinquished By:	Date/Time:	Received By:	

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

Login Number: SF8146

Account:SWCOLE001

S. W. Cole Engineering, Inc.

NoWeb

Quote/Incoming:

Login Information:

ANALYSIS INSTRUCTIONS :
CHECK NO. :
CLIENT PO# :
CLIENT PROJECT MANAGE :
CONTRACT :
COOLER TEMPERATURE : 13.1
DELIVERY SERVICES : UPS
EDD FORMAT :
LOGIN INITIALS : DM
PM : SMB
PROJECT NAME : 10-0014.2
QC LEVEL : II
REGULATORY LIST :
REPORT INSTRUCTIONS : email pdf and invoice Patrick, email invoice/pdf
also to crosenberg@swcole.com
SDG ID :
SDG STATUS :

Project:

Primary Report Address:

Pat Otto
S. W. Cole Engineering, Inc.
286 Portland Road

Gray,ME 04039

Primary Invoice Address:

Accounts Payable
S. W. Cole Engineering, Inc.
286 Portland Road

Gray,ME 04039

Report CC Addresses:

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-12	
Matrix	Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments		
Solid	S SW9045C-PH SOIL	03-DEC-12	4oz Glass				
Solid	S SW9056-CL	03-DEC-12	4oz Glass				
Solid	S SW9056-SO4	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



Authorized Signature

12/03/2012

Date

KATAHDIN ANALYTICAL SERVICES – INORGANIC DATA QUALIFIERS
(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
S. W. Cole Engineering, Inc.
286 Portland Road
Gray, ME 04039

Lab Sample ID: SF8277-1
Report Date: 30-NOV-12
Client PO:
Project: 10-0014.2
SDG: SF8277

Sample Description

16134G

<u>Matrix</u>	<u>Date Sampled</u>	<u>Date Received</u>
SL	20-NOV-12	21-NOV-12

Parameter	Result	Adj PQL	Adj MDL	Anal. Method	QC Batch	Analysis Date	Prep. Method	Prep. Date	Analyst	Footnotes
Chloride	25. mg/Kgdrywt	22.	1.1	SW846 9056	WG117254	29-NOV-12 18:53:00	E300.0	28-NOV-12	LNP	
Sulfate	111. mg/Kgdrywt	11.	0.70	SW846 9056	WG117254	29-NOV-12 18:53:00	E300.0	28-NOV-12	LNP	
Total Solids	91. %	1		SM2540G	WG117051	28-NOV-12 09:01:31	ASTM D2216	27-NOV-12	KP	
pH(Soil)	5.7 pH	0.10	0.10	SW846 9045C	WG116996	26-NOV-12 14:18:00	SW846 9045C	26-NOV-12	KP	

Quality Control Report

Blank Sample Summary Report

Chloride

<u>Samp Type</u>	<u>QC Batch</u>	<u>Anal. Method</u>	<u>Anal. Date</u>	<u>Prep. Date</u>	<u>Result</u>	<u>PQL</u>
MBLANK	WG117254	SW846 9056	29-NOV-12	28-NOV-12	U 2.0 mg/L	2.0 mg/L

Sulfate

<u>Samp Type</u>	<u>QC Batch</u>	<u>Anal. Method</u>	<u>Anal. Date</u>	<u>Prep. Date</u>	<u>Result</u>	<u>PQL</u>
MBLANK	WG117254	SW846 9056	29-NOV-12	28-NOV-12	U 1.0 mg/L	1.0 mg/L

Total Solids

<u>Samp Type</u>	<u>QC Batch</u>	<u>Anal. Method</u>	<u>Anal. Date</u>	<u>Prep. Date</u>	<u>Result</u>	<u>PQL</u>
MBLANK	WG117051	ASTM D2216	28-NOV-12	27-NOV-12	U 1 %	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	pH	7	7.0	101	90-110	

Client: <i>Sw Cole</i>	KAS PM: <i>SMB</i>	Sampled By: <i>Chaf</i>
Project:	KIMS Entry By: <i>GW</i>	Delivered By: <i>UPS</i>
KAS Work Order#: <i>SF 8277, SF8278</i>	KIMS Review By: <i>[Signature]</i>	Received By: <i>GW</i>
SDG #:	Cooler: <u>NA</u> of <u>NA</u>	Date/Time Rec.: <i>11-21-12 / 11:00</i>

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): <i>NA 21.5</i> <i>GW</i>
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?		✓		✗	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?	✓				
10. 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
no dates / Times



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

Chain of Custody

Client: SW Cole Engineering	Contact: Pat Otto	Phone #: (207) 657-2866	Fax #: ()
Address: 286 Portland Rd	City: LEAVENWORTH	State: ME	Zip Code: 04839
Purchase Order #:		Proj. Name/No.: 10-0014.2	
Bill (if different than above):		Katahdin Quote #:	
Sampler (Print/Sign):		Copies To:	

LAB USE ONLY					Analysis and Container Type											
Work Order #: SF8277 Katahdin Project Number					Preservatives											
Remarks:					Filt. Y/N	Filt. Y/N	Filt. Y/N	Filt. Y/N	Filt. Y/N	Filt. Y/N	Filt. Y/N	Filt. Y/N	Filt. Y/N	Filt. Y/N	Filt. Y/N	Filt. Y/N
Shipping Info: FEDEX UPS CLIENT					SW946 SW9251	SW846 SW9034	SW846 SW9045									
Airbill No:																
Temp C Temp Blank Intact Not Intact																
*	Sample Description	Date/Time Collected	Matrix	No. of Containers												
	161346			1												

COMMENTS:

Relinquished By:	Date/Time	Received By:	Relinquished By:	Date/Time	Received By:
Relinquished By:	Date/Time	Received By:	Relinquished By:	Date/Time	Received By:

Nov. 21, 2012

12:07 PM

Login Number: SF8277

Quote/Incoming:

Account:SWCOLE001

NoWeb

S. W. Cole Engineering, Inc.

Login Information:

ANALYSIS INSTRUCTIONS :
 CHECK NO. :
 CLIENT PO# :
 CLIENT PROJECT MANAGE :
 CONTRACT :
 COOLER TEMPERATURE : 21.5
 DELIVERY SERVICES : UPS
 EDD FORMAT :
 LOGIN INITIALS : GN
 PM : SMB
 PROJECT NAME : 10-0014.2
 QC LEVEL : II
 REGULATORY LIST :
 REPORT INSTRUCTIONS : email pdf and invoice Patrick, email invoice/pdf
 also to crosenberg@swcole.com
 SDG ID :
 SDG STATUS :

Project:

Primary Report Address:

Pat Otto
 S. W. Cole Engineering, Inc.
 286 Portland Road

Gray,ME 04039

Primary Invoice Address:

Accounts Payable
 S. W. Cole Engineering, Inc.
 286 Portland Road

Gray,ME 04039

Report CC Addresses:

Invoice CC Addresses:

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
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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	S SW9055-S04	18-DEC-12	4oz Glass				
Solid	S TS	20-DEC-12	4oz Glass				

Total Samples: 1

Total Analyses: 4