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VALIDATED DATA PACKAGE, TH0531, NWIRP BETHPAGE NY
1/9/2015
KATAHDIN ANALYTICAL SERVICES

FULL INORGANICS COMPLETE SDG FILE (CSF) INVENTORY SHEET

LABORATORY NAME Katahdin Analytical Services
CITY/STATE Scarborough, ME
CASE NO. WE15 SDG NO. TH0531 SDG NOS. TO FOLLOW
CONTRACT NO.
SOW NO.

All documents delivered in the Complete SDG File must be original documents where possible. (Reference - ILM05.4, Exhibit B Section 2.6)

	PAGE NOs. FROM	PAGE NOs. TO	CHECK LAB	CHECK REGION
1. Cover Page	0000003	0000004	✓	
2. SDG Narrative	0000005	0000006	✓	
3. Sample Log-In Sheet (DC-1)	—	—	✓	
4. Inventory Sheet (DC-2))	0000001	0000002	✓	
5. Traffic Report/Chain of Custody Record(s)	0000008	0000008	✓	
Inorganic Analysis				
6. Data Sheet (Form I-IN)	0000017	0000021	✓	
7. Initial & Continuing Calibration Verification (Form IIA-IN)	—	—	✓	
8. CRQL Standard(Form IIB-IN)	—	—	✓	
9. Blanks (Form III-IN)	0000011	0000013	✓	
10. ICP-AES Interference Check Sample (Form IVA-IN)	—	—	✓	
11. ICP-MS Interference Check Sample(Form IVB-IN)	—	—	✓	
12. Matrix Spike Sample Recovery(Form VA-IN)	0000016	0000016	✓	
13. Post-Digestion Spike Sample Recovery(Form VB-IN)	—		✓	
14. Duplicates (Form VI-IN)	0000015	0000015	✓	
15. Laboratory Control Sample(Form VII-IN)	0000014	0000014	✓	
16. ICP-AES and ICP-MS Serial Dilutions (Form VIII-IN)	—	—	✓	
17. Method Detection Limits (Annually) (Form IX-IN)	—	—	✓	
18. ICP-AES Interelement Correction Factors (Quarterly) (Form XA-IN)	—	—	✓	
19. ICP-AES Interelement Correction Factors (Quarterly) (Form XB-IN)	—	—	✓	
20. ICP-AES and ICP-MS Linear Ranges (Quarterly) (Form XI-IN)	—	—	✓	
21. Preparation Log (Form XII-IN)	—	—	✓	
22. Analysis Run Log (Form XIII-IN)	—	—	✓	

FORM DC-2-2 M&E DAS

FULL INORGANICS COMPLETE SDG FILE (CSF) INVENTORY SHEET

	PAGE NOs. FROM	PAGE NOs. TO	CHECK LAB	CHECK REGION
23. ICP-MS Tune (Form XIV-IN)	—	—	✓	
24. ICP-MS Internal Standards Relative Intensity Summary (Form XV-IN)	—	—	✓	
25. ~~ICP-AES~~ Raw Data Wet Chemistry	0000022	0000058	✓	
26. ICP-MS Raw Data	—	—	✓	
27. Mercury Raw Data	—	—	✓	
28. Cyanide Raw Data	—	—	✓	
29. Preparation Logs Raw Data (Wet Chemistry)	—	—	✓	
30. Percent Solids Determination Log	—	—	✓	
31. USEPA Shipping/Receiving Documents		—		
Airbill (No. of Shipments 1)	—		✓	
Sample Tags	—	—	✓	
Sample Log-In Sheet (Lab)	—	—	✓	
32. Misc. Shipping/Receiving Records (list all individual records)				
Telephone Logs	—	—	✓	
Sample Receipt Condition Report	0000007	0000007	✓	
	—	—	✓	
33. Internal Lab Sample Transfer Records & Tracking Sheets (describe or list)	—	—	✓	
Internal Chain of Custody	0000010	0000010	✓	
Login Chain of Custody Report	0000009	0000009	✓	
34. Internal Original Sample Prep & Analysis Records (describe or list)				
Prep Records	—	—	✓	
Analysis Records	—	—	✓	
Description Duplicate Precision Form	—	—	✓	
35. Other Records (describe or list)	—	—	✓	
Telephone Communications Log	—	—	✓	
DAS Specifications	—	—	✓	

36. Comments

Completed by:
(CLP Lab) Leslie Dimond — Leslie Dimond QAO — 010915
(Signature) (Print Name & Title) (Date)

Audited by:
(USEPA) _____ _____ _____
(Signature) (Print Name & Title) (Date)

FORM DC-2-2 M&E DAS

0000002

ENSAFE
NAVY CLEAN WE15-03-06
NWIRP BETHPAGE, NY
TH0531

KATAHDIN ANALYTICAL SERVICES, LLC
600 TECHNOLOGY WAY
SCARBOROUGH, ME 04074

SAMPLE DATA PACKAGE

SDG NARRATIVE
KATAHDIN ANALYTICAL SERVICES
ENSAFE
NAVY CLEAN WE15-03-06 NWIRP BETHPAGE, NY
TH0531

Sample Receipt

The following samples were received on December 12, 2014 and were logged in under Katahdin Analytical Services work order number TH0531 for a hardcopy due date of December 31, 2014

KATAHDIN Sample No.	AECOM Sample Identification
TH0531-1	BPOW6-4-SOIL-120814-563-565
TH0531-2	BPOW6-4-SOIL-D-120814
TH0531-3	BPOW6-4-EB-120814

The samples were logged in for the analyses specified on the chain of custody form. All problems encountered and resolved during sample receipt have been documented on the applicable chain of custody forms.

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

Some of the client IDs on the Chain of Custody exceeds the 19-character limit of the Katahdin Analytical Information Management System. Therefore, the client ID for sample TH0531-1 was truncated to "4-SL-120814-563-565" on all forms. The client ID for sample TH0531-2 was truncated to "BPOW6-4-SL-D-120814" on all forms.

Sample analyses have been performed by the methods as noted herein.

Should you have any questions or comments concerning this Report of Analysis, please do not hesitate to contact your Katahdin Analytical Services Project Manager, **Ms. Jennifer Obrin**. This narrative is an integral part of the Report of Analysis.

Wet Chemistry Analysis

The samples of Work Order TH0531 were analyzed in accordance with the specific methods listed on the Report of Analysis.

Analyses for total organic carbon in soil were performed according to "Test Methods for Evaluating Solid Wastes: Physical/Chemical Methods." SW-846. 2nd edition, 1982 (revised 1984), 3rd edition, 1986, and Updates I, II, IIA,III, IIIA and IIIB 1996, 1998 & 2004, Office of Solid Waste and Emergency Response, U.S. EPA.

Analyses for total organic carbon in water and total solids were performed according to "Standard Methods for the Examination of Water and Wastewater", 15th, 16th, 17th, 18th, 19th, and 20th editions, 1980, 1985, 1989, 1992, 1995, 1999. APHA-AWWA-WPCF.

All Wet Chemistry results were evaluated to Katahdin Analytical Services' Method Detection Limits (MDL). Measured concentrations that fall between the MDL and Katahdin's Limit of Quantitation (LOQ) are flagged "J". Measured concentrations that are below the MDL are flagged "U" and reported as "U LOD", where "LOD" is the numerical value of the Limit of Detection.

All analyses were performed within analytical holding times. All quality control criteria were met.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Operations Manager or the Quality Assurance Officer as verified by the following signature.

Leslie Dimond

01.06.15

Leslie Dimond
Quality Assurance Officer

Katahdin Analytical Services, Inc.

Sample Receipt Condition Report

Client: AECOM	KAS PM: JC	Sampled By: Client
Project:	KIMS Entry By: GW	Delivered By: FedEx
KAS Work Order#: TH0531	KIMS Review By:	Received By: GW
SDG #:	Cooler: 1 of 1	Date/Time Rec.: 12-12-14/09:00

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): 5.3
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?	√ if air included				
Air: Refer to KAS COC for canister/flow controller requirements.				✓	
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
600 Technology Way
Scarborough, ME 04074
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE BEAR DOWN AND PRINT LEGIBLY IN PEN

Page 1 of 1

Client: Resolution Consultants | Contact: Eleanor Vivaudou | Phone #: (914) 227-3942 | Fax #: ( )

Address: 100 Red Schoolhouse Rd | City: Chestnut Ridge | State: NY | Zip Code: 10977

Purchase Order # | Proj. Name / No.: Bethpage 60266526 | Katahdin Quote #

Bill (if different than above) | Address

Sampler (Print / Sign): Valerie Thayer | Copies To: Valerie Thayer

LAB USE ONLY | WORK ORDER #: TH0531 | KATAHDIN PROJECT NUMBER

REMARKS:

SHIPPING INFO: ☐ FED EX ☐ UPS ☐ CLIENT

AIRBILL NO:

TEMP°C ____ ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

*	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	ANALYSIS AND CONTAINER TYPE / PRESERVATIVES: 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
					10C									
	BPOW6-4-soil-120814-563-565	12/08/14 / 14:45	soil	1	X									
	BPOW6-4-soil-D-120814	12/08/14 / 14:45	soil	1	X									
		/												
	BPOW6-4-EB-120814	12/08/14 / 13:15	W	3	X									
		/												
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COMMENTS: D = Duplicate
EB = Equipment Blank

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
Valerie Thayer	12/8/14 7:00				
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
		12-12-14 0900			

THE TERMS AND CONDITIONS ON THE REVERSE SIDE HEREOF SHALL GOVERN SERVICES, EXCEPT WHEN A SIGNED CONTRACTUAL AGREEMENT EXISTS.

KAS-COC1

00000008

Katahdin
ANALYTICAL SERVICES

Katahdin Analytical Services

Login Chain of Custody Report (lno1)

Dec. 12, 2014
01:49 PM

Login Number: TH0531

Account: ENSAFE001
ENSAFE

Project: AECOM-BETHPAGE
NWIRP Bethpage, NY

NoWeb

Quote/Incoming: AECOM-BETHPAGE

Primary Report Address:

Dana Miller
EnSafe
5724 Summer Trees Drive

Memphis,TN 38134
dmiller@Ensafe.com

Primary Invoice Address:

Accounts Payable
EnSafe
5724 Summer Trees Drive

Memphis,TN 38134

Report CC Addresses:

Invoice CC Addresses:

Login Information:

ANALYSIS INSTRUCTIONS	:	Follow DoD QSM Version 4.2 using DoD limits. "U" LOD. "J" flag between DL and LOQ.
CHECK NO.	:	
CLIENT PO#	:	16518
CLIENT PROJECT MANAGE	:	Brian Caldwell
CONTRACT	:	
COOLER TEMPERATURE	:	5.3
DELIVERY SERVICES	:	FedEx
EDD FORMAT	:	KAS135QC-CSV
LOGIN INITIALS	:	GN
PM	:	JO
PROJECT NAME	:	Navy Clean WE15-03-06 NWIRP Bethpage, NY
QC LEVEL	:	IV
REGULATORY LIST	:	
REPORT INSTRUCTIONS	:	Send HC and CD to Dana. Email invoice to purchasing@ensafe.com
SDG ID	:	
SDG STATUS	:	

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TH0531-1	4-SL-120814-563-565	08-DEC-14 14:45	12-DEC-14			31-DEC-14	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW9060M-TOC	05-JAN-15	4oz Glass		**BPOW6-4-SOIL-120814-563-565**
Solid	S	TS	07-JAN-15	4oz Glass		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TH0531-2	BPOW6-4-SL-D-120814	08-DEC-14 14:45	12-DEC-14			31-DEC-14	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW9060M-TOC	05-JAN-15	4oz Glass		**BPOW6-4-SOIL-D-120814**
Solid	S	TS	07-JAN-15	4oz Glass		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TH0531-3	BPOW6-4-EB-120814	08-DEC-14 13:15	12-DEC-14			31-DEC-14	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	SM5310B-TOC	05-JAN-15	40 mL Vial+H2SO4		

Total Samples: **3** ***Total Analyses:*** **5**

12.12.14

0000009

Katahdin Analytical Services, Inc.

Container Transfer History for TH0531

Samplenum TH0531-1

Container Id TH0531-1A **Containertype 4oz Glass** **Matrix SL**

Product *TS, SW9060M-TOC*

Transferdate	From	To	Analyst	Custody Break	Comments
12-DEC-14 10:51	LOGIN	WALK-IN	GNICKERSON	N	
18-DEC-14 16:25	WALK-IN	WET CHEMISTRY	AZAZZARA	N	
21-DEC-14 11:18	WET CHEMISTRY	WALK-IN	AZAZZARA	N	
22-DEC-14 20:11	WALK-IN	WALK-IN	GBREWER	Y	This container has not been properly returned to CUSTODY! It was last assigned to AZAZZARA for department CUSTODY on 12/21/14 11:18 .
24-DEC-14 10:35	WALK-IN	WET CHEMISTRY	CBAGLEY	N	
31-DEC-14 16:41	WALK-IN	WALK-IN	CBAGLEY	N	

Samplenum TH0531-2

Container Id TH0531-2A **Containertype 4oz Glass** **Matrix SL**

Product *TS, SW9060M-TOC*

Transferdate	From	To	Analyst	Custody Break	Comments
12-DEC-14 10:51	LOGIN	WALK-IN	GNICKERSON	N	
18-DEC-14 16:25	WALK-IN	WET CHEMISTRY	AZAZZARA	N	
21-DEC-14 11:18	WET CHEMISTRY	WALK-IN	AZAZZARA	N	
22-DEC-14 20:11	WALK-IN	WALK-IN	GBREWER	Y	This container has not been properly returned to CUSTODY! It was last assigned to AZAZZARA for department CUSTODY on 12/21/14 11:18 .
24-DEC-14 10:35	WALK-IN	WET CHEMISTRY	CBAGLEY	N	
31-DEC-14 16:41	WALK-IN	WALK-IN	CBAGLEY	N	

Samplenum TH0531-3

Container Id TH0531-3A **Containertype 40 mL Vial+H2SO4** **Matrix AQ**

Product *SM5310B-TOC*

Transferdate	From	To	Analyst	Custody Break	Comments
12-DEC-14 10:51	LOGIN	WALK-IN	GNICKERSON	N	

Container Id TH0531-3B **Containertype 40 mL Vial+H2SO4** **Matrix AQ**

Product *SM5310B-TOC*

Transferdate	From	To	Analyst	Custody Break	Comments
12-DEC-14 10:51	LOGIN	WALK-IN	GNICKERSON	N	

Container Id TH0531-3C **Containertype 40 mL Vial+H2SO4** **Matrix AQ**

Product *SM5310B-TOC*

Transferdate	From	To	Analyst	Custody Break	Comments
12-DEC-14 10:51	LOGIN	WALK-IN	GNICKERSON	N	

CONVENTIONAL AND PHYSICAL ANALYTICAL DATA

QC Summary Section

Quality Control Report

Blank Sample Summary Report

TOC in Soil

Samp Type	QC Batch	Anal. Method	Anal. Date	Prep. Date	Result	PQL	LOD
MBLANK	WG156305	SW846 9060A Mod.	24-DEC-14	N/A	U 300 ug/gdrywt	400 ug/gdrywt	300

Total Organic Carbon

Samp Type	QC Batch	Anal. Method	Anal. Date	Prep. Date	Result	PQL	LOD
MBLANK	WG155955	SM5310B	18-DEC-14	N/A	U 0.50 mg/L	1.0 mg/L	0.50

Total Solids

Samp Type	QC Batch	Anal. Method	Anal. Date	Prep. Date	Result	PQL	LOD
MBLANK	WG155914	SM2540	19-DEC-14	18-DEC-14	U 1 %	1 %	N/A

Quality Control Report

Laboratory Control Sample Summary Report

TOC In Soil

Lab Sample Id	Samp Type	QC Batch	Analysis Date	Prep Date	Units	Spike Amt.	Result	Recovery	Acceptance Range	RPD
WG156305-2	LCS	WG156305	24-DEC-14	N/A	ug/gdrywt	400000.000	390000	98	80-120	
WG156305-3	LCSD	WG156305	24-DEC-14	N/A	ug/gdrywt	400000.000	380000	96	80-120	2

Total Organic Carbon

Lab Sample Id	Samp Type	QC Batch	Analysis Date	Prep Date	Units	Spike Amt.	Result	Recovery	Acceptance Range	RPD
WG155955-2	LCS	WG155955	18-DEC-14	N/A	mg/L	50	46.	91	80-120	

Total Solids

Lab Sample Id	Samp Type	QC Batch	Analysis Date	Prep Date	Units	Spike Amt.	Result	Recovery	Acceptance Range	RPD
WG155914-2	LCS	WG155914	19-DEC-14	18-DEC-14	%	90	90.	100	80-120	

Quality Control Report

Duplicate Sample Summary Report

Total Organic Carbon

Duplicate Sample ID	Original Sample ID	QC Batch	Analysis Date	Result Units	Sample Result	Duplicate Result	RPD(%)	RPD Limit
WG155955-3	TH0531-3	WG155955	18-DEC-14	mg/L	J 0.34	J 0.29	NC	20

Total Solids

Duplicate Sample ID	Original Sample ID	QC Batch	Analysis Date	Result Units	Sample Result	Duplicate Result	RPD(%)	RPD Limit
WG155914-3	TH0531-1	WG155914	19-DEC-14	%	82.	82.	0	20
WG155914-4	TH0531-2	WG155914	19-DEC-14	%	83.	82.	1	20

Quality Control Report

Matrix Spike Sample Summary Report

TOC In Soil

Matrix Spike Sample ID	Sample Type	Original Sample ID	QC Batch	Analysis Date	Result Units	Spike Amount	Sample Result	MS Result	Recovery (%)	Recovery Limit
WG156305-4	MS	TH0531-1	WG156305	24-DEC-14	ug/gdrywt	19372.23	J 460	20000	97	75 - 125

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

http://katahdinlab.com
sales@katahdinlab.com

Sample Data Section

KATAHDIN ANALYTICAL SERVICES – INORGANIC DATA QUALIFIERS

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.

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 - sulfide 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.

M1 The matrix spike and/or matrix spike duplicate recovery performed on this sample was outside of the laboratory acceptance criteria. Sample matrix is suspected. The laboratory criteria was met for the Laboratory Control Sample (LCS) analyzed concurrently with this sample.

M2 The matrix spike and/or matrix spike duplicate recovery was outside of the laboratory acceptance criteria. The native sample concentration is greater than four times the spike added concentration so the spike added could not be distinguished from the native sample concentration.

R1 The relative percent difference (RPD) between the duplicate analyses performed on this sample was outside of the laboratory acceptance criteria (when both values are greater than ten times the PQL).

MCL	Maximum Contaminant Level	NL	No limit
NFL	No Free Liquid Present	FLP	Free Liquid Present
NOD	No Odor Detected	TON	Threshold Odor Number

D-1 As required by Method 5210B, APHA Standard Methods for the Examination of Water and Wastewater (21st edition), the BOD value reported for this sample is 'qualified' because the check standard run concurrently with the sample analysis did not meet the criteria specified in the method (198 +/- 30.5 mg/L). These results may not be reportable for compliance purposes.

D-2 The measured final dissolved oxygen concentrations of all dilutions were less than the method-specified limit of 1 mg/L. The reported BOD result was calculated assuming a final oxygen concentration equal to 1 mg/L.

D-3 The dilution water used to prepare this sample did not meet the method and/or regulatory criteria of less than 0.2 or 0.4 mg/L dissolved oxygen (DO) uptake over the five day period of incubation. These results may not be reportable for compliance purposes.

Katahdin
ANALYTICAL SERVICES

Accredited in accordance with nelac
Cert No E87604

Report of Analytical Results

Client: Dana Miller
EnSafe
5724 Summer Trees Drive
Memphis,TN 38134

Lab Sample ID: TH0531-1
Report Date: 05-JAN-15
Client PO: 16518
Project: Navy Clean WE15-03-0
SDG: TH0531

Sample Description	Matrix	Date Sampled	Date Received
4-SL-120814-563-565	SL	08-DEC-14 14:45:00	12-DEC-14

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
TOC In Soil	J460 ug/gdrywt	600	130	450	SW846 9060A Mod.	WG156305	24-DEC-14 13:11:14	N/A	N/A	
Total Solids	82. %	1		N/A	SM2540G	WG155914	19-DEC-14 11:05:28	SM2540G	18-DEC-14	

Katahdin Analytical Services 0000019

Katahdin
ANALYTICAL SERVICES

Cert No E87604

Report of Analytical Results

Client: Dana Miller
EnSafe
5724 Summer Trees Drive
Memphis,TN 38134

Lab Sample ID: TH0531-2
Report Date: 05-JAN-15
Client PO: 16518
Project: Navy Clean WE15-03-0
SDG: TH0531

Sample Description	Matrix	Date Sampled	Date Received
BPOW6-4-SL-D-120814	SL	08-DEC-14 14:45:00	12-DEC-14

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
TOC In Soil	J230 ug/gdrywt	600	130	450	SW846 9060A Mod.	WG156305	24-DEC-14 13:32:40	N/A	N/A	
Total Solids	83. %	1		N/A	SM2540G	WG155914	19-DEC-14 11:05:36	SM2540G	18-DEC-14	

Katahdin Analytical Services 0000020

Katahdin
ANALYTICAL SERVICES

ACCREDITED IN ACCORDANCE WITH nelac
Cert No E87604

Report of Analytical Results

Client: Dana Miller
EnSafe
5724 Summer Trees Drive
Memphis,TN 38134

Lab Sample ID: TH0531-3
Report Date: 05-JAN-15
Client PO: 16518
Project: Navy Clean WE15-03-0
SDG: TH0531

Sample Description	Matrix	Date Sampled	Date Received
BPOW6-4-EB-120814	AQ	08-DEC-14 13:15:00	12-DEC-14

Parameter	Result	Adj LOQ	Adj MDL	Adj LOD	Anal. Method	QC.Batch	Anal. Date	Prep. Method	Prep. Date	Footnotes
Total Organic Carbon	J0.34 mg/L	1.0	0.10	.5	SM5310B	WG155955	18-DEC-14 12:56:37	N/A	N/A	

Katahdin Analytical Services 0000021

Raw Data Section

WET CHEMISTRY BATCH REPORT
Dec 30 2014, 01:31 pm
Batch: WG156305

Parameter: TOC In Soil

Prep Date: N/A

Date Analyzed: 24-DEC-14

Prep Method: N/A

Analyst Initials: RO

Prep Chemist: N/A

Sample	Samp Type	Method	Initial Amt.	Final Amt.	Rpt. DF	Result	Rpt Result	TS(%)	PQL	MDL	Adj PQL	RPD	%Rec
TH0531-1	SAMP	SW846 9060A	401.3mg	200.00ug	1	455.06891	J460 ug/gdrywt	82.	400	130	600		
TH0531-2	SAMP	SW846 9060A	400.4mg	200.00ug	1	232.67446	J230 ug/gdrywt	83.	400	130	600		
TH0533-1	SAMP	SW846 9060A	499.1mg	200.00ug	1	140.13232	J140 ug/gdrywt	86.	400	98.	460		
WG156305-1	MBLANK	SW846 9060A	500mg	200.00ug	1	0	U300 ug/gdrywt	NA	400	85.	400		
WG156305-2	LCS	SW846 9060A	40mg	200.00ug	1	390275	390000 ug/gdrywt	NA	400	85.	400		98
WG156305-3	LCSD	SW846 9060A	40mg	200.00ug	1	383075	380000 ug/gdrywt	NA	400	85.	400	2	96
WG156305-4	MS	SW846 9060A	250.8mg	200.00ug	1	20268.19574	20000 ug/gdrywt	NA	400	100	480		97

Comments:

TH0531-1	BPOW6-4-SOIL-120814-563-565
TH0531-2	BPOW6-4-SOIL-D-120814
TH0533-1	RE122D3-SOIL-120514-718-720
WG156305-1	TH0531-1
WG156305-2	TH0531-1
WG156305-3	TH0531-1
WG156305-4	TH0531-1

Entered by: CLB Date: 12-30-14 Accepted by: Date: 01/05/15

Katahdin Analytical Services 0000023

WET CHEMISTRY BATCH REPORT
Dec 30 2014, 01:31 pm
Batch: WG156307

Parameter: TOC In Soil

Prep Date: N/A

Date Analyzed: 24-DEC-14

Prep Method: N/A

Analyst Initials: RO

Prep Chemist: N/A

Sample	Samp Type	Method	Initial Amt.	Final Amt.	Rpt. DF	Result	Rpt Result	TS(%)	PQL	MDL	Adj PQL	RPD	%Rec
TH0641-1	SAMP	LLOYDKAHN	202.3mg	200.00ug	1	390103.82297	390000 ug/gdrywt	10.	400	2100	9800		
WG156307-1	MBLANK	LLOYDKAHN	500mg	200.00ug	1	0	U300 ug/gdrywt	NA	400	85.	400		
WG156307-2	LCS	LLOYDKAHN	40mg	200.00ug	1	390275	390000 ug/gdrywt	NA	400	85.	400		98
WG156307-3	LCSD	LLOYDKAHN	40mg	200.00ug	1	383075	380000 ug/gdrywt	NA	400	85.	400	2	96

Comments:

WG156307-1	TH0641-1
WG156307-2	TH0641-1
WG156307-3	TH0641-1

Entered by: CLB Date: 12-30-14 Accepted by: [signature] Date: 01/05/15

Katahdin Analytical Services 0000024

WET CHEMISTRY BATCH REPORT
Dec 30 2014, 01:26 pm
Batch: WG156308

Parameter: Toc In Soil(1)

Prep Date: N/A

Date Analyzed: 24-DEC-14

Prep Method: N/A

Analyst Initials: RO

Prep Chemist: N/A

Sample	Samp Type	Method	Initial Amt.	Final Amt.	Rpt. DF	Result	Rpt Result	TS(%)	PQL	MDL	Adj PQL	RPD	%Rec
TH0725-6	SAMP	SW846 9060A	298.8mg		1	13288.93554	13000 ug/gdrywt	39.	400	360	1700		
TH0726-2	SAMP	SW846 9060A	249.4mg		1	32142.61104	32000 ug/gdrywt	56.	400	300	1400		
TH0726-3	SAMP	SW846 9060A	249.9mg		1	30385.93334	30000 ug/gdrywt	62.	400	270	1300		
TH0726-4	SAMP	SW846 9060A	300.5mg		1	29228.70463	29000 ug/gdrywt	59.	400	240	1100		
TH0727-1	SAMP	SW846 9060A	301.2mg		1	11790.76712	12000 ug/gdrywt	41.	400	340	1600		
WG156308-1	MBLANK	SW846 9060A	500mg		1	0	U300 ug/gdrywt	NA	400	85.	400		
WG156308-2	LCS	SW846 9060A	40mg		1	390275	390000 ug/gdrywt	NA	400	85.	400		98
WG156308-3	LCSD	SW846 9060A	40mg		1	383075	380000 ug/gdrywt	NA	400	85.	400	2	96

Comments:

WG156308-1	TH0727-1
WG156308-2	TH0727-1
WG156308-3	TH0727-1

Entered by: CLB Date: 12-30-14 Accepted by: Date: 01/05/15

Katahdin Analytical Services 0000025

WET CHEMISTRY BATCH REPORT
Dec 30 2014, 01:26 pm
Batch: WG156308

Parameter: Toc In Soil(2)

Prep Date: N/A

Date Analyzed: 24-DEC-14

Prep Method: N/A

Analyst Initials: RO

Prep Chemist: N/A

Sample	Samp Type	Method	Initial Amt.	Final Amt.	Rpt. DF	Result	Rpt Result	TS(%)	PQL	MDL	Adj PQL	RPD	%Rec
TH0725-6	SAMP	SW846 9060A	298.8mg		1	14105.19746	14000 ug/gdrywt	39.	400	360	1700		
TH0726-2	SAMP	SW846 9060A	249.4mg		1	30950.27913	31000 ug/gdrywt	56.	400	300	1400		
TH0726-3	SAMP	SW846 9060A	249.9mg		1	29916.56904	30000 ug/gdrywt	62.	400	270	1300		
TH0726-4	SAMP	SW846 9060A	300.5mg		1	31442.99385	31000 ug/gdrywt	59.	400	240	1100		
TH0727-1	SAMP	SW846 9060A	301.2mg		1	11545.36843	12000 ug/gdrywt	41.	400	350	1600		

Comments:

WG156308-1	TH0727-1
WG156308-2	TH0727-1
WG156308-3	TH0727-1

Entered by: LLB Date: 12-30-14 Accepted by: Date: 01/05/15

Katahdin Analytical Services 0000026

WET CHEMISTRY BATCH REPORT
Dec 30 2014, 01:26 pm
Batch: WG156308

Parameter: Toc In Soil(Avg)

Prep Date: 24-DEC-14

Date Analyzed: 30-DEC-14

Prep Method: N/A

Analyst Initials: RO

Prep Chemist: N/A

Sample	Samp Type	Method	Initial Amt.	Final Amt.	Rpt. DF	Result	Rpt Result	TS(%)	PQL	MDL	Adj PQL	RPD	%Rec
TH0725-6	SAMP	SW846 9060A	298.8mg		1	13697.0665	14000 ug/gdrywt	39.	400	360	1700		
TH0726-2	SAMP	SW846 9060A	249.4mg		1	31546.44508	32000 ug/gdrywt	56.	400	300	1400		
TH0726-3	SAMP	SW846 9060A	249.9mg		1	30151.25119	30000 ug/gdrywt	62.	400	270	1300		
TH0726-4	SAMP	SW846 9060A	300.5mg		1	30335.84924	30000 ug/gdrywt	59.	400	240	1100		
TH0727-1	SAMP	SW846 9060A	301.2mg		1	11668.06778	12000 ug/gdrywt	41.	400	340	1600		

Comments:

WG156308-1	TH0727-1
WG156308-2	TH0727-1
WG156308-3	TH0727-1

Entered by: CLB Date: 12-30-14 Accepted by: Date: 01/05/15

Katahdin Analytical Services 0000027

	Sample Name	Dilution	Result	Comment	Date / Time
1	CCV	1.000	SSM-TC:15055 ug		12/24/2014 12:13:49 PM
2	CCB	1.000	SSM-TC:0.000 ug		12/24/2014 12:22:17 PM
3	LCS	1.000	SSM-TC:15611 ug		12/24/2014 12:32:12 PM
4	LCSD	1.000	SSM-TC:15323 ug		12/24/2014 12:47:58 PM
5	TH0531-1	1.000	SSM-TC:466.8 ug		12/24/2014 1:11:14 PM
6	TH0531-1 MS	1.000	SSM-TC:4185 ug		12/24/2014 1:23:32 PM
7	TH0531-2	1.000	SSM-TC:240.9 ug		12/24/2014 1:32:40 PM
8	TH0533-1	1.000	SSM-TC:55.60 ug		12/24/2014 1:51:37 PM
9	TH0641-1	1.000	SSM-TC:7921 ug		12/24/2014 2:01:56 PM
10	TH0727-1	1.000	SSM-TC:1455 ug		12/24/2014 2:11:58 PM
11	TH0727-1	1.000	SSM-TC:1411 ug		12/24/2014 2:19:12 PM
12	TH0726-2	1.000	SSM-TC:4506 ug		12/24/2014 2:28:27 PM
13	CCV	1.000	SSM-TC:15611 ug		12/24/2014 2:39:53 PM
14	CCB	1.000	SSM-TC:0.000 ug		12/24/2014 2:51:13 PM
15	TH0726-2	1.000	SSM-TC:4398 ug		12/24/2014 2:59:30 PM
16	TH0726-3	1.000	SSM-TC:4703 ug		12/24/2014 3:09:59 PM
17	TH0726-3	1.000	SSM-TC:4660 ug		12/24/2014 3:19:03 PM
18	TH0726-4	1.000	SSM-TC:5211 ug		12/24/2014 3:29:35 PM
19	TH0726-4	1.000	SSM-TC:5561 ug		12/24/2014 3:41:17 PM
20	TH0533-1	1.000	SSM-TC:121.2 ug		12/24/2014 3:48:56 PM
21	NUTRIENT	1.000	SSM-TC:1180 ug		12/24/2014 4:05:58 PM
22	NUTRIENT	1.000	SSM-TC:1369 ug		12/24/2014 4:19:38 PM
23	TH0725-6	1.000	SSM-TC:1563 ug		12/24/2014 4:30:30 PM
24	TH0725-6	1.000	SSM-TC:1669 ug		12/24/2014 4:48:44 PM
25	CCV	1.000	SSM-TC:15581 ug		12/24/2014 5:00:57 PM
26	CCB	1.000	SSM-TC:0.000 ug		12/24/2014 5:12:15 PM
27					
28					
29					
30					

R303186 W0156308 SW9060 R303187 W0156307 R303188 W0156305 SW9060

Katahdin Analytical Services, Inc.

Carbon Analysis of Solid Samples - Shimadzu TOC-V_{CPH} / SSM-5000A

Analysis Type and Method (Check One)	
____Total Carbon (SW846 9060M)	____Total Inorganic Carbon (SW846 9060M)
✓ Total Organic Carbon (SW846 9060)	____Other (Specify):
✓ Total Organic Carbon (Lloyd Kahn)	

Spiking Information	
LCS Spike Source ID / Compound:	W12684 (TV: 16,000)
CCV Spike Source ID / Compound:	W12683
MS Spike Source ID / Compound:	W12684 (TV: 4,000)

Calibration Information	
Calibration Date:	11-13-14
Calibration Analyst:	CLB

KATAHDIN Sample Number	Sample Wt. (mg)	Sample Type * (Circle One)	~~Spike Added~~ (mg) / % Recovery
CCV		Wet Dry	94.10%
CCB		Wet Dry	
LCS		Wet Dry	97.57%
LCSD		Wet Dry	95.77%
TH0531-1	401.3	Wet Dry	
" -1 MS	250.8	Wet Dry	
" -2	400.4	Wet Dry	
TH0533-1	399.5	Wet Dry	
TH0641-1	202.3	Wet Dry	
TH0726-1	301.2	Wet Dry	
0727-1	298.3	Wet Dry	
TH0726-2	249.84	Wet Dry	
CCV		Wet Dry	97.57%
CCB		Wet Dry	
TH0726-2	252.8	Wet Dry	
" -3	249.9	Wet Dry	
" -3	251.5	Wet Dry	
" -4	300.5	Wet Dry	
" -4	298.1	Wet Dry	
TH0533-1	499.1	Wet Dry	
Nutrient	200.0	Wet Dry	
Nutrient	201.4	Wet Dry	

* "Wet" = field-moist sample (as received). "Dry" = oven-dried sample.

Analyst: CLB	Analysis Date: 12-24-14
Reviewer:	Review Date:

Katahdin Analytical Services, Inc.

Carbon Analysis of Solid Samples - Shimadzu TOC-V_{CPH} / SSM-5000A

Analysis Type and Method (Check One)

- ____ Total Carbon (SW846 9060M)
- ____ Total Inorganic Carbon (SW846 9060M)
- ✓ Total Organic Carbon (SW846 9060)
- ____ Other (Specify):
- ✓ Total Organic Carbon (Lloyd Kahn)

Spiking Information	
LCS Spike Source ID / Compound:	SEE
CCV Spike Source ID / Compound:	Previous
MS Spike Source ID / Compound:	PAGE

Calibration Information	
Calibration Date:	LAST
Calibration Analyst:	PAGE

% Recovery

KATAHDIN Sample Number	Sample Wt. (mg)	Sample Type * (Circle One)	Spike Added (mg)
TH0725-6	298.8	Wet Dry	
1 -6	300.6	Wet Dry	
CCV		Wet Dry	97.38%
CCB		Wet Dry	
		Wet Dry	
		Wet Dry	
		Wet Dry	
		Wet Dry	
		Wet Dry	
		Wet Dry	
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		Wet Dry	
		Wet Dry	
		Wet Dry	

* "Wet" = field-moist sample (as received). "Dry" = oven-dried sample.

Analyst: CLB	Analysis Date: 12-24-14
Reviewer:	Review Date: 01/05/15

Instr.Information

System	SSM-5000A
Detector	Combustion
Catalyst	Regular Sensitivity
Cell Length	short

Sample

Sample Name:	CCV
Sample ID:	<Untitled>
Origin:	tc method SOILS.met
Chk. Result	

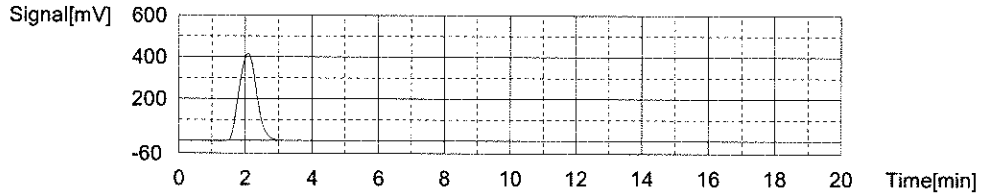
Type	Anal.	Dil.	Density	Result
Unknown	SSM-TC	1.000	1.000mg/uL	SSM-TC:15055 ug

1. Det

Anal.: SSM-TC

No.	Area	CNV	Abs C	Conc.	Weight	Volume	Ex.	Cal. Curve	Date / Time
1	1517	1517	15055ug	15055ug	40.00mg	40uL		toc sl curve 11-10-14.2014_11_10_12_35_59.cal	12/24/2014 12:13:49 PM

Mean Area	1517
Mean CNV	1517
Mean Conc.	15055ug



Sample

Sample Name:	CCB
Sample ID:	<Untitled>
Origin:	tc method SOILS.met
Chk. Result	

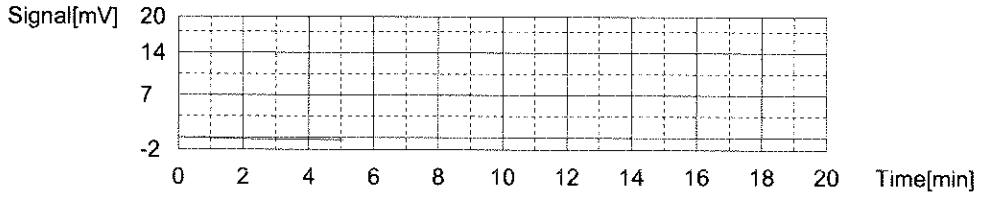
Type	Anal.	Dil.	Density	Result
Unknown	SSM-TC	1.000	1.000mg/uL	SSM-TC:0.000 ug

1. Det

Anal.: SSM-TC

No.	Area	CNV	Abs C	Conc.	Weight	Volume	Ex.	Cal. Curve	Date / Time
1	0.000	0.000	0.000ug	0.000ug	500.0mg	500uL		toc sl curve 11-10-14.2014_11_10_12_35_59.cal	12/24/2014 12:22:17 PM

Mean Area	0.000
Mean CNV	0.000
Mean Conc.	0.000ug



Katahdin Analytical Services 0000031

Sample

Sample Name: LCS
Sample ID: <Untitled>
Origin: tc method SOILS.met
Chk. Result

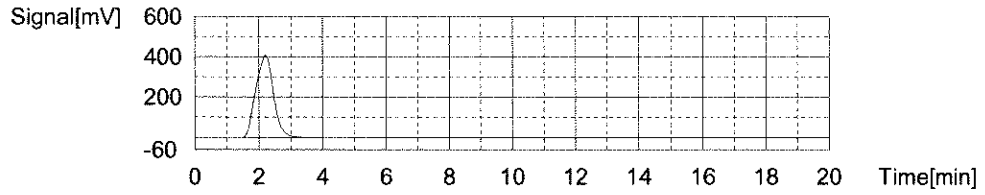
Type	Anal.	Dil.	Density	Result
Unknown	SSM-TC	1.000	1.000mg/uL	SSM-TC:15611 ug

1. Det

Anal.: SSM-TC

No.	Area	CNV	Abs C	Conc.	Weight	Volume	Ex.	Cal. Curve	Date / Time
1	1573	1573	15611ug	15611ug	40.00mg	40uL		toc sl curve 11-10-14.2014_11_10_12_35_59.cal	12/24/2014 12:32:12 PM

Mean Area 1573
Mean CNV 1573
Mean Conc. 15611ug



Sample

Sample Name: LCSD
Sample ID: <Untitled>
Origin: tc method SOILS.met
Chk. Result

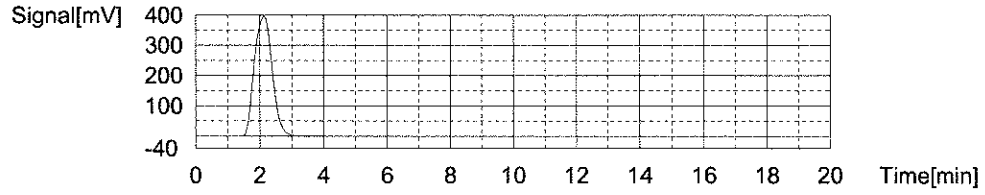
Type	Anal.	Dil.	Density	Result
Unknown	SSM-TC	1.000	1.000mg/uL	SSM-TC:15323 ug

1. Det

Anal.: SSM-TC

No.	Area	CNV	Abs C	Conc.	Weight	Volume	Ex.	Cal. Curve	Date / Time
1	1544	1544	15323ug	15323ug	40.00mg	40uL		toc sl curve 11-10-14.2014_11_10_12_35_59.cal	12/24/2014 12:47:58 PM

Mean Area 1544
Mean CNV 1544
Mean Conc. 15323ug



Sample

Sample Name: TH0531-1
Sample ID: <Untitled>
Origin: tc method SOILS.met
Chk. Result

Type	Anal.	Dil.	Density	Result
Unknown	SSM-TC	1.000	1.000mg/uL	SSM-TC:466.8 ug

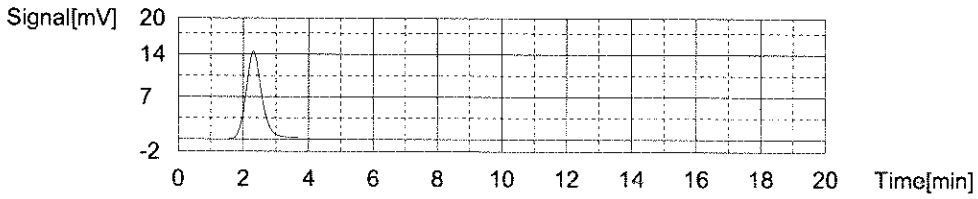
Katahdin Analytical Services 0000032

1. Det

Anal.: SSM-TC

No.	Area	CNV	Abs C	Conc.	Weight	Volume	Ex.	Cal. Curve	Date / Time
1	47.04	47.04	466.8ug	466.8ug	401.3mg	401uL		toc sl curve 11-10-14.2014_11_10_12_35_59.cal	12/24/2014 1:11:14 PM

Mean Area 47.04
Mean CNV 47.04
Mean Conc. 466.8ug



Sample

Sample Name: TH0531-1 MS
Sample ID: <Untitled>
Origin: tc method SOILS.met
Chk. Result

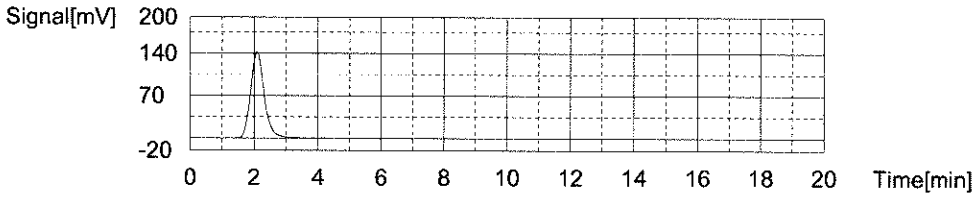
Type	Anal.	Dil.	Density	Result
Unknown	SSM-TC	1.000	1.000mg/uL	SSM-TC:4185 ug

1. Det

Anal.: SSM-TC

No.	Area	CNV	Abs C	Conc.	Weight	Volume	Ex.	Cal. Curve	Date / Time
1	421.7	421.7	4185ug	4185ug	250.8mg	250uL		toc sl curve 11-10-14.2014_11_10_12_35_59.cal	12/24/2014 1:23:32 PM

Mean Area 421.7
Mean CNV 421.7
Mean Conc. 4185ug



Sample

Sample Name: TH0531-2
Sample ID: <Untitled>
Origin: tc method SOILS.met
Chk. Result

Type	Anal.	Dil.	Density	Result
Unknown	SSM-TC	1.000	1.000mg/uL	SSM-TC:240.9 ug

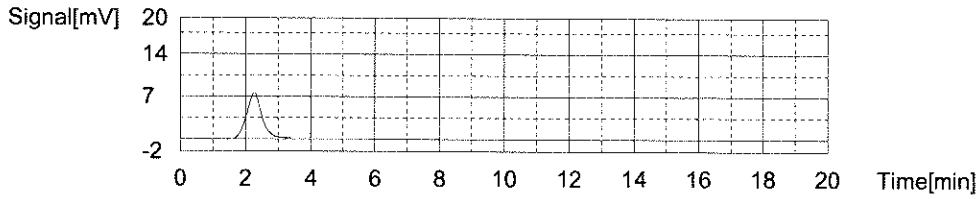
1. Det

Anal.: SSM-TC

No.	Area	CNV	Abs C	Conc.	Weight	Volume	Ex.	Cal. Curve	Date / Time
1	24.27	24.27	240.9ug	240.9ug	400.4mg	400uL		toc sl curve 11-10-14.2014_11_10_12_35_59.cal	12/24/2014 1:32:40 PM

Katahdin Analytical Services 0000033

Mean Area 24.27
Mean CNV 24.27
Mean Conc. 240.9ug



Sample

Sample Name: TH0533-1
Sample ID: <Untitled>
Origin: tc method SOILS.met
Chk. Result

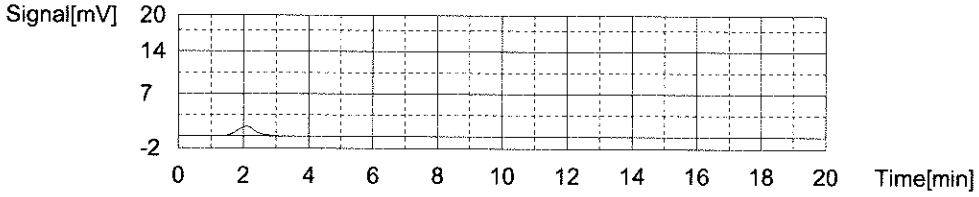
Type	Anal.	Dil.	Density	Result
Unknown	SSM-TC	1.000	1.000mg/uL	SSM-TC:55.60 ug

1. Det

Anal.: SSM-TC

No.	Area	CNV	Abs C	Conc.	Weight	Volume	Ex.	Cal. Curve	Date / Time
1	5.602	5.602	55.60ug	55.60ug	399.5mg	399uL		toc sl curve 11-10-14.2014_11_10_12_35_59.cal	12/24/2014 1:51:37 PM

Mean Area 5.602
Mean CNV 5.602
Mean Conc. 55.60ug



Sample

Sample Name: TH0641-1
Sample ID: <Untitled>
Origin: tc method SOILS.met
Chk. Result

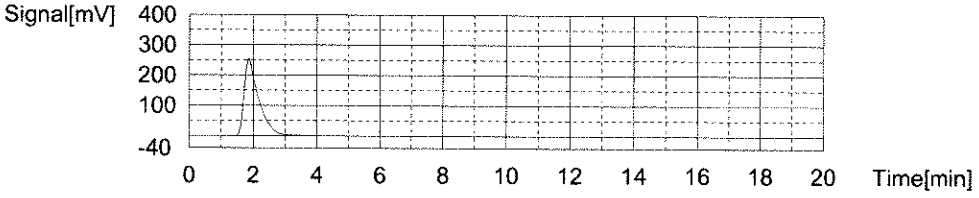
Type	Anal.	Dil.	Density	Result
Unknown	SSM-TC	1.000	1.000mg/uL	SSM-TC:7921 ug

1. Det

Anal.: SSM-TC

No.	Area	CNV	Abs C	Conc.	Weight	Volume	Ex.	Cal. Curve	Date / Time
1	798.1	798.1	7921ug	7921ug	202.3mg	202uL		toc sl curve 11-10-14.2014_11_10_12_35_59.cal	12/24/2014 2:01:56 PM

Mean Area 798.1
Mean CNV 798.1
Mean Conc. 7921ug



Sample

Sample Name: TH0727-1
Sample ID: <Untitled>
Origin: tc method SOILS.met
Chk. Result

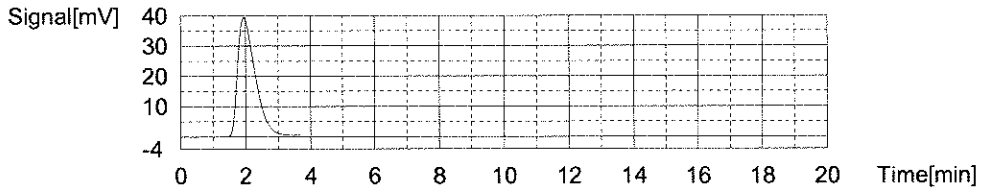
Type	Anal.	Dil.	Density	Result
Unknown	SSM-TC	1.000	1.000mg/uL	SSM-TC:1455 ug

1. Det

Anal.: SSM-TC

No.	Area	CNV	Abs C	Conc.	Weight	Volume	Ex.	Cal. Curve	Date / Time
1	146.6	146.6	1455ug	1455ug	301.2mg	301uL		toc sl curve 11-10-14.2014_11_10_12_35_59.cal	12/24/2014 2:11:58 PM

Mean Area 146.6
Mean CNV 146.6
Mean Conc. 1455ug



Sample

Sample Name: TH0727-1
Sample ID: <Untitled>
Origin: tc method SOILS.met
Chk. Result

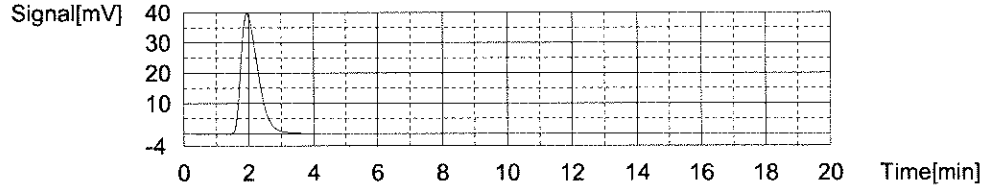
Type	Anal.	Dil.	Density	Result
Unknown	SSM-TC	1.000	1.000mg/uL	SSM-TC:1411 ug

1. Det

Anal.: SSM-TC

No.	Area	CNV	Abs C	Conc.	Weight	Volume	Ex.	Cal. Curve	Date / Time
1	142.2	142.2	1411ug	1411ug	298.3mg	298uL		toc sl curve 11-10-14.2014_11_10_12_35_59.cal	12/24/2014 2:19:12 PM

Mean Area 142.2
Mean CNV 142.2
Mean Conc. 1411ug



Sample

Sample Name: TH0726-2
Sample ID: <Untitled>
Origin: tc method SOILS.met
Chk. Result

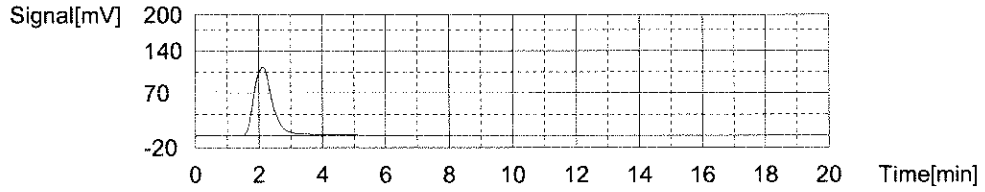
Type	Anal.	Dil.	Density	Result
Unknown	SSM-TC	1.000	1.000mg/uL	SSM-TC:4506 ug

1. Det

Anal.: SSM-TC

No.	Area	CNV	Abs C	Conc.	Weight	Volume	Ex.	Cal. Curve	Date / Time
1	454.0	454.0	4506ug	4506ug	249.4mg	249uL		toc sl curve 11-10-14.2014_11_10_12_35_59.cal	12/24/2014 2:28:27 PM

Mean Area 454.0
Mean CNV 454.0
Mean Conc. 4506ug



Sample

Sample Name: CCV
Sample ID: <Untitled>
Origin: tc method SOILS.met
Chk. Result

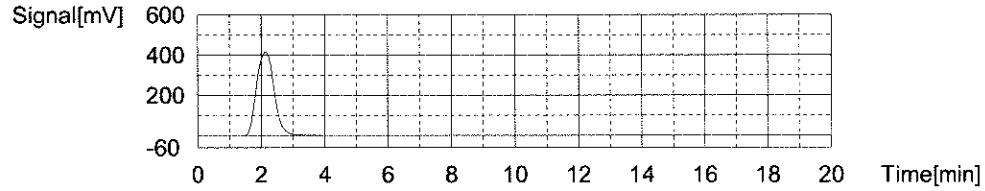
Type	Anal.	Dil.	Density	Result
Unknown	SSM-TC	1.000	1.000mg/uL	SSM-TC:15611 ug

1. Det

Anal.: SSM-TC

No.	Area	CNV	Abs C	Conc.	Weight	Volume	Ex.	Cal. Curve	Date / Time
1	1573	1573	15611ug	15611ug	40.00mg	40uL		toc sl curve 11-10-14.2014_11_10_12_35_59.cal	12/24/2014 2:39:53 PM

Mean Area 1573
Mean CNV 1573
Mean Conc. 15611ug



Sample

Sample Name: CCB
Sample ID: <Untitled>
Origin: tc method SOILS.met
Chk. Result

Type	Anal.	Dil.	Density	Result
Unknown	SSM-TC	1.000	1.000mg/uL	SSM-TC:0.000 ug

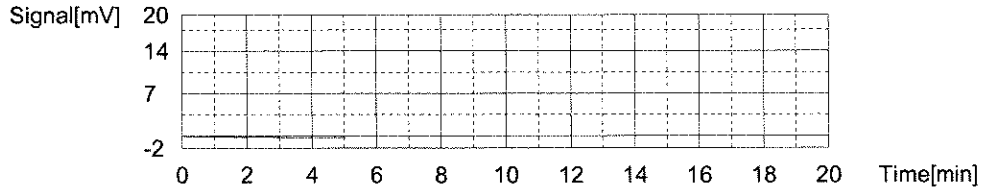
1. Det

Anal.: SSM-TC

No.	Area	CNV	Abs C	Conc.	Weight	Volume	Ex.	Cal. Curve	Date / Time
1	0.000	0.000	0.000ug	0.000ug	500.0mg	500uL		toc sl curve 11-10-14.2014_11_10_12_35_59.cal	12/24/2014 2:51:13 PM

Katahdin Analytical Services 0000036

Mean Area	0.000
Mean CNV	0.000
Mean Conc.	0.000ug



Sample

Sample Name:	TH0726-2
Sample ID:	<Untitled>
Origin:	tc method SOILS.met
Chk. Result	

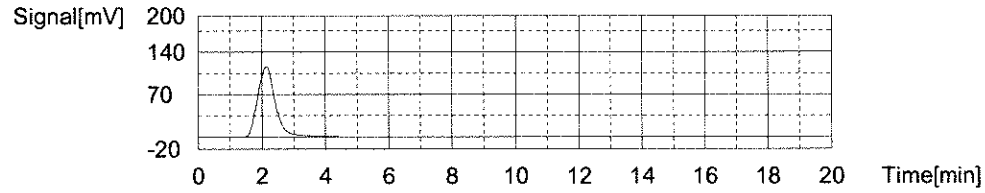
Type	Anal.	Dil.	Density	Result
Unknown	SSM-TC	1.000	1.000mg/uL	SSM-TC:4398 ug

1. Det

Anal.: SSM-TC

No.	Area	CNV	Abs C	Conc.	Weight	Volume	Ex.	Cal. Curve	Date / Time
1	443.1	443.1	4398ug	4398ug	252.8mg	252uL		toc sl curve 11-10-14.2014_11_10_12_35_59.cal	12/24/2014 2:59:30 PM

Mean Area	443.1
Mean CNV	443.1
Mean Conc.	4398ug



Sample

Sample Name:	TH0726-3
Sample ID:	<Untitled>
Origin:	tc method SOILS.met
Chk. Result	

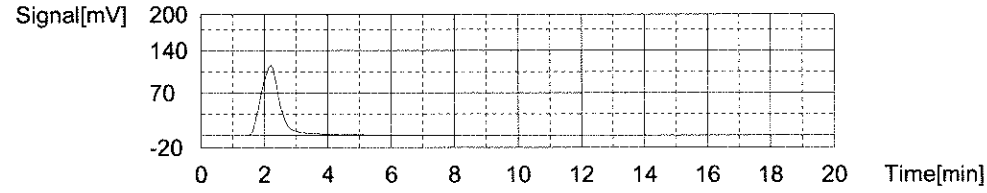
Type	Anal.	Dil.	Density	Result
Unknown	SSM-TC	1.000	1.000mg/uL	SSM-TC:4703 ug

1. Det

Anal.: SSM-TC

No.	Area	CNV	Abs C	Conc.	Weight	Volume	Ex.	Cal. Curve	Date / Time
1	473.9	473.9	4703ug	4703ug	249.9mg	249uL		toc sl curve 11-10-14.2014_11_10_12_35_59.cal	12/24/2014 3:09:59 PM

Mean Area	473.9
Mean CNV	473.9
Mean Conc.	4703ug



Sample

Sample Name: TH0726-3
Sample ID: <Untitled>
Origin: tc method SOILS.met
Chk. Result

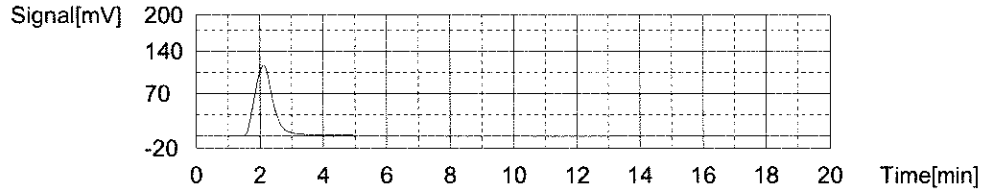
Type	Anal.	Dil.	Density	Result
Unknown	SSM-TC	1.000	1.000mg/uL	SSM-TC:4660 ug

1. Det

Anal.: SSM-TC

No.	Area	CNV	Abs C	Conc.	Weight	Volume	Ex.	Cal. Curve	Date / Time
1	469.5	469.5	4660ug	4660ug	251.5mg	251uL		toc sl curve 11-10-14.2014_11_10_12_35_59.cal	12/24/2014 3:19:03 PM

Mean Area 469.5
Mean CNV 469.5
Mean Conc. 4660ug



Sample

Sample Name: TH0726-4
Sample ID: <Untitled>
Origin: tc method SOILS.met
Chk. Result

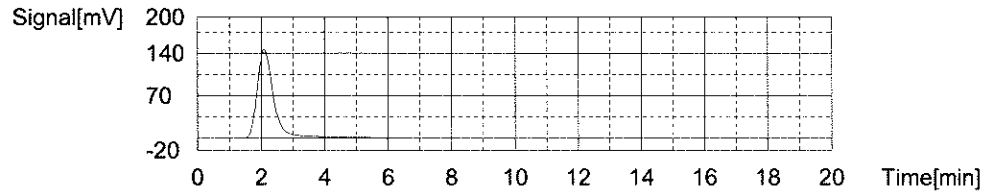
Type	Anal.	Dil.	Density	Result
Unknown	SSM-TC	1.000	1.000mg/uL	SSM-TC:5211 ug

1. Det

Anal.: SSM-TC

No.	Area	CNV	Abs C	Conc.	Weight	Volume	Ex.	Cal. Curve	Date / Time
1	525.1	525.1	5211ug	5211ug	300.5mg	300uL		toc sl curve 11-10-14.2014_11_10_12_35_59.cal	12/24/2014 3:29:35 PM

Mean Area 525.1
Mean CNV 525.1
Mean Conc. 5211ug



Sample

Sample Name: TH0726-4
Sample ID: <Untitled>
Origin: tc method SOILS.met
Chk. Result

Katahdin Analytical Services 0000038

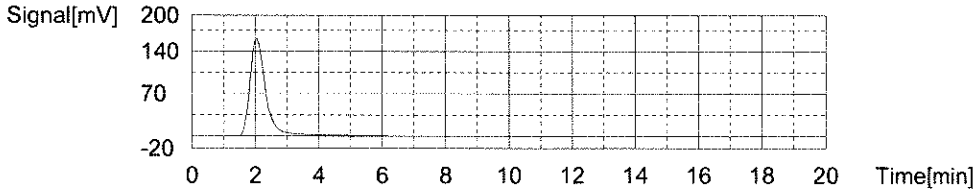
Type	Anal.	Dil.	Density	Result
Unknown	SSM-TC	1.000	1.000mg/uL	SSM-TC:5561 ug

1. Det

Anal.: SSM-TC

No.	Area	CNV	Abs C	Conc.	Weight	Volume	Ex.	Cal. Curve	Date / Time
1	560.3	560.3	5561ug	5561ug	298.1mg	298uL		toc sl curve 11-10-14.2014_11_10_12_35_59.cal	12/24/2014 3:41:17 PM

Mean Area 560.3
Mean CNV 560.3
Mean Conc. 5561ug



Sample

Sample Name: TH0533-1
Sample ID: <Untitled>
Origin: tc method SOILS.met
Chk. Result

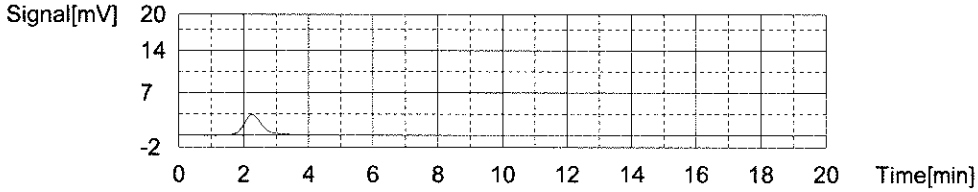
Type	Anal.	Dil.	Density	Result
Unknown	SSM-TC	1.000	1.000mg/uL	SSM-TC:121.2 ug

1. Det

Anal.: SSM-TC

No.	Area	CNV	Abs C	Conc.	Weight	Volume	Ex.	Cal. Curve	Date / Time
1	12.21	12.21	121.2ug	121.2ug	499.1mg	499uL		toc sl curve 11-10-14.2014_11_10_12_35_59.cal	12/24/2014 3:48:56 PM

Mean Area 12.21
Mean CNV 12.21
Mean Conc. 121.2ug



Sample

Sample Name: NUTRIENT
Sample ID: <Untitled>
Origin: tc method SOILS.met
Chk. Result

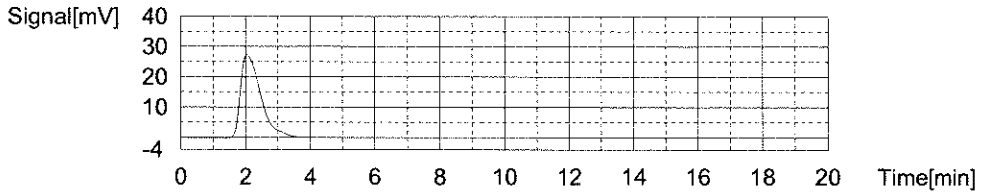
Type	Anal.	Dil.	Density	Result
Unknown	SSM-TC	1.000	1.000mg/uL	SSM-TC:1180 ug

1. Det

Anal.: SSM-TC

No.	Area	CNV	Abs C	Conc.	Weight	Volume	Ex.	Cal. Curve	Date / Time
1	118.9	118.9	1180ug	1180ug	200.0mg	200uL		toc sl curve 11-10-14.2014_11_10_12_35_59.cal	12/24/2014 4:05:58 PM

Mean Area 118.9
Mean CNV 118.9
Mean Conc. 1180ug



Sample

Sample Name: NUTRIENT
Sample ID: <Untitled>
Origin: tc method SOILS.met
Chk. Result

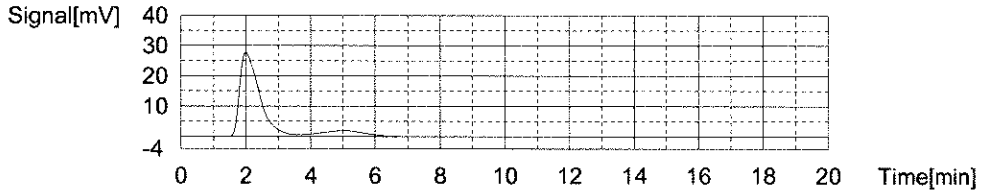
Type	Anal.	Dil.	Density	Result
Unknown	SSM-TC	1.000	1.000mg/uL	SSM-TC:1369 ug

1. Det

Anal.: SSM-TC

No.	Area	CNV	Abs C	Conc.	Weight	Volume	Ex.	Cal. Curve	Date / Time
1	137.9	137.9	1369ug	1369ug	201.4mg	201uL		toc sl curve 11-10-14.2014_11_10_12_35_59.cal	12/24/2014 4:19:38 PM

Mean Area 137.9
Mean CNV 137.9
Mean Conc. 1369ug



Sample

Sample Name: TH0725-6
Sample ID: <Untitled>
Origin: tc method SOILS.met
Chk. Result

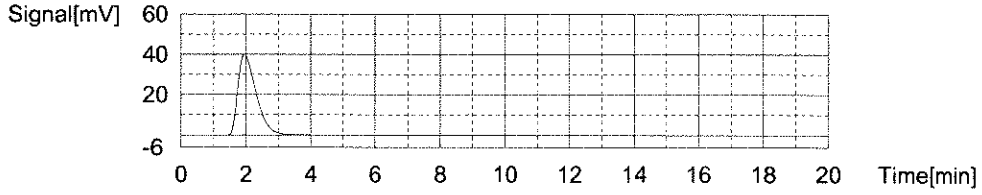
Type	Anal.	Dil.	Density	Result
Unknown	SSM-TC	1.000	1.000mg/uL	SSM-TC:1563 ug

1. Det

Anal.: SSM-TC

No.	Area	CNV	Abs C	Conc.	Weight	Volume	Ex.	Cal. Curve	Date / Time
1	157.5	157.5	1563ug	1563ug	298.8mg	298uL		toc sl curve 11-10-14.2014_11_10_12_35_59.cal	12/24/2014 4:30:30 PM

Mean Area 157.5
Mean CNV 157.5
Mean Conc. 1563ug



Katahdin Analytical Services 0000040

Sample

Sample Name: TH0725-6
Sample ID: <Untitled>
Origin: tc method SOILS.met
Chk. Result

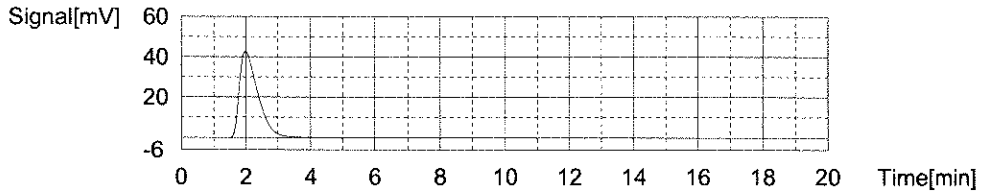
Type	Anal.	Dil.	Density	Result
Unknown	SSM-TC	1.000	1.000mg/uL	SSM-TC:1669 ug

1. Det

Anal.: SSM-TC

No.	Area	CNV	Abs C	Conc.	Weight	Volume	Ex.	Cal. Curve	Date / Time
1	168.2	168.2	1669ug	1669ug	300.6mg	300uL		toc sl curve 11-10-14.2014_11_10_12_35_59.cal	12/24/2014 4:48:44 PM

Mean Area 168.2
Mean CNV 168.2
Mean Conc. 1669ug



Sample

Sample Name: CCV
Sample ID: <Untitled>
Origin: tc method SOILS.met
Chk. Result

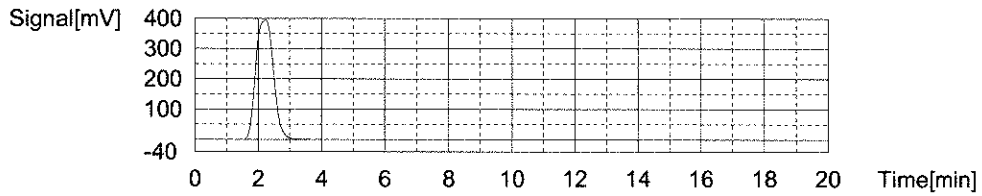
Type	Anal.	Dil.	Density	Result
Unknown	SSM-TC	1.000	1.000mg/uL	SSM-TC:15581 ug

1. Det

Anal.: SSM-TC

No.	Area	CNV	Abs C	Conc.	Weight	Volume	Ex.	Cal. Curve	Date / Time
1	1570	1570	15581ug	15581ug	40.00mg	40uL		toc sl curve 11-10-14.2014_11_10_12_35_59.cal	12/24/2014 5:00:57 PM

Mean Area 1570
Mean CNV 1570
Mean Conc. 15581ug



Sample

Sample Name: CCB
Sample ID: <Untitled>
Origin: tc method SOILS.met
Chk. Result

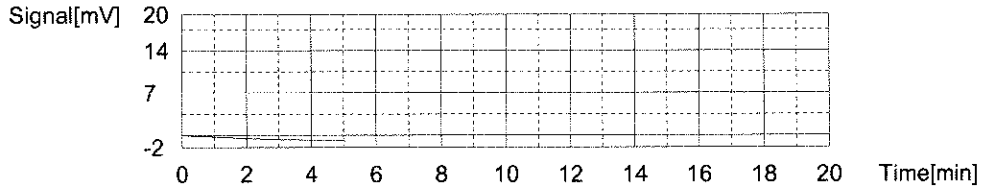
Type	Anal.	Dil.	Density	Result
Unknown	SSM-TC	1.000	1.000mg/uL	SSM-TC:0.000 ug

1. Det

Anal.: SSM-TC

No.	Area	CNV	Abs C	Conc.	Weight	Volume	Ex.	Cal. Curve	Date / Time
1	0.000	0.000	0.000ug	0.000ug	500.0mg	500uL		toc sl curve 11-10-14.2014_11_10_12_35_59.cal	12/24/2014 5:12:15 PM

Mean Area 0.000
Mean CNV 0.000
Mean Conc. 0.000ug



Instr.Information

System	SSM-5000A
Detector	Combustion
Catalyst	Regular Sensitivity
Cell Length	short

Cal. Curve

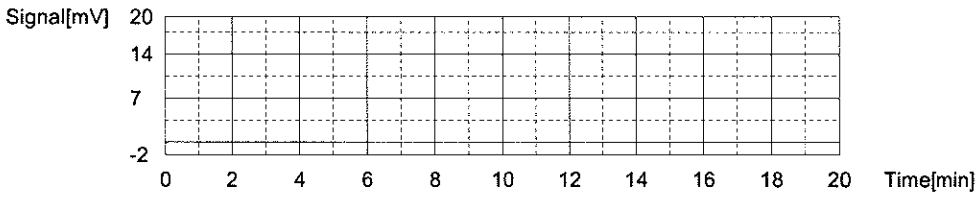
Sample Name:	Untitled
Sample ID:	Untitled
Cal. Curve:	toc sl curve 11-10-14.2014_11_10_12_35_59.cal

Type	Anal.	Density
Standard	SSM-TC	

AbsC: 0.000ug

No.	Area	CNV	Abs C	Weight	Rem.	Ex.	Date / Time
1	0.000	0.000	0.000ug	0.000mg	*******		11/10/2014 12:41:58 PM

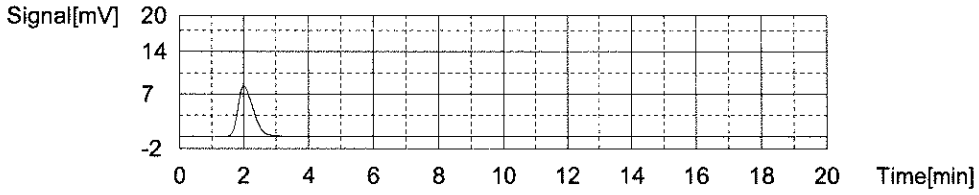
Mean Area 0.000
Mean CNV 0.000



AbsC: 200.0ug

No.	Area	CNV	Abs C	Weight	Rem.	Ex.	Date / Time
1	26.40	26.40	200.0ug	0.5000mg	*******		11/10/2014 12:50:41 PM

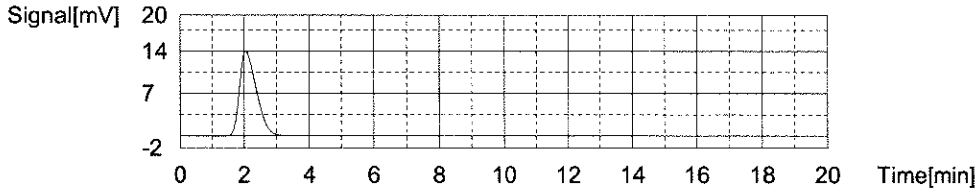
Mean Area 26.40
Mean CNV 26.40



AbsC: 400.0ug

No.	Area	CNV	Abs C	Weight	Rem.	Ex.	Date / Time
1	50.26	50.26	400.0ug	1.000mg	*******		11/10/2014 12:59:21 PM

Mean Area 50.26
Mean CNV 50.26

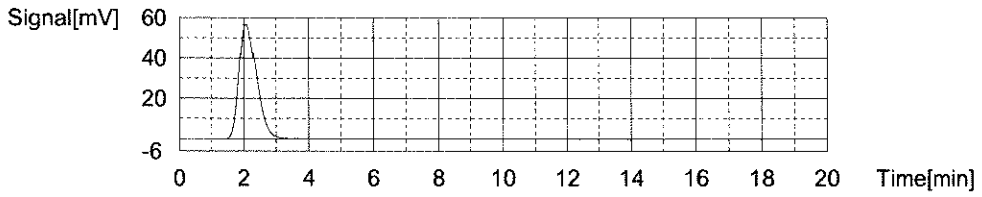


AbsC: 2000ug

No.	Area	CNV	Abs C	Weight	Rem.	Ex.	Date / Time
1	215.3	215.3	2000ug	5.000mg	*******		11/10/2014 1:07:53 PM

Katahdin Analytical Services 0000043

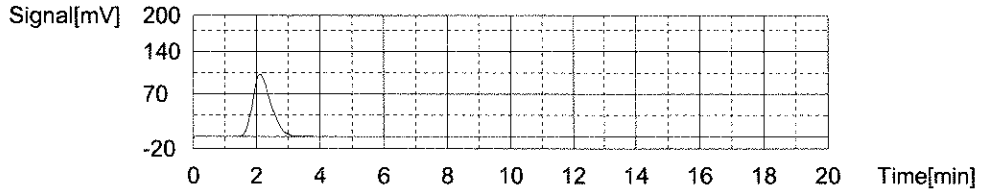
Mean Area 215.3
Mean CNV 215.3



AbsC: 4000ug

No.	Area	CNV	Abs C	Weight	Rem.	Ex.	Date / Time
1	414.7	414.7	4000ug	10.00mg	*******		11/10/2014 1:15:36 PM

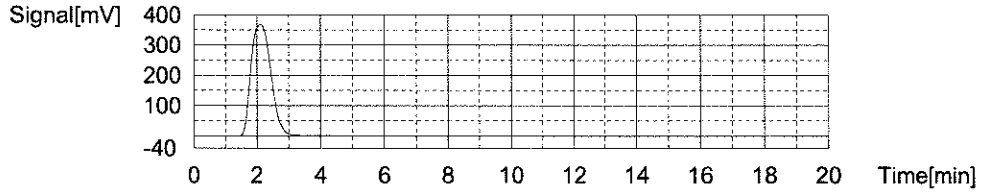
Mean Area 414.7
Mean CNV 414.7



AbsC: 16000ug

No.	Area	CNV	Abs C	Weight	Rem.	Ex.	Date / Time
1	1606	1606	16000ug	40.00mg	*******		11/10/2014 1:23:55 PM

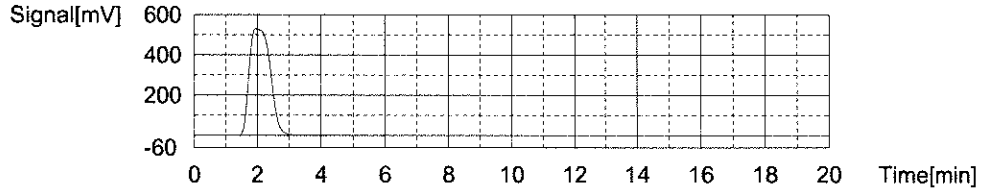
Mean Area 1606
Mean CNV 1606



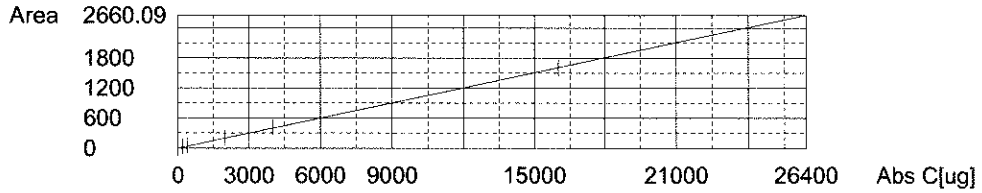
AbsC: 24000ug

No.	Area	CNV	Abs C	Weight	Rem.	Ex.	Date / Time
1	2433	2433	24000ug	60.00mg	*******		11/10/2014 1:32:13 PM

Mean Area 2433
Mean CNV 2433



Slope: 0.1008
Intercept 0.000
r^2 0.999935



Katahdin Analytical Services 0000044

WET CHEMISTRY BATCH REPORT
Dec 19 2014, 12:31 pm
Batch: WG155953

Parameter: Total Organic Carbon

Date Analyzed: 18-DEC-14

Analyst Initials: CB

Prep Date: N/A

Prep Method: N/A

Prep Chemist: N/A

Sample	Samp Type	Method	Initial Amt.	Final Amt.	Rpt. DF	Result	Rpt Result	TS(%)	PQL	MDL	Adj PQL	RPD	%Rec
TH0052-6	SAMP	EPA 415.1	20.000mL	20.000mL	1	.2785	J0.28 mg/L	NA	1	0.10	1.0		
WG155953-1	MBLANK	EPA 415.1	20.000mL	20.000mL	1	0	U0.50 mg/L	NA	1	0.10	1.0		
WG155953-2	LCS	EPA 415.1	20.000mL	20.000mL	1	45.67	46. mg/L	NA	1	0.10	1.0		91
WG155953-3	LCSD	EPA 415.1	20.000mL	20.000mL	1	45.56	46. mg/L	NA	1	0.10	1.0	0	91
WG155953-4	MS	EPA 415.1	20.000mL	20.000mL	1	92.31	92. mg/L	NA	1	.1023	1.0		92
WG155953-5	MSD	EPA 415.1	20.000mL	20.000mL	1	92.47	92. mg/L	NA	1	.1023	1.0	0	92

Comments:

TH0052-6	MS/MSD
WG155953-1	TH0052-6
WG155953-2	TH0052-6
WG155953-3	TH0052-6
WG155953-4	TH0052-6
WG155953-5	TH0052-6

Entered by: CLB Date: 12-19-14 Accepted by: Date: 12/19/14

Katahdin Analytical Services 0000045

WET CHEMISTRY BATCH REPORT
Dec 19 2014, 12:35 pm
Batch: WG155955

Parameter: Total Organic Carbon

Prep Date: N/A

Date Analyzed: 18-DEC-14

Prep Method: N/A

Analyst Initials: CB

Prep Chemist: N/A

Sample	Samp Type	Method	Initial Amt.	Final Amt.	Rpt. DF	Result	Rpt Result	TS(%)	PQL	MDL	Adj PQL	RPD	%Rec
TH0531-3	SAMP	SM5310B	20.000mL	20.000mL	1	.3424	J0.34 mg/L	NA	1	0.10	1.0		
TH0533-2	SAMP	SM5310B	20.000mL	20.000mL	1	.2952	J0.30 mg/L	NA	1	0.10	1.0		
WG155955-1	MBLANK	SM5310B	20.000mL	20.000mL	1	0	U0.50 mg/L	NA	1	0.10	1.0		
WG155955-2	LCS	SM5310B	20.000mL	20.000mL	1	45.67	46. mg/L	NA	1	0.10	1.0		91
WG155955-3	DUP	SM5310B	20.000mL	20.000mL	1	.2912	U1.0 mg/L	NA	1	.1023	1.0	NC	

Comments:

WG155955-1	TH0531-3
WG155955-2	TH0531-3
WG155955-3	TH0531-3

Entered by: CLB Date: 12-19-14 Accepted by: Date: 12/19/14

Katahdin Analytical Services 0000046

KATAHDIN ANALYTICAL SERVICES, INC.
CARBON ANALYSIS RUN INFORMATION SHEET

INSTR. ID: WC2 (Shimadzu TOC-V_{CPH}) **ANALYST:** CLB **DATE:** 12-19-14

FILE NAME: TOC Aq 12-18-14 **METHOD(S):**

TOC	DOC	TIC
☒ EPA 415.1	☐ EPA 415.1	☐ EPA 415.1
☒ SM5310B	☐ SM5310B	☐ SM5310B
☐ _____	☐ _____	☐ _____

CALIBRATION DATE: 11-06-14 **CALIBRATION ANALYST:** CLB

Calibration standards were prepared by performing dilutions of the following standard on the day of calibration:

Calibration Source Standard ID	Prep Date	Expiration Date	Standard Conc. (mg/L)
W12580	10-8-14	1-8-15	2,000

Note: Calibration must be performed quarterly or whenever a change in analysis conditions warrant. A copy of the associated calibration data is attached to this run.

STANDARDS USED:

Standard Name	Standard ID	Prep Date	Expiration Date	Standard Conc.
CCV	W12661	11-17-14	2-17-15	100 mg C/L
LCS	W12693	12-5-14	3-5-15	50 mg C/L
MS Stock Std. *	W12580	10-8-14	1-8-15	2000 mg C/L
Alkalinity Check	W12562	9-30-14	3-30-15	15 mg/L (Inorg. C)

* Matrix spikes are prepared by adding 2.0 mL of MS Stock Std. to 38 mL of sample.

Additional Comments and Notes:

	Sample Name	Dilution	Result	Comment	Date / Time	Vial
1	ALK CHECK	1.000	NPOC:0.1626 mg/L		12/18/2014 11:49:27 AM	1
2	CCV	1.000	NPOC:94.59 mg/L	94.6%	12/18/2014 12:05:08 PM	2
3	CCB	1.000	NPOC:0.000 mg/L		12/18/2014 12:16:41 PM	3
4	LCS	1.000	NPOC:45.67 mg/L		12/18/2014 12:31:44 PM	4
5	LCSD	1.000	NPOC:45.56 mg/L		12/18/2014 12:46:43 PM	5
6	TH0531-3	1.000	NPOC:0.3424 mg/L		12/18/2014 12:59:34 PM	6
7	TH0531-3 DUP	1.000	NPOC:0.2912 mg/L		12/18/2014 1:10:14 PM	6
8	TH0533-2	1.000	NPOC:0.2952 mg/L		12/18/2014 1:22:42 PM	7
9	TH0052-6	1.000	NPOC:0.2785 mg/L		12/18/2014 1:35:21 PM	8
10	TH0052-6 MS	1.000	NPOC:92.31 mg/L		12/18/2014 1:50:38 PM	9
11	TH0052-6 MSD	1.000	NPOC:92.47 mg/L		12/18/2014 2:03:55 PM	9
12	CCV	1.000	NPOC:93.93 mg/L	93.9%	12/18/2014 2:19:33 PM	2
13	CCB	1.000	NPOC:0.000 mg/L		12/18/2014 2:30:46 PM	3
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

Instr.Information

System	TOC-Vcph / ASI-V
Detector	Combustion
Catalyst	Regular Sensitivity
Cell Length	long

Sample

Sample Name:	ALK CHECK
Sample ID:	<Untitled>
Origin:	DOUBLE INJECTION.met
Chk. Result	

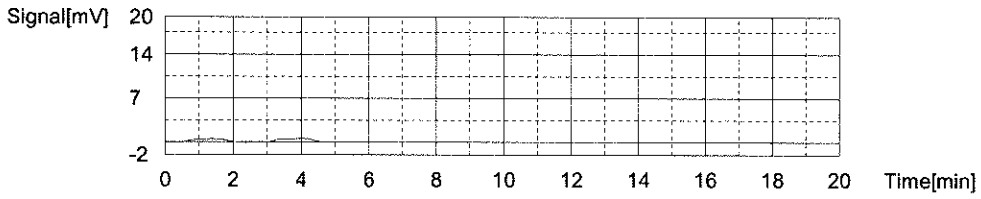
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.1626 mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2.732	0.1502mg/L	150uL	1		toc aq cal 11-6-14.2014_11_06_16_08_02.cal	12/18/2014 11:46:42 AM
2	3.182	0.1750mg/L	150uL	1		toc aq cal 11-6-14.2014_11_06_16_08_02.cal	12/18/2014 11:49:27 AM

Mean Area	2.957
Mean Conc.	0.1626mg/L



Sample

Sample Name:	CCV
Sample ID:	<Untitled>
Origin:	DOUBLE INJECTION.met
Chk. Result	

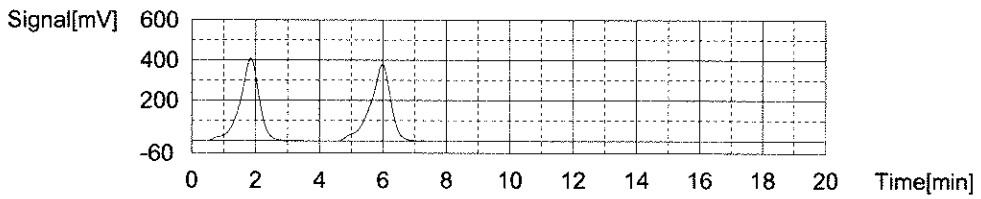
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:94.59 mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1711	94.09mg/L	150uL	1		toc aq cal 11-6-14.2014_11_06_16_08_02.cal	12/18/2014 12:00:47 PM
2	1729	95.08mg/L	150uL	1		toc aq cal 11-6-14.2014_11_06_16_08_02.cal	12/18/2014 12:05:08 PM

Mean Area	1720
Mean Conc.	94.59mg/L



Katahdin Analytical Services 0000049

Sample

Sample Name: CCB
Sample ID: <Untitled>
Origin: DOUBLE INJECTION.met
Chk. Result

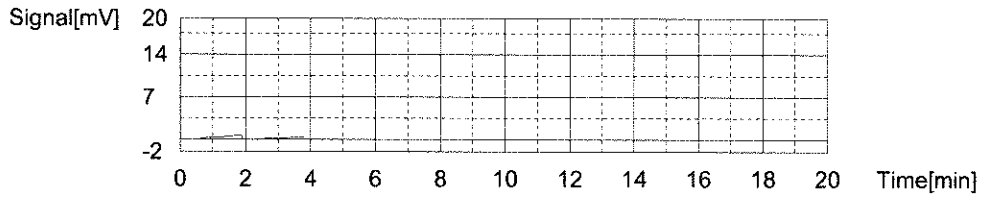
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.000 mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.000	0.000mg/L	150uL	1		toc aq cal 11-6-14.2014_11_06_16_08_02.cal	12/18/2014 12:14:15 PM
2	0.000	0.000mg/L	150uL	1		toc aq cal 11-6-14.2014_11_06_16_08_02.cal	12/18/2014 12:16:41 PM

Mean Area 0.000
Mean Conc. 0.000mg/L



Sample

Sample Name: LCS
Sample ID: <Untitled>
Origin: DOUBLE INJECTION.met
Chk. Result

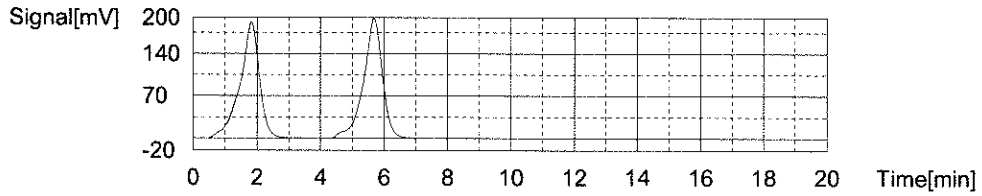
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:45.67 mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	824.0	45.31mg/L	150uL	1		toc aq cal 11-6-14.2014_11_06_16_08_02.cal	12/18/2014 12:27:42 PM
2	836.8	46.02mg/L	150uL	1		toc aq cal 11-6-14.2014_11_06_16_08_02.cal	12/18/2014 12:31:44 PM

Mean Area 830.4
Mean Conc. 45.67mg/L



Sample

Sample Name: LCSD
Sample ID: <Untitled>
Origin: DOUBLE INJECTION.met
Chk. Result

Katahdin Analytical Services 0000050

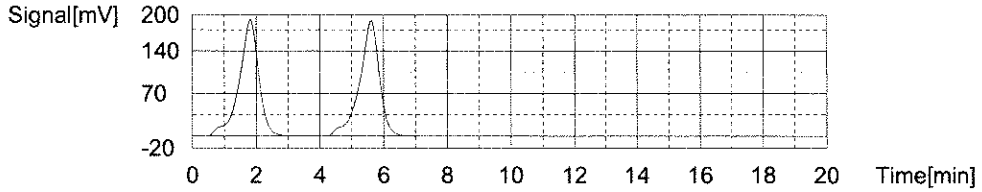
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:45.56 mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	823.9	45.31mg/L	150uL	1		toc aq cal 11-6-14.2014_11_06_16_08_02.cal	12/18/2014 12:42:38 PM
2	833.0	45.81mg/L	150uL	1		toc aq cal 11-6-14.2014_11_06_16_08_02.cal	12/18/2014 12:46:43 PM

Mean Area 828.5
Mean Conc. 45.56mg/L



Sample

Sample Name: TH0531-3
Sample ID: <Untitled>
Origin: DOUBLE INJECTION.met
Chk. Result

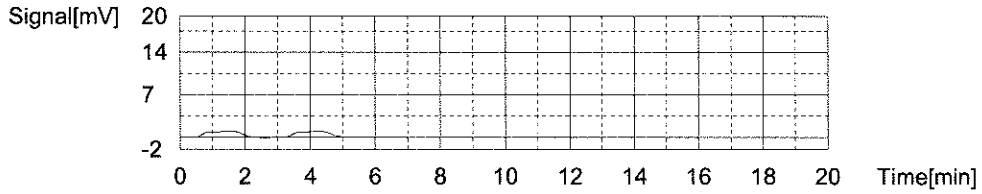
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.3424 mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.472	0.3559mg/L	150uL	1		toc aq cal 11-6-14.2014_11_06_16_08_02.cal	12/18/2014 12:56:37 PM
2	5.981	0.3289mg/L	150uL	1		toc aq cal 11-6-14.2014_11_06_16_08_02.cal	12/18/2014 12:59:34 PM

Mean Area 6.226
Mean Conc. 0.3424mg/L



Sample

Sample Name: TH0531-3 DUP
Sample ID: <Untitled>
Origin: DOUBLE INJECTION.met
Chk. Result

Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.2912 mg/L

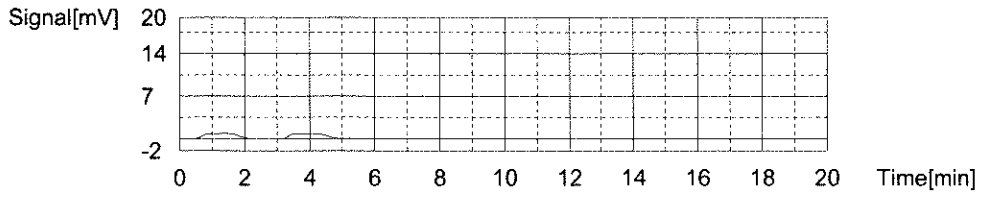
1. Det

Anal.: NPOC

Katahdin Analytical Services 0000051

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	5.351	0.2943mg/L	150uL	1		toc aq cal 11-6-14.2014_11_06_16_08_02.cal	12/18/2014 1:07:21 PM
2	5.241	0.2882mg/L	150uL	1		toc aq cal 11-6-14.2014_11_06_16_08_02.cal	12/18/2014 1:10:14 PM

Mean Area 5.296
Mean Conc. 0.2912mg/L



Sample

Sample Name: TH0533-2
Sample ID: <Untitled>
Origin: DOUBLE INJECTION.met
Chk. Result

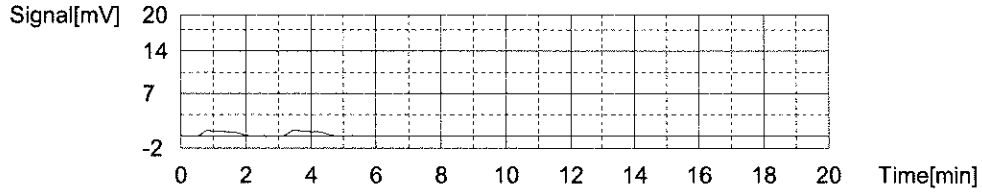
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.2952 mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	5.220	0.2871mg/L	150uL	1		toc aq cal 11-6-14.2014_11_06_16_08_02.cal	12/18/2014 1:19:52 PM
2	5.515	0.3033mg/L	150uL	1		toc aq cal 11-6-14.2014_11_06_16_08_02.cal	12/18/2014 1:22:42 PM

Mean Area 5.368
Mean Conc. 0.2952mg/L



Sample

Sample Name: TH0052-6
Sample ID: <Untitled>
Origin: DOUBLE INJECTION.met
Chk. Result

Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.2785 mg/L

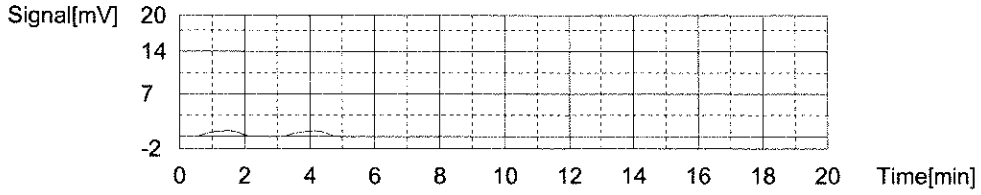
1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	5.099	0.2804mg/L	150uL	1		toc aq cal 11-6-14.2014_11_06_16_08_02.cal	12/18/2014 1:32:27 PM
2	5.030	0.2766mg/L	150uL	1		toc aq cal 11-6-14.2014_11_06_16_08_02.cal	12/18/2014 1:35:21 PM

Katahdin Analytical Services 0000052

Mean Area 5.065
Mean Conc. 0.2785mg/L



Sample

Sample Name: TH0052-6 MS
Sample ID: <Untitled>
Origin: DOUBLE INJECTION.met
Chk. Result

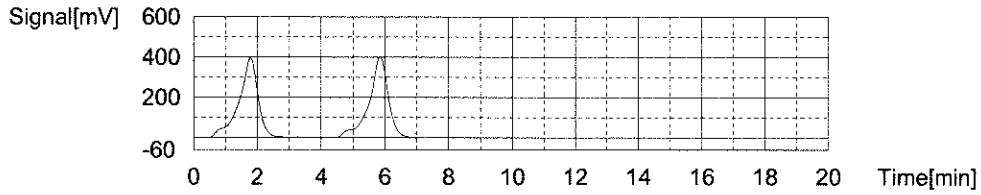
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:92.31 mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1666	91.62mg/L	150uL	1		toc aq cal 11-6-14.2014_11_06_16_08_02.cal	12/18/2014 1:46:21 PM
2	1691	92.99mg/L	150uL	1		toc aq cal 11-6-14.2014_11_06_16_08_02.cal	12/18/2014 1:50:38 PM

Mean Area 1679
Mean Conc. 92.31mg/L



Sample

Sample Name: TH0052-6 MSD
Sample ID: <Untitled>
Origin: DOUBLE INJECTION.met
Chk. Result

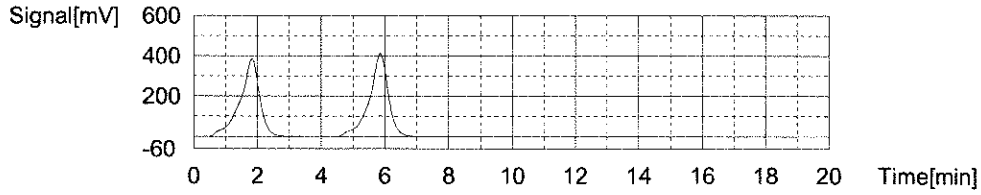
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:92.47 mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1669	91.78mg/L	150uL	1		toc aq cal 11-6-14.2014_11_06_16_08_02.cal	12/18/2014 1:59:44 PM
2	1694	93.16mg/L	150uL	1		toc aq cal 11-6-14.2014_11_06_16_08_02.cal	12/18/2014 2:03:55 PM

Mean Area 1682
Mean Conc. 92.47mg/L



Sample

Sample Name: CCV
Sample ID: <Untitled>
Origin: DOUBLE INJECTION.met
Chk. Result

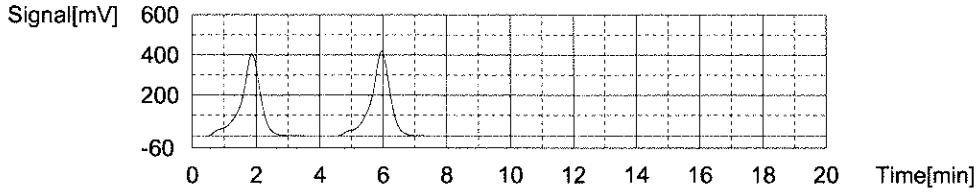
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:93.93 mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1696	93.27mg/L	150uL	1		toc aq cal 11-6-14.2014_11_06_16_08_02.cal	12/18/2014 2:15:13 PM
2	1720	94.59mg/L	150uL	1		toc aq cal 11-6-14.2014_11_06_16_08_02.cal	12/18/2014 2:19:33 PM

Mean Area 1708
Mean Conc. 93.93mg/L



Sample

Sample Name: CCB
Sample ID: <Untitled>
Origin: DOUBLE INJECTION.met
Chk. Result

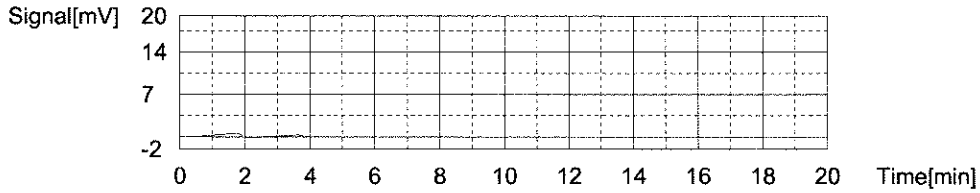
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.000 mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.000	0.000mg/L	150uL	1		toc aq cal 11-6-14.2014_11_06_16_08_02.cal	12/18/2014 2:28:27 PM
2	0.000	0.000mg/L	150uL	1		toc aq cal 11-6-14.2014_11_06_16_08_02.cal	12/18/2014 2:30:46 PM

Mean Area 0.000
Mean Conc. 0.000mg/L



Instr.Information

System	TOC-Vcph / ASI-V
Detector	Combustion
Catalyst	Regular Sensitivity
Cell Length	long

Cal. Curve

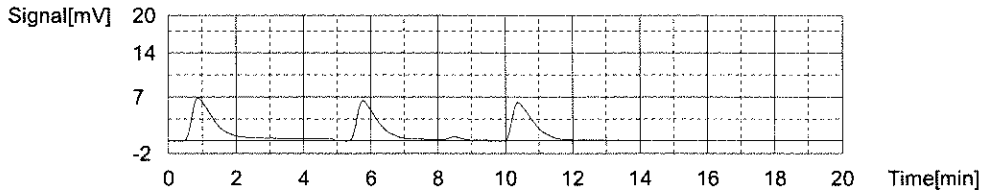
Sample Name:	Untitled
Sample ID:	Untitled
Cal. Curve:	toc aq cal 11-6-14.2014_11_06_16_08_02.cal

Type	Anal.
Standard	TC

Conc: 0.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	33.07	150uL	1	T*******	E	11/6/2014 4:15:58 PM
2	29.43	150uL	1	*******		11/6/2014 4:20:57 PM
3	26.13	150uL	1	*******		11/6/2014 4:25:13 PM

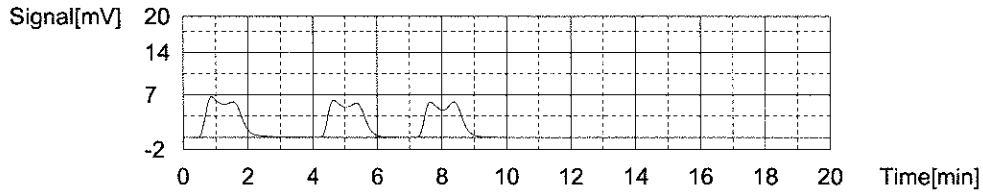
Acid Add. 0.000%
Sp. Time 0.000sec
Mean Area 27.78



Conc: 1.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	43.48	150uL	1	*******	E	11/6/2014 4:32:18 PM
2	40.55	150uL	1	*******		11/6/2014 4:35:40 PM
3	39.51	150uL	1	*******		11/6/2014 4:39:04 PM

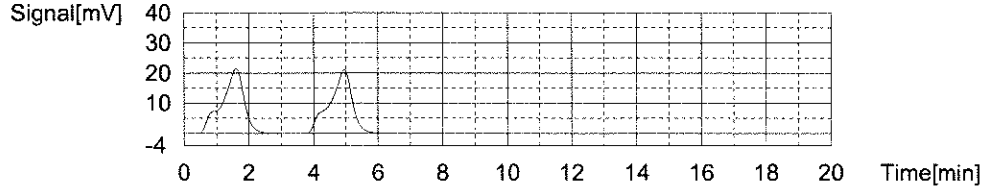
Acid Add. 0.000%
Sp. Time 0.000sec
Mean Area 40.03



Conc: 5.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	101.8	150uL	1	*******		11/6/2014 4:45:42 PM
2	100.7	150uL	1	*******		11/6/2014 4:49:28 PM

Acid Add. 0.000%
Sp. Time 0.000sec
Mean Area 101.3

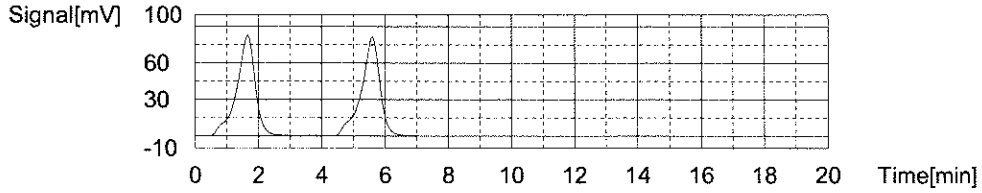


Conc: 20.00mg/L

Katahdin Analytical Services 0000055

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	334.7	150uL	1	*******		11/6/2014 4:56:43 PM
2	331.2	150uL	1	*******		11/6/2014 5:00:37 PM

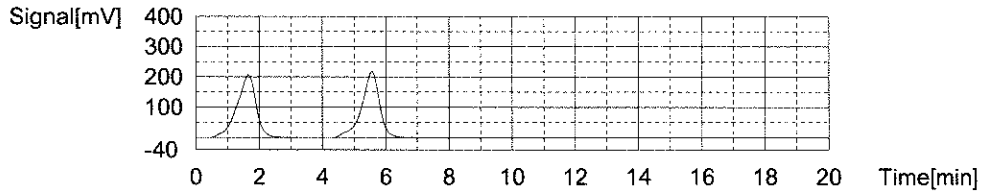
Acid Add. 0.000%
Sp. Time 0.000sec
Mean Area 332.9



Conc: 50.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	857.9	150uL	1	*******		11/6/2014 5:07:48 PM
2	850.8	150uL	1	*******		11/6/2014 5:11:52 PM

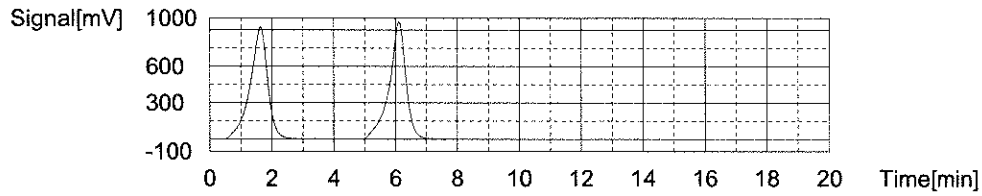
Acid Add. 0.000%
Sp. Time 0.000sec
Mean Area 854.4



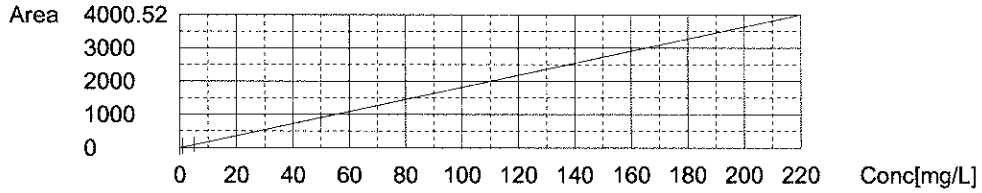
Conc: 200.0mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	3654	150uL	1	*******		11/6/2014 5:19:38 PM
2	3647	150uL	1	*******		11/6/2014 5:24:17 PM

Acid Add. 0.000%
Sp. Time 0.000sec
Mean Area 3651



Slope: 18.18
Intercept 0.000
r^2 0.999453



Katahdin Analytical Services 0000056

TOTAL SOLIDS BATCH REPORT
Dec 19 2014, 12:55 pm
Batch: WG155914

Sample	Matrix	Type	Batch	Prep Date	Tare	Initial	Final	by	Date	Raw TS	Rep TS	Recovery	RPD
TH0530-10	SL	SAMP	WG155914	18-DEC-14	1.3004 g	6.6902 g	5.1782 g	AZ	19-DEC-14	71.9470	72. %		
TH0530-11	SL	SAMP	WG155914	18-DEC-14	1.3106 g	7.8718 g	5.5457 g	AZ	19-DEC-14	64.5480	64. %		
TH0531-1	SL	SAMP	WG155914	18-DEC-14	1.3137 g	15.6038 g	13.0786 g	AZ	19-DEC-14	82.3290	82. %		
TH0531-2	SL	SAMP	WG155914	18-DEC-14	1.3139 g	15.4024 g	12.9948 g	AZ	19-DEC-14	82.9110	83. %		
TH0533-1	SL	SAMP	WG155914	18-DEC-14	1.2952 g	21.0955 g	18.3897 g	AZ	19-DEC-14	86.3340	86. %		
TH0600-5	SL	SAMP	WG155914	18-DEC-14	1.3211 g	16.2858 g	12.5759 g	AZ	19-DEC-14	75.2090	75. %		
TH0619-1	SL	SAMP	WG155914	18-DEC-14	1 g	5 g	5 g	AZ	19-DEC-14	100.0000	100 %		
TH0630-1	SL	SAMP	WG155914	18-DEC-14	1.3141 g	4.6381 g	4.4619 g	AZ	19-DEC-14	94.6990	95. %		
TH0641-1	SL	SAMP	WG155914	18-DEC-14	1.3151 g	9.7322 g	2.1599 g	AZ	19-DEC-14	10.0370	10. %		
TH0702-2	SL	SAMP	WG155914	18-DEC-14	1.316 g	23.0664 g	19.9832 g	AZ	19-DEC-14	85.8250	86. %		
TH0702-3	SL	SAMP	WG155914	18-DEC-14	1.322 g	13.819 g	12.1395 g	AZ	19-DEC-14	86.5610	86. %		
TH0702-4	SL	SAMP	WG155914	18-DEC-14	1.301 g	14.2113 g	12.6477 g	AZ	19-DEC-14	87.8890	88. %		
TH0702-5	SL	SAMP	WG155914	18-DEC-14	1.3115 g	15.7921 g	14.2992 g	AZ	19-DEC-14	89.6900	90. %		
WG155914-1	SL	MBLANK	WG155914	18-DEC-14	1.3109 g	1.8115 g	1.3102 g	AZ	19-DEC-14	-0.1400	1 %		
WG155914-2	SL	LCS	WG155914	18-DEC-14	1.3105 g	6.3272 g	5.8257 g	AZ	19-DEC-14	90.0030	90. %	100	
WG155914-3	SL	DUP	WG155914	18-DEC-14	1.3162 g	14.0984 g	11.8513 g	AZ	19-DEC-14	82.4200	82. %		0
WG155914-4	SL	DUP	WG155914	18-DEC-14	1.2978 g	13.4053 g	11.2687 g	AZ	19-DEC-14	82.3530	82. %		1

Comments:

TH0531-1	BPOW6-4-SOIL-120814-563-565
TH0531-2	BPOW6-4-SOIL-D-120814
TH0533-1	RE122D3-SOIL-120514-718-720
WG155914-1	TH0531-1
WG155914-2	TH0531-1
WG155914-3	TH0531-1
WG155914-4	TH0531-2

Entered by: _____ Date: 12-19-14

Accepted by: _____ Date: 12/19/14

Katahdin Analytical Services 0000057

WG155914 R302350 **KATAHDIN ANALYTICAL SERVICES, INC.**

TOTAL SOLIDS: ASTM D2216 - PQL: 0.10%				TOTAL VOLATILE SOLIDS: SM2540 G / E160.4 - PQL 0.10%		
ANALYST IN: AB	TS ANALYST OUT: AB			TVS ANALYST OUT:		Balance Calibrated?
DATE IN: 12-18-14	TS DATE OUT: 12-19-14			TVS DATE OUT:		Y / N
TIME IN: 1804	TS TIME OUT: 0907			TVS TIME OUT:		In: Y
TEMP IN: 102°C	TS TEMP OUT: 101°C			TVS TEMP OUT:		Out (TS): Y
Oven ID: 107NO042	Muffle Oven ID: 030807 (assigned)			BALANCE ID: OHAUS - SN: 112401631		Out (TVS):

SAMPLE ID	DISH ID	DISH WT (g)	DISH WET WT (g)	DISH DRY WT (g)	DISH/ASH WT (g)	TIME
Blank	13					
LCS	14					
TH0530-10	1					
-11	2					
TH0531-1	3					
-2	4					
TH0600-5	5					
TH0630-1	6					
TH0641-1	7					
TH0702-2	8					
-3	9					
-4	10					
-5	11					
~~blk~~	12					
			AB 12-18-14			
TH0531-1 DUP	15					
TH0531-2 DUP	16					

CHECKED BY: [signature] DATE: 12/19/14

TH0614-1; TS=100%

TH0531-1 = Dish #12

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QAWL757

Katahdin Analytical Services 0000058