N90845.AR.001874
NWIRP BETHPAGE
5090.3a

VALIDATED DATA PACKAGE, TH0533, NWIRP BETHPAGE NY
1/12/2015
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. T140533 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) | 0000015 | 0000018 | ✓ | |
| 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) | — | — | ✓ | |
| 13. Post-Digestion Spike Sample Recovery(Form VB-IN) | — | — | ✓ | |
| 14. Duplicates (Form VI-IN) | — | — | ✓ | |
| 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 | 0000019 | 0000055 | ✓ | |
| 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 | 0000006 | 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 (Signature) | Leslie Dimond QAO (Print Name & Title) | 060915 (Date)

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

FORM DC-2-2 M&E DAS

# ENSAFE
# NAVY CLEAN WE15-03-06
# NWIRP BETHPAGE, NY
# TH0533

**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**
**TH0533**

**Sample Receipt**

The following samples were received on December 12, 2014 and were logged in under Katahdin Analytical Services work order number TH0533 for a hardcopy due date of December 31, 2014

| KATAHDIN Sample No. | AECOM Sample Identification |
|---|---|
| TH0533-1 | RE122D3-SOIL-120514-718-720 |
| TH0533-2 | RE122D3-EB-120514 |

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 TH0533-1 was truncated to "D3-SL-12514-718-720" 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 TH0533 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: JO | Sampled By: Client |
| Project: | KIMS Entry By: GN | Delivered By: FedEx |
| KAS Work Order#: TH0533 | KIMS Review By: [illegible] | Received By: GN |
| 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): 3.0 |
| 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? | | | | ✓ | |
| **Air:** Refer to KAS COC for canister/flow controller requirements. | √ if air included | | | | |
| 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

0000007

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 ____ of ____

| Client | Contact | Phone # | Fax # |
|---|---|---|---|
| Resolution Consultants | E. Vidaldon | (845) 425-4180 | ( ) |

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

Purchase Order # Proj. Name / No. NW IRP Bethpage / Navy/60466786 Katahdin Quote #

Bill (if different than above) Address

Sampler (Print / Sign) Vincent Vidaldon / [signature] Copies To:

**LAB USE ONLY** WORK ORDER #: THO533

KATAHDIN PROJECT NUMBER

REMARKS:

SHIPPING INFO: ☐ FED EX ☐ UPS ☐ CLIENT

AIRBILL NO:

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

ANALYSIS AND CONTAINER TYPE PRESERVATIVES

| * | Sample Description | Date / Time coll'd | Matrix | No. of Cntrs. | TOC | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | RE1003-Soil-120514-718-720 | 12/5/14 / 1115 | Soil | 1 | 1 | | | | | | | | | | |
| | RE1003-ED-120514 | 12/5/14 / 1400 | W | 3 | 3 | | | | | | | | | | |
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COMMENTS

| Relinquished By: (Signature) | Date / Time | Received By: (Signature) | Relinquished By: (Signature) | Date / Time | Received By: (Signature) |
|---|---|---|---|---|---|
| [signature] | 12/11/14 / 1200 | [signature] | [signature] | 12-11-14 / 1230 | [signature] 12-12-14 0400 |
| Relinquished By: (Signature) | Date / Time | Received By: (Signature) | Relinquished By: (Signature) | Date / Time | Received By: (Signature) |
| | | | | | |

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

0000008

ORIGINAL

KAS-COC1

Katahdin
ANALYTICAL SERVICES

# Katahdin Analytical Services

## Login Chain of Custody Report (Ino1)

*Dec. 12, 2014*
*02:11 PM*



**Quote/Incoming:** AECOM-BETHPAGE

## Login Number: TH0533

**Account:** ENSAFE001 NoWeb
ENSAFE

**Project:** AECOM-BETHPAGE
NWIRP Bethpage, NY

***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 | : | 3.0 |
| 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 |
|---|---|---|---|---|---|---|---|
| TH0533-1 | D3-SL-12514-718-720 | 05-DEC-14 11:15 | 12-DEC-14 | | | 31-DEC-14 | |

| Matrix | | Product | Hold Date (shortest) | Bottle Type | Bottle Count | Comments |
|---|---|---|---|---|---|---|
| Solid | S | SW9060M-TOC | 02-JAN-15 | 4oz Glass | | RE122D3-SOIL-120514-718-720 |
| Solid | S | TS | 04-JAN-15 | 4oz Glass | | |

| TH0533-2 | RE122D3-EB-120514 | 05-DEC-14 14:00 | 12-DEC-14 | | | 31-DEC-14 | |
|---|---|---|---|---|---|---|---|

| Matrix | | Product | Hold Date (shortest) | Bottle Type | Bottle Count | Comments |
|---|---|---|---|---|---|---|
| Aqueous | S | SM5310B-TOC | 02-JAN-15 | 40 mL Vial+H2SO4 | | |

***Total Samples:*** **2** ***Total Analyses:*** **3**

12.12.14

000009

# Katahdin Analytical Services, Inc.

## Container Transfer History for TH0533

**Samplenum TH0533-1**

**Container Id TH0533-1A** **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 | |
| 17-DEC-14 10:48 | WALK-IN | WET CHEMISTRY | CBAGLEY | N | |
| 17-DEC-14 16:19 | WET CHEMISTRY | WALK-IN | ROLIVER | 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 | |

0000010

# CONVENTIONAL AND PHYSICAL ANALYTICAL DATA

# QC Summary Section

Katahdin
ANALYTICAL SERVICES

Cert No E87604

# 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 |

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

Katahdin
ANALYTICAL SERVICES

Cert No E87604

# 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 | |

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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:** TH0533-1
**Report Date:** 05-JAN-15
**Client PO:** 16518
**Project:** Navy Clean WE15-03-0
**SDG:** TH0533

| Sample Description | Matrix | Date Sampled | Date Received |
|---|---|---|---|
| D3-SL-12514-718-720 | SL | 05-DEC-14 11:15:00 | 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 | J140 ug/gdrywt | 460 | 98. | 350 | SW846 9060A Mod. | WG156305 | 24-DEC-14 15:48:56 | N/A | N/A | |
| Total Solids | 86. % | 1 | | N/A | SM2540G | WG155914 | 19-DEC-14 11:10:21 | SM2540G | 18-DEC-14 | |



600 Technology Way
P.O. Box 540, Scarborough, ME 04070
http://www.katahdinlab.com

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:** TH0533-2
**Report Date:** 05-JAN-15
**Client PO:** 16518
**Project:** Navy Clean WE15-03-0
**SDG:** TH0533

| Sample Description | Matrix | Date Sampled | Date Received |
|---|---|---|---|
| RE122D3-EB-120514 | AQ | 05-DEC-14 14:00:00 | 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 | J0.30 mg/L | 1.0 | 0.10 | .5 | SM5310B | WG155955 | 18-DEC-14 13:19:52 | N/A | N/A | |



600 Technology Way
P.O. Box 540, Scarborough, ME 04070
http://www.katahdinlab.com

# Raw Data Section

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

Parameter: TOC In Soil

Date Analyzed: 24-DEC-14

Analyst Initials: RO

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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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: [illegible] Date: 01/05/15

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

Parameter: TOC In Soil

Date Analyzed: 24-DEC-14

Analyst Initials: RO

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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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

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

Parameter: Toc In Soil(1)

Date Analyzed: 24-DEC-14

Analyst Initials: RO

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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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: [signature] Date: 01/05/15

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

Parameter: Toc In Soil(2)

Date Analyzed: 24-DEC-14

Analyst Initials: RO

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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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: [signature] Date: 01/05/15

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: [signature] Date: 01/05/15

| | 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 W6156308 SW9060 R303187 W6156307 R303188 W6156305 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 Organic Carbon (SW846 9060)
✓ Total Organic Carbon (Lloyd Kahn)
____Total Inorganic Carbon (SW846 9060M)
____Other (Specify):

| 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) | % Recovery ~~Spike Added (mg)~~ |
|---|---|---|---|
| CCV | | Wet Dry | 94.10% |
| CCB | | Wet Dry | |
| LCS | | Wet Dry | 97.57% |
| LCSD | | Wet Dry | 95.77% |
| THO531-1 | 401.3 | Wet Dry | |
| " -1 MS | 250.8 | Wet Dry | |
| " -2 | 400.4 | Wet Dry | |
| THO533-1 | 399.5 | Wet Dry | |
| THO641-1 | 202.3 | Wet Dry | |
| THO72[illegible]-1 | 301.2 | Wet Dry | |
| 0727-1 | 298.3 | Wet Dry | |
| THO7~~26~~- -2 | 249.~~8~~4 | Wet Dry | |
| CCV | | Wet Dry | 97.57% |
| CCB | | Wet Dry | |
| THO726-2 | 252.8 | Wet Dry | |
| -3 | 249.9 | Wet Dry | |
| -3 | 251.5 | Wet Dry | |
| -4 | 300.5 | Wet Dry | |
| " -4 | 298.1 | Wet Dry | |
| THO533-1 | 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 Organic Carbon (SW846 9060)

✓ Total Organic Carbon (Lloyd Kahn)

____Total Inorganic Carbon (SW846 9060M)

____Other (Specify):

| 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 |

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

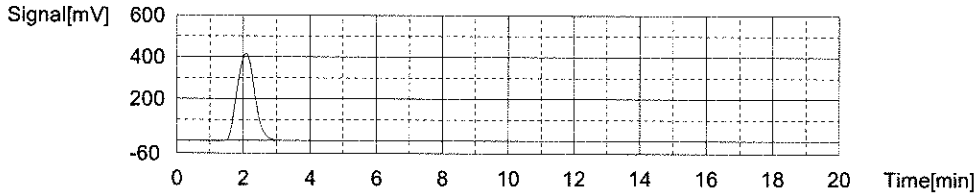
| Type | Anal. | Dil. | Density | Result |
|---|---|---|---|---|
| Unknown | SSM-TC | 1.000 | 1.000mg/uL | SSM-TC:15055 ug |

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 | |

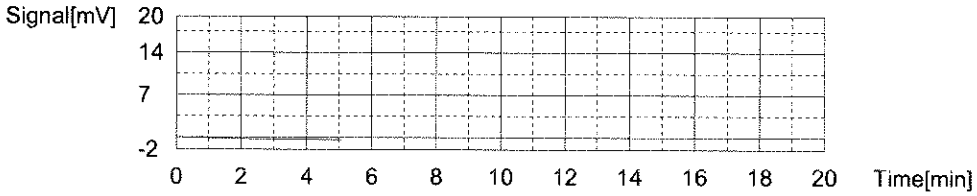
| Type | Anal. | Dil. | Density | Result |
|---|---|---|---|---|
| Unknown | SSM-TC | 1.000 | 1.000mg/uL | SSM-TC:0.000 ug |

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 |



Sample

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

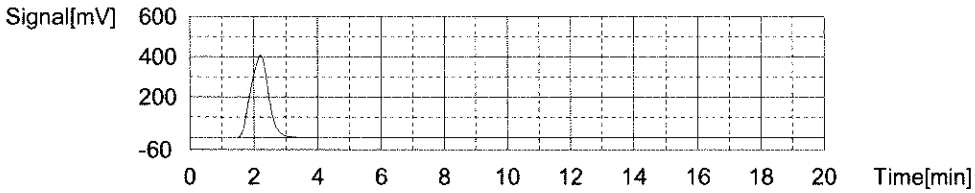
| Type | Anal. | Dil. | Density | Result |
|---|---|---|---|---|
| Unknown | SSM-TC | 1.000 | 1.000mg/uL | SSM-TC:15611 ug |

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

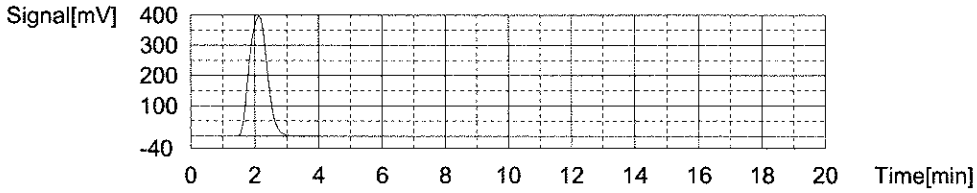
| Type | Anal. | Dil. | Density | Result |
|---|---|---|---|---|
| Unknown | SSM-TC | 1.000 | 1.000mg/uL | SSM-TC:15323 ug |

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

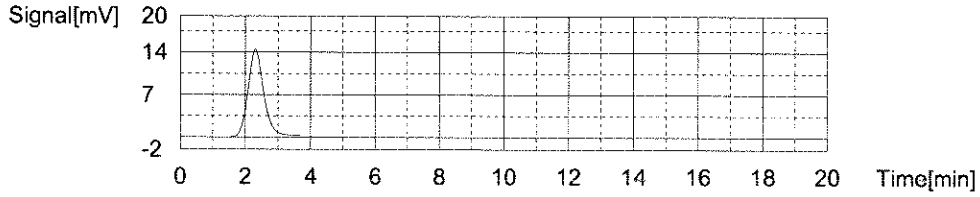
| Type | Anal. | Dil. | Density | Result |
|---|---|---|---|---|
| Unknown | SSM-TC | 1.000 | 1.000mg/uL | SSM-TC:466.8 ug |

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

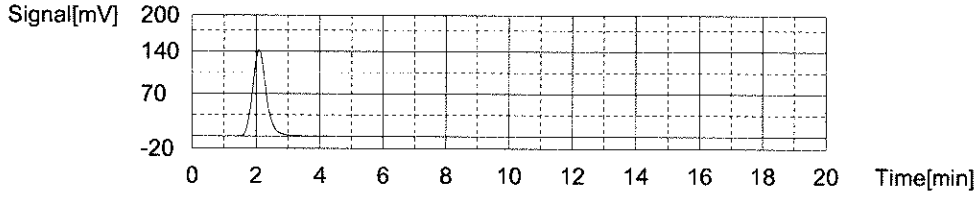
| Type | Anal. | Dil. | Density | Result |
|---|---|---|---|---|
| Unknown | SSM-TC | 1.000 | 1.000mg/uL | SSM-TC:4185 ug |

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

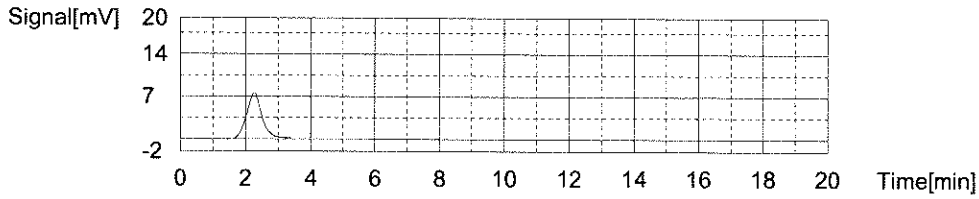
| Type | Anal. | Dil. | Density | Result |
|---|---|---|---|---|
| Unknown | SSM-TC | 1.000 | 1.000mg/uL | SSM-TC:240.9 ug |

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 |

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

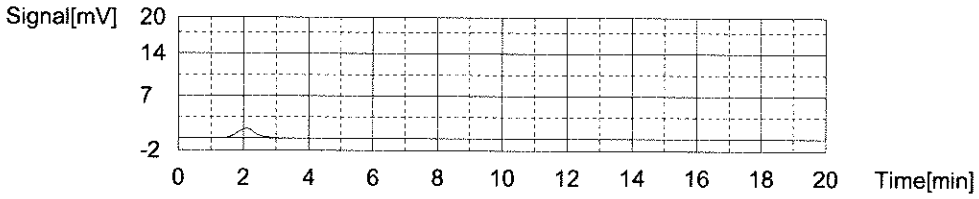
| Type | Anal. | Dil. | Density | Result |
|---|---|---|---|---|
| Unknown | SSM-TC | 1.000 | 1.000mg/uL | SSM-TC:55.60 ug |

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

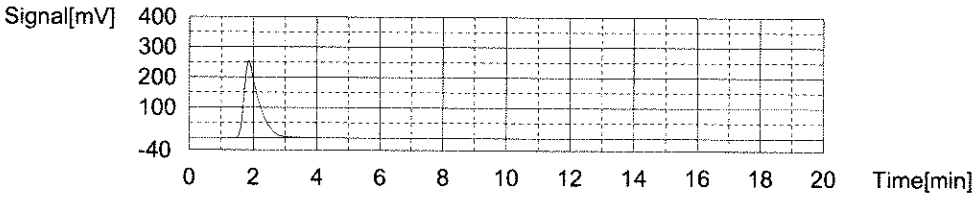
| Type | Anal. | Dil. | Density | Result |
|---|---|---|---|---|
| Unknown | SSM-TC | 1.000 | 1.000mg/uL | SSM-TC:7921 ug |

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

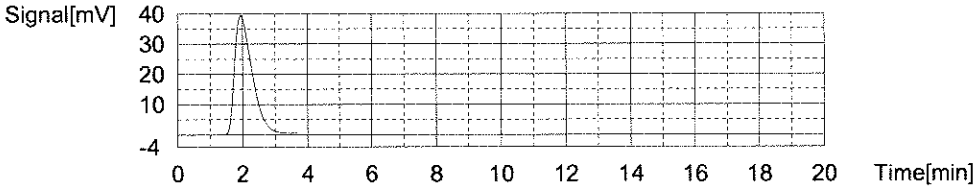
| Type | Anal. | Dil. | Density | Result |
|---|---|---|---|---|
| Unknown | SSM-TC | 1.000 | 1.000mg/uL | SSM-TC:1455 ug |

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

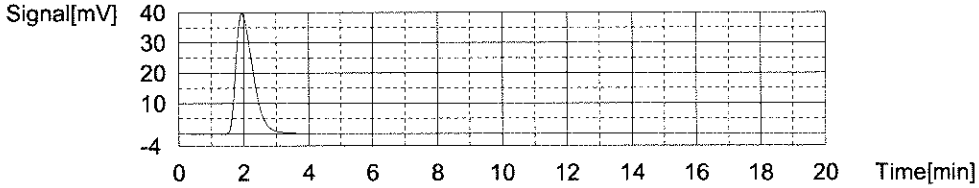
| Type | Anal. | Dil. | Density | Result |
|---|---|---|---|---|
| Unknown | SSM-TC | 1.000 | 1.000mg/uL | SSM-TC:1411 ug |

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

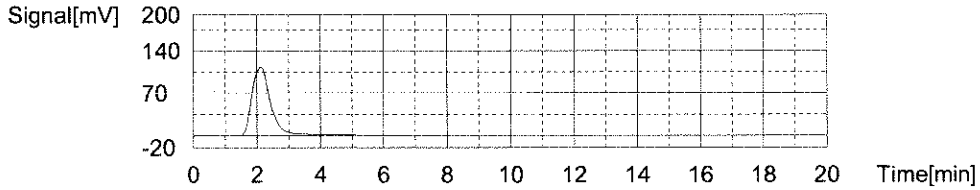
| Type | Anal. | Dil. | Density | Result |
|---|---|---|---|---|
| Unknown | SSM-TC | 1.000 | 1.000mg/uL | SSM-TC:4506 ug |

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

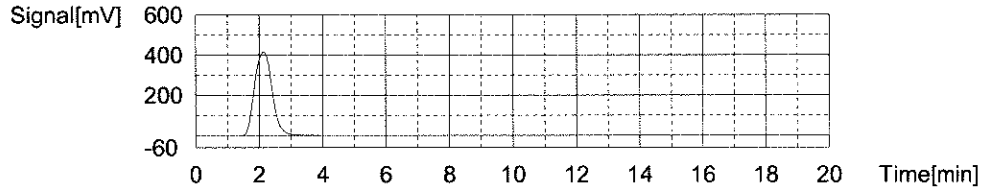
| Type | Anal. | Dil. | Density | Result |
|---|---|---|---|---|
| Unknown | SSM-TC | 1.000 | 1.000mg/uL | SSM-TC:15611 ug |

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

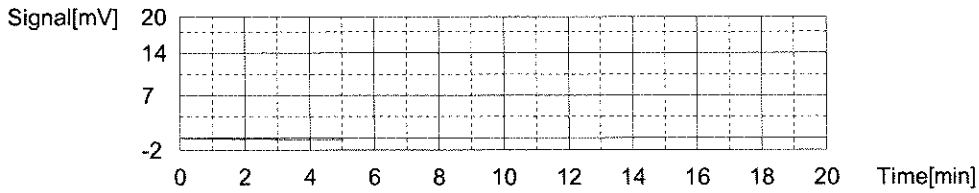
| Type | Anal. | Dil. | Density | Result |
|---|---|---|---|---|
| Unknown | SSM-TC | 1.000 | 1.000mg/uL | SSM-TC:0.000 ug |

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 |

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

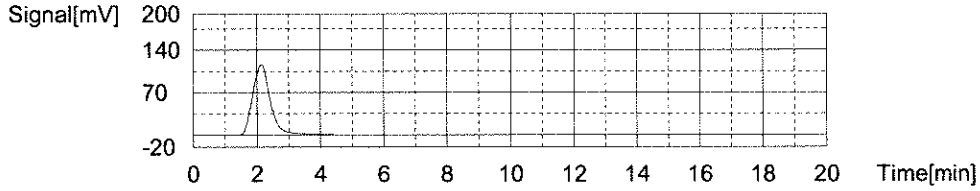
| Type | Anal. | Dil. | Density | Result |
|---|---|---|---|---|
| Unknown | SSM-TC | 1.000 | 1.000mg/uL | SSM-TC:4398 ug |

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

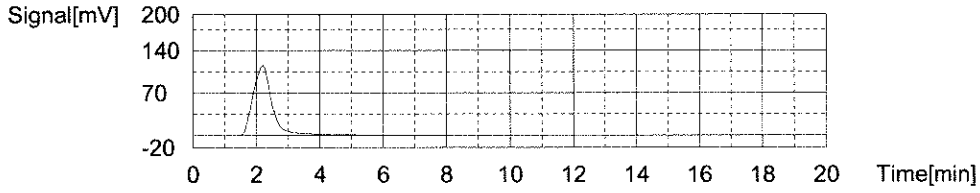
| Type | Anal. | Dil. | Density | Result |
|---|---|---|---|---|
| Unknown | SSM-TC | 1.000 | 1.000mg/uL | SSM-TC:4703 ug |

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

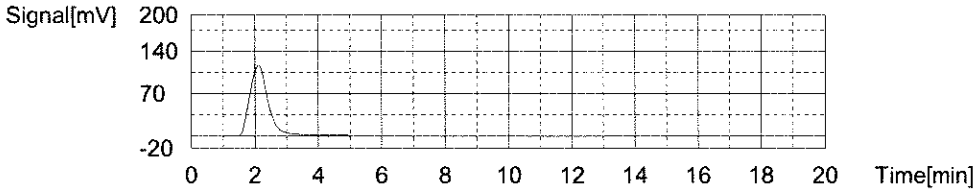
| Type | Anal. | Dil. | Density | Result |
|---|---|---|---|---|
| Unknown | SSM-TC | 1.000 | 1.000mg/uL | SSM-TC:4660 ug |

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

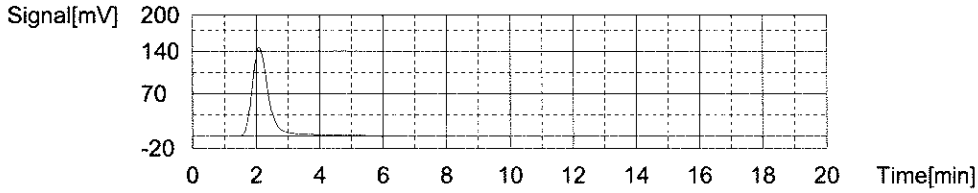
| Type | Anal. | Dil. | Density | Result |
|---|---|---|---|---|
| Unknown | SSM-TC | 1.000 | 1.000mg/uL | SSM-TC:5211 ug |

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

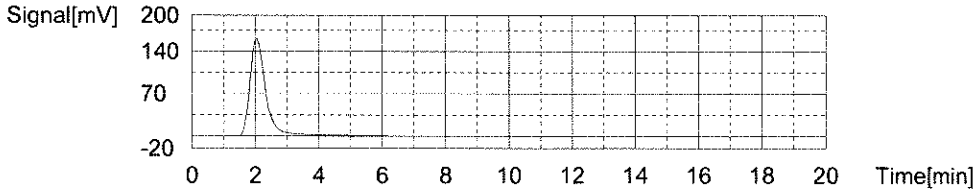
| Type | Anal. | Dil. | Density | Result |
|---|---|---|---|---|
| Unknown | SSM-TC | 1.000 | 1.000mg/uL | SSM-TC:5561 ug |

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

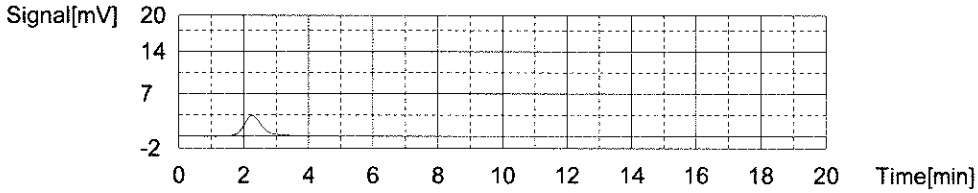
| Type | Anal. | Dil. | Density | Result |
|---|---|---|---|---|
| Unknown | SSM-TC | 1.000 | 1.000mg/uL | SSM-TC:121.2 ug |

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

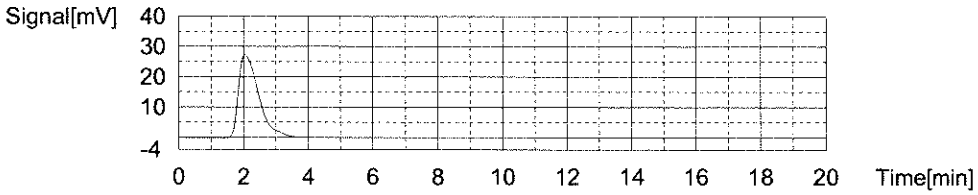
| Type | Anal. | Dil. | Density | Result |
|---|---|---|---|---|
| Unknown | SSM-TC | 1.000 | 1.000mg/uL | SSM-TC:1180 ug |

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

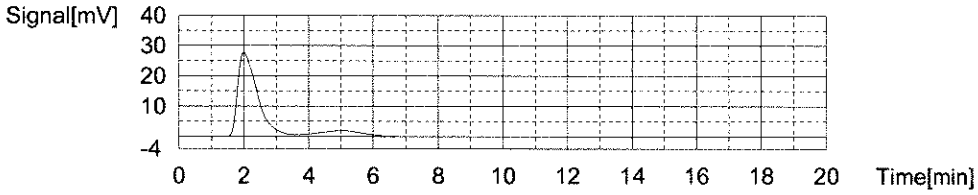
| Type | Anal. | Dil. | Density | Result |
|---|---|---|---|---|
| Unknown | SSM-TC | 1.000 | 1.000mg/uL | SSM-TC:1369 ug |

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

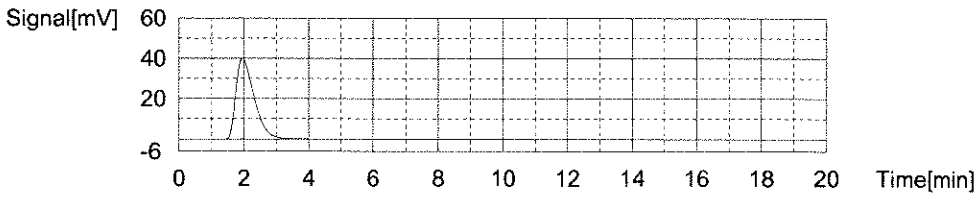
| Type | Anal. | Dil. | Density | Result |
|---|---|---|---|---|
| Unknown | SSM-TC | 1.000 | 1.000mg/uL | SSM-TC:1563 ug |

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



Sample

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

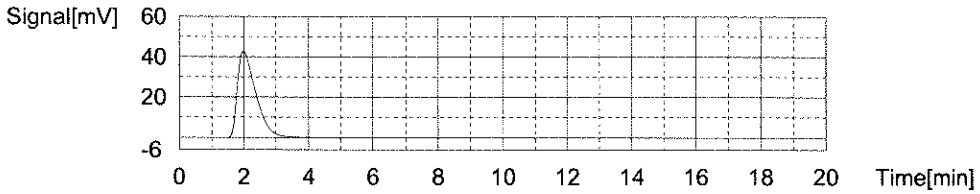
| Type | Anal. | Dil. | Density | Result |
|---|---|---|---|---|
| Unknown | SSM-TC | 1.000 | 1.000mg/uL | SSM-TC:1669 ug |

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

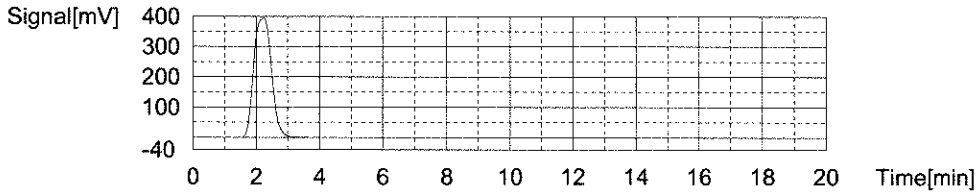
| Type | Anal. | Dil. | Density | Result |
|---|---|---|---|---|
| Unknown | SSM-TC | 1.000 | 1.000mg/uL | SSM-TC:15581 ug |

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

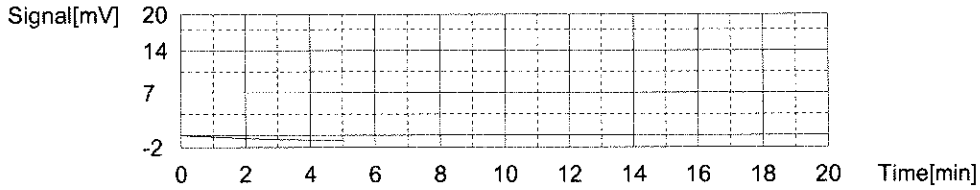
| Type | Anal. | Dil. | Density | Result |
|---|---|---|---|---|
| Unknown | SSM-TC | 1.000 | 1.000mg/uL | SSM-TC:0.000 ug |

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

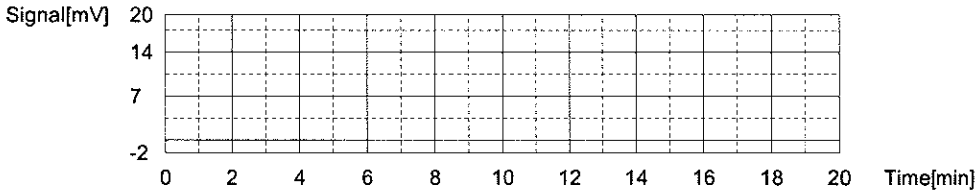
| | |
|---|---|
| Sample Name: | Untitled |
| Sample ID: | Untitled |
| Cal. Curve: | toc sl curve 11-10-14.2014_11_10_12_35_59.cal |

| 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 |

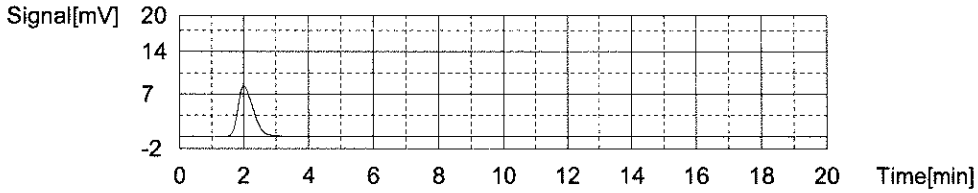
Mean Area 0.000
Mean CNV 0.000




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 |

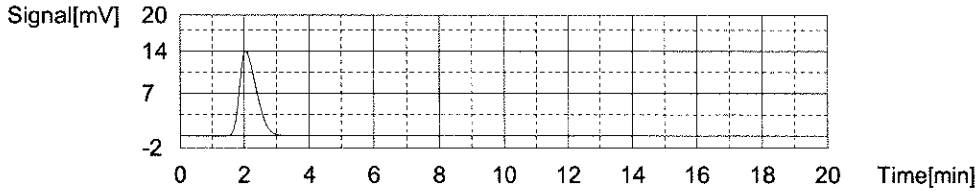
Mean Area 26.40
Mean CNV 26.40




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 |

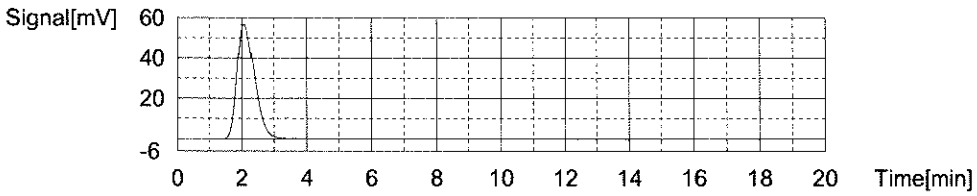
Mean Area 50.26
Mean CNV 50.26




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 |

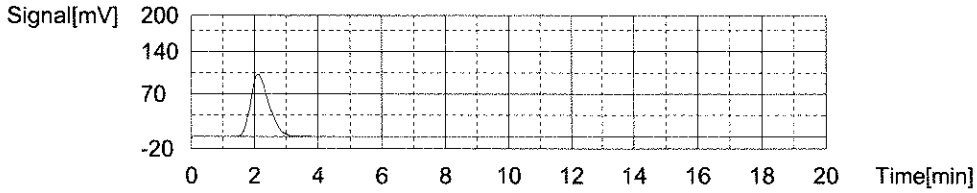
Mean Area 215.3
Mean CNV 215.3




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 |

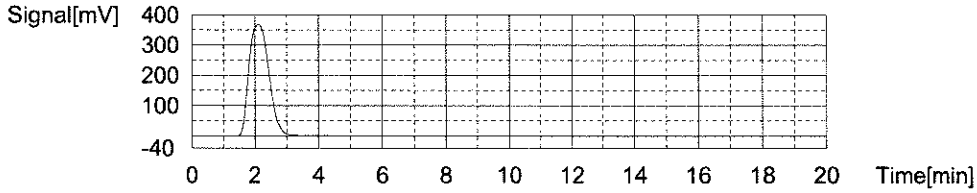
Mean Area 414.7
Mean CNV 414.7




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 |

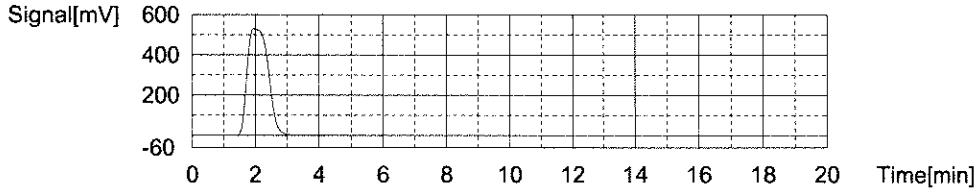
Mean Area 1606
Mean CNV 1606



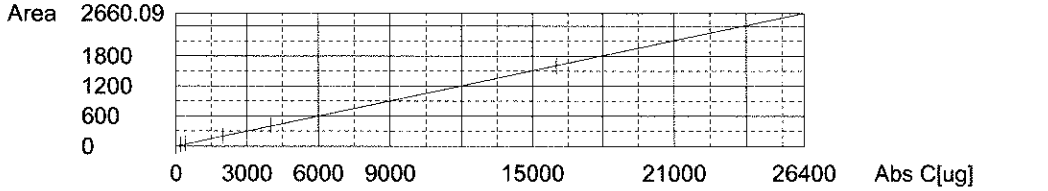

AbsC: 24000ug

| 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



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: [signature] Date: 12/19/14

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

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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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: [signature] Date: 12/19/14

# 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 | |

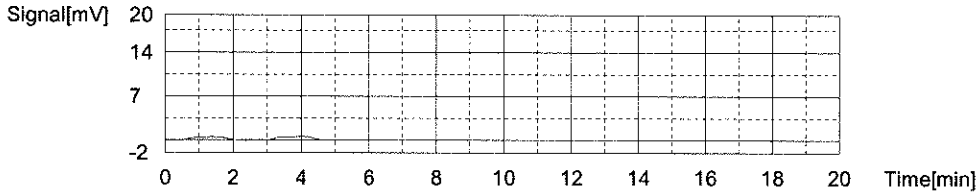
| Type | Anal. | Dil. | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:0.1626 mg/L |

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 | |

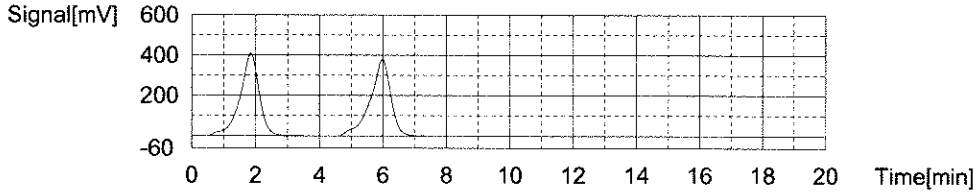
| Type | Anal. | Dil. | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:94.59 mg/L |

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



Sample

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

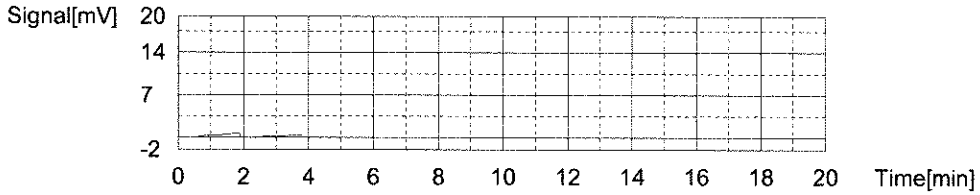
| Type | Anal. | Dil. | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:0.000 mg/L |

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

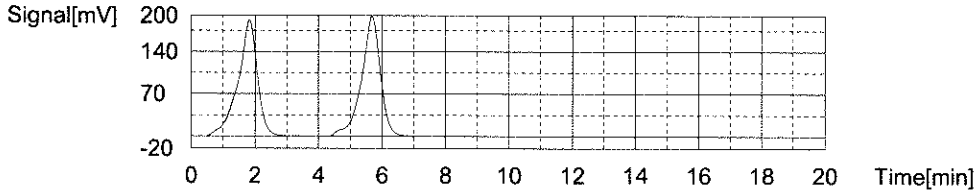
| Type | Anal. | Dil. | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:45.67 mg/L |

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

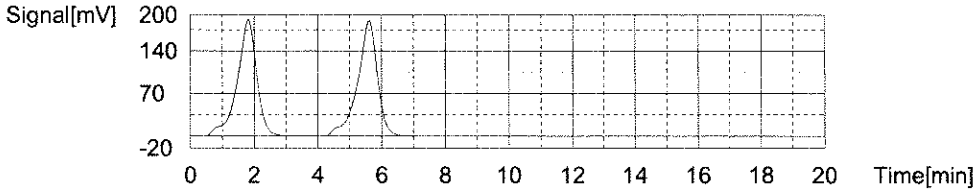
| Type | Anal. | Dil. | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:45.56 mg/L |

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

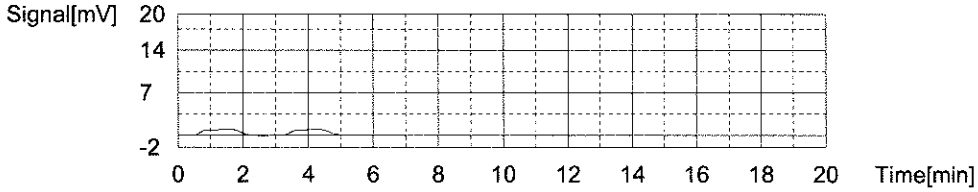
| Type | Anal. | Dil. | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:0.3424 mg/L |

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

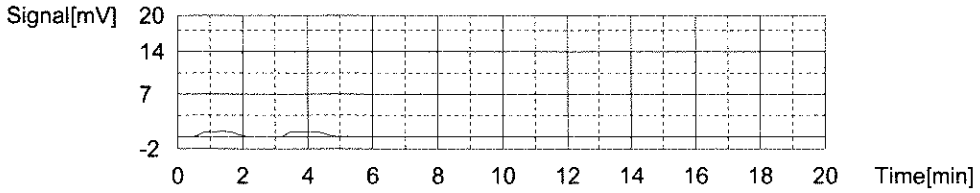
| Type | Anal. | Dil. | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:0.2912 mg/L |

1. Det

Anal.: NPOC

| 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

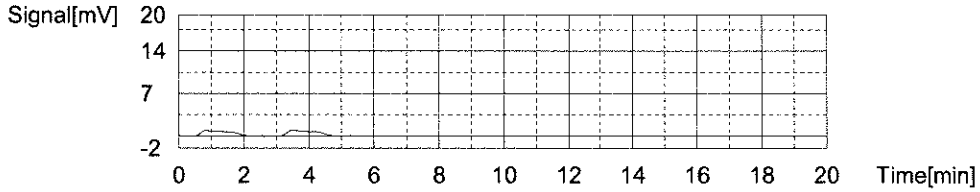
| Type | Anal. | Dil. | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:0.2952 mg/L |

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

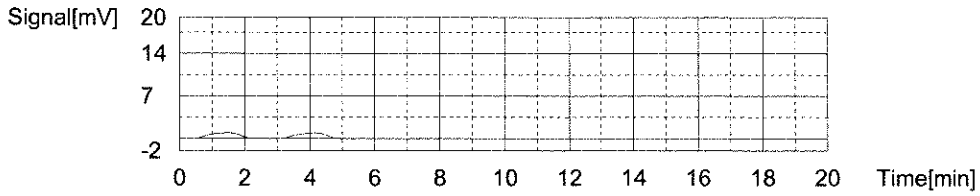
| Type | Anal. | Dil. | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:0.2785 mg/L |

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 |

Mean Area 5.065
Mean Conc. 0.2785mg/L




Sample

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

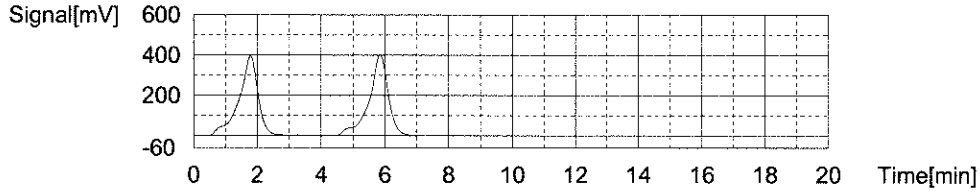
| Type | Anal. | Dil. | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:92.31 mg/L |

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

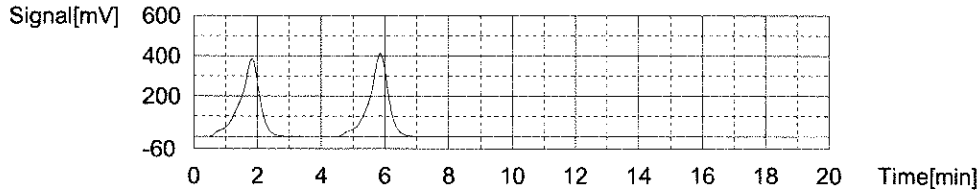
| Type | Anal. | Dil. | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:92.47 mg/L |

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

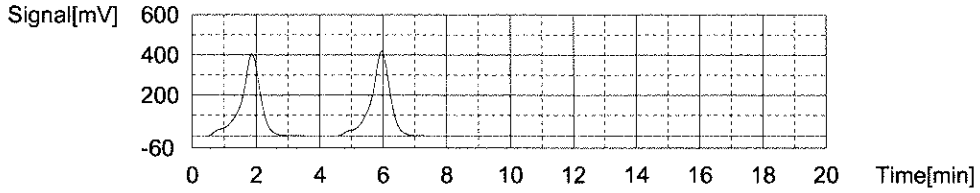
| Type | Anal. | Dil. | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:93.93 mg/L |

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

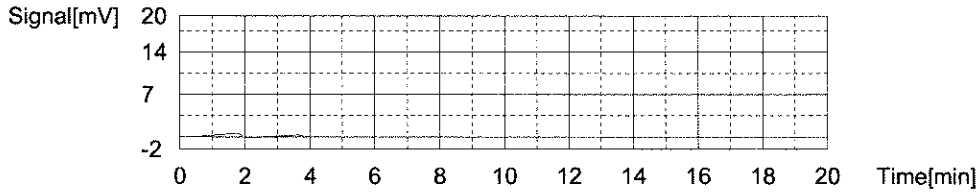
| Type | Anal. | Dil. | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:0.000 mg/L |

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

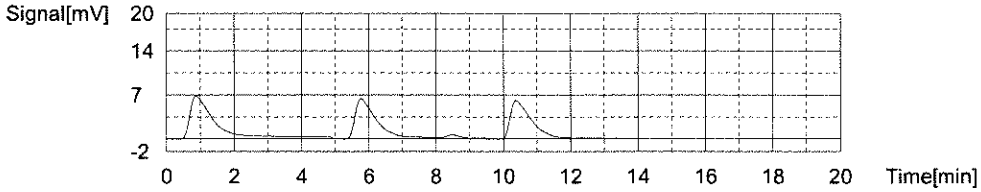
| | |
|---|---|
| Sample Name: | Untitled |
| Sample ID: | Untitled |
| Cal. Curve: | toc aq cal 11-6-14.2014_11_06_16_08_02.cal |

| 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 |

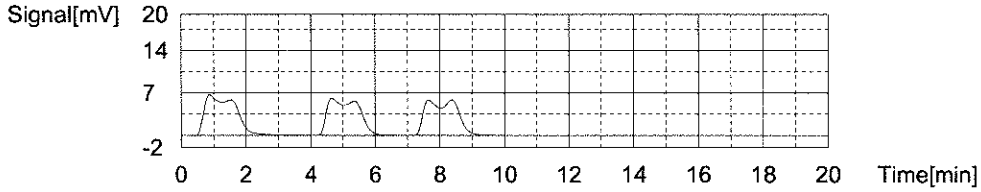
| | |
|---|---|
| Acid Add. | 0.000% |
| Sp. Time | 0.000sec |
| Mean Area | 27.78 |




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 |

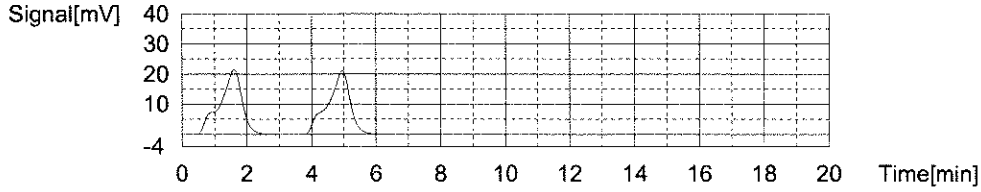
| | |
|---|---|
| Acid Add. | 0.000% |
| Sp. Time | 0.000sec |
| Mean Area | 40.03 |




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 |

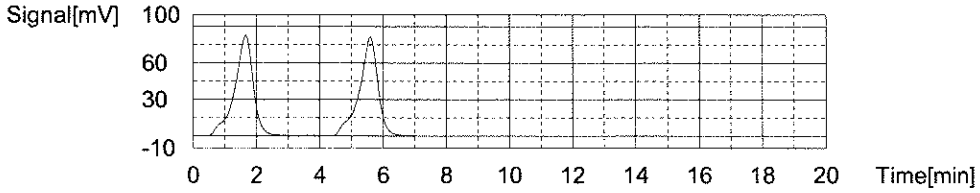
| | |
|---|---|
| Acid Add. | 0.000% |
| Sp. Time | 0.000sec |
| Mean Area | 101.3 |




Conc: 20.00mg/L

| 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 |

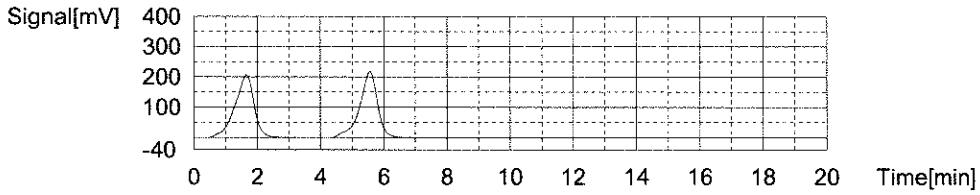
Acid Add. 0.000%
Sp. Time 0.000sec
Mean Area 332.9




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 |

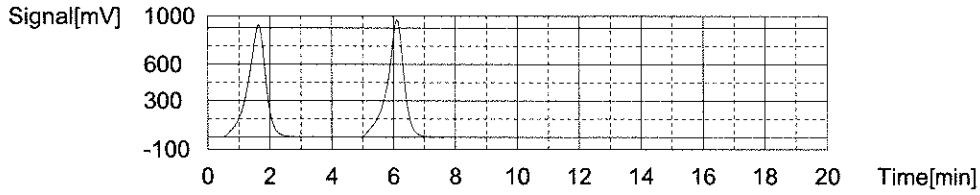
Acid Add. 0.000%
Sp. Time 0.000sec
Mean Area 854.4



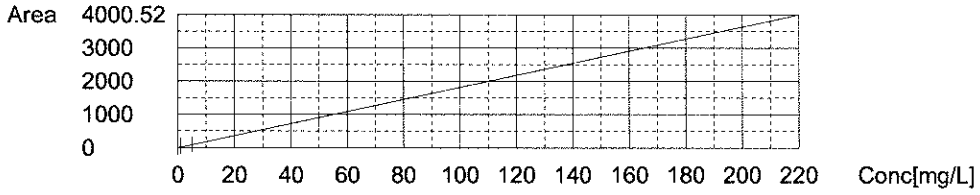

Conc: 200.0mg/L

| 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



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: AB Date: 12-19-14 Accepted by: [illegible] Date: 12/19/14

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: | 18:04 | TS TIME OUT: | 9:07 | TVS TIME OUT: | In: Y |
| TEMP IN: | 102°C | TS TEMP OUT: | 101°C | TVS TEMP OUT: | Out (TS): Y |
| Oven ID: | 107N0042 | 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 | | | | | |
| ~~[illegible]~~ | ~~12~~ | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | AB 12-18-14 | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| TH0531-1 DUP | 15 | | | | | |
| TH0531-2 DUP | 16 | | | | | |

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

TH0614-1; TS=100.0%

TH0531-1 = DUP #12

WL-009 - Revision 3 - 06/04/2014

QAWL757