



July 12, 2011  
Ref. No. 31129-095

Mr. Jaspal Walia, P.E.  
Project Manager  
New York State Department of Environmental Conservation, Region 9  
270 Michigan Avenue  
Buffalo, NY 14203-2999

Subject: Subslab Groundwater Sampling Results  
Leica Facility  
Cheektowaga, New York  
Inactive Hazardous Waste Disposal Site No. 915156

Dear Mr. Walia:

As we discussed on the phone, enclosed you will find a data summary table, a copy of the laboratory report, and a location map for the five groundwater grab samples that were collected from the temporary wells installed within the building (Int-1 through Int-5) and the one sample collected from outside the building (Ext-1) at the Leica site on June 8, 2011.

Based on these results, we are currently preparing a plan to collect additional subslab soil gas samples within the building. The goal of this additional sub-slab sampling will be to secure data which will allow us to confirm where the potential source of these elevated concentrations of VOCs in the groundwater is located. We anticipate submission of the soil gas sampling plan for your review by August 5, 2011.

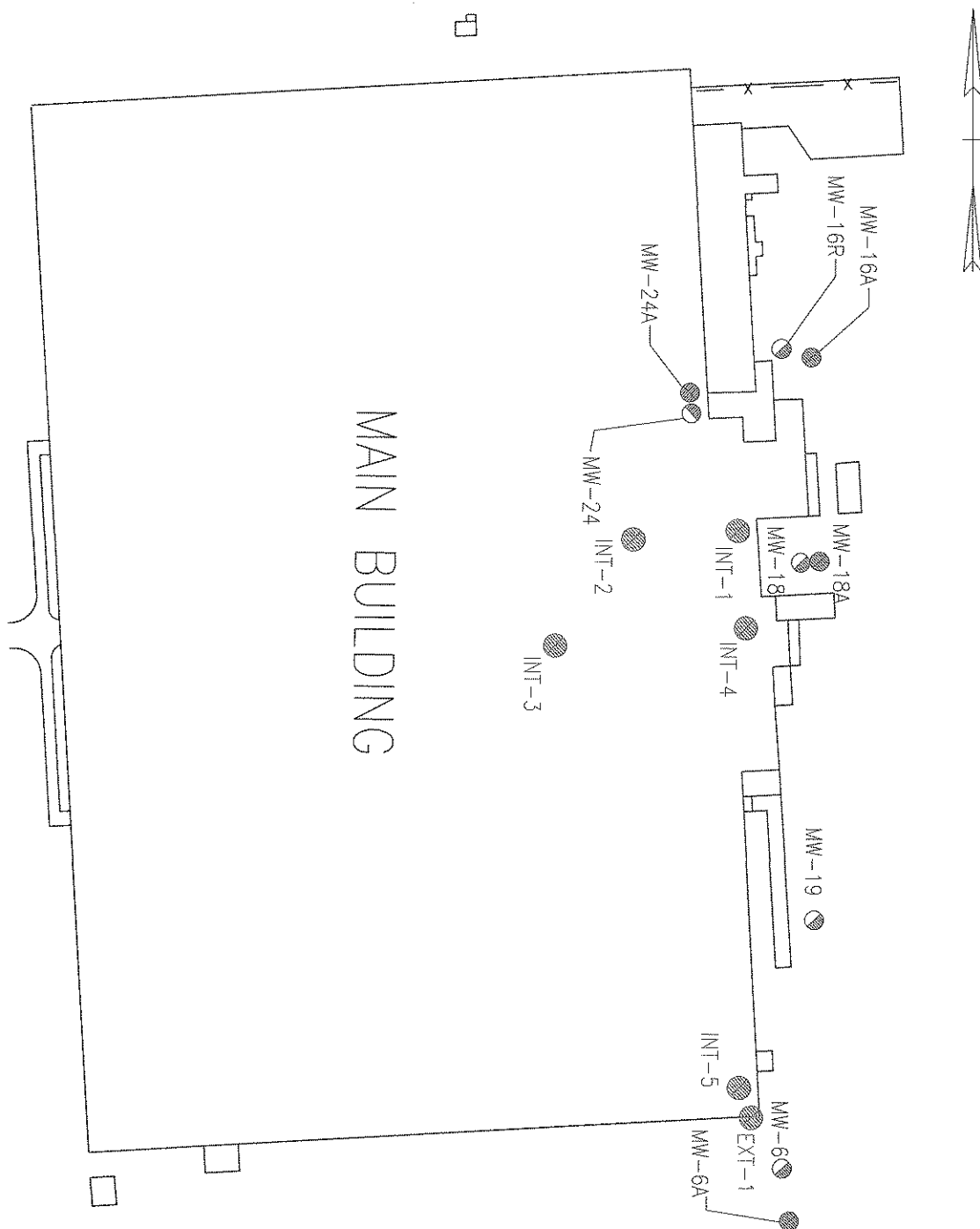
In the interim, if you have any questions, please feel free to call me at 801.303.1092.

Sincerely,

*Paul W. McPeak For*

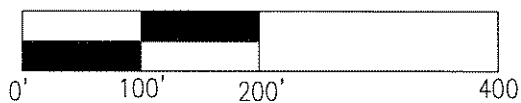
Robert E. McPeak, Jr., P.E., LEP  
Project Manager, Environmental Services

REM/lhc  
Attachments  
cc: C. Grabinski  
M. Forcucci  
J. Egan



# **LEGEND**

- MW-2 = OVERBURDEN MONITORING WELL
- MW-2A = BEDROCK MONITORING WELL
- DIRECT PUSH GROUNDWATER SAMPLE LOCATIONS



|                      |         |                                                             |                     |
|----------------------|---------|-------------------------------------------------------------|---------------------|
| DOCUMENT CONTROL NO. | PROJECT | LEICA MICROSYSTEMS INC.<br>203 EGGERT RD<br>CHEEKTOWAGA, NY | PROJECT #<br>137015 |
| REVISION NO.         | DRAWING | Geoprobe Groundwater Sampling Locations                     | FILENAME:           |
|                      |         |                                                             | SCALE: DATE: 7/8/11 |
|                      |         |                                                             | BY: MT CK: RM       |
|                      |         |                                                             | FIGURE #<br>1       |

**ENERGYSOLUTIONS**

100 MILL PLAIN RD  
DANBURY, CT. 06811  
(203)797-8301

**Geoprobe Grab Groundwater Samples**  
**Leica, June 2011**

| <b>Location</b> | <b>TCE</b> | <b>Cis DCE</b> | <b>VC</b> |
|-----------------|------------|----------------|-----------|
| <b>INT-1</b>    | ND         | ND             | ND        |
| <b>INT-2</b>    | 82,000     | 9,100          | ND        |
| <b>INT-3</b>    | 200        | 120            | 1.4J      |
| <b>INT-4</b>    | 830        | 1,300          | 140       |
| <b>INT-5</b>    | 0.36J      | 0.84J          | 2.4J      |
| <b>EXT-1</b>    | 0.35J      | 0.43J          | ND        |
|                 |            |                |           |

June 24, 2011

Service Request No: R1103249

Mr. Robert McPeak  
Energy Solutions, Inc.  
100 Mill Plain Rd  
2nd Floor Mailbox 106  
Danbury, CT 06811

**Laboratory Results for: Leica 137015**

Dear Mr. McPeak:

Enclosed are the results of the sample(s) submitted to our laboratory on June 9, 2011. For your reference, these analyses have been assigned our service request number **R1103249**.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s) for analysis of these samples, and represented by Laboratory Control Sample control limits. Any events, such as QC failures, which may add to the uncertainty are explained in the report narrative.

Please contact me if you have any questions. My extension is 134. You may also contact me via email at [KBunker@caslab.com](mailto:KBunker@caslab.com).

Respectfully submitted,

**Columbia Analytical Services, Inc.**



Karen Bunker  
Project Manager

Page 1 of 36

COLUMBIA ANALYTICAL SERVICES, INC.

Client: Energy Solutions  
Project: Leica 137015  
Sample Matrix: Water

Service Request No.: R1103249  
Date Received: 6/9/2011

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses.

Sample Receipt

Six (6) samples including one (1) Trip Blank were collected by the client on 6/9/11 and received for analysis at Columbia Analytical Services on the same day as sampled via CAS Courier. The samples were received in good condition. The cooler receipt temperatures were between 3-5°C, within the guidelines of 0-6°C.

Volatile Organics

Seven (7) water samples were analyzed for Volatile Organic compounds by GC/MS method 8260C.

The Continuing Calibration Verification (CCV) standard exceeded 20% Difference criteria for Carbon Tetrachloride on 6/16/11. All detected concentrations for this compound in samples associated with this CCV should be considered as estimated, however no hits were found.

Batch QC is included in the report. All Laboratory Control Sample (LCS) recoveries for target compounds were within QC limits.

Hits above the calibration range of the standards are flagged as "E", estimated. The sample is then repeated at the appropriate dilution for the hit. Both sets of data are included in the report. The subsequent hit is flagged as "D".

Hits between the Minimum Detection Limit (MDL) and Method Reporting Limit (MRL) have been flagged as "J", estimated.

All Surrogate recoveries are within acceptance limits.

All Laboratory Method Blanks and Trip Blank were free from contamination.

The samples were analyzed within the 14 day holding time for the method. All vials are checked for preservation after the analysis in order to maintain the integrity of the sample. All vials were found to be preserved to a pH of <2.

No problems were encountered during the analysis of these samples.

Approved by



Date

6/24/11

00002

## CASE NARRATIVE

This report contains analytical results for the following samples:

Service Request Number: R1103249

| <u>Lab ID</u> | <u>Client ID</u> |
|---------------|------------------|
| R1103249-001  | INT-1            |
| R1103249-002  | INT-2            |
| R1103249-003  | INT-3            |
| R1103249-004  | INT-4            |
| R1103249-005  | INT-5            |
| R1103249-006  | EXT-1            |
| R1103249-007  | TRIP BLANK       |

## REPORT QUALIFIERS

- U Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
- J Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Aroclors).
- B Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
- E Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
- E Organics- Concentration has exceeded the calibration range for that specific analysis.
- D Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.
- \* Indicates that a quality control parameter has exceeded laboratory limits. Under the "Notes" column of the Form I, this qualifier denotes analysis was performed out of Holding Time.
- H Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.
- # Spike was diluted out.
- + Correlation coefficient for MSA is <0.995.
- N Inorganics- Matrix spike recovery was outside laboratory limits.
- N Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
- S Concentration has been determined using Method of Standard Additions (MSA).
- W Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
- P Concentration >40% (25% for CLP) difference between the two GC columns.
- C Confirmed by GC/MS
- Q DoD reports: indicates a pesticide/Aroclor is not confirmed ( $\geq 100\%$  Difference between two GC columns).
- X See Case Narrative for discussion.



### CAS/Rochester Lab ID # for State Certifications<sup>1</sup>

NELAP Accredited  
 Connecticut ID # PH0556  
 Delaware Accredited  
 DoD ELAP #65817  
 Florida ID # E87674  
 Illinois ID #200047  
 Maine ID #NY0032

Nebraska Accredited  
 Nevada ID # NY-00032  
 New Jersey ID # NY004  
 New York ID # 10145  
 New Hampshire ID # 294100 A/B  
 Pennsylvania ID# 68-786  
 Rhode Island ID # 158

<sup>1</sup> Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable, except as noted in the laboratory case narrative provided. For a specific list of accredited analytes, refer to the certifications section at [www.caslab.com](http://www.caslab.com).

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica 137015  
 Sample Matrix: Water

Service Request: R1103249  
 Date Collected: 6/ 8/11 1100  
 Date Received: 6/ 9/11  
 Date Analyzed: 6/16/11 18:17

Sample Name: INT-1  
 Lab Code: R1103249-001

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
 Data File Name: J:\ACQUDATA\msvoa10\data\061611\D3090.D\

Analysis Lot: 250237  
 Instrument Name: R-MS-10  
 Dilution Factor: 1

| CAS No.    | Analyte Name                | Result Q | MRL | MDL  | Note |
|------------|-----------------------------|----------|-----|------|------|
| 67-64-1    | Acetone                     | 3.0 J    | 20  | 1.6  |      |
| 71-43-2    | Benzene                     | 5.0 U    | 5.0 | 0.31 |      |
| 75-27-4    | Bromodichloromethane        | 5.0 U    | 5.0 | 0.41 |      |
| 75-25-2    | Bromoform                   | 5.0 U    | 5.0 | 0.30 |      |
| 74-83-9    | Bromomethane                | 5.0 U    | 5.0 | 0.40 |      |
| 78-93-3    | 2-Butanone (MEK)            | 10 U     | 10  | 1.0  |      |
| 75-15-0    | Carbon Disulfide            | 10 U     | 10  | 0.35 |      |
| 56-23-5    | Carbon Tetrachloride        | 5.0 U    | 5.0 | 0.36 |      |
| 108-90-7   | Chlorobenzene               | 5.0 U    | 5.0 | 0.30 |      |
| 75-00-3    | Chloroethane                | 5.0 U    | 5.0 | 0.30 |      |
| 67-66-3    | Chloroform                  | 5.0 U    | 5.0 | 0.30 |      |
| 74-87-3    | Chloromethane               | 5.0 U    | 5.0 | 0.46 |      |
| 124-48-1   | Dibromochloromethane        | 5.0 U    | 5.0 | 0.30 |      |
| 75-34-3    | 1,1-Dichloroethane          | 5.0 U    | 5.0 | 0.30 |      |
| 107-06-2   | 1,2-Dichloroethane          | 5.0 U    | 5.0 | 0.30 |      |
| 75-35-4    | 1,1-Dichloroethene          | 5.0 U    | 5.0 | 0.37 |      |
| 156-59-2   | cis-1,2-Dichloroethene      | 5.0 U    | 5.0 | 0.30 |      |
| 156-60-5   | trans-1,2-Dichloroethene    | 5.0 U    | 5.0 | 0.30 |      |
| 78-87-5    | 1,2-Dichloropropane         | 5.0 U    | 5.0 | 0.66 |      |
| 10061-01-5 | cis-1,3-Dichloropropene     | 5.0 U    | 5.0 | 0.30 |      |
| 10061-02-6 | trans-1,3-Dichloropropene   | 5.0 U    | 5.0 | 0.30 |      |
| 100-41-4   | Ethylbenzene                | 5.0 U    | 5.0 | 0.42 |      |
| 591-78-6   | 2-Hexanone                  | 10 U     | 10  | 0.40 |      |
| 75-09-2    | Methylene Chloride          | 5.0 U    | 5.0 | 0.30 |      |
| 108-10-1   | 4-Methyl-2-pentanone (MIBK) | 10 U     | 10  | 0.34 |      |
| 100-42-5   | Styrene                     | 5.0 U    | 5.0 | 0.35 |      |
| 79-34-5    | 1,1,2,2-Tetrachloroethane   | 5.0 U    | 5.0 | 0.30 |      |
| 127-18-4   | Tetrachloroethene           | 5.0 U    | 5.0 | 0.42 |      |
| 108-88-3   | Toluene                     | 5.0 U    | 5.0 | 0.30 |      |
| 71-55-6    | 1,1,1-Trichloroethane       | 5.0 U    | 5.0 | 0.30 |      |
| 79-00-5    | 1,1,2-Trichloroethane       | 5.0 U    | 5.0 | 0.30 |      |
| 79-01-6    | Trichloroethene             | 5.0 U    | 5.0 | 0.30 |      |
| 75-01-4    | Vinyl Chloride              | 5.0 U    | 5.0 | 0.30 |      |
| 95-47-6    | o-Xylene                    | 5.0 U    | 5.0 | 0.40 |      |



## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
Project: Leica 137015  
Sample Matrix: Water

Service Request: R1103249  
Date Collected: 6/ 8/11 1100  
Date Received: 6/ 9/11  
Date Analyzed: 6/16/11 18:17

Sample Name: INT-1  
Lab Code: R1103249-001

Units: µg/L  
Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
Data File Name: J:\ACQUDATA\msv0a10\data\061611\03090.D\

Analysis Lot: 250237  
Instrument Name: R-MS-10  
Dilution Factor: 1

| CAS No.     | Analyte Name | Result | Q | MRL | MDL  | Note |
|-------------|--------------|--------|---|-----|------|------|
| 179601-23-1 | m,p-Xylenes  | 5.0    | U | 5.0 | 0.81 |      |

| Surrogate Name       | %Rec | Control Limits | Date Analyzed | Q |
|----------------------|------|----------------|---------------|---|
| 4-Bromofluorobenzene | 118  | 85-122         | 6/16/11 18:17 |   |
| Toluene-d8           | 109  | 87-121         | 6/16/11 18:17 |   |
| Dibromofluoromethane | 119  | 89-119         | 6/16/11 18:17 |   |

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica 137015  
 Sample Matrix: Water

Service Request: R1103249  
 Date Collected: 6/8/11 11:45  
 Date Received: 6/9/11  
 Date Analyzed: 6/17/11 18:22

Sample Name: INT-2  
 Lab Code: R1103249-002

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
 Data File Name: J:\ACQUDATA\MSVOA12\DATA\061711\U8470.D\

Analysis Lot: 250452  
 Instrument Name: R-MS-12  
 Dilution Factor: 250

| CAS No.    | Analyte Name                | Result Q | MRL  | MDL | Note |
|------------|-----------------------------|----------|------|-----|------|
| 67-64-1    | Acetone                     | 5000 U   | 5000 | 400 |      |
| 71-43-2    | Benzene                     | 1300 U   | 1300 | 78  |      |
| 75-27-4    | Bromodichloromethane        | 1300 U   | 1300 | 110 |      |
| 75-25-2    | Bromoform                   | 1300 U   | 1300 | 75  |      |
| 74-83-9    | Bromomethane                | 1300 U   | 1300 | 100 |      |
| 78-93-3    | 2-Butanone (MEK)            | 2500 U   | 2500 | 250 |      |
| 75-15-0    | Carbon Disulfide            | 2500 U   | 2500 | 88  |      |
| 56-23-5    | Carbon Tetrachloride        | 1300 U   | 1300 | 90  |      |
| 108-90-7   | Chlorobenzene               | 1300 U   | 1300 | 75  |      |
| 75-00-3    | Chloroethane                | 1300 U   | 1300 | 75  |      |
| 67-66-3    | Chloroform                  | 1300 U   | 1300 | 75  |      |
| 74-87-3    | Chloromethane               | 1300 U   | 1300 | 120 |      |
| 124-48-1   | Dibromochloromethane        | 1300 U   | 1300 | 75  |      |
| 75-34-3    | 1,1-Dichloroethane          | 1300 U   | 1300 | 75  |      |
| 107-06-2   | 1,2-Dichloroethane          | 1300 U   | 1300 | 75  |      |
| 75-35-4    | 1,1-Dichloroethene          | 1300 U   | 1300 | 93  |      |
| 156-59-2   | cis-1,2-Dichloroethene      | 8200     | 1300 | 75  |      |
| 156-60-5   | trans-1,2-Dichloroethene    | 520 J    | 1300 | 75  |      |
| 78-87-5    | 1,2-Dichloropropane         | 1300 U   | 1300 | 170 |      |
| 10061-01-5 | cis-1,3-Dichloropropene     | 1300 U   | 1300 | 75  |      |
| 10061-02-6 | trans-1,3-Dichloropropene   | 1300 U   | 1300 | 75  |      |
| 100-41-4   | Ethylbenzene                | 1300 U   | 1300 | 110 |      |
| 591-78-6   | 2-Hexanone                  | 2500 U   | 2500 | 100 |      |
| 75-09-2    | Methylene Chloride          | 1300 U   | 1300 | 75  |      |
| 108-10-1   | 4-Methyl-2-pentanone (MIBK) | 2500 U   | 2500 | 85  |      |
| 100-42-5   | Styrene                     | 1300 U   | 1300 | 88  |      |
| 79-34-5    | 1,1,2,2-Tetrachloroethane   | 1300 U   | 1300 | 75  |      |
| 127-18-4   | Tetrachloroethene           | 160 J    | 1300 | 110 |      |
| 108-88-3   | Toluene                     | 1300 U   | 1300 | 75  |      |
| 71-55-6    | 1,1,1-Trichloroethane       | 1300 U   | 1300 | 75  |      |
| 79-00-5    | 1,1,2-Trichloroethane       | 1300 U   | 1300 | 75  |      |
| 79-01-6    | Trichloroethene             | 75000 E  | 1300 | 75  |      |
| 75-01-4    | Vinyl Chloride              | 1300 U   | 1300 | 75  |      |
| 95-47-6    | o-Xylene                    | 1300 U   | 1300 | 100 |      |

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
Project: Leica 137015  
Sample Matrix: Water

Service Request: R1103249  
Date Collected: 6/8/11 11:45  
Date Received: 6/9/11  
Date Analyzed: 6/17/11 18:22

Sample Name: INT-2  
Lab Code: R1103249-002

Units: µg/L  
Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
Data File Name: J:\ACQUDATA\MSVOA12\DATA\061711\U8470.D\

Analysis Lot: 250452  
Instrument Name: R-MS-12  
Dilution Factor: 250

| CAS No.     | Analyte Name | Result Q | MRL  | MDL | Note |
|-------------|--------------|----------|------|-----|------|
| 179601-23-1 | m,p-Xylenes  | 1300 U   | 1300 | 210 |      |

| Surrogate Name       | %Rec | Control Limits | Date Analyzed | Q |
|----------------------|------|----------------|---------------|---|
| 4-Bromofluorobenzene | 103  | 85-122         | 6/17/11 18:22 |   |
| Toluene-d8           | 106  | 87-121         | 6/17/11 18:22 |   |
| Dibromofluoromethane | 102  | 89-119         | 6/17/11 18:22 |   |

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica 137015  
 Sample Matrix: Water

Service Request: R1103249  
 Date Collected: 6/8/11 1145  
 Date Received: 6/9/11  
 Date Analyzed: 6/20/11 18:52

Sample Name: INT-2  
 Lab Code: R1103249-002  
 Run Type: Dilution

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
 Data File Name: J:\ACQUDATA\msv0a12\Data\062011\U8497.D\

Analysis Lot: 250688  
 Instrument Name: R-MS-12  
 Dilution Factor: 500

| CAS No.    | Analyte Name                | Result | Q  | MRL   | MDL | Note |
|------------|-----------------------------|--------|----|-------|-----|------|
| 67-64-1    | Acetone                     | 10000  | U  | 10000 | 800 |      |
| 71-43-2    | Benzene                     | 2500   | U  | 2500  | 160 |      |
| 75-27-4    | Bromodichloromethane        | 2500   | U  | 2500  | 210 |      |
| 75-25-2    | Bromoform                   | 2500   | U  | 2500  | 150 |      |
| 74-83-9    | Bromomethane                | 2500   | U  | 2500  | 200 |      |
| 78-93-3    | 2-Butanone (MEK)            | 5000   | U  | 5000  | 500 |      |
| 75-15-0    | Carbon Disulfide            | 5000   | U  | 5000  | 180 |      |
| 56-23-5    | Carbon Tetrachloride        | 2500   | U  | 2500  | 180 |      |
| 108-90-7   | Chlorobenzene               | 2500   | U  | 2500  | 150 |      |
| 75-00-3    | Chloroethane                | 2500   | U  | 2500  | 150 |      |
| 67-66-3    | Chloroform                  | 2500   | U  | 2500  | 150 |      |
| 74-87-3    | Chloromethane               | 2500   | U  | 2500  | 230 |      |
| 124-48-1   | Dibromochloromethane        | 2500   | U  | 2500  | 150 |      |
| 75-34-3    | 1,1-Dichloroethane          | 2500   | U  | 2500  | 150 |      |
| 107-06-2   | 1,2-Dichloroethane          | 2500   | U  | 2500  | 150 |      |
| 75-35-4    | 1,1-Dichloroethene          | 2500   | U  | 2500  | 190 |      |
| 156-59-2   | cis-1,2-Dichloroethene      | 9100   | D  | 2500  | 150 |      |
| 156-60-5   | trans-1,2-Dichloroethene    | 600    | DJ | 2500  | 150 |      |
| 78-87-5    | 1,2-Dichloropropane         | 2500   | U  | 2500  | 330 |      |
| 10061-01-5 | cis-1,3-Dichloropropene     | 2500   | U  | 2500  | 150 |      |
| 10061-02-6 | trans-1,3-Dichloropropene   | 2500   | U  | 2500  | 150 |      |
| 100-41-4   | Ethylbenzene                | 2500   | U  | 2500  | 210 |      |
| 591-78-6   | 2-Hexanone                  | 5000   | U  | 5000  | 200 |      |
| 75-09-2    | Methylene Chloride          | 2500   | U  | 2500  | 150 |      |
| 108-10-1   | 4-Methyl-2-pentanone (MIBK) | 5000   | U  | 5000  | 170 |      |
| 100-42-5   | Styrene                     | 2500   | U  | 2500  | 180 |      |
| 79-34-5    | 1,1,2,2-Tetrachloroethane   | 2500   | U  | 2500  | 150 |      |
| 127-18-4   | Tetrachloroethene           | 2500   | U  | 2500  | 210 |      |
| 108-88-3   | Toluene                     | 2500   | U  | 2500  | 150 |      |
| 71-55-6    | 1,1,1-Trichloroethane       | 2500   | U  | 2500  | 150 |      |
| 79-00-5    | 1,1,2-Trichloroethane       | 2500   | U  | 2500  | 150 |      |
| 79-01-6    | Trichloroethene             | 82000  | D  | 2500  | 150 |      |
| 75-01-4    | Vinyl Chloride              | 2500   | U  | 2500  | 150 |      |
| 95-47-6    | o-Xylene                    | 2500   | U  | 2500  | 200 |      |

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
Project: Leica 137015  
Sample Matrix: Water

Service Request: R1103249  
Date Collected: 6/ 8/11 1145  
Date Received: 6/ 9/11  
Date Analyzed: 6/20/11 18:52

Sample Name: INT-2  
Lab Code: R1103249-002  
Run Type: Dilution

Units: µg/L  
Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
Data File Name: J:\ACQUDATA\msv0a12\Data\062011\U8497.D\

Analysis Lot: 250688  
Instrument Name: R-MS-12  
Dilution Factor: 500

| CAS No.     | Analyte Name | Result | Q | MRL  | MDL | Note |
|-------------|--------------|--------|---|------|-----|------|
| 179601-23-1 | m,p-Xylenes  | 2500   | U | 2500 | 410 |      |

| Surrogate Name       | %Rec | Control Limits | Date Analyzed | Q |
|----------------------|------|----------------|---------------|---|
| 4-Bromofluorobenzene | 106  | 85-122         | 6/20/11 18:52 |   |
| Toluene-d8           | 108  | 87-121         | 6/20/11 18:52 |   |
| Dibromofluoromethane | 105  | 89-119         | 6/20/11 18:52 |   |

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica 137015  
 Sample Matrix: Water

Service Request: R1103249  
 Date Collected: 6/ 8/11 1220  
 Date Received: 6/ 9/11  
 Date Analyzed: 6/17/11 15:51

Sample Name: INT-3  
 Lab Code: R1103249-003

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
 Data File Name: J:\ACQUDATA\MSVOA12\DATA\061711\U8465.D\

Analysis Lot: 250452  
 Instrument Name: R-MS-12  
 Dilution Factor: 1

| CAS No.    | Analyte Name                | Result Q | MRL | MDL  | Note |
|------------|-----------------------------|----------|-----|------|------|
| 67-64-1    | Acetone                     | 2.5 J    | 20  | 1.6  |      |
| 71-43-2    | Benzene                     | 0.34 J   | 5.0 | 0.31 |      |
| 75-27-4    | Bromodichloromethane        | 5.0 U    | 5.0 | 0.41 |      |
| 75-25-2    | Bromoform                   | 5.0 U    | 5.0 | 0.30 |      |
| 74-83-9    | Bromomethane                | 5.0 U    | 5.0 | 0.40 |      |
| 78-93-3    | 2-Butanone (MEK)            | 10 U     | 10  | 1.0  |      |
| 75-15-0    | Carbon Disulfide            | 10 U     | 10  | 0.35 |      |
| 56-23-5    | Carbon Tetrachloride        | 5.0 U    | 5.0 | 0.36 |      |
| 108-90-7   | Chlorobenzene               | 5.0 U    | 5.0 | 0.30 |      |
| 75-00-3    | Chloroethane                | 5.0 U    | 5.0 | 0.30 |      |
| 67-66-3    | Chloroform                  | 0.34 J   | 5.0 | 0.30 |      |
| 74-87-3    | Chloromethane               | 5.0 U    | 5.0 | 0.46 |      |
| 124-48-1   | Dibromochloromethane        | 5.0 U    | 5.0 | 0.30 |      |
| 75-34-3    | 1,1-Dichloroethane          | 1.3 J    | 5.0 | 0.30 |      |
| 107-06-2   | 1,2-Dichloroethane          | 5.0 U    | 5.0 | 0.30 |      |
| 75-35-4    | 1,1-Dichloroethene          | 2.0 J    | 5.0 | 0.37 |      |
| 156-59-2   | cis-1,2-Dichloroethene      | 140      | 5.0 | 0.30 |      |
| 156-60-5   | trans-1,2-Dichloroethene    | 3.6 J    | 5.0 | 0.30 |      |
| 78-87-5    | 1,2-Dichloropropane         | 5.0 U    | 5.0 | 0.66 |      |
| 10061-01-5 | cis-1,3-Dichloropropene     | 5.0 U    | 5.0 | 0.30 |      |
| 10061-02-6 | trans-1,3-Dichloropropene   | 5.0 U    | 5.0 | 0.30 |      |
| 100-41-4   | Ethylbenzene                | 5.0 U    | 5.0 | 0.42 |      |
| 591-78-6   | 2-Hexanone                  | 10 U     | 10  | 0.40 |      |
| 75-09-2    | Methylene Chloride          | 5.0 U    | 5.0 | 0.30 |      |
| 108-10-1   | 4-Methyl-2-pentanone (MIBK) | 10 U     | 10  | 0.34 |      |
| 100-42-5   | Styrene                     | 5.0 U    | 5.0 | 0.35 |      |
| 79-34-5    | 1,1,2,2-Tetrachloroethane   | 5.0 U    | 5.0 | 0.30 |      |
| 127-18-4   | Tetrachloroethene           | 5.0 U    | 5.0 | 0.42 |      |
| 108-88-3   | Toluene                     | 0.56 J   | 5.0 | 0.30 |      |
| 71-55-6    | 1,1,1-Trichloroethane       | 0.68 J   | 5.0 | 0.30 |      |
| 79-00-5    | 1,1,2-Trichloroethane       | 5.0 U    | 5.0 | 0.30 |      |
| 79-01-6    | Trichloroethene             | 230 E    | 5.0 | 0.30 |      |
| 75-01-4    | Vinyl Chloride              | 1.7 J    | 5.0 | 0.30 |      |
| 95-47-6    | o-Xylene                    | 5.0 U    | 5.0 | 0.40 |      |

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
Project: Leica 137015  
Sample Matrix: Water

Service Request: R1103249  
Date Collected: 6/ 8/11 1220  
Date Received: 6/ 9/11  
Date Analyzed: 6/17/11 15:51

Sample Name: INT-3  
Lab Code: R1103249-003

Units: µg/L  
Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
Data File Name: J:\ACQUDATA\MSVOA12\DATA\061711\U8465.D\

Analysis Lot: 250452  
Instrument Name: R-MS-12  
Dilution Factor: 1

| CAS No.     | Analyte Name | Result Q | MRL | MDL  | Note |
|-------------|--------------|----------|-----|------|------|
| 179601-23-1 | m,p-Xylenes  | 5.0 U    | 5.0 | 0.81 |      |

| Surrogate Name       | %Rec | Control Limits | Date Analyzed | Q |
|----------------------|------|----------------|---------------|---|
| 4-Bromofluorobenzene | 103  | 85-122         | 6/17/11 15:51 |   |
| Toluene-d8           | 105  | 87-121         | 6/17/11 15:51 |   |
| Dibromofluoromethane | 104  | 89-119         | 6/17/11 15:51 |   |

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica 137015  
 Sample Matrix: Water

Service Request: R1103249  
 Date Collected: 6/ 8/11 1220  
 Date Received: 6/ 9/11  
 Date Analyzed: 6/17/11 16:21

Sample Name: INT-3  
 Lab Code: R1103249-003  
 Run Type: Dilution

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
 Data File Name: J:\ACQUDATA\MSVOA12\DATA\061711\U8466.D\

Analysis Lot: 250452  
 Instrument Name: R-MS-12  
 Dilution Factor: 2

| CAS No.    | Analyte Name                | Result Q | MRL | MDL  | Note |
|------------|-----------------------------|----------|-----|------|------|
| 67-64-1    | Acetone                     | 5.0 DJ   | 40  | 3.2  |      |
| 71-43-2    | Benzene                     | 10 U     | 10  | 0.62 |      |
| 75-27-4    | Bromodichloromethane        | 10 U     | 10  | 0.82 |      |
| 75-25-2    | Bromoform                   | 10 U     | 10  | 0.60 |      |
| 74-83-9    | Bromomethane                | 10 U     | 10  | 0.80 |      |
| 78-93-3    | 2-Butanone (MEK)            | 20 U     | 20  | 2.0  |      |
| 75-15-0    | Carbon Disulfide            | 20 U     | 20  | 0.70 |      |
| 56-23-5    | Carbon Tetrachloride        | 10 U     | 10  | 0.72 |      |
| 108-90-7   | Chlorobenzene               | 10 U     | 10  | 0.60 |      |
| 75-00-3    | Chloroethane                | 10 U     | 10  | 0.60 |      |
| 67-66-3    | Chloroform                  | 10 U     | 10  | 0.60 |      |
| 74-87-3    | Chloromethane               | 10 U     | 10  | 0.92 |      |
| 124-48-1   | Dibromochloromethane        | 10 U     | 10  | 0.60 |      |
| 75-34-3    | 1,1-Dichloroethane          | 1.1 DJ   | 10  | 0.60 |      |
| 107-06-2   | 1,2-Dichloroethane          | 10 U     | 10  | 0.60 |      |
| 75-35-4    | 1,1-Dichloroethene          | 1.6 DJ   | 10  | 0.74 |      |
| 156-59-2   | cis-1,2-Dichloroethene      | 120 D    | 10  | 0.60 |      |
| 156-60-5   | trans-1,2-Dichloroethene    | 3.0 DJ   | 10  | 0.60 |      |
| 78-87-5    | 1,2-Dichloropropane         | 10 U     | 10  | 1.4  |      |
| 10061-01-5 | cis-1,3-Dichloropropene     | 10 U     | 10  | 0.60 |      |
| 10061-02-6 | trans-1,3-Dichloropropene   | 10 U     | 10  | 0.60 |      |
| 100-41-4   | Ethylbenzene                | 10 U     | 10  | 0.84 |      |
| 591-78-6   | 2-Hexanone                  | 20 U     | 20  | 0.80 |      |
| 75-09-2    | Methylene Chloride          | 10 U     | 10  | 0.60 |      |
| 108-10-1   | 4-Methyl-2-pentanone (MIBK) | 20 U     | 20  | 0.68 |      |
| 100-42-5   | Styrene                     | 10 U     | 10  | 0.70 |      |
| 79-34-5    | 1,1,2,2-Tetrachloroethane   | 10 U     | 10  | 0.60 |      |
| 127-18-4   | Tetrachloroethene           | 10 U     | 10  | 0.84 |      |
| 108-88-3   | Toluene                     | 10 U     | 10  | 0.60 |      |
| 71-55-6    | 1,1,1-Trichloroethane       | 0.68 DJ  | 10  | 0.60 |      |
| 79-00-5    | 1,1,2-Trichloroethane       | 10 U     | 10  | 0.60 |      |
| 79-01-6    | Trichloroethene             | 200 D    | 10  | 0.60 |      |
| 75-01-4    | Vinyl Chloride              | 1.4 DJ   | 10  | 0.60 |      |
| 95-47-6    | o-Xylene                    | 10 U     | 10  | 0.80 |      |



## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
Project: Leica 137015  
Sample Matrix: Water

Service Request: R1103249  
Date Collected: 6/8/11 1220  
Date Received: 6/9/11  
Date Analyzed: 6/17/11 16:21

Sample Name: INT-3  
Lab Code: R1103249-003  
Run Type: Dilution

Units: µg/L  
Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
Data File Name: J:\ACQUDATA\MSVOA12\DATA\061711\U8466.D\

Analysis Lot: 250452  
Instrument Name: R-MS-12  
Dilution Factor: 2

| CAS No.     | Analyte Name | Result Q | MRL | MDL | Note |
|-------------|--------------|----------|-----|-----|------|
| 179601-23-1 | m,p-Xylenes  | 10 U     | 10  | 1.7 |      |

| Surrogate Name       | %Rec | Control Limits | Date Analyzed | Q |
|----------------------|------|----------------|---------------|---|
| 4-Bromofluorobenzene | 101  | 85-122         | 6/17/11 16:21 |   |
| Toluene-d8           | 104  | 87-121         | 6/17/11 16:21 |   |
| Dibromofluoromethane | 103  | 89-119         | 6/17/11 16:21 |   |

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica 137015  
 Sample Matrix: Water

Service Request: R1103249  
 Date Collected: 6/ 8/11 1335  
 Date Received: 6/ 9/11  
 Date Analyzed: 6/17/11 17:52

Sample Name: INT-4  
 Lab Code: R1103249-004

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
 Data File Name: J:\ACQUDATA\MSVOA12\DATA\061711\U8469.D\

Analysis Lot: 250452  
 Instrument Name: R-MS-12  
 Dilution Factor: 10

| CAS No.    | Analyte Name                | Result | Q | MRL | MDL | Note |
|------------|-----------------------------|--------|---|-----|-----|------|
| 67-64-1    | Acetone                     | 200    | U | 200 | 16  |      |
| 71-43-2    | Benzene                     | 50     | U | 50  | 3.1 |      |
| 75-27-4    | Bromodichloromethane        | 50     | U | 50  | 4.1 |      |
| 75-25-2    | Bromoform                   | 50     | U | 50  | 3.0 |      |
| 74-83-9    | Bromomethane                | 50     | U | 50  | 4.0 |      |
| 78-93-3    | 2-Butanone (MEK)            | 100    | U | 100 | 10  |      |
| 75-15-0    | Carbon Disulfide            | 100    | U | 100 | 3.5 |      |
| 56-23-5    | Carbon Tetrachloride        | 50     | U | 50  | 3.6 |      |
| 108-90-7   | Chlorobenzene               | 50     | U | 50  | 3.0 |      |
| 75-00-3    | Chloroethane                | 50     | U | 50  | 3.0 |      |
| 67-66-3    | Chloroform                  | 50     | U | 50  | 3.0 |      |
| 74-87-3    | Chloromethane               | 50     | U | 50  | 4.7 |      |
| 124-48-1   | Dibromochloromethane        | 50     | U | 50  | 3.0 |      |
| 75-34-3    | 1,1-Dichloroethane          | 50     | U | 50  | 3.0 |      |
| 107-06-2   | 1,2-Dichloroethane          | 50     | U | 50  | 3.0 |      |
| 75-35-4    | 1,1-Dichloroethene          | 5.7    | J | 50  | 3.7 |      |
| 156-59-2   | cis-1,2-Dichloroethene      | 1300   |   | 50  | 3.0 |      |
| 156-60-5   | trans-1,2-Dichloroethene    | 73     |   | 50  | 3.0 |      |
| 78-87-5    | 1,2-Dichloropropane         | 50     | U | 50  | 6.7 |      |
| 10061-01-5 | cis-1,3-Dichloropropene     | 50     | U | 50  | 3.0 |      |
| 10061-02-6 | trans-1,3-Dichloropropene   | 50     | U | 50  | 3.0 |      |
| 100-41-4   | Ethylbenzene                | 50     | U | 50  | 4.2 |      |
| 591-78-6   | 2-Hexanone                  | 100    | U | 100 | 4.0 |      |
| 75-09-2    | Methylene Chloride          | 50     | U | 50  | 3.0 |      |
| 108-10-1   | 4-Methyl-2-pentanone (MIBK) | 100    | U | 100 | 3.5 |      |
| 100-42-5   | Styrene                     | 50     | U | 50  | 3.5 |      |
| 79-34-5    | 1,1,2,2-Tetrachloroethane   | 50     | U | 50  | 3.0 |      |
| 127-18-4   | Tetrachloroethene           | 50     | U | 50  | 4.2 |      |
| 108-88-3   | Toluene                     | 50     | U | 50  | 3.0 |      |
| 71-55-6    | 1,1,1-Trichloroethane       | 50     | U | 50  | 3.0 |      |
| 79-00-5    | 1,1,2-Trichloroethane       | 50     | U | 50  | 3.0 |      |
| 79-01-6    | Trichloroethene             | 830    |   | 50  | 3.0 |      |
| 75-01-4    | Vinyl Chloride              | 140    |   | 50  | 3.0 |      |
| 95-47-6    | o-Xylene                    | 50     | U | 50  | 4.0 |      |

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
Project: Leica 137015  
Sample Matrix: Water

Service Request: R1103249  
Date Collected: 6/ 8/11 1335  
Date Received: 6/ 9/11  
Date Analyzed: 6/17/11 17:52

Sample Name: INT-4  
Lab Code: R1103249-004

Units: µg/L  
Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
Data File Name: J:\ACQUDATA\MSVOA12\DATA\061711\U8469.D\

Analysis Lot: 250452  
Instrument Name: R-MS-12  
Dilution Factor: 10

| CAS No.     | Analyte Name | Result Q | MRL | MDL | Note |
|-------------|--------------|----------|-----|-----|------|
| 179601-23-1 | m,p-Xylenes  | 50 U     | 50  | 8.2 |      |

| Surrogate Name       | %Rec | Control Limits | Date Analyzed | Q |
|----------------------|------|----------------|---------------|---|
| 4-Bromofluorobenzene | 102  | 85-122         | 6/17/11 17:52 |   |
| Toluene-d8           | 104  | 87-121         | 6/17/11 17:52 |   |
| Dibromofluoromethane | 104  | 89-119         | 6/17/11 17:52 |   |

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica 137015  
 Sample Matrix: Water

Service Request: R1103249  
 Date Collected: 6/ 8/11 1430  
 Date Received: 6/ 9/11  
 Date Analyzed: 6/17/11 16:51

Sample Name: INT-5  
 Lab Code: R1103249-005

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
 Data File Name: J:\ACQUDATA\MSVOA12\DATA\061711\U8467.D\

Analysis Lot: 250452  
 Instrument Name: R-MS-12  
 Dilution Factor: 1

| CAS No.    | Analyte Name                | Result Q | MRL | MDL  | Note |
|------------|-----------------------------|----------|-----|------|------|
| 67-64-1    | Acetone                     | 15 J     | 20  | 1.6  |      |
| 71-43-2    | Benzene                     | 5.0 U    | 5.0 | 0.31 |      |
| 75-27-4    | Bromodichloromethane        | 5.0 U    | 5.0 | 0.41 |      |
| 75-25-2    | Bromoform                   | 5.0 U    | 5.0 | 0.30 |      |
| 74-83-9    | Bromomethane                | 5.0 U    | 5.0 | 0.40 |      |
| 78-93-3    | 2-Butanone (MEK)            | 2.8 J    | 10  | 1.0  |      |
| 75-15-0    | Carbon Disulfide            | 10 U     | 10  | 0.35 |      |
| 56-23-5    | Carbon Tetrachloride        | 5.0 U    | 5.0 | 0.36 |      |
| 108-90-7   | Chlorobenzene               | 5.0 U    | 5.0 | 0.30 |      |
| 75-00-3    | Chloroethane                | 5.0 U    | 5.0 | 0.30 |      |
| 67-66-3    | Chloroform                  | 5.0 U    | 5.0 | 0.30 |      |
| 74-87-3    | Chloromethane               | 5.0 U    | 5.0 | 0.46 |      |
| 124-48-1   | Dibromochloromethane        | 5.0 U    | 5.0 | 0.30 |      |
| 75-34-3    | 1,1-Dichloroethane          | 0.72 J   | 5.0 | 0.30 |      |
| 107-06-2   | 1,2-Dichloroethane          | 5.0 U    | 5.0 | 0.30 |      |
| 75-35-4    | 1,1-Dichloroethene          | 5.0 U    | 5.0 | 0.37 |      |
| 156-59-2   | cis-1,2-Dichloroethene      | 0.84 J   | 5.0 | 0.30 |      |
| 156-60-5   | trans-1,2-Dichloroethene    | 5.0 U    | 5.0 | 0.30 |      |
| 78-87-5    | 1,2-Dichloropropane         | 5.0 U    | 5.0 | 0.66 |      |
| 10061-01-5 | cis-1,3-Dichloropropene     | 5.0 U    | 5.0 | 0.30 |      |
| 10061-02-6 | trans-1,3-Dichloropropene   | 5.0 U    | 5.0 | 0.30 |      |
| 100-41-4   | Ethylbenzene                | 5.0 U    | 5.0 | 0.42 |      |
| 591-78-6   | 2-Hexanone                  | 10 U     | 10  | 0.40 |      |
| 75-09-2    | Methylene Chloride          | 5.0 U    | 5.0 | 0.30 |      |
| 108-10-1   | 4-Methyl-2-pentanone (MIBK) | 10 U     | 10  | 0.34 |      |
| 100-42-5   | Styrene                     | 5.0 U    | 5.0 | 0.35 |      |
| 79-34-5    | 1,1,2,2-Tetrachloroethane   | 5.0 U    | 5.0 | 0.30 |      |
| 127-18-4   | Tetrachloroethene           | 5.0 U    | 5.0 | 0.42 |      |
| 108-88-3   | Toluene                     | 5.0 U    | 5.0 | 0.30 |      |
| 71-55-6    | 1,1,1-Trichloroethane       | 5.0 U    | 5.0 | 0.30 |      |
| 79-00-5    | 1,1,2-Trichloroethane       | 5.0 U    | 5.0 | 0.30 |      |
| 79-01-6    | Trichloroethene             | 0.36 J   | 5.0 | 0.30 |      |
| 75-01-4    | Vinyl Chloride              | 2.4 J    | 5.0 | 0.30 |      |
| 95-47-6    | o-Xylene                    | 5.0 U    | 5.0 | 0.40 |      |

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
Project: Leica 137015  
Sample Matrix: Water

Service Request: R1103249  
Date Collected: 6/8/11 1430  
Date Received: 6/9/11  
Date Analyzed: 6/17/11 16:51

Sample Name: INT-5  
Lab Code: R1103249-005

Units: µg/L  
Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
Data File Name: J:\ACQUDATA\MSVOA12\DATA\061711\U8467.D\

Analysis Lot: 250452  
Instrument Name: R-MS-12  
Dilution Factor: 1

| CAS No.     | Analyte Name | Result | Q | MRL | MDL  | Note |
|-------------|--------------|--------|---|-----|------|------|
| 179601-23-1 | m,p-Xylenes  | 5.0    | U | 5.0 | 0.81 |      |

| Surrogate Name       | %Rec | Control Limits | Date Analyzed | Q |
|----------------------|------|----------------|---------------|---|
| 4-Bromofluorobenzene | 101  | 85-122         | 6/17/11 16:51 |   |
| Toluene-d8           | 103  | 87-121         | 6/17/11 16:51 |   |
| Dibromofluoromethane | 104  | 89-119         | 6/17/11 16:51 |   |

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica 137015  
 Sample Matrix: Water

Service Request: R1103249  
 Date Collected: 6/ 8/11 1730  
 Date Received: 6/ 9/11  
 Date Analyzed: 6/17/11 17:21

Sample Name: EXT-1  
 Lab Code: R1103249-006

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
 Data File Name: J:\ACQUDATA\MSVOA12\DATA\061711\U8468.D\

Analysis Lot: 250452  
 Instrument Name: R-MS-12  
 Dilution Factor: 1

| CAS No.    | Analyte Name                | Result | Q | MRL | MDL  | Note |
|------------|-----------------------------|--------|---|-----|------|------|
| 67-64-1    | Acetone                     | 4.1    | J | 20  | 1.6  |      |
| 71-43-2    | Benzene                     | 5.0    | U | 5.0 | 0.31 |      |
| 75-27-4    | Bromodichloromethane        | 5.0    | U | 5.0 | 0.41 |      |
| 75-25-2    | Bromoform                   | 5.0    | U | 5.0 | 0.30 |      |
| 74-83-9    | Bromomethane                | 5.0    | U | 5.0 | 0.40 |      |
| 78-93-3    | 2-Butanone (MEK)            | 10     | U | 10  | 1.0  |      |
| 75-15-0    | Carbon Disulfide            | 10     | U | 10  | 0.35 |      |
| 56-23-5    | Carbon Tetrachloride        | 5.0    | U | 5.0 | 0.36 |      |
| 108-90-7   | Chlorobenzene               | 5.0    | U | 5.0 | 0.30 |      |
| 75-00-3    | Chloroethane                | 5.0    | U | 5.0 | 0.30 |      |
| 67-66-3    | Chloroform                  | 5.0    | U | 5.0 | 0.30 |      |
| 74-87-3    | Chloromethane               | 5.0    | U | 5.0 | 0.46 |      |
| 124-48-1   | Dibromochloromethane        | 5.0    | U | 5.0 | 0.30 |      |
| 75-34-3    | 1,1-Dichloroethane          | 5.0    | U | 5.0 | 0.30 |      |
| 107-06-2   | 1,2-Dichloroethane          | 5.0    | U | 5.0 | 0.30 |      |
| 75-35-4    | 1,1-Dichloroethene          | 5.0    | U | 5.0 | 0.37 |      |
| 156-59-2   | cis-1,2-Dichloroethene      | 0.43   | J | 5.0 | 0.30 |      |
| 156-60-5   | trans-1,2-Dichloroethene    | 5.0    | U | 5.0 | 0.30 |      |
| 78-87-5    | 1,2-Dichloropropane         | 5.0    | U | 5.0 | 0.66 |      |
| 10061-01-5 | cis-1,3-Dichloropropene     | 5.0    | U | 5.0 | 0.30 |      |
| 10061-02-6 | trans-1,3-Dichloropropene   | 5.0    | U | 5.0 | 0.30 |      |
| 100-41-4   | Ethylbenzene                | 5.0    | U | 5.0 | 0.42 |      |
| 591-78-6   | 2-Hexanone                  | 10     | U | 10  | 0.40 |      |
| 75-09-2    | Methylene Chloride          | 5.0    | U | 5.0 | 0.30 |      |
| 108-10-1   | 4-Methyl-2-pentanone (MIBK) | 10     | U | 10  | 0.34 |      |
| 100-42-5   | Styrene                     | 5.0    | U | 5.0 | 0.35 |      |
| 79-34-5    | 1,1,2,2-Tetrachloroethane   | 5.0    | U | 5.0 | 0.30 |      |
| 127-18-4   | Tetrachloroethene           | 5.0    | U | 5.0 | 0.42 |      |
| 108-88-3   | Toluene                     | 0.56   | J | 5.0 | 0.30 |      |
| 71-55-6    | 1,1,1-Trichloroethane       | 5.0    | U | 5.0 | 0.30 |      |
| 79-00-5    | 1,1,2-Trichloroethane       | 5.0    | U | 5.0 | 0.30 |      |
| 79-01-6    | Trichloroethene             | 0.35   | J | 5.0 | 0.30 |      |
| 75-01-4    | Vinyl Chloride              | 5.0    | U | 5.0 | 0.30 |      |
| 95-47-6    | o-Xylene                    | 5.0    | U | 5.0 | 0.40 |      |

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
Project: Leica 137015  
Sample Matrix: Water

Service Request: R1103249  
Date Collected: 6/ 8/11 1730  
Date Received: 6/ 9/11  
Date Analyzed: 6/17/11 17:21

Sample Name: EXT-1  
Lab Code: R1103249-006

Units: µg/L  
Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
Data File Name: J:\ACQUDATA\MSVOA12\DATA\061711\U8468.D\

Analysis Lot: 250452  
Instrument Name: R-MS-12  
Dilution Factor: 1

| CAS No.     | Analyte Name | Result Q | MRL | MDL  | Note |
|-------------|--------------|----------|-----|------|------|
| 179601-23-1 | m,p-Xylenes  | 5.0 U    | 5.0 | 0.81 |      |

| Surrogate Name       | %Rec | Control Limits | Date Analyzed | Q |
|----------------------|------|----------------|---------------|---|
| 4-Bromofluorobenzene | 101  | 85-122         | 6/17/11 17:21 |   |
| Toluene-d8           | 105  | 87-121         | 6/17/11 17:21 |   |
| Dibromofluoromethane | 104  | 89-119         | 6/17/11 17:21 |   |

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica 137015  
 Sample Matrix: Water

Service Request: R1103249  
 Date Collected: 6/8/11  
 Date Received: 6/9/11  
 Date Analyzed: 6/16/11 17:47

Sample Name: TRIP BLANK  
 Lab Code: R1103249-007

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
 Data File Name: J:\ACQUDATA\msv0a10\data\061611\03089.D\

Analysis Lot: 250237  
 Instrument Name: R-MS-10  
 Dilution Factor: 1

| CAS No.    | Analyte Name                | Result Q | MRL | MDL  | Note |
|------------|-----------------------------|----------|-----|------|------|
| 67-64-1    | Acetone                     | 3.2 J    | 20  | 1.6  |      |
| 71-43-2    | Benzene                     | 5.0 U    | 5.0 | 0.31 |      |
| 75-27-4    | Bromodichloromethane        | 5.0 U    | 5.0 | 0.41 |      |
| 75-25-2    | Bromoform                   | 5.0 U    | 5.0 | 0.30 |      |
| 74-83-9    | Bromomethane                | 5.0 U    | 5.0 | 0.40 |      |
| 78-93-3    | 2-Butanone (MEK)            | 10 U     | 10  | 1.0  |      |
| 75-15-0    | Carbon Disulfide            | 10 U     | 10  | 0.35 |      |
| 56-23-5    | Carbon Tetrachloride        | 5.0 U    | 5.0 | 0.36 |      |
| 108-90-7   | Chlorobenzene               | 5.0 U    | 5.0 | 0.30 |      |
| 75-00-3    | Chloroethane                | 5.0 U    | 5.0 | 0.30 |      |
| 67-66-3    | Chloroform                  | 5.0 U    | 5.0 | 0.30 |      |
| 74-87-3    | Chloromethane               | 5.0 U    | 5.0 | 0.46 |      |
| 124-48-1   | Dibromochloromethane        | 5.0 U    | 5.0 | 0.30 |      |
| 75-34-3    | 1,1-Dichloroethane          | 5.0 U    | 5.0 | 0.30 |      |
| 107-06-2   | 1,2-Dichloroethane          | 5.0 U    | 5.0 | 0.30 |      |
| 75-35-4    | 1,1-Dichloroethene          | 5.0 U    | 5.0 | 0.37 |      |
| 156-59-2   | cis-1,2-Dichloroethene      | 5.0 U    | 5.0 | 0.30 |      |
| 156-60-5   | trans-1,2-Dichloroethene    | 5.0 U    | 5.0 | 0.30 |      |
| 78-87-5    | 1,2-Dichloropropane         | 5.0 U    | 5.0 | 0.66 |      |
| 10061-01-5 | cis-1,3-Dichloropropene     | 5.0 U    | 5.0 | 0.30 |      |
| 10061-02-6 | trans-1,3-Dichloropropene   | 5.0 U    | 5.0 | 0.30 |      |
| 100-41-4   | Ethylbenzene                | 5.0 U    | 5.0 | 0.42 |      |
| 591-78-6   | 2-Hexanone                  | 10 U     | 10  | 0.40 |      |
| 75-09-2    | Methylene Chloride          | 5.0 U    | 5.0 | 0.30 |      |
| 108-10-1   | 4-Methyl-2-pentanone (MIBK) | 10 U     | 10  | 0.34 |      |
| 100-42-5   | Styrene                     | 5.0 U    | 5.0 | 0.35 |      |
| 79-34-5    | 1,1,2,2-Tetrachloroethane   | 5.0 U    | 5.0 | 0.30 |      |
| 127-18-4   | Tetrachloroethene           | 5.0 U    | 5.0 | 0.42 |      |
| 108-88-3   | Toluene                     | 5.0 U    | 5.0 | 0.30 |      |
| 71-55-6    | 1,1,1-Trichloroethane       | 5.0 U    | 5.0 | 0.30 |      |
| 79-00-5    | 1,1,2-Trichloroethane       | 5.0 U    | 5.0 | 0.30 |      |
| 79-01-6    | Trichloroethene             | 5.0 U    | 5.0 | 0.30 |      |
| 75-01-4    | Vinyl Chloride              | 5.0 U    | 5.0 | 0.30 |      |
| 95-47-6    | o-Xylene                    | 5.0 U    | 5.0 | 0.40 |      |



## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
Project: Leica 137015  
Sample Matrix: Water

Service Request: R1103249  
Date Collected: 6/8/11  
Date Received: 6/9/11  
Date Analyzed: 6/16/11 17:47

Sample Name: TRIP BLANK  
Lab Code: R1103249-007

Units: µg/L  
Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
Data File Name: J:\ACQUDATA\msv0a10\data\061611\03089.D\

Analysis Lot: 250237  
Instrument Name: R-MS-10  
Dilution Factor: 1

| CAS No.     | Analyte Name | Result Q | MRL | MDL  | Note |
|-------------|--------------|----------|-----|------|------|
| 179601-23-1 | m,p-Xylenes  | 5.0 U    | 5.0 | 0.81 |      |

| Surrogate Name       | %Rec | Control Limits | Date Analyzed | Q |
|----------------------|------|----------------|---------------|---|
| 4-Bromofluorobenzene | 116  | 85-122         | 6/16/11 17:47 |   |
| Toluene-d8           | 110  | 87-121         | 6/16/11 17:47 |   |
| Dibromofluoromethane | 119  | 89-119         | 6/16/11 17:47 |   |

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica 137015  
 Sample Matrix: Water

Service Request: R1103249  
 Date Collected: NA  
 Date Received: NA  
 Date Analyzed: 6/16/11 11:17

Sample Name: Method Blank  
 Lab Code: RQ1105900-01

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
 Data File Name: J:\ACQUDATA\msvoal0\data\061611\03077.D\

Analysis Lot: 250237  
 Instrument Name: R-MS-10  
 Dilution Factor: 1

| CAS No.    | Analyte Name                | Result | Q | MRL | MDL  | Note |
|------------|-----------------------------|--------|---|-----|------|------|
| 67-64-1    | Acetone                     | 20     | U | 20  | 1.6  |      |
| 71-43-2    | Benzene                     | 5.0    | U | 5.0 | 0.31 |      |
| 75-27-4    | Bromodichloromethane        | 5.0    | U | 5.0 | 0.41 |      |
| 75-25-2    | Bromoform                   | 5.0    | U | 5.0 | 0.30 |      |
| 74-83-9    | Bromomethane                | 5.0    | U | 5.0 | 0.40 |      |
| 78-93-3    | 2-Butanone (MEK)            | 10     | U | 10  | 1.0  |      |
| 75-15-0    | Carbon Disulfide            | 10     | U | 10  | 0.35 |      |
| 56-23-5    | Carbon Tetrachloride        | 5.0    | U | 5.0 | 0.36 |      |
| 108-90-7   | Chlorobenzene               | 5.0    | U | 5.0 | 0.30 |      |
| 75-00-3    | Chloroethane                | 5.0    | U | 5.0 | 0.30 |      |
| 67-66-3    | Chloroform                  | 5.0    | U | 5.0 | 0.30 |      |
| 74-87-3    | Chloromethane               | 5.0    | U | 5.0 | 0.46 |      |
| 124-48-1   | Dibromochloromethane        | 5.0    | U | 5.0 | 0.30 |      |
| 75-34-3    | 1,1-Dichloroethane          | 5.0    | U | 5.0 | 0.30 |      |
| 107-06-2   | 1,2-Dichloroethane          | 5.0    | U | 5.0 | 0.30 |      |
| 75-35-4    | 1,1-Dichloroethene          | 5.0    | U | 5.0 | 0.37 |      |
| 156-59-2   | cis-1,2-Dichloroethene      | 5.0    | U | 5.0 | 0.30 |      |
| 156-60-5   | trans-1,2-Dichloroethene    | 5.0    | U | 5.0 | 0.30 |      |
| 78-87-5    | 1,2-Dichloropropane         | 5.0    | U | 5.0 | 0.66 |      |
| 10061-01-5 | cis-1,3-Dichloropropene     | 5.0    | U | 5.0 | 0.30 |      |
| 10061-02-6 | trans-1,3-Dichloropropene   | 5.0    | U | 5.0 | 0.30 |      |
| 100-41-4   | Ethylbenzene                | 5.0    | U | 5.0 | 0.42 |      |
| 591-78-6   | 2-Hexanone                  | 10     | U | 10  | 0.40 |      |
| 75-09-2    | Methylene Chloride          | 5.0    | U | 5.0 | 0.30 |      |
| 108-10-1   | 4-Methyl-2-pentanone (MIBK) | 10     | U | 10  | 0.34 |      |
| 100-42-5   | Styrene                     | 5.0    | U | 5.0 | 0.35 |      |
| 79-34-5    | 1,1,2,2-Tetrachloroethane   | 5.0    | U | 5.0 | 0.30 |      |
| 127-18-4   | Tetrachloroethene           | 5.0    | U | 5.0 | 0.42 |      |
| 108-88-3   | Toluene                     | 5.0    | U | 5.0 | 0.30 |      |
| 71-55-6    | 1,1,1-Trichloroethane       | 5.0    | U | 5.0 | 0.30 |      |
| 79-00-5    | 1,1,2-Trichloroethane       | 5.0    | U | 5.0 | 0.30 |      |
| 79-01-6    | Trichloroethene             | 5.0    | U | 5.0 | 0.30 |      |
| 75-01-4    | Vinyl Chloride              | 5.0    | U | 5.0 | 0.30 |      |
| 95-47-6    | o-Xylene                    | 5.0    | U | 5.0 | 0.40 |      |

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
Project: Leica 137015  
Sample Matrix: Water

Service Request: R1103249  
Date Collected: NA  
Date Received: NA  
Date Analyzed: 6/16/11 11:17

Sample Name: Method Blank  
Lab Code: RQ1105900-01

Units: µg/L  
Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
Data File Name: J:\ACQUDATA\msvoa10\data\061611\D3077.D\

Analysis Lot: 250237  
Instrument Name: R-MS-10  
Dilution Factor: 1

| CAS No.     | Analyte Name | Result | Q | MRL | MDL  | Note |
|-------------|--------------|--------|---|-----|------|------|
| 179601-23-1 | m,p-Xylenes  | 5.0    | U | 5.0 | 0.81 |      |

| Surrogate Name       | %Rec | Control Limits | Date Analyzed | Q |
|----------------------|------|----------------|---------------|---|
| 4-Bromofluorobenzene | 117  | 85-122         | 6/16/11 11:17 |   |
| Toluene-d8           | 111  | 87-121         | 6/16/11 11:17 |   |
| Dibromofluoromethane | 116  | 89-119         | 6/16/11 11:17 |   |

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica 137015  
 Sample Matrix: Water

Service Request: R1103249  
 Date Collected: NA  
 Date Received: NA  
 Date Analyzed: 6/17/11 14:50

Sample Name: Method Blank  
 Lab Code: RQ1105938-04

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
 Data File Name: J:\ACQUDATA\MSVOA12\DATA\061711\U8463.D\

Analysis Lot: 250452  
 Instrument Name: R-MS-12  
 Dilution Factor: 1

| CAS No.    | Analyte Name                | Result | Q | MRL | MDL  | Note |
|------------|-----------------------------|--------|---|-----|------|------|
| 67-64-1    | Acetone                     | 20     | U | 20  | 1.6  |      |
| 71-43-2    | Benzene                     | 5.0    | U | 5.0 | 0.31 |      |
| 75-27-4    | Bromodichloromethane        | 5.0    | U | 5.0 | 0.41 |      |
| 75-25-2    | Bromoform                   | 5.0    | U | 5.0 | 0.30 |      |
| 74-83-9    | Bromomethane                | 5.0    | U | 5.0 | 0.40 |      |
| 78-93-3    | 2-Butanone (MEK)            | 10     | U | 10  | 1.0  |      |
| 75-15-0    | Carbon Disulfide            | 10     | U | 10  | 0.35 |      |
| 56-23-5    | Carbon Tetrachloride        | 5.0    | U | 5.0 | 0.36 |      |
| 108-90-7   | Chlorobenzene               | 5.0    | U | 5.0 | 0.30 |      |
| 75-00-3    | Chloroethane                | 5.0    | U | 5.0 | 0.30 |      |
| 67-66-3    | Chloroform                  | 5.0    | U | 5.0 | 0.30 |      |
| 74-87-3    | Chloromethane               | 5.0    | U | 5.0 | 0.46 |      |
| 124-48-1   | Dibromochloromethane        | 5.0    | U | 5.0 | 0.30 |      |
| 75-34-3    | 1,1-Dichloroethane          | 5.0    | U | 5.0 | 0.30 |      |
| 107-06-2   | 1,2-Dichloroethane          | 5.0    | U | 5.0 | 0.30 |      |
| 75-35-4    | 1,1-Dichloroethene          | 5.0    | U | 5.0 | 0.37 |      |
| 156-59-2   | cis-1,2-Dichloroethene      | 5.0    | U | 5.0 | 0.30 |      |
| 156-60-5   | trans-1,2-Dichloroethene    | 5.0    | U | 5.0 | 0.30 |      |
| 78-87-5    | 1,2-Dichloropropane         | 5.0    | U | 5.0 | 0.66 |      |
| 10061-01-5 | cis-1,3-Dichloropropene     | 5.0    | U | 5.0 | 0.30 |      |
| 10061-02-6 | trans-1,3-Dichloropropene   | 5.0    | U | 5.0 | 0.30 |      |
| 100-41-4   | Ethylbenzene                | 5.0    | U | 5.0 | 0.42 |      |
| 591-78-6   | 2-Hexanone                  | 10     | U | 10  | 0.40 |      |
| 75-09-2    | Methylene Chloride          | 5.0    | U | 5.0 | 0.30 |      |
| 108-10-1   | 4-Methyl-2-pentanone (MIBK) | 10     | U | 10  | 0.34 |      |
| 100-42-5   | Styrene                     | 5.0    | U | 5.0 | 0.35 |      |
| 79-34-5    | 1,1,2,2-Tetrachloroethane   | 5.0    | U | 5.0 | 0.30 |      |
| 127-18-4   | Tetrachloroethene           | 5.0    | U | 5.0 | 0.42 |      |
| 108-88-3   | Toluene                     | 5.0    | U | 5.0 | 0.30 |      |
| 71-55-6    | 1,1,1-Trichloroethane       | 5.0    | U | 5.0 | 0.30 |      |
| 79-00-5    | 1,1,2-Trichloroethane       | 5.0    | U | 5.0 | 0.30 |      |
| 79-01-6    | Trichloroethene             | 5.0    | U | 5.0 | 0.30 |      |
| 75-01-4    | Vinyl Chloride              | 5.0    | U | 5.0 | 0.30 |      |
| 95-47-6    | o-Xylene                    | 5.0    | U | 5.0 | 0.40 |      |

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
Project: Leica 137015  
Sample Matrix: Water

Service Request: R1103249  
Date Collected: NA  
Date Received: NA  
Date Analyzed: 6/17/11 14:50

Sample Name: Method Blank  
Lab Code: RQ1105938-04

Units: µg/L  
Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
Data File Name: J:\ACQUDATA\MSVOA12\DATA\061711\U8463.D\

Analysis Lot: 250452  
Instrument Name: R-MS-12  
Dilution Factor: 1

| CAS No.     | Analyte Name | Result Q | MRL | MDL  | Note |
|-------------|--------------|----------|-----|------|------|
| 179601-23-1 | m,p-Xylenes  | 5.0 U    | 5.0 | 0.81 |      |

| Surrogate Name       | %Rec | Control Limits | Date Analyzed | Q |
|----------------------|------|----------------|---------------|---|
| 4-Bromofluorobenzene | 102  | 85-122         | 6/17/11 14:50 |   |
| Toluene-d8           | 106  | 87-121         | 6/17/11 14:50 |   |
| Dibromofluoromethane | 102  | 89-119         | 6/17/11 14:50 |   |

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
 Project: Leica 137015  
 Sample Matrix: Water

Service Request: R1103249  
 Date Collected: NA  
 Date Received: NA  
 Date Analyzed: 6/20/11 15:51

Sample Name: Method Blank  
 Lab Code: RQ1106004-04

Units: µg/L  
 Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
 Data File Name: J:\ACQUDATA\msvoca12\Data\062011\U8491.D\

Analysis Lot: 250688  
 Instrument Name: R-MS-12  
 Dilution Factor: 1

| CAS No.    | Analyte Name                | Result Q | MRL | MDL  | Note |
|------------|-----------------------------|----------|-----|------|------|
| 67-64-1    | Acetone                     | 20 U     | 20  | 1.6  |      |
| 71-43-2    | Benzene                     | 5.0 U    | 5.0 | 0.31 |      |
| 75-27-4    | Bromodichloromethane        | 5.0 U    | 5.0 | 0.41 |      |
| 75-25-2    | Bromoform                   | 5.0 U    | 5.0 | 0.30 |      |
| 74-83-9    | Bromomethane                | 5.0 U    | 5.0 | 0.40 |      |
| 78-93-3    | 2-Butanone (MEK)            | 10 U     | 10  | 1.0  |      |
| 75-15-0    | Carbon Disulfide            | 10 U     | 10  | 0.35 |      |
| 56-23-5    | Carbon Tetrachloride        | 5.0 U    | 5.0 | 0.36 |      |
| 108-90-7   | Chlorobenzene               | 5.0 U    | 5.0 | 0.30 |      |
| 75-00-3    | Chloroethane                | 5.0 U    | 5.0 | 0.30 |      |
| 67-66-3    | Chloroform                  | 5.0 U    | 5.0 | 0.30 |      |
| 74-87-3    | Chloromethane               | 5.0 U    | 5.0 | 0.46 |      |
| 124-48-1   | Dibromochloromethane        | 5.0 U    | 5.0 | 0.30 |      |
| 75-34-3    | 1,1-Dichloroethane          | 5.0 U    | 5.0 | 0.30 |      |
| 107-06-2   | 1,2-Dichloroethane          | 5.0 U    | 5.0 | 0.30 |      |
| 75-35-4    | 1,1-Dichloroethene          | 5.0 U    | 5.0 | 0.37 |      |
| 156-59-2   | cis-1,2-Dichloroethene      | 5.0 U    | 5.0 | 0.30 |      |
| 156-60-5   | trans-1,2-Dichloroethene    | 5.0 U    | 5.0 | 0.30 |      |
| 78-87-5    | 1,2-Dichloropropane         | 5.0 U    | 5.0 | 0.66 |      |
| 10061-01-5 | cis-1,3-Dichloropropene     | 5.0 U    | 5.0 | 0.30 |      |
| 10061-02-6 | trans-1,3-Dichloropropene   | 5.0 U    | 5.0 | 0.30 |      |
| 100-41-4   | Ethylbenzene                | 5.0 U    | 5.0 | 0.42 |      |
| 591-78-6   | 2-Hexanone                  | 10 U     | 10  | 0.40 |      |
| 75-09-2    | Methylene Chloride          | 5.0 U    | 5.0 | 0.30 |      |
| 108-10-1   | 4-Methyl-2-pentanone (MIBK) | 10 U     | 10  | 0.34 |      |
| 100-42-5   | Styrene                     | 5.0 U    | 5.0 | 0.35 |      |
| 79-34-5    | 1,1,2,2-Tetrachloroethane   | 5.0 U    | 5.0 | 0.30 |      |
| 127-18-4   | Tetrachloroethene           | 5.0 U    | 5.0 | 0.42 |      |
| 108-88-3   | Toluene                     | 5.0 U    | 5.0 | 0.30 |      |
| 71-55-6    | 1,1,1-Trichloroethane       | 5.0 U    | 5.0 | 0.30 |      |
| 79-00-5    | 1,1,2-Trichloroethane       | 5.0 U    | 5.0 | 0.30 |      |
| 79-01-6    | Trichloroethene             | 5.0 U    | 5.0 | 0.30 |      |
| 75-01-4    | Vinyl Chloride              | 5.0 U    | 5.0 | 0.30 |      |
| 95-47-6    | o-Xylene                    | 5.0 U    | 5.0 | 0.40 |      |

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

Client: Energy Solutions  
Project: Leica 137015  
Sample Matrix: Water

Service Request: R1103249  
Date Collected: NA  
Date Received: NA  
Date Analyzed: 6/20/11 15:51

Sample Name: Method Blank  
Lab Code: RQ1106004-04

Units: µg/L  
Basis: NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260C  
Data File Name: J:\ACQUDATA\msvoa12\Data\062011\U8491.D\

Analysis Lot: 250688  
Instrument Name: R-MS-12  
Dilution Factor: 1

| CAS No.     | Analyte Name | Result Q | MRL | MDL  | Note |
|-------------|--------------|----------|-----|------|------|
| 179601-23-1 | m,p-Xylenes  | 5.0 U    | 5.0 | 0.81 |      |

| Surrogate Name       | %Rec | Control Limits | Date Analyzed | Q |
|----------------------|------|----------------|---------------|---|
| 4-Bromofluorobenzene | 104  | 85-122         | 6/20/11 15:51 |   |
| Toluene-d8           | 106  | 87-121         | 6/20/11 15:51 |   |
| Dibromofluoromethane | 105  | 89-119         | 6/20/11 15:51 |   |

## COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Energy Solutions  
 Project: Leica 137015  
 Sample Matrix: Water

Service Request: R1103249  
 Date Analyzed: 6/16/11

Lab Control Sample Summary  
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L

Basis: NA

Analysis Lot: 250237

Lab Control Sample  
 RQ1105900-02

| Analyte Name                | Result | Spike Amount | % Rec | % Rec Limits |
|-----------------------------|--------|--------------|-------|--------------|
| Acetone                     | 20.4   | 20.0         | 102   | 59 - 140     |
| Benzene                     | 17.1   | 20.0         | 86    | 78 - 121     |
| Bromodichloromethane        | 20.0   | 20.0         | 100   | 80 - 125     |
| Bromoform                   | 19.0   | 20.0         | 95    | 73 - 132     |
| Bromomethane                | 18.1   | 20.0         | 90    | 57 - 144     |
| 2-Butanone (MEK)            | 17.2   | 20.0         | 86    | 60 - 133     |
| Carbon Disulfide            | 18.3   | 20.0         | 92    | 59 - 138     |
| Carbon Tetrachloride        | 21.0   | 20.0         | 105   | 69 - 135     |
| Chlorobenzene               | 17.6   | 20.0         | 88    | 80 - 121     |
| Chloroethane                | 18.9   | 20.0         | 94    | 71 - 130     |
| Chloroform                  | 18.9   | 20.0         | 94    | 78 - 125     |
| Chloromethane               | 20.1   | 20.0         | 101   | 62 - 133     |
| Dibromochloromethane        | 19.2   | 20.0         | 96    | 78 - 133     |
| 1,1-Dichloroethane          | 18.2   | 20.0         | 91    | 76 - 122     |
| 1,2-Dichloroethane          | 21.4   | 20.0         | 107   | 78 - 126     |
| 1,1-Dichloroethene          | 16.4   | 20.0         | 82    | 72 - 129     |
| cis-1,2-Dichloroethene      | 18.1   | 20.0         | 90    | 78 - 122     |
| trans-1,2-Dichloroethene    | 17.0   | 20.0         | 85    | 75 - 121     |
| 1,2-Dichloropropane         | 17.6   | 20.0         | 88    | 80 - 123     |
| cis-1,3-Dichloropropene     | 18.0   | 20.0         | 90    | 77 - 125     |
| trans-1,3-Dichloropropene   | 18.6   | 20.0         | 93    | 69 - 127     |
| Ethylbenzene                | 18.0   | 20.0         | 90    | 78 - 123     |
| 2-Hexanone                  | 17.9   | 20.0         | 89    | 61 - 131     |
| Methylene Chloride          | 16.5   | 20.0         | 82    | 75 - 125     |
| 4-Methyl-2-pentanone (MIBK) | 19.5   | 20.0         | 97    | 61 - 132     |
| Styrene                     | 18.2   | 20.0         | 91    | 80 - 132     |
| 1,1,2,2-Tetrachloroethane   | 17.0   | 20.0         | 85    | 72 - 131     |
| Tetrachloroethene           | 17.3   | 20.0         | 86    | 72 - 131     |
| Toluene                     | 17.8   | 20.0         | 89    | 78 - 122     |
| 1,1,1-Trichloroethane       | 19.1   | 20.0         | 96    | 72 - 128     |
| 1,1,2-Trichloroethane       | 17.3   | 20.0         | 86    | 80 - 122     |
| Trichloroethene             | 17.2   | 20.0         | 86    | 74 - 127     |

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.



## COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Energy Solutions  
Project: Leica 137015  
Sample Matrix: Water

Service Request: R1103249  
Date Analyzed: 6/16/11

Lab Control Sample Summary  
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L

Basis: NA

Analysis Lot: 250237

Lab Control Sample  
RQ1105900-02

| Analyte Name   | Result | Spike<br>Amount | % Rec | % Rec<br>Limits |
|----------------|--------|-----------------|-------|-----------------|
| Vinyl Chloride | 19.1   | 20.0            | 95    | 71 - 136        |
| o-Xylene       | 17.1   | 20.0            | 86    | 79 - 126        |
| m,p-Xylenes    | 35.4   | 40.0            | 89    | 79 - 126        |

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

## COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Energy Solutions  
 Project: Leica 137015  
 Sample Matrix: Water

Service Request: R1103249  
 Date Analyzed: 6/17/11

Lab Control Sample Summary  
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L

Basis: NA

Analysis Lot: 250452

Lab Control Sample  
 RQ1105938-03

| Analyte Name                | Result | Spike Amount | % Rec | % Rec Limits |
|-----------------------------|--------|--------------|-------|--------------|
| Acetone                     | 19.2   | 20.0         | 96    | 59 - 140     |
| Benzene                     | 23.7   | 20.0         | 119   | 78 - 121     |
| Bromodichloromethane        | 22.1   | 20.0         | 111   | 80 - 125     |
| Bromoform                   | 24.3   | 20.0         | 122   | 73 - 132     |
| Bromomethane                | 20.2   | 20.0         | 101   | 57 - 144     |
| 2-Butanone (MEK)            | 20.2   | 20.0         | 101   | 60 - 133     |
| Carbon Disulfide            | 21.5   | 20.0         | 107   | 59 - 138     |
| Carbon Tetrachloride        | 23.6   | 20.0         | 118   | 69 - 135     |
| Chlorobenzene               | 23.7   | 20.0         | 119   | 80 - 121     |
| Chloroethane                | 24.2   | 20.0         | 121   | 71 - 130     |
| Chloroform                  | 20.3   | 20.0         | 101   | 78 - 125     |
| Chloromethane               | 25.9   | 20.0         | 129   | 62 - 133     |
| Dibromochloromethane        | 22.5   | 20.0         | 113   | 78 - 133     |
| 1,1-Dichloroethane          | 23.4   | 20.0         | 117   | 76 - 122     |
| 1,2-Dichloroethane          | 20.6   | 20.0         | 103   | 78 - 126     |
| 1,1-Dichloroethene          | 22.0   | 20.0         | 110   | 72 - 129     |
| cis-1,2-Dichloroethene      | 22.2   | 20.0         | 111   | 78 - 122     |
| trans-1,2-Dichloroethene    | 23.0   | 20.0         | 115   | 75 - 121     |
| 1,2-Dichloropropane         | 22.7   | 20.0         | 113   | 80 - 123     |
| cis-1,3-Dichloropropene     | 22.6   | 20.0         | 113   | 77 - 125     |
| trans-1,3-Dichloropropene   | 21.6   | 20.0         | 108   | 69 - 127     |
| Ethylbenzene                | 23.7   | 20.0         | 118   | 78 - 123     |
| 2-Hexanone                  | 21.5   | 20.0         | 108   | 61 - 131     |
| Methylene Chloride          | 21.9   | 20.0         | 110   | 75 - 125     |
| 4-Methyl-2-pentanone (MIBK) | 21.1   | 20.0         | 105   | 61 - 132     |
| Styrene                     | 24.4   | 20.0         | 122   | 80 - 132     |
| 1,1,2,2-Tetrachloroethane   | 22.0   | 20.0         | 110   | 72 - 131     |
| Tetrachloroethene           | 25.4   | 20.0         | 127   | 72 - 131     |
| Toluene                     | 24.3   | 20.0         | 121   | 78 - 122     |
| 1,1,1-Trichloroethane       | 20.9   | 20.0         | 104   | 72 - 128     |
| 1,1,2-Trichloroethane       | 22.8   | 20.0         | 114   | 80 - 122     |
| Trichloroethene             | 24.4   | 20.0         | 122   | 74 - 127     |

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

## COLUMBIA ANALYTICAL SERVICES, INC.

## QA/QC Report

Client: Energy Solutions  
Project: Leica 137015  
Sample Matrix: Water

Service Request: R1103249  
Date Analyzed: 6/17/11

Lab Control Sample Summary  
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L

Basis: NA

Analysis Lot: 250452

Lab Control Sample  
RQ1105938-03

| Analyte Name   | Result | Spike<br>Amount | % Rec | % Rec<br>Limits |
|----------------|--------|-----------------|-------|-----------------|
| Vinyl Chloride | 26.2   | 20.0            | 131   | 71 - 136        |
| o-Xylene       | 24.0   | 20.0            | 120   | 79 - 126        |
| m,p-Xylenes    | 49.2   | 40.0            | 123   | 79 - 126        |

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

## COLUMBIA ANALYTICAL SERVICES, INC.

## QA/QC Report

Client: Energy Solutions  
 Project: Leica 137015  
 Sample Matrix: Water

Service Request: R1103249  
 Date Analyzed: 6/20/11

Lab Control Sample Summary  
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L

Basis: NA

Analysis Lot: 250688

Lab Control Sample  
 RQ1106004-03

| Analyte Name                | Result | Spike Amount | % Rec | % Rec Limits |
|-----------------------------|--------|--------------|-------|--------------|
| Acetone                     | 19.6   | 20.0         | 98    | 59 - 140     |
| Benzene                     | 21.7   | 20.0         | 109   | 78 - 121     |
| Bromodichloromethane        | 20.6   | 20.0         | 103   | 80 - 125     |
| Bromoform                   | 21.8   | 20.0         | 109   | 73 - 132     |
| Bromomethane                | 19.4   | 20.0         | 97    | 57 - 144     |
| 2-Butanone (MEK)            | 19.7   | 20.0         | 98    | 60 - 133     |
| Carbon Disulfide            | 21.9   | 20.0         | 109   | 59 - 138     |
| Carbon Tetrachloride        | 21.1   | 20.0         | 106   | 69 - 135     |
| Chlorobenzene               | 21.7   | 20.0         | 109   | 80 - 121     |
| Chloroethane                | 22.6   | 20.0         | 113   | 71 - 130     |
| Chloroform                  | 19.5   | 20.0         | 97    | 78 - 125     |
| Chloromethane               | 24.0   | 20.0         | 120   | 62 - 133     |
| Dibromochloromethane        | 21.5   | 20.0         | 107   | 78 - 133     |
| 1,1-Dichloroethane          | 21.2   | 20.0         | 106   | 76 - 122     |
| 1,2-Dichloroethane          | 19.3   | 20.0         | 97    | 78 - 126     |
| 1,1-Dichloroethene          | 20.9   | 20.0         | 105   | 72 - 129     |
| cis-1,2-Dichloroethene      | 20.2   | 20.0         | 101   | 78 - 122     |
| trans-1,2-Dichloroethene    | 20.7   | 20.0         | 104   | 75 - 121     |
| 1,2-Dichloropropane         | 21.2   | 20.0         | 106   | 80 - 123     |
| cis-1,3-Dichloropropene     | 20.4   | 20.0         | 102   | 77 - 125     |
| trans-1,3-Dichloropropene   | 19.4   | 20.0         | 97    | 69 - 127     |
| Ethylbenzene                | 21.6   | 20.0         | 108   | 78 - 123     |
| 2-Hexanone                  | 18.6   | 20.0         | 93    | 61 - 131     |
| Methylene Chloride          | 20.1   | 20.0         | 100   | 75 - 125     |
| 4-Methyl-2-pentanone (MIBK) | 20.4   | 20.0         | 102   | 61 - 132     |
| Styrene                     | 22.1   | 20.0         | 110   | 80 - 132     |
| 1,1,2,2-Tetrachloroethane   | 18.9   | 20.0         | 95    | 72 - 131     |
| Tetrachloroethene           | 23.1   | 20.0         | 116   | 72 - 131     |
| Toluene                     | 22.0   | 20.0         | 110   | 78 - 122     |
| 1,1,1-Trichloroethane       | 19.5   | 20.0         | 98    | 72 - 128     |
| 1,1,2-Trichloroethane       | 20.4   | 20.0         | 102   | 80 - 122     |
| Trichloroethene             | 23.0   | 20.0         | 115   | 74 - 127     |

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

## COLUMBIA ANALYTICAL SERVICES, INC.

## QA/QC Report

Client: Energy Solutions  
Project: Leica 137015  
Sample Matrix: Water

Service Request: R1103249  
Date Analyzed: 6/20/11

Lab Control Sample Summary  
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L

Basis: NA

Analysis Lot: 250688

Lab Control Sample  
RQ1106004-03

| Analyte Name   | Result | Spike<br>Amount | % Rec | % Rec<br>Limits |
|----------------|--------|-----------------|-------|-----------------|
| Vinyl Chloride | 23.7   | 20.0            | 118   | 71 - 136        |
| o-Xylene       | 21.6   | 20.0            | 108   | 79 - 126        |
| m,p-Xylenes    | 45.2   | 40.0            | 113   | 79 - 126        |

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

| ANALYSIS REQUESTED (Include Method Number and Container Preservative)                                                                                                                |                                        |                       |                              |                     |                               |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|-----------------------|------------------------------|---------------------|-------------------------------|
| Project Name                                                                                                                                                                         | Project Number                         | Report ID             | PRESERVATIVE                 | PRELIMINARY RESULTS | REMARKS/ALTERNATE DESCRIPTION |
| LEICA                                                                                                                                                                                | 137015                                 |                       | None                         |                     |                               |
| Bob McPeak                                                                                                                                                                           |                                        |                       |                              |                     |                               |
| Company/Address                                                                                                                                                                      | 100 Mill Plain Rd<br>DANBURY, CT 06811 |                       |                              |                     |                               |
| Phone #                                                                                                                                                                              | 801 303 1092                           | E-mail                | rmcpeak@energy-solutions.com |                     |                               |
| Sample's Signature                                                                                                                                                                   | Dan Szywka                             | Sample's Printed Name | DAN SZYWKA                   |                     |                               |
| CLIENT SAMPLE ID                                                                                                                                                                     | FOR OFFICE USE ONLY LAB ID             | SAMPLING DATE         | SAMPLING TIME                | MATRIX              | NUMBER OF CONTAINERS          |
| INT-1                                                                                                                                                                                | -001                                   | 6/8/11                | 1100                         | Ag                  | 3                             |
| INT-2                                                                                                                                                                                | -002                                   |                       | 1145                         |                     | X                             |
| INT-3                                                                                                                                                                                | -003                                   |                       | 1220                         |                     | X                             |
| INT-4                                                                                                                                                                                | -004                                   |                       | 1335                         |                     | X                             |
| INT-5                                                                                                                                                                                | -005                                   |                       | 1430                         |                     | X                             |
| EXT-1                                                                                                                                                                                | -006                                   |                       | 1730                         |                     | X                             |
| Trip Blank                                                                                                                                                                           | -007                                   |                       |                              |                     | X                             |
| SPECIAL INSTRUCTIONS/COMMENTS<br><b>Metals</b>                                                                                                                                       |                                        |                       |                              |                     |                               |
| PRESERVATIVE KEY:<br>0. NONE<br>1. HCL<br>2. HNO <sub>3</sub><br>3. H <sub>2</sub> SO <sub>4</sub><br>4. NaOH<br>5. Zn Acetate<br>6. MeOH<br>7. NaHSO <sub>4</sub><br>8. Other _____ |                                        |                       |                              |                     |                               |

PO #: \_\_\_\_\_

BILL TO: \_\_\_\_\_

INVOICE INFORMATION

REPORT REQUIREMENTS

I. Results Only \_\_\_\_\_

II. Results + OC Summaries (LCS, DUP, MSMMS as required) ☒

III. Results + OC and Calibration Summaries \_\_\_\_\_

IV. Data Validation Report with Raw Data \_\_\_\_\_

TURNAROUND REQUIREMENTS

RUSH (SURCHARGES APPLY)

1 day \_\_\_\_\_ 2 day \_\_\_\_\_ 3 day \_\_\_\_\_

4 day \_\_\_\_\_ 5 day \_\_\_\_\_

☒ Standard

REQUESTED REPORT DATE \_\_\_\_\_

R1103249

Energy Solutions, Inc.

Leica 137015

RELINQUISHED BY

Signature \_\_\_\_\_

Printed Name \_\_\_\_\_

Firm \_\_\_\_\_

Date/Time \_\_\_\_\_

RECEIVED BY

Signature \_\_\_\_\_

Printed Name \_\_\_\_\_

Firm \_\_\_\_\_

Date/Time \_\_\_\_\_

STATE WHERE SAMPLES WERE COLLECTED: VT

RELINQUISHED BY

Signature \_\_\_\_\_

Printed Name \_\_\_\_\_

Firm \_\_\_\_\_

Date/Time \_\_\_\_\_

RELINQUISHED BY

Signature \_\_\_\_\_

Printed Name \_\_\_\_\_

Firm \_\_\_\_\_

Date/Time \_\_\_\_\_

## Cooler Receipt And Preservation Check Form

Project/Client Secon Folder Number R1103249Cooler received on 6/9/11 by: SE COURIER: CAS UPS FEDEX VELOCITY CLIENT

1. Were custody seals on outside of cooler? YES NO
2. Were custody papers properly filled out (ink, signed, etc.)? YES NO
3. Did all bottles arrive in good condition (unbroken)? YES NO
4. Did VOA vials Alkalinity, or Sulfide have significant\* air bubbles? YES NO 6/9/11 TRH BLANK (1)
5. Were Ice or Ice packs present? YES NO N/A Ext-1 (1)
6. Where did the bottles originate? CAS/ROC CLIENT MW-6 (1)
7. Temperature of cooler(s) upon receipt: 50 30 MW-28 (1)

Is the temperature within 0° - 6° C?: Yes Yes Yes Yes Yes

If No, Explain Below No No No No No

Date/Time Temperatures Taken: 6/9/11 1545Thermometer ID: IR GUN#3 IR GUN#4 Reading From: Temp Blank / Sample Bottle

If out of Temperature, note packing/ice condition, Client Approval to Run Samples: \_\_\_\_\_

PC Secondary Review: LB 6/10/11Cooler Breakdown: Date: 6/10/11 Time: 1129 by: cmk

1. Were all bottle labels complete (i.e. analysis, preservation, etc.)? YES NO
2. Did all bottle labels and tags agree with custody papers? YES NO
3. Were correct containers used for the tests indicated? YES NO
4. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated N/A

Explain any discrepancies: \_\_\_\_\_

| pH                    | Reagent                                       | YES | NO | Lot Received                                | Exp         | Sample ID                                                                                             | Vol. Added | Lot Added | Final pH |
|-----------------------|-----------------------------------------------|-----|----|---------------------------------------------|-------------|-------------------------------------------------------------------------------------------------------|------------|-----------|----------|
| ≥12                   | NaOH                                          |     |    |                                             |             |                                                                                                       |            |           |          |
| ≤2                    | HNO <sub>3</sub>                              |     |    |                                             |             |                                                                                                       |            |           |          |
| ≤2                    | H <sub>2</sub> SO <sub>4</sub>                |     |    |                                             |             |                                                                                                       |            |           |          |
| Residual Chlorine (-) | For TCN and Phenol                            |     |    | If present, contact PM to add ascorbic acid |             |                                                                                                       |            |           |          |
|                       | Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> | -   | -  |                                             |             | *Not to be tested before analysis - pH tested and recorded by VOAs or GenChem on a separate worksheet |            |           |          |
|                       | Zn Aceta                                      | -   | -  |                                             |             |                                                                                                       |            |           |          |
|                       | HCl                                           | *   | *  | <u>4110060</u>                              | <u>5/12</u> |                                                                                                       |            |           |          |

Yes = All samples OK

No = Samples were preserved at lab as listed

PM OK to Adjust: \_\_\_\_\_

Bottle lot numbers: 1-045-004

Other Comments: \_\_\_\_\_

C Secondary Review: cmk

\*significant air bubbles: VOA &gt; 5-6 mm : WC &gt; 1 in. diameter

00036