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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

Chris Bittner
Utah Division of Water Quality
PO Box 144870
SLC, UT 84114
TEL: (801) 536-4300

RE: MP 44.9

Dear Chris Bittner: Lab Set ID: 1304147

American West Analytical Laboratories received 17 sample(s) on 4/4/2013 for the analyses presented in the following report.

American West Analytical Laboratories (AWAL) is accredited by The National Environmental Laboratory Accreditation Program (NELAP) in Utah and Texas; and is state accredited in Colorado, Idaho, New Mexico, and Missouri.

All analyses were performed in accordance to the NELAP protocols unless noted otherwise. Accreditation scope documents are available upon request. If you have any questions or concerns regarding this report please feel free to call.

The abbreviation "Surr" found in organic reports indicates a surrogate compound that is intentionally added by the laboratory to determine sample injection, extraction, and/or purging efficiency. The "Reporting Limit" found on the report is equivalent to the practical quantitation limit (PQL). This is the minimum concentration that can be reported by the method referenced and the sample matrix. The reporting limit must not be confused with any regulatory limit. Analytical results are reported to three significant figures for quality control and calculation purposes.

Thank You,

Approved by: Jose G. Rocha

Digitally signed by Jose G. Rocha
DN: cn=Jose G. Rocha, o=American West Analytical Laboratories, ou=Quality Assurance Officer, email=jose@awal-labs.com, c=US
Date: 2013.04.10 16:04:04 -06'00'

Laboratory Director or designee



All analyses applicable to the CWA, SDWA, and RCRA are performed in accordance to NELAC protocols. Pertinent sampling information is located on the attached COC. This report is provided for the exclusive use of the addressee. Privileges of subsequent use of the name of this company or any member of its staff, or reproduction of this report in connection with the advertisement, promotion or sale of any product or process, or in connection with the re-publication of this report for any purpose other than for the addressee will be granted only on contact. This company accepts no responsibility except for the due performance of inspection and/or analysis in good faith and according to the rules of the trade and of science.

# TPH (DRO) Case Narrative

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

| | |
|---|---|
| **Client:** | Utah Division of Water Quality |
| **Contact:** | Chris Bittner |
| **Project:** | MP 44.9 |
| **Lab Set ID:** | 1304147 |

**Sample Receipt Information:**

| | |
|---|---|
| **Date of Receipt:** | 4/4/2013 |
| **Date of Collection:** | 4/4/2013 |
| **Sample Condition:** | Intact |
| **C-O-C Discrepancies:** | None |
| **Method:** | SW-846 8015D /3510C |
| **Analysis:** | Total Petroleum Hydrocarbon (DRO - C10-28) |

**General Set Comments:** Multiple samples exhibited TPH-DRO above the reporting limit.

**Holding Time Requirements:** The preparations and analyses of the samples were performed within respective holding times.

**Analysis Requirements:** The samples were prepared and/or analyzed following the methods stated on the analytical reports.

**Analytical QC Requirements:** All instrument calibration and calibration check requirements were met.

**Batch QC Requirements:** MB, LCS, MS, MSD, RPD, and Surrogates:

**Method Blank (MB):** No target analytes were detected above reporting limits, evaluated to MDL, indicating the procedure was free from contamination.

**Laboratory Control Samples (LCS):** All LCS recoveries were within control limits, indicating that the preparation and analysis were in control.

**Matrix Spike / Matrix Spike Duplicate (MS/MSD:** All percent recoveries and RPDs (Relative Percent Differences) were inside established limits, indicating no apparent matrix interferences.

**Surrogates:** All surrogate recoveries were within established limits.

**Corrective Action:** None required**.**



All analyses applicable to the CWA, SDWA, and RCRA are performed in accordance to NELAC protocols. Pertinent sampling information is located on the attached COC. This report is provided for the exclusive use of the addressee. Privileges of subsequent use of the name of this company or any member of its staff, or reproduction of this report in connection with the advertisement, promotion or sale of any product or process, or in connection with the re-publication of this report for any purpose other than for the addressee will be granted only on contact. This company accepts no responsibility except for the due performance of inspection and/or analysis in good faith and according to the rules of the trade and of science.

# Semivolatile Case Narrative

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

| | |
|---|---|
| **Client:** | Utah Division of Water Quality |
| **Contact:** | Chris Bittner |
| **Project:** | MP 44.9 |
| **Lab Set ID:** | 1304147 |

**Sample Receipt Information:**

| | |
|---|---|
| **Date of Receipt:** | 4/4/2013 |
| **Date of Collection:** | 4/4/2013 |
| **Sample Condition:** | Intact |
| **C-O-C Discrepancies:** | None |
| **Method:** | SW-846 8270D/3510C |
| **Analysis:** | Semivolatile Organics |

**General Set Comments:** Multiple analytes were observed above reporting limit. The samples were analyzed for TICs.

**Holding Time Requirements:** The preparations and analyses of the samples were performed within respective holding times.

**Preparation Requirements:** The samples were prepared and analyzed following the methods stated on the analytical reports.

**Analytical QC Requirements:** All instrument calibration and calibration check requirements were met. All internal standard recoveries met method criterion.

**Batch QC Requirements:** MB, LCS, MS, MSD, RPD, and Surrogates:

**Method Blanks:** No target analytes were detected above reporting limits, indicating that the procedure was free from contamination.

**Laboratory Control Sample (LCS):** All LCS percent recoveries were within control limits, indicating that the preparation and analysis were in control.

**Matrix Spike / Matrix Spike Duplicate (MS/MSD):** All percent recoveries and RPDs (Relative Percent Differences) were inside established limits, with the following exception: On sample 1304147-005BMSD, the RPD for 4-Nitrophenol was outside of its control limit due to suspected sample non-homogeneity or matrix interference.

**Surrogates:** All surrogate recoveries were within established limits.

**Corrective Action:** None required**.**



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# Volatile Case Narrative

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web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

| | |
|---|---|
| **Client:** | Utah Division of Water Quality |
| **Contact:** | Chris Bittner |
| **Project:** | MP 44.9 |
| **Lab Set ID:** | 1304147 |

**Sample Receipt Information:**

| | |
|---|---|
| **Date of Receipt:** | 4/4/2013 |
| **Date of Collection:** | 4/4/2013 |
| **Sample Condition:** | Intact |
| **C-O-C Discrepancies:** | None |
| **Method:** | SW-846 8260C/5030C |
| **Analysis:** | Volatile Organic Compounds |

**General Set Comments:** Multiple target analytes were observed above reporting limits.

**Holding Time and Preservation Requirements:** All samples were received in appropriate containers and properly preserved. The analysis and preparation of all samples were performed within the method holding times following the methods stated on the analytical reports.

**Analytical QC Requirements:** All instrument calibration and calibration check requirements were met. All internal standard recoveries met method criterion.

**Batch QC Requirements:** MB, LCS, MS, MSD, RPD, and Surrogates:

**Method Blanks (MBs):** No target analytes were detected above reporting limits, indicating that the procedure was free from contamination.

**Laboratory Control Sample (LCSs):** All LCS recoveries were within control limits, indicating that the preparation and analysis were in control.

**Matrix Spike / Matrix Spike Duplicate (MS/MSD):** All percent recoveries and RPDs (Relative Percent Differences) were inside established limits, indicating no apparent matrix interferences.

**Surrogates:** All surrogate recoveries were within established limits.

**Corrective Action:** None required.



All analyses applicable to the CWA, SDWA, and RCRA are performed in accordance to NELAC protocols. Pertinent sampling information is located on the attached COC. This report is provided for the exclusive use of the addressee. Privileges of subsequent use of the name of this company or any member of its staff, or reproduction of this report in connection with the advertisement, promotion or sale of any product or process, or in connection with the re-publication of this report for any purpose other than for the addressee will be granted only on contact. This company accepts no responsibility except for the due performance of inspection and/or analysis in good faith and according to the rules of the trade and of science.

# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-001C
**Client Sample ID:** East of I-15 / 4920392
**Collection Date:** 4/4/2013 800h
**Received Date:** 4/4/2013 1300h

**Analytical Results** TPH-DRO (C10-C28) by GC/FID Method 8015D/3510C

**Analyzed:** 4/5/2013 1313h **Extracted:** 4/5/2013 805h
**Units:** mg/L **Dilution Factor:** 1 **Method:** SW8015D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Diesel Range Organics (DRO) (C10-C28) | 68476-34-6 | 0.513 | < 0.513 | |

| Surrogate | CAS | Result | Amount Spiked | % REC | Limits | Qual |
|---|---|---|---|---|---|---|
| Surr: 4-Bromofluorobenzene | 460-00-4 | 0.211 | 0.4103 | 51.4 | 10-190 | |


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Laboratory Director

Jose Rocha
QA Officer




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# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-002C
**Client Sample ID:** S. Marina / 4920495
**Collection Date:** 4/4/2013 830h
**Received Date:** 4/4/2013 1300h

**Analytical Results** TPH-DRO (C10-C28) by GC/FID Method 8015D/3510C

**Analyzed:** 4/5/2013 1412h **Extracted:** 4/5/2013 805h
**Units:** mg/L **Dilution Factor:** 1 **Method:** SW8015D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Diesel Range Organics (DRO) (C10-C28) | 68476-34-6 | 0.526 | < 0.526 | |

| Surrogate | CAS | Result | Amount Spiked | % REC | Limits | Qual |
|---|---|---|---|---|---|---|
| Surr: 4-Bromofluorobenzene | 460-00-4 | 0.207 | 0.4211 | 49.1 | 10-190 | |


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# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-003C
**Client Sample ID:** 50' from N Boom / 4920508
**Collection Date:** 4/4/2013 930h
**Received Date:** 4/4/2013 1300h

**Analytical Results** TPH-DRO (C10-C28) by GC/FID Method 8015D/3510C

**Analyzed:** 4/5/2013 1432h **Extracted:** 4/5/2013 805h
**Units:** mg/L **Dilution Factor:** 1 **Method:** SW8015D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Diesel Range Organics (DRO) (C10-C28) | 68476-34-6 | 0.500 | < 0.500 | |

| Surrogate | CAS | Result | Amount Spiked | % REC | Limits | Qual |
|---|---|---|---|---|---|---|
| Surr: 4-Bromofluorobenzene | 460-00-4 | 0.174 | 0.4000 | 43.5 | 10-190 | |


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# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-004C
**Client Sample ID:** North Boom / 4920397
**Collection Date:** 4/4/2013 940h
**Received Date:** 4/4/2013 1300h

**Analytical Results** TPH-DRO (C10-C28) by GC/FID Method 8015D/3510C

**Analyzed:** 4/5/2013 1451h **Extracted:** 4/5/2013 805h
**Units:** mg/L **Dilution Factor:** 1 **Method:** SW8015D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Diesel Range Organics (DRO) (C10-C28) | 68476-34-6 | 0.500 | < 0.500 | |

| Surrogate | CAS | Result | Amount Spiked | % REC | Limits | Qual |
|---|---|---|---|---|---|---|
| Surr: 4-Bromofluorobenzene | 460-00-4 | 0.193 | 0.4000 | 48.1 | 10-190 | |


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Jose Rocha
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# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-005C
**Client Sample ID:** W. Boom 5 / 4920499
**Collection Date:** 4/4/2013 950h
**Received Date:** 4/4/2013 1300h

**Analytical Results** TPH-DRO (C10-C28) by GC/FID Method 8015D/3510C

**Analyzed:** 4/5/2013 1511h **Extracted:** 4/5/2013 805h
**Units:** mg/L **Dilution Factor:** 1 **Method:** SW8015D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Diesel Range Organics (DRO) (C10-C28) | 68476-34-6 | 0.500 | < 0.500 | |

| Surrogate | CAS | Result | Amount Spiked | % REC | Limits | Qual |
|---|---|---|---|---|---|---|
| Surr: 4-Bromofluorobenzene | 460-00-4 | 0.166 | 0.4000 | 41.6 | 10-190 | |


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# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-006C
**Client Sample ID:** W. Boom 4 / 4920498
**Collection Date:** 4/4/2013 1000h
**Received Date:** 4/4/2013 1300h

**Analytical Results** TPH-DRO (C10-C28) by GC/FID Method 8015D/3510C

**Analyzed:** 4/5/2013 1530h **Extracted:** 4/5/2013 805h
**Units:** mg/L **Dilution Factor:** 1 **Method:** SW8015D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Diesel Range Organics (DRO) (C10-C28) | 68476-34-6 | 0.500 | < 0.500 | |

| Surrogate | CAS | Result | Amount Spiked | % REC | Limits | Qual |
|---|---|---|---|---|---|---|
| Surr: 4-Bromofluorobenzene | 460-00-4 | 0.183 | 0.4000 | 45.9 | 10-190 | |

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# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-007C
**Client Sample ID:** 50' from WB 4 / 4920502
**Collection Date:** 4/4/2013 1010h
**Received Date:** 4/4/2013 1300h

**Analytical Results** TPH-DRO (C10-C28) by GC/FID Method 8015D/3510C

**Analyzed:** 4/5/2013 1233h **Extracted:** 4/5/2013 805h
**Units:** mg/L **Dilution Factor:** 1 **Method:** SW8015D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Diesel Range Organics (DRO) (C10-C28) | 68476-34-6 | 0.500 | < 0.500 | |

| Surrogate | CAS | Result | Amount Spiked | % REC | Limits | Qual |
|---|---|---|---|---|---|---|
| Surr: 4-Bromofluorobenzene | 460-00-4 | 0.166 | 0.4000 | 41.6 | 10-190 | |


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# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-008C
**Client Sample ID:** W. Boom 3 / 4920497
**Collection Date:** 4/4/2013 1020h
**Received Date:** 4/4/2013 1300h

**Analytical Results** TPH-DRO (C10-C28) by GC/FID Method 8015D/3510C

**Analyzed:** 4/5/2013 1253h **Extracted:** 4/5/2013 805h
**Units:** mg/L **Dilution Factor:** 1 **Method:** SW8015D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Diesel Range Organics (DRO) (C10-C28) | 68476-34-6 | 0.500 | < 0.500 | |

| Surrogate | CAS | Result | Amount Spiked | % REC | Limits | Qual |
|---|---|---|---|---|---|---|
| Surr: 4-Bromofluorobenzene | 460-00-4 | 0.176 | 0.4000 | 43.9 | 10-190 | |

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# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-009C
**Client Sample ID:** W. Boom 2 / 4920496
**Collection Date:** 4/4/2013 1030h
**Received Date:** 4/4/2013 1300h

**Analytical Results** TPH-DRO (C10-C28) by GC/FID Method 8015D/3510C

**Analyzed:** 4/5/2013 1313h **Extracted:** 4/5/2013 805h
**Units:** mg/L **Dilution Factor:** 1 **Method:** SW8015D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Diesel Range Organics (DRO) (C10-C28) | 68476-34-6 | 0.500 | < 0.500 | |

| Surrogate | CAS | Result | Amount Spiked | % REC | Limits | Qual |
|---|---|---|---|---|---|---|
| Surr: 4-Bromofluorobenzene | 460-00-4 | 0.193 | 0.4000 | 48.3 | 10-190 | |

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# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-010C
**Client Sample ID:** 50' From WB1 / 4920505
**Collection Date:** 4/4/2013 1040h
**Received Date:** 4/4/2013 1300h

**Analytical Results** TPH-DRO (C10-C28) by GC/FID Method 8015D/3510C

**Analyzed:** 4/5/2013 1333h **Extracted:** 4/5/2013 805h
**Units:** mg/L **Dilution Factor:** 1 **Method:** SW8015D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Diesel Range Organics (DRO) (C10-C28) | 68476-34-6 | 0.500 | < 0.500 | |

| Surrogate | CAS | Result | Amount Spiked | % REC | Limits | Qual |
|---|---|---|---|---|---|---|
| Surr: 4-Bromofluorobenzene | 460-00-4 | 0.197 | 0.4000 | 49.2 | 10-190 | |

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# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-011C
**Client Sample ID:** W. Boom 1 / 4920396
**Collection Date:** 4/4/2013 1050h
**Received Date:** 4/4/2013 1300h

**Analytical Results** TPH-DRO (C10-C28) by GC/FID Method 8015D/3510C

**Analyzed:** 4/5/2013 1352h **Extracted:** 4/5/2013 1000h
**Units:** mg/L **Dilution Factor:** 1 **Method:** SW8015D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Diesel Range Organics (DRO) (C10-C28) | 68476-34-6 | 0.500 | **0.562** | |

| Surrogate | CAS | Result | Amount Spiked | % REC | Limits | Qual |
|---|---|---|---|---|---|---|
| Surr: 4-Bromofluorobenzene | 460-00-4 | 0.234 | 0.4000 | 58.5 | 10-190 | |


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# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-012C
**Client Sample ID:** East of Boom / 4920395
**Collection Date:** 4/4/2013 1100h
**Received Date:** 4/4/2013 1300h

**Analytical Results** TPH-DRO (C10-C28) by GC/FID Method 8015D/3510C

**Analyzed:** 4/5/2013 1412h **Extracted:** 4/5/2013 1000h
**Units:** mg/L **Dilution Factor:** 1 **Method:** SW8015D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Diesel Range Organics (DRO) (C10-C28) | 68476-34-6 | 0.500 | **0.868** | |

| Surrogate | CAS | Result | Amount Spiked | % REC | Limits | Qual |
|---|---|---|---|---|---|---|
| Surr: 4-Bromofluorobenzene | 460-00-4 | 0.179 | 0.4000 | 44.8 | 10-190 | |


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# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-013C
**Client Sample ID:** Between Weirs / 4920394
**Collection Date:** 4/4/2013 1115h
**Received Date:** 4/4/2013 1300h

**Analytical Results** TPH-DRO (C10-C28) by GC/FID Method 8015D/3510C

**Analyzed:** 4/5/2013 1432h **Extracted:** 4/5/2013 1000h
**Units:** mg/L **Dilution Factor:** 1 **Method:** SW8015D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Diesel Range Organics (DRO) (C10-C28) | 68476-34-6 | 0.500 | **0.746** | |

| Surrogate | CAS | Result | Amount Spiked | % REC | Limits | Qual |
|---|---|---|---|---|---|---|
| Surr: 4-Bromofluorobenzene | 460-00-4 | 0.183 | 0.4000 | 45.7 | 10-190 | |


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# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-014C
**Client Sample ID:** Between Weirs Dup / 4920394
**Collection Date:** 4/4/2013 1130h
**Received Date:** 4/4/2013 1300h

**Analytical Results** TPH-DRO (C10-C28) by GC/FID Method 8015D/3510C

**Analyzed:** 4/5/2013 1451h **Extracted:** 4/5/2013 1000h
**Units:** mg/L **Dilution Factor:** 1 **Method:** SW8015D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Diesel Range Organics (DRO) (C10-C28) | 68476-34-6 | 0.500 | **0.914** | |

| Surrogate | CAS | Result | Amount Spiked | % REC | Limits | Qual |
|---|---|---|---|---|---|---|
| Surr: 4-Bromofluorobenzene | 460-00-4 | 0.204 | 0.4000 | 51.0 | 10-190 | |


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# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-015C
**Client Sample ID:** East of #3
**Collection Date:** 4/4/2013 1145h
**Received Date:** 4/4/2013 1300h

**Analytical Results** TPH-DRO (C10-C28) by GC/FID Method 8015D/3510C

**Analyzed:** 4/5/2013 1511h **Extracted:** 4/5/2013 1000h
**Units:** mg/L **Dilution Factor:** 1 **Method:** SW8015D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Diesel Range Organics (DRO) (C10-C28) | 68476-34-6 | 0.500 | < 0.500 | |

| Surrogate | CAS | Result | Amount Spiked | % REC | Limits | Qual |
|---|---|---|---|---|---|---|
| Surr: 4-Bromofluorobenzene | 460-00-4 | 0.213 | 0.4000 | 53.2 | 10-190 | |

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# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-001B
**Client Sample ID:** East of I-15 / 4920392
**Collection Date:** 4/4/2013 800h
**Received Date:** 4/4/2013 1300h

**Analytical Results** SVOA PNA SIM List by GC/MS Method 8270D/3510C

**Analyzed:** 4/9/2013 1111h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 1-Methylnaphthalene | 90-12-0 | 0.100 | < 0.100 | |
| 2-Methylnaphthalene | 91-57-6 | 0.100 | < 0.100 | |
| Acenaphthene | 83-32-9 | 0.100 | < 0.100 | |
| Acenaphthylene | 208-96-8 | 0.100 | < 0.100 | |
| Anthracene | 120-12-7 | 0.100 | < 0.100 | |
| Benz(a)anthracene | 56-55-3 | 0.100 | < 0.100 | |
| Benzo(a)pyrene | 50-32-8 | 0.100 | < 0.100 | |
| Benzo(b)fluoranthene | 205-99-2 | 0.100 | < 0.100 | |
| Benzo(g,h,i)perylene | 191-24-2 | 0.100 | < 0.100 | |
| Benzo(k)fluoranthene | 207-08-9 | 0.100 | < 0.100 | |
| Chrysene | 218-01-9 | 0.100 | < 0.100 | |
| Dibenz(a,h)anthracene | 53-70-3 | 0.100 | < 0.100 | |
| Fluoranthene | 206-44-0 | 0.100 | < 0.100 | |
| Fluorene | 86-73-7 | 0.100 | < 0.100 | |
| Indene | 95-13-6 | 0.100 | < 0.100 | |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 0.100 | < 0.100 | |
| Naphthalene | 91-20-3 | 0.100 | < 0.100 | |
| Phenanthrene | 85-01-8 | 0.100 | < 0.100 | |
| Pyrene | 129-00-0 | 0.100 | < 0.100 | |

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# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-002B
**Client Sample ID:** S. Marina / 4920495
**Collection Date:** 4/4/2013 830h
**Received Date:** 4/4/2013 1300h

**Analytical Results** SVOA PNA SIM List by GC/MS Method 8270D/3510C

**Analyzed:** 4/9/2013 1137h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 1-Methylnaphthalene | 90-12-0 | 0.100 | < 0.100 | |
| 2-Methylnaphthalene | 91-57-6 | 0.100 | < 0.100 | |
| Acenaphthene | 83-32-9 | 0.100 | < 0.100 | |
| Acenaphthylene | 208-96-8 | 0.100 | < 0.100 | |
| Anthracene | 120-12-7 | 0.100 | < 0.100 | |
| Benz(a)anthracene | 56-55-3 | 0.100 | < 0.100 | |
| Benzo(a)pyrene | 50-32-8 | 0.100 | < 0.100 | |
| Benzo(b)fluoranthene | 205-99-2 | 0.100 | < 0.100 | |
| Benzo(g,h,i)perylene | 191-24-2 | 0.100 | < 0.100 | |
| Benzo(k)fluoranthene | 207-08-9 | 0.100 | < 0.100 | |
| Chrysene | 218-01-9 | 0.100 | < 0.100 | |
| Dibenz(a,h)anthracene | 53-70-3 | 0.100 | < 0.100 | |
| Fluoranthene | 206-44-0 | 0.100 | < 0.100 | |
| Fluorene | 86-73-7 | 0.100 | < 0.100 | |
| Indene | 95-13-6 | 0.100 | < 0.100 | |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 0.100 | < 0.100 | |
| Naphthalene | 91-20-3 | 0.100 | < 0.100 | |
| Phenanthrene | 85-01-8 | 0.100 | < 0.100 | |
| Pyrene | 129-00-0 | 0.100 | < 0.100 | |

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# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-003B
**Client Sample ID:** 50' from N Boom / 4920508
**Collection Date:** 4/4/2013 930h
**Received Date:** 4/4/2013 1300h

**Analytical Results** SVOA PNA SIM List by GC/MS Method 8270D/3510C

**Analyzed:** 4/9/2013 1203h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D


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Jose Rocha
QA Officer


| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 1-Methylnaphthalene | 90-12-0 | 0.100 | < 0.100 | |
| 2-Methylnaphthalene | 91-57-6 | 0.100 | < 0.100 | |
| Acenaphthene | 83-32-9 | 0.100 | < 0.100 | |
| Acenaphthylene | 208-96-8 | 0.100 | < 0.100 | |
| Anthracene | 120-12-7 | 0.100 | < 0.100 | |
| Benz(a)anthracene | 56-55-3 | 0.100 | < 0.100 | |
| Benzo(a)pyrene | 50-32-8 | 0.100 | < 0.100 | |
| Benzo(b)fluoranthene | 205-99-2 | 0.100 | < 0.100 | |
| Benzo(g,h,i)perylene | 191-24-2 | 0.100 | < 0.100 | |
| Benzo(k)fluoranthene | 207-08-9 | 0.100 | < 0.100 | |
| Chrysene | 218-01-9 | 0.100 | < 0.100 | |
| Dibenz(a,h)anthracene | 53-70-3 | 0.100 | < 0.100 | |
| Fluoranthene | 206-44-0 | 0.100 | < 0.100 | |
| Fluorene | 86-73-7 | 0.100 | < 0.100 | |
| Indene | 95-13-6 | 0.100 | < 0.100 | |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 0.100 | < 0.100 | |
| Naphthalene | 91-20-3 | 0.100 | < 0.100 | |
| Phenanthrene | 85-01-8 | 0.100 | < 0.100 | |
| Pyrene | 129-00-0 | 0.100 | < 0.100 | |



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# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-004B
**Client Sample ID:** North Boom / 4920397
**Collection Date:** 4/4/2013 940h
**Received Date:** 4/4/2013 1300h

**Analytical Results** SVOA PNA SIM List by GC/MS Method 8270D/3510C

**Analyzed:** 4/9/2013 1230h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 1-Methylnaphthalene | 90-12-0 | 0.100 | < 0.100 | |
| 2-Methylnaphthalene | 91-57-6 | 0.100 | < 0.100 | |
| Acenaphthene | 83-32-9 | 0.100 | < 0.100 | |
| Acenaphthylene | 208-96-8 | 0.100 | < 0.100 | |
| Anthracene | 120-12-7 | 0.100 | < 0.100 | |
| Benz(a)anthracene | 56-55-3 | 0.100 | < 0.100 | |
| Benzo(a)pyrene | 50-32-8 | 0.100 | < 0.100 | |
| Benzo(b)fluoranthene | 205-99-2 | 0.100 | < 0.100 | |
| Benzo(g,h,i)perylene | 191-24-2 | 0.100 | < 0.100 | |
| Benzo(k)fluoranthene | 207-08-9 | 0.100 | < 0.100 | |
| Chrysene | 218-01-9 | 0.100 | < 0.100 | |
| Dibenz(a,h)anthracene | 53-70-3 | 0.100 | < 0.100 | |
| Fluoranthene | 206-44-0 | 0.100 | < 0.100 | |
| Fluorene | 86-73-7 | 0.100 | < 0.100 | |
| Indene | 95-13-6 | 0.100 | < 0.100 | |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 0.100 | < 0.100 | |
| Naphthalene | 91-20-3 | 0.100 | < 0.100 | |
| Phenanthrene | 85-01-8 | 0.100 | < 0.100 | |
| Pyrene | 129-00-0 | 0.100 | < 0.100 | |

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# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-005B
**Client Sample ID:** W. Boom 5 / 4920499
**Collection Date:** 4/4/2013 950h
**Received Date:** 4/4/2013 1300h

**Analytical Results** SVOA PNA SIM List by GC/MS Method 8270D/3510C

**Analyzed:** 4/9/2013 1256h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D


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| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 1-Methylnaphthalene | 90-12-0 | 0.100 | < 0.100 | |
| 2-Methylnaphthalene | 91-57-6 | 0.100 | < 0.100 | |
| Acenaphthene | 83-32-9 | 0.100 | < 0.100 | |
| Acenaphthylene | 208-96-8 | 0.100 | < 0.100 | |
| Anthracene | 120-12-7 | 0.100 | < 0.100 | |
| Benz(a)anthracene | 56-55-3 | 0.100 | < 0.100 | |
| Benzo(a)pyrene | 50-32-8 | 0.100 | < 0.100 | |
| Benzo(b)fluoranthene | 205-99-2 | 0.100 | < 0.100 | |
| Benzo(g,h,i)perylene | 191-24-2 | 0.100 | < 0.100 | |
| Benzo(k)fluoranthene | 207-08-9 | 0.100 | < 0.100 | |
| Chrysene | 218-01-9 | 0.100 | < 0.100 | |
| Dibenz(a,h)anthracene | 53-70-3 | 0.100 | < 0.100 | |
| Fluoranthene | 206-44-0 | 0.100 | < 0.100 | |
| Fluorene | 86-73-7 | 0.100 | < 0.100 | |
| Indene | 95-13-6 | 0.100 | < 0.100 | |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 0.100 | < 0.100 | |
| Naphthalene | 91-20-3 | 0.100 | < 0.100 | |
| Phenanthrene | 85-01-8 | 0.100 | < 0.100 | |
| Pyrene | 129-00-0 | 0.100 | < 0.100 | |



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# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-006B
**Client Sample ID:** W. Boom 4 / 4920498
**Collection Date:** 4/4/2013 1000h
**Received Date:** 4/4/2013 1300h

**Analytical Results** SVOA PNA SIM List by GC/MS Method 8270D/3510C

**Analyzed:** 4/9/2013 1416h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D


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QA Officer


| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 1-Methylnaphthalene | 90-12-0 | 0.100 | < 0.100 | |
| 2-Methylnaphthalene | 91-57-6 | 0.100 | < 0.100 | |
| Acenaphthene | 83-32-9 | 0.100 | < 0.100 | |
| Acenaphthylene | 208-96-8 | 0.100 | < 0.100 | |
| Anthracene | 120-12-7 | 0.100 | < 0.100 | |
| Benz(a)anthracene | 56-55-3 | 0.100 | < 0.100 | |
| Benzo(a)pyrene | 50-32-8 | 0.100 | < 0.100 | |
| Benzo(b)fluoranthene | 205-99-2 | 0.100 | < 0.100 | |
| Benzo(g,h,i)perylene | 191-24-2 | 0.100 | < 0.100 | |
| Benzo(k)fluoranthene | 207-08-9 | 0.100 | < 0.100 | |
| Chrysene | 218-01-9 | 0.100 | < 0.100 | |
| Dibenz(a,h)anthracene | 53-70-3 | 0.100 | < 0.100 | |
| Fluoranthene | 206-44-0 | 0.100 | < 0.100 | |
| Fluorene | 86-73-7 | 0.100 | < 0.100 | |
| Indene | 95-13-6 | 0.100 | < 0.100 | |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 0.100 | < 0.100 | |
| Naphthalene | 91-20-3 | 0.100 | < 0.100 | |
| Phenanthrene | 85-01-8 | 0.100 | < 0.100 | |
| Pyrene | 129-00-0 | 0.100 | < 0.100 | |



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# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-007B
**Client Sample ID:** 50' from WB 4 / 4920502
**Collection Date:** 4/4/2013 1010h
**Received Date:** 4/4/2013 1300h

**Analytical Results** SVOA PNA SIM List by GC/MS Method 8270D/3510C

**Analyzed:** 4/9/2013 1443h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D


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Laboratory Director

Jose Rocha
QA Officer


| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 1-Methylnaphthalene | 90-12-0 | 0.100 | < 0.100 | |
| 2-Methylnaphthalene | 91-57-6 | 0.100 | < 0.100 | |
| Acenaphthene | 83-32-9 | 0.100 | < 0.100 | |
| Acenaphthylene | 208-96-8 | 0.100 | < 0.100 | |
| Anthracene | 120-12-7 | 0.100 | < 0.100 | |
| Benz(a)anthracene | 56-55-3 | 0.100 | < 0.100 | |
| Benzo(a)pyrene | 50-32-8 | 0.100 | < 0.100 | |
| Benzo(b)fluoranthene | 205-99-2 | 0.100 | < 0.100 | |
| Benzo(g,h,i)perylene | 191-24-2 | 0.100 | < 0.100 | |
| Benzo(k)fluoranthene | 207-08-9 | 0.100 | < 0.100 | |
| Chrysene | 218-01-9 | 0.100 | < 0.100 | |
| Dibenz(a,h)anthracene | 53-70-3 | 0.100 | < 0.100 | |
| Fluoranthene | 206-44-0 | 0.100 | < 0.100 | |
| Fluorene | 86-73-7 | 0.100 | < 0.100 | |
| Indene | 95-13-6 | 0.100 | < 0.100 | |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 0.100 | < 0.100 | |
| Naphthalene | 91-20-3 | 0.100 | < 0.100 | |
| Phenanthrene | 85-01-8 | 0.100 | < 0.100 | |
| Pyrene | 129-00-0 | 0.100 | < 0.100 | |



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# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-008B
**Client Sample ID:** W. Boom 3 / 4920497
**Collection Date:** 4/4/2013 1020h
**Received Date:** 4/4/2013 1300h

**Analytical Results** SVOA PNA SIM List by GC/MS Method 8270D/3510C

**Analyzed:** 4/9/2013 1510h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 1-Methylnaphthalene | 90-12-0 | 0.100 | < 0.100 | |
| 2-Methylnaphthalene | 91-57-6 | 0.100 | < 0.100 | |
| Acenaphthene | 83-32-9 | 0.100 | < 0.100 | |
| Acenaphthylene | 208-96-8 | 0.100 | < 0.100 | |
| Anthracene | 120-12-7 | 0.100 | < 0.100 | |
| Benz(a)anthracene | 56-55-3 | 0.100 | < 0.100 | |
| Benzo(a)pyrene | 50-32-8 | 0.100 | < 0.100 | |
| Benzo(b)fluoranthene | 205-99-2 | 0.100 | < 0.100 | |
| Benzo(g,h,i)perylene | 191-24-2 | 0.100 | < 0.100 | |
| Benzo(k)fluoranthene | 207-08-9 | 0.100 | < 0.100 | |
| Chrysene | 218-01-9 | 0.100 | < 0.100 | |
| Dibenz(a,h)anthracene | 53-70-3 | 0.100 | < 0.100 | |
| Fluoranthene | 206-44-0 | 0.100 | < 0.100 | |
| Fluorene | 86-73-7 | 0.100 | < 0.100 | |
| Indene | 95-13-6 | 0.100 | < 0.100 | |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 0.100 | < 0.100 | |
| Naphthalene | 91-20-3 | 0.100 | < 0.100 | |
| Phenanthrene | 85-01-8 | 0.100 | < 0.100 | |
| Pyrene | 129-00-0 | 0.100 | < 0.100 | |

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# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-009B
**Client Sample ID:** W. Boom 2 / 4920496
**Collection Date:** 4/4/2013 1030h
**Received Date:** 4/4/2013 1300h

**Analytical Results** SVOA PNA SIM List by GC/MS Method 8270D/3510C

**Analyzed:** 4/9/2013 1537h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D


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Laboratory Director

Jose Rocha
QA Officer


| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 1-Methylnaphthalene | 90-12-0 | 0.111 | < 0.111 | |
| 2-Methylnaphthalene | 91-57-6 | 0.111 | < 0.111 | |
| Acenaphthene | 83-32-9 | 0.111 | < 0.111 | |
| Acenaphthylene | 208-96-8 | 0.111 | < 0.111 | |
| Anthracene | 120-12-7 | 0.111 | < 0.111 | |
| Benz(a)anthracene | 56-55-3 | 0.111 | < 0.111 | |
| Benzo(a)pyrene | 50-32-8 | 0.111 | < 0.111 | |
| Benzo(b)fluoranthene | 205-99-2 | 0.111 | < 0.111 | |
| Benzo(g,h,i)perylene | 191-24-2 | 0.111 | < 0.111 | |
| Benzo(k)fluoranthene | 207-08-9 | 0.111 | < 0.111 | |
| Chrysene | 218-01-9 | 0.111 | < 0.111 | |
| Dibenz(a,h)anthracene | 53-70-3 | 0.111 | < 0.111 | |
| Fluoranthene | 206-44-0 | 0.111 | < 0.111 | |
| Fluorene | 86-73-7 | 0.111 | < 0.111 | |
| Indene | 95-13-6 | 0.111 | < 0.111 | |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 0.111 | < 0.111 | |
| Naphthalene | 91-20-3 | 0.111 | < 0.111 | |
| Phenanthrene | 85-01-8 | 0.111 | < 0.111 | |
| Pyrene | 129-00-0 | 0.111 | < 0.111 | |



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# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-010B
**Client Sample ID:** 50' From WB1 / 4920505
**Collection Date:** 4/4/2013 1040h
**Received Date:** 4/4/2013 1300h

**Analytical Results** SVOA PNA SIM List by GC/MS Method 8270D/3510C

**Analyzed:** 4/9/2013 1604h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 1-Methylnaphthalene | 90-12-0 | 0.100 | < 0.100 | |
| 2-Methylnaphthalene | 91-57-6 | 0.100 | < 0.100 | |
| Acenaphthene | 83-32-9 | 0.100 | < 0.100 | |
| Acenaphthylene | 208-96-8 | 0.100 | < 0.100 | |
| Anthracene | 120-12-7 | 0.100 | < 0.100 | |
| Benz(a)anthracene | 56-55-3 | 0.100 | < 0.100 | |
| Benzo(a)pyrene | 50-32-8 | 0.100 | < 0.100 | |
| Benzo(b)fluoranthene | 205-99-2 | 0.100 | < 0.100 | |
| Benzo(g,h,i)perylene | 191-24-2 | 0.100 | < 0.100 | |
| Benzo(k)fluoranthene | 207-08-9 | 0.100 | < 0.100 | |
| Chrysene | 218-01-9 | 0.100 | < 0.100 | |
| Dibenz(a,h)anthracene | 53-70-3 | 0.100 | < 0.100 | |
| Fluoranthene | 206-44-0 | 0.100 | < 0.100 | |
| Fluorene | 86-73-7 | 0.100 | < 0.100 | |
| Indene | 95-13-6 | 0.100 | < 0.100 | |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 0.100 | < 0.100 | |
| Naphthalene | 91-20-3 | 0.100 | < 0.100 | |
| Phenanthrene | 85-01-8 | 0.100 | < 0.100 | |
| Pyrene | 129-00-0 | 0.100 | < 0.100 | |

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Jose Rocha
QA Officer



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# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-011B
**Client Sample ID:** W. Boom 1 / 4920396
**Collection Date:** 4/4/2013 1050h
**Received Date:** 4/4/2013 1300h

**Analytical Results** SVOA PNA SIM List by GC/MS Method 8270D/3510C

**Analyzed:** 4/9/2013 1631h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 1-Methylnaphthalene | 90-12-0 | 0.100 | **0.190** | |
| 2-Methylnaphthalene | 91-57-6 | 0.100 | **0.170** | |
| Acenaphthene | 83-32-9 | 0.100 | < 0.100 | |
| Acenaphthylene | 208-96-8 | 0.100 | < 0.100 | |
| Anthracene | 120-12-7 | 0.100 | < 0.100 | |
| Benz(a)anthracene | 56-55-3 | 0.100 | < 0.100 | |
| Benzo(a)pyrene | 50-32-8 | 0.100 | < 0.100 | |
| Benzo(b)fluoranthene | 205-99-2 | 0.100 | < 0.100 | |
| Benzo(g,h,i)perylene | 191-24-2 | 0.100 | < 0.100 | |
| Benzo(k)fluoranthene | 207-08-9 | 0.100 | < 0.100 | |
| Chrysene | 218-01-9 | 0.100 | < 0.100 | |
| Dibenz(a,h)anthracene | 53-70-3 | 0.100 | < 0.100 | |
| Fluoranthene | 206-44-0 | 0.100 | < 0.100 | |
| Fluorene | 86-73-7 | 0.100 | < 0.100 | |
| Indene | 95-13-6 | 0.100 | < 0.100 | |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 0.100 | < 0.100 | |
| Naphthalene | 91-20-3 | 0.100 | < 0.100 | |
| Phenanthrene | 85-01-8 | 0.100 | < 0.100 | |
| Pyrene | 129-00-0 | 0.100 | < 0.100 | |

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Kyle F. Gross
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Jose Rocha
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# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-012B
**Client Sample ID:** East of Boom / 4920395
**Collection Date:** 4/4/2013 1100h
**Received Date:** 4/4/2013 1300h

**Analytical Results** SVOA PNA SIM List by GC/MS Method 8270D/3510C

**Analyzed:** 4/9/2013 1658h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D


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Jose Rocha
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| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 1-Methylnaphthalene | 90-12-0 | 0.100 | **0.930** | |
| 2-Methylnaphthalene | 91-57-6 | 0.100 | **0.680** | |
| Acenaphthene | 83-32-9 | 0.100 | < 0.100 | |
| Acenaphthylene | 208-96-8 | 0.100 | < 0.100 | |
| Anthracene | 120-12-7 | 0.100 | < 0.100 | |
| Benz(a)anthracene | 56-55-3 | 0.100 | < 0.100 | |
| Benzo(a)pyrene | 50-32-8 | 0.100 | < 0.100 | |
| Benzo(b)fluoranthene | 205-99-2 | 0.100 | < 0.100 | |
| Benzo(g,h,i)perylene | 191-24-2 | 0.100 | < 0.100 | |
| Benzo(k)fluoranthene | 207-08-9 | 0.100 | < 0.100 | |
| Chrysene | 218-01-9 | 0.100 | < 0.100 | |
| Dibenz(a,h)anthracene | 53-70-3 | 0.100 | < 0.100 | |
| Fluoranthene | 206-44-0 | 0.100 | < 0.100 | |
| Fluorene | 86-73-7 | 0.100 | < 0.100 | |
| Indene | 95-13-6 | 0.100 | < 0.100 | |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 0.100 | < 0.100 | |
| Naphthalene | 91-20-3 | 0.100 | **0.270** | |
| Phenanthrene | 85-01-8 | 0.100 | **0.170** | |
| Pyrene | 129-00-0 | 0.100 | < 0.100 | |



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# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-013B
**Client Sample ID:** Between Weirs / 4920394
**Collection Date:** 4/4/2013 1115h
**Received Date:** 4/4/2013 1300h

**Analytical Results** SVOA PNA SIM List by GC/MS Method 8270D/3510C

**Analyzed:** 4/9/2013 1724h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D


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Laboratory Director

Jose Rocha
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| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 1-Methylnaphthalene | 90-12-0 | 0.100 | **0.760** | |
| 2-Methylnaphthalene | 91-57-6 | 0.100 | **0.510** | |
| Acenaphthene | 83-32-9 | 0.100 | < 0.100 | |
| Acenaphthylene | 208-96-8 | 0.100 | < 0.100 | |
| Anthracene | 120-12-7 | 0.100 | < 0.100 | |
| Benz(a)anthracene | 56-55-3 | 0.100 | < 0.100 | |
| Benzo(a)pyrene | 50-32-8 | 0.100 | < 0.100 | |
| Benzo(b)fluoranthene | 205-99-2 | 0.100 | < 0.100 | |
| Benzo(g,h,i)perylene | 191-24-2 | 0.100 | < 0.100 | |
| Benzo(k)fluoranthene | 207-08-9 | 0.100 | < 0.100 | |
| Chrysene | 218-01-9 | 0.100 | < 0.100 | |
| Dibenz(a,h)anthracene | 53-70-3 | 0.100 | < 0.100 | |
| Fluoranthene | 206-44-0 | 0.100 | < 0.100 | |
| Fluorene | 86-73-7 | 0.100 | < 0.100 | |
| Indene | 95-13-6 | 0.100 | < 0.100 | |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 0.100 | < 0.100 | |
| Naphthalene | 91-20-3 | 0.100 | **0.190** | |
| Phenanthrene | 85-01-8 | 0.100 | < 0.100 | |
| Pyrene | 129-00-0 | 0.100 | < 0.100 | |



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# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-014B
**Client Sample ID:** Between Weirs Dup / 4920394
**Collection Date:** 4/4/2013 1130h
**Received Date:** 4/4/2013 1300h

**Analytical Results** SVOA PNA SIM List by GC/MS Method 8270D/3510C

**Analyzed:** 4/9/2013 1751h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D


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Jose Rocha
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| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 1-Methylnaphthalene | 90-12-0 | 0.100 | **0.990** | |
| 2-Methylnaphthalene | 91-57-6 | 0.100 | **0.670** | |
| Acenaphthene | 83-32-9 | 0.100 | < 0.100 | |
| Acenaphthylene | 208-96-8 | 0.100 | < 0.100 | |
| Anthracene | 120-12-7 | 0.100 | < 0.100 | |
| Benz(a)anthracene | 56-55-3 | 0.100 | < 0.100 | |
| Benzo(a)pyrene | 50-32-8 | 0.100 | < 0.100 | |
| Benzo(b)fluoranthene | 205-99-2 | 0.100 | < 0.100 | |
| Benzo(g,h,i)perylene | 191-24-2 | 0.100 | < 0.100 | |
| Benzo(k)fluoranthene | 207-08-9 | 0.100 | < 0.100 | |
| Chrysene | 218-01-9 | 0.100 | < 0.100 | |
| Dibenz(a,h)anthracene | 53-70-3 | 0.100 | < 0.100 | |
| Fluoranthene | 206-44-0 | 0.100 | < 0.100 | |
| Fluorene | 86-73-7 | 0.100 | < 0.100 | |
| Indene | 95-13-6 | 0.100 | < 0.100 | |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 0.100 | < 0.100 | |
| Naphthalene | 91-20-3 | 0.100 | **0.240** | |
| Phenanthrene | 85-01-8 | 0.100 | < 0.100 | |
| Pyrene | 129-00-0 | 0.100 | < 0.100 | |



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# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-015B
**Client Sample ID:** East of #3
**Collection Date:** 4/4/2013 1145h
**Received Date:** 4/4/2013 1300h

**Analytical Results** SVOA PNA SIM List by GC/MS Method 8270D/3510C

**Analyzed:** 4/9/2013 1817h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D


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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer


| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 1-Methylnaphthalene | 90-12-0 | 0.100 | < 0.100 | |
| 2-Methylnaphthalene | 91-57-6 | 0.100 | < 0.100 | |
| Acenaphthene | 83-32-9 | 0.100 | < 0.100 | |
| Acenaphthylene | 208-96-8 | 0.100 | < 0.100 | |
| Anthracene | 120-12-7 | 0.100 | < 0.100 | |
| Benz(a)anthracene | 56-55-3 | 0.100 | < 0.100 | |
| Benzo(a)pyrene | 50-32-8 | 0.100 | < 0.100 | |
| Benzo(b)fluoranthene | 205-99-2 | 0.100 | < 0.100 | |
| Benzo(g,h,i)perylene | 191-24-2 | 0.100 | < 0.100 | |
| Benzo(k)fluoranthene | 207-08-9 | 0.100 | < 0.100 | |
| Chrysene | 218-01-9 | 0.100 | < 0.100 | |
| Dibenz(a,h)anthracene | 53-70-3 | 0.100 | < 0.100 | |
| Fluoranthene | 206-44-0 | 0.100 | < 0.100 | |
| Fluorene | 86-73-7 | 0.100 | < 0.100 | |
| Indene | 95-13-6 | 0.100 | < 0.100 | |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 0.100 | < 0.100 | |
| Naphthalene | 91-20-3 | 0.100 | < 0.100 | |
| Phenanthrene | 85-01-8 | 0.100 | < 0.100 | |
| Pyrene | 129-00-0 | 0.100 | < 0.100 | |



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# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-001B
**Client Sample ID:** East of I-15 / 4920392
**Collection Date:** 4/4/2013 800h
**Received Date:** 4/4/2013 1300h

**Analytical Results** SVOA List by GC/MS Method 8270D/3510C

**Analyzed:** 4/9/2013 1321h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D


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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer


| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 1,1´-Biphenyl | 92-52-4 | 10.0 | < 10.0 | |
| 1,2,4,5-Tetrachlorobenzene | 95-94-3 | 10.0 | < 10.0 | |
| 1,2,4-Trichlorobenzene | 120-82-1 | 10.0 | < 10.0 | |
| 1,2-Dichlorobenzene | 95-50-1 | 10.0 | < 10.0 | |
| 1,3,5-Trinitrobenzene | 99-35-4 | 10.0 | < 10.0 | |
| 1,3-Dichlorobenzene | 541-73-1 | 10.0 | < 10.0 | |
| 1,3-Dinitrobenzene | 99-65-0 | 10.0 | < 10.0 | |
| 1,4-Dichlorobenzene | 106-46-7 | 10.0 | < 10.0 | |
| 1,4-Dinitrobenzene | 100-25-4 | 10.0 | < 10.0 | |
| 1,4-Naphthoquinone | 130-15-4 | 10.0 | < 10.0 | |
| 1,4-Phenylenediamine | 106-50-3 | 10.0 | < 10.0 | |
| 1-Chloronaphthalene | 90-13-1 | 10.0 | < 10.0 | |
| 1-Methylnaphthalene | 90-12-0 | 10.0 | < 10.0 | |
| 1-Naphthylamine | 134-32-7 | 10.0 | < 10.0 | |
| 2,3,4,6-Tetrachlorophenol | 58-90-2 | 10.0 | < 10.0 | |
| 2,4,5-Trichlorophenol | 95-95-4 | 10.0 | < 10.0 | |
| 2,4,6-Trichlorophenol | 88-06-2 | 10.0 | < 10.0 | |
| 2,4-Dichlorophenol | 120-83-2 | 10.0 | < 10.0 | |
| 2,4-Dimethylphenol | 105-67-9 | 10.0 | < 10.0 | |
| 2,4-Dinitrophenol | 51-28-5 | 10.0 | < 10.0 | |
| 2,4-Dinitrotoluene | 121-14-2 | 10.0 | < 10.0 | |
| 2,6-Dichlorophenol | 87-65-0 | 10.0 | < 10.0 | |
| 2,6-Dinitrotoluene | 606-20-2 | 10.0 | < 10.0 | |
| 2-Acetylaminofluorene | 53-96-3 | 10.0 | < 10.0 | |
| 2-Chloronaphthalene | 91-58-7 | 10.0 | < 10.0 | |
| 2-Chlorophenol | 95-57-8 | 10.0 | < 10.0 | |
| 2-Methylnaphthalene | 91-57-6 | 10.0 | < 10.0 | |
| 2-Methylphenol | 95-48-7 | 10.0 | < 10.0 | |
| 2-Naphthylamine | 91-59-8 | 10.0 | < 10.0 | |
| 2-Nitroaniline | 88-74-4 | 10.0 | < 10.0 | |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-001B
**Client Sample ID:** East of I-15 / 4920392

**Analyzed:** 4/9/2013 1321h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 2-Nitrophenol | 88-75-5 | 10.0 | < 10.0 | |
| 2-Picoline | 109-06-8 | 10.0 | < 10.0 | |
| 3&4-Methylphenol | | 10.0 | < 10.0 | |
| 3,3´-Dichlorobenzidine | 91-94-1 | 10.0 | < 10.0 | |
| 3,3´-Dimethylbenzidine | 119-93-7 | 10.0 | < 10.0 | |
| 3-Methylcholanthrene | 56-49-5 | 10.0 | < 10.0 | |
| 3-Nitroaniline | 99-09-2 | 10.0 | < 10.0 | |
| 4,6-Dinitro-2-methylphenol | 534-52-1 | 10.0 | < 10.0 | |
| 4-Aminobiphenyl | 92-67-1 | 10.0 | < 10.0 | |
| 4-Bromophenyl phenyl ether | 101-55-3 | 10.0 | < 10.0 | |
| 4-Chloro-3-methylphenol | 59-50-7 | 10.0 | < 10.0 | |
| 4-Chloroaniline | 106-47-8 | 10.0 | < 10.0 | |
| 4-Chlorophenyl phenyl ether | 7005-72-3 | 10.0 | < 10.0 | |
| 4-Nitroaniline | 100-01-6 | 10.0 | < 10.0 | |
| 4-Nitrophenol | 100-02-7 | 10.0 | < 10.0 | |
| 5-Nitro-o-toluidine | 99-55-8 | 10.0 | < 10.0 | |
| 7,12-Dimethylbenz(a)anthracene | 57-97-6 | 10.0 | < 10.0 | |
| a,a-Dimethylphenethylamine | 122-09-8 | 10.0 | < 10.0 | |
| Acenaphthene | 83-32-9 | 10.0 | < 10.0 | |
| Acenaphthylene | 208-96-8 | 10.0 | < 10.0 | |
| Acetophenone | 98-86-2 | 10.0 | < 10.0 | |
| alpha-Terpineol | 98-55-5 | 10.0 | < 10.0 | |
| Aniline | 62-53-3 | 10.0 | < 10.0 | |
| Anthracene | 120-12-7 | 10.0 | < 10.0 | |
| Aramite | 140-57-8 | 10.0 | < 10.0 | |
| Atrazine | 1912-24-9 | 10.0 | < 10.0 | |
| Azobenzene | 103-33-3 | 10.0 | < 10.0 | |
| Benz(a)anthracene | 56-55-3 | 10.0 | < 10.0 | |
| Benzaldehyde | 100-52-7 | 10.0 | < 10.0 | |
| Benzidine | 92-87-5 | 10.0 | < 10.0 | |
| Benzo(a)pyrene | 50-32-8 | 10.0 | < 10.0 | |
| Benzo(b)fluoranthene | 205-99-2 | 10.0 | < 10.0 | |
| Benzo(g,h,i)perylene | 191-24-2 | 10.0 | < 10.0 | |
| Benzo(k)fluoranthene | 207-08-9 | 10.0 | < 10.0 | |
| Benzoic acid | 65-85-0 | 20.0 | < 20.0 | |
| Benzyl alcohol | 100-51-6 | 10.0 | < 10.0 | |
| Bis(2-chloroethoxy)methane | 111-91-1 | 10.0 | < 10.0 | |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-001B
**Client Sample ID:** East of I-15 / 4920392

**Analyzed:** 4/9/2013 1321h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Bis(2-chloroethyl) ether | 111-44-4 | 10.0 | < 10.0 | |
| Bis(2-chloroisopropyl) ether | 108-60-1 | 10.0 | < 10.0 | |
| Bis(2-ethylhexyl) phthalate | 117-81-7 | 10.0 | < 10.0 | |
| bis(2-ethylhexyl)adipate | 103-23-1 | 10.0 | < 10.0 | |
| Butyl benzyl phthalate | 85-68-7 | 10.0 | < 10.0 | |
| Caprolactam | 105-60-2 | 10.0 | < 10.0 | |
| Carbazole | 86-74-8 | 10.0 | < 10.0 | |
| Chlorobenzilate | 510-15-6 | 10.0 | < 10.0 | |
| Chrysene | 218-01-9 | 10.0 | < 10.0 | |
| Di-n-butyl phthalate | 84-74-2 | 10.0 | < 10.0 | |
| Di-n-octyl phthalate | 117-84-0 | 10.0 | < 10.0 | |
| Diallate (cis or trans) | 2303-16-4 | 10.0 | < 10.0 | |
| Dibenz(a,h)anthracene | 53-70-3 | 10.0 | < 10.0 | |
| Dibenzofuran | 132-64-9 | 10.0 | < 10.0 | |
| Diethyl phthalate | 84-66-2 | 10.0 | < 10.0 | |
| Dimethoate | 60-51-5 | 10.0 | < 10.0 | |
| Dimethyl phthalate | 131-11-3 | 10.0 | < 10.0 | |
| Dimethylaminoazobenzene | 60-11-7 | 10.0 | < 10.0 | |
| Dinoseb | 88-85-7 | 10.0 | < 10.0 | |
| Diphenylamine | 122-39-4 | 10.0 | < 10.0 | |
| Disulfoton | 298-04-4 | 10.0 | < 10.0 | |
| Ethyl methanesulfonate | 62-50-0 | 10.0 | < 10.0 | |
| Famphur | 52-85-7 | 10.0 | < 10.0 | |
| Fluoranthene | 206-44-0 | 10.0 | < 10.0 | |
| Fluorene | 86-73-7 | 10.0 | < 10.0 | |
| Hexachlorobenzene | 118-74-1 | 10.0 | < 10.0 | |
| Hexachlorobutadiene | 87-68-3 | 10.0 | < 10.0 | |
| Hexachlorocyclopentadiene | 77-47-4 | 10.0 | < 10.0 | |
| Hexachloroethane | 67-72-1 | 10.0 | < 10.0 | |
| Hexachlorophene | 70-30-4 | 10.0 | < 10.0 | |
| Hexachloropropene | 1888-71-7 | 10.0 | < 10.0 | |
| Indene | 95-13-6 | 10.0 | < 10.0 | |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 10.0 | < 10.0 | |
| Isodrin | 465-73-6 | 10.0 | < 10.0 | |
| Isophorone | 78-59-1 | 10.0 | < 10.0 | |
| Isosafrole | 120-58-1 | 10.0 | < 10.0 | |
| Kepone | 143-50-0 | 10.0 | < 10.0 | |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-001B
**Client Sample ID:** East of I-15 / 4920392

**Analyzed:** 4/9/2013 1321h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Methapyrilene | 91-80-5 | 10.0 | < 10.0 | |
| Methyl methanesulfonate | 66-27-3 | 10.0 | < 10.0 | |
| n-Decane | 124-18-5 | 10.0 | < 10.0 | |
| N-Nitrosodi-n-butylamine | 924-16-3 | 10.0 | < 10.0 | |
| N-Nitrosodiethylamine | 55-18-5 | 10.0 | < 10.0 | |
| N-Nitrosodimethylamine | 62-75-9 | 10.0 | < 10.0 | |
| N-Nitrosodiphenylamine | 86-30-6 | 10.0 | < 10.0 | |
| N-Nitrosodi-n-propylamine | 621-64-7 | 10.0 | < 10.0 | |
| N-Nitrosomethylethylamine | 10595-95-6 | 10.0 | < 10.0 | |
| N-Nitrosomorpholine | 59-89-2 | 10.0 | < 10.0 | |
| N-Nitrosopiperidine | 100-75-4 | 10.0 | < 10.0 | |
| N-Nitrosopyrrolidine | 930-55-2 | 10.0 | < 10.0 | |
| n-Octadecane | 593-45-3 | 10.0 | < 10.0 | |
| Naphthalene | 91-20-3 | 10.0 | < 10.0 | |
| Nitrobenzene | 98-95-3 | 10.0 | < 10.0 | |
| Nitroquinoline-1-oxide | 56-57-5 | 10.0 | < 10.0 | |
| O,O,O-Triethyl phosphorothioate | 126-68-1 | 10.0 | < 10.0 | |
| o-Toluidine | 95-53-4 | 10.0 | < 10.0 | |
| Parathion | 56-38-2 | 10.0 | < 10.0 | |
| Methyl parathion | 298-00-0 | 10.0 | < 10.0 | |
| Pentachlorobenzene | 608-93-5 | 10.0 | < 10.0 | |
| Pentachloronitrobenzene | 82-68-8 | 10.0 | < 10.0 | |
| Pentachlorophenol | 87-86-5 | 10.0 | < 10.0 | |
| Phenacetin | 62-44-2 | 10.0 | < 10.0 | |
| Phenanthrene | 85-01-8 | 10.0 | < 10.0 | |
| Phenol | 108-95-2 | 10.0 | < 10.0 | |
| Phorate | 298-02-2 | 10.0 | < 10.0 | |
| Pronamide | 23950-58-5 | 10.0 | < 10.0 | |
| Pyrene | 129-00-0 | 10.0 | < 10.0 | |
| Pyridine | 110-86-1 | 10.0 | < 10.0 | |
| Quinoline | 91-22-5 | 10.0 | < 10.0 | |
| Safrole | 94-59-7 | 10.0 | < 10.0 | |
| Tetraethyl dithiopyrophosphate | 3689-24-5 | 10.0 | < 10.0 | |
| Thionazin | 297-97-2 | 10.0 | < 10.0 | |



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**Lab Sample ID:** 1304147-001B
**Client Sample ID:** East of I-15 / 4920392

**Analyzed:** 4/9/2013 1321h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|

| Surrogate | CAS | Result | Amount Spiked | % REC | Limits | Qual |
|---|---|---|---|---|---|---|
| Surr: 2,4,6-Tribromophenol | 118-79-6 | 62.8 | 80.00 | 78.6 | 14-159 | |
| Surr: 2-Fluorobiphenyl | 321-60-8 | 24.3 | 40.00 | 60.8 | 10-124 | |
| Surr: 2-Fluorophenol | 367-12-4 | 21.3 | 80.00 | 26.7 | 10-106 | |
| Surr: Nitrobenzene-d5 | 4165-60-0 | 19.2 | 40.00 | 47.9 | 10-180 | |
| Surr: Phenol-d6 | 13127-88-3 | 17.0 | 80.00 | 21.3 | 10-122 | |
| Surr: Terphenyl-d14 | 1718-51-0 | 41.1 | 40.00 | 103 | 10-221 | |

*This sample was analyzed for TICs and no unknown peaks were detected.*


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# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-002B
**Client Sample ID:** S. Marina / 4920495
**Collection Date:** 4/4/2013 830h
**Received Date:** 4/4/2013 1300h

**Analytical Results** SVOA List by GC/MS Method 8270D/3510C

**Analyzed:** 4/9/2013 1344h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D


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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer


| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 1,1´-Biphenyl | 92-52-4 | 10.0 | < 10.0 | |
| 1,2,4,5-Tetrachlorobenzene | 95-94-3 | 10.0 | < 10.0 | |
| 1,2,4-Trichlorobenzene | 120-82-1 | 10.0 | < 10.0 | |
| 1,2-Dichlorobenzene | 95-50-1 | 10.0 | < 10.0 | |
| 1,3,5-Trinitrobenzene | 99-35-4 | 10.0 | < 10.0 | |
| 1,3-Dichlorobenzene | 541-73-1 | 10.0 | < 10.0 | |
| 1,3-Dinitrobenzene | 99-65-0 | 10.0 | < 10.0 | |
| 1,4-Dichlorobenzene | 106-46-7 | 10.0 | < 10.0 | |
| 1,4-Dinitrobenzene | 100-25-4 | 10.0 | < 10.0 | |
| 1,4-Naphthoquinone | 130-15-4 | 10.0 | < 10.0 | |
| 1,4-Phenylenediamine | 106-50-3 | 10.0 | < 10.0 | |
| 1-Chloronaphthalene | 90-13-1 | 10.0 | < 10.0 | |
| 1-Methylnaphthalene | 90-12-0 | 10.0 | < 10.0 | |
| 1-Naphthylamine | 134-32-7 | 10.0 | < 10.0 | |
| 2,3,4,6-Tetrachlorophenol | 58-90-2 | 10.0 | < 10.0 | |
| 2,4,5-Trichlorophenol | 95-95-4 | 10.0 | < 10.0 | |
| 2,4,6-Trichlorophenol | 88-06-2 | 10.0 | < 10.0 | |
| 2,4-Dichlorophenol | 120-83-2 | 10.0 | < 10.0 | |
| 2,4-Dimethylphenol | 105-67-9 | 10.0 | < 10.0 | |
| 2,4-Dinitrophenol | 51-28-5 | 10.0 | < 10.0 | |
| 2,4-Dinitrotoluene | 121-14-2 | 10.0 | < 10.0 | |
| 2,6-Dichlorophenol | 87-65-0 | 10.0 | < 10.0 | |
| 2,6-Dinitrotoluene | 606-20-2 | 10.0 | < 10.0 | |
| 2-Acetylaminofluorene | 53-96-3 | 10.0 | < 10.0 | |
| 2-Chloronaphthalene | 91-58-7 | 10.0 | < 10.0 | |
| 2-Chlorophenol | 95-57-8 | 10.0 | < 10.0 | |
| 2-Methylnaphthalene | 91-57-6 | 10.0 | < 10.0 | |
| 2-Methylphenol | 95-48-7 | 10.0 | < 10.0 | |
| 2-Naphthylamine | 91-59-8 | 10.0 | < 10.0 | |
| 2-Nitroaniline | 88-74-4 | 10.0 | < 10.0 | |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-002B
**Client Sample ID:** S. Marina / 4920495

**Analyzed:** 4/9/2013 1344h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 2-Nitrophenol | 88-75-5 | 10.0 | < 10.0 | |
| 2-Picoline | 109-06-8 | 10.0 | < 10.0 | |
| 3&4-Methylphenol | | 10.0 | < 10.0 | |
| 3,3´-Dichlorobenzidine | 91-94-1 | 10.0 | < 10.0 | |
| 3,3´-Dimethylbenzidine | 119-93-7 | 10.0 | < 10.0 | |
| 3-Methylcholanthrene | 56-49-5 | 10.0 | < 10.0 | |
| 3-Nitroaniline | 99-09-2 | 10.0 | < 10.0 | |
| 4,6-Dinitro-2-methylphenol | 534-52-1 | 10.0 | < 10.0 | |
| 4-Aminobiphenyl | 92-67-1 | 10.0 | < 10.0 | |
| 4-Bromophenyl phenyl ether | 101-55-3 | 10.0 | < 10.0 | |
| 4-Chloro-3-methylphenol | 59-50-7 | 10.0 | < 10.0 | |
| 4-Chloroaniline | 106-47-8 | 10.0 | < 10.0 | |
| 4-Chlorophenyl phenyl ether | 7005-72-3 | 10.0 | < 10.0 | |
| 4-Nitroaniline | 100-01-6 | 10.0 | < 10.0 | |
| 4-Nitrophenol | 100-02-7 | 10.0 | < 10.0 | |
| 5-Nitro-o-toluidine | 99-55-8 | 10.0 | < 10.0 | |
| 7,12-Dimethylbenz(a)anthracene | 57-97-6 | 10.0 | < 10.0 | |
| a,a-Dimethylphenethylamine | 122-09-8 | 10.0 | < 10.0 | |
| Acenaphthene | 83-32-9 | 10.0 | < 10.0 | |
| Acenaphthylene | 208-96-8 | 10.0 | < 10.0 | |
| Acetophenone | 98-86-2 | 10.0 | < 10.0 | |
| alpha-Terpineol | 98-55-5 | 10.0 | < 10.0 | |
| Aniline | 62-53-3 | 10.0 | < 10.0 | |
| Anthracene | 120-12-7 | 10.0 | < 10.0 | |
| Aramite | 140-57-8 | 10.0 | < 10.0 | |
| Atrazine | 1912-24-9 | 10.0 | < 10.0 | |
| Azobenzene | 103-33-3 | 10.0 | < 10.0 | |
| Benz(a)anthracene | 56-55-3 | 10.0 | < 10.0 | |
| Benzaldehyde | 100-52-7 | 10.0 | < 10.0 | |
| Benzidine | 92-87-5 | 10.0 | < 10.0 | |
| Benzo(a)pyrene | 50-32-8 | 10.0 | < 10.0 | |
| Benzo(b)fluoranthene | 205-99-2 | 10.0 | < 10.0 | |
| Benzo(g,h,i)perylene | 191-24-2 | 10.0 | < 10.0 | |
| Benzo(k)fluoranthene | 207-08-9 | 10.0 | < 10.0 | |
| Benzoic acid | 65-85-0 | 20.0 | < 20.0 | |
| Benzyl alcohol | 100-51-6 | 10.0 | < 10.0 | |
| Bis(2-chloroethoxy)methane | 111-91-1 | 10.0 | < 10.0 | |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-002B
**Client Sample ID:** S. Marina / 4920495

**Analyzed:** 4/9/2013 1344h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Bis(2-chloroethyl) ether | 111-44-4 | 10.0 | < 10.0 | |
| Bis(2-chloroisopropyl) ether | 108-60-1 | 10.0 | < 10.0 | |
| Bis(2-ethylhexyl) phthalate | 117-81-7 | 10.0 | < 10.0 | |
| bis(2-ethylhexyl)adipate | 103-23-1 | 10.0 | < 10.0 | |
| Butyl benzyl phthalate | 85-68-7 | 10.0 | < 10.0 | |
| Caprolactam | 105-60-2 | 10.0 | < 10.0 | |
| Carbazole | 86-74-8 | 10.0 | < 10.0 | |
| Chlorobenzilate | 510-15-6 | 10.0 | < 10.0 | |
| Chrysene | 218-01-9 | 10.0 | < 10.0 | |
| Di-n-butyl phthalate | 84-74-2 | 10.0 | < 10.0 | |
| Di-n-octyl phthalate | 117-84-0 | 10.0 | < 10.0 | |
| Diallate (cis or trans) | 2303-16-4 | 10.0 | < 10.0 | |
| Dibenz(a,h)anthracene | 53-70-3 | 10.0 | < 10.0 | |
| Dibenzofuran | 132-64-9 | 10.0 | < 10.0 | |
| Diethyl phthalate | 84-66-2 | 10.0 | < 10.0 | |
| Dimethoate | 60-51-5 | 10.0 | < 10.0 | |
| Dimethyl phthalate | 131-11-3 | 10.0 | < 10.0 | |
| Dimethylaminoazobenzene | 60-11-7 | 10.0 | < 10.0 | |
| Dinoseb | 88-85-7 | 10.0 | < 10.0 | |
| Diphenylamine | 122-39-4 | 10.0 | < 10.0 | |
| Disulfoton | 298-04-4 | 10.0 | < 10.0 | |
| Ethyl methanesulfonate | 62-50-0 | 10.0 | < 10.0 | |
| Famphur | 52-85-7 | 10.0 | < 10.0 | |
| Fluoranthene | 206-44-0 | 10.0 | < 10.0 | |
| Fluorene | 86-73-7 | 10.0 | < 10.0 | |
| Hexachlorobenzene | 118-74-1 | 10.0 | < 10.0 | |
| Hexachlorobutadiene | 87-68-3 | 10.0 | < 10.0 | |
| Hexachlorocyclopentadiene | 77-47-4 | 10.0 | < 10.0 | |
| Hexachloroethane | 67-72-1 | 10.0 | < 10.0 | |
| Hexachlorophene | 70-30-4 | 10.0 | < 10.0 | |
| Hexachloropropene | 1888-71-7 | 10.0 | < 10.0 | |
| Indene | 95-13-6 | 10.0 | < 10.0 | |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 10.0 | < 10.0 | |
| Isodrin | 465-73-6 | 10.0 | < 10.0 | |
| Isophorone | 78-59-1 | 10.0 | < 10.0 | |
| Isosafrole | 120-58-1 | 10.0 | < 10.0 | |
| Kepone | 143-50-0 | 10.0 | < 10.0 | |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-002B
**Client Sample ID:** S. Marina / 4920495

**Analyzed:** 4/9/2013 1344h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Methapyrilene | 91-80-5 | 10.0 | < 10.0 | |
| Methyl methanesulfonate | 66-27-3 | 10.0 | < 10.0 | |
| n-Decane | 124-18-5 | 10.0 | < 10.0 | |
| N-Nitrosodi-n-butylamine | 924-16-3 | 10.0 | < 10.0 | |
| N-Nitrosodiethylamine | 55-18-5 | 10.0 | < 10.0 | |
| N-Nitrosodimethylamine | 62-75-9 | 10.0 | < 10.0 | |
| N-Nitrosodiphenylamine | 86-30-6 | 10.0 | < 10.0 | |
| N-Nitrosodi-n-propylamine | 621-64-7 | 10.0 | < 10.0 | |
| N-Nitrosomethylethylamine | 10595-95-6 | 10.0 | < 10.0 | |
| N-Nitrosomorpholine | 59-89-2 | 10.0 | < 10.0 | |
| N-Nitrosopiperidine | 100-75-4 | 10.0 | < 10.0 | |
| N-Nitrosopyrrolidine | 930-55-2 | 10.0 | < 10.0 | |
| n-Octadecane | 593-45-3 | 10.0 | < 10.0 | |
| Naphthalene | 91-20-3 | 10.0 | < 10.0 | |
| Nitrobenzene | 98-95-3 | 10.0 | < 10.0 | |
| Nitroquinoline-1-oxide | 56-57-5 | 10.0 | < 10.0 | |
| O,O,O-Triethyl phosphorothioate | 126-68-1 | 10.0 | < 10.0 | |
| o-Toluidine | 95-53-4 | 10.0 | < 10.0 | |
| Parathion | 56-38-2 | 10.0 | < 10.0 | |
| Methyl parathion | 298-00-0 | 10.0 | < 10.0 | |
| Pentachlorobenzene | 608-93-5 | 10.0 | < 10.0 | |
| Pentachloronitrobenzene | 82-68-8 | 10.0 | < 10.0 | |
| Pentachlorophenol | 87-86-5 | 10.0 | < 10.0 | |
| Phenacetin | 62-44-2 | 10.0 | < 10.0 | |
| Phenanthrene | 85-01-8 | 10.0 | < 10.0 | |
| Phenol | 108-95-2 | 10.0 | < 10.0 | |
| Phorate | 298-02-2 | 10.0 | < 10.0 | |
| Pronamide | 23950-58-5 | 10.0 | < 10.0 | |
| Pyrene | 129-00-0 | 10.0 | < 10.0 | |
| Pyridine | 110-86-1 | 10.0 | < 10.0 | |
| Quinoline | 91-22-5 | 10.0 | < 10.0 | |
| Safrole | 94-59-7 | 10.0 | < 10.0 | |
| Tetraethyl dithiopyrophosphate | 3689-24-5 | 10.0 | < 10.0 | |
| Thionazin | 297-97-2 | 10.0 | < 10.0 | |



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**Lab Sample ID:** 1304147-002B
**Client Sample ID:** S. Marina / 4920495

**Analyzed:** 4/9/2013 1344h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|

| Surrogate | CAS | Result | Amount Spiked | % REC | Limits | Qual |
|---|---|---|---|---|---|---|
| Surr: 2,4,6-Tribromophenol | 118-79-6 | 51.5 | 80.00 | 64.4 | 14-159 | |
| Surr: 2-Fluorobiphenyl | 321-60-8 | 19.9 | 40.00 | 49.7 | 10-124 | |
| Surr: 2-Fluorophenol | 367-12-4 | 26.2 | 80.00 | 32.7 | 10-106 | |
| Surr: Nitrobenzene-d5 | 4165-60-0 | 17.4 | 40.00 | 43.4 | 10-180 | |
| Surr: Phenol-d6 | 13127-88-3 | 19.2 | 80.00 | 24.0 | 10-122 | |
| Surr: Terphenyl-d14 | 1718-51-0 | 26.0 | 40.00 | 64.9 | 10-221 | |

*This sample was analyzed for TICs and no unknown peaks were detected.*


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# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-003B
**Client Sample ID:** 50' from N Boom / 4920508
**Collection Date:** 4/4/2013 930h
**Received Date:** 4/4/2013 1300h

**Analytical Results** SVOA List by GC/MS Method 8270D/3510C

**Analyzed:** 4/9/2013 1407h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D


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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer


| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 1,1´-Biphenyl | 92-52-4 | 10.0 | < 10.0 | |
| 1,2,4,5-Tetrachlorobenzene | 95-94-3 | 10.0 | < 10.0 | |
| 1,2,4-Trichlorobenzene | 120-82-1 | 10.0 | < 10.0 | |
| 1,2-Dichlorobenzene | 95-50-1 | 10.0 | < 10.0 | |
| 1,3,5-Trinitrobenzene | 99-35-4 | 10.0 | < 10.0 | |
| 1,3-Dichlorobenzene | 541-73-1 | 10.0 | < 10.0 | |
| 1,3-Dinitrobenzene | 99-65-0 | 10.0 | < 10.0 | |
| 1,4-Dichlorobenzene | 106-46-7 | 10.0 | < 10.0 | |
| 1,4-Dinitrobenzene | 100-25-4 | 10.0 | < 10.0 | |
| 1,4-Naphthoquinone | 130-15-4 | 10.0 | < 10.0 | |
| 1,4-Phenylenediamine | 106-50-3 | 10.0 | < 10.0 | |
| 1-Chloronaphthalene | 90-13-1 | 10.0 | < 10.0 | |
| 1-Methylnaphthalene | 90-12-0 | 10.0 | < 10.0 | |
| 1-Naphthylamine | 134-32-7 | 10.0 | < 10.0 | |
| 2,3,4,6-Tetrachlorophenol | 58-90-2 | 10.0 | < 10.0 | |
| 2,4,5-Trichlorophenol | 95-95-4 | 10.0 | < 10.0 | |
| 2,4,6-Trichlorophenol | 88-06-2 | 10.0 | < 10.0 | |
| 2,4-Dichlorophenol | 120-83-2 | 10.0 | < 10.0 | |
| 2,4-Dimethylphenol | 105-67-9 | 10.0 | < 10.0 | |
| 2,4-Dinitrophenol | 51-28-5 | 10.0 | < 10.0 | |
| 2,4-Dinitrotoluene | 121-14-2 | 10.0 | < 10.0 | |
| 2,6-Dichlorophenol | 87-65-0 | 10.0 | < 10.0 | |
| 2,6-Dinitrotoluene | 606-20-2 | 10.0 | < 10.0 | |
| 2-Acetylaminofluorene | 53-96-3 | 10.0 | < 10.0 | |
| 2-Chloronaphthalene | 91-58-7 | 10.0 | < 10.0 | |
| 2-Chlorophenol | 95-57-8 | 10.0 | < 10.0 | |
| 2-Methylnaphthalene | 91-57-6 | 10.0 | < 10.0 | |
| 2-Methylphenol | 95-48-7 | 10.0 | < 10.0 | |
| 2-Naphthylamine | 91-59-8 | 10.0 | < 10.0 | |
| 2-Nitroaniline | 88-74-4 | 10.0 | < 10.0 | |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-003B
**Client Sample ID:** 50' from N Boom / 4920508

**Analyzed:** 4/9/2013 1407h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 2-Nitrophenol | 88-75-5 | 10.0 | < 10.0 | |
| 2-Picoline | 109-06-8 | 10.0 | < 10.0 | |
| 3&4-Methylphenol | | 10.0 | < 10.0 | |
| 3,3´-Dichlorobenzidine | 91-94-1 | 10.0 | < 10.0 | |
| 3,3´-Dimethylbenzidine | 119-93-7 | 10.0 | < 10.0 | |
| 3-Methylcholanthrene | 56-49-5 | 10.0 | < 10.0 | |
| 3-Nitroaniline | 99-09-2 | 10.0 | < 10.0 | |
| 4,6-Dinitro-2-methylphenol | 534-52-1 | 10.0 | < 10.0 | |
| 4-Aminobiphenyl | 92-67-1 | 10.0 | < 10.0 | |
| 4-Bromophenyl phenyl ether | 101-55-3 | 10.0 | < 10.0 | |
| 4-Chloro-3-methylphenol | 59-50-7 | 10.0 | < 10.0 | |
| 4-Chloroaniline | 106-47-8 | 10.0 | < 10.0 | |
| 4-Chlorophenyl phenyl ether | 7005-72-3 | 10.0 | < 10.0 | |
| 4-Nitroaniline | 100-01-6 | 10.0 | < 10.0 | |
| 4-Nitrophenol | 100-02-7 | 10.0 | < 10.0 | |
| 5-Nitro-o-toluidine | 99-55-8 | 10.0 | < 10.0 | |
| 7,12-Dimethylbenz(a)anthracene | 57-97-6 | 10.0 | < 10.0 | |
| a,a-Dimethylphenethylamine | 122-09-8 | 10.0 | < 10.0 | |
| Acenaphthene | 83-32-9 | 10.0 | < 10.0 | |
| Acenaphthylene | 208-96-8 | 10.0 | < 10.0 | |
| Acetophenone | 98-86-2 | 10.0 | < 10.0 | |
| alpha-Terpineol | 98-55-5 | 10.0 | < 10.0 | |
| Aniline | 62-53-3 | 10.0 | < 10.0 | |
| Anthracene | 120-12-7 | 10.0 | < 10.0 | |
| Aramite | 140-57-8 | 10.0 | < 10.0 | |
| Atrazine | 1912-24-9 | 10.0 | < 10.0 | |
| Azobenzene | 103-33-3 | 10.0 | < 10.0 | |
| Benz(a)anthracene | 56-55-3 | 10.0 | < 10.0 | |
| Benzaldehyde | 100-52-7 | 10.0 | < 10.0 | |
| Benzidine | 92-87-5 | 10.0 | < 10.0 | |
| Benzo(a)pyrene | 50-32-8 | 10.0 | < 10.0 | |
| Benzo(b)fluoranthene | 205-99-2 | 10.0 | < 10.0 | |
| Benzo(g,h,i)perylene | 191-24-2 | 10.0 | < 10.0 | |
| Benzo(k)fluoranthene | 207-08-9 | 10.0 | < 10.0 | |
| Benzoic acid | 65-85-0 | 20.0 | < 20.0 | |
| Benzyl alcohol | 100-51-6 | 10.0 | < 10.0 | |
| Bis(2-chloroethoxy)methane | 111-91-1 | 10.0 | < 10.0 | |



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QA Officer

**Lab Sample ID:** 1304147-003B
**Client Sample ID:** 50' from N Boom / 4920508

**Analyzed:** 4/9/2013 1407h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Bis(2-chloroethyl) ether | 111-44-4 | 10.0 | < 10.0 | |
| Bis(2-chloroisopropyl) ether | 108-60-1 | 10.0 | < 10.0 | |
| Bis(2-ethylhexyl) phthalate | 117-81-7 | 10.0 | **11.6** | |
| bis(2-ethylhexyl)adipate | 103-23-1 | 10.0 | < 10.0 | |
| Butyl benzyl phthalate | 85-68-7 | 10.0 | < 10.0 | |
| Caprolactam | 105-60-2 | 10.0 | < 10.0 | |
| Carbazole | 86-74-8 | 10.0 | < 10.0 | |
| Chlorobenzilate | 510-15-6 | 10.0 | < 10.0 | |
| Chrysene | 218-01-9 | 10.0 | < 10.0 | |
| Di-n-butyl phthalate | 84-74-2 | 10.0 | < 10.0 | |
| Di-n-octyl phthalate | 117-84-0 | 10.0 | < 10.0 | |
| Diallate (cis or trans) | 2303-16-4 | 10.0 | < 10.0 | |
| Dibenz(a,h)anthracene | 53-70-3 | 10.0 | < 10.0 | |
| Dibenzofuran | 132-64-9 | 10.0 | < 10.0 | |
| Diethyl phthalate | 84-66-2 | 10.0 | < 10.0 | |
| Dimethoate | 60-51-5 | 10.0 | < 10.0 | |
| Dimethyl phthalate | 131-11-3 | 10.0 | < 10.0 | |
| Dimethylaminoazobenzene | 60-11-7 | 10.0 | < 10.0 | |
| Dinoseb | 88-85-7 | 10.0 | < 10.0 | |
| Diphenylamine | 122-39-4 | 10.0 | < 10.0 | |
| Disulfoton | 298-04-4 | 10.0 | < 10.0 | |
| Ethyl methanesulfonate | 62-50-0 | 10.0 | < 10.0 | |
| Famphur | 52-85-7 | 10.0 | < 10.0 | |
| Fluoranthene | 206-44-0 | 10.0 | < 10.0 | |
| Fluorene | 86-73-7 | 10.0 | < 10.0 | |
| Hexachlorobenzene | 118-74-1 | 10.0 | < 10.0 | |
| Hexachlorobutadiene | 87-68-3 | 10.0 | < 10.0 | |
| Hexachlorocyclopentadiene | 77-47-4 | 10.0 | < 10.0 | |
| Hexachloroethane | 67-72-1 | 10.0 | < 10.0 | |
| Hexachlorophene | 70-30-4 | 10.0 | < 10.0 | |
| Hexachloropropene | 1888-71-7 | 10.0 | < 10.0 | |
| Indene | 95-13-6 | 10.0 | < 10.0 | |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 10.0 | < 10.0 | |
| Isodrin | 465-73-6 | 10.0 | < 10.0 | |
| Isophorone | 78-59-1 | 10.0 | < 10.0 | |
| Isosafrole | 120-58-1 | 10.0 | < 10.0 | |
| Kepone | 143-50-0 | 10.0 | < 10.0 | |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-003B
**Client Sample ID:** 50' from N Boom / 4920508

**Analyzed:** 4/9/2013 1407h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Methapyrilene | 91-80-5 | 10.0 | < 10.0 | |
| Methyl methanesulfonate | 66-27-3 | 10.0 | < 10.0 | |
| n-Decane | 124-18-5 | 10.0 | < 10.0 | |
| N-Nitrosodi-n-butylamine | 924-16-3 | 10.0 | < 10.0 | |
| N-Nitrosodiethylamine | 55-18-5 | 10.0 | < 10.0 | |
| N-Nitrosodimethylamine | 62-75-9 | 10.0 | < 10.0 | |
| N-Nitrosodiphenylamine | 86-30-6 | 10.0 | < 10.0 | |
| N-Nitrosodi-n-propylamine | 621-64-7 | 10.0 | < 10.0 | |
| N-Nitrosomethylethylamine | 10595-95-6 | 10.0 | < 10.0 | |
| N-Nitrosomorpholine | 59-89-2 | 10.0 | < 10.0 | |
| N-Nitrosopiperidine | 100-75-4 | 10.0 | < 10.0 | |
| N-Nitrosopyrrolidine | 930-55-2 | 10.0 | < 10.0 | |
| n-Octadecane | 593-45-3 | 10.0 | < 10.0 | |
| Naphthalene | 91-20-3 | 10.0 | < 10.0 | |
| Nitrobenzene | 98-95-3 | 10.0 | < 10.0 | |
| Nitroquinoline-1-oxide | 56-57-5 | 10.0 | < 10.0 | |
| O,O,O-Triethyl phosphorothioate | 126-68-1 | 10.0 | < 10.0 | |
| o-Toluidine | 95-53-4 | 10.0 | < 10.0 | |
| Parathion | 56-38-2 | 10.0 | < 10.0 | |
| Methyl parathion | 298-00-0 | 10.0 | < 10.0 | |
| Pentachlorobenzene | 608-93-5 | 10.0 | < 10.0 | |
| Pentachloronitrobenzene | 82-68-8 | 10.0 | < 10.0 | |
| Pentachlorophenol | 87-86-5 | 10.0 | < 10.0 | |
| Phenacetin | 62-44-2 | 10.0 | < 10.0 | |
| Phenanthrene | 85-01-8 | 10.0 | < 10.0 | |
| Phenol | 108-95-2 | 10.0 | < 10.0 | |
| Phorate | 298-02-2 | 10.0 | < 10.0 | |
| Pronamide | 23950-58-5 | 10.0 | < 10.0 | |
| Pyrene | 129-00-0 | 10.0 | < 10.0 | |
| Pyridine | 110-86-1 | 10.0 | < 10.0 | |
| Quinoline | 91-22-5 | 10.0 | < 10.0 | |
| Safrole | 94-59-7 | 10.0 | < 10.0 | |
| Tetraethyl dithiopyrophosphate | 3689-24-5 | 10.0 | < 10.0 | |
| Thionazin | 297-97-2 | 10.0 | < 10.0 | |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-003B
**Client Sample ID:** 50' from N Boom / 4920508

**Analyzed:** 4/9/2013 1407h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|

| Surrogate | CAS | Result | Amount Spiked | % REC | Limits | Qual |
|---|---|---|---|---|---|---|
| Surr: 2,4,6-Tribromophenol | 118-79-6 | 61.3 | 80.00 | 76.6 | 14-159 | |
| Surr: 2-Fluorobiphenyl | 321-60-8 | 20.0 | 40.00 | 50.1 | 10-124 | |
| Surr: 2-Fluorophenol | 367-12-4 | 25.8 | 80.00 | 32.2 | 10-106 | |
| Surr: Nitrobenzene-d5 | 4165-60-0 | 17.7 | 40.00 | 44.2 | 10-180 | |
| Surr: Phenol-d6 | 13127-88-3 | 18.6 | 80.00 | 23.3 | 10-122 | |
| Surr: Terphenyl-d14 | 1718-51-0 | 32.9 | 40.00 | 82.2 | 10-221 | |

*This sample was analyzed for TICs and no unknown peaks were detected.*



All analyses applicable to the CWA, SDWA, and RCRA are performed in accordance to NELAC protocols. Pertinent sampling information is located on the attached COC. This report is provided for the exclusive use of the addressee. Privileges of subsequent use of the name of this company or any member of its staff, or reproduction of this report in connection with the advertisement, promotion or sale of any product or process, or in connection with the re-publication of this report for any purpose other than for the addressee will be granted only on contact. This company accepts no responsibility except for the due performance of inspection and/or analysis in good faith and according to the rules of the trade and of science.

# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-004B
**Client Sample ID:** North Boom / 4920397
**Collection Date:** 4/4/2013 940h
**Received Date:** 4/4/2013 1300h

**Analytical Results** SVOA List by GC/MS Method 8270D/3510C

**Analyzed:** 4/9/2013 1431h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D


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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer


| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 1,1´-Biphenyl | 92-52-4 | 10.0 | < 10.0 | |
| 1,2,4,5-Tetrachlorobenzene | 95-94-3 | 10.0 | < 10.0 | |
| 1,2,4-Trichlorobenzene | 120-82-1 | 10.0 | < 10.0 | |
| 1,2-Dichlorobenzene | 95-50-1 | 10.0 | < 10.0 | |
| 1,3,5-Trinitrobenzene | 99-35-4 | 10.0 | < 10.0 | |
| 1,3-Dichlorobenzene | 541-73-1 | 10.0 | < 10.0 | |
| 1,3-Dinitrobenzene | 99-65-0 | 10.0 | < 10.0 | |
| 1,4-Dichlorobenzene | 106-46-7 | 10.0 | < 10.0 | |
| 1,4-Dinitrobenzene | 100-25-4 | 10.0 | < 10.0 | |
| 1,4-Naphthoquinone | 130-15-4 | 10.0 | < 10.0 | |
| 1,4-Phenylenediamine | 106-50-3 | 10.0 | < 10.0 | |
| 1-Chloronaphthalene | 90-13-1 | 10.0 | < 10.0 | |
| 1-Methylnaphthalene | 90-12-0 | 10.0 | < 10.0 | |
| 1-Naphthylamine | 134-32-7 | 10.0 | < 10.0 | |
| 2,3,4,6-Tetrachlorophenol | 58-90-2 | 10.0 | < 10.0 | |
| 2,4,5-Trichlorophenol | 95-95-4 | 10.0 | < 10.0 | |
| 2,4,6-Trichlorophenol | 88-06-2 | 10.0 | < 10.0 | |
| 2,4-Dichlorophenol | 120-83-2 | 10.0 | < 10.0 | |
| 2,4-Dimethylphenol | 105-67-9 | 10.0 | < 10.0 | |
| 2,4-Dinitrophenol | 51-28-5 | 10.0 | < 10.0 | |
| 2,4-Dinitrotoluene | 121-14-2 | 10.0 | < 10.0 | |
| 2,6-Dichlorophenol | 87-65-0 | 10.0 | < 10.0 | |
| 2,6-Dinitrotoluene | 606-20-2 | 10.0 | < 10.0 | |
| 2-Acetylaminofluorene | 53-96-3 | 10.0 | < 10.0 | |
| 2-Chloronaphthalene | 91-58-7 | 10.0 | < 10.0 | |
| 2-Chlorophenol | 95-57-8 | 10.0 | < 10.0 | |
| 2-Methylnaphthalene | 91-57-6 | 10.0 | < 10.0 | |
| 2-Methylphenol | 95-48-7 | 10.0 | < 10.0 | |
| 2-Naphthylamine | 91-59-8 | 10.0 | < 10.0 | |
| 2-Nitroaniline | 88-74-4 | 10.0 | < 10.0 | |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-004B
**Client Sample ID:** North Boom / 4920397

**Analyzed:** 4/9/2013 1431h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 2-Nitrophenol | 88-75-5 | 10.0 | < 10.0 | |
| 2-Picoline | 109-06-8 | 10.0 | < 10.0 | |
| 3&4-Methylphenol | | 10.0 | < 10.0 | |
| 3,3´-Dichlorobenzidine | 91-94-1 | 10.0 | < 10.0 | |
| 3,3´-Dimethylbenzidine | 119-93-7 | 10.0 | < 10.0 | |
| 3-Methylcholanthrene | 56-49-5 | 10.0 | < 10.0 | |
| 3-Nitroaniline | 99-09-2 | 10.0 | < 10.0 | |
| 4,6-Dinitro-2-methylphenol | 534-52-1 | 10.0 | < 10.0 | |
| 4-Aminobiphenyl | 92-67-1 | 10.0 | < 10.0 | |
| 4-Bromophenyl phenyl ether | 101-55-3 | 10.0 | < 10.0 | |
| 4-Chloro-3-methylphenol | 59-50-7 | 10.0 | < 10.0 | |
| 4-Chloroaniline | 106-47-8 | 10.0 | < 10.0 | |
| 4-Chlorophenyl phenyl ether | 7005-72-3 | 10.0 | < 10.0 | |
| 4-Nitroaniline | 100-01-6 | 10.0 | < 10.0 | |
| 4-Nitrophenol | 100-02-7 | 10.0 | < 10.0 | |
| 5-Nitro-o-toluidine | 99-55-8 | 10.0 | < 10.0 | |
| 7,12-Dimethylbenz(a)anthracene | 57-97-6 | 10.0 | < 10.0 | |
| a,a-Dimethylphenethylamine | 122-09-8 | 10.0 | < 10.0 | |
| Acenaphthene | 83-32-9 | 10.0 | < 10.0 | |
| Acenaphthylene | 208-96-8 | 10.0 | < 10.0 | |
| Acetophenone | 98-86-2 | 10.0 | < 10.0 | |
| alpha-Terpineol | 98-55-5 | 10.0 | < 10.0 | |
| Aniline | 62-53-3 | 10.0 | < 10.0 | |
| Anthracene | 120-12-7 | 10.0 | < 10.0 | |
| Aramite | 140-57-8 | 10.0 | < 10.0 | |
| Atrazine | 1912-24-9 | 10.0 | < 10.0 | |
| Azobenzene | 103-33-3 | 10.0 | < 10.0 | |
| Benz(a)anthracene | 56-55-3 | 10.0 | < 10.0 | |
| Benzaldehyde | 100-52-7 | 10.0 | < 10.0 | |
| Benzidine | 92-87-5 | 10.0 | < 10.0 | |
| Benzo(a)pyrene | 50-32-8 | 10.0 | < 10.0 | |
| Benzo(b)fluoranthene | 205-99-2 | 10.0 | < 10.0 | |
| Benzo(g,h,i)perylene | 191-24-2 | 10.0 | < 10.0 | |
| Benzo(k)fluoranthene | 207-08-9 | 10.0 | < 10.0 | |
| Benzoic acid | 65-85-0 | 20.0 | < 20.0 | |
| Benzyl alcohol | 100-51-6 | 10.0 | < 10.0 | |
| Bis(2-chloroethoxy)methane | 111-91-1 | 10.0 | < 10.0 | |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-004B
**Client Sample ID:** North Boom / 4920397

**Analyzed:** 4/9/2013 1431h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Bis(2-chloroethyl) ether | 111-44-4 | 10.0 | < 10.0 | |
| Bis(2-chloroisopropyl) ether | 108-60-1 | 10.0 | < 10.0 | |
| Bis(2-ethylhexyl) phthalate | 117-81-7 | 10.0 | < 10.0 | |
| bis(2-ethylhexyl)adipate | 103-23-1 | 10.0 | < 10.0 | |
| Butyl benzyl phthalate | 85-68-7 | 10.0 | < 10.0 | |
| Caprolactam | 105-60-2 | 10.0 | < 10.0 | |
| Carbazole | 86-74-8 | 10.0 | < 10.0 | |
| Chlorobenzilate | 510-15-6 | 10.0 | < 10.0 | |
| Chrysene | 218-01-9 | 10.0 | < 10.0 | |
| Di-n-butyl phthalate | 84-74-2 | 10.0 | < 10.0 | |
| Di-n-octyl phthalate | 117-84-0 | 10.0 | < 10.0 | |
| Diallate (cis or trans) | 2303-16-4 | 10.0 | < 10.0 | |
| Dibenz(a,h)anthracene | 53-70-3 | 10.0 | < 10.0 | |
| Dibenzofuran | 132-64-9 | 10.0 | < 10.0 | |
| Diethyl phthalate | 84-66-2 | 10.0 | < 10.0 | |
| Dimethoate | 60-51-5 | 10.0 | < 10.0 | |
| Dimethyl phthalate | 131-11-3 | 10.0 | < 10.0 | |
| Dimethylaminoazobenzene | 60-11-7 | 10.0 | < 10.0 | |
| Dinoseb | 88-85-7 | 10.0 | < 10.0 | |
| Diphenylamine | 122-39-4 | 10.0 | < 10.0 | |
| Disulfoton | 298-04-4 | 10.0 | < 10.0 | |
| Ethyl methanesulfonate | 62-50-0 | 10.0 | < 10.0 | |
| Famphur | 52-85-7 | 10.0 | < 10.0 | |
| Fluoranthene | 206-44-0 | 10.0 | < 10.0 | |
| Fluorene | 86-73-7 | 10.0 | < 10.0 | |
| Hexachlorobenzene | 118-74-1 | 10.0 | < 10.0 | |
| Hexachlorobutadiene | 87-68-3 | 10.0 | < 10.0 | |
| Hexachlorocyclopentadiene | 77-47-4 | 10.0 | < 10.0 | |
| Hexachloroethane | 67-72-1 | 10.0 | < 10.0 | |
| Hexachlorophene | 70-30-4 | 10.0 | < 10.0 | |
| Hexachloropropene | 1888-71-7 | 10.0 | < 10.0 | |
| Indene | 95-13-6 | 10.0 | < 10.0 | |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 10.0 | < 10.0 | |
| Isodrin | 465-73-6 | 10.0 | < 10.0 | |
| Isophorone | 78-59-1 | 10.0 | < 10.0 | |
| Isosafrole | 120-58-1 | 10.0 | < 10.0 | |
| Kepone | 143-50-0 | 10.0 | < 10.0 | |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-004B
**Client Sample ID:** North Boom / 4920397

**Analyzed:** 4/9/2013 1431h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Methapyrilene | 91-80-5 | 10.0 | < 10.0 | |
| Methyl methanesulfonate | 66-27-3 | 10.0 | < 10.0 | |
| n-Decane | 124-18-5 | 10.0 | < 10.0 | |
| N-Nitrosodi-n-butylamine | 924-16-3 | 10.0 | < 10.0 | |
| N-Nitrosodiethylamine | 55-18-5 | 10.0 | < 10.0 | |
| N-Nitrosodimethylamine | 62-75-9 | 10.0 | < 10.0 | |
| N-Nitrosodiphenylamine | 86-30-6 | 10.0 | < 10.0 | |
| N-Nitrosodi-n-propylamine | 621-64-7 | 10.0 | < 10.0 | |
| N-Nitrosomethylethylamine | 10595-95-6 | 10.0 | < 10.0 | |
| N-Nitrosomorpholine | 59-89-2 | 10.0 | < 10.0 | |
| N-Nitrosopiperidine | 100-75-4 | 10.0 | < 10.0 | |
| N-Nitrosopyrrolidine | 930-55-2 | 10.0 | < 10.0 | |
| n-Octadecane | 593-45-3 | 10.0 | < 10.0 | |
| Naphthalene | 91-20-3 | 10.0 | < 10.0 | |
| Nitrobenzene | 98-95-3 | 10.0 | < 10.0 | |
| Nitroquinoline-1-oxide | 56-57-5 | 10.0 | < 10.0 | |
| O,O,O-Triethyl phosphorothioate | 126-68-1 | 10.0 | < 10.0 | |
| o-Toluidine | 95-53-4 | 10.0 | < 10.0 | |
| Parathion | 56-38-2 | 10.0 | < 10.0 | |
| Methyl parathion | 298-00-0 | 10.0 | < 10.0 | |
| Pentachlorobenzene | 608-93-5 | 10.0 | < 10.0 | |
| Pentachloronitrobenzene | 82-68-8 | 10.0 | < 10.0 | |
| Pentachlorophenol | 87-86-5 | 10.0 | < 10.0 | |
| Phenacetin | 62-44-2 | 10.0 | < 10.0 | |
| Phenanthrene | 85-01-8 | 10.0 | < 10.0 | |
| Phenol | 108-95-2 | 10.0 | < 10.0 | |
| Phorate | 298-02-2 | 10.0 | < 10.0 | |
| Pronamide | 23950-58-5 | 10.0 | < 10.0 | |
| Pyrene | 129-00-0 | 10.0 | < 10.0 | |
| Pyridine | 110-86-1 | 10.0 | < 10.0 | |
| Quinoline | 91-22-5 | 10.0 | < 10.0 | |
| Safrole | 94-59-7 | 10.0 | < 10.0 | |
| Tetraethyl dithiopyrophosphate | 3689-24-5 | 10.0 | < 10.0 | |
| Thionazin | 297-97-2 | 10.0 | < 10.0 | |



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**Lab Sample ID:** 1304147-004B
**Client Sample ID:** North Boom / 4920397

**Analyzed:** 4/9/2013 1431h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|

| Surrogate | CAS | Result | Amount Spiked | % REC | Limits | Qual |
|---|---|---|---|---|---|---|
| Surr: 2,4,6-Tribromophenol | 118-79-6 | 53.0 | 80.00 | 66.3 | 14-159 | |
| Surr: 2-Fluorobiphenyl | 321-60-8 | 13.8 | 40.00 | 34.4 | 10-124 | |
| Surr: 2-Fluorophenol | 367-12-4 | 18.1 | 80.00 | 22.6 | 10-106 | |
| Surr: Nitrobenzene-d5 | 4165-60-0 | 11.3 | 40.00 | 28.2 | 10-180 | |
| Surr: Phenol-d6 | 13127-88-3 | 14.5 | 80.00 | 18.1 | 10-122 | |
| Surr: Terphenyl-d14 | 1718-51-0 | 29.6 | 40.00 | 74.0 | 10-221 | |

*This sample was analyzed for TICs and no unknown peaks were detected.*

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Kyle F. Gross
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Jose Rocha
QA Officer



All analyses applicable to the CWA, SDWA, and RCRA are performed in accordance to NELAC protocols. Pertinent sampling information is located on the attached COC. This report is provided for the exclusive use of the addressee. Privileges of subsequent use of the name of this company or any member of its staff, or reproduction of this report in connection with the advertisement, promotion or sale of any product or process, or in connection with the re-publication of this report for any purpose other than for the addressee will be granted only on contact. This company accepts no responsibility except for the due performance of inspection and/or analysis in good faith and according to the rules of the trade and of science.

# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-005B
**Client Sample ID:** W. Boom 5 / 4920499
**Collection Date:** 4/4/2013 950h
**Received Date:** 4/4/2013 1300h

**Analytical Results** SVOA List by GC/MS Method 8270D/3510C

**Analyzed:** 4/9/2013 1455h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D


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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer


| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 1,1´-Biphenyl | 92-52-4 | 10.0 | < 10.0 | |
| 1,2,4,5-Tetrachlorobenzene | 95-94-3 | 10.0 | < 10.0 | |
| 1,2,4-Trichlorobenzene | 120-82-1 | 10.0 | < 10.0 | |
| 1,2-Dichlorobenzene | 95-50-1 | 10.0 | < 10.0 | |
| 1,3,5-Trinitrobenzene | 99-35-4 | 10.0 | < 10.0 | |
| 1,3-Dichlorobenzene | 541-73-1 | 10.0 | < 10.0 | |
| 1,3-Dinitrobenzene | 99-65-0 | 10.0 | < 10.0 | |
| 1,4-Dichlorobenzene | 106-46-7 | 10.0 | < 10.0 | |
| 1,4-Dinitrobenzene | 100-25-4 | 10.0 | < 10.0 | |
| 1,4-Naphthoquinone | 130-15-4 | 10.0 | < 10.0 | |
| 1,4-Phenylenediamine | 106-50-3 | 10.0 | < 10.0 | |
| 1-Chloronaphthalene | 90-13-1 | 10.0 | < 10.0 | |
| 1-Methylnaphthalene | 90-12-0 | 10.0 | < 10.0 | |
| 1-Naphthylamine | 134-32-7 | 10.0 | < 10.0 | |
| 2,3,4,6-Tetrachlorophenol | 58-90-2 | 10.0 | < 10.0 | |
| 2,4,5-Trichlorophenol | 95-95-4 | 10.0 | < 10.0 | |
| 2,4,6-Trichlorophenol | 88-06-2 | 10.0 | < 10.0 | |
| 2,4-Dichlorophenol | 120-83-2 | 10.0 | < 10.0 | |
| 2,4-Dimethylphenol | 105-67-9 | 10.0 | < 10.0 | |
| 2,4-Dinitrophenol | 51-28-5 | 10.0 | < 10.0 | |
| 2,4-Dinitrotoluene | 121-14-2 | 10.0 | < 10.0 | |
| 2,6-Dichlorophenol | 87-65-0 | 10.0 | < 10.0 | |
| 2,6-Dinitrotoluene | 606-20-2 | 10.0 | < 10.0 | |
| 2-Acetylaminofluorene | 53-96-3 | 10.0 | < 10.0 | |
| 2-Chloronaphthalene | 91-58-7 | 10.0 | < 10.0 | |
| 2-Chlorophenol | 95-57-8 | 10.0 | < 10.0 | |
| 2-Methylnaphthalene | 91-57-6 | 10.0 | < 10.0 | |
| 2-Methylphenol | 95-48-7 | 10.0 | < 10.0 | |
| 2-Naphthylamine | 91-59-8 | 10.0 | < 10.0 | |
| 2-Nitroaniline | 88-74-4 | 10.0 | < 10.0 | |



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web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-005B
**Client Sample ID:** W. Boom 5 / 4920499

**Analyzed:** 4/9/2013 1455h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 2-Nitrophenol | 88-75-5 | 10.0 | < 10.0 | |
| 2-Picoline | 109-06-8 | 10.0 | < 10.0 | |
| 3&4-Methylphenol | | 10.0 | < 10.0 | |
| 3,3´-Dichlorobenzidine | 91-94-1 | 10.0 | < 10.0 | |
| 3,3´-Dimethylbenzidine | 119-93-7 | 10.0 | < 10.0 | |
| 3-Methylcholanthrene | 56-49-5 | 10.0 | < 10.0 | |
| 3-Nitroaniline | 99-09-2 | 10.0 | < 10.0 | |
| 4,6-Dinitro-2-methylphenol | 534-52-1 | 10.0 | < 10.0 | |
| 4-Aminobiphenyl | 92-67-1 | 10.0 | < 10.0 | |
| 4-Bromophenyl phenyl ether | 101-55-3 | 10.0 | < 10.0 | |
| 4-Chloro-3-methylphenol | 59-50-7 | 10.0 | < 10.0 | |
| 4-Chloroaniline | 106-47-8 | 10.0 | < 10.0 | |
| 4-Chlorophenyl phenyl ether | 7005-72-3 | 10.0 | < 10.0 | |
| 4-Nitroaniline | 100-01-6 | 10.0 | < 10.0 | |
| 4-Nitrophenol | 100-02-7 | 10.0 | < 10.0 | @ |
| 5-Nitro-o-toluidine | 99-55-8 | 10.0 | < 10.0 | |
| 7,12-Dimethylbenz(a)anthracene | 57-97-6 | 10.0 | < 10.0 | |
| a,a-Dimethylphenethylamine | 122-09-8 | 10.0 | < 10.0 | |
| Acenaphthene | 83-32-9 | 10.0 | < 10.0 | |
| Acenaphthylene | 208-96-8 | 10.0 | < 10.0 | |
| Acetophenone | 98-86-2 | 10.0 | < 10.0 | |
| alpha-Terpineol | 98-55-5 | 10.0 | < 10.0 | |
| Aniline | 62-53-3 | 10.0 | < 10.0 | |
| Anthracene | 120-12-7 | 10.0 | < 10.0 | |
| Aramite | 140-57-8 | 10.0 | < 10.0 | |
| Atrazine | 1912-24-9 | 10.0 | < 10.0 | |
| Azobenzene | 103-33-3 | 10.0 | < 10.0 | |
| Benz(a)anthracene | 56-55-3 | 10.0 | < 10.0 | |
| Benzaldehyde | 100-52-7 | 10.0 | < 10.0 | |
| Benzidine | 92-87-5 | 10.0 | < 10.0 | |
| Benzo(a)pyrene | 50-32-8 | 10.0 | < 10.0 | |
| Benzo(b)fluoranthene | 205-99-2 | 10.0 | < 10.0 | |
| Benzo(g,h,i)perylene | 191-24-2 | 10.0 | < 10.0 | |
| Benzo(k)fluoranthene | 207-08-9 | 10.0 | < 10.0 | |
| Benzoic acid | 65-85-0 | 20.0 | < 20.0 | |
| Benzyl alcohol | 100-51-6 | 10.0 | < 10.0 | |
| Bis(2-chloroethoxy)methane | 111-91-1 | 10.0 | < 10.0 | |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-005B
**Client Sample ID:** W. Boom 5 / 4920499

**Analyzed:** 4/9/2013 1455h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Bis(2-chloroethyl) ether | 111-44-4 | 10.0 | < 10.0 | |
| Bis(2-chloroisopropyl) ether | 108-60-1 | 10.0 | < 10.0 | |
| Bis(2-ethylhexyl) phthalate | 117-81-7 | 10.0 | < 10.0 | |
| bis(2-ethylhexyl)adipate | 103-23-1 | 10.0 | < 10.0 | |
| Butyl benzyl phthalate | 85-68-7 | 10.0 | < 10.0 | |
| Caprolactam | 105-60-2 | 10.0 | < 10.0 | |
| Carbazole | 86-74-8 | 10.0 | < 10.0 | |
| Chlorobenzilate | 510-15-6 | 10.0 | < 10.0 | |
| Chrysene | 218-01-9 | 10.0 | < 10.0 | |
| Di-n-butyl phthalate | 84-74-2 | 10.0 | < 10.0 | |
| Di-n-octyl phthalate | 117-84-0 | 10.0 | < 10.0 | |
| Diallate (cis or trans) | 2303-16-4 | 10.0 | < 10.0 | |
| Dibenz(a,h)anthracene | 53-70-3 | 10.0 | < 10.0 | |
| Dibenzofuran | 132-64-9 | 10.0 | < 10.0 | |
| Diethyl phthalate | 84-66-2 | 10.0 | < 10.0 | |
| Dimethoate | 60-51-5 | 10.0 | < 10.0 | |
| Dimethyl phthalate | 131-11-3 | 10.0 | < 10.0 | |
| Dimethylaminoazobenzene | 60-11-7 | 10.0 | < 10.0 | |
| Dinoseb | 88-85-7 | 10.0 | < 10.0 | |
| Diphenylamine | 122-39-4 | 10.0 | < 10.0 | |
| Disulfoton | 298-04-4 | 10.0 | < 10.0 | |
| Ethyl methanesulfonate | 62-50-0 | 10.0 | < 10.0 | |
| Famphur | 52-85-7 | 10.0 | < 10.0 | |
| Fluoranthene | 206-44-0 | 10.0 | < 10.0 | |
| Fluorene | 86-73-7 | 10.0 | < 10.0 | |
| Hexachlorobenzene | 118-74-1 | 10.0 | < 10.0 | |
| Hexachlorobutadiene | 87-68-3 | 10.0 | < 10.0 | |
| Hexachlorocyclopentadiene | 77-47-4 | 10.0 | < 10.0 | |
| Hexachloroethane | 67-72-1 | 10.0 | < 10.0 | |
| Hexachlorophene | 70-30-4 | 10.0 | < 10.0 | |
| Hexachloropropene | 1888-71-7 | 10.0 | < 10.0 | |
| Indene | 95-13-6 | 10.0 | < 10.0 | |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 10.0 | < 10.0 | |
| Isodrin | 465-73-6 | 10.0 | < 10.0 | |
| Isophorone | 78-59-1 | 10.0 | < 10.0 | |
| Isosafrole | 120-58-1 | 10.0 | < 10.0 | |
| Kepone | 143-50-0 | 10.0 | < 10.0 | |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-005B
**Client Sample ID:** W. Boom 5 / 4920499

**Analyzed:** 4/9/2013 1455h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Methapyrilene | 91-80-5 | 10.0 | < 10.0 | |
| Methyl methanesulfonate | 66-27-3 | 10.0 | < 10.0 | |
| n-Decane | 124-18-5 | 10.0 | < 10.0 | |
| N-Nitrosodi-n-butylamine | 924-16-3 | 10.0 | < 10.0 | |
| N-Nitrosodiethylamine | 55-18-5 | 10.0 | < 10.0 | |
| N-Nitrosodimethylamine | 62-75-9 | 10.0 | < 10.0 | |
| N-Nitrosodiphenylamine | 86-30-6 | 10.0 | < 10.0 | |
| N-Nitrosodi-n-propylamine | 621-64-7 | 10.0 | < 10.0 | |
| N-Nitrosomethylethylamine | 10595-95-6 | 10.0 | < 10.0 | |
| N-Nitrosomorpholine | 59-89-2 | 10.0 | < 10.0 | |
| N-Nitrosopiperidine | 100-75-4 | 10.0 | < 10.0 | |
| N-Nitrosopyrrolidine | 930-55-2 | 10.0 | < 10.0 | |
| n-Octadecane | 593-45-3 | 10.0 | < 10.0 | |
| Naphthalene | 91-20-3 | 10.0 | < 10.0 | |
| Nitrobenzene | 98-95-3 | 10.0 | < 10.0 | |
| Nitroquinoline-1-oxide | 56-57-5 | 10.0 | < 10.0 | |
| O,O,O-Triethyl phosphorothioate | 126-68-1 | 10.0 | < 10.0 | |
| o-Toluidine | 95-53-4 | 10.0 | < 10.0 | |
| Parathion | 56-38-2 | 10.0 | < 10.0 | |
| Methyl parathion | 298-00-0 | 10.0 | < 10.0 | |
| Pentachlorobenzene | 608-93-5 | 10.0 | < 10.0 | |
| Pentachloronitrobenzene | 82-68-8 | 10.0 | < 10.0 | |
| Pentachlorophenol | 87-86-5 | 10.0 | < 10.0 | |
| Phenacetin | 62-44-2 | 10.0 | < 10.0 | |
| Phenanthrene | 85-01-8 | 10.0 | < 10.0 | |
| Phenol | 108-95-2 | 10.0 | < 10.0 | |
| Phorate | 298-02-2 | 10.0 | < 10.0 | |
| Pronamide | 23950-58-5 | 10.0 | < 10.0 | |
| Pyrene | 129-00-0 | 10.0 | < 10.0 | |
| Pyridine | 110-86-1 | 10.0 | < 10.0 | |
| Quinoline | 91-22-5 | 10.0 | < 10.0 | |
| Safrole | 94-59-7 | 10.0 | < 10.0 | |
| Tetraethyl dithiopyrophosphate | 3689-24-5 | 10.0 | < 10.0 | |
| Thionazin | 297-97-2 | 10.0 | < 10.0 | |



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QA Officer

**Lab Sample ID:** 1304147-005B
**Client Sample ID:** W. Boom 5 / 4920499

**Analyzed:** 4/9/2013 1455h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|

| Surrogate | CAS | Result | Amount Spiked | % REC | Limits | Qual |
|---|---|---|---|---|---|---|
| Surr: 2,4,6-Tribromophenol | 118-79-6 | 61.4 | 80.00 | 76.8 | 14-159 | |
| Surr: 2-Fluorobiphenyl | 321-60-8 | 20.0 | 40.00 | 50.0 | 10-124 | |
| Surr: 2-Fluorophenol | 367-12-4 | 26.8 | 80.00 | 33.5 | 10-106 | |
| Surr: Nitrobenzene-d5 | 4165-60-0 | 16.1 | 40.00 | 40.3 | 10-180 | |
| Surr: Phenol-d6 | 13127-88-3 | 21.1 | 80.00 | 26.3 | 10-122 | |
| Surr: Terphenyl-d14 | 1718-51-0 | 32.3 | 40.00 | 80.9 | 10-221 | |

*@ - High RPD due to suspected sample non-homogeneity or matrix interference.*
*This sample was analyzed for TICs and no unknown peaks were detected.*



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# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-006B
**Client Sample ID:** W. Boom 4 / 4920498
**Collection Date:** 4/4/2013 1000h
**Received Date:** 4/4/2013 1300h

**Analytical Results** SVOA List by GC/MS Method 8270D/3510C

**Analyzed:** 4/9/2013 1605h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D


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Jose Rocha
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| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 1,1´-Biphenyl | 92-52-4 | 10.0 | < 10.0 | |
| 1,2,4,5-Tetrachlorobenzene | 95-94-3 | 10.0 | < 10.0 | |
| 1,2,4-Trichlorobenzene | 120-82-1 | 10.0 | < 10.0 | |
| 1,2-Dichlorobenzene | 95-50-1 | 10.0 | < 10.0 | |
| 1,3,5-Trinitrobenzene | 99-35-4 | 10.0 | < 10.0 | |
| 1,3-Dichlorobenzene | 541-73-1 | 10.0 | < 10.0 | |
| 1,3-Dinitrobenzene | 99-65-0 | 10.0 | < 10.0 | |
| 1,4-Dichlorobenzene | 106-46-7 | 10.0 | < 10.0 | |
| 1,4-Dinitrobenzene | 100-25-4 | 10.0 | < 10.0 | |
| 1,4-Naphthoquinone | 130-15-4 | 10.0 | < 10.0 | |
| 1,4-Phenylenediamine | 106-50-3 | 10.0 | < 10.0 | |
| 1-Chloronaphthalene | 90-13-1 | 10.0 | < 10.0 | |
| 1-Methylnaphthalene | 90-12-0 | 10.0 | < 10.0 | |
| 1-Naphthylamine | 134-32-7 | 10.0 | < 10.0 | |
| 2,3,4,6-Tetrachlorophenol | 58-90-2 | 10.0 | < 10.0 | |
| 2,4,5-Trichlorophenol | 95-95-4 | 10.0 | < 10.0 | |
| 2,4,6-Trichlorophenol | 88-06-2 | 10.0 | < 10.0 | |
| 2,4-Dichlorophenol | 120-83-2 | 10.0 | < 10.0 | |
| 2,4-Dimethylphenol | 105-67-9 | 10.0 | < 10.0 | |
| 2,4-Dinitrophenol | 51-28-5 | 10.0 | < 10.0 | |
| 2,4-Dinitrotoluene | 121-14-2 | 10.0 | < 10.0 | |
| 2,6-Dichlorophenol | 87-65-0 | 10.0 | < 10.0 | |
| 2,6-Dinitrotoluene | 606-20-2 | 10.0 | < 10.0 | |
| 2-Acetylaminofluorene | 53-96-3 | 10.0 | < 10.0 | |
| 2-Chloronaphthalene | 91-58-7 | 10.0 | < 10.0 | |
| 2-Chlorophenol | 95-57-8 | 10.0 | < 10.0 | |
| 2-Methylnaphthalene | 91-57-6 | 10.0 | < 10.0 | |
| 2-Methylphenol | 95-48-7 | 10.0 | < 10.0 | |
| 2-Naphthylamine | 91-59-8 | 10.0 | < 10.0 | |
| 2-Nitroaniline | 88-74-4 | 10.0 | < 10.0 | |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-006B
**Client Sample ID:** W. Boom 4 / 4920498

**Analyzed:** 4/9/2013 1605h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 2-Nitrophenol | 88-75-5 | 10.0 | < 10.0 | |
| 2-Picoline | 109-06-8 | 10.0 | < 10.0 | |
| 3&4-Methylphenol | | 10.0 | < 10.0 | |
| 3,3´-Dichlorobenzidine | 91-94-1 | 10.0 | < 10.0 | |
| 3,3´-Dimethylbenzidine | 119-93-7 | 10.0 | < 10.0 | |
| 3-Methylcholanthrene | 56-49-5 | 10.0 | < 10.0 | |
| 3-Nitroaniline | 99-09-2 | 10.0 | < 10.0 | |
| 4,6-Dinitro-2-methylphenol | 534-52-1 | 10.0 | < 10.0 | |
| 4-Aminobiphenyl | 92-67-1 | 10.0 | < 10.0 | |
| 4-Bromophenyl phenyl ether | 101-55-3 | 10.0 | < 10.0 | |
| 4-Chloro-3-methylphenol | 59-50-7 | 10.0 | < 10.0 | |
| 4-Chloroaniline | 106-47-8 | 10.0 | < 10.0 | |
| 4-Chlorophenyl phenyl ether | 7005-72-3 | 10.0 | < 10.0 | |
| 4-Nitroaniline | 100-01-6 | 10.0 | < 10.0 | |
| 4-Nitrophenol | 100-02-7 | 10.0 | < 10.0 | |
| 5-Nitro-o-toluidine | 99-55-8 | 10.0 | < 10.0 | |
| 7,12-Dimethylbenz(a)anthracene | 57-97-6 | 10.0 | < 10.0 | |
| a,a-Dimethylphenethylamine | 122-09-8 | 10.0 | < 10.0 | |
| Acenaphthene | 83-32-9 | 10.0 | < 10.0 | |
| Acenaphthylene | 208-96-8 | 10.0 | < 10.0 | |
| Acetophenone | 98-86-2 | 10.0 | < 10.0 | |
| alpha-Terpineol | 98-55-5 | 10.0 | < 10.0 | |
| Aniline | 62-53-3 | 10.0 | < 10.0 | |
| Anthracene | 120-12-7 | 10.0 | < 10.0 | |
| Aramite | 140-57-8 | 10.0 | < 10.0 | |
| Atrazine | 1912-24-9 | 10.0 | < 10.0 | |
| Azobenzene | 103-33-3 | 10.0 | < 10.0 | |
| Benz(a)anthracene | 56-55-3 | 10.0 | < 10.0 | |
| Benzaldehyde | 100-52-7 | 10.0 | < 10.0 | |
| Benzidine | 92-87-5 | 10.0 | < 10.0 | |
| Benzo(a)pyrene | 50-32-8 | 10.0 | < 10.0 | |
| Benzo(b)fluoranthene | 205-99-2 | 10.0 | < 10.0 | |
| Benzo(g,h,i)perylene | 191-24-2 | 10.0 | < 10.0 | |
| Benzo(k)fluoranthene | 207-08-9 | 10.0 | < 10.0 | |
| Benzoic acid | 65-85-0 | 20.0 | < 20.0 | |
| Benzyl alcohol | 100-51-6 | 10.0 | < 10.0 | |
| Bis(2-chloroethoxy)methane | 111-91-1 | 10.0 | < 10.0 | |



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web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-006B
**Client Sample ID:** W. Boom 4 / 4920498

**Analyzed:** 4/9/2013 1605h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Bis(2-chloroethyl) ether | 111-44-4 | 10.0 | < 10.0 | |
| Bis(2-chloroisopropyl) ether | 108-60-1 | 10.0 | < 10.0 | |
| Bis(2-ethylhexyl) phthalate | 117-81-7 | 10.0 | < 10.0 | |
| bis(2-ethylhexyl)adipate | 103-23-1 | 10.0 | < 10.0 | |
| Butyl benzyl phthalate | 85-68-7 | 10.0 | < 10.0 | |
| Caprolactam | 105-60-2 | 10.0 | < 10.0 | |
| Carbazole | 86-74-8 | 10.0 | < 10.0 | |
| Chlorobenzilate | 510-15-6 | 10.0 | < 10.0 | |
| Chrysene | 218-01-9 | 10.0 | < 10.0 | |
| Di-n-butyl phthalate | 84-74-2 | 10.0 | < 10.0 | |
| Di-n-octyl phthalate | 117-84-0 | 10.0 | < 10.0 | |
| Diallate (cis or trans) | 2303-16-4 | 10.0 | < 10.0 | |
| Dibenz(a,h)anthracene | 53-70-3 | 10.0 | < 10.0 | |
| Dibenzofuran | 132-64-9 | 10.0 | < 10.0 | |
| Diethyl phthalate | 84-66-2 | 10.0 | < 10.0 | |
| Dimethoate | 60-51-5 | 10.0 | < 10.0 | |
| Dimethyl phthalate | 131-11-3 | 10.0 | < 10.0 | |
| Dimethylaminoazobenzene | 60-11-7 | 10.0 | < 10.0 | |
| Dinoseb | 88-85-7 | 10.0 | < 10.0 | |
| Diphenylamine | 122-39-4 | 10.0 | < 10.0 | |
| Disulfoton | 298-04-4 | 10.0 | < 10.0 | |
| Ethyl methanesulfonate | 62-50-0 | 10.0 | < 10.0 | |
| Famphur | 52-85-7 | 10.0 | < 10.0 | |
| Fluoranthene | 206-44-0 | 10.0 | < 10.0 | |
| Fluorene | 86-73-7 | 10.0 | < 10.0 | |
| Hexachlorobenzene | 118-74-1 | 10.0 | < 10.0 | |
| Hexachlorobutadiene | 87-68-3 | 10.0 | < 10.0 | |
| Hexachlorocyclopentadiene | 77-47-4 | 10.0 | < 10.0 | |
| Hexachloroethane | 67-72-1 | 10.0 | < 10.0 | |
| Hexachlorophene | 70-30-4 | 10.0 | < 10.0 | |
| Hexachloropropene | 1888-71-7 | 10.0 | < 10.0 | |
| Indene | 95-13-6 | 10.0 | < 10.0 | |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 10.0 | < 10.0 | |
| Isodrin | 465-73-6 | 10.0 | < 10.0 | |
| Isophorone | 78-59-1 | 10.0 | < 10.0 | |
| Isosafrole | 120-58-1 | 10.0 | < 10.0 | |
| Kepone | 143-50-0 | 10.0 | < 10.0 | |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-006B
**Client Sample ID:** W. Boom 4 / 4920498

**Analyzed:** 4/9/2013 1605h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Methapyrilene | 91-80-5 | 10.0 | < 10.0 | |
| Methyl methanesulfonate | 66-27-3 | 10.0 | < 10.0 | |
| n-Decane | 124-18-5 | 10.0 | < 10.0 | |
| N-Nitrosodi-n-butylamine | 924-16-3 | 10.0 | < 10.0 | |
| N-Nitrosodiethylamine | 55-18-5 | 10.0 | < 10.0 | |
| N-Nitrosodimethylamine | 62-75-9 | 10.0 | < 10.0 | |
| N-Nitrosodiphenylamine | 86-30-6 | 10.0 | < 10.0 | |
| N-Nitrosodi-n-propylamine | 621-64-7 | 10.0 | < 10.0 | |
| N-Nitrosomethylethylamine | 10595-95-6 | 10.0 | < 10.0 | |
| N-Nitrosomorpholine | 59-89-2 | 10.0 | < 10.0 | |
| N-Nitrosopiperidine | 100-75-4 | 10.0 | < 10.0 | |
| N-Nitrosopyrrolidine | 930-55-2 | 10.0 | < 10.0 | |
| n-Octadecane | 593-45-3 | 10.0 | < 10.0 | |
| Naphthalene | 91-20-3 | 10.0 | < 10.0 | |
| Nitrobenzene | 98-95-3 | 10.0 | < 10.0 | |
| Nitroquinoline-1-oxide | 56-57-5 | 10.0 | < 10.0 | |
| O,O,O-Triethyl phosphorothioate | 126-68-1 | 10.0 | < 10.0 | |
| o-Toluidine | 95-53-4 | 10.0 | < 10.0 | |
| Parathion | 56-38-2 | 10.0 | < 10.0 | |
| Methyl parathion | 298-00-0 | 10.0 | < 10.0 | |
| Pentachlorobenzene | 608-93-5 | 10.0 | < 10.0 | |
| Pentachloronitrobenzene | 82-68-8 | 10.0 | < 10.0 | |
| Pentachlorophenol | 87-86-5 | 10.0 | < 10.0 | |
| Phenacetin | 62-44-2 | 10.0 | < 10.0 | |
| Phenanthrene | 85-01-8 | 10.0 | < 10.0 | |
| Phenol | 108-95-2 | 10.0 | < 10.0 | |
| Phorate | 298-02-2 | 10.0 | < 10.0 | |
| Pronamide | 23950-58-5 | 10.0 | < 10.0 | |
| Pyrene | 129-00-0 | 10.0 | < 10.0 | |
| Pyridine | 110-86-1 | 10.0 | < 10.0 | |
| Quinoline | 91-22-5 | 10.0 | < 10.0 | |
| Safrole | 94-59-7 | 10.0 | < 10.0 | |
| Tetraethyl dithiopyrophosphate | 3689-24-5 | 10.0 | < 10.0 | |
| Thionazin | 297-97-2 | 10.0 | < 10.0 | |



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**Lab Sample ID:** 1304147-006B
**Client Sample ID:** W. Boom 4 / 4920498

**Analyzed:** 4/9/2013 1605h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|

| Surrogate | CAS | Result | Amount Spiked | % REC | Limits | Qual |
|---|---|---|---|---|---|---|
| Surr: 2,4,6-Tribromophenol | 118-79-6 | 63.8 | 80.00 | 79.8 | 14-159 | |
| Surr: 2-Fluorobiphenyl | 321-60-8 | 15.2 | 40.00 | 38.1 | 10-124 | |
| Surr: 2-Fluorophenol | 367-12-4 | 21.8 | 80.00 | 27.2 | 10-106 | |
| Surr: Nitrobenzene-d5 | 4165-60-0 | 14.6 | 40.00 | 36.5 | 10-180 | |
| Surr: Phenol-d6 | 13127-88-3 | 15.3 | 80.00 | 19.1 | 10-122 | |
| Surr: Terphenyl-d14 | 1718-51-0 | 31.5 | 40.00 | 78.8 | 10-221 | |

*This sample was analyzed for TICs and no unknown peaks were detected.*

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Kyle F. Gross
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Jose Rocha
QA Officer



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# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-007B
**Client Sample ID:** 50' from WB 4 / 4920502
**Collection Date:** 4/4/2013 1010h
**Received Date:** 4/4/2013 1300h

**Analytical Results** SVOA List by GC/MS Method 8270D/3510C

**Analyzed:** 4/9/2013 1628h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D


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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer


| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 1,1´-Biphenyl | 92-52-4 | 10.0 | < 10.0 | |
| 1,2,4,5-Tetrachlorobenzene | 95-94-3 | 10.0 | < 10.0 | |
| 1,2,4-Trichlorobenzene | 120-82-1 | 10.0 | < 10.0 | |
| 1,2-Dichlorobenzene | 95-50-1 | 10.0 | < 10.0 | |
| 1,3,5-Trinitrobenzene | 99-35-4 | 10.0 | < 10.0 | |
| 1,3-Dichlorobenzene | 541-73-1 | 10.0 | < 10.0 | |
| 1,3-Dinitrobenzene | 99-65-0 | 10.0 | < 10.0 | |
| 1,4-Dichlorobenzene | 106-46-7 | 10.0 | < 10.0 | |
| 1,4-Dinitrobenzene | 100-25-4 | 10.0 | < 10.0 | |
| 1,4-Naphthoquinone | 130-15-4 | 10.0 | < 10.0 | |
| 1,4-Phenylenediamine | 106-50-3 | 10.0 | < 10.0 | |
| 1-Chloronaphthalene | 90-13-1 | 10.0 | < 10.0 | |
| 1-Methylnaphthalene | 90-12-0 | 10.0 | < 10.0 | |
| 1-Naphthylamine | 134-32-7 | 10.0 | < 10.0 | |
| 2,3,4,6-Tetrachlorophenol | 58-90-2 | 10.0 | < 10.0 | |
| 2,4,5-Trichlorophenol | 95-95-4 | 10.0 | < 10.0 | |
| 2,4,6-Trichlorophenol | 88-06-2 | 10.0 | < 10.0 | |
| 2,4-Dichlorophenol | 120-83-2 | 10.0 | < 10.0 | |
| 2,4-Dimethylphenol | 105-67-9 | 10.0 | < 10.0 | |
| 2,4-Dinitrophenol | 51-28-5 | 10.0 | < 10.0 | |
| 2,4-Dinitrotoluene | 121-14-2 | 10.0 | < 10.0 | |
| 2,6-Dichlorophenol | 87-65-0 | 10.0 | < 10.0 | |
| 2,6-Dinitrotoluene | 606-20-2 | 10.0 | < 10.0 | |
| 2-Acetylaminofluorene | 53-96-3 | 10.0 | < 10.0 | |
| 2-Chloronaphthalene | 91-58-7 | 10.0 | < 10.0 | |
| 2-Chlorophenol | 95-57-8 | 10.0 | < 10.0 | |
| 2-Methylnaphthalene | 91-57-6 | 10.0 | < 10.0 | |
| 2-Methylphenol | 95-48-7 | 10.0 | < 10.0 | |
| 2-Naphthylamine | 91-59-8 | 10.0 | < 10.0 | |
| 2-Nitroaniline | 88-74-4 | 10.0 | < 10.0 | |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-007B
**Client Sample ID:** 50' from WB 4 / 4920502

**Analyzed:** 4/9/2013 1628h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 2-Nitrophenol | 88-75-5 | 10.0 | < 10.0 | |
| 2-Picoline | 109-06-8 | 10.0 | < 10.0 | |
| 3&4-Methylphenol | | 10.0 | < 10.0 | |
| 3,3´-Dichlorobenzidine | 91-94-1 | 10.0 | < 10.0 | |
| 3,3´-Dimethylbenzidine | 119-93-7 | 10.0 | < 10.0 | |
| 3-Methylcholanthrene | 56-49-5 | 10.0 | < 10.0 | |
| 3-Nitroaniline | 99-09-2 | 10.0 | < 10.0 | |
| 4,6-Dinitro-2-methylphenol | 534-52-1 | 10.0 | < 10.0 | |
| 4-Aminobiphenyl | 92-67-1 | 10.0 | < 10.0 | |
| 4-Bromophenyl phenyl ether | 101-55-3 | 10.0 | < 10.0 | |
| 4-Chloro-3-methylphenol | 59-50-7 | 10.0 | < 10.0 | |
| 4-Chloroaniline | 106-47-8 | 10.0 | < 10.0 | |
| 4-Chlorophenyl phenyl ether | 7005-72-3 | 10.0 | < 10.0 | |
| 4-Nitroaniline | 100-01-6 | 10.0 | < 10.0 | |
| 4-Nitrophenol | 100-02-7 | 10.0 | < 10.0 | |
| 5-Nitro-o-toluidine | 99-55-8 | 10.0 | < 10.0 | |
| 7,12-Dimethylbenz(a)anthracene | 57-97-6 | 10.0 | < 10.0 | |
| a,a-Dimethylphenethylamine | 122-09-8 | 10.0 | < 10.0 | |
| Acenaphthene | 83-32-9 | 10.0 | < 10.0 | |
| Acenaphthylene | 208-96-8 | 10.0 | < 10.0 | |
| Acetophenone | 98-86-2 | 10.0 | < 10.0 | |
| alpha-Terpineol | 98-55-5 | 10.0 | < 10.0 | |
| Aniline | 62-53-3 | 10.0 | < 10.0 | |
| Anthracene | 120-12-7 | 10.0 | < 10.0 | |
| Aramite | 140-57-8 | 10.0 | < 10.0 | |
| Atrazine | 1912-24-9 | 10.0 | < 10.0 | |
| Azobenzene | 103-33-3 | 10.0 | < 10.0 | |
| Benz(a)anthracene | 56-55-3 | 10.0 | < 10.0 | |
| Benzaldehyde | 100-52-7 | 10.0 | < 10.0 | |
| Benzidine | 92-87-5 | 10.0 | < 10.0 | |
| Benzo(a)pyrene | 50-32-8 | 10.0 | < 10.0 | |
| Benzo(b)fluoranthene | 205-99-2 | 10.0 | < 10.0 | |
| Benzo(g,h,i)perylene | 191-24-2 | 10.0 | < 10.0 | |
| Benzo(k)fluoranthene | 207-08-9 | 10.0 | < 10.0 | |
| Benzoic acid | 65-85-0 | 20.0 | < 20.0 | |
| Benzyl alcohol | 100-51-6 | 10.0 | < 10.0 | |
| Bis(2-chloroethoxy)methane | 111-91-1 | 10.0 | < 10.0 | |



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Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-007B
**Client Sample ID:** 50' from WB 4 / 4920502

**Analyzed:** 4/9/2013 1628h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Bis(2-chloroethyl) ether | 111-44-4 | 10.0 | < 10.0 | |
| Bis(2-chloroisopropyl) ether | 108-60-1 | 10.0 | < 10.0 | |
| Bis(2-ethylhexyl) phthalate | 117-81-7 | 10.0 | < 10.0 | |
| bis(2-ethylhexyl)adipate | 103-23-1 | 10.0 | < 10.0 | |
| Butyl benzyl phthalate | 85-68-7 | 10.0 | < 10.0 | |
| Caprolactam | 105-60-2 | 10.0 | < 10.0 | |
| Carbazole | 86-74-8 | 10.0 | < 10.0 | |
| Chlorobenzilate | 510-15-6 | 10.0 | < 10.0 | |
| Chrysene | 218-01-9 | 10.0 | < 10.0 | |
| Di-n-butyl phthalate | 84-74-2 | 10.0 | < 10.0 | |
| Di-n-octyl phthalate | 117-84-0 | 10.0 | < 10.0 | |
| Diallate (cis or trans) | 2303-16-4 | 10.0 | < 10.0 | |
| Dibenz(a,h)anthracene | 53-70-3 | 10.0 | < 10.0 | |
| Dibenzofuran | 132-64-9 | 10.0 | < 10.0 | |
| Diethyl phthalate | 84-66-2 | 10.0 | < 10.0 | |
| Dimethoate | 60-51-5 | 10.0 | < 10.0 | |
| Dimethyl phthalate | 131-11-3 | 10.0 | < 10.0 | |
| Dimethylaminoazobenzene | 60-11-7 | 10.0 | < 10.0 | |
| Dinoseb | 88-85-7 | 10.0 | < 10.0 | |
| Diphenylamine | 122-39-4 | 10.0 | < 10.0 | |
| Disulfoton | 298-04-4 | 10.0 | < 10.0 | |
| Ethyl methanesulfonate | 62-50-0 | 10.0 | < 10.0 | |
| Famphur | 52-85-7 | 10.0 | < 10.0 | |
| Fluoranthene | 206-44-0 | 10.0 | < 10.0 | |
| Fluorene | 86-73-7 | 10.0 | < 10.0 | |
| Hexachlorobenzene | 118-74-1 | 10.0 | < 10.0 | |
| Hexachlorobutadiene | 87-68-3 | 10.0 | < 10.0 | |
| Hexachlorocyclopentadiene | 77-47-4 | 10.0 | < 10.0 | |
| Hexachloroethane | 67-72-1 | 10.0 | < 10.0 | |
| Hexachlorophene | 70-30-4 | 10.0 | < 10.0 | |
| Hexachloropropene | 1888-71-7 | 10.0 | < 10.0 | |
| Indene | 95-13-6 | 10.0 | < 10.0 | |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 10.0 | < 10.0 | |
| Isodrin | 465-73-6 | 10.0 | < 10.0 | |
| Isophorone | 78-59-1 | 10.0 | < 10.0 | |
| Isosafrole | 120-58-1 | 10.0 | < 10.0 | |
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**Lab Sample ID:** 1304147-007B
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**Analyzed:** 4/9/2013 1628h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Methapyrilene | 91-80-5 | 10.0 | < 10.0 | |
| Methyl methanesulfonate | 66-27-3 | 10.0 | < 10.0 | |
| n-Decane | 124-18-5 | 10.0 | < 10.0 | |
| N-Nitrosodi-n-butylamine | 924-16-3 | 10.0 | < 10.0 | |
| N-Nitrosodiethylamine | 55-18-5 | 10.0 | < 10.0 | |
| N-Nitrosodimethylamine | 62-75-9 | 10.0 | < 10.0 | |
| N-Nitrosodiphenylamine | 86-30-6 | 10.0 | < 10.0 | |
| N-Nitrosodi-n-propylamine | 621-64-7 | 10.0 | < 10.0 | |
| N-Nitrosomethylethylamine | 10595-95-6 | 10.0 | < 10.0 | |
| N-Nitrosomorpholine | 59-89-2 | 10.0 | < 10.0 | |
| N-Nitrosopiperidine | 100-75-4 | 10.0 | < 10.0 | |
| N-Nitrosopyrrolidine | 930-55-2 | 10.0 | < 10.0 | |
| n-Octadecane | 593-45-3 | 10.0 | < 10.0 | |
| Naphthalene | 91-20-3 | 10.0 | < 10.0 | |
| Nitrobenzene | 98-95-3 | 10.0 | < 10.0 | |
| Nitroquinoline-1-oxide | 56-57-5 | 10.0 | < 10.0 | |
| O,O,O-Triethyl phosphorothioate | 126-68-1 | 10.0 | < 10.0 | |
| o-Toluidine | 95-53-4 | 10.0 | < 10.0 | |
| Parathion | 56-38-2 | 10.0 | < 10.0 | |
| Methyl parathion | 298-00-0 | 10.0 | < 10.0 | |
| Pentachlorobenzene | 608-93-5 | 10.0 | < 10.0 | |
| Pentachloronitrobenzene | 82-68-8 | 10.0 | < 10.0 | |
| Pentachlorophenol | 87-86-5 | 10.0 | < 10.0 | |
| Phenacetin | 62-44-2 | 10.0 | < 10.0 | |
| Phenanthrene | 85-01-8 | 10.0 | < 10.0 | |
| Phenol | 108-95-2 | 10.0 | < 10.0 | |
| Phorate | 298-02-2 | 10.0 | < 10.0 | |
| Pronamide | 23950-58-5 | 10.0 | < 10.0 | |
| Pyrene | 129-00-0 | 10.0 | < 10.0 | |
| Pyridine | 110-86-1 | 10.0 | < 10.0 | |
| Quinoline | 91-22-5 | 10.0 | < 10.0 | |
| Safrole | 94-59-7 | 10.0 | < 10.0 | |
| Tetraethyl dithiopyrophosphate | 3689-24-5 | 10.0 | < 10.0 | |
| Thionazin | 297-97-2 | 10.0 | < 10.0 | |



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**Lab Sample ID:** 1304147-007B
**Client Sample ID:** 50' from WB 4 / 4920502

**Analyzed:** 4/9/2013 1628h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|

| Surrogate | CAS | Result | Amount Spiked | % REC | Limits | Qual |
|---|---|---|---|---|---|---|
| Surr: 2,4,6-Tribromophenol | 118-79-6 | 62.1 | 80.00 | 77.7 | 14-159 | |
| Surr: 2-Fluorobiphenyl | 321-60-8 | 16.7 | 40.00 | 41.7 | 10-124 | |
| Surr: 2-Fluorophenol | 367-12-4 | 22.5 | 80.00 | 28.1 | 10-106 | |
| Surr: Nitrobenzene-d5 | 4165-60-0 | 14.4 | 40.00 | 35.9 | 10-180 | |
| Surr: Phenol-d6 | 13127-88-3 | 16.1 | 80.00 | 20.2 | 10-122 | |
| Surr: Terphenyl-d14 | 1718-51-0 | 32.5 | 40.00 | 81.2 | 10-221 | |

*This sample was analyzed for TICs and no unknown peaks were detected.*


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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer




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# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-008B
**Client Sample ID:** W. Boom 3 / 4920497
**Collection Date:** 4/4/2013 1020h
**Received Date:** 4/4/2013 1300h

**Analytical Results** SVOA List by GC/MS Method 8270D/3510C

**Analyzed:** 4/9/2013 1651h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D


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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer


| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 1,1´-Biphenyl | 92-52-4 | 10.0 | < 10.0 | |
| 1,2,4,5-Tetrachlorobenzene | 95-94-3 | 10.0 | < 10.0 | |
| 1,2,4-Trichlorobenzene | 120-82-1 | 10.0 | < 10.0 | |
| 1,2-Dichlorobenzene | 95-50-1 | 10.0 | < 10.0 | |
| 1,3,5-Trinitrobenzene | 99-35-4 | 10.0 | < 10.0 | |
| 1,3-Dichlorobenzene | 541-73-1 | 10.0 | < 10.0 | |
| 1,3-Dinitrobenzene | 99-65-0 | 10.0 | < 10.0 | |
| 1,4-Dichlorobenzene | 106-46-7 | 10.0 | < 10.0 | |
| 1,4-Dinitrobenzene | 100-25-4 | 10.0 | < 10.0 | |
| 1,4-Naphthoquinone | 130-15-4 | 10.0 | < 10.0 | |
| 1,4-Phenylenediamine | 106-50-3 | 10.0 | < 10.0 | |
| 1-Chloronaphthalene | 90-13-1 | 10.0 | < 10.0 | |
| 1-Methylnaphthalene | 90-12-0 | 10.0 | < 10.0 | |
| 1-Naphthylamine | 134-32-7 | 10.0 | < 10.0 | |
| 2,3,4,6-Tetrachlorophenol | 58-90-2 | 10.0 | < 10.0 | |
| 2,4,5-Trichlorophenol | 95-95-4 | 10.0 | < 10.0 | |
| 2,4,6-Trichlorophenol | 88-06-2 | 10.0 | < 10.0 | |
| 2,4-Dichlorophenol | 120-83-2 | 10.0 | < 10.0 | |
| 2,4-Dimethylphenol | 105-67-9 | 10.0 | < 10.0 | |
| 2,4-Dinitrophenol | 51-28-5 | 10.0 | < 10.0 | |
| 2,4-Dinitrotoluene | 121-14-2 | 10.0 | < 10.0 | |
| 2,6-Dichlorophenol | 87-65-0 | 10.0 | < 10.0 | |
| 2,6-Dinitrotoluene | 606-20-2 | 10.0 | < 10.0 | |
| 2-Acetylaminofluorene | 53-96-3 | 10.0 | < 10.0 | |
| 2-Chloronaphthalene | 91-58-7 | 10.0 | < 10.0 | |
| 2-Chlorophenol | 95-57-8 | 10.0 | < 10.0 | |
| 2-Methylnaphthalene | 91-57-6 | 10.0 | < 10.0 | |
| 2-Methylphenol | 95-48-7 | 10.0 | < 10.0 | |
| 2-Naphthylamine | 91-59-8 | 10.0 | < 10.0 | |
| 2-Nitroaniline | 88-74-4 | 10.0 | < 10.0 | |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-008B
**Client Sample ID:** W. Boom 3 / 4920497

**Analyzed:** 4/9/2013 1651h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 2-Nitrophenol | 88-75-5 | 10.0 | < 10.0 | |
| 2-Picoline | 109-06-8 | 10.0 | < 10.0 | |
| 3&4-Methylphenol | | 10.0 | < 10.0 | |
| 3,3´-Dichlorobenzidine | 91-94-1 | 10.0 | < 10.0 | |
| 3,3´-Dimethylbenzidine | 119-93-7 | 10.0 | < 10.0 | |
| 3-Methylcholanthrene | 56-49-5 | 10.0 | < 10.0 | |
| 3-Nitroaniline | 99-09-2 | 10.0 | < 10.0 | |
| 4,6-Dinitro-2-methylphenol | 534-52-1 | 10.0 | < 10.0 | |
| 4-Aminobiphenyl | 92-67-1 | 10.0 | < 10.0 | |
| 4-Bromophenyl phenyl ether | 101-55-3 | 10.0 | < 10.0 | |
| 4-Chloro-3-methylphenol | 59-50-7 | 10.0 | < 10.0 | |
| 4-Chloroaniline | 106-47-8 | 10.0 | < 10.0 | |
| 4-Chlorophenyl phenyl ether | 7005-72-3 | 10.0 | < 10.0 | |
| 4-Nitroaniline | 100-01-6 | 10.0 | < 10.0 | |
| 4-Nitrophenol | 100-02-7 | 10.0 | < 10.0 | |
| 5-Nitro-o-toluidine | 99-55-8 | 10.0 | < 10.0 | |
| 7,12-Dimethylbenz(a)anthracene | 57-97-6 | 10.0 | < 10.0 | |
| a,a-Dimethylphenethylamine | 122-09-8 | 10.0 | < 10.0 | |
| Acenaphthene | 83-32-9 | 10.0 | < 10.0 | |
| Acenaphthylene | 208-96-8 | 10.0 | < 10.0 | |
| Acetophenone | 98-86-2 | 10.0 | < 10.0 | |
| alpha-Terpineol | 98-55-5 | 10.0 | < 10.0 | |
| Aniline | 62-53-3 | 10.0 | < 10.0 | |
| Anthracene | 120-12-7 | 10.0 | < 10.0 | |
| Aramite | 140-57-8 | 10.0 | < 10.0 | |
| Atrazine | 1912-24-9 | 10.0 | < 10.0 | |
| Azobenzene | 103-33-3 | 10.0 | < 10.0 | |
| Benz(a)anthracene | 56-55-3 | 10.0 | < 10.0 | |
| Benzaldehyde | 100-52-7 | 10.0 | < 10.0 | |
| Benzidine | 92-87-5 | 10.0 | < 10.0 | |
| Benzo(a)pyrene | 50-32-8 | 10.0 | < 10.0 | |
| Benzo(b)fluoranthene | 205-99-2 | 10.0 | < 10.0 | |
| Benzo(g,h,i)perylene | 191-24-2 | 10.0 | < 10.0 | |
| Benzo(k)fluoranthene | 207-08-9 | 10.0 | < 10.0 | |
| Benzoic acid | 65-85-0 | 20.0 | < 20.0 | |
| Benzyl alcohol | 100-51-6 | 10.0 | < 10.0 | |
| Bis(2-chloroethoxy)methane | 111-91-1 | 10.0 | < 10.0 | |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-008B
**Client Sample ID:** W. Boom 3 / 4920497

**Analyzed:** 4/9/2013 1651h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Bis(2-chloroethyl) ether | 111-44-4 | 10.0 | < 10.0 | |
| Bis(2-chloroisopropyl) ether | 108-60-1 | 10.0 | < 10.0 | |
| Bis(2-ethylhexyl) phthalate | 117-81-7 | 10.0 | < 10.0 | |
| bis(2-ethylhexyl)adipate | 103-23-1 | 10.0 | < 10.0 | |
| Butyl benzyl phthalate | 85-68-7 | 10.0 | < 10.0 | |
| Caprolactam | 105-60-2 | 10.0 | < 10.0 | |
| Carbazole | 86-74-8 | 10.0 | < 10.0 | |
| Chlorobenzilate | 510-15-6 | 10.0 | < 10.0 | |
| Chrysene | 218-01-9 | 10.0 | < 10.0 | |
| Di-n-butyl phthalate | 84-74-2 | 10.0 | < 10.0 | |
| Di-n-octyl phthalate | 117-84-0 | 10.0 | < 10.0 | |
| Diallate (cis or trans) | 2303-16-4 | 10.0 | < 10.0 | |
| Dibenz(a,h)anthracene | 53-70-3 | 10.0 | < 10.0 | |
| Dibenzofuran | 132-64-9 | 10.0 | < 10.0 | |
| Diethyl phthalate | 84-66-2 | 10.0 | < 10.0 | |
| Dimethoate | 60-51-5 | 10.0 | < 10.0 | |
| Dimethyl phthalate | 131-11-3 | 10.0 | < 10.0 | |
| Dimethylaminoazobenzene | 60-11-7 | 10.0 | < 10.0 | |
| Dinoseb | 88-85-7 | 10.0 | < 10.0 | |
| Diphenylamine | 122-39-4 | 10.0 | < 10.0 | |
| Disulfoton | 298-04-4 | 10.0 | < 10.0 | |
| Ethyl methanesulfonate | 62-50-0 | 10.0 | < 10.0 | |
| Famphur | 52-85-7 | 10.0 | < 10.0 | |
| Fluoranthene | 206-44-0 | 10.0 | < 10.0 | |
| Fluorene | 86-73-7 | 10.0 | < 10.0 | |
| Hexachlorobenzene | 118-74-1 | 10.0 | < 10.0 | |
| Hexachlorobutadiene | 87-68-3 | 10.0 | < 10.0 | |
| Hexachlorocyclopentadiene | 77-47-4 | 10.0 | < 10.0 | |
| Hexachloroethane | 67-72-1 | 10.0 | < 10.0 | |
| Hexachlorophene | 70-30-4 | 10.0 | < 10.0 | |
| Hexachloropropene | 1888-71-7 | 10.0 | < 10.0 | |
| Indene | 95-13-6 | 10.0 | < 10.0 | |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 10.0 | < 10.0 | |
| Isodrin | 465-73-6 | 10.0 | < 10.0 | |
| Isophorone | 78-59-1 | 10.0 | < 10.0 | |
| Isosafrole | 120-58-1 | 10.0 | < 10.0 | |
| Kepone | 143-50-0 | 10.0 | < 10.0 | |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-008B
**Client Sample ID:** W. Boom 3 / 4920497

**Analyzed:** 4/9/2013 1651h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Methapyrilene | 91-80-5 | 10.0 | < 10.0 | |
| Methyl methanesulfonate | 66-27-3 | 10.0 | < 10.0 | |
| n-Decane | 124-18-5 | 10.0 | < 10.0 | |
| N-Nitrosodi-n-butylamine | 924-16-3 | 10.0 | < 10.0 | |
| N-Nitrosodiethylamine | 55-18-5 | 10.0 | < 10.0 | |
| N-Nitrosodimethylamine | 62-75-9 | 10.0 | < 10.0 | |
| N-Nitrosodiphenylamine | 86-30-6 | 10.0 | < 10.0 | |
| N-Nitrosodi-n-propylamine | 621-64-7 | 10.0 | < 10.0 | |
| N-Nitrosomethylethylamine | 10595-95-6 | 10.0 | < 10.0 | |
| N-Nitrosomorpholine | 59-89-2 | 10.0 | < 10.0 | |
| N-Nitrosopiperidine | 100-75-4 | 10.0 | < 10.0 | |
| N-Nitrosopyrrolidine | 930-55-2 | 10.0 | < 10.0 | |
| n-Octadecane | 593-45-3 | 10.0 | < 10.0 | |
| Naphthalene | 91-20-3 | 10.0 | < 10.0 | |
| Nitrobenzene | 98-95-3 | 10.0 | < 10.0 | |
| Nitroquinoline-1-oxide | 56-57-5 | 10.0 | < 10.0 | |
| O,O,O-Triethyl phosphorothioate | 126-68-1 | 10.0 | < 10.0 | |
| o-Toluidine | 95-53-4 | 10.0 | < 10.0 | |
| Parathion | 56-38-2 | 10.0 | < 10.0 | |
| Methyl parathion | 298-00-0 | 10.0 | < 10.0 | |
| Pentachlorobenzene | 608-93-5 | 10.0 | < 10.0 | |
| Pentachloronitrobenzene | 82-68-8 | 10.0 | < 10.0 | |
| Pentachlorophenol | 87-86-5 | 10.0 | < 10.0 | |
| Phenacetin | 62-44-2 | 10.0 | < 10.0 | |
| Phenanthrene | 85-01-8 | 10.0 | < 10.0 | |
| Phenol | 108-95-2 | 10.0 | < 10.0 | |
| Phorate | 298-02-2 | 10.0 | < 10.0 | |
| Pronamide | 23950-58-5 | 10.0 | < 10.0 | |
| Pyrene | 129-00-0 | 10.0 | < 10.0 | |
| Pyridine | 110-86-1 | 10.0 | < 10.0 | |
| Quinoline | 91-22-5 | 10.0 | < 10.0 | |
| Safrole | 94-59-7 | 10.0 | < 10.0 | |
| Tetraethyl dithiopyrophosphate | 3689-24-5 | 10.0 | < 10.0 | |
| Thionazin | 297-97-2 | 10.0 | < 10.0 | |



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**Lab Sample ID:** 1304147-008B
**Client Sample ID:** W. Boom 3 / 4920497

**Analyzed:** 4/9/2013 1651h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|

| Surrogate | CAS | Result | Amount Spiked | % REC | Limits | Qual |
|---|---|---|---|---|---|---|
| Surr: 2,4,6-Tribromophenol | 118-79-6 | 64.5 | 80.00 | 80.6 | 14-159 | |
| Surr: 2-Fluorobiphenyl | 321-60-8 | 18.3 | 40.00 | 45.7 | 10-124 | |
| Surr: 2-Fluorophenol | 367-12-4 | 24.2 | 80.00 | 30.2 | 10-106 | |
| Surr: Nitrobenzene-d5 | 4165-60-0 | 14.9 | 40.00 | 37.2 | 10-180 | |
| Surr: Phenol-d6 | 13127-88-3 | 18.3 | 80.00 | 22.9 | 10-122 | |
| Surr: Terphenyl-d14 | 1718-51-0 | 34.0 | 40.00 | 85.1 | 10-221 | |

*This sample was analyzed for TICs and no unknown peaks were detected.*


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# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-009B
**Client Sample ID:** W. Boom 2 / 4920496
**Collection Date:** 4/4/2013 1030h
**Received Date:** 4/4/2013 1300h

**Analytical Results** SVOA List by GC/MS Method 8270D/3510C

**Analyzed:** 4/9/2013 1715h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D


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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer


| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 1,1´-Biphenyl | 92-52-4 | 11.1 | < 11.1 | |
| 1,2,4,5-Tetrachlorobenzene | 95-94-3 | 11.1 | < 11.1 | |
| 1,2,4-Trichlorobenzene | 120-82-1 | 11.1 | < 11.1 | |
| 1,2-Dichlorobenzene | 95-50-1 | 11.1 | < 11.1 | |
| 1,3,5-Trinitrobenzene | 99-35-4 | 11.1 | < 11.1 | |
| 1,3-Dichlorobenzene | 541-73-1 | 11.1 | < 11.1 | |
| 1,3-Dinitrobenzene | 99-65-0 | 11.1 | < 11.1 | |
| 1,4-Dichlorobenzene | 106-46-7 | 11.1 | < 11.1 | |
| 1,4-Dinitrobenzene | 100-25-4 | 11.1 | < 11.1 | |
| 1,4-Naphthoquinone | 130-15-4 | 11.1 | < 11.1 | |
| 1,4-Phenylenediamine | 106-50-3 | 11.1 | < 11.1 | |
| 1-Chloronaphthalene | 90-13-1 | 11.1 | < 11.1 | |
| 1-Methylnaphthalene | 90-12-0 | 11.1 | < 11.1 | |
| 1-Naphthylamine | 134-32-7 | 11.1 | < 11.1 | |
| 2,3,4,6-Tetrachlorophenol | 58-90-2 | 11.1 | < 11.1 | |
| 2,4,5-Trichlorophenol | 95-95-4 | 11.1 | < 11.1 | |
| 2,4,6-Trichlorophenol | 88-06-2 | 11.1 | < 11.1 | |
| 2,4-Dichlorophenol | 120-83-2 | 11.1 | < 11.1 | |
| 2,4-Dimethylphenol | 105-67-9 | 11.1 | < 11.1 | |
| 2,4-Dinitrophenol | 51-28-5 | 11.1 | < 11.1 | |
| 2,4-Dinitrotoluene | 121-14-2 | 11.1 | < 11.1 | |
| 2,6-Dichlorophenol | 87-65-0 | 11.1 | < 11.1 | |
| 2,6-Dinitrotoluene | 606-20-2 | 11.1 | < 11.1 | |
| 2-Acetylaminofluorene | 53-96-3 | 11.1 | < 11.1 | |
| 2-Chloronaphthalene | 91-58-7 | 11.1 | < 11.1 | |
| 2-Chlorophenol | 95-57-8 | 11.1 | < 11.1 | |
| 2-Methylnaphthalene | 91-57-6 | 11.1 | < 11.1 | |
| 2-Methylphenol | 95-48-7 | 11.1 | < 11.1 | |
| 2-Naphthylamine | 91-59-8 | 11.1 | < 11.1 | |
| 2-Nitroaniline | 88-74-4 | 11.1 | < 11.1 | |



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web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-009B
**Client Sample ID:** W. Boom 2 / 4920496

**Analyzed:** 4/9/2013 1715h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 2-Nitrophenol | 88-75-5 | 11.1 | < 11.1 | |
| 2-Picoline | 109-06-8 | 11.1 | < 11.1 | |
| 3&4-Methylphenol | | 11.1 | < 11.1 | |
| 3,3´-Dichlorobenzidine | 91-94-1 | 11.1 | < 11.1 | |
| 3,3´-Dimethylbenzidine | 119-93-7 | 11.1 | < 11.1 | |
| 3-Methylcholanthrene | 56-49-5 | 11.1 | < 11.1 | |
| 3-Nitroaniline | 99-09-2 | 11.1 | < 11.1 | |
| 4,6-Dinitro-2-methylphenol | 534-52-1 | 11.1 | < 11.1 | |
| 4-Aminobiphenyl | 92-67-1 | 11.1 | < 11.1 | |
| 4-Bromophenyl phenyl ether | 101-55-3 | 11.1 | < 11.1 | |
| 4-Chloro-3-methylphenol | 59-50-7 | 11.1 | < 11.1 | |
| 4-Chloroaniline | 106-47-8 | 11.1 | < 11.1 | |
| 4-Chlorophenyl phenyl ether | 7005-72-3 | 11.1 | < 11.1 | |
| 4-Nitroaniline | 100-01-6 | 11.1 | < 11.1 | |
| 4-Nitrophenol | 100-02-7 | 11.1 | < 11.1 | |
| 5-Nitro-o-toluidine | 99-55-8 | 11.1 | < 11.1 | |
| 7,12-Dimethylbenz(a)anthracene | 57-97-6 | 11.1 | < 11.1 | |
| a,a-Dimethylphenethylamine | 122-09-8 | 11.1 | < 11.1 | |
| Acenaphthene | 83-32-9 | 11.1 | < 11.1 | |
| Acenaphthylene | 208-96-8 | 11.1 | < 11.1 | |
| Acetophenone | 98-86-2 | 11.1 | < 11.1 | |
| alpha-Terpineol | 98-55-5 | 11.1 | < 11.1 | |
| Aniline | 62-53-3 | 11.1 | < 11.1 | |
| Anthracene | 120-12-7 | 11.1 | < 11.1 | |
| Aramite | 140-57-8 | 11.1 | < 11.1 | |
| Atrazine | 1912-24-9 | 11.1 | < 11.1 | |
| Azobenzene | 103-33-3 | 11.1 | < 11.1 | |
| Benz(a)anthracene | 56-55-3 | 11.1 | < 11.1 | |
| Benzaldehyde | 100-52-7 | 11.1 | < 11.1 | |
| Benzidine | 92-87-5 | 11.1 | < 11.1 | |
| Benzo(a)pyrene | 50-32-8 | 11.1 | < 11.1 | |
| Benzo(b)fluoranthene | 205-99-2 | 11.1 | < 11.1 | |
| Benzo(g,h,i)perylene | 191-24-2 | 11.1 | < 11.1 | |
| Benzo(k)fluoranthene | 207-08-9 | 11.1 | < 11.1 | |
| Benzoic acid | 65-85-0 | 22.2 | < 22.2 | |
| Benzyl alcohol | 100-51-6 | 11.1 | < 11.1 | |
| Bis(2-chloroethoxy)methane | 111-91-1 | 11.1 | < 11.1 | |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-009B
**Client Sample ID:** W. Boom 2 / 4920496

**Analyzed:** 4/9/2013 1715h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Bis(2-chloroethyl) ether | 111-44-4 | 11.1 | < 11.1 | |
| Bis(2-chloroisopropyl) ether | 108-60-1 | 11.1 | < 11.1 | |
| Bis(2-ethylhexyl) phthalate | 117-81-7 | 11.1 | **15.7** | |
| bis(2-ethylhexyl)adipate | 103-23-1 | 11.1 | < 11.1 | |
| Butyl benzyl phthalate | 85-68-7 | 11.1 | < 11.1 | |
| Caprolactam | 105-60-2 | 11.1 | < 11.1 | |
| Carbazole | 86-74-8 | 11.1 | < 11.1 | |
| Chlorobenzilate | 510-15-6 | 11.1 | < 11.1 | |
| Chrysene | 218-01-9 | 11.1 | < 11.1 | |
| Di-n-butyl phthalate | 84-74-2 | 11.1 | < 11.1 | |
| Di-n-octyl phthalate | 117-84-0 | 11.1 | < 11.1 | |
| Diallate (cis or trans) | 2303-16-4 | 11.1 | < 11.1 | |
| Dibenz(a,h)anthracene | 53-70-3 | 11.1 | < 11.1 | |
| Dibenzofuran | 132-64-9 | 11.1 | < 11.1 | |
| Diethyl phthalate | 84-66-2 | 11.1 | < 11.1 | |
| Dimethoate | 60-51-5 | 11.1 | < 11.1 | |
| Dimethyl phthalate | 131-11-3 | 11.1 | < 11.1 | |
| Dimethylaminoazobenzene | 60-11-7 | 11.1 | < 11.1 | |
| Dinoseb | 88-85-7 | 11.1 | < 11.1 | |
| Diphenylamine | 122-39-4 | 11.1 | < 11.1 | |
| Disulfoton | 298-04-4 | 11.1 | < 11.1 | |
| Ethyl methanesulfonate | 62-50-0 | 11.1 | < 11.1 | |
| Famphur | 52-85-7 | 11.1 | < 11.1 | |
| Fluoranthene | 206-44-0 | 11.1 | < 11.1 | |
| Fluorene | 86-73-7 | 11.1 | < 11.1 | |
| Hexachlorobenzene | 118-74-1 | 11.1 | < 11.1 | |
| Hexachlorobutadiene | 87-68-3 | 11.1 | < 11.1 | |
| Hexachlorocyclopentadiene | 77-47-4 | 11.1 | < 11.1 | |
| Hexachloroethane | 67-72-1 | 11.1 | < 11.1 | |
| Hexachlorophene | 70-30-4 | 11.1 | < 11.1 | |
| Hexachloropropene | 1888-71-7 | 11.1 | < 11.1 | |
| Indene | 95-13-6 | 11.1 | < 11.1 | |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 11.1 | < 11.1 | |
| Isodrin | 465-73-6 | 11.1 | < 11.1 | |
| Isophorone | 78-59-1 | 11.1 | < 11.1 | |
| Isosafrole | 120-58-1 | 11.1 | < 11.1 | |
| Kepone | 143-50-0 | 11.1 | < 11.1 | |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-009B
**Client Sample ID:** W. Boom 2 / 4920496

**Analyzed:** 4/9/2013 1715h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Methapyrilene | 91-80-5 | 11.1 | < 11.1 | |
| Methyl methanesulfonate | 66-27-3 | 11.1 | < 11.1 | |
| n-Decane | 124-18-5 | 11.1 | < 11.1 | |
| N-Nitrosodi-n-butylamine | 924-16-3 | 11.1 | < 11.1 | |
| N-Nitrosodiethylamine | 55-18-5 | 11.1 | < 11.1 | |
| N-Nitrosodimethylamine | 62-75-9 | 11.1 | < 11.1 | |
| N-Nitrosodiphenylamine | 86-30-6 | 11.1 | < 11.1 | |
| N-Nitrosodi-n-propylamine | 621-64-7 | 11.1 | < 11.1 | |
| N-Nitrosomethylethylamine | 10595-95-6 | 11.1 | < 11.1 | |
| N-Nitrosomorpholine | 59-89-2 | 11.1 | < 11.1 | |
| N-Nitrosopiperidine | 100-75-4 | 11.1 | < 11.1 | |
| N-Nitrosopyrrolidine | 930-55-2 | 11.1 | < 11.1 | |
| n-Octadecane | 593-45-3 | 11.1 | < 11.1 | |
| Naphthalene | 91-20-3 | 11.1 | < 11.1 | |
| Nitrobenzene | 98-95-3 | 11.1 | < 11.1 | |
| Nitroquinoline-1-oxide | 56-57-5 | 11.1 | < 11.1 | |
| O,O,O-Triethyl phosphorothioate | 126-68-1 | 11.1 | < 11.1 | |
| o-Toluidine | 95-53-4 | 11.1 | < 11.1 | |
| Parathion | 56-38-2 | 11.1 | < 11.1 | |
| Methyl parathion | 298-00-0 | 11.1 | < 11.1 | |
| Pentachlorobenzene | 608-93-5 | 11.1 | < 11.1 | |
| Pentachloronitrobenzene | 82-68-8 | 11.1 | < 11.1 | |
| Pentachlorophenol | 87-86-5 | 11.1 | < 11.1 | |
| Phenacetin | 62-44-2 | 11.1 | < 11.1 | |
| Phenanthrene | 85-01-8 | 11.1 | < 11.1 | |
| Phenol | 108-95-2 | 11.1 | < 11.1 | |
| Phorate | 298-02-2 | 11.1 | < 11.1 | |
| Pronamide | 23950-58-5 | 11.1 | < 11.1 | |
| Pyrene | 129-00-0 | 11.1 | < 11.1 | |
| Pyridine | 110-86-1 | 11.1 | < 11.1 | |
| Quinoline | 91-22-5 | 11.1 | < 11.1 | |
| Safrole | 94-59-7 | 11.1 | < 11.1 | |
| Tetraethyl dithiopyrophosphate | 3689-24-5 | 11.1 | < 11.1 | |
| Thionazin | 297-97-2 | 11.1 | < 11.1 | |



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**Lab Sample ID:** 1304147-009B
**Client Sample ID:** W. Boom 2 / 4920496

**Analyzed:** 4/9/2013 1715h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|

| Surrogate | CAS | Result | Amount Spiked | % REC | Limits | Qual |
|---|---|---|---|---|---|---|
| Surr: 2,4,6-Tribromophenol | 118-79-6 | 81.2 | 88.89 | 91.4 | 14-159 | |
| Surr: 2-Fluorobiphenyl | 321-60-8 | 25.1 | 44.44 | 56.4 | 10-124 | |
| Surr: 2-Fluorophenol | 367-12-4 | 31.9 | 88.89 | 35.8 | 10-106 | |
| Surr: Nitrobenzene-d5 | 4165-60-0 | 20.3 | 44.44 | 45.7 | 10-180 | |
| Surr: Phenol-d6 | 13127-88-3 | 25.5 | 88.89 | 28.7 | 10-122 | |
| Surr: Terphenyl-d14 | 1718-51-0 | 39.6 | 44.44 | 89.2 | 10-221 | |

*This sample was analyzed for TICs and no unknown peaks were detected.*


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# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-010B
**Client Sample ID:** 50' From WB1 / 4920505
**Collection Date:** 4/4/2013 1040h
**Received Date:** 4/4/2013 1300h

**Analytical Results** SVOA List by GC/MS Method 8270D/3510C

**Analyzed:** 4/9/2013 1738h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D


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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer


| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 1,1´-Biphenyl | 92-52-4 | 10.0 | < 10.0 | |
| 1,2,4,5-Tetrachlorobenzene | 95-94-3 | 10.0 | < 10.0 | |
| 1,2,4-Trichlorobenzene | 120-82-1 | 10.0 | < 10.0 | |
| 1,2-Dichlorobenzene | 95-50-1 | 10.0 | < 10.0 | |
| 1,3,5-Trinitrobenzene | 99-35-4 | 10.0 | < 10.0 | |
| 1,3-Dichlorobenzene | 541-73-1 | 10.0 | < 10.0 | |
| 1,3-Dinitrobenzene | 99-65-0 | 10.0 | < 10.0 | |
| 1,4-Dichlorobenzene | 106-46-7 | 10.0 | < 10.0 | |
| 1,4-Dinitrobenzene | 100-25-4 | 10.0 | < 10.0 | |
| 1,4-Naphthoquinone | 130-15-4 | 10.0 | < 10.0 | |
| 1,4-Phenylenediamine | 106-50-3 | 10.0 | < 10.0 | |
| 1-Chloronaphthalene | 90-13-1 | 10.0 | < 10.0 | |
| 1-Methylnaphthalene | 90-12-0 | 10.0 | < 10.0 | |
| 1-Naphthylamine | 134-32-7 | 10.0 | < 10.0 | |
| 2,3,4,6-Tetrachlorophenol | 58-90-2 | 10.0 | < 10.0 | |
| 2,4,5-Trichlorophenol | 95-95-4 | 10.0 | < 10.0 | |
| 2,4,6-Trichlorophenol | 88-06-2 | 10.0 | < 10.0 | |
| 2,4-Dichlorophenol | 120-83-2 | 10.0 | < 10.0 | |
| 2,4-Dimethylphenol | 105-67-9 | 10.0 | < 10.0 | |
| 2,4-Dinitrophenol | 51-28-5 | 10.0 | < 10.0 | |
| 2,4-Dinitrotoluene | 121-14-2 | 10.0 | < 10.0 | |
| 2,6-Dichlorophenol | 87-65-0 | 10.0 | < 10.0 | |
| 2,6-Dinitrotoluene | 606-20-2 | 10.0 | < 10.0 | |
| 2-Acetylaminofluorene | 53-96-3 | 10.0 | < 10.0 | |
| 2-Chloronaphthalene | 91-58-7 | 10.0 | < 10.0 | |
| 2-Chlorophenol | 95-57-8 | 10.0 | < 10.0 | |
| 2-Methylnaphthalene | 91-57-6 | 10.0 | < 10.0 | |
| 2-Methylphenol | 95-48-7 | 10.0 | < 10.0 | |
| 2-Naphthylamine | 91-59-8 | 10.0 | < 10.0 | |
| 2-Nitroaniline | 88-74-4 | 10.0 | < 10.0 | |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-010B
**Client Sample ID:** 50' From WB1 / 4920505

**Analyzed:** 4/9/2013 1738h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 2-Nitrophenol | 88-75-5 | 10.0 | < 10.0 | |
| 2-Picoline | 109-06-8 | 10.0 | < 10.0 | |
| 3&4-Methylphenol | | 10.0 | < 10.0 | |
| 3,3´-Dichlorobenzidine | 91-94-1 | 10.0 | < 10.0 | |
| 3,3´-Dimethylbenzidine | 119-93-7 | 10.0 | < 10.0 | |
| 3-Methylcholanthrene | 56-49-5 | 10.0 | < 10.0 | |
| 3-Nitroaniline | 99-09-2 | 10.0 | < 10.0 | |
| 4,6-Dinitro-2-methylphenol | 534-52-1 | 10.0 | < 10.0 | |
| 4-Aminobiphenyl | 92-67-1 | 10.0 | < 10.0 | |
| 4-Bromophenyl phenyl ether | 101-55-3 | 10.0 | < 10.0 | |
| 4-Chloro-3-methylphenol | 59-50-7 | 10.0 | < 10.0 | |
| 4-Chloroaniline | 106-47-8 | 10.0 | < 10.0 | |
| 4-Chlorophenyl phenyl ether | 7005-72-3 | 10.0 | < 10.0 | |
| 4-Nitroaniline | 100-01-6 | 10.0 | < 10.0 | |
| 4-Nitrophenol | 100-02-7 | 10.0 | < 10.0 | |
| 5-Nitro-o-toluidine | 99-55-8 | 10.0 | < 10.0 | |
| 7,12-Dimethylbenz(a)anthracene | 57-97-6 | 10.0 | < 10.0 | |
| a,a-Dimethylphenethylamine | 122-09-8 | 10.0 | < 10.0 | |
| Acenaphthene | 83-32-9 | 10.0 | < 10.0 | |
| Acenaphthylene | 208-96-8 | 10.0 | < 10.0 | |
| Acetophenone | 98-86-2 | 10.0 | < 10.0 | |
| alpha-Terpineol | 98-55-5 | 10.0 | < 10.0 | |
| Aniline | 62-53-3 | 10.0 | < 10.0 | |
| Anthracene | 120-12-7 | 10.0 | < 10.0 | |
| Aramite | 140-57-8 | 10.0 | < 10.0 | |
| Atrazine | 1912-24-9 | 10.0 | < 10.0 | |
| Azobenzene | 103-33-3 | 10.0 | < 10.0 | |
| Benz(a)anthracene | 56-55-3 | 10.0 | < 10.0 | |
| Benzaldehyde | 100-52-7 | 10.0 | < 10.0 | |
| Benzidine | 92-87-5 | 10.0 | < 10.0 | |
| Benzo(a)pyrene | 50-32-8 | 10.0 | < 10.0 | |
| Benzo(b)fluoranthene | 205-99-2 | 10.0 | < 10.0 | |
| Benzo(g,h,i)perylene | 191-24-2 | 10.0 | < 10.0 | |
| Benzo(k)fluoranthene | 207-08-9 | 10.0 | < 10.0 | |
| Benzoic acid | 65-85-0 | 20.0 | < 20.0 | |
| Benzyl alcohol | 100-51-6 | 10.0 | < 10.0 | |
| Bis(2-chloroethoxy)methane | 111-91-1 | 10.0 | < 10.0 | |



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**Lab Sample ID:** 1304147-010B
**Client Sample ID:** 50' From WB1 / 4920505

**Analyzed:** 4/9/2013 1738h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Bis(2-chloroethyl) ether | 111-44-4 | 10.0 | < 10.0 | |
| Bis(2-chloroisopropyl) ether | 108-60-1 | 10.0 | < 10.0 | |
| Bis(2-ethylhexyl) phthalate | 117-81-7 | 10.0 | < 10.0 | |
| bis(2-ethylhexyl)adipate | 103-23-1 | 10.0 | < 10.0 | |
| Butyl benzyl phthalate | 85-68-7 | 10.0 | < 10.0 | |
| Caprolactam | 105-60-2 | 10.0 | < 10.0 | |
| Carbazole | 86-74-8 | 10.0 | < 10.0 | |
| Chlorobenzilate | 510-15-6 | 10.0 | < 10.0 | |
| Chrysene | 218-01-9 | 10.0 | < 10.0 | |
| Di-n-butyl phthalate | 84-74-2 | 10.0 | < 10.0 | |
| Di-n-octyl phthalate | 117-84-0 | 10.0 | < 10.0 | |
| Diallate (cis or trans) | 2303-16-4 | 10.0 | < 10.0 | |
| Dibenz(a,h)anthracene | 53-70-3 | 10.0 | < 10.0 | |
| Dibenzofuran | 132-64-9 | 10.0 | < 10.0 | |
| Diethyl phthalate | 84-66-2 | 10.0 | < 10.0 | |
| Dimethoate | 60-51-5 | 10.0 | < 10.0 | |
| Dimethyl phthalate | 131-11-3 | 10.0 | < 10.0 | |
| Dimethylaminoazobenzene | 60-11-7 | 10.0 | < 10.0 | |
| Dinoseb | 88-85-7 | 10.0 | < 10.0 | |
| Diphenylamine | 122-39-4 | 10.0 | < 10.0 | |
| Disulfoton | 298-04-4 | 10.0 | < 10.0 | |
| Ethyl methanesulfonate | 62-50-0 | 10.0 | < 10.0 | |
| Famphur | 52-85-7 | 10.0 | < 10.0 | |
| Fluoranthene | 206-44-0 | 10.0 | < 10.0 | |
| Fluorene | 86-73-7 | 10.0 | < 10.0 | |
| Hexachlorobenzene | 118-74-1 | 10.0 | < 10.0 | |
| Hexachlorobutadiene | 87-68-3 | 10.0 | < 10.0 | |
| Hexachlorocyclopentadiene | 77-47-4 | 10.0 | < 10.0 | |
| Hexachloroethane | 67-72-1 | 10.0 | < 10.0 | |
| Hexachlorophene | 70-30-4 | 10.0 | < 10.0 | |
| Hexachloropropene | 1888-71-7 | 10.0 | < 10.0 | |
| Indene | 95-13-6 | 10.0 | < 10.0 | |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 10.0 | < 10.0 | |
| Isodrin | 465-73-6 | 10.0 | < 10.0 | |
| Isophorone | 78-59-1 | 10.0 | < 10.0 | |
| Isosafrole | 120-58-1 | 10.0 | < 10.0 | |
| Kepone | 143-50-0 | 10.0 | < 10.0 | |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-010B
**Client Sample ID:** 50' From WB1 / 4920505

**Analyzed:** 4/9/2013 1738h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Methapyrilene | 91-80-5 | 10.0 | < 10.0 | |
| Methyl methanesulfonate | 66-27-3 | 10.0 | < 10.0 | |
| n-Decane | 124-18-5 | 10.0 | < 10.0 | |
| N-Nitrosodi-n-butylamine | 924-16-3 | 10.0 | < 10.0 | |
| N-Nitrosodiethylamine | 55-18-5 | 10.0 | < 10.0 | |
| N-Nitrosodimethylamine | 62-75-9 | 10.0 | < 10.0 | |
| N-Nitrosodiphenylamine | 86-30-6 | 10.0 | < 10.0 | |
| N-Nitrosodi-n-propylamine | 621-64-7 | 10.0 | < 10.0 | |
| N-Nitrosomethylethylamine | 10595-95-6 | 10.0 | < 10.0 | |
| N-Nitrosomorpholine | 59-89-2 | 10.0 | < 10.0 | |
| N-Nitrosopiperidine | 100-75-4 | 10.0 | < 10.0 | |
| N-Nitrosopyrrolidine | 930-55-2 | 10.0 | < 10.0 | |
| n-Octadecane | 593-45-3 | 10.0 | < 10.0 | |
| Naphthalene | 91-20-3 | 10.0 | < 10.0 | |
| Nitrobenzene | 98-95-3 | 10.0 | < 10.0 | |
| Nitroquinoline-1-oxide | 56-57-5 | 10.0 | < 10.0 | |
| O,O,O-Triethyl phosphorothioate | 126-68-1 | 10.0 | < 10.0 | |
| o-Toluidine | 95-53-4 | 10.0 | < 10.0 | |
| Parathion | 56-38-2 | 10.0 | < 10.0 | |
| Methyl parathion | 298-00-0 | 10.0 | < 10.0 | |
| Pentachlorobenzene | 608-93-5 | 10.0 | < 10.0 | |
| Pentachloronitrobenzene | 82-68-8 | 10.0 | < 10.0 | |
| Pentachlorophenol | 87-86-5 | 10.0 | < 10.0 | |
| Phenacetin | 62-44-2 | 10.0 | < 10.0 | |
| Phenanthrene | 85-01-8 | 10.0 | < 10.0 | |
| Phenol | 108-95-2 | 10.0 | < 10.0 | |
| Phorate | 298-02-2 | 10.0 | < 10.0 | |
| Pronamide | 23950-58-5 | 10.0 | < 10.0 | |
| Pyrene | 129-00-0 | 10.0 | < 10.0 | |
| Pyridine | 110-86-1 | 10.0 | < 10.0 | |
| Quinoline | 91-22-5 | 10.0 | < 10.0 | |
| Safrole | 94-59-7 | 10.0 | < 10.0 | |
| Tetraethyl dithiopyrophosphate | 3689-24-5 | 10.0 | < 10.0 | |
| Thionazin | 297-97-2 | 10.0 | < 10.0 | |



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**Lab Sample ID:** 1304147-010B
**Client Sample ID:** 50' From WB1 / 4920505

**Analyzed:** 4/9/2013 1738h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|

| Surrogate | CAS | Result | Amount Spiked | % REC | Limits | Qual |
|---|---|---|---|---|---|---|
| Surr: 2,4,6-Tribromophenol | 118-79-6 | 63.5 | 80.00 | 79.4 | 14-159 | |
| Surr: 2-Fluorobiphenyl | 321-60-8 | 13.8 | 40.00 | 34.6 | 10-124 | |
| Surr: 2-Fluorophenol | 367-12-4 | 18.7 | 80.00 | 23.3 | 10-106 | |
| Surr: Nitrobenzene-d5 | 4165-60-0 | 11.4 | 40.00 | 28.6 | 10-180 | |
| Surr: Phenol-d6 | 13127-88-3 | 14.4 | 80.00 | 18.0 | 10-122 | |
| Surr: Terphenyl-d14 | 1718-51-0 | 32.8 | 40.00 | 82.0 | 10-221 | |

*This sample was analyzed for TICs and no unknown peaks were detected.*

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer



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# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-011B
**Client Sample ID:** W. Boom 1 / 4920396
**Collection Date:** 4/4/2013 1050h
**Received Date:** 4/4/2013 1300h

**Analytical Results** SVOA List by GC/MS Method 8270D/3510C

**Analyzed:** 4/9/2013 1801h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D


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Jose Rocha
QA Officer


| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 1,1´-Biphenyl | 92-52-4 | 10.0 | < 10.0 | |
| 1,2,4,5-Tetrachlorobenzene | 95-94-3 | 10.0 | < 10.0 | |
| 1,2,4-Trichlorobenzene | 120-82-1 | 10.0 | < 10.0 | |
| 1,2-Dichlorobenzene | 95-50-1 | 10.0 | < 10.0 | |
| 1,3,5-Trinitrobenzene | 99-35-4 | 10.0 | < 10.0 | |
| 1,3-Dichlorobenzene | 541-73-1 | 10.0 | < 10.0 | |
| 1,3-Dinitrobenzene | 99-65-0 | 10.0 | < 10.0 | |
| 1,4-Dichlorobenzene | 106-46-7 | 10.0 | < 10.0 | |
| 1,4-Dinitrobenzene | 100-25-4 | 10.0 | < 10.0 | |
| 1,4-Naphthoquinone | 130-15-4 | 10.0 | < 10.0 | |
| 1,4-Phenylenediamine | 106-50-3 | 10.0 | < 10.0 | |
| 1-Chloronaphthalene | 90-13-1 | 10.0 | < 10.0 | |
| 1-Methylnaphthalene | 90-12-0 | 10.0 | < 10.0 | |
| 1-Naphthylamine | 134-32-7 | 10.0 | < 10.0 | |
| 2,3,4,6-Tetrachlorophenol | 58-90-2 | 10.0 | < 10.0 | |
| 2,4,5-Trichlorophenol | 95-95-4 | 10.0 | < 10.0 | |
| 2,4,6-Trichlorophenol | 88-06-2 | 10.0 | < 10.0 | |
| 2,4-Dichlorophenol | 120-83-2 | 10.0 | < 10.0 | |
| 2,4-Dimethylphenol | 105-67-9 | 10.0 | < 10.0 | |
| 2,4-Dinitrophenol | 51-28-5 | 10.0 | < 10.0 | |
| 2,4-Dinitrotoluene | 121-14-2 | 10.0 | < 10.0 | |
| 2,6-Dichlorophenol | 87-65-0 | 10.0 | < 10.0 | |
| 2,6-Dinitrotoluene | 606-20-2 | 10.0 | < 10.0 | |
| 2-Acetylaminofluorene | 53-96-3 | 10.0 | < 10.0 | |
| 2-Chloronaphthalene | 91-58-7 | 10.0 | < 10.0 | |
| 2-Chlorophenol | 95-57-8 | 10.0 | < 10.0 | |
| 2-Methylnaphthalene | 91-57-6 | 10.0 | < 10.0 | |
| 2-Methylphenol | 95-48-7 | 10.0 | < 10.0 | |
| 2-Naphthylamine | 91-59-8 | 10.0 | < 10.0 | |
| 2-Nitroaniline | 88-74-4 | 10.0 | < 10.0 | |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-011B
**Client Sample ID:** W. Boom 1 / 4920396

**Analyzed:** 4/9/2013 1801h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 2-Nitrophenol | 88-75-5 | 10.0 | < 10.0 | |
| 2-Picoline | 109-06-8 | 10.0 | < 10.0 | |
| 3&4-Methylphenol | | 10.0 | < 10.0 | |
| 3,3´-Dichlorobenzidine | 91-94-1 | 10.0 | < 10.0 | |
| 3,3´-Dimethylbenzidine | 119-93-7 | 10.0 | < 10.0 | |
| 3-Methylcholanthrene | 56-49-5 | 10.0 | < 10.0 | |
| 3-Nitroaniline | 99-09-2 | 10.0 | < 10.0 | |
| 4,6-Dinitro-2-methylphenol | 534-52-1 | 10.0 | < 10.0 | |
| 4-Aminobiphenyl | 92-67-1 | 10.0 | < 10.0 | |
| 4-Bromophenyl phenyl ether | 101-55-3 | 10.0 | < 10.0 | |
| 4-Chloro-3-methylphenol | 59-50-7 | 10.0 | < 10.0 | |
| 4-Chloroaniline | 106-47-8 | 10.0 | < 10.0 | |
| 4-Chlorophenyl phenyl ether | 7005-72-3 | 10.0 | < 10.0 | |
| 4-Nitroaniline | 100-01-6 | 10.0 | < 10.0 | |
| 4-Nitrophenol | 100-02-7 | 10.0 | < 10.0 | |
| 5-Nitro-o-toluidine | 99-55-8 | 10.0 | < 10.0 | |
| 7,12-Dimethylbenz(a)anthracene | 57-97-6 | 10.0 | < 10.0 | |
| a,a-Dimethylphenethylamine | 122-09-8 | 10.0 | < 10.0 | |
| Acenaphthene | 83-32-9 | 10.0 | < 10.0 | |
| Acenaphthylene | 208-96-8 | 10.0 | < 10.0 | |
| Acetophenone | 98-86-2 | 10.0 | < 10.0 | |
| alpha-Terpineol | 98-55-5 | 10.0 | < 10.0 | |
| Aniline | 62-53-3 | 10.0 | < 10.0 | |
| Anthracene | 120-12-7 | 10.0 | < 10.0 | |
| Aramite | 140-57-8 | 10.0 | < 10.0 | |
| Atrazine | 1912-24-9 | 10.0 | < 10.0 | |
| Azobenzene | 103-33-3 | 10.0 | < 10.0 | |
| Benz(a)anthracene | 56-55-3 | 10.0 | < 10.0 | |
| Benzaldehyde | 100-52-7 | 10.0 | < 10.0 | |
| Benzidine | 92-87-5 | 10.0 | < 10.0 | |
| Benzo(a)pyrene | 50-32-8 | 10.0 | < 10.0 | |
| Benzo(b)fluoranthene | 205-99-2 | 10.0 | < 10.0 | |
| Benzo(g,h,i)perylene | 191-24-2 | 10.0 | < 10.0 | |
| Benzo(k)fluoranthene | 207-08-9 | 10.0 | < 10.0 | |
| Benzoic acid | 65-85-0 | 20.0 | < 20.0 | |
| Benzyl alcohol | 100-51-6 | 10.0 | < 10.0 | |
| Bis(2-chloroethoxy)methane | 111-91-1 | 10.0 | < 10.0 | |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-011B
**Client Sample ID:** W. Boom 1 / 4920396

**Analyzed:** 4/9/2013 1801h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Bis(2-chloroethyl) ether | 111-44-4 | 10.0 | < 10.0 | |
| Bis(2-chloroisopropyl) ether | 108-60-1 | 10.0 | < 10.0 | |
| Bis(2-ethylhexyl) phthalate | 117-81-7 | 10.0 | < 10.0 | |
| bis(2-ethylhexyl)adipate | 103-23-1 | 10.0 | < 10.0 | |
| Butyl benzyl phthalate | 85-68-7 | 10.0 | < 10.0 | |
| Caprolactam | 105-60-2 | 10.0 | < 10.0 | |
| Carbazole | 86-74-8 | 10.0 | < 10.0 | |
| Chlorobenzilate | 510-15-6 | 10.0 | < 10.0 | |
| Chrysene | 218-01-9 | 10.0 | < 10.0 | |
| Di-n-butyl phthalate | 84-74-2 | 10.0 | < 10.0 | |
| Di-n-octyl phthalate | 117-84-0 | 10.0 | < 10.0 | |
| Diallate (cis or trans) | 2303-16-4 | 10.0 | < 10.0 | |
| Dibenz(a,h)anthracene | 53-70-3 | 10.0 | < 10.0 | |
| Dibenzofuran | 132-64-9 | 10.0 | < 10.0 | |
| Diethyl phthalate | 84-66-2 | 10.0 | < 10.0 | |
| Dimethoate | 60-51-5 | 10.0 | < 10.0 | |
| Dimethyl phthalate | 131-11-3 | 10.0 | < 10.0 | |
| Dimethylaminoazobenzene | 60-11-7 | 10.0 | < 10.0 | |
| Dinoseb | 88-85-7 | 10.0 | < 10.0 | |
| Diphenylamine | 122-39-4 | 10.0 | < 10.0 | |
| Disulfoton | 298-04-4 | 10.0 | < 10.0 | |
| Ethyl methanesulfonate | 62-50-0 | 10.0 | < 10.0 | |
| Famphur | 52-85-7 | 10.0 | < 10.0 | |
| Fluoranthene | 206-44-0 | 10.0 | < 10.0 | |
| Fluorene | 86-73-7 | 10.0 | < 10.0 | |
| Hexachlorobenzene | 118-74-1 | 10.0 | < 10.0 | |
| Hexachlorobutadiene | 87-68-3 | 10.0 | < 10.0 | |
| Hexachlorocyclopentadiene | 77-47-4 | 10.0 | < 10.0 | |
| Hexachloroethane | 67-72-1 | 10.0 | < 10.0 | |
| Hexachlorophene | 70-30-4 | 10.0 | < 10.0 | |
| Hexachloropropene | 1888-71-7 | 10.0 | < 10.0 | |
| Indene | 95-13-6 | 10.0 | < 10.0 | |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 10.0 | < 10.0 | |
| Isodrin | 465-73-6 | 10.0 | < 10.0 | |
| Isophorone | 78-59-1 | 10.0 | < 10.0 | |
| Isosafrole | 120-58-1 | 10.0 | < 10.0 | |
| Kepone | 143-50-0 | 10.0 | < 10.0 | |



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**Lab Sample ID:** 1304147-011B
**Client Sample ID:** W. Boom 1 / 4920396

**Analyzed:** 4/9/2013 1801h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Methapyrilene | 91-80-5 | 10.0 | < 10.0 | |
| Methyl methanesulfonate | 66-27-3 | 10.0 | < 10.0 | |
| n-Decane | 124-18-5 | 10.0 | < 10.0 | |
| N-Nitrosodi-n-butylamine | 924-16-3 | 10.0 | < 10.0 | |
| N-Nitrosodiethylamine | 55-18-5 | 10.0 | < 10.0 | |
| N-Nitrosodimethylamine | 62-75-9 | 10.0 | < 10.0 | |
| N-Nitrosodiphenylamine | 86-30-6 | 10.0 | < 10.0 | |
| N-Nitrosodi-n-propylamine | 621-64-7 | 10.0 | < 10.0 | |
| N-Nitrosomethylethylamine | 10595-95-6 | 10.0 | < 10.0 | |
| N-Nitrosomorpholine | 59-89-2 | 10.0 | < 10.0 | |
| N-Nitrosopiperidine | 100-75-4 | 10.0 | < 10.0 | |
| N-Nitrosopyrrolidine | 930-55-2 | 10.0 | < 10.0 | |
| n-Octadecane | 593-45-3 | 10.0 | < 10.0 | |
| Naphthalene | 91-20-3 | 10.0 | < 10.0 | |
| Nitrobenzene | 98-95-3 | 10.0 | < 10.0 | |
| Nitroquinoline-1-oxide | 56-57-5 | 10.0 | < 10.0 | |
| O,O,O-Triethyl phosphorothioate | 126-68-1 | 10.0 | < 10.0 | |
| o-Toluidine | 95-53-4 | 10.0 | < 10.0 | |
| Parathion | 56-38-2 | 10.0 | < 10.0 | |
| Methyl parathion | 298-00-0 | 10.0 | < 10.0 | |
| Pentachlorobenzene | 608-93-5 | 10.0 | < 10.0 | |
| Pentachloronitrobenzene | 82-68-8 | 10.0 | < 10.0 | |
| Pentachlorophenol | 87-86-5 | 10.0 | < 10.0 | |
| Phenacetin | 62-44-2 | 10.0 | < 10.0 | |
| Phenanthrene | 85-01-8 | 10.0 | < 10.0 | |
| Phenol | 108-95-2 | 10.0 | < 10.0 | |
| Phorate | 298-02-2 | 10.0 | < 10.0 | |
| Pronamide | 23950-58-5 | 10.0 | < 10.0 | |
| Pyrene | 129-00-0 | 10.0 | < 10.0 | |
| Pyridine | 110-86-1 | 10.0 | < 10.0 | |
| Quinoline | 91-22-5 | 10.0 | < 10.0 | |
| Safrole | 94-59-7 | 10.0 | < 10.0 | |
| Tetraethyl dithiopyrophosphate | 3689-24-5 | 10.0 | < 10.0 | |
| Thionazin | 297-97-2 | 10.0 | < 10.0 | |



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**Client Sample ID:** W. Boom 1 / 4920396

**Analyzed:** 4/9/2013 1801h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|

| Surrogate | CAS | Result | Amount Spiked | % REC | Limits | Qual |
|---|---|---|---|---|---|---|
| Surr: 2,4,6-Tribromophenol | 118-79-6 | 61.2 | 80.00 | 76.5 | 14-159 | |
| Surr: 2-Fluorobiphenyl | 321-60-8 | 11.0 | 40.00 | 27.6 | 10-124 | |
| Surr: 2-Fluorophenol | 367-12-4 | 16.6 | 80.00 | 20.7 | 10-106 | |
| Surr: Nitrobenzene-d5 | 4165-60-0 | 7.70 | 40.00 | 19.2 | 10-180 | |
| Surr: Phenol-d6 | 13127-88-3 | 15.4 | 80.00 | 19.2 | 10-122 | |
| Surr: Terphenyl-d14 | 1718-51-0 | 27.3 | 40.00 | 68.2 | 10-221 | |

*This sample was analyzed for TICs and no unknown peaks were detected.*

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# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-012B
**Client Sample ID:** East of Boom / 4920395
**Collection Date:** 4/4/2013 1100h
**Received Date:** 4/4/2013 1300h

**Analytical Results** SVOA List by GC/MS Method 8270D/3510C

**Analyzed:** 4/9/2013 1825h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D


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web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer


| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 1,1´-Biphenyl | 92-52-4 | 10.0 | < 10.0 | |
| 1,2,4,5-Tetrachlorobenzene | 95-94-3 | 10.0 | < 10.0 | |
| 1,2,4-Trichlorobenzene | 120-82-1 | 10.0 | < 10.0 | |
| 1,2-Dichlorobenzene | 95-50-1 | 10.0 | < 10.0 | |
| 1,3,5-Trinitrobenzene | 99-35-4 | 10.0 | < 10.0 | |
| 1,3-Dichlorobenzene | 541-73-1 | 10.0 | < 10.0 | |
| 1,3-Dinitrobenzene | 99-65-0 | 10.0 | < 10.0 | |
| 1,4-Dichlorobenzene | 106-46-7 | 10.0 | < 10.0 | |
| 1,4-Dinitrobenzene | 100-25-4 | 10.0 | < 10.0 | |
| 1,4-Naphthoquinone | 130-15-4 | 10.0 | < 10.0 | |
| 1,4-Phenylenediamine | 106-50-3 | 10.0 | < 10.0 | |
| 1-Chloronaphthalene | 90-13-1 | 10.0 | < 10.0 | |
| 1-Methylnaphthalene | 90-12-0 | 10.0 | < 10.0 | |
| 1-Naphthylamine | 134-32-7 | 10.0 | < 10.0 | |
| 2,3,4,6-Tetrachlorophenol | 58-90-2 | 10.0 | < 10.0 | |
| 2,4,5-Trichlorophenol | 95-95-4 | 10.0 | < 10.0 | |
| 2,4,6-Trichlorophenol | 88-06-2 | 10.0 | < 10.0 | |
| 2,4-Dichlorophenol | 120-83-2 | 10.0 | < 10.0 | |
| 2,4-Dimethylphenol | 105-67-9 | 10.0 | < 10.0 | |
| 2,4-Dinitrophenol | 51-28-5 | 10.0 | < 10.0 | |
| 2,4-Dinitrotoluene | 121-14-2 | 10.0 | < 10.0 | |
| 2,6-Dichlorophenol | 87-65-0 | 10.0 | < 10.0 | |
| 2,6-Dinitrotoluene | 606-20-2 | 10.0 | < 10.0 | |
| 2-Acetylaminofluorene | 53-96-3 | 10.0 | < 10.0 | |
| 2-Chloronaphthalene | 91-58-7 | 10.0 | < 10.0 | |
| 2-Chlorophenol | 95-57-8 | 10.0 | < 10.0 | |
| 2-Methylnaphthalene | 91-57-6 | 10.0 | < 10.0 | |
| 2-Methylphenol | 95-48-7 | 10.0 | < 10.0 | |
| 2-Naphthylamine | 91-59-8 | 10.0 | < 10.0 | |
| 2-Nitroaniline | 88-74-4 | 10.0 | < 10.0 | |



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Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-012B
**Client Sample ID:** East of Boom / 4920395

**Analyzed:** 4/9/2013 1825h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 2-Nitrophenol | 88-75-5 | 10.0 | < 10.0 | |
| 2-Picoline | 109-06-8 | 10.0 | < 10.0 | |
| 3&4-Methylphenol | | 10.0 | < 10.0 | |
| 3,3´-Dichlorobenzidine | 91-94-1 | 10.0 | < 10.0 | |
| 3,3´-Dimethylbenzidine | 119-93-7 | 10.0 | < 10.0 | |
| 3-Methylcholanthrene | 56-49-5 | 10.0 | < 10.0 | |
| 3-Nitroaniline | 99-09-2 | 10.0 | < 10.0 | |
| 4,6-Dinitro-2-methylphenol | 534-52-1 | 10.0 | < 10.0 | |
| 4-Aminobiphenyl | 92-67-1 | 10.0 | < 10.0 | |
| 4-Bromophenyl phenyl ether | 101-55-3 | 10.0 | < 10.0 | |
| 4-Chloro-3-methylphenol | 59-50-7 | 10.0 | < 10.0 | |
| 4-Chloroaniline | 106-47-8 | 10.0 | < 10.0 | |
| 4-Chlorophenyl phenyl ether | 7005-72-3 | 10.0 | < 10.0 | |
| 4-Nitroaniline | 100-01-6 | 10.0 | < 10.0 | |
| 4-Nitrophenol | 100-02-7 | 10.0 | < 10.0 | |
| 5-Nitro-o-toluidine | 99-55-8 | 10.0 | < 10.0 | |
| 7,12-Dimethylbenz(a)anthracene | 57-97-6 | 10.0 | < 10.0 | |
| a,a-Dimethylphenethylamine | 122-09-8 | 10.0 | < 10.0 | |
| Acenaphthene | 83-32-9 | 10.0 | < 10.0 | |
| Acenaphthylene | 208-96-8 | 10.0 | < 10.0 | |
| Acetophenone | 98-86-2 | 10.0 | < 10.0 | |
| alpha-Terpineol | 98-55-5 | 10.0 | < 10.0 | |
| Aniline | 62-53-3 | 10.0 | < 10.0 | |
| Anthracene | 120-12-7 | 10.0 | < 10.0 | |
| Aramite | 140-57-8 | 10.0 | < 10.0 | |
| Atrazine | 1912-24-9 | 10.0 | < 10.0 | |
| Azobenzene | 103-33-3 | 10.0 | < 10.0 | |
| Benz(a)anthracene | 56-55-3 | 10.0 | < 10.0 | |
| Benzaldehyde | 100-52-7 | 10.0 | < 10.0 | |
| Benzidine | 92-87-5 | 10.0 | < 10.0 | |
| Benzo(a)pyrene | 50-32-8 | 10.0 | < 10.0 | |
| Benzo(b)fluoranthene | 205-99-2 | 10.0 | < 10.0 | |
| Benzo(g,h,i)perylene | 191-24-2 | 10.0 | < 10.0 | |
| Benzo(k)fluoranthene | 207-08-9 | 10.0 | < 10.0 | |
| Benzoic acid | 65-85-0 | 20.0 | < 20.0 | |
| Benzyl alcohol | 100-51-6 | 10.0 | < 10.0 | |
| Bis(2-chloroethoxy)methane | 111-91-1 | 10.0 | < 10.0 | |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-012B
**Client Sample ID:** East of Boom / 4920395

**Analyzed:** 4/9/2013 1825h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Bis(2-chloroethyl) ether | 111-44-4 | 10.0 | < 10.0 | |
| Bis(2-chloroisopropyl) ether | 108-60-1 | 10.0 | < 10.0 | |
| Bis(2-ethylhexyl) phthalate | 117-81-7 | 10.0 | < 10.0 | |
| bis(2-ethylhexyl)adipate | 103-23-1 | 10.0 | < 10.0 | |
| Butyl benzyl phthalate | 85-68-7 | 10.0 | < 10.0 | |
| Caprolactam | 105-60-2 | 10.0 | < 10.0 | |
| Carbazole | 86-74-8 | 10.0 | < 10.0 | |
| Chlorobenzilate | 510-15-6 | 10.0 | < 10.0 | |
| Chrysene | 218-01-9 | 10.0 | < 10.0 | |
| Di-n-butyl phthalate | 84-74-2 | 10.0 | < 10.0 | |
| Di-n-octyl phthalate | 117-84-0 | 10.0 | < 10.0 | |
| Diallate (cis or trans) | 2303-16-4 | 10.0 | < 10.0 | |
| Dibenz(a,h)anthracene | 53-70-3 | 10.0 | < 10.0 | |
| Dibenzofuran | 132-64-9 | 10.0 | < 10.0 | |
| Diethyl phthalate | 84-66-2 | 10.0 | < 10.0 | |
| Dimethoate | 60-51-5 | 10.0 | < 10.0 | |
| Dimethyl phthalate | 131-11-3 | 10.0 | < 10.0 | |
| Dimethylaminoazobenzene | 60-11-7 | 10.0 | < 10.0 | |
| Dinoseb | 88-85-7 | 10.0 | < 10.0 | |
| Diphenylamine | 122-39-4 | 10.0 | < 10.0 | |
| Disulfoton | 298-04-4 | 10.0 | < 10.0 | |
| Ethyl methanesulfonate | 62-50-0 | 10.0 | < 10.0 | |
| Famphur | 52-85-7 | 10.0 | < 10.0 | |
| Fluoranthene | 206-44-0 | 10.0 | < 10.0 | |
| Fluorene | 86-73-7 | 10.0 | < 10.0 | |
| Hexachlorobenzene | 118-74-1 | 10.0 | < 10.0 | |
| Hexachlorobutadiene | 87-68-3 | 10.0 | < 10.0 | |
| Hexachlorocyclopentadiene | 77-47-4 | 10.0 | < 10.0 | |
| Hexachloroethane | 67-72-1 | 10.0 | < 10.0 | |
| Hexachlorophene | 70-30-4 | 10.0 | < 10.0 | |
| Hexachloropropene | 1888-71-7 | 10.0 | < 10.0 | |
| Indene | 95-13-6 | 10.0 | < 10.0 | |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 10.0 | < 10.0 | |
| Isodrin | 465-73-6 | 10.0 | < 10.0 | |
| Isophorone | 78-59-1 | 10.0 | < 10.0 | |
| Isosafrole | 120-58-1 | 10.0 | < 10.0 | |
| Kepone | 143-50-0 | 10.0 | < 10.0 | |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-012B
**Client Sample ID:** East of Boom / 4920395

**Analyzed:** 4/9/2013 1825h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Methapyrilene | 91-80-5 | 10.0 | < 10.0 | |
| Methyl methanesulfonate | 66-27-3 | 10.0 | < 10.0 | |
| n-Decane | 124-18-5 | 10.0 | < 10.0 | |
| N-Nitrosodi-n-butylamine | 924-16-3 | 10.0 | < 10.0 | |
| N-Nitrosodiethylamine | 55-18-5 | 10.0 | < 10.0 | |
| N-Nitrosodimethylamine | 62-75-9 | 10.0 | < 10.0 | |
| N-Nitrosodiphenylamine | 86-30-6 | 10.0 | < 10.0 | |
| N-Nitrosodi-n-propylamine | 621-64-7 | 10.0 | < 10.0 | |
| N-Nitrosomethylethylamine | 10595-95-6 | 10.0 | < 10.0 | |
| N-Nitrosomorpholine | 59-89-2 | 10.0 | < 10.0 | |
| N-Nitrosopiperidine | 100-75-4 | 10.0 | < 10.0 | |
| N-Nitrosopyrrolidine | 930-55-2 | 10.0 | < 10.0 | |
| n-Octadecane | 593-45-3 | 10.0 | < 10.0 | |
| Naphthalene | 91-20-3 | 10.0 | < 10.0 | |
| Nitrobenzene | 98-95-3 | 10.0 | < 10.0 | |
| Nitroquinoline-1-oxide | 56-57-5 | 10.0 | < 10.0 | |
| O,O,O-Triethyl phosphorothioate | 126-68-1 | 10.0 | < 10.0 | |
| o-Toluidine | 95-53-4 | 10.0 | < 10.0 | |
| Parathion | 56-38-2 | 10.0 | < 10.0 | |
| Methyl parathion | 298-00-0 | 10.0 | < 10.0 | |
| Pentachlorobenzene | 608-93-5 | 10.0 | < 10.0 | |
| Pentachloronitrobenzene | 82-68-8 | 10.0 | < 10.0 | |
| Pentachlorophenol | 87-86-5 | 10.0 | < 10.0 | |
| Phenacetin | 62-44-2 | 10.0 | < 10.0 | |
| Phenanthrene | 85-01-8 | 10.0 | < 10.0 | |
| Phenol | 108-95-2 | 10.0 | < 10.0 | |
| Phorate | 298-02-2 | 10.0 | < 10.0 | |
| Pronamide | 23950-58-5 | 10.0 | < 10.0 | |
| Pyrene | 129-00-0 | 10.0 | < 10.0 | |
| Pyridine | 110-86-1 | 10.0 | < 10.0 | |
| Quinoline | 91-22-5 | 10.0 | < 10.0 | |
| Safrole | 94-59-7 | 10.0 | < 10.0 | |
| Tetraethyl dithiopyrophosphate | 3689-24-5 | 10.0 | < 10.0 | |
| Thionazin | 297-97-2 | 10.0 | < 10.0 | |
| TIC: 1H-Indole, 5-methoxy-2-methyl- | 001076-74-0 | | 7.89 | JN |
| TIC: 5,8-Dimethyl-1,2,3,4-tetrahydro-… | 032820-12-5 | | 4.05 | JN |
| TIC: Benzene, 1-(1,1-dimethylethyl)-3… | 006630-01-9 | | 7.31 | JN |



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**Lab Sample ID:** 1304147-012B
**Client Sample ID:** East of Boom / 4920395

**Analyzed:** 4/9/2013 1825h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| TIC: Benzene, 1,3,5-trimethyl-2-(1-me… | 004175-54-6 | | 8.39 | JN |
| TIC: Benzene, 1,4-bis(1-formylethyl)- | 1000160-94-8 | | 5.84 | JN |
| TIC: Benzene, hexamethyl- | 000087-85-4 | | 4.02 | JN |
| TIC: Naphthalene, 1,2,3,4-tetrahydro-… | 001680-51-9 | | 4.18 | JN |
| TIC: n-Hexadecanoic acid | 000057-10-3 | | 7.04 | JN |
| TIC: syn-Tricyclo[5.1.0.0(2,4)]oct-5-… | 1000161-99-5 | | 5.27 | JN |

| Surrogate | CAS | Result | Amount Spiked | % REC | Limits | Qual |
|---|---|---|---|---|---|---|
| Surr: 2,4,6-Tribromophenol | 118-79-6 | 66.1 | 80.00 | 82.7 | 14-159 | |
| Surr: 2-Fluorobiphenyl | 321-60-8 | 17.3 | 40.00 | 43.2 | 10-124 | |
| Surr: 2-Fluorophenol | 367-12-4 | 25.1 | 80.00 | 31.4 | 10-106 | |
| Surr: Nitrobenzene-d5 | 4165-60-0 | 16.9 | 40.00 | 42.3 | 10-180 | |
| Surr: Phenol-d6 | 13127-88-3 | 19.4 | 80.00 | 24.3 | 10-122 | |
| Surr: Terphenyl-d14 | 1718-51-0 | 32.2 | 40.00 | 80.6 | 10-221 | |

*J - This flag indicates an estimated value.*
*N - This flag indicates presumptive evidence of a compound.*
*This sample was analyzed for TICs.*



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# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-013B
**Client Sample ID:** Between Weirs / 4920394
**Collection Date:** 4/4/2013 1115h
**Received Date:** 4/4/2013 1300h

**Analytical Results** SVOA List by GC/MS Method 8270D/3510C

**Analyzed:** 4/9/2013 1849h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D


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| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
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| 1,2,4,5-Tetrachlorobenzene | 95-94-3 | 10.0 | < 10.0 | |
| 1,2,4-Trichlorobenzene | 120-82-1 | 10.0 | < 10.0 | |
| 1,2-Dichlorobenzene | 95-50-1 | 10.0 | < 10.0 | |
| 1,3,5-Trinitrobenzene | 99-35-4 | 10.0 | < 10.0 | |
| 1,3-Dichlorobenzene | 541-73-1 | 10.0 | < 10.0 | |
| 1,3-Dinitrobenzene | 99-65-0 | 10.0 | < 10.0 | |
| 1,4-Dichlorobenzene | 106-46-7 | 10.0 | < 10.0 | |
| 1,4-Dinitrobenzene | 100-25-4 | 10.0 | < 10.0 | |
| 1,4-Naphthoquinone | 130-15-4 | 10.0 | < 10.0 | |
| 1,4-Phenylenediamine | 106-50-3 | 10.0 | < 10.0 | |
| 1-Chloronaphthalene | 90-13-1 | 10.0 | < 10.0 | |
| 1-Methylnaphthalene | 90-12-0 | 10.0 | < 10.0 | |
| 1-Naphthylamine | 134-32-7 | 10.0 | < 10.0 | |
| 2,3,4,6-Tetrachlorophenol | 58-90-2 | 10.0 | < 10.0 | |
| 2,4,5-Trichlorophenol | 95-95-4 | 10.0 | < 10.0 | |
| 2,4,6-Trichlorophenol | 88-06-2 | 10.0 | < 10.0 | |
| 2,4-Dichlorophenol | 120-83-2 | 10.0 | < 10.0 | |
| 2,4-Dimethylphenol | 105-67-9 | 10.0 | < 10.0 | |
| 2,4-Dinitrophenol | 51-28-5 | 10.0 | < 10.0 | |
| 2,4-Dinitrotoluene | 121-14-2 | 10.0 | < 10.0 | |
| 2,6-Dichlorophenol | 87-65-0 | 10.0 | < 10.0 | |
| 2,6-Dinitrotoluene | 606-20-2 | 10.0 | < 10.0 | |
| 2-Acetylaminofluorene | 53-96-3 | 10.0 | < 10.0 | |
| 2-Chloronaphthalene | 91-58-7 | 10.0 | < 10.0 | |
| 2-Chlorophenol | 95-57-8 | 10.0 | < 10.0 | |
| 2-Methylnaphthalene | 91-57-6 | 10.0 | < 10.0 | |
| 2-Methylphenol | 95-48-7 | 10.0 | < 10.0 | |
| 2-Naphthylamine | 91-59-8 | 10.0 | < 10.0 | |
| 2-Nitroaniline | 88-74-4 | 10.0 | < 10.0 | |



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**Lab Sample ID:** 1304147-013B
**Client Sample ID:** Between Weirs / 4920394

**Analyzed:** 4/9/2013 1849h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 2-Nitrophenol | 88-75-5 | 10.0 | < 10.0 | |
| 2-Picoline | 109-06-8 | 10.0 | < 10.0 | |
| 3&4-Methylphenol | | 10.0 | < 10.0 | |
| 3,3´-Dichlorobenzidine | 91-94-1 | 10.0 | < 10.0 | |
| 3,3´-Dimethylbenzidine | 119-93-7 | 10.0 | < 10.0 | |
| 3-Methylcholanthrene | 56-49-5 | 10.0 | < 10.0 | |
| 3-Nitroaniline | 99-09-2 | 10.0 | < 10.0 | |
| 4,6-Dinitro-2-methylphenol | 534-52-1 | 10.0 | < 10.0 | |
| 4-Aminobiphenyl | 92-67-1 | 10.0 | < 10.0 | |
| 4-Bromophenyl phenyl ether | 101-55-3 | 10.0 | < 10.0 | |
| 4-Chloro-3-methylphenol | 59-50-7 | 10.0 | < 10.0 | |
| 4-Chloroaniline | 106-47-8 | 10.0 | < 10.0 | |
| 4-Chlorophenyl phenyl ether | 7005-72-3 | 10.0 | < 10.0 | |
| 4-Nitroaniline | 100-01-6 | 10.0 | < 10.0 | |
| 4-Nitrophenol | 100-02-7 | 10.0 | < 10.0 | |
| 5-Nitro-o-toluidine | 99-55-8 | 10.0 | < 10.0 | |
| 7,12-Dimethylbenz(a)anthracene | 57-97-6 | 10.0 | < 10.0 | |
| a,a-Dimethylphenethylamine | 122-09-8 | 10.0 | < 10.0 | |
| Acenaphthene | 83-32-9 | 10.0 | < 10.0 | |
| Acenaphthylene | 208-96-8 | 10.0 | < 10.0 | |
| Acetophenone | 98-86-2 | 10.0 | < 10.0 | |
| alpha-Terpineol | 98-55-5 | 10.0 | < 10.0 | |
| Aniline | 62-53-3 | 10.0 | < 10.0 | |
| Anthracene | 120-12-7 | 10.0 | < 10.0 | |
| Aramite | 140-57-8 | 10.0 | < 10.0 | |
| Atrazine | 1912-24-9 | 10.0 | < 10.0 | |
| Azobenzene | 103-33-3 | 10.0 | < 10.0 | |
| Benz(a)anthracene | 56-55-3 | 10.0 | < 10.0 | |
| Benzaldehyde | 100-52-7 | 10.0 | < 10.0 | |
| Benzidine | 92-87-5 | 10.0 | < 10.0 | |
| Benzo(a)pyrene | 50-32-8 | 10.0 | < 10.0 | |
| Benzo(b)fluoranthene | 205-99-2 | 10.0 | < 10.0 | |
| Benzo(g,h,i)perylene | 191-24-2 | 10.0 | < 10.0 | |
| Benzo(k)fluoranthene | 207-08-9 | 10.0 | < 10.0 | |
| Benzoic acid | 65-85-0 | 20.0 | < 20.0 | |
| Benzyl alcohol | 100-51-6 | 10.0 | < 10.0 | |
| Bis(2-chloroethoxy)methane | 111-91-1 | 10.0 | < 10.0 | |



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web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-013B
**Client Sample ID:** Between Weirs / 4920394

**Analyzed:** 4/9/2013 1849h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Bis(2-chloroethyl) ether | 111-44-4 | 10.0 | < 10.0 | |
| Bis(2-chloroisopropyl) ether | 108-60-1 | 10.0 | < 10.0 | |
| Bis(2-ethylhexyl) phthalate | 117-81-7 | 10.0 | < 10.0 | |
| bis(2-ethylhexyl)adipate | 103-23-1 | 10.0 | < 10.0 | |
| Butyl benzyl phthalate | 85-68-7 | 10.0 | < 10.0 | |
| Caprolactam | 105-60-2 | 10.0 | < 10.0 | |
| Carbazole | 86-74-8 | 10.0 | < 10.0 | |
| Chlorobenzilate | 510-15-6 | 10.0 | < 10.0 | |
| Chrysene | 218-01-9 | 10.0 | < 10.0 | |
| Di-n-butyl phthalate | 84-74-2 | 10.0 | < 10.0 | |
| Di-n-octyl phthalate | 117-84-0 | 10.0 | < 10.0 | |
| Diallate (cis or trans) | 2303-16-4 | 10.0 | < 10.0 | |
| Dibenz(a,h)anthracene | 53-70-3 | 10.0 | < 10.0 | |
| Dibenzofuran | 132-64-9 | 10.0 | < 10.0 | |
| Diethyl phthalate | 84-66-2 | 10.0 | < 10.0 | |
| Dimethoate | 60-51-5 | 10.0 | < 10.0 | |
| Dimethyl phthalate | 131-11-3 | 10.0 | < 10.0 | |
| Dimethylaminoazobenzene | 60-11-7 | 10.0 | < 10.0 | |
| Dinoseb | 88-85-7 | 10.0 | < 10.0 | |
| Diphenylamine | 122-39-4 | 10.0 | < 10.0 | |
| Disulfoton | 298-04-4 | 10.0 | < 10.0 | |
| Ethyl methanesulfonate | 62-50-0 | 10.0 | < 10.0 | |
| Famphur | 52-85-7 | 10.0 | < 10.0 | |
| Fluoranthene | 206-44-0 | 10.0 | < 10.0 | |
| Fluorene | 86-73-7 | 10.0 | < 10.0 | |
| Hexachlorobenzene | 118-74-1 | 10.0 | < 10.0 | |
| Hexachlorobutadiene | 87-68-3 | 10.0 | < 10.0 | |
| Hexachlorocyclopentadiene | 77-47-4 | 10.0 | < 10.0 | |
| Hexachloroethane | 67-72-1 | 10.0 | < 10.0 | |
| Hexachlorophene | 70-30-4 | 10.0 | < 10.0 | |
| Hexachloropropene | 1888-71-7 | 10.0 | < 10.0 | |
| Indene | 95-13-6 | 10.0 | < 10.0 | |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 10.0 | < 10.0 | |
| Isodrin | 465-73-6 | 10.0 | < 10.0 | |
| Isophorone | 78-59-1 | 10.0 | < 10.0 | |
| Isosafrole | 120-58-1 | 10.0 | < 10.0 | |
| Kepone | 143-50-0 | 10.0 | < 10.0 | |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-013B
**Client Sample ID:** Between Weirs / 4920394

**Analyzed:** 4/9/2013 1849h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Methapyrilene | 91-80-5 | 10.0 | < 10.0 | |
| Methyl methanesulfonate | 66-27-3 | 10.0 | < 10.0 | |
| n-Decane | 124-18-5 | 10.0 | < 10.0 | |
| N-Nitrosodi-n-butylamine | 924-16-3 | 10.0 | < 10.0 | |
| N-Nitrosodiethylamine | 55-18-5 | 10.0 | < 10.0 | |
| N-Nitrosodimethylamine | 62-75-9 | 10.0 | < 10.0 | |
| N-Nitrosodiphenylamine | 86-30-6 | 10.0 | < 10.0 | |
| N-Nitrosodi-n-propylamine | 621-64-7 | 10.0 | < 10.0 | |
| N-Nitrosomethylethylamine | 10595-95-6 | 10.0 | < 10.0 | |
| N-Nitrosomorpholine | 59-89-2 | 10.0 | < 10.0 | |
| N-Nitrosopiperidine | 100-75-4 | 10.0 | < 10.0 | |
| N-Nitrosopyrrolidine | 930-55-2 | 10.0 | < 10.0 | |
| n-Octadecane | 593-45-3 | 10.0 | < 10.0 | |
| Naphthalene | 91-20-3 | 10.0 | < 10.0 | |
| Nitrobenzene | 98-95-3 | 10.0 | < 10.0 | |
| Nitroquinoline-1-oxide | 56-57-5 | 10.0 | < 10.0 | |
| O,O,O-Triethyl phosphorothioate | 126-68-1 | 10.0 | < 10.0 | |
| o-Toluidine | 95-53-4 | 10.0 | < 10.0 | |
| Parathion | 56-38-2 | 10.0 | < 10.0 | |
| Methyl parathion | 298-00-0 | 10.0 | < 10.0 | |
| Pentachlorobenzene | 608-93-5 | 10.0 | < 10.0 | |
| Pentachloronitrobenzene | 82-68-8 | 10.0 | < 10.0 | |
| Pentachlorophenol | 87-86-5 | 10.0 | < 10.0 | |
| Phenacetin | 62-44-2 | 10.0 | < 10.0 | |
| Phenanthrene | 85-01-8 | 10.0 | < 10.0 | |
| Phenol | 108-95-2 | 10.0 | < 10.0 | |
| Phorate | 298-02-2 | 10.0 | < 10.0 | |
| Pronamide | 23950-58-5 | 10.0 | < 10.0 | |
| Pyrene | 129-00-0 | 10.0 | < 10.0 | |
| Pyridine | 110-86-1 | 10.0 | < 10.0 | |
| Quinoline | 91-22-5 | 10.0 | < 10.0 | |
| Safrole | 94-59-7 | 10.0 | < 10.0 | |
| Tetraethyl dithiopyrophosphate | 3689-24-5 | 10.0 | < 10.0 | |
| Thionazin | 297-97-2 | 10.0 | < 10.0 | |
| TIC: Eicosane | 000112-95-8 | | 24.7 | JN |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-013B
**Client Sample ID:** Between Weirs / 4920394

**Analyzed:** 4/9/2013 1849h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|

| Surrogate | CAS | Result | Amount Spiked | % REC | Limits | Qual |
|---|---|---|---|---|---|---|
| Surr: 2,4,6-Tribromophenol | 118-79-6 | 59.5 | 80.00 | 74.3 | 14-159 | |
| Surr: 2-Fluorobiphenyl | 321-60-8 | 12.3 | 40.00 | 30.8 | 10-124 | |
| Surr: 2-Fluorophenol | 367-12-4 | 14.4 | 80.00 | 18.0 | 10-106 | |
| Surr: Nitrobenzene-d5 | 4165-60-0 | 10.4 | 40.00 | 26.0 | 10-180 | |
| Surr: Phenol-d6 | 13127-88-3 | 10.7 | 80.00 | 13.4 | 10-122 | |
| Surr: Terphenyl-d14 | 1718-51-0 | 31.5 | 40.00 | 78.8 | 10-221 | |

*J - This flag indicates an estimated value.*
*N - This flag indicates presumptive evidence of a compound.*
*This sample was analyzed for TICs.*



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# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-014B
**Client Sample ID:** Between Weirs Dup / 4920394
**Collection Date:** 4/4/2013 1130h
**Received Date:** 4/4/2013 1300h

**Analytical Results** SVOA List by GC/MS Method 8270D/3510C

**Analyzed:** 4/9/2013 1912h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D


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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer


| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 1,1´-Biphenyl | 92-52-4 | 10.0 | < 10.0 | |
| 1,2,4,5-Tetrachlorobenzene | 95-94-3 | 10.0 | < 10.0 | |
| 1,2,4-Trichlorobenzene | 120-82-1 | 10.0 | < 10.0 | |
| 1,2-Dichlorobenzene | 95-50-1 | 10.0 | < 10.0 | |
| 1,3,5-Trinitrobenzene | 99-35-4 | 10.0 | < 10.0 | |
| 1,3-Dichlorobenzene | 541-73-1 | 10.0 | < 10.0 | |
| 1,3-Dinitrobenzene | 99-65-0 | 10.0 | < 10.0 | |
| 1,4-Dichlorobenzene | 106-46-7 | 10.0 | < 10.0 | |
| 1,4-Dinitrobenzene | 100-25-4 | 10.0 | < 10.0 | |
| 1,4-Naphthoquinone | 130-15-4 | 10.0 | < 10.0 | |
| 1,4-Phenylenediamine | 106-50-3 | 10.0 | < 10.0 | |
| 1-Chloronaphthalene | 90-13-1 | 10.0 | < 10.0 | |
| 1-Methylnaphthalene | 90-12-0 | 10.0 | < 10.0 | |
| 1-Naphthylamine | 134-32-7 | 10.0 | < 10.0 | |
| 2,3,4,6-Tetrachlorophenol | 58-90-2 | 10.0 | < 10.0 | |
| 2,4,5-Trichlorophenol | 95-95-4 | 10.0 | < 10.0 | |
| 2,4,6-Trichlorophenol | 88-06-2 | 10.0 | < 10.0 | |
| 2,4-Dichlorophenol | 120-83-2 | 10.0 | < 10.0 | |
| 2,4-Dimethylphenol | 105-67-9 | 10.0 | < 10.0 | |
| 2,4-Dinitrophenol | 51-28-5 | 10.0 | < 10.0 | |
| 2,4-Dinitrotoluene | 121-14-2 | 10.0 | < 10.0 | |
| 2,6-Dichlorophenol | 87-65-0 | 10.0 | < 10.0 | |
| 2,6-Dinitrotoluene | 606-20-2 | 10.0 | < 10.0 | |
| 2-Acetylaminofluorene | 53-96-3 | 10.0 | < 10.0 | |
| 2-Chloronaphthalene | 91-58-7 | 10.0 | < 10.0 | |
| 2-Chlorophenol | 95-57-8 | 10.0 | < 10.0 | |
| 2-Methylnaphthalene | 91-57-6 | 10.0 | < 10.0 | |
| 2-Methylphenol | 95-48-7 | 10.0 | < 10.0 | |
| 2-Naphthylamine | 91-59-8 | 10.0 | < 10.0 | |
| 2-Nitroaniline | 88-74-4 | 10.0 | < 10.0 | |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-014B
**Client Sample ID:** Between Weirs Dup / 4920394

**Analyzed:** 4/9/2013 1912h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 2-Nitrophenol | 88-75-5 | 10.0 | < 10.0 | |
| 2-Picoline | 109-06-8 | 10.0 | < 10.0 | |
| 3&4-Methylphenol | | 10.0 | < 10.0 | |
| 3,3´-Dichlorobenzidine | 91-94-1 | 10.0 | < 10.0 | |
| 3,3´-Dimethylbenzidine | 119-93-7 | 10.0 | < 10.0 | |
| 3-Methylcholanthrene | 56-49-5 | 10.0 | < 10.0 | |
| 3-Nitroaniline | 99-09-2 | 10.0 | < 10.0 | |
| 4,6-Dinitro-2-methylphenol | 534-52-1 | 10.0 | < 10.0 | |
| 4-Aminobiphenyl | 92-67-1 | 10.0 | < 10.0 | |
| 4-Bromophenyl phenyl ether | 101-55-3 | 10.0 | < 10.0 | |
| 4-Chloro-3-methylphenol | 59-50-7 | 10.0 | < 10.0 | |
| 4-Chloroaniline | 106-47-8 | 10.0 | < 10.0 | |
| 4-Chlorophenyl phenyl ether | 7005-72-3 | 10.0 | < 10.0 | |
| 4-Nitroaniline | 100-01-6 | 10.0 | < 10.0 | |
| 4-Nitrophenol | 100-02-7 | 10.0 | < 10.0 | |
| 5-Nitro-o-toluidine | 99-55-8 | 10.0 | < 10.0 | |
| 7,12-Dimethylbenz(a)anthracene | 57-97-6 | 10.0 | < 10.0 | |
| a,a-Dimethylphenethylamine | 122-09-8 | 10.0 | < 10.0 | |
| Acenaphthene | 83-32-9 | 10.0 | < 10.0 | |
| Acenaphthylene | 208-96-8 | 10.0 | < 10.0 | |
| Acetophenone | 98-86-2 | 10.0 | < 10.0 | |
| alpha-Terpineol | 98-55-5 | 10.0 | < 10.0 | |
| Aniline | 62-53-3 | 10.0 | < 10.0 | |
| Anthracene | 120-12-7 | 10.0 | < 10.0 | |
| Aramite | 140-57-8 | 10.0 | < 10.0 | |
| Atrazine | 1912-24-9 | 10.0 | < 10.0 | |
| Azobenzene | 103-33-3 | 10.0 | < 10.0 | |
| Benz(a)anthracene | 56-55-3 | 10.0 | < 10.0 | |
| Benzaldehyde | 100-52-7 | 10.0 | < 10.0 | |
| Benzidine | 92-87-5 | 10.0 | < 10.0 | |
| Benzo(a)pyrene | 50-32-8 | 10.0 | < 10.0 | |
| Benzo(b)fluoranthene | 205-99-2 | 10.0 | < 10.0 | |
| Benzo(g,h,i)perylene | 191-24-2 | 10.0 | < 10.0 | |
| Benzo(k)fluoranthene | 207-08-9 | 10.0 | < 10.0 | |
| Benzoic acid | 65-85-0 | 20.0 | < 20.0 | |
| Benzyl alcohol | 100-51-6 | 10.0 | < 10.0 | |
| Bis(2-chloroethoxy)methane | 111-91-1 | 10.0 | < 10.0 | |



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**Lab Sample ID:** 1304147-014B
**Client Sample ID:** Between Weirs Dup / 4920394

**Analyzed:** 4/9/2013 1912h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Bis(2-chloroethyl) ether | 111-44-4 | 10.0 | < 10.0 | |
| Bis(2-chloroisopropyl) ether | 108-60-1 | 10.0 | < 10.0 | |
| Bis(2-ethylhexyl) phthalate | 117-81-7 | 10.0 | < 10.0 | |
| bis(2-ethylhexyl)adipate | 103-23-1 | 10.0 | < 10.0 | |
| Butyl benzyl phthalate | 85-68-7 | 10.0 | < 10.0 | |
| Caprolactam | 105-60-2 | 10.0 | < 10.0 | |
| Carbazole | 86-74-8 | 10.0 | < 10.0 | |
| Chlorobenzilate | 510-15-6 | 10.0 | < 10.0 | |
| Chrysene | 218-01-9 | 10.0 | < 10.0 | |
| Di-n-butyl phthalate | 84-74-2 | 10.0 | < 10.0 | |
| Di-n-octyl phthalate | 117-84-0 | 10.0 | < 10.0 | |
| Diallate (cis or trans) | 2303-16-4 | 10.0 | < 10.0 | |
| Dibenz(a,h)anthracene | 53-70-3 | 10.0 | < 10.0 | |
| Dibenzofuran | 132-64-9 | 10.0 | < 10.0 | |
| Diethyl phthalate | 84-66-2 | 10.0 | < 10.0 | |
| Dimethoate | 60-51-5 | 10.0 | < 10.0 | |
| Dimethyl phthalate | 131-11-3 | 10.0 | < 10.0 | |
| Dimethylaminoazobenzene | 60-11-7 | 10.0 | < 10.0 | |
| Dinoseb | 88-85-7 | 10.0 | < 10.0 | |
| Diphenylamine | 122-39-4 | 10.0 | < 10.0 | |
| Disulfoton | 298-04-4 | 10.0 | < 10.0 | |
| Ethyl methanesulfonate | 62-50-0 | 10.0 | < 10.0 | |
| Famphur | 52-85-7 | 10.0 | < 10.0 | |
| Fluoranthene | 206-44-0 | 10.0 | < 10.0 | |
| Fluorene | 86-73-7 | 10.0 | < 10.0 | |
| Hexachlorobenzene | 118-74-1 | 10.0 | < 10.0 | |
| Hexachlorobutadiene | 87-68-3 | 10.0 | < 10.0 | |
| Hexachlorocyclopentadiene | 77-47-4 | 10.0 | < 10.0 | |
| Hexachloroethane | 67-72-1 | 10.0 | < 10.0 | |
| Hexachlorophene | 70-30-4 | 10.0 | < 10.0 | |
| Hexachloropropene | 1888-71-7 | 10.0 | < 10.0 | |
| Indene | 95-13-6 | 10.0 | < 10.0 | |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 10.0 | < 10.0 | |
| Isodrin | 465-73-6 | 10.0 | < 10.0 | |
| Isophorone | 78-59-1 | 10.0 | < 10.0 | |
| Isosafrole | 120-58-1 | 10.0 | < 10.0 | |
| Kepone | 143-50-0 | 10.0 | < 10.0 | |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-014B
**Client Sample ID:** Between Weirs Dup / 4920394

**Analyzed:** 4/9/2013 1912h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Methapyrilene | 91-80-5 | 10.0 | < 10.0 | |
| Methyl methanesulfonate | 66-27-3 | 10.0 | < 10.0 | |
| n-Decane | 124-18-5 | 10.0 | < 10.0 | |
| N-Nitrosodi-n-butylamine | 924-16-3 | 10.0 | < 10.0 | |
| N-Nitrosodiethylamine | 55-18-5 | 10.0 | < 10.0 | |
| N-Nitrosodimethylamine | 62-75-9 | 10.0 | < 10.0 | |
| N-Nitrosodiphenylamine | 86-30-6 | 10.0 | < 10.0 | |
| N-Nitrosodi-n-propylamine | 621-64-7 | 10.0 | < 10.0 | |
| N-Nitrosomethylethylamine | 10595-95-6 | 10.0 | < 10.0 | |
| N-Nitrosomorpholine | 59-89-2 | 10.0 | < 10.0 | |
| N-Nitrosopiperidine | 100-75-4 | 10.0 | < 10.0 | |
| N-Nitrosopyrrolidine | 930-55-2 | 10.0 | < 10.0 | |
| n-Octadecane | 593-45-3 | 10.0 | < 10.0 | |
| Naphthalene | 91-20-3 | 10.0 | < 10.0 | |
| Nitrobenzene | 98-95-3 | 10.0 | < 10.0 | |
| Nitroquinoline-1-oxide | 56-57-5 | 10.0 | < 10.0 | |
| O,O,O-Triethyl phosphorothioate | 126-68-1 | 10.0 | < 10.0 | |
| o-Toluidine | 95-53-4 | 10.0 | < 10.0 | |
| Parathion | 56-38-2 | 10.0 | < 10.0 | |
| Methyl parathion | 298-00-0 | 10.0 | < 10.0 | |
| Pentachlorobenzene | 608-93-5 | 10.0 | < 10.0 | |
| Pentachloronitrobenzene | 82-68-8 | 10.0 | < 10.0 | |
| Pentachlorophenol | 87-86-5 | 10.0 | < 10.0 | |
| Phenacetin | 62-44-2 | 10.0 | < 10.0 | |
| Phenanthrene | 85-01-8 | 10.0 | < 10.0 | |
| Phenol | 108-95-2 | 10.0 | < 10.0 | |
| Phorate | 298-02-2 | 10.0 | < 10.0 | |
| Pronamide | 23950-58-5 | 10.0 | < 10.0 | |
| Pyrene | 129-00-0 | 10.0 | < 10.0 | |
| Pyridine | 110-86-1 | 10.0 | < 10.0 | |
| Quinoline | 91-22-5 | 10.0 | < 10.0 | |
| Safrole | 94-59-7 | 10.0 | < 10.0 | |
| Tetraethyl dithiopyrophosphate | 3689-24-5 | 10.0 | < 10.0 | |
| Thionazin | 297-97-2 | 10.0 | < 10.0 | |
| TIC: 1H-Indene, 2,3-dihydro-1,1,3-tri… | 002613-76-5 | | 5.15 | JN |
| TIC: 4-(Butylamino)pyrido[3,2-c]pyrid… | 1000326-90-0 | | 4.38 | JN |
| TIC: Naphthalene, 1,2,3,4-tetrahydro-… | 001680-51-9 | | 4.34 | JN |



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**Lab Sample ID:** 1304147-014B
**Client Sample ID:** Between Weirs Dup / 4920394

**Analyzed:** 4/9/2013 1912h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| TIC: Naphthalene, 2,7-dimethyl- | 000582-16-1 | | 4.16 | JN |
| TIC: n-Hexadecanoic acid | 000057-10-3 | | 6.02 | JN |

| Surrogate | CAS | Result | Amount Spiked | % REC | Limits | Qual |
|---|---|---|---|---|---|---|
| Surr: 2,4,6-Tribromophenol | 118-79-6 | 61.1 | 80.00 | 76.4 | 14-159 | |
| Surr: 2-Fluorobiphenyl | 321-60-8 | 16.8 | 40.00 | 42.0 | 10-124 | |
| Surr: 2-Fluorophenol | 367-12-4 | 19.2 | 80.00 | 24.0 | 10-106 | |
| Surr: Nitrobenzene-d5 | 4165-60-0 | 14.8 | 40.00 | 37.1 | 10-180 | |
| Surr: Phenol-d6 | 13127-88-3 | 13.9 | 80.00 | 17.4 | 10-122 | |
| Surr: Terphenyl-d14 | 1718-51-0 | 34.6 | 40.00 | 86.4 | 10-221 | |

*J - This flag indicates an estimated value.*
*N - This flag indicates presumptive evidence of a compound.*
*This sample was analyzed for TICs.*


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# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-015B
**Client Sample ID:** East of #3
**Collection Date:** 4/4/2013 1145h
**Received Date:** 4/4/2013 1300h

**Analytical Results** SVOA List by GC/MS Method 8270D/3510C

**Analyzed:** 4/9/2013 1935h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D


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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer


| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 1,1´-Biphenyl | 92-52-4 | 10.0 | < 10.0 | |
| 1,2,4,5-Tetrachlorobenzene | 95-94-3 | 10.0 | < 10.0 | |
| 1,2,4-Trichlorobenzene | 120-82-1 | 10.0 | < 10.0 | |
| 1,2-Dichlorobenzene | 95-50-1 | 10.0 | < 10.0 | |
| 1,3,5-Trinitrobenzene | 99-35-4 | 10.0 | < 10.0 | |
| 1,3-Dichlorobenzene | 541-73-1 | 10.0 | < 10.0 | |
| 1,3-Dinitrobenzene | 99-65-0 | 10.0 | < 10.0 | |
| 1,4-Dichlorobenzene | 106-46-7 | 10.0 | < 10.0 | |
| 1,4-Dinitrobenzene | 100-25-4 | 10.0 | < 10.0 | |
| 1,4-Naphthoquinone | 130-15-4 | 10.0 | < 10.0 | |
| 1,4-Phenylenediamine | 106-50-3 | 10.0 | < 10.0 | |
| 1-Chloronaphthalene | 90-13-1 | 10.0 | < 10.0 | |
| 1-Methylnaphthalene | 90-12-0 | 10.0 | < 10.0 | |
| 1-Naphthylamine | 134-32-7 | 10.0 | < 10.0 | |
| 2,3,4,6-Tetrachlorophenol | 58-90-2 | 10.0 | < 10.0 | |
| 2,4,5-Trichlorophenol | 95-95-4 | 10.0 | < 10.0 | |
| 2,4,6-Trichlorophenol | 88-06-2 | 10.0 | < 10.0 | |
| 2,4-Dichlorophenol | 120-83-2 | 10.0 | < 10.0 | |
| 2,4-Dimethylphenol | 105-67-9 | 10.0 | < 10.0 | |
| 2,4-Dinitrophenol | 51-28-5 | 10.0 | < 10.0 | |
| 2,4-Dinitrotoluene | 121-14-2 | 10.0 | < 10.0 | |
| 2,6-Dichlorophenol | 87-65-0 | 10.0 | < 10.0 | |
| 2,6-Dinitrotoluene | 606-20-2 | 10.0 | < 10.0 | |
| 2-Acetylaminofluorene | 53-96-3 | 10.0 | < 10.0 | |
| 2-Chloronaphthalene | 91-58-7 | 10.0 | < 10.0 | |
| 2-Chlorophenol | 95-57-8 | 10.0 | < 10.0 | |
| 2-Methylnaphthalene | 91-57-6 | 10.0 | < 10.0 | |
| 2-Methylphenol | 95-48-7 | 10.0 | < 10.0 | |
| 2-Naphthylamine | 91-59-8 | 10.0 | < 10.0 | |
| 2-Nitroaniline | 88-74-4 | 10.0 | < 10.0 | |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-015B
**Client Sample ID:** East of #3

**Analyzed:** 4/9/2013 1935h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 2-Nitrophenol | 88-75-5 | 10.0 | < 10.0 | |
| 2-Picoline | 109-06-8 | 10.0 | < 10.0 | |
| 3&4-Methylphenol | | 10.0 | < 10.0 | |
| 3,3´-Dichlorobenzidine | 91-94-1 | 10.0 | < 10.0 | |
| 3,3´-Dimethylbenzidine | 119-93-7 | 10.0 | < 10.0 | |
| 3-Methylcholanthrene | 56-49-5 | 10.0 | < 10.0 | |
| 3-Nitroaniline | 99-09-2 | 10.0 | < 10.0 | |
| 4,6-Dinitro-2-methylphenol | 534-52-1 | 10.0 | < 10.0 | |
| 4-Aminobiphenyl | 92-67-1 | 10.0 | < 10.0 | |
| 4-Bromophenyl phenyl ether | 101-55-3 | 10.0 | < 10.0 | |
| 4-Chloro-3-methylphenol | 59-50-7 | 10.0 | < 10.0 | |
| 4-Chloroaniline | 106-47-8 | 10.0 | < 10.0 | |
| 4-Chlorophenyl phenyl ether | 7005-72-3 | 10.0 | < 10.0 | |
| 4-Nitroaniline | 100-01-6 | 10.0 | < 10.0 | |
| 4-Nitrophenol | 100-02-7 | 10.0 | < 10.0 | |
| 5-Nitro-o-toluidine | 99-55-8 | 10.0 | < 10.0 | |
| 7,12-Dimethylbenz(a)anthracene | 57-97-6 | 10.0 | < 10.0 | |
| a,a-Dimethylphenethylamine | 122-09-8 | 10.0 | < 10.0 | |
| Acenaphthene | 83-32-9 | 10.0 | < 10.0 | |
| Acenaphthylene | 208-96-8 | 10.0 | < 10.0 | |
| Acetophenone | 98-86-2 | 10.0 | < 10.0 | |
| alpha-Terpineol | 98-55-5 | 10.0 | < 10.0 | |
| Aniline | 62-53-3 | 10.0 | < 10.0 | |
| Anthracene | 120-12-7 | 10.0 | < 10.0 | |
| Aramite | 140-57-8 | 10.0 | < 10.0 | |
| Atrazine | 1912-24-9 | 10.0 | < 10.0 | |
| Azobenzene | 103-33-3 | 10.0 | < 10.0 | |
| Benz(a)anthracene | 56-55-3 | 10.0 | < 10.0 | |
| Benzaldehyde | 100-52-7 | 10.0 | < 10.0 | |
| Benzidine | 92-87-5 | 10.0 | < 10.0 | |
| Benzo(a)pyrene | 50-32-8 | 10.0 | < 10.0 | |
| Benzo(b)fluoranthene | 205-99-2 | 10.0 | < 10.0 | |
| Benzo(g,h,i)perylene | 191-24-2 | 10.0 | < 10.0 | |
| Benzo(k)fluoranthene | 207-08-9 | 10.0 | < 10.0 | |
| Benzoic acid | 65-85-0 | 20.0 | < 20.0 | |
| Benzyl alcohol | 100-51-6 | 10.0 | < 10.0 | |
| Bis(2-chloroethoxy)methane | 111-91-1 | 10.0 | < 10.0 | |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-015B
**Client Sample ID:** East of #3

**Analyzed:** 4/9/2013 1935h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Bis(2-chloroethyl) ether | 111-44-4 | 10.0 | < 10.0 | |
| Bis(2-chloroisopropyl) ether | 108-60-1 | 10.0 | < 10.0 | |
| Bis(2-ethylhexyl) phthalate | 117-81-7 | 10.0 | < 10.0 | |
| bis(2-ethylhexyl)adipate | 103-23-1 | 10.0 | < 10.0 | |
| Butyl benzyl phthalate | 85-68-7 | 10.0 | < 10.0 | |
| Caprolactam | 105-60-2 | 10.0 | < 10.0 | |
| Carbazole | 86-74-8 | 10.0 | < 10.0 | |
| Chlorobenzilate | 510-15-6 | 10.0 | < 10.0 | |
| Chrysene | 218-01-9 | 10.0 | < 10.0 | |
| Di-n-butyl phthalate | 84-74-2 | 10.0 | < 10.0 | |
| Di-n-octyl phthalate | 117-84-0 | 10.0 | < 10.0 | |
| Diallate (cis or trans) | 2303-16-4 | 10.0 | < 10.0 | |
| Dibenz(a,h)anthracene | 53-70-3 | 10.0 | < 10.0 | |
| Dibenzofuran | 132-64-9 | 10.0 | < 10.0 | |
| Diethyl phthalate | 84-66-2 | 10.0 | < 10.0 | |
| Dimethoate | 60-51-5 | 10.0 | < 10.0 | |
| Dimethyl phthalate | 131-11-3 | 10.0 | < 10.0 | |
| Dimethylaminoazobenzene | 60-11-7 | 10.0 | < 10.0 | |
| Dinoseb | 88-85-7 | 10.0 | < 10.0 | |
| Diphenylamine | 122-39-4 | 10.0 | < 10.0 | |
| Disulfoton | 298-04-4 | 10.0 | < 10.0 | |
| Ethyl methanesulfonate | 62-50-0 | 10.0 | < 10.0 | |
| Famphur | 52-85-7 | 10.0 | < 10.0 | |
| Fluoranthene | 206-44-0 | 10.0 | < 10.0 | |
| Fluorene | 86-73-7 | 10.0 | < 10.0 | |
| Hexachlorobenzene | 118-74-1 | 10.0 | < 10.0 | |
| Hexachlorobutadiene | 87-68-3 | 10.0 | < 10.0 | |
| Hexachlorocyclopentadiene | 77-47-4 | 10.0 | < 10.0 | |
| Hexachloroethane | 67-72-1 | 10.0 | < 10.0 | |
| Hexachlorophene | 70-30-4 | 10.0 | < 10.0 | |
| Hexachloropropene | 1888-71-7 | 10.0 | < 10.0 | |
| Indene | 95-13-6 | 10.0 | < 10.0 | |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 10.0 | < 10.0 | |
| Isodrin | 465-73-6 | 10.0 | < 10.0 | |
| Isophorone | 78-59-1 | 10.0 | < 10.0 | |
| Isosafrole | 120-58-1 | 10.0 | < 10.0 | |
| Kepone | 143-50-0 | 10.0 | < 10.0 | |



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Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-015B
**Client Sample ID:** East of #3

**Analyzed:** 4/9/2013 1935h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Methapyrilene | 91-80-5 | 10.0 | < 10.0 | |
| Methyl methanesulfonate | 66-27-3 | 10.0 | < 10.0 | |
| n-Decane | 124-18-5 | 10.0 | < 10.0 | |
| N-Nitrosodi-n-butylamine | 924-16-3 | 10.0 | < 10.0 | |
| N-Nitrosodiethylamine | 55-18-5 | 10.0 | < 10.0 | |
| N-Nitrosodimethylamine | 62-75-9 | 10.0 | < 10.0 | |
| N-Nitrosodiphenylamine | 86-30-6 | 10.0 | < 10.0 | |
| N-Nitrosodi-n-propylamine | 621-64-7 | 10.0 | < 10.0 | |
| N-Nitrosomethylethylamine | 10595-95-6 | 10.0 | < 10.0 | |
| N-Nitrosomorpholine | 59-89-2 | 10.0 | < 10.0 | |
| N-Nitrosopiperidine | 100-75-4 | 10.0 | < 10.0 | |
| N-Nitrosopyrrolidine | 930-55-2 | 10.0 | < 10.0 | |
| n-Octadecane | 593-45-3 | 10.0 | < 10.0 | |
| Naphthalene | 91-20-3 | 10.0 | < 10.0 | |
| Nitrobenzene | 98-95-3 | 10.0 | < 10.0 | |
| Nitroquinoline-1-oxide | 56-57-5 | 10.0 | < 10.0 | |
| O,O,O-Triethyl phosphorothioate | 126-68-1 | 10.0 | < 10.0 | |
| o-Toluidine | 95-53-4 | 10.0 | < 10.0 | |
| Parathion | 56-38-2 | 10.0 | < 10.0 | |
| Methyl parathion | 298-00-0 | 10.0 | < 10.0 | |
| Pentachlorobenzene | 608-93-5 | 10.0 | < 10.0 | |
| Pentachloronitrobenzene | 82-68-8 | 10.0 | < 10.0 | |
| Pentachlorophenol | 87-86-5 | 10.0 | < 10.0 | |
| Phenacetin | 62-44-2 | 10.0 | < 10.0 | |
| Phenanthrene | 85-01-8 | 10.0 | < 10.0 | |
| Phenol | 108-95-2 | 10.0 | < 10.0 | |
| Phorate | 298-02-2 | 10.0 | < 10.0 | |
| Pronamide | 23950-58-5 | 10.0 | < 10.0 | |
| Pyrene | 129-00-0 | 10.0 | < 10.0 | |
| Pyridine | 110-86-1 | 10.0 | < 10.0 | |
| Quinoline | 91-22-5 | 10.0 | < 10.0 | |
| Safrole | 94-59-7 | 10.0 | < 10.0 | |
| Tetraethyl dithiopyrophosphate | 3689-24-5 | 10.0 | < 10.0 | |
| Thionazin | 297-97-2 | 10.0 | < 10.0 | |
| TIC: n-Hexadecanoic acid | 000057-10-3 | | 6.02 | JN |



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**Lab Sample ID:** 1304147-015B
**Client Sample ID:** East of #3

**Analyzed:** 4/9/2013 1935h **Extracted:** 4/4/2013 1600h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8270D

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|

| Surrogate | CAS | Result | Amount Spiked | % REC | Limits | Qual |
|---|---|---|---|---|---|---|
| Surr: 2,4,6-Tribromophenol | 118-79-6 | 67.6 | 80.00 | 84.4 | 14-159 | |
| Surr: 2-Fluorobiphenyl | 321-60-8 | 10.2 | 40.00 | 25.6 | 10-124 | |
| Surr: 2-Fluorophenol | 367-12-4 | 11.1 | 80.00 | 13.9 | 10-106 | |
| Surr: Nitrobenzene-d5 | 4165-60-0 | 7.01 | 40.00 | 17.5 | 10-180 | |
| Surr: Phenol-d6 | 13127-88-3 | 10.9 | 80.00 | 13.6 | 10-122 | |
| Surr: Terphenyl-d14 | 1718-51-0 | 34.9 | 40.00 | 87.2 | 10-221 | |

*J - This flag indicates an estimated value.*
*N - This flag indicates presumptive evidence of a compound.*
*This sample was analyzed for TICs.*


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# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-001A
**Client Sample ID:** East of I-15 / 4920392
**Collection Date:** 4/4/2013 800h
**Received Date:** 4/4/2013 1300h

**Analytical Results** VOAs Full List by GC/MS Method 8260C/5030C

**Analyzed:** 4/4/2013 2005h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C


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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer


| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | 630-20-6 | 2.00 | < 2.00 | |
| 1,1,1-Trichloroethane | 71-55-6 | 2.00 | < 2.00 | |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 2.00 | < 2.00 | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 2.00 | < 2.00 | |
| 1,1,2-Trichloroethane | 79-00-5 | 2.00 | < 2.00 | |
| 1,1-Dichloropropene | 563-58-6 | 2.00 | < 2.00 | |
| 1,1-Dichloroethane | 75-34-3 | 2.00 | < 2.00 | |
| 1,1-Dichloroethene | 75-35-4 | 2.00 | < 2.00 | |
| 1,2,3-Trichlorobenzene | 87-61-6 | 2.00 | < 2.00 | |
| 1,2,3-Trichloropropane | 96-18-4 | 2.00 | < 2.00 | |
| 1,2,3-Trimethylbenzene | 526-73-8 | 2.00 | < 2.00 | |
| 1,2,4-Trichlorobenzene | 120-82-1 | 2.00 | < 2.00 | |
| 1,2,4-Trimethylbenzene | 95-63-6 | 2.00 | < 2.00 | |
| 1,2-Dibromo-3-chloropropane | 96-12-8 | 5.00 | < 5.00 | |
| 1,2-Dibromoethane | 106-93-4 | 2.00 | < 2.00 | |
| 1,2-Dichlorobenzene | 95-50-1 | 2.00 | < 2.00 | |
| 1,2-Dichloroethane | 107-06-2 | 2.00 | < 2.00 | |
| 1,2-Dichloropropane | 78-87-5 | 2.00 | < 2.00 | |
| 1,3,5-Trimethylbenzene | 108-67-8 | 2.00 | < 2.00 | |
| 1,3-Dichlorobenzene | 541-73-1 | 2.00 | < 2.00 | |
| 1,3-Dichloropropane | 142-28-9 | 2.00 | < 2.00 | |
| 1,4-Dichlorobenzene | 106-46-7 | 2.00 | < 2.00 | |
| 1,4-Dioxane | 123-91-1 | 50.0 | < 50.0 | |
| 2,2-Dichloropropane | 594-20-7 | 2.00 | < 2.00 | |
| 2-Butanone | 78-93-3 | 10.0 | < 10.0 | |
| 2-Chloroethyl vinyl ether | 110-75-8 | 5.00 | < 5.00 | |
| 2-Chlorotoluene | 95-49-8 | 2.00 | < 2.00 | |
| 2-Hexanone | 591-78-6 | 5.00 | < 5.00 | |
| 2-Nitropropane | 79-46-9 | 5.00 | < 5.00 | |
| 4-Chlorotoluene | 106-43-4 | 2.00 | < 2.00 | |



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web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-001A
**Client Sample ID:** East of I-15 / 4920392

**Analyzed:** 4/4/2013 2005h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 4-Isopropyltoluene | 99-87-6 | 2.00 | < 2.00 | |
| 4-Methyl-2-pentanone | 108-10-1 | 5.00 | < 5.00 | |
| Acetone | 67-64-1 | 10.0 | < 10.0 | |
| Acetonitrile | 75-05-8 | 5.00 | < 5.00 | |
| Acrolein | 107-02-8 | 5.00 | < 5.00 | |
| Acrylonitrile | 107-13-1 | 10.0 | < 10.0 | |
| Allyl chloride | 107-05-1 | 5.00 | < 5.00 | |
| Benzene | 71-43-2 | 2.00 | < 2.00 | |
| Benzyl chloride | 100-44-7 | 5.00 | < 5.00 | |
| Bis(2-chloroisopropyl) ether | 108-60-1 | 5.00 | < 5.00 | |
| Bromobenzene | 108-86-1 | 2.00 | < 2.00 | |
| Bromochloromethane | 74-97-5 | 2.00 | < 2.00 | |
| Bromodichloromethane | 75-27-4 | 2.00 | < 2.00 | |
| Bromoform | 75-25-2 | 2.00 | < 2.00 | |
| Bromomethane | 74-83-9 | 5.00 | < 5.00 | |
| Butyl acetate | 123-86-4 | 10.0 | < 10.0 | |
| Carbon disulfide | 75-15-0 | 2.00 | < 2.00 | |
| Carbon tetrachloride | 56-23-5 | 2.00 | < 2.00 | |
| Chlorobenzene | 108-90-7 | 2.00 | < 2.00 | |
| Chloroethane | 75-00-3 | 2.00 | < 2.00 | |
| Chloroform | 67-66-3 | 2.00 | < 2.00 | |
| Chloromethane | 74-87-3 | 3.00 | < 3.00 | |
| Chloroprene | 126-99-8 | 2.00 | < 2.00 | |
| cis-1,2-Dichloroethene | 156-59-2 | 2.00 | < 2.00 | |
| cis-1,3-Dichloropropene | 10061-01-5 | 2.00 | < 2.00 | |
| Cyclohexane | 110-82-7 | 2.00 | < 2.00 | |
| Cyclohexanone | 108-94-1 | 50.0 | < 50.0 | |
| Dibromochloromethane | 124-48-1 | 2.00 | < 2.00 | |
| Dibromomethane | 74-95-3 | 2.00 | < 2.00 | |
| Dichlorodifluoromethane | 75-71-8 | 2.00 | < 2.00 | |
| Ethyl acetate | 141-78-6 | 10.0 | < 10.0 | |
| Ethyl ether | 60-29-7 | 10.0 | < 10.0 | |
| Ethyl methacrylate | 97-63-2 | 2.00 | < 2.00 | |
| Ethylbenzene | 100-41-4 | 2.00 | < 2.00 | |
| Hexachlorobutadiene | 87-68-3 | 2.00 | < 2.00 | |
| Iodomethane | 74-88-4 | 5.00 | < 5.00 | |
| Isobutyl alcohol | 78-83-1 | 100 | < 100 | |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-001A
**Client Sample ID:** East of I-15 / 4920392

**Analyzed:** 4/4/2013 2005h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Isopropyl acetate | 108-21-4 | 10.0 | < 10.0 | |
| Isopropyl alcohol | 67-63-0 | 40.0 | < 40.0 | |
| Isopropylbenzene | 98-82-8 | 2.00 | < 2.00 | |
| m,p-Xylene | 179601-23-1 | 2.00 | < 2.00 | |
| Methacrylonitrile | 126-98-7 | 5.00 | < 5.00 | |
| Methyl Acetate | 79-20-9 | 5.00 | < 5.00 | |
| Methyl methacrylate | 80-62-6 | 5.00 | < 5.00 | |
| Methyl tert-butyl ether | 1634-04-4 | 2.00 | < 2.00 | |
| Methylcyclohexane | 108-87-2 | 2.00 | < 2.00 | |
| Methylene chloride | 75-09-2 | 2.00 | < 2.00 | |
| n-Amyl acetate | 628-63-7 | 10.0 | < 10.0 | |
| n-Butyl alcohol | 71-36-3 | 100 | < 100 | |
| n-Butylbenzene | 104-51-8 | 2.00 | < 2.00 | |
| n-Hexane | 110-54-3 | 2.00 | < 2.00 | |
| n-Octane | 111-65-9 | 2.00 | < 2.00 | |
| n-Propylbenzene | 103-65-1 | 2.00 | < 2.00 | |
| Naphthalene | 91-20-3 | 2.00 | < 2.00 | |
| o-Xylene | 95-47-6 | 2.00 | < 2.00 | |
| Pentachloroethane | 76-01-7 | 5.00 | < 5.00 | |
| Propionitrile | 107-12-0 | 25.0 | < 25.0 | |
| Propyl acetate | 109-60-4 | 10.0 | < 10.0 | |
| sec-Butylbenzene | 135-98-8 | 2.00 | < 2.00 | |
| Styrene | 100-42-5 | 2.00 | < 2.00 | |
| tert-Butyl alcohol | 76-65-0 | 20.0 | < 20.0 | |
| tert-Butylbenzene | 98-06-6 | 2.00 | < 2.00 | |
| Tetrachloroethene | 127-18-4 | 2.00 | < 2.00 | |
| Tetrahydrofuran | 109-99-9 | 2.00 | < 2.00 | |
| Toluene | 108-88-3 | 2.00 | < 2.00 | |
| trans-1,2-Dichloroethene | 156-60-5 | 2.00 | < 2.00 | |
| trans-1,3-Dichloropropene | 10061-02-6 | 2.00 | < 2.00 | |
| trans-1,4-Dichloro-2-butene | 110-57-6 | 2.00 | < 2.00 | |
| Trichloroethene | 79-01-6 | 2.00 | < 2.00 | |
| Trichlorofluoromethane | 75-69-4 | 2.00 | < 2.00 | |
| Vinyl acetate | 108-05-4 | 10.0 | < 10.0 | |
| Vinyl chloride | 75-01-4 | 1.00 | < 1.00 | |
| Xylenes, Total | 1330-20-7 | 2.00 | < 2.00 | |



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**Lab Sample ID:** 1304147-001A
**Client Sample ID:** East of I-15 / 4920392

**Analyzed:** 4/4/2013 2005h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|

| Surrogate | CAS | Result | Amount Spiked | % REC | Limits | Qual |
|---|---|---|---|---|---|---|
| Surr: 1,2-Dichloroethane-d4 | 17060-07-0 | 57.2 | 50.00 | 114 | 72-151 | |
| Surr: 4-Bromofluorobenzene | 460-00-4 | 51.1 | 50.00 | 102 | 80-128 | |
| Surr: Dibromofluoromethane | 1868-53-7 | 51.4 | 50.00 | 103 | 80-124 | |
| Surr: Toluene-d8 | 2037-26-5 | 49.0 | 50.00 | 98.0 | 77-129 | |

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# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-002A
**Client Sample ID:** S. Marina / 4920495
**Collection Date:** 4/4/2013 830h
**Received Date:** 4/4/2013 1300h

**Analytical Results** VOAs Full List by GC/MS Method 8260C/5030C

**Analyzed:** 4/4/2013 2218h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C


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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer


| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | 630-20-6 | 2.00 | < 2.00 | |
| 1,1,1-Trichloroethane | 71-55-6 | 2.00 | < 2.00 | |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 2.00 | < 2.00 | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 2.00 | < 2.00 | |
| 1,1,2-Trichloroethane | 79-00-5 | 2.00 | < 2.00 | |
| 1,1-Dichloropropene | 563-58-6 | 2.00 | < 2.00 | |
| 1,1-Dichloroethane | 75-34-3 | 2.00 | < 2.00 | |
| 1,1-Dichloroethene | 75-35-4 | 2.00 | < 2.00 | |
| 1,2,3-Trichlorobenzene | 87-61-6 | 2.00 | < 2.00 | |
| 1,2,3-Trichloropropane | 96-18-4 | 2.00 | < 2.00 | |
| 1,2,3-Trimethylbenzene | 526-73-8 | 2.00 | < 2.00 | |
| 1,2,4-Trichlorobenzene | 120-82-1 | 2.00 | < 2.00 | |
| 1,2,4-Trimethylbenzene | 95-63-6 | 2.00 | < 2.00 | |
| 1,2-Dibromo-3-chloropropane | 96-12-8 | 5.00 | < 5.00 | |
| 1,2-Dibromoethane | 106-93-4 | 2.00 | < 2.00 | |
| 1,2-Dichlorobenzene | 95-50-1 | 2.00 | < 2.00 | |
| 1,2-Dichloroethane | 107-06-2 | 2.00 | < 2.00 | |
| 1,2-Dichloropropane | 78-87-5 | 2.00 | < 2.00 | |
| 1,3,5-Trimethylbenzene | 108-67-8 | 2.00 | < 2.00 | |
| 1,3-Dichlorobenzene | 541-73-1 | 2.00 | < 2.00 | |
| 1,3-Dichloropropane | 142-28-9 | 2.00 | < 2.00 | |
| 1,4-Dichlorobenzene | 106-46-7 | 2.00 | < 2.00 | |
| 1,4-Dioxane | 123-91-1 | 50.0 | < 50.0 | |
| 2,2-Dichloropropane | 594-20-7 | 2.00 | < 2.00 | |
| 2-Butanone | 78-93-3 | 10.0 | < 10.0 | |
| 2-Chloroethyl vinyl ether | 110-75-8 | 5.00 | < 5.00 | |
| 2-Chlorotoluene | 95-49-8 | 2.00 | < 2.00 | |
| 2-Hexanone | 591-78-6 | 5.00 | < 5.00 | |
| 2-Nitropropane | 79-46-9 | 5.00 | < 5.00 | |
| 4-Chlorotoluene | 106-43-4 | 2.00 | < 2.00 | |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-002A
**Client Sample ID:** S. Marina / 4920495

**Analyzed:** 4/4/2013 2218h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 4-Isopropyltoluene | 99-87-6 | 2.00 | < 2.00 | |
| 4-Methyl-2-pentanone | 108-10-1 | 5.00 | < 5.00 | |
| Acetone | 67-64-1 | 10.0 | < 10.0 | |
| Acetonitrile | 75-05-8 | 5.00 | < 5.00 | |
| Acrolein | 107-02-8 | 5.00 | < 5.00 | |
| Acrylonitrile | 107-13-1 | 10.0 | < 10.0 | |
| Allyl chloride | 107-05-1 | 5.00 | < 5.00 | |
| Benzene | 71-43-2 | 2.00 | < 2.00 | |
| Benzyl chloride | 100-44-7 | 5.00 | < 5.00 | |
| Bis(2-chloroisopropyl) ether | 108-60-1 | 5.00 | < 5.00 | |
| Bromobenzene | 108-86-1 | 2.00 | < 2.00 | |
| Bromochloromethane | 74-97-5 | 2.00 | < 2.00 | |
| Bromodichloromethane | 75-27-4 | 2.00 | < 2.00 | |
| Bromoform | 75-25-2 | 2.00 | < 2.00 | |
| Bromomethane | 74-83-9 | 5.00 | < 5.00 | |
| Butyl acetate | 123-86-4 | 10.0 | < 10.0 | |
| Carbon disulfide | 75-15-0 | 2.00 | < 2.00 | |
| Carbon tetrachloride | 56-23-5 | 2.00 | < 2.00 | |
| Chlorobenzene | 108-90-7 | 2.00 | < 2.00 | |
| Chloroethane | 75-00-3 | 2.00 | < 2.00 | |
| Chloroform | 67-66-3 | 2.00 | < 2.00 | |
| Chloromethane | 74-87-3 | 3.00 | < 3.00 | |
| Chloroprene | 126-99-8 | 2.00 | < 2.00 | |
| cis-1,2-Dichloroethene | 156-59-2 | 2.00 | < 2.00 | |
| cis-1,3-Dichloropropene | 10061-01-5 | 2.00 | < 2.00 | |
| Cyclohexane | 110-82-7 | 2.00 | < 2.00 | |
| Cyclohexanone | 108-94-1 | 50.0 | < 50.0 | |
| Dibromochloromethane | 124-48-1 | 2.00 | < 2.00 | |
| Dibromomethane | 74-95-3 | 2.00 | < 2.00 | |
| Dichlorodifluoromethane | 75-71-8 | 2.00 | < 2.00 | |
| Ethyl acetate | 141-78-6 | 10.0 | < 10.0 | |
| Ethyl ether | 60-29-7 | 10.0 | < 10.0 | |
| Ethyl methacrylate | 97-63-2 | 2.00 | < 2.00 | |
| Ethylbenzene | 100-41-4 | 2.00 | < 2.00 | |
| Hexachlorobutadiene | 87-68-3 | 2.00 | < 2.00 | |
| Iodomethane | 74-88-4 | 5.00 | < 5.00 | |
| Isobutyl alcohol | 78-83-1 | 100 | < 100 | |



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QA Officer

**Lab Sample ID:** 1304147-002A
**Client Sample ID:** S. Marina / 4920495

**Analyzed:** 4/4/2013 2218h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Isopropyl acetate | 108-21-4 | 10.0 | < 10.0 | |
| Isopropyl alcohol | 67-63-0 | 40.0 | < 40.0 | |
| Isopropylbenzene | 98-82-8 | 2.00 | < 2.00 | |
| m,p-Xylene | 179601-23-1 | 2.00 | < 2.00 | |
| Methacrylonitrile | 126-98-7 | 5.00 | < 5.00 | |
| Methyl Acetate | 79-20-9 | 5.00 | < 5.00 | |
| Methyl methacrylate | 80-62-6 | 5.00 | < 5.00 | |
| Methyl tert-butyl ether | 1634-04-4 | 2.00 | < 2.00 | |
| Methylcyclohexane | 108-87-2 | 2.00 | < 2.00 | |
| Methylene chloride | 75-09-2 | 2.00 | < 2.00 | |
| n-Amyl acetate | 628-63-7 | 10.0 | < 10.0 | |
| n-Butyl alcohol | 71-36-3 | 100 | < 100 | |
| n-Butylbenzene | 104-51-8 | 2.00 | < 2.00 | |
| n-Hexane | 110-54-3 | 2.00 | < 2.00 | |
| n-Octane | 111-65-9 | 2.00 | < 2.00 | |
| n-Propylbenzene | 103-65-1 | 2.00 | < 2.00 | |
| Naphthalene | 91-20-3 | 2.00 | < 2.00 | |
| o-Xylene | 95-47-6 | 2.00 | < 2.00 | |
| Pentachloroethane | 76-01-7 | 5.00 | < 5.00 | |
| Propionitrile | 107-12-0 | 25.0 | < 25.0 | |
| Propyl acetate | 109-60-4 | 10.0 | < 10.0 | |
| sec-Butylbenzene | 135-98-8 | 2.00 | < 2.00 | |
| Styrene | 100-42-5 | 2.00 | < 2.00 | |
| tert-Butyl alcohol | 76-65-0 | 20.0 | < 20.0 | |
| tert-Butylbenzene | 98-06-6 | 2.00 | < 2.00 | |
| Tetrachloroethene | 127-18-4 | 2.00 | < 2.00 | |
| Tetrahydrofuran | 109-99-9 | 2.00 | < 2.00 | |
| Toluene | 108-88-3 | 2.00 | < 2.00 | |
| trans-1,2-Dichloroethene | 156-60-5 | 2.00 | < 2.00 | |
| trans-1,3-Dichloropropene | 10061-02-6 | 2.00 | < 2.00 | |
| trans-1,4-Dichloro-2-butene | 110-57-6 | 2.00 | < 2.00 | |
| Trichloroethene | 79-01-6 | 2.00 | < 2.00 | |
| Trichlorofluoromethane | 75-69-4 | 2.00 | < 2.00 | |
| Vinyl acetate | 108-05-4 | 10.0 | < 10.0 | |
| Vinyl chloride | 75-01-4 | 1.00 | < 1.00 | |
| Xylenes, Total | 1330-20-7 | 2.00 | < 2.00 | |



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**Lab Sample ID:** 1304147-002A
**Client Sample ID:** S. Marina / 4920495

**Analyzed:** 4/4/2013 2218h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|

| Surrogate | CAS | Result | Amount Spiked | % REC | Limits | Qual |
|---|---|---|---|---|---|---|
| Surr: 1,2-Dichloroethane-d4 | 17060-07-0 | 56.8 | 50.00 | 114 | 72-151 | |
| Surr: 4-Bromofluorobenzene | 460-00-4 | 51.1 | 50.00 | 102 | 80-128 | |
| Surr: Dibromofluoromethane | 1868-53-7 | 50.6 | 50.00 | 101 | 80-124 | |
| Surr: Toluene-d8 | 2037-26-5 | 48.8 | 50.00 | 97.6 | 77-129 | |

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer



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# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-003A
**Client Sample ID:** 50' from N Boom / 4920508
**Collection Date:** 4/4/2013 930h
**Received Date:** 4/4/2013 1300h

**Analytical Results** VOAs Full List by GC/MS Method 8260C/5030C

**Analyzed:** 4/4/2013 2237h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C


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Jose Rocha
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| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | 630-20-6 | 2.00 | < 2.00 | |
| 1,1,1-Trichloroethane | 71-55-6 | 2.00 | < 2.00 | |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 2.00 | < 2.00 | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 2.00 | < 2.00 | |
| 1,1,2-Trichloroethane | 79-00-5 | 2.00 | < 2.00 | |
| 1,1-Dichloropropene | 563-58-6 | 2.00 | < 2.00 | |
| 1,1-Dichloroethane | 75-34-3 | 2.00 | < 2.00 | |
| 1,1-Dichloroethene | 75-35-4 | 2.00 | < 2.00 | |
| 1,2,3-Trichlorobenzene | 87-61-6 | 2.00 | < 2.00 | |
| 1,2,3-Trichloropropane | 96-18-4 | 2.00 | < 2.00 | |
| 1,2,3-Trimethylbenzene | 526-73-8 | 2.00 | < 2.00 | |
| 1,2,4-Trichlorobenzene | 120-82-1 | 2.00 | < 2.00 | |
| 1,2,4-Trimethylbenzene | 95-63-6 | 2.00 | < 2.00 | |
| 1,2-Dibromo-3-chloropropane | 96-12-8 | 5.00 | < 5.00 | |
| 1,2-Dibromoethane | 106-93-4 | 2.00 | < 2.00 | |
| 1,2-Dichlorobenzene | 95-50-1 | 2.00 | < 2.00 | |
| 1,2-Dichloroethane | 107-06-2 | 2.00 | < 2.00 | |
| 1,2-Dichloropropane | 78-87-5 | 2.00 | < 2.00 | |
| 1,3,5-Trimethylbenzene | 108-67-8 | 2.00 | < 2.00 | |
| 1,3-Dichlorobenzene | 541-73-1 | 2.00 | < 2.00 | |
| 1,3-Dichloropropane | 142-28-9 | 2.00 | < 2.00 | |
| 1,4-Dichlorobenzene | 106-46-7 | 2.00 | < 2.00 | |
| 1,4-Dioxane | 123-91-1 | 50.0 | < 50.0 | |
| 2,2-Dichloropropane | 594-20-7 | 2.00 | < 2.00 | |
| 2-Butanone | 78-93-3 | 10.0 | < 10.0 | |
| 2-Chloroethyl vinyl ether | 110-75-8 | 5.00 | < 5.00 | |
| 2-Chlorotoluene | 95-49-8 | 2.00 | < 2.00 | |
| 2-Hexanone | 591-78-6 | 5.00 | < 5.00 | |
| 2-Nitropropane | 79-46-9 | 5.00 | < 5.00 | |
| 4-Chlorotoluene | 106-43-4 | 2.00 | < 2.00 | |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-003A
**Client Sample ID:** 50' from N Boom / 4920508

**Analyzed:** 4/4/2013 2237h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 4-Isopropyltoluene | 99-87-6 | 2.00 | < 2.00 | |
| 4-Methyl-2-pentanone | 108-10-1 | 5.00 | < 5.00 | |
| Acetone | 67-64-1 | 10.0 | < 10.0 | |
| Acetonitrile | 75-05-8 | 5.00 | < 5.00 | |
| Acrolein | 107-02-8 | 5.00 | < 5.00 | |
| Acrylonitrile | 107-13-1 | 10.0 | < 10.0 | |
| Allyl chloride | 107-05-1 | 5.00 | < 5.00 | |
| Benzene | 71-43-2 | 2.00 | < 2.00 | |
| Benzyl chloride | 100-44-7 | 5.00 | < 5.00 | |
| Bis(2-chloroisopropyl) ether | 108-60-1 | 5.00 | < 5.00 | |
| Bromobenzene | 108-86-1 | 2.00 | < 2.00 | |
| Bromochloromethane | 74-97-5 | 2.00 | < 2.00 | |
| Bromodichloromethane | 75-27-4 | 2.00 | < 2.00 | |
| Bromoform | 75-25-2 | 2.00 | < 2.00 | |
| Bromomethane | 74-83-9 | 5.00 | < 5.00 | |
| Butyl acetate | 123-86-4 | 10.0 | < 10.0 | |
| Carbon disulfide | 75-15-0 | 2.00 | < 2.00 | |
| Carbon tetrachloride | 56-23-5 | 2.00 | < 2.00 | |
| Chlorobenzene | 108-90-7 | 2.00 | < 2.00 | |
| Chloroethane | 75-00-3 | 2.00 | < 2.00 | |
| Chloroform | 67-66-3 | 2.00 | < 2.00 | |
| Chloromethane | 74-87-3 | 3.00 | < 3.00 | |
| Chloroprene | 126-99-8 | 2.00 | < 2.00 | |
| cis-1,2-Dichloroethene | 156-59-2 | 2.00 | < 2.00 | |
| cis-1,3-Dichloropropene | 10061-01-5 | 2.00 | < 2.00 | |
| Cyclohexane | 110-82-7 | 2.00 | < 2.00 | |
| Cyclohexanone | 108-94-1 | 50.0 | < 50.0 | |
| Dibromochloromethane | 124-48-1 | 2.00 | < 2.00 | |
| Dibromomethane | 74-95-3 | 2.00 | < 2.00 | |
| Dichlorodifluoromethane | 75-71-8 | 2.00 | < 2.00 | |
| Ethyl acetate | 141-78-6 | 10.0 | < 10.0 | |
| Ethyl ether | 60-29-7 | 10.0 | < 10.0 | |
| Ethyl methacrylate | 97-63-2 | 2.00 | < 2.00 | |
| Ethylbenzene | 100-41-4 | 2.00 | < 2.00 | |
| Hexachlorobutadiene | 87-68-3 | 2.00 | < 2.00 | |
| Iodomethane | 74-88-4 | 5.00 | < 5.00 | |
| Isobutyl alcohol | 78-83-1 | 100 | < 100 | |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-003A
**Client Sample ID:** 50' from N Boom / 4920508

**Analyzed:** 4/4/2013 2237h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Isopropyl acetate | 108-21-4 | 10.0 | < 10.0 | |
| Isopropyl alcohol | 67-63-0 | 40.0 | < 40.0 | |
| Isopropylbenzene | 98-82-8 | 2.00 | < 2.00 | |
| m,p-Xylene | 179601-23-1 | 2.00 | < 2.00 | |
| Methacrylonitrile | 126-98-7 | 5.00 | < 5.00 | |
| Methyl Acetate | 79-20-9 | 5.00 | < 5.00 | |
| Methyl methacrylate | 80-62-6 | 5.00 | < 5.00 | |
| Methyl tert-butyl ether | 1634-04-4 | 2.00 | < 2.00 | |
| Methylcyclohexane | 108-87-2 | 2.00 | < 2.00 | |
| Methylene chloride | 75-09-2 | 2.00 | < 2.00 | |
| n-Amyl acetate | 628-63-7 | 10.0 | < 10.0 | |
| n-Butyl alcohol | 71-36-3 | 100 | < 100 | |
| n-Butylbenzene | 104-51-8 | 2.00 | < 2.00 | |
| n-Hexane | 110-54-3 | 2.00 | < 2.00 | |
| n-Octane | 111-65-9 | 2.00 | < 2.00 | |
| n-Propylbenzene | 103-65-1 | 2.00 | < 2.00 | |
| Naphthalene | 91-20-3 | 2.00 | < 2.00 | |
| o-Xylene | 95-47-6 | 2.00 | < 2.00 | |
| Pentachloroethane | 76-01-7 | 5.00 | < 5.00 | |
| Propionitrile | 107-12-0 | 25.0 | < 25.0 | |
| Propyl acetate | 109-60-4 | 10.0 | < 10.0 | |
| sec-Butylbenzene | 135-98-8 | 2.00 | < 2.00 | |
| Styrene | 100-42-5 | 2.00 | < 2.00 | |
| tert-Butyl alcohol | 76-65-0 | 20.0 | < 20.0 | |
| tert-Butylbenzene | 98-06-6 | 2.00 | < 2.00 | |
| Tetrachloroethene | 127-18-4 | 2.00 | < 2.00 | |
| Tetrahydrofuran | 109-99-9 | 2.00 | < 2.00 | |
| Toluene | 108-88-3 | 2.00 | < 2.00 | |
| trans-1,2-Dichloroethene | 156-60-5 | 2.00 | < 2.00 | |
| trans-1,3-Dichloropropene | 10061-02-6 | 2.00 | < 2.00 | |
| trans-1,4-Dichloro-2-butene | 110-57-6 | 2.00 | < 2.00 | |
| Trichloroethene | 79-01-6 | 2.00 | < 2.00 | |
| Trichlorofluoromethane | 75-69-4 | 2.00 | < 2.00 | |
| Vinyl acetate | 108-05-4 | 10.0 | < 10.0 | |
| Vinyl chloride | 75-01-4 | 1.00 | < 1.00 | |
| Xylenes, Total | 1330-20-7 | 2.00 | < 2.00 | |



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**Lab Sample ID:** 1304147-003A
**Client Sample ID:** 50' from N Boom / 4920508

**Analyzed:** 4/4/2013 2237h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|

| Surrogate | CAS | Result | Amount Spiked | % REC | Limits | Qual |
|---|---|---|---|---|---|---|
| Surr: 1,2-Dichloroethane-d4 | 17060-07-0 | 56.3 | 50.00 | 113 | 72-151 | |
| Surr: 4-Bromofluorobenzene | 460-00-4 | 51.1 | 50.00 | 102 | 80-128 | |
| Surr: Dibromofluoromethane | 1868-53-7 | 50.0 | 50.00 | 100 | 80-124 | |
| Surr: Toluene-d8 | 2037-26-5 | 48.0 | 50.00 | 96.0 | 77-129 | |

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# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-004A
**Client Sample ID:** North Boom / 4920397
**Collection Date:** 4/4/2013 940h
**Received Date:** 4/4/2013 1300h

**Analytical Results** VOAs Full List by GC/MS Method 8260C/5030C

**Analyzed:** 4/4/2013 2256h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C


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Jose Rocha
QA Officer


| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | 630-20-6 | 2.00 | < 2.00 | |
| 1,1,1-Trichloroethane | 71-55-6 | 2.00 | < 2.00 | |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 2.00 | < 2.00 | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 2.00 | < 2.00 | |
| 1,1,2-Trichloroethane | 79-00-5 | 2.00 | < 2.00 | |
| 1,1-Dichloropropene | 563-58-6 | 2.00 | < 2.00 | |
| 1,1-Dichloroethane | 75-34-3 | 2.00 | < 2.00 | |
| 1,1-Dichloroethene | 75-35-4 | 2.00 | < 2.00 | |
| 1,2,3-Trichlorobenzene | 87-61-6 | 2.00 | < 2.00 | |
| 1,2,3-Trichloropropane | 96-18-4 | 2.00 | < 2.00 | |
| 1,2,3-Trimethylbenzene | 526-73-8 | 2.00 | < 2.00 | |
| 1,2,4-Trichlorobenzene | 120-82-1 | 2.00 | < 2.00 | |
| 1,2,4-Trimethylbenzene | 95-63-6 | 2.00 | < 2.00 | |
| 1,2-Dibromo-3-chloropropane | 96-12-8 | 5.00 | < 5.00 | |
| 1,2-Dibromoethane | 106-93-4 | 2.00 | < 2.00 | |
| 1,2-Dichlorobenzene | 95-50-1 | 2.00 | < 2.00 | |
| 1,2-Dichloroethane | 107-06-2 | 2.00 | < 2.00 | |
| 1,2-Dichloropropane | 78-87-5 | 2.00 | < 2.00 | |
| 1,3,5-Trimethylbenzene | 108-67-8 | 2.00 | < 2.00 | |
| 1,3-Dichlorobenzene | 541-73-1 | 2.00 | < 2.00 | |
| 1,3-Dichloropropane | 142-28-9 | 2.00 | < 2.00 | |
| 1,4-Dichlorobenzene | 106-46-7 | 2.00 | < 2.00 | |
| 1,4-Dioxane | 123-91-1 | 50.0 | < 50.0 | |
| 2,2-Dichloropropane | 594-20-7 | 2.00 | < 2.00 | |
| 2-Butanone | 78-93-3 | 10.0 | < 10.0 | |
| 2-Chloroethyl vinyl ether | 110-75-8 | 5.00 | < 5.00 | |
| 2-Chlorotoluene | 95-49-8 | 2.00 | < 2.00 | |
| 2-Hexanone | 591-78-6 | 5.00 | < 5.00 | |
| 2-Nitropropane | 79-46-9 | 5.00 | < 5.00 | |
| 4-Chlorotoluene | 106-43-4 | 2.00 | < 2.00 | |



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Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-004A
**Client Sample ID:** North Boom / 4920397

**Analyzed:** 4/4/2013 2256h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 4-Isopropyltoluene | 99-87-6 | 2.00 | < 2.00 | |
| 4-Methyl-2-pentanone | 108-10-1 | 5.00 | < 5.00 | |
| Acetone | 67-64-1 | 10.0 | < 10.0 | |
| Acetonitrile | 75-05-8 | 5.00 | < 5.00 | |
| Acrolein | 107-02-8 | 5.00 | < 5.00 | |
| Acrylonitrile | 107-13-1 | 10.0 | < 10.0 | |
| Allyl chloride | 107-05-1 | 5.00 | < 5.00 | |
| Benzene | 71-43-2 | 2.00 | < 2.00 | |
| Benzyl chloride | 100-44-7 | 5.00 | < 5.00 | |
| Bis(2-chloroisopropyl) ether | 108-60-1 | 5.00 | < 5.00 | |
| Bromobenzene | 108-86-1 | 2.00 | < 2.00 | |
| Bromochloromethane | 74-97-5 | 2.00 | < 2.00 | |
| Bromodichloromethane | 75-27-4 | 2.00 | < 2.00 | |
| Bromoform | 75-25-2 | 2.00 | < 2.00 | |
| Bromomethane | 74-83-9 | 5.00 | < 5.00 | |
| Butyl acetate | 123-86-4 | 10.0 | < 10.0 | |
| Carbon disulfide | 75-15-0 | 2.00 | < 2.00 | |
| Carbon tetrachloride | 56-23-5 | 2.00 | < 2.00 | |
| Chlorobenzene | 108-90-7 | 2.00 | < 2.00 | |
| Chloroethane | 75-00-3 | 2.00 | < 2.00 | |
| Chloroform | 67-66-3 | 2.00 | < 2.00 | |
| Chloromethane | 74-87-3 | 3.00 | < 3.00 | |
| Chloroprene | 126-99-8 | 2.00 | < 2.00 | |
| cis-1,2-Dichloroethene | 156-59-2 | 2.00 | < 2.00 | |
| cis-1,3-Dichloropropene | 10061-01-5 | 2.00 | < 2.00 | |
| Cyclohexane | 110-82-7 | 2.00 | < 2.00 | |
| Cyclohexanone | 108-94-1 | 50.0 | < 50.0 | |
| Dibromochloromethane | 124-48-1 | 2.00 | < 2.00 | |
| Dibromomethane | 74-95-3 | 2.00 | < 2.00 | |
| Dichlorodifluoromethane | 75-71-8 | 2.00 | < 2.00 | |
| Ethyl acetate | 141-78-6 | 10.0 | < 10.0 | |
| Ethyl ether | 60-29-7 | 10.0 | < 10.0 | |
| Ethyl methacrylate | 97-63-2 | 2.00 | < 2.00 | |
| Ethylbenzene | 100-41-4 | 2.00 | < 2.00 | |
| Hexachlorobutadiene | 87-68-3 | 2.00 | < 2.00 | |
| Iodomethane | 74-88-4 | 5.00 | < 5.00 | |
| Isobutyl alcohol | 78-83-1 | 100 | < 100 | |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-004A
**Client Sample ID:** North Boom / 4920397

**Analyzed:** 4/4/2013 2256h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Isopropyl acetate | 108-21-4 | 10.0 | < 10.0 | |
| Isopropyl alcohol | 67-63-0 | 40.0 | < 40.0 | |
| Isopropylbenzene | 98-82-8 | 2.00 | < 2.00 | |
| m,p-Xylene | 179601-23-1 | 2.00 | < 2.00 | |
| Methacrylonitrile | 126-98-7 | 5.00 | < 5.00 | |
| Methyl Acetate | 79-20-9 | 5.00 | < 5.00 | |
| Methyl methacrylate | 80-62-6 | 5.00 | < 5.00 | |
| Methyl tert-butyl ether | 1634-04-4 | 2.00 | < 2.00 | |
| Methylcyclohexane | 108-87-2 | 2.00 | < 2.00 | |
| Methylene chloride | 75-09-2 | 2.00 | < 2.00 | |
| n-Amyl acetate | 628-63-7 | 10.0 | < 10.0 | |
| n-Butyl alcohol | 71-36-3 | 100 | < 100 | |
| n-Butylbenzene | 104-51-8 | 2.00 | < 2.00 | |
| n-Hexane | 110-54-3 | 2.00 | < 2.00 | |
| n-Octane | 111-65-9 | 2.00 | < 2.00 | |
| n-Propylbenzene | 103-65-1 | 2.00 | < 2.00 | |
| Naphthalene | 91-20-3 | 2.00 | < 2.00 | |
| o-Xylene | 95-47-6 | 2.00 | < 2.00 | |
| Pentachloroethane | 76-01-7 | 5.00 | < 5.00 | |
| Propionitrile | 107-12-0 | 25.0 | < 25.0 | |
| Propyl acetate | 109-60-4 | 10.0 | < 10.0 | |
| sec-Butylbenzene | 135-98-8 | 2.00 | < 2.00 | |
| Styrene | 100-42-5 | 2.00 | < 2.00 | |
| tert-Butyl alcohol | 76-65-0 | 20.0 | < 20.0 | |
| tert-Butylbenzene | 98-06-6 | 2.00 | < 2.00 | |
| Tetrachloroethene | 127-18-4 | 2.00 | < 2.00 | |
| Tetrahydrofuran | 109-99-9 | 2.00 | < 2.00 | |
| Toluene | 108-88-3 | 2.00 | < 2.00 | |
| trans-1,2-Dichloroethene | 156-60-5 | 2.00 | < 2.00 | |
| trans-1,3-Dichloropropene | 10061-02-6 | 2.00 | < 2.00 | |
| trans-1,4-Dichloro-2-butene | 110-57-6 | 2.00 | < 2.00 | |
| Trichloroethene | 79-01-6 | 2.00 | < 2.00 | |
| Trichlorofluoromethane | 75-69-4 | 2.00 | < 2.00 | |
| Vinyl acetate | 108-05-4 | 10.0 | < 10.0 | |
| Vinyl chloride | 75-01-4 | 1.00 | < 1.00 | |
| Xylenes, Total | 1330-20-7 | 2.00 | < 2.00 | |



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**Lab Sample ID:** 1304147-004A
**Client Sample ID:** North Boom / 4920397

**Analyzed:** 4/4/2013 2256h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|

| Surrogate | CAS | Result | Amount Spiked | % REC | Limits | Qual |
|---|---|---|---|---|---|---|
| Surr: 1,2-Dichloroethane-d4 | 17060-07-0 | 57.1 | 50.00 | 114 | 72-151 | |
| Surr: 4-Bromofluorobenzene | 460-00-4 | 52.1 | 50.00 | 104 | 80-128 | |
| Surr: Dibromofluoromethane | 1868-53-7 | 51.0 | 50.00 | 102 | 80-124 | |
| Surr: Toluene-d8 | 2037-26-5 | 49.1 | 50.00 | 98.2 | 77-129 | |

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer



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# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-005A
**Client Sample ID:** W. Boom 5 / 4920499
**Collection Date:** 4/4/2013 950h
**Received Date:** 4/4/2013 1300h

**Analytical Results** VOAs Full List by GC/MS Method 8260C/5030C

**Analyzed:** 4/4/2013 2315h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C


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Jose Rocha
QA Officer


| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | 630-20-6 | 2.00 | < 2.00 | |
| 1,1,1-Trichloroethane | 71-55-6 | 2.00 | < 2.00 | |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 2.00 | < 2.00 | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 2.00 | < 2.00 | |
| 1,1,2-Trichloroethane | 79-00-5 | 2.00 | < 2.00 | |
| 1,1-Dichloropropene | 563-58-6 | 2.00 | < 2.00 | |
| 1,1-Dichloroethane | 75-34-3 | 2.00 | < 2.00 | |
| 1,1-Dichloroethene | 75-35-4 | 2.00 | < 2.00 | |
| 1,2,3-Trichlorobenzene | 87-61-6 | 2.00 | < 2.00 | |
| 1,2,3-Trichloropropane | 96-18-4 | 2.00 | < 2.00 | |
| 1,2,3-Trimethylbenzene | 526-73-8 | 2.00 | < 2.00 | |
| 1,2,4-Trichlorobenzene | 120-82-1 | 2.00 | < 2.00 | |
| 1,2,4-Trimethylbenzene | 95-63-6 | 2.00 | < 2.00 | |
| 1,2-Dibromo-3-chloropropane | 96-12-8 | 5.00 | < 5.00 | |
| 1,2-Dibromoethane | 106-93-4 | 2.00 | < 2.00 | |
| 1,2-Dichlorobenzene | 95-50-1 | 2.00 | < 2.00 | |
| 1,2-Dichloroethane | 107-06-2 | 2.00 | < 2.00 | |
| 1,2-Dichloropropane | 78-87-5 | 2.00 | < 2.00 | |
| 1,3,5-Trimethylbenzene | 108-67-8 | 2.00 | < 2.00 | |
| 1,3-Dichlorobenzene | 541-73-1 | 2.00 | < 2.00 | |
| 1,3-Dichloropropane | 142-28-9 | 2.00 | < 2.00 | |
| 1,4-Dichlorobenzene | 106-46-7 | 2.00 | < 2.00 | |
| 1,4-Dioxane | 123-91-1 | 50.0 | < 50.0 | |
| 2,2-Dichloropropane | 594-20-7 | 2.00 | < 2.00 | |
| 2-Butanone | 78-93-3 | 10.0 | < 10.0 | |
| 2-Chloroethyl vinyl ether | 110-75-8 | 5.00 | < 5.00 | |
| 2-Chlorotoluene | 95-49-8 | 2.00 | < 2.00 | |
| 2-Hexanone | 591-78-6 | 5.00 | < 5.00 | |
| 2-Nitropropane | 79-46-9 | 5.00 | < 5.00 | |
| 4-Chlorotoluene | 106-43-4 | 2.00 | < 2.00 | |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-005A
**Client Sample ID:** W. Boom 5 / 4920499

**Analyzed:** 4/4/2013 2315h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 4-Isopropyltoluene | 99-87-6 | 2.00 | < 2.00 | |
| 4-Methyl-2-pentanone | 108-10-1 | 5.00 | < 5.00 | |
| Acetone | 67-64-1 | 10.0 | < 10.0 | |
| Acetonitrile | 75-05-8 | 5.00 | < 5.00 | |
| Acrolein | 107-02-8 | 5.00 | < 5.00 | |
| Acrylonitrile | 107-13-1 | 10.0 | < 10.0 | |
| Allyl chloride | 107-05-1 | 5.00 | < 5.00 | |
| Benzene | 71-43-2 | 2.00 | < 2.00 | |
| Benzyl chloride | 100-44-7 | 5.00 | < 5.00 | |
| Bis(2-chloroisopropyl) ether | 108-60-1 | 5.00 | < 5.00 | |
| Bromobenzene | 108-86-1 | 2.00 | < 2.00 | |
| Bromochloromethane | 74-97-5 | 2.00 | < 2.00 | |
| Bromodichloromethane | 75-27-4 | 2.00 | < 2.00 | |
| Bromoform | 75-25-2 | 2.00 | < 2.00 | |
| Bromomethane | 74-83-9 | 5.00 | < 5.00 | |
| Butyl acetate | 123-86-4 | 10.0 | < 10.0 | |
| Carbon disulfide | 75-15-0 | 2.00 | < 2.00 | |
| Carbon tetrachloride | 56-23-5 | 2.00 | < 2.00 | |
| Chlorobenzene | 108-90-7 | 2.00 | < 2.00 | |
| Chloroethane | 75-00-3 | 2.00 | < 2.00 | |
| Chloroform | 67-66-3 | 2.00 | < 2.00 | |
| Chloromethane | 74-87-3 | 3.00 | < 3.00 | |
| Chloroprene | 126-99-8 | 2.00 | < 2.00 | |
| cis-1,2-Dichloroethene | 156-59-2 | 2.00 | < 2.00 | |
| cis-1,3-Dichloropropene | 10061-01-5 | 2.00 | < 2.00 | |
| Cyclohexane | 110-82-7 | 2.00 | < 2.00 | |
| Cyclohexanone | 108-94-1 | 50.0 | < 50.0 | |
| Dibromochloromethane | 124-48-1 | 2.00 | < 2.00 | |
| Dibromomethane | 74-95-3 | 2.00 | < 2.00 | |
| Dichlorodifluoromethane | 75-71-8 | 2.00 | < 2.00 | |
| Ethyl acetate | 141-78-6 | 10.0 | < 10.0 | |
| Ethyl ether | 60-29-7 | 10.0 | < 10.0 | |
| Ethyl methacrylate | 97-63-2 | 2.00 | < 2.00 | |
| Ethylbenzene | 100-41-4 | 2.00 | < 2.00 | |
| Hexachlorobutadiene | 87-68-3 | 2.00 | < 2.00 | |
| Iodomethane | 74-88-4 | 5.00 | < 5.00 | |
| Isobutyl alcohol | 78-83-1 | 100 | < 100 | |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-005A
**Client Sample ID:** W. Boom 5 / 4920499

**Analyzed:** 4/4/2013 2315h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Isopropyl acetate | 108-21-4 | 10.0 | < 10.0 | |
| Isopropyl alcohol | 67-63-0 | 40.0 | < 40.0 | |
| Isopropylbenzene | 98-82-8 | 2.00 | < 2.00 | |
| m,p-Xylene | 179601-23-1 | 2.00 | < 2.00 | |
| Methacrylonitrile | 126-98-7 | 5.00 | < 5.00 | |
| Methyl Acetate | 79-20-9 | 5.00 | < 5.00 | |
| Methyl methacrylate | 80-62-6 | 5.00 | < 5.00 | |
| Methyl tert-butyl ether | 1634-04-4 | 2.00 | < 2.00 | |
| Methylcyclohexane | 108-87-2 | 2.00 | < 2.00 | |
| Methylene chloride | 75-09-2 | 2.00 | < 2.00 | |
| n-Amyl acetate | 628-63-7 | 10.0 | < 10.0 | |
| n-Butyl alcohol | 71-36-3 | 100 | < 100 | |
| n-Butylbenzene | 104-51-8 | 2.00 | < 2.00 | |
| n-Hexane | 110-54-3 | 2.00 | < 2.00 | |
| n-Octane | 111-65-9 | 2.00 | < 2.00 | |
| n-Propylbenzene | 103-65-1 | 2.00 | < 2.00 | |
| Naphthalene | 91-20-3 | 2.00 | < 2.00 | |
| o-Xylene | 95-47-6 | 2.00 | < 2.00 | |
| Pentachloroethane | 76-01-7 | 5.00 | < 5.00 | |
| Propionitrile | 107-12-0 | 25.0 | < 25.0 | |
| Propyl acetate | 109-60-4 | 10.0 | < 10.0 | |
| sec-Butylbenzene | 135-98-8 | 2.00 | < 2.00 | |
| Styrene | 100-42-5 | 2.00 | < 2.00 | |
| tert-Butyl alcohol | 76-65-0 | 20.0 | < 20.0 | |
| tert-Butylbenzene | 98-06-6 | 2.00 | < 2.00 | |
| Tetrachloroethene | 127-18-4 | 2.00 | < 2.00 | |
| Tetrahydrofuran | 109-99-9 | 2.00 | < 2.00 | |
| Toluene | 108-88-3 | 2.00 | < 2.00 | |
| trans-1,2-Dichloroethene | 156-60-5 | 2.00 | < 2.00 | |
| trans-1,3-Dichloropropene | 10061-02-6 | 2.00 | < 2.00 | |
| trans-1,4-Dichloro-2-butene | 110-57-6 | 2.00 | < 2.00 | |
| Trichloroethene | 79-01-6 | 2.00 | < 2.00 | |
| Trichlorofluoromethane | 75-69-4 | 2.00 | < 2.00 | |
| Vinyl acetate | 108-05-4 | 10.0 | < 10.0 | |
| Vinyl chloride | 75-01-4 | 1.00 | < 1.00 | |
| Xylenes, Total | 1330-20-7 | 2.00 | < 2.00 | |



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**Lab Sample ID:** 1304147-005A
**Client Sample ID:** W. Boom 5 / 4920499

**Analyzed:** 4/4/2013 2315h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|

| Surrogate | CAS | Result | Amount Spiked | % REC | Limits | Qual |
|---|---|---|---|---|---|---|
| Surr: 1,2-Dichloroethane-d4 | 17060-07-0 | 56.7 | 50.00 | 113 | 72-151 | |
| Surr: 4-Bromofluorobenzene | 460-00-4 | 51.3 | 50.00 | 103 | 80-128 | |
| Surr: Dibromofluoromethane | 1868-53-7 | 52.9 | 50.00 | 106 | 80-124 | |
| Surr: Toluene-d8 | 2037-26-5 | 48.2 | 50.00 | 96.4 | 77-129 | |

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# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-006A
**Client Sample ID:** W. Boom 4 / 4920498
**Collection Date:** 4/4/2013 1000h
**Received Date:** 4/4/2013 1300h

**Analytical Results** VOAs Full List by GC/MS Method 8260C/5030C

**Analyzed:** 4/4/2013 2334h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C


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Jose Rocha
QA Officer


| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | 630-20-6 | 2.00 | < 2.00 | |
| 1,1,1-Trichloroethane | 71-55-6 | 2.00 | < 2.00 | |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 2.00 | < 2.00 | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 2.00 | < 2.00 | |
| 1,1,2-Trichloroethane | 79-00-5 | 2.00 | < 2.00 | |
| 1,1-Dichloropropene | 563-58-6 | 2.00 | < 2.00 | |
| 1,1-Dichloroethane | 75-34-3 | 2.00 | < 2.00 | |
| 1,1-Dichloroethene | 75-35-4 | 2.00 | < 2.00 | |
| 1,2,3-Trichlorobenzene | 87-61-6 | 2.00 | < 2.00 | |
| 1,2,3-Trichloropropane | 96-18-4 | 2.00 | < 2.00 | |
| 1,2,3-Trimethylbenzene | 526-73-8 | 2.00 | < 2.00 | |
| 1,2,4-Trichlorobenzene | 120-82-1 | 2.00 | < 2.00 | |
| 1,2,4-Trimethylbenzene | 95-63-6 | 2.00 | < 2.00 | |
| 1,2-Dibromo-3-chloropropane | 96-12-8 | 5.00 | < 5.00 | |
| 1,2-Dibromoethane | 106-93-4 | 2.00 | < 2.00 | |
| 1,2-Dichlorobenzene | 95-50-1 | 2.00 | < 2.00 | |
| 1,2-Dichloroethane | 107-06-2 | 2.00 | < 2.00 | |
| 1,2-Dichloropropane | 78-87-5 | 2.00 | < 2.00 | |
| 1,3,5-Trimethylbenzene | 108-67-8 | 2.00 | < 2.00 | |
| 1,3-Dichlorobenzene | 541-73-1 | 2.00 | < 2.00 | |
| 1,3-Dichloropropane | 142-28-9 | 2.00 | < 2.00 | |
| 1,4-Dichlorobenzene | 106-46-7 | 2.00 | < 2.00 | |
| 1,4-Dioxane | 123-91-1 | 50.0 | < 50.0 | |
| 2,2-Dichloropropane | 594-20-7 | 2.00 | < 2.00 | |
| 2-Butanone | 78-93-3 | 10.0 | < 10.0 | |
| 2-Chloroethyl vinyl ether | 110-75-8 | 5.00 | < 5.00 | |
| 2-Chlorotoluene | 95-49-8 | 2.00 | < 2.00 | |
| 2-Hexanone | 591-78-6 | 5.00 | < 5.00 | |
| 2-Nitropropane | 79-46-9 | 5.00 | < 5.00 | |
| 4-Chlorotoluene | 106-43-4 | 2.00 | < 2.00 | |



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Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-006A
**Client Sample ID:** W. Boom 4 / 4920498

**Analyzed:** 4/4/2013 2334h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 4-Isopropyltoluene | 99-87-6 | 2.00 | < 2.00 | |
| 4-Methyl-2-pentanone | 108-10-1 | 5.00 | < 5.00 | |
| Acetone | 67-64-1 | 10.0 | < 10.0 | |
| Acetonitrile | 75-05-8 | 5.00 | < 5.00 | |
| Acrolein | 107-02-8 | 5.00 | < 5.00 | |
| Acrylonitrile | 107-13-1 | 10.0 | < 10.0 | |
| Allyl chloride | 107-05-1 | 5.00 | < 5.00 | |
| Benzene | 71-43-2 | 2.00 | < 2.00 | |
| Benzyl chloride | 100-44-7 | 5.00 | < 5.00 | |
| Bis(2-chloroisopropyl) ether | 108-60-1 | 5.00 | < 5.00 | |
| Bromobenzene | 108-86-1 | 2.00 | < 2.00 | |
| Bromochloromethane | 74-97-5 | 2.00 | < 2.00 | |
| Bromodichloromethane | 75-27-4 | 2.00 | < 2.00 | |
| Bromoform | 75-25-2 | 2.00 | < 2.00 | |
| Bromomethane | 74-83-9 | 5.00 | < 5.00 | |
| Butyl acetate | 123-86-4 | 10.0 | < 10.0 | |
| Carbon disulfide | 75-15-0 | 2.00 | < 2.00 | |
| Carbon tetrachloride | 56-23-5 | 2.00 | < 2.00 | |
| Chlorobenzene | 108-90-7 | 2.00 | < 2.00 | |
| Chloroethane | 75-00-3 | 2.00 | < 2.00 | |
| Chloroform | 67-66-3 | 2.00 | < 2.00 | |
| Chloromethane | 74-87-3 | 3.00 | < 3.00 | |
| Chloroprene | 126-99-8 | 2.00 | < 2.00 | |
| cis-1,2-Dichloroethene | 156-59-2 | 2.00 | < 2.00 | |
| cis-1,3-Dichloropropene | 10061-01-5 | 2.00 | < 2.00 | |
| Cyclohexane | 110-82-7 | 2.00 | < 2.00 | |
| Cyclohexanone | 108-94-1 | 50.0 | < 50.0 | |
| Dibromochloromethane | 124-48-1 | 2.00 | < 2.00 | |
| Dibromomethane | 74-95-3 | 2.00 | < 2.00 | |
| Dichlorodifluoromethane | 75-71-8 | 2.00 | < 2.00 | |
| Ethyl acetate | 141-78-6 | 10.0 | < 10.0 | |
| Ethyl ether | 60-29-7 | 10.0 | < 10.0 | |
| Ethyl methacrylate | 97-63-2 | 2.00 | < 2.00 | |
| Ethylbenzene | 100-41-4 | 2.00 | < 2.00 | |
| Hexachlorobutadiene | 87-68-3 | 2.00 | < 2.00 | |
| Iodomethane | 74-88-4 | 5.00 | < 5.00 | |
| Isobutyl alcohol | 78-83-1 | 100 | < 100 | |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-006A
**Client Sample ID:** W. Boom 4 / 4920498

**Analyzed:** 4/4/2013 2334h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Isopropyl acetate | 108-21-4 | 10.0 | < 10.0 | |
| Isopropyl alcohol | 67-63-0 | 40.0 | < 40.0 | |
| Isopropylbenzene | 98-82-8 | 2.00 | < 2.00 | |
| m,p-Xylene | 179601-23-1 | 2.00 | < 2.00 | |
| Methacrylonitrile | 126-98-7 | 5.00 | < 5.00 | |
| Methyl Acetate | 79-20-9 | 5.00 | < 5.00 | |
| Methyl methacrylate | 80-62-6 | 5.00 | < 5.00 | |
| Methyl tert-butyl ether | 1634-04-4 | 2.00 | < 2.00 | |
| Methylcyclohexane | 108-87-2 | 2.00 | < 2.00 | |
| Methylene chloride | 75-09-2 | 2.00 | < 2.00 | |
| n-Amyl acetate | 628-63-7 | 10.0 | < 10.0 | |
| n-Butyl alcohol | 71-36-3 | 100 | < 100 | |
| n-Butylbenzene | 104-51-8 | 2.00 | < 2.00 | |
| n-Hexane | 110-54-3 | 2.00 | < 2.00 | |
| n-Octane | 111-65-9 | 2.00 | < 2.00 | |
| n-Propylbenzene | 103-65-1 | 2.00 | < 2.00 | |
| Naphthalene | 91-20-3 | 2.00 | < 2.00 | |
| o-Xylene | 95-47-6 | 2.00 | < 2.00 | |
| Pentachloroethane | 76-01-7 | 5.00 | < 5.00 | |
| Propionitrile | 107-12-0 | 25.0 | < 25.0 | |
| Propyl acetate | 109-60-4 | 10.0 | < 10.0 | |
| sec-Butylbenzene | 135-98-8 | 2.00 | < 2.00 | |
| Styrene | 100-42-5 | 2.00 | < 2.00 | |
| tert-Butyl alcohol | 76-65-0 | 20.0 | < 20.0 | |
| tert-Butylbenzene | 98-06-6 | 2.00 | < 2.00 | |
| Tetrachloroethene | 127-18-4 | 2.00 | < 2.00 | |
| Tetrahydrofuran | 109-99-9 | 2.00 | < 2.00 | |
| Toluene | 108-88-3 | 2.00 | < 2.00 | |
| trans-1,2-Dichloroethene | 156-60-5 | 2.00 | < 2.00 | |
| trans-1,3-Dichloropropene | 10061-02-6 | 2.00 | < 2.00 | |
| trans-1,4-Dichloro-2-butene | 110-57-6 | 2.00 | < 2.00 | |
| Trichloroethene | 79-01-6 | 2.00 | < 2.00 | |
| Trichlorofluoromethane | 75-69-4 | 2.00 | < 2.00 | |
| Vinyl acetate | 108-05-4 | 10.0 | < 10.0 | |
| Vinyl chloride | 75-01-4 | 1.00 | < 1.00 | |
| Xylenes, Total | 1330-20-7 | 2.00 | < 2.00 | |



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**Lab Sample ID:** 1304147-006A
**Client Sample ID:** W. Boom 4 / 4920498

**Analyzed:** 4/4/2013 2334h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|

| Surrogate | CAS | Result | Amount Spiked | % REC | Limits | Qual |
|---|---|---|---|---|---|---|
| Surr: 1,2-Dichloroethane-d4 | 17060-07-0 | 57.3 | 50.00 | 115 | 72-151 | |
| Surr: 4-Bromofluorobenzene | 460-00-4 | 51.9 | 50.00 | 104 | 80-128 | |
| Surr: Dibromofluoromethane | 1868-53-7 | 53.2 | 50.00 | 106 | 80-124 | |
| Surr: Toluene-d8 | 2037-26-5 | 48.6 | 50.00 | 97.2 | 77-129 | |

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer



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# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-007A
**Client Sample ID:** 50' from WB 4 / 4920502
**Collection Date:** 4/4/2013 1010h
**Received Date:** 4/4/2013 1300h

**Analytical Results** VOAs Full List by GC/MS Method 8260C/5030C

**Analyzed:** 4/4/2013 2353h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C


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Jose Rocha
QA Officer


| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | 630-20-6 | 2.00 | < 2.00 | |
| 1,1,1-Trichloroethane | 71-55-6 | 2.00 | < 2.00 | |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 2.00 | < 2.00 | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 2.00 | < 2.00 | |
| 1,1,2-Trichloroethane | 79-00-5 | 2.00 | < 2.00 | |
| 1,1-Dichloropropene | 563-58-6 | 2.00 | < 2.00 | |
| 1,1-Dichloroethane | 75-34-3 | 2.00 | < 2.00 | |
| 1,1-Dichloroethene | 75-35-4 | 2.00 | < 2.00 | |
| 1,2,3-Trichlorobenzene | 87-61-6 | 2.00 | < 2.00 | |
| 1,2,3-Trichloropropane | 96-18-4 | 2.00 | < 2.00 | |
| 1,2,3-Trimethylbenzene | 526-73-8 | 2.00 | < 2.00 | |
| 1,2,4-Trichlorobenzene | 120-82-1 | 2.00 | < 2.00 | |
| 1,2,4-Trimethylbenzene | 95-63-6 | 2.00 | < 2.00 | |
| 1,2-Dibromo-3-chloropropane | 96-12-8 | 5.00 | < 5.00 | |
| 1,2-Dibromoethane | 106-93-4 | 2.00 | < 2.00 | |
| 1,2-Dichlorobenzene | 95-50-1 | 2.00 | < 2.00 | |
| 1,2-Dichloroethane | 107-06-2 | 2.00 | < 2.00 | |
| 1,2-Dichloropropane | 78-87-5 | 2.00 | < 2.00 | |
| 1,3,5-Trimethylbenzene | 108-67-8 | 2.00 | < 2.00 | |
| 1,3-Dichlorobenzene | 541-73-1 | 2.00 | < 2.00 | |
| 1,3-Dichloropropane | 142-28-9 | 2.00 | < 2.00 | |
| 1,4-Dichlorobenzene | 106-46-7 | 2.00 | < 2.00 | |
| 1,4-Dioxane | 123-91-1 | 50.0 | < 50.0 | |
| 2,2-Dichloropropane | 594-20-7 | 2.00 | < 2.00 | |
| 2-Butanone | 78-93-3 | 10.0 | < 10.0 | |
| 2-Chloroethyl vinyl ether | 110-75-8 | 5.00 | < 5.00 | |
| 2-Chlorotoluene | 95-49-8 | 2.00 | < 2.00 | |
| 2-Hexanone | 591-78-6 | 5.00 | < 5.00 | |
| 2-Nitropropane | 79-46-9 | 5.00 | < 5.00 | |
| 4-Chlorotoluene | 106-43-4 | 2.00 | < 2.00 | |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-007A
**Client Sample ID:** 50' from WB 4 / 4920502

**Analyzed:** 4/4/2013 2353h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 4-Isopropyltoluene | 99-87-6 | 2.00 | < 2.00 | |
| 4-Methyl-2-pentanone | 108-10-1 | 5.00 | < 5.00 | |
| Acetone | 67-64-1 | 10.0 | < 10.0 | |
| Acetonitrile | 75-05-8 | 5.00 | < 5.00 | |
| Acrolein | 107-02-8 | 5.00 | < 5.00 | |
| Acrylonitrile | 107-13-1 | 10.0 | < 10.0 | |
| Allyl chloride | 107-05-1 | 5.00 | < 5.00 | |
| Benzene | 71-43-2 | 2.00 | < 2.00 | |
| Benzyl chloride | 100-44-7 | 5.00 | < 5.00 | |
| Bis(2-chloroisopropyl) ether | 108-60-1 | 5.00 | < 5.00 | |
| Bromobenzene | 108-86-1 | 2.00 | < 2.00 | |
| Bromochloromethane | 74-97-5 | 2.00 | < 2.00 | |
| Bromodichloromethane | 75-27-4 | 2.00 | < 2.00 | |
| Bromoform | 75-25-2 | 2.00 | < 2.00 | |
| Bromomethane | 74-83-9 | 5.00 | < 5.00 | |
| Butyl acetate | 123-86-4 | 10.0 | < 10.0 | |
| Carbon disulfide | 75-15-0 | 2.00 | < 2.00 | |
| Carbon tetrachloride | 56-23-5 | 2.00 | < 2.00 | |
| Chlorobenzene | 108-90-7 | 2.00 | < 2.00 | |
| Chloroethane | 75-00-3 | 2.00 | < 2.00 | |
| Chloroform | 67-66-3 | 2.00 | < 2.00 | |
| Chloromethane | 74-87-3 | 3.00 | < 3.00 | |
| Chloroprene | 126-99-8 | 2.00 | < 2.00 | |
| cis-1,2-Dichloroethene | 156-59-2 | 2.00 | < 2.00 | |
| cis-1,3-Dichloropropene | 10061-01-5 | 2.00 | < 2.00 | |
| Cyclohexane | 110-82-7 | 2.00 | < 2.00 | |
| Cyclohexanone | 108-94-1 | 50.0 | < 50.0 | |
| Dibromochloromethane | 124-48-1 | 2.00 | < 2.00 | |
| Dibromomethane | 74-95-3 | 2.00 | < 2.00 | |
| Dichlorodifluoromethane | 75-71-8 | 2.00 | < 2.00 | |
| Ethyl acetate | 141-78-6 | 10.0 | < 10.0 | |
| Ethyl ether | 60-29-7 | 10.0 | < 10.0 | |
| Ethyl methacrylate | 97-63-2 | 2.00 | < 2.00 | |
| Ethylbenzene | 100-41-4 | 2.00 | < 2.00 | |
| Hexachlorobutadiene | 87-68-3 | 2.00 | < 2.00 | |
| Iodomethane | 74-88-4 | 5.00 | < 5.00 | |
| Isobutyl alcohol | 78-83-1 | 100 | < 100 | |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-007A
**Client Sample ID:** 50' from WB 4 / 4920502

**Analyzed:** 4/4/2013 2353h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Isopropyl acetate | 108-21-4 | 10.0 | < 10.0 | |
| Isopropyl alcohol | 67-63-0 | 40.0 | < 40.0 | |
| Isopropylbenzene | 98-82-8 | 2.00 | < 2.00 | |
| m,p-Xylene | 179601-23-1 | 2.00 | < 2.00 | |
| Methacrylonitrile | 126-98-7 | 5.00 | < 5.00 | |
| Methyl Acetate | 79-20-9 | 5.00 | < 5.00 | |
| Methyl methacrylate | 80-62-6 | 5.00 | < 5.00 | |
| Methyl tert-butyl ether | 1634-04-4 | 2.00 | < 2.00 | |
| Methylcyclohexane | 108-87-2 | 2.00 | < 2.00 | |
| Methylene chloride | 75-09-2 | 2.00 | < 2.00 | |
| n-Amyl acetate | 628-63-7 | 10.0 | < 10.0 | |
| n-Butyl alcohol | 71-36-3 | 100 | < 100 | |
| n-Butylbenzene | 104-51-8 | 2.00 | < 2.00 | |
| n-Hexane | 110-54-3 | 2.00 | < 2.00 | |
| n-Octane | 111-65-9 | 2.00 | < 2.00 | |
| n-Propylbenzene | 103-65-1 | 2.00 | < 2.00 | |
| Naphthalene | 91-20-3 | 2.00 | < 2.00 | |
| o-Xylene | 95-47-6 | 2.00 | < 2.00 | |
| Pentachloroethane | 76-01-7 | 5.00 | < 5.00 | |
| Propionitrile | 107-12-0 | 25.0 | < 25.0 | |
| Propyl acetate | 109-60-4 | 10.0 | < 10.0 | |
| sec-Butylbenzene | 135-98-8 | 2.00 | < 2.00 | |
| Styrene | 100-42-5 | 2.00 | < 2.00 | |
| tert-Butyl alcohol | 76-65-0 | 20.0 | < 20.0 | |
| tert-Butylbenzene | 98-06-6 | 2.00 | < 2.00 | |
| Tetrachloroethene | 127-18-4 | 2.00 | < 2.00 | |
| Tetrahydrofuran | 109-99-9 | 2.00 | < 2.00 | |
| Toluene | 108-88-3 | 2.00 | < 2.00 | |
| trans-1,2-Dichloroethene | 156-60-5 | 2.00 | < 2.00 | |
| trans-1,3-Dichloropropene | 10061-02-6 | 2.00 | < 2.00 | |
| trans-1,4-Dichloro-2-butene | 110-57-6 | 2.00 | < 2.00 | |
| Trichloroethene | 79-01-6 | 2.00 | < 2.00 | |
| Trichlorofluoromethane | 75-69-4 | 2.00 | < 2.00 | |
| Vinyl acetate | 108-05-4 | 10.0 | < 10.0 | |
| Vinyl chloride | 75-01-4 | 1.00 | < 1.00 | |
| Xylenes, Total | 1330-20-7 | 2.00 | < 2.00 | |



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**Lab Sample ID:** 1304147-007A
**Client Sample ID:** 50' from WB 4 / 4920502

**Analyzed:** 4/4/2013 2353h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|

| Surrogate | CAS | Result | Amount Spiked | % REC | Limits | Qual |
|---|---|---|---|---|---|---|
| Surr: 1,2-Dichloroethane-d4 | 17060-07-0 | 57.4 | 50.00 | 115 | 72-151 | |
| Surr: 4-Bromofluorobenzene | 460-00-4 | 50.6 | 50.00 | 101 | 80-128 | |
| Surr: Dibromofluoromethane | 1868-53-7 | 53.9 | 50.00 | 108 | 80-124 | |
| Surr: Toluene-d8 | 2037-26-5 | 49.1 | 50.00 | 98.2 | 77-129 | |

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# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-008A
**Client Sample ID:** W. Boom 3 / 4920497
**Collection Date:** 4/4/2013 1020h
**Received Date:** 4/4/2013 1300h

**Analytical Results** VOAs Full List by GC/MS Method 8260C/5030C

**Analyzed:** 4/5/2013 012h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C


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Laboratory Director

Jose Rocha
QA Officer


| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | 630-20-6 | 2.00 | < 2.00 | |
| 1,1,1-Trichloroethane | 71-55-6 | 2.00 | < 2.00 | |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 2.00 | < 2.00 | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 2.00 | < 2.00 | |
| 1,1,2-Trichloroethane | 79-00-5 | 2.00 | < 2.00 | |
| 1,1-Dichloropropene | 563-58-6 | 2.00 | < 2.00 | |
| 1,1-Dichloroethane | 75-34-3 | 2.00 | < 2.00 | |
| 1,1-Dichloroethene | 75-35-4 | 2.00 | < 2.00 | |
| 1,2,3-Trichlorobenzene | 87-61-6 | 2.00 | < 2.00 | |
| 1,2,3-Trichloropropane | 96-18-4 | 2.00 | < 2.00 | |
| 1,2,3-Trimethylbenzene | 526-73-8 | 2.00 | < 2.00 | |
| 1,2,4-Trichlorobenzene | 120-82-1 | 2.00 | < 2.00 | |
| 1,2,4-Trimethylbenzene | 95-63-6 | 2.00 | < 2.00 | |
| 1,2-Dibromo-3-chloropropane | 96-12-8 | 5.00 | < 5.00 | |
| 1,2-Dibromoethane | 106-93-4 | 2.00 | < 2.00 | |
| 1,2-Dichlorobenzene | 95-50-1 | 2.00 | < 2.00 | |
| 1,2-Dichloroethane | 107-06-2 | 2.00 | < 2.00 | |
| 1,2-Dichloropropane | 78-87-5 | 2.00 | < 2.00 | |
| 1,3,5-Trimethylbenzene | 108-67-8 | 2.00 | < 2.00 | |
| 1,3-Dichlorobenzene | 541-73-1 | 2.00 | < 2.00 | |
| 1,3-Dichloropropane | 142-28-9 | 2.00 | < 2.00 | |
| 1,4-Dichlorobenzene | 106-46-7 | 2.00 | < 2.00 | |
| 1,4-Dioxane | 123-91-1 | 50.0 | < 50.0 | |
| 2,2-Dichloropropane | 594-20-7 | 2.00 | < 2.00 | |
| 2-Butanone | 78-93-3 | 10.0 | < 10.0 | |
| 2-Chloroethyl vinyl ether | 110-75-8 | 5.00 | < 5.00 | |
| 2-Chlorotoluene | 95-49-8 | 2.00 | < 2.00 | |
| 2-Hexanone | 591-78-6 | 5.00 | < 5.00 | |
| 2-Nitropropane | 79-46-9 | 5.00 | < 5.00 | |
| 4-Chlorotoluene | 106-43-4 | 2.00 | < 2.00 | |



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Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-008A
**Client Sample ID:** W. Boom 3 / 4920497

**Analyzed:** 4/5/2013 012h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 4-Isopropyltoluene | 99-87-6 | 2.00 | < 2.00 | |
| 4-Methyl-2-pentanone | 108-10-1 | 5.00 | < 5.00 | |
| Acetone | 67-64-1 | 10.0 | < 10.0 | |
| Acetonitrile | 75-05-8 | 5.00 | < 5.00 | |
| Acrolein | 107-02-8 | 5.00 | < 5.00 | |
| Acrylonitrile | 107-13-1 | 10.0 | < 10.0 | |
| Allyl chloride | 107-05-1 | 5.00 | < 5.00 | |
| Benzene | 71-43-2 | 2.00 | < 2.00 | |
| Benzyl chloride | 100-44-7 | 5.00 | < 5.00 | |
| Bis(2-chloroisopropyl) ether | 108-60-1 | 5.00 | < 5.00 | |
| Bromobenzene | 108-86-1 | 2.00 | < 2.00 | |
| Bromochloromethane | 74-97-5 | 2.00 | < 2.00 | |
| Bromodichloromethane | 75-27-4 | 2.00 | < 2.00 | |
| Bromoform | 75-25-2 | 2.00 | < 2.00 | |
| Bromomethane | 74-83-9 | 5.00 | < 5.00 | |
| Butyl acetate | 123-86-4 | 10.0 | < 10.0 | |
| Carbon disulfide | 75-15-0 | 2.00 | < 2.00 | |
| Carbon tetrachloride | 56-23-5 | 2.00 | < 2.00 | |
| Chlorobenzene | 108-90-7 | 2.00 | < 2.00 | |
| Chloroethane | 75-00-3 | 2.00 | < 2.00 | |
| Chloroform | 67-66-3 | 2.00 | < 2.00 | |
| Chloromethane | 74-87-3 | 3.00 | < 3.00 | |
| Chloroprene | 126-99-8 | 2.00 | < 2.00 | |
| cis-1,2-Dichloroethene | 156-59-2 | 2.00 | < 2.00 | |
| cis-1,3-Dichloropropene | 10061-01-5 | 2.00 | < 2.00 | |
| Cyclohexane | 110-82-7 | 2.00 | < 2.00 | |
| Cyclohexanone | 108-94-1 | 50.0 | < 50.0 | |
| Dibromochloromethane | 124-48-1 | 2.00 | < 2.00 | |
| Dibromomethane | 74-95-3 | 2.00 | < 2.00 | |
| Dichlorodifluoromethane | 75-71-8 | 2.00 | < 2.00 | |
| Ethyl acetate | 141-78-6 | 10.0 | < 10.0 | |
| Ethyl ether | 60-29-7 | 10.0 | < 10.0 | |
| Ethyl methacrylate | 97-63-2 | 2.00 | < 2.00 | |
| Ethylbenzene | 100-41-4 | 2.00 | < 2.00 | |
| Hexachlorobutadiene | 87-68-3 | 2.00 | < 2.00 | |
| Iodomethane | 74-88-4 | 5.00 | < 5.00 | |
| Isobutyl alcohol | 78-83-1 | 100 | < 100 | |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-008A
**Client Sample ID:** W. Boom 3 / 4920497

**Analyzed:** 4/5/2013 012h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Isopropyl acetate | 108-21-4 | 10.0 | < 10.0 | |
| Isopropyl alcohol | 67-63-0 | 40.0 | < 40.0 | |
| Isopropylbenzene | 98-82-8 | 2.00 | < 2.00 | |
| m,p-Xylene | 179601-23-1 | 2.00 | < 2.00 | |
| Methacrylonitrile | 126-98-7 | 5.00 | < 5.00 | |
| Methyl Acetate | 79-20-9 | 5.00 | < 5.00 | |
| Methyl methacrylate | 80-62-6 | 5.00 | < 5.00 | |
| Methyl tert-butyl ether | 1634-04-4 | 2.00 | < 2.00 | |
| Methylcyclohexane | 108-87-2 | 2.00 | < 2.00 | |
| Methylene chloride | 75-09-2 | 2.00 | < 2.00 | |
| n-Amyl acetate | 628-63-7 | 10.0 | < 10.0 | |
| n-Butyl alcohol | 71-36-3 | 100 | < 100 | |
| n-Butylbenzene | 104-51-8 | 2.00 | < 2.00 | |
| n-Hexane | 110-54-3 | 2.00 | < 2.00 | |
| n-Octane | 111-65-9 | 2.00 | < 2.00 | |
| n-Propylbenzene | 103-65-1 | 2.00 | < 2.00 | |
| Naphthalene | 91-20-3 | 2.00 | < 2.00 | |
| o-Xylene | 95-47-6 | 2.00 | < 2.00 | |
| Pentachloroethane | 76-01-7 | 5.00 | < 5.00 | |
| Propionitrile | 107-12-0 | 25.0 | < 25.0 | |
| Propyl acetate | 109-60-4 | 10.0 | < 10.0 | |
| sec-Butylbenzene | 135-98-8 | 2.00 | < 2.00 | |
| Styrene | 100-42-5 | 2.00 | < 2.00 | |
| tert-Butyl alcohol | 76-65-0 | 20.0 | < 20.0 | |
| tert-Butylbenzene | 98-06-6 | 2.00 | < 2.00 | |
| Tetrachloroethene | 127-18-4 | 2.00 | < 2.00 | |
| Tetrahydrofuran | 109-99-9 | 2.00 | < 2.00 | |
| Toluene | 108-88-3 | 2.00 | < 2.00 | |
| trans-1,2-Dichloroethene | 156-60-5 | 2.00 | < 2.00 | |
| trans-1,3-Dichloropropene | 10061-02-6 | 2.00 | < 2.00 | |
| trans-1,4-Dichloro-2-butene | 110-57-6 | 2.00 | < 2.00 | |
| Trichloroethene | 79-01-6 | 2.00 | < 2.00 | |
| Trichlorofluoromethane | 75-69-4 | 2.00 | < 2.00 | |
| Vinyl acetate | 108-05-4 | 10.0 | < 10.0 | |
| Vinyl chloride | 75-01-4 | 1.00 | < 1.00 | |
| Xylenes, Total | 1330-20-7 | 2.00 | < 2.00 | |



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**Lab Sample ID:** 1304147-008A
**Client Sample ID:** W. Boom 3 / 4920497

**Analyzed:** 4/5/2013 012h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|

| Surrogate | CAS | Result | Amount Spiked | % REC | Limits | Qual |
|---|---|---|---|---|---|---|
| Surr: 1,2-Dichloroethane-d4 | 17060-07-0 | 56.9 | 50.00 | 114 | 72-151 | |
| Surr: 4-Bromofluorobenzene | 460-00-4 | 51.3 | 50.00 | 103 | 80-128 | |
| Surr: Dibromofluoromethane | 1868-53-7 | 50.5 | 50.00 | 101 | 80-124 | |
| Surr: Toluene-d8 | 2037-26-5 | 48.6 | 50.00 | 97.2 | 77-129 | |

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Jose Rocha
QA Officer



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# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-009A
**Client Sample ID:** W. Boom 2 / 4920496
**Collection Date:** 4/4/2013 1030h
**Received Date:** 4/4/2013 1300h

**Analytical Results** VOAs Full List by GC/MS Method 8260C/5030C

**Analyzed:** 4/5/2013 031h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C


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Jose Rocha
QA Officer


| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | 630-20-6 | 2.00 | < 2.00 | |
| 1,1,1-Trichloroethane | 71-55-6 | 2.00 | < 2.00 | |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 2.00 | < 2.00 | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 2.00 | < 2.00 | |
| 1,1,2-Trichloroethane | 79-00-5 | 2.00 | < 2.00 | |
| 1,1-Dichloropropene | 563-58-6 | 2.00 | < 2.00 | |
| 1,1-Dichloroethane | 75-34-3 | 2.00 | < 2.00 | |
| 1,1-Dichloroethene | 75-35-4 | 2.00 | < 2.00 | |
| 1,2,3-Trichlorobenzene | 87-61-6 | 2.00 | < 2.00 | |
| 1,2,3-Trichloropropane | 96-18-4 | 2.00 | < 2.00 | |
| 1,2,3-Trimethylbenzene | 526-73-8 | 2.00 | < 2.00 | |
| 1,2,4-Trichlorobenzene | 120-82-1 | 2.00 | < 2.00 | |
| 1,2,4-Trimethylbenzene | 95-63-6 | 2.00 | < 2.00 | |
| 1,2-Dibromo-3-chloropropane | 96-12-8 | 5.00 | < 5.00 | |
| 1,2-Dibromoethane | 106-93-4 | 2.00 | < 2.00 | |
| 1,2-Dichlorobenzene | 95-50-1 | 2.00 | < 2.00 | |
| 1,2-Dichloroethane | 107-06-2 | 2.00 | < 2.00 | |
| 1,2-Dichloropropane | 78-87-5 | 2.00 | < 2.00 | |
| 1,3,5-Trimethylbenzene | 108-67-8 | 2.00 | < 2.00 | |
| 1,3-Dichlorobenzene | 541-73-1 | 2.00 | < 2.00 | |
| 1,3-Dichloropropane | 142-28-9 | 2.00 | < 2.00 | |
| 1,4-Dichlorobenzene | 106-46-7 | 2.00 | < 2.00 | |
| 1,4-Dioxane | 123-91-1 | 50.0 | < 50.0 | |
| 2,2-Dichloropropane | 594-20-7 | 2.00 | < 2.00 | |
| 2-Butanone | 78-93-3 | 10.0 | < 10.0 | |
| 2-Chloroethyl vinyl ether | 110-75-8 | 5.00 | < 5.00 | |
| 2-Chlorotoluene | 95-49-8 | 2.00 | < 2.00 | |
| 2-Hexanone | 591-78-6 | 5.00 | < 5.00 | |
| 2-Nitropropane | 79-46-9 | 5.00 | < 5.00 | |
| 4-Chlorotoluene | 106-43-4 | 2.00 | < 2.00 | |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-009A
**Client Sample ID:** W. Boom 2 / 4920496

**Analyzed:** 4/5/2013 031h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 4-Isopropyltoluene | 99-87-6 | 2.00 | < 2.00 | |
| 4-Methyl-2-pentanone | 108-10-1 | 5.00 | < 5.00 | |
| Acetone | 67-64-1 | 10.0 | < 10.0 | |
| Acetonitrile | 75-05-8 | 5.00 | < 5.00 | |
| Acrolein | 107-02-8 | 5.00 | < 5.00 | |
| Acrylonitrile | 107-13-1 | 10.0 | < 10.0 | |
| Allyl chloride | 107-05-1 | 5.00 | < 5.00 | |
| Benzene | 71-43-2 | 2.00 | < 2.00 | |
| Benzyl chloride | 100-44-7 | 5.00 | < 5.00 | |
| Bis(2-chloroisopropyl) ether | 108-60-1 | 5.00 | < 5.00 | |
| Bromobenzene | 108-86-1 | 2.00 | < 2.00 | |
| Bromochloromethane | 74-97-5 | 2.00 | < 2.00 | |
| Bromodichloromethane | 75-27-4 | 2.00 | < 2.00 | |
| Bromoform | 75-25-2 | 2.00 | < 2.00 | |
| Bromomethane | 74-83-9 | 5.00 | < 5.00 | |
| Butyl acetate | 123-86-4 | 10.0 | < 10.0 | |
| Carbon disulfide | 75-15-0 | 2.00 | < 2.00 | |
| Carbon tetrachloride | 56-23-5 | 2.00 | < 2.00 | |
| Chlorobenzene | 108-90-7 | 2.00 | < 2.00 | |
| Chloroethane | 75-00-3 | 2.00 | < 2.00 | |
| Chloroform | 67-66-3 | 2.00 | < 2.00 | |
| Chloromethane | 74-87-3 | 3.00 | < 3.00 | |
| Chloroprene | 126-99-8 | 2.00 | < 2.00 | |
| cis-1,2-Dichloroethene | 156-59-2 | 2.00 | < 2.00 | |
| cis-1,3-Dichloropropene | 10061-01-5 | 2.00 | < 2.00 | |
| Cyclohexane | 110-82-7 | 2.00 | < 2.00 | |
| Cyclohexanone | 108-94-1 | 50.0 | < 50.0 | |
| Dibromochloromethane | 124-48-1 | 2.00 | < 2.00 | |
| Dibromomethane | 74-95-3 | 2.00 | < 2.00 | |
| Dichlorodifluoromethane | 75-71-8 | 2.00 | < 2.00 | |
| Ethyl acetate | 141-78-6 | 10.0 | < 10.0 | |
| Ethyl ether | 60-29-7 | 10.0 | < 10.0 | |
| Ethyl methacrylate | 97-63-2 | 2.00 | < 2.00 | |
| Ethylbenzene | 100-41-4 | 2.00 | < 2.00 | |
| Hexachlorobutadiene | 87-68-3 | 2.00 | < 2.00 | |
| Iodomethane | 74-88-4 | 5.00 | < 5.00 | |
| Isobutyl alcohol | 78-83-1 | 100 | < 100 | |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-009A
**Client Sample ID:** W. Boom 2 / 4920496

**Analyzed:** 4/5/2013 031h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Isopropyl acetate | 108-21-4 | 10.0 | < 10.0 | |
| Isopropyl alcohol | 67-63-0 | 40.0 | < 40.0 | |
| Isopropylbenzene | 98-82-8 | 2.00 | < 2.00 | |
| m,p-Xylene | 179601-23-1 | 2.00 | < 2.00 | |
| Methacrylonitrile | 126-98-7 | 5.00 | < 5.00 | |
| Methyl Acetate | 79-20-9 | 5.00 | < 5.00 | |
| Methyl methacrylate | 80-62-6 | 5.00 | < 5.00 | |
| Methyl tert-butyl ether | 1634-04-4 | 2.00 | < 2.00 | |
| Methylcyclohexane | 108-87-2 | 2.00 | < 2.00 | |
| Methylene chloride | 75-09-2 | 2.00 | < 2.00 | |
| n-Amyl acetate | 628-63-7 | 10.0 | < 10.0 | |
| n-Butyl alcohol | 71-36-3 | 100 | < 100 | |
| n-Butylbenzene | 104-51-8 | 2.00 | < 2.00 | |
| n-Hexane | 110-54-3 | 2.00 | < 2.00 | |
| n-Octane | 111-65-9 | 2.00 | < 2.00 | |
| n-Propylbenzene | 103-65-1 | 2.00 | < 2.00 | |
| Naphthalene | 91-20-3 | 2.00 | < 2.00 | |
| o-Xylene | 95-47-6 | 2.00 | < 2.00 | |
| Pentachloroethane | 76-01-7 | 5.00 | < 5.00 | |
| Propionitrile | 107-12-0 | 25.0 | < 25.0 | |
| Propyl acetate | 109-60-4 | 10.0 | < 10.0 | |
| sec-Butylbenzene | 135-98-8 | 2.00 | < 2.00 | |
| Styrene | 100-42-5 | 2.00 | < 2.00 | |
| tert-Butyl alcohol | 76-65-0 | 20.0 | < 20.0 | |
| tert-Butylbenzene | 98-06-6 | 2.00 | < 2.00 | |
| Tetrachloroethene | 127-18-4 | 2.00 | < 2.00 | |
| Tetrahydrofuran | 109-99-9 | 2.00 | < 2.00 | |
| Toluene | 108-88-3 | 2.00 | < 2.00 | |
| trans-1,2-Dichloroethene | 156-60-5 | 2.00 | < 2.00 | |
| trans-1,3-Dichloropropene | 10061-02-6 | 2.00 | < 2.00 | |
| trans-1,4-Dichloro-2-butene | 110-57-6 | 2.00 | < 2.00 | |
| Trichloroethene | 79-01-6 | 2.00 | < 2.00 | |
| Trichlorofluoromethane | 75-69-4 | 2.00 | < 2.00 | |
| Vinyl acetate | 108-05-4 | 10.0 | < 10.0 | |
| Vinyl chloride | 75-01-4 | 1.00 | < 1.00 | |
| Xylenes, Total | 1330-20-7 | 2.00 | < 2.00 | |



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**Lab Sample ID:** 1304147-009A
**Client Sample ID:** W. Boom 2 / 4920496

**Analyzed:** 4/5/2013 031h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|

| Surrogate | CAS | Result | Amount Spiked | % REC | Limits | Qual |
|---|---|---|---|---|---|---|
| Surr: 1,2-Dichloroethane-d4 | 17060-07-0 | 56.9 | 50.00 | 114 | 72-151 | |
| Surr: 4-Bromofluorobenzene | 460-00-4 | 51.2 | 50.00 | 102 | 80-128 | |
| Surr: Dibromofluoromethane | 1868-53-7 | 50.0 | 50.00 | 100 | 80-124 | |
| Surr: Toluene-d8 | 2037-26-5 | 48.9 | 50.00 | 97.8 | 77-129 | |

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# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-010A
**Client Sample ID:** 50' From WB1 / 4920505
**Collection Date:** 4/4/2013 1040h
**Received Date:** 4/4/2013 1300h

**Analytical Results** VOAs Full List by GC/MS Method 8260C/5030C

**Analyzed:** 4/5/2013 050h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C


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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer


| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | 630-20-6 | 2.00 | < 2.00 | |
| 1,1,1-Trichloroethane | 71-55-6 | 2.00 | < 2.00 | |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 2.00 | < 2.00 | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 2.00 | < 2.00 | |
| 1,1,2-Trichloroethane | 79-00-5 | 2.00 | < 2.00 | |
| 1,1-Dichloropropene | 563-58-6 | 2.00 | < 2.00 | |
| 1,1-Dichloroethane | 75-34-3 | 2.00 | < 2.00 | |
| 1,1-Dichloroethene | 75-35-4 | 2.00 | < 2.00 | |
| 1,2,3-Trichlorobenzene | 87-61-6 | 2.00 | < 2.00 | |
| 1,2,3-Trichloropropane | 96-18-4 | 2.00 | < 2.00 | |
| 1,2,3-Trimethylbenzene | 526-73-8 | 2.00 | < 2.00 | |
| 1,2,4-Trichlorobenzene | 120-82-1 | 2.00 | < 2.00 | |
| 1,2,4-Trimethylbenzene | 95-63-6 | 2.00 | < 2.00 | |
| 1,2-Dibromo-3-chloropropane | 96-12-8 | 5.00 | < 5.00 | |
| 1,2-Dibromoethane | 106-93-4 | 2.00 | < 2.00 | |
| 1,2-Dichlorobenzene | 95-50-1 | 2.00 | < 2.00 | |
| 1,2-Dichloroethane | 107-06-2 | 2.00 | < 2.00 | |
| 1,2-Dichloropropane | 78-87-5 | 2.00 | < 2.00 | |
| 1,3,5-Trimethylbenzene | 108-67-8 | 2.00 | < 2.00 | |
| 1,3-Dichlorobenzene | 541-73-1 | 2.00 | < 2.00 | |
| 1,3-Dichloropropane | 142-28-9 | 2.00 | < 2.00 | |
| 1,4-Dichlorobenzene | 106-46-7 | 2.00 | < 2.00 | |
| 1,4-Dioxane | 123-91-1 | 50.0 | < 50.0 | |
| 2,2-Dichloropropane | 594-20-7 | 2.00 | < 2.00 | |
| 2-Butanone | 78-93-3 | 10.0 | < 10.0 | |
| 2-Chloroethyl vinyl ether | 110-75-8 | 5.00 | < 5.00 | |
| 2-Chlorotoluene | 95-49-8 | 2.00 | < 2.00 | |
| 2-Hexanone | 591-78-6 | 5.00 | < 5.00 | |
| 2-Nitropropane | 79-46-9 | 5.00 | < 5.00 | |
| 4-Chlorotoluene | 106-43-4 | 2.00 | < 2.00 | |



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QA Officer

**Lab Sample ID:** 1304147-010A
**Client Sample ID:** 50' From WB1 / 4920505

**Analyzed:** 4/5/2013 050h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 4-Isopropyltoluene | 99-87-6 | 2.00 | < 2.00 | |
| 4-Methyl-2-pentanone | 108-10-1 | 5.00 | < 5.00 | |
| Acetone | 67-64-1 | 10.0 | < 10.0 | |
| Acetonitrile | 75-05-8 | 5.00 | < 5.00 | |
| Acrolein | 107-02-8 | 5.00 | < 5.00 | |
| Acrylonitrile | 107-13-1 | 10.0 | < 10.0 | |
| Allyl chloride | 107-05-1 | 5.00 | < 5.00 | |
| Benzene | 71-43-2 | 2.00 | < 2.00 | |
| Benzyl chloride | 100-44-7 | 5.00 | < 5.00 | |
| Bis(2-chloroisopropyl) ether | 108-60-1 | 5.00 | < 5.00 | |
| Bromobenzene | 108-86-1 | 2.00 | < 2.00 | |
| Bromochloromethane | 74-97-5 | 2.00 | < 2.00 | |
| Bromodichloromethane | 75-27-4 | 2.00 | < 2.00 | |
| Bromoform | 75-25-2 | 2.00 | < 2.00 | |
| Bromomethane | 74-83-9 | 5.00 | < 5.00 | |
| Butyl acetate | 123-86-4 | 10.0 | < 10.0 | |
| Carbon disulfide | 75-15-0 | 2.00 | < 2.00 | |
| Carbon tetrachloride | 56-23-5 | 2.00 | < 2.00 | |
| Chlorobenzene | 108-90-7 | 2.00 | < 2.00 | |
| Chloroethane | 75-00-3 | 2.00 | < 2.00 | |
| Chloroform | 67-66-3 | 2.00 | < 2.00 | |
| Chloromethane | 74-87-3 | 3.00 | < 3.00 | |
| Chloroprene | 126-99-8 | 2.00 | < 2.00 | |
| cis-1,2-Dichloroethene | 156-59-2 | 2.00 | < 2.00 | |
| cis-1,3-Dichloropropene | 10061-01-5 | 2.00 | < 2.00 | |
| Cyclohexane | 110-82-7 | 2.00 | < 2.00 | |
| Cyclohexanone | 108-94-1 | 50.0 | < 50.0 | |
| Dibromochloromethane | 124-48-1 | 2.00 | < 2.00 | |
| Dibromomethane | 74-95-3 | 2.00 | < 2.00 | |
| Dichlorodifluoromethane | 75-71-8 | 2.00 | < 2.00 | |
| Ethyl acetate | 141-78-6 | 10.0 | < 10.0 | |
| Ethyl ether | 60-29-7 | 10.0 | < 10.0 | |
| Ethyl methacrylate | 97-63-2 | 2.00 | < 2.00 | |
| Ethylbenzene | 100-41-4 | 2.00 | < 2.00 | |
| Hexachlorobutadiene | 87-68-3 | 2.00 | < 2.00 | |
| Iodomethane | 74-88-4 | 5.00 | < 5.00 | |
| Isobutyl alcohol | 78-83-1 | 100 | < 100 | |



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Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-010A
**Client Sample ID:** 50' From WB1 / 4920505

**Analyzed:** 4/5/2013 050h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Isopropyl acetate | 108-21-4 | 10.0 | < 10.0 | |
| Isopropyl alcohol | 67-63-0 | 40.0 | < 40.0 | |
| Isopropylbenzene | 98-82-8 | 2.00 | < 2.00 | |
| m,p-Xylene | 179601-23-1 | 2.00 | < 2.00 | |
| Methacrylonitrile | 126-98-7 | 5.00 | < 5.00 | |
| Methyl Acetate | 79-20-9 | 5.00 | < 5.00 | |
| Methyl methacrylate | 80-62-6 | 5.00 | < 5.00 | |
| Methyl tert-butyl ether | 1634-04-4 | 2.00 | < 2.00 | |
| Methylcyclohexane | 108-87-2 | 2.00 | < 2.00 | |
| Methylene chloride | 75-09-2 | 2.00 | < 2.00 | |
| n-Amyl acetate | 628-63-7 | 10.0 | < 10.0 | |
| n-Butyl alcohol | 71-36-3 | 100 | < 100 | |
| n-Butylbenzene | 104-51-8 | 2.00 | < 2.00 | |
| n-Hexane | 110-54-3 | 2.00 | < 2.00 | |
| n-Octane | 111-65-9 | 2.00 | < 2.00 | |
| n-Propylbenzene | 103-65-1 | 2.00 | < 2.00 | |
| Naphthalene | 91-20-3 | 2.00 | < 2.00 | |
| o-Xylene | 95-47-6 | 2.00 | < 2.00 | |
| Pentachloroethane | 76-01-7 | 5.00 | < 5.00 | |
| Propionitrile | 107-12-0 | 25.0 | < 25.0 | |
| Propyl acetate | 109-60-4 | 10.0 | < 10.0 | |
| sec-Butylbenzene | 135-98-8 | 2.00 | < 2.00 | |
| Styrene | 100-42-5 | 2.00 | < 2.00 | |
| tert-Butyl alcohol | 76-65-0 | 20.0 | < 20.0 | |
| tert-Butylbenzene | 98-06-6 | 2.00 | < 2.00 | |
| Tetrachloroethene | 127-18-4 | 2.00 | < 2.00 | |
| Tetrahydrofuran | 109-99-9 | 2.00 | < 2.00 | |
| Toluene | 108-88-3 | 2.00 | < 2.00 | |
| trans-1,2-Dichloroethene | 156-60-5 | 2.00 | < 2.00 | |
| trans-1,3-Dichloropropene | 10061-02-6 | 2.00 | < 2.00 | |
| trans-1,4-Dichloro-2-butene | 110-57-6 | 2.00 | < 2.00 | |
| Trichloroethene | 79-01-6 | 2.00 | < 2.00 | |
| Trichlorofluoromethane | 75-69-4 | 2.00 | < 2.00 | |
| Vinyl acetate | 108-05-4 | 10.0 | < 10.0 | |
| Vinyl chloride | 75-01-4 | 1.00 | < 1.00 | |
| Xylenes, Total | 1330-20-7 | 2.00 | < 2.00 | |



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**Lab Sample ID:** 1304147-010A
**Client Sample ID:** 50' From WB1 / 4920505

**Analyzed:** 4/5/2013 050h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|

| Surrogate | CAS | Result | Amount Spiked | % REC | Limits | Qual |
|---|---|---|---|---|---|---|
| Surr: 1,2-Dichloroethane-d4 | 17060-07-0 | 57.5 | 50.00 | 115 | 72-151 | |
| Surr: 4-Bromofluorobenzene | 460-00-4 | 51.9 | 50.00 | 104 | 80-128 | |
| Surr: Dibromofluoromethane | 1868-53-7 | 53.2 | 50.00 | 106 | 80-124 | |
| Surr: Toluene-d8 | 2037-26-5 | 48.6 | 50.00 | 97.1 | 77-129 | |

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Laboratory Director

Jose Rocha
QA Officer



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# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-011A
**Client Sample ID:** W. Boom 1 / 4920396
**Collection Date:** 4/4/2013 1050h
**Received Date:** 4/4/2013 1300h

**Analytical Results** VOAs Full List by GC/MS Method 8260C/5030C

**Analyzed:** 4/5/2013 109h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C


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Laboratory Director

Jose Rocha
QA Officer


| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | 630-20-6 | 2.00 | < 2.00 | |
| 1,1,1-Trichloroethane | 71-55-6 | 2.00 | < 2.00 | |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 2.00 | < 2.00 | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 2.00 | < 2.00 | |
| 1,1,2-Trichloroethane | 79-00-5 | 2.00 | < 2.00 | |
| 1,1-Dichloropropene | 563-58-6 | 2.00 | < 2.00 | |
| 1,1-Dichloroethane | 75-34-3 | 2.00 | < 2.00 | |
| 1,1-Dichloroethene | 75-35-4 | 2.00 | < 2.00 | |
| 1,2,3-Trichlorobenzene | 87-61-6 | 2.00 | < 2.00 | |
| 1,2,3-Trichloropropane | 96-18-4 | 2.00 | < 2.00 | |
| 1,2,3-Trimethylbenzene | 526-73-8 | 2.00 | < 2.00 | |
| 1,2,4-Trichlorobenzene | 120-82-1 | 2.00 | < 2.00 | |
| 1,2,4-Trimethylbenzene | 95-63-6 | 2.00 | < 2.00 | |
| 1,2-Dibromo-3-chloropropane | 96-12-8 | 5.00 | < 5.00 | |
| 1,2-Dibromoethane | 106-93-4 | 2.00 | < 2.00 | |
| 1,2-Dichlorobenzene | 95-50-1 | 2.00 | < 2.00 | |
| 1,2-Dichloroethane | 107-06-2 | 2.00 | < 2.00 | |
| 1,2-Dichloropropane | 78-87-5 | 2.00 | < 2.00 | |
| 1,3,5-Trimethylbenzene | 108-67-8 | 2.00 | < 2.00 | |
| 1,3-Dichlorobenzene | 541-73-1 | 2.00 | < 2.00 | |
| 1,3-Dichloropropane | 142-28-9 | 2.00 | < 2.00 | |
| 1,4-Dichlorobenzene | 106-46-7 | 2.00 | < 2.00 | |
| 1,4-Dioxane | 123-91-1 | 50.0 | < 50.0 | |
| 2,2-Dichloropropane | 594-20-7 | 2.00 | < 2.00 | |
| 2-Butanone | 78-93-3 | 10.0 | < 10.0 | |
| 2-Chloroethyl vinyl ether | 110-75-8 | 5.00 | < 5.00 | |
| 2-Chlorotoluene | 95-49-8 | 2.00 | < 2.00 | |
| 2-Hexanone | 591-78-6 | 5.00 | < 5.00 | |
| 2-Nitropropane | 79-46-9 | 5.00 | < 5.00 | |
| 4-Chlorotoluene | 106-43-4 | 2.00 | < 2.00 | |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-011A
**Client Sample ID:** W. Boom 1 / 4920396

**Analyzed:** 4/5/2013 109h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 4-Isopropyltoluene | 99-87-6 | 2.00 | < 2.00 | |
| 4-Methyl-2-pentanone | 108-10-1 | 5.00 | < 5.00 | |
| Acetone | 67-64-1 | 10.0 | < 10.0 | |
| Acetonitrile | 75-05-8 | 5.00 | < 5.00 | |
| Acrolein | 107-02-8 | 5.00 | < 5.00 | |
| Acrylonitrile | 107-13-1 | 10.0 | < 10.0 | |
| Allyl chloride | 107-05-1 | 5.00 | < 5.00 | |
| Benzene | 71-43-2 | 2.00 | < 2.00 | |
| Benzyl chloride | 100-44-7 | 5.00 | < 5.00 | |
| Bis(2-chloroisopropyl) ether | 108-60-1 | 5.00 | < 5.00 | |
| Bromobenzene | 108-86-1 | 2.00 | < 2.00 | |
| Bromochloromethane | 74-97-5 | 2.00 | < 2.00 | |
| Bromodichloromethane | 75-27-4 | 2.00 | < 2.00 | |
| Bromoform | 75-25-2 | 2.00 | < 2.00 | |
| Bromomethane | 74-83-9 | 5.00 | < 5.00 | |
| Butyl acetate | 123-86-4 | 10.0 | < 10.0 | |
| Carbon disulfide | 75-15-0 | 2.00 | < 2.00 | |
| Carbon tetrachloride | 56-23-5 | 2.00 | < 2.00 | |
| Chlorobenzene | 108-90-7 | 2.00 | < 2.00 | |
| Chloroethane | 75-00-3 | 2.00 | < 2.00 | |
| Chloroform | 67-66-3 | 2.00 | < 2.00 | |
| Chloromethane | 74-87-3 | 3.00 | < 3.00 | |
| Chloroprene | 126-99-8 | 2.00 | < 2.00 | |
| cis-1,2-Dichloroethene | 156-59-2 | 2.00 | < 2.00 | |
| cis-1,3-Dichloropropene | 10061-01-5 | 2.00 | < 2.00 | |
| Cyclohexane | 110-82-7 | 2.00 | < 2.00 | |
| Cyclohexanone | 108-94-1 | 50.0 | < 50.0 | |
| Dibromochloromethane | 124-48-1 | 2.00 | < 2.00 | |
| Dibromomethane | 74-95-3 | 2.00 | < 2.00 | |
| Dichlorodifluoromethane | 75-71-8 | 2.00 | < 2.00 | |
| Ethyl acetate | 141-78-6 | 10.0 | < 10.0 | |
| Ethyl ether | 60-29-7 | 10.0 | < 10.0 | |
| Ethyl methacrylate | 97-63-2 | 2.00 | < 2.00 | |
| Ethylbenzene | 100-41-4 | 2.00 | < 2.00 | |
| Hexachlorobutadiene | 87-68-3 | 2.00 | < 2.00 | |
| Iodomethane | 74-88-4 | 5.00 | < 5.00 | |
| Isobutyl alcohol | 78-83-1 | 100 | < 100 | |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-011A
**Client Sample ID:** W. Boom 1 / 4920396

**Analyzed:** 4/5/2013 109h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Isopropyl acetate | 108-21-4 | 10.0 | < 10.0 | |
| Isopropyl alcohol | 67-63-0 | 40.0 | < 40.0 | |
| Isopropylbenzene | 98-82-8 | 2.00 | < 2.00 | |
| m,p-Xylene | 179601-23-1 | 2.00 | < 2.00 | |
| Methacrylonitrile | 126-98-7 | 5.00 | < 5.00 | |
| Methyl Acetate | 79-20-9 | 5.00 | < 5.00 | |
| Methyl methacrylate | 80-62-6 | 5.00 | < 5.00 | |
| Methyl tert-butyl ether | 1634-04-4 | 2.00 | < 2.00 | |
| Methylcyclohexane | 108-87-2 | 2.00 | < 2.00 | |
| Methylene chloride | 75-09-2 | 2.00 | < 2.00 | |
| n-Amyl acetate | 628-63-7 | 10.0 | < 10.0 | |
| n-Butyl alcohol | 71-36-3 | 100 | < 100 | |
| n-Butylbenzene | 104-51-8 | 2.00 | < 2.00 | |
| n-Hexane | 110-54-3 | 2.00 | < 2.00 | |
| n-Octane | 111-65-9 | 2.00 | < 2.00 | |
| n-Propylbenzene | 103-65-1 | 2.00 | < 2.00 | |
| Naphthalene | 91-20-3 | 2.00 | < 2.00 | |
| o-Xylene | 95-47-6 | 2.00 | < 2.00 | |
| Pentachloroethane | 76-01-7 | 5.00 | < 5.00 | |
| Propionitrile | 107-12-0 | 25.0 | < 25.0 | |
| Propyl acetate | 109-60-4 | 10.0 | < 10.0 | |
| sec-Butylbenzene | 135-98-8 | 2.00 | < 2.00 | |
| Styrene | 100-42-5 | 2.00 | < 2.00 | |
| tert-Butyl alcohol | 76-65-0 | 20.0 | < 20.0 | |
| tert-Butylbenzene | 98-06-6 | 2.00 | < 2.00 | |
| Tetrachloroethene | 127-18-4 | 2.00 | < 2.00 | |
| Tetrahydrofuran | 109-99-9 | 2.00 | < 2.00 | |
| Toluene | 108-88-3 | 2.00 | < 2.00 | |
| trans-1,2-Dichloroethene | 156-60-5 | 2.00 | < 2.00 | |
| trans-1,3-Dichloropropene | 10061-02-6 | 2.00 | < 2.00 | |
| trans-1,4-Dichloro-2-butene | 110-57-6 | 2.00 | < 2.00 | |
| Trichloroethene | 79-01-6 | 2.00 | < 2.00 | |
| Trichlorofluoromethane | 75-69-4 | 2.00 | < 2.00 | |
| Vinyl acetate | 108-05-4 | 10.0 | < 10.0 | |
| Vinyl chloride | 75-01-4 | 1.00 | < 1.00 | |
| Xylenes, Total | 1330-20-7 | 2.00 | < 2.00 | |



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**Lab Sample ID:** 1304147-011A
**Client Sample ID:** W. Boom 1 / 4920396

**Analyzed:** 4/5/2013 109h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|

| Surrogate | CAS | Result | Amount Spiked | % REC | Limits | Qual |
|---|---|---|---|---|---|---|
| Surr: 1,2-Dichloroethane-d4 | 17060-07-0 | 57.5 | 50.00 | 115 | 72-151 | |
| Surr: 4-Bromofluorobenzene | 460-00-4 | 51.1 | 50.00 | 102 | 80-128 | |
| Surr: Dibromofluoromethane | 1868-53-7 | 51.1 | 50.00 | 102 | 80-124 | |
| Surr: Toluene-d8 | 2037-26-5 | 49.3 | 50.00 | 98.6 | 77-129 | |

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# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-012A
**Client Sample ID:** East of Boom / 4920395
**Collection Date:** 4/4/2013 1100h
**Received Date:** 4/4/2013 1300h

**Analytical Results** VOAs Full List by GC/MS Method 8260C/5030C

**Analyzed:** 4/5/2013 128h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C


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Laboratory Director

Jose Rocha
QA Officer


| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | 630-20-6 | 2.00 | < 2.00 | |
| 1,1,1-Trichloroethane | 71-55-6 | 2.00 | < 2.00 | |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 2.00 | < 2.00 | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 2.00 | < 2.00 | |
| 1,1,2-Trichloroethane | 79-00-5 | 2.00 | < 2.00 | |
| 1,1-Dichloropropene | 563-58-6 | 2.00 | < 2.00 | |
| 1,1-Dichloroethane | 75-34-3 | 2.00 | < 2.00 | |
| 1,1-Dichloroethene | 75-35-4 | 2.00 | < 2.00 | |
| 1,2,3-Trichlorobenzene | 87-61-6 | 2.00 | < 2.00 | |
| 1,2,3-Trichloropropane | 96-18-4 | 2.00 | < 2.00 | |
| 1,2,3-Trimethylbenzene | 526-73-8 | 2.00 | **2.37** | |
| 1,2,4-Trichlorobenzene | 120-82-1 | 2.00 | < 2.00 | |
| 1,2,4-Trimethylbenzene | 95-63-6 | 2.00 | **2.32** | |
| 1,2-Dibromo-3-chloropropane | 96-12-8 | 5.00 | < 5.00 | |
| 1,2-Dibromoethane | 106-93-4 | 2.00 | < 2.00 | |
| 1,2-Dichlorobenzene | 95-50-1 | 2.00 | < 2.00 | |
| 1,2-Dichloroethane | 107-06-2 | 2.00 | < 2.00 | |
| 1,2-Dichloropropane | 78-87-5 | 2.00 | < 2.00 | |
| 1,3,5-Trimethylbenzene | 108-67-8 | 2.00 | < 2.00 | |
| 1,3-Dichlorobenzene | 541-73-1 | 2.00 | < 2.00 | |
| 1,3-Dichloropropane | 142-28-9 | 2.00 | < 2.00 | |
| 1,4-Dichlorobenzene | 106-46-7 | 2.00 | < 2.00 | |
| 1,4-Dioxane | 123-91-1 | 50.0 | < 50.0 | |
| 2,2-Dichloropropane | 594-20-7 | 2.00 | < 2.00 | |
| 2-Butanone | 78-93-3 | 10.0 | < 10.0 | |
| 2-Chloroethyl vinyl ether | 110-75-8 | 5.00 | < 5.00 | |
| 2-Chlorotoluene | 95-49-8 | 2.00 | < 2.00 | |
| 2-Hexanone | 591-78-6 | 5.00 | < 5.00 | |
| 2-Nitropropane | 79-46-9 | 5.00 | < 5.00 | |
| 4-Chlorotoluene | 106-43-4 | 2.00 | < 2.00 | |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-012A
**Client Sample ID:** East of Boom / 4920395

**Analyzed:** 4/5/2013 128h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 4-Isopropyltoluene | 99-87-6 | 2.00 | < 2.00 | |
| 4-Methyl-2-pentanone | 108-10-1 | 5.00 | < 5.00 | |
| Acetone | 67-64-1 | 10.0 | < 10.0 | |
| Acetonitrile | 75-05-8 | 5.00 | < 5.00 | |
| Acrolein | 107-02-8 | 5.00 | < 5.00 | |
| Acrylonitrile | 107-13-1 | 10.0 | < 10.0 | |
| Allyl chloride | 107-05-1 | 5.00 | < 5.00 | |
| Benzene | 71-43-2 | 2.00 | < 2.00 | |
| Benzyl chloride | 100-44-7 | 5.00 | < 5.00 | |
| Bis(2-chloroisopropyl) ether | 108-60-1 | 5.00 | < 5.00 | |
| Bromobenzene | 108-86-1 | 2.00 | < 2.00 | |
| Bromochloromethane | 74-97-5 | 2.00 | < 2.00 | |
| Bromodichloromethane | 75-27-4 | 2.00 | < 2.00 | |
| Bromoform | 75-25-2 | 2.00 | < 2.00 | |
| Bromomethane | 74-83-9 | 5.00 | < 5.00 | |
| Butyl acetate | 123-86-4 | 10.0 | < 10.0 | |
| Carbon disulfide | 75-15-0 | 2.00 | < 2.00 | |
| Carbon tetrachloride | 56-23-5 | 2.00 | < 2.00 | |
| Chlorobenzene | 108-90-7 | 2.00 | < 2.00 | |
| Chloroethane | 75-00-3 | 2.00 | < 2.00 | |
| Chloroform | 67-66-3 | 2.00 | < 2.00 | |
| Chloromethane | 74-87-3 | 3.00 | < 3.00 | |
| Chloroprene | 126-99-8 | 2.00 | < 2.00 | |
| cis-1,2-Dichloroethene | 156-59-2 | 2.00 | < 2.00 | |
| cis-1,3-Dichloropropene | 10061-01-5 | 2.00 | < 2.00 | |
| Cyclohexane | 110-82-7 | 2.00 | < 2.00 | |
| Cyclohexanone | 108-94-1 | 50.0 | < 50.0 | |
| Dibromochloromethane | 124-48-1 | 2.00 | < 2.00 | |
| Dibromomethane | 74-95-3 | 2.00 | < 2.00 | |
| Dichlorodifluoromethane | 75-71-8 | 2.00 | < 2.00 | |
| Ethyl acetate | 141-78-6 | 10.0 | < 10.0 | |
| Ethyl ether | 60-29-7 | 10.0 | < 10.0 | |
| Ethyl methacrylate | 97-63-2 | 2.00 | < 2.00 | |
| Ethylbenzene | 100-41-4 | 2.00 | < 2.00 | |
| Hexachlorobutadiene | 87-68-3 | 2.00 | < 2.00 | |
| Iodomethane | 74-88-4 | 5.00 | < 5.00 | |
| Isobutyl alcohol | 78-83-1 | 100 | < 100 | |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-012A
**Client Sample ID:** East of Boom / 4920395

**Analyzed:** 4/5/2013 128h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Isopropyl acetate | 108-21-4 | 10.0 | < 10.0 | |
| Isopropyl alcohol | 67-63-0 | 40.0 | < 40.0 | |
| Isopropylbenzene | 98-82-8 | 2.00 | < 2.00 | |
| m,p-Xylene | 179601-23-1 | 2.00 | < 2.00 | |
| Methacrylonitrile | 126-98-7 | 5.00 | < 5.00 | |
| Methyl Acetate | 79-20-9 | 5.00 | < 5.00 | |
| Methyl methacrylate | 80-62-6 | 5.00 | < 5.00 | |
| Methyl tert-butyl ether | 1634-04-4 | 2.00 | < 2.00 | |
| Methylcyclohexane | 108-87-2 | 2.00 | < 2.00 | |
| Methylene chloride | 75-09-2 | 2.00 | < 2.00 | |
| n-Amyl acetate | 628-63-7 | 10.0 | < 10.0 | |
| n-Butyl alcohol | 71-36-3 | 100 | < 100 | |
| n-Butylbenzene | 104-51-8 | 2.00 | < 2.00 | |
| n-Hexane | 110-54-3 | 2.00 | < 2.00 | |
| n-Octane | 111-65-9 | 2.00 | < 2.00 | |
| n-Propylbenzene | 103-65-1 | 2.00 | < 2.00 | |
| Naphthalene | 91-20-3 | 2.00 | < 2.00 | |
| o-Xylene | 95-47-6 | 2.00 | < 2.00 | |
| Pentachloroethane | 76-01-7 | 5.00 | < 5.00 | |
| Propionitrile | 107-12-0 | 25.0 | < 25.0 | |
| Propyl acetate | 109-60-4 | 10.0 | < 10.0 | |
| sec-Butylbenzene | 135-98-8 | 2.00 | < 2.00 | |
| Styrene | 100-42-5 | 2.00 | < 2.00 | |
| tert-Butyl alcohol | 76-65-0 | 20.0 | < 20.0 | |
| tert-Butylbenzene | 98-06-6 | 2.00 | < 2.00 | |
| Tetrachloroethene | 127-18-4 | 2.00 | < 2.00 | |
| Tetrahydrofuran | 109-99-9 | 2.00 | < 2.00 | |
| Toluene | 108-88-3 | 2.00 | < 2.00 | |
| trans-1,2-Dichloroethene | 156-60-5 | 2.00 | < 2.00 | |
| trans-1,3-Dichloropropene | 10061-02-6 | 2.00 | < 2.00 | |
| trans-1,4-Dichloro-2-butene | 110-57-6 | 2.00 | < 2.00 | |
| Trichloroethene | 79-01-6 | 2.00 | < 2.00 | |
| Trichlorofluoromethane | 75-69-4 | 2.00 | < 2.00 | |
| Vinyl acetate | 108-05-4 | 10.0 | < 10.0 | |
| Vinyl chloride | 75-01-4 | 1.00 | < 1.00 | |
| Xylenes, Total | 1330-20-7 | 2.00 | **2.90** | |



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**Lab Sample ID:** 1304147-012A
**Client Sample ID:** East of Boom / 4920395

**Analyzed:** 4/5/2013 128h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|

| Surrogate | CAS | Result | Amount Spiked | % REC | Limits | Qual |
|---|---|---|---|---|---|---|
| Surr: 1,2-Dichloroethane-d4 | 17060-07-0 | 56.9 | 50.00 | 114 | 72-151 | |
| Surr: 4-Bromofluorobenzene | 460-00-4 | 50.5 | 50.00 | 101 | 80-128 | |
| Surr: Dibromofluoromethane | 1868-53-7 | 50.0 | 50.00 | 100 | 80-124 | |
| Surr: Toluene-d8 | 2037-26-5 | 49.1 | 50.00 | 98.2 | 77-129 | |

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer



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# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-013A
**Client Sample ID:** Between Weirs / 4920394
**Collection Date:** 4/4/2013 1115h
**Received Date:** 4/4/2013 1300h

**Analytical Results** VOAs Full List by GC/MS Method 8260C/5030C

**Analyzed:** 4/5/2013 147h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C


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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer


| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | 630-20-6 | 2.00 | < 2.00 | |
| 1,1,1-Trichloroethane | 71-55-6 | 2.00 | < 2.00 | |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 2.00 | < 2.00 | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 2.00 | < 2.00 | |
| 1,1,2-Trichloroethane | 79-00-5 | 2.00 | < 2.00 | |
| 1,1-Dichloropropene | 563-58-6 | 2.00 | < 2.00 | |
| 1,1-Dichloroethane | 75-34-3 | 2.00 | < 2.00 | |
| 1,1-Dichloroethene | 75-35-4 | 2.00 | < 2.00 | |
| 1,2,3-Trichlorobenzene | 87-61-6 | 2.00 | < 2.00 | |
| 1,2,3-Trichloropropane | 96-18-4 | 2.00 | < 2.00 | |
| 1,2,3-Trimethylbenzene | 526-73-8 | 2.00 | < 2.00 | |
| 1,2,4-Trichlorobenzene | 120-82-1 | 2.00 | < 2.00 | |
| 1,2,4-Trimethylbenzene | 95-63-6 | 2.00 | **2.12** | |
| 1,2-Dibromo-3-chloropropane | 96-12-8 | 5.00 | < 5.00 | |
| 1,2-Dibromoethane | 106-93-4 | 2.00 | < 2.00 | |
| 1,2-Dichlorobenzene | 95-50-1 | 2.00 | < 2.00 | |
| 1,2-Dichloroethane | 107-06-2 | 2.00 | < 2.00 | |
| 1,2-Dichloropropane | 78-87-5 | 2.00 | < 2.00 | |
| 1,3,5-Trimethylbenzene | 108-67-8 | 2.00 | < 2.00 | |
| 1,3-Dichlorobenzene | 541-73-1 | 2.00 | < 2.00 | |
| 1,3-Dichloropropane | 142-28-9 | 2.00 | < 2.00 | |
| 1,4-Dichlorobenzene | 106-46-7 | 2.00 | < 2.00 | |
| 1,4-Dioxane | 123-91-1 | 50.0 | < 50.0 | |
| 2,2-Dichloropropane | 594-20-7 | 2.00 | < 2.00 | |
| 2-Butanone | 78-93-3 | 10.0 | < 10.0 | |
| 2-Chloroethyl vinyl ether | 110-75-8 | 5.00 | < 5.00 | |
| 2-Chlorotoluene | 95-49-8 | 2.00 | < 2.00 | |
| 2-Hexanone | 591-78-6 | 5.00 | < 5.00 | |
| 2-Nitropropane | 79-46-9 | 5.00 | < 5.00 | |
| 4-Chlorotoluene | 106-43-4 | 2.00 | < 2.00 | |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-013A
**Client Sample ID:** Between Weirs / 4920394

**Analyzed:** 4/5/2013 147h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 4-Isopropyltoluene | 99-87-6 | 2.00 | < 2.00 | |
| 4-Methyl-2-pentanone | 108-10-1 | 5.00 | < 5.00 | |
| Acetone | 67-64-1 | 10.0 | < 10.0 | |
| Acetonitrile | 75-05-8 | 5.00 | < 5.00 | |
| Acrolein | 107-02-8 | 5.00 | < 5.00 | |
| Acrylonitrile | 107-13-1 | 10.0 | < 10.0 | |
| Allyl chloride | 107-05-1 | 5.00 | < 5.00 | |
| Benzene | 71-43-2 | 2.00 | < 2.00 | |
| Benzyl chloride | 100-44-7 | 5.00 | < 5.00 | |
| Bis(2-chloroisopropyl) ether | 108-60-1 | 5.00 | < 5.00 | |
| Bromobenzene | 108-86-1 | 2.00 | < 2.00 | |
| Bromochloromethane | 74-97-5 | 2.00 | < 2.00 | |
| Bromodichloromethane | 75-27-4 | 2.00 | < 2.00 | |
| Bromoform | 75-25-2 | 2.00 | < 2.00 | |
| Bromomethane | 74-83-9 | 5.00 | < 5.00 | |
| Butyl acetate | 123-86-4 | 10.0 | < 10.0 | |
| Carbon disulfide | 75-15-0 | 2.00 | < 2.00 | |
| Carbon tetrachloride | 56-23-5 | 2.00 | < 2.00 | |
| Chlorobenzene | 108-90-7 | 2.00 | < 2.00 | |
| Chloroethane | 75-00-3 | 2.00 | < 2.00 | |
| Chloroform | 67-66-3 | 2.00 | < 2.00 | |
| Chloromethane | 74-87-3 | 3.00 | < 3.00 | |
| Chloroprene | 126-99-8 | 2.00 | < 2.00 | |
| cis-1,2-Dichloroethene | 156-59-2 | 2.00 | < 2.00 | |
| cis-1,3-Dichloropropene | 10061-01-5 | 2.00 | < 2.00 | |
| Cyclohexane | 110-82-7 | 2.00 | < 2.00 | |
| Cyclohexanone | 108-94-1 | 50.0 | < 50.0 | |
| Dibromochloromethane | 124-48-1 | 2.00 | < 2.00 | |
| Dibromomethane | 74-95-3 | 2.00 | < 2.00 | |
| Dichlorodifluoromethane | 75-71-8 | 2.00 | < 2.00 | |
| Ethyl acetate | 141-78-6 | 10.0 | < 10.0 | |
| Ethyl ether | 60-29-7 | 10.0 | < 10.0 | |
| Ethyl methacrylate | 97-63-2 | 2.00 | < 2.00 | |
| Ethylbenzene | 100-41-4 | 2.00 | < 2.00 | |
| Hexachlorobutadiene | 87-68-3 | 2.00 | < 2.00 | |
| Iodomethane | 74-88-4 | 5.00 | < 5.00 | |
| Isobutyl alcohol | 78-83-1 | 100 | < 100 | |



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Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-013A
**Client Sample ID:** Between Weirs / 4920394

**Analyzed:** 4/5/2013 147h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Isopropyl acetate | 108-21-4 | 10.0 | < 10.0 | |
| Isopropyl alcohol | 67-63-0 | 40.0 | < 40.0 | |
| Isopropylbenzene | 98-82-8 | 2.00 | < 2.00 | |
| m,p-Xylene | 179601-23-1 | 2.00 | < 2.00 | |
| Methacrylonitrile | 126-98-7 | 5.00 | < 5.00 | |
| Methyl Acetate | 79-20-9 | 5.00 | < 5.00 | |
| Methyl methacrylate | 80-62-6 | 5.00 | < 5.00 | |
| Methyl tert-butyl ether | 1634-04-4 | 2.00 | < 2.00 | |
| Methylcyclohexane | 108-87-2 | 2.00 | < 2.00 | |
| Methylene chloride | 75-09-2 | 2.00 | < 2.00 | |
| n-Amyl acetate | 628-63-7 | 10.0 | < 10.0 | |
| n-Butyl alcohol | 71-36-3 | 100 | < 100 | |
| n-Butylbenzene | 104-51-8 | 2.00 | < 2.00 | |
| n-Hexane | 110-54-3 | 2.00 | < 2.00 | |
| n-Octane | 111-65-9 | 2.00 | < 2.00 | |
| n-Propylbenzene | 103-65-1 | 2.00 | < 2.00 | |
| Naphthalene | 91-20-3 | 2.00 | < 2.00 | |
| o-Xylene | 95-47-6 | 2.00 | < 2.00 | |
| Pentachloroethane | 76-01-7 | 5.00 | < 5.00 | |
| Propionitrile | 107-12-0 | 25.0 | < 25.0 | |
| Propyl acetate | 109-60-4 | 10.0 | < 10.0 | |
| sec-Butylbenzene | 135-98-8 | 2.00 | < 2.00 | |
| Styrene | 100-42-5 | 2.00 | < 2.00 | |
| tert-Butyl alcohol | 76-65-0 | 20.0 | < 20.0 | |
| tert-Butylbenzene | 98-06-6 | 2.00 | < 2.00 | |
| Tetrachloroethene | 127-18-4 | 2.00 | < 2.00 | |
| Tetrahydrofuran | 109-99-9 | 2.00 | < 2.00 | |
| Toluene | 108-88-3 | 2.00 | < 2.00 | |
| trans-1,2-Dichloroethene | 156-60-5 | 2.00 | < 2.00 | |
| trans-1,3-Dichloropropene | 10061-02-6 | 2.00 | < 2.00 | |
| trans-1,4-Dichloro-2-butene | 110-57-6 | 2.00 | < 2.00 | |
| Trichloroethene | 79-01-6 | 2.00 | < 2.00 | |
| Trichlorofluoromethane | 75-69-4 | 2.00 | < 2.00 | |
| Vinyl acetate | 108-05-4 | 10.0 | < 10.0 | |
| Vinyl chloride | 75-01-4 | 1.00 | < 1.00 | |
| Xylenes, Total | 1330-20-7 | 2.00 | < 2.00 | |



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**Lab Sample ID:** 1304147-013A
**Client Sample ID:** Between Weirs / 4920394

**Analyzed:** 4/5/2013 147h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|

| Surrogate | CAS | Result | Amount Spiked | % REC | Limits | Qual |
|---|---|---|---|---|---|---|
| Surr: 1,2-Dichloroethane-d4 | 17060-07-0 | 55.1 | 50.00 | 110 | 72-151 | |
| Surr: 4-Bromofluorobenzene | 460-00-4 | 50.4 | 50.00 | 101 | 80-128 | |
| Surr: Dibromofluoromethane | 1868-53-7 | 49.1 | 50.00 | 98.3 | 80-124 | |
| Surr: Toluene-d8 | 2037-26-5 | 48.8 | 50.00 | 97.7 | 77-129 | |

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# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-014A
**Client Sample ID:** Between Weirs Dup / 4920394
**Collection Date:** 4/4/2013 1130h
**Received Date:** 4/4/2013 1300h

**Analytical Results** VOAs Full List by GC/MS Method 8260C/5030C

**Analyzed:** 4/5/2013 206h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C


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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer


| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | 630-20-6 | 2.00 | < 2.00 | |
| 1,1,1-Trichloroethane | 71-55-6 | 2.00 | < 2.00 | |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 2.00 | < 2.00 | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 2.00 | < 2.00 | |
| 1,1,2-Trichloroethane | 79-00-5 | 2.00 | < 2.00 | |
| 1,1-Dichloropropene | 563-58-6 | 2.00 | < 2.00 | |
| 1,1-Dichloroethane | 75-34-3 | 2.00 | < 2.00 | |
| 1,1-Dichloroethene | 75-35-4 | 2.00 | < 2.00 | |
| 1,2,3-Trichlorobenzene | 87-61-6 | 2.00 | < 2.00 | |
| 1,2,3-Trichloropropane | 96-18-4 | 2.00 | < 2.00 | |
| 1,2,3-Trimethylbenzene | 526-73-8 | 2.00 | < 2.00 | |
| 1,2,4-Trichlorobenzene | 120-82-1 | 2.00 | < 2.00 | |
| 1,2,4-Trimethylbenzene | 95-63-6 | 2.00 | **2.08** | |
| 1,2-Dibromo-3-chloropropane | 96-12-8 | 5.00 | < 5.00 | |
| 1,2-Dibromoethane | 106-93-4 | 2.00 | < 2.00 | |
| 1,2-Dichlorobenzene | 95-50-1 | 2.00 | < 2.00 | |
| 1,2-Dichloroethane | 107-06-2 | 2.00 | < 2.00 | |
| 1,2-Dichloropropane | 78-87-5 | 2.00 | < 2.00 | |
| 1,3,5-Trimethylbenzene | 108-67-8 | 2.00 | < 2.00 | |
| 1,3-Dichlorobenzene | 541-73-1 | 2.00 | < 2.00 | |
| 1,3-Dichloropropane | 142-28-9 | 2.00 | < 2.00 | |
| 1,4-Dichlorobenzene | 106-46-7 | 2.00 | < 2.00 | |
| 1,4-Dioxane | 123-91-1 | 50.0 | < 50.0 | |
| 2,2-Dichloropropane | 594-20-7 | 2.00 | < 2.00 | |
| 2-Butanone | 78-93-3 | 10.0 | < 10.0 | |
| 2-Chloroethyl vinyl ether | 110-75-8 | 5.00 | < 5.00 | |
| 2-Chlorotoluene | 95-49-8 | 2.00 | < 2.00 | |
| 2-Hexanone | 591-78-6 | 5.00 | < 5.00 | |
| 2-Nitropropane | 79-46-9 | 5.00 | < 5.00 | |
| 4-Chlorotoluene | 106-43-4 | 2.00 | < 2.00 | |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-014A
**Client Sample ID:** Between Weirs Dup / 4920394

**Analyzed:** 4/5/2013 206h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 4-Isopropyltoluene | 99-87-6 | 2.00 | < 2.00 | |
| 4-Methyl-2-pentanone | 108-10-1 | 5.00 | < 5.00 | |
| Acetone | 67-64-1 | 10.0 | < 10.0 | |
| Acetonitrile | 75-05-8 | 5.00 | < 5.00 | |
| Acrolein | 107-02-8 | 5.00 | < 5.00 | |
| Acrylonitrile | 107-13-1 | 10.0 | < 10.0 | |
| Allyl chloride | 107-05-1 | 5.00 | < 5.00 | |
| Benzene | 71-43-2 | 2.00 | < 2.00 | |
| Benzyl chloride | 100-44-7 | 5.00 | < 5.00 | |
| Bis(2-chloroisopropyl) ether | 108-60-1 | 5.00 | < 5.00 | |
| Bromobenzene | 108-86-1 | 2.00 | < 2.00 | |
| Bromochloromethane | 74-97-5 | 2.00 | < 2.00 | |
| Bromodichloromethane | 75-27-4 | 2.00 | < 2.00 | |
| Bromoform | 75-25-2 | 2.00 | < 2.00 | |
| Bromomethane | 74-83-9 | 5.00 | < 5.00 | |
| Butyl acetate | 123-86-4 | 10.0 | < 10.0 | |
| Carbon disulfide | 75-15-0 | 2.00 | < 2.00 | |
| Carbon tetrachloride | 56-23-5 | 2.00 | < 2.00 | |
| Chlorobenzene | 108-90-7 | 2.00 | < 2.00 | |
| Chloroethane | 75-00-3 | 2.00 | < 2.00 | |
| Chloroform | 67-66-3 | 2.00 | < 2.00 | |
| Chloromethane | 74-87-3 | 3.00 | < 3.00 | |
| Chloroprene | 126-99-8 | 2.00 | < 2.00 | |
| cis-1,2-Dichloroethene | 156-59-2 | 2.00 | < 2.00 | |
| cis-1,3-Dichloropropene | 10061-01-5 | 2.00 | < 2.00 | |
| Cyclohexane | 110-82-7 | 2.00 | < 2.00 | |
| Cyclohexanone | 108-94-1 | 50.0 | < 50.0 | |
| Dibromochloromethane | 124-48-1 | 2.00 | < 2.00 | |
| Dibromomethane | 74-95-3 | 2.00 | < 2.00 | |
| Dichlorodifluoromethane | 75-71-8 | 2.00 | < 2.00 | |
| Ethyl acetate | 141-78-6 | 10.0 | < 10.0 | |
| Ethyl ether | 60-29-7 | 10.0 | < 10.0 | |
| Ethyl methacrylate | 97-63-2 | 2.00 | < 2.00 | |
| Ethylbenzene | 100-41-4 | 2.00 | < 2.00 | |
| Hexachlorobutadiene | 87-68-3 | 2.00 | < 2.00 | |
| Iodomethane | 74-88-4 | 5.00 | < 5.00 | |
| Isobutyl alcohol | 78-83-1 | 100 | < 100 | |



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Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-014A
**Client Sample ID:** Between Weirs Dup / 4920394

**Analyzed:** 4/5/2013 206h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Isopropyl acetate | 108-21-4 | 10.0 | < 10.0 | |
| Isopropyl alcohol | 67-63-0 | 40.0 | < 40.0 | |
| Isopropylbenzene | 98-82-8 | 2.00 | < 2.00 | |
| m,p-Xylene | 179601-23-1 | 2.00 | < 2.00 | |
| Methacrylonitrile | 126-98-7 | 5.00 | < 5.00 | |
| Methyl Acetate | 79-20-9 | 5.00 | < 5.00 | |
| Methyl methacrylate | 80-62-6 | 5.00 | < 5.00 | |
| Methyl tert-butyl ether | 1634-04-4 | 2.00 | < 2.00 | |
| Methylcyclohexane | 108-87-2 | 2.00 | < 2.00 | |
| Methylene chloride | 75-09-2 | 2.00 | < 2.00 | |
| n-Amyl acetate | 628-63-7 | 10.0 | < 10.0 | |
| n-Butyl alcohol | 71-36-3 | 100 | < 100 | |
| n-Butylbenzene | 104-51-8 | 2.00 | < 2.00 | |
| n-Hexane | 110-54-3 | 2.00 | < 2.00 | |
| n-Octane | 111-65-9 | 2.00 | < 2.00 | |
| n-Propylbenzene | 103-65-1 | 2.00 | < 2.00 | |
| Naphthalene | 91-20-3 | 2.00 | < 2.00 | |
| o-Xylene | 95-47-6 | 2.00 | < 2.00 | |
| Pentachloroethane | 76-01-7 | 5.00 | < 5.00 | |
| Propionitrile | 107-12-0 | 25.0 | < 25.0 | |
| Propyl acetate | 109-60-4 | 10.0 | < 10.0 | |
| sec-Butylbenzene | 135-98-8 | 2.00 | < 2.00 | |
| Styrene | 100-42-5 | 2.00 | < 2.00 | |
| tert-Butyl alcohol | 76-65-0 | 20.0 | < 20.0 | |
| tert-Butylbenzene | 98-06-6 | 2.00 | < 2.00 | |
| Tetrachloroethene | 127-18-4 | 2.00 | < 2.00 | |
| Tetrahydrofuran | 109-99-9 | 2.00 | < 2.00 | |
| Toluene | 108-88-3 | 2.00 | < 2.00 | |
| trans-1,2-Dichloroethene | 156-60-5 | 2.00 | < 2.00 | |
| trans-1,3-Dichloropropene | 10061-02-6 | 2.00 | < 2.00 | |
| trans-1,4-Dichloro-2-butene | 110-57-6 | 2.00 | < 2.00 | |
| Trichloroethene | 79-01-6 | 2.00 | < 2.00 | |
| Trichlorofluoromethane | 75-69-4 | 2.00 | < 2.00 | |
| Vinyl acetate | 108-05-4 | 10.0 | < 10.0 | |
| Vinyl chloride | 75-01-4 | 1.00 | < 1.00 | |
| Xylenes, Total | 1330-20-7 | 2.00 | < 2.00 | |



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**Lab Sample ID:** 1304147-014A

**Client Sample ID:** Between Weirs Dup / 4920394

**Analyzed:** 4/5/2013 206h

**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|

| Surrogate | CAS | Result | Amount Spiked | % REC | Limits | Qual |
|---|---|---|---|---|---|---|
| Surr: 1,2-Dichloroethane-d4 | 17060-07-0 | 55.2 | 50.00 | 110 | 72-151 | |
| Surr: 4-Bromofluorobenzene | 460-00-4 | 50.1 | 50.00 | 100 | 80-128 | |
| Surr: Dibromofluoromethane | 1868-53-7 | 51.6 | 50.00 | 103 | 80-124 | |
| Surr: Toluene-d8 | 2037-26-5 | 49.1 | 50.00 | 98.3 | 77-129 | |

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# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-015A
**Client Sample ID:** East of #3
**Collection Date:** 4/4/2013 1145h
**Received Date:** 4/4/2013 1300h

**Analytical Results** VOAs Full List by GC/MS Method 8260C/5030C

**Analyzed:** 4/5/2013 225h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C


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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer


| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | 630-20-6 | 2.00 | < 2.00 | |
| 1,1,1-Trichloroethane | 71-55-6 | 2.00 | < 2.00 | |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 2.00 | < 2.00 | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 2.00 | < 2.00 | |
| 1,1,2-Trichloroethane | 79-00-5 | 2.00 | < 2.00 | |
| 1,1-Dichloropropene | 563-58-6 | 2.00 | < 2.00 | |
| 1,1-Dichloroethane | 75-34-3 | 2.00 | < 2.00 | |
| 1,1-Dichloroethene | 75-35-4 | 2.00 | < 2.00 | |
| 1,2,3-Trichlorobenzene | 87-61-6 | 2.00 | < 2.00 | |
| 1,2,3-Trichloropropane | 96-18-4 | 2.00 | < 2.00 | |
| 1,2,3-Trimethylbenzene | 526-73-8 | 2.00 | < 2.00 | |
| 1,2,4-Trichlorobenzene | 120-82-1 | 2.00 | < 2.00 | |
| 1,2,4-Trimethylbenzene | 95-63-6 | 2.00 | < 2.00 | |
| 1,2-Dibromo-3-chloropropane | 96-12-8 | 5.00 | < 5.00 | |
| 1,2-Dibromoethane | 106-93-4 | 2.00 | < 2.00 | |
| 1,2-Dichlorobenzene | 95-50-1 | 2.00 | < 2.00 | |
| 1,2-Dichloroethane | 107-06-2 | 2.00 | < 2.00 | |
| 1,2-Dichloropropane | 78-87-5 | 2.00 | < 2.00 | |
| 1,3,5-Trimethylbenzene | 108-67-8 | 2.00 | < 2.00 | |
| 1,3-Dichlorobenzene | 541-73-1 | 2.00 | < 2.00 | |
| 1,3-Dichloropropane | 142-28-9 | 2.00 | < 2.00 | |
| 1,4-Dichlorobenzene | 106-46-7 | 2.00 | < 2.00 | |
| 1,4-Dioxane | 123-91-1 | 50.0 | < 50.0 | |
| 2,2-Dichloropropane | 594-20-7 | 2.00 | < 2.00 | |
| 2-Butanone | 78-93-3 | 10.0 | < 10.0 | |
| 2-Chloroethyl vinyl ether | 110-75-8 | 5.00 | < 5.00 | |
| 2-Chlorotoluene | 95-49-8 | 2.00 | < 2.00 | |
| 2-Hexanone | 591-78-6 | 5.00 | < 5.00 | |
| 2-Nitropropane | 79-46-9 | 5.00 | < 5.00 | |
| 4-Chlorotoluene | 106-43-4 | 2.00 | < 2.00 | |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-015A
**Client Sample ID:** East of #3

**Analyzed:** 4/5/2013 225h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 4-Isopropyltoluene | 99-87-6 | 2.00 | < 2.00 | |
| 4-Methyl-2-pentanone | 108-10-1 | 5.00 | < 5.00 | |
| Acetone | 67-64-1 | 10.0 | < 10.0 | |
| Acetonitrile | 75-05-8 | 5.00 | < 5.00 | |
| Acrolein | 107-02-8 | 5.00 | < 5.00 | |
| Acrylonitrile | 107-13-1 | 10.0 | < 10.0 | |
| Allyl chloride | 107-05-1 | 5.00 | < 5.00 | |
| Benzene | 71-43-2 | 2.00 | < 2.00 | |
| Benzyl chloride | 100-44-7 | 5.00 | < 5.00 | |
| Bis(2-chloroisopropyl) ether | 108-60-1 | 5.00 | < 5.00 | |
| Bromobenzene | 108-86-1 | 2.00 | < 2.00 | |
| Bromochloromethane | 74-97-5 | 2.00 | < 2.00 | |
| Bromodichloromethane | 75-27-4 | 2.00 | < 2.00 | |
| Bromoform | 75-25-2 | 2.00 | < 2.00 | |
| Bromomethane | 74-83-9 | 5.00 | < 5.00 | |
| Butyl acetate | 123-86-4 | 10.0 | < 10.0 | |
| Carbon disulfide | 75-15-0 | 2.00 | < 2.00 | |
| Carbon tetrachloride | 56-23-5 | 2.00 | < 2.00 | |
| Chlorobenzene | 108-90-7 | 2.00 | < 2.00 | |
| Chloroethane | 75-00-3 | 2.00 | < 2.00 | |
| Chloroform | 67-66-3 | 2.00 | < 2.00 | |
| Chloromethane | 74-87-3 | 3.00 | < 3.00 | |
| Chloroprene | 126-99-8 | 2.00 | < 2.00 | |
| cis-1,2-Dichloroethene | 156-59-2 | 2.00 | < 2.00 | |
| cis-1,3-Dichloropropene | 10061-01-5 | 2.00 | < 2.00 | |
| Cyclohexane | 110-82-7 | 2.00 | < 2.00 | |
| Cyclohexanone | 108-94-1 | 50.0 | < 50.0 | |
| Dibromochloromethane | 124-48-1 | 2.00 | < 2.00 | |
| Dibromomethane | 74-95-3 | 2.00 | < 2.00 | |
| Dichlorodifluoromethane | 75-71-8 | 2.00 | < 2.00 | |
| Ethyl acetate | 141-78-6 | 10.0 | < 10.0 | |
| Ethyl ether | 60-29-7 | 10.0 | < 10.0 | |
| Ethyl methacrylate | 97-63-2 | 2.00 | < 2.00 | |
| Ethylbenzene | 100-41-4 | 2.00 | < 2.00 | |
| Hexachlorobutadiene | 87-68-3 | 2.00 | < 2.00 | |
| Iodomethane | 74-88-4 | 5.00 | < 5.00 | |
| Isobutyl alcohol | 78-83-1 | 100 | < 100 | |



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Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-015A
**Client Sample ID:** East of #3

**Analyzed:** 4/5/2013 225h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Isopropyl acetate | 108-21-4 | 10.0 | < 10.0 | |
| Isopropyl alcohol | 67-63-0 | 40.0 | < 40.0 | |
| Isopropylbenzene | 98-82-8 | 2.00 | < 2.00 | |
| m,p-Xylene | 179601-23-1 | 2.00 | < 2.00 | |
| Methacrylonitrile | 126-98-7 | 5.00 | < 5.00 | |
| Methyl Acetate | 79-20-9 | 5.00 | < 5.00 | |
| Methyl methacrylate | 80-62-6 | 5.00 | < 5.00 | |
| Methyl tert-butyl ether | 1634-04-4 | 2.00 | < 2.00 | |
| Methylcyclohexane | 108-87-2 | 2.00 | < 2.00 | |
| Methylene chloride | 75-09-2 | 2.00 | < 2.00 | |
| n-Amyl acetate | 628-63-7 | 10.0 | < 10.0 | |
| n-Butyl alcohol | 71-36-3 | 100 | < 100 | |
| n-Butylbenzene | 104-51-8 | 2.00 | < 2.00 | |
| n-Hexane | 110-54-3 | 2.00 | < 2.00 | |
| n-Octane | 111-65-9 | 2.00 | < 2.00 | |
| n-Propylbenzene | 103-65-1 | 2.00 | < 2.00 | |
| Naphthalene | 91-20-3 | 2.00 | < 2.00 | |
| o-Xylene | 95-47-6 | 2.00 | < 2.00 | |
| Pentachloroethane | 76-01-7 | 5.00 | < 5.00 | |
| Propionitrile | 107-12-0 | 25.0 | < 25.0 | |
| Propyl acetate | 109-60-4 | 10.0 | < 10.0 | |
| sec-Butylbenzene | 135-98-8 | 2.00 | < 2.00 | |
| Styrene | 100-42-5 | 2.00 | < 2.00 | |
| tert-Butyl alcohol | 76-65-0 | 20.0 | < 20.0 | |
| tert-Butylbenzene | 98-06-6 | 2.00 | < 2.00 | |
| Tetrachloroethene | 127-18-4 | 2.00 | < 2.00 | |
| Tetrahydrofuran | 109-99-9 | 2.00 | < 2.00 | |
| Toluene | 108-88-3 | 2.00 | < 2.00 | |
| trans-1,2-Dichloroethene | 156-60-5 | 2.00 | < 2.00 | |
| trans-1,3-Dichloropropene | 10061-02-6 | 2.00 | < 2.00 | |
| trans-1,4-Dichloro-2-butene | 110-57-6 | 2.00 | < 2.00 | |
| Trichloroethene | 79-01-6 | 2.00 | < 2.00 | |
| Trichlorofluoromethane | 75-69-4 | 2.00 | < 2.00 | |
| Vinyl acetate | 108-05-4 | 10.0 | < 10.0 | |
| Vinyl chloride | 75-01-4 | 1.00 | < 1.00 | |
| Xylenes, Total | 1330-20-7 | 2.00 | < 2.00 | |



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**Lab Sample ID:** 1304147-015A
**Client Sample ID:** East of #3

**Analyzed:** 4/5/2013 225h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|

| Surrogate | CAS | Result | Amount Spiked | % REC | Limits | Qual |
|---|---|---|---|---|---|---|
| Surr: 1,2-Dichloroethane-d4 | 17060-07-0 | 54.5 | 50.00 | 109 | 72-151 | |
| Surr: 4-Bromofluorobenzene | 460-00-4 | 51.4 | 50.00 | 103 | 80-128 | |
| Surr: Dibromofluoromethane | 1868-53-7 | 48.9 | 50.00 | 97.7 | 80-124 | |
| Surr: Toluene-d8 | 2037-26-5 | 49.5 | 50.00 | 98.9 | 77-129 | |

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer



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# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-016A
**Client Sample ID:** Field Blank
**Collection Date:** 4/4/2013 1200h
**Received Date:** 4/4/2013 1300h

**Analytical Results** VOAs Full List by GC/MS Method 8260C/5030C

**Analyzed:** 4/4/2013 1927h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C


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Jose Rocha
QA Officer


| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | 630-20-6 | 2.00 | < 2.00 | |
| 1,1,1-Trichloroethane | 71-55-6 | 2.00 | < 2.00 | |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 2.00 | < 2.00 | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 2.00 | < 2.00 | |
| 1,1,2-Trichloroethane | 79-00-5 | 2.00 | < 2.00 | |
| 1,1-Dichloropropene | 563-58-6 | 2.00 | < 2.00 | |
| 1,1-Dichloroethane | 75-34-3 | 2.00 | < 2.00 | |
| 1,1-Dichloroethene | 75-35-4 | 2.00 | < 2.00 | |
| 1,2,3-Trichlorobenzene | 87-61-6 | 2.00 | < 2.00 | |
| 1,2,3-Trichloropropane | 96-18-4 | 2.00 | < 2.00 | |
| 1,2,3-Trimethylbenzene | 526-73-8 | 2.00 | < 2.00 | |
| 1,2,4-Trichlorobenzene | 120-82-1 | 2.00 | < 2.00 | |
| 1,2,4-Trimethylbenzene | 95-63-6 | 2.00 | < 2.00 | |
| 1,2-Dibromo-3-chloropropane | 96-12-8 | 5.00 | < 5.00 | |
| 1,2-Dibromoethane | 106-93-4 | 2.00 | < 2.00 | |
| 1,2-Dichlorobenzene | 95-50-1 | 2.00 | < 2.00 | |
| 1,2-Dichloroethane | 107-06-2 | 2.00 | < 2.00 | |
| 1,2-Dichloropropane | 78-87-5 | 2.00 | < 2.00 | |
| 1,3,5-Trimethylbenzene | 108-67-8 | 2.00 | < 2.00 | |
| 1,3-Dichlorobenzene | 541-73-1 | 2.00 | < 2.00 | |
| 1,3-Dichloropropane | 142-28-9 | 2.00 | < 2.00 | |
| 1,4-Dichlorobenzene | 106-46-7 | 2.00 | < 2.00 | |
| 1,4-Dioxane | 123-91-1 | 50.0 | < 50.0 | |
| 2,2-Dichloropropane | 594-20-7 | 2.00 | < 2.00 | |
| 2-Butanone | 78-93-3 | 10.0 | < 10.0 | |
| 2-Chloroethyl vinyl ether | 110-75-8 | 5.00 | < 5.00 | |
| 2-Chlorotoluene | 95-49-8 | 2.00 | < 2.00 | |
| 2-Hexanone | 591-78-6 | 5.00 | < 5.00 | |
| 2-Nitropropane | 79-46-9 | 5.00 | < 5.00 | |
| 4-Chlorotoluene | 106-43-4 | 2.00 | < 2.00 | |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-016A
**Client Sample ID:** Field Blank

**Analyzed:** 4/4/2013 1927h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 4-Isopropyltoluene | 99-87-6 | 2.00 | < 2.00 | |
| 4-Methyl-2-pentanone | 108-10-1 | 5.00 | < 5.00 | |
| Acetone | 67-64-1 | 10.0 | < 10.0 | |
| Acetonitrile | 75-05-8 | 5.00 | < 5.00 | |
| Acrolein | 107-02-8 | 5.00 | < 5.00 | |
| Acrylonitrile | 107-13-1 | 10.0 | < 10.0 | |
| Allyl chloride | 107-05-1 | 5.00 | < 5.00 | |
| Benzene | 71-43-2 | 2.00 | < 2.00 | |
| Benzyl chloride | 100-44-7 | 5.00 | < 5.00 | |
| Bis(2-chloroisopropyl) ether | 108-60-1 | 5.00 | < 5.00 | |
| Bromobenzene | 108-86-1 | 2.00 | < 2.00 | |
| Bromochloromethane | 74-97-5 | 2.00 | < 2.00 | |
| Bromodichloromethane | 75-27-4 | 2.00 | < 2.00 | |
| Bromoform | 75-25-2 | 2.00 | < 2.00 | |
| Bromomethane | 74-83-9 | 5.00 | < 5.00 | |
| Butyl acetate | 123-86-4 | 10.0 | < 10.0 | |
| Carbon disulfide | 75-15-0 | 2.00 | < 2.00 | |
| Carbon tetrachloride | 56-23-5 | 2.00 | < 2.00 | |
| Chlorobenzene | 108-90-7 | 2.00 | < 2.00 | |
| Chloroethane | 75-00-3 | 2.00 | < 2.00 | |
| Chloroform | 67-66-3 | 2.00 | < 2.00 | |
| Chloromethane | 74-87-3 | 3.00 | < 3.00 | |
| Chloroprene | 126-99-8 | 2.00 | < 2.00 | |
| cis-1,2-Dichloroethene | 156-59-2 | 2.00 | < 2.00 | |
| cis-1,3-Dichloropropene | 10061-01-5 | 2.00 | < 2.00 | |
| Cyclohexane | 110-82-7 | 2.00 | < 2.00 | |
| Cyclohexanone | 108-94-1 | 50.0 | < 50.0 | |
| Dibromochloromethane | 124-48-1 | 2.00 | < 2.00 | |
| Dibromomethane | 74-95-3 | 2.00 | < 2.00 | |
| Dichlorodifluoromethane | 75-71-8 | 2.00 | < 2.00 | |
| Ethyl acetate | 141-78-6 | 10.0 | < 10.0 | |
| Ethyl ether | 60-29-7 | 10.0 | < 10.0 | |
| Ethyl methacrylate | 97-63-2 | 2.00 | < 2.00 | |
| Ethylbenzene | 100-41-4 | 2.00 | < 2.00 | |
| Hexachlorobutadiene | 87-68-3 | 2.00 | < 2.00 | |
| Iodomethane | 74-88-4 | 5.00 | < 5.00 | |
| Isobutyl alcohol | 78-83-1 | 100 | < 100 | |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-016A
**Client Sample ID:** Field Blank

**Analyzed:** 4/4/2013 1927h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Isopropyl acetate | 108-21-4 | 10.0 | < 10.0 | |
| Isopropyl alcohol | 67-63-0 | 40.0 | < 40.0 | |
| Isopropylbenzene | 98-82-8 | 2.00 | < 2.00 | |
| m,p-Xylene | 179601-23-1 | 2.00 | < 2.00 | |
| Methacrylonitrile | 126-98-7 | 5.00 | < 5.00 | |
| Methyl Acetate | 79-20-9 | 5.00 | < 5.00 | |
| Methyl methacrylate | 80-62-6 | 5.00 | < 5.00 | |
| Methyl tert-butyl ether | 1634-04-4 | 2.00 | < 2.00 | |
| Methylcyclohexane | 108-87-2 | 2.00 | < 2.00 | |
| Methylene chloride | 75-09-2 | 2.00 | < 2.00 | |
| n-Amyl acetate | 628-63-7 | 10.0 | < 10.0 | |
| n-Butyl alcohol | 71-36-3 | 100 | < 100 | |
| n-Butylbenzene | 104-51-8 | 2.00 | < 2.00 | |
| n-Hexane | 110-54-3 | 2.00 | < 2.00 | |
| n-Octane | 111-65-9 | 2.00 | < 2.00 | |
| n-Propylbenzene | 103-65-1 | 2.00 | < 2.00 | |
| Naphthalene | 91-20-3 | 2.00 | < 2.00 | |
| o-Xylene | 95-47-6 | 2.00 | < 2.00 | |
| Pentachloroethane | 76-01-7 | 5.00 | < 5.00 | |
| Propionitrile | 107-12-0 | 25.0 | < 25.0 | |
| Propyl acetate | 109-60-4 | 10.0 | < 10.0 | |
| sec-Butylbenzene | 135-98-8 | 2.00 | < 2.00 | |
| Styrene | 100-42-5 | 2.00 | < 2.00 | |
| tert-Butyl alcohol | 76-65-0 | 20.0 | < 20.0 | |
| tert-Butylbenzene | 98-06-6 | 2.00 | < 2.00 | |
| Tetrachloroethene | 127-18-4 | 2.00 | < 2.00 | |
| Tetrahydrofuran | 109-99-9 | 2.00 | < 2.00 | |
| Toluene | 108-88-3 | 2.00 | < 2.00 | |
| trans-1,2-Dichloroethene | 156-60-5 | 2.00 | < 2.00 | |
| trans-1,3-Dichloropropene | 10061-02-6 | 2.00 | < 2.00 | |
| trans-1,4-Dichloro-2-butene | 110-57-6 | 2.00 | < 2.00 | |
| Trichloroethene | 79-01-6 | 2.00 | < 2.00 | |
| Trichlorofluoromethane | 75-69-4 | 2.00 | < 2.00 | |
| Vinyl acetate | 108-05-4 | 10.0 | < 10.0 | |
| Vinyl chloride | 75-01-4 | 1.00 | < 1.00 | |
| Xylenes, Total | 1330-20-7 | 2.00 | < 2.00 | |



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**Lab Sample ID:** 1304147-016A
**Client Sample ID:** Field Blank

**Analyzed:** 4/4/2013 1927h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|

| Surrogate | CAS | Result | Amount Spiked | % REC | Limits | Qual |
|---|---|---|---|---|---|---|
| Surr: 1,2-Dichloroethane-d4 | 17060-07-0 | 56.0 | 50.00 | 112 | 72-151 | |
| Surr: 4-Bromofluorobenzene | 460-00-4 | 50.6 | 50.00 | 101 | 80-128 | |
| Surr: Dibromofluoromethane | 1868-53-7 | 50.3 | 50.00 | 101 | 80-124 | |
| Surr: Toluene-d8 | 2037-26-5 | 48.7 | 50.00 | 97.4 | 77-129 | |


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# ORGANIC ANALYTICAL REPORT

**Client:** Utah Division of Water Quality **Contact:** Chris Bittner
**Project:** MP 44.9
**Lab Sample ID:** 1304147-017A
**Client Sample ID:** Trip Blank
**Collection Date:** 4/4/2013
**Received Date:** 4/4/2013 1300h

**Analytical Results** VOAs Full List by GC/MS Method 8260C/5030C

**Analyzed:** 4/4/2013 1946h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C


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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer


| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | 630-20-6 | 2.00 | < 2.00 | |
| 1,1,1-Trichloroethane | 71-55-6 | 2.00 | < 2.00 | |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 2.00 | < 2.00 | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 2.00 | < 2.00 | |
| 1,1,2-Trichloroethane | 79-00-5 | 2.00 | < 2.00 | |
| 1,1-Dichloropropene | 563-58-6 | 2.00 | < 2.00 | |
| 1,1-Dichloroethane | 75-34-3 | 2.00 | < 2.00 | |
| 1,1-Dichloroethene | 75-35-4 | 2.00 | < 2.00 | |
| 1,2,3-Trichlorobenzene | 87-61-6 | 2.00 | < 2.00 | |
| 1,2,3-Trichloropropane | 96-18-4 | 2.00 | < 2.00 | |
| 1,2,3-Trimethylbenzene | 526-73-8 | 2.00 | < 2.00 | |
| 1,2,4-Trichlorobenzene | 120-82-1 | 2.00 | < 2.00 | |
| 1,2,4-Trimethylbenzene | 95-63-6 | 2.00 | < 2.00 | |
| 1,2-Dibromo-3-chloropropane | 96-12-8 | 5.00 | < 5.00 | |
| 1,2-Dibromoethane | 106-93-4 | 2.00 | < 2.00 | |
| 1,2-Dichlorobenzene | 95-50-1 | 2.00 | < 2.00 | |
| 1,2-Dichloroethane | 107-06-2 | 2.00 | < 2.00 | |
| 1,2-Dichloropropane | 78-87-5 | 2.00 | < 2.00 | |
| 1,3,5-Trimethylbenzene | 108-67-8 | 2.00 | < 2.00 | |
| 1,3-Dichlorobenzene | 541-73-1 | 2.00 | < 2.00 | |
| 1,3-Dichloropropane | 142-28-9 | 2.00 | < 2.00 | |
| 1,4-Dichlorobenzene | 106-46-7 | 2.00 | < 2.00 | |
| 1,4-Dioxane | 123-91-1 | 50.0 | < 50.0 | |
| 2,2-Dichloropropane | 594-20-7 | 2.00 | < 2.00 | |
| 2-Butanone | 78-93-3 | 10.0 | < 10.0 | |
| 2-Chloroethyl vinyl ether | 110-75-8 | 5.00 | < 5.00 | |
| 2-Chlorotoluene | 95-49-8 | 2.00 | < 2.00 | |
| 2-Hexanone | 591-78-6 | 5.00 | < 5.00 | |
| 2-Nitropropane | 79-46-9 | 5.00 | < 5.00 | |
| 4-Chlorotoluene | 106-43-4 | 2.00 | < 2.00 | |



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Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-017A
**Client Sample ID:** Trip Blank

**Analyzed:** 4/4/2013 1946h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| 4-Isopropyltoluene | 99-87-6 | 2.00 | < 2.00 | |
| 4-Methyl-2-pentanone | 108-10-1 | 5.00 | < 5.00 | |
| Acetone | 67-64-1 | 10.0 | < 10.0 | |
| Acetonitrile | 75-05-8 | 5.00 | < 5.00 | |
| Acrolein | 107-02-8 | 5.00 | < 5.00 | |
| Acrylonitrile | 107-13-1 | 10.0 | < 10.0 | |
| Allyl chloride | 107-05-1 | 5.00 | < 5.00 | |
| Benzene | 71-43-2 | 2.00 | < 2.00 | |
| Benzyl chloride | 100-44-7 | 5.00 | < 5.00 | |
| Bis(2-chloroisopropyl) ether | 108-60-1 | 5.00 | < 5.00 | |
| Bromobenzene | 108-86-1 | 2.00 | < 2.00 | |
| Bromochloromethane | 74-97-5 | 2.00 | < 2.00 | |
| Bromodichloromethane | 75-27-4 | 2.00 | < 2.00 | |
| Bromoform | 75-25-2 | 2.00 | < 2.00 | |
| Bromomethane | 74-83-9 | 5.00 | < 5.00 | |
| Butyl acetate | 123-86-4 | 10.0 | < 10.0 | |
| Carbon disulfide | 75-15-0 | 2.00 | < 2.00 | |
| Carbon tetrachloride | 56-23-5 | 2.00 | < 2.00 | |
| Chlorobenzene | 108-90-7 | 2.00 | < 2.00 | |
| Chloroethane | 75-00-3 | 2.00 | < 2.00 | |
| Chloroform | 67-66-3 | 2.00 | < 2.00 | |
| Chloromethane | 74-87-3 | 3.00 | < 3.00 | |
| Chloroprene | 126-99-8 | 2.00 | < 2.00 | |
| cis-1,2-Dichloroethene | 156-59-2 | 2.00 | < 2.00 | |
| cis-1,3-Dichloropropene | 10061-01-5 | 2.00 | < 2.00 | |
| Cyclohexane | 110-82-7 | 2.00 | < 2.00 | |
| Cyclohexanone | 108-94-1 | 50.0 | < 50.0 | |
| Dibromochloromethane | 124-48-1 | 2.00 | < 2.00 | |
| Dibromomethane | 74-95-3 | 2.00 | < 2.00 | |
| Dichlorodifluoromethane | 75-71-8 | 2.00 | < 2.00 | |
| Ethyl acetate | 141-78-6 | 10.0 | < 10.0 | |
| Ethyl ether | 60-29-7 | 10.0 | < 10.0 | |
| Ethyl methacrylate | 97-63-2 | 2.00 | < 2.00 | |
| Ethylbenzene | 100-41-4 | 2.00 | < 2.00 | |
| Hexachlorobutadiene | 87-68-3 | 2.00 | < 2.00 | |
| Iodomethane | 74-88-4 | 5.00 | < 5.00 | |
| Isobutyl alcohol | 78-83-1 | 100 | < 100 | |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

**Lab Sample ID:** 1304147-017A
**Client Sample ID:** Trip Blank

**Analyzed:** 4/4/2013 1946h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|
| Isopropyl acetate | 108-21-4 | 10.0 | < 10.0 | |
| Isopropyl alcohol | 67-63-0 | 40.0 | < 40.0 | |
| Isopropylbenzene | 98-82-8 | 2.00 | < 2.00 | |
| m,p-Xylene | 179601-23-1 | 2.00 | < 2.00 | |
| Methacrylonitrile | 126-98-7 | 5.00 | < 5.00 | |
| Methyl Acetate | 79-20-9 | 5.00 | < 5.00 | |
| Methyl methacrylate | 80-62-6 | 5.00 | < 5.00 | |
| Methyl tert-butyl ether | 1634-04-4 | 2.00 | < 2.00 | |
| Methylcyclohexane | 108-87-2 | 2.00 | < 2.00 | |
| Methylene chloride | 75-09-2 | 2.00 | < 2.00 | |
| n-Amyl acetate | 628-63-7 | 10.0 | < 10.0 | |
| n-Butyl alcohol | 71-36-3 | 100 | < 100 | |
| n-Butylbenzene | 104-51-8 | 2.00 | < 2.00 | |
| n-Hexane | 110-54-3 | 2.00 | < 2.00 | |
| n-Octane | 111-65-9 | 2.00 | < 2.00 | |
| n-Propylbenzene | 103-65-1 | 2.00 | < 2.00 | |
| Naphthalene | 91-20-3 | 2.00 | < 2.00 | |
| o-Xylene | 95-47-6 | 2.00 | < 2.00 | |
| Pentachloroethane | 76-01-7 | 5.00 | < 5.00 | |
| Propionitrile | 107-12-0 | 25.0 | < 25.0 | |
| Propyl acetate | 109-60-4 | 10.0 | < 10.0 | |
| sec-Butylbenzene | 135-98-8 | 2.00 | < 2.00 | |
| Styrene | 100-42-5 | 2.00 | < 2.00 | |
| tert-Butyl alcohol | 76-65-0 | 20.0 | < 20.0 | |
| tert-Butylbenzene | 98-06-6 | 2.00 | < 2.00 | |
| Tetrachloroethene | 127-18-4 | 2.00 | < 2.00 | |
| Tetrahydrofuran | 109-99-9 | 2.00 | < 2.00 | |
| Toluene | 108-88-3 | 2.00 | < 2.00 | |
| trans-1,2-Dichloroethene | 156-60-5 | 2.00 | < 2.00 | |
| trans-1,3-Dichloropropene | 10061-02-6 | 2.00 | < 2.00 | |
| trans-1,4-Dichloro-2-butene | 110-57-6 | 2.00 | < 2.00 | |
| Trichloroethene | 79-01-6 | 2.00 | < 2.00 | |
| Trichlorofluoromethane | 75-69-4 | 2.00 | < 2.00 | |
| Vinyl acetate | 108-05-4 | 10.0 | < 10.0 | |
| Vinyl chloride | 75-01-4 | 1.00 | < 1.00 | |
| Xylenes, Total | 1330-20-7 | 2.00 | < 2.00 | |



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**Lab Sample ID:** 1304147-017A
**Client Sample ID:** Trip Blank

**Analyzed:** 4/4/2013 1946h
**Units:** µg/L **Dilution Factor:** 1 **Method:** SW8260C

| Compound | CAS Number | Reporting Limit | Analytical Result | Qual |
|---|---|---|---|---|

| Surrogate | CAS | Result | Amount Spiked | % REC | Limits | Qual |
|---|---|---|---|---|---|---|
| Surr: 1,2-Dichloroethane-d4 | 17060-07-0 | 56.4 | 50.00 | 113 | 72-151 | |
| Surr: 4-Bromofluorobenzene | 460-00-4 | 52.3 | 50.00 | 105 | 80-128 | |
| Surr: Dibromofluoromethane | 1868-53-7 | 50.6 | 50.00 | 101 | 80-124 | |
| Surr: Toluene-d8 | 2037-26-5 | 49.0 | 50.00 | 98.0 | 77-129 | |

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

# QC SUMMARY REPORT

**Client:** Utah Division of Water Quality
**Lab Set ID:** 1304147
**Project:** MP 44.9

**Contact:** Chris Bittner
**Dept:** GC
**QC Type:** LCS

| Sample ID | Analyte | Units | Method | Result | Amount Spiked | Original Amount | %REC | Limits | %RPD | RPD Limit | Qual | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LCS-24605 | Diesel Range Organics (DRO) (C10-C28) | mg/L | SW8015D | 1.45 | 2.000 | 0 | 72.4 | 48-118 | | | | 4/5/2013 1253h |
| LCS-24605 | Surr: 4-Bromofluorobenzene | %REC | SW8015D | 0.210 | 0.4000 | | 52.5 | 18-95 | | | | 4/5/2013 1253h |



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Jose Rocha
QA Officer

# QC SUMMARY REPORT

**Client:** Utah Division of Water Quality
**Lab Set ID:** 1304147
**Project:** MP 44.9

**Contact:** Chris Bittner
**Dept:** GC
**QC Type:** MBLK

| Sample ID | Analyte | Units | Method | Result | Amount Spiked | Original Amount | %REC | Limits | %RPD | RPD Limit | Qual | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MB-24605 | Diesel Range Organics (DRO) (C10-C28) | mg/L | SW8015D | < 0.500 | | | | - | | | | 4/5/2013 1233h |
| MB-24605 | Surr: 4-Bromofluorobenzene | %REC | SW8015D | 0.180 | 0.4000 | | 45.1 | 18-95 | | | | 4/5/2013 1233h |



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Laboratory Director

Jose Rocha
QA Officer

# QC SUMMARY REPORT

**Client:** Utah Division of Water Quality
**Lab Set ID:** 1304147
**Project:** MP 44.9

**Contact:** Chris Bittner
**Dept:** GC
**QC Type:** MS

| Sample ID | Analyte | Units | Method | Result | Amount Spiked | Original Amount | %REC | Limits | %RPD | RPD Limit | Qual | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1304147-001CMS | Diesel Range Organics (DRO) (C10-C28) | mg/L | SW8015D | 1.74 | 2.105 | 0 | 82.5 | 60-161 | | | | 4/5/2013 1333h |
| 1304147-001CMS | Surr: 4-Bromofluorobenzene | %REC | SW8015D | 0.242 | 0.4211 | | 57.6 | 10-190 | | | | 4/5/2013 1333h |



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Jose Rocha
QA Officer

# QC SUMMARY REPORT

**Client:** Utah Division of Water Quality
**Lab Set ID:** 1304147
**Project:** MP 44.9

**Contact:** Chris Bittner
**Dept:** GC
**QC Type:** MSD

| Sample ID | Analyte | Units | Method | Result | Amount Spiked | Original Amount | %REC | Limits | %RPD | RPD Limit | Qual | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1304147-001CMSD | Diesel Range Organics (DRO) (C10-C28) | mg/L | SW8015D | 1.58 | 2.105 | 0 | 74.9 | 60-161 | 9.65 | 25 | | 4/5/2013 1352h |
| 1304147-001CMSD | Surr: 4-Bromofluorobenzene | %REC | SW8015D | 0.213 | 0.4211 | | 50.5 | 10-190 | | | | 4/5/2013 1352h |



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# QC SUMMARY REPORT

**Client:** Utah Division of Water Quality
**Lab Set ID:** 1304147
**Project:** MP 44.9

**Contact:** Chris Bittner
**Dept:** MSSV
**QC Type:** LCS

| Sample ID | Analyte | Units | Method | Result | Amount Spiked | Original Amount | %REC | Limits | %RPD | RPD Limit | Qual | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LCS-24600 | 1,2,4-Trichlorobenzene | µg/L | SW8270D | 42.6 | 80.00 | 0 | 53.2 | 10-104 | | | | 4/9/2013 1258h |
| LCS-24600 | 1,4-Dichlorobenzene | µg/L | SW8270D | 29.0 | 80.00 | 0 | 36.2 | 10-118 | | | | 4/9/2013 1258h |
| LCS-24600 | 2,4,6-Trichlorophenol | µg/L | SW8270D | 71.2 | 80.00 | 0 | 89.0 | 17-119 | | | | 4/9/2013 1258h |
| LCS-24600 | 2,4-Dimethylphenol | µg/L | SW8270D | 60.8 | 80.00 | 0 | 76.0 | 10-131 | | | | 4/9/2013 1258h |
| LCS-24600 | 2,4-Dinitrotoluene | µg/L | SW8270D | 65.1 | 80.00 | 0 | 81.4 | 42-219 | | | | 4/9/2013 1258h |
| LCS-24600 | 2-Chloronaphthalene | µg/L | SW8270D | 46.9 | 80.00 | 0 | 58.6 | 23-126 | | | | 4/9/2013 1258h |
| LCS-24600 | 2-Chlorophenol | µg/L | SW8270D | 44.8 | 80.00 | 0 | 56.0 | 15-128 | | | | 4/9/2013 1258h |
| LCS-24600 | 4,6-Dinitro-2-methylphenol | µg/L | SW8270D | 79.6 | 80.00 | 0 | 99.6 | 30-198 | | | | 4/9/2013 1258h |
| LCS-24600 | 4-Chloro-3-methylphenol | µg/L | SW8270D | 69.3 | 80.00 | 0 | 86.6 | 29-148 | | | | 4/9/2013 1258h |
| LCS-24600 | 4-Nitrophenol | µg/L | SW8270D | 10.9 | 80.00 | 0 | 13.6 | 10-157 | | | | 4/9/2013 1258h |
| LCS-24600 | Acenaphthene | µg/L | SW8270D | 55.3 | 80.00 | 0 | 69.1 | 20-116 | | | | 4/9/2013 1258h |
| LCS-24600 | Benzo(a)pyrene | µg/L | SW8270D | 67.3 | 80.00 | 0 | 84.1 | 10-221 | | | | 4/9/2013 1258h |
| LCS-24600 | N-Nitrosodi-n-propylamine | µg/L | SW8270D | 42.1 | 80.00 | 0 | 52.6 | 20-148 | | | | 4/9/2013 1258h |
| LCS-24600 | Pentachlorophenol | µg/L | SW8270D | 81.5 | 80.00 | 0 | 102 | 21-153 | | | | 4/9/2013 1258h |
| LCS-24600 | Phenol | µg/L | SW8270D | 23.8 | 80.00 | 0 | 29.7 | 10-131 | | | | 4/9/2013 1258h |
| LCS-24600 | Pyrene | µg/L | SW8270D | 66.1 | 80.00 | 0 | 82.7 | 37-150 | | | | 4/9/2013 1258h |
| LCS-24600 | Surr: 2,4,6-Tribromophenol | %REC | SW8270D | 82.6 | 80.00 | | 103 | 10-165 | | | | 4/9/2013 1258h |
| LCS-24600 | Surr: 2-Fluorobiphenyl | %REC | SW8270D | 23.6 | 40.00 | | 59.0 | 10-118 | | | | 4/9/2013 1258h |
| LCS-24600 | Surr: 2-Fluorophenol | %REC | SW8270D | 26.0 | 80.00 | | 32.5 | 10-121 | | | | 4/9/2013 1258h |
| LCS-24600 | Surr: Nitrobenzene-d5 | %REC | SW8270D | 19.3 | 40.00 | | 48.2 | 10-127 | | | | 4/9/2013 1258h |
| LCS-24600 | Surr: Phenol-d6 | %REC | SW8270D | 21.9 | 80.00 | | 27.4 | 10-124 | | | | 4/9/2013 1258h |
| LCS-24600 | Surr: Terphenyl-d14 | %REC | SW8270D | 32.6 | 40.00 | | 81.5 | 51-221 | | | | 4/9/2013 1258h |
| LCS-24600 | Acenaphthene | µg/L | SW8270D | 60.2 | 80.00 | 0 | 75.2 | 23-159 | | | | 4/9/2013 1044h |
| LCS-24600 | Benzo(a)pyrene | µg/L | SW8270D | 98.0 | 80.00 | 0 | 123 | 26-223 | | | | 4/9/2013 1044h |
| LCS-24600 | Pentachlorophenol | µg/L | SW8270D | 122 | 80.00 | 0 | 152 | 10-249 | | | | 4/9/2013 1044h |
| LCS-24600 | Pyrene | µg/L | SW8270D | 77.6 | 80.00 | 0 | 97.0 | 28-204 | | | | 4/9/2013 1044h |



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Laboratory Director

Jose Rocha
QA Officer

# QC SUMMARY REPORT

**Client:** Utah Division of Water Quality
**Lab Set ID:** 1304147
**Project:** MP 44.9

**Contact:** Chris Bittner
**Dept:** MSSV
**QC Type:** MBLK

| Sample ID | Analyte | Units | Method | Result | Amount Spiked | Original Amount | %REC | Limits | %RPD | RPD Limit | Qual | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MB-24600 | 1,1´-Biphenyl | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | 1,2,4,5-Tetrachlorobenzene | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | 1,2,4-Trichlorobenzene | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | 1,2-Dichlorobenzene | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | 1,3,5-Trinitrobenzene | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | 1,3-Dichlorobenzene | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | 1,3-Dinitrobenzene | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | 1,4-Dichlorobenzene | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | 1,4-Dinitrobenzene | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | 1,4-Naphthoquinone | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | 1,4-Phenylenediamine | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | 1-Chloronaphthalene | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | 1-Methylnaphthalene | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | 1-Naphthylamine | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | 2,3,4,6-Tetrachlorophenol | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | 2,4,5-Trichlorophenol | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | 2,4,6-Trichlorophenol | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | 2,4-Dichlorophenol | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | 2,4-Dimethylphenol | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | 2,4-Dinitrophenol | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | 2,4-Dinitrotoluene | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | 2,6-Dichlorophenol | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | 2,6-Dinitrotoluene | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | 2-Acetylaminofluorene | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | 2-Chloronaphthalene | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | 2-Chlorophenol | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | 2-Methylnaphthalene | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |



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# QC SUMMARY REPORT

**Client:** Utah Division of Water Quality
**Lab Set ID:** 1304147
**Project:** MP 44.9

**Contact:** Chris Bittner
**Dept:** MSSV
**QC Type:** MBLK

| Sample ID | Analyte | Units | Method | Result | Amount Spiked | Original Amount | %REC | Limits | %RPD | RPD Limit | Qual | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MB-24600 | 2-Methylphenol | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | 2-Naphthylamine | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | 2-Nitroaniline | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | 2-Nitrophenol | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | 2-Picoline | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | 3&4-Methylphenol | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | 3,3´-Dichlorobenzidine | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | 3,3´-Dimethylbenzidine | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | 3-Methylcholanthrene | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | 3-Nitroaniline | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | 4,6-Dinitro-2-methylphenol | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | 4-Aminobiphenyl | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | 4-Bromophenyl phenyl ether | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | 4-Chloro-3-methylphenol | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | 4-Chloroaniline | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | 4-Chlorophenyl phenyl ether | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | 4-Nitroaniline | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | 4-Nitrophenol | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | 5-Nitro-o-toluidine | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | 7,12-Dimethylbenz(a)anthracene | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | a,a-Dimethylphenethylamine | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Acenaphthene | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Acenaphthylene | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Acetophenone | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | alpha-Terpineol | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Aniline | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Anthracene | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |



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# QC SUMMARY REPORT

**Client:** Utah Division of Water Quality
**Lab Set ID:** 1304147
**Project:** MP 44.9

**Contact:** Chris Bittner
**Dept:** MSSV
**QC Type:** MBLK

| Sample ID | Analyte | Units | Method | Result | Amount Spiked | Original Amount | %REC | Limits | %RPD | RPD Limit | Qual | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MB-24600 | Aramite | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Atrazine | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Azobenzene | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Benz(a)anthracene | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Benzaldehyde | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Benzidine | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Benzo(a)pyrene | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Benzo(b)fluoranthene | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Benzo(g,h,i)perylene | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Benzo(k)fluoranthene | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Benzoic acid | µg/L | SW8270D | < 20.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Benzyl alcohol | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Bis(2-chloroethoxy)methane | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Bis(2-chloroethyl) ether | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Bis(2-chloroisopropyl) ether | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Bis(2-ethylhexyl) phthalate | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | bis(2-ethylhexyl)adipate | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Butyl benzyl phthalate | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Caprolactam | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Carbazole | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Chlorobenzilate | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Chrysene | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Diallate (cis or trans) | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Dibenz(a,h)anthracene | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Dibenzofuran | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Diethyl phthalate | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Dimethoate | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

# QC SUMMARY REPORT

**Client:** Utah Division of Water Quality
**Lab Set ID:** 1304147
**Project:** MP 44.9

**Contact:** Chris Bittner
**Dept:** MSSV
**QC Type:** MBLK

| Sample ID | Analyte | Units | Method | Result | Amount Spiked | Original Amount | %REC | Limits | %RPD | RPD Limit | Qual | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MB-24600 | Dimethyl phthalate | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Dimethylaminoazobenzene | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Di-n-butyl phthalate | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Di-n-octyl phthalate | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Dinoseb | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Diphenylamine | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Disulfoton | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Ethyl methanesulfonate | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Famphur | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Fluoranthene | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Fluorene | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Hexachlorobenzene | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Hexachlorobutadiene | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Hexachlorocyclopentadiene | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Hexachloroethane | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Hexachlorophene | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Hexachloropropene | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Indene | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Indeno(1,2,3-cd)pyrene | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Isodrin | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Isophorone | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Isosafrole | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Kepone | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Methapyrilene | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Methyl methanesulfonate | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Naphthalene | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | n-Decane | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

# QC SUMMARY REPORT

**Client:** Utah Division of Water Quality
**Lab Set ID:** 1304147
**Project:** MP 44.9

**Contact:** Chris Bittner
**Dept:** MSSV
**QC Type:** MBLK

| Sample ID | Analyte | Units | Method | Result | Amount Spiked | Original Amount | %REC | Limits | %RPD | RPD Limit | Qual | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MB-24600 | Nitrobenzene | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Nitroquinoline-1-oxide | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | N-Nitrosodiethylamine | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | N-Nitrosodimethylamine | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | N-Nitrosodi-n-butylamine | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | N-Nitrosodiphenylamine | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | N-Nitrosodi-n-propylamine | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | N-Nitrosomethylethylamine | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | N-Nitrosomorpholine | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | N-Nitrosopiperidine | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | N-Nitrosopyrrolidine | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | n-Octadecane | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | O,O,O-Triethyl phosphorothioate | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | o-Toluidine | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Parathion | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Methyl parathion | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Pentachlorobenzene | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Pentachloronitrobenzene | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Pentachlorophenol | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Phenacetin | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Phenanthrene | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Phenol | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Phorate | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Pronamide | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Pyrene | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Pyridine | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Quinoline | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |



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# QC SUMMARY REPORT

**Client:** Utah Division of Water Quality
**Lab Set ID:** 1304147
**Project:** MP 44.9

**Contact:** Chris Bittner
**Dept:** MSSV
**QC Type:** MBLK

| Sample ID | Analyte | Units | Method | Result | Amount Spiked | Original Amount | %REC | Limits | %RPD | RPD Limit | Qual | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MB-24600 | Safrole | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Tetraethyl dithiopyrophosphate | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Thionazin | µg/L | SW8270D | < 10.0 | | | | - | | | | 4/9/2013 1234h |
| MB-24600 | Surr: 2,4,6-Tribromophenol | %REC | SW8270D | 60.9 | 80.00 | | 76.1 | 10-165 | | | | 4/9/2013 1234h |
| MB-24600 | Surr: 2-Fluorobiphenyl | %REC | SW8270D | 18.3 | 40.00 | | 45.8 | 10-118 | | | | 4/9/2013 1234h |
| MB-24600 | Surr: 2-Fluorophenol | %REC | SW8270D | 20.6 | 80.00 | | 25.7 | 10-121 | | | | 4/9/2013 1234h |
| MB-24600 | Surr: Nitrobenzene-d5 | %REC | SW8270D | 13.5 | 40.00 | | 33.7 | 10-127 | | | | 4/9/2013 1234h |
| MB-24600 | Surr: Phenol-d6 | %REC | SW8270D | 15.6 | 80.00 | | 19.5 | 10-124 | | | | 4/9/2013 1234h |
| MB-24600 | Surr: Terphenyl-d14 | %REC | SW8270D | 35.7 | 40.00 | | 89.3 | 51-221 | | | | 4/9/2013 1234h |
| MB-24600 | 1-Methylnaphthalene | µg/L | SW8270D | < 0.100 | | | | - | | | | 4/9/2013 1018h |
| MB-24600 | 2-Methylnaphthalene | µg/L | SW8270D | < 0.100 | | | | - | | | | 4/9/2013 1018h |
| MB-24600 | Acenaphthene | µg/L | SW8270D | < 0.100 | | | | - | | | | 4/9/2013 1018h |
| MB-24600 | Acenaphthylene | µg/L | SW8270D | < 0.100 | | | | - | | | | 4/9/2013 1018h |
| MB-24600 | Anthracene | µg/L | SW8270D | < 0.100 | | | | - | | | | 4/9/2013 1018h |
| MB-24600 | Benz(a)anthracene | µg/L | SW8270D | < 0.100 | | | | - | | | | 4/9/2013 1018h |
| MB-24600 | Benzo(a)pyrene | µg/L | SW8270D | < 0.100 | | | | - | | | | 4/9/2013 1018h |
| MB-24600 | Benzo(b)fluoranthene | µg/L | SW8270D | < 0.100 | | | | - | | | | 4/9/2013 1018h |
| MB-24600 | Benzo(g,h,i)perylene | µg/L | SW8270D | < 0.100 | | | | - | | | | 4/9/2013 1018h |
| MB-24600 | Benzo(k)fluoranthene | µg/L | SW8270D | < 0.100 | | | | - | | | | 4/9/2013 1018h |
| MB-24600 | Chrysene | µg/L | SW8270D | < 0.100 | | | | - | | | | 4/9/2013 1018h |
| MB-24600 | Dibenz(a,h)anthracene | µg/L | SW8270D | < 0.100 | | | | - | | | | 4/9/2013 1018h |
| MB-24600 | Fluoranthene | µg/L | SW8270D | < 0.100 | | | | - | | | | 4/9/2013 1018h |
| MB-24600 | Fluorene | µg/L | SW8270D | < 0.100 | | | | - | | | | 4/9/2013 1018h |
| MB-24600 | Hexachlorobenzene | µg/L | SW8270D | < 1.00 | | | | - | | | | 4/9/2013 1018h |
| MB-24600 | Indene | µg/L | SW8270D | < 0.100 | | | | - | | | | 4/9/2013 1018h |
| MB-24600 | Indeno(1,2,3-cd)pyrene | µg/L | SW8270D | < 0.100 | | | | - | | | | 4/9/2013 1018h |
| MB-24600 | Naphthalene | µg/L | SW8270D | < 0.100 | | | | - | | | | 4/9/2013 1018h |



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# QC SUMMARY REPORT

**Client:** Utah Division of Water Quality
**Lab Set ID:** 1304147
**Project:** MP 44.9

**Contact:** Chris Bittner
**Dept:** MSSV
**QC Type:** MBLK

| Sample ID | Analyte | Units | Method | Result | Amount Spiked | Original Amount | %REC | Limits | %RPD | RPD Limit | Qual | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MB-24600 | Pentachlorophenol | µg/L | SW8270D | < 1.00 | | | | - | | | | 4/9/2013 1018h |
| MB-24600 | Phenanthrene | µg/L | SW8270D | < 0.100 | | | | - | | | | 4/9/2013 1018h |
| MB-24600 | Pyrene | µg/L | SW8270D | < 0.100 | | | | - | | | | 4/9/2013 1018h |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

# QC SUMMARY REPORT

**Client:** Utah Division of Water Quality
**Lab Set ID:** 1304147
**Project:** MP 44.9

**Contact:** Chris Bittner
**Dept:** MSSV
**QC Type:** MS

| Sample ID | Analyte | Units | Method | Result | Amount Spiked | Original Amount | %REC | Limits | %RPD | RPD Limit | Qual | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1304147-005BMS | 1,2,4-Trichlorobenzene | µg/L | SW8270D | 38.5 | 80.00 | 0 | 48.1 | 20-107 | | | | 4/9/2013 1518h |
| 1304147-005BMS | 1,4-Dichlorobenzene | µg/L | SW8270D | 27.8 | 80.00 | 0 | 34.8 | 11-90 | | | | 4/9/2013 1518h |
| 1304147-005BMS | 2,4,6-Trichlorophenol | µg/L | SW8270D | 68.2 | 80.00 | 0 | 85.3 | 10-223 | | | | 4/9/2013 1518h |
| 1304147-005BMS | 2,4-Dimethylphenol | µg/L | SW8270D | 61.0 | 80.00 | 0 | 76.2 | 10-176 | | | | 4/9/2013 1518h |
| 1304147-005BMS | 2,4-Dinitrotoluene | µg/L | SW8270D | 54.8 | 80.00 | 0 | 68.5 | 21-191 | | | | 4/9/2013 1518h |
| 1304147-005BMS | 2-Chloronaphthalene | µg/L | SW8270D | 40.6 | 80.00 | 0 | 50.8 | 12-132 | | | | 4/9/2013 1518h |
| 1304147-005BMS | 2-Chlorophenol | µg/L | SW8270D | 46.4 | 80.00 | 0 | 58.0 | 20-107 | | | | 4/9/2013 1518h |
| 1304147-005BMS | 4,6-Dinitro-2-methylphenol | µg/L | SW8270D | 75.4 | 80.00 | 0 | 94.3 | 20-250 | | | | 4/9/2013 1518h |
| 1304147-005BMS | 4-Chloro-3-methylphenol | µg/L | SW8270D | 68.2 | 80.00 | 0 | 85.2 | 10-136 | | | | 4/9/2013 1518h |
| 1304147-005BMS | 4-Nitrophenol | µg/L | SW8270D | 11.0 | 80.00 | 0 | 13.7 | 10-135 | | | | 4/9/2013 1518h |
| 1304147-005BMS | Acenaphthene | µg/L | SW8270D | 48.1 | 80.00 | 0 | 60.1 | 21-113 | | | | 4/9/2013 1518h |
| 1304147-005BMS | Benzo(a)pyrene | µg/L | SW8270D | 53.3 | 80.00 | 0 | 66.6 | 15-169 | | | | 4/9/2013 1518h |
| 1304147-005BMS | N-Nitrosodi-n-propylamine | µg/L | SW8270D | 44.8 | 80.00 | 0 | 56.0 | 10-133 | | | | 4/9/2013 1518h |
| 1304147-005BMS | Pentachlorophenol | µg/L | SW8270D | 27.6 | 80.00 | 0 | 34.5 | 10-131 | | | | 4/9/2013 1518h |
| 1304147-005BMS | Phenol | µg/L | SW8270D | 26.6 | 80.00 | 0 | 33.2 | 10-71 | | | | 4/9/2013 1518h |
| 1304147-005BMS | Pyrene | µg/L | SW8270D | 53.2 | 80.00 | 0 | 66.6 | 23-150 | | | | 4/9/2013 1518h |
| 1304147-005BMS | Surr: 2,4,6-Tribromophenol | %REC | SW8270D | 76.6 | 80.00 | | 95.7 | 14-159 | | | | 4/9/2013 1518h |
| 1304147-005BMS | Surr: 2-Fluorobiphenyl | %REC | SW8270D | 23.3 | 40.00 | | 58.3 | 10-124 | | | | 4/9/2013 1518h |
| 1304147-005BMS | Surr: 2-Fluorophenol | %REC | SW8270D | 26.8 | 80.00 | | 33.5 | 10-106 | | | | 4/9/2013 1518h |
| 1304147-005BMS | Surr: Nitrobenzene-d5 | %REC | SW8270D | 19.8 | 40.00 | | 49.4 | 10-180 | | | | 4/9/2013 1518h |
| 1304147-005BMS | Surr: Phenol-d6 | %REC | SW8270D | 22.6 | 80.00 | | 28.3 | 10-122 | | | | 4/9/2013 1518h |
| 1304147-005BMS | Surr: Terphenyl-d14 | %REC | SW8270D | 29.4 | 40.00 | | 73.4 | 10-221 | | | | 4/9/2013 1518h |
| 1304147-005BMS | Acenaphthene | µg/L | SW8270D | 54.4 | 80.00 | 0 | 68.0 | 21-113 | | | | 4/9/2013 1323h |
| 1304147-005BMS | Benzo(a)pyrene | µg/L | SW8270D | 73.0 | 80.00 | 0 | 91.2 | 15-169 | | | | 4/9/2013 1323h |
| 1304147-005BMS | Pentachlorophenol | µg/L | SW8270D | 70.8 | 80.00 | 0 | 88.5 | 10-249 | | | | 4/9/2013 1323h |
| 1304147-005BMS | Pyrene | µg/L | SW8270D | 60.0 | 80.00 | 0 | 75.0 | 23-150 | | | | 4/9/2013 1323h |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

# QC SUMMARY REPORT

**Client:** Utah Division of Water Quality
**Lab Set ID:** 1304147
**Project:** MP 44.9

**Contact:** Chris Bittner
**Dept:** MSSV
**QC Type:** MSD

| Sample ID | Analyte | Units | Method | Result | Amount Spiked | Original Amount | %REC | Limits | %RPD | RPD Limit | Qual | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1304147-005BMSD | 1,2,4-Trichlorobenzene | µg/L | SW8270D | 46.1 | 80.00 | 0 | 57.6 | 20-107 | 18.1 | 25 | | 4/9/2013 1542h |
| 1304147-005BMSD | 1,4-Dichlorobenzene | µg/L | SW8270D | 34.6 | 80.00 | 0 | 43.2 | 11-90 | 21.7 | 25 | | 4/9/2013 1542h |
| 1304147-005BMSD | 2,4,6-Trichlorophenol | µg/L | SW8270D | 76.9 | 80.00 | 0 | 96.1 | 10-223 | 12 | 25 | | 4/9/2013 1542h |
| 1304147-005BMSD | 2,4-Dimethylphenol | µg/L | SW8270D | 63.5 | 80.00 | 0 | 79.4 | 10-176 | 4.05 | 25 | | 4/9/2013 1542h |
| 1304147-005BMSD | 2,4-Dinitrotoluene | µg/L | SW8270D | 67.4 | 80.00 | 0 | 84.3 | 21-191 | 20.7 | 25 | | 4/9/2013 1542h |
| 1304147-005BMSD | 2-Chloronaphthalene | µg/L | SW8270D | 49.0 | 80.00 | 0 | 61.2 | 12-132 | 18.6 | 25 | | 4/9/2013 1542h |
| 1304147-005BMSD | 2-Chlorophenol | µg/L | SW8270D | 50.5 | 80.00 | 0 | 63.1 | 20-107 | 8.34 | 25 | | 4/9/2013 1542h |
| 1304147-005BMSD | 4,6-Dinitro-2-methylphenol | µg/L | SW8270D | 85.5 | 80.00 | 0 | 107 | 20-250 | 12.5 | 25 | | 4/9/2013 1542h |
| 1304147-005BMSD | 4-Chloro-3-methylphenol | µg/L | SW8270D | 71.6 | 80.00 | 0 | 89.5 | 10-136 | 4.92 | 25 | | 4/9/2013 1542h |
| 1304147-005BMSD | 4-Nitrophenol | µg/L | SW8270D | 29.3 | 80.00 | 0 | 36.6 | 10-135 | 90.9 | 25 | @ | 4/9/2013 1542h |
| 1304147-005BMSD | Acenaphthene | µg/L | SW8270D | 59.4 | 80.00 | 0 | 74.2 | 21-113 | 20.9 | 25 | | 4/9/2013 1542h |
| 1304147-005BMSD | Benzo(a)pyrene | µg/L | SW8270D | 66.6 | 80.00 | 0 | 83.3 | 15-169 | 22.3 | 25 | | 4/9/2013 1542h |
| 1304147-005BMSD | N-Nitrosodi-n-propylamine | µg/L | SW8270D | 42.9 | 80.00 | 0 | 53.6 | 10-133 | 4.27 | 25 | | 4/9/2013 1542h |
| 1304147-005BMSD | Pentachlorophenol | µg/L | SW8270D | 30.1 | 80.00 | 0 | 37.6 | 10-131 | 8.67 | 25 | | 4/9/2013 1542h |
| 1304147-005BMSD | Phenol | µg/L | SW8270D | 29.0 | 80.00 | 0 | 36.2 | 10-71 | 8.71 | 25 | | 4/9/2013 1542h |
| 1304147-005BMSD | Pyrene | µg/L | SW8270D | 66.1 | 80.00 | 0 | 82.6 | 23-150 | 21.6 | 25 | | 4/9/2013 1542h |
| 1304147-005BMSD | Surr: 2,4,6-Tribromophenol | %REC | SW8270D | 81.1 | 80.00 | | 101 | 14-159 | | | | 4/9/2013 1542h |
| 1304147-005BMSD | Surr: 2-Fluorobiphenyl | %REC | SW8270D | 26.9 | 40.00 | | 67.2 | 10-124 | | | | 4/9/2013 1542h |
| 1304147-005BMSD | Surr: 2-Fluorophenol | %REC | SW8270D | 30.7 | 80.00 | | 38.3 | 10-106 | | | | 4/9/2013 1542h |
| 1304147-005BMSD | Surr: Nitrobenzene-d5 | %REC | SW8270D | 22.6 | 40.00 | | 56.4 | 10-180 | | | | 4/9/2013 1542h |
| 1304147-005BMSD | Surr: Phenol-d6 | %REC | SW8270D | 23.7 | 80.00 | | 29.6 | 10-122 | | | | 4/9/2013 1542h |
| 1304147-005BMSD | Surr: Terphenyl-d14 | %REC | SW8270D | 34.4 | 40.00 | | 86.1 | 10-221 | | | | 4/9/2013 1542h |
| 1304147-005BMSD | Acenaphthene | µg/L | SW8270D | 62.0 | 80.00 | 0 | 77.5 | 21-113 | 13.1 | 25 | | 4/9/2013 1349h |
| 1304147-005BMSD | Benzo(a)pyrene | µg/L | SW8270D | 91.6 | 80.00 | 0 | 114 | 15-169 | 22.6 | 25 | | 4/9/2013 1349h |
| 1304147-005BMSD | Pentachlorophenol | µg/L | SW8270D | 73.0 | 80.00 | 0 | 91.2 | 10-249 | 3.06 | 25 | | 4/9/2013 1349h |
| 1304147-005BMSD | Pyrene | µg/L | SW8270D | 75.0 | 80.00 | 0 | 93.8 | 23-150 | 22.2 | 25 | | 4/9/2013 1349h |

*@ - High RPD due to suspected sample non-homogeneity or matrix interference.*



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

# QC SUMMARY REPORT

**Client:** Utah Division of Water Quality
**Lab Set ID:** 1304147
**Project:** MP 44.9

**Contact:** Chris Bittner
**Dept:** MSVOA
**QC Type:** LCS

| Sample ID | Analyte | Units | Method | Result | Amount Spiked | Original Amount | %REC | Limits | %RPD | RPD Limit | Qual | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LCS VOC 040413B | 1,1,1-Trichloroethane | µg/L | SW8260C | 23.1 | 20.00 | 0 | 116 | 59-156 | | | | 4/4/2013 1830h |
| LCS VOC 040413B | 1,1-Dichloroethene | µg/L | SW8260C | 24.9 | 20.00 | 0 | 124 | 46-171 | | | | 4/4/2013 1830h |
| LCS VOC 040413B | 1,2-Dichlorobenzene | µg/L | SW8260C | 19.4 | 20.00 | 0 | 96.9 | 67-135 | | | | 4/4/2013 1830h |
| LCS VOC 040413B | 1,2-Dichloroethane | µg/L | SW8260C | 20.6 | 20.00 | 0 | 103 | 60-137 | | | | 4/4/2013 1830h |
| LCS VOC 040413B | 1,2-Dichloropropane | µg/L | SW8260C | 18.6 | 20.00 | 0 | 92.9 | 59-135 | | | | 4/4/2013 1830h |
| LCS VOC 040413B | Benzene | µg/L | SW8260C | 20.2 | 20.00 | 0 | 101 | 62-127 | | | | 4/4/2013 1830h |
| LCS VOC 040413B | Chlorobenzene | µg/L | SW8260C | 20.0 | 20.00 | 0 | 100 | 63-140 | | | | 4/4/2013 1830h |
| LCS VOC 040413B | Chloroform | µg/L | SW8260C | 21.5 | 20.00 | 0 | 107 | 67-132 | | | | 4/4/2013 1830h |
| LCS VOC 040413B | Ethylbenzene | µg/L | SW8260C | 20.1 | 20.00 | 0 | 101 | 55-133 | | | | 4/4/2013 1830h |
| LCS VOC 040413B | Isopropylbenzene | µg/L | SW8260C | 20.6 | 20.00 | 0 | 103 | 60-147 | | | | 4/4/2013 1830h |
| LCS VOC 040413B | Methyl tert-butyl ether | µg/L | SW8260C | 24.1 | 20.00 | 0 | 121 | 37-189 | | | | 4/4/2013 1830h |
| LCS VOC 040413B | Methylene chloride | µg/L | SW8260C | 22.3 | 20.00 | 0 | 111 | 32-185 | | | | 4/4/2013 1830h |
| LCS VOC 040413B | Naphthalene | µg/L | SW8260C | 16.4 | 20.00 | 0 | 82.2 | 28-136 | | | | 4/4/2013 1830h |
| LCS VOC 040413B | Tetrahydrofuran | µg/L | SW8260C | 16.4 | 20.00 | 0 | 81.8 | 43-146 | | | | 4/4/2013 1830h |
| LCS VOC 040413B | Toluene | µg/L | SW8260C | 20.0 | 20.00 | 0 | 99.8 | 64-129 | | | | 4/4/2013 1830h |
| LCS VOC 040413B | Trichloroethene | µg/L | SW8260C | 22.0 | 20.00 | 0 | 110 | 54-152 | | | | 4/4/2013 1830h |
| LCS VOC 040413B | Xylenes, Total | µg/L | SW8260C | 60.8 | 60.00 | 0 | 101 | 52-134 | | | | 4/4/2013 1830h |
| LCS VOC 040413B | Surr: 1,2-Dichloroethane-d4 | %REC | SW8260C | 52.7 | 50.00 | | 105 | 76-138 | | | | 4/4/2013 1830h |
| LCS VOC 040413B | Surr: 4-Bromofluorobenzene | %REC | SW8260C | 48.9 | 50.00 | | 97.8 | 77-121 | | | | 4/4/2013 1830h |
| LCS VOC 040413B | Surr: Dibromofluoromethane | %REC | SW8260C | 52.4 | 50.00 | | 105 | 67-128 | | | | 4/4/2013 1830h |
| LCS VOC 040413B | Surr: Toluene-d8 | %REC | SW8260C | 47.8 | 50.00 | | 95.5 | 81-135 | | | | 4/4/2013 1830h |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

# QC SUMMARY REPORT

**Client:** Utah Division of Water Quality
**Lab Set ID:** 1304147
**Project:** MP 44.9

**Contact:** Chris Bittner
**Dept:** MSVOA
**QC Type:** MBLK

| Sample ID | Analyte | Units | Method | Result | Amount Spiked | Original Amount | %REC | Limits | %RPD | RPD Limit | Qual | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MB VOC 040413B | 1,1,1,2-Tetrachloroethane | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | 1,1,1-Trichloroethane | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | 1,1,2,2-Tetrachloroethane | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | 1,1,2-Trichloro-1,2,2-trifluoroethane | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | 1,1,2-Trichloroethane | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | 1,1-Dichloropropene | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | 1,1-Dichloroethane | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | 1,1-Dichloroethene | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | 1,2,3-Trichlorobenzene | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | 1,2,3-Trichloropropane | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | 1,2,3-Trimethylbenzene | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | 1,2,4-Trichlorobenzene | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | 1,2,4-Trimethylbenzene | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | 1,2-Dibromo-3-chloropropane | µg/L | SW8260C | < 5.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | 1,2-Dibromoethane | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | 1,2-Dichlorobenzene | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | 1,2-Dichloroethane | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | 1,2-Dichloropropane | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | 1,3,5-Trimethylbenzene | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | 1,3-Dichlorobenzene | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | 1,3-Dichloropropane | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | 1,4-Dichlorobenzene | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | 1,4-Dioxane | µg/L | SW8260C | < 50.0 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | 2,2-Dichloropropane | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | 2-Butanone | µg/L | SW8260C | < 10.0 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | 2-Chloroethyl vinyl ether | µg/L | SW8260C | < 5.00 | | | | - | | | | 4/4/2013 1908h |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

# QC SUMMARY REPORT

**Client:** Utah Division of Water Quality
**Lab Set ID:** 1304147
**Project:** MP 44.9

**Contact:** Chris Bittner
**Dept:** MSVOA
**QC Type:** MBLK

| Sample ID | Analyte | Units | Method | Result | Amount Spiked | Original Amount | %REC | Limits | %RPD | RPD Limit | Qual | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MB VOC 040413B | 2-Chlorotoluene | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | 2-Hexanone | µg/L | SW8260C | < 5.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | 2-Nitropropane | µg/L | SW8260C | < 5.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | 4-Chlorotoluene | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | 4-Isopropyltoluene | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | 4-Methyl-2-pentanone | µg/L | SW8260C | < 5.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | Acetone | µg/L | SW8260C | < 10.0 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | Acetonitrile | µg/L | SW8260C | < 5.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | Acrolein | µg/L | SW8260C | < 5.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | Acrylonitrile | µg/L | SW8260C | < 10.0 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | Allyl chloride | µg/L | SW8260C | < 5.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | Benzene | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | Benzyl chloride | µg/L | SW8260C | < 5.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | Bis(2-chloroisopropyl) ether | µg/L | SW8260C | < 5.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | Bromobenzene | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | Bromochloromethane | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | Bromodichloromethane | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | Bromoform | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | Bromomethane | µg/L | SW8260C | < 5.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | Butyl acetate | µg/L | SW8260C | < 10.0 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | Carbon disulfide | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | Carbon tetrachloride | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | Chlorobenzene | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | Chloroethane | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | Chloroform | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | Chloromethane | µg/L | SW8260C | < 3.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | Chloroprene | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |



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Kyle F. Gross
Laboratory Director

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QA Officer

# QC SUMMARY REPORT

**Client:** Utah Division of Water Quality
**Lab Set ID:** 1304147
**Project:** MP 44.9

**Contact:** Chris Bittner
**Dept:** MSVOA
**QC Type:** MBLK

| Sample ID | Analyte | Units | Method | Result | Amount Spiked | Original Amount | %REC | Limits | %RPD | RPD Limit | Qual | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MB VOC 040413B | cis-1,2-Dichloroethene | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | cis-1,3-Dichloropropene | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | Cyclohexane | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | Cyclohexanone | µg/L | SW8260C | < 50.0 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | Dibromochloromethane | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | Dibromomethane | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | Dichlorodifluoromethane | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | Ethyl acetate | µg/L | SW8260C | < 10.0 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | Ethyl ether | µg/L | SW8260C | < 10.0 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | Ethyl methacrylate | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | Ethylbenzene | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | Hexachlorobutadiene | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | Iodomethane | µg/L | SW8260C | < 5.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | Isobutyl alcohol | µg/L | SW8260C | < 100 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | Isopropyl acetate | µg/L | SW8260C | < 10.0 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | Isopropyl alcohol | µg/L | SW8260C | < 40.0 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | Isopropylbenzene | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | m,p-Xylene | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | Methacrylonitrile | µg/L | SW8260C | < 5.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | Methyl Acetate | µg/L | SW8260C | < 5.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | Methyl methacrylate | µg/L | SW8260C | < 5.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | Methyl tert-butyl ether | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | Methylcyclohexane | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | Methylene chloride | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | n-Amyl acetate | µg/L | SW8260C | < 10.0 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | Naphthalene | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | n-Butyl alcohol | µg/L | SW8260C | < 100 | | | | - | | | | 4/4/2013 1908h |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

# QC SUMMARY REPORT

**Client:** Utah Division of Water Quality
**Lab Set ID:** 1304147
**Project:** MP 44.9

**Contact:** Chris Bittner
**Dept:** MSVOA
**QC Type:** MBLK

| Sample ID | Analyte | Units | Method | Result | Amount Spiked | Original Amount | %REC | Limits | %RPD | RPD Limit | Qual | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MB VOC 040413B | n-Butylbenzene | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | n-Hexane | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | n-Octane | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | n-Propylbenzene | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | o-Xylene | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | Pentachloroethane | µg/L | SW8260C | < 5.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | Propionitrile | µg/L | SW8260C | < 25.0 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | Propyl acetate | µg/L | SW8260C | < 10.0 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | sec-Butylbenzene | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | Styrene | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | tert-Butyl alcohol | µg/L | SW8260C | < 20.0 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | tert-Butylbenzene | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | Tetrachloroethene | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | Tetrahydrofuran | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | Toluene | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | trans-1,2-Dichloroethene | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | trans-1,3-Dichloropropene | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | trans-1,4-Dichloro-2-butene | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | Trichloroethene | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | Trichlorofluoromethane | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | Vinyl acetate | µg/L | SW8260C | < 10.0 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | Vinyl chloride | µg/L | SW8260C | < 1.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | Xylenes, Total | µg/L | SW8260C | < 2.00 | | | | - | | | | 4/4/2013 1908h |
| MB VOC 040413B | Surr: 1,2-Dichloroethane-d4 | %REC | SW8260C | 55.6 | 50.00 | | 111 | 76-138 | | | | 4/4/2013 1908h |
| MB VOC 040413B | Surr: 4-Bromofluorobenzene | %REC | SW8260C | 51.0 | 50.00 | | 102 | 77-121 | | | | 4/4/2013 1908h |
| MB VOC 040413B | Surr: Dibromofluoromethane | %REC | SW8260C | 51.6 | 50.00 | | 103 | 67-128 | | | | 4/4/2013 1908h |
| MB VOC 040413B | Surr: Toluene-d8 | %REC | SW8260C | 49.0 | 50.00 | | 98.0 | 81-135 | | | | 4/4/2013 1908h |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

# QC SUMMARY REPORT

**Client:** Utah Division of Water Quality
**Lab Set ID:** 1304147
**Project:** MP 44.9

**Contact:** Chris Bittner
**Dept:** MSVOA
**QC Type:** MS

| Sample ID | Analyte | Units | Method | Result | Amount Spiked | Original Amount | %REC | Limits | %RPD | RPD Limit | Qual | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1304147-001AMS | 1,1,1-Trichloroethane | µg/L | SW8260C | 24.7 | 20.00 | 0 | 123 | 67-147 | | | | 4/4/2013 2043h |
| 1304147-001AMS | 1,1-Dichloroethene | µg/L | SW8260C | 26.4 | 20.00 | 0 | 132 | 51-152 | | | | 4/4/2013 2043h |
| 1304147-001AMS | 1,2-Dichlorobenzene | µg/L | SW8260C | 19.6 | 20.00 | 0 | 98.0 | 70-130 | | | | 4/4/2013 2043h |
| 1304147-001AMS | 1,2-Dichloroethane | µg/L | SW8260C | 22.1 | 20.00 | 0 | 111 | 39-162 | | | | 4/4/2013 2043h |
| 1304147-001AMS | 1,2-Dichloropropane | µg/L | SW8260C | 18.9 | 20.00 | 0 | 94.5 | 59-135 | | | | 4/4/2013 2043h |
| 1304147-001AMS | Benzene | µg/L | SW8260C | 21.0 | 20.00 | 0 | 105 | 66-145 | | | | 4/4/2013 2043h |
| 1304147-001AMS | Chlorobenzene | µg/L | SW8260C | 20.3 | 20.00 | 0 | 102 | 63-140 | | | | 4/4/2013 2043h |
| 1304147-001AMS | Chloroform | µg/L | SW8260C | 21.9 | 20.00 | 0 | 110 | 50-146 | | | | 4/4/2013 2043h |
| 1304147-001AMS | Ethylbenzene | µg/L | SW8260C | 20.5 | 20.00 | 0 | 102 | 69-133 | | | | 4/4/2013 2043h |
| 1304147-001AMS | Isopropylbenzene | µg/L | SW8260C | 20.8 | 20.00 | 0 | 104 | 60-147 | | | | 4/4/2013 2043h |
| 1304147-001AMS | Methyl tert-butyl ether | µg/L | SW8260C | 22.3 | 20.00 | 0 | 112 | 37-189 | | | | 4/4/2013 2043h |
| 1304147-001AMS | Methylene chloride | µg/L | SW8260C | 23.2 | 20.00 | 0 | 116 | 30-192 | | | | 4/4/2013 2043h |
| 1304147-001AMS | Naphthalene | µg/L | SW8260C | 17.0 | 20.00 | 0 | 85.0 | 41-131 | | | | 4/4/2013 2043h |
| 1304147-001AMS | Tetrahydrofuran | µg/L | SW8260C | 16.3 | 20.00 | 0 | 81.6 | 43-146 | | | | 4/4/2013 2043h |
| 1304147-001AMS | Toluene | µg/L | SW8260C | 20.1 | 20.00 | 0 | 101 | 18-192 | | | | 4/4/2013 2043h |
| 1304147-001AMS | Trichloroethene | µg/L | SW8260C | 22.4 | 20.00 | 0 | 112 | 61-153 | | | | 4/4/2013 2043h |
| 1304147-001AMS | Xylenes, Total | µg/L | SW8260C | 61.1 | 60.00 | 0 | 102 | 42-167 | | | | 4/4/2013 2043h |
| 1304147-001AMS | Surr: 1,2-Dichloroethane-d4 | %REC | SW8260C | 54.7 | 50.00 | | 109 | 72-151 | | | | 4/4/2013 2043h |
| 1304147-001AMS | Surr: 4-Bromofluorobenzene | %REC | SW8260C | 47.8 | 50.00 | | 95.6 | 80-128 | | | | 4/4/2013 2043h |
| 1304147-001AMS | Surr: Dibromofluoromethane | %REC | SW8260C | 49.2 | 50.00 | | 98.4 | 80-124 | | | | 4/4/2013 2043h |
| 1304147-001AMS | Surr: Toluene-d8 | %REC | SW8260C | 45.7 | 50.00 | | 91.4 | 77-129 | | | | 4/4/2013 2043h |



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

# QC SUMMARY REPORT

**Client:** Utah Division of Water Quality
**Lab Set ID:** 1304147
**Project:** MP 44.9

**Contact:** Chris Bittner
**Dept:** MSVOA
**QC Type:** MSD

| Sample ID | Analyte | Units | Method | Result | Amount Spiked | Original Amount | %REC | Limits | %RPD | RPD Limit | Qual | Date Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1304147-001AMSD | 1,1,1-Trichloroethane | µg/L | SW8260C | 24.9 | 20.00 | 0 | 125 | 67-147 | 1.09 | 25 | | 4/4/2013 2102h |
| 1304147-001AMSD | 1,1-Dichloroethene | µg/L | SW8260C | 26.4 | 20.00 | 0 | 132 | 51-152 | 0.0758 | 25 | | 4/4/2013 2102h |
| 1304147-001AMSD | 1,2-Dichlorobenzene | µg/L | SW8260C | 19.6 | 20.00 | 0 | 98.2 | 70-130 | 0.306 | 25 | | 4/4/2013 2102h |
| 1304147-001AMSD | 1,2-Dichloroethane | µg/L | SW8260C | 22.4 | 20.00 | 0 | 112 | 39-162 | 1.3 | 25 | | 4/4/2013 2102h |
| 1304147-001AMSD | 1,2-Dichloropropane | µg/L | SW8260C | 19.2 | 20.00 | 0 | 95.8 | 59-135 | 1.31 | 25 | | 4/4/2013 2102h |
| 1304147-001AMSD | Benzene | µg/L | SW8260C | 21.1 | 20.00 | 0 | 106 | 66-145 | 0.903 | 25 | | 4/4/2013 2102h |
| 1304147-001AMSD | Chlorobenzene | µg/L | SW8260C | 20.5 | 20.00 | 0 | 103 | 63-140 | 0.784 | 25 | | 4/4/2013 2102h |
| 1304147-001AMSD | Chloroform | µg/L | SW8260C | 22.0 | 20.00 | 0 | 110 | 50-146 | 0.5 | 25 | | 4/4/2013 2102h |
| 1304147-001AMSD | Ethylbenzene | µg/L | SW8260C | 20.9 | 20.00 | 0 | 104 | 69-133 | 1.89 | 25 | | 4/4/2013 2102h |
| 1304147-001AMSD | Isopropylbenzene | µg/L | SW8260C | 21.2 | 20.00 | 0 | 106 | 60-147 | 1.85 | 25 | | 4/4/2013 2102h |
| 1304147-001AMSD | Methyl tert-butyl ether | µg/L | SW8260C | 21.5 | 20.00 | 0 | 108 | 37-189 | 3.65 | 25 | | 4/4/2013 2102h |
| 1304147-001AMSD | Methylene chloride | µg/L | SW8260C | 23.2 | 20.00 | 0 | 116 | 30-192 | 0.302 | 25 | | 4/4/2013 2102h |
| 1304147-001AMSD | Naphthalene | µg/L | SW8260C | 17.1 | 20.00 | 0 | 85.7 | 41-131 | 0.879 | 25 | | 4/4/2013 2102h |
| 1304147-001AMSD | Tetrahydrofuran | µg/L | SW8260C | 15.7 | 20.00 | 0 | 78.4 | 43-146 | 3.88 | 25 | | 4/4/2013 2102h |
| 1304147-001AMSD | Toluene | µg/L | SW8260C | 20.4 | 20.00 | 0 | 102 | 18-192 | 1.73 | 25 | | 4/4/2013 2102h |
| 1304147-001AMSD | Trichloroethene | µg/L | SW8260C | 22.4 | 20.00 | 0 | 112 | 61-153 | 0.134 | 25 | | 4/4/2013 2102h |
| 1304147-001AMSD | Xylenes, Total | µg/L | SW8260C | 62.1 | 60.00 | 0 | 103 | 42-167 | 1.51 | 25 | | 4/4/2013 2102h |
| 1304147-001AMSD | Surr: 1,2-Dichloroethane-d4 | %REC | SW8260C | 56.1 | 50.00 | | 112 | 72-151 | | | | 4/4/2013 2102h |
| 1304147-001AMSD | Surr: 4-Bromofluorobenzene | %REC | SW8260C | 49.1 | 50.00 | | 98.2 | 80-128 | | | | 4/4/2013 2102h |
| 1304147-001AMSD | Surr: Dibromofluoromethane | %REC | SW8260C | 53.8 | 50.00 | | 108 | 80-124 | | | | 4/4/2013 2102h |
| 1304147-001AMSD | Surr: Toluene-d8 | %REC | SW8260C | 47.8 | 50.00 | | 95.6 | 77-129 | | | | 4/4/2013 2102h |



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Data File C:\CHEM32\1\DATA\0405-TPH 2013-04-05 11-30-13\006F0601.D
Sample Name: 1304147-001C

==========

Acq. Operator : Seq. Line : 6
Acq. Instrument : GC C Location : Vial 6
Injection Date : 4/5/2013 1:13:09 PM Inj : 1
Inj Volume : 5 µl
Acq. Method : C:\CHEM32\1\DATA\0405-TPH 2013-04-05 11-30-13\TPH-FRONT-1090171B.M
Last changed : 4/5/2013 10:56:16 AM
Analysis Method : C:\CHEM32\1\DATA\0405-TPH 2013-04-05 11-30-13\TPH-FRONT-1090171B.M (Sequence Method)
Last changed : 4/7/2013 10:08:59 AM

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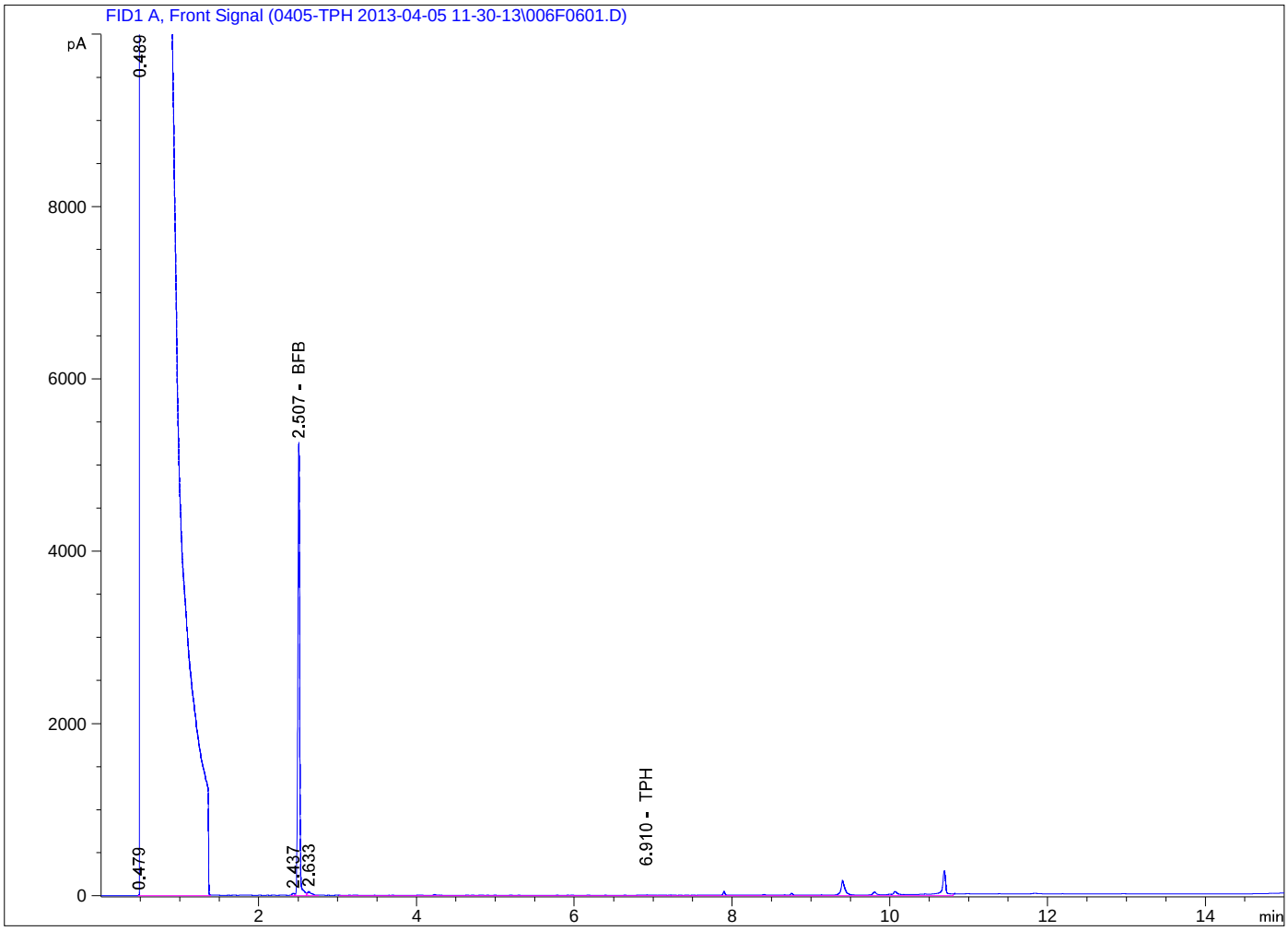


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External Standard Report

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Sorted By : Signal
Calib. Data Modified : 4/7/2013 10:05:51 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Data File C:\CHEM32\1\DATA\0405-TPH 2013-04-05 11-30-13\009F0901.D
Sample Name: 1304147-002C

==========

Acq. Operator : Seq. Line : 9
Acq. Instrument : GC C Location : Vial 9
Injection Date : 4/5/2013 2:12:24 PM Inj : 1
Inj Volume : 5 µl
Acq. Method : C:\CHEM32\1\DATA\0405-TPH 2013-04-05 11-30-13\TPH-FRONT-1090171B.M
Last changed : 4/5/2013 10:56:16 AM
Analysis Method : C:\CHEM32\1\DATA\0405-TPH 2013-04-05 11-30-13\TPH-FRONT-1090171B.M (Sequence Method)
Last changed : 4/7/2013 10:08:59 AM

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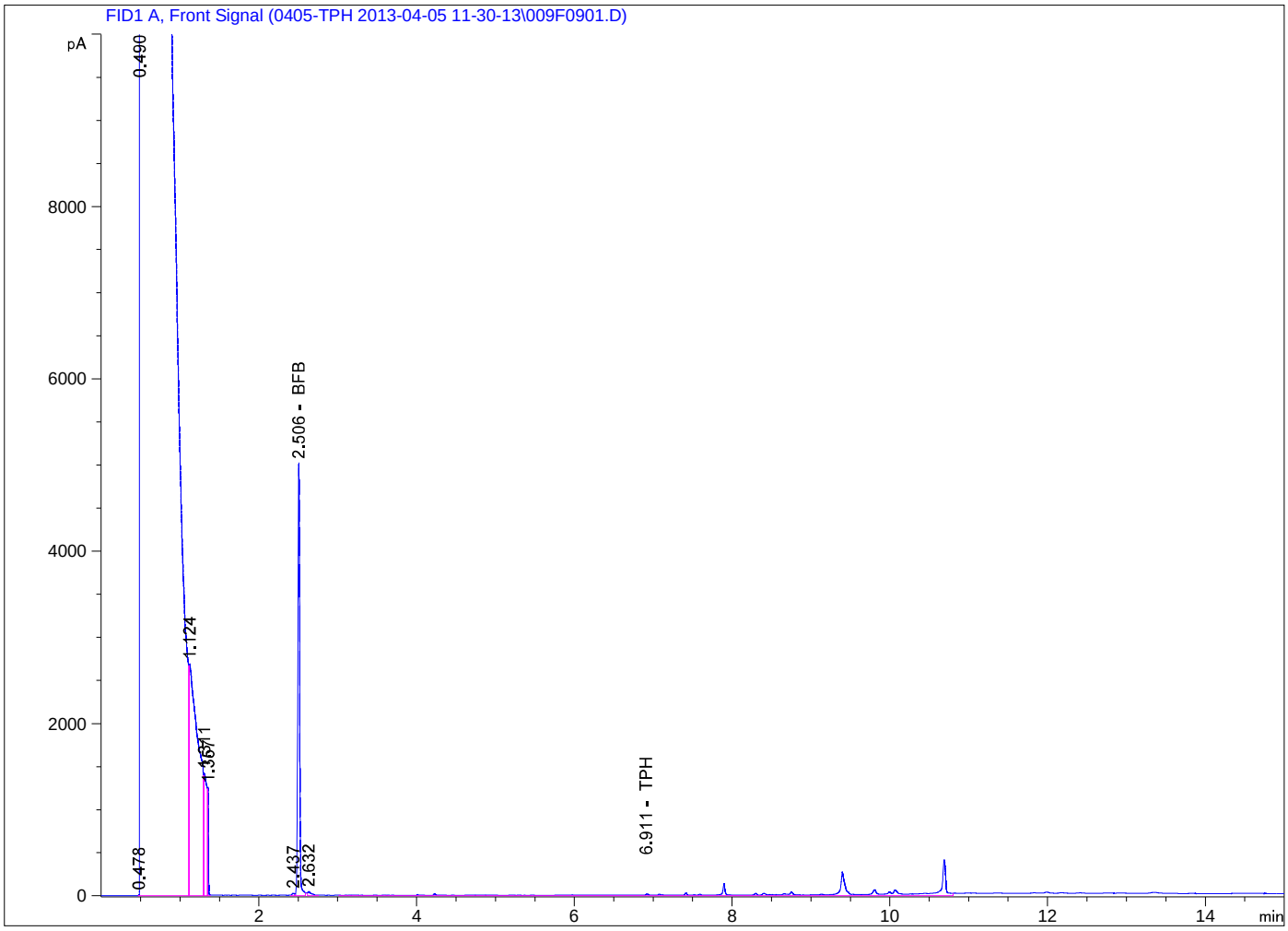


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External Standard Report

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Sorted By : Signal
Calib. Data Modified : 4/7/2013 10:05:51 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Data File C:\CHEM32\1\DATA\0405-TPH 2013-04-05 11-30-13\010F1001.D
Sample Name: 1304147-003C

==========

Acq. Operator : Seq. Line : 10
Acq. Instrument : GC C Location : Vial 10
Injection Date : 4/5/2013 2:32:02 PM Inj : 1
Inj Volume : 5 µl
Acq. Method : C:\CHEM32\1\DATA\0405-TPH 2013-04-05 11-30-13\TPH-FRONT-1090171B.M
Last changed : 4/5/2013 10:56:16 AM
Analysis Method : C:\CHEM32\1\DATA\0405-TPH 2013-04-05 11-30-13\TPH-FRONT-1090171B.M (Sequence Method)
Last changed : 4/7/2013 10:08:59 AM

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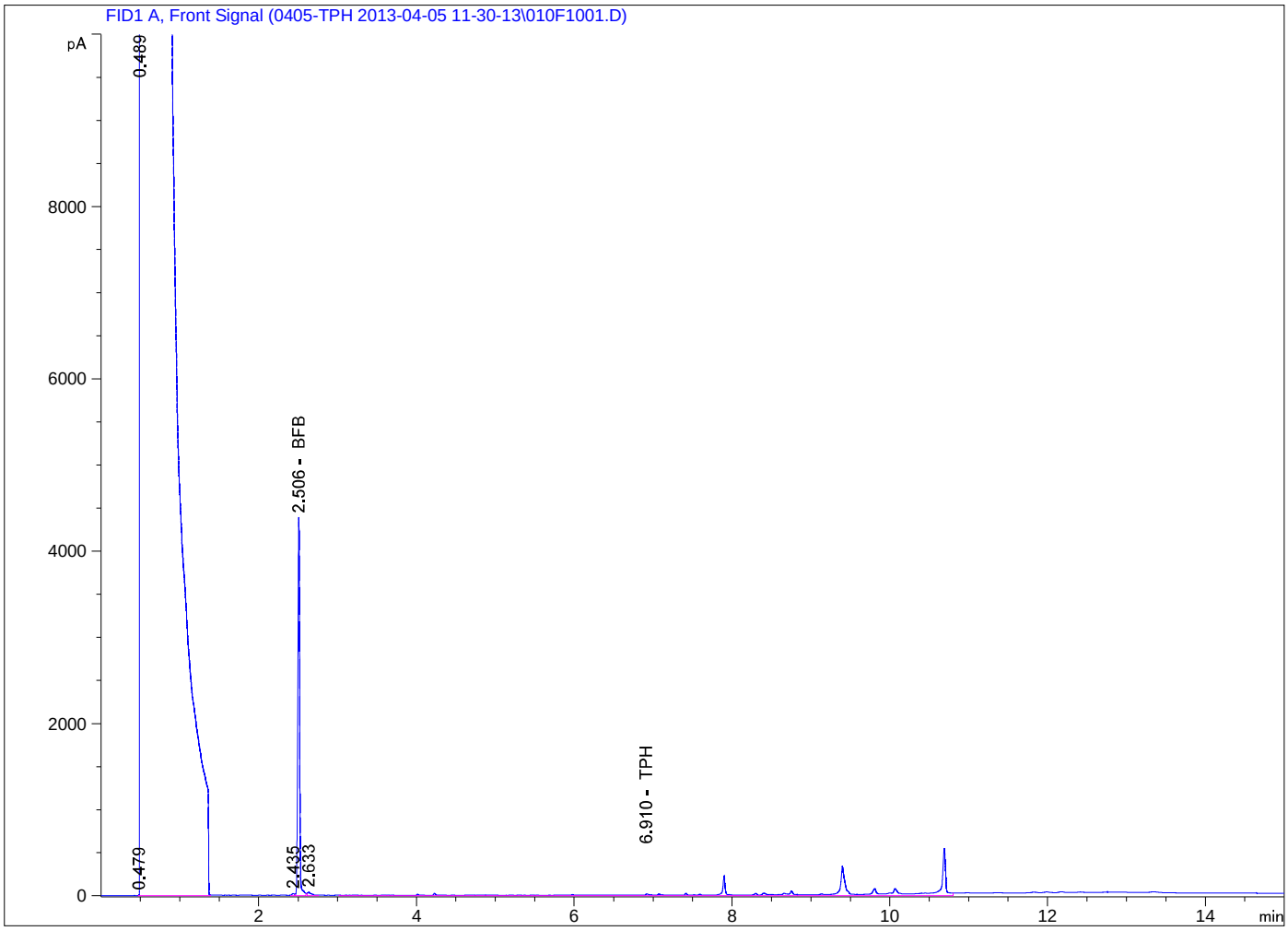


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External Standard Report

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Sorted By : Signal
Calib. Data Modified : 4/7/2013 10:05:51 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Data File C:\CHEM32\1\DATA\0405-TPH 2013-04-05 11-30-13\011F1101.D
Sample Name: 1304147-004C

==========

Acq. Operator : Seq. Line : 11
Acq. Instrument : GC C Location : Vial 11
Injection Date : 4/5/2013 2:51:40 PM Inj : 1
Inj Volume : 5 µl
Acq. Method : C:\CHEM32\1\DATA\0405-TPH 2013-04-05 11-30-13\TPH-FRONT-1090171B.M
Last changed : 4/5/2013 10:56:16 AM
Analysis Method : C:\CHEM32\1\DATA\0405-TPH 2013-04-05 11-30-13\TPH-FRONT-1090171B.M (Sequence Method)
Last changed : 4/7/2013 10:08:59 AM

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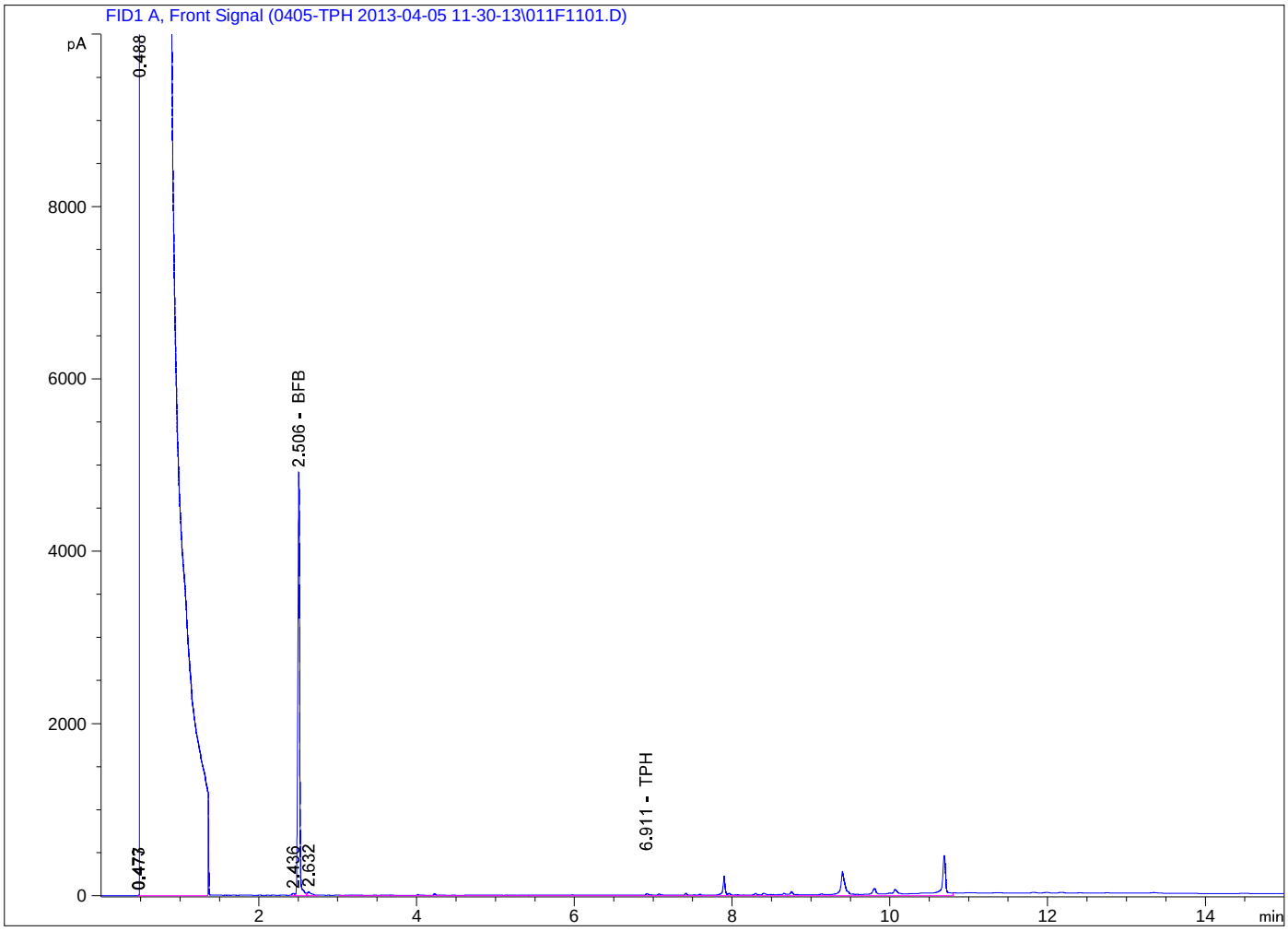


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External Standard Report

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Sorted By : Signal
Calib. Data Modified : 4/7/2013 10:05:51 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Data File C:\CHEM32\1\DATA\0405-TPH 2013-04-05 11-30-13\012F1201.D
Sample Name: 1304147-005C

==========

Acq. Operator : Seq. Line : 12
Acq. Instrument : GC C Location : Vial 12
Injection Date : 4/5/2013 3:11:16 PM Inj : 1
Inj Volume : 5 µl
Acq. Method : C:\CHEM32\1\DATA\0405-TPH 2013-04-05 11-30-13\TPH-FRONT-1090171B.M
Last changed : 4/5/2013 10:56:16 AM
Analysis Method : C:\CHEM32\1\DATA\0405-TPH 2013-04-05 11-30-13\TPH-FRONT-1090171B.M (Sequence Method)
Last changed : 4/7/2013 10:08:59 AM

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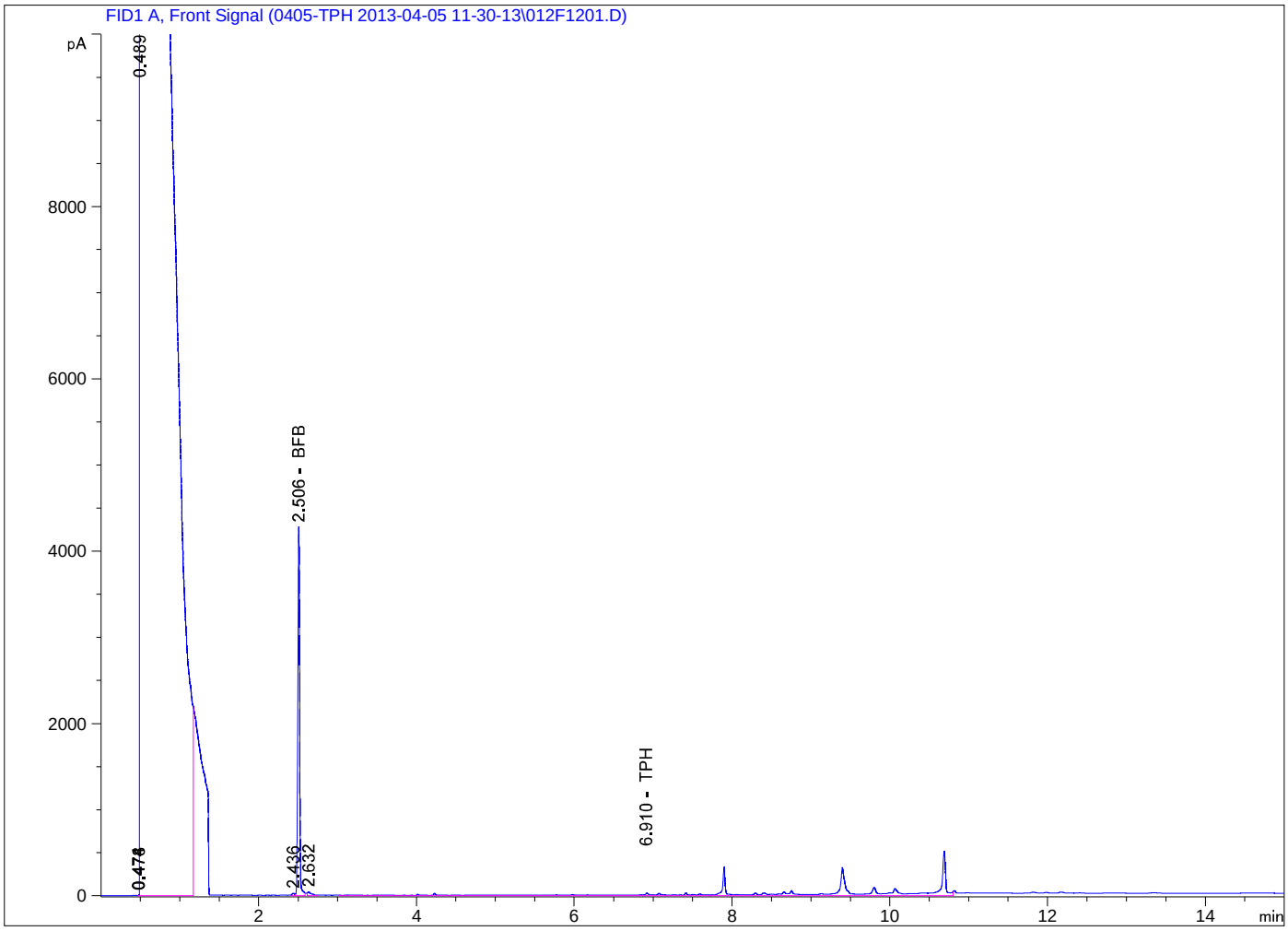


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External Standard Report

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Sorted By : Signal
Calib. Data Modified : 4/7/2013 10:05:51 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Data File C:\CHEM32\1\DATA\0405-TPH 2013-04-05 11-30-13\013F1301.D
Sample Name: 1304147-006C

==========

Acq. Operator : Seq. Line : 13
Acq. Instrument : GC C Location : Vial 13
Injection Date : 4/5/2013 3:30:55 PM Inj : 1
Inj Volume : 5 µl
Acq. Method : C:\CHEM32\1\DATA\0405-TPH 2013-04-05 11-30-13\TPH-FRONT-1090171B.M
Last changed : 4/5/2013 10:56:16 AM
Analysis Method : C:\CHEM32\1\DATA\0405-TPH 2013-04-05 11-30-13\TPH-FRONT-1090171B.M (Sequence Method)
Last changed : 4/7/2013 10:08:59 AM

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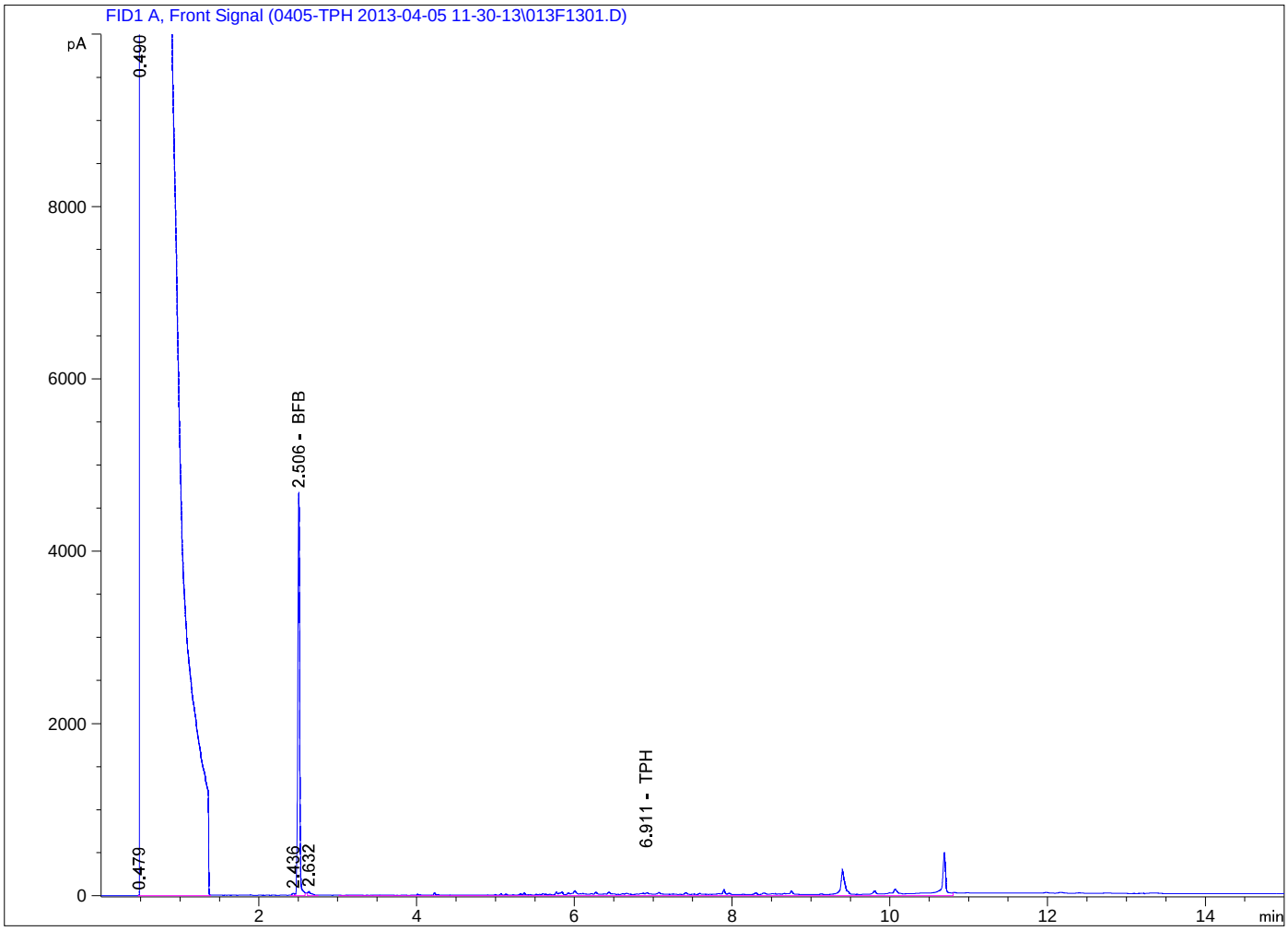


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External Standard Report

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Sorted By : Signal
Calib. Data Modified : 4/7/2013 10:05:51 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Data File C:\CHEM32\1\DATA\0405-TPH 2013-04-05 11-30-13\104B0401.D
Sample Name: 1304147-007C

==========

Acq. Operator : Seq. Line : 4
Acq. Instrument : GC C Location : Vial 104
Injection Date : 4/5/2013 12:33:57 PM Inj : 1
Inj Volume : 5 µl
Acq. Method : C:\CHEM32\1\DATA\0405-TPH 2013-04-05 11-30-13\TPH-FRONT-1090171B.M
Last changed : 4/5/2013 10:56:16 AM
Analysis Method : C:\CHEM32\1\DATA\0405-TPH 2013-04-05 11-30-13\TPH-BACK-1090170B.M (Sequence Method)
Last changed : 4/7/2013 10:05:22 AM

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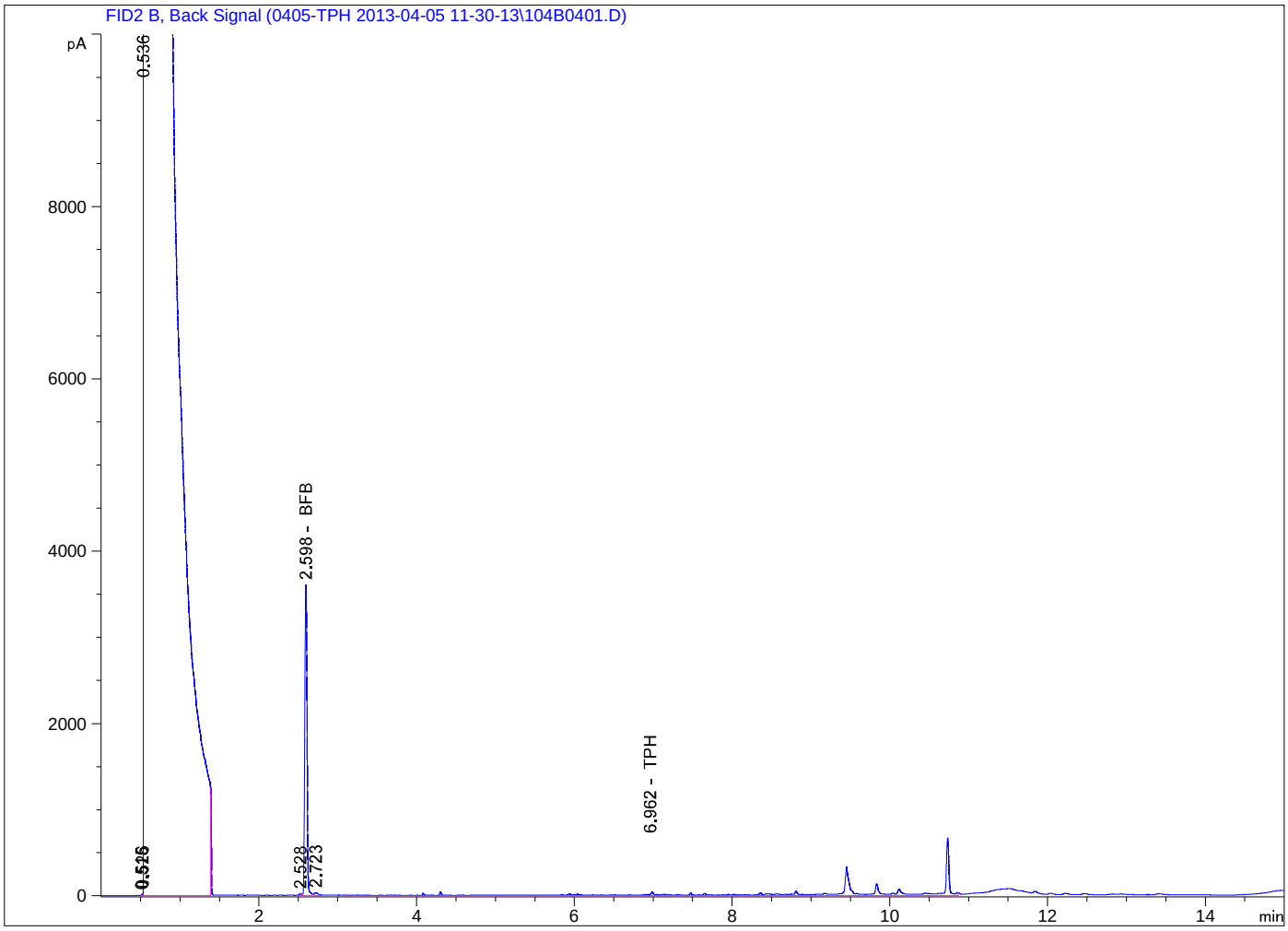


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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Friday, January 04, 2013 11:07:02 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Data File C:\CHEM32\1\DATA\0405-TPH 2013-04-05 11-30-13\105B0501.D
Sample Name: 1304147-008C

```
==================================================================
Acq. Operator   :                              Seq. Line :   5
Acq. Instrument : GC C                          Location : Vial 105
Injection Date  : 4/5/2013 12:53:30 PM               Inj :   1
                                              Inj Volume : 5 µl
Acq. Method     : C:\CHEM32\1\DATA\0405-TPH 2013-04-05 11-30-13\TPH-FRONT-1090171B.M
Last changed    : 4/5/2013 10:56:16 AM
Analysis Method : C:\CHEM32\1\DATA\0405-TPH 2013-04-05 11-30-13\TPH-BACK-1090170B.M (Sequence
                  Method)
Last changed    : 4/7/2013 10:05:22 AM
==================================================================
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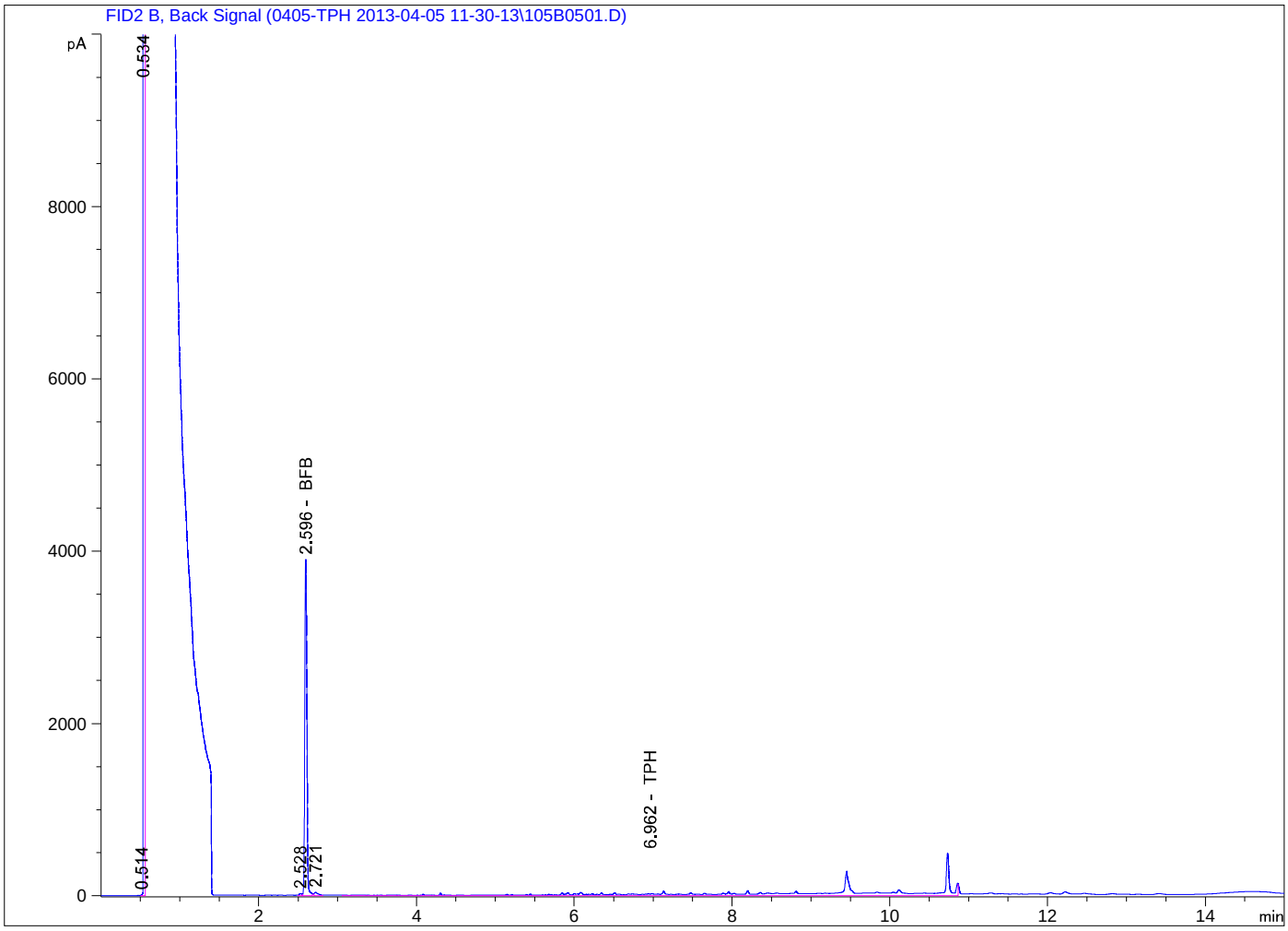


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==================================================================
                      External Standard Report
==================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Friday, January 04, 2013 11:07:02 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs
```

Data File C:\CHEM32\1\DATA\0405-TPH 2013-04-05 11-30-13\106B0601.D
Sample Name: 1304147-009C

==========

Acq. Operator : Seq. Line : 6
Acq. Instrument : GC C Location : Vial 106
Injection Date : 4/5/2013 1:13:09 PM Inj : 1
Inj Volume : 5 µl
Acq. Method : C:\CHEM32\1\DATA\0405-TPH 2013-04-05 11-30-13\TPH-FRONT-1090171B.M
Last changed : 4/5/2013 10:56:16 AM
Analysis Method : C:\CHEM32\1\DATA\0405-TPH 2013-04-05 11-30-13\TPH-BACK-1090170B.M (Sequence Method)
Last changed : 4/7/2013 10:05:22 AM

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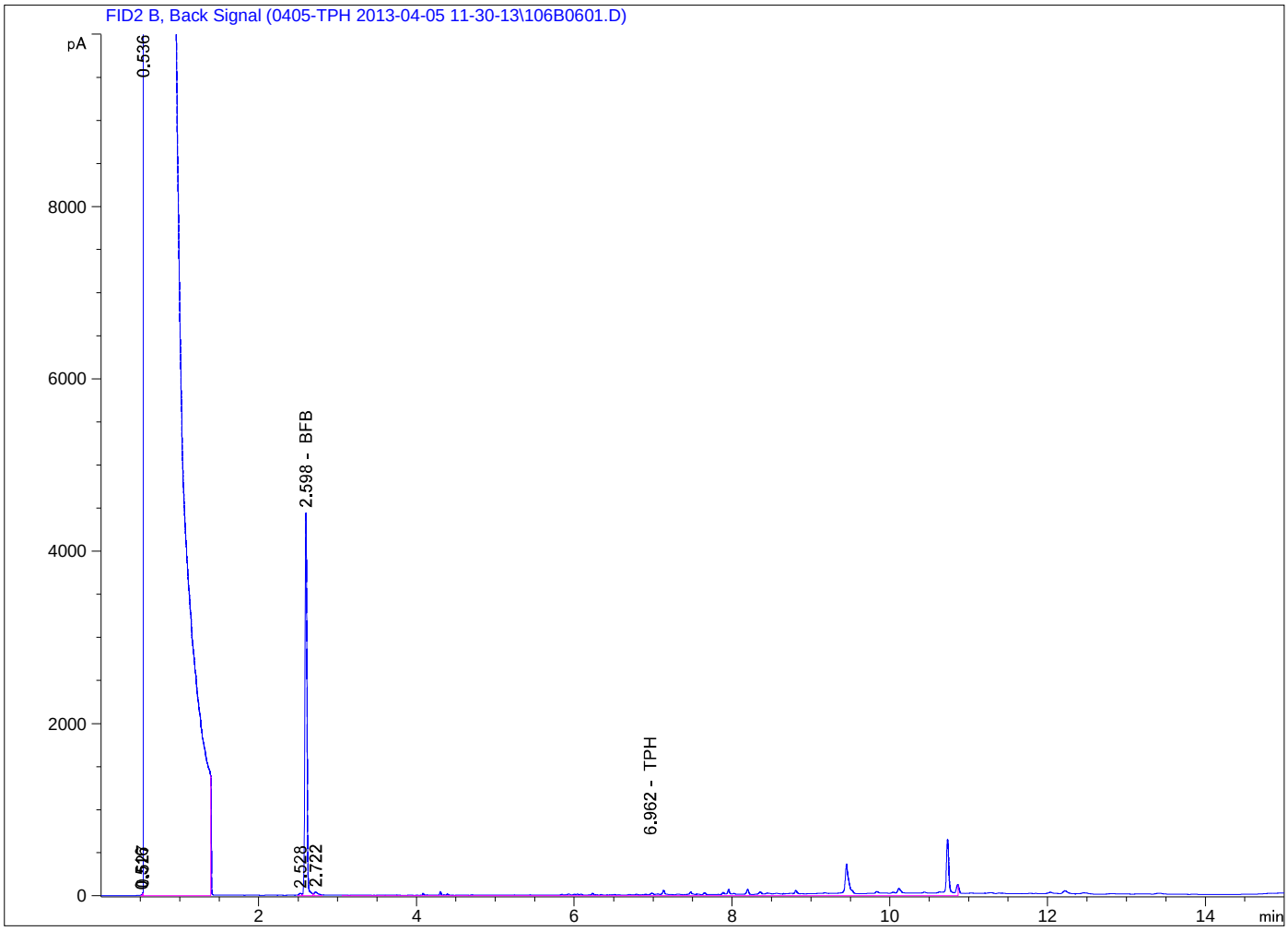


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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Friday, January 04, 2013 11:07:02 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Data File C:\CHEM32\1\DATA\0405-TPH 2013-04-05 11-30-13\107B0701.D
Sample Name: 1304147-010C

==========

Acq. Operator : Seq. Line : 7
Acq. Instrument : GC C Location : Vial 107
Injection Date : 4/5/2013 1:33:07 PM Inj : 1
Inj Volume : 5 µl
Acq. Method : C:\CHEM32\1\DATA\0405-TPH 2013-04-05 11-30-13\TPH-FRONT-1090171B.M
Last changed : 4/5/2013 10:56:16 AM
Analysis Method : C:\CHEM32\1\DATA\0405-TPH 2013-04-05 11-30-13\TPH-BACK-1090170B.M (Sequence Method)
Last changed : 4/7/2013 10:05:22 AM

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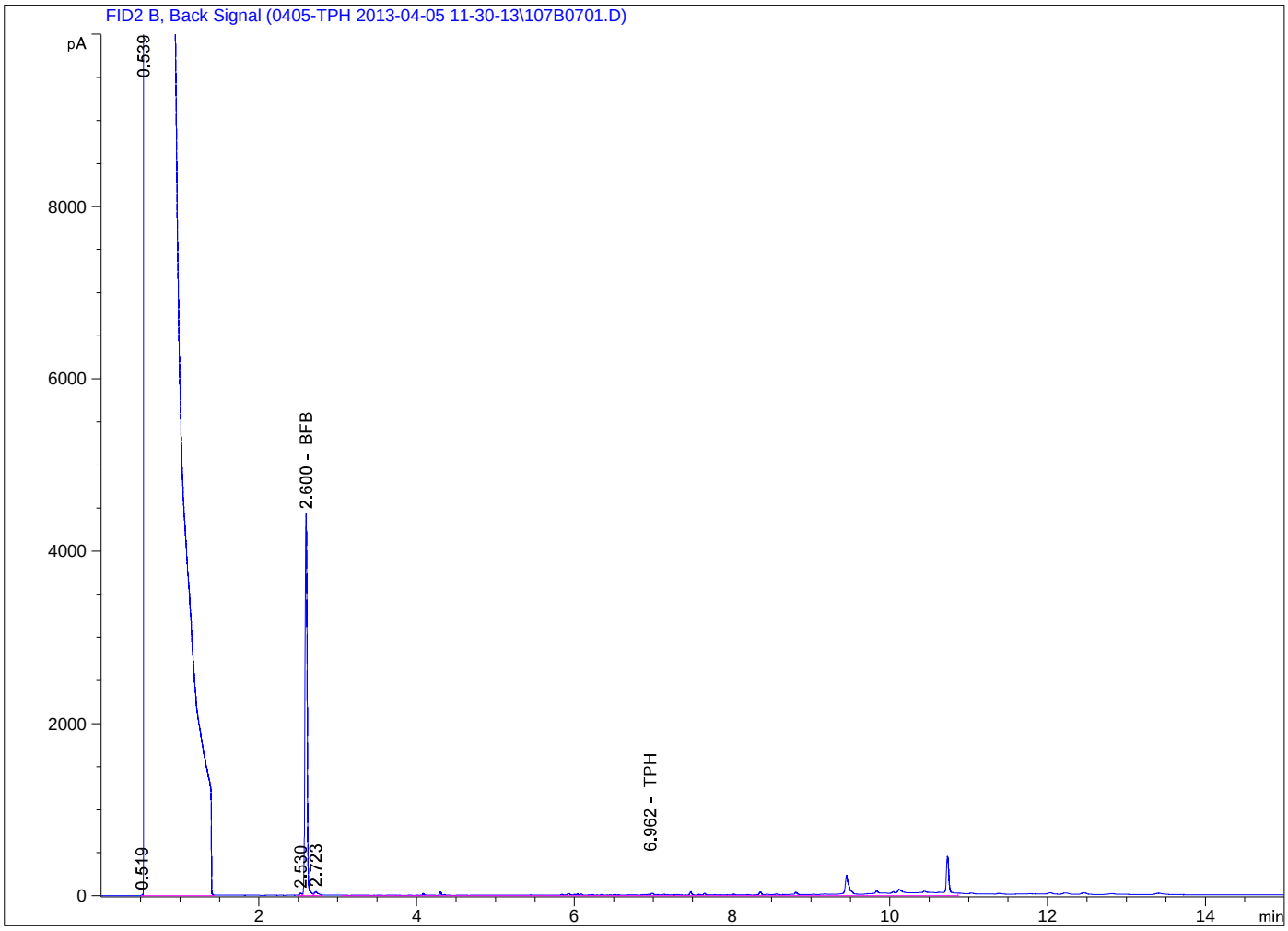


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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Friday, January 04, 2013 11:07:02 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Data File C:\CHEM32\1\DATA\0405-TPH 2013-04-05 11-30-13\108B0801.D
Sample Name: 1304147-011C

==========

Acq. Operator : Seq. Line : 8
Acq. Instrument : GC C Location : Vial 108
Injection Date : 4/5/2013 1:52:47 PM Inj : 1
Inj Volume : 5 µl
Acq. Method : C:\CHEM32\1\DATA\0405-TPH 2013-04-05 11-30-13\TPH-FRONT-1090171B.M
Last changed : 4/5/2013 10:56:16 AM
Analysis Method : C:\CHEM32\1\DATA\0405-TPH 2013-04-05 11-30-13\TPH-BACK-1090170B.M (Sequence Method)
Last changed : 4/7/2013 10:05:22 AM

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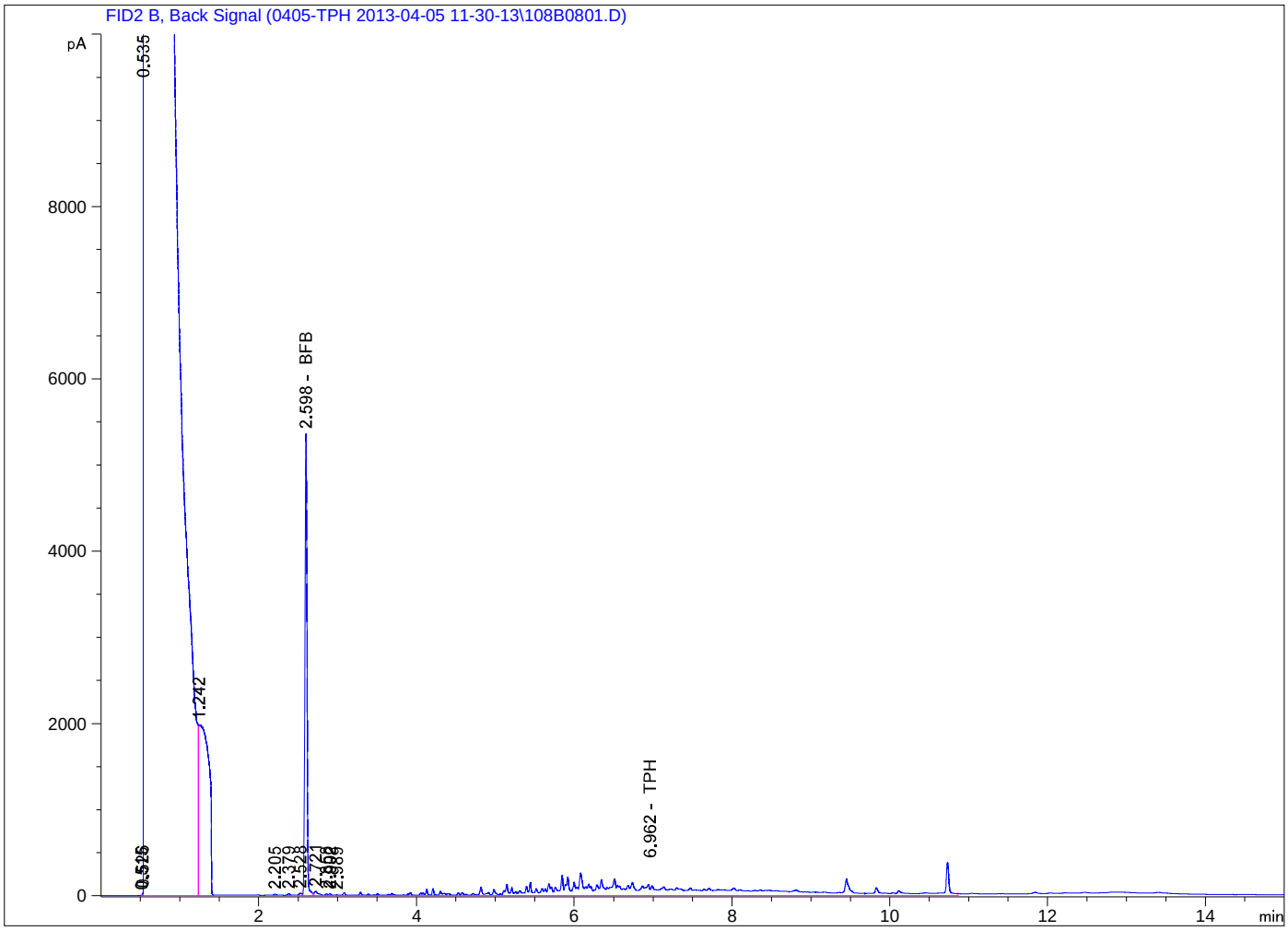


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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Friday, January 04, 2013 11:07:02 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Data File C:\CHEM32\1\DATA\0405-TPH 2013-04-05 11-30-13\109B0901.D
Sample Name: 1304147-012C

==========

Acq. Operator : Seq. Line : 9
Acq. Instrument : GC C Location : Vial 109
Injection Date : 4/5/2013 2:12:24 PM Inj : 1
Inj Volume : 5 µl
Acq. Method : C:\CHEM32\1\DATA\0405-TPH 2013-04-05 11-30-13\TPH-FRONT-1090171B.M
Last changed : 4/5/2013 10:56:16 AM
Analysis Method : C:\CHEM32\1\DATA\0405-TPH 2013-04-05 11-30-13\TPH-BACK-1090170B.M (Sequence Method)
Last changed : 4/7/2013 10:05:22 AM

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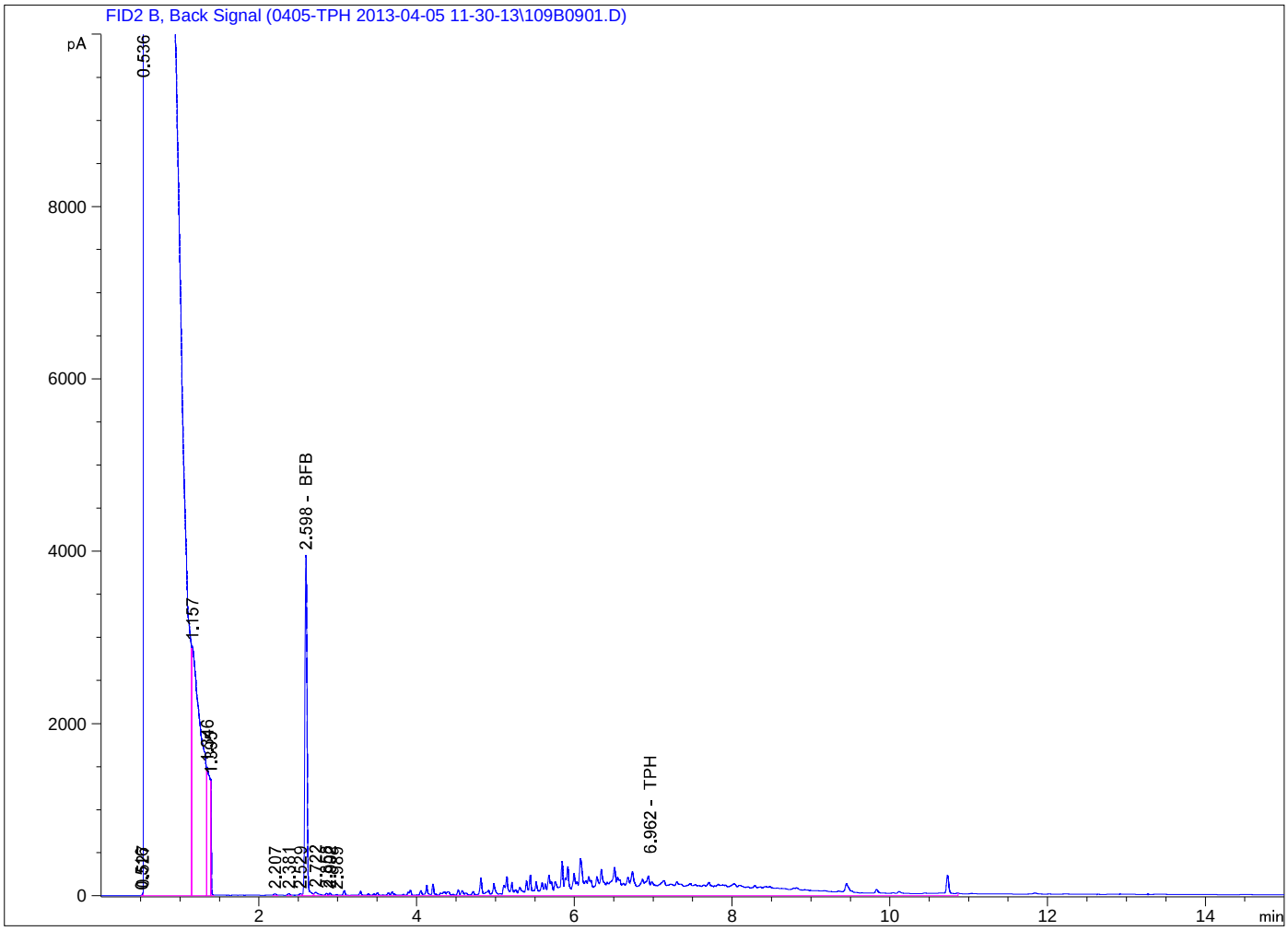


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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Friday, January 04, 2013 11:07:02 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Data File C:\CHEM32\1\DATA\0405-TPH 2013-04-05 11-30-13\110B1001.D
Sample Name: 1304147-013C

==========

Acq. Operator : Seq. Line : 10
Acq. Instrument : GC C Location : Vial 110
Injection Date : 4/5/2013 2:32:02 PM Inj : 1
Inj Volume : 5 µl
Acq. Method : C:\CHEM32\1\DATA\0405-TPH 2013-04-05 11-30-13\TPH-FRONT-1090171B.M
Last changed : 4/5/2013 10:56:16 AM
Analysis Method : C:\CHEM32\1\DATA\0405-TPH 2013-04-05 11-30-13\TPH-BACK-1090170B.M (Sequence Method)
Last changed : 4/7/2013 10:05:22 AM

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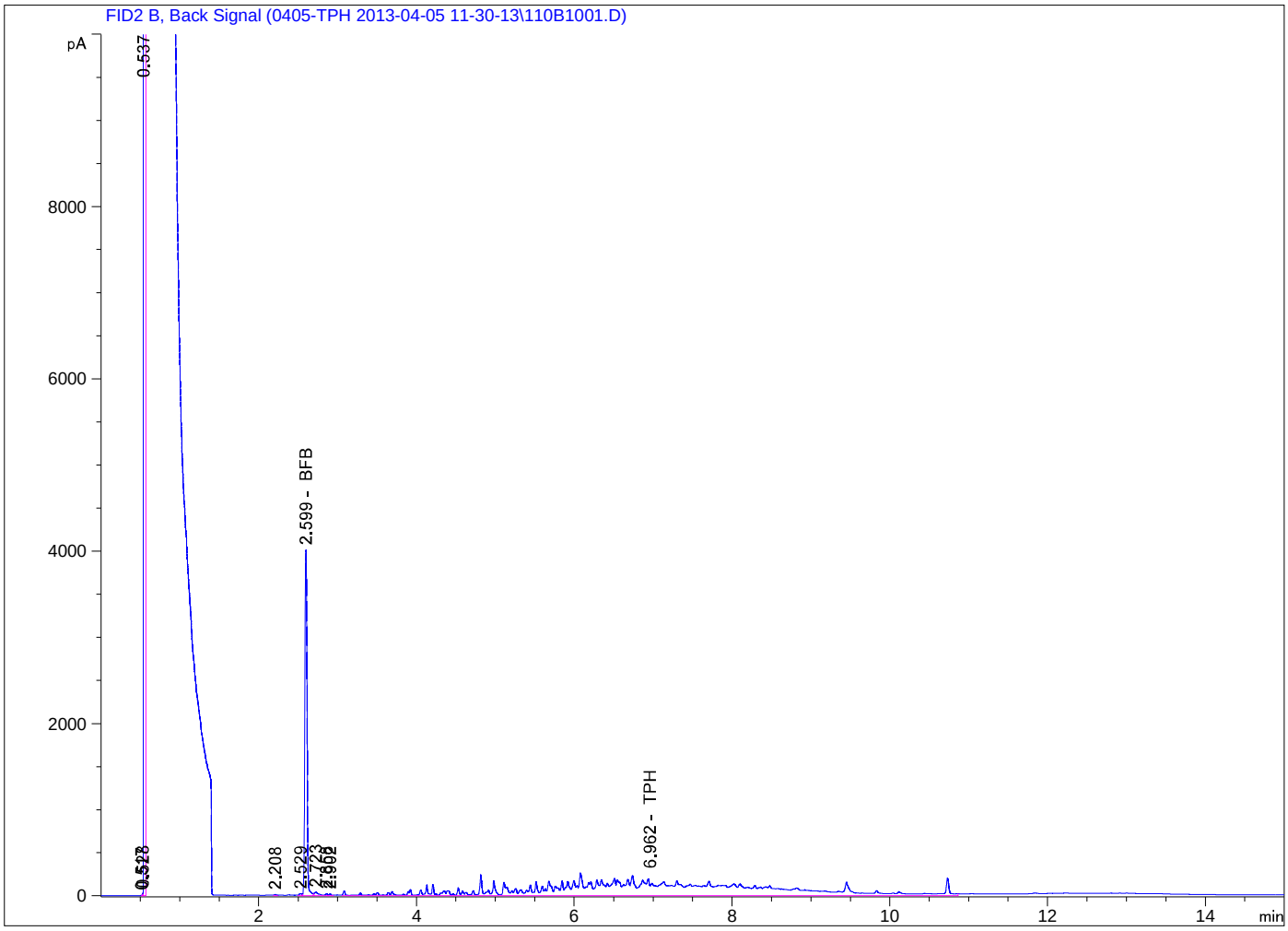


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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Friday, January 04, 2013 11:07:02 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Data File C:\CHEM32\1\DATA\0405-TPH 2013-04-05 11-30-13\111B1101.D
Sample Name: 1304147-014C

==========

Acq. Operator : Seq. Line : 11
Acq. Instrument : GC C Location : Vial 111
Injection Date : 4/5/2013 2:51:40 PM Inj : 1
Inj Volume : 5 µl
Acq. Method : C:\CHEM32\1\DATA\0405-TPH 2013-04-05 11-30-13\TPH-FRONT-1090171B.M
Last changed : 4/5/2013 10:56:16 AM
Analysis Method : C:\CHEM32\1\DATA\0405-TPH 2013-04-05 11-30-13\TPH-BACK-1090170B.M (Sequence Method)
Last changed : 4/7/2013 10:05:22 AM

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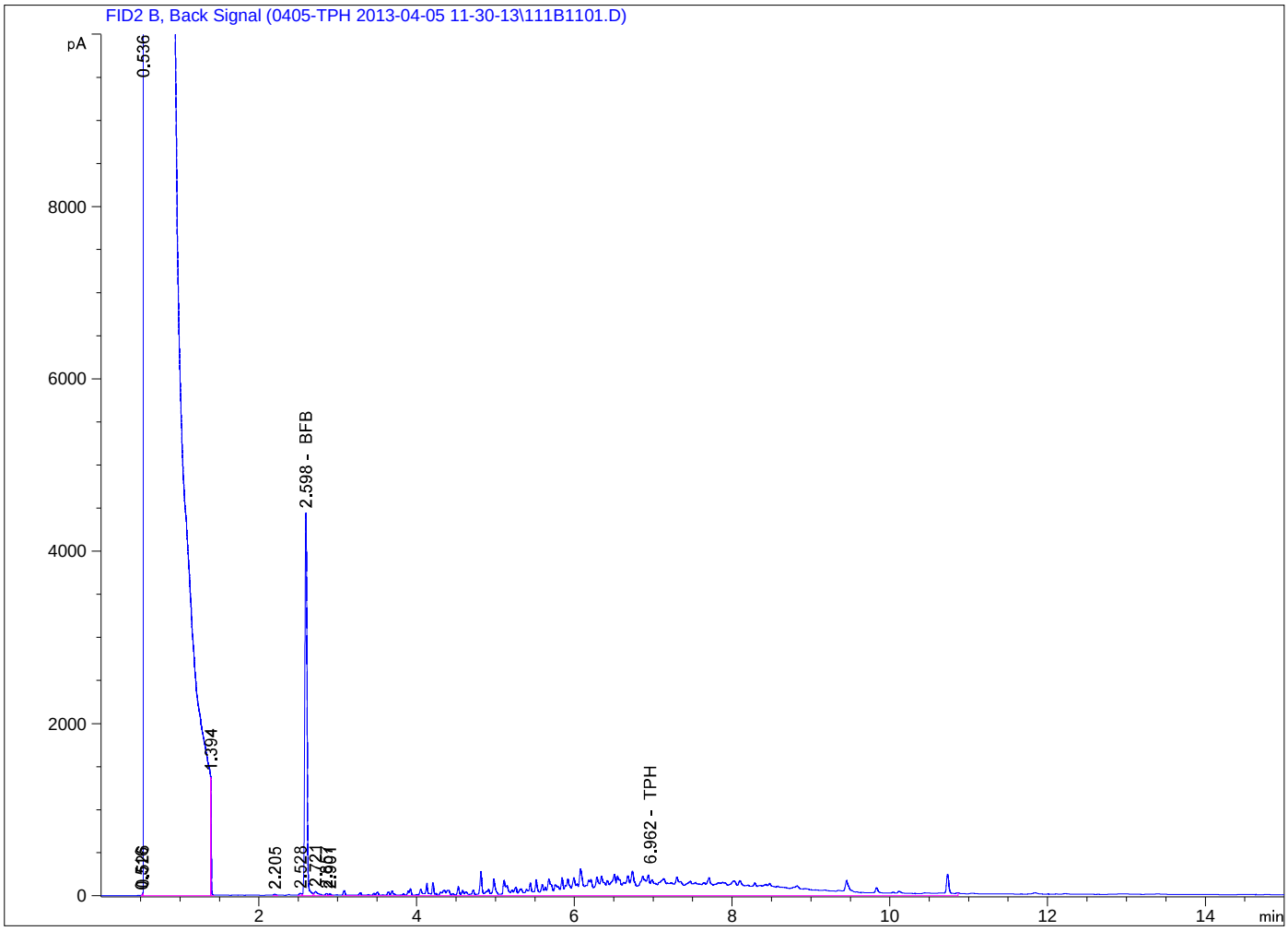


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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Friday, January 04, 2013 11:07:02 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Data File C:\CHEM32\1\DATA\0405-TPH 2013-04-05 11-30-13\112B1201.D
Sample Name: 1304147-015C

==========

Acq. Operator : Seq. Line : 12
Acq. Instrument : GC C Location : Vial 112
Injection Date : 4/5/2013 3:11:16 PM Inj : 1
Inj Volume : 5 µl
Acq. Method : C:\CHEM32\1\DATA\0405-TPH 2013-04-05 11-30-13\TPH-FRONT-1090171B.M
Last changed : 4/5/2013 10:56:16 AM
Analysis Method : C:\CHEM32\1\DATA\0405-TPH 2013-04-05 11-30-13\TPH-BACK-1090170B.M (Sequence Method)
Last changed : 4/7/2013 10:05:22 AM

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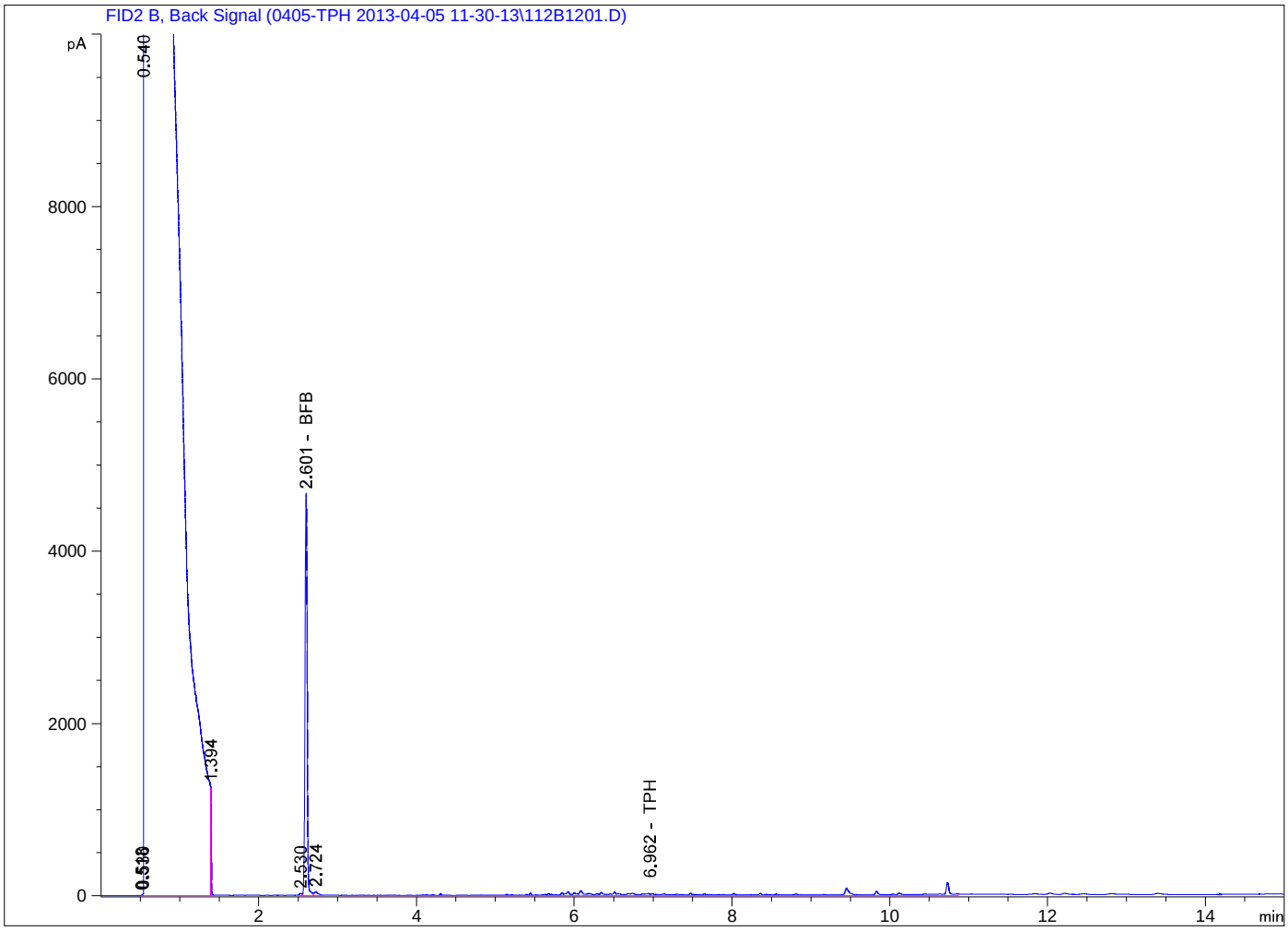


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External Standard Report

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Sorted By : Signal
Calib. Data Modified : Friday, January 04, 2013 11:07:02 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Data File C:\CHEM32\1\DATA\0405-TPH 2013-04-05 11-30-13\005F0501.D
Sample Name: LCS-24605

==========

Acq. Operator : Seq. Line : 5
Acq. Instrument : GC C Location : Vial 5
Injection Date : 4/5/2013 12:53:30 PM Inj : 1
Inj Volume : 5 µl
Acq. Method : C:\CHEM32\1\DATA\0405-TPH 2013-04-05 11-30-13\TPH-FRONT-1090171B.M
Last changed : 4/5/2013 10:56:16 AM
Analysis Method : C:\CHEM32\1\DATA\0405-TPH 2013-04-05 11-30-13\TPH-FRONT-1090171B.M (Sequence Method)
Last changed : 4/7/2013 10:08:59 AM

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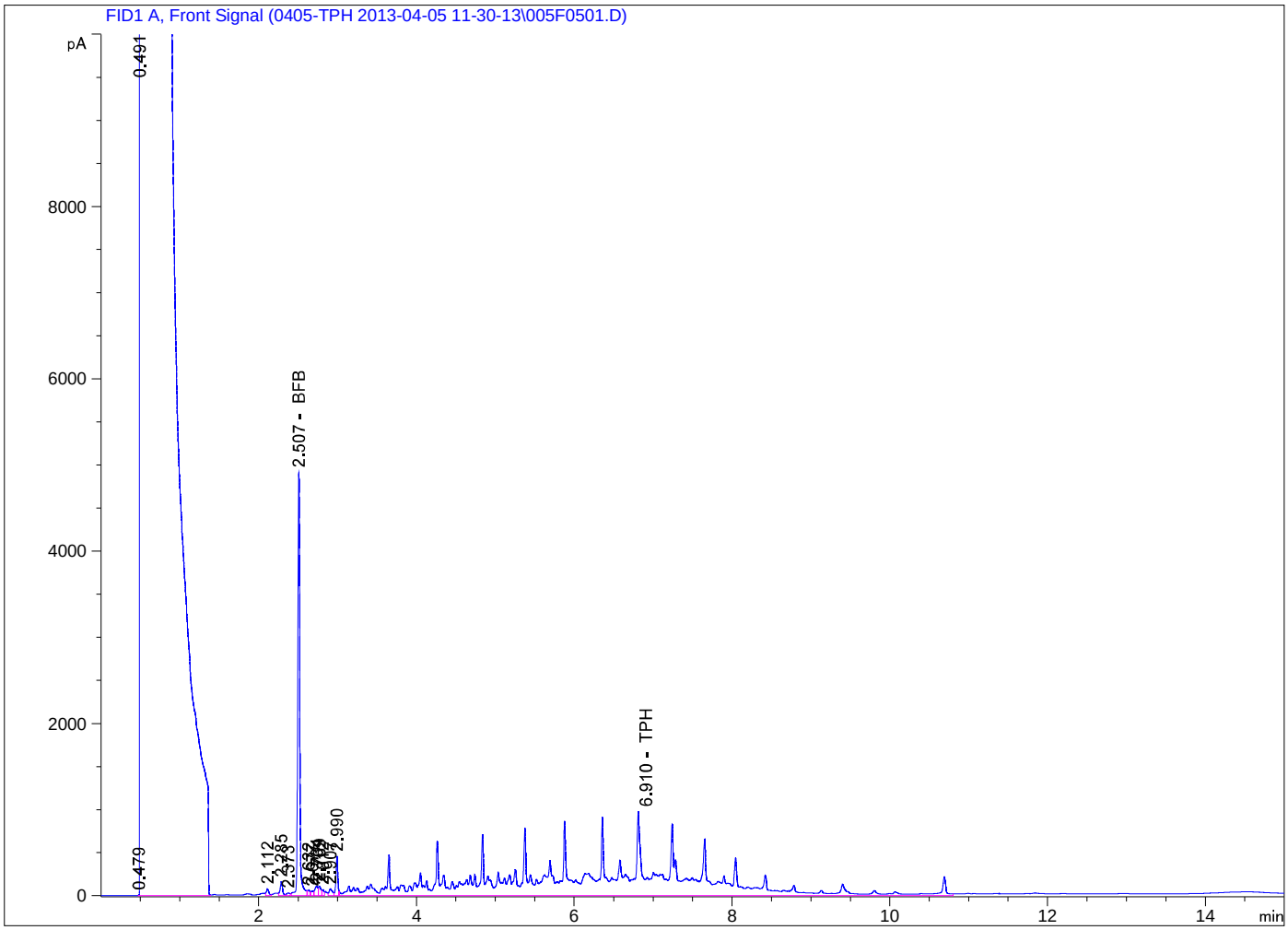


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External Standard Report

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Sorted By : Signal
Calib. Data Modified : 4/7/2013 10:05:51 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Data File C:\CHEM32\1\DATA\0405-TPH 2013-04-05 11-30-13\004F0401.D
Sample Name: MB-24605

==========

Acq. Operator : Seq. Line : 4
Acq. Instrument : GC C Location : Vial 4
Injection Date : 4/5/2013 12:33:57 PM Inj : 1
Inj Volume : 5 µl
Acq. Method : C:\CHEM32\1\DATA\0405-TPH 2013-04-05 11-30-13\TPH-FRONT-1090171B.M
Last changed : 4/5/2013 10:56:16 AM
Analysis Method : C:\CHEM32\1\DATA\0405-TPH 2013-04-05 11-30-13\TPH-FRONT-1090171B.M (Sequence Method)
Last changed : 4/7/2013 10:08:59 AM

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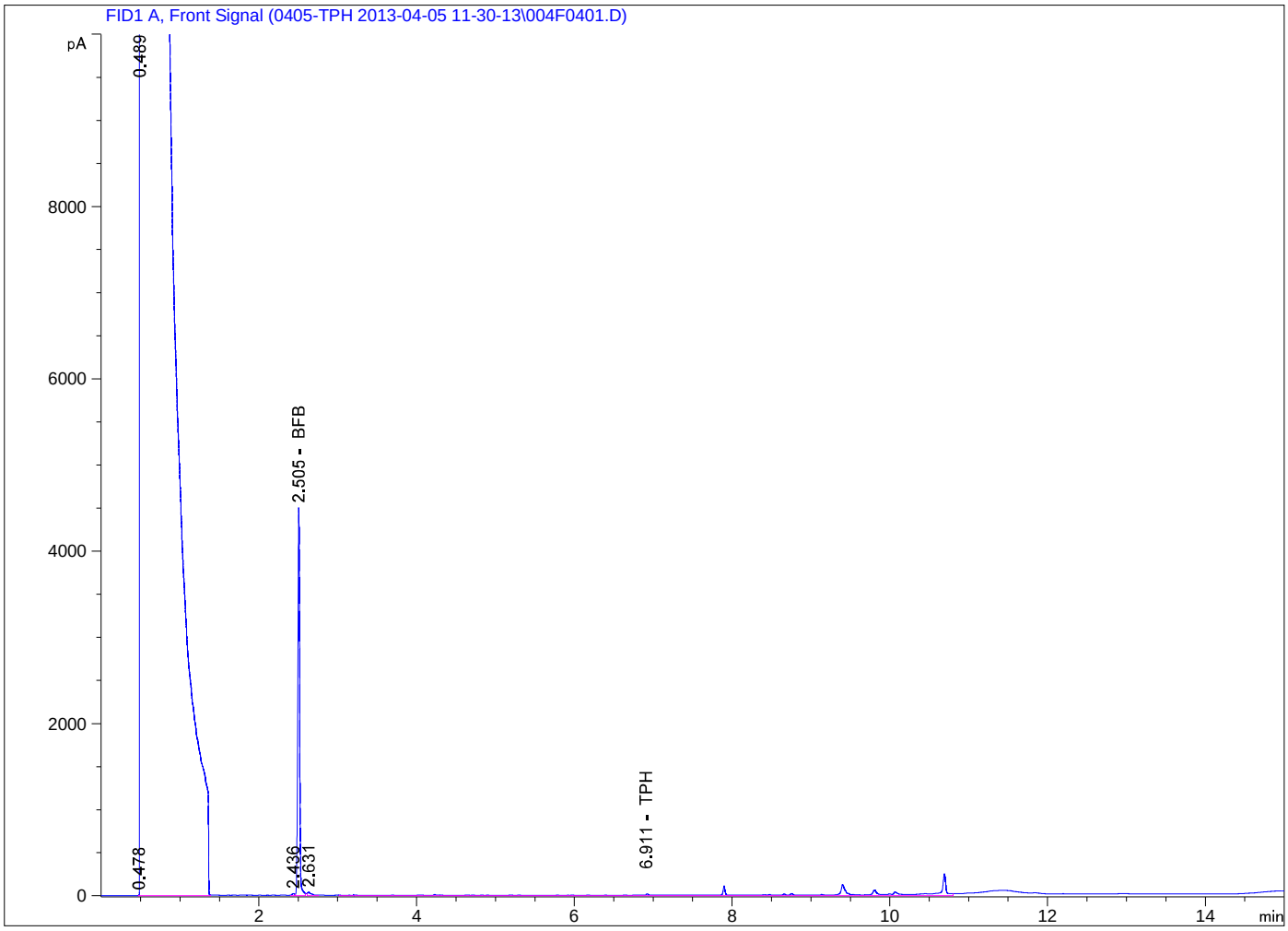


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External Standard Report

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Sorted By : Signal
Calib. Data Modified : 4/7/2013 10:05:51 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Data File C:\CHEM32\1\DATA\0405-TPH 2013-04-05 11-30-13\007F0701.D
Sample Name: 1304147-001CMS

==========

Acq. Operator : Seq. Line : 7
Acq. Instrument : GC C Location : Vial 7
Injection Date : 4/5/2013 1:33:07 PM Inj : 1
Inj Volume : 5 µl
Acq. Method : C:\CHEM32\1\DATA\0405-TPH 2013-04-05 11-30-13\TPH-FRONT-1090171B.M
Last changed : 4/5/2013 10:56:16 AM
Analysis Method : C:\CHEM32\1\DATA\0405-TPH 2013-04-05 11-30-13\TPH-FRONT-1090171B.M (Sequence Method)
Last changed : 4/7/2013 10:08:59 AM

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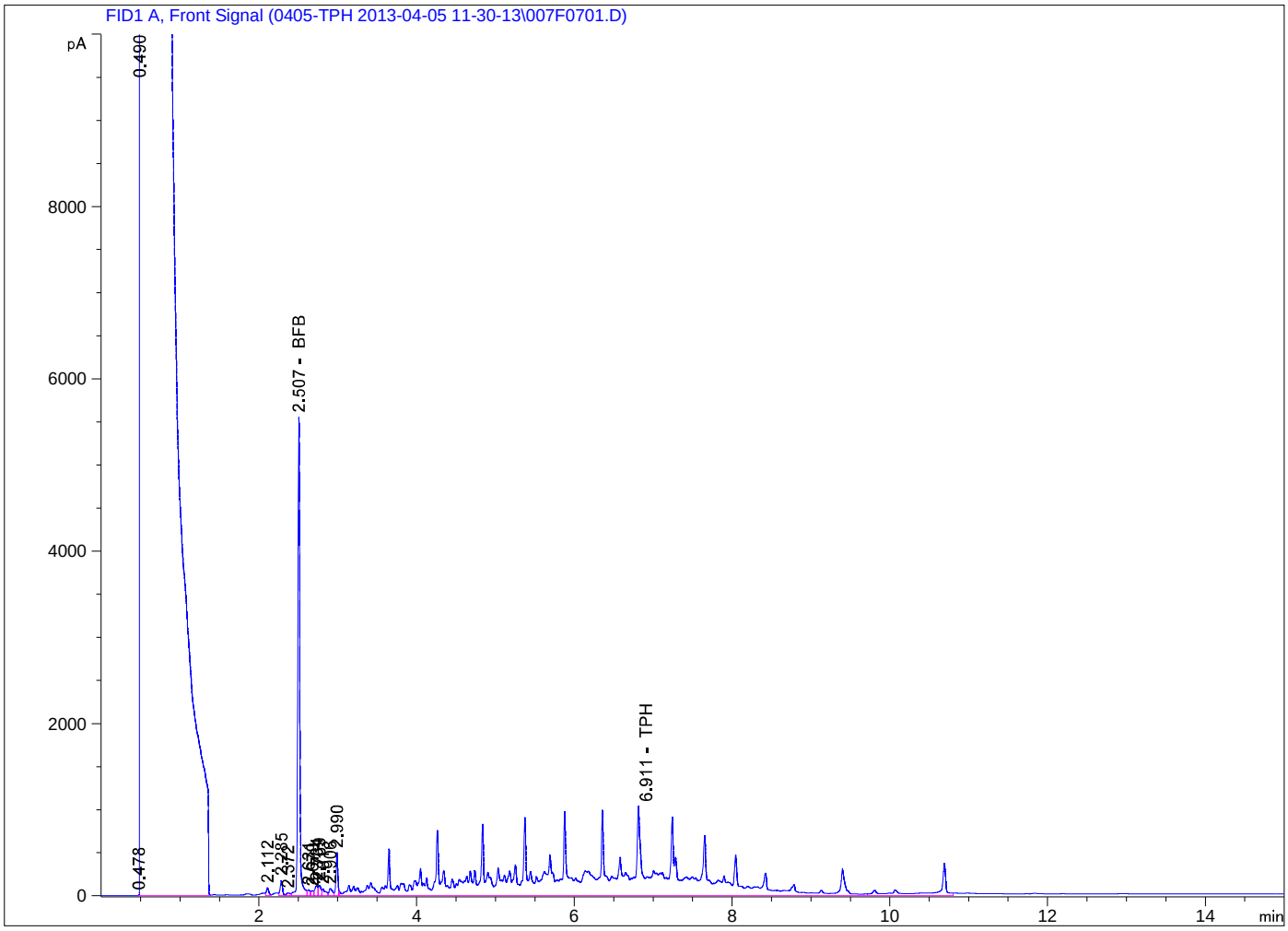


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External Standard Report

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Sorted By : Signal
Calib. Data Modified : 4/7/2013 10:05:51 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Data File C:\CHEM32\1\DATA\0405-TPH 2013-04-05 11-30-13\008F0801.D
Sample Name: 1304147-001CMSD

==========

Acq. Operator : Seq. Line : 8
Acq. Instrument : GC C Location : Vial 8
Injection Date : 4/5/2013 1:52:47 PM Inj : 1
Inj Volume : 5 µl
Acq. Method : C:\CHEM32\1\DATA\0405-TPH 2013-04-05 11-30-13\TPH-FRONT-1090171B.M
Last changed : 4/5/2013 10:56:16 AM
Analysis Method : C:\CHEM32\1\DATA\0405-TPH 2013-04-05 11-30-13\TPH-FRONT-1090171B.M (Sequence Method)
Last changed : 4/7/2013 10:08:59 AM

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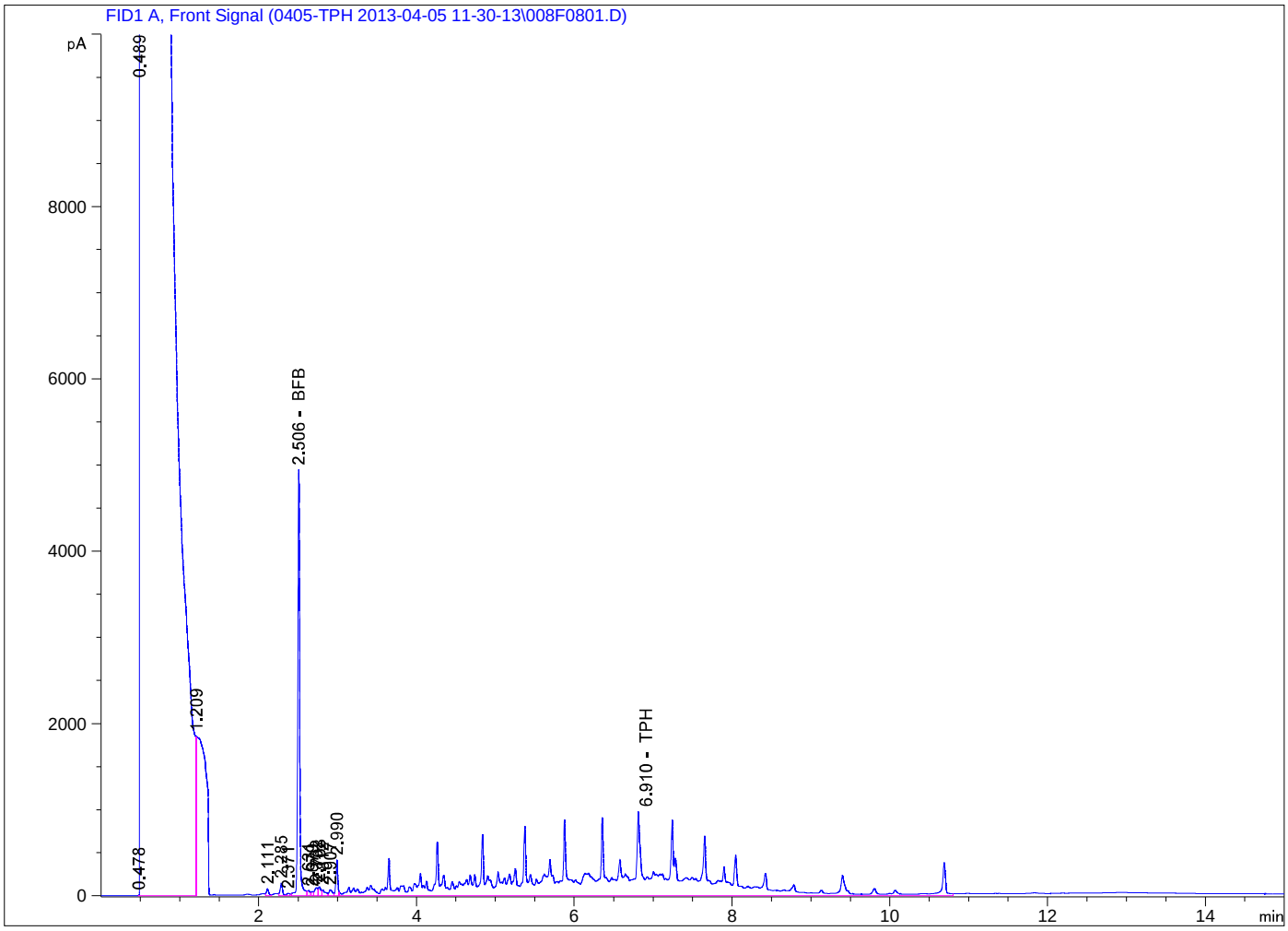


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External Standard Report

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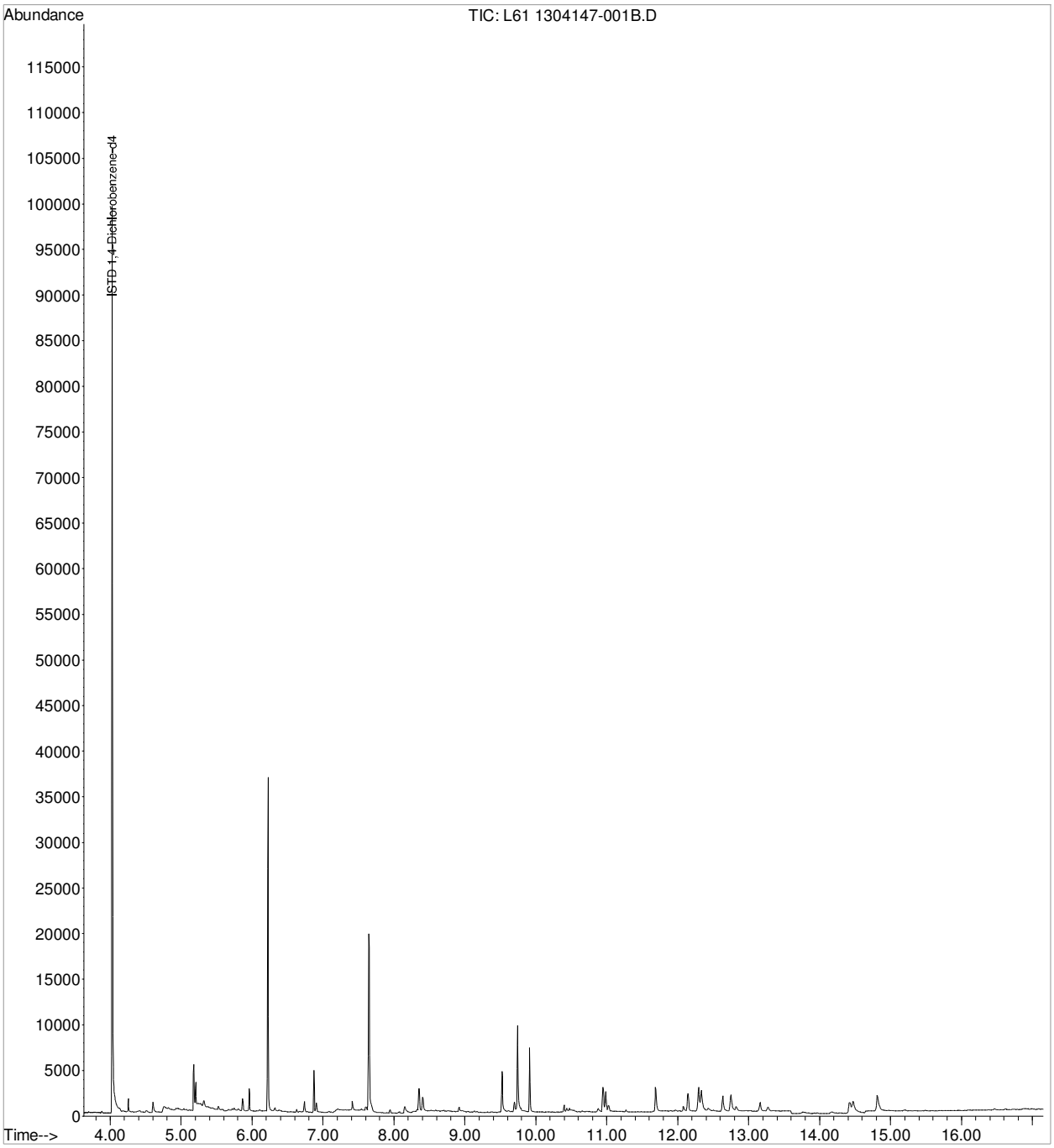
Sorted By : Signal
Calib. Data Modified : 4/7/2013 10:05:51 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Quantitation Report (QT Reviewed)

Data Path : Z:\MSDChem\1\DATA\APR 13\09APR13-A\
Data File : L61 1304147-001B.D
Acq On : 9 Apr 2013 11:11 am
Operator : ALICIA HABERLE
Sample : 1304147-001B
Misc : SAMP
ALS Vial : 7 Sample Multiplier: 1

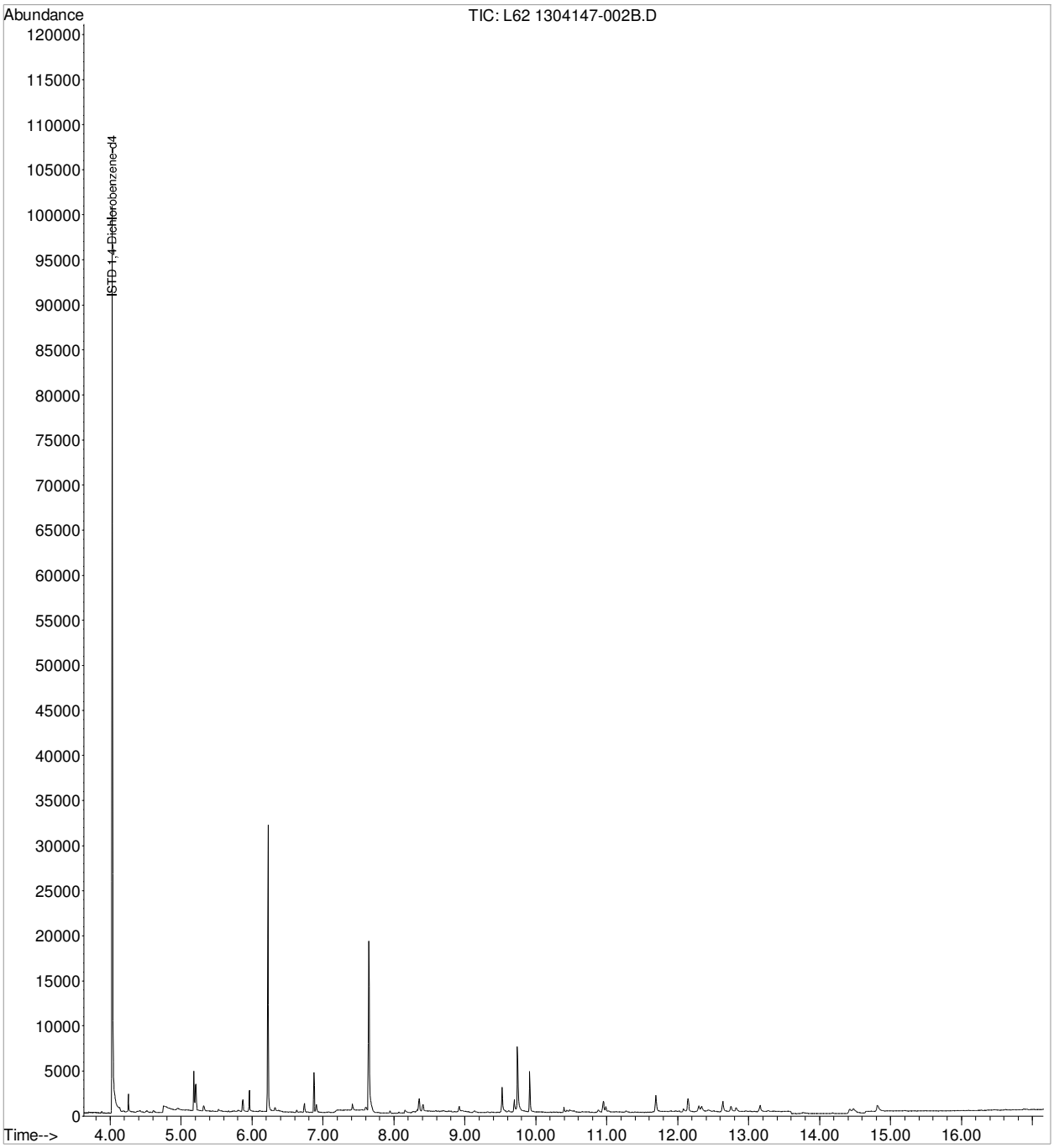
Quant Time: Apr 10 09:06:34 2013
Quant Method : C:\MSDCHEM\1\METHODS\PAH GWM QUANT SIM 03-20-2013.M
Quant Title : Semi-Volatile Compounds HP-GCMS 5973-B
QLast Update : Wed Apr 10 09:02:16 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : Z:\MSDChem\1\DATA\APR 13\09APR13-A\
Data File : L62 1304147-002B.D
Acq On : 9 Apr 2013 11:37 am
Operator : ALICIA HABERLE
Sample : 1304147-002B
Misc : SAMP
ALS Vial : 8 Sample Multiplier: 1

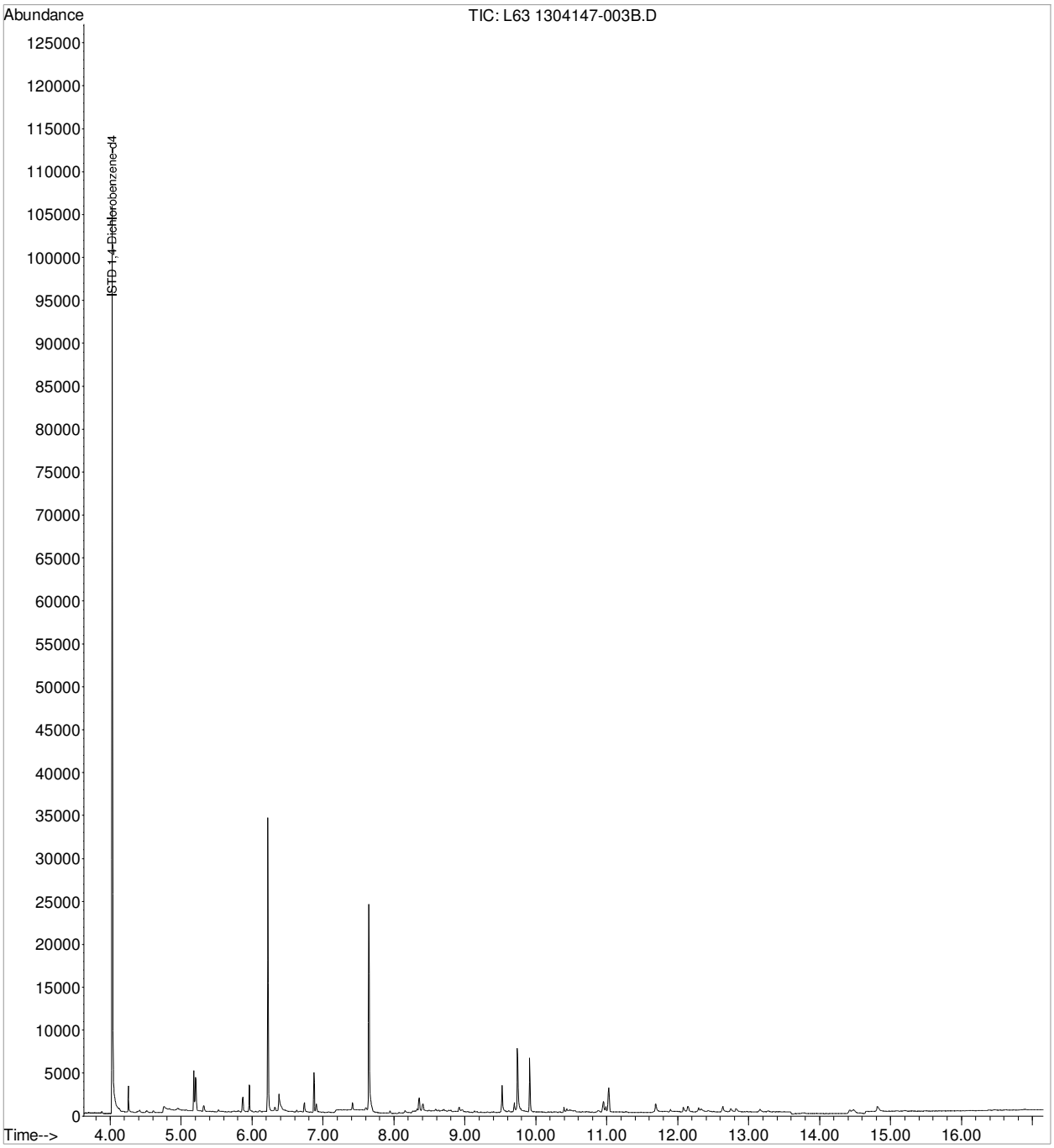
Quant Time: Apr 10 09:07:01 2013
Quant Method : C:\MSDCHEM\1\METHODS\PAH GWM QUANT SIM 03-20-2013.M
Quant Title : Semi-Volatile Compounds HP-GCMS 5973-B
QLast Update : Wed Apr 10 09:02:16 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : Z:\MSDChem\1\DATA\APR 13\09APR13-A\
Data File : L63 1304147-003B.D
Acq On : 9 Apr 2013 12:03 pm
Operator : ALICIA HABERLE
Sample : 1304147-003B
Misc : SAMP
ALS Vial : 9 Sample Multiplier: 1

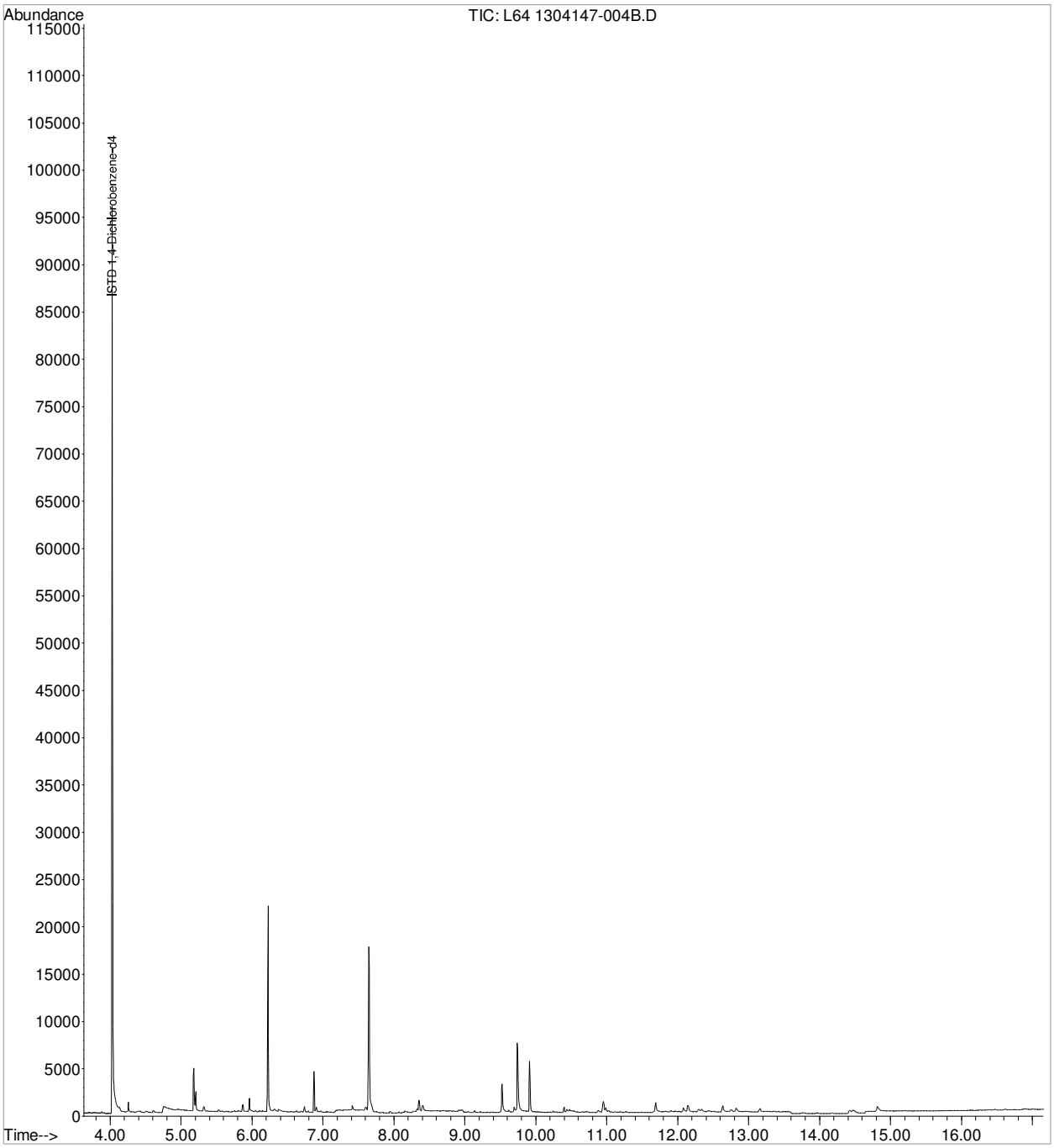
Quant Time: Apr 10 09:07:24 2013
Quant Method : C:\MSDCHEM\1\METHODS\PAH GWM QUANT SIM 03-20-2013.M
Quant Title : Semi-Volatile Compounds HP-GCMS 5973-B
QLast Update : Wed Apr 10 09:02:16 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : Z:\MSDChem\1\DATA\APR 13\09APR13-A\
Data File : L64 1304147-004B.D
Acq On : 9 Apr 2013 12:30 pm
Operator : ALICIA HABERLE
Sample : 1304147-004B
Misc : SAMP
ALS Vial : 10 Sample Multiplier: 1

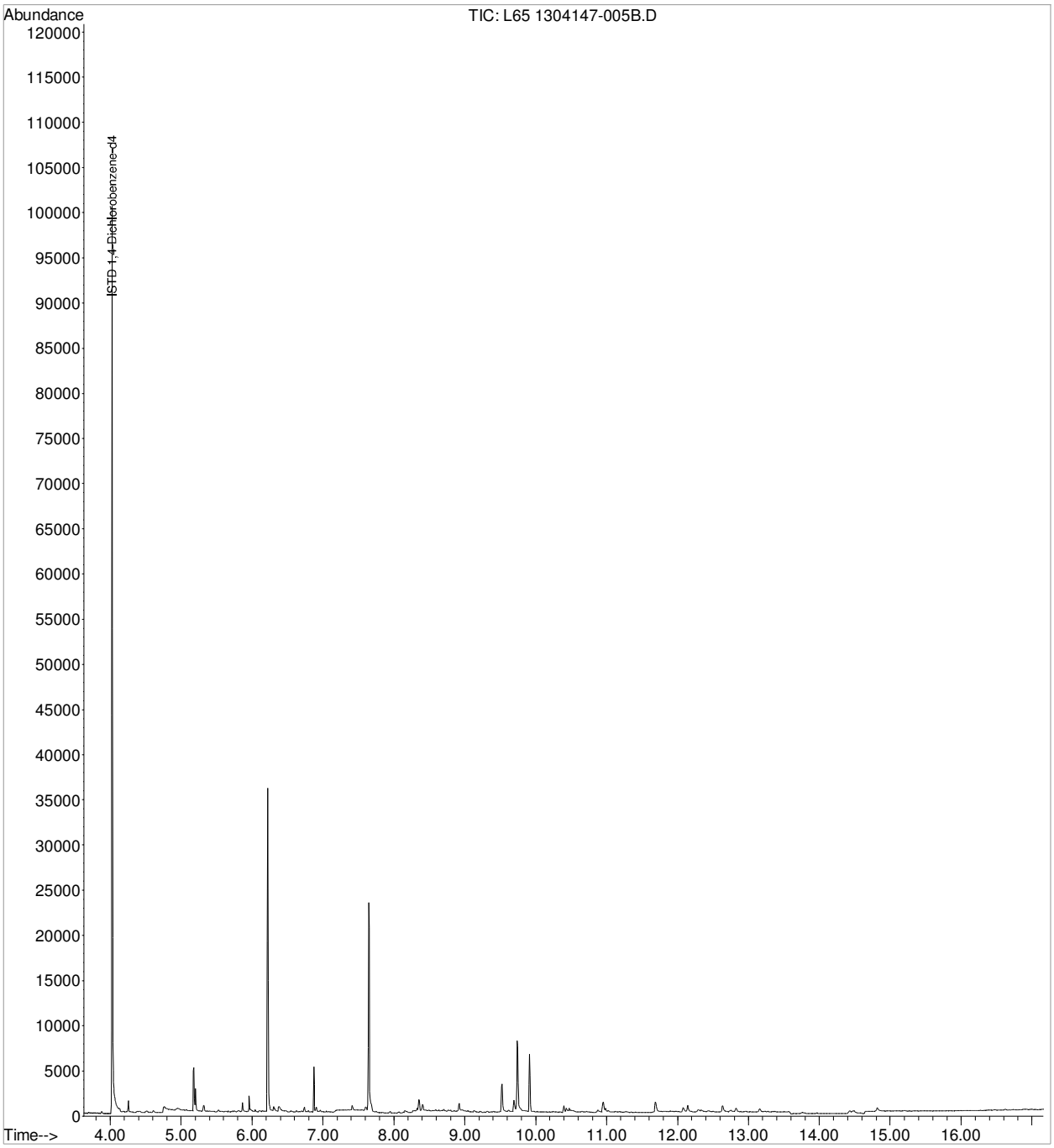
Quant Time: Apr 10 09:07:47 2013
Quant Method : C:\MSDCHEM\1\METHODS\PAH GWM QUANT SIM 03-20-2013.M
Quant Title : Semi-Volatile Compounds HP-GCMS 5973-B
QLast Update : Wed Apr 10 09:02:16 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : Z:\MSDChem\1\DATA\APR 13\09APR13-A\
Data File : L65 1304147-005B.D
Acq On : 9 Apr 2013 12:56 pm
Operator : ALICIA HABERLE
Sample : 1304147-005B
Misc : SAMP
ALS Vial : 11 Sample Multiplier: 1

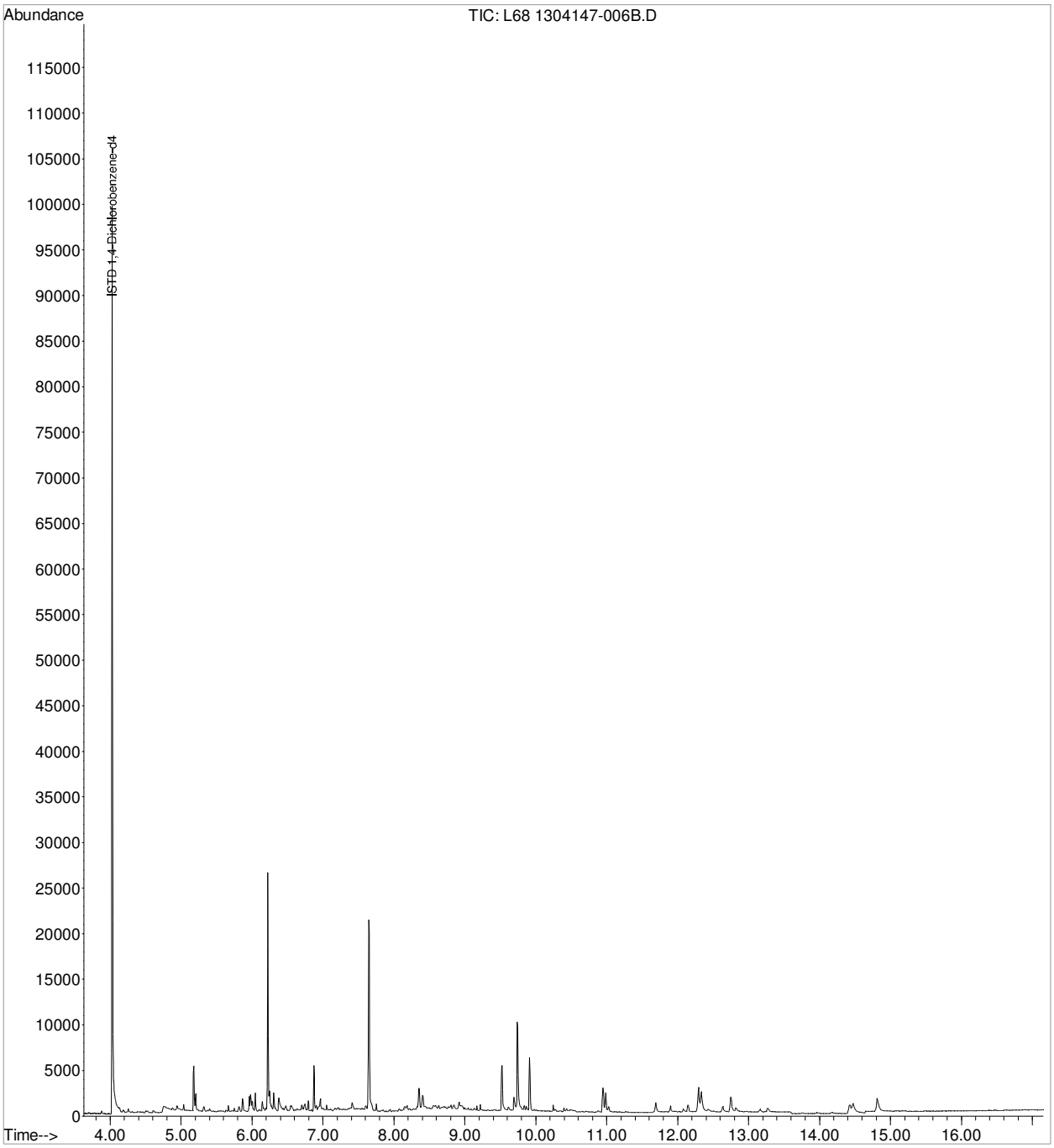
Quant Time: Apr 10 09:08:16 2013
Quant Method : C:\MSDCHEM\1\METHODS\PAH GWM QUANT SIM 03-20-2013.M
Quant Title : Semi-Volatile Compounds HP-GCMS 5973-B
QLast Update : Wed Apr 10 09:02:16 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : Z:\MSDChem\1\DATA\APR 13\09APR13-A\
Data File : L68 1304147-006B.D
Acq On : 9 Apr 2013 2:16 pm
Operator : ALICIA HABERLE
Sample : 1304147-006B
Misc : SAMP
ALS Vial : 14 Sample Multiplier: 1

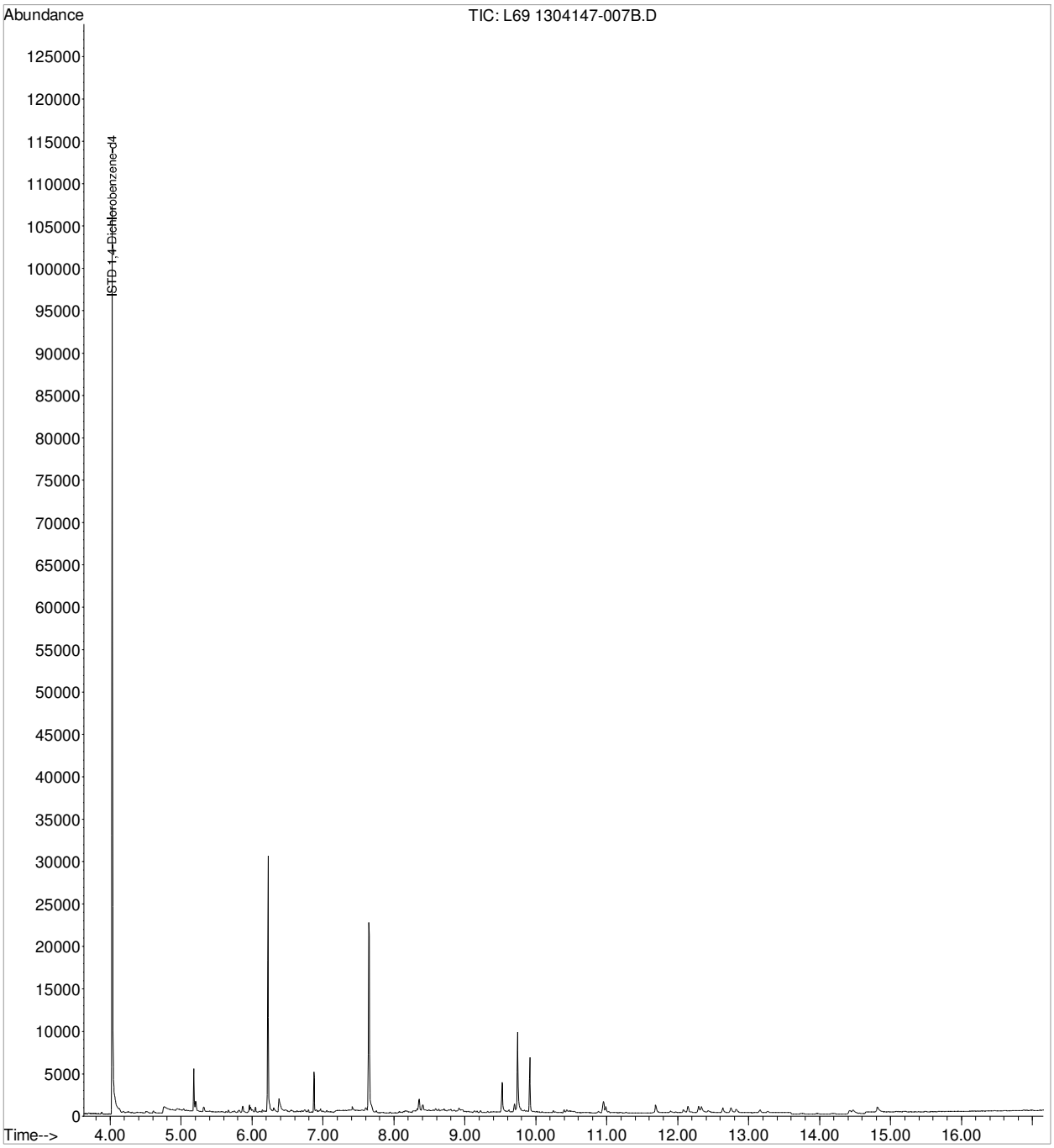
Quant Time: Apr 10 09:09:44 2013
Quant Method : C:\MSDCHEM\1\METHODS\PAH GWM QUANT SIM 03-20-2013.M
Quant Title : Semi-Volatile Compounds HP-GCMS 5973-B
QLast Update : Wed Apr 10 09:02:16 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : Z:\MSDChem\1\DATA\APR 13\09APR13-A\
Data File : L69 1304147-007B.D
Acq On : 9 Apr 2013 2:43 pm
Operator : ALICIA HABERLE
Sample : 1304147-007B
Misc : SAMP
ALS Vial : 15 Sample Multiplier: 1

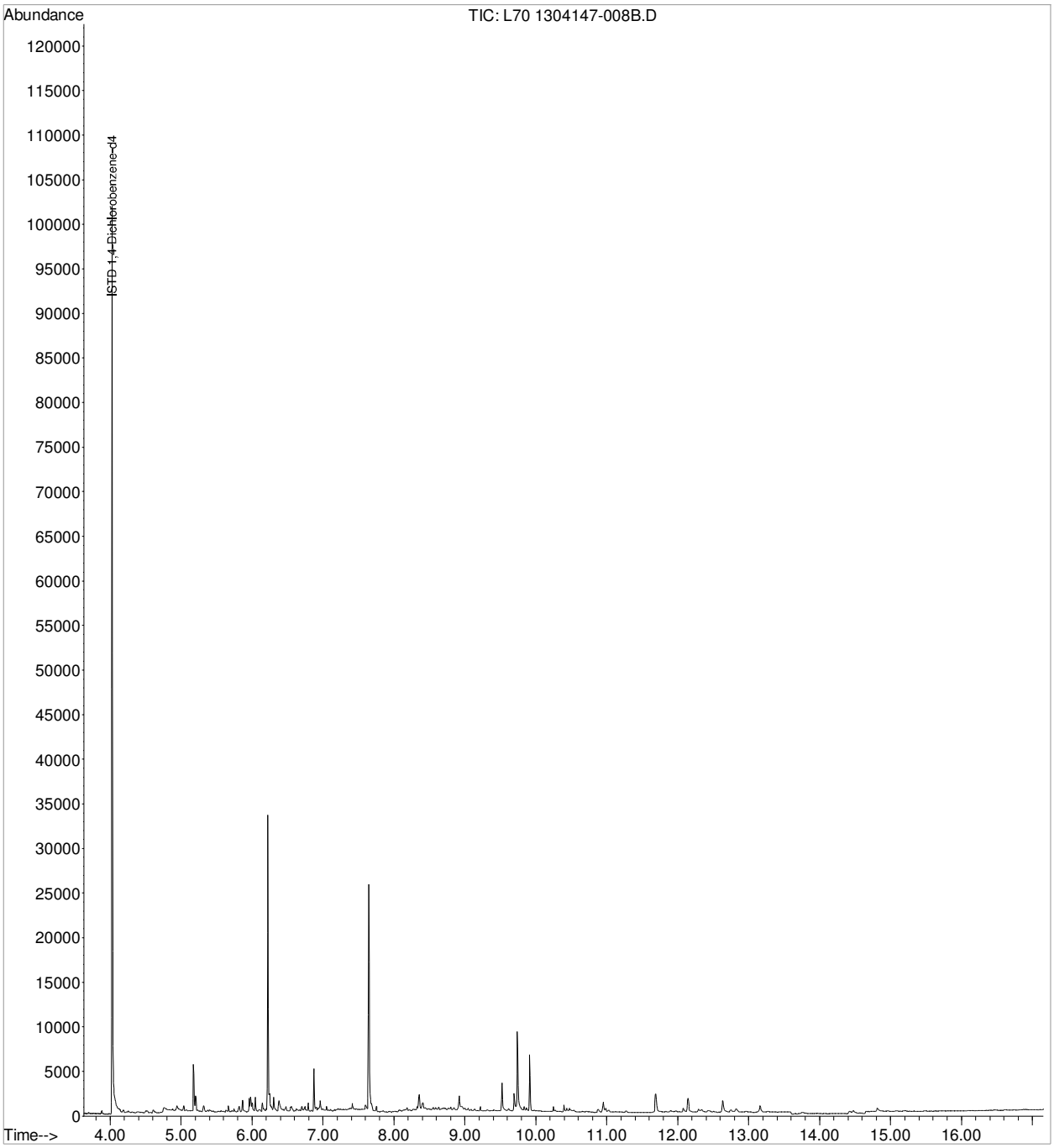
Quant Time: Apr 10 09:10:17 2013
Quant Method : C:\MSDCHEM\1\METHODS\PAH GWM QUANT SIM 03-20-2013.M
Quant Title : Semi-Volatile Compounds HP-GCMS 5973-B
QLast Update : Wed Apr 10 09:02:16 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : Z:\MSDChem\1\DATA\APR 13\09APR13-A\
Data File : L70 1304147-008B.D
Acq On : 9 Apr 2013 3:10 pm
Operator : ALICIA HABERLE
Sample : 1304147-008B
Misc : SAMP
ALS Vial : 16 Sample Multiplier: 1

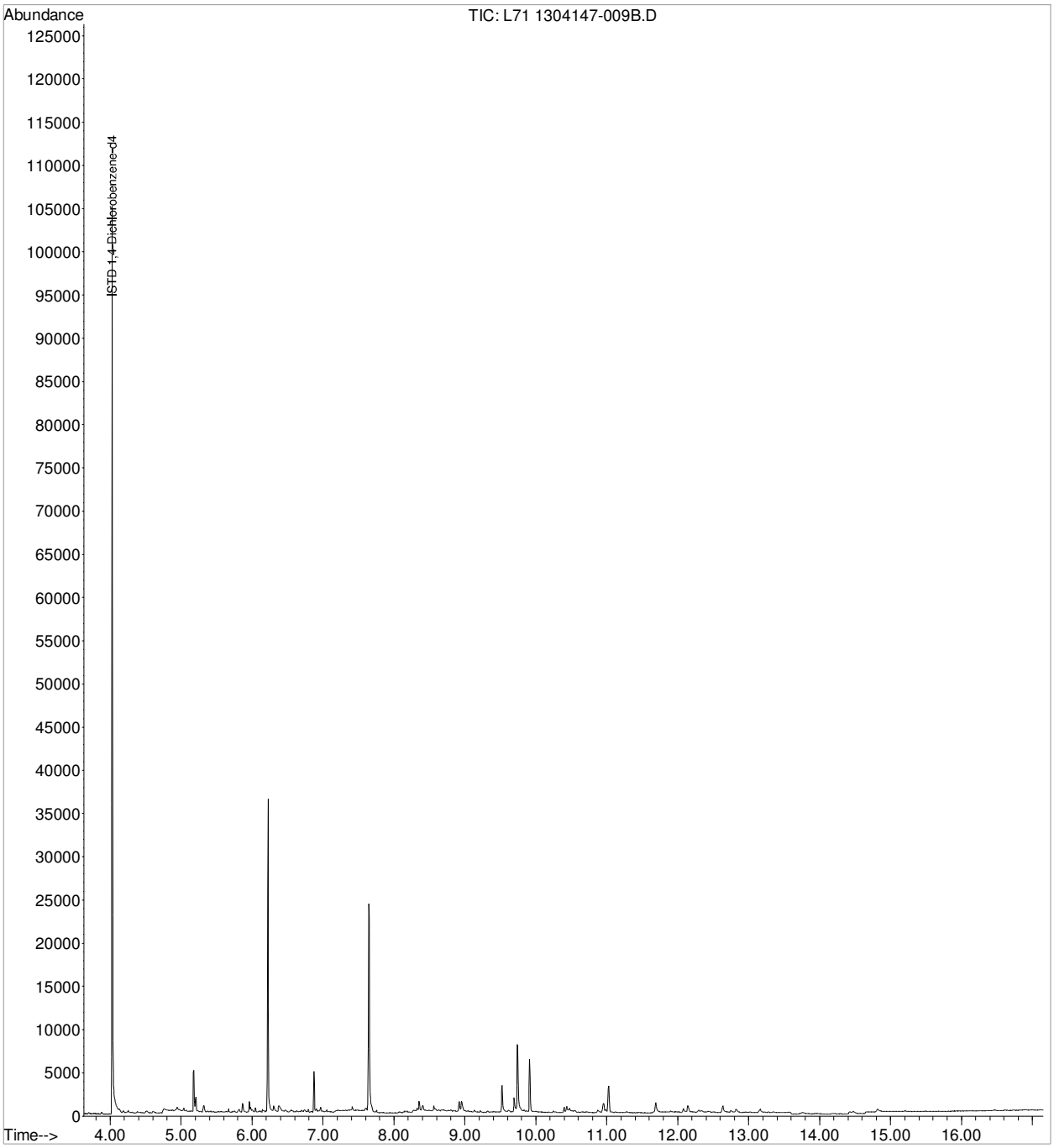
Quant Time: Apr 10 09:10:39 2013
Quant Method : C:\MSDCHEM\1\METHODS\PAH GWM QUANT SIM 03-20-2013.M
Quant Title : Semi-Volatile Compounds HP-GCMS 5973-B
QLast Update : Wed Apr 10 09:02:16 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : Z:\MSDChem\1\DATA\APR 13\09APR13-A\
Data File : L71 1304147-009B.D
Acq On : 9 Apr 2013 3:37 pm
Operator : ALICIA HABERLE
Sample : 1304147-009B
Misc : SAMP
ALS Vial : 17 Sample Multiplier: 1

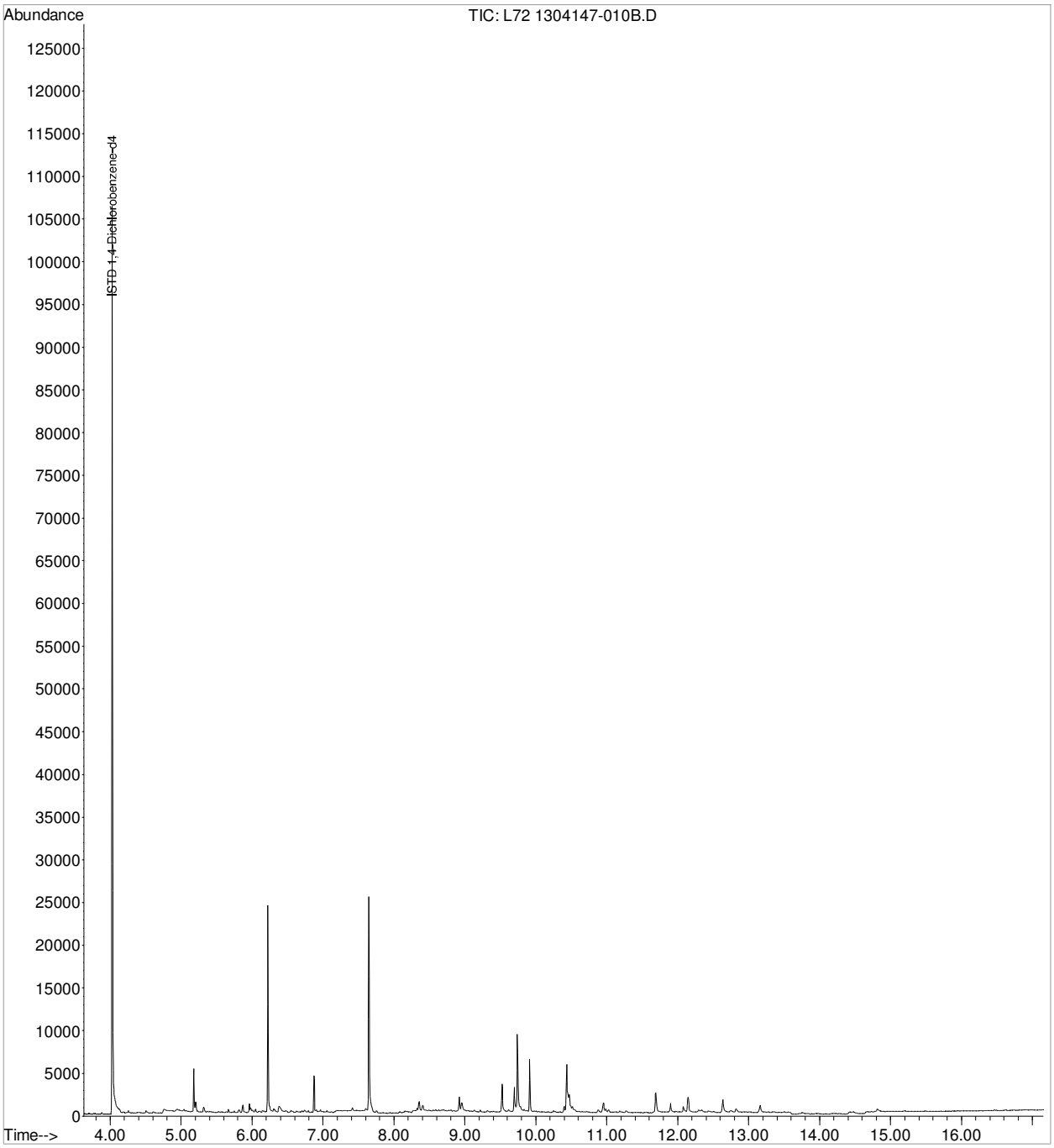
Quant Time: Apr 10 09:11:03 2013
Quant Method : C:\MSDCHEM\1\METHODS\PAH GWM QUANT SIM 03-20-2013.M
Quant Title : Semi-Volatile Compounds HP-GCMS 5973-B
QLast Update : Wed Apr 10 09:02:16 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : Z:\MSDChem\1\DATA\APR 13\09APR13-A\
Data File : L72 1304147-010B.D
Acq On : 9 Apr 2013 4:04 pm
Operator : ALICIA HABERLE
Sample : 1304147-010B
Misc : SAMP
ALS Vial : 18 Sample Multiplier: 1

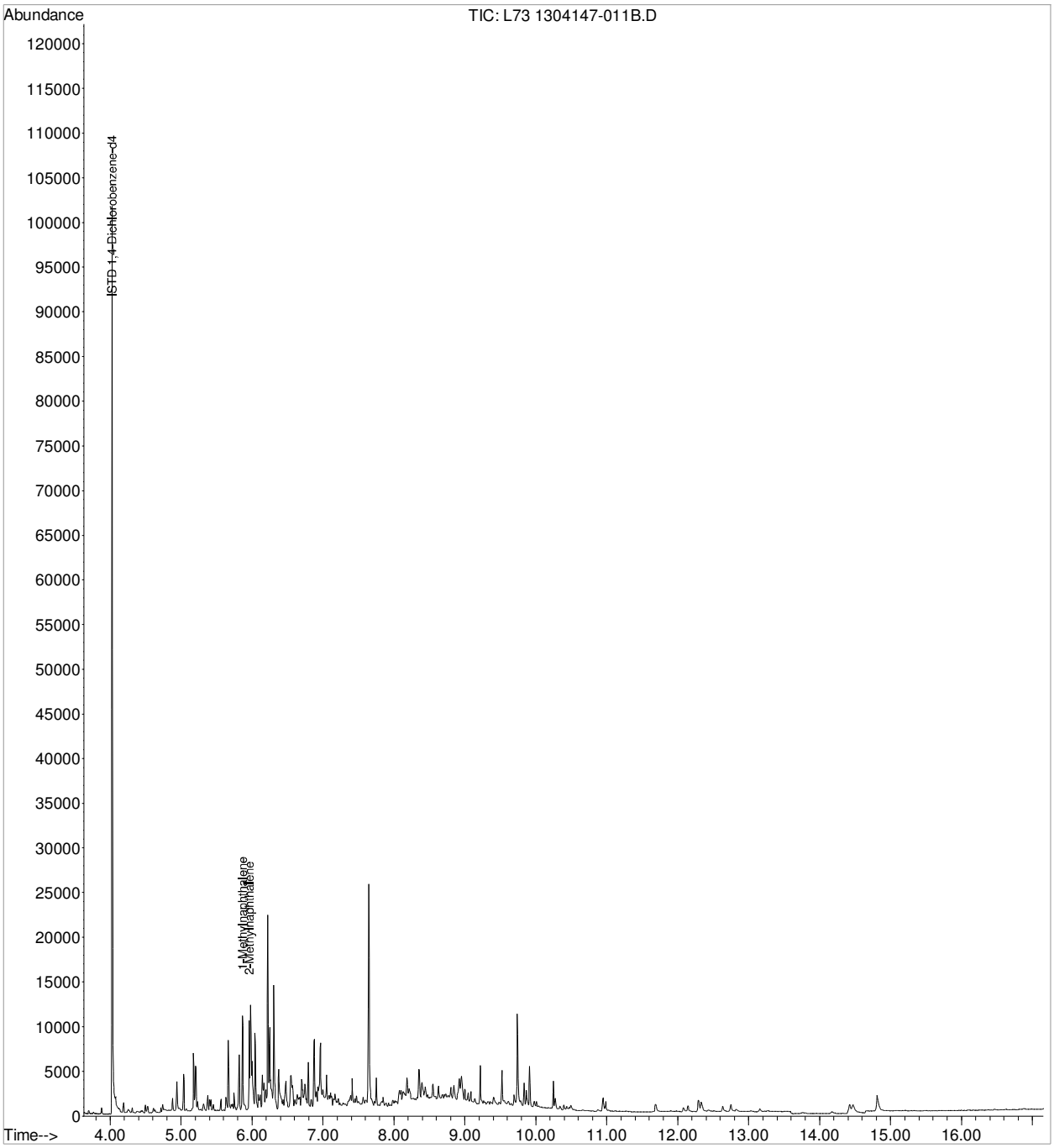
Quant Time: Apr 10 09:11:27 2013
Quant Method : C:\MSDCHEM\1\METHODS\PAH GWM QUANT SIM 03-20-2013.M
Quant Title : Semi-Volatile Compounds HP-GCMS 5973-B
QLast Update : Wed Apr 10 09:02:16 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : Z:\MSDChem\1\DATA\APR 13\09APR13-A\
Data File : L73 1304147-011B.D
Acq On : 9 Apr 2013 4:31 pm
Operator : ALICIA HABERLE
Sample : 1304147-011B
Misc : SAMP
ALS Vial : 19 Sample Multiplier: 1

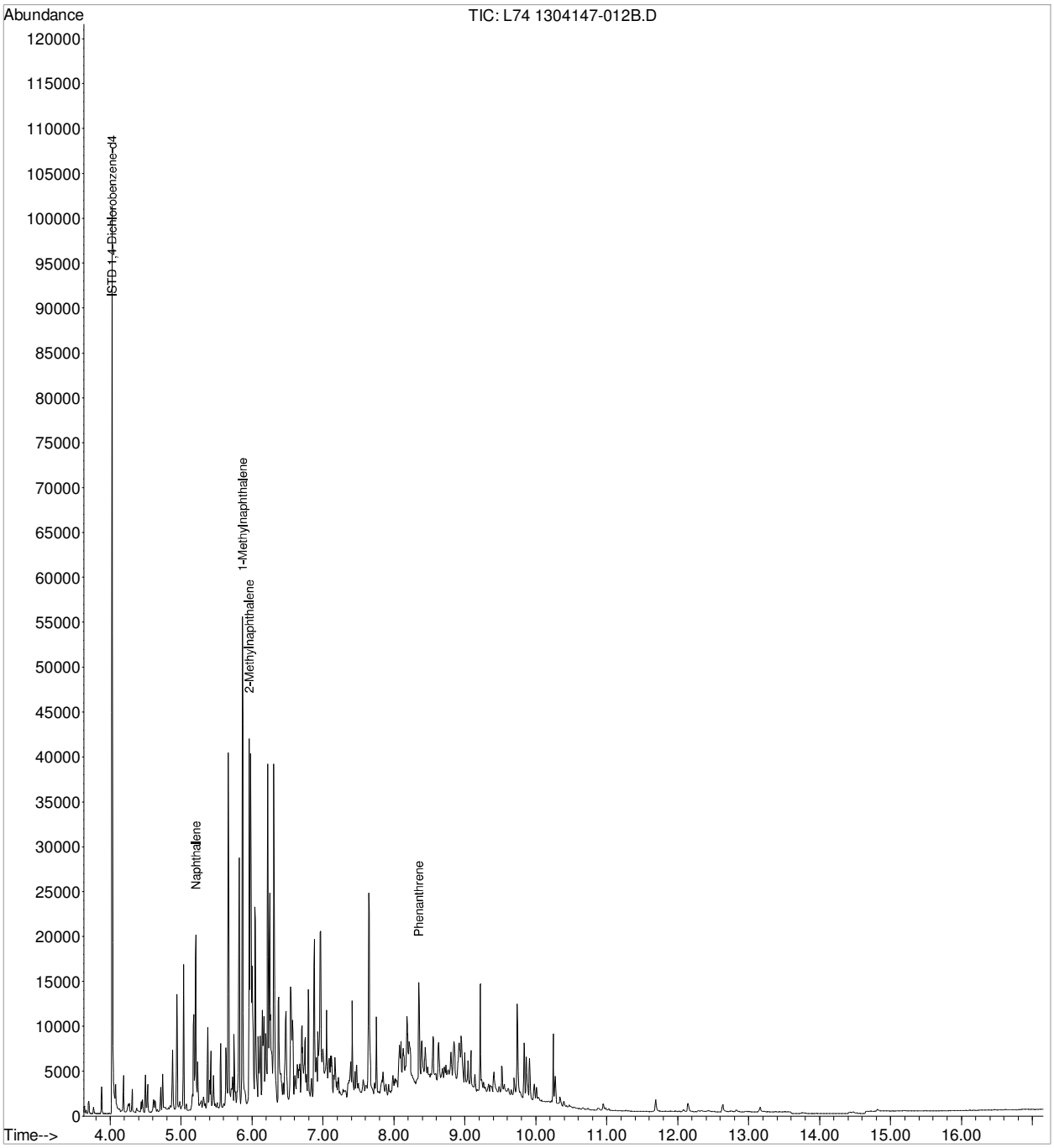
Quant Time: Apr 10 09:12:00 2013
Quant Method : C:\MSDCHEM\1\METHODS\PAH GWM QUANT SIM 03-20-2013.M
Quant Title : Semi-Volatile Compounds HP-GCMS 5973-B
QLast Update : Wed Apr 10 09:02:16 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : Z:\MSDChem\1\DATA\APR 13\09APR13-A\
Data File : L74 1304147-012B.D
Acq On : 9 Apr 2013 4:58 pm
Operator : ALICIA HABERLE
Sample : 1304147-012B
Misc : SAMP
ALS Vial : 20 Sample Multiplier: 1

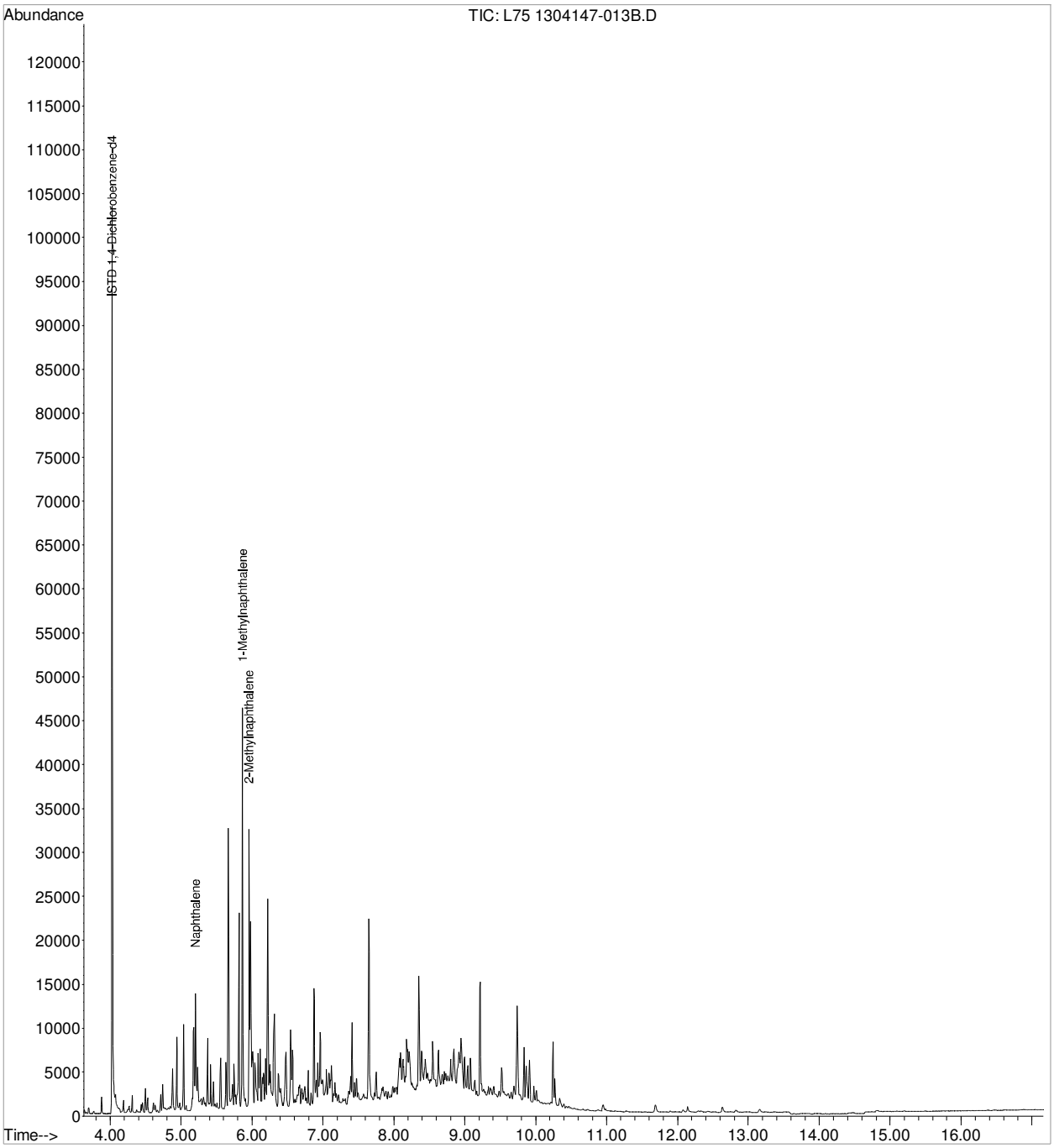
Quant Time: Apr 10 09:13:02 2013
Quant Method : C:\MSDCHEM\1\METHODS\PAH GWM QUANT SIM 03-20-2013.M
Quant Title : Semi-Volatile Compounds HP-GCMS 5973-B
QLast Update : Wed Apr 10 09:02:16 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : Z:\MSDChem\1\DATA\APR 13\09APR13-A\
Data File : L75 1304147-013B.D
Acq On : 9 Apr 2013 5:24 pm
Operator : ALICIA HABERLE
Sample : 1304147-013B
Misc : SAMP
ALS Vial : 21 Sample Multiplier: 1

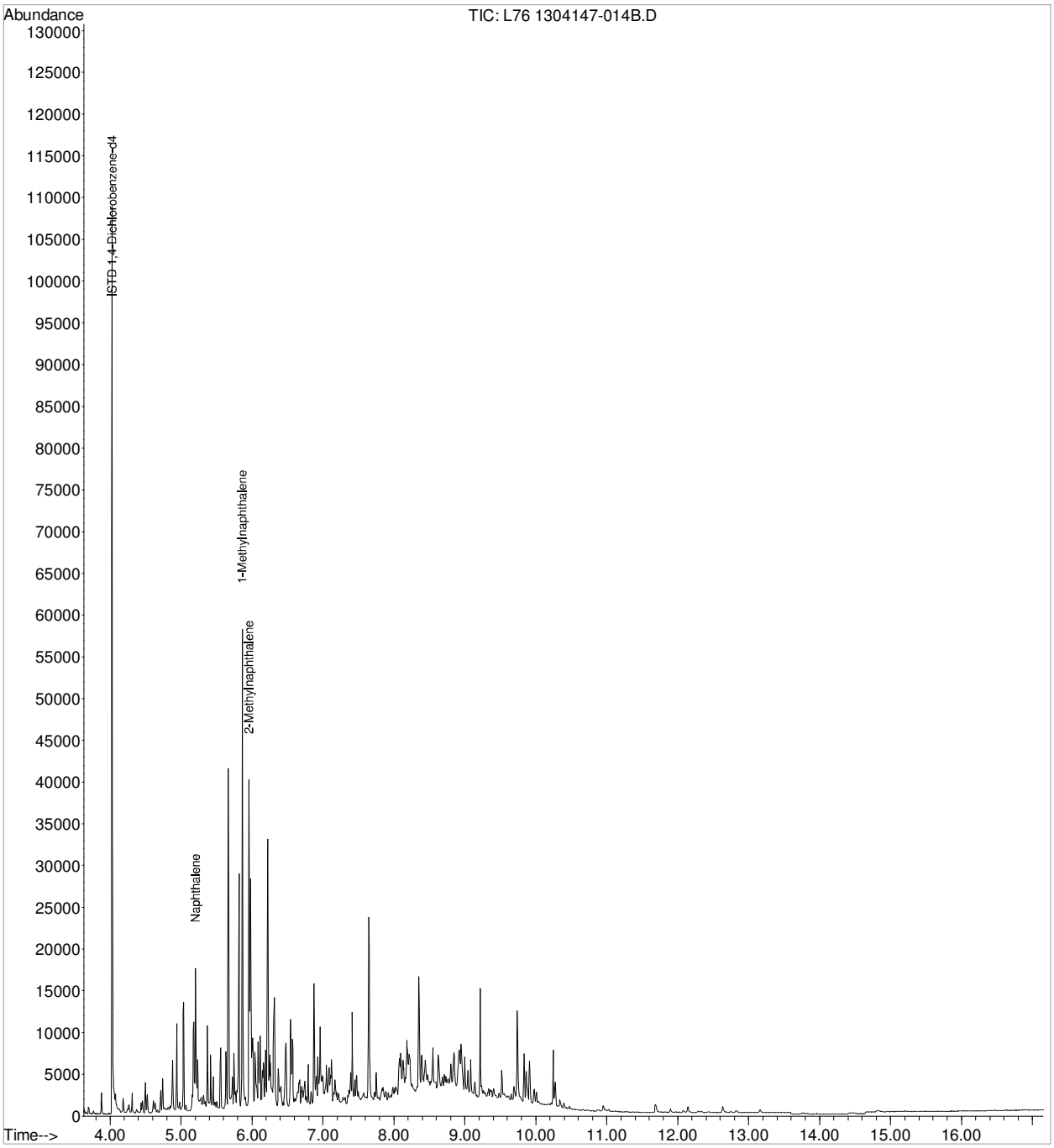
Quant Time: Apr 10 09:14:19 2013
Quant Method : C:\MSDCHEM\1\METHODS\PAH GWM QUANT SIM 03-20-2013.M
Quant Title : Semi-Volatile Compounds HP-GCMS 5973-B
QLast Update : Wed Apr 10 09:02:16 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : Z:\MSDChem\1\DATA\APR 13\09APR13-A\
Data File : L76 1304147-014B.D
Acq On : 9 Apr 2013 5:51 pm
Operator : ALICIA HABERLE
Sample : 1304147-014B
Misc : SAMP
ALS Vial : 22 Sample Multiplier: 1

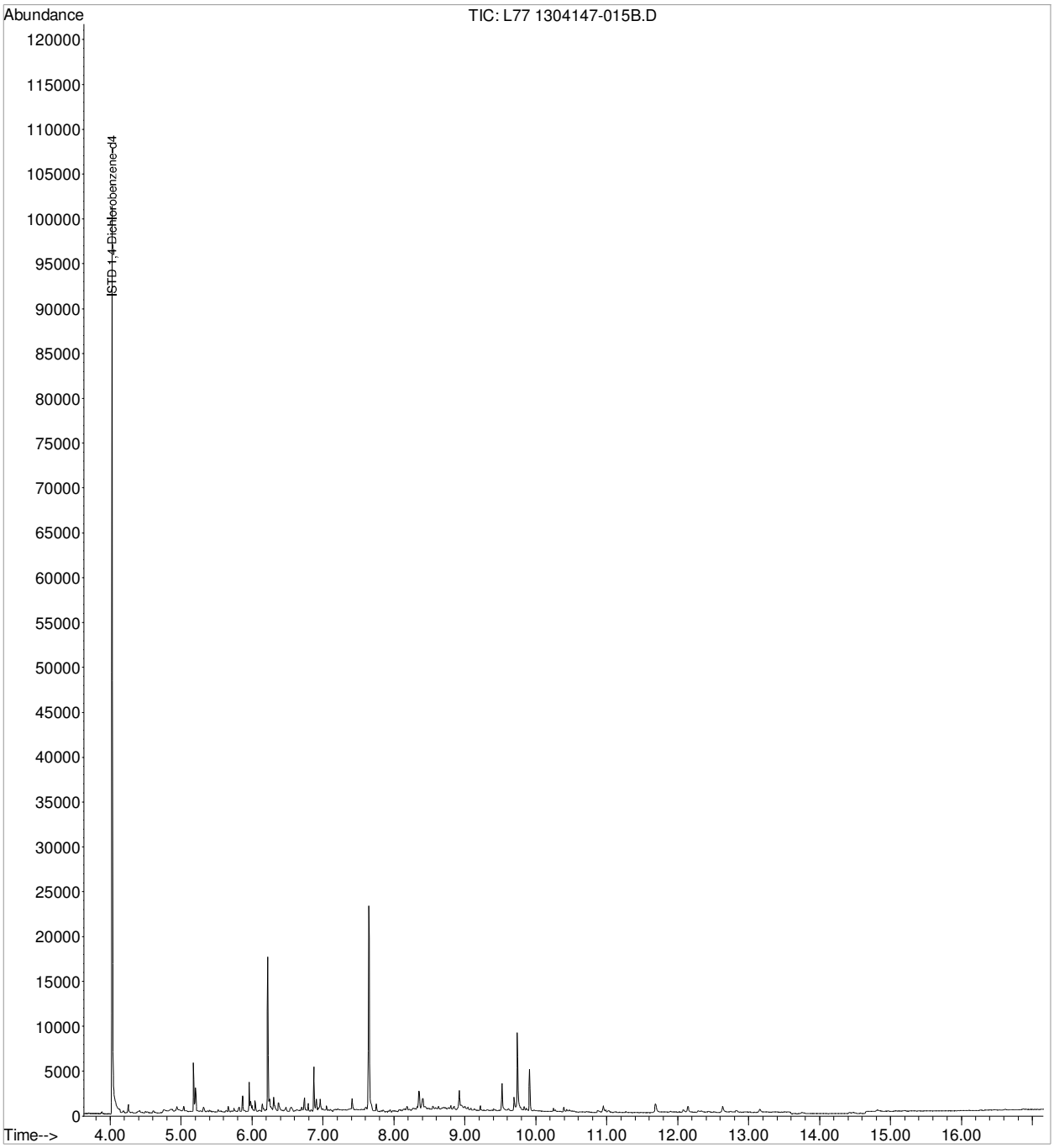
Quant Time: Apr 10 09:15:08 2013
Quant Method : C:\MSDCHEM\1\METHODS\PAH GWM QUANT SIM 03-20-2013.M
Quant Title : Semi-Volatile Compounds HP-GCMS 5973-B
QLast Update : Wed Apr 10 09:02:16 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : Z:\MSDChem\1\DATA\APR 13\09APR13-A\
Data File : L77 1304147-015B.D
Acq On : 9 Apr 2013 6:17 pm
Operator : ALICIA HABERLE
Sample : 1304147-015B
Misc : SAMP
ALS Vial : 23 Sample Multiplier: 1

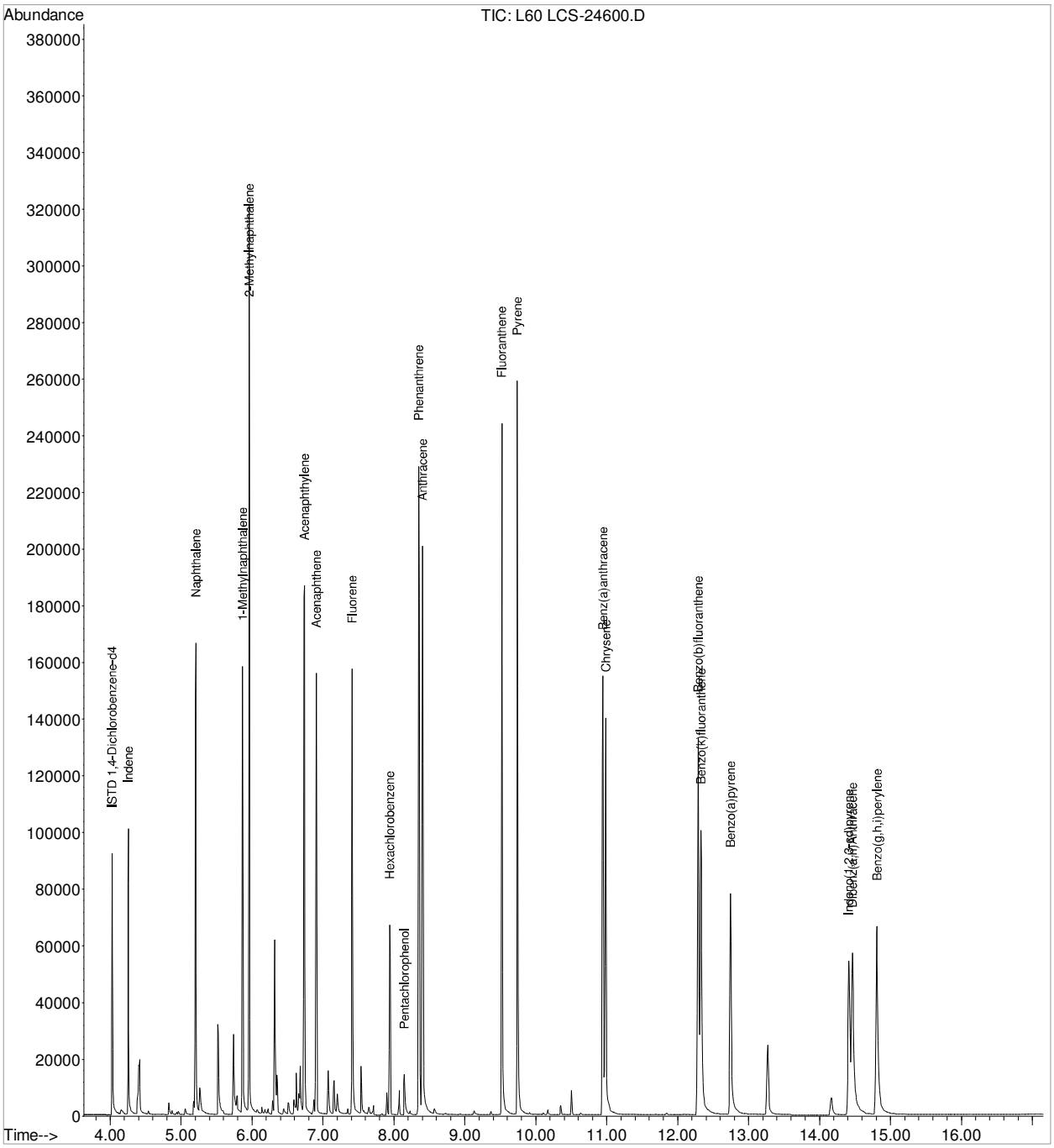
Quant Time: Apr 10 09:15:35 2013
Quant Method : C:\MSDCHEM\1\METHODS\PAH GWM QUANT SIM 03-20-2013.M
Quant Title : Semi-Volatile Compounds HP-GCMS 5973-B
QLast Update : Wed Apr 10 09:02:16 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : Z:\MSDChem\1\DATA\APR 13\09APR13-A\
Data File : L60 LCS-24600.D
Acq On : 9 Apr 2013 10:44 am
Operator : ALICIA HABERLE
Sample : LCS-24600
Misc : LCS
ALS Vial : 6 Sample Multiplier: 1

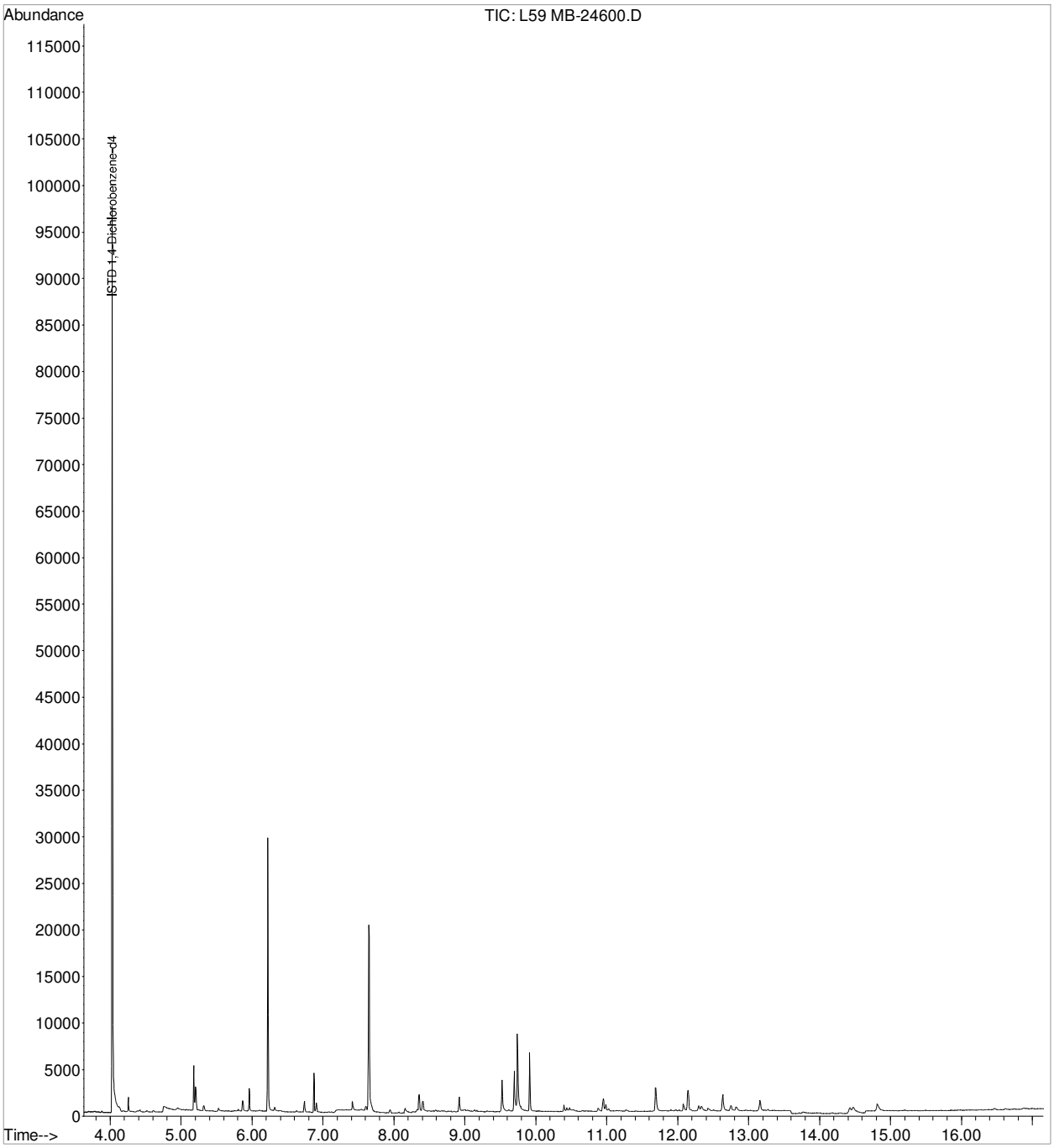
Quant Time: Apr 10 09:05:58 2013
Quant Method : C:\MSDCHEM\1\METHODS\PAH GWM QUANT SIM 03-20-2013.M
Quant Title : Semi-Volatile Compounds HP-GCMS 5973-B
QLast Update : Wed Apr 10 09:02:16 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : Z:\MSDChem\1\DATA\APR 13\09APR13-A\
Data File : L59 MB-24600.D
Acq On : 9 Apr 2013 10:18 am
Operator : ALICIA HABERLE
Sample : MB-24600
Misc : MBLK
ALS Vial : 5 Sample Multiplier: 1

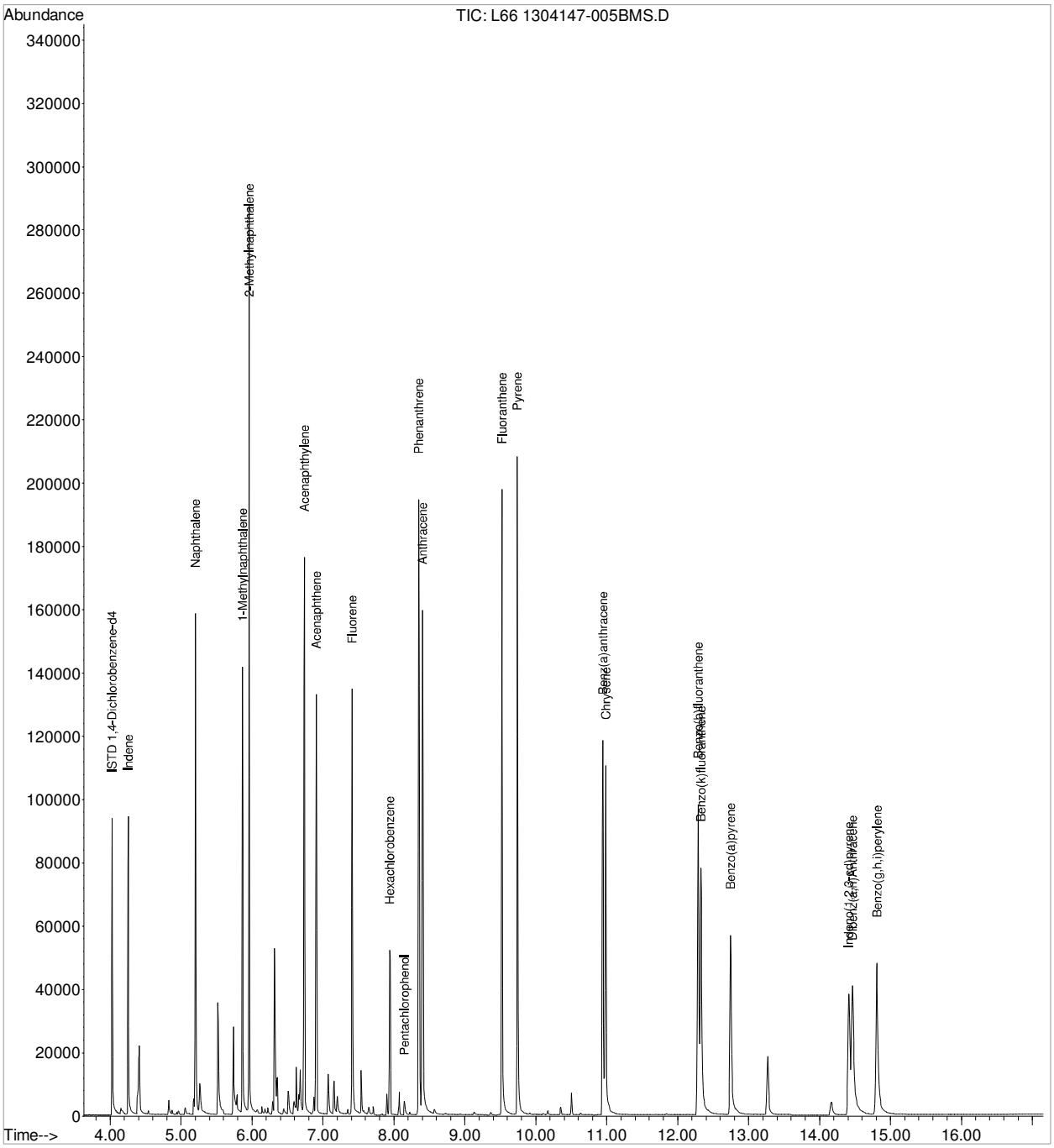
Quant Time: Apr 10 09:05:34 2013
Quant Method : C:\MSDCHEM\1\METHODS\PAH GWM QUANT SIM 03-20-2013.M
Quant Title : Semi-Volatile Compounds HP-GCMS 5973-B
QLast Update : Wed Apr 10 09:02:16 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : Z:\MSDChem\1\DATA\APR 13\09APR13-A\
Data File : L66 1304147-005BMS.D
Acq On : 9 Apr 2013 1:23 pm
Operator : ALICIA HABERLE
Sample : 1304147-005BMS
Misc : MS
ALS Vial : 12 Sample Multiplier: 1

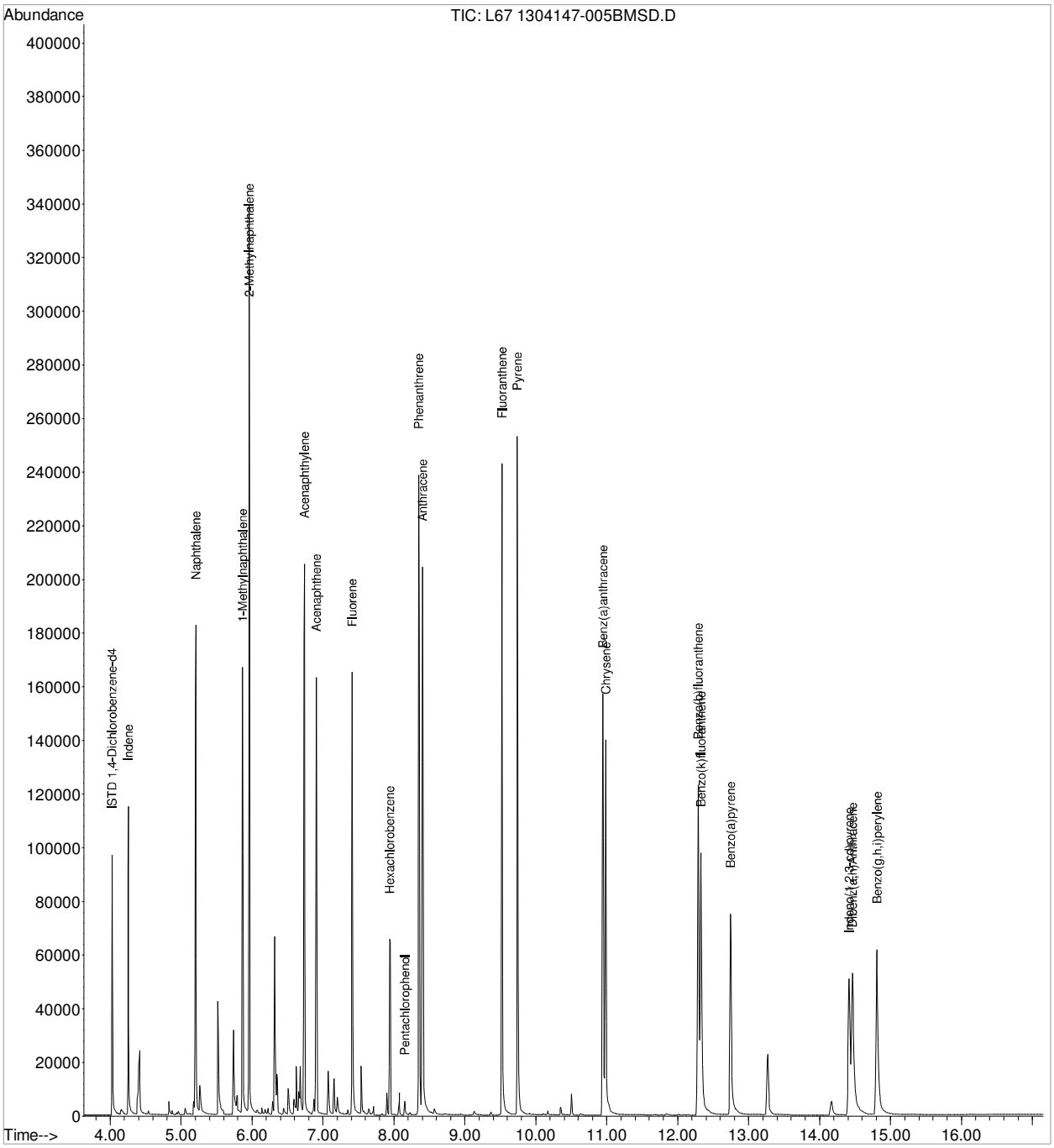
Quant Time: Apr 10 09:08:35 2013
Quant Method : C:\MSDCHEM\1\METHODS\PAH GWM QUANT SIM 03-20-2013.M
Quant Title : Semi-Volatile Compounds HP-GCMS 5973-B
QLast Update : Wed Apr 10 09:02:16 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : Z:\MSDChem\1\DATA\APR 13\09APR13-A\
Data File : L67 1304147-005BMSD.D
Acq On : 9 Apr 2013 1:49 pm
Operator : ALICIA HABERLE
Sample : 1304147-005BMSD
Misc : MSD
ALS Vial : 13 Sample Multiplier: 1

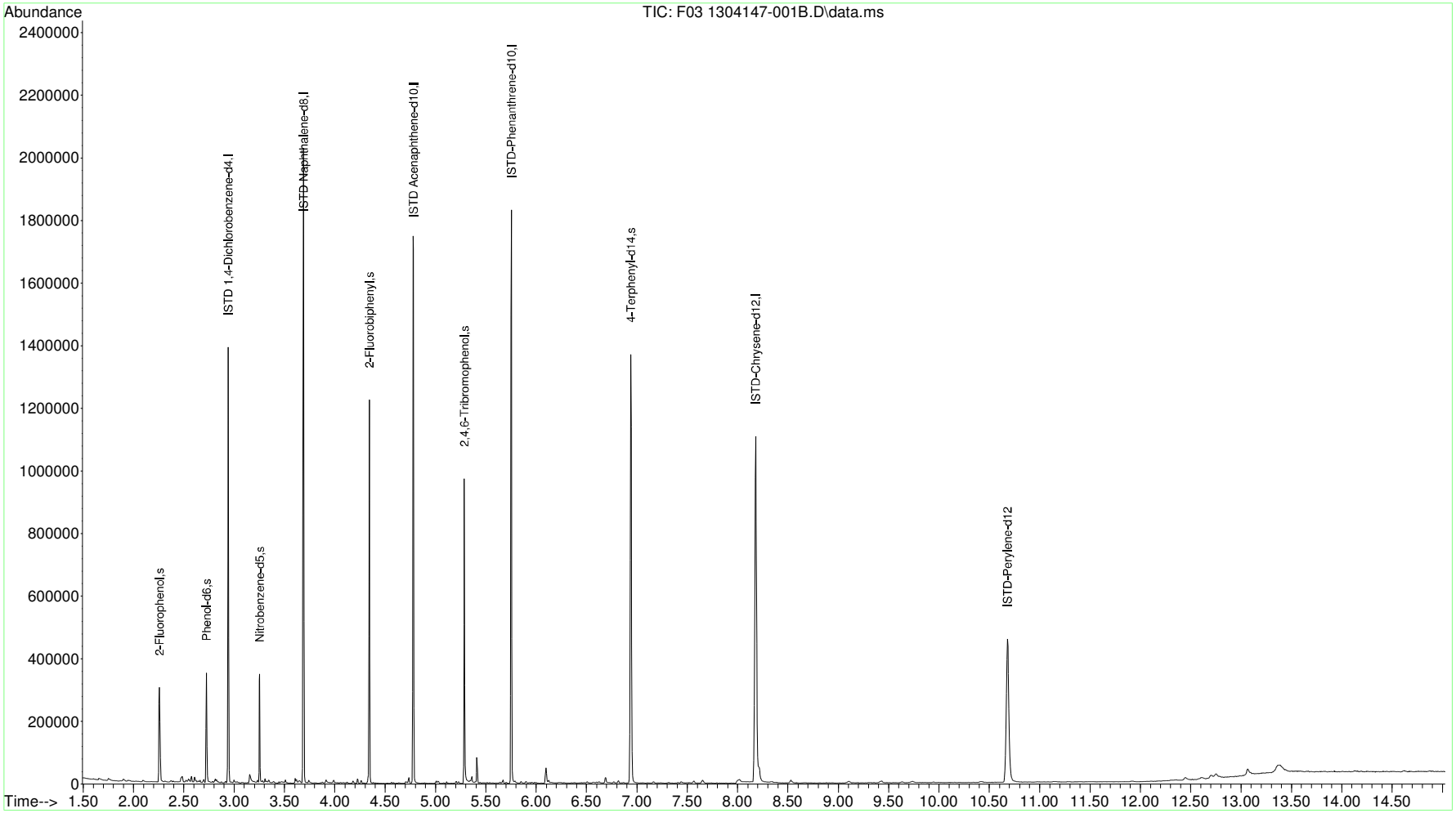
Quant Time: Apr 10 09:09:06 2013
Quant Method : C:\MSDCHEM\1\METHODS\PAH GWM QUANT SIM 03-20-2013.M
Quant Title : Semi-Volatile Compounds HP-GCMS 5973-B
QLast Update : Wed Apr 10 09:02:16 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\APR 13\09APR 13-A\
Data File : F03 1304147-001B.D
Acq On : 9 Apr 2013 1:21 pm
Operator : ALICIA HABERLE
Sample : 1304147-001B
Misc : SAMP
ALS Vial : 7 Sample Multiplier: 1

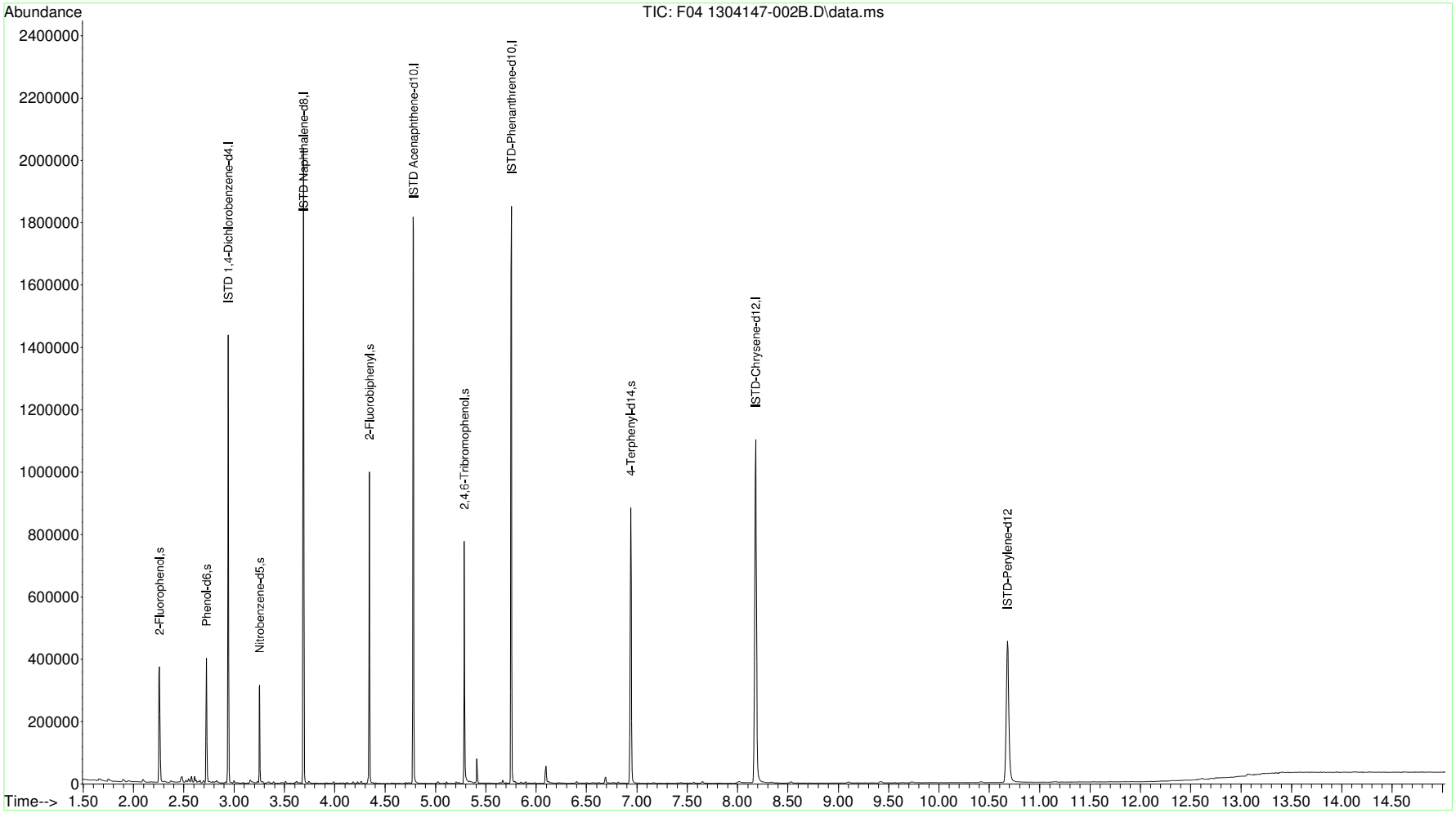
Quant Time: Apr 10 11:23:23 2013
Quant Method : C:\msdchem\1\methods\SVQUANT4-05-13.M
Quant Title : Semi-Volatile Compounds HP-GCMS 5973-B
QLast Update : Sat Apr 06 14:59:56 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\APR 13\09APR 13-A\
Data File : F04 1304147-002B.D
Acq On : 9 Apr 2013 1:44 pm
Operator : ALICIA HABERLE
Sample : 1304147-002B
Misc : SAMP
ALS Vial : 8 Sample Multiplier: 1

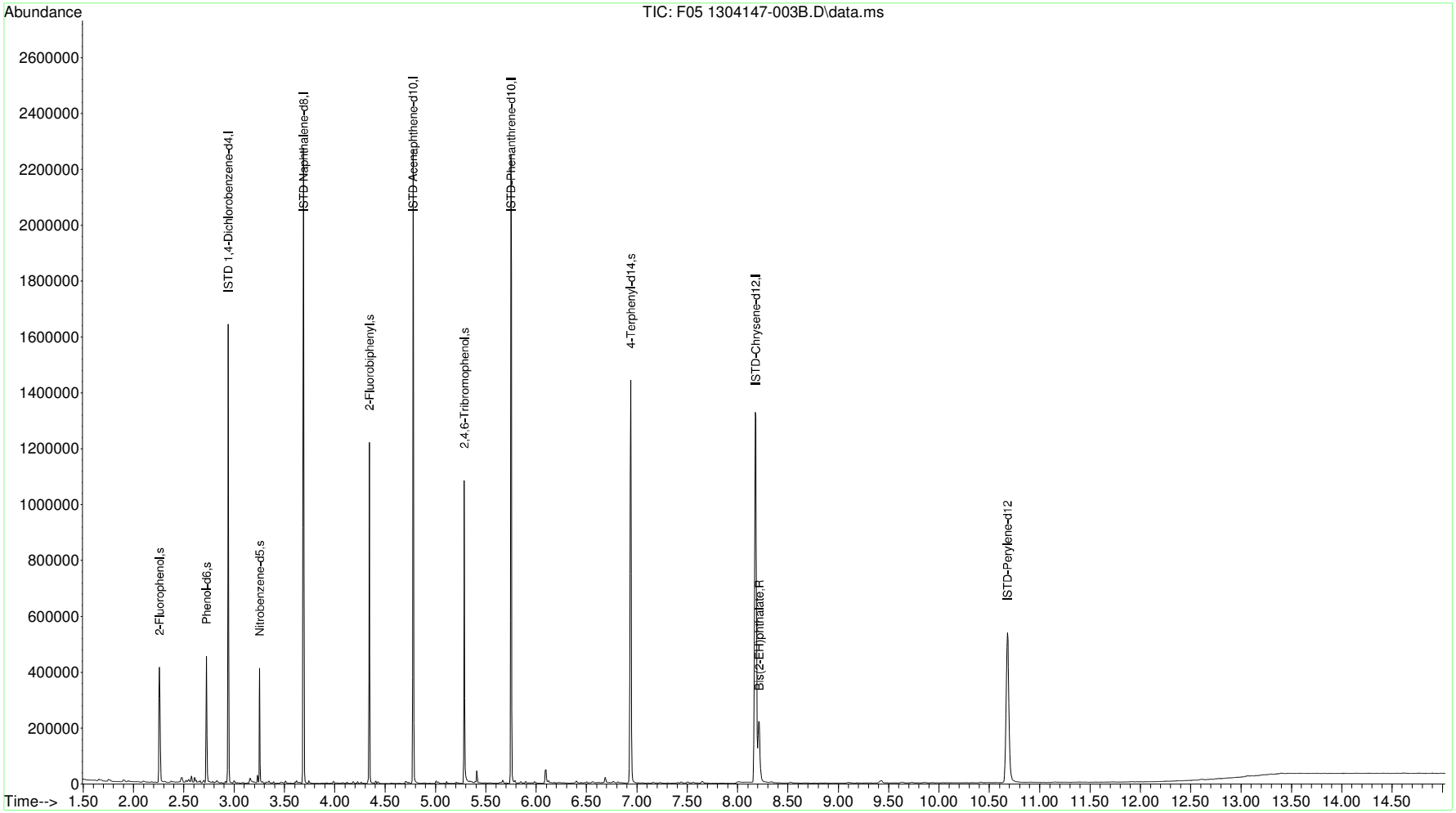
Quant Time: Apr 10 11:23:57 2013
Quant Method : C:\msdchem\1\methods\SVQUANT4-05-13.M
Quant Title : Semi-Volatile Compounds HP-GCMS 5973-B
QLast Update : Sat Apr 06 14:59:56 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\APR 13\09APR 13-A\
Data File : F05 1304147-003B.D
Acq On : 9 Apr 2013 2:07 pm
Operator : ALICIA HABERLE
Sample : 1304147-003B
Misc : SAMP
ALS Vial : 9 Sample Multiplier: 1

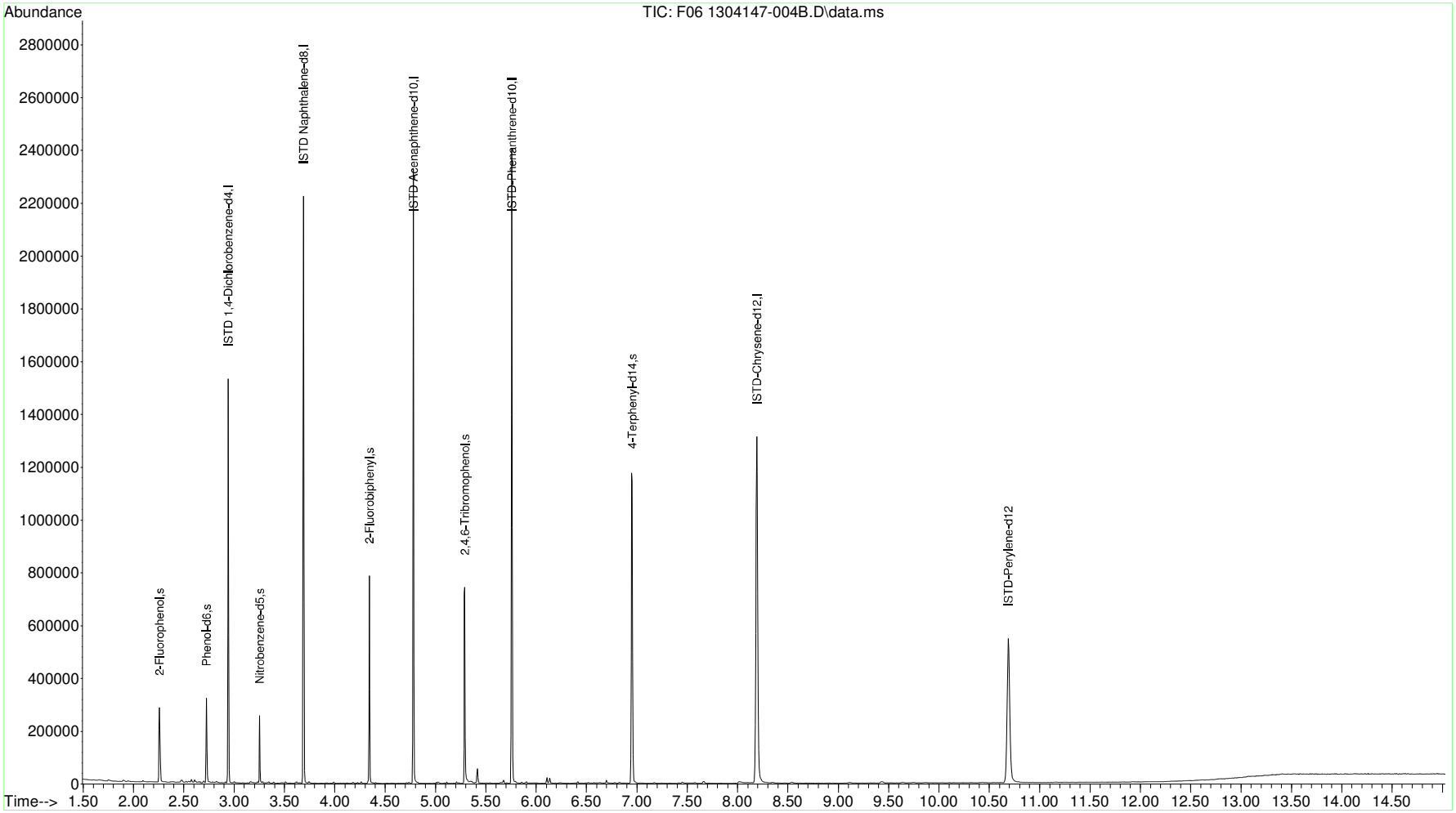
Quant Time: Apr 10 11:24:31 2013
Quant Method : C:\msdchem\1\methods\SVQUANT4-05-13.M
Quant Title : Semi-Volatile Compounds HP-GCMS 5973-B
QLast Update : Sat Apr 06 14:59:56 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\APR 13\09APR 13-A\
Data File : F06 1304147-004B.D
Acq On : 9 Apr 2013 2:31 pm
Operator : ALICIA HABERLE
Sample : 1304147-004B
Misc : SAMP
ALS Vial : 10 Sample Multiplier: 1

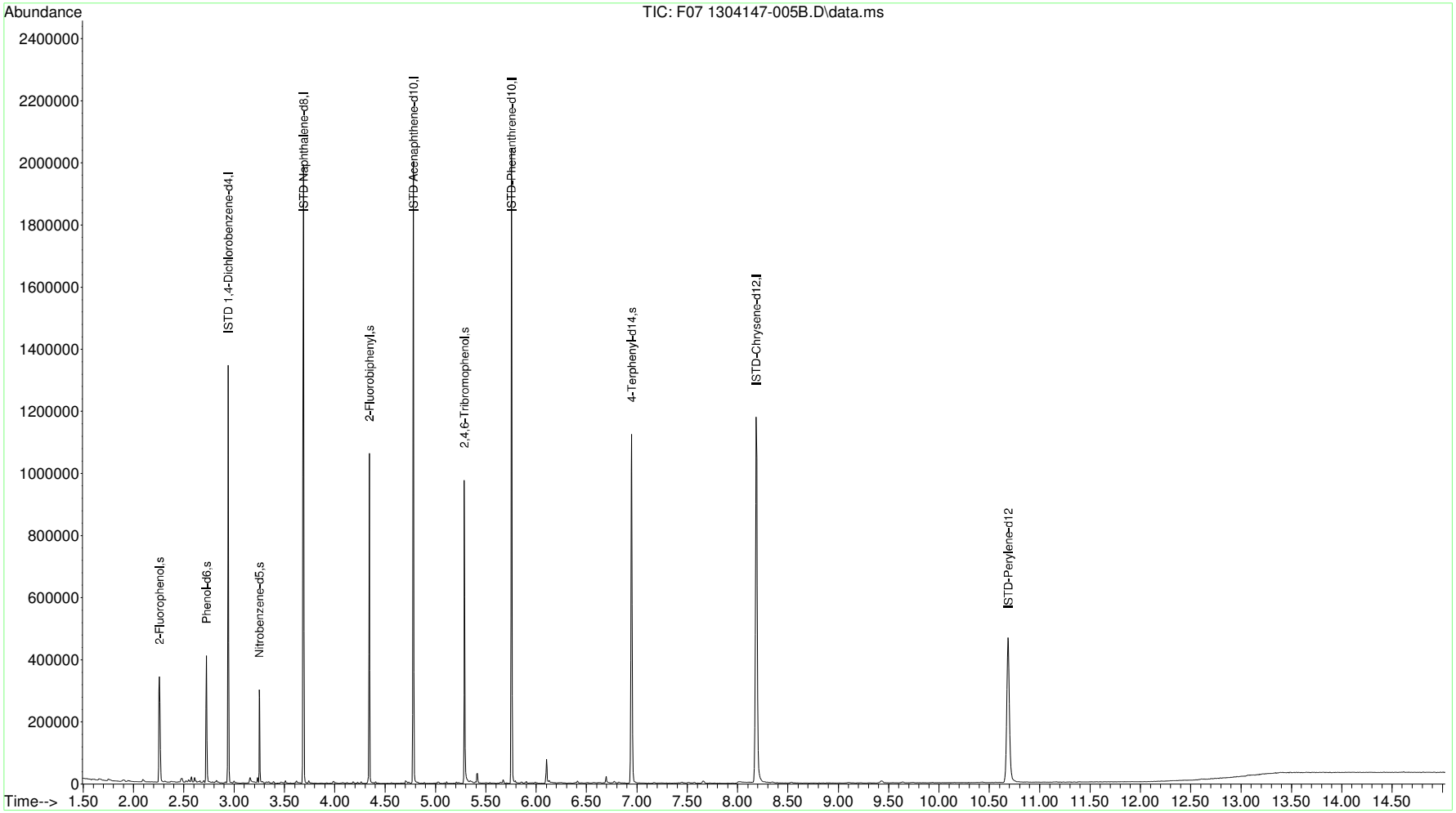
Quant Time: Apr 10 11:25:04 2013
Quant Method : C:\msdchem\1\methods\SVQUANT4-05-13.M
Quant Title : Semi-Volatile Compounds HP-GCMS 5973-B
QLast Update : Sat Apr 06 14:59:56 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\APR 13\09APR 13-A\
Data File : F07 1304147-005B.D
Acq On : 9 Apr 2013 2:55 pm
Operator : ALICIA HABERLE
Sample : 1304147-005B
Misc : SAMP
ALS Vial : 11 Sample Multiplier: 1

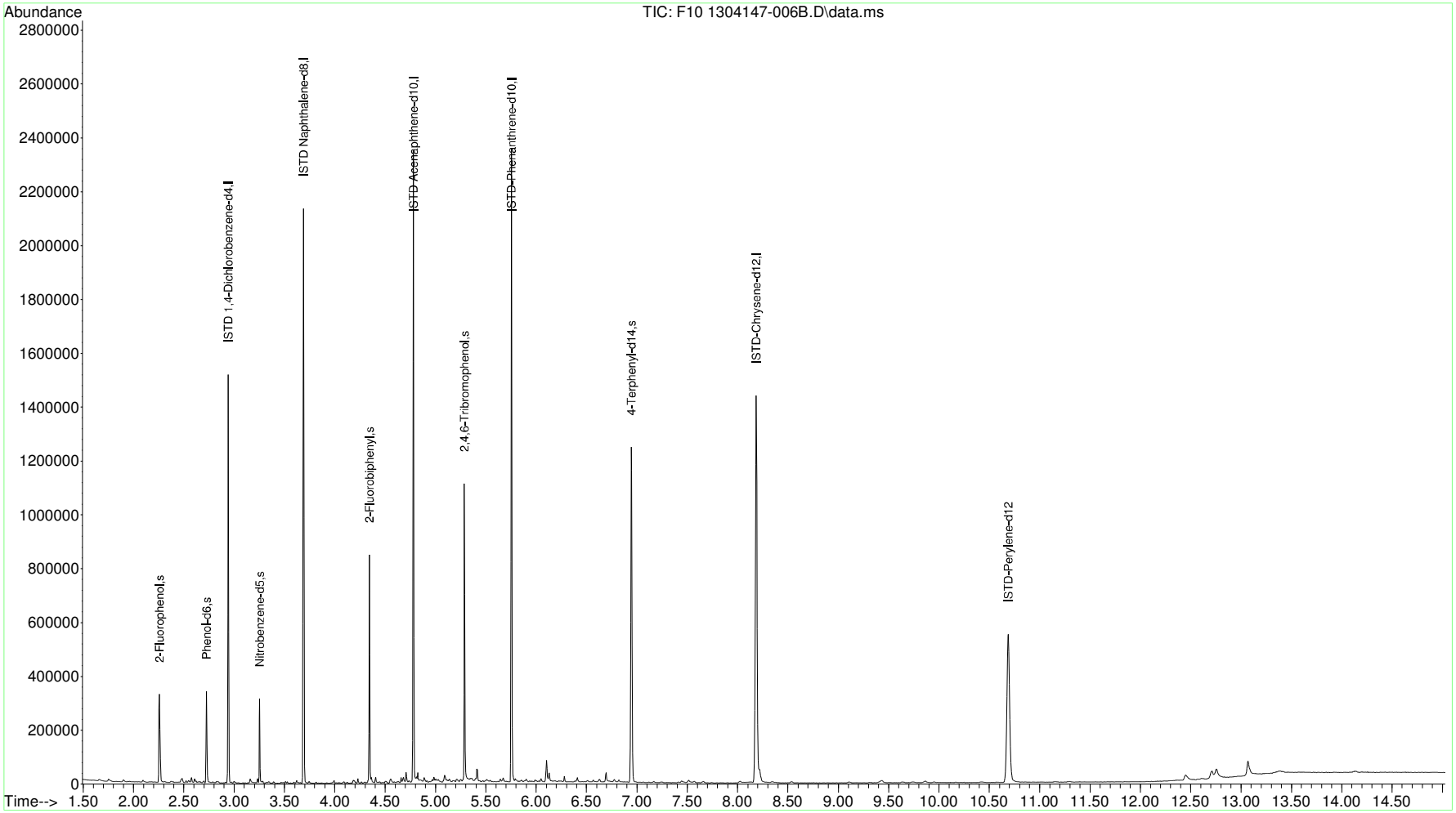
Quant Time: Apr 10 11:25:36 2013
Quant Method : C:\msdchem\1\methods\SVQUANT4-05-13.M
Quant Title : Semi-Volatile Compounds HP-GCMS 5973-B
QLast Update : Sat Apr 06 14:59:56 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\APR 13\09APR 13-A\
Data File : F10 1304147-006B.D
Acq On : 9 Apr 2013 4:05 pm
Operator : ALICIA HABERLE
Sample : 1304147-006B
Misc : SAMP
ALS Vial : 14 Sample Multiplier: 1

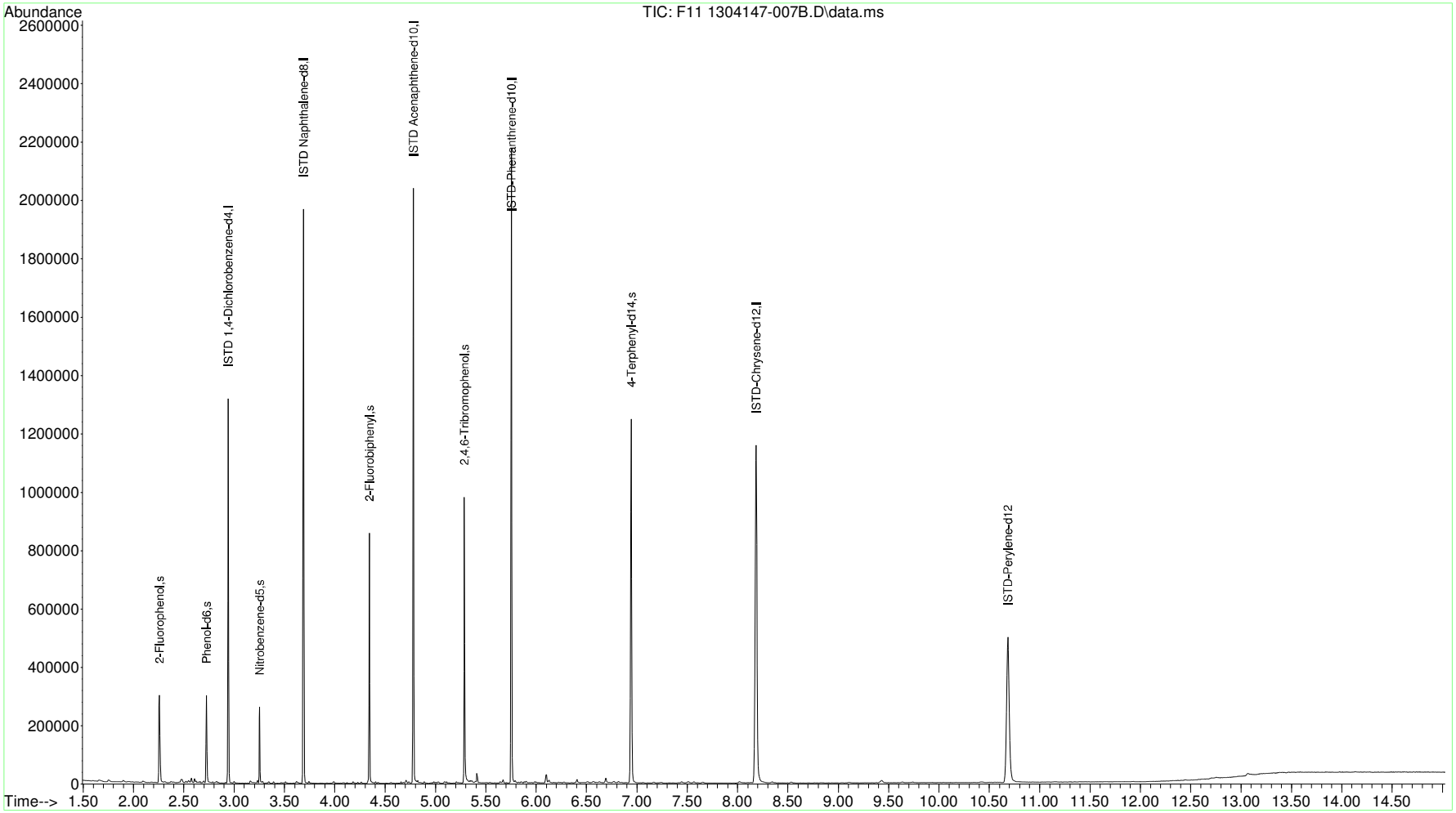
Quant Time: Apr 10 11:27:55 2013
Quant Method : C:\msdchem\1\methods\SVQUANT4-05-13.M
Quant Title : Semi-Volatile Compounds HP-GCMS 5973-B
QLast Update : Sat Apr 06 14:59:56 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\APR 13\09APR 13-A\
Data File : F11 1304147-007B.D
Acq On : 9 Apr 2013 4:28 pm
Operator : ALICIA HABERLE
Sample : 1304147-007B
Misc : SAMP
ALS Vial : 15 Sample Multiplier: 1

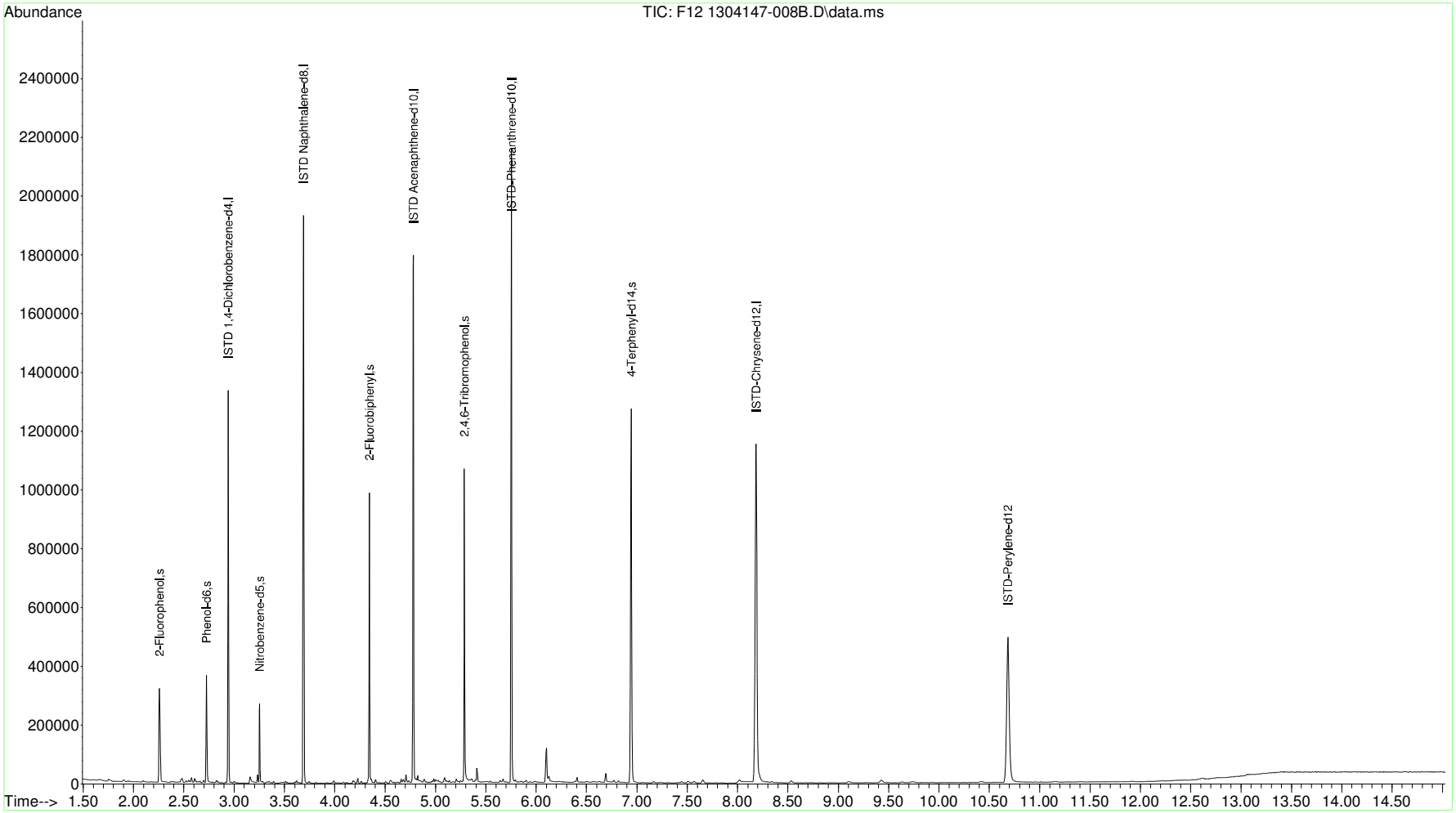
Quant Time: Apr 10 11:28:32 2013
Quant Method : C:\msdchem\1\methods\SVQUANT4-05-13.M
Quant Title : Semi-Volatile Compounds HP-GCMS 5973-B
QLast Update : Sat Apr 06 14:59:56 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\APR 13\09APR 13-A\
Data File : F12 1304147-008B.D
Acq On : 9 Apr 2013 4:51 pm
Operator : ALICIA HABERLE
Sample : 1304147-008B
Misc : SAMP
ALS Vial : 16 Sample Multiplier: 1

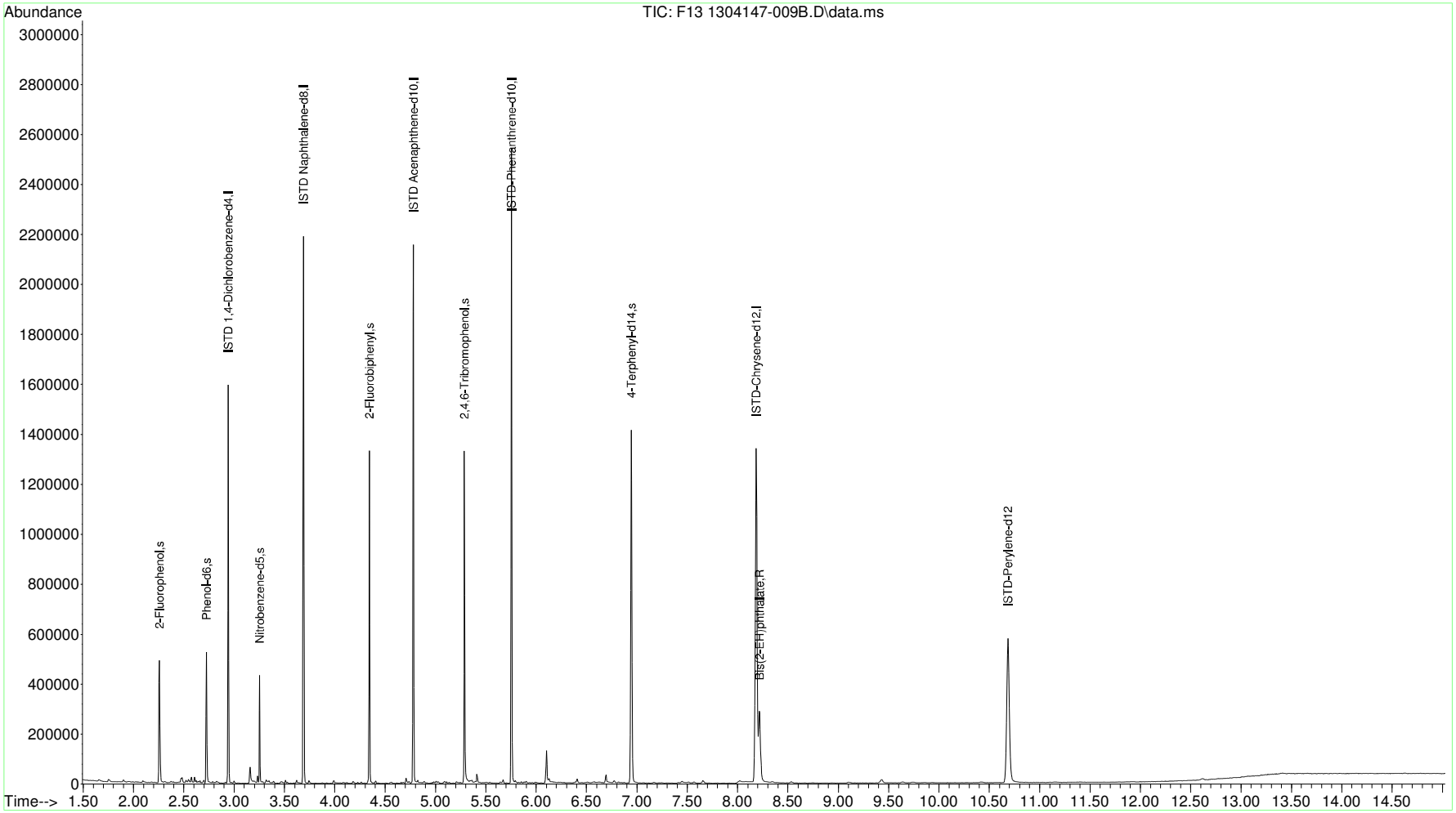
Quant Time: Apr 10 11:29:23 2013
Quant Method : C:\msdchem\1\methods\SVQUANT4-05-13.M
Quant Title : Semi-Volatile Compounds HP-GCMS 5973-B
QLast Update : Sat Apr 06 14:59:56 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\APR 13\09APR 13-A\
Data File : F13 1304147-009B.D
Acq On : 9 Apr 2013 5:15 pm
Operator : ALICIA HABERLE
Sample : 1304147-009B
Misc : SAMP
ALS Vial : 17 Sample Multiplier: 1

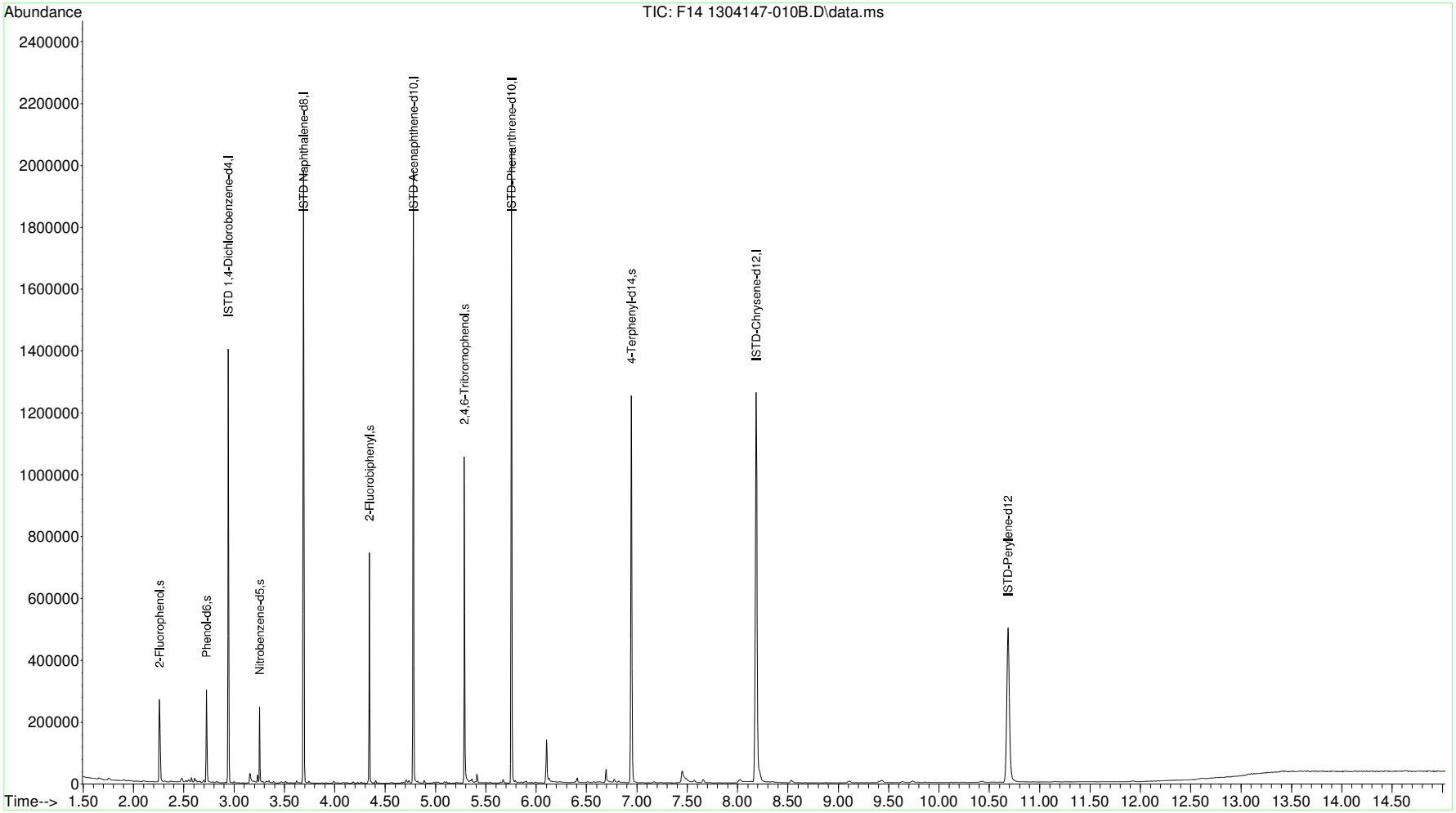
Quant Time: Apr 10 11:30:06 2013
Quant Method : C:\msdchem\1\methods\SVQUANT4-05-13.M
Quant Title : Semi-Volatile Compounds HP-GCMS 5973-B
QLast Update : Sat Apr 06 14:59:56 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\APR 13\09APR 13-A\
Data File : F14 1304147-010B.D
Acq On : 9 Apr 2013 5:38 pm
Operator : ALICIA HABERLE
Sample : 1304147-010B
Misc : SAMP
ALS Vial : 18 Sample Multiplier: 1

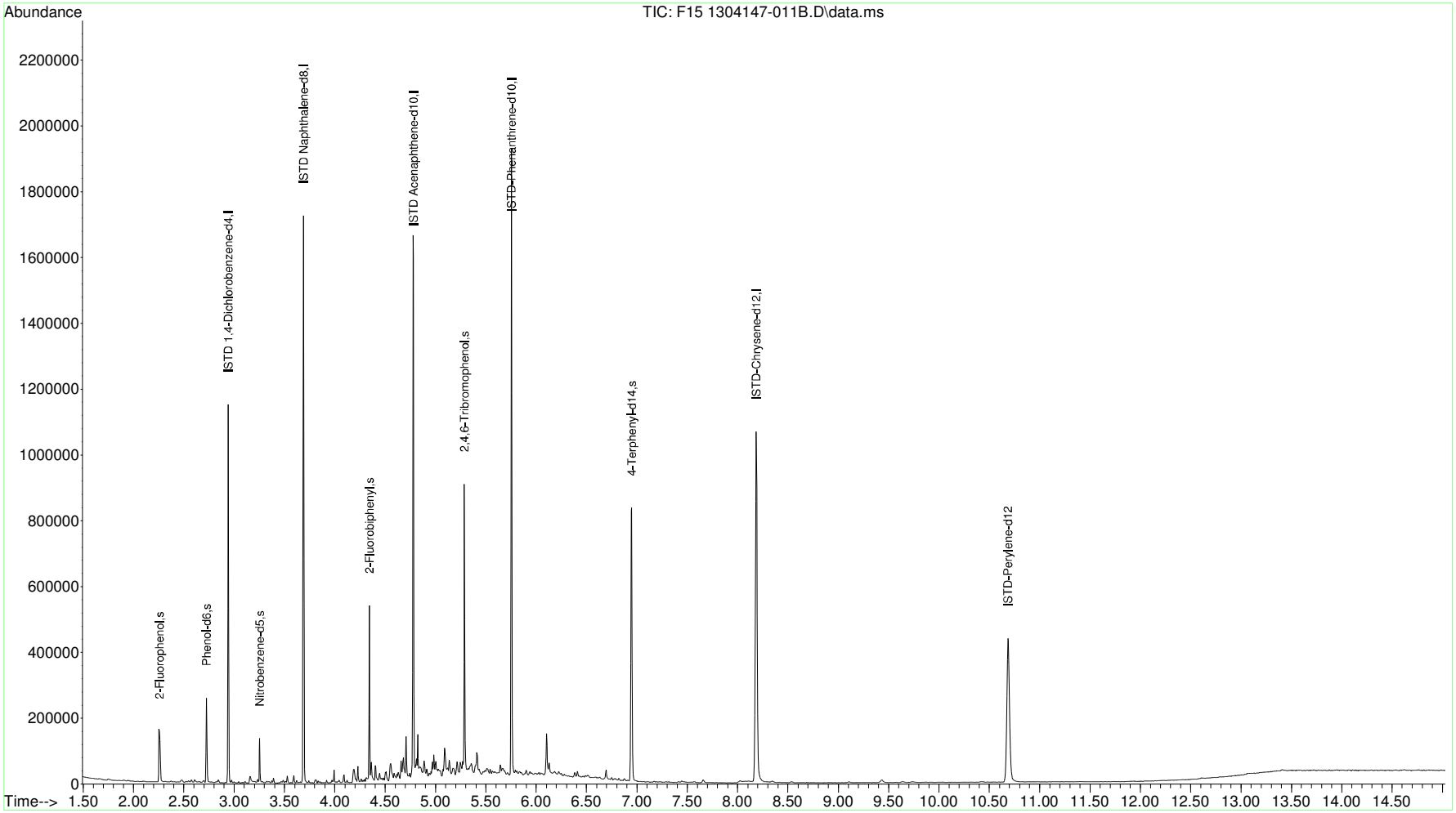
Quant Time: Apr 10 11:30:42 2013
Quant Method : C:\msdchem\1\methods\SVQUANT4-05-13.M
Quant Title : Semi-Volatile Compounds HP-GCMS 5973-B
QLast Update : Sat Apr 06 14:59:56 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\APR 13\09APR 13-A\
Data File : F15 1304147-011B.D
Acq On : 9 Apr 2013 6:01 pm
Operator : ALICIA HABERLE
Sample : 1304147-011B
Misc : SAMP
ALS Vial : 19 Sample Multiplier: 1

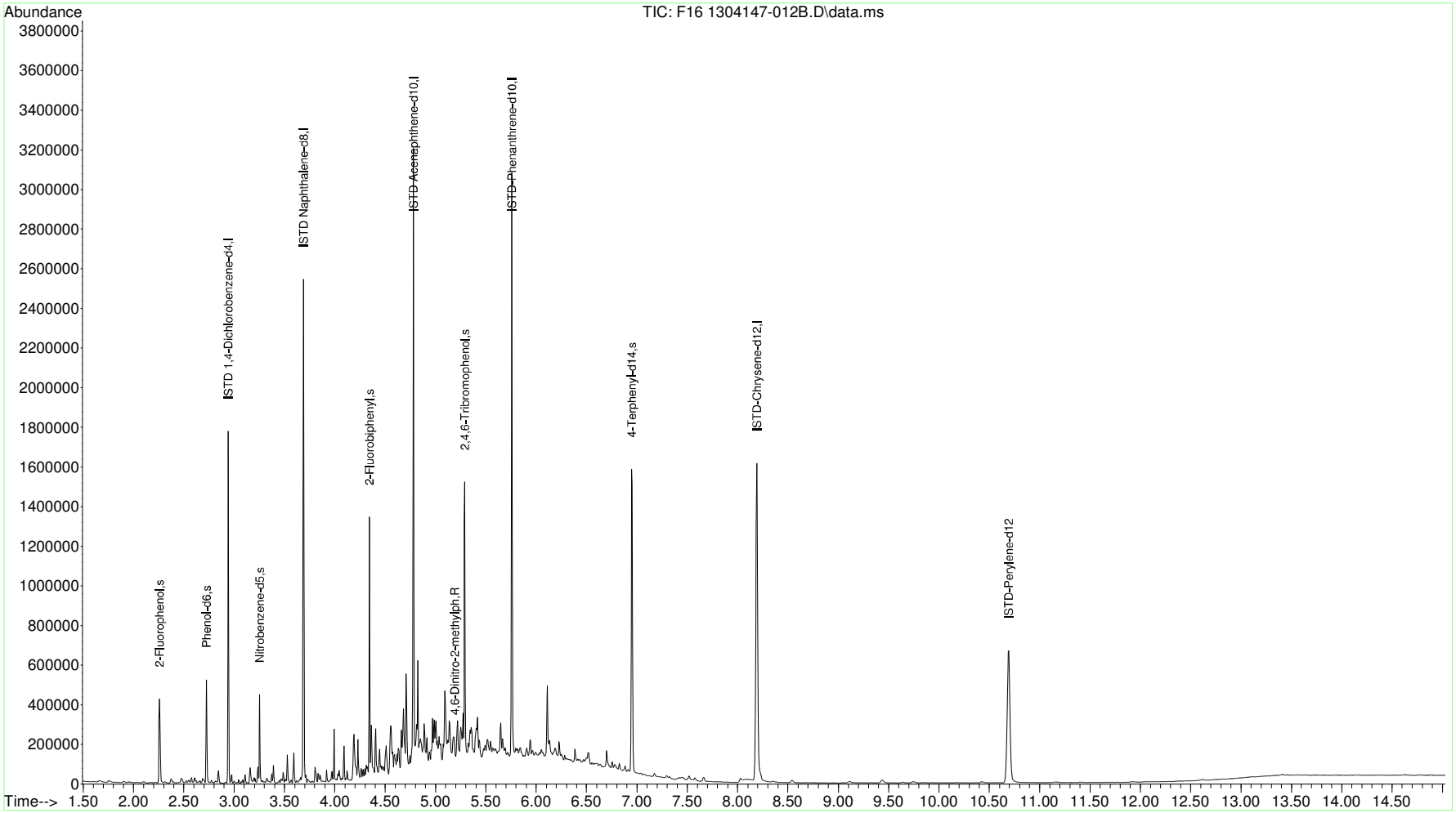
Quant Time: Apr 10 11:31:26 2013
Quant Method : C:\msdchem\1\methods\SVQUANT4-05-13.M
Quant Title : Semi-Volatile Compounds HP-GCMS 5973-B
QLast Update : Sat Apr 06 14:59:56 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\APR 13\09APR 13-A\
Data File : F16 1304147-012B.D
Acq On : 9 Apr 2013 6:25 pm
Operator : ALICIA HABERLE
Sample : 1304147-012B
Misc : SAMP
ALS Vial : 20 Sample Multiplier: 1

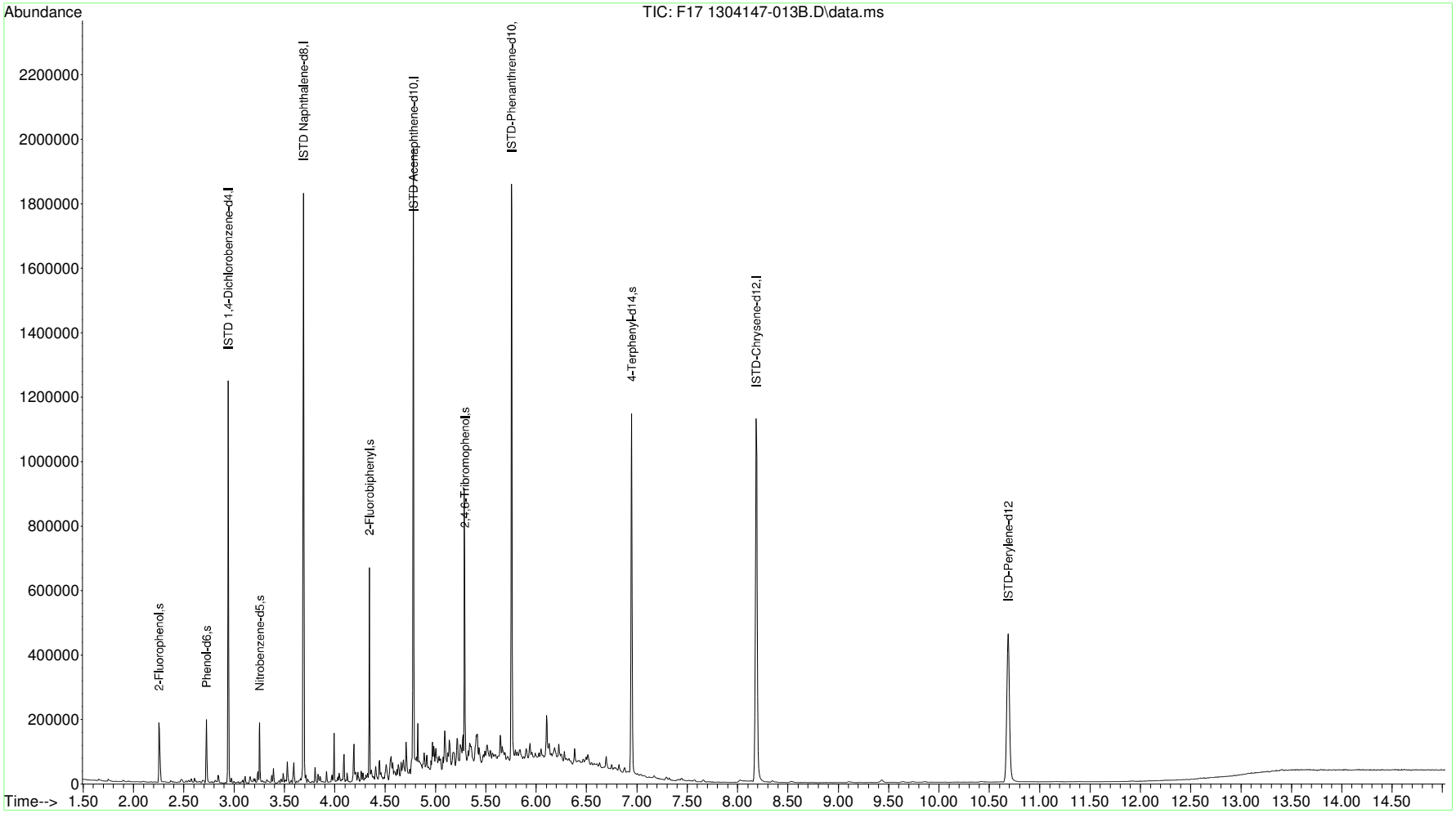
Quant Time: Apr 10 11:32:47 2013
Quant Method : C:\msdchem\1\methods\SVQUANT4-05-13.M
Quant Title : Semi-Volatile Compounds HP-GCMS 5973-B
QLast Update : Sat Apr 06 14:59:56 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\APR 13\09APR 13-A\
Data File : F17 1304147-013B.D
Acq On : 9 Apr 2013 6:49 pm
Operator : ALICIA HABERLE
Sample : 1304147-013B
Misc : SAMP
ALS Vial : 21 Sample Multiplier: 1

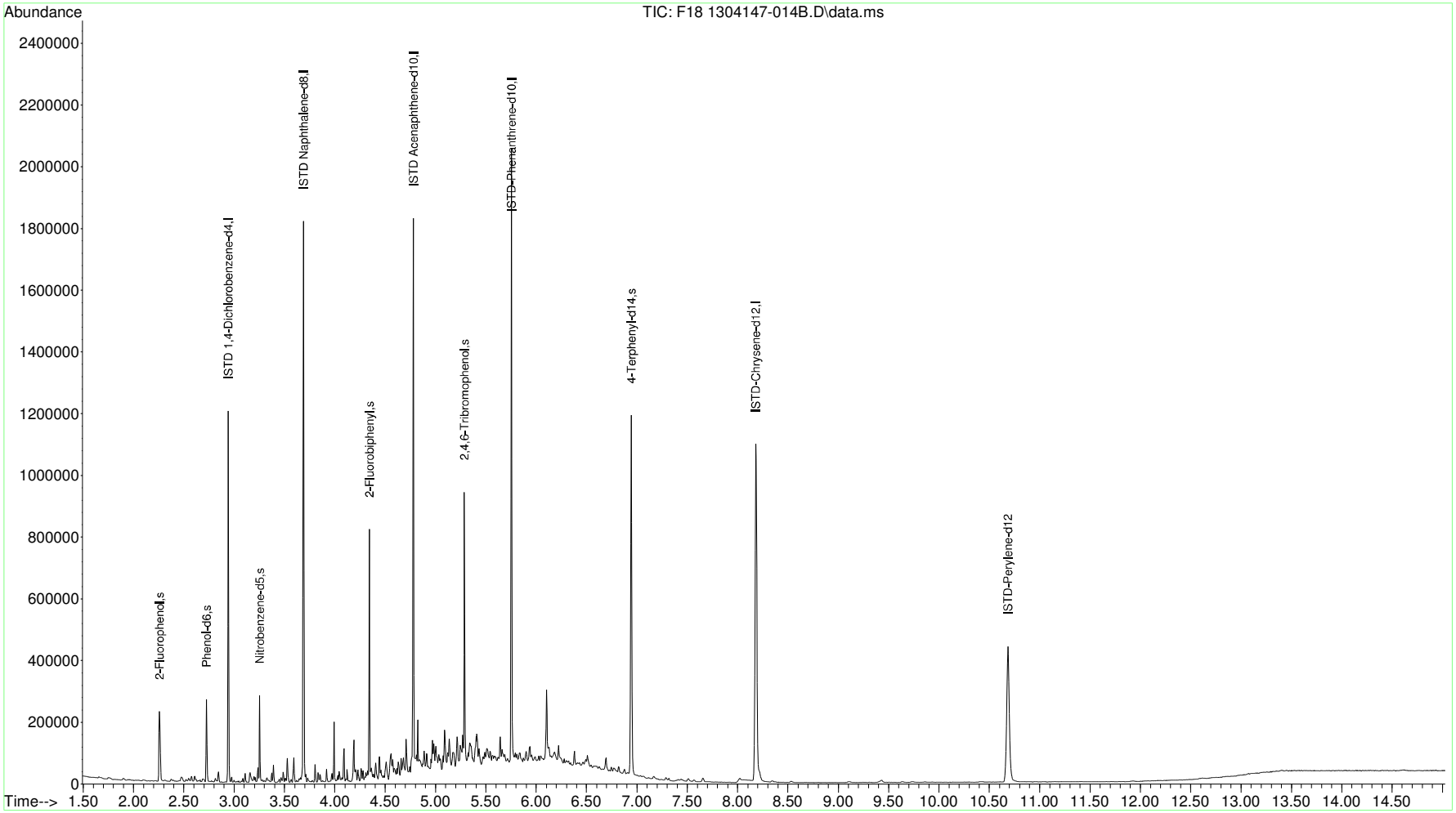
Quant Time: Apr 10 11:33:53 2013
Quant Method : C:\msdchem\1\methods\SVQUANT4-05-13.M
Quant Title : Semi-Volatile Compounds HP-GCMS 5973-B
QLast Update : Sat Apr 06 14:59:56 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\APR 13\09APR 13-A\
Data File : F18 1304147-014B.D
Acq On : 9 Apr 2013 7:12 pm
Operator : ALICIA HABERLE
Sample : 1304147-014B
Misc : SAMP
ALS Vial : 22 Sample Multiplier: 1

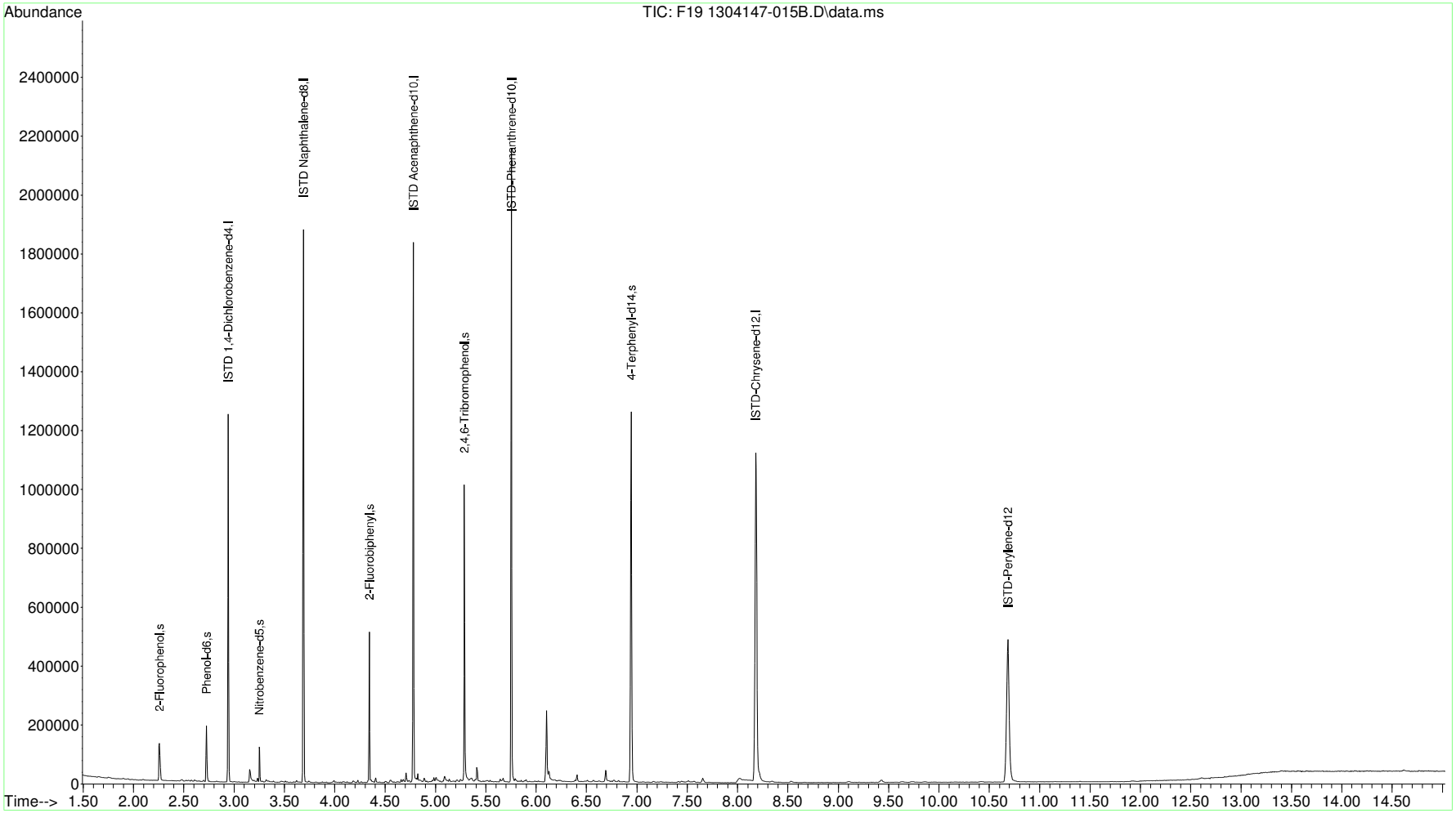
Quant Time: Apr 10 11:35:00 2013
Quant Method : C:\msdchem\1\methods\SVQUANT4-05-13.M
Quant Title : Semi-Volatile Compounds HP-GCMS 5973-B
QLast Update : Sat Apr 06 14:59:56 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\APR 13\09APR 13-A\
Data File : F19 1304147-015B.D
Acq On : 9 Apr 2013 7:35 pm
Operator : ALICIA HABERLE
Sample : 1304147-015B
Misc : SAMP
ALS Vial : 23 Sample Multiplier: 1

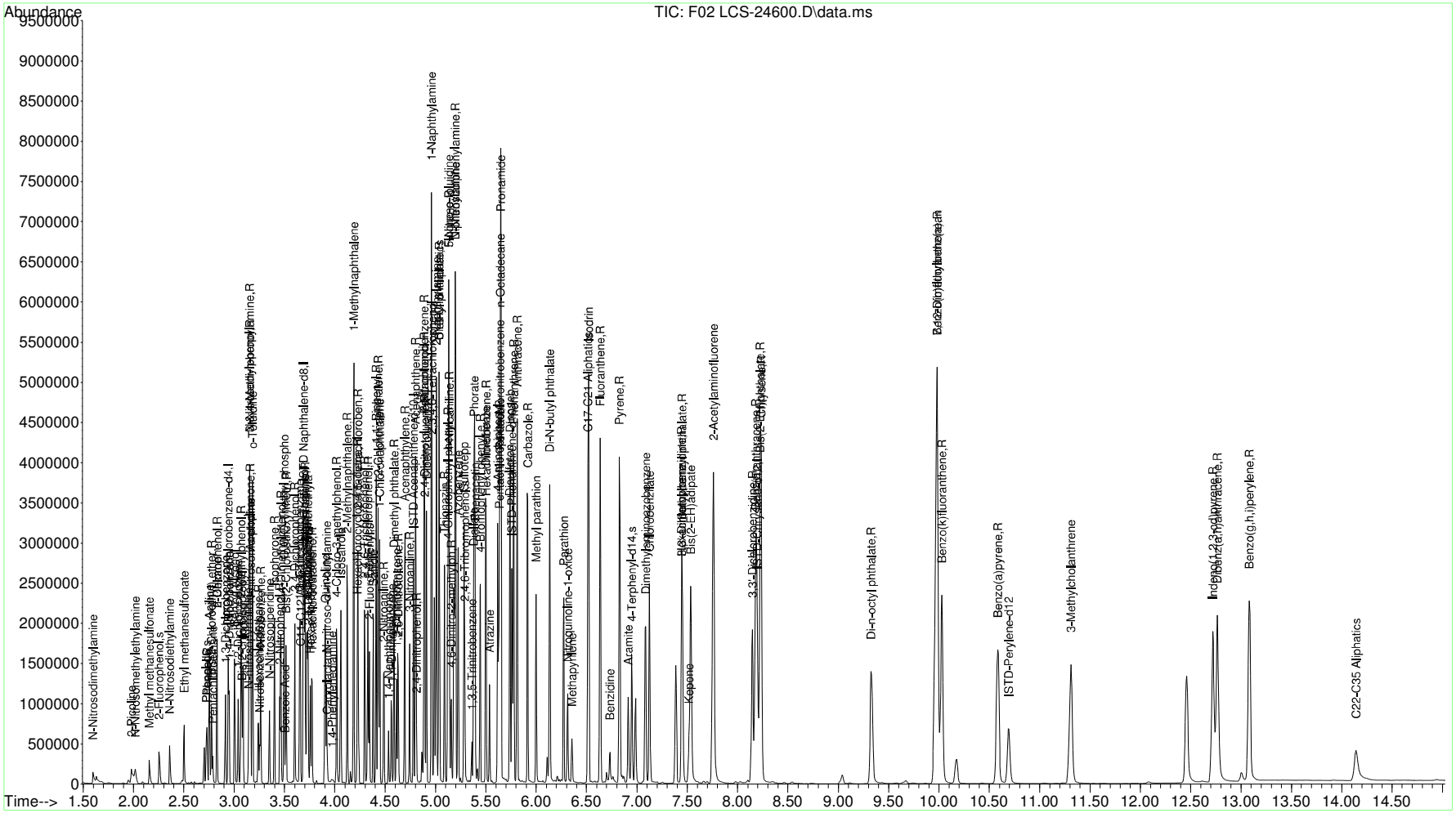
Quant Time: Apr 10 11:35:42 2013
Quant Method : C:\msdchem\1\methods\SVQUANT4-05-13.M
Quant Title : Semi-Volatile Compounds HP-GCMS 5973-B
QLast Update : Sat Apr 06 14:59:56 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\APR 13\09APR 13-A\
Data File : F02 LCS-24600.D
Acq On : 9 Apr 2013 12:58 pm
Operator : ALICIA HABERLE
Sample : LCS-24600
Misc : LCS
ALS Vial : 6 Sample Multiplier: 1

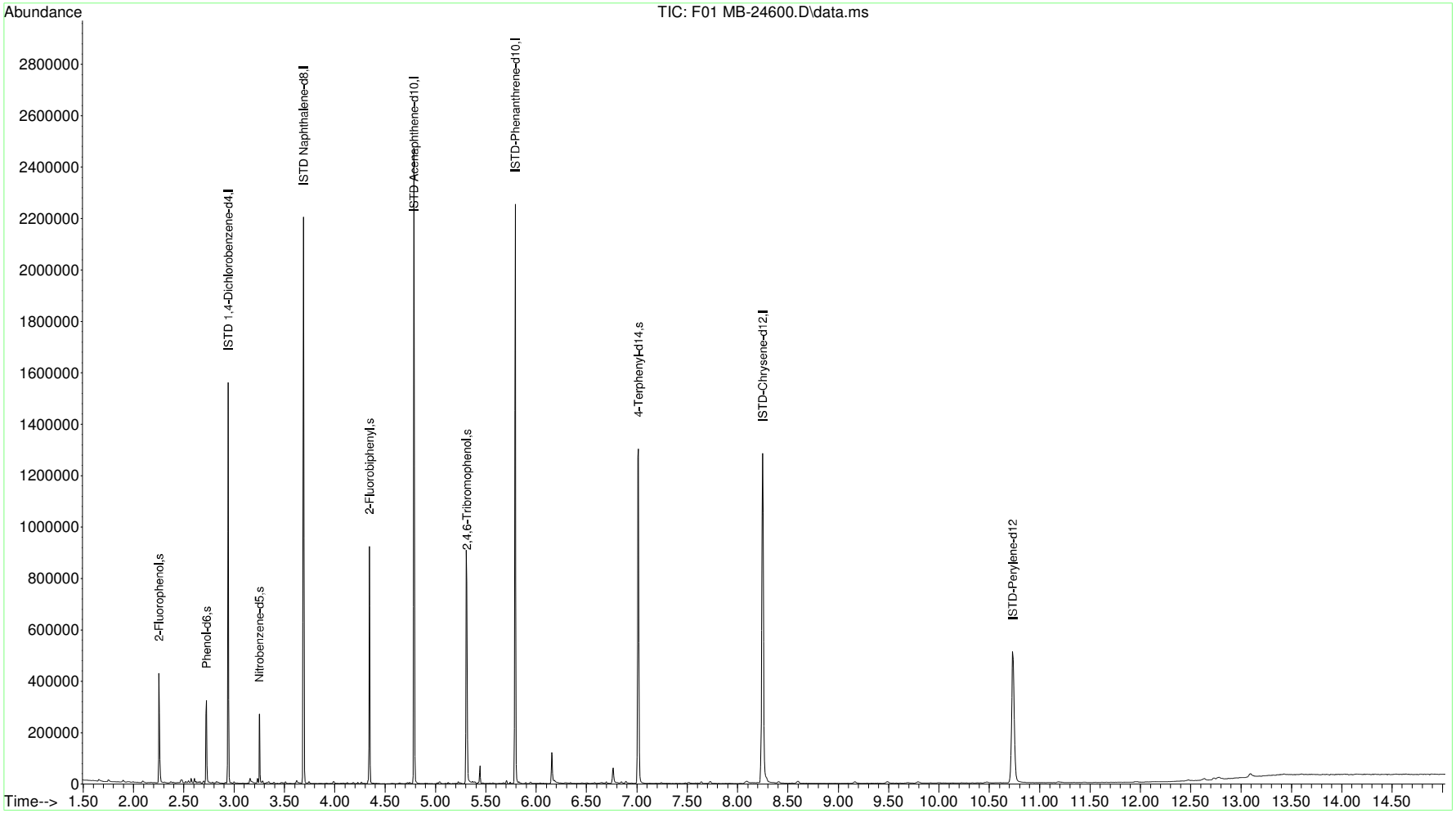
Quant Time: Apr 10 11:22:02 2013
Quant Method : C:\msdchem\1\methods\SVQUANT4-05-13.M
Quant Title : Semi-Volatile Compounds HP-GCMS 5973-B
QLast Update : Sat Apr 06 14:59:56 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\APR 13\09APR 13-A\
Data File : F01 MB-24600.D
Acq On : 9 Apr 2013 12:34 pm
Operator : ALICIA HABERLE
Sample : MB-24600
Misc : MBLK
ALS Vial : 5 Sample Multiplier: 1

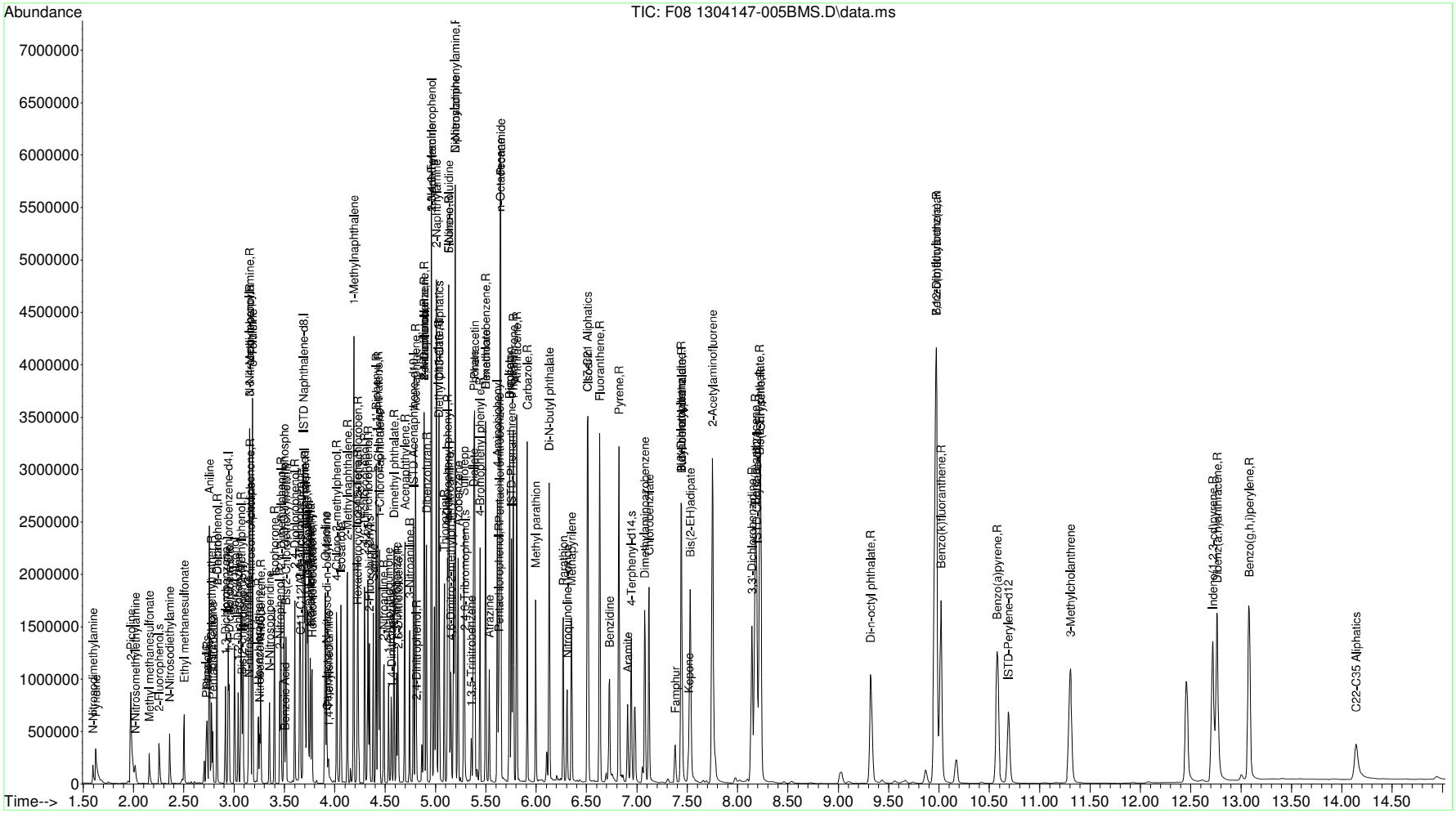
Quant Time: Apr 10 11:21:25 2013
Quant Method : C:\msdchem\1\methods\SVQUANT4-05-13.M
Quant Title : Semi-Volatile Compounds HP-GCMS 5973-B
QLast Update : Sat Apr 06 14:59:56 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\APR 13\09APR 13-A\
Data File : F08 1304147-005BMS.D
Acq On : 9 Apr 2013 3:18 pm
Operator : ALICIA HABERLE
Sample : 1304147-005BMS
Misc : SAMP
ALS Vial : 12 Sample Multiplier: 1

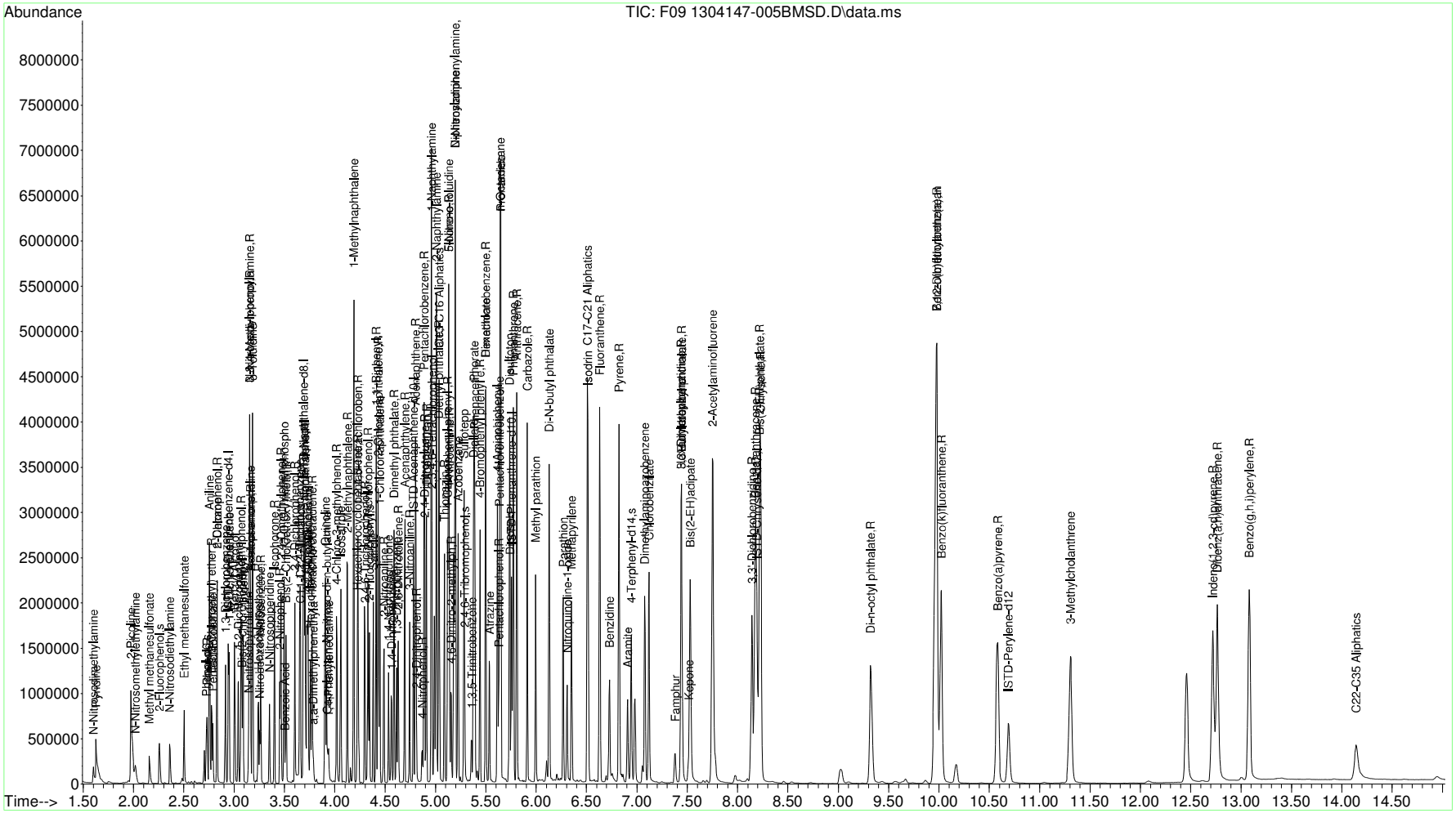
Quant Time: Apr 10 11:25:55 2013
Quant Method : C:\msdchem\1\methods\SVQUANT4-05-13.M
Quant Title : Semi-Volatile Compounds HP-GCMS 5973-B
QLast Update : Sat Apr 06 14:59:56 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\APR 13\09APR 13-A\
Data File : F09 1304147-005BMSD.D
Acq On : 9 Apr 2013 3:42 pm
Operator : ALICIA HABERLE
Sample : 1304147-005BMSD
Misc : SAMP
ALS Vial : 13 Sample Multiplier: 1

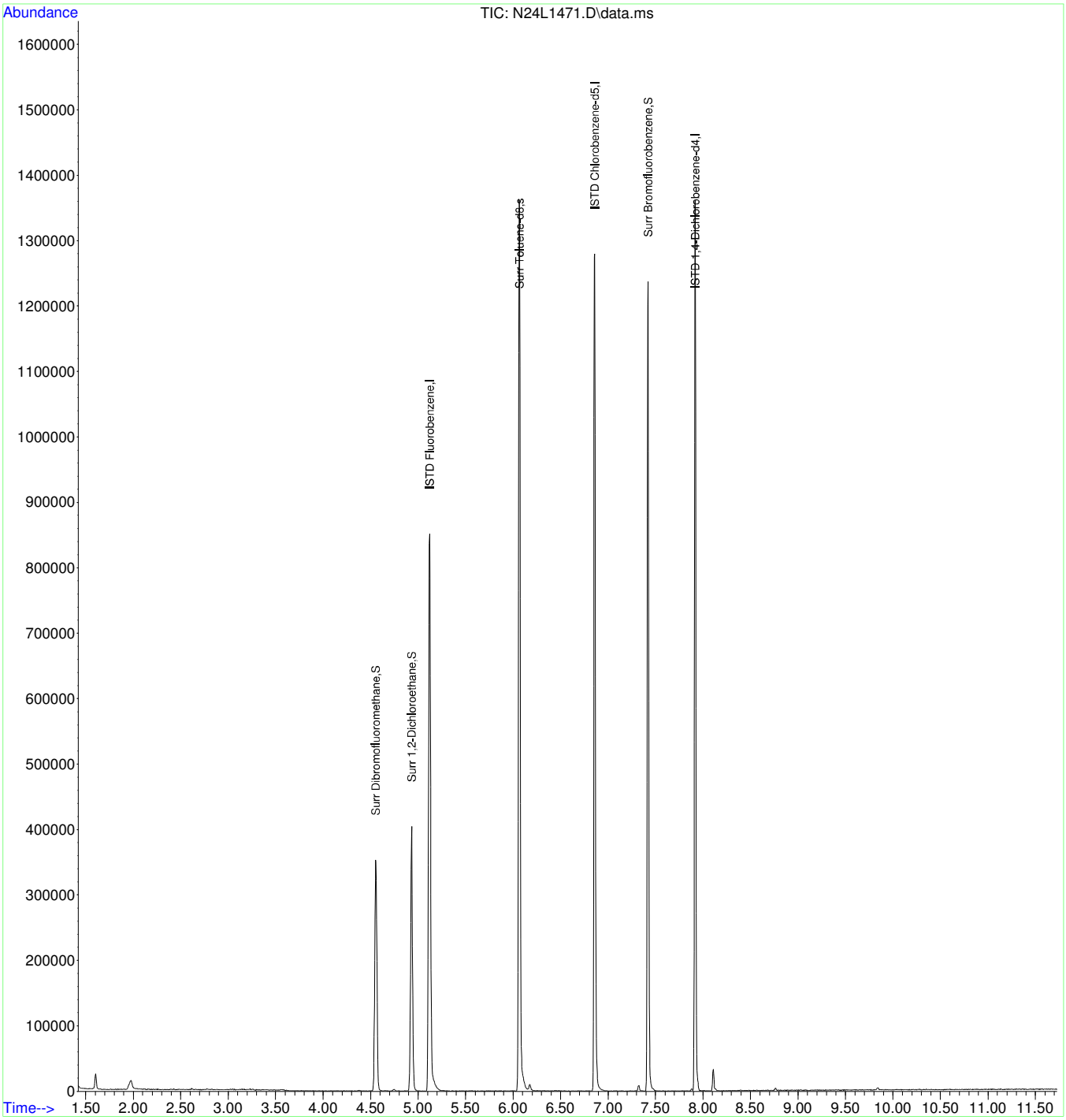
Quant Time: Apr 10 11:26:34 2013
Quant Method : C:\msdchem\1\methods\SVQUANT4-05-13.M
Quant Title : Semi-Volatile Compounds HP-GCMS 5973-B
QLast Update : Sat Apr 06 14:59:56 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\APR13-D\04APR13\
Data File : N24L1471.D
Acq On : 4 Apr 2013 8:05 pm
Operator : AAP
Sample : 1304147-001A
Misc : SAMP 5.0ML 1OF3 SB
ALS Vial : 8 Sample Multiplier: 1

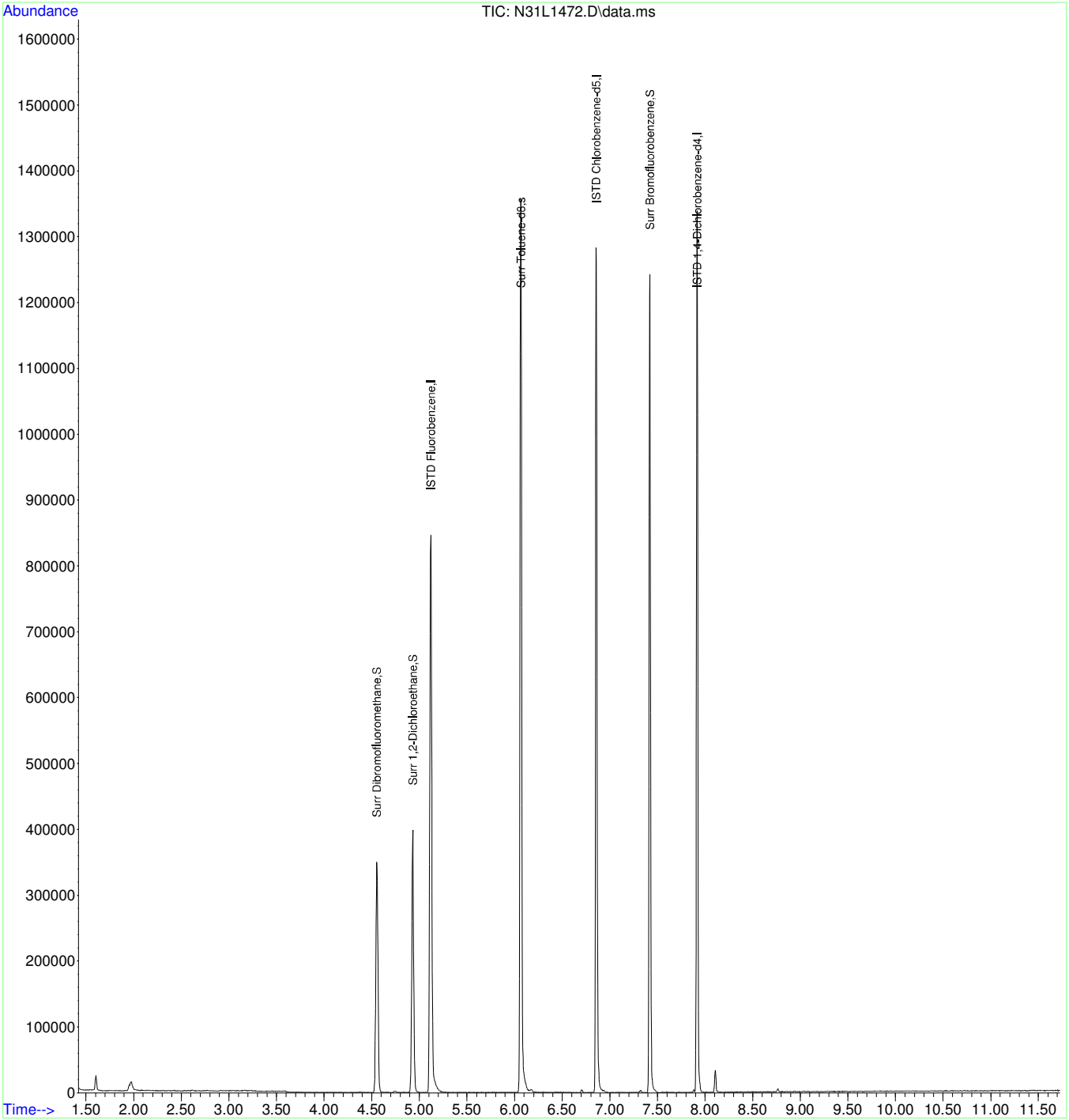
Quant Time: Apr 05 10:23:20 2013
Quant Method : C:\MSDCHEM\1\METHODS\DFULLW_17.M
Quant Title : VOA Calibration
QLast Update : Sat Mar 30 17:43:44 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\APR13-D\04APR13\
Data File : N31L1472.D
Acq On : 4 Apr 2013 10:18 pm
Operator : AAP
Sample : 1304147-002A
Misc : SAMP 5.0ML 1OF3 SB
ALS Vial : 15 Sample Multiplier: 1

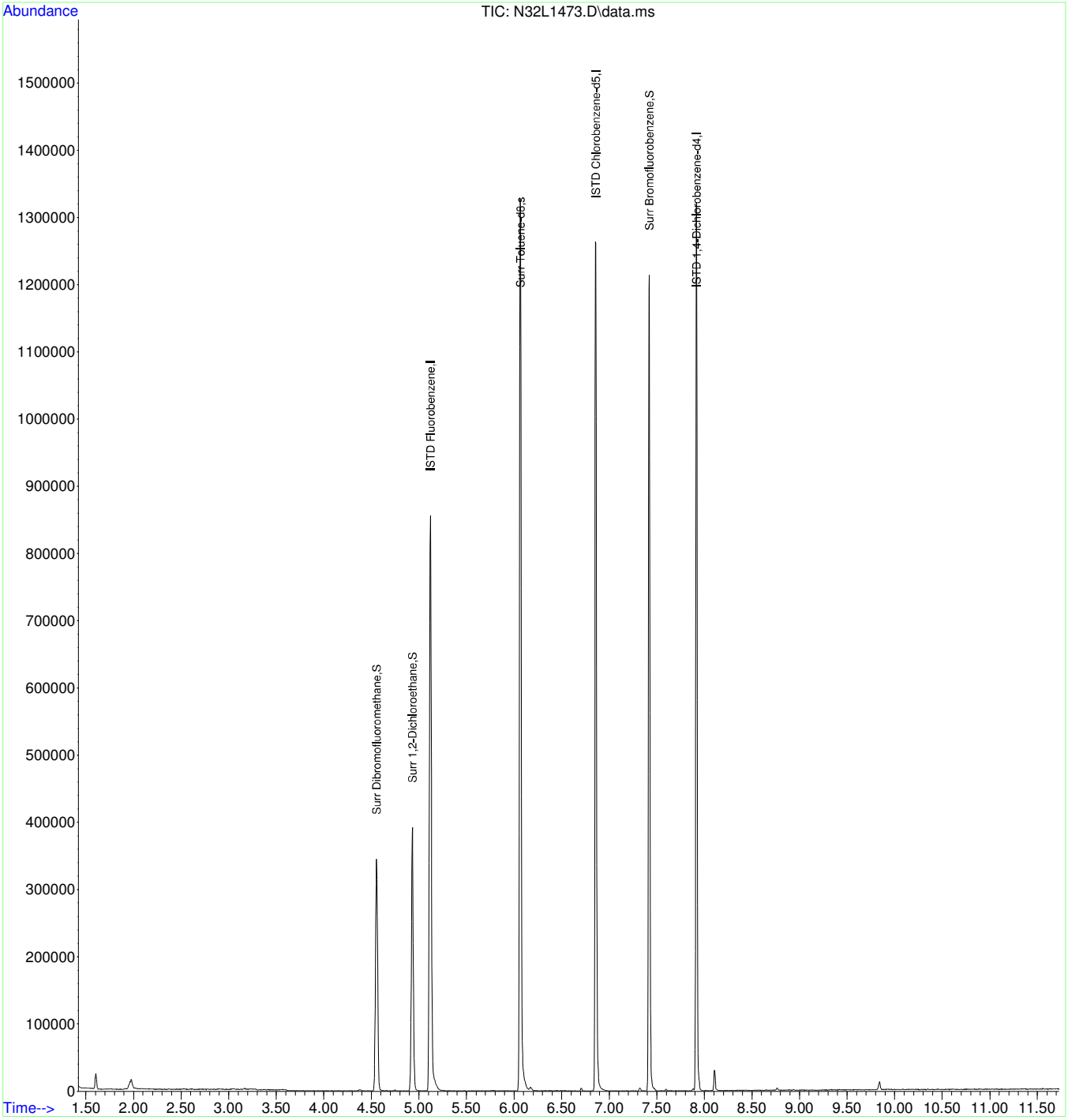
Quant Time: Apr 05 10:24:17 2013
Quant Method : C:\MSDCHEM\1\METHODS\DFULLW_17.M
Quant Title : VOA Calibration
QLast Update : Sat Mar 30 17:43:44 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\APR13-D\04APR13\
Data File : N32L1473.D
Acq On : 4 Apr 2013 10:37 pm
Operator : AAP
Sample : 1304147-003A
Misc : SAMP 5.0ML 1OF3 SB
ALS Vial : 16 Sample Multiplier: 1

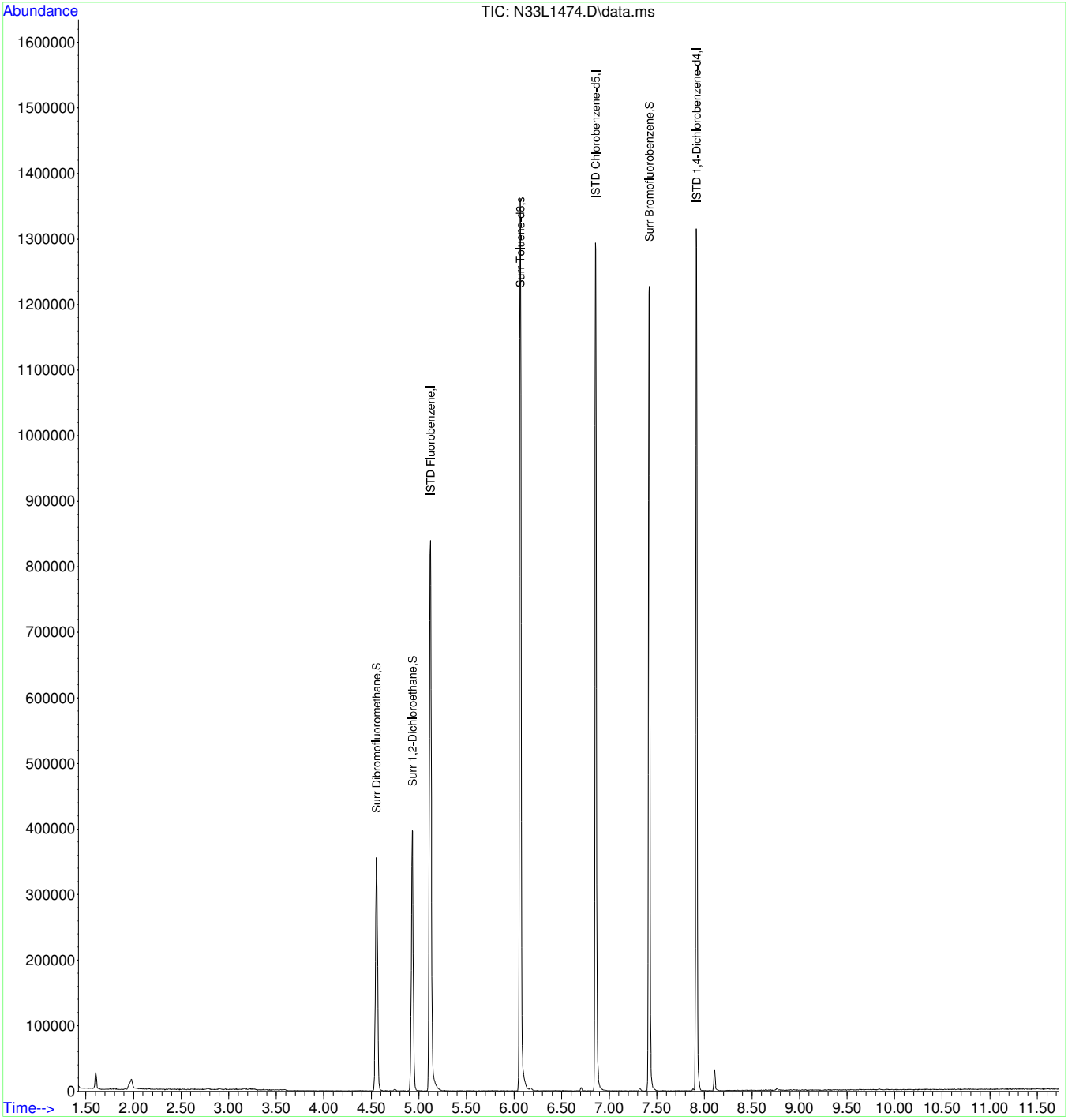
Quant Time: Apr 05 10:24:32 2013
Quant Method : C:\MSDCHEM\1\METHODS\DFULLW_17.M
Quant Title : VOA Calibration
QLast Update : Sat Mar 30 17:43:44 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\APR13-D\04APR13\
Data File : N33L1474.D
Acq On : 4 Apr 2013 10:56 pm
Operator : AAP
Sample : 1304147-004A
Misc : SAMP 5.0ML 1OF3 SB
ALS Vial : 17 Sample Multiplier: 1

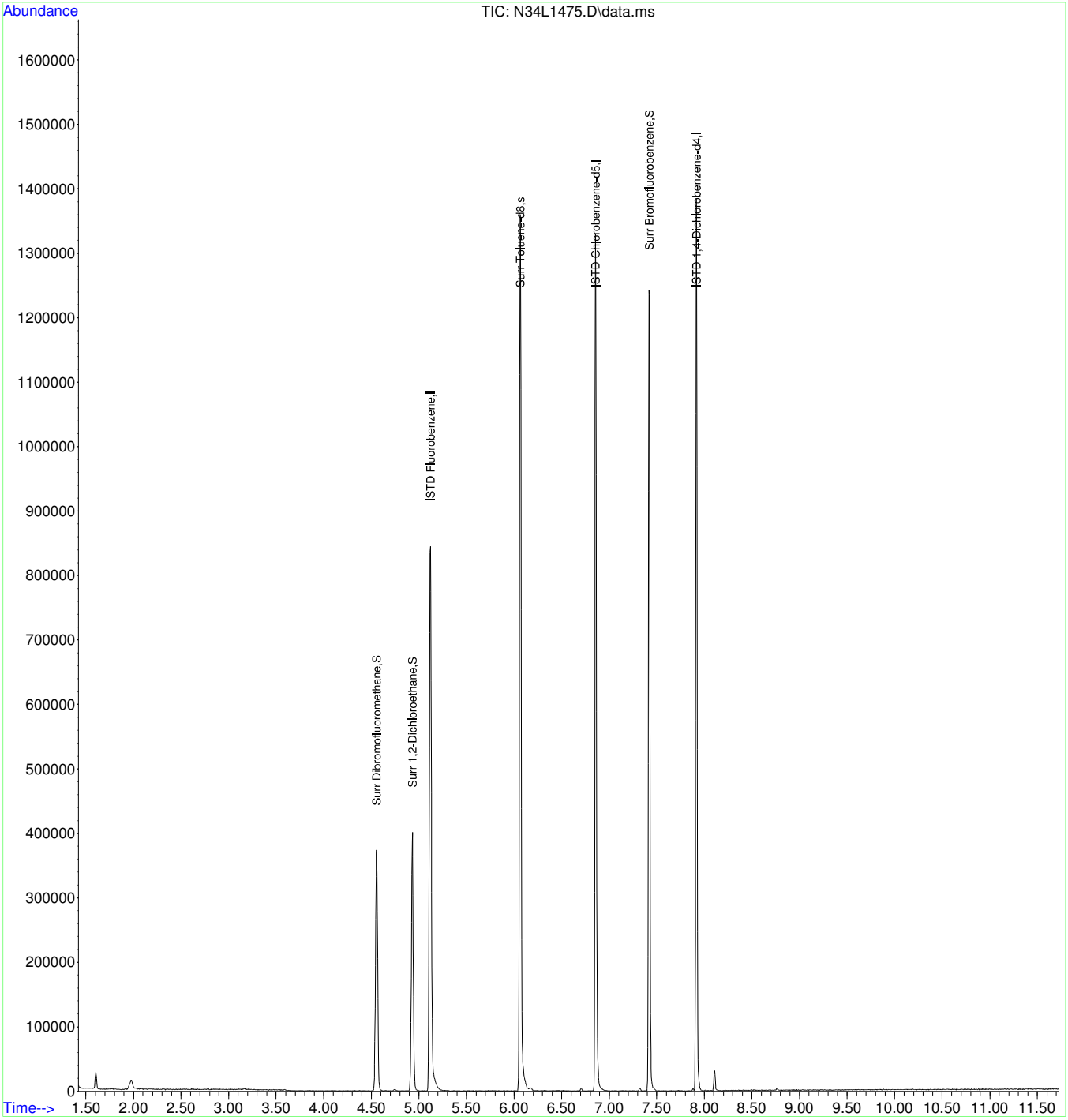
Quant Time: Apr 05 10:24:45 2013
Quant Method : C:\MSDCHEM\1\METHODS\DFULLW_17.M
Quant Title : VOA Calibration
QLast Update : Sat Mar 30 17:43:44 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\APR13-D\04APR13\
Data File : N34L1475.D
Acq On : 4 Apr 2013 11:15 pm
Operator : AAP
Sample : 1304147-005A
Misc : SAMP 5.0ML 1OF3 SB
ALS Vial : 18 Sample Multiplier: 1

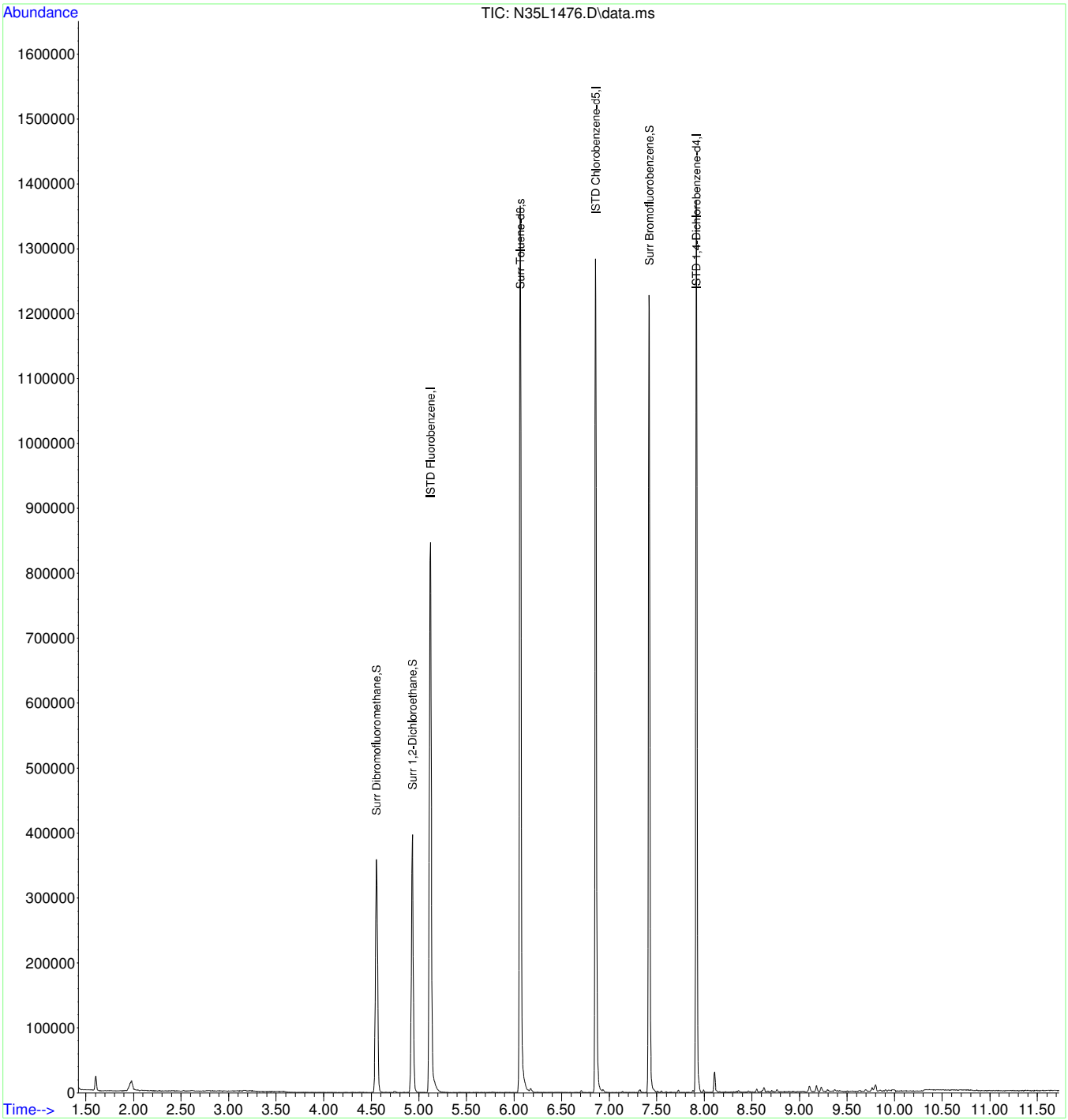
Quant Time: Apr 05 10:24:58 2013
Quant Method : C:\MSDCHEM\1\METHODS\DFULLW_17.M
Quant Title : VOA Calibration
QLast Update : Sat Mar 30 17:43:44 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\APR13-D\04APR13\
Data File : N35L1476.D
Acq On : 4 Apr 2013 11:34 pm
Operator : AAP
Sample : 1304147-006A
Misc : SAMP 5.0ML 1OF3 SB
ALS Vial : 19 Sample Multiplier: 1

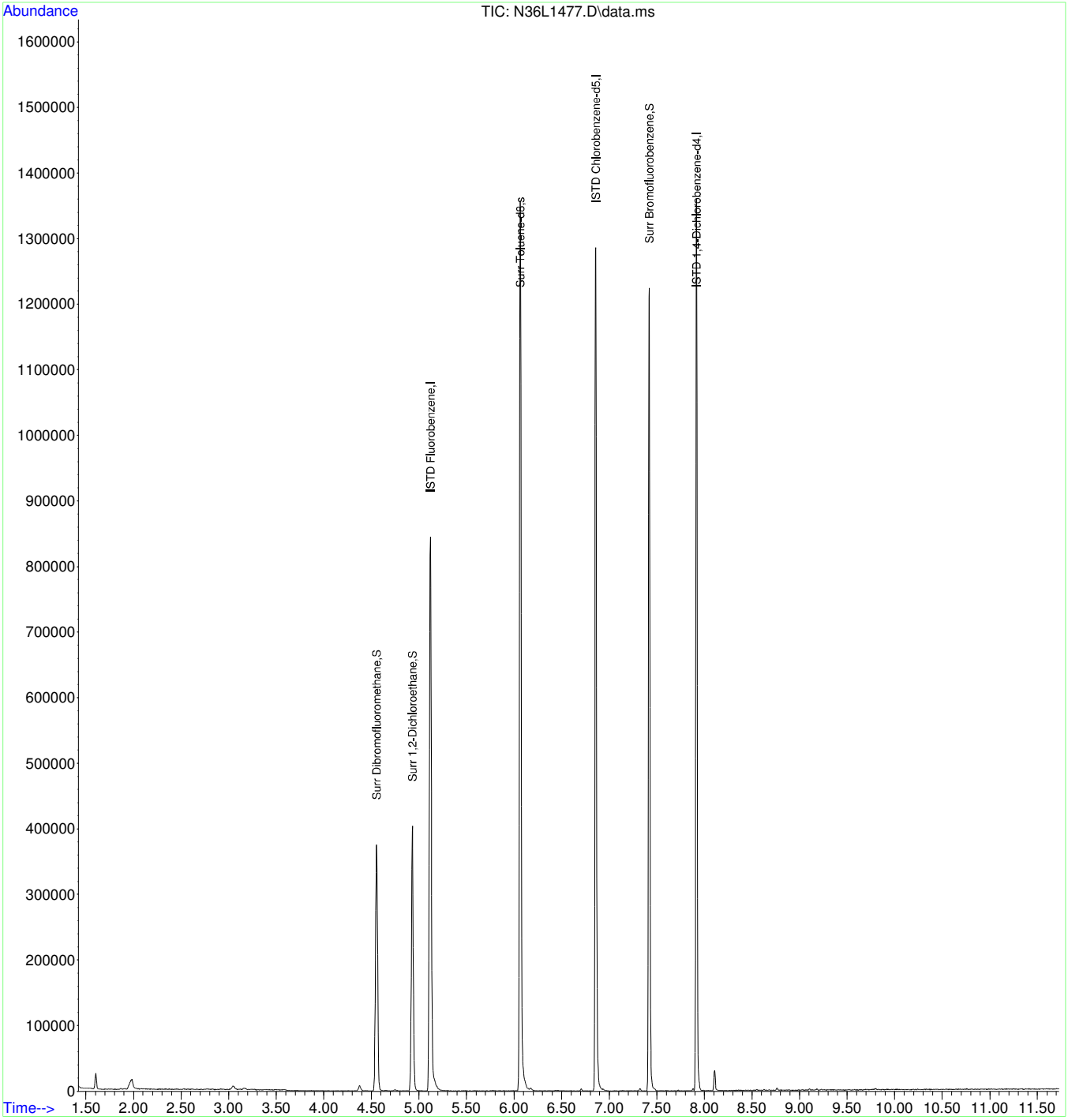
Quant Time: Apr 05 10:25:16 2013
Quant Method : C:\MSDCHEM\1\METHODS\DFULLW_17.M
Quant Title : VOA Calibration
QLast Update : Sat Mar 30 17:43:44 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\APR13-D\04APR13\
Data File : N36L1477.D
Acq On : 4 Apr 2013 11:53 pm
Operator : AAP
Sample : 1304147-007A
Misc : SAMP 5.0ML 1OF3 SB
ALS Vial : 20 Sample Multiplier: 1

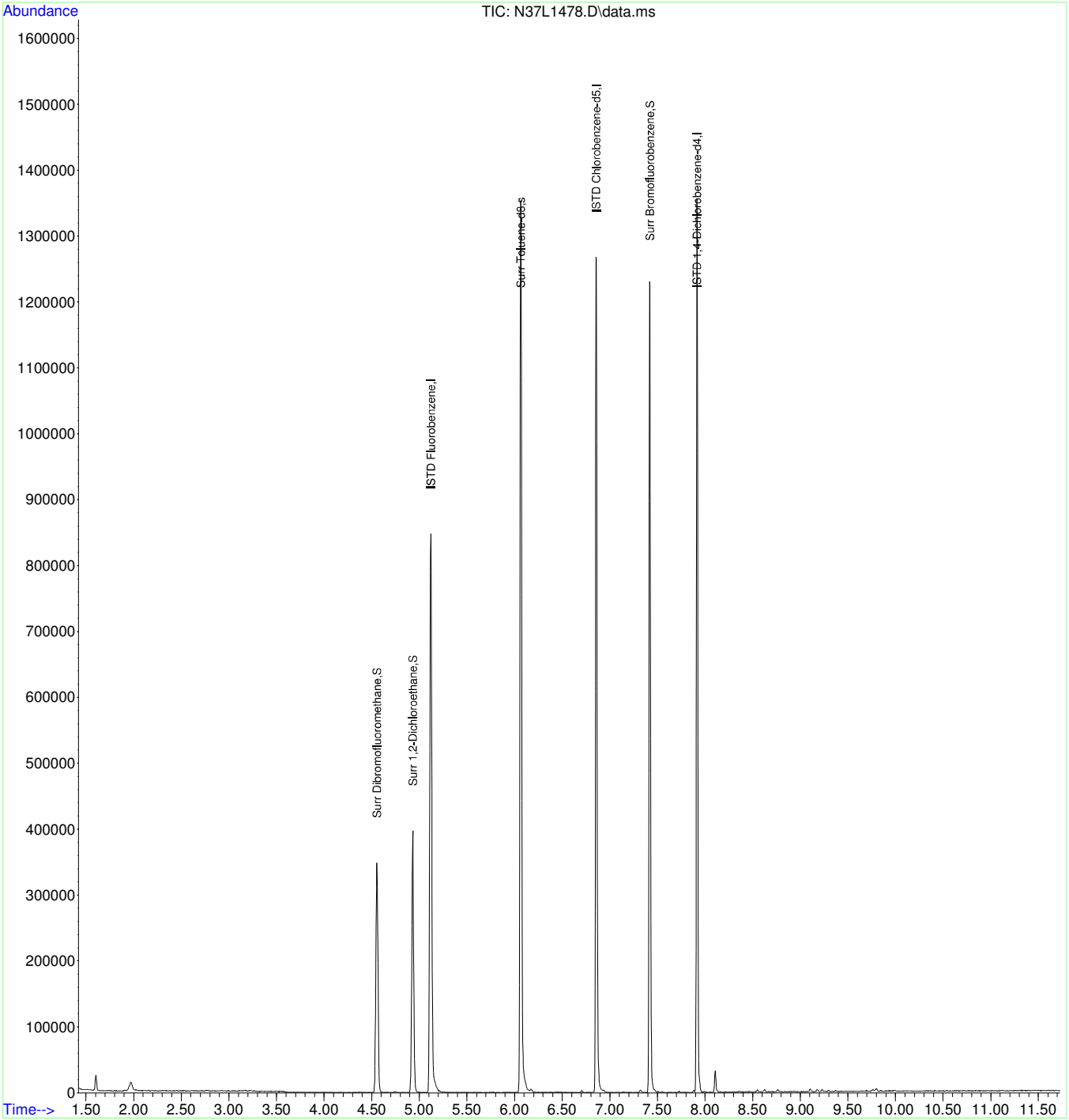
Quant Time: Apr 05 10:25:33 2013
Quant Method : C:\MSDCHEM\1\METHODS\DFULLW_17.M
Quant Title : VOA Calibration
QLast Update : Sat Mar 30 17:43:44 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\APR13-D\04APR13\
Data File : N37L1478.D
Acq On : 5 Apr 2013 12:12 am
Operator : AAP
Sample : 1304147-008A
Misc : SAMP 5.0ML 1OF3 SB
ALS Vial : 21 Sample Multiplier: 1

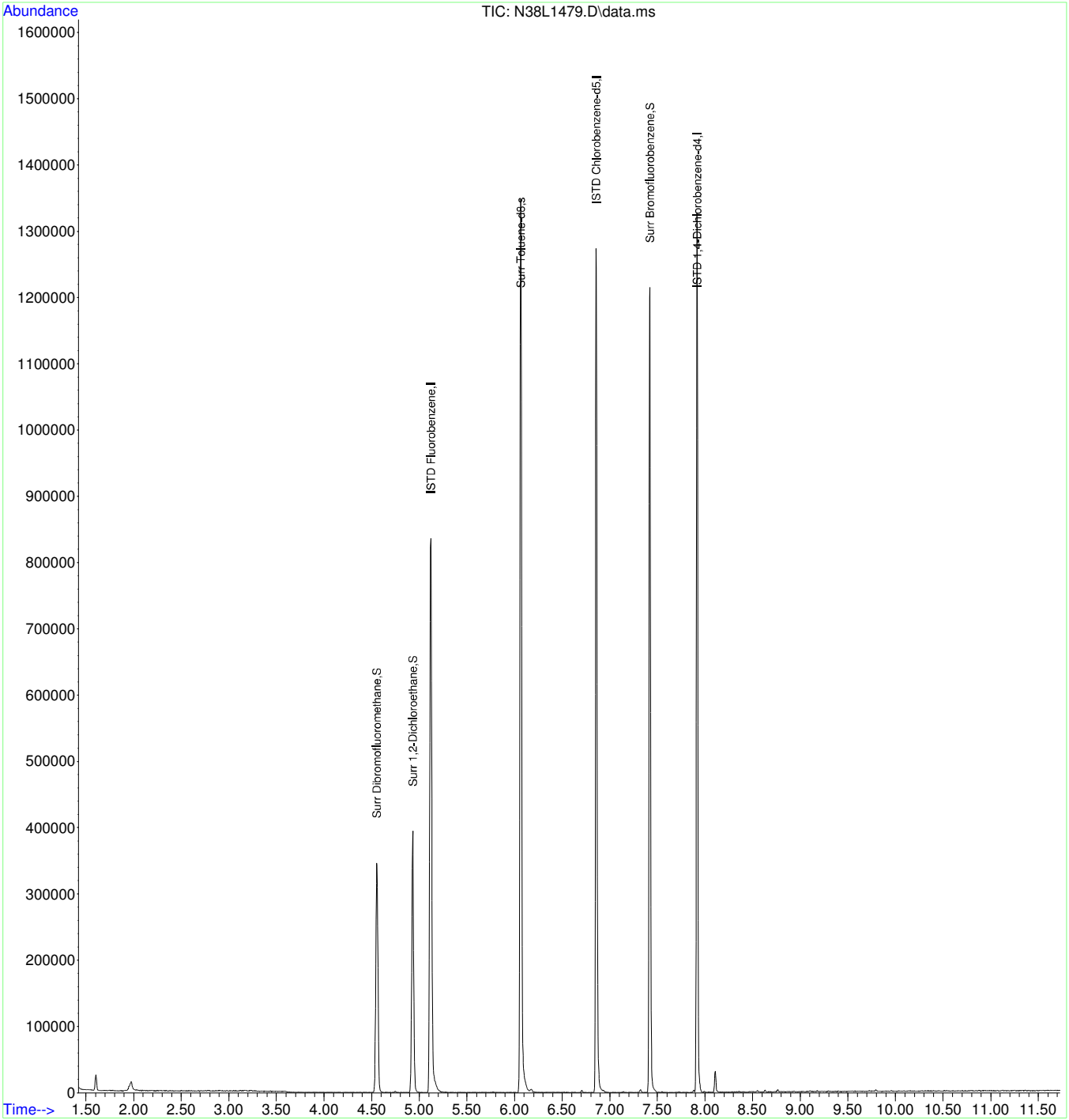
Quant Time: Apr 05 10:25:46 2013
Quant Method : C:\MSDCHEM\1\METHODS\DFULLW_17.M
Quant Title : VOA Calibration
QLast Update : Sat Mar 30 17:43:44 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\APR13-D\04APR13\
Data File : N38L1479.D
Acq On : 5 Apr 2013 12:31 am
Operator : AAP
Sample : 1304147-009A
Misc : SAMP 5.0ML 1OF3 SB
ALS Vial : 22 Sample Multiplier: 1

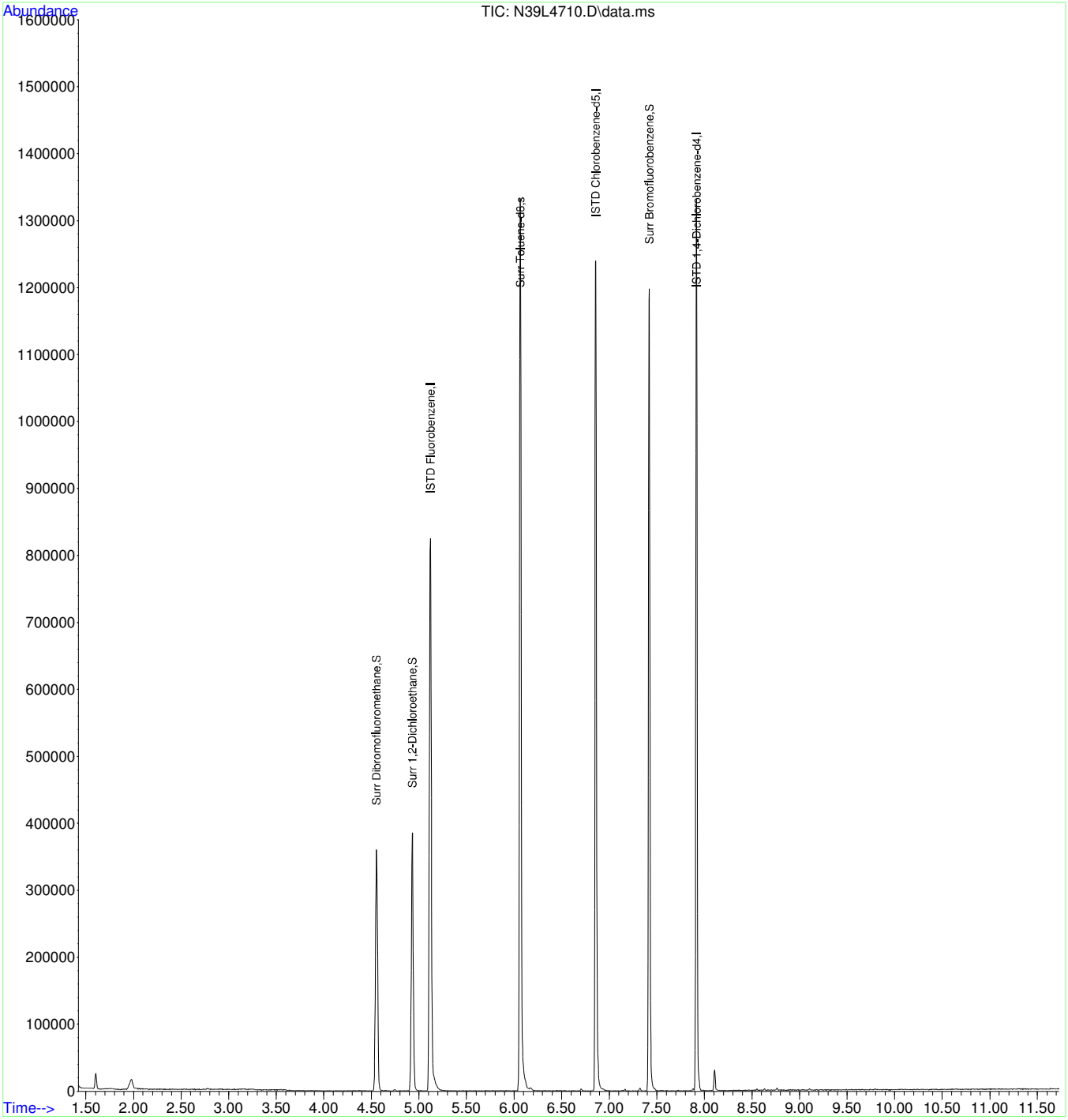
Quant Time: Apr 05 10:26:02 2013
Quant Method : C:\MSDCHEM\1\METHODS\DFULLW_17.M
Quant Title : VOA Calibration
QLast Update : Sat Mar 30 17:43:44 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\APR13-D\04APR13\
Data File : N39L4710.D
Acq On : 5 Apr 2013 12:50 am
Operator : AAP
Sample : 1304147-010A
Misc : SAMP 5.0ML 1OF3 SB
ALS Vial : 23 Sample Multiplier: 1

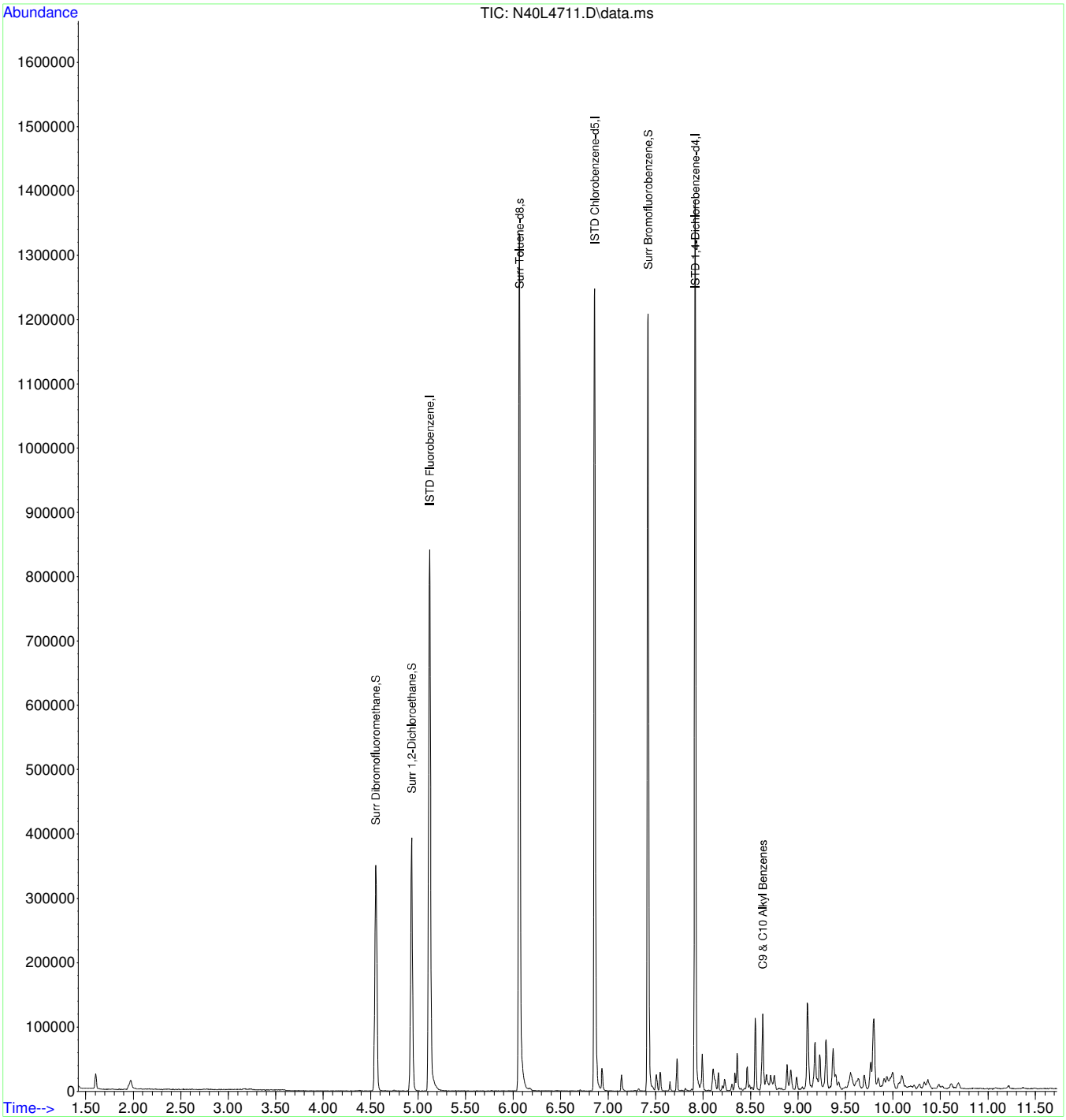
Quant Time: Apr 05 10:26:23 2013
Quant Method : C:\MSDCHEM\1\METHODS\DFULLW_17.M
Quant Title : VOA Calibration
QLast Update : Sat Mar 30 17:43:44 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\APR13-D\04APR13\
Data File : N40L4711.D
Acq On : 5 Apr 2013 1:09 am
Operator : AAP
Sample : 1304147-011A
Misc : SAMP 5.0ML 1OF3 SB
ALS Vial : 24 Sample Multiplier: 1

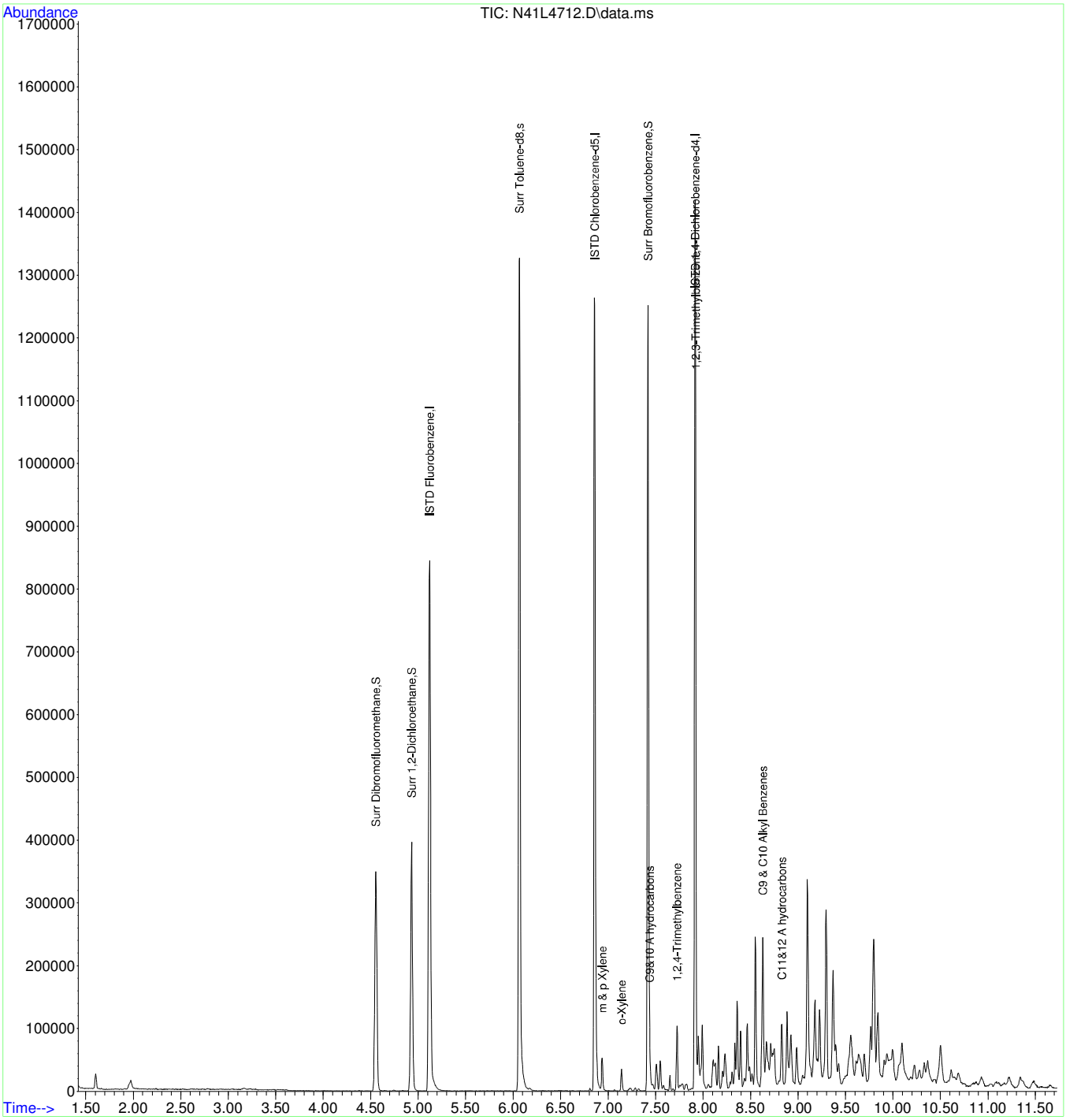
Quant Time: Apr 05 10:27:19 2013
Quant Method : C:\MSDCHEM\1\METHODS\DFULLW_17.M
Quant Title : VOA Calibration
QLast Update : Sat Mar 30 17:43:44 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\APR13-D\04APR13\
Data File : N41L4712.D
Acq On : 5 Apr 2013 1:28 am
Operator : AAP
Sample : 1304147-012A
Misc : SAMP 5.0ML 1OF3 SB
ALS Vial : 25 Sample Multiplier: 1

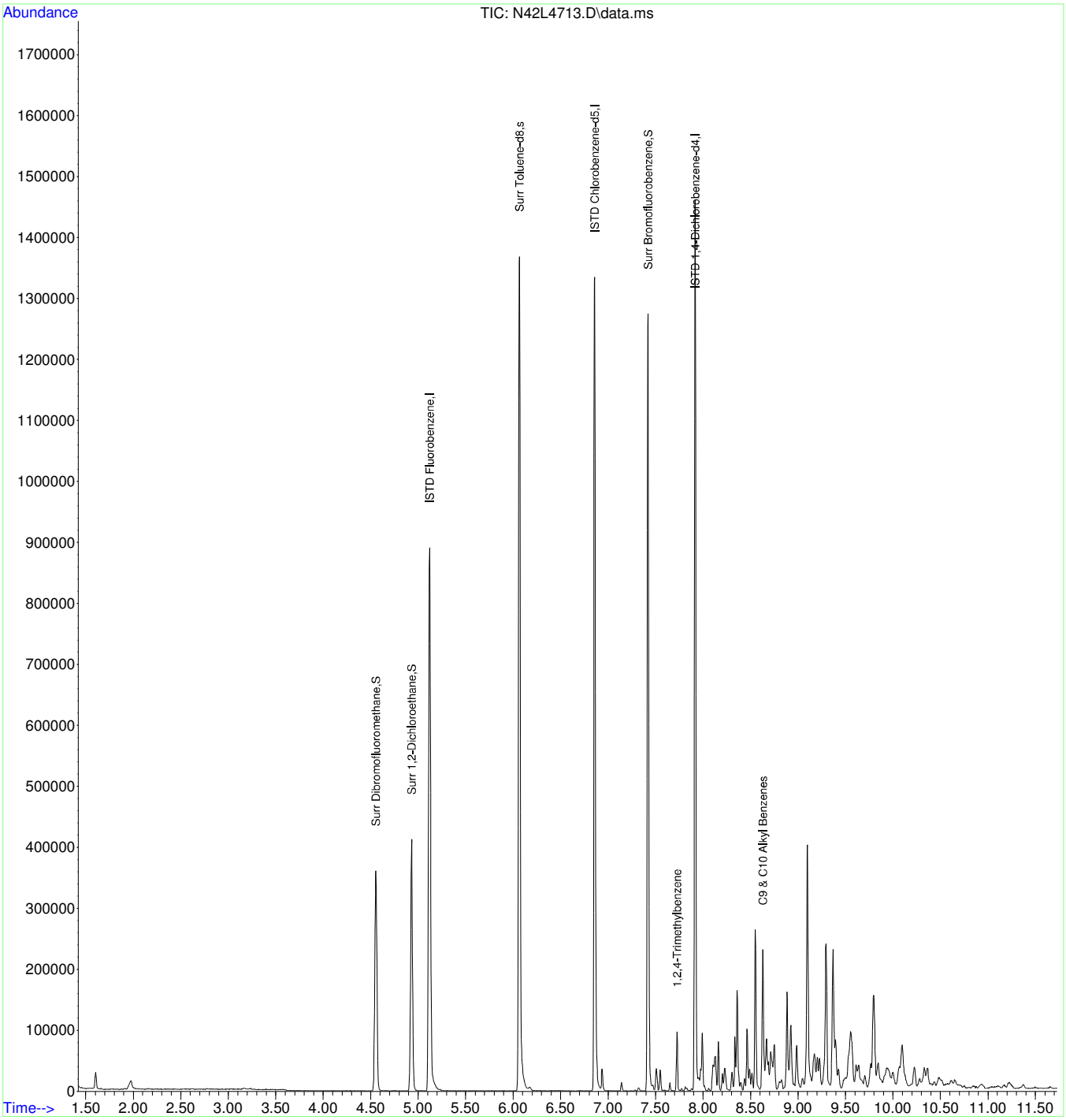
Quant Time: Apr 05 10:28:01 2013
Quant Method : C:\MSDCHEM\1\METHODS\DFULLW_17.M
Quant Title : VOA Calibration
QLast Update : Sat Mar 30 17:43:44 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\APR13-D\04APR13\
Data File : N42L4713.D
Acq On : 5 Apr 2013 1:47 am
Operator : AAP
Sample : 1304147-013A
Misc : SAMP 5.0ML 1OF3 SB
ALS Vial : 26 Sample Multiplier: 1

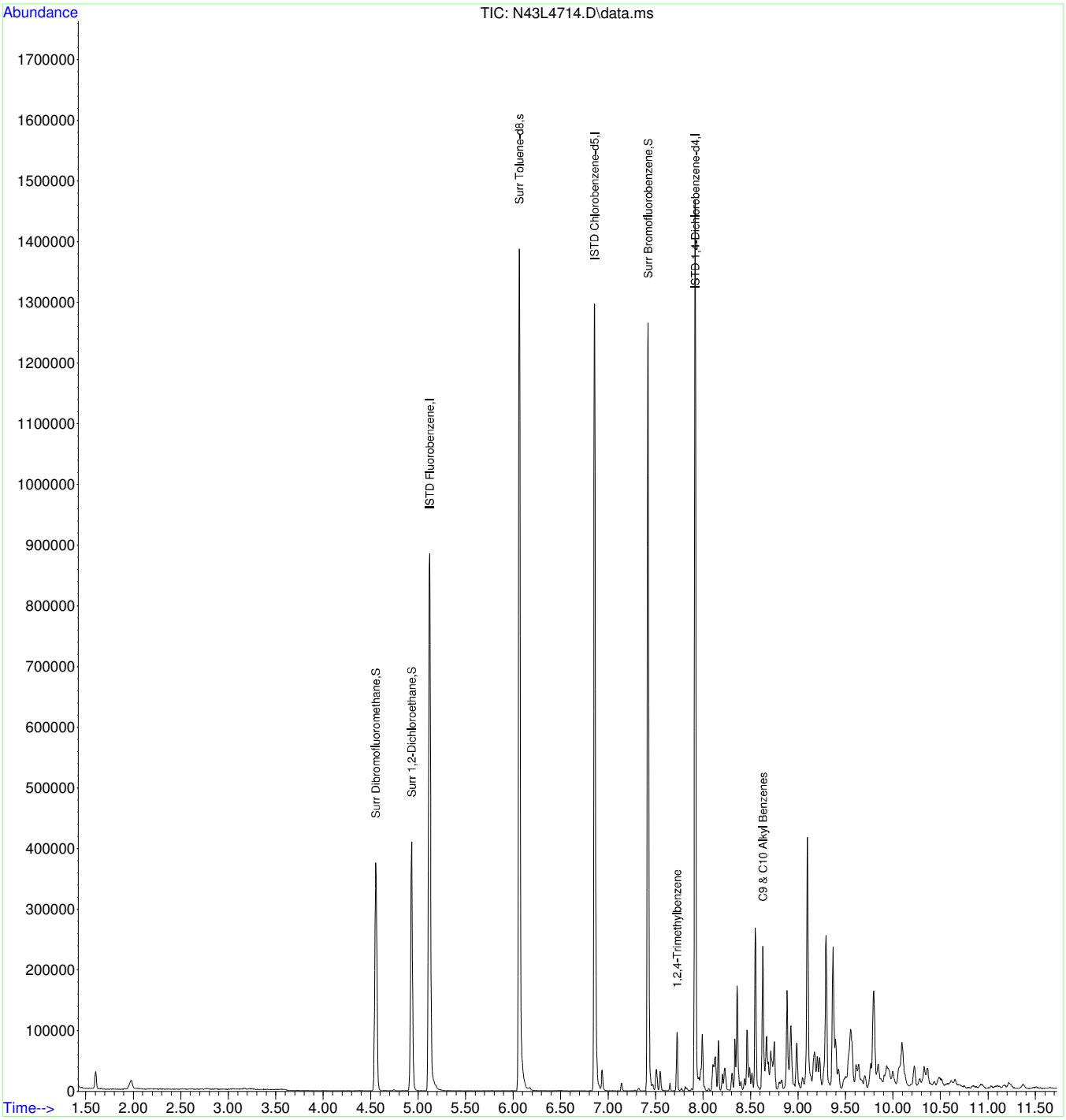
Quant Time: Apr 05 10:28:43 2013
Quant Method : C:\MSDCHEM\1\METHODS\DFULLW_17.M
Quant Title : VOA Calibration
QLast Update : Sat Mar 30 17:43:44 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\APR13-D\04APR13\
Data File : N43L4714.D
Acq On : 5 Apr 2013 2:06 am
Operator : AAP
Sample : 1304147-014A
Misc : SAMP 5.0ML 1OF3 SB
ALS Vial : 27 Sample Multiplier: 1

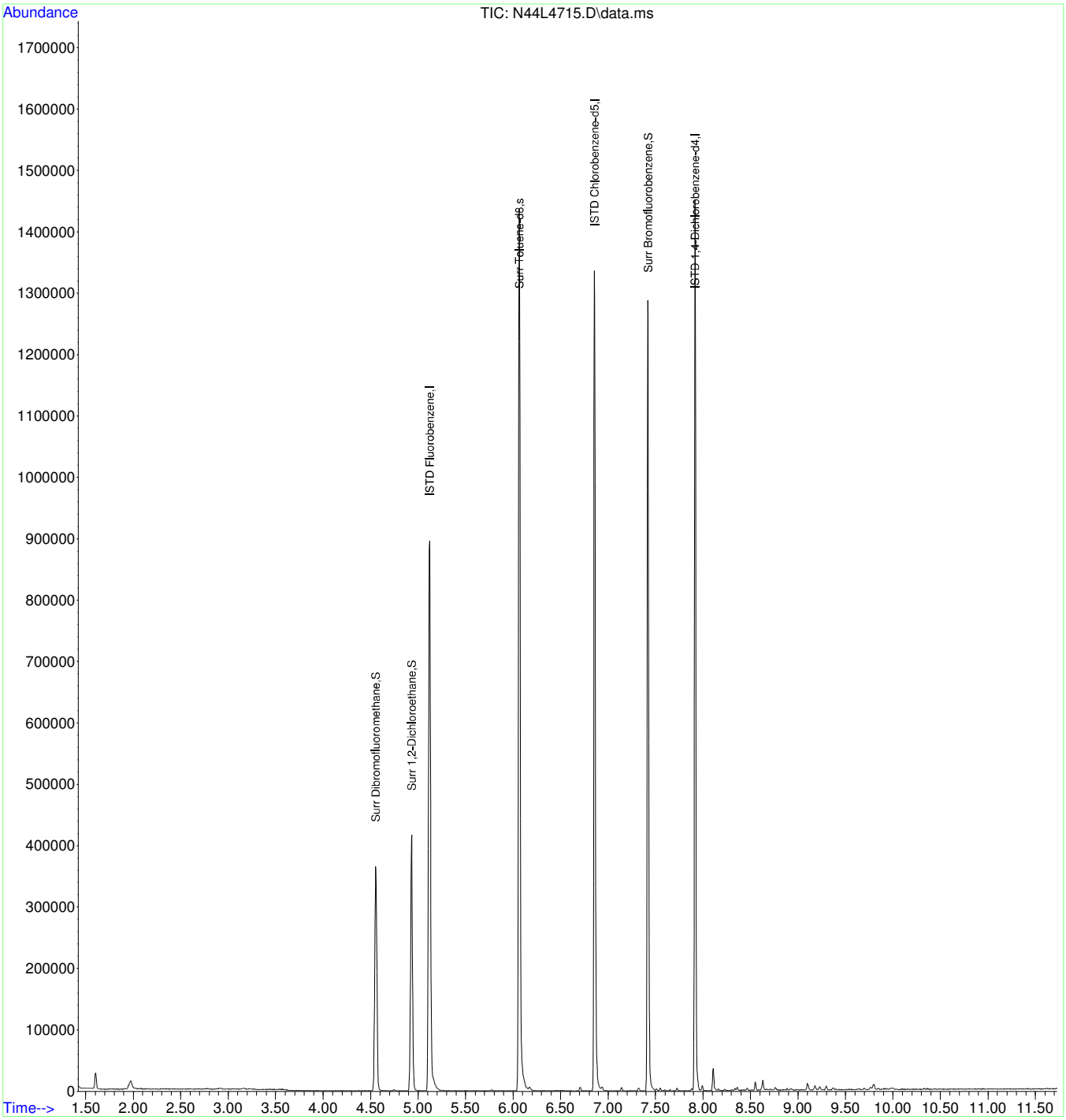
Quant Time: Apr 05 10:29:29 2013
Quant Method : C:\MSDCHEM\1\METHODS\DFULLW_17.M
Quant Title : VOA Calibration
QLast Update : Sat Mar 30 17:43:44 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\APR13-D\04APR13\
Data File : N44L4715.D
Acq On : 5 Apr 2013 2:25 am
Operator : AAP
Sample : 1304147-015A
Misc : SAMP 5.0ML 1OF3 SB
ALS Vial : 28 Sample Multiplier: 1

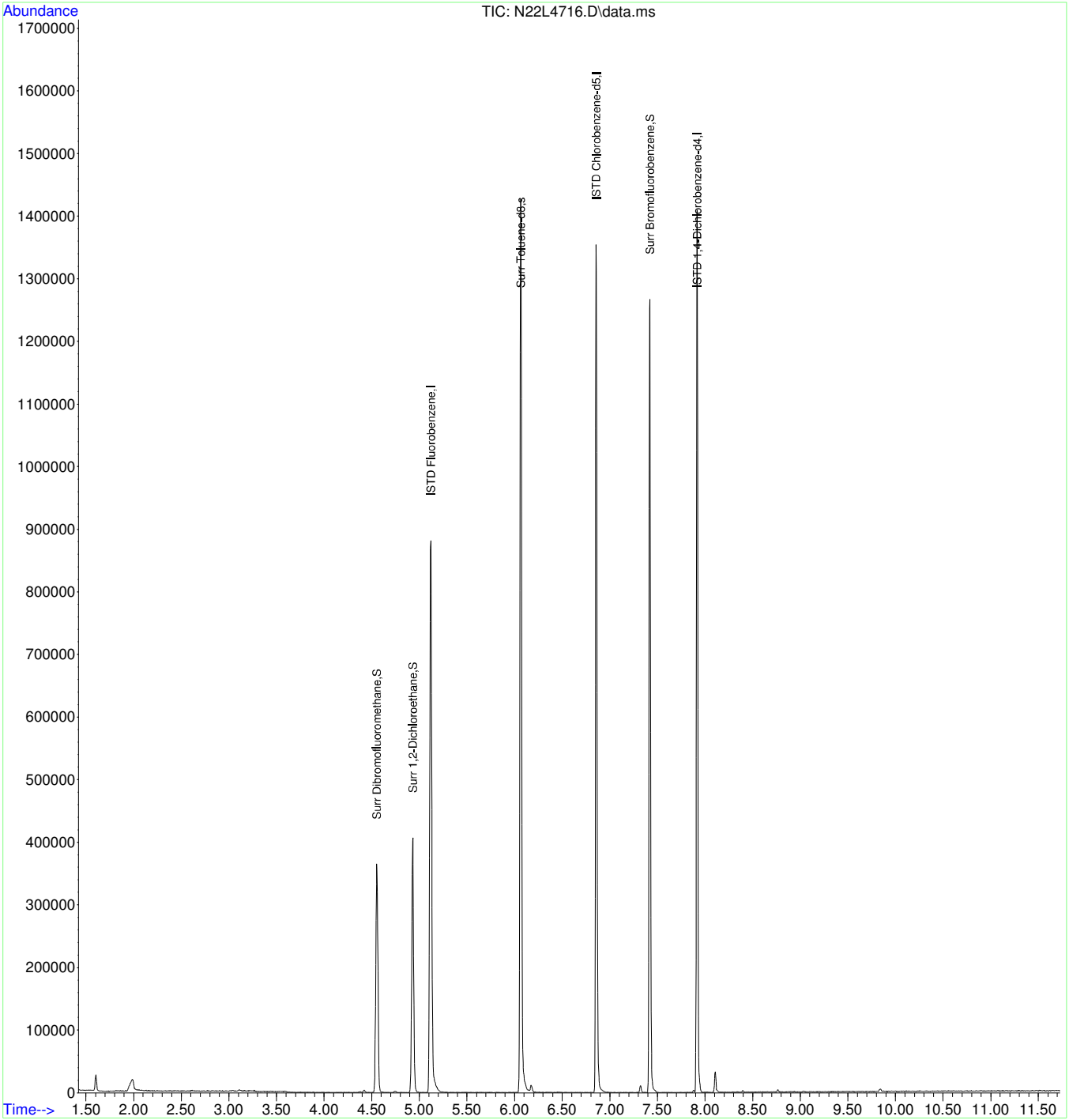
Quant Time: Apr 05 10:29:54 2013
Quant Method : C:\MSDCHEM\1\METHODS\DFULLW_17.M
Quant Title : VOA Calibration
QLast Update : Sat Mar 30 17:43:44 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\APR13-D\04APR13\
Data File : N22L4716.D
Acq On : 4 Apr 2013 7:27 pm
Operator : AAP
Sample : 1304147-016A
Misc : SAMP 5.0ML 1OF3 SB
ALS Vial : 6 Sample Multiplier: 1

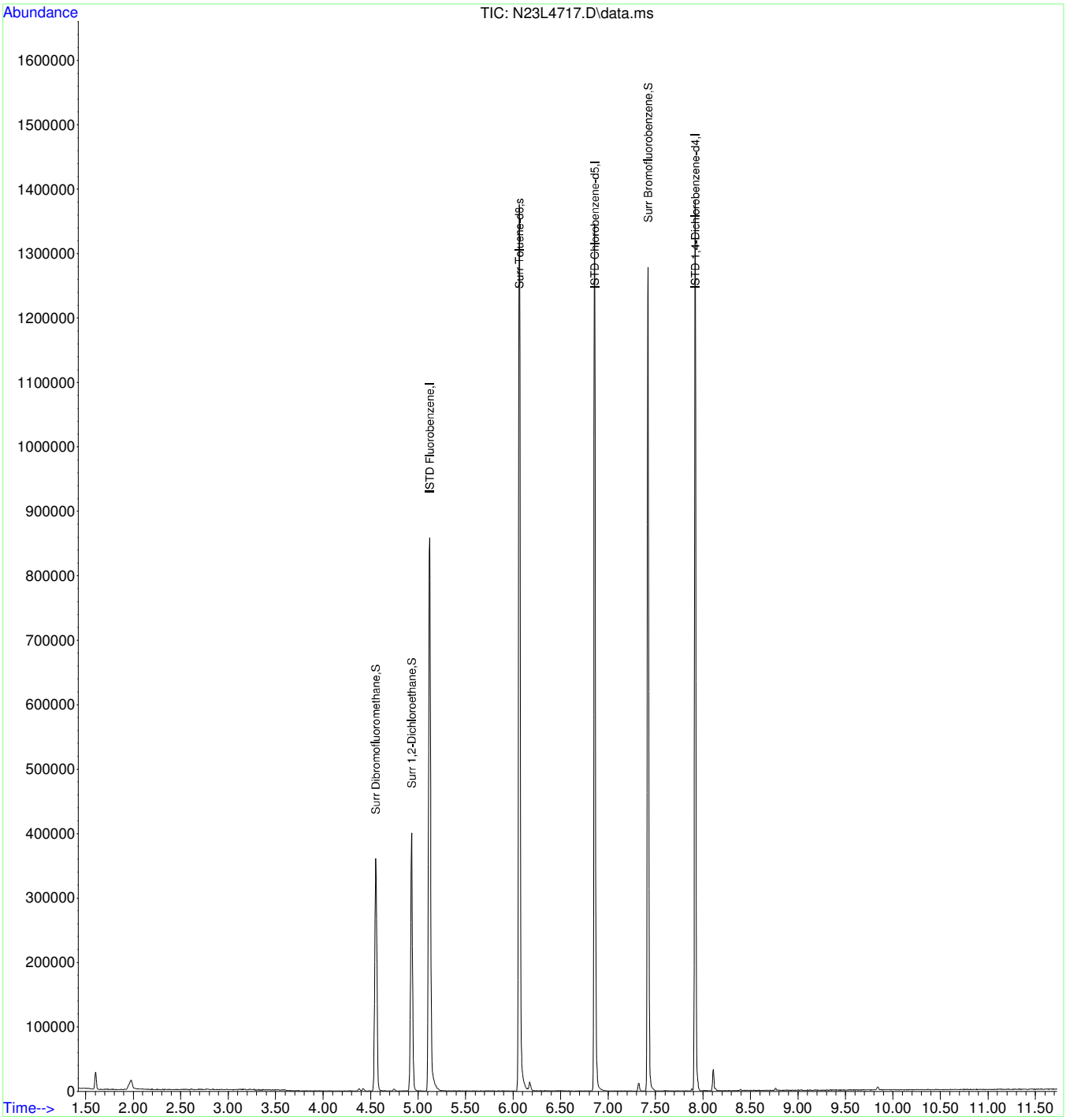
Quant Time: Apr 05 10:22:49 2013
Quant Method : C:\MSDCHEM\1\METHODS\DFULLW_17.M
Quant Title : VOA Calibration
QLast Update : Sat Mar 30 17:43:44 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\APR13-D\04APR13\
Data File : N23L4717.D
Acq On : 4 Apr 2013 7:46 pm
Operator : AAP
Sample : 1304147-017A
Misc : SAMP 5.0ML 1OF3 SB
ALS Vial : 7 Sample Multiplier: 1

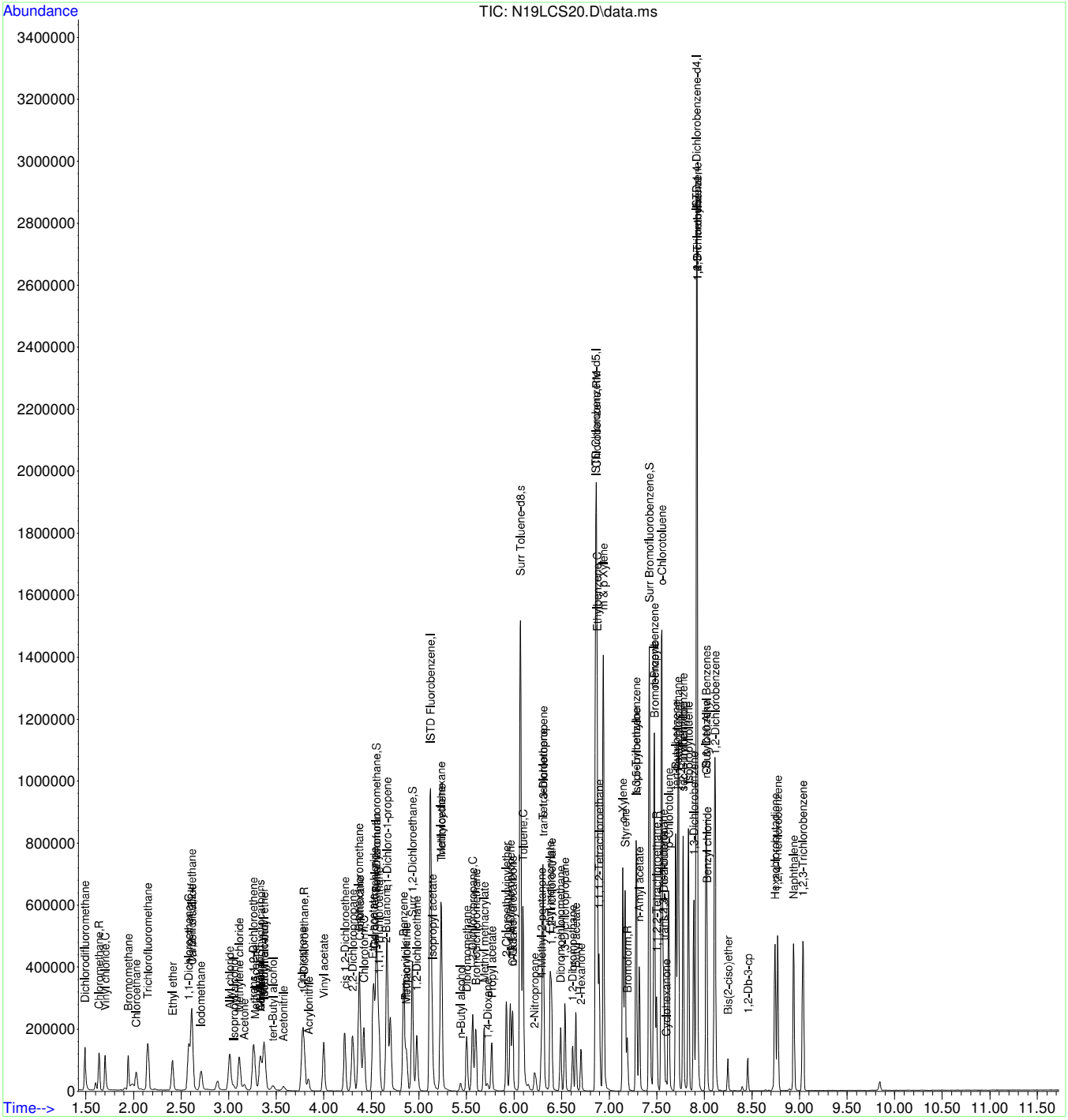
Quant Time: Apr 05 10:23:04 2013
Quant Method : C:\MSDCHEM\1\METHODS\DFULLW_17.M
Quant Title : VOA Calibration
QLast Update : Sat Mar 30 17:43:44 2013
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\APR13-D\04APR13\
Data File : N19LCS20.D
Acq On : 4 Apr 2013 6:30 pm
Operator : AAP
Sample : LCS VOC 040413B
Misc : LCS SEE COVERSHEET FOR ID AND AMOUNT SB
ALS Vial : 3 Sample Multiplier: 1

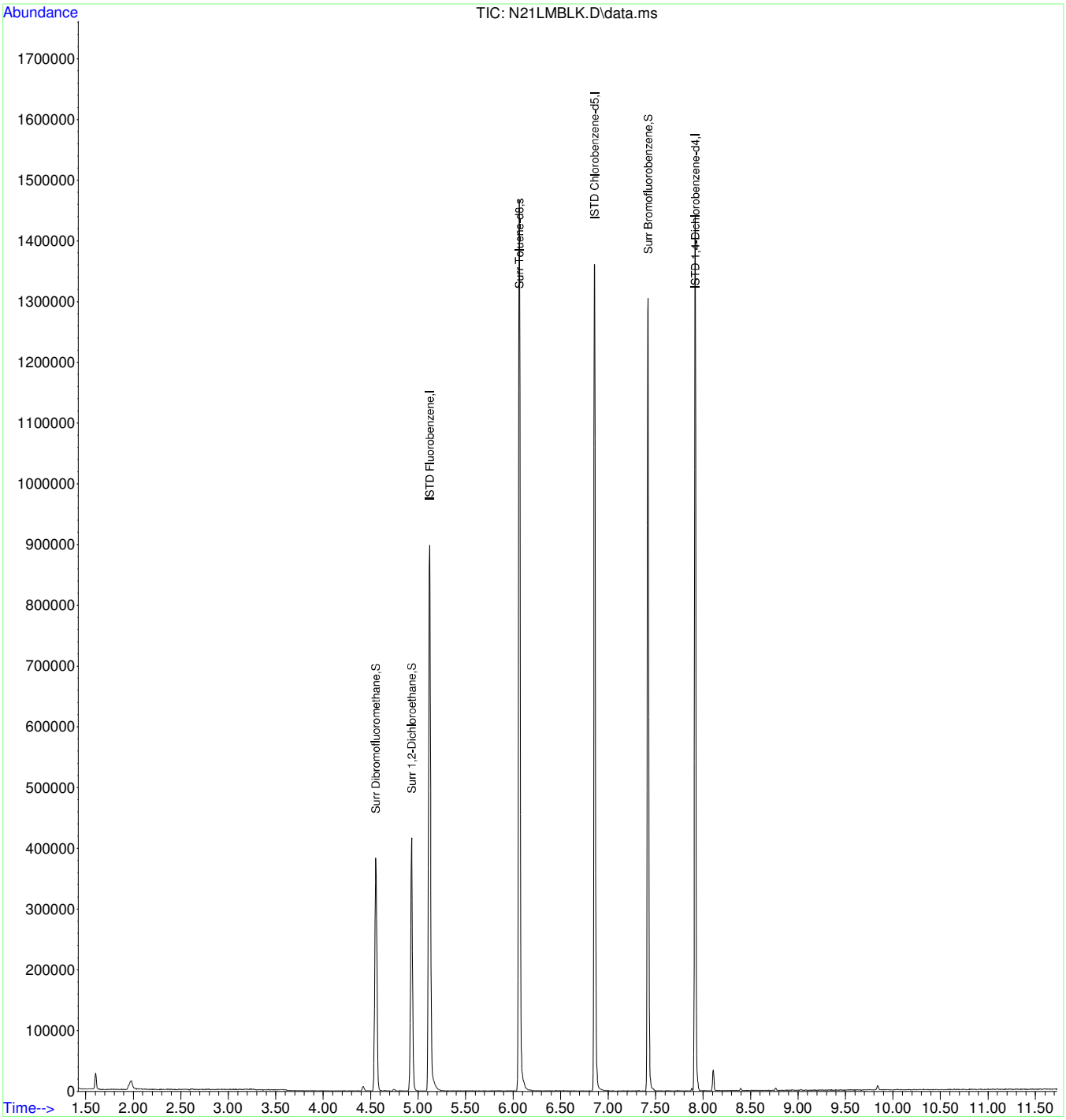
Quant Time: Apr 04 18:42:38 2013
Quant Method : C:\MSDCHEM\1\METHODS\DFULLW_17.M
Quant Title : VOA Calibration
QLast Update : Sat Mar 30 17:43:44 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\APR13-D\04APR13\
Data File : N21LMBLK.D
Acq On : 4 Apr 2013 7:08 pm
Operator : AAP
Sample : MB VOC 040413B
Misc : MBLK 5.0ML SB
ALS Vial : 5 Sample Multiplier: 1

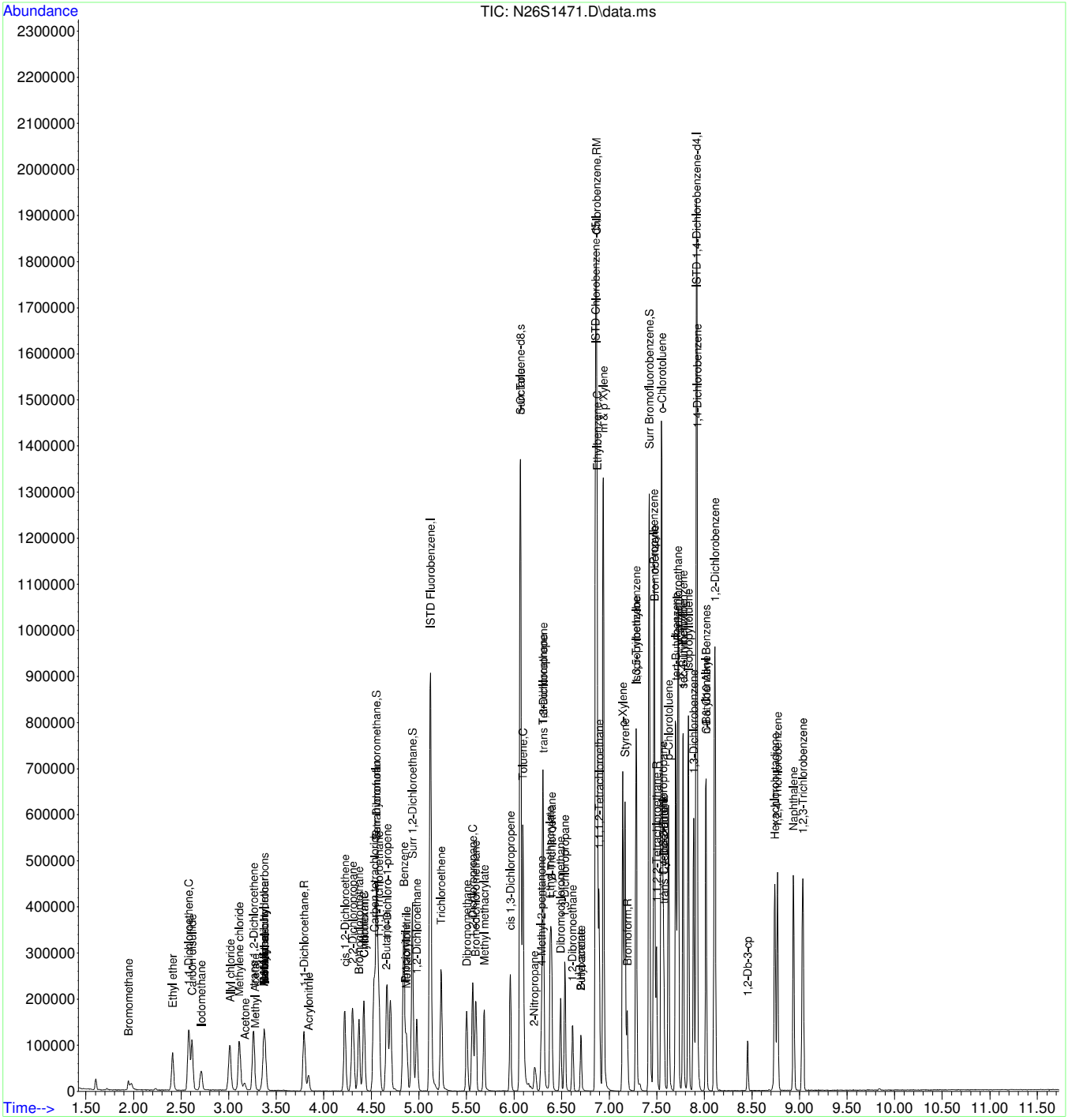
Quant Time: Apr 05 10:21:22 2013
Quant Method : C:\MSDCHEM\1\METHODS\DFULLW_17.M
Quant Title : VOA Calibration
QLast Update : Sat Mar 30 17:43:44 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\APR13-D\04APR13\
Data File : N26S1471.D
Acq On : 4 Apr 2013 8:43 pm
Operator : AAP
Sample : 1304147-001AMS
Misc : MS 5.0ML 2OF3 SB
ALS Vial : 10 Sample Multiplier: 1

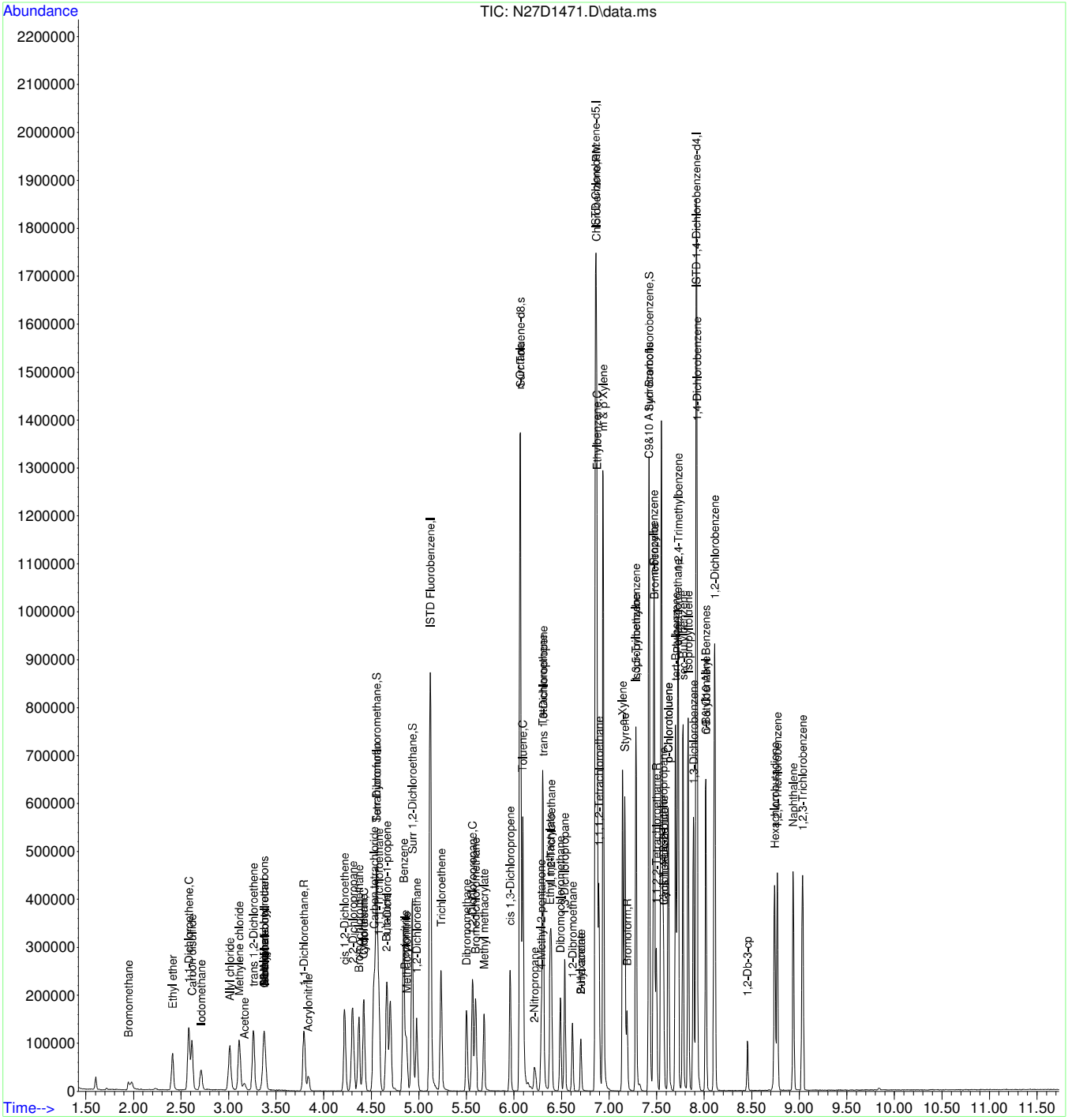
Quant Time: Apr 04 20:55:37 2013
Quant Method : C:\MSDCHEM\1\METHODS\DFULLW_17.M
Quant Title : VOA Calibration
QLast Update : Sat Mar 30 17:43:44 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\APR13-D\04APR13\
Data File : N27D1471.D
Acq On : 4 Apr 2013 9:02 pm
Operator : AAP
Sample : 1304147-001AMSD
Misc : MSD 5.0ML 3OF3 SB
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Apr 04 21:14:32 2013
Quant Method : C:\MSDCHEM\1\METHODS\DFULLW_17.M
Quant Title : VOA Calibration
QLast Update : Sat Mar 30 17:43:44 2013
Response via : Initial Calibration



# American West Analytical Laboratories

**RUSH**

D

## WORK ORDER Summary

Work Order: **1304147** 

**Client:** Utah Division of Water Quality

Due Date: 4/5/2013

**Client ID:** UTD200 **Contact:** Chris Bittner

**Project:** **MP 44.9** **QC Level:** III WO Type: Standard

**Comments:** Next Day Rush; QC 3. Include TICs on SVOC only. Send partial reports as results become available, bill accordingly.;

| Sample ID | Client Sample ID | Collected Date | Received Date | Test Code | Matrix | Sel | Storage | |
|---|---|---|---|---|---|---|---|---|
| 1304147-001A | **East of I-15 / 4920392** | 4/4/2013 0800h | 4/4/2013 1300h | **8260-W** | Aqueous | ☑ | Purge | 3 |
| | | | | *Test Group: 8260-W-Full; # of Analytes: 103 / # of Surr: 4* | | | | |
| 1304147-001B | | | | **3510-SVOA-PR** | | ☐ | walkin - semi | 2 |
| | | | | **8270-W** | | ☑ | walkin - semi | |
| | | | | *Test Group: 8270-W-Custom; # of Analytes: 140 / # of Surr: 6* | | | | |
| | | | | **8270-W-SIM** | | ☑ | walkin - semi | |
| | | | | *Test Group: 8270-W-PNA-SIM; # of Analytes: 19 / # of Surr:* | | | | |
| 1304147-001C | | | | **3510-TPH-PR** | | ☐ | Walkin-TPH (Liters) | |
| | | | | **8015-W-TPH(1L)** | | ☑ | Walkin-TPH (Liters) | |
| | | | | *Test Group: 8015-W-TPH1L; # of Analytes: 1 / # of Surr: 1* | | | | |
| 1304147-002A | **S. Marina / 4920495** | 4/4/2013 0830h | 4/4/2013 1300h | **8260-W** | Aqueous | ☑ | Purge | 3 |
| | | | | *Test Group: 8260-W-Full; # of Analytes: 103 / # of Surr: 4* | | | | |
| 1304147-002B | | | | **3510-SVOA-PR** | | ☐ | walkin - semi | 2 |
| | | | | **8270-W** | | ☑ | walkin - semi | |
| | | | | *Test Group: 8270-W-Custom; # of Analytes: 140 / # of Surr: 6* | | | | |
| | | | | **8270-W-SIM** | | ☑ | walkin - semi | |
| | | | | *Test Group: 8270-W-PNA-SIM; # of Analytes: 19 / # of Surr:* | | | | |
| 1304147-002C | | | | **3510-TPH-PR** | | ☐ | Walkin-TPH (Liters) | |
| | | | | **8015-W-TPH(1L)** | | ☑ | Walkin-TPH (Liters) | |
| | | | | *Test Group: 8015-W-TPH1L; # of Analytes: 1 / # of Surr: 1* | | | | |
| 1304147-003A | **50' from N Boom / 4920508** | 4/4/2013 0930h | 4/4/2013 1300h | **8260-W** | Aqueous | ☑ | Purge | 3 |
| | | | | *Test Group: 8260-W-Full; # of Analytes: 103 / # of Surr: 4* | | | | |
| 1304147-003B | | | | **3510-SVOA-PR** | | ☐ | walkin - semi | 2 |
| | | | | **8270-W** | | ☑ | walkin - semi | |
| | | | | *Test Group: 8270-W-Custom; # of Analytes: 140 / # of Surr: 6* | | | | |
| | | | | **8270-W-SIM** | | ☑ | walkin - semi | |
| | | | | *Test Group: 8270-W-PNA-SIM; # of Analytes: 19 / # of Surr:* | | | | |
| 1304147-003C | | | | **3510-TPH-PR** | | ☐ | Walkin-TPH (Liters) | |
| | | | | **8015-W-TPH(1L)** | | ☑ | Walkin-TPH (Liters) | |
| | | | | *Test Group: 8015-W-TPH1L; # of Analytes: 1 / # of Surr: 1* | | | | |
| 1304147-004A | **North Boom / 4920397** | 4/4/2013 0940h | 4/4/2013 1300h | **8260-W** | Aqueous | ☑ | Purge | 3 |
| | | | | *Test Group: 8260-W-Full; # of Analytes: 103 / # of Surr: 4* | | | | |
| 1304147-004B | | | | **3510-SVOA-PR** | | ☐ | walkin - semi | 2 |

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# WORK ORDER Summary

Work Order: **1304147**



**Client:** Utah Division of Water Quality

Due Date: 4/5/2013

| Sample ID | Client Sample ID | Collected Date | Received Date | Test Code | Matrix | Sel | Storage | |
|---|---|---|---|---|---|---|---|---|
| 1304147-004B | **North Boom / 4920397** | 4/4/2013 0940h | 4/4/2013 1300h | **8270-W** | Aqueous | ☑ | walkin - semi | 2 |
| | | | | *Test Group: 8270-W-Custom; # of Analytes: 140 / # of Surr: 6* | | | | |
| | | | | **8270-W-SIM** | | ☑ | walkin - semi | |
| | | | | *Test Group: 8270-W-PNA-SIM; # of Analytes: 19 / # of Surr:* | | | | |
| 1304147-004C | | | | **3510-TPH-PR** | | ☐ | Walkin-TPH (Liters) | |
| | | | | **8015-W-TPH(1L)** | | ☑ | Walkin-TPH (Liters) | |
| | | | | *Test Group: 8015-W-TPH1L; # of Analytes: 1 / # of Surr: 1* | | | | |
| 1304147-005A | **W. Boom 5 / 4920499** | 4/4/2013 0950h | 4/4/2013 1300h | **8260-W** | Aqueous | ☑ | Purge | 3 |
| | | | | *Test Group: 8260-W-Full; # of Analytes: 103 / # of Surr: 4* | | | | |
| 1304147-005B | | | | **3510-SVOA-PR** | | ☐ | walkin - semi | 2 |
| | | | | **8270-W** | | ☑ | walkin - semi | |
| | | | | *Test Group: 8270-W-Custom; # of Analytes: 140 / # of Surr: 6* | | | | |
| | | | | **8270-W-SIM** | | ☑ | walkin - semi | |
| | | | | *Test Group: 8270-W-PNA-SIM; # of Analytes: 19 / # of Surr:* | | | | |
| 1304147-005C | | | | **3510-TPH-PR** | | ☐ | Walkin-TPH (Liters) | |
| | | | | **8015-W-TPH(1L)** | | ☑ | Walkin-TPH (Liters) | |
| | | | | *Test Group: 8015-W-TPH1L; # of Analytes: 1 / # of Surr: 1* | | | | |
| 1304147-006A | **W. Boom 4 / 4920498** | 4/4/2013 1000h | 4/4/2013 1300h | **8260-W** | Aqueous | ☑ | Purge | 3 |
| | | | | *Test Group: 8260-W-Full; # of Analytes: 103 / # of Surr: 4* | | | | |
| 1304147-006B | | | | **3510-SVOA-PR** | | ☐ | walkin - semi | 2 |
| | | | | **8270-W** | | ☑ | walkin - semi | |
| | | | | *Test Group: 8270-W-Custom; # of Analytes: 140 / # of Surr: 6* | | | | |
| | | | | **8270-W-SIM** | | ☑ | walkin - semi | |
| | | | | *Test Group: 8270-W-PNA-SIM; # of Analytes: 19 / # of Surr:* | | | | |
| 1304147-006C | | | | **3510-TPH-PR** | | ☐ | Walkin-TPH (Liters) | |
| | | | | **8015-W-TPH(1L)** | | ☑ | Walkin-TPH (Liters) | |
| | | | | *Test Group: 8015-W-TPH1L; # of Analytes: 1 / # of Surr: 1* | | | | |
| 1304147-007A | **50' from WB 4 / 4920502** | 4/4/2013 1010h | 4/4/2013 1300h | **8260-W** | Aqueous | ☑ | Purge | 3 |
| | | | | *Test Group: 8260-W-Full; # of Analytes: 103 / # of Surr: 4* | | | | |
| 1304147-007B | | | | **3510-SVOA-PR** | | ☐ | walkin - semi | 2 |
| | | | | **8270-W** | | ☑ | walkin - semi | |
| | | | | *Test Group: 8270-W-Custom; # of Analytes: 140 / # of Surr: 6* | | | | |
| | | | | **8270-W-SIM** | | ☑ | walkin - semi | |
| | | | | *Test Group: 8270-W-PNA-SIM; # of Analytes: 19 / # of Surr:* | | | | |
| 1304147-007C | | | | **3510-TPH-PR** | | ☐ | Walkin-TPH (Liters) | |
| | | | | **8015-W-TPH(1L)** | | ☑ | Walkin-TPH (Liters) | |
| | | | | *Test Group: 8015-W-TPH1L; # of Analytes: 1 / # of Surr: 1* | | | | |
| 1304147-008A | **W. Boom 3 / 4920497** | 4/4/2013 1020h | 4/4/2013 1300h | **8260-W** | Aqueous | ☑ | Purge | 3 |
| | | | | *Test Group: 8260-W-Full; # of Analytes: 103 / # of Surr: 4* | | | | |
| 1304147-008B | | | | **3510-SVOA-PR** | | ☐ | walkin - semi | 2 |



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# WORK ORDER Summary

Work Order: **1304147**



**Client:** Utah Division of Water Quality

Due Date: 4/5/2013

| Sample ID | Client Sample ID | Collected Date | Received Date | Test Code | Matrix | Sel | Storage | |
|---|---|---|---|---|---|---|---|---|
| 1304147-008B | **W. Boom 3 / 4920497** | 4/4/2013 1020h | 4/4/2013 1300h | **8270-W** | Aqueous | ☑ | walkin - semi | 2 |
| | | | | *Test Group: 8270-W-Custom; # of Analytes: 140 / # of Surr: 6* | | | | |
| | | | | **8270-W-SIM** | | ☑ | walkin - semi | |
| | | | | *Test Group: 8270-W-PNA-SIM; # of Analytes: 19 / # of Surr:* | | | | |
| 1304147-008C | | | | **3510-TPH-PR** | | ☐ | Walkin-TPH (Liters) | |
| | | | | **8015-W-TPH(1L)** | | ☑ | Walkin-TPH (Liters) | |
| | | | | *Test Group: 8015-W-TPH1L; # of Analytes: 1 / # of Surr: 1* | | | | |
| 1304147-009A | **W. Boom 2 / 4920496** | 4/4/2013 1030h | 4/4/2013 1300h | **8260-W** | Aqueous | ☑ | Purge | 3 |
| | | | | *Test Group: 8260-W-Full; # of Analytes: 103 / # of Surr: 4* | | | | |
| 1304147-009B | | | | **3510-SVOA-PR** | | ☐ | walkin - semi | 2 |
| | | | | **8270-W** | | ☑ | walkin - semi | |
| | | | | *Test Group: 8270-W-Custom; # of Analytes: 140 / # of Surr: 6* | | | | |
| | | | | **8270-W-SIM** | | ☑ | walkin - semi | |
| | | | | *Test Group: 8270-W-PNA-SIM; # of Analytes: 19 / # of Surr:* | | | | |
| 1304147-009C | | | | **3510-TPH-PR** | | ☐ | Walkin-TPH (Liters) | |
| | | | | **8015-W-TPH(1L)** | | ☑ | Walkin-TPH (Liters) | |
| | | | | *Test Group: 8015-W-TPH1L; # of Analytes: 1 / # of Surr: 1* | | | | |
| 1304147-010A | **50' From WB1 / 4920505** | 4/4/2013 1040h | 4/4/2013 1300h | **8260-W** | Aqueous | ☑ | Purge | 3 |
| | | | | *Test Group: 8260-W-Full; # of Analytes: 103 / # of Surr: 4* | | | | |
| 1304147-010B | | | | **3510-SVOA-PR** | | ☐ | walkin - semi | 2 |
| | | | | **8270-W** | | ☑ | walkin - semi | |
| | | | | *Test Group: 8270-W-Custom; # of Analytes: 140 / # of Surr: 6* | | | | |
| | | | | **8270-W-SIM** | | ☑ | walkin - semi | |
| | | | | *Test Group: 8270-W-PNA-SIM; # of Analytes: 19 / # of Surr:* | | | | |
| 1304147-010C | | | | **3510-TPH-PR** | | ☐ | Walkin-TPH (Liters) | |
| | | | | **8015-W-TPH(1L)** | | ☑ | Walkin-TPH (Liters) | |
| | | | | *Test Group: 8015-W-TPH1L; # of Analytes: 1 / # of Surr: 1* | | | | |
| 1304147-011A | **W. Boom 1 / 4920396** | 4/4/2013 1050h | 4/4/2013 1300h | **8260-W** | Aqueous | ☑ | Purge | 3 |
| | | | | *Test Group: 8260-W-Full; # of Analytes: 103 / # of Surr: 4* | | | | |
| 1304147-011B | | | | **3510-SVOA-PR** | | ☐ | walkin - semi | 2 |
| | | | | **8270-W** | | ☑ | walkin - semi | |
| | | | | *Test Group: 8270-W-Custom; # of Analytes: 140 / # of Surr: 6* | | | | |
| | | | | **8270-W-SIM** | | ☑ | walkin - semi | |
| | | | | *Test Group: 8270-W-PNA-SIM; # of Analytes: 19 / # of Surr:* | | | | |
| 1304147-011C | | | | **3510-TPH-PR** | | ☐ | Walkin-TPH (Liters) | |
| | | | | **8015-W-TPH(1L)** | | ☑ | Walkin-TPH (Liters) | |
| | | | | *Test Group: 8015-W-TPH1L; # of Analytes: 1 / # of Surr: 1* | | | | |
| 1304147-012A | **East of Boom / 4920395** | 4/4/2013 1100h | 4/4/2013 1300h | **8260-W** | Aqueous | ☑ | Purge | 3 |
| | | | | *Test Group: 8260-W-Full; # of Analytes: 103 / # of Surr: 4* | | | | |
| 1304147-012B | | | | **3510-SVOA-PR** | | ☐ | walkin - semi | 2 |



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# WORK ORDER Summary

Work Order: **1304147**



**Client:** Utah Division of Water Quality

Due Date: 4/5/2013

| Sample ID | Client Sample ID | Collected Date | Received Date | Test Code | Matrix | Sel | Storage | |
|---|---|---|---|---|---|---|---|---|
| 1304147-012B | **East of Boom / 4920395** | 4/4/2013 1100h | 4/4/2013 1300h | **8270-W** | Aqueous | ☑ | walkin - semi | 2 |
| | | | | *Test Group: 8270-W-Custom; # of Analytes: 140 / # of Surr: 6* | | | | |
| | | | | **8270-W-SIM** | | ☑ | walkin - semi | |
| | | | | *Test Group: 8270-W-PNA-SIM; # of Analytes: 19 / # of Surr:* | | | | |
| 1304147-012C | | | | **3510-TPH-PR** | | ☐ | Walkin-TPH (Liters) | |
| | | | | **8015-W-TPH(1L)** | | ☑ | Walkin-TPH (Liters) | |
| | | | | *Test Group: 8015-W-TPH1L; # of Analytes: 1 / # of Surr: 1* | | | | |
| 1304147-013A | **Between Weirs / 4920394** | 4/4/2013 1115h | 4/4/2013 1300h | **8260-W** | Aqueous | ☑ | Purge | 3 |
| | | | | *Test Group: 8260-W-Full; # of Analytes: 103 / # of Surr: 4* | | | | |
| 1304147-013B | | | | **3510-SVOA-PR** | | ☐ | walkin - semi | 2 |
| | | | | **8270-W** | | ☑ | walkin - semi | |
| | | | | *Test Group: 8270-W-Custom; # of Analytes: 140 / # of Surr: 6* | | | | |
| | | | | **8270-W-SIM** | | ☑ | walkin - semi | |
| | | | | *Test Group: 8270-W-PNA-SIM; # of Analytes: 19 / # of Surr:* | | | | |
| 1304147-013C | | | | **3510-TPH-PR** | | ☐ | Walkin-TPH (Liters) | |
| | | | | **8015-W-TPH(1L)** | | ☑ | Walkin-TPH (Liters) | |
| | | | | *Test Group: 8015-W-TPH1L; # of Analytes: 1 / # of Surr: 1* | | | | |
| 1304147-014A | **Between Weirs Dup / 4920394** | 4/4/2013 1130h | 4/4/2013 1300h | **8260-W** | Aqueous | ☑ | Purge | 3 |
| | | | | *Test Group: 8260-W-Full; # of Analytes: 103 / # of Surr: 4* | | | | |
| 1304147-014B | | | | **3510-SVOA-PR** | | ☐ | walkin - semi | 2 |
| | | | | **8270-W** | | ☑ | walkin - semi | |
| | | | | *Test Group: 8270-W-Custom; # of Analytes: 140 / # of Surr: 6* | | | | |
| | | | | **8270-W-SIM** | | ☑ | walkin - semi | |
| | | | | *Test Group: 8270-W-PNA-SIM; # of Analytes: 19 / # of Surr:* | | | | |
| 1304147-014C | | | | **3510-TPH-PR** | | ☐ | Walkin-TPH (Liters) | |
| | | | | **8015-W-TPH(1L)** | | ☑ | Walkin-TPH (Liters) | |
| | | | | *Test Group: 8015-W-TPH1L; # of Analytes: 1 / # of Surr: 1* | | | | |
| 1304147-015A | **East of #3** | 4/4/2013 1145h | 4/4/2013 1300h | **8260-W** | Aqueous | ☑ | Purge | 3 |
| | | | | *Test Group: 8260-W-Full; # of Analytes: 103 / # of Surr: 4* | | | | |
| 1304147-015B | | | | **3510-SVOA-PR** | | ☐ | walkin - semi | 2 |
| | | | | **8270-W** | | ☑ | walkin - semi | |
| | | | | *Test Group: 8270-W-Custom; # of Analytes: 140 / # of Surr: 6* | | | | |
| | | | | **8270-W-SIM** | | ☑ | walkin - semi | |
| | | | | *Test Group: 8270-W-PNA-SIM; # of Analytes: 19 / # of Surr:* | | | | |
| 1304147-015C | | | | **3510-TPH-PR** | | ☐ | Walkin-TPH (Liters) | |
| | | | | **8015-W-TPH(1L)** | | ☑ | Walkin-TPH (Liters) | |
| | | | | *Test Group: 8015-W-TPH1L; # of Analytes: 1 / # of Surr: 1* | | | | |
| 1304147-016A | **Field Blank** | 4/4/2013 1200h | 4/4/2013 1300h | **8260-W** | Aqueous | ☑ | Purge | 3 |
| | | | | *Test Group: 8260-W-Full; # of Analytes: 103 / # of Surr: 4* | | | | |



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# WORK ORDER Summary

Work Order: **1304147**



**Client:** Utah Division of Water Quality

Due Date: 4/5/2013

| Sample ID | Client Sample ID | Collected Date | Received Date | Test Code | Matrix | Sel | Storage | |
|---|---|---|---|---|---|---|---|---|
| 1304147-017A | **Trip Blank** | 4/4/2013 | 4/4/2013 1300h | **8260-W** | Aqueous | ☑ | Purge | 3 |
| | | | | *Test Group: 8260-W-Full; # of Analytes: 103 / # of Surr: 4* | | | | |



FOR LABORATORY USE ONLY [fill out on page 1]: %M ☐ RT ☐ CN ☐ TAT ☐ QC ☐ HOK_____ HOK_____ HOK_____ COC Emailed_____

# American West Analytical Laboratories

Chain of Custody

Lab Sample Set # 1304147



Client: **Utah DEQ**
Address: **195 North 1950 West**
**Salt Lake City, UT 84114**

Project Name: **MP 44.9**
PO#:

Contact: **Chris Bittner**
Phone: **801-536-3600**
Fax :
Email: cbittner@utah.gov

QC Level: **3**
Turn Around Time
**1**

| | Sample ID: | Date Sampled | Time | # of Containers | Sample Matrix | 8260 VOAs | 8270D PNA SIM TIC | 8015D DRO | | | | | | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | East of I-15 4920392 | 4/4/13 | 8:00 | 7 | W | x | x | x | | | | | | | | | | | | |
| 2 | S. Marina 4920495 | 4/4/13 | 8:50 | 7 | W | x | x | x | | | | | | | | | | | | |
| 3 | 50' fr. N Boom 4920508 | 4/4/13 | 9:30 | 7 | W | x | x | x | | | | | | | | | | | | |
| 4 | North Boom 4920397 | 4/4/13 | 9:40 | 7 | W | x | x | x | | | | | | | | | | | | |
| 5 | W. Boom 5 4920499 | 4/4/13 | 9:50 | 7 | W | x | x | x | | | | | | | | | | | | |
| 6 | W. Boom 4 4920498 | 4/4/13 | 10:00 | 7 | W | x | x | x | | | | | | | | | | | | |
| 7 | 50' from WB4 4920502 | 4/4/13 | 10:10 | 7 | W | x | x | x | | | | | | | | | | | | |
| 8 | W. Boom 3 4920497 | 4/4/13 | 10:20 | 7 | W | x | x | x | | | | | | | | | | | | |
| 9 | W. Boom 2 4920496 | 4/4/13 | 10:30 | 7 | W | x | x | x | | | | | | | | | | | | |
| 10 | 50 ' from WB1 4920505 | 4/4/13 | 10:40 | 7 | W | x | x | x | | | | | | | | | | | | |
| 11 | W. Boom 1 4920396 | 4/4/13 | 10:50 | 7 | W | x | x | x | | | | | | | | | | | | |
| 12 | East of Boom 4920395 | 4/4/13 | 11:00 | 7 | W | x | x | x | | | | | | | | | | | | |
| 13 | B/t Weirs 4920394 | 4/4/13 | 11:15 | 7 | W | x | x | x | | | | | | | | | | | | |
| 14 | B/t Weirs Dup 4920394 | 4/4/13 | 11:30 | 7 | W | x | x | x | | | | | | | | | | | | |
| 15 | East of #3 | 4/4/13 | 11:45 | 7 | W | x | x | x | | | | | | | | | | | | |
| 16 | Field Blank | 4/4/13 | 12:00 | 3 | W | x | | | | | | | | | | | | | | |
| 17 | Trip Blank | 4-4-13 | | 3 | W | x | | | | | | | | | | | | | | |

Laboratory Use Only

Samples Were:
1. Shipped on hand delivered
2. Ambient or Chilled
3. Temperature 2.6
4. Received Broken/Leaking (Improperly Sealed) Y N
5. Properly Preserved Y N
6. Holding Times? Y N

COC Tape Was:
1. Present on Outer Package Y N NA
2. Unbroken on Outer Package Y N NA
3. Present on Sample Y N NA
4. Unbroken on Sample Y N NA

Discrepancies Between Sample Labels and COC Record? Y N

Special Instructions:

| Relinquished by: *Signature* | Date: 4/4/13 | Received by: *Signature* | Date: 4-4-13 |
|---|---|---|---|
| *Print Name* | Time: 13:00 | *Print Name* Elma Hayland | Time: 1300 |
| Relinquished by: *Signature* | Date: | Received by: *Signature* | Date: |
| *Print Name* | Time: | *Print Name* | Time: |