



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

RE: MP 44.9 Incident

Dear Chris Bittner:

Lab Set ID: 1303562

463 West 3600 South
Salt Lake City, UT 84115

American West Analytical Laboratories received 8 sample(s) on 3/22/2013 for the analyses presented in the following report.

Phone: (801) 263-8686
Toll Free: (888) 263-8686
Fax: (801) 263-8687
e-mail: awal@awal-labs.com
web: www.awal-labs.com

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.

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

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: _____
Laboratory Director or designee



Inorganic Case Narrative

Client: Utah Division of Water Quality
Contact: Chris Bittner
Project: MP 44.9 Incident
Lab Set ID: 1303562

463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686
Toll Free: (888) 263-8686
Fax: (801) 263-8687
e-mail: awal@awal-labs.com

web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

Sample Receipt Information:

Date of Receipt: 3/22/2013
Date of Collection: 3/22/2013
Sample Condition: Intact
C-O-C Discrepancies: None

Holding Time and Preservation Requirements: The analysis and preparation for the samples were performed within the method holding times. The samples were properly preserved.

Preparation and Analysis Requirements: The samples were 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:

Method Blanks (MB): No target analytes were detected above reporting limits, indicating that 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 Duplicates (MS/MSD): All percent recoveries and RPDs (Relative Percent Differences) were inside established limits, with the following exception: the MS percent recovery for Chemical Oxygen Demand on sample 1303596-009E was outside of the control limits due to sample matrix interference.

Corrective Action: None required.



TPH (DRO) and (ORO) Case Narrative

Client: Utah Division of Water Quality
Contact: Chris Bittner
Project: MP 44.9 Incident
Lab Set ID: 1303562

463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686
Toll Free: (888) 263-8686
Fax: (801) 263-8687
e-mail: awal@awal-labs.com

web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

Sample Receipt Information:

Date of Receipt:	3/22/2013
Date of Collection:	3/22/2013
Sample Condition:	Intact
C-O-C Discrepancies:	None
Method:	SW-846 8015D /3510C
Analysis:	Total Petroleum Hydrocarbon (DRO - C10-28) Total Petroleum Hydrocarbon (ORO - C28-36)

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.



Semivolatile Case Narrative

Client: Utah Division of Water Quality
Contact: Chris Bittner
Project: MP 44.9 Incident
Lab Set ID: 1303562

463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686
Toll Free: (888) 263-8686
Fax: (801) 263-8687
e-mail: awal@awal-labs.com

web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

Sample Receipt Information:

Date of Receipt: 3/22/2013
Date of Collection: 3/22/2013
Sample Condition: Intact
C-O-C Discrepancies: None
Method: SW-846 8270D/3510C
Analysis: Semivolatile Organics

General Set Comments: Multiple target analytes were observed above their reporting limits. 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 / Laboratory Control Sample Duplicate (LCS/LCSD): 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, indicating no apparent matrix interferences.

Surrogates: All surrogate recoveries were within established limits.

Corrective Action: None required.



Volatile Case Narrative

Client: Utah Division of Water Quality
Contact: Chris Bittner
Project: MP 44.9 Incident
Lab Set ID: 1303562

463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686
Toll Free: (888) 263-8686
Fax: (801) 263-8687
e-mail: awal@awal-labs.com

web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

Sample Receipt Information:

Date of Receipt: 3/22/2013
Date of Collection: 3/22/2013
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.



INORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality **Contact:** Chris Bittner
Project: MP 44.9 Incident
Lab Sample ID: 1303562-001
Client Sample ID: East of I-15 / 4920392
Collection Date: 3/22/2013 915h
Received Date: 3/22/2013 1440h

Analytical Results

463 West 3600 South
Salt Lake City, UT 84115

Compound	Units	Date Prepared	Date Analyzed	Method Used	Reporting Limit	Analytical Result	Qual
Chemical Oxygen Demand	mg/L		3/25/2013 1100h	HACH 8000	10.0	< 10.0	

Phone: (801) 263-8686
Toll Free: (888) 263-8686
Fax: (801) 263-8687
e-mail: awal@awal-labs.com
web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer



ORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality **Contact:** Chris Bittner
Project: MP 44.9 Incident
Lab Sample ID: 1303562-004D
Client Sample ID: East of Boom / 4920395
Collection Date: 3/22/2013 1030h
Received Date: 3/22/2013 1440h

Analytical Results

TPH-ORO (C28-C36) by GC/FID Method 8015D/3510C

Analyzed: 3/24/2013 2306h **Extracted:** 3/24/2013 915h
Units: mg/L **Dilution Factor:** 1 **Method:** SW8015D

463 West 3600 South
Salt Lake City, UT 84115

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
Oil Range Organics (ORO) (C28-C36)		0.500	< 0.500	

Phone: (801) 263-8686
Toll Free: (888) 263-8686
Fax: (801) 263-8687
e-mail: awal@awal-labs.com

Surrogate	CAS	Result	Amount Spiked	% REC	Limits	Qual
Surr: C27		0.224	0.2000	112	10-200	

web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer



ORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality **Contact:** Chris Bittner
Project: MP 44.9 Incident
Lab Sample ID: 1303562-005D
Client Sample ID: Between Weirs / 4920394
Collection Date: 3/22/2013 1100h
Received Date: 3/22/2013 1440h

Analytical Results

TPH-ORO (C28-C36) by GC/FID Method 8015D/3510C

Analyzed: 3/24/2013 2329h **Extracted:** 3/24/2013 915h
Units: mg/L **Dilution Factor:** 1 **Method:** SW8015D

463 West 3600 South
Salt Lake City, UT 84115

Compound	CAS Number	Reporting Limit	Analytical Result	Qual		
Oil Range Organics (ORO) (C28-C36)		0.500	< 0.500			
Surrogate	CAS	Result	Amount Spiked	% REC	Limits	Qual
Surr: C27		0.224	0.2000	112	10-200	

Phone: (801) 263-8686
Toll Free: (888) 263-8686
Fax: (801) 263-8687
e-mail: awal@awal-labs.com

web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer



ORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality **Contact:** Chris Bittner
Project: MP 44.9 Incident
Lab Sample ID: 1303562-003C
Client Sample ID: West of Boom / 4920396
Collection Date: 3/22/2013 1015h
Received Date: 3/22/2013 1440h

Analytical Results

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

Analyzed: 3/23/2013 1550h **Extracted:** 3/23/2013 921h
Units: mg/L **Dilution Factor:** 1 **Method:** SW8015D

463 West 3600 South
Salt Lake City, UT 84115

Compound	CAS Number	Reporting Limit	Analytical Result	Qual		
Diesel Range Organics (DRO) (C10-C28)	68476-34-6	0.500	1.20			
Surrogate	CAS	Result	Amount Spiked	% REC	Limits	Qual
Surr: 4-Bromofluorobenzene	460-00-4	0.135	0.4000	33.7	10-190	

Phone: (801) 263-8686
Toll Free: (888) 263-8686
Fax: (801) 263-8687
e-mail: awal@awal-labs.com

web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer



ORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality **Contact:** Chris Bittner
Project: MP 44.9 Incident
Lab Sample ID: 1303562-004C
Client Sample ID: East of Boom / 4920395
Collection Date: 3/22/2013 1030h
Received Date: 3/22/2013 1440h

Analytical Results

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

Analyzed: 3/23/2013 1609h **Extracted:** 3/23/2013 921h
Units: mg/L **Dilution Factor:** 1 **Method:** SW8015D

463 West 3600 South
Salt Lake City, UT 84115

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
Diesel Range Organics (DRO) (C10-C28)	68476-34-6	0.500	3.07	

Phone: (801) 263-8686
Toll Free: (888) 263-8686
Fax: (801) 263-8687
e-mail: awal@awal-labs.com

Surrogate	CAS	Result	Amount Spiked	% REC	Limits	Qual
Surr: 4-Bromofluorobenzene	460-00-4	0.123	0.4000	30.7	10-190	

web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer



ORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality **Contact:** Chris Bittner
Project: MP 44.9 Incident
Lab Sample ID: 1303562-001B
Client Sample ID: East of I-15 / 4920392
Collection Date: 3/22/2013 915h
Received Date: 3/22/2013 1440h

Analytical Results

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

Analyzed: 3/25/2013 808h **Extracted:** 3/23/2013 1105h
Units: µg/L **Dilution Factor:** 1 **Method:** SW8270D

463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686
Toll Free: (888) 263-8686
Fax: (801) 263-8687
e-mail: awal@awal-labs.com
web: www.awal-labs.com

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	



ORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality **Contact:** Chris Bittner
Project: MP 44.9 Incident
Lab Sample ID: 1303562-002B
Client Sample ID: South Marina / 4920495
Collection Date: 3/22/2013 945h
Received Date: 3/22/2013 1440h

Analytical Results

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

Analyzed: 3/25/2013 834h **Extracted:** 3/23/2013 1105h
Units: µg/L **Dilution Factor:** 1 **Method:** SW8270D

463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686
Toll Free: (888) 263-8686
Fax: (801) 263-8687
e-mail: awal@awal-labs.com
web: www.awal-labs.com

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	



ORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality **Contact:** Chris Bittner
Project: MP 44.9 Incident
Lab Sample ID: 1303562-003B
Client Sample ID: West of Boom / 4920396
Collection Date: 3/22/2013 1015h
Received Date: 3/22/2013 1440h

Analytical Results

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

Analyzed: 3/25/2013 953h **Extracted:** 3/23/2013 1409h
Units: µg/L **Dilution Factor:** 1 **Method:** SW8270D

463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686
Toll Free: (888) 263-8686
Fax: (801) 263-8687
e-mail: awal@awal-labs.com
web: www.awal-labs.com

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	0.950	
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	0.530	
Phenanthrene	85-01-8	0.100	< 0.100	
Pyrene	129-00-0	0.100	< 0.100	



ORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality **Contact:** Chris Bittner
Project: MP 44.9 Incident
Lab Sample ID: 1303562-004B
Client Sample ID: East of Boom / 4920395
Collection Date: 3/22/2013 1030h
Received Date: 3/22/2013 1440h

Analytical Results

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

Analyzed: 3/25/2013 1019h **Extracted:** 3/23/2013 1409h
Units: µg/L **Dilution Factor:** 1 **Method:** SW8270D

463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686
Toll Free: (888) 263-8686
Fax: (801) 263-8687
e-mail: awal@awal-labs.com
web: www.awal-labs.com

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	3.00	
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	1.64	
Phenanthrene	85-01-8	0.100	< 0.100	
Pyrene	129-00-0	0.100	< 0.100	



ORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality
Project: MP 44.9 Incident
Lab Sample ID: 1303562-005B
Client Sample ID: Between Weirs / 4920394
Collection Date: 3/22/2013 1100h
Received Date: 3/22/2013 1440h

Contact: Chris Bittner

Analytical Results

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

Analyzed: 3/25/2013 1759h **Extracted:** 3/23/2013 1409h
Units: µg/L **Dilution Factor:** 1 **Method:** SW8270D

463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686
Toll Free: (888) 263-8686
Fax: (801) 263-8687
e-mail: awal@awal-labs.com
web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
1-Methylnaphthalene	90-12-0	0.100	3.66	
2-Methylnaphthalene	91-57-6	0.100	5.58	
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	0.430	
Benzo(a)pyrene	50-32-8	0.100	0.910	
Benzo(b)fluoranthene	205-99-2	0.100	0.680	
Benzo(g,h,i)perylene	191-24-2	0.100	< 0.100	
Benzo(k)fluoranthene	207-08-9	0.100	0.780	
Chrysene	218-01-9	0.100	< 0.100	
Dibenz(a,h)anthracene	53-70-3	0.100	0.280	
Fluoranthene	206-44-0	0.100	< 0.100	
Fluorene	86-73-7	0.100	0.840	
Indene	95-13-6	0.100	< 0.100	
Indeno(1,2,3-cd)pyrene	193-39-5	0.100	0.920	
Naphthalene	91-20-3	0.100	2.81	
Phenanthrene	85-01-8	0.100	< 0.100	
Pyrene	129-00-0	0.100	< 0.100	



ORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality **Contact:** Chris Bittner
Project: MP 44.9 Incident
Lab Sample ID: 1303562-006B
Client Sample ID: North Boom / 4920397
Collection Date: 3/22/2013 1045h
Received Date: 3/22/2013 1440h

Analytical Results

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

Analyzed: 3/25/2013 1825h **Extracted:** 3/23/2013 1409h
Units: µg/L **Dilution Factor:** 1 **Method:** SW8270D

463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686
Toll Free: (888) 263-8686
Fax: (801) 263-8687
e-mail: awal@awal-labs.com
web: www.awal-labs.com

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	0.300	
Benzo(b)fluoranthene	205-99-2	0.100	0.230	
Benzo(g,h,i)perylene	191-24-2	0.100	< 0.100	
Benzo(k)fluoranthene	207-08-9	0.100	0.190	
Chrysene	218-01-9	0.100	< 0.100	
Dibenz(a,h)anthracene	53-70-3	0.100	0.230	
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	0.350	
Naphthalene	91-20-3	0.100	< 0.100	
Phenanthrene	85-01-8	0.100	< 0.100	
Pyrene	129-00-0	0.100	< 0.100	



ORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality

Contact: Chris Bittner

Project: MP 44.9 Incident

Lab Sample ID: 1303562-001B

Client Sample ID: East of I-15 / 4920392

Collection Date: 3/22/2013 915h

Received Date: 3/22/2013 1440h

Analytical Results

SVOA List by GC/MS Method 8270D/3510C

Analyzed: 3/24/2013 119h

Extracted: 3/23/2013 1105h

Units: µg/L

Dilution Factor: 1

Method: SW8270D

463 West 3600 South

Salt Lake City, UT 84115

Phone: (801) 263-8686

Toll Free: (888) 263-8686

Fax: (801) 263-8687

e-mail: awal@awal-labs.com

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	



Lab Sample ID: 1303562-001B
Client Sample ID: East of I-15 / 4920392

Analyzed: 3/24/2013 119h **Extracted:** 3/23/2013 1105h
Units: µg/L **Dilution Factor:** 1 **Method:** SW8270D

463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686
Toll Free: (888) 263-8686
Fax: (801) 263-8687
e-mail: awal@awal-labs.com

web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

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	



Lab Sample ID: 1303562-001B
Client Sample ID: East of I-15 / 4920392

Analyzed: 3/24/2013 119h **Extracted:** 3/23/2013 1105h
Units: µg/L **Dilution Factor:** 1 **Method:** SW8270D

463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686
Toll Free: (888) 263-8686
Fax: (801) 263-8687
e-mail: awal@awal-labs.com

web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

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	



Lab Sample ID: 1303562-001B
Client Sample ID: East of I-15 / 4920392

Analyzed: 3/24/2013 119h **Extracted:** 3/23/2013 1105h
Units: µg/L **Dilution Factor:** 1 **Method:** SW8270D

463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686
Toll Free: (888) 263-8686
Fax: (801) 263-8687
e-mail: awal@awal-labs.com

web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

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: 1-Octadecanol	000112-92-5		12.5	JN
TIC: n-Hexadecanoic acid	000057-10-3		11.5	JN



Lab Sample ID: 1303562-001B

Client Sample ID: East of I-15 / 4920392

Analyzed: 3/24/2013 119h

Extracted: 3/23/2013 1105h

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	54.9	80.00	68.6	14-159	
Surr: 2-Fluorobiphenyl	321-60-8	21.4	40.00	53.4	10-124	
Surr: 2-Fluorophenol	367-12-4	21.2	80.00	26.5	10-106	
Surr: Nitrobenzene-d5	4165-60-0	17.2	40.00	43.0	10-180	
Surr: Phenol-d6	13127-88-3	17.6	80.00	22.0	10-122	
Surr: Terphenyl-d14	1718-51-0	39.4	40.00	98.6	10-199	

J - This flag indicates an estimated value.

N - This flag indicates presumptive evidence of a compound.

This sample was analyzed for TICs.

463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686

Toll Free: (888) 263-8686

Fax: (801) 263-8687

e-mail: awal@awal-labs.com

web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer



ORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality

Contact: Chris Bittner

Project: MP 44.9 Incident

Lab Sample ID: 1303562-002B

Client Sample ID: South Marina / 4920495

Collection Date: 3/22/2013 945h

Received Date: 3/22/2013 1440h

Analytical Results

SVOA List by GC/MS Method 8270D/3510C

Analyzed: 3/24/2013 145h

Extracted: 3/23/2013 1105h

Units: µg/L

Dilution Factor: 1

Method: SW8270D

463 West 3600 South

Salt Lake City, UT 84115

Phone: (801) 263-8686

Toll Free: (888) 263-8686

Fax: (801) 263-8687

e-mail: awal@awal-labs.com

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	



Lab Sample ID: 1303562-002B

Client Sample ID: South Marina / 4920495

Analyzed: 3/24/2013 145h

Extracted: 3/23/2013 1105h

Units: µg/L

Dilution Factor: 1

Method: SW8270D

463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686

Toll Free: (888) 263-8686

Fax: (801) 263-8687

e-mail: awal@awal-labs.com

web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

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	



Lab Sample ID: 1303562-002B

Client Sample ID: South Marina / 4920495

Analyzed: 3/24/2013 145h

Extracted: 3/23/2013 1105h

Units: µg/L

Dilution Factor: 1

Method: SW8270D

463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686

Toll Free: (888) 263-8686

Fax: (801) 263-8687

e-mail: awal@awal-labs.com

web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

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	



Lab Sample ID: 1303562-002B

Client Sample ID: South Marina / 4920495

Analyzed: 3/24/2013 145h

Extracted: 3/23/2013 1105h

Units: µg/L

Dilution Factor: 1

Method: SW8270D

463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686

Toll Free: (888) 263-8686

Fax: (801) 263-8687

e-mail: awal@awal-labs.com

web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

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: Cyclopentadecane	000295-48-7		10.4	JN
TIC: n-Hexadecanoic acid	000057-10-3		11.1	JN



Lab Sample ID: 1303562-002B

Client Sample ID: South Marina / 4920495

Analyzed: 3/24/2013 145h

Extracted: 3/23/2013 1105h

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	65.3	80.00	81.6	14-159	
Surr: 2-Fluorobiphenyl	321-60-8	24.1	40.00	60.2	10-124	
Surr: 2-Fluorophenol	367-12-4	30.8	80.00	38.6	10-106	
Surr: Nitrobenzene-d5	4165-60-0	20.5	40.00	51.2	10-180	
Surr: Phenol-d6	13127-88-3	25.8	80.00	32.3	10-122	
Surr: Terphenyl-d14	1718-51-0	38.0	40.00	95.0	10-199	

J - This flag indicates an estimated value.

N - This flag indicates presumptive evidence of a compound.

This sample was analyzed for TICs.

463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686

Toll Free: (888) 263-8686

Fax: (801) 263-8687

e-mail: awal@awal-labs.com

web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer



ORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality
Project: MP 44.9 Incident
Lab Sample ID: 1303562-003B
Client Sample ID: West of Boom / 4920396
Collection Date: 3/22/2013 1015h
Received Date: 3/22/2013 1440h

Contact: Chris Bittner

Analytical Results

SVOA List by GC/MS Method 8270D/3510C

Analyzed: 3/24/2013 303h **Extracted:** 3/23/2013 1409h
Units: µg/L **Dilution Factor:** 1 **Method:** SW8270D

463 West 3600 South

Salt Lake City, UT 84115

Phone: (801) 263-8686

Toll Free: (888) 263-8686

Fax: (801) 263-8687

e-mail: awal@awal-labs.com

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	



Lab Sample ID: 1303562-003B

Client Sample ID: West of Boom / 4920396

Analyzed: 3/24/2013 303h

Extracted: 3/23/2013 1409h

Units: µg/L

Dilution Factor: 1

Method: SW8270D

463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686

Toll Free: (888) 263-8686

Fax: (801) 263-8687

e-mail: awal@awal-labs.com

web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

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	



Lab Sample ID: 1303562-003B

Client Sample ID: West of Boom / 4920396

Analyzed: 3/24/2013 303h

Extracted: 3/23/2013 1409h

Units: µg/L

Dilution Factor: 1

Method: SW8270D

463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686

Toll Free: (888) 263-8686

Fax: (801) 263-8687

e-mail: awal@awal-labs.com

web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

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	



Lab Sample ID: 1303562-003B

Client Sample ID: West of Boom / 4920396

Analyzed: 3/24/2013 303h

Extracted: 3/23/2013 1409h

Units: µg/L

Dilution Factor: 1

Method: SW8270D

463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686

Toll Free: (888) 263-8686

Fax: (801) 263-8687

e-mail: awal@awal-labs.com

web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

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: (1-Methylpenta-2,4-dienyl)benzene	1000210-01-1		9.21	JN
TIC: 1,3,5-Cycloheptatriene, 3,4-diet...	1000156-99-7		10.6	JN
TIC: 1-Naphthalenol, 1,2,3,4-tetrahydro	000529-33-9		9.24	JN



Lab Sample ID: 1303562-003B
Client Sample ID: West of Boom / 4920396

Analyzed: 3/24/2013 303h **Extracted:** 3/23/2013 1409h
Units: µg/L **Dilution Factor:** 1 **Method:** SW8270D

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
TIC: 2-Ethyl-1-H-indene	017059-50-6		10.1	JN
TIC: 2H-1-Benzopyran-2-one, 3,4-dihyd...	000092-47-7		10.2	JN
TIC: 5,8-Dimethyl-1,2,3,4-tetrahydro-...	032820-12-5		10.9	JN
TIC: Benzene, 1,2,4-trimethyl-5-(1-me...	010222-95-4		10.8	JN
TIC: Benzene, 1,3,5-triethyl-	000102-25-0		12.8	JN
TIC: Benzene, 1,4-bis(1-methylethyl)-	000100-18-5		8.13	JN
TIC: Benzene, hexamethyl-	000087-85-4		13.2	JN

463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686
Toll Free: (888) 263-8686
Fax: (801) 263-8687
e-mail: awal@awal-labs.com

web: www.awal-labs.com

Surrogate	CAS	Result	Amount Spiked	% REC	Limits	Qual
Surr: 2,4,6-Tribromophenol	118-79-6	62.3	80.00	77.9	14-159	
Surr: 2-Fluorobiphenyl	321-60-8	19.0	40.00	47.5	10-124	
Surr: 2-Fluorophenol	367-12-4	29.5	80.00	36.9	10-106	
Surr: Nitrobenzene-d5	4165-60-0	16.4	40.00	41.0	10-180	
Surr: Phenol-d6	13127-88-3	22.4	80.00	28.1	10-122	
Surr: Terphenyl-d14	1718-51-0	36.0	40.00	90.1	10-199	

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

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer



ORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality

Contact: Chris Bittner

Project: MP 44.9 Incident

Lab Sample ID: 1303562-004B

Client Sample ID: East of Boom / 4920395

Collection Date: 3/22/2013 1030h

Received Date: 3/22/2013 1440h

Analytical Results

SVOA List by GC/MS Method 8270D/3510C

Analyzed: 3/24/2013 1322h

Extracted: 3/23/2013 1409h

Units: µg/L

Dilution Factor: 1

Method: SW8270D

463 West 3600 South

Salt Lake City, UT 84115

Phone: (801) 263-8686

Toll Free: (888) 263-8686

Fax: (801) 263-8687

e-mail: awal@awal-labs.com

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	



Lab Sample ID: 1303562-004B

Client Sample ID: East of Boom / 4920395

Analyzed: 3/24/2013 1322h

Extracted: 3/23/2013 1409h

Units: µg/L

Dilution Factor: 1

Method: SW8270D

463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686

Toll Free: (888) 263-8686

Fax: (801) 263-8687

e-mail: awal@awal-labs.com

web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

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	



Lab Sample ID: 1303562-004B

Client Sample ID: East of Boom / 4920395

Analyzed: 3/24/2013 1322h

Extracted: 3/23/2013 1409h

Units: µg/L

Dilution Factor: 1

Method: SW8270D

463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686

Toll Free: (888) 263-8686

Fax: (801) 263-8687

e-mail: awal@awal-labs.com

web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

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	



Lab Sample ID: 1303562-004B

Client Sample ID: East of Boom / 4920395

Analyzed: 3/24/2013 1322h

Extracted: 3/23/2013 1409h

Units: µg/L

Dilution Factor: 1

Method: SW8270D

463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686

Toll Free: (888) 263-8686

Fax: (801) 263-8687

e-mail: awal@awal-labs.com

web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

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: 1,3,5-Cycloheptatriene, 3,4-diet...	1000156-99-7		21.3	JN
TIC: 1,3-2H-Isobenzofuranone, 3,3,7-t...	057732-90-8		16.0	JN
TIC: 1-Naphthalenol, 1,2,3,4-tetrahydro	000529-33-9		18.0	JN



Lab Sample ID: 1303562-004B

Client Sample ID: East of Boom / 4920395

Analyzed: 3/24/2013 1322h

Extracted: 3/23/2013 1409h

Units: µg/L

Dilution Factor: 1

Method: SW8270D

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
TIC: 2-Ethyl-1-H-indene	017059-50-6		22.7	JN
TIC: 2H-1-Benzopyran-2-one, 3,4-dihyd...	000092-47-7		20.2	JN
TIC: 6-Methyl-4-indanol	020294-32-0		40.5	JN
TIC: Benzene, 1,2,4-triethyl-	000877-44-1		36.6	JN
TIC: Benzene, 1,4-bis(1-methylethenyl)-	001605-18-1		23.2	JN
TIC: Benzene, hexamethyl-	000087-85-4		22.8	JN
TIC: o-Diacetylbenzene	000704-00-7		18.0	JN

Surrogate	CAS	Result	Amount Spiked	% REC	Limits	Qual
Surr: 2,4,6-Tribromophenol	118-79-6	58.3	80.00	72.8	14-159	
Surr: 2-Fluorobiphenyl	321-60-8	18.0	40.00	44.9	10-124	
Surr: 2-Fluorophenol	367-12-4	27.7	80.00	34.6	10-106	
Surr: Nitrobenzene-d5	4165-60-0	16.0	40.00	40.0	10-180	
Surr: Phenol-d6	13127-88-3	22.0	80.00	27.5	10-122	
Surr: Terphenyl-d14	1718-51-0	35.3	40.00	88.3	10-199	

J - This flag indicates an estimated value.

N - This flag indicates presumptive evidence of a compound.

This sample was analyzed for TICs.

463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686

Toll Free: (888) 263-8686

Fax: (801) 263-8687

e-mail: awal@awal-labs.com

web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer



ORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality
Project: MP 44.9 Incident
Lab Sample ID: 1303562-005B
Client Sample ID: Between Weirs / 4920394
Collection Date: 3/22/2013 1100h
Received Date: 3/22/2013 1440h

Contact: Chris Bittner

Analytical Results

SVOA List by GC/MS Method 8270D/3510C

Analyzed: 3/24/2013 1348h **Extracted:** 3/23/2013 1409h
Units: µg/L **Dilution Factor:** 1 **Method:** SW8270D

463 West 3600 South

Salt Lake City, UT 84115

Phone: (801) 263-8686

Toll Free: (888) 263-8686

Fax: (801) 263-8687

e-mail: awal@awal-labs.com

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	



Lab Sample ID: 1303562-005B
Client Sample ID: Between Weirs / 4920394

Analyzed: 3/24/2013 1348h **Extracted:** 3/23/2013 1409h
Units: µg/L **Dilution Factor:** 1 **Method:** SW8270D

463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686
Toll Free: (888) 263-8686
Fax: (801) 263-8687
e-mail: awal@awal-labs.com

web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

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	



Lab Sample ID: 1303562-005B
Client Sample ID: Between Weirs / 4920394

Analyzed: 3/24/2013 1348h **Extracted:** 3/23/2013 1409h
Units: µg/L **Dilution Factor:** 1 **Method:** SW8270D

463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686
Toll Free: (888) 263-8686
Fax: (801) 263-8687
e-mail: awal@awal-labs.com

web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

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	



Lab Sample ID: 1303562-005B

Client Sample ID: Between Weirs / 4920394

Analyzed: 3/24/2013 1348h

Extracted: 3/23/2013 1409h

Units: µg/L

Dilution Factor: 1

Method: SW8270D

463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686

Toll Free: (888) 263-8686

Fax: (801) 263-8687

e-mail: awal@awal-labs.com

web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

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	10.3	
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: 1(3H)-Isobenzofuranone, 3,3-dime...	001689-09-4		21.5	JN
TIC: 1,3,5-Cycloheptatriene, 3,4-diet...	1000156-99-7		27.2	JN
TIC: 1H-Inden-1-ol, 2,3-dihydro-3,3-d...	038393-92-9		26.2	JN



Lab Sample ID: 1303562-005B
Client Sample ID: Between Weirs / 4920394

Analyzed: 3/24/2013 1348h **Extracted:** 3/23/2013 1409h
Units: µg/L **Dilution Factor:** 1 **Method:** SW8270D

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
TIC: 1-Isopropyl-3-tert-butylbenzene	020033-12-9		21.2	JN
TIC: 2-Ethyl-1-H-indene	017059-50-6		26.1	JN
TIC: 2H-1-Benzopyran-2-one, 3,4-dihyd...	000092-47-7		30.6	JN
TIC: 5,8-Dimethyl-1,2,3,4-tetrahydro-...	032820-12-5		29.4	JN
TIC: Benzene, 1,2,3-trimethyl-	000526-73-8		25.2	JN
TIC: Benzene, 1,2-diethyl-3,4-dimethyl-	054410-75-2		55.5	JN
TIC: Benzene, hexamethyl-	000087-85-4		26.0	JN

Surrogate	CAS	Result	Amount Spiked	% REC	Limits	Qual
Surr: 2,4,6-Tribromophenol	118-79-6	47.2	80.00	59.0	14-159	
Surr: 2-Fluorobiphenyl	321-60-8	13.0	40.00	32.6	10-124	
Surr: 2-Fluorophenol	367-12-4	25.3	80.00	31.7	10-106	
Surr: Nitrobenzene-d5	4165-60-0	13.6	40.00	34.0	10-180	
Surr: Phenol-d6	13127-88-3	21.6	80.00	27.0	10-122	
Surr: Terphenyl-d14	1718-51-0	32.2	40.00	80.5	10-199	

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

463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686
Toll Free: (888) 263-8686
Fax: (801) 263-8687
e-mail: awal@awal-labs.com

web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer



ORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality

Contact: Chris Bittner

Project: MP 44.9 Incident

Lab Sample ID: 1303562-006B

Client Sample ID: North Boom / 4920397

Collection Date: 3/22/2013 1045h

Received Date: 3/22/2013 1440h

Analytical Results

SVOA List by GC/MS Method 8270D/3510C

Analyzed: 3/24/2013 1414h

Extracted: 3/23/2013 1409h

Units: µg/L

Dilution Factor: 1

Method: SW8270D

463 West 3600 South

Salt Lake City, UT 84115

Phone: (801) 263-8686

Toll Free: (888) 263-8686

Fax: (801) 263-8687

e-mail: awal@awal-labs.com

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	



Lab Sample ID: 1303562-006B

Client Sample ID: North Boom / 4920397

Analyzed: 3/24/2013 1414h

Extracted: 3/23/2013 1409h

Units: µg/L

Dilution Factor: 1

Method: SW8270D

463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686

Toll Free: (888) 263-8686

Fax: (801) 263-8687

e-mail: awal@awal-labs.com

web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

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	



Lab Sample ID: 1303562-006B

Client Sample ID: North Boom / 4920397

Analyzed: 3/24/2013 1414h

Extracted: 3/23/2013 1409h

Units: µg/L

Dilution Factor: 1

Method: SW8270D

463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686

Toll Free: (888) 263-8686

Fax: (801) 263-8687

e-mail: awal@awal-labs.com

web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

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	



Lab Sample ID: 1303562-006B

Client Sample ID: North Boom / 4920397

Analyzed: 3/24/2013 1414h

Extracted: 3/23/2013 1409h

Units: µg/L

Dilution Factor: 1

Method: SW8270D

463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686

Toll Free: (888) 263-8686

Fax: (801) 263-8687

e-mail: awal@awal-labs.com

web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

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: 5-Eicosene, (E)-	074685-30-6		6.95	JN
TIC: n-Hexadecanoic acid	000057-10-3		7.31	JN



Lab Sample ID: 1303562-006B

Client Sample ID: North Boom / 4920397

Analyzed: 3/24/2013 1414h

Extracted: 3/23/2013 1409h

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	63.3	80.00	79.1	14-159	
Surr: 2-Fluorobiphenyl	321-60-8	22.4	40.00	56.0	10-124	
Surr: 2-Fluorophenol	367-12-4	27.3	80.00	34.2	10-106	
Surr: Nitrobenzene-d5	4165-60-0	17.3	40.00	43.2	10-180	
Surr: Phenol-d6	13127-88-3	23.8	80.00	29.7	10-122	
Surr: Terphenyl-d14	1718-51-0	34.7	40.00	86.7	10-199	

J - This flag indicates an estimated value.

N - This flag indicates presumptive evidence of a compound.

This sample was analyzed for TICs.

463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686

Toll Free: (888) 263-8686

Fax: (801) 263-8687

e-mail: awal@awal-labs.com

web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer



ORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality **Contact:** Chris Bittner
Project: MP 44.9 Incident
Lab Sample ID: 1303562-001A
Client Sample ID: East of I-15 / 4920392
Collection Date: 3/22/2013 915h
Received Date: 3/22/2013 1440h

Analytical Results

VOAs Full List by GC/MS Method 8260C/5030C

Analyzed: 3/22/2013 1916h

Units: µg/L

Dilution Factor: 1

Method: SW8260C

463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686
Toll Free: (888) 263-8686
Fax: (801) 263-8687
e-mail: awal@awal-labs.com
web: www.awal-labs.com

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	



Lab Sample ID: 1303562-001A
Client Sample ID: East of I-15 / 4920392

Analyzed: 3/22/2013 1916h

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

463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686
Toll Free: (888) 263-8686
Fax: (801) 263-8687
e-mail: awal@awal-labs.com

web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

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	



Lab Sample ID: 1303562-001A
Client Sample ID: East of I-15 / 4920392

Analyzed: 3/22/2013 1916h

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

463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686

Toll Free: (888) 263-8686

Fax: (801) 263-8687

e-mail: awal@awal-labs.com

web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

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	



Lab Sample ID: 1303562-001A
Client Sample ID: East of I-15 / 4920392

Analyzed: 3/22/2013 1916h

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	54.8	50.00	110	72-151	
Surr: 4-Bromofluorobenzene	460-00-4	54.3	50.00	109	80-128	
Surr: Dibromofluoromethane	1868-53-7	53.2	50.00	106	80-124	
Surr: Toluene-d8	2037-26-5	51.0	50.00	102	77-129	

463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686

Toll Free: (888) 263-8686

Fax: (801) 263-8687

e-mail: awal@awal-labs.com

web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer



ORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality
Project: MP 44.9 Incident
Lab Sample ID: 1303562-002A
Client Sample ID: South Marina / 4920495
Collection Date: 3/22/2013 945h
Received Date: 3/22/2013 1440h

Contact: Chris Bittner

Analytical Results

VOAs Full List by GC/MS Method 8260C/5030C

Analyzed: 3/22/2013 1935h

Units: µg/L

Dilution Factor: 1

Method: SW8260C

463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686
Toll Free: (888) 263-8686
Fax: (801) 263-8687
e-mail: awal@awal-labs.com
web: www.awal-labs.com

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	



Lab Sample ID: 1303562-002A

Client Sample ID: South Marina / 4920495

Analyzed: 3/22/2013 1935h

Units: µg/L

Dilution Factor: 1

Method: SW8260C

463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686
Toll Free: (888) 263-8686
Fax: (801) 263-8687
e-mail: awal@awal-labs.com

web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

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	



Lab Sample ID: 1303562-002A
Client Sample ID: South Marina / 4920495

Analyzed: 3/22/2013 1935h

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

463 West 3600 South
 Salt Lake City, UT 84115

Phone: (801) 263-8686

Toll Free: (888) 263-8686

Fax: (801) 263-8687

e-mail: awal@awal-labs.com

web: www.awal-labs.com

Kyle F. Gross
 Laboratory Director

Jose Rocha
 QA Officer

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	



Lab Sample ID: 1303562-002A

Client Sample ID: South Marina / 4920495

Analyzed: 3/22/2013 1935h

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	55.6	50.00	111	72-151	
Surr: 4-Bromofluorobenzene	460-00-4	55.0	50.00	110	80-128	
Surr: Dibromofluoromethane	1868-53-7	53.9	50.00	108	80-124	
Surr: Toluene-d8	2037-26-5	51.5	50.00	103	77-129	

463 West 3600 South

Salt Lake City, UT 84115

Phone: (801) 263-8686

Toll Free: (888) 263-8686

Fax: (801) 263-8687

e-mail: awal@awal-labs.com

web: www.awal-labs.com

Kyle F. Gross

Laboratory Director

Jose Rocha

QA Officer



ORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality
Project: MP 44.9 Incident
Lab Sample ID: 1303562-003A
Client Sample ID: West of Boom / 4920396
Collection Date: 3/22/2013 1015h
Received Date: 3/22/2013 1440h

Contact: Chris Bittner

Analytical Results

VOAs Full List by GC/MS Method 8260C/5030C

Analyzed: 3/22/2013 1954h

Units: µg/L

Dilution Factor: 1

Method: SW8260C

463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686
Toll Free: (888) 263-8686
Fax: (801) 263-8687
e-mail: awal@awal-labs.com
web: www.awal-labs.com

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	7.36	
1,2,4-Trichlorobenzene	120-82-1	2.00	< 2.00	
1,2,4-Trimethylbenzene	95-63-6	2.00	14.8	
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	



Lab Sample ID: 1303562-003A
Client Sample ID: West of Boom / 4920396

Analyzed: 3/22/2013 1954h

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

463 West 3600 South
 Salt Lake City, UT 84115

 Phone: (801) 263-8686
 Toll Free: (888) 263-8686
 Fax: (801) 263-8687
 e-mail: awal@awal-labs.com

 web: www.awal-labs.com

Kyle F. Gross
 Laboratory Director

 Jose Rocha
 QA Officer

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	



Lab Sample ID: 1303562-003A
Client Sample ID: West of Boom / 4920396

Analyzed: 3/22/2013 1954h

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

463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686
Toll Free: (888) 263-8686
Fax: (801) 263-8687
e-mail: awal@awal-labs.com

web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

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	8.17	
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	2.50	
o-Xylene	95-47-6	2.00	3.31	
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	11.5	



Lab Sample ID: 1303562-003A
Client Sample ID: West of Boom / 4920396

Analyzed: 3/22/2013 1954h

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	55.4	50.00	111	72-151	
Surr: 4-Bromofluorobenzene	460-00-4	51.5	50.00	103	80-128	
Surr: Dibromofluoromethane	1868-53-7	53.4	50.00	107	80-124	
Surr: Toluene-d8	2037-26-5	51.1	50.00	102	77-129	

463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686
Toll Free: (888) 263-8686
Fax: (801) 263-8687
e-mail: awal@awal-labs.com

web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer



ORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality
Project: MP 44.9 Incident
Lab Sample ID: 1303562-004A
Client Sample ID: East of Boom / 4920395
Collection Date: 3/22/2013 1030h
Received Date: 3/22/2013 1440h

Contact: Chris Bittner

Analytical Results

VOAs Full List by GC/MS Method 8260C/5030C

Analyzed: 3/22/2013 2013h

Units: µg/L

Dilution Factor: 1

Method: SW8260C

463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686
Toll Free: (888) 263-8686
Fax: (801) 263-8687
e-mail: awal@awal-labs.com
web: www.awal-labs.com

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	14.6	
1,2,4-Trichlorobenzene	120-82-1	2.00	< 2.00	
1,2,4-Trimethylbenzene	95-63-6	2.00	30.4	
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	



Lab Sample ID: 1303562-004A
Client Sample ID: East of Boom / 4920395

Analyzed: 3/22/2013 2013h

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

463 West 3600 South
 Salt Lake City, UT 84115

 Phone: (801) 263-8686
 Toll Free: (888) 263-8686
 Fax: (801) 263-8687
 e-mail: awal@awal-labs.com

 web: www.awal-labs.com

Kyle F. Gross
 Laboratory Director

Jose Rocha
 QA Officer

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
4-Isopropyltoluene	99-87-6	2.00	2.02	
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	2.09	
Hexachlorobutadiene	87-68-3	2.00	< 2.00	
Iodomethane	74-88-4	5.00	< 5.00	
Isobutyl alcohol	78-83-1	100	< 100	



Lab Sample ID: 1303562-004A
Client Sample ID: East of Boom / 4920395

Analyzed: 3/22/2013 2013h

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

463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686

Toll Free: (888) 263-8686

Fax: (801) 263-8687

e-mail: awal@awal-labs.com

web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

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	17.2	
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	4.99	
o-Xylene	95-47-6	2.00	7.14	
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	2.78	
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	24.3	



Lab Sample ID: 1303562-004A
Client Sample ID: East of Boom / 4920395

Analyzed: 3/22/2013 2013h

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	52.8	50.00	106	72-151	
Surr: 4-Bromofluorobenzene	460-00-4	52.3	50.00	105	80-128	
Surr: Dibromofluoromethane	1868-53-7	52.4	50.00	105	80-124	
Surr: Toluene-d8	2037-26-5	51.8	50.00	104	77-129	

463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686
Toll Free: (888) 263-8686
Fax: (801) 263-8687
e-mail: awal@awal-labs.com

web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer



ORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality
Project: MP 44.9 Incident
Lab Sample ID: 1303562-005A
Client Sample ID: Between Weirs / 4920394
Collection Date: 3/22/2013 1100h
Received Date: 3/22/2013 1440h

Contact: Chris Bittner

Analytical Results

VOAs Full List by GC/MS Method 8260C/5030C

Analyzed: 3/22/2013 2032h

Units: µg/L

Dilution Factor: 1

Method: SW8260C

463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686
Toll Free: (888) 263-8686
Fax: (801) 263-8687
e-mail: awal@awal-labs.com
web: www.awal-labs.com

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	33.2	
1,2,4-Trichlorobenzene	120-82-1	2.00	< 2.00	
1,2,4-Trimethylbenzene	95-63-6	2.00	70.7	
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	



Lab Sample ID: 1303562-005A
Client Sample ID: Between Weirs / 4920394

Analyzed: 3/22/2013 2032h

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

463 West 3600 South
 Salt Lake City, UT 84115

 Phone: (801) 263-8686
 Toll Free: (888) 263-8686
 Fax: (801) 263-8687
 e-mail: awal@awal-labs.com

 web: www.awal-labs.com

Kyle F. Gross
 Laboratory Director

Jose Rocha
 QA Officer

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
4-Isopropyltoluene	99-87-6	2.00	5.23	
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	5.13	
Hexachlorobutadiene	87-68-3	2.00	< 2.00	
Iodomethane	74-88-4	5.00	< 5.00	
Isobutyl alcohol	78-83-1	100	< 100	



Lab Sample ID: 1303562-005A
Client Sample ID: Between Weirs / 4920394

Analyzed: 3/22/2013 2032h

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

463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686

Toll Free: (888) 263-8686

Fax: (801) 263-8687

e-mail: awal@awal-labs.com

web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

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	43.2	
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	3.66	
Naphthalene	91-20-3	2.00	10.5	
o-Xylene	95-47-6	2.00	18.1	
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	6.51	
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	61.3	



Lab Sample ID: 1303562-005A
Client Sample ID: Between Weirs / 4920394

Analyzed: 3/22/2013 2032h

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	49.7	50.00	99.4	72-151	
Surr: 4-Bromofluorobenzene	460-00-4	52.3	50.00	105	80-128	
Surr: Dibromofluoromethane	1868-53-7	51.5	50.00	103	80-124	
Surr: Toluene-d8	2037-26-5	52.7	50.00	105	77-129	

463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686
Toll Free: (888) 263-8686
Fax: (801) 263-8687
e-mail: awal@awal-labs.com

web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer



ORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality

Contact: Chris Bittner

Project: MP 44.9 Incident

Lab Sample ID: 1303562-006A

Client Sample ID: North Boom / 4920397

Collection Date: 3/22/2013 1045h

Received Date: 3/22/2013 1440h

Analytical Results

VOAs Full List by GC/MS Method 8260C/5030C

Analyzed: 3/22/2013 2051h

Units: µg/L

Dilution Factor: 1

Method: SW8260C

463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686
Toll Free: (888) 263-8686
Fax: (801) 263-8687
e-mail: awal@awal-labs.com
web: www.awal-labs.com

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	



Lab Sample ID: 1303562-006A

Client Sample ID: North Boom / 4920397

Analyzed: 3/22/2013 2051h

Units: µg/L

Dilution Factor: 1

Method: SW8260C

463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686

Toll Free: (888) 263-8686

Fax: (801) 263-8687

e-mail: awal@awal-labs.com

web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

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	



Lab Sample ID: 1303562-006A
Client Sample ID: North Boom / 4920397

Analyzed: 3/22/2013 2051h

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

463 West 3600 South
 Salt Lake City, UT 84115

Phone: (801) 263-8686

Toll Free: (888) 263-8686

Fax: (801) 263-8687

e-mail: awal@awal-labs.com

web: www.awal-labs.com

Kyle F. Gross
 Laboratory Director

Jose Rocha
 QA Officer

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	



Lab Sample ID: 1303562-006A

Client Sample ID: North Boom / 4920397

Analyzed: 3/22/2013 2051h

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	47.8	50.00	95.6	72-151	
Surr: 4-Bromofluorobenzene	460-00-4	54.6	50.00	109	80-128	
Surr: Dibromofluoromethane	1868-53-7	50.1	50.00	100	80-124	
Surr: Toluene-d8	2037-26-5	53.1	50.00	106	77-129	

463 West 3600 South

Salt Lake City, UT 84115

Phone: (801) 263-8686

Toll Free: (888) 263-8686

Fax: (801) 263-8687

e-mail: awal@awal-labs.com

web: www.awal-labs.com

Kyle F. Gross

Laboratory Director

Jose Rocha

QA Officer



ORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality

Contact: Chris Bittner

Project: MP 44.9 Incident

Lab Sample ID: 1303562-007A

Client Sample ID: Field Blank

Collection Date: 3/22/2013 1035h

Received Date: 3/22/2013 1440h

Analytical Results

VOAs Full List by GC/MS Method 8260C/5030C

Analyzed: 3/22/2013 2110h

Units: µg/L

Dilution Factor: 1

Method: SW8260C

463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686
Toll Free: (888) 263-8686
Fax: (801) 263-8687
e-mail: awal@awal-labs.com
web: www.awal-labs.com

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	



Lab Sample ID: 1303562-007A

Client Sample ID: Field Blank

Analyzed: 3/22/2013 2110h

Units: µg/L

Dilution Factor: 1

Method: SW8260C

463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686

Toll Free: (888) 263-8686

Fax: (801) 263-8687

e-mail: awal@awal-labs.com

web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

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	



Lab Sample ID: 1303562-007A

Client Sample ID: Field Blank

Analyzed: 3/22/2013 2110h

Units: µg/L

Dilution Factor: 1

Method: SW8260C

463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686

Toll Free: (888) 263-8686

Fax: (801) 263-8687

e-mail: awal@awal-labs.com

web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

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	



Lab Sample ID: 1303562-007A

Client Sample ID: Field Blank

Analyzed: 3/22/2013 2110h

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	48.0	50.00	96.0	72-151	
Surr: 4-Bromofluorobenzene	460-00-4	54.7	50.00	109	80-128	
Surr: Dibromofluoromethane	1868-53-7	50.4	50.00	101	80-124	
Surr: Toluene-d8	2037-26-5	53.3	50.00	107	77-129	

463 West 3600 South

Salt Lake City, UT 84115

Phone: (801) 263-8686

Toll Free: (888) 263-8686

Fax: (801) 263-8687

e-mail: awal@awal-labs.com

web: www.awal-labs.com

Kyle F. Gross

Laboratory Director

Jose Rocha

QA Officer



ORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality
Project: MP 44.9 Incident
Lab Sample ID: 1303562-008A
Client Sample ID: Trip Blank
Collection Date: 3/22/2013 900h
Received Date: 3/22/2013 1440h

Contact: Chris Bittner

Analytical Results

VOAs Full List by GC/MS Method 8260C/5030C

Analyzed: 3/22/2013 2129h

Units: µg/L

Dilution Factor: 1

Method: SW8260C

463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686
Toll Free: (888) 263-8686
Fax: (801) 263-8687
e-mail: awal@awal-labs.com
web: www.awal-labs.com

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	



Lab Sample ID: 1303562-008A

Client Sample ID: Trip Blank

Analyzed: 3/22/2013 2129h

Units: µg/L

Dilution Factor: 1

Method: SW8260C

463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686

Toll Free: (888) 263-8686

Fax: (801) 263-8687

e-mail: awal@awal-labs.com

web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

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	



Lab Sample ID: 1303562-008A

Client Sample ID: Trip Blank

Analyzed: 3/22/2013 2129h

Units: µg/L

Dilution Factor: 1

Method: SW8260C

463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686

Toll Free: (888) 263-8686

Fax: (801) 263-8687

e-mail: awal@awal-labs.com

web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

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	



Lab Sample ID: 1303562-008A

Client Sample ID: Trip Blank

Analyzed: 3/22/2013 2129h

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	49.3	50.00	98.6	72-151	
Surr: 4-Bromofluorobenzene	460-00-4	55.4	50.00	111	80-128	
Surr: Dibromofluoromethane	1868-53-7	50.7	50.00	101	80-124	
Surr: Toluene-d8	2037-26-5	53.5	50.00	107	77-129	

463 West 3600 South

Salt Lake City, UT 84115

Phone: (801) 263-8686

Toll Free: (888) 263-8686

Fax: (801) 263-8687

e-mail: awal@awal-labs.com

web: www.awal-labs.com

Kyle F. Gross

Laboratory Director

Jose Rocha

QA Officer



463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687
e-mail: awal@awal-labs.com, web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Utah Division of Water Quality
Lab Set ID: 1303562
Project: MP 44.9 Incident

Contact: Chris Bittner
Dept: WC
QC Type: LCS

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	%REC	Limits	%RPD	RPD Limit	Qual	Date Analyzed
LCS1-R51886	Chemical Oxygen Demand	mg/L	HACH 8000	323	300.0	0	108	85-115				3/25/2013 1100h
LCS2-R51886	Chemical Oxygen Demand	mg/L	HACH 8000	102	100.0	0	102	85-115				3/25/2013 1100h
LCS3-R51886	Chemical Oxygen Demand	mg/L	HACH 8000	9.00	10.00	0	90.0	85-115				3/25/2013 1100h
LCS-R51886	Chemical Oxygen Demand	mg/L	HACH 8000	1,040	1,000	0	104	85-115				3/25/2013 1100h



463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687
e-mail: awal@awal-labs.com, web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Utah Division of Water Quality
Lab Set ID: 1303562
Project: MP 44.9 Incident

Contact: Chris Bittner
Dept: WC
QC Type: MBLK

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	%REC	Limits	%RPD	RPD Limit	Qual	Date Analyzed
MB-R51886	Chemical Oxygen Demand	mg/L	HACH 8000	< 10.0				-				3/25/2013 1100h



463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687
e-mail: awal@awal-labs.com, web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Utah Division of Water Quality
Lab Set ID: 1303562
Project: MP 44.9 Incident

Contact: Chris Bittner
Dept: WC
QC Type: MS

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	%REC	Limits	%RPD	RPD Limit	Qual	Date Analyzed
1303562-003EMS	Chemical Oxygen Demand	mg/L	HACH 8000	67.0	50.00	21.00	92.0	85-115				3/25/2013 1100h
1303596-009EMS	Chemical Oxygen Demand	mg/L	HACH 8000	79.0	50.00	19.00	120	85-115			¹	3/25/2013 1100h

¹ - Matrix spike recovery indicates matrix interference. The method is in control as indicated by the LCS.



463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687
e-mail: awal@awal-labs.com, web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Utah Division of Water Quality
Lab Set ID: 1303562
Project: MP 44.9 Incident

Contact: Chris Bittner
Dept: WC
QC Type: MSD

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	%REC	Limits	%RPD	RPD Limit	Qual	Date Analyzed
1303562-003EMSD	Chemical Oxygen Demand	mg/L	HACH 8000	67.0	50.00	21.00	92.0	85-115	0	10		3/25/2013 1100h
1303596-009EMSD	Chemical Oxygen Demand	mg/L	HACH 8000	75.0	50.00	19.00	112	85-115	5.19	10		3/25/2013 1100h



463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687
e-mail: awal@awal-labs.com, web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Utah Division of Water Quality
Lab Set ID: 1303562
Project: MP 44.9 Incident

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-24323	Oil Range Organics (ORO) (C28-C36)	mg/L	SW8015D	0.790	0.9000	0	87.8	10-200				3/24/2013 1733h
LCS-24323	Surr: C27	%REC	SW8015D	0.220	0.2000		110	10-200				3/24/2013 1733h
LCS-24314	Diesel Range Organics (DRO) (C10-C28)	mg/L	SW8015D	1.39	2.000	0	69.4	48-118				3/23/2013 1415h
LCS-24314	Surr: 4-Bromofluorobenzene	%REC	SW8015D	0.170	0.4000		42.6	18-95				3/23/2013 1415h



463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687
e-mail: awal@awal-labs.com, web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Utah Division of Water Quality
Lab Set ID: 1303562
Project: MP 44.9 Incident

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-24323	Oil Range Organics (ORO) (C28-C36)	mg/L	SW8015D	< 0.500				-				3/24/2013 1709h
MB-24323	Surr: C27	%REC	SW8015D	0.200	0.2000		100	10-200				3/24/2013 1709h
MB-24314	Diesel Range Organics (DRO) (C10-C28)	mg/L	SW8015D	< 0.500				-				3/23/2013 1355h
MB-24314	Surr: 4-Bromofluorobenzene	%REC	SW8015D	0.120	0.4000		30.0	18-95				3/23/2013 1355h



463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687
e-mail: awal@awal-labs.com, web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Utah Division of Water Quality
Lab Set ID: 1303562
Project: MP 44.9 Incident

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
1303513-002DMS	Oil Range Organics (ORO) (C28-C36)	mg/L	SW8015D	0.730	0.9000	0	81.1	10-200				3/24/2013 1844h
1303513-002DMS	Surr: C27	%REC	SW8015D	0.210	0.2000		105	10-200				3/24/2013 1844h
1303562-001CMS	Diesel Range Organics (DRO) (C10-C28)	mg/L	SW8015D	1.57	2.000	0	78.5	60-161				3/23/2013 1453h
1303562-001CMS	Surr: 4-Bromofluorobenzene	%REC	SW8015D	0.219	0.4000		54.6	10-190				3/23/2013 1453h



463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687
e-mail: awal@awal-labs.com, web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Utah Division of Water Quality
Lab Set ID: 1303562
Project: MP 44.9 Incident

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
1303513-002DMSD	Oil Range Organics (ORO) (C28-C36)	mg/L	SW8015D	0.692	0.9000	0	76.9	10-200	5.34	30		3/24/2013 1908h
1303513-002DMSD	Surr: C27	%REC	SW8015D	0.200	0.2000		99.8	10-200				3/24/2013 1908h
1303562-001CMSD	Diesel Range Organics (DRO) (C10-C28)	mg/L	SW8015D	1.38	2.000	0	68.9	60-161	13	25		3/23/2013 1512h
1303562-001CMSD	Surr: 4-Bromofluorobenzene	%REC	SW8015D	0.184	0.4000		45.9	10-190				3/23/2013 1512h



463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687
e-mail: awal@awal-labs.com, web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Utah Division of Water Quality
Lab Set ID: 1303562
Project: MP 44.9 Incident

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-24316	1,2,4-Trichlorobenzene	µg/L	SW8270D	38.7	80.00	0	48.4	10-104				3/23/2013 2217h
LCS-24316	1,4-Dichlorobenzene	µg/L	SW8270D	25.5	80.00	0	31.9	10-118				3/23/2013 2217h
LCS-24316	2,4,6-Trichlorophenol	µg/L	SW8270D	68.8	80.00	0	85.9	17-119				3/23/2013 2217h
LCS-24316	2,4-Dimethylphenol	µg/L	SW8270D	58.9	80.00	0	73.7	10-131				3/23/2013 2217h
LCS-24316	2,4-Dinitrotoluene	µg/L	SW8270D	89.8	80.00	0	112	42-219				3/23/2013 2217h
LCS-24316	2-Chloronaphthalene	µg/L	SW8270D	59.4	80.00	0	74.2	23-126				3/23/2013 2217h
LCS-24316	2-Chlorophenol	µg/L	SW8270D	51.7	80.00	0	64.7	15-128				3/23/2013 2217h
LCS-24316	4,6-Dinitro-2-methylphenol	µg/L	SW8270D	87.1	80.00	0	109	30-198				3/23/2013 2217h
LCS-24316	4-Chloro-3-methylphenol	µg/L	SW8270D	68.9	80.00	0	86.1	29-148				3/23/2013 2217h
LCS-24316	4-Nitrophenol	µg/L	SW8270D	39.1	80.00	0	48.8	10-157				3/23/2013 2217h
LCS-24316	Acenaphthene	µg/L	SW8270D	64.3	80.00	0	80.4	20-116				3/23/2013 2217h
LCS-24316	Benzo(a)pyrene	µg/L	SW8270D	86.6	80.00	0	108	10-221				3/23/2013 2217h
LCS-24316	N-Nitrosodi-n-propylamine	µg/L	SW8270D	47.3	80.00	0	59.2	20-148				3/23/2013 2217h
LCS-24316	Pentachlorophenol	µg/L	SW8270D	80.3	80.00	0	100	21-153				3/23/2013 2217h
LCS-24316	Phenol	µg/L	SW8270D	27.6	80.00	0	34.5	10-131				3/23/2013 2217h
LCS-24316	Pyrene	µg/L	SW8270D	82.0	80.00	0	102	37-150				3/23/2013 2217h
LCS-24316	Surr: 2,4,6-Tribromophenol	%REC	SW8270D	86.7	80.00		108	10-165				3/23/2013 2217h
LCS-24316	Surr: 2-Fluorobiphenyl	%REC	SW8270D	28.3	40.00		70.8	10-118				3/23/2013 2217h
LCS-24316	Surr: 2-Fluorophenol	%REC	SW8270D	32.6	80.00		40.8	10-121				3/23/2013 2217h
LCS-24316	Surr: Nitrobenzene-d5	%REC	SW8270D	22.0	40.00		55.0	10-127				3/23/2013 2217h
LCS-24316	Surr: Phenol-d6	%REC	SW8270D	27.1	80.00		33.9	10-124				3/23/2013 2217h
LCS-24316	Surr: Terphenyl-d14	%REC	SW8270D	42.7	40.00		107	51-221				3/23/2013 2217h
LCS-24316	Acenaphthene	µg/L	SW8270D	66.8	80.00	0	83.5	23-159				3/25/2013 742h
LCS-24316	Benzo(a)pyrene	µg/L	SW8270D	62.2	80.00	0	77.8	26-223				3/25/2013 742h
LCS-24316	Pentachlorophenol	µg/L	SW8270D	114	80.00	0	142	10-249				3/25/2013 742h
LCS-24316	Pyrene	µg/L	SW8270D	77.2	80.00	0	96.5	28-204				3/25/2013 742h



463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687

e-mail: awal@awal-labs.com, web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Utah Division of Water Quality
Lab Set ID: 1303562
Project: MP 44.9 Incident

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-24316	1,1'-Biphenyl	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	1,2,4,5-Tetrachlorobenzene	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	1,2,4-Trichlorobenzene	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	1,2-Dichlorobenzene	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	1,3,5-Trinitrobenzene	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	1,3-Dichlorobenzene	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	1,3-Dinitrobenzene	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	1,4-Dichlorobenzene	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	1,4-Dinitrobenzene	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	1,4-Naphthoquinone	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	1,4-Phenylenediamine	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	1-Chloronaphthalene	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	1-Methylnaphthalene	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	1-Naphthylamine	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	2,3,4,6-Tetrachlorophenol	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	2,4,5-Trichlorophenol	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	2,4,6-Trichlorophenol	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	2,4-Dichlorophenol	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	2,4-Dimethylphenol	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	2,4-Dinitrophenol	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	2,4-Dinitrotoluene	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	2,6-Dichlorophenol	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	2,6-Dinitrotoluene	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	2-Acetylaminofluorene	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	2-Chloronaphthalene	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	2-Chlorophenol	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	2-Methylnaphthalene	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h

Report Date: 3/26/2013 Page 101 of 168



463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687

e-mail: awal@awal-labs.com, web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Utah Division of Water Quality
Lab Set ID: 1303562
Project: MP 44.9 Incident

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-24316	2-Methylphenol	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	2-Naphthylamine	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	2-Nitroaniline	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	2-Nitrophenol	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	2-Picoline	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	3&4-Methylphenol	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	3,3'-Dichlorobenzidine	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	3,3'-Dimethylbenzidine	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	3-Methylcholanthrene	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	3-Nitroaniline	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	4,6-Dinitro-2-methylphenol	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	4-Aminobiphenyl	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	4-Bromophenyl phenyl ether	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	4-Chloro-3-methylphenol	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	4-Chloroaniline	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	4-Chlorophenyl phenyl ether	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	4-Nitroaniline	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	4-Nitrophenol	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	5-Nitro-o-toluidine	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	7,12-Dimethylbenz(a)anthracene	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	a,a-Dimethylphenethylamine	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Acenaphthene	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Acenaphthylene	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Acetophenone	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	alpha-Terpineol	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Aniline	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Anthracene	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h

Report Date: 3/26/2013 Page 102 of 168



463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687
e-mail: awal@awal-labs.com, web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Utah Division of Water Quality
Lab Set ID: 1303562
Project: MP 44.9 Incident

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-24316	Aramite	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Atrazine	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Azobenzene	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Benz(a)anthracene	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Benzaldehyde	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Benzidine	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Benzo(a)pyrene	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Benzo(b)fluoranthene	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Benzo(g,h,i)perylene	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Benzo(k)fluoranthene	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Benzoic acid	µg/L	SW8270D	< 20.0				-				3/23/2013 2151h
MB-24316	Benzyl alcohol	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Bis(2-chloroethoxy)methane	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Bis(2-chloroethyl) ether	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Bis(2-chloroisopropyl) ether	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Bis(2-ethylhexyl) phthalate	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	bis(2-ethylhexyl)adipate	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Butyl benzyl phthalate	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Caprolactam	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Carbazole	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Chlorobenzilate	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Chrysene	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Diallate (cis or trans)	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Dibenz(a,h)anthracene	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Dibenzofuran	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Diethyl phthalate	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Dimethoate	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h

Report Date: 3/26/2013 Page 103 of 168



463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687

e-mail: awal@awal-labs.com, web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Utah Division of Water Quality

Lab Set ID: 1303562

Project: MP 44.9 Incident

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-24316	Dimethyl phthalate	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Dimethylaminoazobenzene	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Di-n-butyl phthalate	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Di-n-octyl phthalate	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Dinoseb	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Diphenylamine	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Disulfoton	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Ethyl methanesulfonate	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Famphur	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Fluoranthene	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Fluorene	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Hexachlorobenzene	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Hexachlorobutadiene	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Hexachlorocyclopentadiene	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Hexachloroethane	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Hexachlorophene	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Hexachloropropene	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Indene	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Indeno(1,2,3-cd)pyrene	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Isodrin	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Isophorone	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Isosafrole	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Kepone	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Methapyrilene	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Methyl methanesulfonate	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Naphthalene	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	n-Decane	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h

Report Date: 3/26/2013 Page 104 of 168



463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687
e-mail: awal@awal-labs.com, web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Utah Division of Water Quality
Lab Set ID: 1303562
Project: MP 44.9 Incident

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-24316	Nitrobenzene	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Nitroquinoline-1-oxide	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	N-Nitrosodiethylamine	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	N-Nitrosodimethylamine	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	N-Nitrosodi-n-butylamine	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	N-Nitrosodiphenylamine	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	N-Nitrosodi-n-propylamine	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	N-Nitrosomethylethylamine	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	N-Nitrosomorpholine	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	N-Nitrosopiperidine	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	N-Nitrosopyrrolidine	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	n-Octadecane	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	O,O,O-Triethyl phosphorothioate	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	o-Toluidine	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Parathion	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Methyl parathion	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Pentachlorobenzene	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Pentachloronitrobenzene	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Pentachlorophenol	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Phenacetin	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Phenanthrene	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Phenol	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Phorate	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Pronamide	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Pyrene	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Pyridine	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Quinoline	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h

Report Date: 3/26/2013 Page 105 of 168



463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687
e-mail: awal@awal-labs.com, web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Utah Division of Water Quality
Lab Set ID: 1303562
Project: MP 44.9 Incident

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-24316	Safrole	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Tetraethyl dithiopyrophosphate	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Thionazin	µg/L	SW8270D	< 10.0				-				3/23/2013 2151h
MB-24316	Surr: 2,4,6-Tribromophenol	%REC	SW8270D	68.4	80.00		85.5	10-165				3/23/2013 2151h
MB-24316	Surr: 2-Fluorobiphenyl	%REC	SW8270D	20.2	40.00		50.5	10-118				3/23/2013 2151h
MB-24316	Surr: 2-Fluorophenol	%REC	SW8270D	34.0	80.00		42.6	10-121				3/23/2013 2151h
MB-24316	Surr: Nitrobenzene-d5	%REC	SW8270D	17.2	40.00		43.1	10-127				3/23/2013 2151h
MB-24316	Surr: Phenol-d6	%REC	SW8270D	26.7	80.00		33.4	10-124				3/23/2013 2151h
MB-24316	Surr: Terphenyl-d14	%REC	SW8270D	43.3	40.00		108	51-221				3/23/2013 2151h
MB-24316	1-Methylnaphthalene	µg/L	SW8270D	< 0.100				-				3/25/2013 716h
MB-24316	2-Methylnaphthalene	µg/L	SW8270D	< 0.100				-				3/25/2013 716h
MB-24316	Acenaphthene	µg/L	SW8270D	< 0.100				-				3/25/2013 716h
MB-24316	Acenaphthylene	µg/L	SW8270D	< 0.100				-				3/25/2013 716h
MB-24316	Anthracene	µg/L	SW8270D	< 0.100				-				3/25/2013 716h
MB-24316	Benz(a)anthracene	µg/L	SW8270D	< 0.100				-				3/25/2013 716h
MB-24316	Benzo(a)pyrene	µg/L	SW8270D	< 0.100				-				3/25/2013 716h
MB-24316	Benzo(b)fluoranthene	µg/L	SW8270D	< 0.100				-				3/25/2013 716h
MB-24316	Benzo(g,h,i)perylene	µg/L	SW8270D	< 0.100				-				3/25/2013 716h
MB-24316	Benzo(k)fluoranthene	µg/L	SW8270D	< 0.100				-				3/25/2013 716h
MB-24316	Chrysene	µg/L	SW8270D	< 0.100				-				3/25/2013 716h
MB-24316	Dibenz(a,h)anthracene	µg/L	SW8270D	< 0.100				-				3/25/2013 716h
MB-24316	Fluoranthene	µg/L	SW8270D	< 0.100				-				3/25/2013 716h
MB-24316	Fluorene	µg/L	SW8270D	< 0.100				-				3/25/2013 716h
MB-24316	Hexachlorobenzene	µg/L	SW8270D	< 1.00				-				3/25/2013 716h
MB-24316	Indene	µg/L	SW8270D	< 0.100				-				3/25/2013 716h
MB-24316	Indeno(1,2,3-cd)pyrene	µg/L	SW8270D	< 0.100				-				3/25/2013 716h
MB-24316	Naphthalene	µg/L	SW8270D	< 0.100				-				3/25/2013 716h

Report Date: 3/26/2013 Page 106 of 168



463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687
e-mail: awal@awal-labs.com, web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Utah Division of Water Quality
Lab Set ID: 1303562
Project: MP 44.9 Incident

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-24316	Pentachlorophenol	µg/L	SW8270D	< 1.00				-				3/25/2013 716h
MB-24316	Phenanthrene	µg/L	SW8270D	< 0.100				-				3/25/2013 716h
MB-24316	Pyrene	µg/L	SW8270D	< 0.100				-				3/25/2013 716h



463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687
e-mail: awal@awal-labs.com, web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Utah Division of Water Quality
Lab Set ID: 1303562
Project: MP 44.9 Incident

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
1303562-002BMS	1,2,4-Trichlorobenzene	µg/L	SW8270D	29.0	80.00	0	36.2	20-107				3/24/2013 211h
1303562-002BMS	1,4-Dichlorobenzene	µg/L	SW8270D	19.3	80.00	0	24.1	11-90				3/24/2013 211h
1303562-002BMS	2,4,6-Trichlorophenol	µg/L	SW8270D	66.0	80.00	0	82.5	10-223				3/24/2013 211h
1303562-002BMS	2,4-Dimethylphenol	µg/L	SW8270D	60.4	80.00	0	75.6	10-176				3/24/2013 211h
1303562-002BMS	2,4-Dinitrotoluene	µg/L	SW8270D	80.4	80.00	0	101	21-191				3/24/2013 211h
1303562-002BMS	2-Chloronaphthalene	µg/L	SW8270D	52.5	80.00	0	65.6	12-132				3/24/2013 211h
1303562-002BMS	2-Chlorophenol	µg/L	SW8270D	54.1	80.00	0	67.6	20-107				3/24/2013 211h
1303562-002BMS	4,6-Dinitro-2-methylphenol	µg/L	SW8270D	82.9	80.00	0	104	20-250				3/24/2013 211h
1303562-002BMS	4-Chloro-3-methylphenol	µg/L	SW8270D	65.3	80.00	0	81.6	10-136				3/24/2013 211h
1303562-002BMS	4-Nitrophenol	µg/L	SW8270D	35.6	80.00	0	44.5	10-135				3/24/2013 211h
1303562-002BMS	Acenaphthene	µg/L	SW8270D	57.8	80.00	0	72.3	21-113				3/24/2013 211h
1303562-002BMS	Benzo(a)pyrene	µg/L	SW8270D	78.6	80.00	0	98.2	15-169				3/24/2013 211h
1303562-002BMS	N-Nitrosodi-n-propylamine	µg/L	SW8270D	46.4	80.00	0	58.0	10-133				3/24/2013 211h
1303562-002BMS	Pentachlorophenol	µg/L	SW8270D	24.5	80.00	0	30.6	10-131				3/24/2013 211h
1303562-002BMS	Phenol	µg/L	SW8270D	29.5	80.00	0	36.9	10-71				3/24/2013 211h
1303562-002BMS	Pyrene	µg/L	SW8270D	75.2	80.00	0	94.0	23-150				3/24/2013 211h
1303562-002BMS	Surr: 2,4,6-Tribromophenol	%REC	SW8270D	70.4	80.00		88.0	14-159				3/24/2013 211h
1303562-002BMS	Surr: 2-Fluorobiphenyl	%REC	SW8270D	24.2	40.00		60.4	10-124				3/24/2013 211h
1303562-002BMS	Surr: 2-Fluorophenol	%REC	SW8270D	34.1	80.00		42.6	10-106				3/24/2013 211h
1303562-002BMS	Surr: Nitrobenzene-d5	%REC	SW8270D	19.4	40.00		48.4	10-180				3/24/2013 211h
1303562-002BMS	Surr: Phenol-d6	%REC	SW8270D	28.7	80.00		35.9	10-122				3/24/2013 211h
1303562-002BMS	Surr: Terphenyl-d14	%REC	SW8270D	35.7	40.00		89.2	10-199				3/24/2013 211h
1303562-002BMS	Acenaphthene	µg/L	SW8270D	59.6	80.00	0	74.5	21-113				3/25/2013 900h
1303562-002BMS	Benzo(a)pyrene	µg/L	SW8270D	56.2	80.00	0	70.3	15-169				3/25/2013 900h
1303562-002BMS	Pentachlorophenol	µg/L	SW8270D	74.0	80.00	0	92.5	10-131				3/25/2013 900h
1303562-002BMS	Pyrene	µg/L	SW8270D	68.2	80.00	0	85.3	23-150				3/25/2013 900h



463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687
e-mail: awal@awal-labs.com, web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Utah Division of Water Quality
Lab Set ID: 1303562
Project: MP 44.9 Incident

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
1303562-002BMSD	1,2,4-Trichlorobenzene	µg/L	SW8270D	36.9	80.00	0	46.1	20-107	24.1	25		3/24/2013 237h
1303562-002BMSD	1,4-Dichlorobenzene	µg/L	SW8270D	24.6	80.00	0	30.8	11-90	24.2	25		3/24/2013 237h
1303562-002BMSD	2,4,6-Trichlorophenol	µg/L	SW8270D	68.6	80.00	0	85.7	10-223	3.79	25		3/24/2013 237h
1303562-002BMSD	2,4-Dimethylphenol	µg/L	SW8270D	61.2	80.00	0	76.5	10-176	1.28	25		3/24/2013 237h
1303562-002BMSD	2,4-Dinitrotoluene	µg/L	SW8270D	82.8	80.00	0	104	21-191	2.94	25		3/24/2013 237h
1303562-002BMSD	2-Chloronaphthalene	µg/L	SW8270D	59.3	80.00	0	74.2	12-132	12.2	25		3/24/2013 237h
1303562-002BMSD	2-Chlorophenol	µg/L	SW8270D	56.9	80.00	0	71.1	20-107	4.94	25		3/24/2013 237h
1303562-002BMSD	4,6-Dinitro-2-methylphenol	µg/L	SW8270D	87.9	80.00	0	110	20-250	5.9	25		3/24/2013 237h
1303562-002BMSD	4-Chloro-3-methylphenol	µg/L	SW8270D	69.9	80.00	0	87.3	10-136	6.75	25		3/24/2013 237h
1303562-002BMSD	4-Nitrophenol	µg/L	SW8270D	39.4	80.00	0	49.2	10-135	10.1	25		3/24/2013 237h
1303562-002BMSD	Acenaphthene	µg/L	SW8270D	62.0	80.00	0	77.5	21-113	6.96	25		3/24/2013 237h
1303562-002BMSD	Benzo(a)pyrene	µg/L	SW8270D	80.1	80.00	0	100	15-169	1.92	25		3/24/2013 237h
1303562-002BMSD	N-Nitrosodi-n-propylamine	µg/L	SW8270D	49.5	80.00	0	61.9	10-133	6.36	25		3/24/2013 237h
1303562-002BMSD	Pentachlorophenol	µg/L	SW8270D	30.3	80.00	0	37.9	10-131	21.2	25		3/24/2013 237h
1303562-002BMSD	Phenol	µg/L	SW8270D	30.7	80.00	0	38.3	10-71	3.72	25		3/24/2013 237h
1303562-002BMSD	Pyrene	µg/L	SW8270D	79.4	80.00	0	99.3	23-150	5.46	25		3/24/2013 237h
1303562-002BMSD	Surr: 2,4,6-Tribromophenol	%REC	SW8270D	74.7	80.00		93.4	14-159				3/24/2013 237h
1303562-002BMSD	Surr: 2-Fluorobiphenyl	%REC	SW8270D	28.0	40.00		69.9	10-124				3/24/2013 237h
1303562-002BMSD	Surr: 2-Fluorophenol	%REC	SW8270D	36.6	80.00		45.7	10-106				3/24/2013 237h
1303562-002BMSD	Surr: Nitrobenzene-d5	%REC	SW8270D	22.6	40.00		56.4	10-180				3/24/2013 237h
1303562-002BMSD	Surr: Phenol-d6	%REC	SW8270D	29.8	80.00		37.2	10-122				3/24/2013 237h
1303562-002BMSD	Surr: Terphenyl-d14	%REC	SW8270D	39.0	40.00		97.5	10-199				3/24/2013 237h
1303562-002BMSD	Acenaphthene	µg/L	SW8270D	62.8	80.00	0	78.5	21-113	5.23	25		3/25/2013 927h
1303562-002BMSD	Benzo(a)pyrene	µg/L	SW8270D	57.2	80.00	0	71.5	15-169	1.76	25		3/25/2013 927h
1303562-002BMSD	Pentachlorophenol	µg/L	SW8270D	77.2	80.00	0	96.5	10-131	4.23	25		3/25/2013 927h
1303562-002BMSD	Pyrene	µg/L	SW8270D	70.6	80.00	0	88.2	23-150	3.46	25		3/25/2013 927h



463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687
e-mail: awal@awal-labs.com, web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Utah Division of Water Quality
Lab Set ID: 1303562
Project: MP 44.9 Incident

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 032213A	1,1,1-Trichloroethane	µg/L	SW8260C	27.7	20.00	0	138	59-156				3/22/2013 1819h
LCS VOC 032213A	1,1-Dichloroethene	µg/L	SW8260C	29.4	20.00	0	147	46-171				3/22/2013 1819h
LCS VOC 032213A	1,2-Dichlorobenzene	µg/L	SW8260C	23.9	20.00	0	120	67-135				3/22/2013 1819h
LCS VOC 032213A	1,2-Dichloroethane	µg/L	SW8260C	24.0	20.00	0	120	60-137				3/22/2013 1819h
LCS VOC 032213A	1,2-Dichloropropane	µg/L	SW8260C	22.2	20.00	0	111	59-135				3/22/2013 1819h
LCS VOC 032213A	Benzene	µg/L	SW8260C	24.2	20.00	0	121	62-127				3/22/2013 1819h
LCS VOC 032213A	Chlorobenzene	µg/L	SW8260C	25.0	20.00	0	125	63-140				3/22/2013 1819h
LCS VOC 032213A	Chloroform	µg/L	SW8260C	24.8	20.00	0	124	67-132				3/22/2013 1819h
LCS VOC 032213A	Ethylbenzene	µg/L	SW8260C	24.8	20.00	0	124	55-133				3/22/2013 1819h
LCS VOC 032213A	Isopropylbenzene	µg/L	SW8260C	25.7	20.00	0	128	60-147				3/22/2013 1819h
LCS VOC 032213A	Methyl tert-butyl ether	µg/L	SW8260C	23.7	20.00	0	119	37-189				3/22/2013 1819h
LCS VOC 032213A	Methylene chloride	µg/L	SW8260C	25.2	20.00	0	126	32-185				3/22/2013 1819h
LCS VOC 032213A	Naphthalene	µg/L	SW8260C	21.7	20.00	0	109	28-136				3/22/2013 1819h
LCS VOC 032213A	Tetrahydrofuran	µg/L	SW8260C	17.3	20.00	0	86.6	43-146				3/22/2013 1819h
LCS VOC 032213A	Toluene	µg/L	SW8260C	24.7	20.00	0	123	64-129				3/22/2013 1819h
LCS VOC 032213A	Trichloroethene	µg/L	SW8260C	26.1	20.00	0	131	54-152				3/22/2013 1819h
LCS VOC 032213A	Xylenes, Total	µg/L	SW8260C	76.0	60.00	0	127	52-134				3/22/2013 1819h
LCS VOC 032213A	Surr: 1,2-Dichloroethane-d4	%REC	SW8260C	52.1	50.00		104	76-138				3/22/2013 1819h
LCS VOC 032213A	Surr: 4-Bromofluorobenzene	%REC	SW8260C	52.3	50.00		105	77-121				3/22/2013 1819h
LCS VOC 032213A	Surr: Dibromofluoromethane	%REC	SW8260C	53.6	50.00		107	67-128				3/22/2013 1819h
LCS VOC 032213A	Surr: Toluene-d8	%REC	SW8260C	51.8	50.00		104	81-135				3/22/2013 1819h



463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687
e-mail: awal@awal-labs.com, web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Utah Division of Water Quality
Lab Set ID: 1303562
Project: MP 44.9 Incident

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 032213A	1,1,1,2-Tetrachloroethane	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	1,1,1-Trichloroethane	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	1,1,1,2,2-Tetrachloroethane	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	1,1,2-Trichloro-1,2,2-trifluoroethane	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	1,1,2-Trichloroethane	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	1,1-Dichloropropene	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	1,1-Dichloroethane	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	1,1-Dichloroethene	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	1,2,3-Trichlorobenzene	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	1,2,3-Trichloropropane	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	1,2,3-Trimethylbenzene	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	1,2,4-Trichlorobenzene	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	1,2,4-Trimethylbenzene	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	1,2-Dibromo-3-chloropropane	µg/L	SW8260C	< 5.00				-				3/22/2013 1857h
MB VOC 032213A	1,2-Dibromoethane	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	1,2-Dichlorobenzene	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	1,2-Dichloroethane	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	1,2-Dichloropropane	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	1,3,5-Trimethylbenzene	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	1,3-Dichlorobenzene	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	1,3-Dichloropropane	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	1,4-Dichlorobenzene	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	1,4-Dioxane	µg/L	SW8260C	< 50.0				-				3/22/2013 1857h
MB VOC 032213A	2,2-Dichloropropane	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	2-Butanone	µg/L	SW8260C	< 10.0				-				3/22/2013 1857h
MB VOC 032213A	2-Chloroethyl vinyl ether	µg/L	SW8260C	< 5.00				-				3/22/2013 1857h

Report Date: 3/26/2013 Page 111 of 168



463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687

e-mail: awal@awal-labs.com, web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Utah Division of Water Quality

Lab Set ID: 1303562

Project: MP 44.9 Incident

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 032213A	2-Chlorotoluene	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	2-Hexanone	µg/L	SW8260C	< 5.00				-				3/22/2013 1857h
MB VOC 032213A	2-Nitropropane	µg/L	SW8260C	< 5.00				-				3/22/2013 1857h
MB VOC 032213A	4-Chlorotoluene	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	4-Isopropyltoluene	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	4-Methyl-2-pentanone	µg/L	SW8260C	< 5.00				-				3/22/2013 1857h
MB VOC 032213A	Acetone	µg/L	SW8260C	< 10.0				-				3/22/2013 1857h
MB VOC 032213A	Acetonitrile	µg/L	SW8260C	< 5.00				-				3/22/2013 1857h
MB VOC 032213A	Acrolein	µg/L	SW8260C	< 5.00				-				3/22/2013 1857h
MB VOC 032213A	Acrylonitrile	µg/L	SW8260C	< 10.0				-				3/22/2013 1857h
MB VOC 032213A	Allyl chloride	µg/L	SW8260C	< 5.00				-				3/22/2013 1857h
MB VOC 032213A	Benzene	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	Benzyl chloride	µg/L	SW8260C	< 5.00				-				3/22/2013 1857h
MB VOC 032213A	Bis(2-chloroisopropyl) ether	µg/L	SW8260C	< 5.00				-				3/22/2013 1857h
MB VOC 032213A	Bromobenzene	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	Bromochloromethane	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	Bromodichloromethane	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	Bromoform	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	Bromomethane	µg/L	SW8260C	< 5.00				-				3/22/2013 1857h
MB VOC 032213A	Butyl acetate	µg/L	SW8260C	< 10.0				-				3/22/2013 1857h
MB VOC 032213A	Carbon disulfide	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	Carbon tetrachloride	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	Chlorobenzene	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	Chloroethane	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	Chloroform	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	Chloromethane	µg/L	SW8260C	< 3.00				-				3/22/2013 1857h
MB VOC 032213A	Chloroprene	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h

Report Date: 3/26/2013 Page 112 of 168



463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687
e-mail: awal@awal-labs.com, web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Utah Division of Water Quality
Lab Set ID: 1303562
Project: MP 44.9 Incident

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 032213A	cis-1,2-Dichloroethene	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	cis-1,3-Dichloropropene	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	Cyclohexane	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	Cyclohexanone	µg/L	SW8260C	< 50.0				-				3/22/2013 1857h
MB VOC 032213A	Dibromochloromethane	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	Dibromomethane	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	Dichlorodifluoromethane	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	Ethyl acetate	µg/L	SW8260C	< 10.0				-				3/22/2013 1857h
MB VOC 032213A	Ethyl ether	µg/L	SW8260C	< 10.0				-				3/22/2013 1857h
MB VOC 032213A	Ethyl methacrylate	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	Ethylbenzene	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	Hexachlorobutadiene	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	Iodomethane	µg/L	SW8260C	< 5.00				-				3/22/2013 1857h
MB VOC 032213A	Isobutyl alcohol	µg/L	SW8260C	< 100				-				3/22/2013 1857h
MB VOC 032213A	Isopropyl acetate	µg/L	SW8260C	< 10.0				-				3/22/2013 1857h
MB VOC 032213A	Isopropyl alcohol	µg/L	SW8260C	< 40.0				-				3/22/2013 1857h
MB VOC 032213A	Isopropylbenzene	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	m,p-Xylene	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	Methacrylonitrile	µg/L	SW8260C	< 5.00				-				3/22/2013 1857h
MB VOC 032213A	Methyl Acetate	µg/L	SW8260C	< 5.00				-				3/22/2013 1857h
MB VOC 032213A	Methyl methacrylate	µg/L	SW8260C	< 5.00				-				3/22/2013 1857h
MB VOC 032213A	Methyl tert-butyl ether	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	Methylcyclohexane	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	Methylene chloride	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	n-Amyl acetate	µg/L	SW8260C	< 10.0				-				3/22/2013 1857h
MB VOC 032213A	Naphthalene	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	n-Butyl alcohol	µg/L	SW8260C	< 100				-				3/22/2013 1857h

Report Date: 3/26/2013 Page 113 of 168



463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687
e-mail: awal@awal-labs.com, web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Utah Division of Water Quality
Lab Set ID: 1303562
Project: MP 44.9 Incident

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 032213A	n-Butylbenzene	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	n-Hexane	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	n-Octane	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	n-Propylbenzene	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	o-Xylene	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	Pentachloroethane	µg/L	SW8260C	< 5.00				-				3/22/2013 1857h
MB VOC 032213A	Propionitrile	µg/L	SW8260C	< 25.0				-				3/22/2013 1857h
MB VOC 032213A	Propyl acetate	µg/L	SW8260C	< 10.0				-				3/22/2013 1857h
MB VOC 032213A	sec-Butylbenzene	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	Styrene	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	tert-Butyl alcohol	µg/L	SW8260C	< 20.0				-				3/22/2013 1857h
MB VOC 032213A	tert-Butylbenzene	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	Tetrachloroethene	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	Tetrahydrofuran	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	Toluene	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	trans-1,2-Dichloroethene	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	trans-1,3-Dichloropropene	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	trans-1,4-Dichloro-2-butene	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	Trichloroethene	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	Trichlorofluoromethane	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	Vinyl acetate	µg/L	SW8260C	< 10.0				-				3/22/2013 1857h
MB VOC 032213A	Vinyl chloride	µg/L	SW8260C	< 1.00				-				3/22/2013 1857h
MB VOC 032213A	Xylenes, Total	µg/L	SW8260C	< 2.00				-				3/22/2013 1857h
MB VOC 032213A	Surr: 1,2-Dichloroethane-d4	%REC	SW8260C	54.3	50.00		109	76-138				3/22/2013 1857h
MB VOC 032213A	Surr: 4-Bromofluorobenzene	%REC	SW8260C	54.8	50.00		110	77-121				3/22/2013 1857h
MB VOC 032213A	Surr: Dibromofluoromethane	%REC	SW8260C	52.9	50.00		106	67-128				3/22/2013 1857h
MB VOC 032213A	Surr: Toluene-d8	%REC	SW8260C	51.6	50.00		103	81-135				3/22/2013 1857h

Report Date: 3/26/2013 Page 114 of 168



463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687
e-mail: awal@awal-labs.com, web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Utah Division of Water Quality
Lab Set ID: 1303562
Project: MP 44.9 Incident

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
1303562-001AMS	1,1,1-Trichloroethane	µg/L	SW8260C	25.3	20.00	0	126	67-147				3/22/2013 2148h
1303562-001AMS	1,1-Dichloroethene	µg/L	SW8260C	25.1	20.00	0	126	51-152				3/22/2013 2148h
1303562-001AMS	1,2-Dichlorobenzene	µg/L	SW8260C	21.4	20.00	0	107	70-130				3/22/2013 2148h
1303562-001AMS	1,2-Dichloroethane	µg/L	SW8260C	21.1	20.00	0	106	39-162				3/22/2013 2148h
1303562-001AMS	1,2-Dichloropropane	µg/L	SW8260C	20.0	20.00	0	100	59-135				3/22/2013 2148h
1303562-001AMS	Benzene	µg/L	SW8260C	22.4	20.00	0	112	66-145				3/22/2013 2148h
1303562-001AMS	Chlorobenzene	µg/L	SW8260C	22.8	20.00	0	114	63-140				3/22/2013 2148h
1303562-001AMS	Chloroform	µg/L	SW8260C	22.1	20.00	0	111	50-146				3/22/2013 2148h
1303562-001AMS	Ethylbenzene	µg/L	SW8260C	22.8	20.00	0	114	69-133				3/22/2013 2148h
1303562-001AMS	Isopropylbenzene	µg/L	SW8260C	23.2	20.00	0	116	60-147				3/22/2013 2148h
1303562-001AMS	Methyl tert-butyl ether	µg/L	SW8260C	21.6	20.00	0	108	37-189				3/22/2013 2148h
1303562-001AMS	Methylene chloride	µg/L	SW8260C	21.9	20.00	0	110	30-192				3/22/2013 2148h
1303562-001AMS	Naphthalene	µg/L	SW8260C	19.6	20.00	0	98.0	41-131				3/22/2013 2148h
1303562-001AMS	Tetrahydrofuran	µg/L	SW8260C	21.4	20.00	0	107	43-146				3/22/2013 2148h
1303562-001AMS	Toluene	µg/L	SW8260C	22.8	20.00	0	114	18-192				3/22/2013 2148h
1303562-001AMS	Trichloroethene	µg/L	SW8260C	22.9	20.00	0	115	61-153				3/22/2013 2148h
1303562-001AMS	Xylenes, Total	µg/L	SW8260C	68.7	60.00	0	114	42-167				3/22/2013 2148h
1303562-001AMS	Surr: 1,2-Dichloroethane-d4	%REC	SW8260C	50.1	50.00		100	72-151				3/22/2013 2148h
1303562-001AMS	Surr: 4-Bromofluorobenzene	%REC	SW8260C	51.8	50.00		104	80-128				3/22/2013 2148h
1303562-001AMS	Surr: Dibromofluoromethane	%REC	SW8260C	52.7	50.00		105	80-124				3/22/2013 2148h
1303562-001AMS	Surr: Toluene-d8	%REC	SW8260C	51.6	50.00		103	77-129				3/22/2013 2148h



463 West 3600 South
Salt Lake City, UT 84115

Phone: (801) 263-8686, Toll Free: (888) 263-8686, Fax: (801) 263-8687
e-mail: awal@awal-labs.com, web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Utah Division of Water Quality
Lab Set ID: 1303562
Project: MP 44.9 Incident

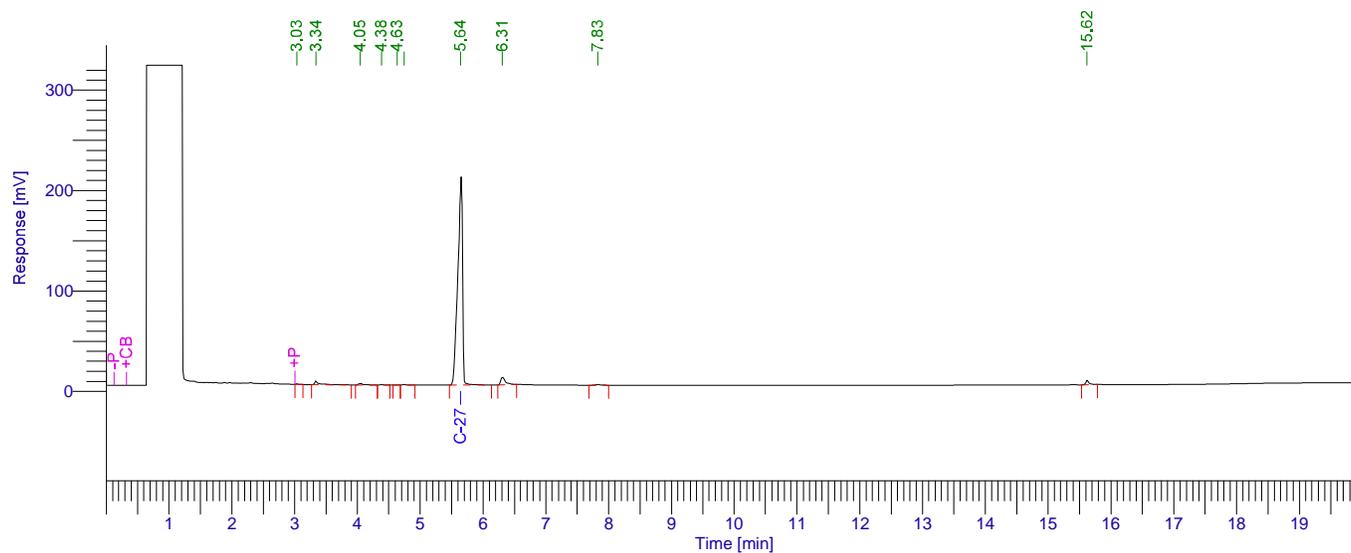
Contact: Chris Bittner
Dept: MSVOA
QC Type: MSD

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	%REC	Limits	%RPD	RPD Limit	Qual	Date Analyzed
1303562-001AMSD	1,1,1-Trichloroethane	µg/L	SW8260C	27.0	20.00	0	135	67-147	6.39	25		3/22/2013 2207h
1303562-001AMSD	1,1-Dichloroethene	µg/L	SW8260C	27.5	20.00	0	138	51-152	9.16	25		3/22/2013 2207h
1303562-001AMSD	1,2-Dichlorobenzene	µg/L	SW8260C	22.5	20.00	0	112	70-130	5.07	25		3/22/2013 2207h
1303562-001AMSD	1,2-Dichloroethane	µg/L	SW8260C	22.5	20.00	0	113	39-162	6.47	25		3/22/2013 2207h
1303562-001AMSD	1,2-Dichloropropane	µg/L	SW8260C	21.0	20.00	0	105	59-135	4.97	25		3/22/2013 2207h
1303562-001AMSD	Benzene	µg/L	SW8260C	23.5	20.00	0	118	66-145	4.61	25		3/22/2013 2207h
1303562-001AMSD	Chlorobenzene	µg/L	SW8260C	24.0	20.00	0	120	63-140	4.96	25		3/22/2013 2207h
1303562-001AMSD	Chloroform	µg/L	SW8260C	23.5	20.00	0	118	50-146	6.13	25		3/22/2013 2207h
1303562-001AMSD	Ethylbenzene	µg/L	SW8260C	24.3	20.00	0	122	69-133	6.49	25		3/22/2013 2207h
1303562-001AMSD	Isopropylbenzene	µg/L	SW8260C	24.7	20.00	0	124	60-147	6.13	25		3/22/2013 2207h
1303562-001AMSD	Methyl tert-butyl ether	µg/L	SW8260C	22.5	20.00	0	113	37-189	4.31	25		3/22/2013 2207h
1303562-001AMSD	Methylene chloride	µg/L	SW8260C	23.1	20.00	0	115	30-192	5.07	25		3/22/2013 2207h
1303562-001AMSD	Naphthalene	µg/L	SW8260C	20.7	20.00	0	103	41-131	5.41	25		3/22/2013 2207h
1303562-001AMSD	Tetrahydrofuran	µg/L	SW8260C	22.6	20.00	0	113	43-146	5	25		3/22/2013 2207h
1303562-001AMSD	Toluene	µg/L	SW8260C	24.0	20.00	0	120	18-192	5.16	25		3/22/2013 2207h
1303562-001AMSD	Trichloroethene	µg/L	SW8260C	24.5	20.00	0	123	61-153	6.62	25		3/22/2013 2207h
1303562-001AMSD	Xylenes, Total	µg/L	SW8260C	73.2	60.00	0	122	42-167	6.4	25		3/22/2013 2207h
1303562-001AMSD	Surr: 1,2-Dichloroethane-d4	%REC	SW8260C	51.2	50.00		102	72-151				3/22/2013 2207h
1303562-001AMSD	Surr: 4-Bromofluorobenzene	%REC	SW8260C	52.2	50.00		104	80-128				3/22/2013 2207h
1303562-001AMSD	Surr: Dibromofluoromethane	%REC	SW8260C	52.8	50.00		106	80-124				3/22/2013 2207h
1303562-001AMSD	Surr: Toluene-d8	%REC	SW8260C	52.2	50.00		104	77-129				3/22/2013 2207h

Software Version : 6.3.1.0504
 Sample Name : 1303562-001D
 Instrument Name : 900 interface
 Rack/Vial : 0/0
 Sample Amount : 1.000000
 Cycle : 15

Date : 3/25/2013 2:52:48 PM
 Data Acquisition Time : 3/24/2013 9:54:59 PM
 Channel : B
 Operator : awaluser
 Dilution Factor : 1.000000

Result File : C:\gc#2\ORO\0324g015.rst
 Sequence File : C:\sequences\0324-ORO.seq



ORO Analysis (FID)

capillary column gas chromatography
 instrument: GC#2 HP5890 Series II Plus
 column: Zebron ZB-5HT
 column dimensions: 30m X 0.53mm X 0.15 μ m
 carrier gas: Helium
 oven temp prgrm: 180C/0min @ 30C/min to 220C/0.00min
 20C/min to 360 hold 1.67
 injection temp: 340C detector temp: 360C Range: 2 injection amount: 5 μ L

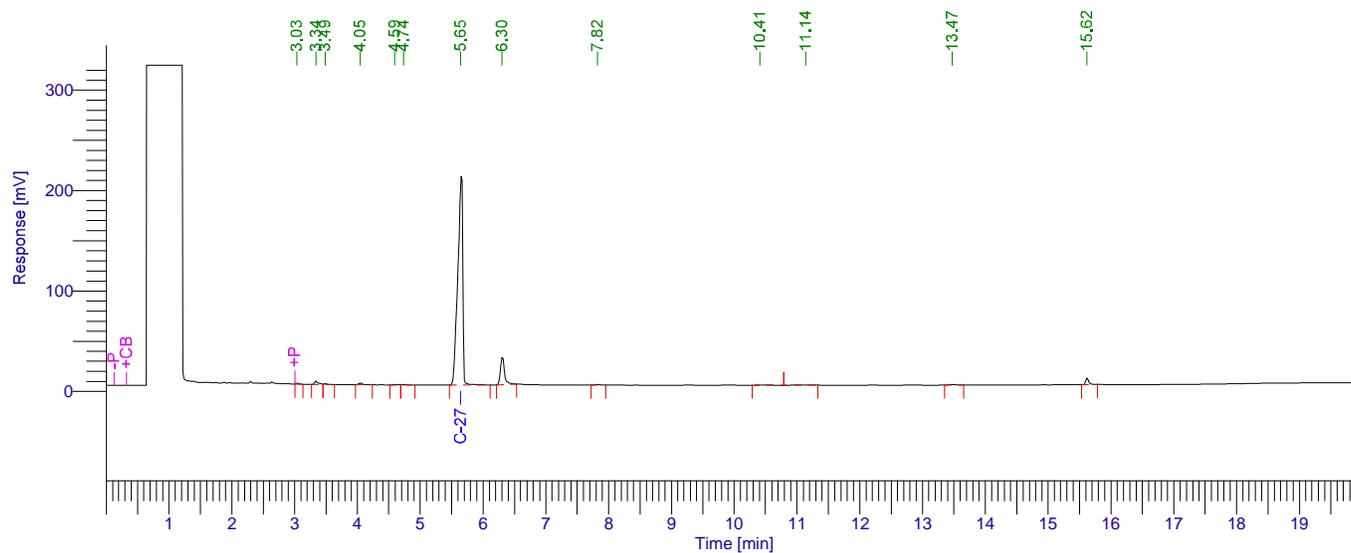
time [min]	component name	height [μ V]	area [μ V·s]	raw amt μ g/mL	target μ g/mL	% recs
5.644	C-27	211944	1081650	1.07e+02	100.00	107.5
11.311	ORO	4526	19029	7.37529	100.00	7.4 < PQL
						114.8

Report stored in ASCII file: C:\gc#2\ORO\0324g015.TX0

Software Version : 6.3.1.0504
 Sample Name : 1303532-002D
 Instrument Name : 900 interface
 Rack/Vial : 0/0
 Sample Amount : 1.000000
 Cycle : 16

Date : 3/25/2013 2:53:42 PM
 Data Acquisition Time : 3/24/2013 10:18:44 PM
 Channel : B
 Operator : awaluser
 Dilution Factor : 1.000000

Result File : C:\gc#2\ORO\0324g016.rst
 Sequence File : C:\sequences\0324-ORO.seq



ORO Analysis (FID)

capillary column gas chromatography
 instrument: GC#2 HP5890 Series II Plus
 column: Zebron ZB-5HT
 column dimensions: 30m X 0.53mm X 0.15µm
 carrier gas: Helium
 oven temp prgrm: 180C/0min @ 30C/min to 220C/0.00min
 20C/min to 360 hold 1.67
 injection temp: 340C detector temp: 360C Range: 2 injection amount: 5µL

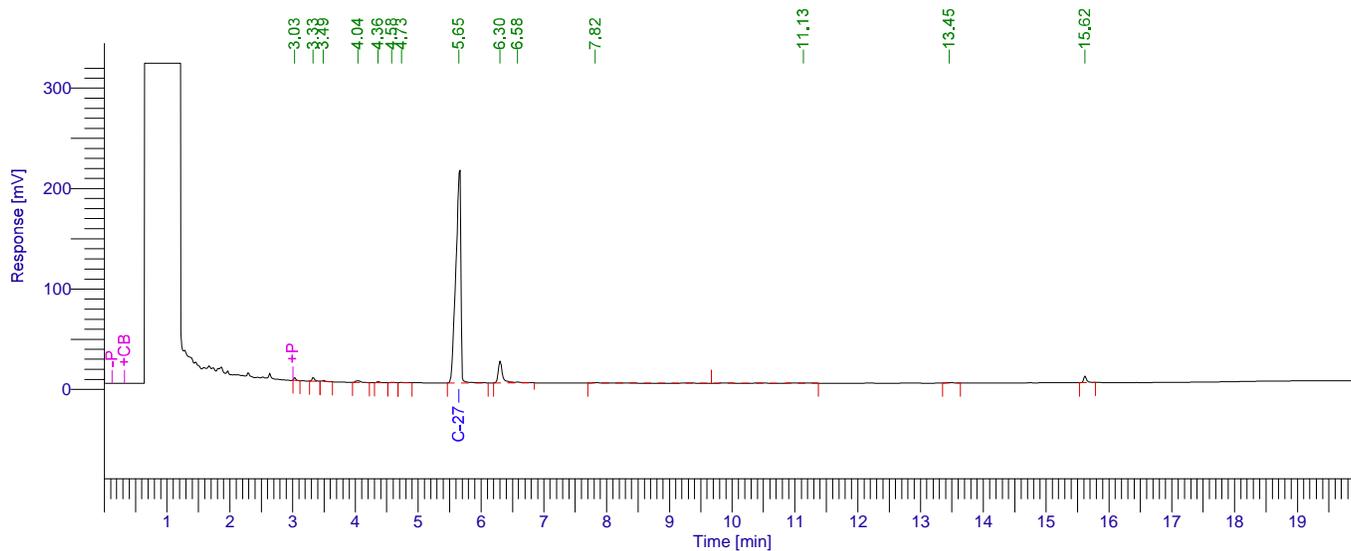
time [min]	component name	height [µV]	area [µV·s]	raw amt µg/mL	target µg/mL	% recs
5.645	C-27	217876	1136589	1.13e+02	100.00	112.7
11.311	ORO	7447	32630	8.67055	100.00	8.7 <PQL
						121.4

Report stored in ASCII file: C:\gc#2\ORO\0324g016.TX0

Software Version : 6.3.1.0504
 Sample Name : 1303562-003D
 Instrument Name : 900 interface
 Rack/Vial : 0/0
 Sample Amount : 1.000000
 Cycle : 17

Date : 3/25/2013 2:54:10 PM
 Data Acquisition Time : 3/24/2013 10:42:29 PM
 Channel : B
 Operator : awaluser
 Dilution Factor : 1.000000

Result File : C:\gc#2\ORO\0324g017.rst
 Sequence File : C:\sequences\0324-ORO.seq



ORO Analysis (FID)

capillary column gas chromatography
 instrument: GC#2 HP5890 Series II Plus
 column: Zebron ZB-5HT
 column dimensions: 30m X 0.53mm X 0.15µm
 carrier gas: Helium
 oven temp prgrm: 180C/0min @ 30C/min to 220C/0.00min
 20C/min to 360 hold 1.67
 injection temp: 340C detector temp: 360C Range: 2 injection amount: 5µL

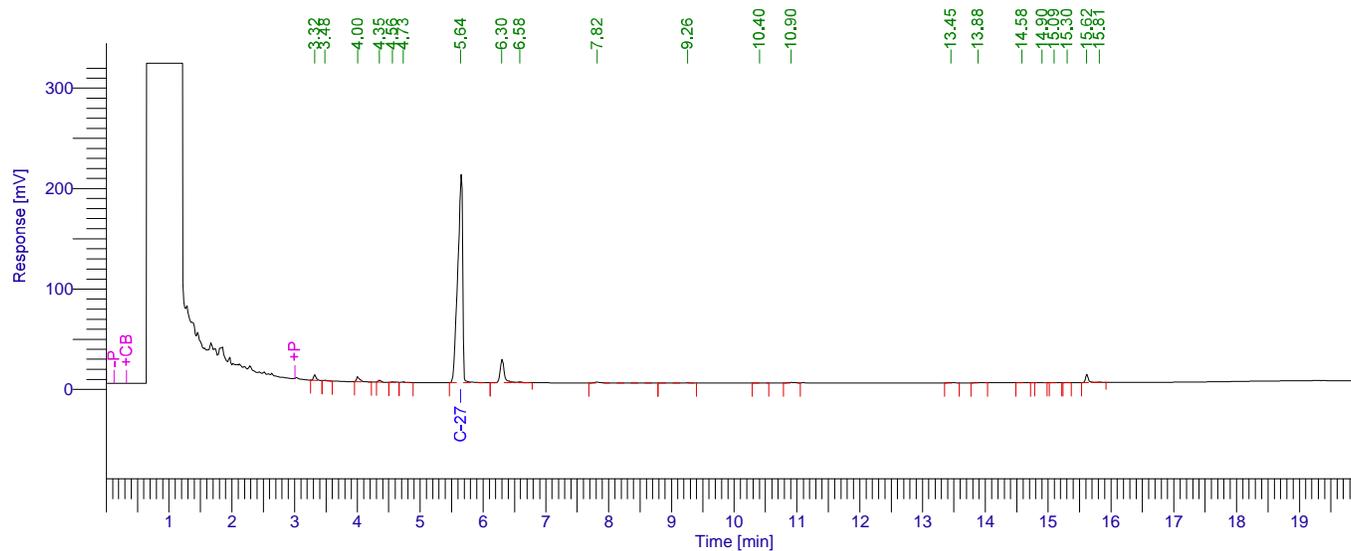
time [min]	component name	height [µV]	area [µV·s]	raw amt µg/mL	target µg/mL	% recs
5.649	C-27	207131	1163520	1.15e+02	100.00	115.3
11.311	ORO	8267	40695	9.43848	100.00	9.4 <PQL
						124.8

Report stored in ASCII file: C:\gc#2\ORO\0324g017.TX0

Software Version : 6.3.1.0504
 Sample Name : 1303562-004D
 Instrument Name : 900 interface
 Rack/Vial : 0/0
 Sample Amount : 1.000000
 Cycle : 18

Date : 3/25/2013 2:55:21 PM
 Data Acquisition Time : 3/24/2013 11:06:10 PM
 Channel : B
 Operator : awaluser
 Dilution Factor : 1.000000

Result File : C:\gc#2\ORO\0324g018.rst
 Sequence File : C:\sequences\0324-ORO.seq



ORO Analysis (FID)

capillary column gas chromatography
 instrument: GC#2 HP5890 Series II Plus
 column: Zebron ZB-5HT
 column dimensions: 30m X 0.53mm X 0.15µm
 carrier gas: Helium
 oven temp prgm: 180C/0min @ 30C/min to 220C/0.00min
 20C/min to 360 hold 1.67
 injection temp: 340C detector temp: 360C Range: 2 injection amount: 5µL

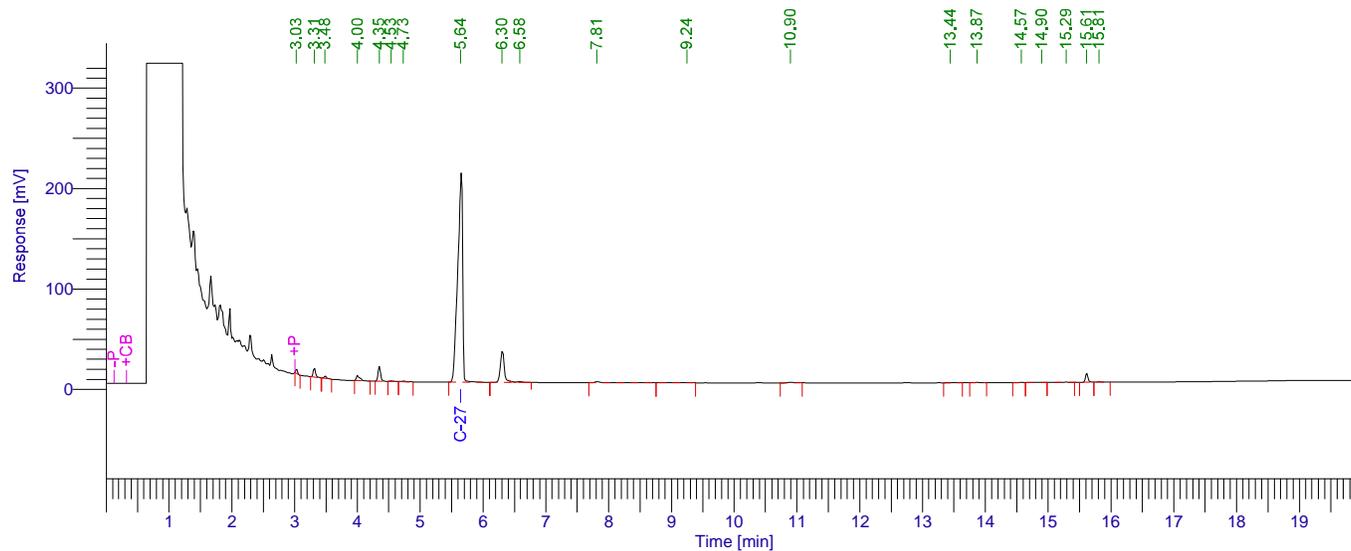
time [min]	component name	height [µV]	area [µV·s]	raw amt µg/mL	target µg/mL	% recs
5.644	C-27	215368	1126892	1.12e+02	100.00	111.8
11.311	ORO	11631	53400	10.64804	100.00	10.6<PQL
						122.5

Report stored in ASCII file: C:\gc#2\ORO\0324g018.TX0

Software Version : 6.3.1.0504
 Sample Name : 1303562-005D
 Instrument Name : 900 interface
 Rack/Vial : 0/0
 Sample Amount : 1.000000
 Cycle : 19

Date : 3/25/2013 2:55:40 PM
 Data Acquisition Time : 3/24/2013 11:29:55 PM
 Channel : B
 Operator : awaluser
 Dilution Factor : 1.000000

Result File : C:\gc#2\ORO\0324g019.rst
 Sequence File : C:\sequences\0324-ORO.seq



ORO Analysis (FID)

capillary column gas chromatography
 instrument: GC#2 HP5890 Series II Plus
 column: Zebron ZB-5HT
 column dimensions: 30m X 0.53mm X 0.15µm
 carrier gas: Helium
 oven temp prgm: 180C/0min @ 30C/min to 220C/0.00min
 20C/min to 360 hold 1.67
 injection temp: 340C detector temp: 360C Range: 2 injection amount: 5µL

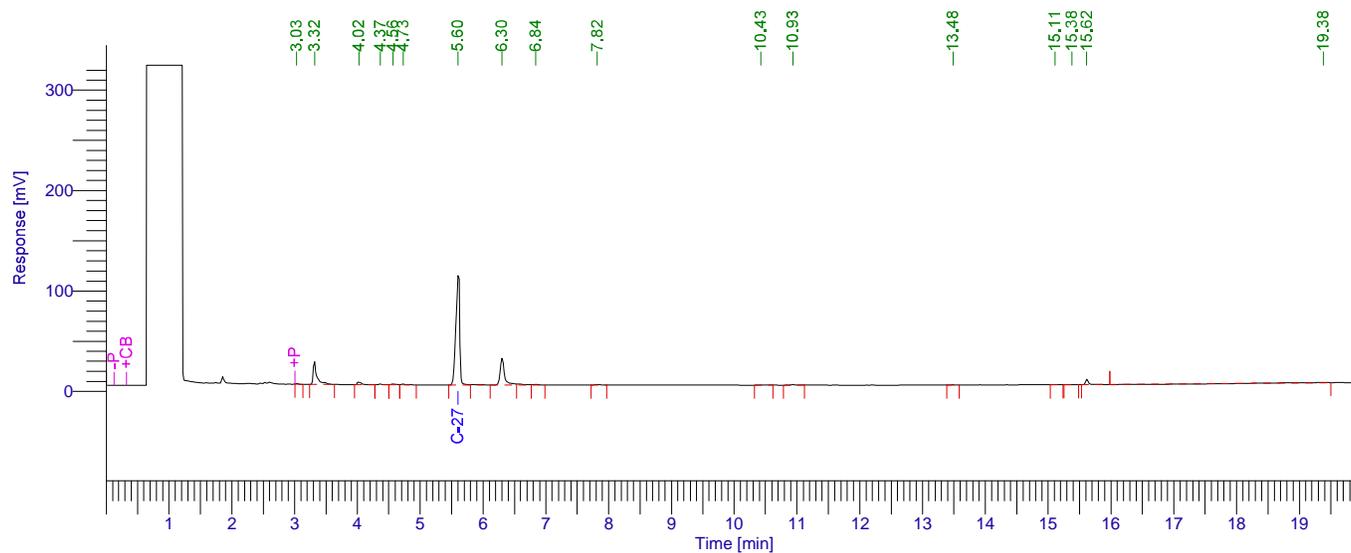
time [min]	component name	height [µV]	area [µV·s]	raw amt µg/mL	target µg/mL	% recs
5.644	C-27	215511	1124186	1.12e+02	100.00	111.5
11.311	ORO	12408	57540	11.04214	100.00	11.0<PQL
						122.6

Report stored in ASCII file: C:\gc#2\ORO\0324g019.TX0

Software Version : 6.3.1.0504
 Sample Name : 1303562-006D
 Instrument Name : 900 interface
 Rack/Vial : 0/0
 Sample Amount : 1.000000
 Cycle : 20

Date : 3/25/2013 2:56:03 PM
 Data Acquisition Time : 3/24/2013 11:53:41 PM
 Channel : B
 Operator : awaluser
 Dilution Factor : 1.000000

Result File : C:\gc#2\ORO\0324g020.rst
 Sequence File : C:\sequences\0324-ORO.seq



ORO Analysis (FID)

capillary column gas chromatography
 instrument: GC#2 HP5890 Series II Plus
 column: Zebtron ZB-5HT
 column dimensions: 30m X 0.53mm X 0.15µm
 carrier gas: Helium
 oven temp prgrm: 180C/0min @ 30C/min to 220C/0.00min
 20C/min to 360 hold 1.67
 injection temp: 340C detector temp: 360C Range: 2 injection amount: 5µL

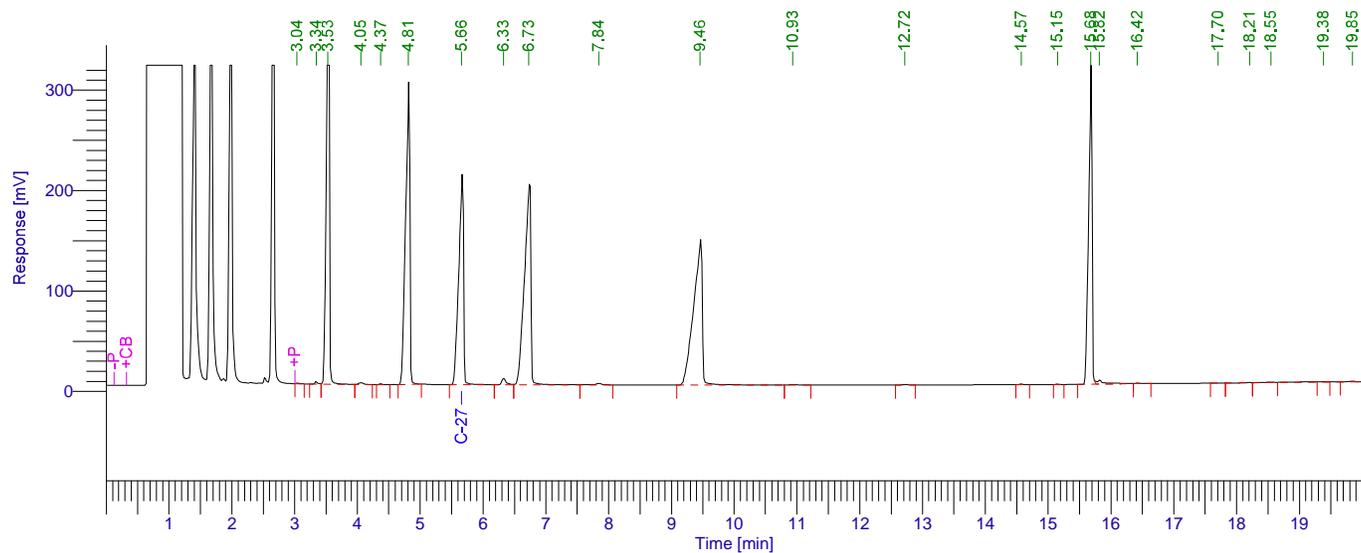
time [min]	component name	height [µV]	area [µV-s]	raw amt µg/mL	target µg/mL	% recs
5.599	C-27	110215	468659	48.43506	100.00	48.4
11.311	ORO	6694	29734	8.39480	100.00	8.4 <PQL
						56.8

Report stored in ASCII file: C:\gc#2\ORO\0324g020.TX0

Software Version : 6.3.1.0504
 Sample Name : LCS-24323
 Instrument Name : 900 interface
 Rack/Vial : 0/0
 Sample Amount : 1.000000
 Cycle : 4

Date : 3/25/2013 2:48:07 PM
 Data Acquisition Time : 3/24/2013 5:33:30 PM
 Channel : B
 Operator : awaluser
 Dilution Factor : 1.000000

Result File : C:\gc#2\ORO\0324g004.rst
 Sequence File : C:\sequences\0324-ORO.seq



ORO Analysis (FID)

capillary column gas chromatography
 instrument: GC#2 HP5890 Series II Plus
 column: Zebtron ZB-5HT
 column dimensions: 30m X 0.53mm X 0.15 μ m
 carrier gas: Helium
 oven temp prgm: 180C/0min @ 30C/min to 220C/0.00min
 20C/min to 360 hold 1.67
 injection temp: 340C detector temp: 360C Range: 2 injection amount: 5 μ L

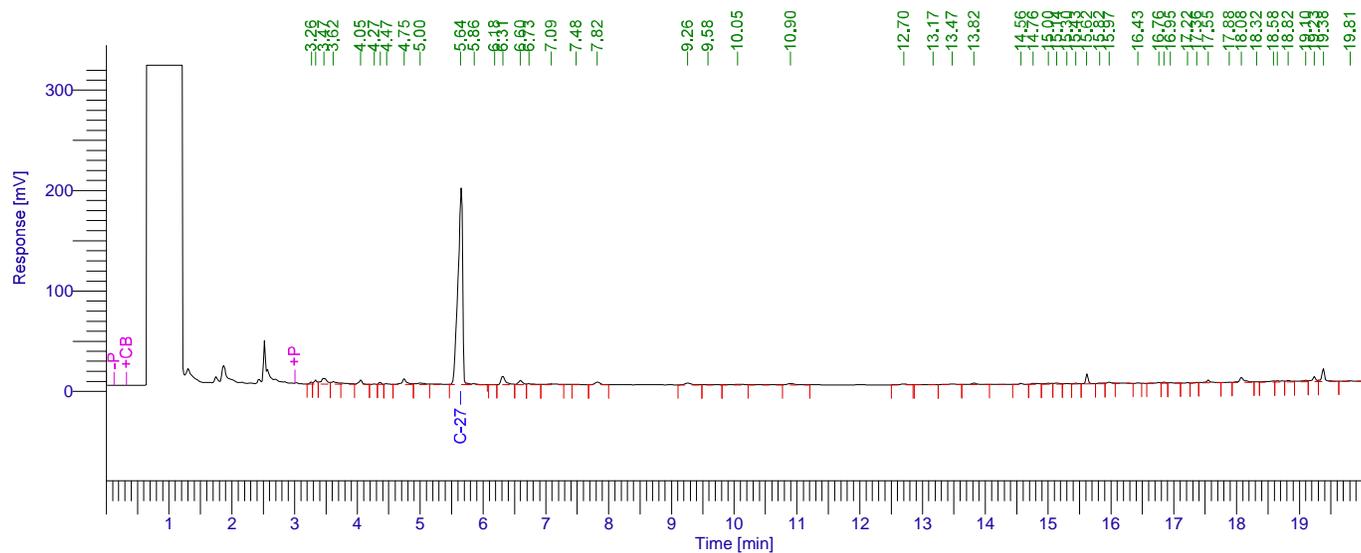
time [min]	component name	height [μ V]	area [μ V·s]	raw amt μ g/mL	target μ g/mL	% recs
5.660	C-27	213465	1107662	1.10e+02	100.00	110.0
11.311	ORO	689235	4190494	3.95e+02	100.00	394.6
						504.6

Report stored in ASCII file: C:\gc#2\ORO\0324g004.TX0

Software Version : 6.3.1.0504
 Sample Name : MB-24323
 Instrument Name : 900 interface
 Rack/Vial : 0/0
 Sample Amount : 1.000000
 Cycle : 3

Date : 3/25/2013 2:47:32 PM
 Data Acquisition Time : 3/24/2013 5:09:44 PM
 Channel : B
 Operator : awaluser
 Dilution Factor : 1.000000

Result File : C:\gc#2\ORO\0324g003.rst
 Sequence File : C:\sequences\0324-ORO.seq



ORO Analysis (FID)

capillary column gas chromatography
 instrument: GC#2 HP5890 Series II Plus
 column: Zebtron ZB-5HT
 column dimensions: 30m X 0.53mm X 0.15µm
 carrier gas: Helium
 oven temp prgm: 180C/0min @ 30C/min to 220C/0.00min
 20C/min to 360 hold 1.67
 injection temp: 340C detector temp: 360C Range: 2 injection amount: 5µL

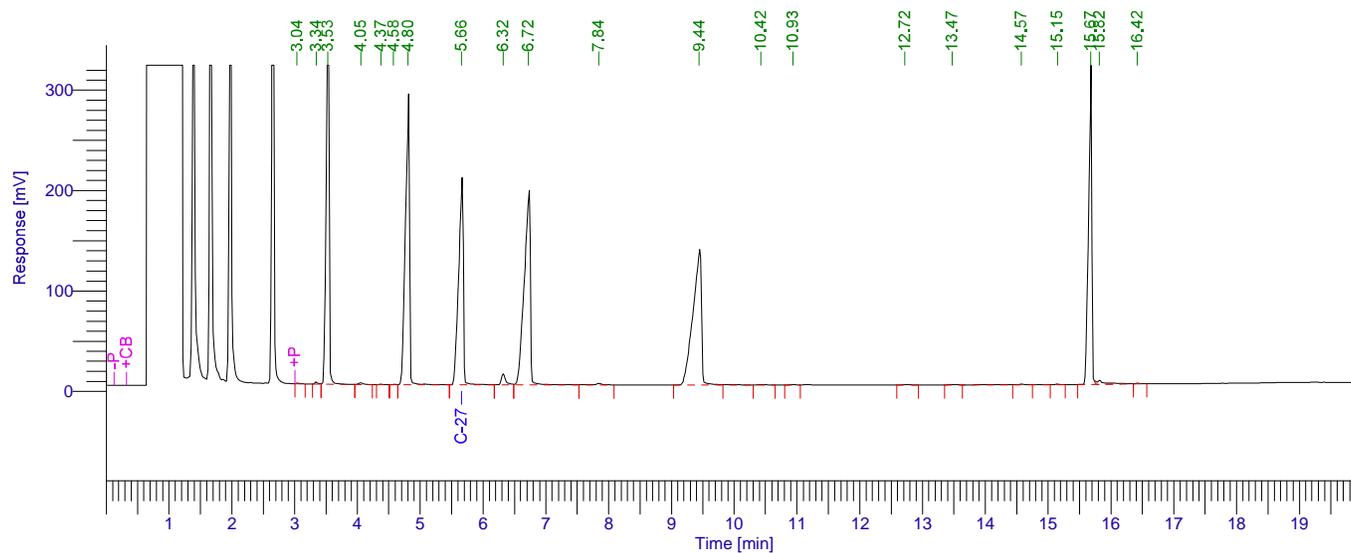
time [min]	component name	height [µV]	area [µV·s]	raw amt µg/mL	target µg/mL	% recs
5.645	C-27	201355	1005165	1.00e+02	100.00	100.1
11.311	ORO	33394	210595	25.59564	100.00	25.6 <PQL
						125.7

Report stored in ASCII file: C:\gc#2\ORO\0324g003.TX0

Software Version : 6.3.1.0504
 Sample Name : 1303513-002DMS
 Instrument Name : 900 interface
 Rack/Vial : 0/0
 Sample Amount : 1.000000
 Cycle : 7

Date : 3/25/2013 2:49:32 PM
 Data Acquisition Time : 3/24/2013 6:44:49 PM
 Channel : B
 Operator : awaluser
 Dilution Factor : 1.000000

Result File : C:\gc#2\ORO\0324g007.rst
 Sequence File : C:\sequences\0324-ORO.seq



ORO Analysis (FID)

capillary column gas chromatography
 instrument: GC#2 HP5890 Series II Plus
 column: Zebron ZB-5HT
 column dimensions: 30m X 0.53mm X 0.15 μ m
 carrier gas: Helium
 oven temp prgm: 180C/0min @ 30C/min to 220C/0.00min
 20C/min to 360 hold 1.67
 injection temp: 340C detector temp: 360C Range: 2 injection amount: 5 μ L

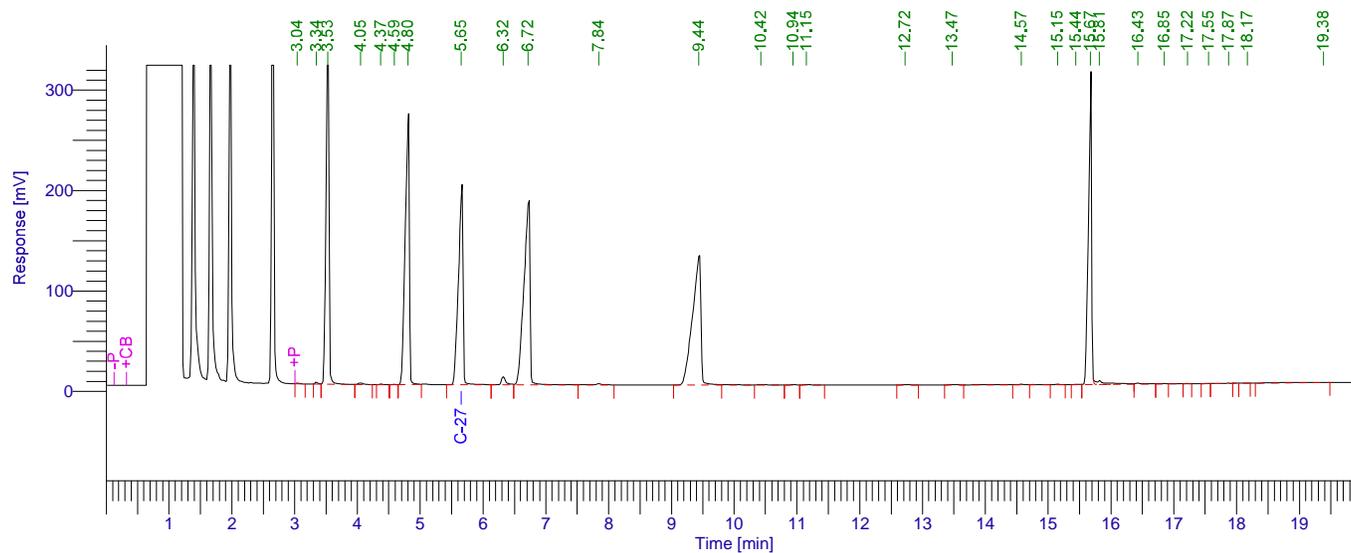
time [min]	component name	height [μ V]	area [μ V·s]	raw amt μ g/mL	target μ g/mL	% recs
5.657	C-27	204517	1060442	1.05e+02	100.00	105.4
11.311	ORO	641829	3863400	3.65e+02	100.00	364.9
						470.3

Report stored in ASCII file: C:\gc#2\ORO\0324g007.TX0

Software Version : 6.3.1.0504
 Sample Name : 1303513-002DMSD
 Instrument Name : 900 interface
 Rack/Vial : 0/0
 Sample Amount : 1.000000
 Cycle : 8

Date : 3/25/2013 2:50:04 PM
 Data Acquisition Time : 3/24/2013 7:08:32 PM
 Channel : B
 Operator : awaluser
 Dilution Factor : 1.000000

Result File : C:\gc#2\ORO\0324g008.rst
 Sequence File : C:\sequences\0324-ORO.seq



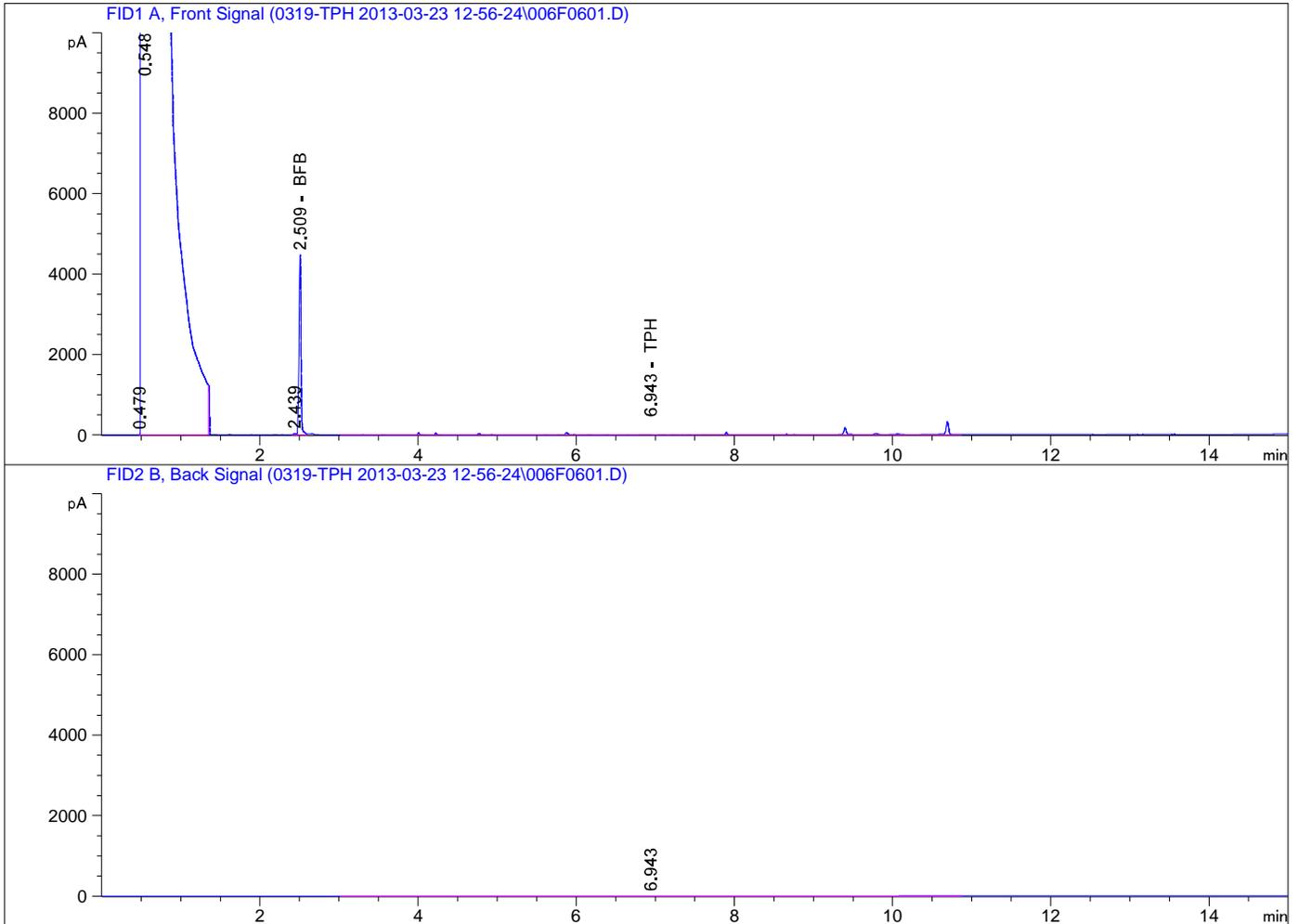
ORO Analysis (FID)

capillary column gas chromatography
 instrument: GC#2 HP5890 Series II Plus
 column: Zebron ZB-5HT
 column dimensions: 30m X 0.53mm X 0.15 μ m
 carrier gas: Helium
 oven temp prgm: 180C/0min @ 30C/min to 220C/0.00min
 20C/min to 360 hold 1.67
 injection temp: 340C detector temp: 360C Range: 2 injection amount: 5 μ L

time [min]	component name	height [μ V]	area [μ V·s]	raw amt μ g/mL	target μ g/mL	% recs
5.653	C-27	191486	1002084	99.83613	100.00	99.8
11.311	ORO	599209	3658819	3.46e+02	100.00	346.2
						446.1

Report stored in ASCII file: C:\gc#2\ORO\0324g008.TX0

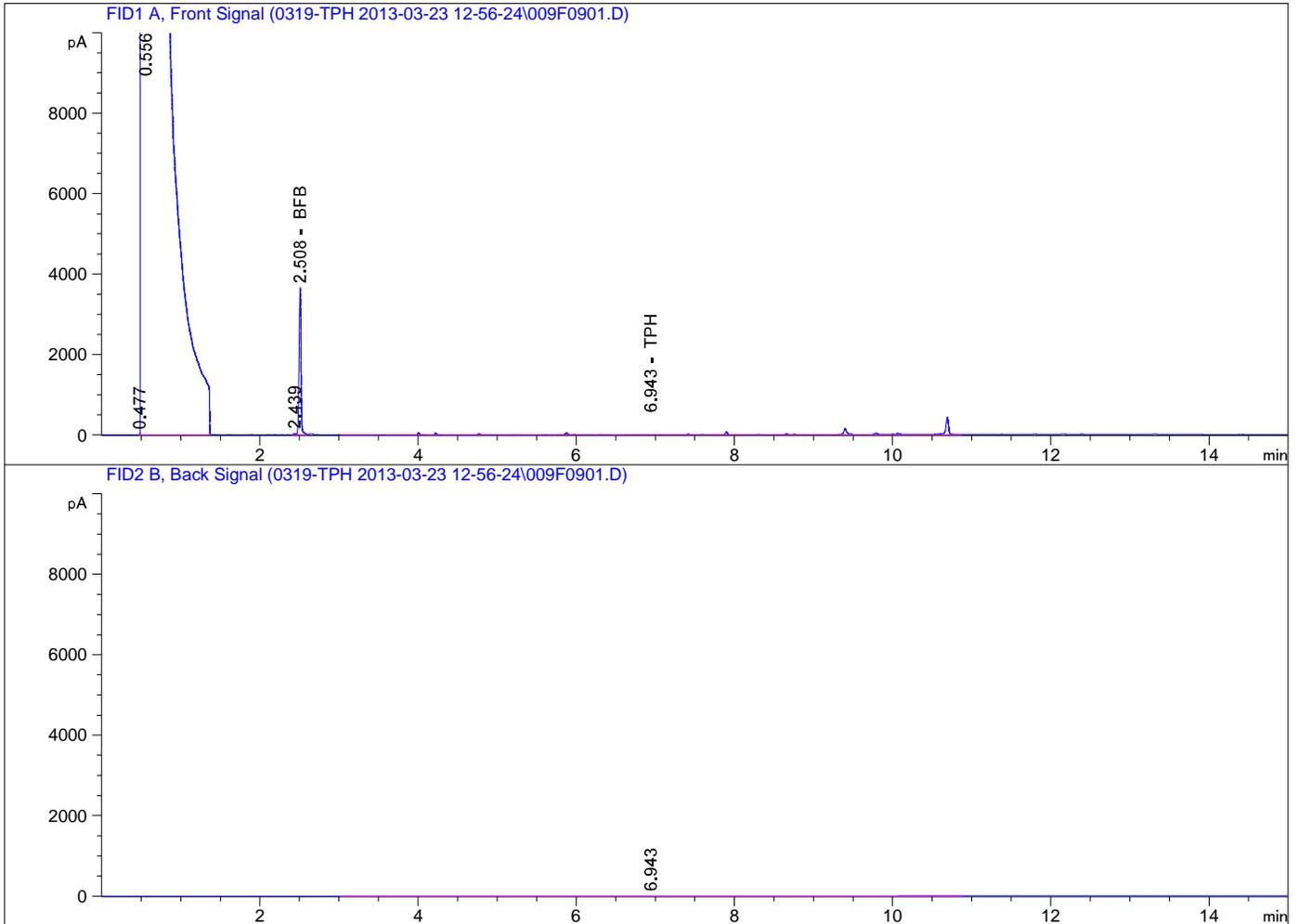
=====
Acq. Operator : Seq. Line : 6
Acq. Instrument : GC C Location : Vial 6
Injection Date : 3/23/2013 2:34:15 PM Inj : 1
Inj Volume : 5 µl
Acq. Method : C:\CHEM32\1\DATA\0319-TPH 2013-03-23 12-56-24\TPH-FRONT-1090171B.M
Last changed : 3/14/2013 1:57:38 PM
Analysis Method : C:\CHEM32\1\DATA\0319-TPH 2013-03-23 12-56-24\TPH-FRONT-1090171B.M (Sequence Method)
Last changed : 3/24/2013 9:10:14 AM
=====



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

Sorted By : Signal
Calib. Data Modified : 3/23/2013 9:21:39 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

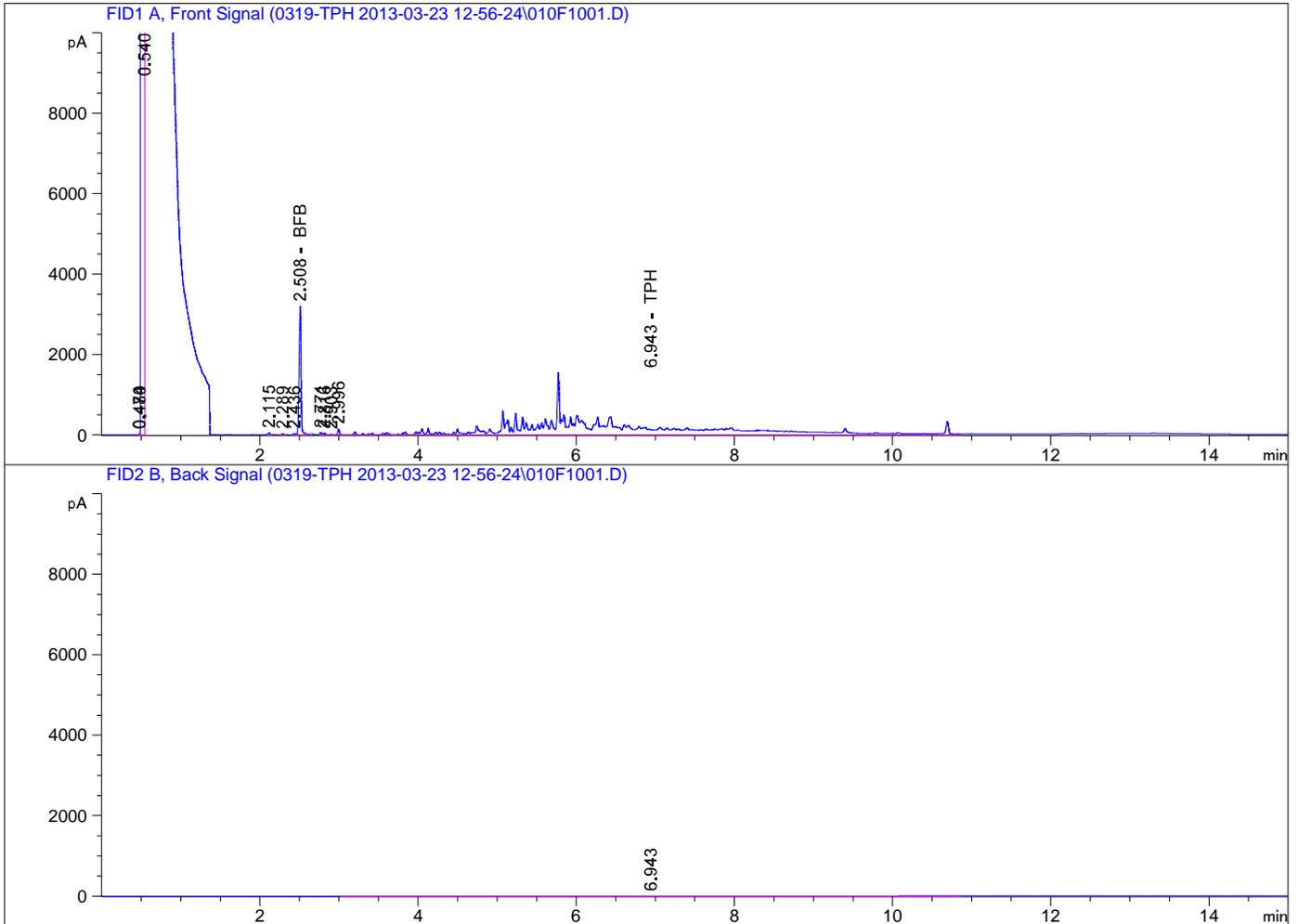
=====
Acq. Operator : Seq. Line : 9
Acq. Instrument : GC C Location : Vial 9
Injection Date : 3/23/2013 3:31:40 PM Inj : 1
Inj Volume : 5 µl
Acq. Method : C:\CHEM32\1\DATA\0319-TPH 2013-03-23 12-56-24\TPH-FRONT-1090171B.M
Last changed : 3/14/2013 1:57:38 PM
Analysis Method : C:\CHEM32\1\DATA\0319-TPH 2013-03-23 12-56-24\TPH-FRONT-1090171B.M (Sequence Method)
Last changed : 3/24/2013 9:10:14 AM
=====



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

Sorted By : Signal
Calib. Data Modified : 3/23/2013 9:21:39 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

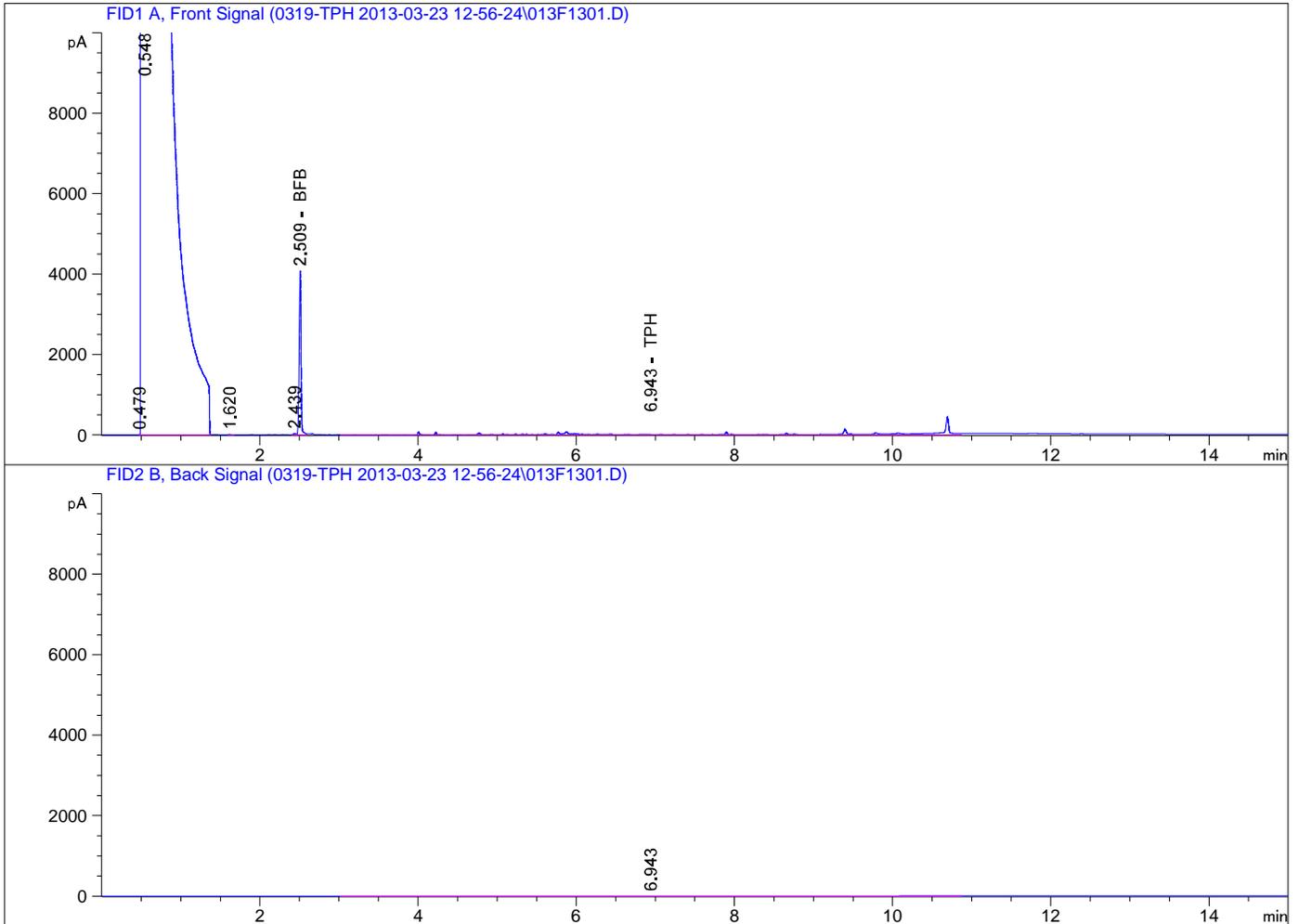
=====
Acq. Operator : Seq. Line : 10
Acq. Instrument : GC C Location : Vial 10
Injection Date : 3/23/2013 3:50:47 PM Inj : 1
Inj Volume : 5 µl
Acq. Method : C:\CHEM32\1\DATA\0319-TPH 2013-03-23 12-56-24\TPH-FRONT-1090171B.M
Last changed : 3/14/2013 1:57:38 PM
Analysis Method : C:\CHEM32\1\DATA\0319-TPH 2013-03-23 12-56-24\TPH-FRONT-1090171B.M (Sequence Method)
Last changed : 3/24/2013 9:10:14 AM
=====



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

Sorted By : Signal
Calib. Data Modified : 3/23/2013 9:21:39 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

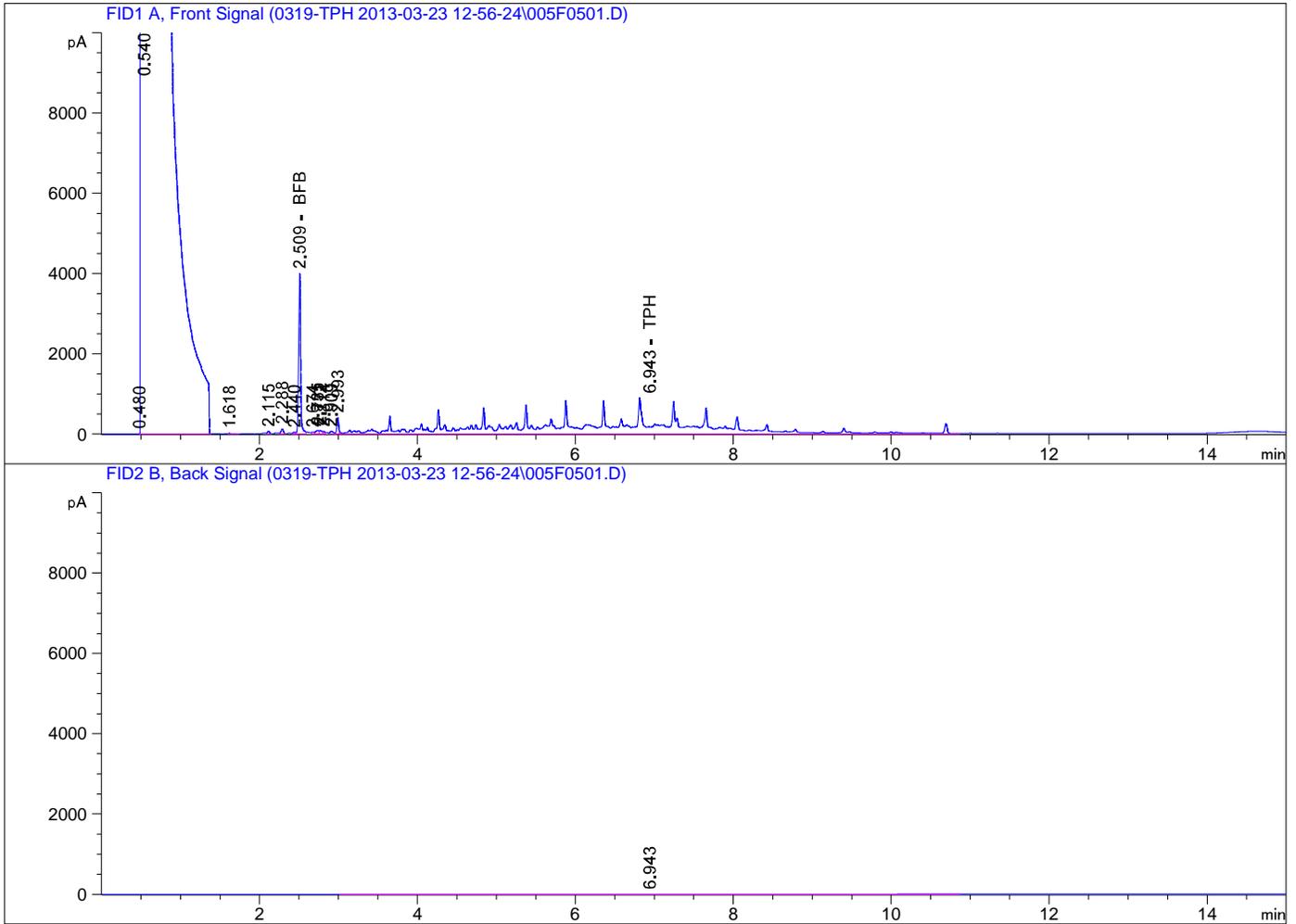
=====
Acq. Operator : Seq. Line : 13
Acq. Instrument : GC C Location : Vial 13
Injection Date : 3/23/2013 4:48:15 PM Inj : 1
Inj Volume : 5 µl
Acq. Method : C:\CHEM32\1\DATA\0319-TPH 2013-03-23 12-56-24\TPH-FRONT-1090171B.M
Last changed : 3/14/2013 1:57:38 PM
Analysis Method : C:\CHEM32\1\DATA\0319-TPH 2013-03-23 12-56-24\TPH-FRONT-1090171B.M (Sequence Method)
Last changed : 3/24/2013 9:10:14 AM
=====



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

Sorted By : Signal
Calib. Data Modified : 3/23/2013 9:21:39 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

=====
Acq. Operator : Seq. Line : 5
Acq. Instrument : GC C Location : Vial 5
Injection Date : 3/23/2013 2:15:06 PM Inj : 1
Inj Volume : 5 µl
Acq. Method : C:\CHEM32\1\DATA\0319-TPH 2013-03-23 12-56-24\TPH-FRONT-1090171B.M
Last changed : 3/14/2013 1:57:38 PM
Analysis Method : C:\CHEM32\1\DATA\0319-TPH 2013-03-23 12-56-24\TPH-FRONT-1090171B.M (Sequence Method)
Last changed : 3/24/2013 9:10:14 AM
=====



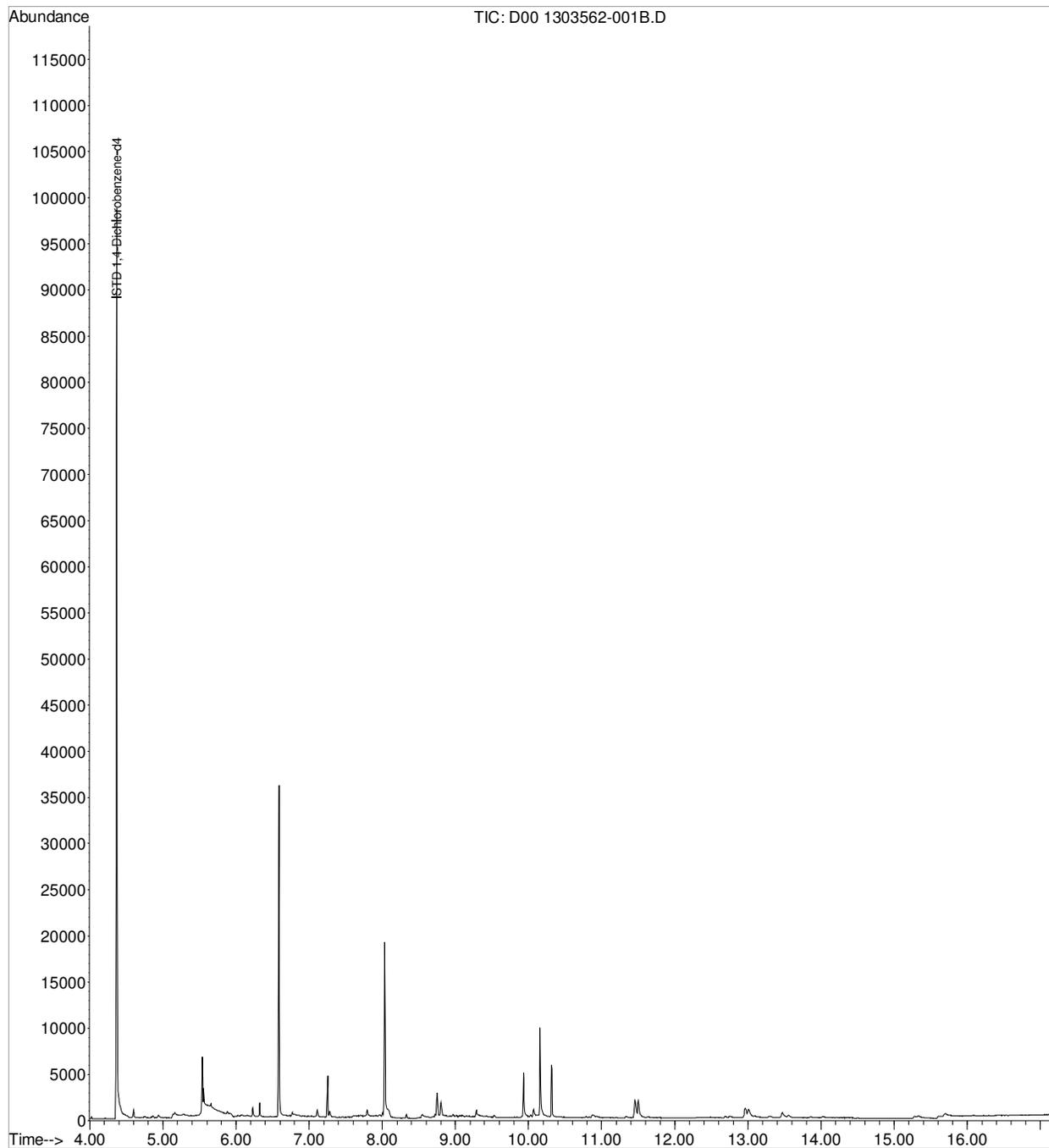
=====
External Standard Report
=====

Sorted By : Signal
Calib. Data Modified : 3/23/2013 9:21:39 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Quantitation Report (QT Reviewed)

Data Path : Z:\MSDCHEM\1\DATA\MAR 13\24MAR13-A\
Data File : D00 1303562-001B.D
Acq On : 25 Mar 2013 8:08 am
Operator : ALICIA HABERLE
Sample : 1303562-001B
Misc : SAMP
ALS Vial : 22 Sample Multiplier: 1

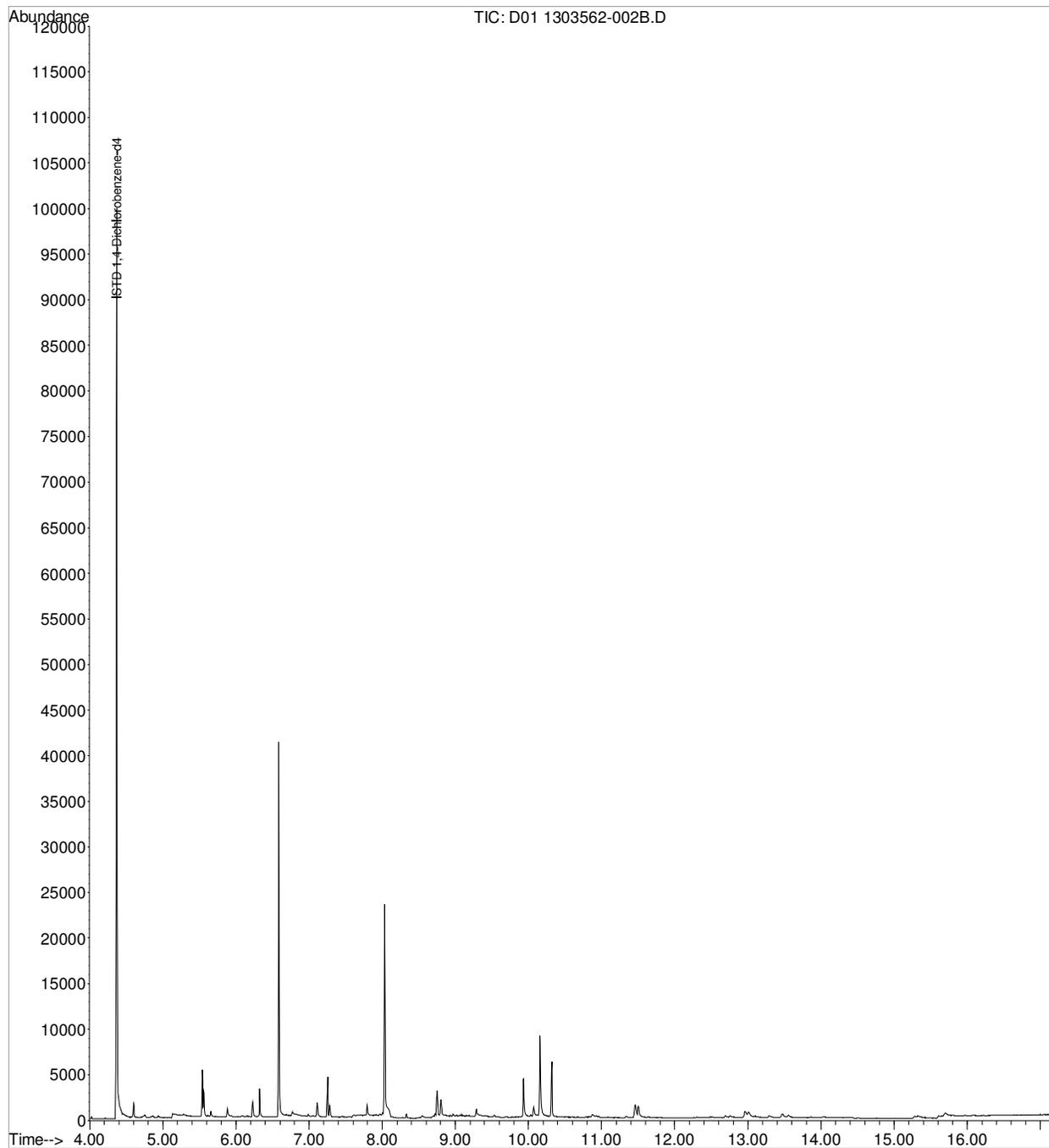
Quant Time: Mar 25 15:26:25 2013
Quant Method : C:\MSDCHEM\1\METHODS\PAH GWM QUANT SIM 03-20-2013.M
Quant Title : Semi-Volatile Compounds HP-GCMS 5973-B
QLast Update : Wed Mar 20 20:40:07 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : Z:\MSDCHEM\1\DATA\MAR 13\24MAR13-A\
Data File : D01 1303562-002B.D
Acq On : 25 Mar 2013 8:34 am
Operator : ALICIA HABERLE
Sample : 1303562-002B
Misc : SAMP
ALS Vial : 23 Sample Multiplier: 1

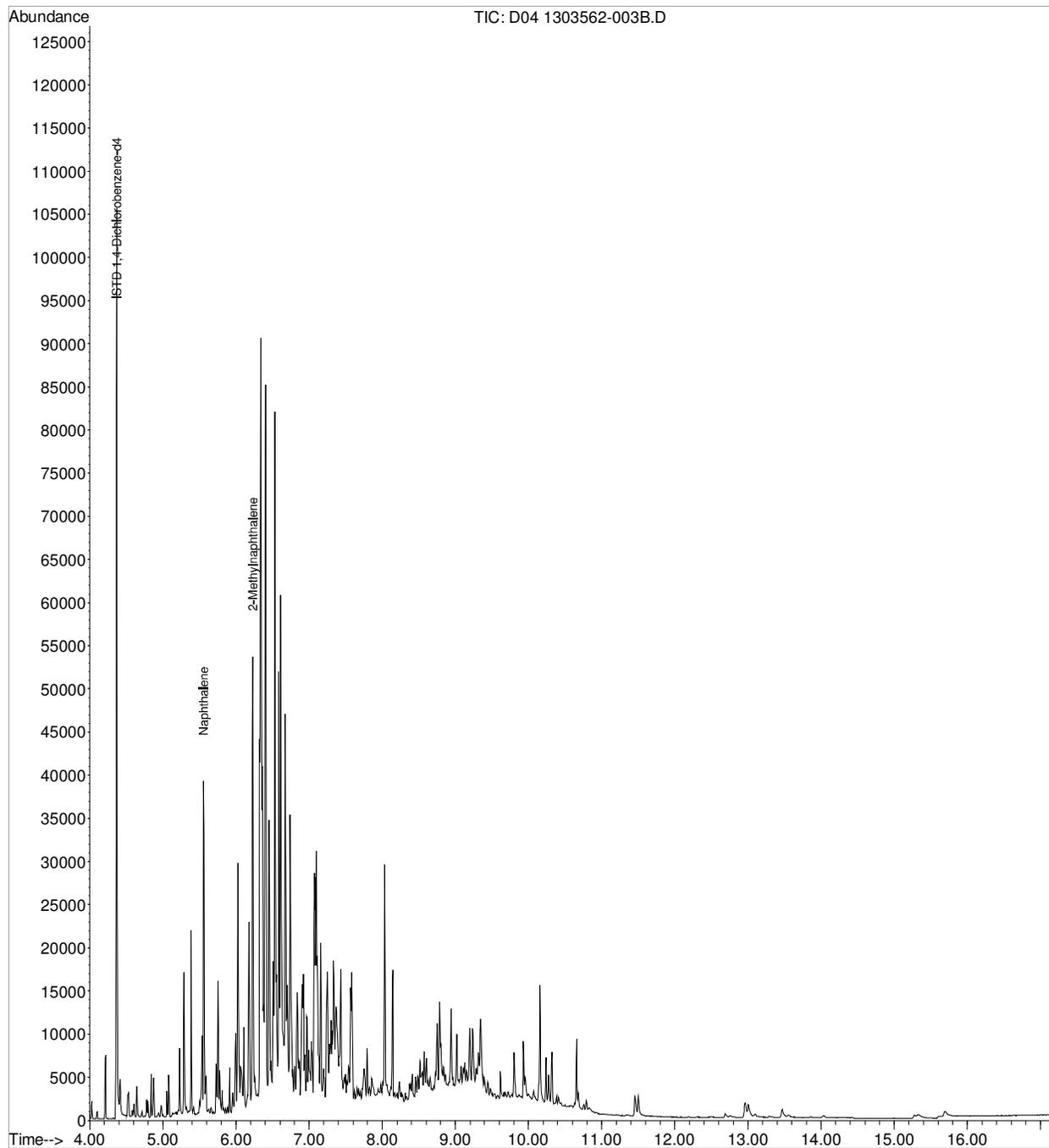
Quant Time: Mar 25 15:27:04 2013
Quant Method : C:\MSDCHEM\1\METHODS\PAH GWM QUANT SIM 03-20-2013.M
Quant Title : Semi-Volatile Compounds HP-GCMS 5973-B
QLast Update : Wed Mar 20 20:40:07 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : Z:\MSDCHEM\1\DATA\MAR 13\24MAR13-A\
Data File : D04 1303562-003B.D
Acq On : 25 Mar 2013 9:53 am
Operator : ALICIA HABERLE
Sample : 1303562-003B
Misc : SAMP
ALS Vial : 26 Sample Multiplier: 1

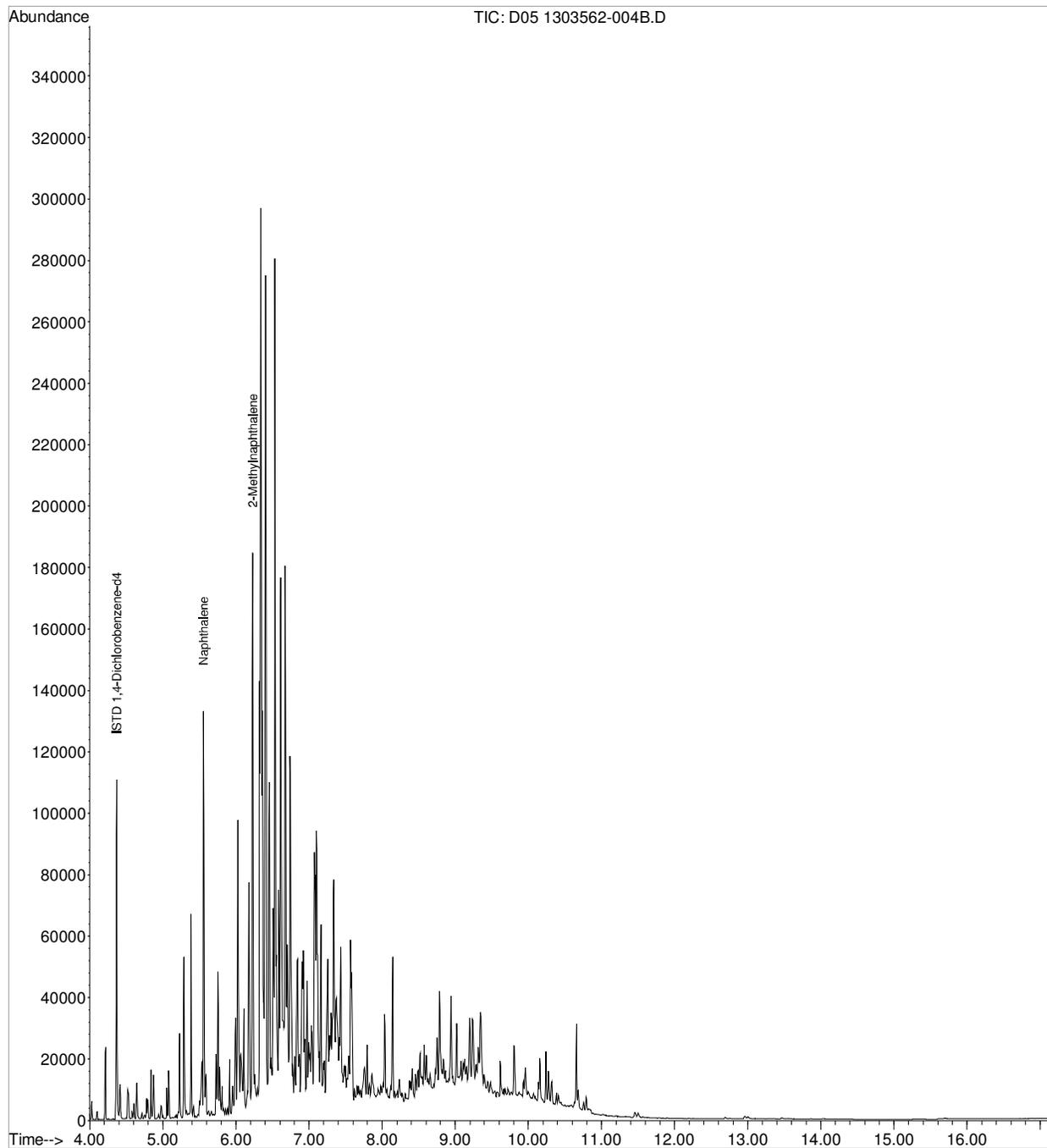
Quant Time: Mar 26 15:50:07 2013
Quant Method : C:\MSDCHEM\1\METHODS\PAH GWM QUANT SIM 03-20-2013.M
Quant Title : Semi-Volatile Compounds HP-GCMS 5973-B
QLast Update : Wed Mar 20 20:40:07 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : Z:\MSDCHEM\1\DATA\MAR 13\24MAR13-A\
Data File : D05 1303562-004B.D
Acq On : 25 Mar 2013 10:19 am
Operator : ALICIA HABERLE
Sample : 1303562-004B
Misc : SAMP
ALS Vial : 27 Sample Multiplier: 1

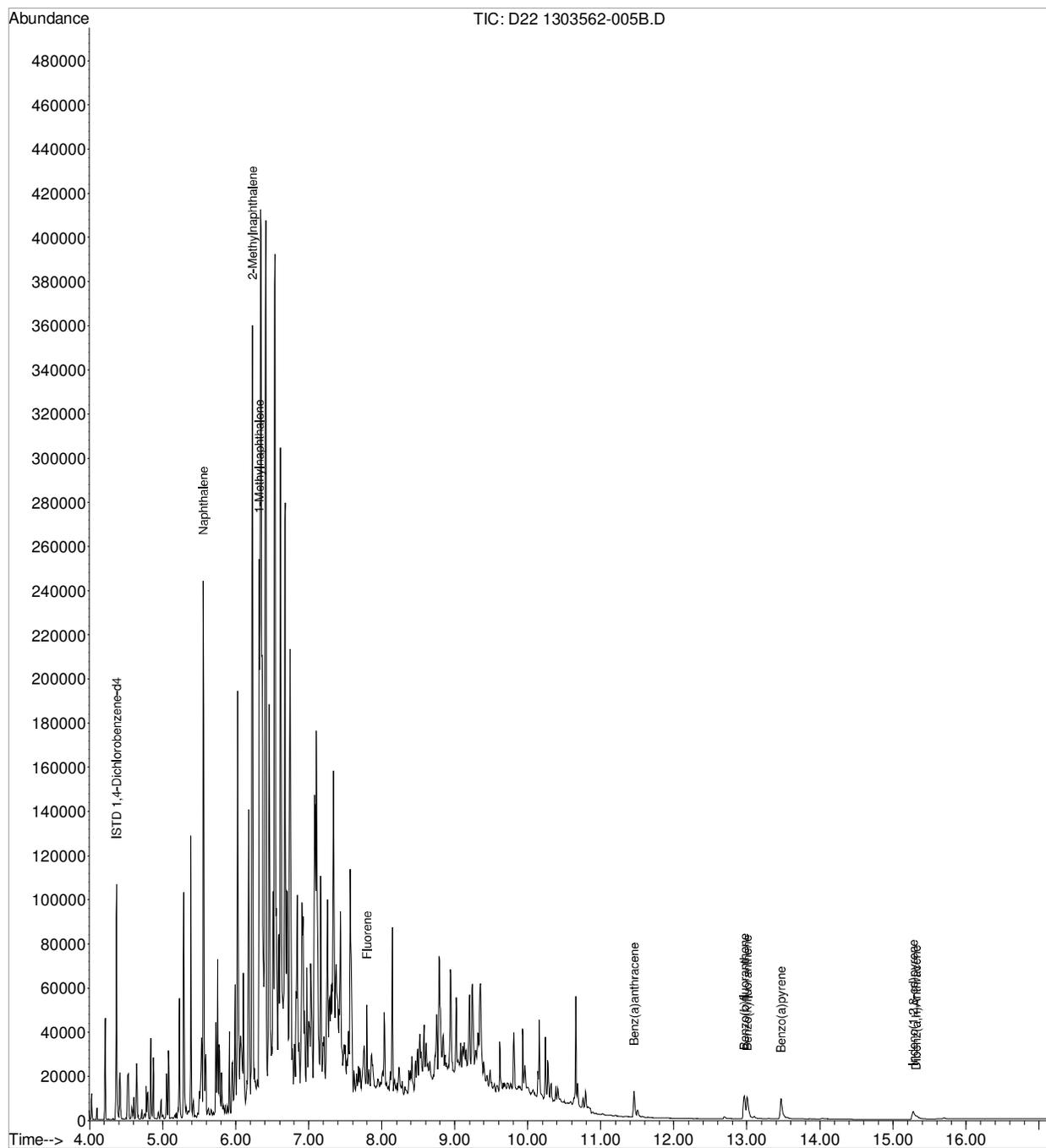
Quant Time: Mar 26 15:51:17 2013
Quant Method : C:\MSDCHEM\1\METHODS\PAH GWM QUANT SIM 03-20-2013.M
Quant Title : Semi-Volatile Compounds HP-GCMS 5973-B
QLast Update : Wed Mar 20 20:40:07 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : Z:\MSDCHEM\1\DATA\MAR 13\25MAR13-A\
 Data File : D22 1303562-005B.D
 Acq On : 25 Mar 2013 5:59 pm
 Operator : ALICIA HABERLE
 Sample : 1303562-005B
 Misc : SAMP
 ALS Vial : 14 Sample Multiplier: 1

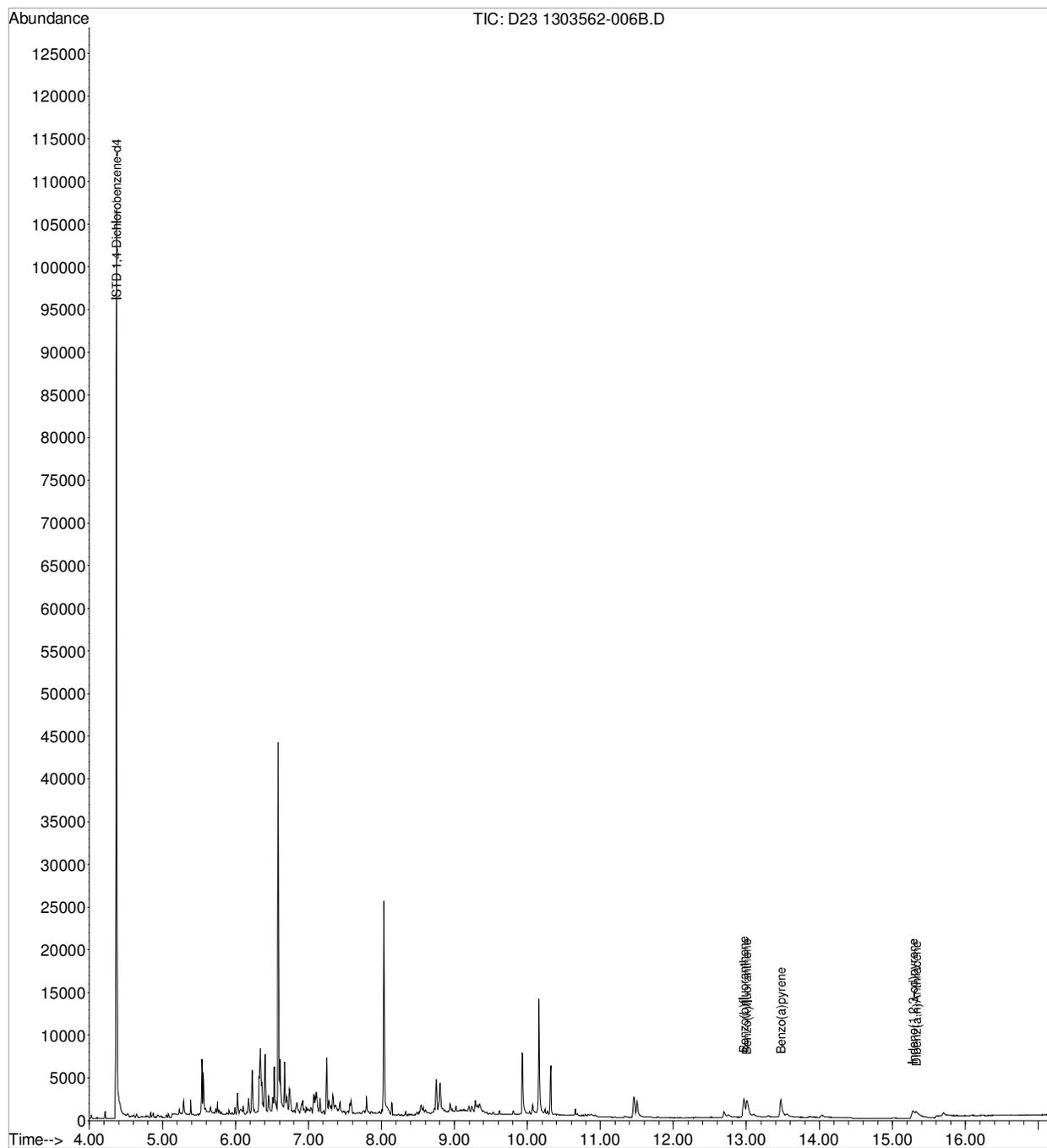
Quant Time: Mar 26 14:44:51 2013
 Quant Method : C:\MSDCHEM\1\METHODS\PAH GWM QUANT SIM 03-20-2013.M
 Quant Title : Semi-Volatile Compounds HP-GCMS 5973-B
 QLast Update : Wed Mar 20 20:40:07 2013
 Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : Z:\MSDCHEM\1\DATA\MAR 13\25MAR13-A\
Data File : D23 1303562-006B.D
Acq On : 25 Mar 2013 6:25 pm
Operator : ALICIA HABERLE
Sample : 1303562-006B
Misc : SAMP
ALS Vial : 15 Sample Multiplier: 1

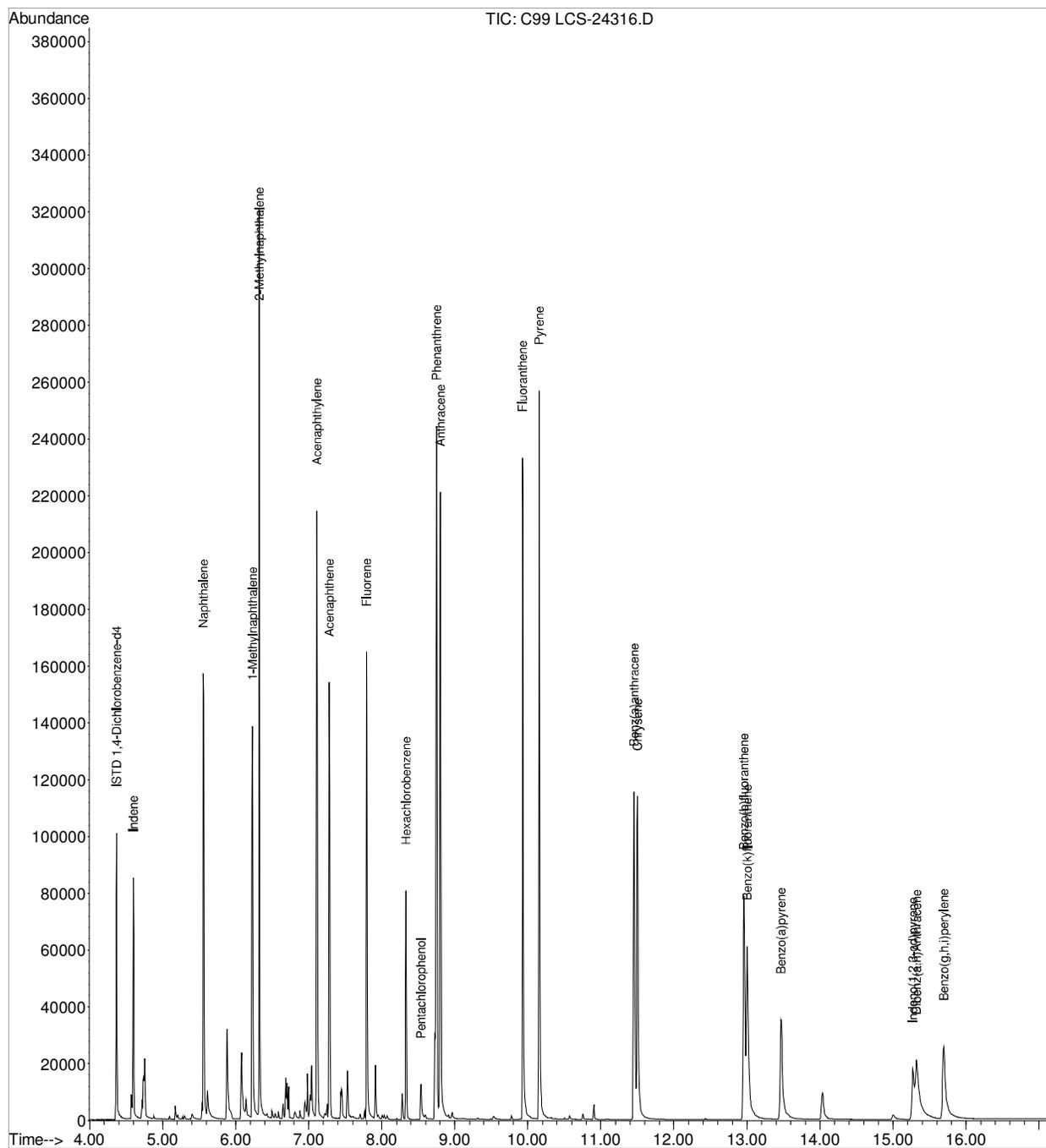
Quant Time: Mar 26 14:45:53 2013
Quant Method : C:\MSDCHEM\1\METHODS\PAH GWM QUANT SIM 03-20-2013.M
Quant Title : Semi-Volatile Compounds HP-GCMS 5973-B
QLast Update : Wed Mar 20 20:40:07 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : Z:\MSDCHEM\1\DATA\MAR 13\24MAR13-A\
 Data File : C99 LCS-24316.D
 Acq On : 25 Mar 2013 7:42 am
 Operator : ALICIA HABERLE
 Sample : LCS-24316
 Misc : LCS
 ALS Vial : 21 Sample Multiplier: 1

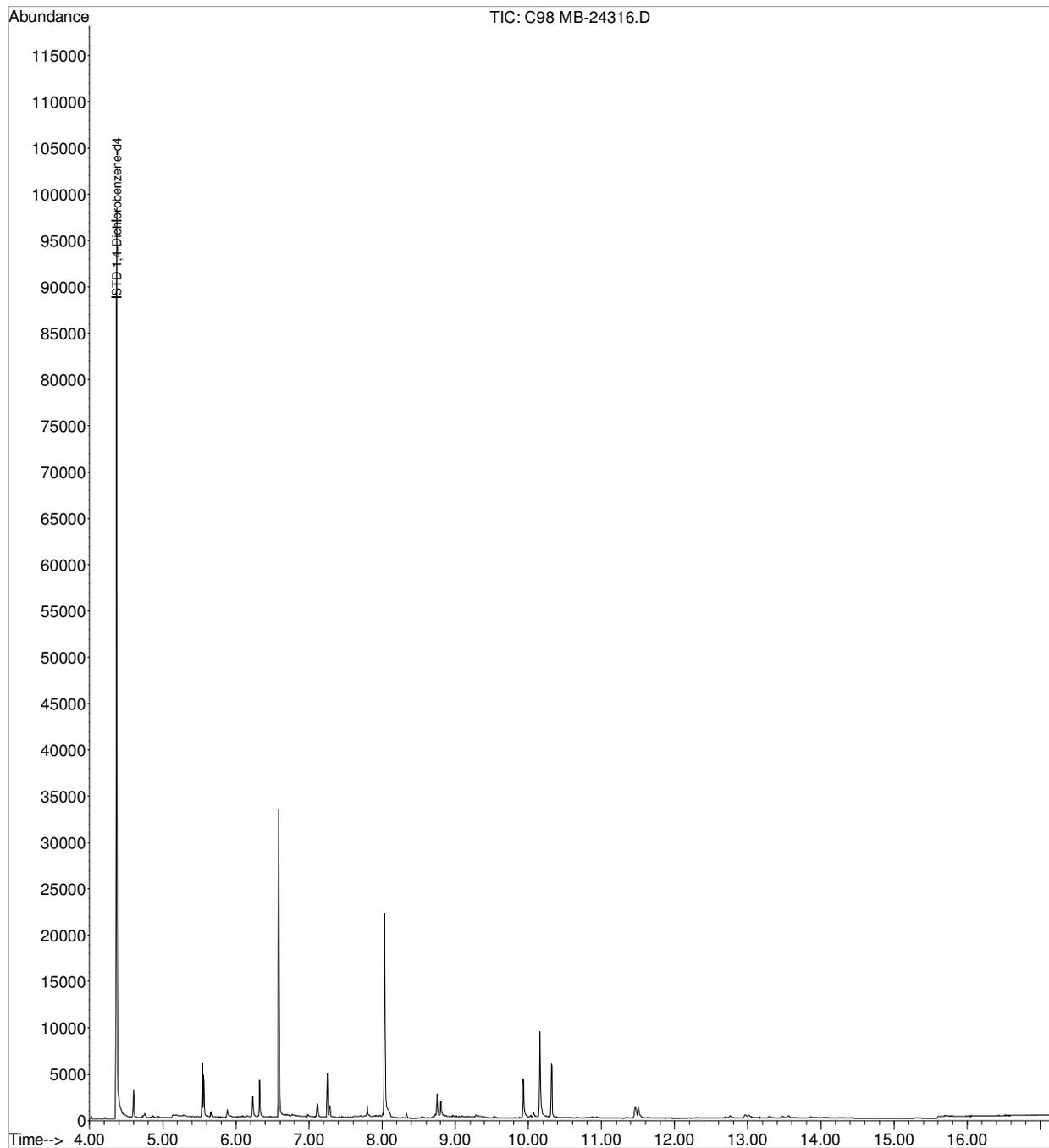
Quant Time: Mar 25 15:25:43 2013
 Quant Method : C:\MSDCHEM\1\METHODS\PAH GWM QUANT SIM 03-20-2013.M
 Quant Title : Semi-Volatile Compounds HP-GCMS 5973-B
 QLast Update : Wed Mar 20 20:40:07 2013
 Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : Z:\MSDCHEM\1\DATA\MAR 13\24MAR13-A\
Data File : C98 MB-24316.D
Acq On : 25 Mar 2013 7:16 am
Operator : ALICIA HABERLE
Sample : MB-24316
Misc : MBLK
ALS Vial : 20 Sample Multiplier: 1

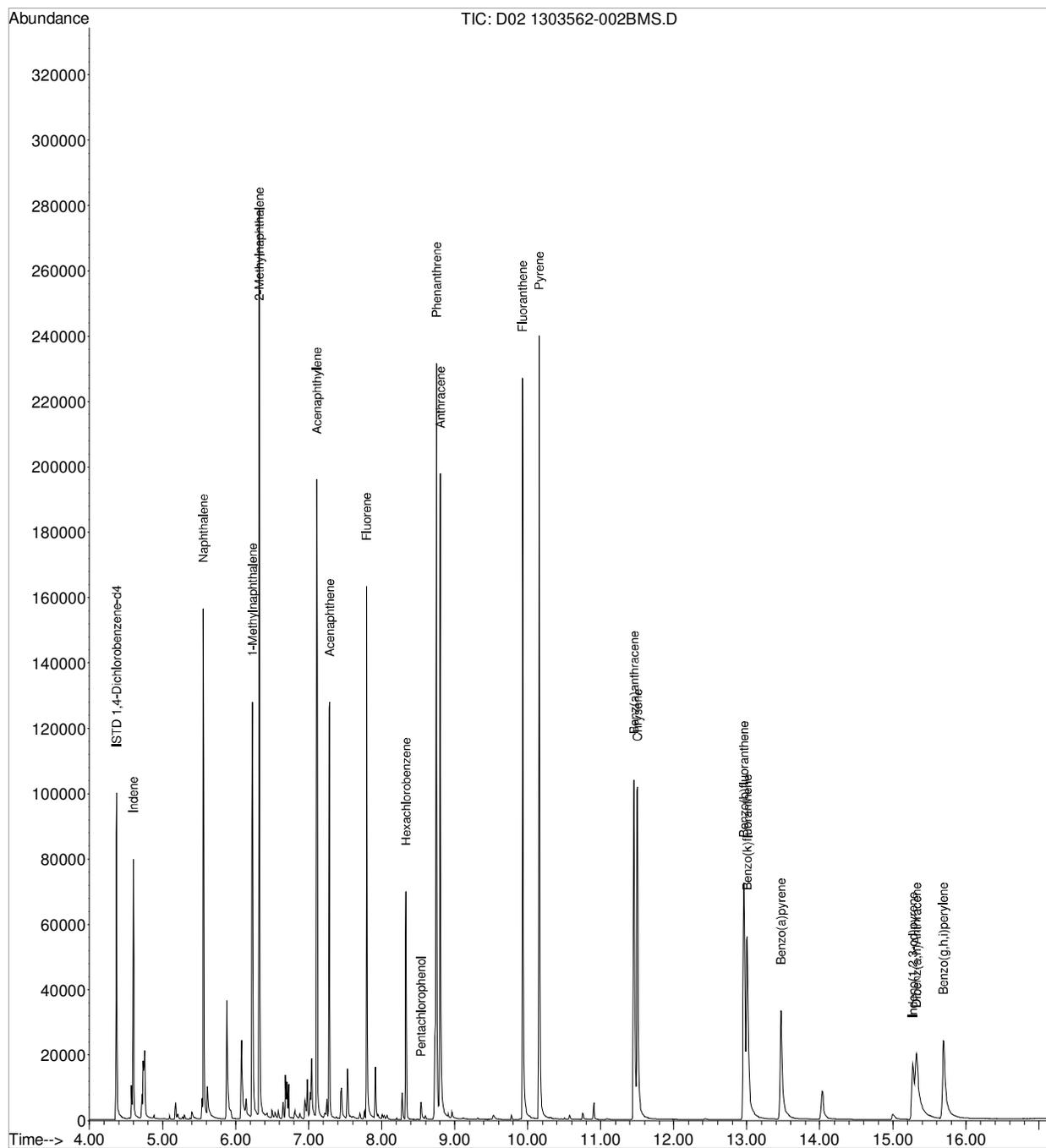
Quant Time: Mar 25 15:22:52 2013
Quant Method : C:\MSDCHEM\1\METHODS\PAH GWM QUANT SIM 03-20-2013.M
Quant Title : Semi-Volatile Compounds HP-GCMS 5973-B
QLast Update : Wed Mar 20 20:40:07 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : Z:\MSDCHEM\1\DATA\MAR 13\24MAR13-A\
 Data File : D02 1303562-002BMS.D
 Acq On : 25 Mar 2013 9:00 am
 Operator : ALICIA HABERLE
 Sample : 1303562-002BMS
 Misc : MS
 ALS Vial : 24 Sample Multiplier: 1

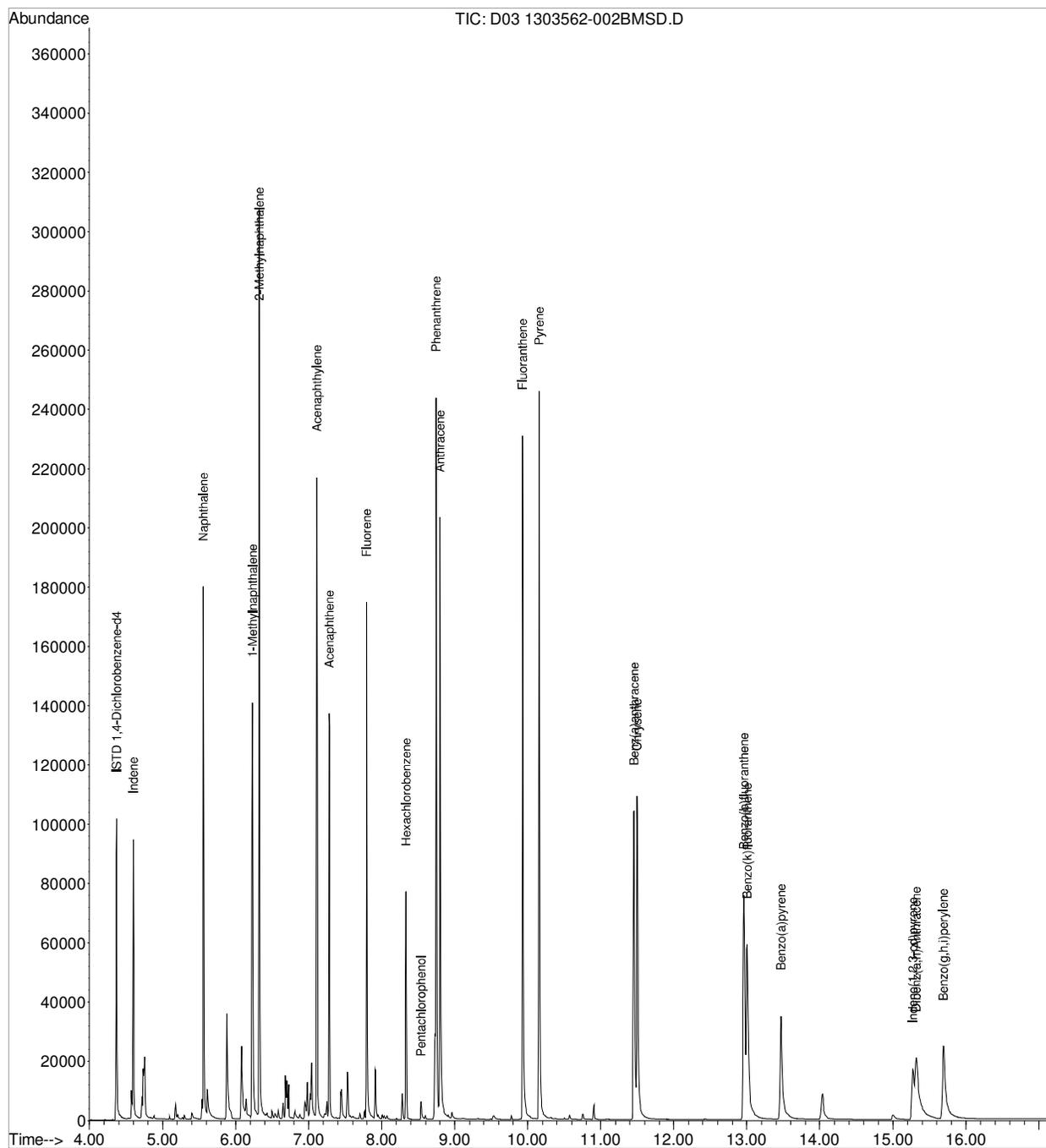
Quant Time: Mar 25 15:28:02 2013
 Quant Method : C:\MSDCHEM\1\METHODS\PAH GWM QUANT SIM 03-20-2013.M
 Quant Title : Semi-Volatile Compounds HP-GCMS 5973-B
 QLast Update : Wed Mar 20 20:40:07 2013
 Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : Z:\MSDCHEM\1\DATA\MAR 13\24MAR13-A\
 Data File : D03 1303562-002BMSD.D
 Acq On : 25 Mar 2013 9:27 am
 Operator : ALICIA HABERLE
 Sample : 1303562-002BMSD
 Misc : MSD
 ALS Vial : 25 Sample Multiplier: 1

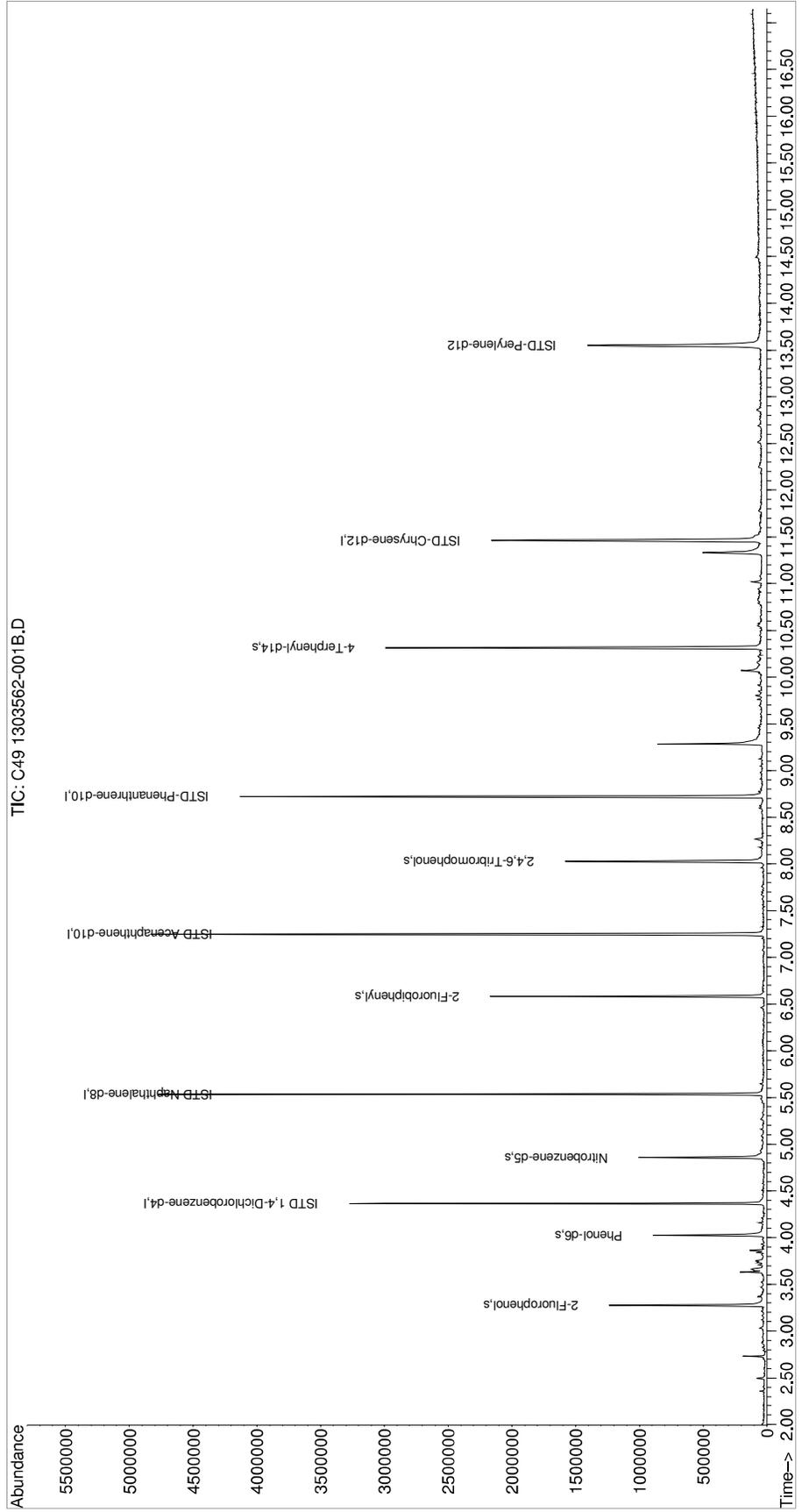
Quant Time: Mar 25 15:28:57 2013
 Quant Method : C:\MSDCHEM\1\METHODS\PAH GWM QUANT SIM 03-20-2013.M
 Quant Title : Semi-Volatile Compounds HP-GCMS 5973-B
 QLast Update : Wed Mar 20 20:40:07 2013
 Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : Z:\MSDCHEM\1\DATA\MAR 13\23MAR13-A\
 Data File : C49 1303562-001B.D
 Acq On : 24 Mar 2013 1:19 am
 Operator : ALICIA HABERLE
 Sample : 1303562-001B
 Misc : SAMP
 ALS Vial : 24 Sample Multiplier: 1

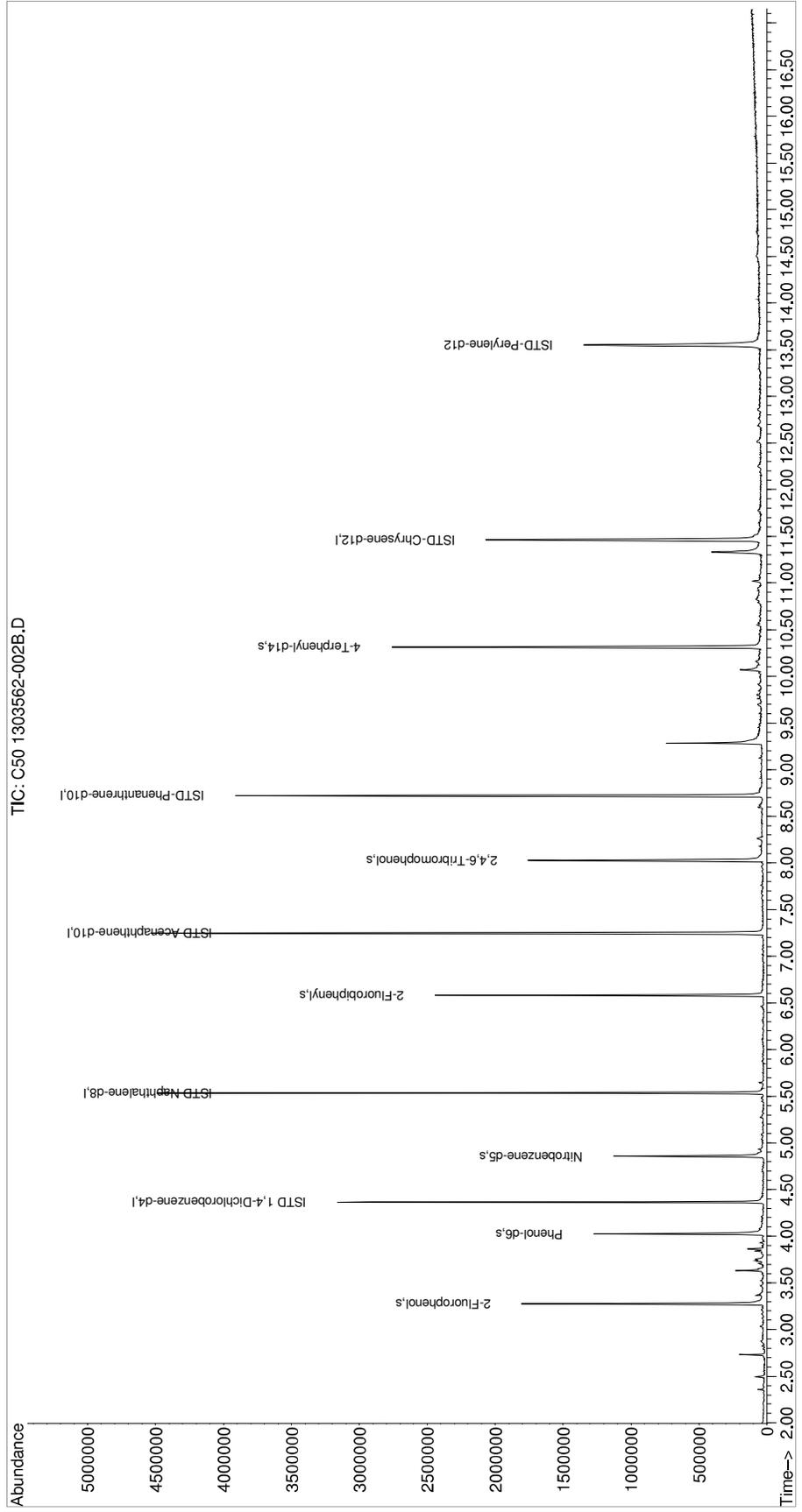
Quant Time: Mar 24 20:41:49 2013
 Quant Method : C:\MSDCHEM\1\METHODS\QUANTFULSV 03-19-13.M
 Quant Title : Semi-Volatile Compounds HP-GCMS 5973-B
 QLast Update : Sat Mar 23 15:30:07 2013
 Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : Z:\MSDCHEM\1\DATA\MAR 13\23MAR13-A\
Data File : C50 1303562-002B.D
Acq On : 24 Mar 2013 1:45 am
Operator : ALICIA HABERLE
Sample : 1303562-002B
Misc : SAMP
ALS Vial : 25 Sample Multiplier: 1

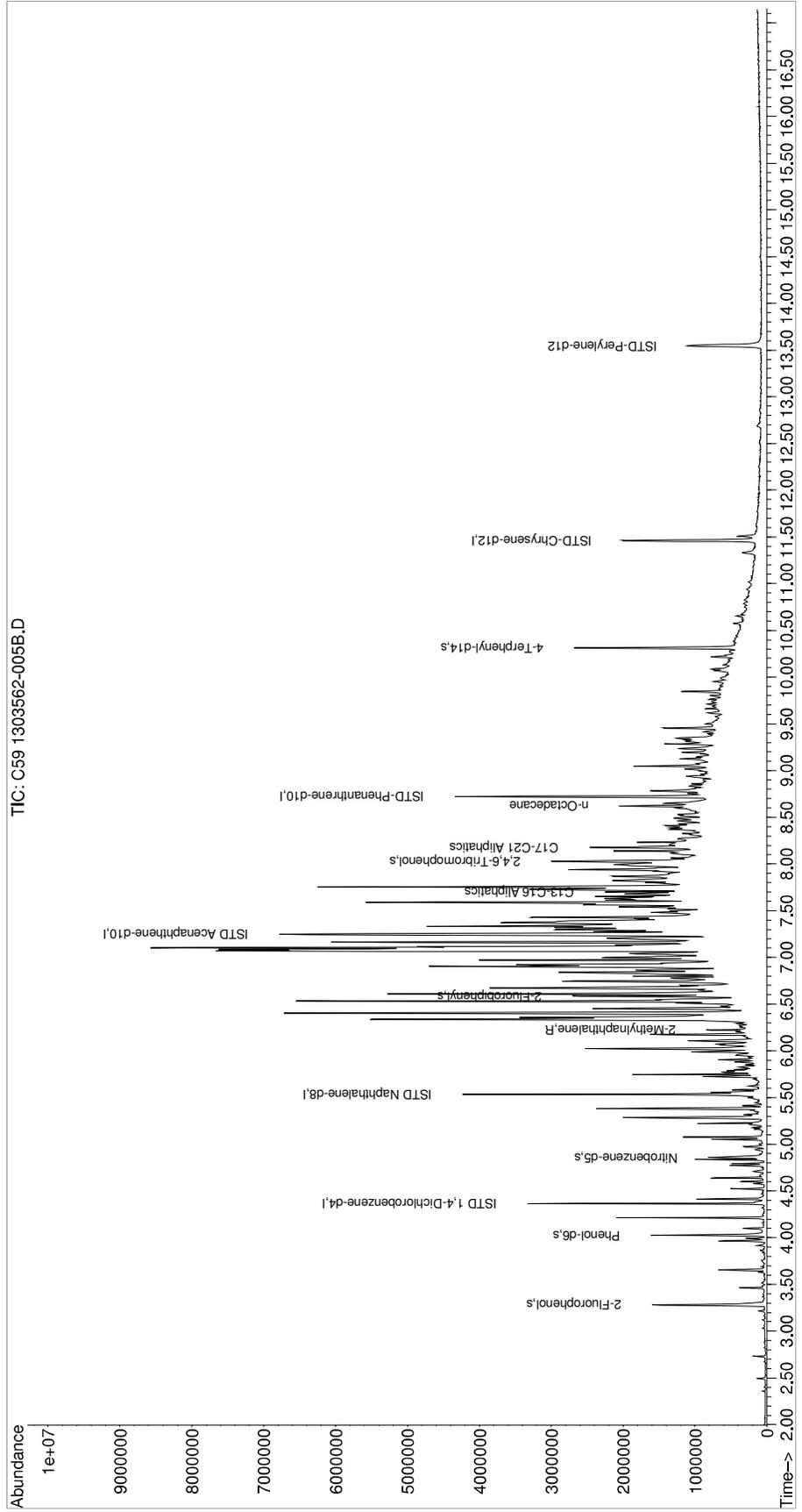
Quant Time: Mar 24 20:42:26 2013
Quant Method : C:\MSDCHEM\1\METHODS\QUANTFULSV 03-19-13.M
Quant Title : Semi-Volatile Compounds HP-GCMS 5973-B
QLast Update : Sat Mar 23 15:30:07 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : Z:\MSDCHEM\1\DATA\MAR 13\24MAR13-A\
 Data File : C59 1303562-005B.D
 Acq On : 24 Mar 2013 1:48 pm
 Operator : ALICIA HABERLE
 Sample : 1303562-005B
 Misc : SAMP
 ALS Vial : 6 Sample Multiplier: 1

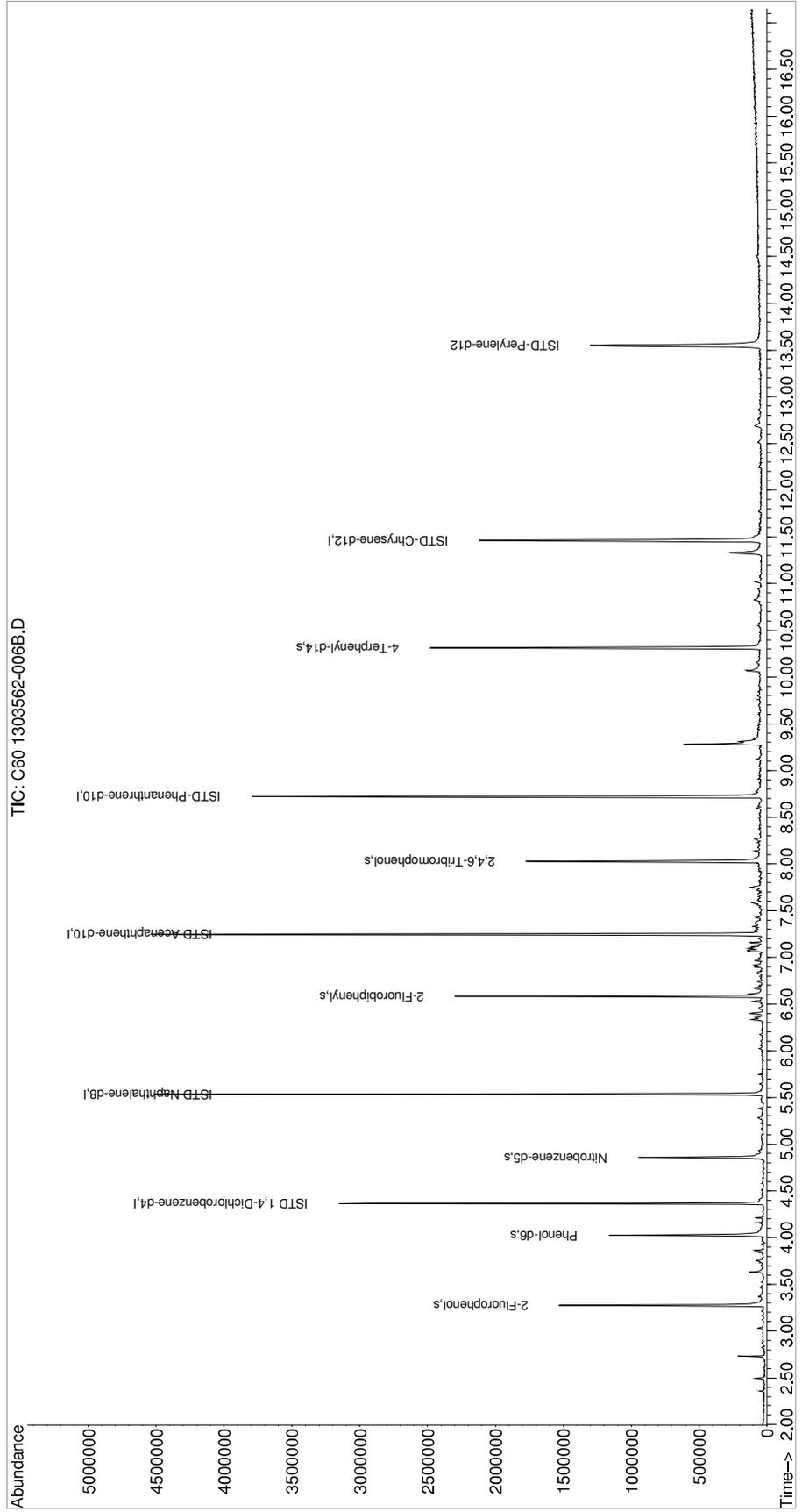
Quant Time: Mar 24 20:06:28 2013
 Quant Method : C:\MSDCHEM\1\METHODS\QUANTFULSV 03-19-13.M
 Quant Title : Semi-Volatile Compounds HP-GCMS 5973-B
 QLast Update : Sat Mar 23 15:30:07 2013
 Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : Z:\MSDCHEM\1\DATA\MAR 13\24MAR13-A\
 Data File : C60 1303562-006B.D
 Acq On : 24 Mar 2013 2:14 pm
 Operator : ALICIA HABERLE
 Sample : 1303562-006B
 Misc : SAMP
 ALS Vial : 7 Sample Multiplier: 1

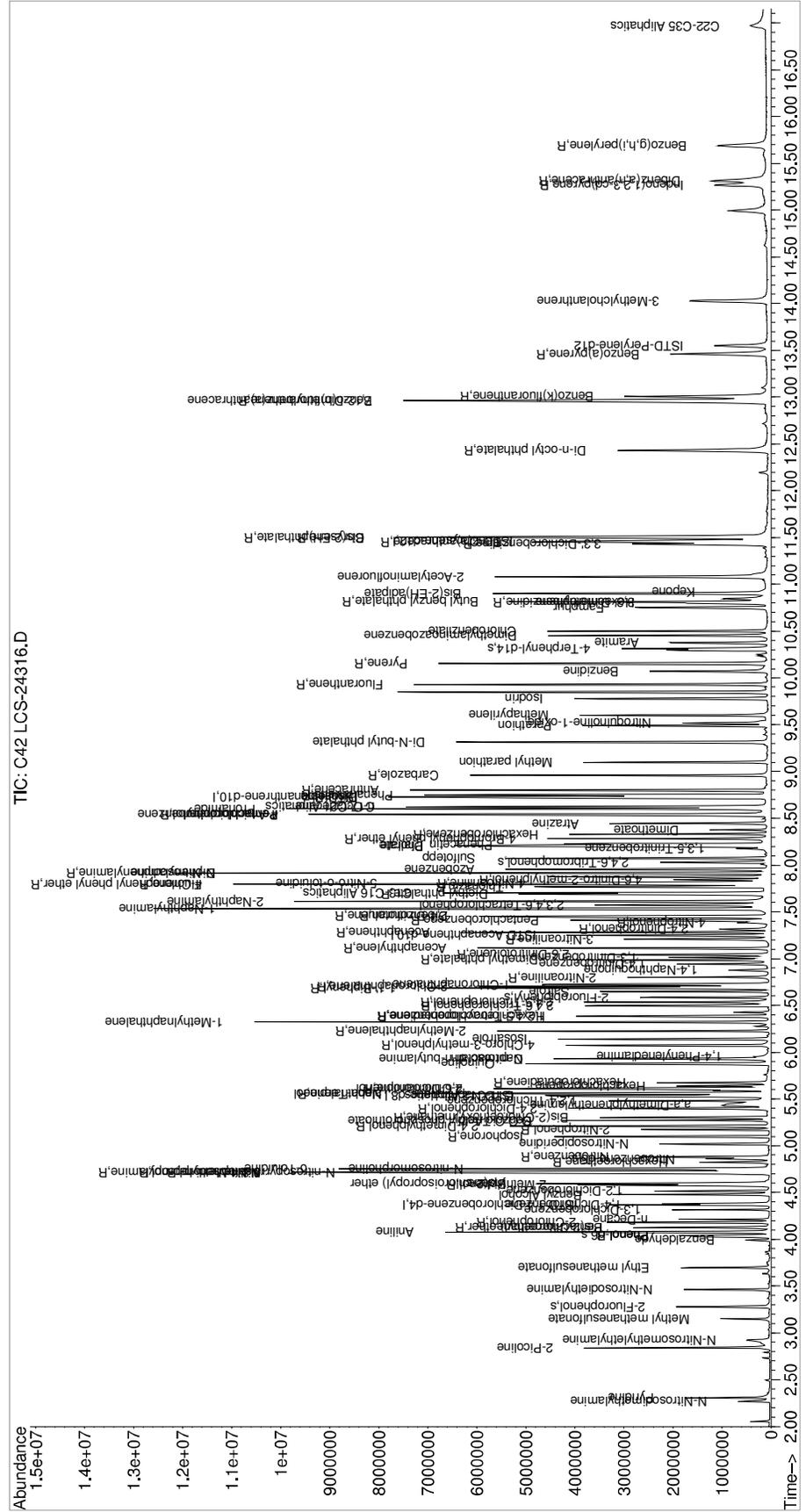
Quant Time: Mar 24 20:07:04 2013
 Quant Method : C:\MSDCHEM\1\METHODS\QUANTFULSV 03-19-13.M
 Quant Title : Semi-Volatile Compounds HP-GCMS 5973-B
 QLast Update : Sat Mar 23 15:30:07 2013
 Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : Z:\MSDCHEM\1\DATA\MAR 13\23MAR13-A\
 Data File : C42 LCS-24316.D
 Acq On : 23 Mar 2013 10:17 pm
 Operator : ALICIA HABERLE
 Sample : LCS-24316
 Misc : LCS
 ALS Vial : 17 Sample Multiplier: 1

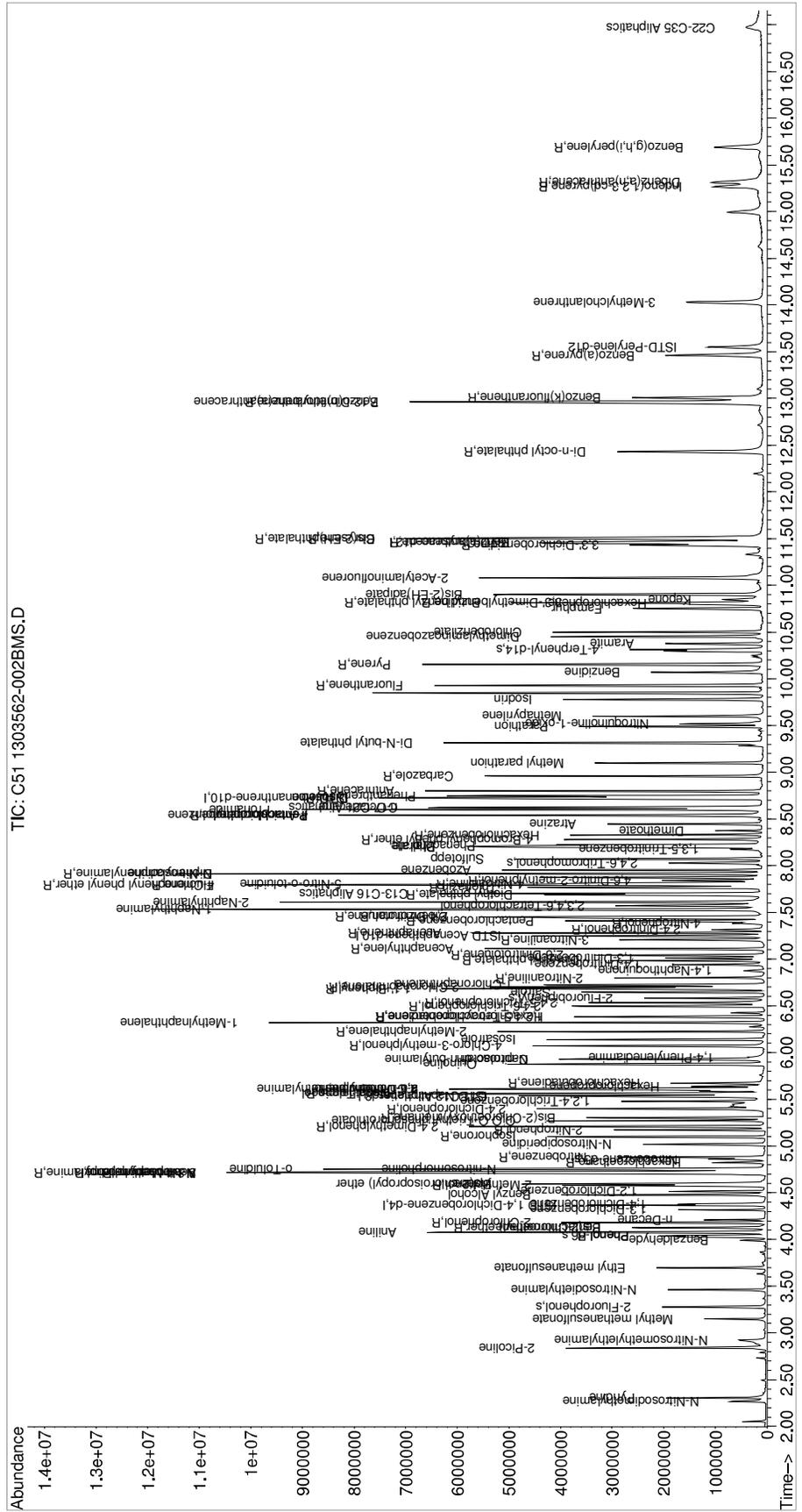
Quant Time: Mar 24 20:27:53 2013
 Quant Method : C:\MSDCHEM\1\METHODS\QUANTFULSV 03-19-13.M
 Quant Title : Semi-Volatile Compounds HP-GCMS 5973-B
 QLast Update : Sat Mar 23 15:30:07 2013
 Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : Z:\MSDCHEM\1\DATA\MAR 13\23MAR13-A\
 Data File : C51 1303562-002BMS.D
 Acq On : 24 Mar 2013 2:11 am
 Operator : ALICIA HABERLE
 Sample : 1303562-002BMS
 Misc : MS
 ALS Vial : 26 Sample Multiplier: 1

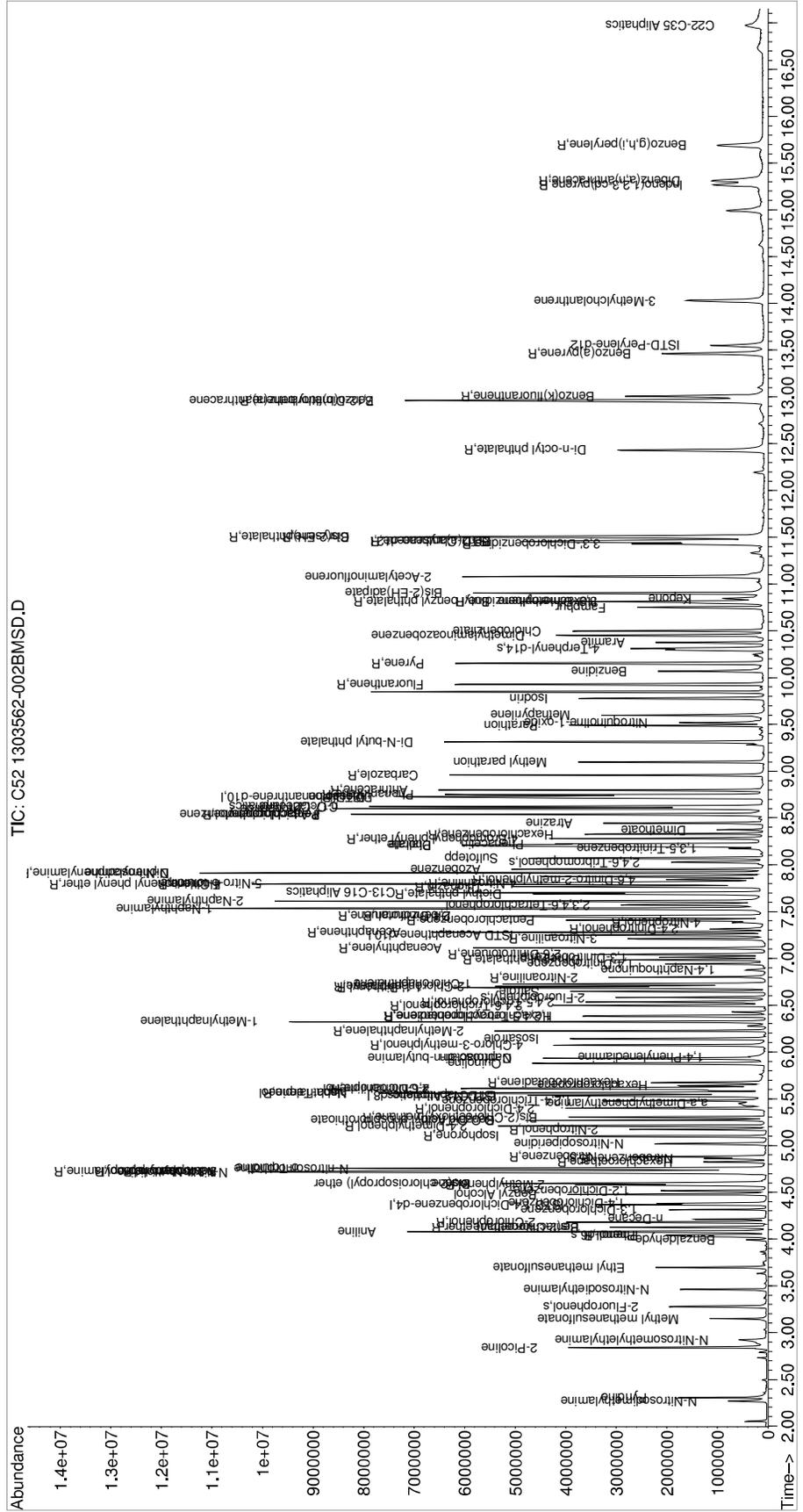
Quant Time: Mar 24 20:43:43 2013
 Quant Method : C:\MSDCHEM\1\METHODS\QUANTFULSV 03-19-13.M
 Quant Title : Semi-Volatile Compounds HP-GCMS 5973-B
 QLast Update : Sat Mar 23 15:30:07 2013
 Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : Z:\MSDCHEM\1\DATA\MAR 13\23MAR13-A\
 Data File : C52 1303562-002BMSD.D
 Acq On : 24 Mar 2013 2:37 am
 Operator : ALICIA HABERLE
 Sample : 1303562-002BMSD
 Misc : MSD
 ALS Vial : 27 Sample Multiplier: 1

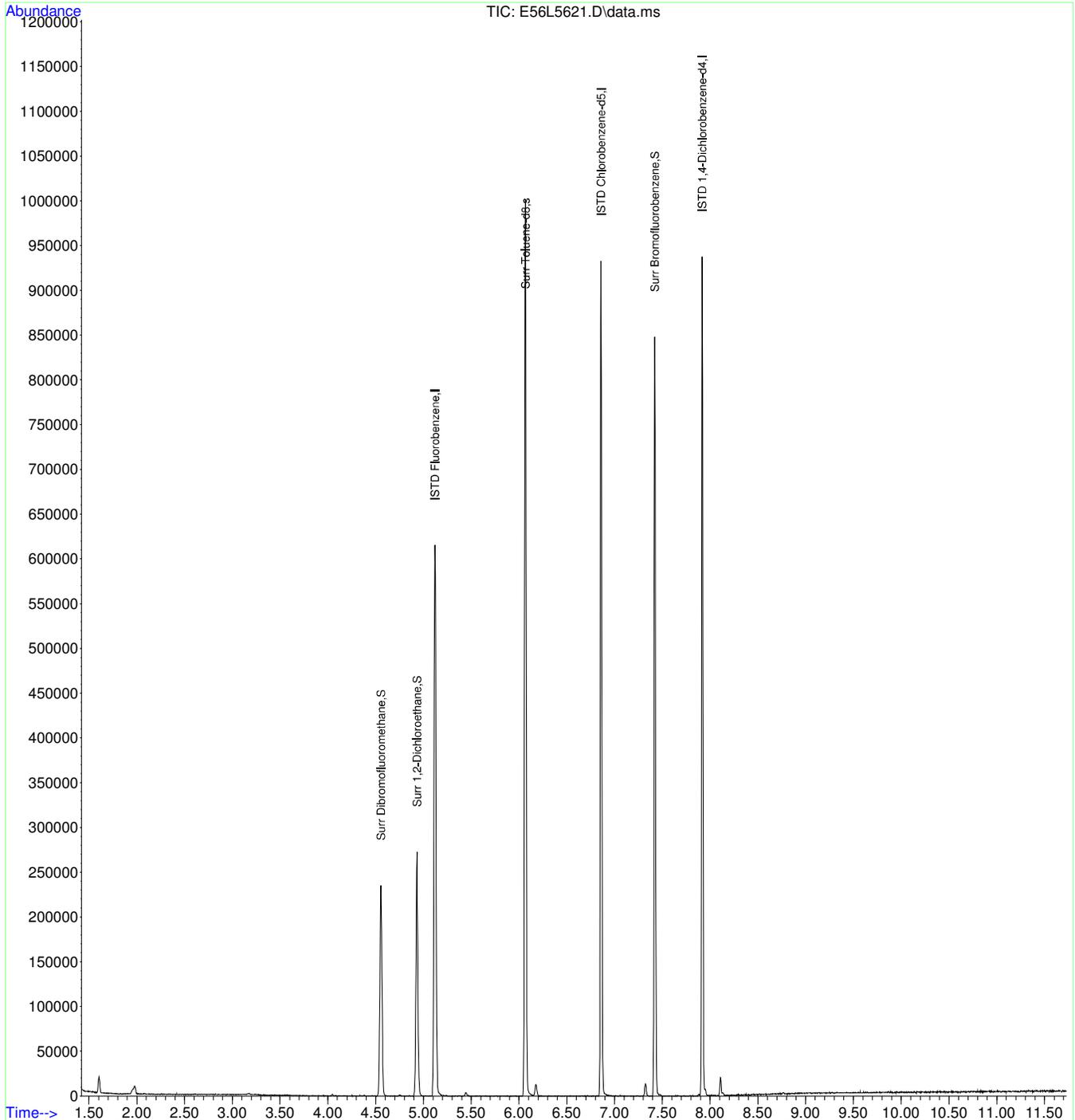
Quant Time: Mar 24 20:44:35 2013
 Quant Method : C:\MSDCHEM\1\METHODS\QUANTFULSV 03-19-13.M
 Quant Title : Semi-Volatile Compounds HP-GCMS 5973-B
 QLast Update : Sat Mar 23 15:30:07 2013
 Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\MAR13-D\22MAR13\
Data File : E56L5621.D
Acq On : 22 Mar 2013 7:16 pm
Operator : AAP
Sample : 1303562-001A
Misc : SAMP 5.0ML 1OF3 SB
ALS Vial : 6 Sample Multiplier: 1

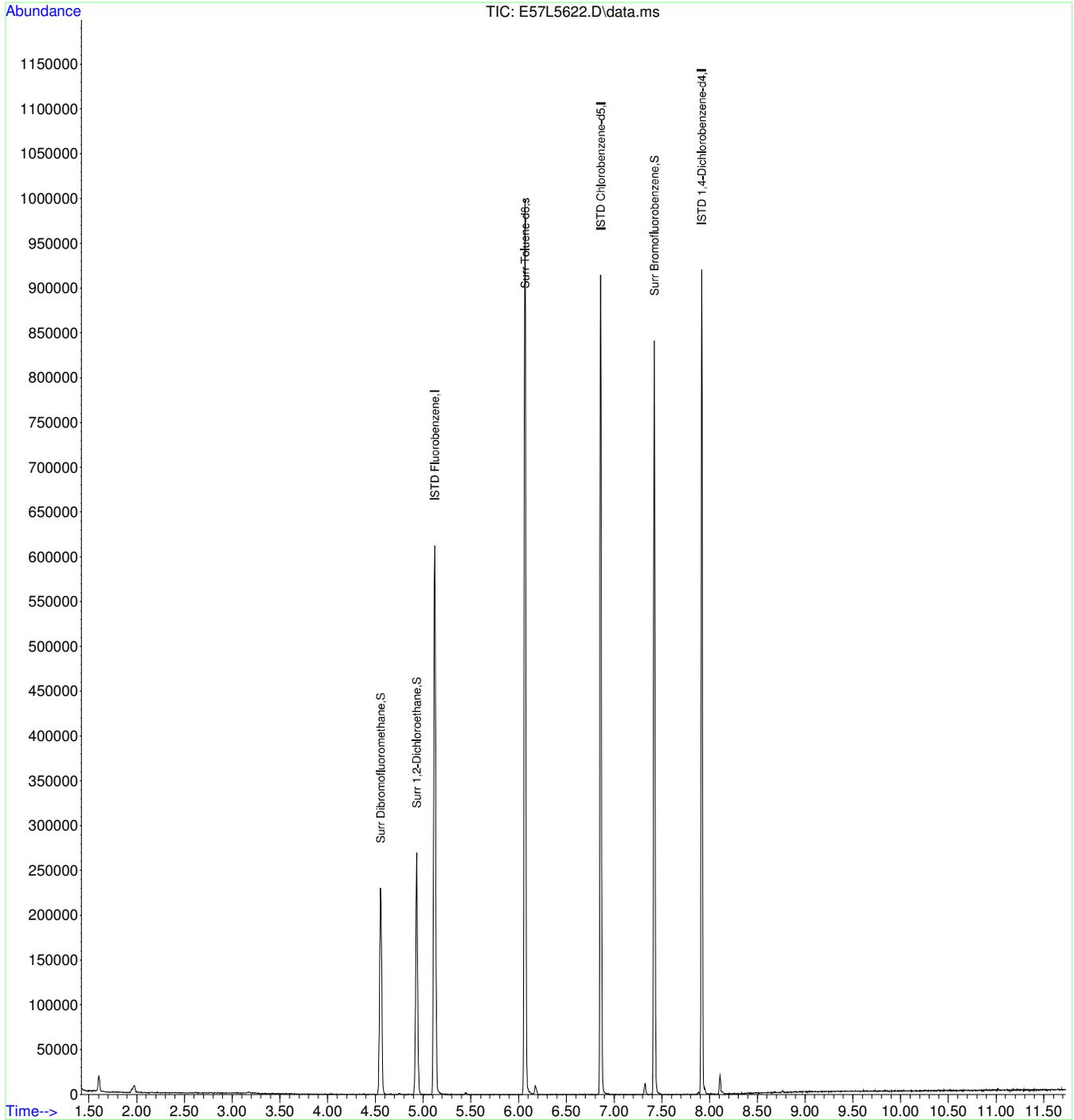
Quant Time: Mar 24 05:45:44 2013
Quant Method : C:\MSDCHEM\1\METHODS\DFULLW_13.M
Quant Title : VOA Calibration
QLast Update : Wed Mar 13 09:17:53 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\MAR13-D\22MAR13\
Data File : E57L5622.D
Acq On : 22 Mar 2013 7:35 pm
Operator : AAP
Sample : 1303562-002A
Misc : SAMP 5.0ML 1OF3 SB
ALS Vial : 7 Sample Multiplier: 1

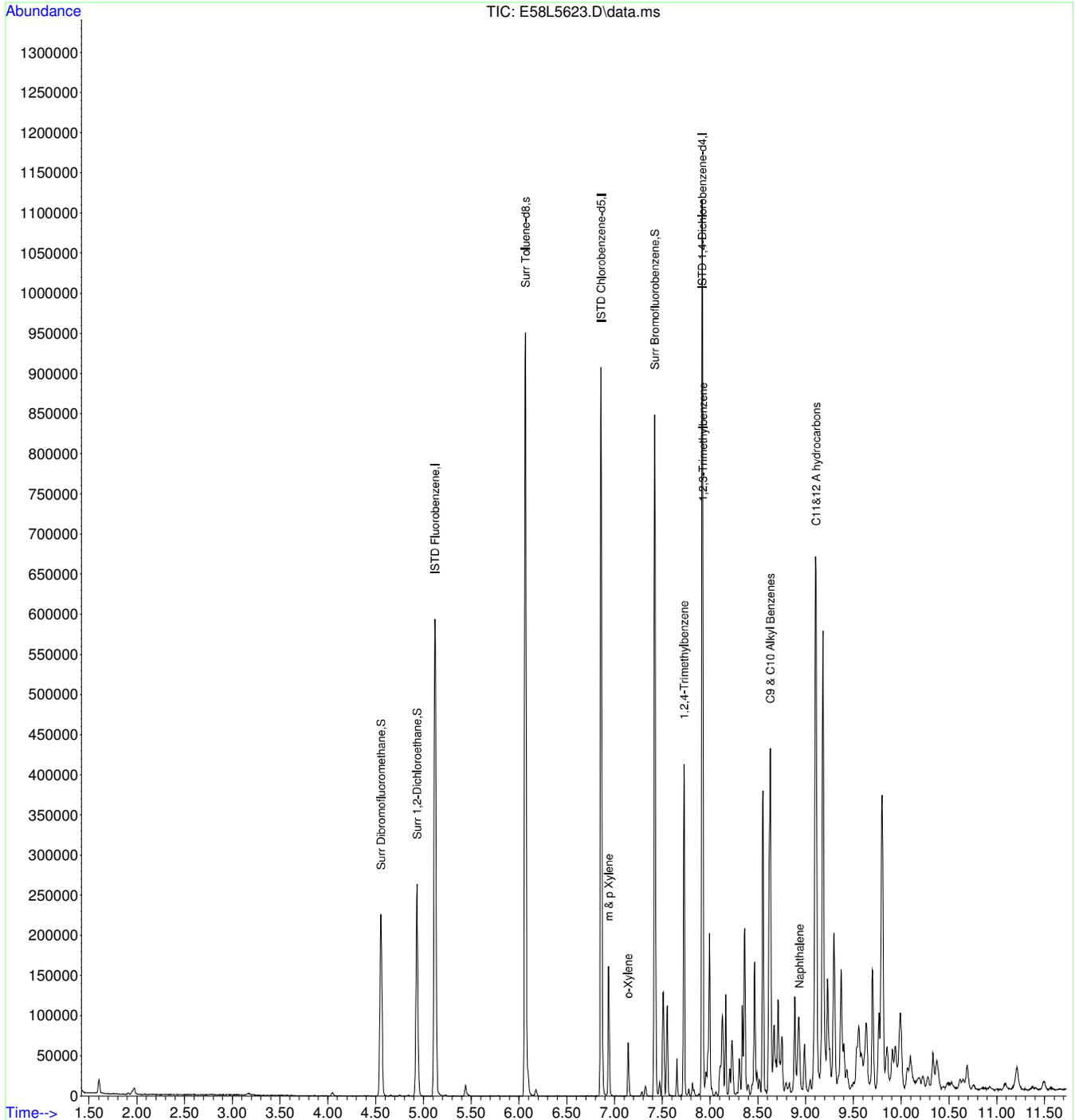
Quant Time: Mar 24 05:46:03 2013
Quant Method : C:\MSDCHEM\1\METHODS\DFULLW_13.M
Quant Title : VOA Calibration
QLast Update : Wed Mar 13 09:17:53 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\MAR13-D\22MAR13\
Data File : E58L5623.D
Acq On : 22 Mar 2013 7:54 pm
Operator : AAP
Sample : 1303562-003A
Misc : SAMP 5.0ML 1OF3 SB
ALS Vial : 8 Sample Multiplier: 1

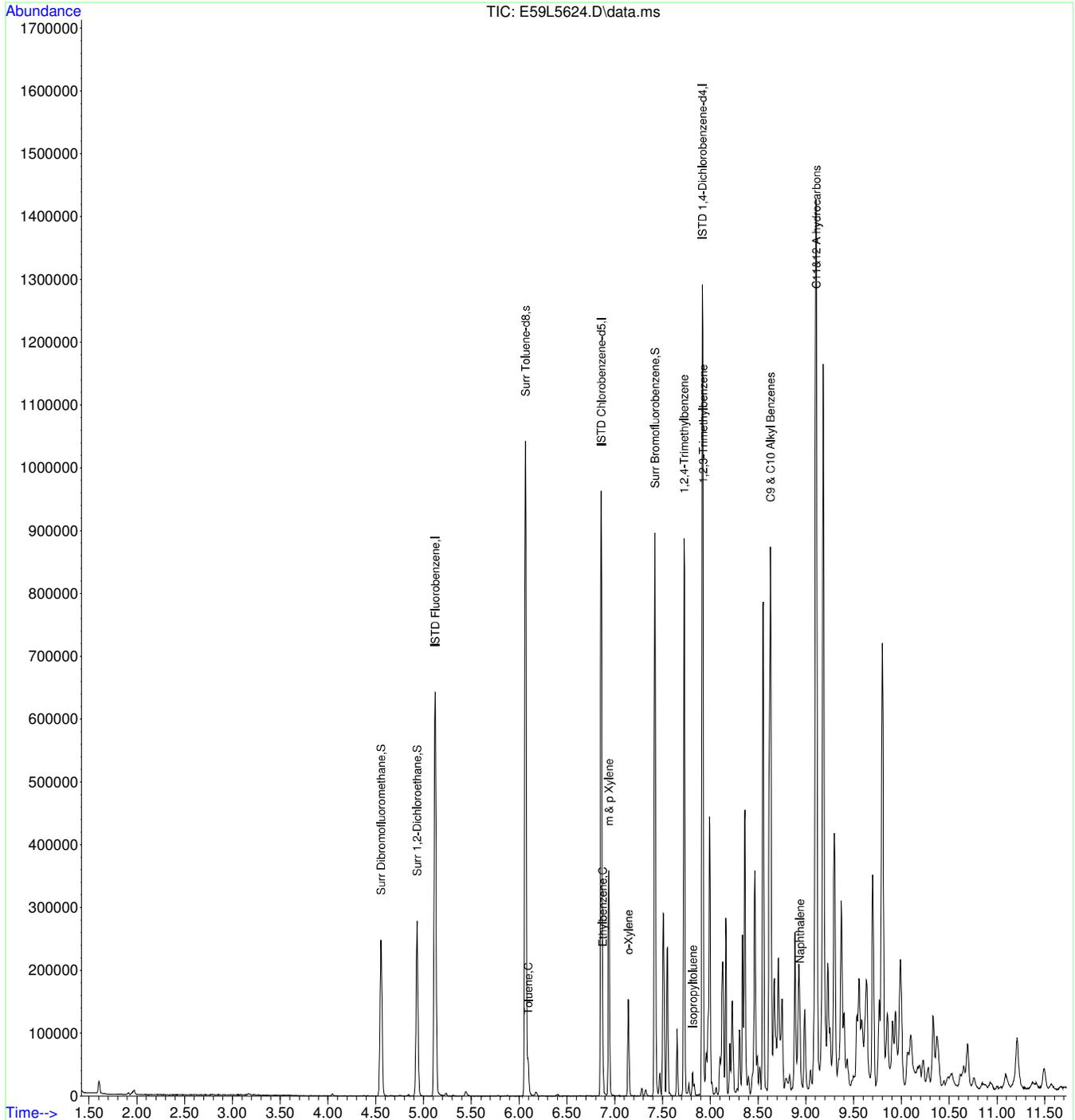
Quant Time: Mar 24 05:46:45 2013
Quant Method : C:\MSDCHEM\1\METHODS\DFULLW_13.M
Quant Title : VOA Calibration
QLast Update : Wed Mar 13 09:17:53 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\MAR13-D\22MAR13\
Data File : E59L5624.D
Acq On : 22 Mar 2013 8:13 pm
Operator : AAP
Sample : 1303562-004A
Misc : SAMP 5.0ML 1OF3 SB
ALS Vial : 9 Sample Multiplier: 1

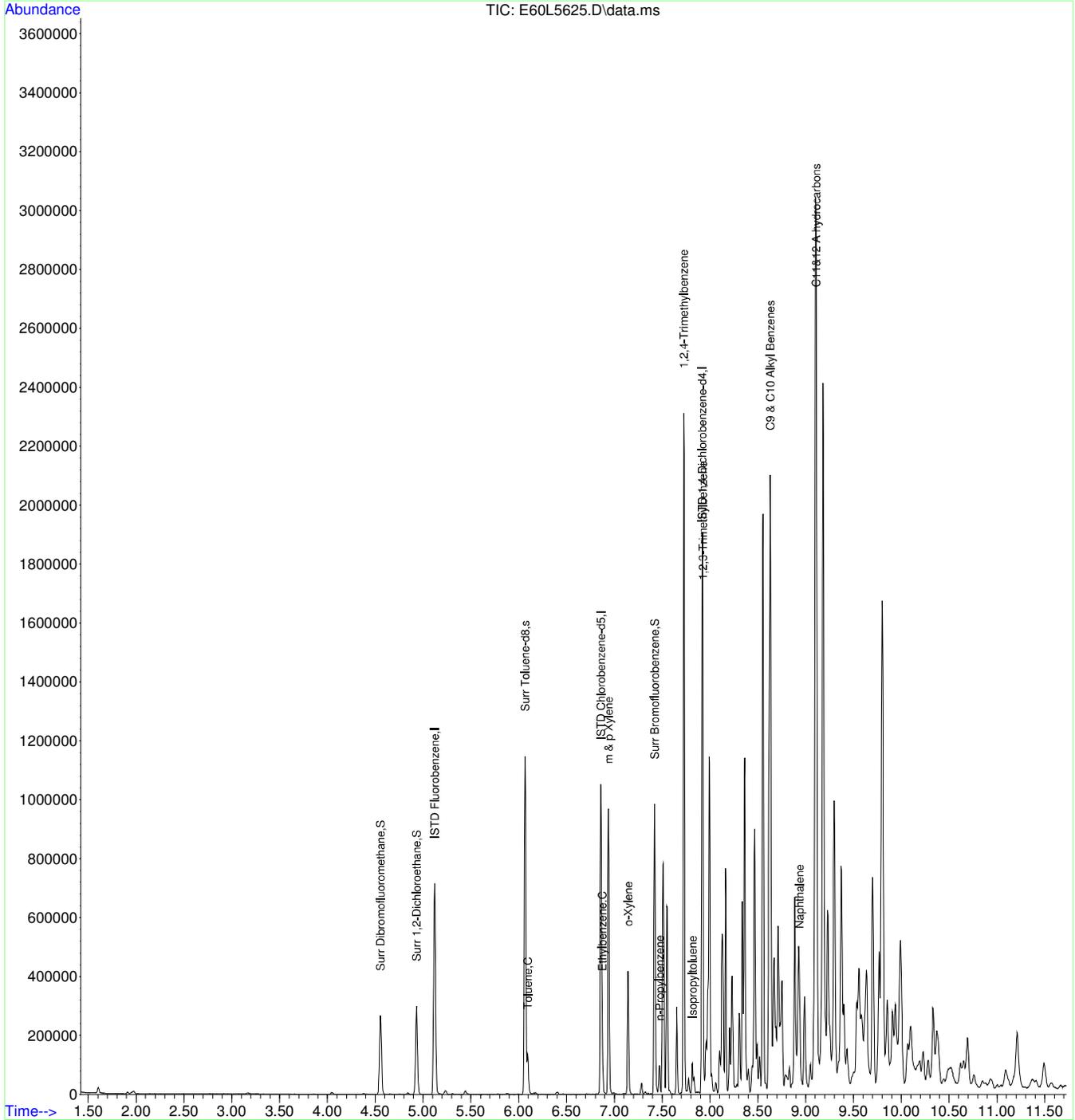
Quant Time: Mar 24 05:47:34 2013
Quant Method : C:\MSDCHEM\1\METHODS\DFULLW_13.M
Quant Title : VOA Calibration
QLast Update : Wed Mar 13 09:17:53 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\MAR13-D\22MAR13\
Data File : E60L5625.D
Acq On : 22 Mar 2013 8:32 pm
Operator : AAP
Sample : 1303562-005A
Misc : SAMP 5.0ML 1OF3 SB
ALS Vial : 10 Sample Multiplier: 1

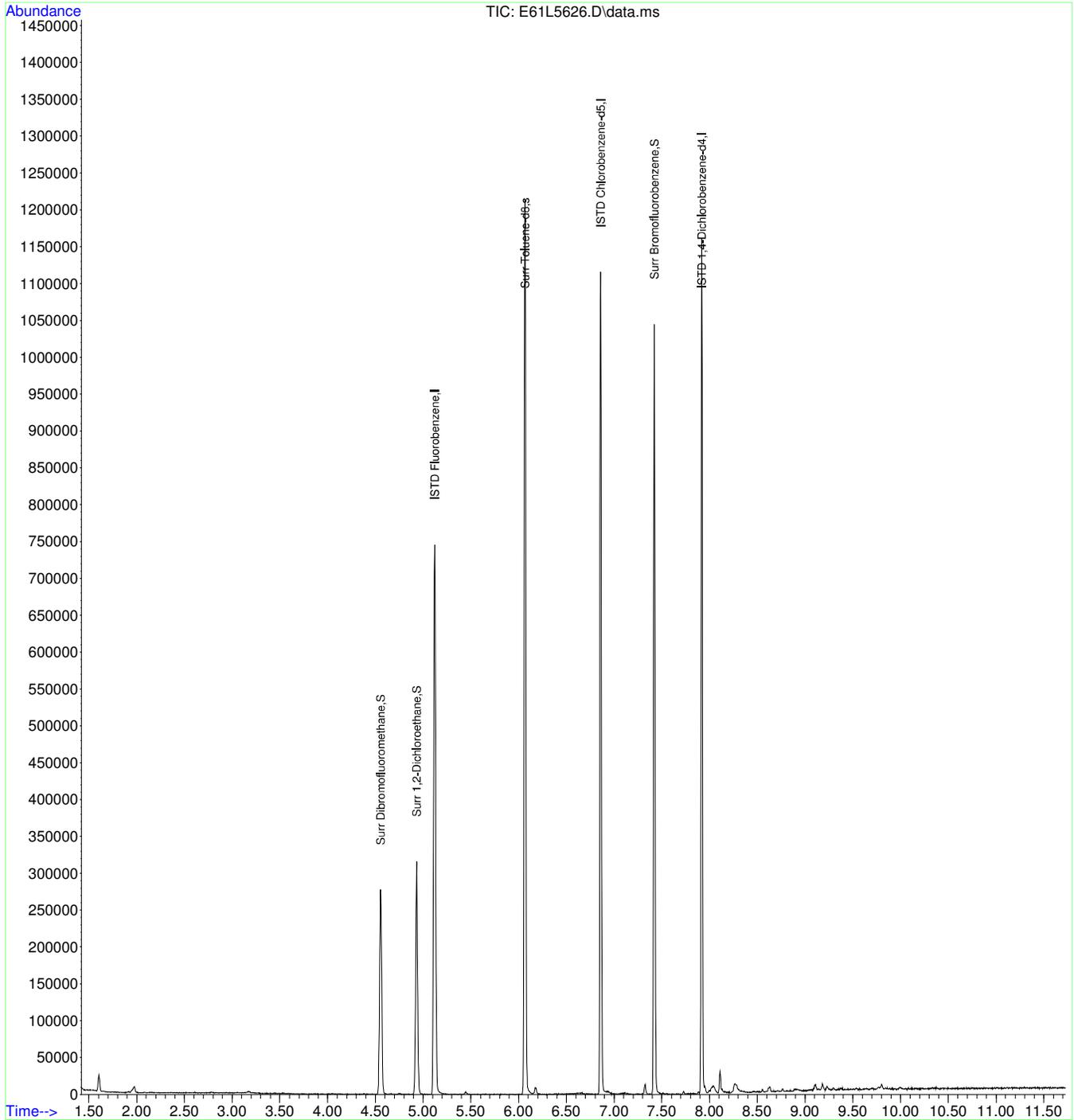
Quant Time: Mar 24 05:48:50 2013
Quant Method : C:\MSDCHEM\1\METHODS\DFULLW_13.M
Quant Title : VOA Calibration
QLast Update : Wed Mar 13 09:17:53 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\MAR13-D\22MAR13\
Data File : E61L5626.D
Acq On : 22 Mar 2013 8:51 pm
Operator : AAP
Sample : 1303562-006A
Misc : SAMP 5.0ML 1OF3 SB
ALS Vial : 11 Sample Multiplier: 1

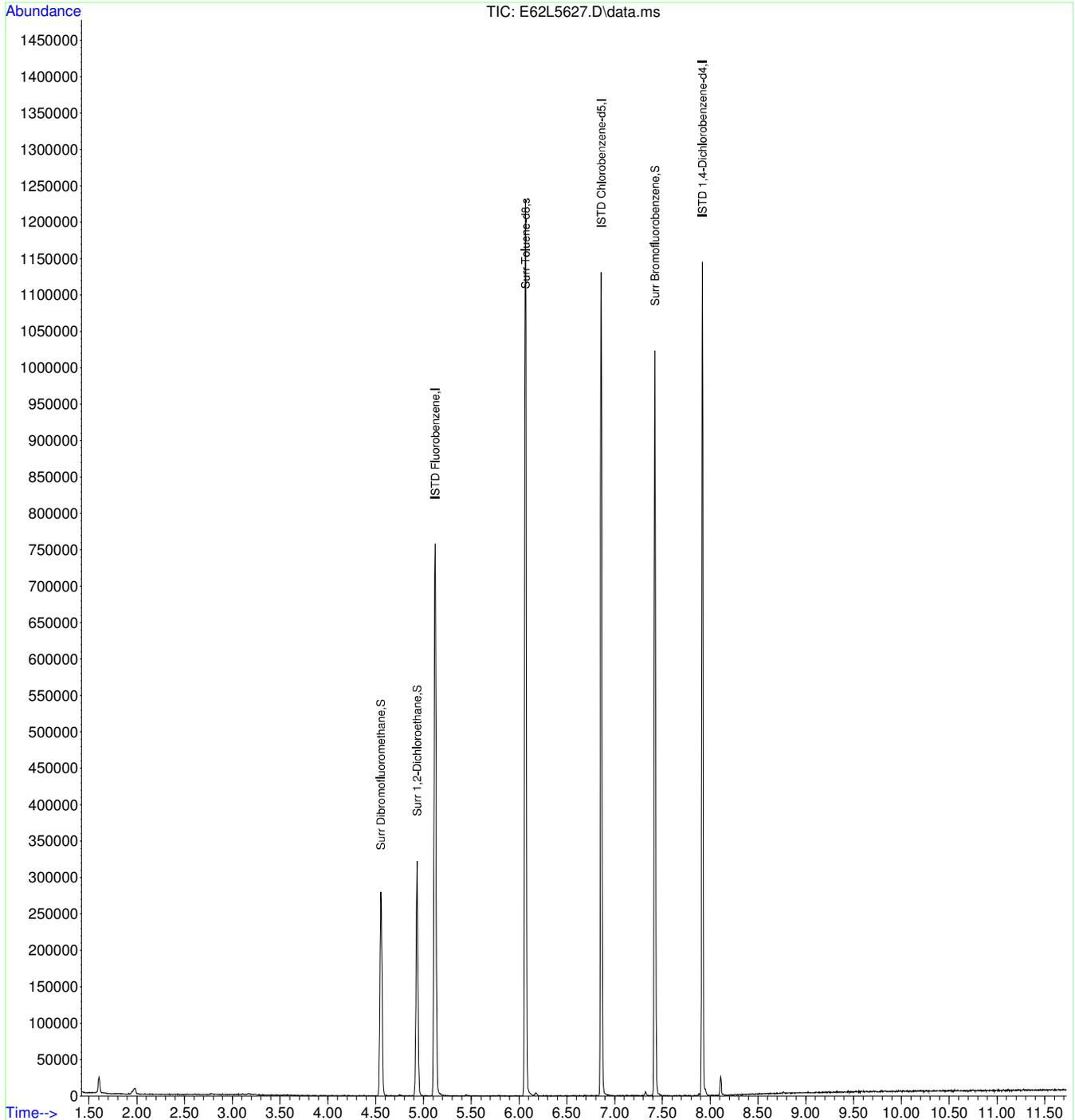
Quant Time: Mar 24 05:49:11 2013
Quant Method : C:\MSDCHEM\1\METHODS\DFULLW_13.M
Quant Title : VOA Calibration
QLast Update : Wed Mar 13 09:17:53 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\MAR13-D\22MAR13\
Data File : E62L5627.D
Acq On : 22 Mar 2013 9:10 pm
Operator : AAP
Sample : 1303562-007A
Misc : SAMP 5.0ML 1OF3 SB
ALS Vial : 12 Sample Multiplier: 1

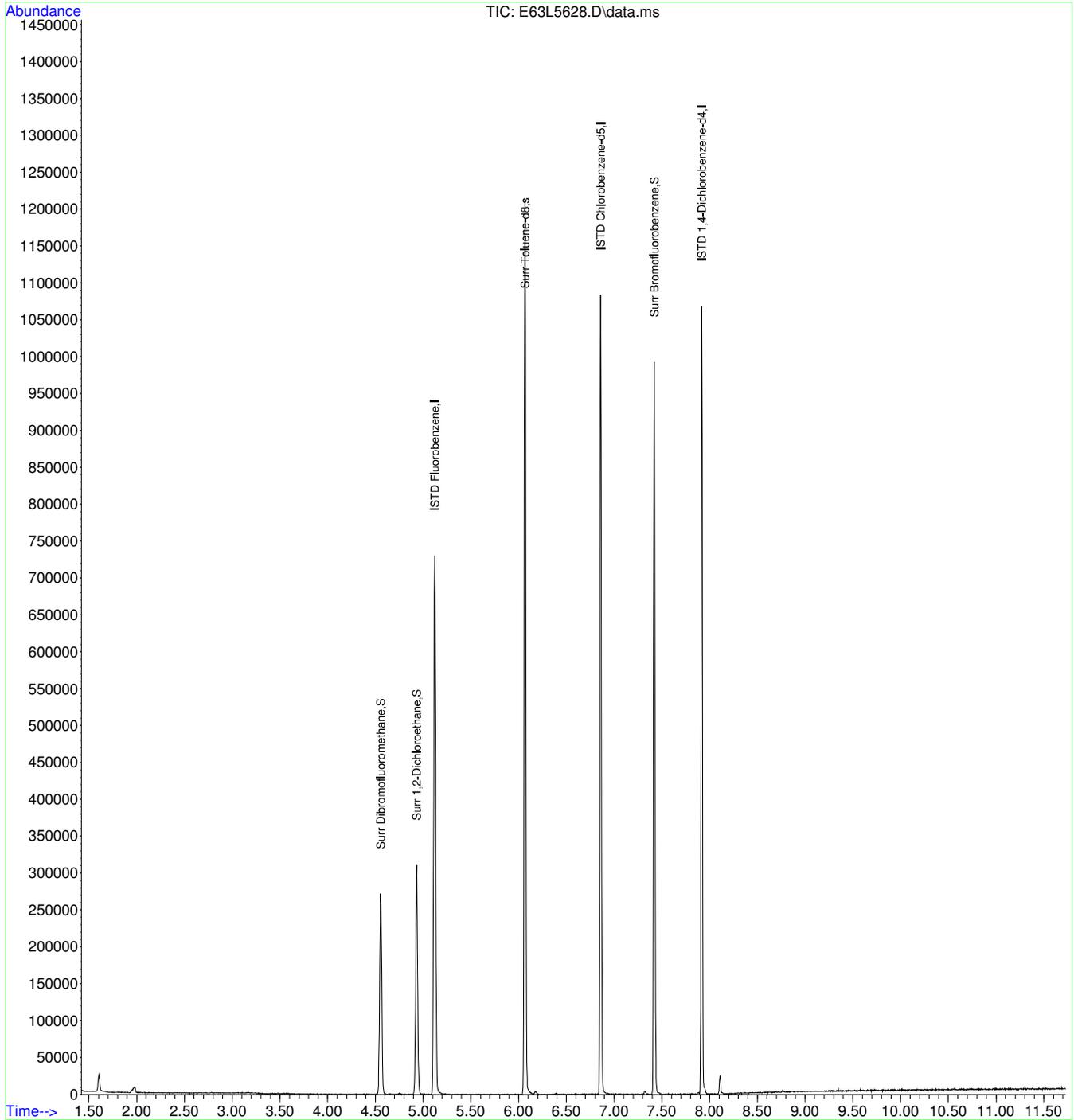
Quant Time: Mar 24 05:49:28 2013
Quant Method : C:\MSDCHEM\1\METHODS\DFULLW_13.M
Quant Title : VOA Calibration
QLast Update : Wed Mar 13 09:17:53 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\MAR13-D\22MAR13\
Data File : E63L5628.D
Acq On : 22 Mar 2013 9:29 pm
Operator : AAP
Sample : 1303562-008A
Misc : SAMP 5.0ML 1OF3 SB
ALS Vial : 13 Sample Multiplier: 1

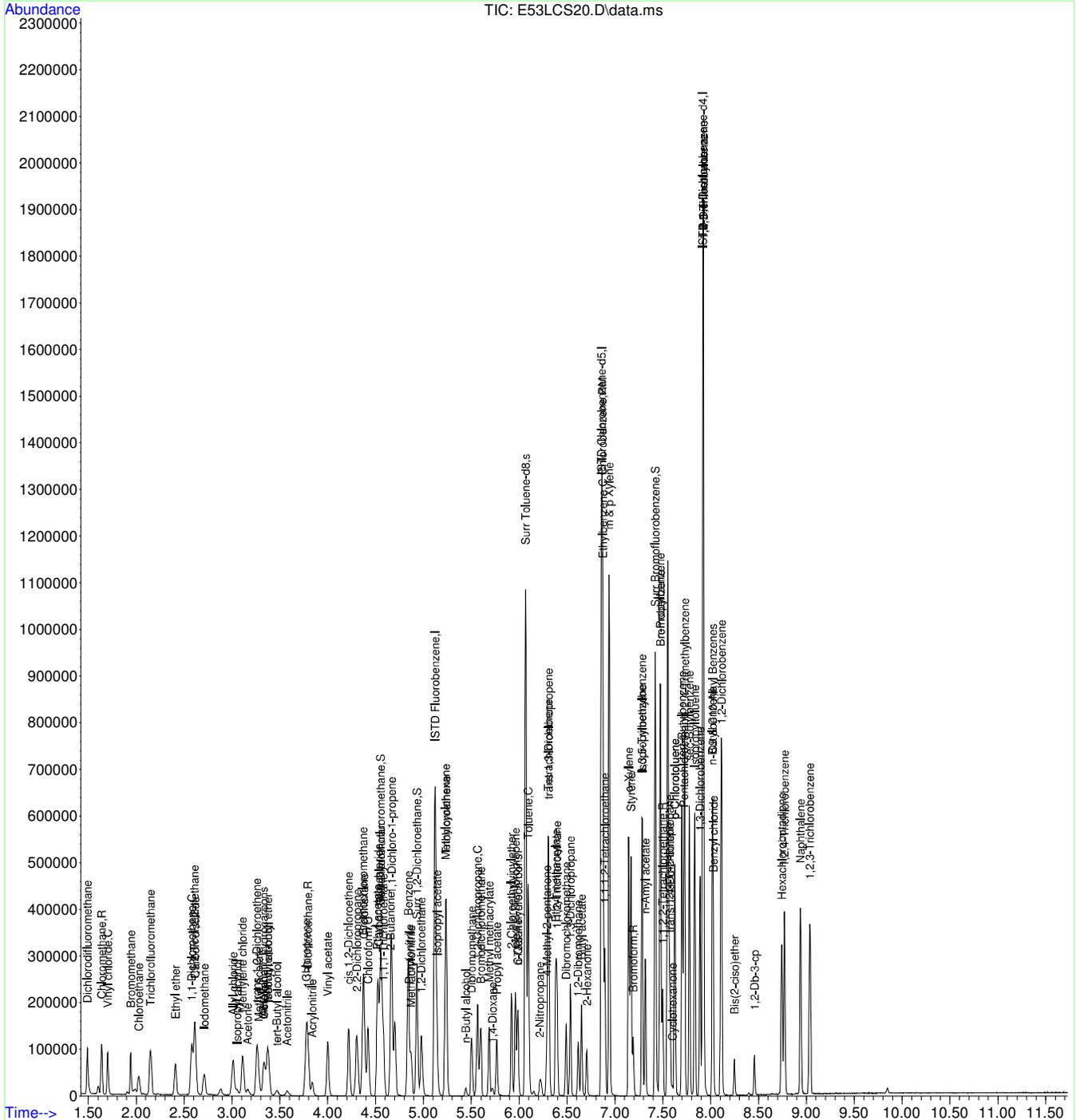
Quant Time: Mar 24 05:49:44 2013
Quant Method : C:\MSDCHEM\1\METHODS\DFULLW_13.M
Quant Title : VOA Calibration
QLast Update : Wed Mar 13 09:17:53 2013
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\MAR13-D\22MAR13\
 Data File : E53LCS20.D
 Acq On : 22 Mar 2013 6:19 pm
 Operator : AAP
 Sample : LCS VOC 032213A
 Misc : LCS SEE COVERSHEET FOR ID AND AMOUNT SB
 ALS Vial : 3 Sample Multiplier: 1

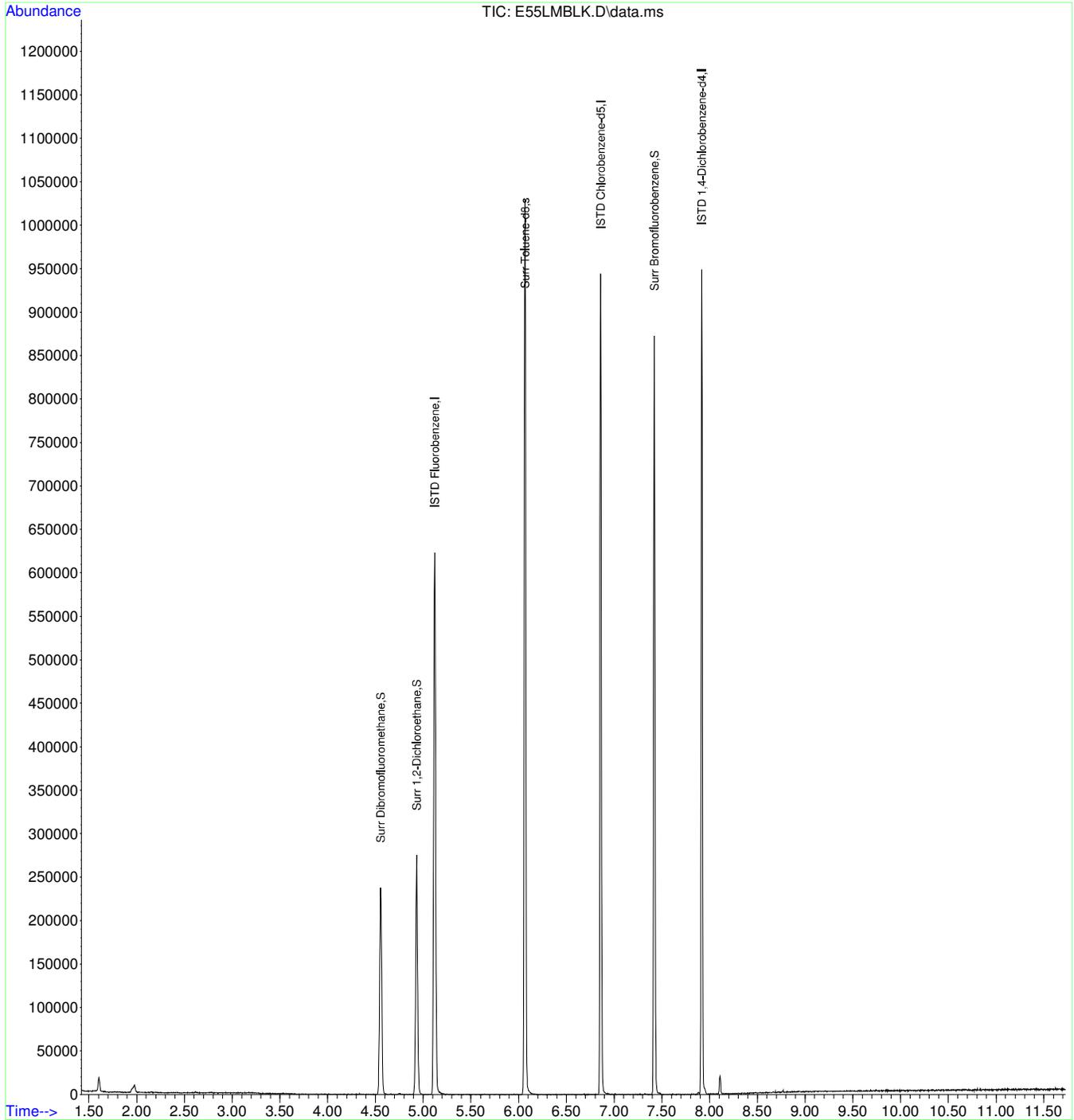
Quant Time: Mar 22 18:31:30 2013
 Quant Method : C:\MSDCHEM\1\METHODS\DFULLW_13.M
 Quant Title : VOA Calibration
 QLast Update : Wed Mar 13 09:17:53 2013
 Response via : Initial Calibration



Quantitation Report (QT Reviewed)

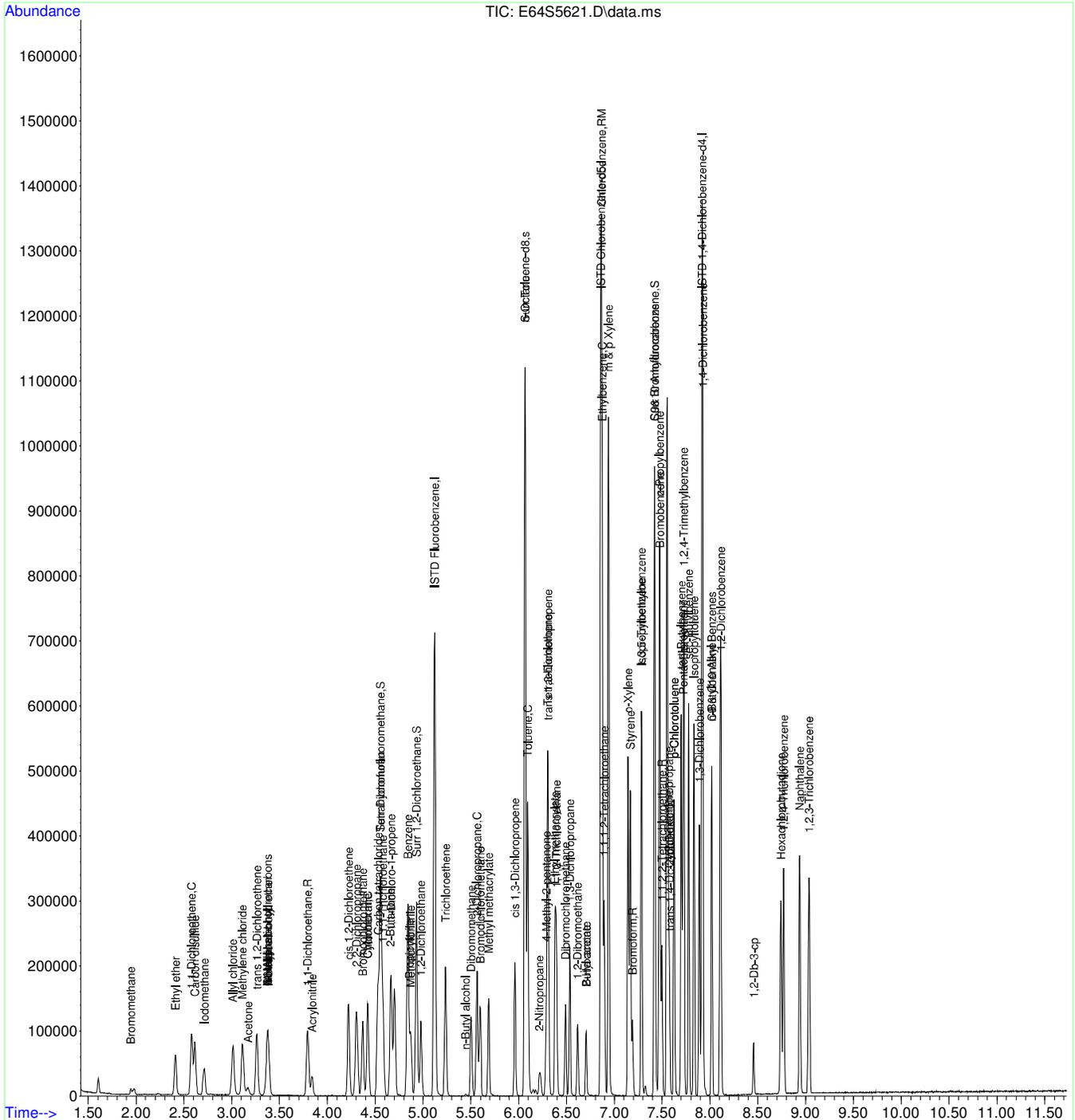
Data Path : C:\msdchem\1\data\MAR13-D\22MAR13\
Data File : E55LMBLK.D
Acq On : 22 Mar 2013 6:57 pm
Operator : AAP
Sample : MB VOC 032213A
Misc : MBLK 5.0ML SB
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 24 05:44:59 2013
Quant Method : C:\MSDCHEM\1\METHODS\DFULLW_13.M
Quant Title : VOA Calibration
QLast Update : Wed Mar 13 09:17:53 2013
Response via : Initial Calibration



Data Path : C:\msdchem\1\data\MAR13-D\22MAR13\
 Data File : E64S5621.D
 Acq On : 22 Mar 2013 9:48 pm
 Operator : AAP
 Sample : 1303562-001AMS
 Misc : MS 5.0ML 2OF3 SB/DL
 ALS Vial : 14 Sample Multiplier: 1

Quant Time: Mar 22 22:00:24 2013
 Quant Method : C:\MSDCHEM\1\METHODS\DFULLW_13.M
 Quant Title : VOA Calibration
 QLast Update : Wed Mar 13 09:17:53 2013
 Response via : Initial Calibration



WORK ORDER Summary

Work Order: **1303562** Page 1 of 3

Client: Utah Division of Water Quality

Due Date: 3/25/2013

Client ID: UTD200

Contact: Chris Bittner

Project: MP 44.9 Incident

QC Level: II+

WO Type: Standard

Comments: Next Day Rush - QC2+ / 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		
1303562-001A	East of I-15 / 4920392	3/22/2013 0915h	3/22/2013 1440h	8260-W	Aqueous	<input checked="" type="checkbox"/>	VOCFridge	3	
1303562-001B				3510-SVOA-PR		<input type="checkbox"/>	Walkin-Semi	2	
				8270-W		<input checked="" type="checkbox"/>	Walkin-Semi		
				8270-W-SIM		<input checked="" type="checkbox"/>	Walkin-Semi		
1303562-001C				3510-TPH-PR		<input type="checkbox"/>	Walkin-TPH (Liters)		
				8015-W-TPH(1L)		<input checked="" type="checkbox"/>	Walkin-TPH (Liters)		
				COD-HACH8000		<input type="checkbox"/>	ww - cod	1	
1303562-001D				3510-ORO-PR		<input type="checkbox"/>	Walkin-oro (Liters)		
				8015-W-ORO(1L)		<input type="checkbox"/>	Walkin-oro (Liters)		
1303562-001E				3510-ORO-PR		<input type="checkbox"/>	Walkin-oro (Liters)		
				8015-W-ORO(1L)		<input type="checkbox"/>	Walkin-oro (Liters)		
1303562-002A	South Marina / 4920495	3/22/2013 0945h	3/22/2013 1440h	8260-W	Aqueous	<input checked="" type="checkbox"/>	VOCFridge	3	
1303562-002B				3510-SVOA-PR		<input type="checkbox"/>	Walkin-Semi	2	
				8270-W		<input checked="" type="checkbox"/>	Walkin-Semi		
				8270-W-SIM		<input checked="" type="checkbox"/>	Walkin-Semi		
1303562-002C				3510-TPH-PR		<input type="checkbox"/>	Walkin-TPH (Liters)		
				8015-W-TPH(1L)		<input checked="" type="checkbox"/>	Walkin-TPH (Liters)		
1303562-002D				3510-ORO-PR		<input type="checkbox"/>	Walkin-oro (Liters)		
				8015-W-ORO(1L)		<input type="checkbox"/>	Walkin-oro (Liters)		
1303562-002E				3510-ORO-PR		<input type="checkbox"/>	Walkin-oro (Liters)		
				8015-W-ORO(1L)		<input type="checkbox"/>	Walkin-oro (Liters)		
1303562-003A	West of Boom / 4920396	3/22/2013 1015h	3/22/2013 1440h	8260-W	Aqueous	<input checked="" type="checkbox"/>	VOCFridge	3	
1303562-003B				3510-SVOA-PR		<input type="checkbox"/>	Walkin-Semi	2	
				8270-W		<input checked="" type="checkbox"/>	Walkin-Semi		
				8270-W-SIM		<input checked="" type="checkbox"/>	Walkin-Semi		
1303562-003C				3510-TPH-PR		<input type="checkbox"/>	Walkin-TPH (Liters)		

WORK ORDER Summary

Work Order: **1303562** Page 2 of 3

Client: Utah Division of Water Quality

Due Date: 3/25/2013

Sample ID	Client Sample ID	Collected Date	Received Date	Test Code	Matrix	Sel	Storage		
1303562-003C	West of Boom / 4920396	3/22/2013 1015h	3/22/2013 1440h	8015-W-TPH(1L)	Aqueous	<input checked="" type="checkbox"/>	Walkin-TPH (Liters)	2	
				<i>Test Group: 8015-W-TPH1L; # of Analytes: 1 / # of Surr: 1</i>					
1303562-003D				3510-ORO-PR		<input type="checkbox"/>	Walkin-oro (Liters)		
				8015-W-ORO(1L)		<input type="checkbox"/>	Walkin-oro (Liters)		
1303562-003E				COD-HACH8000		<input type="checkbox"/>	ww - cod	1	
1303562-004A	East of Boom / 4920395	3/22/2013 1030h	3/22/2013 1440h	8260-W	Aqueous	<input checked="" type="checkbox"/>	VOCFridge	3	
				<i>Test Group: 8260-W-Full; # of Analytes: 103 / # of Surr: 4</i>					
1303562-004B				3510-SVOA-PR		<input type="checkbox"/>	Walkin-Semi	2	
				8270-W		<input checked="" type="checkbox"/>	Walkin-Semi		
				<i>Test Group: 8270-W-Custom; # of Analytes: 140 / # of Surr: 6</i>					
				8270-W-SIM		<input checked="" type="checkbox"/>	Walkin-Semi		
				<i>Test Group: 8270-W-PNA-SIM; # of Analytes: 19 / # of Surr:</i>					
1303562-004C				3510-TPH-PR		<input type="checkbox"/>	Walkin-TPH (Liters)		
				8015-W-TPH(1L)		<input checked="" type="checkbox"/>	Walkin-TPH (Liters)		
				<i>Test Group: 8015-W-TPH1L; # of Analytes: 1 / # of Surr: 1</i>					
1303562-004D				3510-ORO-PR		<input type="checkbox"/>	Walkin-oro (Liters)		
				8015-W-ORO(1L)		<input type="checkbox"/>	Walkin-oro (Liters)		
1303562-004E				COD-HACH8000		<input type="checkbox"/>	ww - cod	1	
1303562-005A	Between Weirs / 4920394	3/22/2013 1100h	3/22/2013 1440h	8260-W	Aqueous	<input checked="" type="checkbox"/>	VOCFridge	3	
				<i>Test Group: 8260-W-Full; # of Analytes: 103 / # of Surr: 4</i>					
1303562-005B				3510-SVOA-PR		<input type="checkbox"/>	Walkin-Semi	2	
				8270-W		<input checked="" type="checkbox"/>	Walkin-Semi		
				<i>Test Group: 8270-W-Custom; # of Analytes: 140 / # of Surr: 6</i>					
				8270-W-SIM		<input checked="" type="checkbox"/>	Walkin-Semi		
				<i>Test Group: 8270-W-PNA-SIM; # of Analytes: 19 / # of Surr:</i>					
1303562-005C				3510-TPH-PR		<input type="checkbox"/>	Walkin-TPH (Liters)		
				8015-W-TPH(1L)		<input checked="" type="checkbox"/>	Walkin-TPH (Liters)		
				<i>Test Group: 8015-W-TPH1L; # of Analytes: 1 / # of Surr: 1</i>					
1303562-005D				3510-ORO-PR		<input type="checkbox"/>	Walkin-oro (Liters)		
				8015-W-ORO(1L)		<input type="checkbox"/>	Walkin-oro (Liters)		
1303562-005E				COD-HACH8000		<input type="checkbox"/>	ww - cod	1	
1303562-006A	North Boom / 4920397	3/22/2013 1045h	3/22/2013 1440h	8260-W	Aqueous	<input checked="" type="checkbox"/>	VOCFridge	3	
				<i>Test Group: 8260-W-Full; # of Analytes: 103 / # of Surr: 4</i>					
1303562-006B				3510-SVOA-PR		<input type="checkbox"/>	Walkin-Semi	2	
				8270-W		<input checked="" type="checkbox"/>	Walkin-Semi		
				<i>Test Group: 8270-W-Custom; # of Analytes: 140 / # of Surr: 6</i>					
				8270-W-SIM		<input checked="" type="checkbox"/>	Walkin-Semi		
				<i>Test Group: 8270-W-PNA-SIM; # of Analytes: 19 / # of Surr:</i>					
1303562-006C				3510-TPH-PR		<input type="checkbox"/>	Walkin-TPH (Liters)		

WORK ORDER Summary

Work Order: **1303562** Page 3 of 3

Client: Utah Division of Water Quality

Due Date: 3/25/2013

Sample ID	Client Sample ID	Collected Date	Received Date	Test Code	Matrix	Sel	Storage			
1303562-006C	North Boom / 4920397	3/22/2013 1045h	3/22/2013 1440h	8015-W-TPH(1L)	Aqueous	<input checked="" type="checkbox"/>	Walkin-TPH (Liters)	2		
				<i>Test Group: 8015-W-TPH1L; # of Analytes: 1 / # of Surr: 1</i>						
1303562-006D				3510-ORO-PR		<input type="checkbox"/>	Walkin-oro (Liters)			
				8015-W-ORO(1L)		<input type="checkbox"/>	Walkin-oro (Liters)			
1303562-006E				COD-HACH8000		<input type="checkbox"/>	ww - cod	1		
1303562-007A	Field Blank	3/22/2013 1035h	3/22/2013 1440h	8260-W	Aqueous	<input checked="" type="checkbox"/>	VOCFridge	3		
			<i>Test Group: 8260-W-Full; # of Analytes: 103 / # of Surr: 4</i>							
1303562-008A	Trip Blank	3/22/2013 0900h	3/22/2013 1440h	8260-W	Aqueous	<input checked="" type="checkbox"/>	VOCFridge	3		
			<i>Test Group: 8260-W-Full; # of Analytes: 103 / # of Surr: 4</i>							

Sample Set: 1303562

Preservation Check Sheet

Sample Set Extension and pH

Bottle Type	Preservative	All OK	Except														
			1	2	3	4	5	6									
Ammonia	pH <2 H ₂ SO ₄																
COD	pH <2 H ₂ SO ₄		yes	yes	yes	yes	yes	yes									
Cyanide	pH >12 NaOH																
Metals	pH <2 HNO ₃																
NO ₂ & NO ₃	pH <2 H ₂ SO ₄																
Nutrients	pH <2 H ₂ SO ₄																
O & G	pH <2 HCL																
Phenols	pH <2 H ₂ SO ₄																
Sulfide	pH > 9NaOH, Zn Acetate																
TKN	pH <2 H ₂ SO ₄																
TOC	pH <2 H ₃ PO ₄																
TOX	pH <2 H ₂ SO ₄																
T PO ₄	pH <2 H ₂ SO ₄																
TPH	pH <2 HCL																

h
3/12/13

- Procedure:
- 1) Pour a small amount of sample in the sample lid
 - 2) Pour sample from Lid gently over wide range pH paper
 - 3) **Do Not** dip the pH paper in the sample bottle or lid
 - 4) If sample is not preserved properly list its extension and receiving pH in the appropriate column above
 - 5) Flag COC, notify client if requested
 - 6) Place client conversation on COC
 - 7) Samples may be adjusted

Frequency: All samples requiring preservation