



AMERICAN
WEST
ANALYTICAL
LABORATORIES

Jim Harris
Utah DEQ DERR
168 N. 1950 W., 1st Floor
Salt Lake City, Ut 84116
TEL: (801) 536-4145

RE: Red Butte Spill

Dear Jim Harris:

Lab Set ID: 1012092

463 West 3600 South
Salt Lake City, UT
84115

American West Analytical Laboratories received 5 sample(s) on 12/6/2010 for the analyses presented in the following report.

All analyses were performed in accordance to The NELAC Institute protocols unless noted otherwise. American West Analytical Laboratories is certified by The NELAC Institute in Utah and Texas; and is state certified in Colorado and Idaho. Certification document is available upon request. If you have any questions or concerns regarding this report please feel free to call.

(801) 263-8686

Toll Free (888) 263-8686

Fax (801)263-8687

email: awal@awal-labs.com

Kyle F. Gross
Laboratory Director

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.

Jose Rocha
QA Officer

Thank You,

Approved by: _____
Laboratory Director or designee



INORGANIC ANALYTICAL REPORT

AMERICAN
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LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-001
Client Sample ID: Red Butte NR Greenhouse
Collection Date: 12/5/2010 1600h
Received Date: 12/6/2010 0952h

Contact: Jim Harris

463 West 3600 South
Salt Lake City, UT
84115

Analytical Results	Units	Date Prepared	Date Analyzed	Method Used	Reporting Limit	Analytical Result	Qual
Chemical Oxygen Demand	mg/L		12/6/2010 1130h	HACH 8000	10.0	< 10.0	
Total Recoverable Petroleum Hydrocarbons	mg/L		12/6/2010 1420h	E1664A-SGT	3.00	< 3.00	

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Jose Rocha
QA Officer



INORGANIC ANALYTICAL REPORT

AMERICAN
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LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-002
Client Sample ID: Red Butte AB Gardens 4992095
Collection Date: 12/5/2010 1620h
Received Date: 12/6/2010 0952h

Contact: Jim Harris

463 West 3600 South
Salt Lake City, UT
84115

Analytical Results	Units	Date Prepared	Date Analyzed	Method Used	Reporting Limit	Analytical Result	Qual
Chemical Oxygen Demand	mg/L		12/6/2010 1130h	HACH 8000	10.0	< 10.0	
Total Recoverable Petroleum Hydrocarbons	mg/L		12/6/2010 1420h	E1664A-SGT	3.00	< 3.00	

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Jose Rocha
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INORGANIC ANALYTICAL REPORT

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Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-003
Client Sample ID: Red Butte @ Foothill
Collection Date: 12/5/2010 1645h
Received Date: 12/6/2010 0952h

Contact: Jim Harris

463 West 3600 South
Salt Lake City, UT
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Analytical Results	Units	Date Prepared	Date Analyzed	Method Used	Reporting Limit	Analytical Result	Qual
Chemical Oxygen Demand	mg/L		12/6/2010 1130h	HACH 8000	10.0	13.0	
Total Recoverable Petroleum Hydrocarbons	mg/L		12/6/2010 1420h	E1664A-SGT	3.00	< 3.00	

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INORGANIC ANALYTICAL REPORT

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LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-004
Client Sample ID: Red Butte @ Miller Pk (1500 E.)
Collection Date: 12/5/2010 1700h
Received Date: 12/6/2010 0952h

Contact: Jim Harris

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Analytical Results	Units	Date Prepared	Date Analyzed	Method Used	Reporting Limit	Analytical Result	Qual
Chemical Oxygen Demand	mg/L		12/6/2010 1130h	HACH 8000	10.0	24.0	
Total Recoverable Petroleum Hydrocarbons	mg/L		12/6/2010 1420h	E1664A-SGT	3.00	< 3.00	

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INORGANIC ANALYTICAL REPORT

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Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-005
Client Sample ID: Red Butte @ 1100 E. 4992083
Collection Date: 12/5/2010 1725h
Received Date: 12/6/2010 0952h

Contact: Jim Harris

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Analytical Results	Units	Date Prepared	Date Analyzed	Method Used	Reporting Limit	Analytical Result	Qual
Chemical Oxygen Demand	mg/L		12/6/2010 1130h	HACH 8000	10.0	< 10.0	
Total Recoverable Petroleum Hydrocarbons	mg/L		12/6/2010 1420h	E1664A-SGT	3.00	< 3.00	

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ORGANIC ANALYTICAL REPORT

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Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-001D
Client Sample ID: Red Butte NR Greenhouse
Collection Date: 12/5/2010 1600h
Received Date: 12/6/2010 0952h
Method Used: SW8015D

Contact: Jim Harris

Analyzed: 12/7/2010 0122h

Extracted: 12/6/2010 1754h

Analytical Results

TPH-ORO by GC/FID Method 8015D/3510C

Units: mg/L

Dilution Factor: 1

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Compound	CAS Number	Reporting Limit	Analytical Result	Qual
Oil Range Organics (ORO) (C28-C36)		0.0510	< 0.0510	
Surr: C36		10-200	132	

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ORGANIC ANALYTICAL REPORT

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Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-002D
Client Sample ID: Red Butte AB Gardens 4992095
Collection Date: 12/5/2010 1620h
Received Date: 12/6/2010 0952h
Method Used: SW8015D

Contact: Jim Harris

Analyzed: 12/7/2010 0216h

Extracted: 12/6/2010 1754h

Analytical Results

TPH-ORO by GC/FID Method 8015D/3510C

Units: mg/L

Dilution Factor: 1

463 West 3600 South
Salt Lake City, UT
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Compound	CAS Number	Reporting Limit	Analytical Result	Qual
Oil Range Organics (ORO) (C28-C36)		0.0526	< 0.0526	
Surr: C36		10-200	140	

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ORGANIC ANALYTICAL REPORT

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Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-003D
Client Sample ID: Red Butte @ Foothill
Collection Date: 12/5/2010 1645h
Received Date: 12/6/2010 0952h
Method Used: SW8015D

Contact: Jim Harris

Analyzed: 12/7/2010 0235h

Extracted: 12/6/2010 1754h

Analytical Results

TPH-ORO by GC/FID Method 8015D/3510C

Units: mg/L

Dilution Factor: 1

463 West 3600 South
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84115

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
Oil Range Organics (ORO) (C28-C36)		0.0526	< 0.0526	
Surr: C36		10-200	137	

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Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-004D
Client Sample ID: Red Butte @ Miller Pk (1500 E.)
Collection Date: 12/5/2010 1700h
Received Date: 12/6/2010 0952h
Method Used: SW8015D

Contact: Jim Harris

Analyzed: 12/7/2010 0253h

Extracted: 12/6/2010 1754h

Analytical Results

TPH-ORO by GC/FID Method 8015D/3510C

Units: mg/L

Dilution Factor: 1

463 West 3600 South
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Compound	CAS Number	Reporting Limit	Analytical Result	Qual
Oil Range Organics (ORO) (C28-C36)		0.0510	< 0.0510	
Surr: C36		10-200	133	

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Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-005D
Client Sample ID: Red Butte @ 1100 E. 4992083
Collection Date: 12/5/2010 1725h
Received Date: 12/6/2010 0952h
Method Used: SW8015D

Contact: Jim Harris

Analyzed: 12/7/2010 0311h

Extracted: 12/6/2010 1754h

Analytical Results

TPH-ORO by GC/FID Method 8015D/3510C

Units: mg/L

Dilution Factor: 1

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Compound	CAS Number	Reporting Limit	Analytical Result	Qual
Oil Range Organics (ORO) (C28-C36)		0.0510	< 0.0510	
Surr: C36		10-200	138	

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ORGANIC ANALYTICAL REPORT

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Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-001C
Client Sample ID: Red Butte NR Greenhouse
Collection Date: 12/5/2010 1600h
Received Date: 12/6/2010 0952h
Method Used: SW8015D

Contact: Jim Harris

Analyzed: 12/7/2010 1711h

Extracted: 12/6/2010 1126h

Analytical Results

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

Units: mg/L

Dilution Factor: 1

463 West 3600 South
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Compound	CAS Number	Reporting Limit	Analytical Result	Qual
Diesel Range Organics C10-C28	68476-34-6	0.500	< 0.500	
Surr: 4-Bromofluorobenzene	460-00-4	10-190	77.0	

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ORGANIC ANALYTICAL REPORT

AMERICAN
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LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-002C
Client Sample ID: Red Butte AB Gardens 4992095
Collection Date: 12/5/2010 1620h
Received Date: 12/6/2010 0952h
Method Used: SW8015D

Contact: Jim Harris

Analyzed: 12/7/2010 1814h

Extracted: 12/6/2010 1126h

Analytical Results

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

Units: mg/L

Dilution Factor: 1

463 West 3600 South
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84115

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
Diesel Range Organics C10-C28	68476-34-6	0.571	< 0.571	
Surr: 4-Bromofluorobenzene	460-00-4	10-190	66.0	

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ORGANIC ANALYTICAL REPORT

AMERICAN
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LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-003C
Client Sample ID: Red Butte @ Foothill
Collection Date: 12/5/2010 1645h
Received Date: 12/6/2010 0952h
Method Used: SW8015D

Contact: Jim Harris

Analyzed: 12/7/2010 1835h

Extracted: 12/6/2010 1126h

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

Units: mg/L

Dilution Factor: 1

463 West 3600 South
Salt Lake City, UT
84115

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
Diesel Range Organics C10-C28	68476-34-6	0.500	< 0.500	
Surr: 4-Bromofluorobenzene	460-00-4	10-190	45.4	

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ORGANIC ANALYTICAL REPORT

AMERICAN
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LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-004C
Client Sample ID: Red Butte @ Miller Pk (1500 E.)
Collection Date: 12/5/2010 1700h
Received Date: 12/6/2010 0952h
Method Used: SW8015D

Contact: Jim Harris

Analyzed: 12/7/2010 1939h

Extracted: 12/6/2010 1126h

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

Units: mg/L

Dilution Factor: 1

463 West 3600 South
Salt Lake City, UT

84115

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
Diesel Range Organics C10-C28	68476-34-6	0.500	< 0.500	
Surr: 4-Bromofluorobenzene	460-00-4	10-190	56.0	

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ORGANIC ANALYTICAL REPORT

AMERICAN
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LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-005C
Client Sample ID: Red Butte @ 1100 E. 4992083
Collection Date: 12/5/2010 1725h
Received Date: 12/6/2010 0952h
Method Used: SW8015D

Contact: Jim Harris

Analyzed: 12/7/2010 2000h

Extracted: 12/6/2010 1126h

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

Units: mg/L

Dilution Factor: 1

463 West 3600 South
Salt Lake City, UT
84115

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
Diesel Range Organics C10-C28	68476-34-6	0.500	< 0.500	
Surr: 4-Bromofluorobenzene	460-00-4	10-190	58.5	

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ORGANIC ANALYTICAL REPORT

AMERICAN
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LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-001B
Client Sample ID: Red Butte NR Greenhouse
Collection Date: 12/5/2010 1600h
Received Date: 12/6/2010 0952h
Method Used: SW8270D

Contact: Jim Harris

Analyzed: 12/6/2010 2221h

Extracted: 12/6/2010 1128h

Analytical Results

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

Units: µg/L

Dilution Factor: 1

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
84115 Acenaphthene	83-32-9	10.0	< 10.0	
Acenaphthylene	208-96-8	10.0	< 10.0	
Anthracene	120-12-7	10.0	< 10.0	
Benz(a)anthracene	56-55-3	10.0	< 10.0	
(801) 263-8686 Benzo(a)pyrene	50-32-8	10.0	< 10.0	
Toll Free (888) 263-8686 Benzo(b)fluoranthene	205-99-2	10.0	< 10.0	
Fax (801)263-8687 Benzo(g,h,i)perylene	191-24-2	10.0	< 10.0	
email: awal@awal-labs.com Benzo(k)fluoranthene	207-08-9	10.0	< 10.0	
Chrysene	218-01-9	10.0	< 10.0	
Kyle F. Gross Dibenz(a,h)anthracene	53-70-3	10.0	< 10.0	
Laboratory Director Fluoranthene	206-44-0	10.0	< 10.0	
Fluorene	86-73-7	10.0	< 10.0	
Jose Rocha Indeno(1,2,3-cd)pyrene	193-39-5	10.0	< 10.0	
QA Officer Phenanthrene	85-01-8	10.0	< 10.0	
Pyrene	129-00-0	10.0	< 10.0	
C11-C12 Aliphatic hydrocarbons		10.0	< 10.0	
C13-C16 Aliphatic hydrocarbons		10.0	< 10.0	
C17-C21 Aliphatic hydrocarbons		10.0	< 10.0	
C22-C35 Aliphatic hydrocarbons		10.0	< 10.0	
C11-C13 Alkyl Naphthalenes		10.0	< 10.0	
Total C12-C22 PAH**		10.0	< 10.0	
Surr: Terphenyl-d14	1718-51-0	10-199	89.8	

** - This value is a summation of the PAH compounds listed above.



ORGANIC ANALYTICAL REPORT

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LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-002B
Client Sample ID: Red Butte AB Gardens 4992095
Collection Date: 12/5/2010 1620h
Received Date: 12/6/2010 0952h
Method Used: SW8270D

Contact: Jim Harris

Analyzed: 12/6/2010 2344h

Extracted: 12/6/2010 1128h

Analytical Results

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

Units: µg/L

Dilution Factor: 1

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

84115	Acenaphthene	83-32-9	10.8	< 10.8	
	Acenaphthylene	208-96-8	10.8	< 10.8	
	Anthracene	120-12-7	10.8	< 10.8	
	Benz(a)anthracene	56-55-3	10.8	< 10.8	
(801) 263-8686	Benzo(a)pyrene	50-32-8	10.8	< 10.8	
Toll Free (888) 263-8686	Benzo(b)fluoranthene	205-99-2	10.8	< 10.8	
Fax (801)263-8687	Benzo(g,h,i)perylene	191-24-2	10.8	< 10.8	
email: awal@awal-labs.com	Benzo(k)fluoranthene	207-08-9	10.8	< 10.8	
	Chrysene	218-01-9	10.8	< 10.8	
Kyle F. Gross	Dibenz(a,h)anthracene	53-70-3	10.8	< 10.8	
Laboratory Director	Fluoranthene	206-44-0	10.8	< 10.8	
	Fluorene	86-73-7	10.8	< 10.8	
Jose Rocha	Indeno(1,2,3-cd)pyrene	193-39-5	10.8	< 10.8	
QA Officer	Phenanthrene	85-01-8	10.8	< 10.8	
	Pyrene	129-00-0	10.8	< 10.8	
	C11-C12 Aliphatic hydrocarbons		10.8	< 10.8	
	C13-C16 Aliphatic hydrocarbons		10.8	< 10.8	
	C17-C21 Aliphatic hydrocarbons		10.8	< 10.8	
	C22-C35 Aliphatic hydrocarbons		10.8	< 10.8	
	C11-C13 Alkyl Naphthalenes		10.8	< 10.8	
	Total C12-C22 PAH**		10.8	< 10.8	
	Surr: Terphenyl-d14	1718-51-0	10-199	90.5	

** - This value is a summation of the PAH compounds listed above.



ORGANIC ANALYTICAL REPORT

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Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-003B
Client Sample ID: Red Butte @ Foothill
Collection Date: 12/5/2010 1645h
Received Date: 12/6/2010 0952h
Method Used: SW8270D

Contact: Jim Harris

Analyzed: 12/7/2010 0012h

Extracted: 12/6/2010 1128h

Analytical Results

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

Units: µg/L

Dilution Factor: 1

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

84115	Acenaphthene	83-32-9	10.0	< 10.0	
	Acenaphthylene	208-96-8	10.0	< 10.0	
	Anthracene	120-12-7	10.0	< 10.0	
	Benz(a)anthracene	56-55-3	10.0	< 10.0	
(801) 263-8686	Benzo(a)pyrene	50-32-8	10.0	< 10.0	
Toll Free (888) 263-8686	Benzo(b)fluoranthene	205-99-2	10.0	< 10.0	
Fax (801)263-8687	Benzo(g,h,i)perylene	191-24-2	10.0	< 10.0	
email: awal@awal-labs.com	Benzo(k)fluoranthene	207-08-9	10.0	< 10.0	
	Chrysene	218-01-9	10.0	< 10.0	
Kyle F. Gross	Dibenz(a,h)anthracene	53-70-3	10.0	< 10.0	
Laboratory Director	Fluoranthene	206-44-0	10.0	< 10.0	
	Fluorene	86-73-7	10.0	< 10.0	
Jose Rocha	Indeno(1,2,3-cd)pyrene	193-39-5	10.0	< 10.0	
QA Officer	Phenanthrene	85-01-8	10.0	< 10.0	
	Pyrene	129-00-0	10.0	< 10.0	
	C11-C12 Aliphatic hydrocarbons		10.0	< 10.0	
	C13-C16 Aliphatic hydrocarbons		10.0	< 10.0	
	C17-C21 Aliphatic hydrocarbons		10.0	< 10.0	
	C22-C35 Aliphatic hydrocarbons		10.0	< 10.0	
	C11-C13 Alkyl Naphthalenes		10.0	< 10.0	
	Total C12-C22 PAH**		10.0	< 10.0	
	Surr: Terphenyl-d14	1718-51-0	10-199	91.5	

** - This value is a summation of the PAH compounds listed above.



ORGANIC ANALYTICAL REPORT

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LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-004B
Client Sample ID: Red Butte @ Miller Pk (1500 E.)
Collection Date: 12/5/2010 1700h
Received Date: 12/6/2010 0952h
Method Used: SW8270D

Contact: Jim Harris

Analyzed: 12/7/2010 0039h

Extracted: 12/6/2010 1128h

Analytical Results

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

Units: µg/L

Dilution Factor: 1

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

84115	Acenaphthene	83-32-9	10.0	< 10.0	
	Acenaphthylene	208-96-8	10.0	< 10.0	
	Anthracene	120-12-7	10.0	< 10.0	
	Benz(a)anthracene	56-55-3	10.0	< 10.0	
(801) 263-8686	Benzo(a)pyrene	50-32-8	10.0	< 10.0	
Toll Free (888) 263-8686	Benzo(b)fluoranthene	205-99-2	10.0	< 10.0	
Fax (801)263-8687	Benzo(g,h,i)perylene	191-24-2	10.0	< 10.0	
email: awal@awal-labs.com	Benzo(k)fluoranthene	207-08-9	10.0	< 10.0	
	Chrysene	218-01-9	10.0	< 10.0	
Kyle F. Gross	Dibenz(a,h)anthracene	53-70-3	10.0	< 10.0	
Laboratory Director	Fluoranthene	206-44-0	10.0	< 10.0	
	Fluorene	86-73-7	10.0	< 10.0	
Jose Rocha	Indeno(1,2,3-cd)pyrene	193-39-5	10.0	< 10.0	
QA Officer	Phenanthrene	85-01-8	10.0	< 10.0	
	Pyrene	129-00-0	10.0	< 10.0	
	C11-C12 Aliphatic hydrocarbons		10.0	< 10.0	
	C13-C16 Aliphatic hydrocarbons		10.0	< 10.0	
	C17-C21 Aliphatic hydrocarbons		10.0	< 10.0	
	C22-C35 Aliphatic hydrocarbons		10.0	< 10.0	
	C11-C13 Alkyl Naphthalenes		10.0	< 10.0	
	Total C12-C22 PAH**		10.0	< 10.0	
	Surr: Terphenyl-d14	1718-51-0	10-199	89.0	

** - This value is a summation of the PAH compounds listed above.



ORGANIC ANALYTICAL REPORT

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-005B
Client Sample ID: Red Butte @ 1100 E. 4992083
Collection Date: 12/5/2010 1725h
Received Date: 12/6/2010 0952h
Method Used: SW8270D

Contact: Jim Harris

Analyzed: 12/7/2010 0107h

Extracted: 12/6/2010 1128h

Analytical Results

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

Units: µg/L

Dilution Factor: 1

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

84115	Acenaphthene	83-32-9	10.0	< 10.0	
	Acenaphthylene	208-96-8	10.0	< 10.0	
	Anthracene	120-12-7	10.0	< 10.0	
	Benz(a)anthracene	56-55-3	10.0	< 10.0	
(801) 263-8686	Benzo(a)pyrene	50-32-8	10.0	< 10.0	
Toll Free (888) 263-8686	Benzo(b)fluoranthene	205-99-2	10.0	< 10.0	
Fax (801)263-8687	Benzo(g,h,i)perylene	191-24-2	10.0	< 10.0	
email: awal@awal-labs.com	Benzo(k)fluoranthene	207-08-9	10.0	< 10.0	
	Chrysene	218-01-9	10.0	< 10.0	
Kyle F. Gross	Dibenz(a,h)anthracene	53-70-3	10.0	< 10.0	
Laboratory Director	Fluoranthene	206-44-0	10.0	< 10.0	
	Fluorene	86-73-7	10.0	< 10.0	
Jose Rocha	Indeno(1,2,3-cd)pyrene	193-39-5	10.0	< 10.0	
QA Officer	Phenanthrene	85-01-8	10.0	< 10.0	
	Pyrene	129-00-0	10.0	< 10.0	
	C11-C12 Aliphatic hydrocarbons		10.0	< 10.0	
	C13-C16 Aliphatic hydrocarbons		10.0	< 10.0	
	C17-C21 Aliphatic hydrocarbons		10.0	< 10.0	
	C22-C35 Aliphatic hydrocarbons		10.0	< 10.0	
	C11-C13 Alkyl Naphthalenes		10.0	< 10.0	
	Total C12-C22 PAH**		10.0	< 10.0	
	Surr: Terphenyl-d14	1718-51-0	10-199	85.2	

** - This value is a summation of the PAH compounds listed above.



ORGANIC ANALYTICAL REPORT

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-001B
Client Sample ID: Red Butte NR Greenhouse
Collection Date: 12/5/2010 1600h
Received Date: 12/6/2010 0952h
Method Used: EPA625

Contact: Jim Harris

Analyzed: 12/6/2010 2221h

Extracted: 12/6/2010 1128h

Analytical Results

SVOA by GC/MS Method 625/3510

Units: µg/L

Dilution Factor: 1

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

84115	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	
(801) 263-8686	1,3,5-Trinitrobenzene	99-35-4	10.0	< 10.0	1
Toll Free (888) 263-8686	1,4-Naphthoquinone	130-15-4	10.0	< 10.0	
Fax (801)263-8687	1,3-Dichlorobenzene	541-73-1	10.0	< 10.0	
email: awal@awal-labs.com	1,3-Dinitrobenzene	99-65-0	10.0	< 10.0	
	1,4-Dichlorobenzene	106-46-7	10.0	< 10.0	
Kyle F. Gross	1,4-Phenylenediamine	106-50-3	10.0	< 10.0	
Laboratory Director	1-Chloronaphthalene	90-13-1	10.0	< 10.0	
	1-Methylnaphthalene	90-12-0	10.0	< 10.0	
Jose Rocha	1-Naphthylamine	134-32-7	10.0	< 10.0	
QA Officer	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	20.0	< 20.0	
	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	

Report Date: 12/8/2010 Page 22 of 147



ORGANIC ANALYTICAL REPORT

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-001B
Client Sample ID: Red Butte NR Greenhouse
Collection Date: 12/5/2010 1600h
Received Date: 12/6/2010 0952h
Method Used: EPA625

Contact: Jim Harris

Analyzed: 12/6/2010 2221h

Extracted: 12/6/2010 1128h

Analytical Results

SVOA by GC/MS Method 625/3510

Units: µg/L

Dilution Factor: 1

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

463 West 3600 South
Salt Lake City, UT
84115
(801) 263-8686
Toll Free (888) 263-8686
Fax (801)263-8687
email: awal@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	1
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	
Azobenzene	103-33-3	10.0	< 10.0	
Benz(a)anthracene	56-55-3	10.0	< 10.0	
Benzidine	92-87-5	10.0	< 10.0	
Benzo(a)pyrene	50-32-8	10.0	< 10.0	



ORGANIC ANALYTICAL REPORT

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-001B
Client Sample ID: Red Butte NR Greenhouse
Collection Date: 12/5/2010 1600h
Received Date: 12/6/2010 0952h
Method Used: EPA625

Contact: Jim Harris

Analyzed: 12/6/2010 2221h

Extracted: 12/6/2010 1128h

Analytical Results

SVOA by GC/MS Method 625/3510

Units: µg/L

Dilution Factor: 1

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
84115 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	
(801) 263-8686 Benzyl alcohol	100-51-6	10.0	< 10.0	
Toll Free (888) 263-8686 Bis(2-chloroethoxy)methane	111-91-1	10.0	< 10.0	
Fax (801)263-8687 Bis(2-chloroethyl) ether	111-44-4	10.0	< 10.0	
email: awal@awal-labs.com Bis(2-chloroisopropyl) ether	108-60-1	10.0	< 10.0	
Bis(2-ethylhexyl) phthalate	117-81-7	10.0	< 10.0	
Kyle F. Gross Laboratory Director bis(2-ethylhexyl)adipate	103-23-1	10.0	< 10.0	
Butyl benzyl phthalate	85-68-7	10.0	< 10.0	
Carbazole	86-74-8	10.0	< 10.0	
Chlorobenzilate	510-15-6	10.0	< 10.0	
Jose Rocha QA Officer 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	1
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	1
Fluoranthene	206-44-0	10.0	< 10.0	



ORGANIC ANALYTICAL REPORT

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-001B
Client Sample ID: Red Butte NR Greenhouse
Collection Date: 12/5/2010 1600h
Received Date: 12/6/2010 0952h
Method Used: EPA625

Contact: Jim Harris

Analyzed: 12/6/2010 2221h

Extracted: 12/6/2010 1128h

Analytical Results

SVOA by GC/MS Method 625/3510

Units: µg/L

Dilution Factor: 1

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

463 West 3600 South
Salt Lake City, UT
84115
(801) 263-8686
Toll Free (888) 263-8686
Fax (801)263-8687
email: awal@awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
84115 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	
(801) 263-8686 Hexachloroethane	67-72-1	10.0	< 10.0	
Toll Free (888) 263-8686 Hexachlorophene	70-30-4	10.0	< 10.0	
Fax (801)263-8687 Hexachloropropene	1888-71-7	10.0	< 10.0	
email: awal@awal-labs.com 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	
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	



ORGANIC ANALYTICAL REPORT

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-001B
Client Sample ID: Red Butte NR Greenhouse
Collection Date: 12/5/2010 1600h
Received Date: 12/6/2010 0952h
Method Used: EPA625

Contact: Jim Harris

Analyzed: 12/6/2010 2221h

Extracted: 12/6/2010 1128h

Analytical Results

SVOA by GC/MS Method 625/3510

Units: µg/L

Dilution Factor: 1

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
84115 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	
(801) 263-8686 Pentachlorobenzene	608-93-5	10.0	< 10.0	
Toll Free (888) 263-8686 Pentachloronitrobenzene	82-68-8	10.0	< 10.0	
Fax (801)263-8687 Pentachlorophenol	87-86-5	10.0	< 10.0	
email: awal@awal-labs.com Phenacetin	62-44-2	10.0	< 10.0	
Phenanthrene	85-01-8	10.0	< 10.0	
Kyle F. Gross Phenol	108-95-2	10.0	< 10.0	
Laboratory Director Phorate	298-02-2	10.0	< 10.0	
Pronamide	23950-58-5	10.0	< 10.0	
Pyrene	129-00-0	10.0	< 10.0	
Jose Rocha Pyridine	110-86-1	10.0	< 10.0	~
QA Officer Quinoline	91-22-5	10.0	< 10.0	1
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	
Surr: 2,4,6-Tribromophenol	118-79-6	10-159	68.3	
Surr: 2-Fluorobiphenyl	321-60-8	10-124	56.7	
Surr: 2-Fluorophenol	367-12-4	10-106	27.5	
Surr: Nitrobenzene-d5	4165-60-0	10-180	37.2	
Surr: Phenol-d6	13127-88-3	10-122	24.6	
Surr: Terphenyl-d14	1718-51-0	10-199	89.8	

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

~ - LCS outliers are not target compounds for method 625 but are provided by AWAL as an additional service.

The sample was analyzed for TICs. Those results can be found on pages 146 to 147.



ORGANIC ANALYTICAL REPORT

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-002B
Client Sample ID: Red Butte AB Gardens 4992095
Collection Date: 12/5/2010 1620h
Received Date: 12/6/2010 0952h
Method Used: EPA625

Contact: Jim Harris

Analyzed: 12/6/2010 2344h

Extracted: 12/6/2010 1128h

Analytical Results

SVOA by GC/MS Method 625/3510

Units: µg/L

Dilution Factor: 1

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

463 West 3600 South
Salt Lake City, UT
84115
(801) 263-8686
Toll Free (888) 263-8686
Fax (801)263-8687
email: awal@awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

1,1'-Biphenyl	92-52-4	10.8	< 10.8	
1,2,4,5-Tetrachlorobenzene	95-94-3	10.8	< 10.8	
1,2,4-Trichlorobenzene	120-82-1	10.8	< 10.8	
1,2-Dichlorobenzene	95-50-1	10.8	< 10.8	
1,3,5-Trinitrobenzene	99-35-4	10.8	< 10.8	
1,4-Naphthoquinone	130-15-4	10.8	< 10.8	
1,3-Dichlorobenzene	541-73-1	10.8	< 10.8	
1,3-Dinitrobenzene	99-65-0	10.8	< 10.8	
1,4-Dichlorobenzene	106-46-7	10.8	< 10.8	
1,4-Phenylenediamine	106-50-3	10.8	< 10.8	
1-Chloronaphthalene	90-13-1	10.8	< 10.8	
1-Methylnaphthalene	90-12-0	10.8	< 10.8	
1-Naphthylamine	134-32-7	10.8	< 10.8	
2,3,4,6-Tetrachlorophenol	58-90-2	10.8	< 10.8	
2,4,5-Trichlorophenol	95-95-4	10.8	< 10.8	
2,4,6-Trichlorophenol	88-06-2	10.8	< 10.8	
2,4-Dichlorophenol	120-83-2	10.8	< 10.8	
2,4-Dimethylphenol	105-67-9	10.8	< 10.8	
2,4-Dinitrophenol	51-28-5	21.6	< 21.6	
2,4-Dinitrotoluene	121-14-2	10.8	< 10.8	
2,6-Dichlorophenol	87-65-0	10.8	< 10.8	
2,6-Dinitrotoluene	606-20-2	10.8	< 10.8	
2-Acetylaminofluorene	53-96-3	10.8	< 10.8	
2-Chloronaphthalene	91-58-7	10.8	< 10.8	
2-Chlorophenol	95-57-8	10.8	< 10.8	
2-Methylnaphthalene	91-57-6	10.8	< 10.8	
2-Methylphenol	95-48-7	10.8	< 10.8	
2-Naphthylamine	91-59-8	10.8	< 10.8	
2-Nitroaniline	88-74-4	10.8	< 10.8	

Report Date: 12/8/2010 Page 27 of 147



ORGANIC ANALYTICAL REPORT

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-002B
Client Sample ID: Red Butte AB Gardens 4992095
Collection Date: 12/5/2010 1620h
Received Date: 12/6/2010 0952h
Method Used: EPA625

Contact: Jim Harris

Analyzed: 12/6/2010 2344h

Extracted: 12/6/2010 1128h

Analytical Results

SVOA by GC/MS Method 625/3510

Units: µg/L

Dilution Factor: 1

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

463 West 3600 South
Salt Lake City, UT
84115
(801) 263-8686
Toll Free (888) 263-8686
Fax (801)263-8687
email: awal@awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

84115	2-Nitrophenol	88-75-5	10.8	< 10.8	
	2-Picoline	109-06-8	10.8	< 10.8	~
	3&4-Methylphenol		10.8	< 10.8	
	3,3'-Dichlorobenzidine	91-94-1	10.8	< 10.8	
(801) 263-8686	3,3'-Dimethylbenzidine	119-93-7	10.8	< 10.8	
Toll Free (888) 263-8686	3-Methylcholanthrene	56-49-5	10.8	< 10.8	
Fax (801)263-8687	3-Nitroaniline	99-09-2	10.8	< 10.8	
email: awal@awal-labs.com	4,6-Dinitro-2-methylphenol	534-52-1	10.8	< 10.8	
	4-Aminobiphenyl	92-67-1	10.8	< 10.8	
Kyle F. Gross	4-Bromophenyl phenyl ether	101-55-3	10.8	< 10.8	
Laboratory Director	4-Chloro-3-methylphenol	59-50-7	10.8	< 10.8	
	4-Chloroaniline	106-47-8	10.8	< 10.8	
	4-Chlorophenyl phenyl ether	7005-72-3	10.8	< 10.8	
Jose Rocha	4-Nitroaniline	100-01-6	10.8	< 10.8	
QA Officer	4-Nitrophenol	100-02-7	10.8	< 10.8	
	5-Nitro-o-toluidine	99-55-8	10.8	< 10.8	
	7,12-Dimethylbenz(a)anthracene	57-97-6	10.8	< 10.8	
	a,a-Dimethylphenethylamine	122-09-8	10.8	< 10.8	
	Acenaphthene	83-32-9	10.8	< 10.8	
	Acenaphthylene	208-96-8	10.8	< 10.8	
	Acetophenone	98-86-2	10.8	< 10.8	
	alpha-Terpineol	98-55-5	10.8	< 10.8	
	Aniline	62-53-3	10.8	< 10.8	
	Anthracene	120-12-7	10.8	< 10.8	
	Aramite	140-57-8	10.8	< 10.8	
	Azobenzene	103-33-3	10.8	< 10.8	
	Benz(a)anthracene	56-55-3	10.8	< 10.8	
	Benzidine	92-87-5	10.8	< 10.8	
	Benzo(a)pyrene	50-32-8	10.8	< 10.8	

Report Date: 12/8/2010 Page 28 of 147



ORGANIC ANALYTICAL REPORT

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-002B
Client Sample ID: Red Butte AB Gardens 4992095
Collection Date: 12/5/2010 1620h
Received Date: 12/6/2010 0952h
Method Used: EPA625

Contact: Jim Harris

Analyzed: 12/6/2010 2344h

Extracted: 12/6/2010 1128h

Analytical Results

SVOA by GC/MS Method 625/3510

Units: µg/L

Dilution Factor: 1

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

463 West 3600 South
Salt Lake City, UT
84115
(801) 263-8686
Toll Free (888) 263-8686
Fax (801)263-8687
email: awal@awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
84115 Benzo(b)fluoranthene	205-99-2	10.8	< 10.8	
Benzo(g,h,i)perylene	191-24-2	10.8	< 10.8	
Benzo(k)fluoranthene	207-08-9	10.8	< 10.8	
Benzoic acid	65-85-0	21.6	< 21.6	
(801) 263-8686 Benzyl alcohol	100-51-6	10.8	< 10.8	
Toll Free (888) 263-8686 Bis(2-chloroethoxy)methane	111-91-1	10.8	< 10.8	
Fax (801)263-8687 Bis(2-chloroethyl) ether	111-44-4	10.8	< 10.8	
email: awal@awal-labs.com Bis(2-chloroisopropyl) ether	108-60-1	10.8	< 10.8	
Bis(2-ethylhexyl) phthalate	117-81-7	10.8	< 10.8	
Kyle F. Gross bis(2-ethylhexyl)adipate	103-23-1	10.8	< 10.8	
Laboratory Director Butyl benzyl phthalate	85-68-7	10.8	< 10.8	
Carbazole	86-74-8	10.8	< 10.8	
Chlorobenzilate	510-15-6	10.8	< 10.8	
Jose Rocha Chrysene	218-01-9	10.8	< 10.8	
QA Officer Di-n-butyl phthalate	84-74-2	10.8	< 10.8	
Di-n-octyl phthalate	117-84-0	10.8	< 10.8	
Diallate (cis or trans)	2303-16-4	10.8	< 10.8	
Dibenz(a,h)anthracene	53-70-3	10.8	< 10.8	
Dibenzofuran	132-64-9	10.8	< 10.8	
Diethyl phthalate	84-66-2	10.8	< 10.8	
Dimethoate	60-51-5	10.8	< 10.8	~
Dimethyl phthalate	131-11-3	10.8	< 10.8	
Dimethylaminoazobenzene	60-11-7	10.8	< 10.8	
Dinoseb	88-85-7	10.8	< 10.8	
Diphenylamine	122-39-4	10.8	< 10.8	
Disulfoton	298-04-4	10.8	< 10.8	
Ethyl methanesulfonate	62-50-0	10.8	< 10.8	
Famphur	52-85-7	10.8	< 10.8	
Fluoranthene	206-44-0	10.8	< 10.8	



ORGANIC ANALYTICAL REPORT

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-002B
Client Sample ID: Red Butte AB Gardens 4992095
Collection Date: 12/5/2010 1620h
Received Date: 12/6/2010 0952h
Method Used: EPA625

Contact: Jim Harris

Analyzed: 12/6/2010 2344h

Extracted: 12/6/2010 1128h

Analytical Results

SVOA by GC/MS Method 625/3510

Units: µg/L

Dilution Factor: 1

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

463 West 3600 South
Salt Lake City, UT
84115
(801) 263-8686
Toll Free (888) 263-8686
Fax (801)263-8687
email: awal@awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

84115	Fluorene	86-73-7	10.8	< 10.8	
	Hexachlorobenzene	118-74-1	10.8	< 10.8	
	Hexachlorobutadiene	87-68-3	10.8	< 10.8	
	Hexachlorocyclopentadiene	77-47-4	10.8	< 10.8	
(801) 263-8686	Hexachloroethane	67-72-1	10.8	< 10.8	
Toll Free (888) 263-8686	Hexachlorophene	70-30-4	10.8	< 10.8	
Fax (801)263-8687	Hexachloropropene	1888-71-7	10.8	< 10.8	
email: awal@awal-labs.com	Indene	95-13-6	10.8	< 10.8	
	Indeno(1,2,3-cd)pyrene	193-39-5	10.8	< 10.8	
Kyle F. Gross	Isodrin	465-73-6	10.8	< 10.8	
Laboratory Director	Isophorone	78-59-1	10.8	< 10.8	
	Isosafrole	120-58-1	10.8	< 10.8	
Jose Rocha	Kepone	143-50-0	10.8	< 10.8	
QA Officer	Methapyrilene	91-80-5	10.8	< 10.8	
	Methyl methanesulfonate	66-27-3	10.8	< 10.8	
	n-Decane	124-18-5	10.8	< 10.8	~
	N-Nitrosodi-n-butylamine	924-16-3	10.8	< 10.8	
	N-Nitrosodiethylamine	55-18-5	10.8	< 10.8	
	N-Nitrosodimethylamine	62-75-9	10.8	< 10.8	
	N-Nitrosodiphenylamine	86-30-6	10.8	< 10.8	
	N-Nitrosodi-n-propylamine	621-64-7	10.8	< 10.8	
	N-Nitrosomethylethylamine	10595-95-6	10.8	< 10.8	
	N-Nitrosomorpholine	59-89-2	10.8	< 10.8	
	N-Nitrosopiperidine	100-75-4	10.8	< 10.8	
	N-Nitrosopyrrolidine	930-55-2	10.8	< 10.8	
	n-Octadecane	593-45-3	10.8	< 10.8	
	Naphthalene	91-20-3	10.8	< 10.8	
	Nitrobenzene	98-95-3	10.8	< 10.8	
	Nitroquinoline-1-oxide	56-57-5	10.8	< 10.8	



ORGANIC ANALYTICAL REPORT

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-002B
Client Sample ID: Red Butte AB Gardens 4992095
Collection Date: 12/5/2010 1620h
Received Date: 12/6/2010 0952h
Method Used: EPA625

Contact: Jim Harris

Analyzed: 12/6/2010 2344h

Extracted: 12/6/2010 1128h

Analytical Results

SVOA by GC/MS Method 625/3510

Units: µg/L

Dilution Factor: 1

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

463 West 3600 South
Salt Lake City, UT
84115
(801) 263-8686
Toll Free (888) 263-8686
Fax (801)263-8687
email: awal@awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

84115	O,O,O-Triethyl phosphorothioate	126-68-1	10.8	< 10.8	
	o-Toluidine	95-53-4	10.8	< 10.8	
	Parathion	56-38-2	10.8	< 10.8	
	Methyl parathion	298-00-0	10.8	< 10.8	
(801) 263-8686	Pentachlorobenzene	608-93-5	10.8	< 10.8	
Toll Free (888) 263-8686	Pentachloronitrobenzene	82-68-8	10.8	< 10.8	
Fax (801)263-8687	Pentachlorophenol	87-86-5	10.8	< 10.8	
email: awal@awal-labs.com	Phenacetin	62-44-2	10.8	< 10.8	
	Phenanthrene	85-01-8	10.8	< 10.8	
	Phenol	108-95-2	10.8	< 10.8	
	Phorate	298-02-2	10.8	< 10.8	
	Pronamide	23950-58-5	10.8	< 10.8	
	Pyrene	129-00-0	10.8	< 10.8	
	Pyridine	110-86-1	10.8	< 10.8	~
	Quinoline	91-22-5	10.8	< 10.8	
	Safrole	94-59-7	10.8	< 10.8	
	Tetraethyl dithiopyrophosphate	3689-24-5	10.8	< 10.8	
	Thionazin	297-97-2	10.8	< 10.8	
	Surr: 2,4,6-Tribromophenol	118-79-6	10-159	71.0	
	Surr: 2-Fluorobiphenyl	321-60-8	10-124	74.3	
	Surr: 2-Fluorophenol	367-12-4	10-106	13.4	
	Surr: Nitrobenzene-d5	4165-60-0	10-180	47.2	
	Surr: Phenol-d6	13127-88-3	10-122	25.6	
	Surr: Terphenyl-d14	1718-51-0	10-199	90.5	

~ - LCS outliers are not target compounds for method 625 but are provided by AWAL as an additional service.
The sample was analyzed for TICs. Those results can be found on pages 146 to 147.



ORGANIC ANALYTICAL REPORT

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-003B
Client Sample ID: Red Butte @ Foothill
Collection Date: 12/5/2010 1645h
Received Date: 12/6/2010 0952h
Method Used: EPA625

Contact: Jim Harris

Analyzed: 12/7/2010 0012h

Extracted: 12/6/2010 1128h

Analytical Results

SVOA by GC/MS Method 625/3510

Units: µg/L

Dilution Factor: 1

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

84115	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	
(801) 263-8686	1,3,5-Trinitrobenzene	99-35-4	10.0	< 10.0	
Toll Free (888) 263-8686	1,4-Naphthoquinone	130-15-4	10.0	< 10.0	
Fax (801)263-8687	1,3-Dichlorobenzene	541-73-1	10.0	< 10.0	
email: awal@awal-labs.com	1,3-Dinitrobenzene	99-65-0	10.0	< 10.0	
	1,4-Dichlorobenzene	106-46-7	10.0	< 10.0	
Kyle F. Gross	1,4-Phenylenediamine	106-50-3	10.0	< 10.0	
Laboratory Director	1-Chloronaphthalene	90-13-1	10.0	< 10.0	
	1-Methylnaphthalene	90-12-0	10.0	< 10.0	
Jose Rocha	1-Naphthylamine	134-32-7	10.0	< 10.0	
QA Officer	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	20.0	< 20.0	
	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	

Report Date: 12/8/2010 Page 32 of 147



ORGANIC ANALYTICAL REPORT

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-003B
Client Sample ID: Red Butte @ Foothill
Collection Date: 12/5/2010 1645h
Received Date: 12/6/2010 0952h
Method Used: EPA625

Contact: Jim Harris

Analyzed: 12/7/2010 0012h

Extracted: 12/6/2010 1128h

Analytical Results

SVOA by GC/MS Method 625/3510

Units: µg/L

Dilution Factor: 1

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

463 West 3600 South
Salt Lake City, UT
84115
(801) 263-8686
Toll Free (888) 263-8686
Fax (801)263-8687
email: awal@awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
84115 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	
(801) 263-8686 3,3'-Dimethylbenzidine	119-93-7	10.0	< 10.0	
Toll Free (888) 263-8686 3-Methylcholanthrene	56-49-5	10.0	< 10.0	
Fax (801)263-8687 3-Nitroaniline	99-09-2	10.0	< 10.0	
email: awal@awal-labs.com 4,6-Dinitro-2-methylphenol	534-52-1	10.0	< 10.0	
4-Aminobiphenyl	92-67-1	10.0	< 10.0	
Kyle F. Gross 4-Bromophenyl phenyl ether	101-55-3	10.0	< 10.0	
Laboratory Director 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	
Jose Rocha 4-Nitroaniline	100-01-6	10.0	< 10.0	
QA Officer 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	
Azobenzene	103-33-3	10.0	< 10.0	
Benz(a)anthracene	56-55-3	10.0	< 10.0	
Benzidine	92-87-5	10.0	< 10.0	
Benzo(a)pyrene	50-32-8	10.0	< 10.0	



ORGANIC ANALYTICAL REPORT

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-003B
Client Sample ID: Red Butte @ Foothill
Collection Date: 12/5/2010 1645h
Received Date: 12/6/2010 0952h
Method Used: EPA625

Contact: Jim Harris

Analyzed: 12/7/2010 0012h

Extracted: 12/6/2010 1128h

Analytical Results

SVOA by GC/MS Method 625/3510

Units: µg/L

Dilution Factor: 1

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

463 West 3600 South
Salt Lake City, UT
84115
(801) 263-8686
Toll Free (888) 263-8686
Fax (801)263-8687
email: awal@awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

84115	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	
(801) 263-8686	Benzyl alcohol	100-51-6	10.0	< 10.0	
Toll Free (888) 263-8686	Bis(2-chloroethoxy)methane	111-91-1	10.0	< 10.0	
Fax (801)263-8687	Bis(2-chloroethyl) ether	111-44-4	10.0	< 10.0	
email: awal@awal-labs.com	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	
	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	



ORGANIC ANALYTICAL REPORT

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-003B
Client Sample ID: Red Butte @ Foothill
Collection Date: 12/5/2010 1645h
Received Date: 12/6/2010 0952h
Method Used: EPA625

Contact: Jim Harris

Analyzed: 12/7/2010 0012h

Extracted: 12/6/2010 1128h

Analytical Results

SVOA by GC/MS Method 625/3510

Units: µg/L

Dilution Factor: 1

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

463 West 3600 South
Salt Lake City, UT
84115
(801) 263-8686
Toll Free (888) 263-8686
Fax (801)263-8687
email: awal@awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
84115 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	
(801) 263-8686 Hexachloroethane	67-72-1	10.0	< 10.0	
Toll Free (888) 263-8686 Hexachlorophene	70-30-4	10.0	< 10.0	
Fax (801)263-8687 Hexachloropropene	1888-71-7	10.0	< 10.0	
email: awal@awal-labs.com Indene	95-13-6	10.0	< 10.0	
Indeno(1,2,3-cd)pyrene	193-39-5	10.0	< 10.0	
Kyle F. Gross Isodrin	465-73-6	10.0	< 10.0	
Laboratory Director Isophorone	78-59-1	10.0	< 10.0	
Isosafrole	120-58-1	10.0	< 10.0	
Kepone	143-50-0	10.0	< 10.0	
Jose Rocha Methapyrilene	91-80-5	10.0	< 10.0	
QA Officer 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	



ORGANIC ANALYTICAL REPORT

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-003B
Client Sample ID: Red Butte @ Foothill
Collection Date: 12/5/2010 1645h
Received Date: 12/6/2010 0952h
Method Used: EPA625

Contact: Jim Harris

Analyzed: 12/7/2010 0012h

Extracted: 12/6/2010 1128h

Analytical Results

SVOA by GC/MS Method 625/3510

Units: µg/L

Dilution Factor: 1

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

463 West 3600 South
Salt Lake City, UT
84115
(801) 263-8686
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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
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	
Surr: 2,4,6-Tribromophenol	118-79-6	10-159	73.5	
Surr: 2-Fluorobiphenyl	321-60-8	10-124	59.6	
Surr: 2-Fluorophenol	367-12-4	10-106	24.9	
Surr: Nitrobenzene-d5	4165-60-0	10-180	40.9	
Surr: Phenol-d6	13127-88-3	10-122	24.0	
Surr: Terphenyl-d14	1718-51-0	10-199	91.5	

~ - LCS outliers are not target compounds for method 625 but are provided by AWAL as an additional service.
This sample was analyzed for TICs and no peaks were detected.



ORGANIC ANALYTICAL REPORT

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-004B
Client Sample ID: Red Butte @ Miller Pk (1500 E.)
Collection Date: 12/5/2010 1700h
Received Date: 12/6/2010 0952h
Method Used: EPA625

Contact: Jim Harris

Analyzed: 12/7/2010 0039h

Extracted: 12/6/2010 1128h

Analytical Results

SVOA by GC/MS Method 625/3510

Units: µg/L

Dilution Factor: 1

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

84115	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	
(801) 263-8686	1,3,5-Trinitrobenzene	99-35-4	10.0	< 10.0	
Toll Free (888) 263-8686	1,4-Naphthoquinone	130-15-4	10.0	< 10.0	
Fax (801)263-8687	1,3-Dichlorobenzene	541-73-1	10.0	< 10.0	
email: awal@awal-labs.com	1,3-Dinitrobenzene	99-65-0	10.0	< 10.0	
	1,4-Dichlorobenzene	106-46-7	10.0	< 10.0	
Kyle F. Gross	1,4-Phenylenediamine	106-50-3	10.0	< 10.0	
Laboratory Director	1-Chloronaphthalene	90-13-1	10.0	< 10.0	
	1-Methylnaphthalene	90-12-0	10.0	< 10.0	
Jose Rocha	1-Naphthylamine	134-32-7	10.0	< 10.0	
QA Officer	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	20.0	< 20.0	
	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	

Report Date: 12/8/2010 Page 37 of 147



ORGANIC ANALYTICAL REPORT

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-004B
Client Sample ID: Red Butte @ Miller Pk (1500 E.)
Collection Date: 12/5/2010 1700h
Received Date: 12/6/2010 0952h
Method Used: EPA625

Contact: Jim Harris

Analyzed: 12/7/2010 0039h

Extracted: 12/6/2010 1128h

Analytical Results

SVOA by GC/MS Method 625/3510

Units: µg/L

Dilution Factor: 1

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

463 West 3600 South
Salt Lake City, UT
84115
(801) 263-8686
Toll Free (888) 263-8686
Fax (801)263-8687
email: awal@awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

84115	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	
(801) 263-8686	3,3'-Dimethylbenzidine	119-93-7	10.0	< 10.0	
Toll Free (888) 263-8686	3-Methylcholanthrene	56-49-5	10.0	< 10.0	
Fax (801)263-8687	3-Nitroaniline	99-09-2	10.0	< 10.0	
email: awal@awal-labs.com	4,6-Dinitro-2-methylphenol	534-52-1	10.0	< 10.0	
	4-Aminobiphenyl	92-67-1	10.0	< 10.0	
Kyle F. Gross	4-Bromophenyl phenyl ether	101-55-3	10.0	< 10.0	
Laboratory Director	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	
Jose Rocha	4-Nitroaniline	100-01-6	10.0	< 10.0	
QA Officer	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	
	Azobenzene	103-33-3	10.0	< 10.0	
	Benz(a)anthracene	56-55-3	10.0	< 10.0	
	Benzidine	92-87-5	10.0	< 10.0	
	Benzo(a)pyrene	50-32-8	10.0	< 10.0	



ORGANIC ANALYTICAL REPORT

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-004B
Client Sample ID: Red Butte @ Miller Pk (1500 E.)
Collection Date: 12/5/2010 1700h
Received Date: 12/6/2010 0952h
Method Used: EPA625

Contact: Jim Harris

Analyzed: 12/7/2010 0039h

Extracted: 12/6/2010 1128h

Analytical Results

SVOA by GC/MS Method 625/3510

Units: µg/L

Dilution Factor: 1

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

463 West 3600 South
Salt Lake City, UT

84115

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

(801) 263-8686

Benzyl alcohol

100-51-6

10.0

< 10.0

Toll Free (888) 263-8686

Bis(2-chloroethoxy)methane

111-91-1

10.0

< 10.0

Fax (801)263-8687

Bis(2-chloroethyl) ether

111-44-4

10.0

< 10.0

email: awal@awal-labs.com

Bis(2-chloroisopropyl) ether

108-60-1

10.0

< 10.0

Bis(2-ethylhexyl) phthalate

117-81-7

10.0

< 10.0

Kyle F. Gross

bis(2-ethylhexyl)adipate

103-23-1

10.0

< 10.0

Laboratory Director

Butyl benzyl phthalate

85-68-7

10.0

< 10.0

Carbazole

86-74-8

10.0

< 10.0

Jose Rocha

Chlorobenzilate

510-15-6

10.0

< 10.0

QA Officer

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

Report Date: 12/8/2010 Page 39 of 147



ORGANIC ANALYTICAL REPORT

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-004B
Client Sample ID: Red Butte @ Miller Pk (1500 E.)
Collection Date: 12/5/2010 1700h
Received Date: 12/6/2010 0952h
Method Used: EPA625

Contact: Jim Harris

Analyzed: 12/7/2010 0039h

Extracted: 12/6/2010 1128h

Analytical Results

SVOA by GC/MS Method 625/3510

Units: µg/L

Dilution Factor: 1

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

463 West 3600 South
Salt Lake City, UT
84115
(801) 263-8686
Toll Free (888) 263-8686
Fax (801)263-8687
email: awal@awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

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	
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	



ORGANIC ANALYTICAL REPORT

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-004B
Client Sample ID: Red Butte @ Miller Pk (1500 E.)
Collection Date: 12/5/2010 1700h
Received Date: 12/6/2010 0952h
Method Used: EPA625

Contact: Jim Harris

Analyzed: 12/7/2010 0039h

Extracted: 12/6/2010 1128h

Analytical Results

SVOA by GC/MS Method 625/3510

Units: µg/L

Dilution Factor: 1

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

463 West 3600 South
Salt Lake City, UT
84115
(801) 263-8686
Toll Free (888) 263-8686
Fax (801)263-8687
email: awal@awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

	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	
	Surr: 2,4,6-Tribromophenol	118-79-6	10-159	73.8	
	Surr: 2-Fluorobiphenyl	321-60-8	10-124	61.0	
	Surr: 2-Fluorophenol	367-12-4	10-106	23.9	
	Surr: Nitrobenzene-d5	4165-60-0	10-180	45.0	
	Surr: Phenol-d6	13127-88-3	10-122	24.6	
	Surr: Terphenyl-d14	1718-51-0	10-199	89.0	

~ - LCS outliers are not target compounds for method 625 but are provided by AWAL as an additional service.

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



ORGANIC ANALYTICAL REPORT

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-005B
Client Sample ID: Red Butte @ 1100 E. 4992083
Collection Date: 12/5/2010 1725h
Received Date: 12/6/2010 0952h
Method Used: EPA625

Contact: Jim Harris

Analyzed: 12/7/2010 0107h

Extracted: 12/6/2010 1128h

Analytical Results

SVOA by GC/MS Method 625/3510

Units: µg/L

Dilution Factor: 1

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

463 West 3600 South
Salt Lake City, UT
84115
(801) 263-8686
Toll Free (888) 263-8686
Fax (801)263-8687
email: awal@awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

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	
1,4-Naphthoquinone	130-15-4	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-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	20.0	< 20.0	
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	

Report Date: 12/8/2010 Page 42 of 147



ORGANIC ANALYTICAL REPORT

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-005B
Client Sample ID: Red Butte @ 1100 E. 4992083
Collection Date: 12/5/2010 1725h
Received Date: 12/6/2010 0952h
Method Used: EPA625

Contact: Jim Harris

Analyzed: 12/7/2010 0107h

Extracted: 12/6/2010 1128h

Analytical Results

SVOA by GC/MS Method 625/3510

Units: µg/L

Dilution Factor: 1

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

463 West 3600 South
Salt Lake City, UT
84115
(801) 263-8686
Toll Free (888) 263-8686
Fax (801)263-8687
email: awal@awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

84115	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	
(801) 263-8686	3,3'-Dimethylbenzidine	119-93-7	10.0	< 10.0	
Toll Free (888) 263-8686	3-Methylcholanthrene	56-49-5	10.0	< 10.0	
Fax (801)263-8687	3-Nitroaniline	99-09-2	10.0	< 10.0	
email: awal@awal-labs.com	4,6-Dinitro-2-methylphenol	534-52-1	10.0	< 10.0	
	4-Aminobiphenyl	92-67-1	10.0	< 10.0	
Kyle F. Gross	4-Bromophenyl phenyl ether	101-55-3	10.0	< 10.0	
Laboratory Director	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	
Jose Rocha	4-Nitroaniline	100-01-6	10.0	< 10.0	
QA Officer	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	
	Azobenzene	103-33-3	10.0	< 10.0	
	Benz(a)anthracene	56-55-3	10.0	< 10.0	
	Benzidine	92-87-5	10.0	< 10.0	
	Benzo(a)pyrene	50-32-8	10.0	< 10.0	



ORGANIC ANALYTICAL REPORT

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-005B
Client Sample ID: Red Butte @ 1100 E. 4992083
Collection Date: 12/5/2010 1725h
Received Date: 12/6/2010 0952h
Method Used: EPA625

Contact: Jim Harris

Analyzed: 12/7/2010 0107h

Extracted: 12/6/2010 1128h

Analytical Results

SVOA by GC/MS Method 625/3510

Units: µg/L

Dilution Factor: 1

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

463 West 3600 South
Salt Lake City, UT

84115

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

(801) 263-8686

Benzyl alcohol

100-51-6

10.0

< 10.0

Toll Free (888) 263-8686

Bis(2-chloroethoxy)methane

111-91-1

10.0

< 10.0

Fax (801)263-8687

Bis(2-chloroethyl) ether

111-44-4

10.0

< 10.0

email: awal@awal-labs.com

Bis(2-chloroisopropyl) ether

108-60-1

10.0

< 10.0

Bis(2-ethylhexyl) phthalate

117-81-7

10.0

< 10.0

Kyle F. Gross

bis(2-ethylhexyl)adipate

103-23-1

10.0

< 10.0

Laboratory Director

Butyl benzyl phthalate

85-68-7

10.0

< 10.0

Carbazole

86-74-8

10.0

< 10.0

Jose Rocha

Chlorobenzilate

510-15-6

10.0

< 10.0

QA Officer

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

Report Date: 12/8/2010 Page 44 of 147



ORGANIC ANALYTICAL REPORT

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-005B
Client Sample ID: Red Butte @ 1100 E. 4992083
Collection Date: 12/5/2010 1725h
Received Date: 12/6/2010 0952h
Method Used: EPA625

Contact: Jim Harris

Analyzed: 12/7/2010 0107h

Extracted: 12/6/2010 1128h

Analytical Results

SVOA by GC/MS Method 625/3510

Units: µg/L

Dilution Factor: 1

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

463 West 3600 South
Salt Lake City, UT
84115
(801) 263-8686
Toll Free (888) 263-8686
Fax (801)263-8687
email: awal@awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

84115	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	
(801) 263-8686	Hexachloroethane	67-72-1	10.0	< 10.0	
Toll Free (888) 263-8686	Hexachlorophene	70-30-4	10.0	< 10.0	
Fax (801)263-8687	Hexachloropropene	1888-71-7	10.0	< 10.0	
email: awal@awal-labs.com	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	
	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	



ORGANIC ANALYTICAL REPORT

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-005B
Client Sample ID: Red Butte @ 1100 E. 4992083
Collection Date: 12/5/2010 1725h
Received Date: 12/6/2010 0952h
Method Used: EPA625

Contact: Jim Harris

Analyzed: 12/7/2010 0107h

Extracted: 12/6/2010 1128h

Analytical Results

SVOA by GC/MS Method 625/3510

Units: µg/L

Dilution Factor: 1

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

84115	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	
(801) 263-8686	Pentachlorobenzene	608-93-5	10.0	< 10.0	
Toll Free (888) 263-8686	Pentachloronitrobenzene	82-68-8	10.0	< 10.0	
Fax (801)263-8687	Pentachlorophenol	87-86-5	10.0	< 10.0	
email: awal@awal-labs.com	Phenacetin	62-44-2	10.0	< 10.0	
	Phenanthrene	85-01-8	10.0	< 10.0	
Kyle F. Gross	Phenol	108-95-2	10.0	< 10.0	
Laboratory Director	Phorate	298-02-2	10.0	< 10.0	
	Pronamide	23950-58-5	10.0	< 10.0	
Jose Rocha	Pyrene	129-00-0	10.0	< 10.0	
QA Officer	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	
	Surr: 2,4,6-Tribromophenol	118-79-6	10-159	71.9	
	Surr: 2-Fluorobiphenyl	321-60-8	10-124	75.6	
	Surr: 2-Fluorophenol	367-12-4	10-106	33.0	
	Surr: Nitrobenzene-d5	4165-60-0	10-180	58.4	
	Surr: Phenol-d6	13127-88-3	10-122	27.5	
	Surr: Terphenyl-d14	1718-51-0	10-199	85.2	

~ - LCS outliers are not target compounds for method 625 but are provided by AWAL as an additional service.

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



ORGANIC ANALYTICAL REPORT

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-001E
Client Sample ID: Red Butte NR Greenhouse
Collection Date: 12/5/2010 1600h
Received Date: 12/6/2010 0952h
Method Used: EPA624

Contact: Jim Harris

Analyzed: 12/6/2010 1144h

Analytical Results

VOAs Custom List by GC/MS Method 624

Units: µg/L

Dilution Factor: 1

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

463 West 3600 South
Salt Lake City, UT
84115
(801) 263-8686
Toll Free (888) 263-8686
Fax (801)263-8687
email: awal@awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

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	2.00	< 2.00	
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	40.0	< 40.0	
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	1
2-Chlorotoluene	95-49-8	2.00	< 2.00	
2-Hexanone	591-78-6	5.00	< 5.00	
2-Nitropropane	79-46-9	2.00	< 2.00	



ORGANIC ANALYTICAL REPORT

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-001E
Client Sample ID: Red Butte NR Greenhouse
Collection Date: 12/5/2010 1600h
Received Date: 12/6/2010 0952h
Method Used: EPA624

Contact: Jim Harris

Analyzed: 12/6/2010 1144h

Analytical Results

VOAs Custom List by GC/MS Method 624

Units: µg/L

Dilution Factor: 1

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

84115	4-Chlorotoluene	106-43-4	2.00	< 2.00	
	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	
(801) 263-8686	Acetonitrile	75-05-8	5.00	< 5.00	
Toll Free (888) 263-8686	Acrolein	107-02-8	5.00	< 5.00	
Fax (801)263-8687	Acrylonitrile	107-13-1	10.0	< 10.0	
email: awal@awal-labs.com	Allyl chloride	107-05-1	5.00	< 5.00	
	Benzene	71-43-2	2.00	< 2.00	
Kyle F. Gross	Benzyl chloride	100-44-7	5.00	< 5.00	
Laboratory Director	Bis(2-chloroisopropyl) ether	108-60-1	5.00	< 5.00	
	Bromobenzene	108-86-1	2.00	< 2.00	
Jose Rocha	Bromochloromethane	74-97-5	2.00	< 2.00	
QA Officer	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	5.00	< 5.00	
	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	5.00	< 5.00	
	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	

Report Date: 12/8/2010 Page 48 of 147



ORGANIC ANALYTICAL REPORT

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-001E
Client Sample ID: Red Butte NR Greenhouse
Collection Date: 12/5/2010 1600h
Received Date: 12/6/2010 0952h
Method Used: EPA624

Contact: Jim Harris

Analyzed: 12/6/2010 1144h

Analytical Results

VOAs Custom List by GC/MS Method 624

Units: µg/L

Dilution Factor: 1

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

463 West 3600 South
Salt Lake City, UT
84115
(801) 263-8686
Toll Free (888) 263-8686
Fax (801)263-8687
email: awal@awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
84115 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	
(801) 263-8686 Ethyl methacrylate	97-63-2	2.00	< 2.00	1
Toll Free (888) 263-8686 Ethylbenzene	100-41-4	2.00	< 2.00	
Fax (801)263-8687 Hexachlorobutadiene	87-68-3	2.00	< 2.00	
email: awal@awal-labs.com Iodomethane	74-88-4	5.00	< 5.00	
Isobutyl alcohol	78-83-1	100	< 100	
Kyle F. Gross Isopropyl acetate	108-21-4	2.00	< 2.00	
Laboratory Director Isopropyl alcohol	67-63-0	25.0	< 25.0	
Isopropylbenzene	98-82-8	2.00	< 2.00	
Isopropyltoluene	99-87-6	2.00	< 2.00	
Jose Rocha m,p-Xylene	179601-23-1	2.00	< 2.00	
QA Officer 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	2.00	< 2.00	
n-Butyl alcohol	71-36-3	25.0	< 25.0	@
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	2.00	< 2.00	



ORGANIC ANALYTICAL REPORT

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-001E
Client Sample ID: Red Butte NR Greenhouse
Collection Date: 12/5/2010 1600h
Received Date: 12/6/2010 0952h
Method Used: EPA624

Contact: Jim Harris

Analyzed: 12/6/2010 1144h

Analytical Results

VOAs Custom List by GC/MS Method 624

Units: µg/L

Dilution Factor: 1

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

84115	Propionitrile	107-12-0	25.0	< 25.0	
	Propyl acetate	109-60-4	2.00	< 2.00	
	sec-Butylbenzene	135-98-8	2.00	< 2.00	
	Styrene	100-42-5	2.00	< 2.00	
(801) 263-8686	tert-Butyl alcohol	76-65-0	20.0	< 20.0	
Toll Free (888) 263-8686	tert-Butylbenzene	98-06-6	2.00	< 2.00	
Fax (801)263-8687	Tetrachloroethene	127-18-4	2.00	< 2.00	
email: awal@awal-labs.com	Tetrahydrofuran	109-99-9	2.00	< 2.00	
	Toluene	108-88-3	2.00	< 2.00	
Kyle F. Gross	trans-1,2-Dichloroethene	156-60-5	2.00	< 2.00	
Laboratory Director	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	
Jose Rocha	Trichlorofluoromethane	75-69-4	2.00	< 2.00	
QA Officer	Vinyl acetate	108-05-4	5.00	< 5.00	
	Vinyl chloride	75-01-4	1.00	< 1.00	
	Xylenes, Total	1330-20-7	2.00	< 2.00	
	TPH C11-C15 (DRO)		20.0	< 20.0	
	TPH C6-C10 (GRO)		20.0	< 20.0	
	Surr: 1,2-Dichloroethane-d4	17060-07-0	77-144	115	
	Surr: 4-Bromofluorobenzene	460-00-4	80-123	106	
	Surr: Dibromofluoromethane	1868-53-7	80-124	106	
	Surr: Toluene-d8	2037-26-5	80-125	97.4	

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

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



ORGANIC ANALYTICAL REPORT

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-002E
Client Sample ID: Red Butte AB Gardens 4992095
Collection Date: 12/5/2010 1620h
Received Date: 12/6/2010 0952h
Method Used: EPA624

Contact: Jim Harris

Analyzed: 12/6/2010 1203h

Analytical Results

VOAs Custom List by GC/MS Method 624

Units: µg/L

Dilution Factor: 1

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

84115	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	
(801) 263-8686	1,1,2-Trichloroethane	79-00-5	2.00	< 2.00	
Toll Free (888) 263-8686	1,1-Dichloropropene	563-58-6	2.00	< 2.00	
Fax (801)263-8687	1,1-Dichloroethane	75-34-3	2.00	< 2.00	
email: awal@awal-labs.com	1,1-Dichloroethene	75-35-4	2.00	< 2.00	
	1,2,3-Trichlorobenzene	87-61-6	2.00	< 2.00	
Kyle F. Gross	1,2,3-Trichloropropane	96-18-4	2.00	< 2.00	
Laboratory Director	1,2,3-Trimethylbenzene	526-73-8	2.00	< 2.00	
	1,2,4-Trichlorobenzene	120-82-1	2.00	< 2.00	
Jose Rocha	1,2,4-Trimethylbenzene	95-63-6	2.00	< 2.00	
QA Officer	1,2-Dibromo-3-chloropropane	96-12-8	2.00	< 2.00	
	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	40.0	< 40.0	
	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	2.00	< 2.00	



ORGANIC ANALYTICAL REPORT

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-002E
Client Sample ID: Red Butte AB Gardens 4992095
Collection Date: 12/5/2010 1620h
Received Date: 12/6/2010 0952h
Method Used: EPA624

Contact: Jim Harris

Analyzed: 12/6/2010 1203h

Analytical Results

VOAs Custom List by GC/MS Method 624

Units: µg/L

Dilution Factor: 1

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

84115	4-Chlorotoluene	106-43-4	2.00	< 2.00	
	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	
(801) 263-8686	Acetonitrile	75-05-8	5.00	< 5.00	
Toll Free (888) 263-8686	Acrolein	107-02-8	5.00	< 5.00	
Fax (801)263-8687	Acrylonitrile	107-13-1	10.0	< 10.0	
email: awal@awal-labs.com	Allyl chloride	107-05-1	5.00	< 5.00	
	Benzene	71-43-2	2.00	< 2.00	
Kyle F. Gross	Benzyl chloride	100-44-7	5.00	< 5.00	
Laboratory Director	Bis(2-chloroisopropyl) ether	108-60-1	5.00	< 5.00	
	Bromobenzene	108-86-1	2.00	< 2.00	
Jose Rocha	Bromochloromethane	74-97-5	2.00	< 2.00	
QA Officer	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	5.00	< 5.00	
	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	5.00	< 5.00	
	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	

Report Date: 12/8/2010 Page 52 of 147



ORGANIC ANALYTICAL REPORT

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-002E
Client Sample ID: Red Butte AB Gardens 4992095
Collection Date: 12/5/2010 1620h
Received Date: 12/6/2010 0952h
Method Used: EPA624

Contact: Jim Harris

Analyzed: 12/6/2010 1203h

Analytical Results

VOAs Custom List by GC/MS Method 624

Units: µg/L

Dilution Factor: 1

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

84115	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	
(801) 263-8686	Ethyl methacrylate	97-63-2	2.00	< 2.00	
Toll Free (888) 263-8686	Ethylbenzene	100-41-4	2.00	< 2.00	
Fax (801)263-8687	Hexachlorobutadiene	87-68-3	2.00	< 2.00	
email: awal@awal-labs.com	Iodomethane	74-88-4	5.00	< 5.00	
	Isobutyl alcohol	78-83-1	100	< 100	
Kyle F. Gross	Isopropyl acetate	108-21-4	2.00	< 2.00	
Laboratory Director	Isopropyl alcohol	67-63-0	25.0	< 25.0	
	Isopropylbenzene	98-82-8	2.00	< 2.00	
Jose Rocha	Isopropyltoluene	99-87-6	2.00	< 2.00	
QA Officer	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	2.00	< 2.00	
	n-Butyl alcohol	71-36-3	25.0	< 25.0	
	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	2.00	< 2.00	



ORGANIC ANALYTICAL REPORT

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-002E
Client Sample ID: Red Butte AB Gardens 4992095
Collection Date: 12/5/2010 1620h
Received Date: 12/6/2010 0952h
Method Used: EPA624

Contact: Jim Harris

Analyzed: 12/6/2010 1203h

Analytical Results

VOAs Custom List by GC/MS Method 624

Units: µg/L

Dilution Factor: 1

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

84115	Propionitrile	107-12-0	25.0	< 25.0	
	Propyl acetate	109-60-4	2.00	< 2.00	
	sec-Butylbenzene	135-98-8	2.00	< 2.00	
	Styrene	100-42-5	2.00	< 2.00	
(801) 263-8686	tert-Butyl alcohol	76-65-0	20.0	< 20.0	
Toll Free (888) 263-8686	tert-Butylbenzene	98-06-6	2.00	< 2.00	
Fax (801)263-8687	Tetrachloroethene	127-18-4	2.00	< 2.00	
email: awal@awal-labs.com	Tetrahydrofuran	109-99-9	2.00	< 2.00	
	Toluene	108-88-3	2.00	< 2.00	
Kyle F. Gross	trans-1,2-Dichloroethene	156-60-5	2.00	< 2.00	
Laboratory Director	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	
Jose Rocha	Trichlorofluoromethane	75-69-4	2.00	< 2.00	
QA Officer	Vinyl acetate	108-05-4	5.00	< 5.00	
	Vinyl chloride	75-01-4	1.00	< 1.00	
	Xylenes, Total	1330-20-7	2.00	< 2.00	
	TPH C11-C15 (DRO)		20.0	< 20.0	
	TPH C6-C10 (GRO)		20.0	< 20.0	
	Surr: 1,2-Dichloroethane-d4	17060-07-0	77-144	115	
	Surr: 4-Bromofluorobenzene	460-00-4	80-123	106	
	Surr: Dibromofluoromethane	1868-53-7	80-124	105	
	Surr: Toluene-d8	2037-26-5	80-125	95.9	



ORGANIC ANALYTICAL REPORT

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-003E
Client Sample ID: Red Butte @ Foothill
Collection Date: 12/5/2010 1645h
Received Date: 12/6/2010 0952h
Method Used: EPA624

Contact: Jim Harris

Analyzed: 12/6/2010 1300h

Analytical Results

VOAs Custom List by GC/MS Method 624

Units: µg/L

Dilution Factor: 1

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

84115	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	
(801) 263-8686	1,1,2-Trichloroethane	79-00-5	2.00	< 2.00	
Toll Free (888) 263-8686	1,1-Dichloropropene	563-58-6	2.00	< 2.00	
Fax (801)263-8687	1,1-Dichloroethane	75-34-3	2.00	< 2.00	
email: awal@awal-labs.com	1,1-Dichloroethene	75-35-4	2.00	< 2.00	
	1,2,3-Trichlorobenzene	87-61-6	2.00	< 2.00	
Kyle F. Gross	1,2,3-Trichloropropane	96-18-4	2.00	< 2.00	
Laboratory Director	1,2,3-Trimethylbenzene	526-73-8	2.00	< 2.00	
	1,2,4-Trichlorobenzene	120-82-1	2.00	< 2.00	
Jose Rocha	1,2,4-Trimethylbenzene	95-63-6	2.00	< 2.00	
QA Officer	1,2-Dibromo-3-chloropropane	96-12-8	2.00	< 2.00	
	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	40.0	< 40.0	
	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	2.00	< 2.00	

Report Date: 12/8/2010 Page 55 of 147



ORGANIC ANALYTICAL REPORT

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-003E
Client Sample ID: Red Butte @ Foothill
Collection Date: 12/5/2010 1645h
Received Date: 12/6/2010 0952h
Method Used: EPA624

Contact: Jim Harris

Analyzed: 12/6/2010 1300h

Analytical Results

VOAs Custom List by GC/MS Method 624

Units: µg/L

Dilution Factor: 1

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

84115	4-Chlorotoluene	106-43-4	2.00	< 2.00	
	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	
(801) 263-8686	Acetonitrile	75-05-8	5.00	< 5.00	
Toll Free (888) 263-8686	Acrolein	107-02-8	5.00	< 5.00	
Fax (801)263-8687	Acrylonitrile	107-13-1	10.0	< 10.0	
email: awal@awal-labs.com	Allyl chloride	107-05-1	5.00	< 5.00	
	Benzene	71-43-2	2.00	< 2.00	
Kyle F. Gross	Benzyl chloride	100-44-7	5.00	< 5.00	
Laboratory Director	Bis(2-chloroisopropyl) ether	108-60-1	5.00	< 5.00	
	Bromobenzene	108-86-1	2.00	< 2.00	
Jose Rocha	Bromochloromethane	74-97-5	2.00	< 2.00	
QA Officer	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	5.00	< 5.00	
	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	5.00	< 5.00	
	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	

Report Date: 12/8/2010 Page 56 of 147



ORGANIC ANALYTICAL REPORT

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-003E
Client Sample ID: Red Butte @ Foothill
Collection Date: 12/5/2010 1645h
Received Date: 12/6/2010 0952h
Method Used: EPA624

Contact: Jim Harris

Analyzed: 12/6/2010 1300h

Analytical Results

VOAs Custom List by GC/MS Method 624

Units: µg/L

Dilution Factor: 1

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

463 West 3600 South
Salt Lake City, UT
84115
(801) 263-8686
Toll Free (888) 263-8686
Fax (801)263-8687
email: awal@awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

84115	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	
(801) 263-8686	Ethyl methacrylate	97-63-2	2.00	< 2.00	
Toll Free (888) 263-8686	Ethylbenzene	100-41-4	2.00	< 2.00	
Fax (801)263-8687	Hexachlorobutadiene	87-68-3	2.00	< 2.00	
email: awal@awal-labs.com	Iodomethane	74-88-4	5.00	< 5.00	
	Isobutyl alcohol	78-83-1	100	< 100	
Kyle F. Gross	Isopropyl acetate	108-21-4	2.00	< 2.00	
Laboratory Director	Isopropyl alcohol	67-63-0	25.0	< 25.0	
	Isopropylbenzene	98-82-8	2.00	< 2.00	
	Isopropyltoluene	99-87-6	2.00	< 2.00	
Jose Rocha	m,p-Xylene	179601-23-1	2.00	< 2.00	
QA Officer	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	2.00	< 2.00	
	n-Butyl alcohol	71-36-3	25.0	< 25.0	
	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	2.00	< 2.00	



ORGANIC ANALYTICAL REPORT

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-003E
Client Sample ID: Red Butte @ Foothill
Collection Date: 12/5/2010 1645h
Received Date: 12/6/2010 0952h
Method Used: EPA624

Contact: Jim Harris

Analyzed: 12/6/2010 1300h

Analytical Results

VOAs Custom List by GC/MS Method 624

Units: µg/L

Dilution Factor: 1

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

84115	Propionitrile	107-12-0	25.0	< 25.0	
	Propyl acetate	109-60-4	2.00	< 2.00	
	sec-Butylbenzene	135-98-8	2.00	< 2.00	
	Styrene	100-42-5	2.00	< 2.00	
(801) 263-8686	tert-Butyl alcohol	76-65-0	20.0	< 20.0	
Toll Free (888) 263-8686	tert-Butylbenzene	98-06-6	2.00	< 2.00	
Fax (801)263-8687	Tetrachloroethene	127-18-4	2.00	< 2.00	
email: awal@awal-labs.com	Tetrahydrofuran	109-99-9	2.00	< 2.00	
	Toluene	108-88-3	2.00	< 2.00	
Kyle F. Gross	trans-1,2-Dichloroethene	156-60-5	2.00	< 2.00	
Laboratory Director	trans-1,3-Dichloropropene	10061-02-6	2.00	< 2.00	
	trans-1,4-Dichloro-2-butene	110-57-6	2.00	< 2.00	
Jose Rocha	Trichloroethene	79-01-6	2.00	< 2.00	
QA Officer	Trichlorofluoromethane	75-69-4	2.00	< 2.00	
	Vinyl acetate	108-05-4	5.00	< 5.00	
	Vinyl chloride	75-01-4	1.00	< 1.00	
	Xylenes, Total	1330-20-7	2.00	< 2.00	
	TPH C11-C15 (DRO)		20.0	< 20.0	
	TPH C6-C10 (GRO)		20.0	< 20.0	
	Surr: 1,2-Dichloroethane-d4	17060-07-0	77-144	115	
	Surr: 4-Bromofluorobenzene	460-00-4	80-123	108	
	Surr: Dibromofluoromethane	1868-53-7	80-124	105	
	Surr: Toluene-d8	2037-26-5	80-125	98.7	



ORGANIC ANALYTICAL REPORT

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-004E
Client Sample ID: Red Butte @ Miller Pk (1500 E.)
Collection Date: 12/5/2010 1700h
Received Date: 12/6/2010 0952h
Method Used: EPA624

Contact: Jim Harris

Analyzed: 12/6/2010 1319h

Analytical Results

VOAs Custom List by GC/MS Method 624

Units: µg/L

Dilution Factor: 1

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

84115	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	
(801) 263-8686	1,1,2-Trichloroethane	79-00-5	2.00	< 2.00	
Toll Free (888) 263-8686	1,1-Dichloropropene	563-58-6	2.00	< 2.00	
Fax (801)263-8687	1,1-Dichloroethane	75-34-3	2.00	< 2.00	
email: awal@awal-labs.com	1,1-Dichloroethene	75-35-4	2.00	< 2.00	
	1,2,3-Trichlorobenzene	87-61-6	2.00	< 2.00	
Kyle F. Gross	1,2,3-Trichloropropane	96-18-4	2.00	< 2.00	
Laboratory Director	1,2,3-Trimethylbenzene	526-73-8	2.00	< 2.00	
	1,2,4-Trichlorobenzene	120-82-1	2.00	< 2.00	
Jose Rocha	1,2,4-Trimethylbenzene	95-63-6	2.00	< 2.00	
QA Officer	1,2-Dibromo-3-chloropropane	96-12-8	2.00	< 2.00	
	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	40.0	< 40.0	
	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	2.00	< 2.00	

Report Date: 12/8/2010 Page 59 of 147



ORGANIC ANALYTICAL REPORT

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-004E
Client Sample ID: Red Butte @ Miller Pk (1500 E.)
Collection Date: 12/5/2010 1700h
Received Date: 12/6/2010 0952h
Method Used: EPA624

Contact: Jim Harris

Analyzed: 12/6/2010 1319h

Analytical Results

VOAs Custom List by GC/MS Method 624

Units: µg/L

Dilution Factor: 1

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

84115	4-Chlorotoluene	106-43-4	2.00	< 2.00	
	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	17.1	
(801) 263-8686	Acetonitrile	75-05-8	5.00	< 5.00	
Toll Free (888) 263-8686	Acrolein	107-02-8	5.00	< 5.00	
Fax (801)263-8687	Acrylonitrile	107-13-1	10.0	< 10.0	
email: awal@awal-labs.com	Allyl chloride	107-05-1	5.00	< 5.00	
	Benzene	71-43-2	2.00	< 2.00	
Kyle F. Gross	Benzyl chloride	100-44-7	5.00	< 5.00	
Laboratory Director	Bis(2-chloroisopropyl) ether	108-60-1	5.00	< 5.00	
	Bromobenzene	108-86-1	2.00	< 2.00	
Jose Rocha	Bromochloromethane	74-97-5	2.00	< 2.00	
QA Officer	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	5.00	< 5.00	
	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	5.00	< 5.00	
	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	

Report Date: 12/8/2010 Page 60 of 147



ORGANIC ANALYTICAL REPORT

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-004E
Client Sample ID: Red Butte @ Miller Pk (1500 E.)
Collection Date: 12/5/2010 1700h
Received Date: 12/6/2010 0952h
Method Used: EPA624

Contact: Jim Harris

Analyzed: 12/6/2010 1319h

Analytical Results

VOAs Custom List by GC/MS Method 624

Units: µg/L

Dilution Factor: 1

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

84115	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	
(801) 263-8686	Ethyl methacrylate	97-63-2	2.00	< 2.00	
Toll Free (888) 263-8686	Ethylbenzene	100-41-4	2.00	< 2.00	
Fax (801)263-8687	Hexachlorobutadiene	87-68-3	2.00	< 2.00	
email: awal@awal-labs.com	Iodomethane	74-88-4	5.00	< 5.00	
	Isobutyl alcohol	78-83-1	100	< 100	
Kyle F. Gross	Isopropyl acetate	108-21-4	2.00	< 2.00	
Laboratory Director	Isopropyl alcohol	67-63-0	25.0	< 25.0	
	Isopropylbenzene	98-82-8	2.00	< 2.00	
Jose Rocha	Isopropyltoluene	99-87-6	2.00	< 2.00	
QA Officer	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	2.00	< 2.00	
	n-Butyl alcohol	71-36-3	25.0	< 25.0	
	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	2.00	< 2.00	



ORGANIC ANALYTICAL REPORT

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-004E
Client Sample ID: Red Butte @ Miller Pk (1500 E.)
Collection Date: 12/5/2010 1700h
Received Date: 12/6/2010 0952h
Method Used: EPA624

Contact: Jim Harris

Analyzed: 12/6/2010 1319h

Analytical Results

VOAs Custom List by GC/MS Method 624

Units: µg/L

Dilution Factor: 1

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

84115	Propionitrile	107-12-0	25.0	< 25.0	
	Propyl acetate	109-60-4	2.00	< 2.00	
	sec-Butylbenzene	135-98-8	2.00	< 2.00	
	Styrene	100-42-5	2.00	< 2.00	
(801) 263-8686	tert-Butyl alcohol	76-65-0	20.0	< 20.0	
Toll Free (888) 263-8686	tert-Butylbenzene	98-06-6	2.00	< 2.00	
Fax (801)263-8687	Tetrachloroethene	127-18-4	2.00	< 2.00	
email: awal@awal-labs.com	Tetrahydrofuran	109-99-9	2.00	< 2.00	
	Toluene	108-88-3	2.00	< 2.00	
Kyle F. Gross	trans-1,2-Dichloroethene	156-60-5	2.00	< 2.00	
Laboratory Director	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	
Jose Rocha	Trichlorofluoromethane	75-69-4	2.00	< 2.00	
QA Officer	Vinyl acetate	108-05-4	5.00	< 5.00	
	Vinyl chloride	75-01-4	1.00	< 1.00	
	Xylenes, Total	1330-20-7	2.00	< 2.00	
	TPH C11-C15 (DRO)		20.0	< 20.0	
	TPH C6-C10 (GRO)		20.0	< 20.0	
	Surr: 1,2-Dichloroethane-d4	17060-07-0	77-144	117	
	Surr: 4-Bromofluorobenzene	460-00-4	80-123	107	
	Surr: Dibromofluoromethane	1868-53-7	80-124	108	
	Surr: Toluene-d8	2037-26-5	80-125	97.7	



ORGANIC ANALYTICAL REPORT

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-005E
Client Sample ID: Red Butte @ 1100 E. 4992083
Collection Date: 12/5/2010 1725h
Received Date: 12/6/2010 0952h
Method Used: EPA624

Contact: Jim Harris

Analyzed: 12/6/2010 1338h

Analytical Results

VOAs Custom List by GC/MS Method 624

Units: µg/L

Dilution Factor: 1

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

84115	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	
(801) 263-8686	1,1,2-Trichloroethane	79-00-5	2.00	< 2.00	
Toll Free (888) 263-8686	1,1-Dichloropropene	563-58-6	2.00	< 2.00	
Fax (801)263-8687	1,1-Dichloroethane	75-34-3	2.00	< 2.00	
email: awal@awal-labs.com	1,1-Dichloroethene	75-35-4	2.00	< 2.00	
	1,2,3-Trichlorobenzene	87-61-6	2.00	< 2.00	
Kyle F. Gross	1,2,3-Trichloropropane	96-18-4	2.00	< 2.00	
Laboratory Director	1,2,3-Trimethylbenzene	526-73-8	2.00	< 2.00	
	1,2,4-Trichlorobenzene	120-82-1	2.00	< 2.00	
Jose Rocha	1,2,4-Trimethylbenzene	95-63-6	2.00	< 2.00	
QA Officer	1,2-Dibromo-3-chloropropane	96-12-8	2.00	< 2.00	
	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	40.0	< 40.0	
	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	2.00	< 2.00	



ORGANIC ANALYTICAL REPORT

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-005E
Client Sample ID: Red Butte @ 1100 E. 4992083
Collection Date: 12/5/2010 1725h
Received Date: 12/6/2010 0952h
Method Used: EPA624

Contact: Jim Harris

Analyzed: 12/6/2010 1338h

Analytical Results

VOAs Custom List by GC/MS Method 624

Units: µg/L

Dilution Factor: 1

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

463 West 3600 South
Salt Lake City, UT
84115
(801) 263-8686
Toll Free (888) 263-8686
Fax (801)263-8687
email: awal@awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

84115	4-Chlorotoluene	106-43-4	2.00	< 2.00	
	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	
(801) 263-8686	Acetonitrile	75-05-8	5.00	< 5.00	
Toll Free (888) 263-8686	Acrolein	107-02-8	5.00	< 5.00	
Fax (801)263-8687	Acrylonitrile	107-13-1	10.0	< 10.0	
email: awal@awal-labs.com	Allyl chloride	107-05-1	5.00	< 5.00	
	Benzene	71-43-2	2.00	< 2.00	
Kyle F. Gross	Benzyl chloride	100-44-7	5.00	< 5.00	
Laboratory Director	Bis(2-chloroisopropyl) ether	108-60-1	5.00	< 5.00	
	Bromobenzene	108-86-1	2.00	< 2.00	
Jose Rocha	Bromochloromethane	74-97-5	2.00	< 2.00	
QA Officer	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	5.00	< 5.00	
	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	5.00	< 5.00	
	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	



ORGANIC ANALYTICAL REPORT

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-005E
Client Sample ID: Red Butte @ 1100 E. 4992083
Collection Date: 12/5/2010 1725h
Received Date: 12/6/2010 0952h
Method Used: EPA624

Contact: Jim Harris

Analyzed: 12/6/2010 1338h

Analytical Results

VOAs Custom List by GC/MS Method 624

Units: µg/L

Dilution Factor: 1

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

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Salt Lake City, UT
84115
(801) 263-8686
Toll Free (888) 263-8686
Fax (801)263-8687
email: awal@awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

84115	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	
(801) 263-8686	Ethyl methacrylate	97-63-2	2.00	< 2.00	
Toll Free (888) 263-8686	Ethylbenzene	100-41-4	2.00	< 2.00	
Fax (801)263-8687	Hexachlorobutadiene	87-68-3	2.00	< 2.00	
email: awal@awal-labs.com	Iodomethane	74-88-4	5.00	< 5.00	
	Isobutyl alcohol	78-83-1	100	< 100	
Kyle F. Gross	Isopropyl acetate	108-21-4	2.00	< 2.00	
Laboratory Director	Isopropyl alcohol	67-63-0	25.0	< 25.0	
	Isopropylbenzene	98-82-8	2.00	< 2.00	
	Isopropyltoluene	99-87-6	2.00	< 2.00	
Jose Rocha	m,p-Xylene	179601-23-1	2.00	< 2.00	
QA Officer	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	2.00	< 2.00	
	n-Butyl alcohol	71-36-3	25.0	< 25.0	
	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	2.00	< 2.00	



ORGANIC ANALYTICAL REPORT

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte Spill
Lab Sample ID: 1012092-005E
Client Sample ID: Red Butte @ 1100 E. 4992083
Collection Date: 12/5/2010 1725h
Received Date: 12/6/2010 0952h
Method Used: EPA624

Contact: Jim Harris

Analyzed: 12/6/2010 1338h

Analytical Results

VOAs Custom List by GC/MS Method 624

Units: µg/L

Dilution Factor: 1

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
84115 Propionitrile	107-12-0	25.0	< 25.0	
Propyl acetate	109-60-4	2.00	< 2.00	
sec-Butylbenzene	135-98-8	2.00	< 2.00	
Styrene	100-42-5	2.00	< 2.00	
(801) 263-8686 tert-Butyl alcohol	76-65-0	20.0	< 20.0	
Toll Free (888) 263-8686 tert-Butylbenzene	98-06-6	2.00	< 2.00	
Fax (801)263-8687 Tetrachloroethene	127-18-4	2.00	< 2.00	
email: awal@awal-labs.com Tetrahydrofuran	109-99-9	2.00	< 2.00	
Toluene	108-88-3	2.00	< 2.00	
Kyle F. Gross Laboratory Director 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	
Jose Rocha QA Officer Trichlorofluoromethane	75-69-4	2.00	< 2.00	
Vinyl acetate	108-05-4	5.00	< 5.00	
Vinyl chloride	75-01-4	1.00	< 1.00	
Xylenes, Total	1330-20-7	2.00	< 2.00	
TPH C11-C15 (DRO)		20.0	< 20.0	
TPH C6-C10 (GRO)		20.0	< 20.0	
Surr: 1,2-Dichloroethane-d4	17060-07-0	77-144	114	
Surr: 4-Bromofluorobenzene	460-00-4	80-123	107	
Surr: Dibromofluoromethane	1868-53-7	80-124	105	
Surr: Toluene-d8	2037-26-5	80-125	96.1	



AMERICAN WEST ANALYTICAL LABORATORIES

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Salt Lake City, UT 84115

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Kyle F. Gross

Laboratory Director

Jose Rocha

QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR

Lab Set ID: 1012092

Project: Red Butte Spill

Contact: Jim Harris

Dept: GC

QC Type: LCS

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
LCS-9738	Oil Range Organics (ORO) (C28-	mg/L	SW8015D	0.175	0.1600	0	110	10-200				12/7/2010 0103h
LCS-9738	Surr: C36	% REC	SW8015D	1.43	1.000		143	10-200				12/7/2010 0103h
LCS-9714	Diesel Range Organics C10-C28	mg/L	SW8015D	1.77	2.000	0	88.7	48-118				12/7/2010 1127h
LCS-9714	Surr: 4-Bromofluorobenzene	% REC	SW8015D	0.236	0.4000		59.0	18-95				12/7/2010 1127h



AMERICAN WEST ANALYTICAL LABORATORIES

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Kyle F. Gross

Laboratory Director

Jose Rocha

QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1012092
Project: Red Butte Spill

Contact: Jim Harris
Dept: GC
QC Type: MBLK

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
MB-9738	Oil Range Organics (ORO) (C28-	mg/L	SW8015D	< 0.0500				-				12/7/2010 0045h
MB-9738	Surr: C36	% REC	SW8015D	1.40	1.000		140	10-200				12/7/2010 0045h
MB-9714	Diesel Range Organics C10-C28	mg/L	SW8015D	< 0.500				-				12/7/2010 1106h
MB-9714	Surr: 4-Bromofluorobenzene	% REC	SW8015D	0.234	0.4000		58.5	18-95				12/7/2010 1106h



AMERICAN WEST ANALYTICAL LABORATORIES

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Kyle F. Gross

Laboratory Director

Jose Rocha

QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1012092
Project: Red Butte Spill

Contact: Jim Harris
Dept: GC
QC Type: MS

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
1012092-001DMS	Oil Range Organics (ORO) (C28-	mg/L	SW8015D	0.178	0.1633	0	109	10-200				12/7/2010 0140h
1012092-001DMS	Surr: C36	% REC	SW8015D	1.44	1.020		141	10-200				12/7/2010 0140h
1012094-001CMS	Oil Range Organics (ORO) (C28-	mg/L	SW8015D	0.162	0.1633	0	99.0	10-200				12/7/2010 0406h
1012094-001CMS	Surr: C36	% REC	SW8015D	1.25	1.020		122	10-200				12/7/2010 0406h
1012109-002DMS	Oil Range Organics (ORO) (C28-	mg/L	SW8015D	0.328	0.3265	0	100	10-200				12/7/2010 0632h
1012109-002DMS	Surr: C36	% REC	SW8015D	2.56	2.041		125	10-200				12/7/2010 0632h
1012088-003CMS	Diesel Range Organics C10-C28	mg/L	SW8015D	1.81	2.162	0	83.7	60-161				12/7/2010 1250h
1012088-003CMS	Surr: 4-Bromofluorobenzene	% REC	SW8015D	0.176	0.4324		40.6	10-190				12/7/2010 1250h
1012089-003CMS	Diesel Range Organics C10-C28	mg/L	SW8015D	2.04	2.162	0	94.5	60-161				12/7/2010 1546h
1012089-003CMS	Surr: 4-Bromofluorobenzene	% REC	SW8015D	0.251	0.4324		58.0	10-190				12/7/2010 1546h
1012092-001CMS	Diesel Range Organics C10-C28	mg/L	SW8015D	2.04	2.000	0	102	60-161				12/7/2010 1732h
1012092-001CMS	Surr: 4-Bromofluorobenzene	% REC	SW8015D	0.338	0.4000		84.5	10-190				12/7/2010 1732h
1012094-001BMS	Diesel Range Organics C10-C28	mg/L	SW8015D	2.17	2.105	0	103	60-161				12/7/2010 2042h
1012094-001BMS	Surr: 4-Bromofluorobenzene	% REC	SW8015D	0.333	0.4211		79.0	10-190				12/7/2010 2042h



AMERICAN WEST ANALYTICAL LABORATORIES

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Kyle F. Gross

Laboratory Director

Jose Rocha

QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR

Lab Set ID: 1012092

Project: Red Butte Spill

Contact: Jim Harris

Dept: GC

QC Type: MSD

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
1012092-001DMSD	Oil Range Organics (ORO) (C28-	mg/L	SW8015D	0.184	0.1633	0	113	10-200	3.22	30		12/7/2010 0158h
1012092-001DMSD	Surr: C36	% REC	SW8015D	1.41	1.020		138	10-200				12/7/2010 0158h
1012094-001CMSD	Oil Range Organics (ORO) (C28-	mg/L	SW8015D	0.184	0.1633	0	113	10-200	13.2	30		12/7/2010 0424h
1012094-001CMSD	Surr: C36	% REC	SW8015D	1.39	1.020		136	10-200				12/7/2010 0424h
1012109-002DMSD	Oil Range Organics (ORO) (C28-	mg/L	SW8015D	0.341	0.3265	0	104	10-200	3.80	30		12/7/2010 0650h
1012109-002DMSD	Surr: C36	% REC	SW8015D	2.61	2.041		128	10-200				12/7/2010 0650h
1012088-003CMSD	Diesel Range Organics C10-C28	mg/L	SW8015D	1.82	2.105	0	86.4	60-161	0.508	25		12/7/2010 1312h
1012088-003CMSD	Surr: 4-Bromofluorobenzene	% REC	SW8015D	0.187	0.4211		44.5	10-190				12/7/2010 1312h
1012089-003CMSD	Diesel Range Organics C10-C28	mg/L	SW8015D	2.01	2.162	0	93.1	60-161	1.49	25		12/7/2010 1607h
1012089-003CMSD	Surr: 4-Bromofluorobenzene	% REC	SW8015D	0.242	0.4324		56.0	10-190				12/7/2010 1607h
1012092-001CMSD	Diesel Range Organics C10-C28	mg/L	SW8015D	2.04	2.000	0	102	60-161	0	25		12/7/2010 1753h
1012092-001CMSD	Surr: 4-Bromofluorobenzene	% REC	SW8015D	0.334	0.4000		83.5	10-190				12/7/2010 1753h
1012094-001BMSD	Diesel Range Organics C10-C28	mg/L	SW8015D	2.06	2.105	0	97.9	60-161	5.08	25		12/7/2010 2104h
1012094-001BMSD	Surr: 4-Bromofluorobenzene	% REC	SW8015D	0.291	0.4211		69.0	10-190				12/7/2010 2104h



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Kyle F. Gross

Laboratory Director

Jose Rocha

QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1012092
Project: Red Butte Spill

Contact: Jim Harris
Dept: MSSV
QC Type: LCS

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
LCS-9717	1,1'-Biphenyl	µg/L	EPA625	43.8	80.00	0	54.7	22-104				12/6/2010 2153h
LCS-9717	1,2,4,5-Tetrachlorobenzene	µg/L	EPA625	34.6	80.00	0	43.2	13-102				12/6/2010 2153h
LCS-9717	1,2,4-Trichlorobenzene	µg/L	EPA625	21.7	80.00	0	27.2	10-104				12/6/2010 2153h
LCS-9717	1,2-Dichlorobenzene	µg/L	EPA625	15.3	80.00	0	19.2	10-68				12/6/2010 2153h
LCS-9717	1,3,5-Trinitrobenzene	µg/L	EPA625	144	80.00	0	179	18-209				12/6/2010 2153h
LCS-9717	1,3-Dichlorobenzene	µg/L	EPA625	12.6	80.00	0	15.7	10-60				12/6/2010 2153h
LCS-9717	1,3-Dinitrobenzene	µg/L	EPA625	107	80.00	0	134	10-165				12/6/2010 2153h
LCS-9717	1,4-Dichlorobenzene	µg/L	EPA625	13.3	80.00	0	16.7	10-118				12/6/2010 2153h
LCS-9717	1,4-Naphthoquinone	µg/L	EPA625	40.3	80.00	0	50.4	10-187				12/6/2010 2153h
LCS-9717	1,4-Phenylenediamine	µg/L	EPA625	32.0	80.00	0	40.1	10-80				12/6/2010 2153h
LCS-9717	1-Chloronaphthalene	µg/L	EPA625	38.4	80.00	0	48.0	13-123				12/6/2010 2153h
LCS-9717	1-Methylnaphthalene	µg/L	EPA625	18.0	80.00	0	22.6	13-105				12/6/2010 2153h
LCS-9717	1-Naphthylamine	µg/L	EPA625	30.6	80.00	0	38.2	32-256				12/6/2010 2153h
LCS-9717	2,3,4,6-Tetrachlorophenol	µg/L	EPA625	99.2	80.00	0	124	44-158				12/6/2010 2153h
LCS-9717	2,4,5-Trichlorophenol	µg/L	EPA625	59.0	80.00	0	73.7	46-142				12/6/2010 2153h
LCS-9717	2,4,6-Trichlorophenol	µg/L	EPA625	54.9	80.00	0	68.6	42-113				12/6/2010 2153h
LCS-9717	2,4-Dichlorophenol	µg/L	EPA625	51.9	80.00	0	64.9	37-102				12/6/2010 2153h
LCS-9717	2,4-Dimethylphenol	µg/L	EPA625	50.9	80.00	0	63.7	37-99				12/6/2010 2153h
LCS-9717	2,4-Dinitrophenol	µg/L	EPA625	101	80.00	0	127	10-200				12/6/2010 2153h
LCS-9717	2,4-Dinitrotoluene	µg/L	EPA625	102	80.00	0	127	15-209				12/6/2010 2153h
LCS-9717	2,6-Dichlorophenol	µg/L	EPA625	56.1	80.00	0	70.1	44-111				12/6/2010 2153h
LCS-9717	2,6-Dinitrotoluene	µg/L	EPA625	83.9	80.00	0	105	13-183				12/6/2010 2153h
LCS-9717	2-Acetylaminofluorene	µg/L	EPA625	44.8	80.00	0	56.0	40-131				12/6/2010 2153h
LCS-9717	2-Chloronaphthalene	µg/L	EPA625	38.3	80.00	0	47.9	16-103				12/6/2010 2153h

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Jose Rocha

QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1012092
Project: Red Butte Spill

Contact: Jim Harris
Dept: MSSV
QC Type: LCS

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
LCS-9717	2-Chlorophenol	µg/L	EPA625	40.5	80.00	0	50.6	21-98				12/6/2010 2153h
LCS-9717	2-Methylnaphthalene	µg/L	EPA625	32.2	80.00	0	40.3	11-92				12/6/2010 2153h
LCS-9717	2-Methylphenol	µg/L	EPA625	18.4	80.00	0	23.0	10-92				12/6/2010 2153h
LCS-9717	2-Naphthylamine	µg/L	EPA625	32.4	80.00	0	40.5	36-193				12/6/2010 2153h
LCS-9717	2-Nitroaniline	µg/L	EPA625	89.1	80.00	0	111	10-216				12/6/2010 2153h
LCS-9717	2-Nitrophenol	µg/L	EPA625	59.6	80.00	0	74.5	10-173				12/6/2010 2153h
LCS-9717	2-Picoline	µg/L	EPA625	< 10.0	80.00	0	7.30	10-66			1	12/6/2010 2153h
LCS-9717	3&4-Methylphenol	µg/L	EPA625	38.9	80.00	0	48.6	10-88				12/6/2010 2153h
LCS-9717	3,3'-Dichlorobenzidine	µg/L	EPA625	77.1	80.00	0	96.3	38-131				12/6/2010 2153h
LCS-9717	3,3'-Dimethylbenzidine	µg/L	EPA625	42.3	80.00	0	52.9	10-172				12/6/2010 2153h
LCS-9717	3-Methylcholanthrene	µg/L	EPA625	85.0	80.00	0	106	48-206				12/6/2010 2153h
LCS-9717	3-Nitroaniline	µg/L	EPA625	77.7	80.00	0	97.1	31-172				12/6/2010 2153h
LCS-9717	4,6-Dinitro-2-methylphenol	µg/L	EPA625	134	80.00	0	168	10-190				12/6/2010 2153h
LCS-9717	4-Aminobiphenyl	µg/L	EPA625	78.2	80.00	0	97.8	10-202				12/6/2010 2153h
LCS-9717	4-Bromophenyl phenyl ether	µg/L	EPA625	69.8	80.00	0	87.2	55-136				12/6/2010 2153h
LCS-9717	4-Chloro-3-methylphenol	µg/L	EPA625	63.2	80.00	0	79.1	47-113				12/6/2010 2153h
LCS-9717	4-Chloroaniline	µg/L	EPA625	41.7	80.00	0	52.2	24-124				12/6/2010 2153h
LCS-9717	4-Chlorophenyl phenyl ether	µg/L	EPA625	61.6	80.00	0	77.0	41-119				12/6/2010 2153h
LCS-9717	4-Nitroaniline	µg/L	EPA625	75.8	80.00	0	94.8	27-159				12/6/2010 2153h
LCS-9717	4-Nitrophenol	µg/L	EPA625	25.4	80.00	0	31.7	10-157				12/6/2010 2153h
LCS-9717	5-Nitro-o-toluidine	µg/L	EPA625	96.3	80.00	0	120	60-168				12/6/2010 2153h
LCS-9717	7,12-Dimethylbenz(a)anthracene	µg/L	EPA625	41.8	80.00	0	52.2	42-277				12/6/2010 2153h
LCS-9717	a,a-Dimethylphenethylamine	µg/L	EPA625	13.1	80.00	0	16.4	10-160				12/6/2010 2153h
LCS-9717	Acenaphthene	µg/L	EPA625	54.2	80.00	0	67.7	29-112				12/6/2010 2153h

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QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1012092
Project: Red Butte Spill

Contact: Jim Harris
Dept: MSSV
QC Type: LCS

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
LCS-9717	Acenaphthylene	µg/L	EPA625	53.5	80.00	0	66.9	31-116				12/6/2010 2153h
LCS-9717	Acetophenone	µg/L	EPA625	35.5	80.00	0	44.4	10-105				12/6/2010 2153h
LCS-9717	alpha-Terpineol	µg/L	EPA625	52.4	80.00	0	65.5	14-98				12/6/2010 2153h
LCS-9717	Aniline	µg/L	EPA625	10.0	80.00	0	12.5	10-94				12/6/2010 2153h
LCS-9717	Anthracene	µg/L	EPA625	83.1	80.00	0	104	64-145				12/6/2010 2153h
LCS-9717	Aramite	µg/L	EPA625	59.4	80.00	0	74.2	46-162				12/6/2010 2153h
LCS-9717	Azobenzene	µg/L	EPA625	59.1	80.00	0	73.9	32-117				12/6/2010 2153h
LCS-9717	Benz(a)anthracene	µg/L	EPA625	76.4	80.00	0	95.5	50-134				12/6/2010 2153h
LCS-9717	Benzidine	µg/L	EPA625	33.8	80.00	0	42.2	10-211				12/6/2010 2153h
LCS-9717	Benzo(a)pyrene	µg/L	EPA625	99.8	80.00	0	125	39-152				12/6/2010 2153h
LCS-9717	Benzo(b)fluoranthene	µg/L	EPA625	79.4	80.00	0	99.2	46-256				12/6/2010 2153h
LCS-9717	Benzo(g,h,i)perylene	µg/L	EPA625	85.1	80.00	0	106	21-288				12/6/2010 2153h
LCS-9717	Benzo(k)fluoranthene	µg/L	EPA625	93.1	80.00	0	116	10-254				12/6/2010 2153h
LCS-9717	Benzoic acid	µg/L	EPA625	< 20.0	80.00	0	14.8	10-64				12/6/2010 2153h
LCS-9717	Benzyl alcohol	µg/L	EPA625	17.2	80.00	0	21.4	10-88				12/6/2010 2153h
LCS-9717	Bis(2-chloroethoxy)methane	µg/L	EPA625	35.3	80.00	0	44.1	10-98				12/6/2010 2153h
LCS-9717	Bis(2-chloroethyl) ether	µg/L	EPA625	23.1	80.00	0	28.9	10-99				12/6/2010 2153h
LCS-9717	Bis(2-chloroisopropyl) ether	µg/L	EPA625	23.5	80.00	0	29.3	10-92				12/6/2010 2153h
LCS-9717	Bis(2-ethylhexyl) phthalate	µg/L	EPA625	83.5	80.00	0	104	10-233				12/6/2010 2153h
LCS-9717	bis(2-ethylhexyl)adipate	µg/L	EPA625	82.5	80.00	0	103	10-200				12/6/2010 2153h
LCS-9717	Butyl benzyl phthalate	µg/L	EPA625	78.6	80.00	0	98.3	10-178				12/6/2010 2153h
LCS-9717	Carbazole	µg/L	EPA625	86.9	80.00	0	109	61-140				12/6/2010 2153h
LCS-9717	Chlorobenzilate	µg/L	EPA625	63.2	80.00	0	79.0	10-218				12/6/2010 2153h
LCS-9717	Chrysene	µg/L	EPA625	83.3	80.00	0	104	54-130				12/6/2010 2153h

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QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1012092
Project: Red Butte Spill

Contact: Jim Harris
Dept: MSSV
QC Type: LCS

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
LCS-9717	Diallate (cis or trans)	µg/L	EPA625	68.0	80.00	0	85.0	41-132				12/6/2010 2153h
LCS-9717	Dibenz(a,h)anthracene	µg/L	EPA625	84.3	80.00	0	105	27-199				12/6/2010 2153h
LCS-9717	Dibenzofuran	µg/L	EPA625	56.5	80.00	0	70.6	38-117				12/6/2010 2153h
LCS-9717	Diethyl phthalate	µg/L	EPA625	58.2	80.00	0	72.7	20-128				12/6/2010 2153h
LCS-9717	Dimethoate	µg/L	EPA625	< 10.0	80.00	0	7.14	10-60			1	12/6/2010 2153h
LCS-9717	Dimethyl phthalate	µg/L	EPA625	30.8	80.00	0	38.5	10-105				12/6/2010 2153h
LCS-9717	Dimethylaminoazobenzene	µg/L	EPA625	75.9	80.00	0	94.9	30-151				12/6/2010 2153h
LCS-9717	Di-n-butyl phthalate	µg/L	EPA625	88.0	80.00	0	110	45-131				12/6/2010 2153h
LCS-9717	Di-n-octyl phthalate	µg/L	EPA625	95.2	80.00	0	119	10-252				12/6/2010 2153h
LCS-9717	Dinoseb	µg/L	EPA625	136	80.00	0	170	10-186				12/6/2010 2153h
LCS-9717	Diphenylamine	µg/L	EPA625	72.6	80.00	0	90.8	46-128				12/6/2010 2153h
LCS-9717	Disulfoton	µg/L	EPA625	66.8	80.00	0	83.6	10-124				12/6/2010 2153h
LCS-9717	Ethyl methanesulfonate	µg/L	EPA625	32.9	80.00	0	41.2	10-105				12/6/2010 2153h
LCS-9717	Famphur	µg/L	EPA625	195	80.00	0	244	10-298				12/6/2010 2153h
LCS-9717	Fluoranthene	µg/L	EPA625	88.0	80.00	0	110	61-138				12/6/2010 2153h
LCS-9717	Fluorene	µg/L	EPA625	64.7	80.00	0	80.9	45-116				12/6/2010 2153h
LCS-9717	Hexachlorobenzene	µg/L	EPA625	71.4	80.00	0	89.2	55-135				12/6/2010 2153h
LCS-9717	Hexachlorobutadiene	µg/L	EPA625	15.9	80.00	0	19.8	10-79				12/6/2010 2153h
LCS-9717	Hexachlorocyclopentadiene	µg/L	EPA625	15.5	80.00	0	19.4	10-104				12/6/2010 2153h
LCS-9717	Hexachloroethane	µg/L	EPA625	12.0	80.00	0	15.0	10-58				12/6/2010 2153h
LCS-9717	Hexachlorophene	µg/L	EPA625	47.6	80.00	0	59.5	10-242				12/6/2010 2153h
LCS-9717	Hexachloropropene	µg/L	EPA625	16.4	80.00	0	20.6	10-79				12/6/2010 2153h
LCS-9717	Indene	µg/L	EPA625	17.7	80.00	0	22.1	10-71				12/6/2010 2153h
LCS-9717	Indeno(1,2,3-cd)pyrene	µg/L	EPA625	83.1	80.00	0	104	29-208				12/6/2010 2153h

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QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1012092
Project: Red Butte Spill

Contact: Jim Harris
Dept: MSSV
QC Type: LCS

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
LCS-9717	Isodrin	µg/L	EPA625	83.8	80.00	0	105	58-140				12/6/2010 2153h
LCS-9717	Isophorone	µg/L	EPA625	40.3	80.00	0	50.4	10-105				12/6/2010 2153h
LCS-9717	Isosafrole	µg/L	EPA625	38.0	80.00	0	47.5	12-108				12/6/2010 2153h
LCS-9717	Kepone	µg/L	EPA625	122	80.00	0	153	10-330				12/6/2010 2153h
LCS-9717	Methapyrilene	µg/L	EPA625	32.3	80.00	0	40.4	17-151				12/6/2010 2153h
LCS-9717	Methyl methanesulfonate	µg/L	EPA625	34.8	80.00	0	43.5	10-107				12/6/2010 2153h
LCS-9717	Naphthalene	µg/L	EPA625	26.9	80.00	0	33.7	10-79				12/6/2010 2153h
LCS-9717	n-Decane	µg/L	EPA625	< 10.0	80.00	0	9.50	10-45			1	12/6/2010 2153h
LCS-9717	Nitrobenzene	µg/L	EPA625	39.4	80.00	0	49.3	10-104				12/6/2010 2153h
LCS-9717	Nitroquinoline-1-oxide	µg/L	EPA625	53.6	80.00	0	67.0	10-165				12/6/2010 2153h
LCS-9717	N-Nitrosodiethylamine	µg/L	EPA625	29.8	80.00	0	37.2	10-96				12/6/2010 2153h
LCS-9717	N-Nitrosodimethylamine	µg/L	EPA625	< 10.0	80.00	0	11.2	10-55				12/6/2010 2153h
LCS-9717	N-Nitrosodi-n-butylamine	µg/L	EPA625	51.6	80.00	0	64.6	21-104				12/6/2010 2153h
LCS-9717	N-Nitrosodiphenylamine	µg/L	EPA625	75.7	80.00	0	94.6	45-126				12/6/2010 2153h
LCS-9717	N-Nitrosodi-n-propylamine	µg/L	EPA625	33.4	80.00	0	41.8	10-103				12/6/2010 2153h
LCS-9717	N-Nitrosomethylethylamine	µg/L	EPA625	22.4	80.00	0	28.0	10-84				12/6/2010 2153h
LCS-9717	N-Nitrosomorpholine	µg/L	EPA625	37.7	80.00	0	47.2	15-107				12/6/2010 2153h
LCS-9717	N-Nitrosopiperidine	µg/L	EPA625	42.1	80.00	0	52.6	10-108				12/6/2010 2153h
LCS-9717	N-Nitrosopyrrolidine	µg/L	EPA625	43.1	80.00	0	53.9	19-115				12/6/2010 2153h
LCS-9717	n-Octadecane	µg/L	EPA625	60.5	80.00	0	75.7	27-134				12/6/2010 2153h
LCS-9717	O,O,O-Triethyl phosphorothioate	µg/L	EPA625	38.4	80.00	0	48.1	10-129				12/6/2010 2153h
LCS-9717	o-Toluidine	µg/L	EPA625	32.7	80.00	0	40.8	21-225				12/6/2010 2153h
LCS-9717	Parathion	µg/L	EPA625	114	80.00	0	142	10-165				12/6/2010 2153h
LCS-9717	Methyl parathion	µg/L	EPA625	107	80.00	0	134	10-165				12/6/2010 2153h

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Project: Red Butte Spill

Contact: Jim Harris
Dept: MSSV
QC Type: LCS

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
LCS-9717	Pentachlorobenzene	µg/L	EPA625	54.3	80.00	0	67.9	41-118				12/6/2010 2153h
LCS-9717	Pentachloronitrobenzene	µg/L	EPA625	86.1	80.00	0	108	35-185				12/6/2010 2153h
LCS-9717	Pentachlorophenol	µg/L	EPA625	72.3	80.00	0	90.3	14-144				12/6/2010 2153h
LCS-9717	Phenacetin	µg/L	EPA625	77.0	80.00	0	96.2	42-163				12/6/2010 2153h
LCS-9717	Phenanthrene	µg/L	EPA625	87.8	80.00	0	110	25-135				12/6/2010 2153h
LCS-9717	Phenol	µg/L	EPA625	17.5	80.00	0	21.8	10-53				12/6/2010 2153h
LCS-9717	Phorate	µg/L	EPA625	81.6	80.00	0	102	36-158				12/6/2010 2153h
LCS-9717	Pronamide	µg/L	EPA625	43.7	80.00	0	54.6	33-137				12/6/2010 2153h
LCS-9717	Pyrene	µg/L	EPA625	80.4	80.00	0	101	42-145				12/6/2010 2153h
LCS-9717	Pyridine	µg/L	EPA625	< 10.0	80.00	0	0	10-37			1	12/6/2010 2153h
LCS-9717	Quinoline	µg/L	EPA625	48.2	80.00	0	60.3	13-111				12/6/2010 2153h
LCS-9717	Safrole	µg/L	EPA625	46.2	80.00	0	57.8	24-111				12/6/2010 2153h
LCS-9717	Tetraethyl dithiopyrophosphate	µg/L	EPA625	74.1	80.00	0	92.6	52-138				12/6/2010 2153h
LCS-9717	Thionazin	µg/L	EPA625	66.8	80.00	0	83.4	45-123				12/6/2010 2153h
LCS-9717	Surr: 2,4,6-Tribromophenol	% REC	EPA625	74.2	80.00		92.7	64-130				12/6/2010 2153h
LCS-9717	Surr: 2-Fluorobiphenyl	% REC	EPA625	20.8	40.00		51.9	32-128				12/6/2010 2153h
LCS-9717	Surr: 2-Fluorophenol	% REC	EPA625	19.2	80.00		24.0	10-121				12/6/2010 2153h
LCS-9717	Surr: Nitrobenzene-d5	% REC	EPA625	18.4	40.00		45.9	17-133				12/6/2010 2153h
LCS-9717	Surr: Phenol-d6	% REC	EPA625	13.4	80.00		16.7	10-124				12/6/2010 2153h
LCS-9717	Surr: Terphenyl-d14	% REC	EPA625	40.8	40.00		102	51-221				12/6/2010 2153h
LCS-9717	Acenaphthene	µg/L	SW8270D	54.2	80.00	0	67.7	20-116				12/6/2010 2153h
LCS-9717	Benzo(a)pyrene	µg/L	SW8270D	99.8	80.00	0	125	39-152				12/6/2010 2153h
LCS-9717	Pyrene	µg/L	SW8270D	80.4	80.00	0	101	37-138				12/6/2010 2153h
LCS-9717	Surr: 2,4,6-Tribromophenol	% REC	SW8270D	74.2	80.00		92.7	10-165				12/6/2010 2153h

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Kyle F. Gross

Laboratory Director

Jose Rocha

QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR

Lab Set ID: 1012092

Project: Red Butte Spill

Contact: Jim Harris

Dept: MSSV

QC Type: LCS

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
LCS-9717	Surr: 2-Fluorobiphenyl	% REC	SW8270D	20.8	40.00		51.9	32-128				12/6/2010 2153h
LCS-9717	Surr: 2-Fluorophenol	% REC	SW8270D	19.2	80.00		24.0	10-121				12/6/2010 2153h
LCS-9717	Surr: Nitrobenzene-d5	% REC	SW8270D	18.4	40.00		45.9	17-133				12/6/2010 2153h
LCS-9717	Surr: Phenol-d6	% REC	SW8270D	13.4	80.00		16.7	10-124				12/6/2010 2153h
LCS-9717	Surr: Terphenyl-d14	% REC	SW8270D	40.8	40.00		102	51-221				12/6/2010 2153h

¹ - LCS outliers are not target compounds for method 625 but are provided by AWAL as an additional service.



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QC SUMMARY REPORT

Client: Utah DEQ DERR

Lab Set ID: 1012092

Project: Red Butte Spill

Contact: Jim Harris

Dept: MSSV

QC Type: MBLK

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
MB-9717	1,1'-Biphenyl	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	1,2,4,5-Tetrachlorobenzene	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	1,2,4-Trichlorobenzene	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	1,2-Dichlorobenzene	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	1,3,5-Trinitrobenzene	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	1,3-Dichlorobenzene	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	1,3-Dinitrobenzene	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	1,4-Dichlorobenzene	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	1,4-Naphthoquinone	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	1,4-Phenylenediamine	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	1-Chloronaphthalene	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	1-Methylnaphthalene	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	1-Naphthylamine	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	2,3,4,6-Tetrachlorophenol	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	2,4,5-Trichlorophenol	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	2,4,6-Trichlorophenol	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	2,4-Dichlorophenol	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	2,4-Dimethylphenol	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	2,4-Dinitrophenol	µg/L	EPA625	< 20.0				-				12/6/2010 2126h
MB-9717	2,4-Dinitrotoluene	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	2,6-Dichlorophenol	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	2,6-Dinitrotoluene	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	2-Acetylaminofluorene	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	2-Chloronaphthalene	µg/L	EPA625	< 10.0				-				12/6/2010 2126h

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QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1012092
Project: Red Butte Spill

Contact: Jim Harris
Dept: MSSV
QC Type: MBLK

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
MB-9717	2-Chlorophenol	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	2-Methylnaphthalene	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	2-Methylphenol	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	2-Naphthylamine	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	2-Nitroaniline	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	2-Nitrophenol	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	2-Picoline	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	3&4-Methylphenol	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	3,3'-Dichlorobenzidine	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	3,3'-Dimethylbenzidine	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	3-Methylcholanthrene	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	3-Nitroaniline	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	4,6-Dinitro-2-methylphenol	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	4-Aminobiphenyl	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	4-Bromophenyl phenyl ether	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	4-Chloro-3-methylphenol	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	4-Chloroaniline	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	4-Chlorophenyl phenyl ether	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	4-Nitroaniline	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	4-Nitrophenol	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	5-Nitro-o-toluidine	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	7,12-Dimethylbenz(a)anthracene	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	a,a-Dimethylphenethylamine	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Acenaphthene	µg/L	EPA625	< 10.0				-				12/6/2010 2126h

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QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1012092
Project: Red Butte Spill

Contact: Jim Harris
Dept: MSSV
QC Type: MBLK

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
MB-9717	Acenaphthylene	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Acetophenone	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	alpha-Terpineol	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Aniline	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Anthracene	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Aramite	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Azobenzene	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Benz(a)anthracene	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Benzidine	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Benzo(a)pyrene	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Benzo(b)fluoranthene	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Benzo(g,h,i)perylene	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Benzo(k)fluoranthene	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Benzoic acid	µg/L	EPA625	< 20.0				-				12/6/2010 2126h
MB-9717	Benzyl alcohol	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Bis(2-chloroethoxy)methane	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Bis(2-chloroethyl) ether	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Bis(2-chloroisopropyl) ether	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Bis(2-ethylhexyl) phthalate	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	bis(2-ethylhexyl)adipate	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Butyl benzyl phthalate	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Carbazole	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Chlorobenzilate	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Chrysene	µg/L	EPA625	< 10.0				-				12/6/2010 2126h

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QC SUMMARY REPORT

Client: Utah DEQ DERR

Lab Set ID: 1012092

Project: Red Butte Spill

Contact: Jim Harris

Dept: MSSV

QC Type: MBLK

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
MB-9717	Diallate (cis or trans)	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Dibenz(a,h)anthracene	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Dibenzofuran	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Diethyl phthalate	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Dimethoate	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Dimethyl phthalate	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Dimethylaminoazobenzene	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Di-n-butyl phthalate	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Di-n-octyl phthalate	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Dinoseb	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Diphenylamine	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Disulfoton	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Ethyl methanesulfonate	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Famphur	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Fluoranthene	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Fluorene	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Hexachlorobenzene	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Hexachlorobutadiene	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Hexachlorocyclopentadiene	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Hexachloroethane	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Hexachlorophene	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Hexachloropropene	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Indene	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Indeno(1,2,3-cd)pyrene	µg/L	EPA625	< 10.0				-				12/6/2010 2126h

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QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1012092
Project: Red Butte Spill

Contact: Jim Harris
Dept: MSSV
QC Type: MBLK

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
MB-9717	Isodrin	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Isophorone	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Isosafrole	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Kepone	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Methapyrilene	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Methyl methanesulfonate	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Naphthalene	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	n-Decane	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Nitrobenzene	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Nitroquinoline-1-oxide	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	N-Nitrosodiethylamine	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	N-Nitrosodimethylamine	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	N-Nitrosodi-n-butylamine	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	N-Nitrosodiphenylamine	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	N-Nitrosodi-n-propylamine	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	N-Nitrosomethylethylamine	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	N-Nitrosomorpholine	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	N-Nitrosopiperidine	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	N-Nitrosopyrrolidine	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	n-Octadecane	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	O,O,O-Triethyl phosphorothioate	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	o-Toluidine	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Parathion	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Methyl parathion	µg/L	EPA625	< 10.0				-				12/6/2010 2126h

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QC SUMMARY REPORT

Client: Utah DEQ DERR

Lab Set ID: 1012092

Project: Red Butte Spill

Contact: Jim Harris

Dept: MSSV

QC Type: MBLK

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
MB-9717	Pentachlorobenzene	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Pentachloronitrobenzene	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Pentachlorophenol	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Phenacetin	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Phenanthrene	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Phenol	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Phorate	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Pronamide	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Pyrene	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Pyridine	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Quinoline	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Safrole	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Tetraethyl dithiopyrophosphate	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Thionazin	µg/L	EPA625	< 10.0				-				12/6/2010 2126h
MB-9717	Surr: 2,4,6-Tribromophenol	% REC	EPA625	49.8	80.00		62.3	10-165				12/6/2010 2126h
MB-9717	Surr: 2-Fluorobiphenyl	% REC	EPA625	18.5	40.00		46.1	18-113				12/6/2010 2126h
MB-9717	Surr: 2-Fluorophenol	% REC	EPA625	20.2	80.00		25.3	10-121				12/6/2010 2126h
MB-9717	Surr: Nitrobenzene-d5	% REC	EPA625	13.0	40.00		32.4	17-133				12/6/2010 2126h
MB-9717	Surr: Phenol-d6	% REC	EPA625	17.4	80.00		21.7	10-124				12/6/2010 2126h
MB-9717	Surr: Terphenyl-d14	% REC	EPA625	39.2	40.00		98.0	28-163				12/6/2010 2126h
MB-9717	Acenaphthene	µg/L	SW8270D	< 10.0				-				12/6/2010 2126h
MB-9717	Acenaphthylene	µg/L	SW8270D	< 10.0				-				12/6/2010 2126h
MB-9717	Anthracene	µg/L	SW8270D	< 10.0				-				12/6/2010 2126h
MB-9717	Benz(a)anthracene	µg/L	SW8270D	< 10.0				-				12/6/2010 2126h

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Kyle F. Gross

Laboratory Director

Jose Rocha

QA Officer

QC SUMMARY REPORT**Client:** Utah DEQ DERR
Lab Set ID: 1012092
Project: Red Butte Spill**Contact:** Jim Harris
Dept: MSSV
QC Type: MBLK

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
MB-9717	Benzo(a)pyrene	µg/L	SW8270D	< 10.0				-				12/6/2010 2126h
MB-9717	Benzo(b)fluoranthene	µg/L	SW8270D	< 10.0				-				12/6/2010 2126h
MB-9717	Benzo(g,h,i)perylene	µg/L	SW8270D	< 10.0				-				12/6/2010 2126h
MB-9717	Benzo(k)fluoranthene	µg/L	SW8270D	< 10.0				-				12/6/2010 2126h
MB-9717	C11-C12 Aliphatic hydrocarbons	µg/L	SW8270D	< 10.0				-				12/6/2010 2126h
MB-9717	C11-C13 Alkyl Naphthalenes	µg/L	SW8270D	< 10.0				-				12/6/2010 2126h
MB-9717	C13-C16 Aliphatic hydrocarbons	µg/L	SW8270D	< 10.0				-				12/6/2010 2126h
MB-9717	C17-C21 Aliphatic hydrocarbons	µg/L	SW8270D	< 10.0				-				12/6/2010 2126h
MB-9717	C22-C35 Aliphatic hydrocarbons	µg/L	SW8270D	< 10.0				-				12/6/2010 2126h
MB-9717	Chrysene	µg/L	SW8270D	< 10.0				-				12/6/2010 2126h
MB-9717	Dibenz(a,h)anthracene	µg/L	SW8270D	< 10.0				-				12/6/2010 2126h
MB-9717	Fluoranthene	µg/L	SW8270D	< 10.0				-				12/6/2010 2126h
MB-9717	Fluorene	µg/L	SW8270D	< 10.0				-				12/6/2010 2126h
MB-9717	Indeno(1,2,3-cd)pyrene	µg/L	SW8270D	< 10.0				-				12/6/2010 2126h
MB-9717	Phenanthrene	µg/L	SW8270D	< 10.0				-				12/6/2010 2126h
MB-9717	Pyrene	µg/L	SW8270D	< 10.0				-				12/6/2010 2126h
MB-9717	Total C12-C22 PAH**	µg/L	SW8270D	< 10.0				-				12/6/2010 2126h
MB-9717	Surr: 2,4,6-Tribromophenol	%REC	SW8270D	49.8	80.00		62.3	10-165				12/6/2010 2126h
MB-9717	Surr: 2-Fluorobiphenyl	%REC	SW8270D	18.5	40.00		46.1	18-113				12/6/2010 2126h
MB-9717	Surr: 2-Fluorophenol	%REC	SW8270D	20.2	80.00		25.3	10-121				12/6/2010 2126h
MB-9717	Surr: Nitrobenzene-d5	%REC	SW8270D	13.0	40.00		32.4	17-133				12/6/2010 2126h
MB-9717	Surr: Phenol-d6	%REC	SW8270D	17.4	80.00		21.7	10-124				12/6/2010 2126h
MB-9717	Surr: Terphenyl-d14	%REC	SW8270D	39.2	40.00		98.0	28-163				12/6/2010 2126h

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Laboratory Director

Jose Rocha

QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR

Lab Set ID: 1012092

Project: Red Butte Spill

Contact: Jim Harris

Dept: MSSV

QC Type: MS

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
1012092-001BMS	1,1'-Biphenyl	µg/L	EPA625	45.5	80.00	0	56.9	27-99				12/6/2010 2249h
1012092-001BMS	1,2,4,5-Tetrachlorobenzene	µg/L	EPA625	39.0	80.00	0	48.8	10-119				12/6/2010 2249h
1012092-001BMS	1,2,4-Trichlorobenzene	µg/L	EPA625	30.3	80.00	0	37.9	10-79				12/6/2010 2249h
1012092-001BMS	1,2-Dichlorobenzene	µg/L	EPA625	22.3	80.00	0	27.9	10-59				12/6/2010 2249h
1012092-001BMS	1,3,5-Trinitrobenzene	µg/L	EPA625	156	80.00	0	195	10-175			1	12/6/2010 2249h
1012092-001BMS	1,3-Dichlorobenzene	µg/L	EPA625	19.6	80.00	0	24.5	10-56				12/6/2010 2249h
1012092-001BMS	1,3-Dinitrobenzene	µg/L	EPA625	107	80.00	0	134	10-175				12/6/2010 2249h
1012092-001BMS	1,4-Dichlorobenzene	µg/L	EPA625	20.4	80.00	0	25.6	10-58				12/6/2010 2249h
1012092-001BMS	1,4-Naphthoquinone	µg/L	EPA625	41.0	80.00	0	51.2	10-177				12/6/2010 2249h
1012092-001BMS	1,4-Phenylenediamine	µg/L	EPA625	35.4	80.00	0	44.2	10-124				12/6/2010 2249h
1012092-001BMS	1-Chloronaphthalene	µg/L	EPA625	38.7	80.00	0	48.4	10-106				12/6/2010 2249h
1012092-001BMS	1-Methylnaphthalene	µg/L	EPA625	20.0	80.00	0	25.0	10-83				12/6/2010 2249h
1012092-001BMS	1-Naphthylamine	µg/L	EPA625	33.8	80.00	0	42.3	10-122				12/6/2010 2249h
1012092-001BMS	2,3,4,6-Tetrachlorophenol	µg/L	EPA625	100	80.00	0	125	10-157				12/6/2010 2249h
1012092-001BMS	2,4,5-Trichlorophenol	µg/L	EPA625	70.6	80.00	0	88.3	10-148				12/6/2010 2249h
1012092-001BMS	2,4,6-Trichlorophenol	µg/L	EPA625	58.2	80.00	0	72.8	10-136				12/6/2010 2249h
1012092-001BMS	2,4-Dichlorophenol	µg/L	EPA625	54.3	80.00	0	67.9	10-123				12/6/2010 2249h
1012092-001BMS	2,4-Dimethylphenol	µg/L	EPA625	48.3	80.00	0	60.4	10-113				12/6/2010 2249h
1012092-001BMS	2,4-Dinitrophenol	µg/L	EPA625	122	80.00	0	152	10-175				12/6/2010 2249h
1012092-001BMS	2,4-Dinitrotoluene	µg/L	EPA625	109	80.00	0	136	10-175				12/6/2010 2249h
1012092-001BMS	2,6-Dichlorophenol	µg/L	EPA625	56.5	80.00	0	70.6	10-148				12/6/2010 2249h
1012092-001BMS	2,6-Dinitrotoluene	µg/L	EPA625	90.3	80.00	0	113	10-175				12/6/2010 2249h
1012092-001BMS	2-Acetylaminofluorene	µg/L	EPA625	45.8	80.00	0	57.2	10-94				12/6/2010 2249h
1012092-001BMS	2-Chloronaphthalene	µg/L	EPA625	42.7	80.00	0	53.4	10-93				12/6/2010 2249h

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Laboratory Director

Jose Rocha

QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR

Lab Set ID: 1012092

Project: Red Butte Spill

Contact: Jim Harris

Dept: MSSV

QC Type: MS

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
1012092-001BMS	2-Chlorophenol	µg/L	EPA625	43.1	80.00	0	53.8	10-92				12/6/2010 2249h
1012092-001BMS	2-Methylnaphthalene	µg/L	EPA625	36.9	80.00	0	46.2	15-78				12/6/2010 2249h
1012092-001BMS	2-Methylphenol	µg/L	EPA625	19.5	80.00	0	24.4	10-83				12/6/2010 2249h
1012092-001BMS	2-Naphthylamine	µg/L	EPA625	34.6	80.00	0	43.3	10-154				12/6/2010 2249h
1012092-001BMS	2-Nitroaniline	µg/L	EPA625	97.1	80.00	0	121	10-175				12/6/2010 2249h
1012092-001BMS	2-Nitrophenol	µg/L	EPA625	65.4	80.00	0	81.8	10-175				12/6/2010 2249h
1012092-001BMS	2-Picoline	µg/L	EPA625	< 10.0	80.00	0	9.46	10-61			1	12/6/2010 2249h
1012092-001BMS	3&4-Methylphenol	µg/L	EPA625	39.8	80.00	0	49.8	10-80				12/6/2010 2249h
1012092-001BMS	3,3'-Dichlorobenzidine	µg/L	EPA625	77.3	80.00	0	96.7	10-150				12/6/2010 2249h
1012092-001BMS	3,3'-Dimethylbenzidine	µg/L	EPA625	43.9	80.00	0	54.8	10-143				12/6/2010 2249h
1012092-001BMS	3-Methylcholanthrene	µg/L	EPA625	86.7	80.00	0	108	32-171				12/6/2010 2249h
1012092-001BMS	3-Nitroaniline	µg/L	EPA625	84.4	80.00	0	106	10-175				12/6/2010 2249h
1012092-001BMS	4,6-Dinitro-2-methylphenol	µg/L	EPA625	139	80.00	0	174	10-175				12/6/2010 2249h
1012092-001BMS	4-Aminobiphenyl	µg/L	EPA625	80.1	80.00	0	100	10-175				12/6/2010 2249h
1012092-001BMS	4-Bromophenyl phenyl ether	µg/L	EPA625	72.4	80.00	0	90.5	16-138				12/6/2010 2249h
1012092-001BMS	4-Chloro-3-methylphenol	µg/L	EPA625	70.0	80.00	0	87.5	10-131				12/6/2010 2249h
1012092-001BMS	4-Chloroaniline	µg/L	EPA625	39.8	80.00	0	49.8	10-98				12/6/2010 2249h
1012092-001BMS	4-Chlorophenyl phenyl ether	µg/L	EPA625	65.2	80.00	0	81.6	31-108				12/6/2010 2249h
1012092-001BMS	4-Nitroaniline	µg/L	EPA625	80.8	80.00	0	101	10-175				12/6/2010 2249h
1012092-001BMS	4-Nitrophenol	µg/L	EPA625	26.4	80.00	0	33.0	10-97				12/6/2010 2249h
1012092-001BMS	5-Nitro-o-toluidine	µg/L	EPA625	103	80.00	0	129	10-175				12/6/2010 2249h
1012092-001BMS	7,12-Dimethylbenz(a)anthracene	µg/L	EPA625	42.7	80.00	0	53.3	26-174				12/6/2010 2249h
1012092-001BMS	a,a-Dimethylphenethylamine	µg/L	EPA625	26.2	80.00	0	32.8	10-175				12/6/2010 2249h
1012092-001BMS	Acenaphthene	µg/L	EPA625	57.0	80.00	0	71.2	29-97				12/6/2010 2249h

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Kyle F. Gross

Laboratory Director

Jose Rocha

QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR

Lab Set ID: 1012092

Project: Red Butte Spill

Contact: Jim Harris

Dept: MSSV

QC Type: MS

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
1012092-001BMS	Acenaphthylene	µg/L	EPA625	55.7	80.00	0	69.6	37-87				12/6/2010 2249h
1012092-001BMS	Acetophenone	µg/L	EPA625	38.0	80.00	0	47.5	10-96				12/6/2010 2249h
1012092-001BMS	alpha-Terpineol	µg/L	EPA625	52.7	80.00	0	65.9	10-67				12/6/2010 2249h
1012092-001BMS	Aniline	µg/L	EPA625	10.4	80.00	0	13.0	10-71				12/6/2010 2249h
1012092-001BMS	Anthracene	µg/L	EPA625	82.1	80.00	0	103	53-114				12/6/2010 2249h
1012092-001BMS	Aramite	µg/L	EPA625	58.9	80.00	0	73.6	29-160				12/6/2010 2249h
1012092-001BMS	Azobenzene	µg/L	EPA625	58.9	80.00	0	73.7	15-114				12/6/2010 2249h
1012092-001BMS	Benz(a)anthracene	µg/L	EPA625	77.4	80.00	0	96.7	39-129				12/6/2010 2249h
1012092-001BMS	Benzidine	µg/L	EPA625	47.2	80.00	0	59.0	10-99				12/6/2010 2249h
1012092-001BMS	Benzo(a)pyrene	µg/L	EPA625	102	80.00	0	127	29-175				12/6/2010 2249h
1012092-001BMS	Benzo(b)fluoranthene	µg/L	EPA625	77.6	80.00	0	97.0	15-140				12/6/2010 2249h
1012092-001BMS	Benzo(g,h,i)perylene	µg/L	EPA625	86.0	80.00	0	108	10-182				12/6/2010 2249h
1012092-001BMS	Benzo(k)fluoranthene	µg/L	EPA625	102	80.00	0	128	21-154				12/6/2010 2249h
1012092-001BMS	Benzoic acid	µg/L	EPA625	< 20.0	80.00	0	14.6	10-71				12/6/2010 2249h
1012092-001BMS	Benzyl alcohol	µg/L	EPA625	18.5	80.00	0	23.1	10-69				12/6/2010 2249h
1012092-001BMS	Bis(2-chloroethoxy)methane	µg/L	EPA625	36.2	80.00	0	45.2	10-94				12/6/2010 2249h
1012092-001BMS	Bis(2-chloroethyl) ether	µg/L	EPA625	25.6	80.00	0	32.0	10-70				12/6/2010 2249h
1012092-001BMS	Bis(2-chloroisopropyl) ether	µg/L	EPA625	26.2	80.00	0	32.7	10-71				12/6/2010 2249h
1012092-001BMS	Bis(2-ethylhexyl) phthalate	µg/L	EPA625	80.8	80.00	0	101	10-175				12/6/2010 2249h
1012092-001BMS	bis(2-ethylhexyl)adipate	µg/L	EPA625	81.8	80.00	0	102	10-175				12/6/2010 2249h
1012092-001BMS	Butyl benzyl phthalate	µg/L	EPA625	79.5	80.00	0	99.4	10-175				12/6/2010 2249h
1012092-001BMS	Carbazole	µg/L	EPA625	89.6	80.00	0	112	10-151				12/6/2010 2249h
1012092-001BMS	Chlorobenzilate	µg/L	EPA625	71.3	80.00	0	89.1	18-175				12/6/2010 2249h
1012092-001BMS	Chrysene	µg/L	EPA625	82.1	80.00	0	103	38-133				12/6/2010 2249h

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QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1012092
Project: Red Butte Spill

Contact: Jim Harris
Dept: MSSV
QC Type: MS

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
1012092-001BMS	Diallate (cis or trans)	µg/L	EPA625	68.9	80.00	0	86.1	10-157				12/6/2010 2249h
1012092-001BMS	Dibenz(a,h)anthracene	µg/L	EPA625	83.4	80.00	0	104	13-168				12/6/2010 2249h
1012092-001BMS	Dibenzofuran	µg/L	EPA625	59.9	80.00	0	74.9	29-103				12/6/2010 2249h
1012092-001BMS	Diethyl phthalate	µg/L	EPA625	74.7	80.00	0	93.4	10-139				12/6/2010 2249h
1012092-001BMS	Dimethoate	µg/L	EPA625	10.2	80.00	0	12.7	10-136				12/6/2010 2249h
1012092-001BMS	Dimethyl phthalate	µg/L	EPA625	49.8	80.00	0	62.3	10-122				12/6/2010 2249h
1012092-001BMS	Dimethylaminoazobenzene	µg/L	EPA625	76.9	80.00	0	96.1	34-142				12/6/2010 2249h
1012092-001BMS	Di-n-butyl phthalate	µg/L	EPA625	85.3	80.00	0	107	44-124				12/6/2010 2249h
1012092-001BMS	Di-n-octyl phthalate	µg/L	EPA625	96.3	80.00	0	120	10-175				12/6/2010 2249h
1012092-001BMS	Dinoseb	µg/L	EPA625	151	80.00	0	189	10-175			1	12/6/2010 2249h
1012092-001BMS	Diphenylamine	µg/L	EPA625	71.4	80.00	0	89.2	13-110				12/6/2010 2249h
1012092-001BMS	Disulfoton	µg/L	EPA625	58.4	80.00	0	73.0	10-121				12/6/2010 2249h
1012092-001BMS	Ethyl methanesulfonate	µg/L	EPA625	35.5	80.00	0	44.4	10-99				12/6/2010 2249h
1012092-001BMS	Famphur	µg/L	EPA625	176	80.00	0	220	10-71			1	12/6/2010 2249h
1012092-001BMS	Fluoranthene	µg/L	EPA625	88.7	80.00	0	111	23-135				12/6/2010 2249h
1012092-001BMS	Fluorene	µg/L	EPA625	69.1	80.00	0	86.4	34-108				12/6/2010 2249h
1012092-001BMS	Hexachlorobenzene	µg/L	EPA625	73.2	80.00	0	91.5	26-131				12/6/2010 2249h
1012092-001BMS	Hexachlorobutadiene	µg/L	EPA625	23.6	80.00	0	29.5	10-110				12/6/2010 2249h
1012092-001BMS	Hexachlorocyclopentadiene	µg/L	EPA625	20.1	80.00	0	25.1	10-45				12/6/2010 2249h
1012092-001BMS	Hexachloroethane	µg/L	EPA625	19.5	80.00	0	24.4	10-58				12/6/2010 2249h
1012092-001BMS	Hexachlorophene	µg/L	EPA625	51.8	80.00	0	64.8	10-168				12/6/2010 2249h
1012092-001BMS	Hexachloropropene	µg/L	EPA625	25.1	80.00	0	31.4	10-72				12/6/2010 2249h
1012092-001BMS	Indene	µg/L	EPA625	23.2	80.00	0	29.0	10-35				12/6/2010 2249h
1012092-001BMS	Indeno(1,2,3-cd)pyrene	µg/L	EPA625	83.7	80.00	0	105	10-176				12/6/2010 2249h

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QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1012092
Project: Red Butte Spill

Contact: Jim Harris
Dept: MSSV
QC Type: MS

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
1012092-001BMS	Isodrin	µg/L	EPA625	85.3	80.00	0	107	15-165				12/6/2010 2249h
1012092-001BMS	Isophorone	µg/L	EPA625	39.4	80.00	0	49.2	10-99				12/6/2010 2249h
1012092-001BMS	Isosafrole	µg/L	EPA625	38.5	80.00	0	48.1	10-167				12/6/2010 2249h
1012092-001BMS	Kepone	µg/L	EPA625	108	80.00	0	135	10-175				12/6/2010 2249h
1012092-001BMS	Methapyrilene	µg/L	EPA625	45.1	80.00	0	56.3	10-149				12/6/2010 2249h
1012092-001BMS	Methyl methanesulfonate	µg/L	EPA625	38.8	80.00	0	48.6	10-132				12/6/2010 2249h
1012092-001BMS	Naphthalene	µg/L	EPA625	32.5	80.00	0	40.6	10-82				12/6/2010 2249h
1012092-001BMS	n-Decane	µg/L	EPA625	12.4	80.00	0	15.5	10-27				12/6/2010 2249h
1012092-001BMS	Nitrobenzene	µg/L	EPA625	42.8	80.00	0	53.5	10-119				12/6/2010 2249h
1012092-001BMS	Nitroquinoline-1-oxide	µg/L	EPA625	65.0	80.00	0	81.2	10-170				12/6/2010 2249h
1012092-001BMS	N-Nitrosodiethylamine	µg/L	EPA625	32.6	80.00	0	40.7	10-91				12/6/2010 2249h
1012092-001BMS	N-Nitrosodimethylamine	µg/L	EPA625	< 10.0	80.00	0	11.7	10-42				12/6/2010 2249h
1012092-001BMS	N-Nitrosodi-n-butylamine	µg/L	EPA625	53.2	80.00	0	66.5	10-175				12/6/2010 2249h
1012092-001BMS	N-Nitrosodiphenylamine	µg/L	EPA625	78.1	80.00	0	97.6	12-112				12/6/2010 2249h
1012092-001BMS	N-Nitrosodi-n-propylamine	µg/L	EPA625	33.7	80.00	0	42.1	10-77				12/6/2010 2249h
1012092-001BMS	N-Nitrosomethylethylamine	µg/L	EPA625	25.0	80.00	0	31.2	10-75				12/6/2010 2249h
1012092-001BMS	N-Nitrosomorpholine	µg/L	EPA625	37.2	80.00	0	46.6	10-175				12/6/2010 2249h
1012092-001BMS	N-Nitrosopiperidine	µg/L	EPA625	43.8	80.00	0	54.7	10-105				12/6/2010 2249h
1012092-001BMS	N-Nitrosopyrrolidine	µg/L	EPA625	43.5	80.00	0	54.4	10-88				12/6/2010 2249h
1012092-001BMS	n-Octadecane	µg/L	EPA625	60.2	80.00	0	75.2	10-121				12/6/2010 2249h
1012092-001BMS	O,O,O-Triethyl phosphorothioate	µg/L	EPA625	39.6	80.00	0	49.5	10-93				12/6/2010 2249h
1012092-001BMS	o-Toluidine	µg/L	EPA625	32.4	80.00	0	40.5	10-107				12/6/2010 2249h
1012092-001BMS	Parathion	µg/L	EPA625	117	80.00	0	146	10-175				12/6/2010 2249h
1012092-001BMS	Methyl parathion	µg/L	EPA625	116	80.00	0	145	10-175				12/6/2010 2249h

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Kyle F. Gross

Laboratory Director

Jose Rocha

QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR

Lab Set ID: 1012092

Project: Red Butte Spill

Contact: Jim Harris

Dept: MSSV

QC Type: MS

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
1012092-001BMS	Pentachlorobenzene	µg/L	EPA625	57.2	80.00	0	71.5	25-134				12/6/2010 2249h
1012092-001BMS	Pentachloronitrobenzene	µg/L	EPA625	86.1	80.00	0	108	10-175				12/6/2010 2249h
1012092-001BMS	Pentachlorophenol	µg/L	EPA625	54.9	80.00	0	68.7	10-163				12/6/2010 2249h
1012092-001BMS	Phenacetin	µg/L	EPA625	77.9	80.00	0	97.4	10-175				12/6/2010 2249h
1012092-001BMS	Phenanthrene	µg/L	EPA625	85.5	80.00	0	107	31-126				12/6/2010 2249h
1012092-001BMS	Phenol	µg/L	EPA625	18.9	80.00	0	23.7	10-175				12/6/2010 2249h
1012092-001BMS	Phorate	µg/L	EPA625	87.2	80.00	0	109	10-175				12/6/2010 2249h
1012092-001BMS	Pronamide	µg/L	EPA625	45.0	80.00	0	56.2	10-95				12/6/2010 2249h
1012092-001BMS	Pyrene	µg/L	EPA625	80.7	80.00	0	101	51-139				12/6/2010 2249h
1012092-001BMS	Pyridine	µg/L	EPA625	< 10.0	80.00	0	0	10-25			1	12/6/2010 2249h
1012092-001BMS	Quinoline	µg/L	EPA625	51.0	80.00	0	63.8	10-63			1	12/6/2010 2249h
1012092-001BMS	Safrole	µg/L	EPA625	47.0	80.00	0	58.8	10-120				12/6/2010 2249h
1012092-001BMS	Tetraethyl dithiopyrophosphate	µg/L	EPA625	76.0	80.00	0	95.1	13-160				12/6/2010 2249h
1012092-001BMS	Thionazin	µg/L	EPA625	72.2	80.00	0	90.2	10-139				12/6/2010 2249h
1012092-001BMS	Surr: 2,4,6-Tribromophenol	% REC	EPA625	79.6	80.00		99.4	21-154				12/6/2010 2249h
1012092-001BMS	Surr: 2-Fluorobiphenyl	% REC	EPA625	21.0	40.00		52.4	10-106				12/6/2010 2249h
1012092-001BMS	Surr: 2-Fluorophenol	% REC	EPA625	21.8	80.00		27.2	10-56				12/6/2010 2249h
1012092-001BMS	Surr: Nitrobenzene-d5	% REC	EPA625	19.3	40.00		48.3	10-101				12/6/2010 2249h
1012092-001BMS	Surr: Phenol-d6	% REC	EPA625	14.5	80.00		18.1	10-45				12/6/2010 2249h
1012092-001BMS	Surr: Terphenyl-d14	% REC	EPA625	38.7	40.00		96.7	10-160				12/6/2010 2249h
1012094-001EMS	1,1'-Biphenyl	µg/L	EPA625	55.5	84.21	0	65.9	27-99				12/7/2010 0202h
1012094-001EMS	1,2,4,5-Tetrachlorobenzene	µg/L	EPA625	48.1	84.21	0	57.2	10-119				12/7/2010 0202h
1012094-001EMS	1,2,4-Trichlorobenzene	µg/L	EPA625	39.0	84.21	0	46.3	10-79				12/7/2010 0202h
1012094-001EMS	1,2-Dichlorobenzene	µg/L	EPA625	29.7	84.21	0	35.2	10-59				12/7/2010 0202h

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Kyle F. Gross

Laboratory Director

Jose Rocha

QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1012092
Project: Red Butte Spill

Contact: Jim Harris
Dept: MSSV
QC Type: MS

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
1012094-001EMS	1,3,5-Trinitrobenzene	µg/L	EPA625	183	84.21	0	218	10-175			¹	12/7/2010 0202h
1012094-001EMS	1,3-Dichlorobenzene	µg/L	EPA625	26.2	84.21	0	31.1	10-56				12/7/2010 0202h
1012094-001EMS	1,3-Dinitrobenzene	µg/L	EPA625	122	84.21	0	145	10-175				12/7/2010 0202h
1012094-001EMS	1,4-Dichlorobenzene	µg/L	EPA625	27.3	84.21	0	32.4	10-58				12/7/2010 0202h
1012094-001EMS	1,4-Naphthoquinone	µg/L	EPA625	87.8	84.21	0	104	10-177				12/7/2010 0202h
1012094-001EMS	1,4-Phenylenediamine	µg/L	EPA625	45.1	84.21	0	53.5	10-124				12/7/2010 0202h
1012094-001EMS	1-Chloronaphthalene	µg/L	EPA625	48.0	84.21	0	57.0	10-106				12/7/2010 0202h
1012094-001EMS	1-Methylnaphthalene	µg/L	EPA625	26.3	84.21	0	31.3	10-83				12/7/2010 0202h
1012094-001EMS	1-Naphthylamine	µg/L	EPA625	38.3	84.21	0	45.5	10-122				12/7/2010 0202h
1012094-001EMS	2,3,4,6-Tetrachlorophenol	µg/L	EPA625	99.5	84.21	0	118	10-157				12/7/2010 0202h
1012094-001EMS	2,4,5-Trichlorophenol	µg/L	EPA625	75.1	84.21	0	89.2	10-148				12/7/2010 0202h
1012094-001EMS	2,4,6-Trichlorophenol	µg/L	EPA625	61.9	84.21	0	73.4	10-136				12/7/2010 0202h
1012094-001EMS	2,4-Dichlorophenol	µg/L	EPA625	60.0	84.21	0	71.3	10-123				12/7/2010 0202h
1012094-001EMS	2,4-Dimethylphenol	µg/L	EPA625	56.5	84.21	0	67.1	10-113				12/7/2010 0202h
1012094-001EMS	2,4-Dinitrophenol	µg/L	EPA625	124	84.21	0	147	10-175				12/7/2010 0202h
1012094-001EMS	2,4-Dinitrotoluene	µg/L	EPA625	120	84.21	0	142	10-175				12/7/2010 0202h
1012094-001EMS	2,6-Dichlorophenol	µg/L	EPA625	62.5	84.21	0	74.3	10-148				12/7/2010 0202h
1012094-001EMS	2,6-Dinitrotoluene	µg/L	EPA625	94.6	84.21	0	112	10-175				12/7/2010 0202h
1012094-001EMS	2-Acetylaminofluorene	µg/L	EPA625	50.3	84.21	0	59.8	10-94				12/7/2010 0202h
1012094-001EMS	2-Chloronaphthalene	µg/L	EPA625	53.6	84.21	0	63.6	10-93				12/7/2010 0202h
1012094-001EMS	2-Chlorophenol	µg/L	EPA625	48.2	84.21	0	57.2	10-92				12/7/2010 0202h
1012094-001EMS	2-Methylnaphthalene	µg/L	EPA625	46.7	84.21	0	55.5	15-78				12/7/2010 0202h
1012094-001EMS	2-Methylphenol	µg/L	EPA625	23.7	84.21	0	28.2	10-83				12/7/2010 0202h
1012094-001EMS	2-Naphthylamine	µg/L	EPA625	38.7	84.21	0	46.0	10-154				12/7/2010 0202h

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Kyle F. Gross

Laboratory Director

Jose Rocha

QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1012092
Project: Red Butte Spill

Contact: Jim Harris
Dept: MSSV
QC Type: MS

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
1012094-001EMS	2-Nitroaniline	µg/L	EPA625	109	84.21	0	129	10-175				12/7/2010 0202h
1012094-001EMS	2-Nitrophenol	µg/L	EPA625	69.9	84.21	0	83.0	10-175				12/7/2010 0202h
1012094-001EMS	2-Picoline	µg/L	EPA625	11.9	84.21	0	14.2	10-61				12/7/2010 0202h
1012094-001EMS	3&4-Methylphenol	µg/L	EPA625	50.3	84.21	0	59.7	10-80				12/7/2010 0202h
1012094-001EMS	3,3'-Dichlorobenzidine	µg/L	EPA625	85.2	84.21	0	101	10-150				12/7/2010 0202h
1012094-001EMS	3,3'-Dimethylbenzidine	µg/L	EPA625	46.3	84.21	0	55.0	10-143				12/7/2010 0202h
1012094-001EMS	3-Methylcholanthrene	µg/L	EPA625	95.0	84.21	0	113	32-171				12/7/2010 0202h
1012094-001EMS	3-Nitroaniline	µg/L	EPA625	92.9	84.21	0	110	10-175				12/7/2010 0202h
1012094-001EMS	4,6-Dinitro-2-methylphenol	µg/L	EPA625	150	84.21	0	178	10-175			1	12/7/2010 0202h
1012094-001EMS	4-Aminobiphenyl	µg/L	EPA625	89.1	84.21	0	106	10-175				12/7/2010 0202h
1012094-001EMS	4-Bromophenyl phenyl ether	µg/L	EPA625	82.0	84.21	0	97.4	16-138				12/7/2010 0202h
1012094-001EMS	4-Chloro-3-methylphenol	µg/L	EPA625	75.2	84.21	0	89.3	10-131				12/7/2010 0202h
1012094-001EMS	4-Chloroaniline	µg/L	EPA625	51.2	84.21	0	60.8	10-98				12/7/2010 0202h
1012094-001EMS	4-Chlorophenyl phenyl ether	µg/L	EPA625	73.1	84.21	0	86.8	31-108				12/7/2010 0202h
1012094-001EMS	4-Nitroaniline	µg/L	EPA625	87.3	84.21	0	104	10-175				12/7/2010 0202h
1012094-001EMS	4-Nitrophenol	µg/L	EPA625	30.3	84.21	0	36.0	10-97				12/7/2010 0202h
1012094-001EMS	5-Nitro-o-toluidine	µg/L	EPA625	109	84.21	0	130	10-175				12/7/2010 0202h
1012094-001EMS	7,12-Dimethylbenz(a)anthracene	µg/L	EPA625	47.8	84.21	0	56.7	26-174				12/7/2010 0202h
1012094-001EMS	a,a-Dimethylphenethylamine	µg/L	EPA625	37.7	84.21	0	44.8	10-175				12/7/2010 0202h
1012094-001EMS	Acenaphthene	µg/L	EPA625	67.6	84.21	0	80.3	29-97				12/7/2010 0202h
1012094-001EMS	Acenaphthylene	µg/L	EPA625	66.6	84.21	0	79.1	37-87				12/7/2010 0202h
1012094-001EMS	Acetophenone	µg/L	EPA625	46.1	84.21	0	54.7	10-96				12/7/2010 0202h
1012094-001EMS	alpha-Terpineol	µg/L	EPA625	61.1	84.21	0	72.6	10-67			1	12/7/2010 0202h
1012094-001EMS	Aniline	µg/L	EPA625	15.5	84.21	0	18.4	10-71				12/7/2010 0202h

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QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1012092
Project: Red Butte Spill

Contact: Jim Harris
Dept: MSSV
QC Type: MS

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
1012094-001EMS	Anthracene	µg/L	EPA625	94.4	84.21	0	112	53-114				12/7/2010 0202h
1012094-001EMS	Aramite	µg/L	EPA625	68.5	84.21	0	81.3	29-160				12/7/2010 0202h
1012094-001EMS	Azobenzene	µg/L	EPA625	71.4	84.21	0	84.8	15-114				12/7/2010 0202h
1012094-001EMS	Benz(a)anthracene	µg/L	EPA625	87.2	84.21	0	104	39-129				12/7/2010 0202h
1012094-001EMS	Benzidine	µg/L	EPA625	57.0	84.21	0	67.6	10-99				12/7/2010 0202h
1012094-001EMS	Benzo(a)pyrene	µg/L	EPA625	111	84.21	0	132	29-175				12/7/2010 0202h
1012094-001EMS	Benzo(b)fluoranthene	µg/L	EPA625	83.9	84.21	0	99.7	15-140				12/7/2010 0202h
1012094-001EMS	Benzo(g,h,i)perylene	µg/L	EPA625	93.3	84.21	0	111	10-182				12/7/2010 0202h
1012094-001EMS	Benzo(k)fluoranthene	µg/L	EPA625	114	84.21	0	136	21-154				12/7/2010 0202h
1012094-001EMS	Benzoic acid	µg/L	EPA625	< 21.1	84.21	0	13.5	10-71				12/7/2010 0202h
1012094-001EMS	Benzyl alcohol	µg/L	EPA625	24.3	84.21	0	28.8	10-69				12/7/2010 0202h
1012094-001EMS	Bis(2-chloroethoxy)methane	µg/L	EPA625	43.8	84.21	0	52.0	10-94				12/7/2010 0202h
1012094-001EMS	Bis(2-chloroethyl) ether	µg/L	EPA625	30.9	84.21	0	36.6	10-70				12/7/2010 0202h
1012094-001EMS	Bis(2-chloroisopropyl) ether	µg/L	EPA625	31.6	84.21	0	37.6	10-71				12/7/2010 0202h
1012094-001EMS	Bis(2-ethylhexyl) phthalate	µg/L	EPA625	91.6	84.21	0	109	10-175				12/7/2010 0202h
1012094-001EMS	bis(2-ethylhexyl)adipate	µg/L	EPA625	93.0	84.21	0	110	10-175				12/7/2010 0202h
1012094-001EMS	Butyl benzyl phthalate	µg/L	EPA625	91.0	84.21	0	108	10-175				12/7/2010 0202h
1012094-001EMS	Carbazole	µg/L	EPA625	101	84.21	0	120	10-151				12/7/2010 0202h
1012094-001EMS	Chlorobenzilate	µg/L	EPA625	83.6	84.21	0	99.3	18-175				12/7/2010 0202h
1012094-001EMS	Chrysene	µg/L	EPA625	93.0	84.21	0	110	38-133				12/7/2010 0202h
1012094-001EMS	Diallate (cis or trans)	µg/L	EPA625	78.7	84.21	0	93.5	10-157				12/7/2010 0202h
1012094-001EMS	Dibenz(a,h)anthracene	µg/L	EPA625	92.7	84.21	0	110	13-168				12/7/2010 0202h
1012094-001EMS	Dibenzofuran	µg/L	EPA625	68.5	84.21	0	81.3	29-103				12/7/2010 0202h
1012094-001EMS	Diethyl phthalate	µg/L	EPA625	85.1	84.21	0	101	10-139				12/7/2010 0202h

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Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
1012094-001EMS	Dimethoate	µg/L	EPA625	34.3	84.21	0	40.8	10-136				12/7/2010 0202h
1012094-001EMS	Dimethyl phthalate	µg/L	EPA625	71.6	84.21	0	85.1	10-122				12/7/2010 0202h
1012094-001EMS	Dimethylaminoazobenzene	µg/L	EPA625	85.7	84.21	0	102	34-142				12/7/2010 0202h
1012094-001EMS	Di-n-butyl phthalate	µg/L	EPA625	98.7	84.21	0	117	44-124				12/7/2010 0202h
1012094-001EMS	Di-n-octyl phthalate	µg/L	EPA625	108	84.21	0	128	10-175				12/7/2010 0202h
1012094-001EMS	Dinoseb	µg/L	EPA625	166	84.21	0	197	10-175			1	12/7/2010 0202h
1012094-001EMS	Diphenylamine	µg/L	EPA625	83.5	84.21	0	99.2	13-110				12/7/2010 0202h
1012094-001EMS	Disulfoton	µg/L	EPA625	68.3	84.21	0	81.1	10-121				12/7/2010 0202h
1012094-001EMS	Ethyl methanesulfonate	µg/L	EPA625	42.1	84.21	0	50.0	10-99				12/7/2010 0202h
1012094-001EMS	Famphur	µg/L	EPA625	186	84.21	0	221	10-71			1	12/7/2010 0202h
1012094-001EMS	Fluoranthene	µg/L	EPA625	99.5	84.21	0	118	23-135				12/7/2010 0202h
1012094-001EMS	Fluorene	µg/L	EPA625	76.0	84.21	0	90.3	34-108				12/7/2010 0202h
1012094-001EMS	Hexachlorobenzene	µg/L	EPA625	83.5	84.21	0	99.1	26-131				12/7/2010 0202h
1012094-001EMS	Hexachlorobutadiene	µg/L	EPA625	32.1	84.21	0	38.1	10-110				12/7/2010 0202h
1012094-001EMS	Hexachlorocyclopentadiene	µg/L	EPA625	27.7	84.21	0	32.9	10-45				12/7/2010 0202h
1012094-001EMS	Hexachloroethane	µg/L	EPA625	26.9	84.21	0	32.0	10-58				12/7/2010 0202h
1012094-001EMS	Hexachlorophene	µg/L	EPA625	54.9	84.21	0	65.2	10-168				12/7/2010 0202h
1012094-001EMS	Hexachloropropene	µg/L	EPA625	33.9	84.21	0	40.2	10-72				12/7/2010 0202h
1012094-001EMS	Indene	µg/L	EPA625	29.4	84.21	0	34.9	10-35				12/7/2010 0202h
1012094-001EMS	Indeno(1,2,3-cd)pyrene	µg/L	EPA625	91.6	84.21	0	109	10-176				12/7/2010 0202h
1012094-001EMS	Isodrin	µg/L	EPA625	97.1	84.21	0	115	15-165				12/7/2010 0202h
1012094-001EMS	Isophorone	µg/L	EPA625	47.8	84.21	0	56.7	10-99				12/7/2010 0202h
1012094-001EMS	Isosafrole	µg/L	EPA625	48.7	84.21	0	57.9	10-167				12/7/2010 0202h
1012094-001EMS	Kepon	µg/L	EPA625	120	84.21	0	143	10-175				12/7/2010 0202h

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Kyle F. Gross

Laboratory Director

Jose Rocha

QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1012092
Project: Red Butte Spill

Contact: Jim Harris
Dept: MSSV
QC Type: MS

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
1012094-001EMS	Methapyrilene	µg/L	EPA625	53.4	84.21	0	63.4	10-149				12/7/2010 0202h
1012094-001EMS	Methyl methanesulfonate	µg/L	EPA625	49.0	84.21	0	58.2	10-132				12/7/2010 0202h
1012094-001EMS	Naphthalene	µg/L	EPA625	41.9	84.21	0	49.8	10-82				12/7/2010 0202h
1012094-001EMS	n-Decane	µg/L	EPA625	17.8	84.21	0	21.1	10-27				12/7/2010 0202h
1012094-001EMS	Nitrobenzene	µg/L	EPA625	51.9	84.21	0	61.6	10-119				12/7/2010 0202h
1012094-001EMS	Nitroquinoline-1-oxide	µg/L	EPA625	73.8	84.21	0	87.6	10-170				12/7/2010 0202h
1012094-001EMS	N-Nitrosodiethylamine	µg/L	EPA625	37.6	84.21	0	44.7	10-91				12/7/2010 0202h
1012094-001EMS	N-Nitrosodimethylamine	µg/L	EPA625	11.9	84.21	0	14.2	10-42				12/7/2010 0202h
1012094-001EMS	N-Nitrosodi-n-butylamine	µg/L	EPA625	64.7	84.21	0	76.9	10-175				12/7/2010 0202h
1012094-001EMS	N-Nitrosodiphenylamine	µg/L	EPA625	91.0	84.21	0	108	12-112				12/7/2010 0202h
1012094-001EMS	N-Nitrosodi-n-propylamine	µg/L	EPA625	42.4	84.21	0	50.4	10-77				12/7/2010 0202h
1012094-001EMS	N-Nitrosomethylethylamine	µg/L	EPA625	29.5	84.21	0	35.1	10-75				12/7/2010 0202h
1012094-001EMS	N-Nitrosomorpholine	µg/L	EPA625	47.4	84.21	0	56.3	10-175				12/7/2010 0202h
1012094-001EMS	N-Nitrosopiperidine	µg/L	EPA625	51.5	84.21	0	61.2	10-105				12/7/2010 0202h
1012094-001EMS	N-Nitrosopyrrolidine	µg/L	EPA625	55.4	84.21	0	65.8	10-88				12/7/2010 0202h
1012094-001EMS	n-Octadecane	µg/L	EPA625	68.8	84.21	0	81.7	10-121				12/7/2010 0202h
1012094-001EMS	O,O,O-Triethyl phosphorothioate	µg/L	EPA625	48.5	84.21	0	57.6	10-93				12/7/2010 0202h
1012094-001EMS	o-Toluidine	µg/L	EPA625	42.3	84.21	0	50.3	10-107				12/7/2010 0202h
1012094-001EMS	Parathion	µg/L	EPA625	133	84.21	0	158	10-175				12/7/2010 0202h
1012094-001EMS	Methyl parathion	µg/L	EPA625	123	84.21	0	146	10-175				12/7/2010 0202h
1012094-001EMS	Pentachlorobenzene	µg/L	EPA625	65.5	84.21	0	77.8	25-134				12/7/2010 0202h
1012094-001EMS	Pentachloronitrobenzene	µg/L	EPA625	97.1	84.21	0	115	10-175				12/7/2010 0202h
1012094-001EMS	Pentachlorophenol	µg/L	EPA625	52.9	84.21	0	62.9	10-163				12/7/2010 0202h
1012094-001EMS	Phenacetin	µg/L	EPA625	93.6	84.21	0	111	10-175				12/7/2010 0202h

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Kyle F. Gross

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Jose Rocha

QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1012092
Project: Red Butte Spill

Contact: Jim Harris
Dept: MSSV
QC Type: MS

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
1012094-001EMS	Phenanthrene	µg/L	EPA625	102	84.21	0	121	31-126				12/7/2010 0202h
1012094-001EMS	Phenol	µg/L	EPA625	24.7	84.21	0	29.3	10-175				12/7/2010 0202h
1012094-001EMS	Phorate	µg/L	EPA625	101	84.21	0	119	10-175				12/7/2010 0202h
1012094-001EMS	Pronamide	µg/L	EPA625	50.5	84.21	0	60.0	10-95				12/7/2010 0202h
1012094-001EMS	Pyrene	µg/L	EPA625	92.1	84.21	0	109	51-139				12/7/2010 0202h
1012094-001EMS	Pyridine	µg/L	EPA625	< 10.5	84.21	0	4.21	10-25			1	12/7/2010 0202h
1012094-001EMS	Quinoline	µg/L	EPA625	59.5	84.21	0	70.6	10-63			1	12/7/2010 0202h
1012094-001EMS	Safrole	µg/L	EPA625	57.5	84.21	0	68.3	10-120				12/7/2010 0202h
1012094-001EMS	Tetraethyl dithiopyrophosphate	µg/L	EPA625	84.5	84.21	0	100	13-160				12/7/2010 0202h
1012094-001EMS	Thionazin	µg/L	EPA625	78.8	84.21	0	93.5	10-139				12/7/2010 0202h
1012094-001EMS	Surr: 2,4,6-Tribromophenol	% REC	EPA625	85.0	84.21		101	21-154				12/7/2010 0202h
1012094-001EMS	Surr: 2-Fluorobiphenyl	% REC	EPA625	28.0	42.11		66.6	10-106				12/7/2010 0202h
1012094-001EMS	Surr: 2-Fluorophenol	% REC	EPA625	26.3	84.21		31.2	10-56				12/7/2010 0202h
1012094-001EMS	Surr: Nitrobenzene-d5	% REC	EPA625	24.4	42.11		58.0	10-101				12/7/2010 0202h
1012094-001EMS	Surr: Phenol-d6	% REC	EPA625	19.2	84.21		22.8	10-45				12/7/2010 0202h
1012094-001EMS	Surr: Terphenyl-d14	% REC	EPA625	46.9	42.11		111	10-160				12/7/2010 0202h
1012092-001BMS	Acenaphthene	µg/L	SW8270D	57.0	80.00	0	71.2	21-113				12/6/2010 2249h
1012092-001BMS	Benzo(a)pyrene	µg/L	SW8270D	102	80.00	0	127	15-169				12/6/2010 2249h
1012092-001BMS	Pyrene	µg/L	SW8270D	80.7	80.00	0	101	23-150				12/6/2010 2249h
1012092-001BMS	Surr: 2,4,6-Tribromophenol	% REC	SW8270D	79.6	80.00		99.4	14-159				12/6/2010 2249h
1012092-001BMS	Surr: 2-Fluorobiphenyl	% REC	SW8270D	21.0	40.00		52.4	10-124				12/6/2010 2249h
1012092-001BMS	Surr: 2-Fluorophenol	% REC	SW8270D	21.8	80.00		27.2	10-106				12/6/2010 2249h
1012092-001BMS	Surr: Nitrobenzene-d5	% REC	SW8270D	19.3	40.00		48.3	10-180				12/6/2010 2249h
1012092-001BMS	Surr: Phenol-d6	% REC	SW8270D	14.5	80.00		18.1	10-122				12/6/2010 2249h

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QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1012092
Project: Red Butte Spill

Contact: Jim Harris
Dept: MSSV
QC Type: MS

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
1012092-001BMS	Surr: Terphenyl-d14	% REC	SW8270D	38.7	40.00		96.7	10-199				12/6/2010 2249h
1012094-001EMS	Acenaphthene	µg/L	SW8270D	67.6	84.21	0	80.3	21-113				12/7/2010 0202h
1012094-001EMS	Benzo(a)pyrene	µg/L	SW8270D	111	84.21	0	132	15-169				12/7/2010 0202h
1012094-001EMS	Pyrene	µg/L	SW8270D	92.1	84.21	0	109	23-150				12/7/2010 0202h
1012094-001EMS	Surr: 2,4,6-Tribromophenol	% REC	SW8270D	85.0	84.21		101	14-159				12/7/2010 0202h
1012094-001EMS	Surr: 2-Fluorobiphenyl	% REC	SW8270D	28.0	42.11		66.6	10-124				12/7/2010 0202h
1012094-001EMS	Surr: 2-Fluorophenol	% REC	SW8270D	26.3	84.21		31.2	10-106				12/7/2010 0202h
1012094-001EMS	Surr: Nitrobenzene-d5	% REC	SW8270D	24.4	42.11		58.0	10-180				12/7/2010 0202h
1012094-001EMS	Surr: Phenol-d6	% REC	SW8270D	19.2	84.21		22.8	10-122				12/7/2010 0202h
1012094-001EMS	Surr: Terphenyl-d14	% REC	SW8270D	46.9	42.11		111	10-199				12/7/2010 0202h

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



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QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1012092
Project: Red Butte Spill

Contact: Jim Harris
Dept: MSSV
QC Type: MSD

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
1012092-001BMDS	1,1'-Biphenyl	µg/L	EPA625	43.5	80.00	0	54.4	27-99	4.45	49		12/6/2010 2316h
1012092-001BMDS	1,2,4,5-Tetrachlorobenzene	µg/L	EPA625	36.3	80.00	0	45.4	10-119	7.19	52		12/6/2010 2316h
1012092-001BMDS	1,2,4-Trichlorobenzene	µg/L	EPA625	28.2	80.00	0	35.2	10-79	7.22	49		12/6/2010 2316h
1012092-001BMDS	1,2-Dichlorobenzene	µg/L	EPA625	20.7	80.00	0	25.9	10-59	7.62	46		12/6/2010 2316h
1012092-001BMDS	1,3,5-Trinitrobenzene	µg/L	EPA625	167	80.00	0	209	10-175	6.99	33	1	12/6/2010 2316h
1012092-001BMDS	1,3-Dichlorobenzene	µg/L	EPA625	18.1	80.00	0	22.6	10-56	8.18	49		12/6/2010 2316h
1012092-001BMDS	1,3-Dinitrobenzene	µg/L	EPA625	109	80.00	0	136	10-175	1.49	29		12/6/2010 2316h
1012092-001BMDS	1,4-Dichlorobenzene	µg/L	EPA625	18.9	80.00	0	23.6	10-58	7.93	51		12/6/2010 2316h
1012092-001BMDS	1,4-Naphthoquinone	µg/L	EPA625	48.4	80.00	0	60.5	10-177	16.7	99		12/6/2010 2316h
1012092-001BMDS	1,4-Phenylenediamine	µg/L	EPA625	33.4	80.00	0	41.8	10-124	5.75	48		12/6/2010 2316h
1012092-001BMDS	1-Chloronaphthalene	µg/L	EPA625	38.5	80.00	0	48.1	10-106	0.492	47		12/6/2010 2316h
1012092-001BMDS	1-Methylnaphthalene	µg/L	EPA625	18.9	80.00	0	23.6	10-83	5.60	44		12/6/2010 2316h
1012092-001BMDS	1-Naphthylamine	µg/L	EPA625	33.0	80.00	0	41.2	10-122	2.51	57		12/6/2010 2316h
1012092-001BMDS	2,3,4,6-Tetrachlorophenol	µg/L	EPA625	95.6	80.00	0	119	10-157	4.78	39		12/6/2010 2316h
1012092-001BMDS	2,4,5-Trichlorophenol	µg/L	EPA625	62.2	80.00	0	77.8	10-148	12.7	56		12/6/2010 2316h
1012092-001BMDS	2,4,6-Trichlorophenol	µg/L	EPA625	56.9	80.00	0	71.1	10-136	2.40	52		12/6/2010 2316h
1012092-001BMDS	2,4-Dichlorophenol	µg/L	EPA625	48.9	80.00	0	61.2	10-123	10.4	67		12/6/2010 2316h
1012092-001BMDS	2,4-Dimethylphenol	µg/L	EPA625	45.1	80.00	0	56.4	10-113	6.79	32		12/6/2010 2316h
1012092-001BMDS	2,4-Dinitrophenol	µg/L	EPA625	123	80.00	0	154	10-175	1.20	78		12/6/2010 2316h
1012092-001BMDS	2,4-Dinitrotoluene	µg/L	EPA625	109	80.00	0	137	10-175	0.293	26		12/6/2010 2316h
1012092-001BMDS	2,6-Dichlorophenol	µg/L	EPA625	52.3	80.00	0	65.4	10-148	7.72	56		12/6/2010 2316h
1012092-001BMDS	2,6-Dinitrotoluene	µg/L	EPA625	85.7	80.00	0	107	10-175	5.19	74		12/6/2010 2316h
1012092-001BMDS	2-Acetylaminofluorene	µg/L	EPA625	47.6	80.00	0	59.4	10-94	3.84	52		12/6/2010 2316h
1012092-001BMDS	2-Chloronaphthalene	µg/L	EPA625	38.7	80.00	0	48.4	10-93	9.88	49		12/6/2010 2316h

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QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1012092
Project: Red Butte Spill

Contact: Jim Harris
Dept: MSSV
QC Type: MSD

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
1012092-001BMSD	2-Chlorophenol	µg/L	EPA625	37.7	80.00	0	47.1	10-92	13.4	58		12/6/2010 2316h
1012092-001BMSD	2-Methylnaphthalene	µg/L	EPA625	35.1	80.00	0	43.8	15-78	5.14	39		12/6/2010 2316h
1012092-001BMSD	2-Methylphenol	µg/L	EPA625	17.3	80.00	0	21.6	10-83	12.0	49		12/6/2010 2316h
1012092-001BMSD	2-Naphthylamine	µg/L	EPA625	33.7	80.00	0	42.2	10-154	2.63	37		12/6/2010 2316h
1012092-001BMSD	2-Nitroaniline	µg/L	EPA625	92.2	80.00	0	115	10-175	5.22	87		12/6/2010 2316h
1012092-001BMSD	2-Nitrophenol	µg/L	EPA625	59.9	80.00	0	74.9	10-175	8.81	64		12/6/2010 2316h
1012092-001BMSD	2-Picoline	µg/L	EPA625	< 10.0	80.00	0	9.41	10-61	0	63	1	12/6/2010 2316h
1012092-001BMSD	3&4-Methylphenol	µg/L	EPA625	35.2	80.00	0	44.0	10-80	12.3	99		12/6/2010 2316h
1012092-001BMSD	3,3'-Dichlorobenzidine	µg/L	EPA625	82.8	80.00	0	104	10-150	6.83	63		12/6/2010 2316h
1012092-001BMSD	3,3'-Dimethylbenzidine	µg/L	EPA625	48.3	80.00	0	60.3	10-143	9.51	99		12/6/2010 2316h
1012092-001BMSD	3-Methylcholanthrene	µg/L	EPA625	90.3	80.00	0	113	32-171	4.09	46		12/6/2010 2316h
1012092-001BMSD	3-Nitroaniline	µg/L	EPA625	82.0	80.00	0	103	10-175	2.93	29		12/6/2010 2316h
1012092-001BMSD	4,6-Dinitro-2-methylphenol	µg/L	EPA625	148	80.00	0	185	10-175	6.41	70	1	12/6/2010 2316h
1012092-001BMSD	4-Aminobiphenyl	µg/L	EPA625	83.7	80.00	0	105	10-175	4.42	79		12/6/2010 2316h
1012092-001BMSD	4-Bromophenyl phenyl ether	µg/L	EPA625	75.4	80.00	0	94.3	16-138	4.11	31		12/6/2010 2316h
1012092-001BMSD	4-Chloro-3-methylphenol	µg/L	EPA625	66.7	80.00	0	83.4	10-131	4.75	37		12/6/2010 2316h
1012092-001BMSD	4-Chloroaniline	µg/L	EPA625	37.6	80.00	0	47.0	10-98	5.71	41		12/6/2010 2316h
1012092-001BMSD	4-Chlorophenyl phenyl ether	µg/L	EPA625	62.9	80.00	0	78.6	31-108	3.65	30		12/6/2010 2316h
1012092-001BMSD	4-Nitroaniline	µg/L	EPA625	92.2	80.00	0	115	10-175	13.3	99		12/6/2010 2316h
1012092-001BMSD	4-Nitrophenol	µg/L	EPA625	26.7	80.00	0	33.4	10-97	1.13	69		12/6/2010 2316h
1012092-001BMSD	5-Nitro-o-toluidine	µg/L	EPA625	101	80.00	0	127	10-175	1.45	26		12/6/2010 2316h
1012092-001BMSD	7,12-Dimethylbenz(a)anthracene	µg/L	EPA625	46.2	80.00	0	57.7	26-174	7.88	40		12/6/2010 2316h
1012092-001BMSD	a,a-Dimethylphenethylamine	µg/L	EPA625	32.3	80.00	0	40.4	10-175	20.8	99		12/6/2010 2316h
1012092-001BMSD	Acenaphthene	µg/L	EPA625	54.6	80.00	0	68.2	29-97	4.28	38		12/6/2010 2316h

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QC SUMMARY REPORT

Client: Utah DEQ DERR
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Project: Red Butte Spill

Contact: Jim Harris
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QC Type: MSD

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
1012092-001BMSD	Acenaphthylene	µg/L	EPA625	53.3	80.00	0	66.6	37-87	4.48	37		12/6/2010 2316h
1012092-001BMSD	Acetophenone	µg/L	EPA625	33.2	80.00	0	41.5	10-96	13.5	48		12/6/2010 2316h
1012092-001BMSD	alpha-Terpineol	µg/L	EPA625	46.7	80.00	0	58.3	10-67	12.1	46		12/6/2010 2316h
1012092-001BMSD	Aniline	µg/L	EPA625	< 10.0	80.00	0	11.7	10-71	0	48		12/6/2010 2316h
1012092-001BMSD	Anthracene	µg/L	EPA625	86.0	80.00	0	107	53-114	4.59	26		12/6/2010 2316h
1012092-001BMSD	Aramite	µg/L	EPA625	62.8	80.00	0	78.5	29-160	6.51	30		12/6/2010 2316h
1012092-001BMSD	Azobenzene	µg/L	EPA625	60.9	80.00	0	76.1	15-114	3.22	36		12/6/2010 2316h
1012092-001BMSD	Benz(a)anthracene	µg/L	EPA625	80.2	80.00	0	100	39-129	3.64	32		12/6/2010 2316h
1012092-001BMSD	Benzidine	µg/L	EPA625	53.4	80.00	0	66.8	10-99	12.3	99		12/6/2010 2316h
1012092-001BMSD	Benzo(a)pyrene	µg/L	EPA625	109	80.00	0	136	29-175	7.01	45		12/6/2010 2316h
1012092-001BMSD	Benzo(b)fluoranthene	µg/L	EPA625	84.9	80.00	0	106	15-140	9.03	44		12/6/2010 2316h
1012092-001BMSD	Benzo(g,h,i)perylene	µg/L	EPA625	91.2	80.00	0	114	10-182	5.83	48		12/6/2010 2316h
1012092-001BMSD	Benzo(k)fluoranthene	µg/L	EPA625	99.8	80.00	0	125	21-154	2.28	52		12/6/2010 2316h
1012092-001BMSD	Benzoic acid	µg/L	EPA625	< 20.0	80.00	0	18.8	10-71	0	78		12/6/2010 2316h
1012092-001BMSD	Benzyl alcohol	µg/L	EPA625	15.4	80.00	0	19.2	10-69	18.4	52		12/6/2010 2316h
1012092-001BMSD	Bis(2-chloroethoxy)methane	µg/L	EPA625	33.3	80.00	0	41.6	10-94	8.41	45		12/6/2010 2316h
1012092-001BMSD	Bis(2-chloroethyl) ether	µg/L	EPA625	22.8	80.00	0	28.5	10-70	11.4	47		12/6/2010 2316h
1012092-001BMSD	Bis(2-chloroisopropyl) ether	µg/L	EPA625	23.9	80.00	0	29.9	10-71	8.94	49		12/6/2010 2316h
1012092-001BMSD	Bis(2-ethylhexyl) phthalate	µg/L	EPA625	84.8	80.00	0	106	10-175	4.81	28		12/6/2010 2316h
1012092-001BMSD	bis(2-ethylhexyl)adipate	µg/L	EPA625	87.0	80.00	0	109	10-175	6.12	25		12/6/2010 2316h
1012092-001BMSD	Butyl benzyl phthalate	µg/L	EPA625	83.6	80.00	0	104	10-175	4.97	99		12/6/2010 2316h
1012092-001BMSD	Carbazole	µg/L	EPA625	94.3	80.00	0	118	10-151	5.14	30		12/6/2010 2316h
1012092-001BMSD	Chlorobenzilate	µg/L	EPA625	75.7	80.00	0	94.6	18-175	5.96	25		12/6/2010 2316h
1012092-001BMSD	Chrysene	µg/L	EPA625	88.0	80.00	0	110	38-133	6.97	28		12/6/2010 2316h

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Kyle F. Gross

Laboratory Director

Jose Rocha

QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1012092
Project: Red Butte Spill

Contact: Jim Harris
Dept: MSSV
QC Type: MSD

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
1012092-001BMSD	Diallate (cis or trans)	µg/L	EPA625	71.6	80.00	0	89.5	10-157	3.89	29		12/6/2010 2316h
1012092-001BMSD	Dibenz(a,h)anthracene	µg/L	EPA625	90.2	80.00	0	113	13-168	7.79	51		12/6/2010 2316h
1012092-001BMSD	Dibenzofuran	µg/L	EPA625	57.9	80.00	0	72.4	29-103	3.36	34		12/6/2010 2316h
1012092-001BMSD	Diethyl phthalate	µg/L	EPA625	73.0	80.00	0	91.3	10-139	2.30	32		12/6/2010 2316h
1012092-001BMSD	Dimethoate	µg/L	EPA625	13.8	80.00	0	17.2	10-136	30.2	45		12/6/2010 2316h
1012092-001BMSD	Dimethyl phthalate	µg/L	EPA625	50.7	80.00	0	63.4	10-122	1.69	57		12/6/2010 2316h
1012092-001BMSD	Dimethylaminoazobenzene	µg/L	EPA625	81.4	80.00	0	102	34-142	5.81	26		12/6/2010 2316h
1012092-001BMSD	Di-n-butyl phthalate	µg/L	EPA625	91.0	80.00	0	114	44-124	6.51	25		12/6/2010 2316h
1012092-001BMSD	Di-n-octyl phthalate	µg/L	EPA625	104	80.00	0	130	10-175	7.76	50		12/6/2010 2316h
1012092-001BMSD	Dinoseb	µg/L	EPA625	154	80.00	0	192	10-175	1.42	42	1	12/6/2010 2316h
1012092-001BMSD	Diphenylamine	µg/L	EPA625	75.7	80.00	0	94.6	13-110	5.89	34		12/6/2010 2316h
1012092-001BMSD	Disulfoton	µg/L	EPA625	67.3	80.00	0	84.2	10-121	14.3	25		12/6/2010 2316h
1012092-001BMSD	Ethyl methanesulfonate	µg/L	EPA625	30.4	80.00	0	38.0	10-99	15.5	46		12/6/2010 2316h
1012092-001BMSD	Famphur	µg/L	EPA625	177	80.00	0	221	10-71	0.425	25	1	12/6/2010 2316h
1012092-001BMSD	Fluoranthene	µg/L	EPA625	91.8	80.00	0	115	23-135	3.43	25		12/6/2010 2316h
1012092-001BMSD	Fluorene	µg/L	EPA625	69.1	80.00	0	86.4	34-108	0.0434	28		12/6/2010 2316h
1012092-001BMSD	Hexachlorobenzene	µg/L	EPA625	75.8	80.00	0	94.8	26-131	3.54	28		12/6/2010 2316h
1012092-001BMSD	Hexachlorobutadiene	µg/L	EPA625	23.1	80.00	0	28.9	10-110	2.23	68		12/6/2010 2316h
1012092-001BMSD	Hexachlorocyclopentadiene	µg/L	EPA625	18.7	80.00	0	23.4	10-45	7.27	79		12/6/2010 2316h
1012092-001BMSD	Hexachloroethane	µg/L	EPA625	18.1	80.00	0	22.7	10-58	7.29	42		12/6/2010 2316h
1012092-001BMSD	Hexachlorophene	µg/L	EPA625	56.1	80.00	0	70.2	10-168	7.91	25		12/6/2010 2316h
1012092-001BMSD	Hexachloropropene	µg/L	EPA625	24.3	80.00	0	30.3	10-72	3.52	63		12/6/2010 2316h
1012092-001BMSD	Indene	µg/L	EPA625	21.5	80.00	0	26.9	10-35	7.74	35		12/6/2010 2316h
1012092-001BMSD	Indeno(1,2,3-cd)pyrene	µg/L	EPA625	89.6	80.00	0	112	10-176	6.80	48		12/6/2010 2316h

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QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1012092
Project: Red Butte Spill

Contact: Jim Harris
Dept: MSSV
QC Type: MSD

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
1012092-001BMSD	Isodrin	µg/L	EPA625	88.4	80.00	0	111	15-165	3.63	25		12/6/2010 2316h
1012092-001BMSD	Isophorone	µg/L	EPA625	36.6	80.00	0	45.7	10-99	7.32	41		12/6/2010 2316h
1012092-001BMSD	Isosafrole	µg/L	EPA625	36.6	80.00	0	45.7	10-167	5.04	50		12/6/2010 2316h
1012092-001BMSD	Kepone	µg/L	EPA625	122	80.00	0	153	10-175	12.7	46		12/6/2010 2316h
1012092-001BMSD	Methapyrilene	µg/L	EPA625	48.4	80.00	0	60.5	10-149	7.13	51		12/6/2010 2316h
1012092-001BMSD	Methyl methanesulfonate	µg/L	EPA625	34.3	80.00	0	42.8	10-132	12.6	45		12/6/2010 2316h
1012092-001BMSD	Naphthalene	µg/L	EPA625	30.8	80.00	0	38.4	10-82	5.53	43		12/6/2010 2316h
1012092-001BMSD	n-Decane	µg/L	EPA625	11.7	80.00	0	14.7	10-27	5.55	32		12/6/2010 2316h
1012092-001BMSD	Nitrobenzene	µg/L	EPA625	39.8	80.00	0	49.8	10-119	7.21	49		12/6/2010 2316h
1012092-001BMSD	Nitroquinoline-1-oxide	µg/L	EPA625	67.6	80.00	0	84.5	10-170	3.95	97		12/6/2010 2316h
1012092-001BMSD	N-Nitrosodiethylamine	µg/L	EPA625	29.2	80.00	0	36.5	10-91	11.0	54		12/6/2010 2316h
1012092-001BMSD	N-Nitrosodimethylamine	µg/L	EPA625	< 10.0	80.00	0	10.9	10-42	0	66		12/6/2010 2316h
1012092-001BMSD	N-Nitrosodi-n-butylamine	µg/L	EPA625	50.8	80.00	0	63.5	10-175	4.61	80		12/6/2010 2316h
1012092-001BMSD	N-Nitrosodiphenylamine	µg/L	EPA625	81.7	80.00	0	102	12-112	4.52	30		12/6/2010 2316h
1012092-001BMSD	N-Nitrosodi-n-propylamine	µg/L	EPA625	30.6	80.00	0	38.2	10-77	9.62	47		12/6/2010 2316h
1012092-001BMSD	N-Nitrosomethylethylamine	µg/L	EPA625	22.8	80.00	0	28.6	10-75	8.95	60		12/6/2010 2316h
1012092-001BMSD	N-Nitrosomorpholine	µg/L	EPA625	33.7	80.00	0	42.2	10-175	9.95	73		12/6/2010 2316h
1012092-001BMSD	N-Nitrosopiperidine	µg/L	EPA625	39.4	80.00	0	49.2	10-105	10.6	44		12/6/2010 2316h
1012092-001BMSD	N-Nitrosopyrrolidine	µg/L	EPA625	38.8	80.00	0	48.6	10-88	11.3	40		12/6/2010 2316h
1012092-001BMSD	n-Octadecane	µg/L	EPA625	61.4	80.00	0	76.8	10-121	2.04	40		12/6/2010 2316h
1012092-001BMSD	O,O,O-Triethyl phosphorothioate	µg/L	EPA625	36.7	80.00	0	45.9	10-93	7.57	44		12/6/2010 2316h
1012092-001BMSD	o-Toluidine	µg/L	EPA625	29.6	80.00	0	37.0	10-107	8.90	46		12/6/2010 2316h
1012092-001BMSD	Parathion	µg/L	EPA625	117	80.00	0	146	10-175	0.266	28		12/6/2010 2316h
1012092-001BMSD	Methyl parathion	µg/L	EPA625	118	80.00	0	148	10-175	1.98	26		12/6/2010 2316h

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QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1012092
Project: Red Butte Spill

Contact: Jim Harris
Dept: MSSV
QC Type: MSD

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
1012092-001BMSD	Pentachlorobenzene	µg/L	EPA625	56.1	80.00	0	70.1	25-134	1.96	35		12/6/2010 2316h
1012092-001BMSD	Pentachloronitrobenzene	µg/L	EPA625	90.4	80.00	0	113	10-175	4.86	25		12/6/2010 2316h
1012092-001BMSD	Pentachlorophenol	µg/L	EPA625	54.9	80.00	0	68.7	10-163	0	58		12/6/2010 2316h
1012092-001BMSD	Phenacetin	µg/L	EPA625	81.5	80.00	0	102	10-175	4.52	38		12/6/2010 2316h
1012092-001BMSD	Phenanthrene	µg/L	EPA625	92.4	80.00	0	115	31-126	7.75	32		12/6/2010 2316h
1012092-001BMSD	Phenol	µg/L	EPA625	16.8	80.00	0	21.0	10-175	11.8	71		12/6/2010 2316h
1012092-001BMSD	Phorate	µg/L	EPA625	90.2	80.00	0	113	10-175	3.37	42		12/6/2010 2316h
1012092-001BMSD	Pronamide	µg/L	EPA625	47.0	80.00	0	58.8	10-95	4.46	26		12/6/2010 2316h
1012092-001BMSD	Pyrene	µg/L	EPA625	86.3	80.00	0	108	51-139	6.71	27		12/6/2010 2316h
1012092-001BMSD	Pyridine	µg/L	EPA625	< 10.0	80.00	0	0	10-25	0	61	1	12/6/2010 2316h
1012092-001BMSD	Quinoline	µg/L	EPA625	46.1	80.00	0	57.6	10-63	10.2	99		12/6/2010 2316h
1012092-001BMSD	Safrole	µg/L	EPA625	44.3	80.00	0	55.4	10-120	6.00	51		12/6/2010 2316h
1012092-001BMSD	Tetraethyl dithiopyrophosphate	µg/L	EPA625	82.6	80.00	0	103	13-160	8.29	35		12/6/2010 2316h
1012092-001BMSD	Thionazin	µg/L	EPA625	71.5	80.00	0	89.4	10-139	0.947	25		12/6/2010 2316h
1012092-001BMSD	Surr: 2,4,6-Tribromophenol	%REC	EPA625	76.5	80.00		95.6	21-154				12/6/2010 2316h
1012092-001BMSD	Surr: 2-Fluorobiphenyl	%REC	EPA625	20.1	40.00		50.2	10-106				12/6/2010 2316h
1012092-001BMSD	Surr: 2-Fluorophenol	%REC	EPA625	19.0	80.00		23.8	10-56				12/6/2010 2316h
1012092-001BMSD	Surr: Nitrobenzene-d5	%REC	EPA625	17.8	40.00		44.5	10-101				12/6/2010 2316h
1012092-001BMSD	Surr: Phenol-d6	%REC	EPA625	12.2	80.00		15.2	10-45				12/6/2010 2316h
1012092-001BMSD	Surr: Terphenyl-d14	%REC	EPA625	39.9	40.00		99.7	10-160				12/6/2010 2316h
1012094-001EMSD	1,1'-Biphenyl	µg/L	EPA625	57.4	86.49	0	66.4	27-99	3.38	49		12/7/2010 0421h
1012094-001EMSD	1,2,4,5-Tetrachlorobenzene	µg/L	EPA625	48.6	86.49	0	56.2	10-119	1.04	52		12/7/2010 0421h
1012094-001EMSD	1,2,4-Trichlorobenzene	µg/L	EPA625	38.5	86.49	0	44.5	10-79	1.35	49		12/7/2010 0421h
1012094-001EMSD	1,2-Dichlorobenzene	µg/L	EPA625	28.3	86.49	0	32.8	10-59	4.62	46		12/7/2010 0421h

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QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1012092
Project: Red Butte Spill

Contact: Jim Harris
Dept: MSSV
QC Type: MSD

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
1012094-001EMSD	1,3,5-Trinitrobenzene	µg/L	EPA625	198	86.49	0	229	10-175	7.70	33	¹	12/7/2010 0421h
1012094-001EMSD	1,3-Dichlorobenzene	µg/L	EPA625	24.9	86.49	0	28.8	10-56	4.80	49		12/7/2010 0421h
1012094-001EMSD	1,3-Dinitrobenzene	µg/L	EPA625	128	86.49	0	148	10-175	4.35	29		12/7/2010 0421h
1012094-001EMSD	1,4-Dichlorobenzene	µg/L	EPA625	26.0	86.49	0	30.1	10-58	4.74	51		12/7/2010 0421h
1012094-001EMSD	1,4-Naphthoquinone	µg/L	EPA625	87.1	86.49	0	101	10-177	0.846	99		12/7/2010 0421h
1012094-001EMSD	1,4-Phenylenediamine	µg/L	EPA625	46.6	86.49	0	53.9	10-124	3.34	48		12/7/2010 0421h
1012094-001EMSD	1-Chloronaphthalene	µg/L	EPA625	53.6	86.49	0	62.0	10-106	11.1	47		12/7/2010 0421h
1012094-001EMSD	1-Methylnaphthalene	µg/L	EPA625	26.3	86.49	0	30.4	10-83	0.294	44		12/7/2010 0421h
1012094-001EMSD	1-Naphthylamine	µg/L	EPA625	39.6	86.49	0	45.8	10-122	3.32	57		12/7/2010 0421h
1012094-001EMSD	2,3,4,6-Tetrachlorophenol	µg/L	EPA625	103	86.49	0	119	10-157	3.81	39		12/7/2010 0421h
1012094-001EMSD	2,4,5-Trichlorophenol	µg/L	EPA625	70.0	86.49	0	80.9	10-148	7.10	56		12/7/2010 0421h
1012094-001EMSD	2,4,6-Trichlorophenol	µg/L	EPA625	65.8	86.49	0	76.1	10-136	6.26	52		12/7/2010 0421h
1012094-001EMSD	2,4-Dichlorophenol	µg/L	EPA625	59.2	86.49	0	68.5	10-123	1.31	67		12/7/2010 0421h
1012094-001EMSD	2,4-Dimethylphenol	µg/L	EPA625	57.9	86.49	0	67.0	10-113	2.52	32		12/7/2010 0421h
1012094-001EMSD	2,4-Dinitrophenol	µg/L	EPA625	134	86.49	0	155	10-175	8.40	78		12/7/2010 0421h
1012094-001EMSD	2,4-Dinitrotoluene	µg/L	EPA625	127	86.49	0	147	10-175	5.83	26		12/7/2010 0421h
1012094-001EMSD	2,6-Dichlorophenol	µg/L	EPA625	62.8	86.49	0	72.6	10-148	0.403	56		12/7/2010 0421h
1012094-001EMSD	2,6-Dinitrotoluene	µg/L	EPA625	108	86.49	0	125	10-175	13.6	74		12/7/2010 0421h
1012094-001EMSD	2-Acetylaminofluorene	µg/L	EPA625	54.0	86.49	0	62.4	10-94	7.06	52		12/7/2010 0421h
1012094-001EMSD	2-Chloronaphthalene	µg/L	EPA625	50.2	86.49	0	58.1	10-93	6.44	49		12/7/2010 0421h
1012094-001EMSD	2-Chlorophenol	µg/L	EPA625	46.9	86.49	0	54.3	10-92	2.65	58		12/7/2010 0421h
1012094-001EMSD	2-Methylnaphthalene	µg/L	EPA625	46.4	86.49	0	53.7	15-78	0.609	39		12/7/2010 0421h
1012094-001EMSD	2-Methylphenol	µg/L	EPA625	23.4	86.49	0	27.0	10-83	1.46	49		12/7/2010 0421h
1012094-001EMSD	2-Naphthylamine	µg/L	EPA625	41.5	86.49	0	48.0	10-154	6.87	37		12/7/2010 0421h

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QC SUMMARY REPORT

Client: Utah DEQ DERR

Lab Set ID: 1012092

Project: Red Butte Spill

Contact: Jim Harris

Dept: MSSV

QC Type: MSD

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
1012094-001EMSD	2-Nitroaniline	µg/L	EPA625	111	86.49	0	128	10-175	1.72	87		12/7/2010 0421h
1012094-001EMSD	2-Nitrophenol	µg/L	EPA625	68.4	86.49	0	79.1	10-175	2.21	64		12/7/2010 0421h
1012094-001EMSD	2-Picoline	µg/L	EPA625	< 10.8	86.49	0	12.0	10-61	0	63		12/7/2010 0421h
1012094-001EMSD	3&4-Methylphenol	µg/L	EPA625	49.0	86.49	0	56.7	10-80	2.62	99		12/7/2010 0421h
1012094-001EMSD	3,3'-Dichlorobenzidine	µg/L	EPA625	95.0	86.49	0	110	10-150	10.9	63		12/7/2010 0421h
1012094-001EMSD	3,3'-Dimethylbenzidine	µg/L	EPA625	58.2	86.49	0	67.3	10-143	22.7	99		12/7/2010 0421h
1012094-001EMSD	3-Methylcholanthrene	µg/L	EPA625	104	86.49	0	121	32-171	9.42	46		12/7/2010 0421h
1012094-001EMSD	3-Nitroaniline	µg/L	EPA625	99.1	86.49	0	115	10-175	6.54	29		12/7/2010 0421h
1012094-001EMSD	4,6-Dinitro-2-methylphenol	µg/L	EPA625	165	86.49	0	191	10-175	9.74	70	1	12/7/2010 0421h
1012094-001EMSD	4-Aminobiphenyl	µg/L	EPA625	93.5	86.49	0	108	10-175	4.84	79		12/7/2010 0421h
1012094-001EMSD	4-Bromophenyl phenyl ether	µg/L	EPA625	90.5	86.49	0	105	16-138	9.80	31		12/7/2010 0421h
1012094-001EMSD	4-Chloro-3-methylphenol	µg/L	EPA625	78.3	86.49	0	90.6	10-131	4.10	37		12/7/2010 0421h
1012094-001EMSD	4-Chloroaniline	µg/L	EPA625	51.8	86.49	0	59.9	10-98	1.07	41		12/7/2010 0421h
1012094-001EMSD	4-Chlorophenyl phenyl ether	µg/L	EPA625	77.9	86.49	0	90.1	31-108	6.35	30		12/7/2010 0421h
1012094-001EMSD	4-Nitroaniline	µg/L	EPA625	108	86.49	0	124	10-175	20.7	99		12/7/2010 0421h
1012094-001EMSD	4-Nitrophenol	µg/L	EPA625	35.9	86.49	0	41.6	10-97	17.0	69		12/7/2010 0421h
1012094-001EMSD	5-Nitro-o-toluidine	µg/L	EPA625	119	86.49	0	137	10-175	8.25	26		12/7/2010 0421h
1012094-001EMSD	7,12-Dimethylbenz(a)anthracene	µg/L	EPA625	53.5	86.49	0	61.9	26-174	11.3	40		12/7/2010 0421h
1012094-001EMSD	a,a-Dimethylphenethylamine	µg/L	EPA625	41.5	86.49	0	48.0	10-175	9.56	99		12/7/2010 0421h
1012094-001EMSD	Acenaphthene	µg/L	EPA625	69.6	86.49	0	80.4	29-97	2.90	38		12/7/2010 0421h
1012094-001EMSD	Acenaphthylene	µg/L	EPA625	67.1	86.49	0	77.5	37-87	0.703	37		12/7/2010 0421h
1012094-001EMSD	Acetophenone	µg/L	EPA625	44.5	86.49	0	51.5	10-96	3.43	48		12/7/2010 0421h
1012094-001EMSD	alpha-Terpineol	µg/L	EPA625	63.5	86.49	0	73.4	10-67	3.75	46	1	12/7/2010 0421h
1012094-001EMSD	Aniline	µg/L	EPA625	15.2	86.49	0	17.6	10-71	2.06	48		12/7/2010 0421h

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Kyle F. Gross

Laboratory Director

Jose Rocha

QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1012092
Project: Red Butte Spill

Contact: Jim Harris
Dept: MSSV
QC Type: MSD

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
1012094-001EMSD	Anthracene	µg/L	EPA625	99.6	86.49	0	115	53-114	5.36	26	¹	12/7/2010 0421h
1012094-001EMSD	Aramite	µg/L	EPA625	70.7	86.49	0	81.8	29-160	3.25	30		12/7/2010 0421h
1012094-001EMSD	Azobenzene	µg/L	EPA625	71.9	86.49	0	83.2	15-114	0.791	36		12/7/2010 0421h
1012094-001EMSD	Benz(a)anthracene	µg/L	EPA625	94.4	86.49	0	109	39-129	8.00	32		12/7/2010 0421h
1012094-001EMSD	Benzidine	µg/L	EPA625	64.3	86.49	0	74.3	10-99	12.1	99		12/7/2010 0421h
1012094-001EMSD	Benzo(a)pyrene	µg/L	EPA625	126	86.49	0	146	29-175	12.3	45		12/7/2010 0421h
1012094-001EMSD	Benzo(b)fluoranthene	µg/L	EPA625	98.6	86.49	0	114	15-140	16.1	44		12/7/2010 0421h
1012094-001EMSD	Benzo(g,h,i)perylene	µg/L	EPA625	102	86.49	0	118	10-182	9.40	48		12/7/2010 0421h
1012094-001EMSD	Benzo(k)fluoranthene	µg/L	EPA625	119	86.49	0	138	21-154	4.22	52		12/7/2010 0421h
1012094-001EMSD	Benzoic acid	µg/L	EPA625	< 21.6	86.49	0	13.7	10-71	0	78		12/7/2010 0421h
1012094-001EMSD	Benzyl alcohol	µg/L	EPA625	22.8	86.49	0	26.4	10-69	5.99	52		12/7/2010 0421h
1012094-001EMSD	Bis(2-chloroethoxy)methane	µg/L	EPA625	43.7	86.49	0	50.5	10-94	0.163	45		12/7/2010 0421h
1012094-001EMSD	Bis(2-chloroethyl) ether	µg/L	EPA625	31.8	86.49	0	36.8	10-70	3.04	47		12/7/2010 0421h
1012094-001EMSD	Bis(2-chloroisopropyl) ether	µg/L	EPA625	30.3	86.49	0	35.0	10-71	4.40	49		12/7/2010 0421h
1012094-001EMSD	Bis(2-ethylhexyl) phthalate	µg/L	EPA625	98.3	86.49	0	114	10-175	7.09	28		12/7/2010 0421h
1012094-001EMSD	bis(2-ethylhexyl)adipate	µg/L	EPA625	102	86.49	0	118	10-175	9.26	25		12/7/2010 0421h
1012094-001EMSD	Butyl benzyl phthalate	µg/L	EPA625	98.6	86.49	0	114	10-175	8.02	99		12/7/2010 0421h
1012094-001EMSD	Carbazole	µg/L	EPA625	108	86.49	0	125	10-151	6.67	30		12/7/2010 0421h
1012094-001EMSD	Chlorobenzilate	µg/L	EPA625	92.3	86.49	0	107	18-175	9.92	25		12/7/2010 0421h
1012094-001EMSD	Chrysene	µg/L	EPA625	98.9	86.49	0	114	38-133	6.17	28		12/7/2010 0421h
1012094-001EMSD	Diallate (cis or trans)	µg/L	EPA625	83.6	86.49	0	96.7	10-157	6.03	29		12/7/2010 0421h
1012094-001EMSD	Dibenz(a,h)anthracene	µg/L	EPA625	102	86.49	0	118	13-168	9.45	51		12/7/2010 0421h
1012094-001EMSD	Dibenzofuran	µg/L	EPA625	71.7	86.49	0	82.9	29-103	4.58	34		12/7/2010 0421h
1012094-001EMSD	Diethyl phthalate	µg/L	EPA625	92.4	86.49	0	107	10-139	8.29	32		12/7/2010 0421h

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QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR

Lab Set ID: 1012092

Project: Red Butte Spill

Contact: Jim Harris

Dept: MSSV

QC Type: MSD

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
1012094-001EMSD	Dimethoate	µg/L	EPA625	35.9	86.49	0	41.6	10-136	4.58	45		12/7/2010 0421h
1012094-001EMSD	Dimethyl phthalate	µg/L	EPA625	75.5	86.49	0	87.3	10-122	5.23	57		12/7/2010 0421h
1012094-001EMSD	Dimethylaminoazobenzene	µg/L	EPA625	96.3	86.49	0	111	34-142	11.7	26		12/7/2010 0421h
1012094-001EMSD	Di-n-butyl phthalate	µg/L	EPA625	107	86.49	0	124	44-124	8.37	25	1	12/7/2010 0421h
1012094-001EMSD	Di-n-octyl phthalate	µg/L	EPA625	121	86.49	0	140	10-175	11.4	50		12/7/2010 0421h
1012094-001EMSD	Dinoseb	µg/L	EPA625	175	86.49	0	203	10-175	5.44	42	1	12/7/2010 0421h
1012094-001EMSD	Diphenylamine	µg/L	EPA625	87.4	86.49	0	101	13-110	4.58	34		12/7/2010 0421h
1012094-001EMSD	Disulfoton	µg/L	EPA625	80.8	86.49	0	93.4	10-121	16.8	25		12/7/2010 0421h
1012094-001EMSD	Ethyl methanesulfonate	µg/L	EPA625	40.7	86.49	0	47.0	10-99	3.47	46		12/7/2010 0421h
1012094-001EMSD	Famphur	µg/L	EPA625	184	86.49	0	213	10-71	0.776	25	1	12/7/2010 0421h
1012094-001EMSD	Fluoranthene	µg/L	EPA625	106	86.49	0	122	23-135	6.11	25		12/7/2010 0421h
1012094-001EMSD	Fluorene	µg/L	EPA625	83.4	86.49	0	96.4	34-108	9.20	28		12/7/2010 0421h
1012094-001EMSD	Hexachlorobenzene	µg/L	EPA625	92.0	86.49	0	106	26-131	9.73	28		12/7/2010 0421h
1012094-001EMSD	Hexachlorobutadiene	µg/L	EPA625	32.2	86.49	0	37.2	10-110	0.311	68		12/7/2010 0421h
1012094-001EMSD	Hexachlorocyclopentadiene	µg/L	EPA625	29.0	86.49	0	33.6	10-45	4.89	79		12/7/2010 0421h
1012094-001EMSD	Hexachloroethane	µg/L	EPA625	25.5	86.49	0	29.5	10-58	5.35	42		12/7/2010 0421h
1012094-001EMSD	Hexachlorophene	µg/L	EPA625	68.8	86.49	0	79.6	10-168	22.5	25		12/7/2010 0421h
1012094-001EMSD	Hexachloropropene	µg/L	EPA625	33.1	86.49	0	38.3	10-72	2.14	63		12/7/2010 0421h
1012094-001EMSD	Indene	µg/L	EPA625	29.0	86.49	0	33.5	10-35	1.39	35		12/7/2010 0421h
1012094-001EMSD	Indeno(1,2,3-cd)pyrene	µg/L	EPA625	101	86.49	0	117	10-176	9.51	48		12/7/2010 0421h
1012094-001EMSD	Isodrin	µg/L	EPA625	104	86.49	0	120	15-165	6.50	25		12/7/2010 0421h
1012094-001EMSD	Isophorone	µg/L	EPA625	48.8	86.49	0	56.5	10-99	2.25	41		12/7/2010 0421h
1012094-001EMSD	Isosafrole	µg/L	EPA625	48.7	86.49	0	56.4	10-167	0.0187	50		12/7/2010 0421h
1012094-001EMSD	Kepon	µg/L	EPA625	133	86.49	0	154	10-175	9.78	46		12/7/2010 0421h

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QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1012092
Project: Red Butte Spill

Contact: Jim Harris
Dept: MSSV
QC Type: MSD

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
1012094-001EMSD	Methapyrilene	µg/L	EPA625	53.6	86.49	0	62.0	10-149	0.415	51		12/7/2010 0421h
1012094-001EMSD	Methyl methanesulfonate	µg/L	EPA625	47.0	86.49	0	54.3	10-132	4.14	45		12/7/2010 0421h
1012094-001EMSD	Naphthalene	µg/L	EPA625	42.5	86.49	0	49.1	10-82	1.38	43		12/7/2010 0421h
1012094-001EMSD	n-Decane	µg/L	EPA625	16.5	86.49	0	19.1	10-27	7.35	32		12/7/2010 0421h
1012094-001EMSD	Nitrobenzene	µg/L	EPA625	53.0	86.49	0	61.2	10-119	2.10	49		12/7/2010 0421h
1012094-001EMSD	Nitroquinoline-1-oxide	µg/L	EPA625	81.7	86.49	0	94.4	10-170	10.2	97		12/7/2010 0421h
1012094-001EMSD	N-Nitrosodiethylamine	µg/L	EPA625	36.8	86.49	0	42.5	10-91	2.27	54		12/7/2010 0421h
1012094-001EMSD	N-Nitrosodimethylamine	µg/L	EPA625	11.4	86.49	0	13.2	10-42	4.18	66		12/7/2010 0421h
1012094-001EMSD	N-Nitrosodi-n-butylamine	µg/L	EPA625	63.6	86.49	0	73.5	10-175	1.79	80		12/7/2010 0421h
1012094-001EMSD	N-Nitrosodiphenylamine	µg/L	EPA625	94.5	86.49	0	109	12-112	3.76	30		12/7/2010 0421h
1012094-001EMSD	N-Nitrosodi-n-propylamine	µg/L	EPA625	42.2	86.49	0	48.8	10-77	0.457	47		12/7/2010 0421h
1012094-001EMSD	N-Nitrosomethylethylamine	µg/L	EPA625	29.3	86.49	0	33.9	10-75	0.743	60		12/7/2010 0421h
1012094-001EMSD	N-Nitrosomorpholine	µg/L	EPA625	47.4	86.49	0	54.8	10-175	0.0354	73		12/7/2010 0421h
1012094-001EMSD	N-Nitrosopiperidine	µg/L	EPA625	49.7	86.49	0	57.5	10-105	3.47	44		12/7/2010 0421h
1012094-001EMSD	N-Nitrosopyrrolidine	µg/L	EPA625	53.9	86.49	0	62.3	10-88	2.82	40		12/7/2010 0421h
1012094-001EMSD	n-Octadecane	µg/L	EPA625	72.4	86.49	0	83.8	10-121	5.16	40		12/7/2010 0421h
1012094-001EMSD	O,O,O-Triethyl phosphorothioate	µg/L	EPA625	47.5	86.49	0	54.9	10-93	2.11	44		12/7/2010 0421h
1012094-001EMSD	o-Toluidine	µg/L	EPA625	42.8	86.49	0	49.5	10-107	1.11	46		12/7/2010 0421h
1012094-001EMSD	Parathion	µg/L	EPA625	142	86.49	0	164	10-175	6.38	28		12/7/2010 0421h
1012094-001EMSD	Methyl parathion	µg/L	EPA625	134	86.49	0	155	10-175	8.91	26		12/7/2010 0421h
1012094-001EMSD	Pentachlorobenzene	µg/L	EPA625	68.9	86.49	0	79.6	25-134	5.06	35		12/7/2010 0421h
1012094-001EMSD	Pentachloronitrobenzene	µg/L	EPA625	108	86.49	0	124	10-175	10.2	25		12/7/2010 0421h
1012094-001EMSD	Pentachlorophenol	µg/L	EPA625	64.1	86.49	0	74.1	10-163	19.0	58		12/7/2010 0421h
1012094-001EMSD	Phenacetin	µg/L	EPA625	94.7	86.49	0	110	10-175	1.25	38		12/7/2010 0421h

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QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1012092
Project: Red Butte Spill

Contact: Jim Harris
Dept: MSSV
QC Type: MSD

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
1012094-001EMSD	Phenanthrene	µg/L	EPA625	113	86.49	0	130	31-126	9.81	32	¹	12/7/2010 0421h
1012094-001EMSD	Phenol	µg/L	EPA625	23.7	86.49	0	27.4	10-175	3.94	71		12/7/2010 0421h
1012094-001EMSD	Phorate	µg/L	EPA625	107	86.49	0	124	10-175	6.05	42		12/7/2010 0421h
1012094-001EMSD	Pronamide	µg/L	EPA625	54.1	86.49	0	62.5	10-95	6.79	26		12/7/2010 0421h
1012094-001EMSD	Pyrene	µg/L	EPA625	101	86.49	0	117	51-139	9.52	27		12/7/2010 0421h
1012094-001EMSD	Pyridine	µg/L	EPA625	< 10.8	86.49	0	3.86	10-25	0	61	¹	12/7/2010 0421h
1012094-001EMSD	Quinoline	µg/L	EPA625	60.3	86.49	0	69.7	10-63	1.35	99	¹	12/7/2010 0421h
1012094-001EMSD	Safrole	µg/L	EPA625	59.0	86.49	0	68.2	10-120	2.45	51		12/7/2010 0421h
1012094-001EMSD	Tetraethyl dithiopyrophosphate	µg/L	EPA625	97.8	86.49	0	113	13-160	14.6	35		12/7/2010 0421h
1012094-001EMSD	Thionazin	µg/L	EPA625	86.0	86.49	0	99.4	10-139	8.77	25		12/7/2010 0421h
1012094-001EMSD	Surr: 2,4,6-Tribromophenol	%REC	EPA625	85.7	86.49		99.1	21-154				12/7/2010 0421h
1012094-001EMSD	Surr: 2-Fluorobiphenyl	%REC	EPA625	26.9	43.24		62.3	10-106				12/7/2010 0421h
1012094-001EMSD	Surr: 2-Fluorophenol	%REC	EPA625	23.0	86.49		26.6	10-56				12/7/2010 0421h
1012094-001EMSD	Surr: Nitrobenzene-d5	%REC	EPA625	22.9	43.24		52.9	10-101				12/7/2010 0421h
1012094-001EMSD	Surr: Phenol-d6	%REC	EPA625	16.9	86.49		19.6	10-45				12/7/2010 0421h
1012094-001EMSD	Surr: Terphenyl-d14	%REC	EPA625	47.9	43.24		111	10-160				12/7/2010 0421h
1012092-001BMSD	Acenaphthene	µg/L	SW8270D	54.6	80.00	0	68.2	21-113	4.28	25		12/6/2010 2316h
1012092-001BMSD	Benzo(a)pyrene	µg/L	SW8270D	109	80.00	0	136	15-169	7.01	25		12/6/2010 2316h
1012092-001BMSD	Pyrene	µg/L	SW8270D	86.3	80.00	0	108	23-150	6.71	25		12/6/2010 2316h
1012092-001BMSD	Surr: 2,4,6-Tribromophenol	%REC	SW8270D	76.5	80.00		95.6	14-159				12/6/2010 2316h
1012092-001BMSD	Surr: 2-Fluorobiphenyl	%REC	SW8270D	20.1	40.00		50.2	10-124				12/6/2010 2316h
1012092-001BMSD	Surr: 2-Fluorophenol	%REC	SW8270D	19.0	80.00		23.8	10-106				12/6/2010 2316h
1012092-001BMSD	Surr: Nitrobenzene-d5	%REC	SW8270D	17.8	40.00		44.5	10-180				12/6/2010 2316h
1012092-001BMSD	Surr: Phenol-d6	%REC	SW8270D	12.2	80.00		15.2	10-122				12/6/2010 2316h

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QC SUMMARY REPORT

Client: Utah DEQ DERR

Lab Set ID: 1012092

Project: Red Butte Spill

Contact: Jim Harris

Dept: MSSV

QC Type: MSD

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
1012092-001BMSD	Surr: Terphenyl-d14	% REC	SW8270D	39.9	40.00		99.7	10-199				12/6/2010 2316h
1012094-001EMSD	Acenaphthene	µg/L	SW8270D	69.6	86.49	0	80.4	21-113	2.90	25		12/7/2010 0421h
1012094-001EMSD	Benzo(a)pyrene	µg/L	SW8270D	126	86.49	0	146	15-169	12.3	25		12/7/2010 0421h
1012094-001EMSD	Pyrene	µg/L	SW8270D	101	86.49	0	117	23-150	9.52	25		12/7/2010 0421h
1012094-001EMSD	Surr: 2,4,6-Tribromophenol	% REC	SW8270D	85.7	86.49		99.1	14-159				12/7/2010 0421h
1012094-001EMSD	Surr: 2-Fluorobiphenyl	% REC	SW8270D	26.9	43.24		62.3	10-124				12/7/2010 0421h
1012094-001EMSD	Surr: 2-Fluorophenol	% REC	SW8270D	23.0	86.49		26.6	10-106				12/7/2010 0421h
1012094-001EMSD	Surr: Nitrobenzene-d5	% REC	SW8270D	22.9	43.24		52.9	10-180				12/7/2010 0421h
1012094-001EMSD	Surr: Phenol-d6	% REC	SW8270D	16.9	86.49		19.6	10-122				12/7/2010 0421h
1012094-001EMSD	Surr: Terphenyl-d14	% REC	SW8270D	47.9	43.24		111	10-199				12/7/2010 0421h

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



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Laboratory Director

Jose Rocha

QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1012092
Project: Red Butte Spill

Contact: Jim Harris
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 120610A	1,1,1,2-Tetrachloroethane	µg/L	EPA624	18.2	20.00	0	91.2	74-117				12/6/2010 1047h
LCS VOC 120610A	1,1,1-Trichloroethane	µg/L	EPA624	21.3	20.00	0	107	49-140				12/6/2010 1047h
LCS VOC 120610A	1,1,2,2-Tetrachloroethane	µg/L	EPA624	15.4	20.00	0	77.0	67-119				12/6/2010 1047h
LCS VOC 120610A	1,1,2-Trichloro-1,2,2-trifluoroetha	µg/L	EPA624	24.8	20.00	0	124	21-206				12/6/2010 1047h
LCS VOC 120610A	1,1,2-Trichloroethane	µg/L	EPA624	17.1	20.00	0	85.7	80-123				12/6/2010 1047h
LCS VOC 120610A	1,1-Dichloropropene	µg/L	EPA624	42.4	40.00	0	106	10-140				12/6/2010 1047h
LCS VOC 120610A	1,1-Dichloroethane	µg/L	EPA624	19.3	20.00	0	96.4	70-130				12/6/2010 1047h
LCS VOC 120610A	1,1-Dichloroethene	µg/L	EPA624	25.3	20.00	0	126	52-171				12/6/2010 1047h
LCS VOC 120610A	1,2,3-Trichlorobenzene	µg/L	EPA624	16.4	20.00	0	81.8	67-131				12/6/2010 1047h
LCS VOC 120610A	1,2,3-Trichloropropane	µg/L	EPA624	17.4	20.00	0	87.1	62-116				12/6/2010 1047h
LCS VOC 120610A	1,2,3-Trimethylbenzene	µg/L	EPA624	18.9	20.00	0	94.4	76-140				12/6/2010 1047h
LCS VOC 120610A	1,2,4-Trichlorobenzene	µg/L	EPA624	15.7	20.00	0	78.4	58-133				12/6/2010 1047h
LCS VOC 120610A	1,2,4-Trimethylbenzene	µg/L	EPA624	17.6	20.00	0	88.2	79-151				12/6/2010 1047h
LCS VOC 120610A	1,2-Dibromo-3-chloropropane	µg/L	EPA624	16.0	20.00	0	80.0	64-129				12/6/2010 1047h
LCS VOC 120610A	1,2-Dibromoethane	µg/L	EPA624	17.4	20.00	0	87.0	70-126				12/6/2010 1047h
LCS VOC 120610A	1,2-Dichlorobenzene	µg/L	EPA624	18.1	20.00	0	90.7	67-135				12/6/2010 1047h
LCS VOC 120610A	1,2-Dichloroethane	µg/L	EPA624	20.6	20.00	0	103	60-137				12/6/2010 1047h
LCS VOC 120610A	1,2-Dichloropropane	µg/L	EPA624	17.6	20.00	0	87.9	59-135				12/6/2010 1047h
LCS VOC 120610A	1,3,5-Trimethylbenzene	µg/L	EPA624	17.7	20.00	0	88.4	77-151				12/6/2010 1047h
LCS VOC 120610A	1,3-Dichlorobenzene	µg/L	EPA624	17.6	20.00	0	88.2	78-134				12/6/2010 1047h
LCS VOC 120610A	1,3-Dichloropropane	µg/L	EPA624	16.7	20.00	0	83.6	78-116				12/6/2010 1047h
LCS VOC 120610A	1,4-Dichlorobenzene	µg/L	EPA624	17.5	20.00	0	87.5	72-139				12/6/2010 1047h
LCS VOC 120610A	1,4-Dioxane	µg/L	EPA624	203	200.0	0	102	33-149				12/6/2010 1047h
LCS VOC 120610A	2,2-Dichloropropane	µg/L	EPA624	21.3	30.00	0	71.0	13-180				12/6/2010 1047h

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Kyle F. Gross

Laboratory Director

Jose Rocha

QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR

Lab Set ID: 1012092

Project: Red Butte Spill

Contact: Jim Harris

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 120610A	2-Butanone	µg/L	EPA624	28.3	20.00	0	141	10-217				12/6/2010 1047h
LCS VOC 120610A	2-Chloroethyl vinyl ether	µg/L	EPA624	37.1	40.00	0	92.8	32-163				12/6/2010 1047h
LCS VOC 120610A	2-Chlorotoluene	µg/L	EPA624	17.6	20.00	0	88.2	79-142				12/6/2010 1047h
LCS VOC 120610A	2-Hexanone	µg/L	EPA624	17.0	20.00	0	85.2	50-156				12/6/2010 1047h
LCS VOC 120610A	2-Nitropropane	µg/L	EPA624	19.7	20.00	0	98.4	10-243				12/6/2010 1047h
LCS VOC 120610A	4-Chlorotoluene	µg/L	EPA624	17.6	20.00	0	87.8	68-128				12/6/2010 1047h
LCS VOC 120610A	4-Isopropyltoluene	µg/L	EPA624	17.0	20.00	0	85.0	73-156				12/6/2010 1047h
LCS VOC 120610A	4-Methyl-2-pentanone	µg/L	EPA624	16.0	20.00	0	80.0	10-214				12/6/2010 1047h
LCS VOC 120610A	Acetone	µg/L	EPA624	19.1	20.00	0	95.4	10-313				12/6/2010 1047h
LCS VOC 120610A	Acetonitrile	µg/L	EPA624	37.2	40.00	0	93.1	37-159				12/6/2010 1047h
LCS VOC 120610A	Acrolein	µg/L	EPA624	67.0	40.00	0	168	10-325				12/6/2010 1047h
LCS VOC 120610A	Acrylonitrile	µg/L	EPA624	16.3	20.00	0	81.4	53-134				12/6/2010 1047h
LCS VOC 120610A	Allyl chloride	µg/L	EPA624	18.8	20.00	0	94.2	10-243				12/6/2010 1047h
LCS VOC 120610A	Benzene	µg/L	EPA624	19.7	20.00	0	98.7	62-127				12/6/2010 1047h
LCS VOC 120610A	Benzyl chloride	µg/L	EPA624	17.2	20.00	0	86.2	40-146				12/6/2010 1047h
LCS VOC 120610A	Bis(2-chloroisopropyl) ether	µg/L	EPA624	16.2	20.00	0	81.0	54-146				12/6/2010 1047h
LCS VOC 120610A	Bromobenzene	µg/L	EPA624	16.7	20.00	0	83.6	78-148				12/6/2010 1047h
LCS VOC 120610A	Bromochloromethane	µg/L	EPA624	19.8	20.00	0	99.2	75-134				12/6/2010 1047h
LCS VOC 120610A	Bromodichloromethane	µg/L	EPA624	19.4	20.00	0	97.0	74-121				12/6/2010 1047h
LCS VOC 120610A	Bromoform	µg/L	EPA624	17.7	20.00	0	88.6	68-131				12/6/2010 1047h
LCS VOC 120610A	Bromomethane	µg/L	EPA624	16.6	20.00	0	83.3	10-185				12/6/2010 1047h
LCS VOC 120610A	Butyl acetate	µg/L	EPA624	16.7	20.00	0	83.4	46-178				12/6/2010 1047h
LCS VOC 120610A	Carbon disulfide	µg/L	EPA624	28.3	20.00	0	142	21-224				12/6/2010 1047h
LCS VOC 120610A	Carbon tetrachloride	µg/L	EPA624	23.0	20.00	0	115	60-157				12/6/2010 1047h

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Kyle F. Gross

Laboratory Director

Jose Rocha

QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR

Lab Set ID: 1012092

Project: Red Butte Spill

Contact: Jim Harris

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 120610A	Chlorobenzene	µg/L	EPA624	17.9	20.00	0	89.4	63-140				12/6/2010 1047h
LCS VOC 120610A	Chloroethane	µg/L	EPA624	19.9	20.00	0	99.7	41-173				12/6/2010 1047h
LCS VOC 120610A	Chloroform	µg/L	EPA624	19.8	20.00	0	99.0	67-132				12/6/2010 1047h
LCS VOC 120610A	Chloromethane	µg/L	EPA624	15.3	20.00	0	76.6	10-138				12/6/2010 1047h
LCS VOC 120610A	Chloroprene	µg/L	EPA624	19.5	20.00	0	97.4	10-161				12/6/2010 1047h
LCS VOC 120610A	cis-1,2-Dichloroethene	µg/L	EPA624	19.2	20.00	0	96.0	72-137				12/6/2010 1047h
LCS VOC 120610A	cis-1,3-Dichloropropene	µg/L	EPA624	19.6	40.00	0	49.0	10-134				12/6/2010 1047h
LCS VOC 120610A	Cyclohexane	µg/L	EPA624	22.6	20.00	0	113	35-230				12/6/2010 1047h
LCS VOC 120610A	Cyclohexanone	µg/L	EPA624	< 50.0	40.00	0	62.8	10-374				12/6/2010 1047h
LCS VOC 120610A	Dibromochloromethane	µg/L	EPA624	18.0	20.00	0	90.2	68-135				12/6/2010 1047h
LCS VOC 120610A	Dibromomethane	µg/L	EPA624	18.3	20.00	0	91.5	74-120				12/6/2010 1047h
LCS VOC 120610A	Dichlorodifluoromethane	µg/L	EPA624	13.9	20.00	0	69.4	10-150				12/6/2010 1047h
LCS VOC 120610A	Ethyl acetate	µg/L	EPA624	37.4	40.00	0	93.5	50-155				12/6/2010 1047h
LCS VOC 120610A	Ethyl ether	µg/L	EPA624	22.1	20.00	0	110	45-146				12/6/2010 1047h
LCS VOC 120610A	Ethyl methacrylate	µg/L	EPA624	15.6	20.00	0	78.2	64-113				12/6/2010 1047h
LCS VOC 120610A	Ethylbenzene	µg/L	EPA624	18.0	20.00	0	90.2	55-133				12/6/2010 1047h
LCS VOC 120610A	Hexachlorobutadiene	µg/L	EPA624	16.7	20.00	0	83.6	35-213				12/6/2010 1047h
LCS VOC 120610A	Iodomethane	µg/L	EPA624	18.1	20.00	0	90.4	10-233				12/6/2010 1047h
LCS VOC 120610A	Isobutyl alcohol	µg/L	EPA624	< 100	80.00	0	99.3	12-202				12/6/2010 1047h
LCS VOC 120610A	Isopropyl acetate	µg/L	EPA624	18.3	20.00	0	91.7	55-145				12/6/2010 1047h
LCS VOC 120610A	Isopropyl alcohol	µg/L	EPA624	68.2	80.00	0	85.2	12-250				12/6/2010 1047h
LCS VOC 120610A	Isopropylbenzene	µg/L	EPA624	18.1	20.00	0	90.5	60-147				12/6/2010 1047h
LCS VOC 120610A	Isopropyltoluene	µg/L	EPA624	17.0	20.00	0	85.0	73-156				12/6/2010 1047h
LCS VOC 120610A	m,p-Xylene	µg/L	EPA624	37.0	40.00	0	92.5	70-130				12/6/2010 1047h

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QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1012092
Project: Red Butte Spill

Contact: Jim Harris
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 120610A	Methacrylonitrile	µg/L	EPA624	16.5	20.00	0	82.6	79-123				12/6/2010 1047h
LCS VOC 120610A	Methyl Acetate	µg/L	EPA624	36.8	20.00	0	184	5-398				12/6/2010 1047h
LCS VOC 120610A	Methyl methacrylate	µg/L	EPA624	16.5	20.00	0	82.3	55-128				12/6/2010 1047h
LCS VOC 120610A	Methyl tert-butyl ether	µg/L	EPA624	18.8	20.00	0	94.3	37-189				12/6/2010 1047h
LCS VOC 120610A	Methylcyclohexane	µg/L	EPA624	22.7	20.00	0	114	65-175				12/6/2010 1047h
LCS VOC 120610A	Methylene chloride	µg/L	EPA624	14.6	20.00	0	73.2	55-138				12/6/2010 1047h
LCS VOC 120610A	n-Amyl acetate	µg/L	EPA624	10.7	20.00	0	53.4	10-187				12/6/2010 1047h
LCS VOC 120610A	Naphthalene	µg/L	EPA624	15.2	20.00	0	75.8	41-131				12/6/2010 1047h
LCS VOC 120610A	n-Butyl alcohol	µg/L	EPA624	64.3	80.00	0	80.3	10-226				12/6/2010 1047h
LCS VOC 120610A	n-Butylbenzene	µg/L	EPA624	17.2	20.00	0	85.9	40-158				12/6/2010 1047h
LCS VOC 120610A	n-Hexane	µg/L	EPA624	24.8	20.00	0	124	10-277				12/6/2010 1047h
LCS VOC 120610A	n-Octane	µg/L	EPA624	16.3	20.00	0	81.4	45-158				12/6/2010 1047h
LCS VOC 120610A	n-Propylbenzene	µg/L	EPA624	17.4	20.00	0	86.9	67-131				12/6/2010 1047h
LCS VOC 120610A	o-Xylene	µg/L	EPA624	17.8	20.00	0	89.0	70-130				12/6/2010 1047h
LCS VOC 120610A	Pentachloroethane	µg/L	EPA624	11.5	20.00	0	57.6	10-314				12/6/2010 1047h
LCS VOC 120610A	Propionitrile	µg/L	EPA624	< 25.0	20.00	0	88.0	60-132				12/6/2010 1047h
LCS VOC 120610A	Propyl acetate	µg/L	EPA624	17.6	20.00	0	88.1	48-143				12/6/2010 1047h
LCS VOC 120610A	sec-Butylbenzene	µg/L	EPA624	17.7	20.00	0	88.4	72-157				12/6/2010 1047h
LCS VOC 120610A	Styrene	µg/L	EPA624	17.3	20.00	0	86.7	81-125				12/6/2010 1047h
LCS VOC 120610A	tert-Butyl alcohol	µg/L	EPA624	37.7	40.00	0	94.2	50-286				12/6/2010 1047h
LCS VOC 120610A	tert-Butylbenzene	µg/L	EPA624	16.8	20.00	0	84.0	75-157				12/6/2010 1047h
LCS VOC 120610A	Tetrachloroethene	µg/L	EPA624	24.2	20.00	0	121	49-163				12/6/2010 1047h
LCS VOC 120610A	Tetrahydrofuran	µg/L	EPA624	15.5	20.00	0	77.4	43-146				12/6/2010 1047h
LCS VOC 120610A	Toluene	µg/L	EPA624	17.8	20.00	0	89.0	67-128				12/6/2010 1047h

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QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1012092
Project: Red Butte Spill

Contact: Jim Harris
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 120610A	trans-1,2-Dichloroethene	µg/L	EPA624	22.2	20.00	0	111	47-146				12/6/2010 1047h
LCS VOC 120610A	trans-1,3-Dichloropropene	µg/L	EPA624	19.7	20.00	0	98.4	29-143				12/6/2010 1047h
LCS VOC 120610A	trans-1,4-Dichloro-2-butene	µg/L	EPA624	19.5	20.00	0	97.6	20-214				12/6/2010 1047h
LCS VOC 120610A	Trichloroethene	µg/L	EPA624	20.9	20.00	0	104	54-152				12/6/2010 1047h
LCS VOC 120610A	Trichlorofluoromethane	µg/L	EPA624	20.4	20.00	0	102	56-166				12/6/2010 1047h
LCS VOC 120610A	Vinyl acetate	µg/L	EPA624	22.9	40.00	0	57.4	38-121				12/6/2010 1047h
LCS VOC 120610A	Vinyl chloride	µg/L	EPA624	17.5	20.00	0	87.6	13-155				12/6/2010 1047h
LCS VOC 120610A	Xylenes, Total	µg/L	EPA624	54.8	60.00	0	91.3	52-130				12/6/2010 1047h
LCS VOC 120610A	Surr: 1,2-Dichloroethane-d4	%REC	EPA624	56.2	50.00		112	69-132				12/6/2010 1047h
LCS VOC 120610A	Surr: 4-Bromofluorobenzene	%REC	EPA624	49.5	50.00		99.1	85-118				12/6/2010 1047h
LCS VOC 120610A	Surr: Dibromofluoromethane	%REC	EPA624	52.8	50.00		106	80-120				12/6/2010 1047h
LCS VOC 120610A	Surr: Toluene-d8	%REC	EPA624	47.1	50.00		94.3	81-120				12/6/2010 1047h



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QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1012092
Project: Red Butte Spill

Contact: Jim Harris
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 120610A	1,1,1,2-Tetrachloroethane	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	1,1,1-Trichloroethane	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	1,1,2,2-Tetrachloroethane	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	1,1,2-Trichloro-1,2,2-trifluoroetha	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	1,1,2-Trichloroethane	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	1,1-Dichloropropene	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	1,1-Dichloroethane	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	1,1-Dichloroethene	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	1,2,3-Trichlorobenzene	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	1,2,3-Trichloropropane	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	1,2,3-Trimethylbenzene	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	1,2,4-Trichlorobenzene	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	1,2,4-Trimethylbenzene	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	1,2-Dibromo-3-chloropropane	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	1,2-Dibromoethane	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	1,2-Dichlorobenzene	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	1,2-Dichloroethane	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	1,2-Dichloropropane	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	1,3,5-Trimethylbenzene	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	1,3-Dichlorobenzene	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	1,3-Dichloropropane	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	1,4-Dichlorobenzene	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	1,4-Dioxane	µg/L	EPA624	< 40.0				-				12/6/2010 1125h
MB VOC 120610A	2,2-Dichloropropane	µg/L	EPA624	< 2.00				-				12/6/2010 1125h

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Kyle F. Gross

Laboratory Director

Jose Rocha

QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1012092
Project: Red Butte Spill

Contact: Jim Harris
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 120610A	2-Butanone	µg/L	EPA624	< 10.0				-				12/6/2010 1125h
MB VOC 120610A	2-Chloroethyl vinyl ether	µg/L	EPA624	< 5.00				-				12/6/2010 1125h
MB VOC 120610A	2-Chlorotoluene	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	2-Hexanone	µg/L	EPA624	< 5.00				-				12/6/2010 1125h
MB VOC 120610A	2-Nitropropane	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	4-Chlorotoluene	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	4-Isopropyltoluene	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	4-Methyl-2-pentanone	µg/L	EPA624	< 5.00				-				12/6/2010 1125h
MB VOC 120610A	Acetone	µg/L	EPA624	< 10.0				-				12/6/2010 1125h
MB VOC 120610A	Acetonitrile	µg/L	EPA624	< 5.00				-				12/6/2010 1125h
MB VOC 120610A	Acrolein	µg/L	EPA624	< 5.00				-				12/6/2010 1125h
MB VOC 120610A	Acrylonitrile	µg/L	EPA624	< 10.0				-				12/6/2010 1125h
MB VOC 120610A	Allyl chloride	µg/L	EPA624	< 5.00				-				12/6/2010 1125h
MB VOC 120610A	Benzene	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	Benzyl chloride	µg/L	EPA624	< 5.00				-				12/6/2010 1125h
MB VOC 120610A	Bis(2-chloroisopropyl) ether	µg/L	EPA624	< 5.00				-				12/6/2010 1125h
MB VOC 120610A	Bromobenzene	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	Bromochloromethane	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	Bromodichloromethane	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	Bromoform	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	Bromomethane	µg/L	EPA624	< 5.00				-				12/6/2010 1125h
MB VOC 120610A	Butyl acetate	µg/L	EPA624	< 5.00				-				12/6/2010 1125h
MB VOC 120610A	Carbon disulfide	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	Carbon tetrachloride	µg/L	EPA624	< 2.00				-				12/6/2010 1125h

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QC SUMMARY REPORT

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Lab Set ID: 1012092
Project: Red Butte Spill

Contact: Jim Harris
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 120610A	Chlorobenzene	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	Chloroethane	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	Chloroform	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	Chloromethane	µg/L	EPA624	< 5.00				-				12/6/2010 1125h
MB VOC 120610A	Chloroprene	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	cis-1,2-Dichloroethene	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	cis-1,3-Dichloropropene	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	Cyclohexane	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	Cyclohexanone	µg/L	EPA624	< 50.0				-				12/6/2010 1125h
MB VOC 120610A	Dibromochloromethane	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	Dibromomethane	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	Dichlorodifluoromethane	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	Ethyl acetate	µg/L	EPA624	< 10.0				-				12/6/2010 1125h
MB VOC 120610A	Ethyl ether	µg/L	EPA624	< 10.0				-				12/6/2010 1125h
MB VOC 120610A	Ethyl methacrylate	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	Ethylbenzene	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	Hexachlorobutadiene	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	Iodomethane	µg/L	EPA624	< 5.00				-				12/6/2010 1125h
MB VOC 120610A	Isobutyl alcohol	µg/L	EPA624	< 100				-				12/6/2010 1125h
MB VOC 120610A	Isopropyl acetate	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	Isopropyl alcohol	µg/L	EPA624	< 25.0				-				12/6/2010 1125h
MB VOC 120610A	Isopropylbenzene	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	Isopropyltoluene	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	m,p-Xylene	µg/L	EPA624	< 2.00				-				12/6/2010 1125h

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Client: Utah DEQ DERR
Lab Set ID: 1012092
Project: Red Butte Spill

Contact: Jim Harris
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 120610A	Methacrylonitrile	µg/L	EPA624	< 5.00				-				12/6/2010 1125h
MB VOC 120610A	Methyl Acetate	µg/L	EPA624	< 5.00				-				12/6/2010 1125h
MB VOC 120610A	Methyl methacrylate	µg/L	EPA624	< 5.00				-				12/6/2010 1125h
MB VOC 120610A	Methyl tert-butyl ether	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	Methylcyclohexane	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	Methylene chloride	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	n-Amyl acetate	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	Naphthalene	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	n-Butyl alcohol	µg/L	EPA624	< 25.0				-				12/6/2010 1125h
MB VOC 120610A	n-Butylbenzene	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	n-Hexane	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	n-Octane	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	n-Propylbenzene	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	o-Xylene	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	Pentachloroethane	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	Propionitrile	µg/L	EPA624	< 25.0				-				12/6/2010 1125h
MB VOC 120610A	Propyl acetate	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	sec-Butylbenzene	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	Styrene	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	tert-Butyl alcohol	µg/L	EPA624	< 20.0				-				12/6/2010 1125h
MB VOC 120610A	tert-Butylbenzene	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	Tetrachloroethene	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	Tetrahydrofuran	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	Toluene	µg/L	EPA624	< 2.00				-				12/6/2010 1125h

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QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1012092
Project: Red Butte Spill

Contact: Jim Harris
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 120610A	TPH C11-C15 (DRO)	µg/L	EPA624	< 20.0				-				12/6/2010 1125h
MB VOC 120610A	TPH C6-C10 (GRO)	µg/L	EPA624	< 20.0				-				12/6/2010 1125h
MB VOC 120610A	trans-1,2-Dichloroethene	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	trans-1,3-Dichloropropene	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	trans-1,4-Dichloro-2-butene	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	Trichloroethene	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	Trichlorofluoromethane	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	Vinyl acetate	µg/L	EPA624	< 5.00				-				12/6/2010 1125h
MB VOC 120610A	Vinyl chloride	µg/L	EPA624	< 1.00				-				12/6/2010 1125h
MB VOC 120610A	Xylenes, Total	µg/L	EPA624	< 2.00				-				12/6/2010 1125h
MB VOC 120610A	Surr: 1,2-Dichloroethane-d4	%REC	EPA624	57.0	50.00		114	69-132				12/6/2010 1125h
MB VOC 120610A	Surr: 4-Bromofluorobenzene	%REC	EPA624	53.5	50.00		107	85-118				12/6/2010 1125h
MB VOC 120610A	Surr: Dibromofluoromethane	%REC	EPA624	53.1	50.00		106	80-120				12/6/2010 1125h
MB VOC 120610A	Surr: Toluene-d8	%REC	EPA624	48.2	50.00		96.4	81-120				12/6/2010 1125h



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QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1012092
Project: Red Butte Spill

Contact: Jim Harris
Dept: MSVOA
QC Type: MS

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
1012092-001EMS	1,1,1,2-Tetrachloroethane	µg/L	EPA624	18.3	20.00	0	91.5	74-117				12/6/2010 1222h
1012092-001EMS	1,1,1-Trichloroethane	µg/L	EPA624	23.1	20.00	0	115	67-147				12/6/2010 1222h
1012092-001EMS	1,1,2,2-Tetrachloroethane	µg/L	EPA624	15.4	20.00	0	76.8	67-119				12/6/2010 1222h
1012092-001EMS	1,1,2-Trichloro-1,2,2-trifluoroetha	µg/L	EPA624	27.2	20.00	0	136	21-206				12/6/2010 1222h
1012092-001EMS	1,1,2-Trichloroethane	µg/L	EPA624	17.5	20.00	0	87.3	80-123				12/6/2010 1222h
1012092-001EMS	1,1-Dichloropropene	µg/L	EPA624	45.4	40.00	0	114	10-140				12/6/2010 1222h
1012092-001EMS	1,1-Dichloroethane	µg/L	EPA624	20.4	20.00	0	102	70-130				12/6/2010 1222h
1012092-001EMS	1,1-Dichloroethene	µg/L	EPA624	26.8	20.00	0	134	62-152				12/6/2010 1222h
1012092-001EMS	1,2,3-Trichlorobenzene	µg/L	EPA624	15.0	20.00	0	74.9	67-131				12/6/2010 1222h
1012092-001EMS	1,2,3-Trichloropropane	µg/L	EPA624	17.7	20.00	0	88.5	62-116				12/6/2010 1222h
1012092-001EMS	1,2,3-Trimethylbenzene	µg/L	EPA624	18.3	20.00	0	91.6	76-140				12/6/2010 1222h
1012092-001EMS	1,2,4-Trichlorobenzene	µg/L	EPA624	14.0	20.00	0	70.2	58-133				12/6/2010 1222h
1012092-001EMS	1,2,4-Trimethylbenzene	µg/L	EPA624	17.7	20.00	0	88.3	79-151				12/6/2010 1222h
1012092-001EMS	1,2-Dibromo-3-chloropropane	µg/L	EPA624	15.2	20.00	0	75.8	64-129				12/6/2010 1222h
1012092-001EMS	1,2-Dibromoethane	µg/L	EPA624	17.6	20.00	0	88.0	70-126				12/6/2010 1222h
1012092-001EMS	1,2-Dichlorobenzene	µg/L	EPA624	17.5	20.00	0	87.6	70-130				12/6/2010 1222h
1012092-001EMS	1,2-Dichloroethane	µg/L	EPA624	21.1	20.00	0	105	39-162				12/6/2010 1222h
1012092-001EMS	1,2-Dichloropropane	µg/L	EPA624	17.9	20.00	0	89.4	59-135				12/6/2010 1222h
1012092-001EMS	1,3,5-Trimethylbenzene	µg/L	EPA624	17.9	20.00	0	89.6	77-151				12/6/2010 1222h
1012092-001EMS	1,3-Dichlorobenzene	µg/L	EPA624	17.3	20.00	0	86.4	78-134				12/6/2010 1222h
1012092-001EMS	1,3-Dichloropropane	µg/L	EPA624	17.1	20.00	0	85.3	78-116				12/6/2010 1222h
1012092-001EMS	1,4-Dichlorobenzene	µg/L	EPA624	16.9	20.00	0	84.5	72-139				12/6/2010 1222h
1012092-001EMS	1,4-Dioxane	µg/L	EPA624	153	200.0	0	76.5	33-149				12/6/2010 1222h
1012092-001EMS	2,2-Dichloropropane	µg/L	EPA624	22.4	30.00	0	74.6	13-180				12/6/2010 1222h

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QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1012092
Project: Red Butte Spill

Contact: Jim Harris
Dept: MSVOA
QC Type: MS

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
1012092-001EMS	2-Butanone	µg/L	EPA624	26.1	20.00	0	131	10-217				12/6/2010 1222h
1012092-001EMS	2-Chloroethyl vinyl ether	µg/L	EPA624	< 5.00	40.00	0	0	32-163			1	12/6/2010 1222h
1012092-001EMS	2-Chlorotoluene	µg/L	EPA624	17.4	20.00	0	86.9	79-142				12/6/2010 1222h
1012092-001EMS	2-Hexanone	µg/L	EPA624	14.7	20.00	0	73.4	50-156				12/6/2010 1222h
1012092-001EMS	2-Nitropropane	µg/L	EPA624	20.1	20.00	0	100	10-243				12/6/2010 1222h
1012092-001EMS	4-Chlorotoluene	µg/L	EPA624	17.4	20.00	0	86.8	68-128				12/6/2010 1222h
1012092-001EMS	4-Isopropyltoluene	µg/L	EPA624	17.3	20.00	0	86.3	73-156				12/6/2010 1222h
1012092-001EMS	4-Methyl-2-pentanone	µg/L	EPA624	15.8	20.00	0	79.2	10-214				12/6/2010 1222h
1012092-001EMS	Acetone	µg/L	EPA624	13.7	20.00	0	68.5	10-313				12/6/2010 1222h
1012092-001EMS	Acetonitrile	µg/L	EPA624	34.3	40.00	0	85.7	37-159				12/6/2010 1222h
1012092-001EMS	Acrolein	µg/L	EPA624	66.4	40.00	0	166	10-325				12/6/2010 1222h
1012092-001EMS	Acrylonitrile	µg/L	EPA624	16.4	20.00	0	82.2	53-134				12/6/2010 1222h
1012092-001EMS	Allyl chloride	µg/L	EPA624	20.8	20.00	0	104	10-243				12/6/2010 1222h
1012092-001EMS	Benzene	µg/L	EPA624	20.5	20.00	0	102	66-145				12/6/2010 1222h
1012092-001EMS	Benzyl chloride	µg/L	EPA624	16.1	20.00	0	80.6	40-146				12/6/2010 1222h
1012092-001EMS	Bis(2-chloroisopropyl) ether	µg/L	EPA624	15.6	20.00	0	78.0	54-146				12/6/2010 1222h
1012092-001EMS	Bromobenzene	µg/L	EPA624	16.5	20.00	0	82.6	78-148				12/6/2010 1222h
1012092-001EMS	Bromochloromethane	µg/L	EPA624	19.6	20.00	0	97.8	75-134				12/6/2010 1222h
1012092-001EMS	Bromodichloromethane	µg/L	EPA624	19.6	20.00	0	98.2	74-121				12/6/2010 1222h
1012092-001EMS	Bromoform	µg/L	EPA624	17.2	20.00	0	86.0	68-131				12/6/2010 1222h
1012092-001EMS	Bromomethane	µg/L	EPA624	14.6	20.00	0	73.1	10-185				12/6/2010 1222h
1012092-001EMS	Butyl acetate	µg/L	EPA624	16.1	20.00	0	80.6	46-178				12/6/2010 1222h
1012092-001EMS	Carbon disulfide	µg/L	EPA624	31.8	20.00	0	159	21-224				12/6/2010 1222h
1012092-001EMS	Carbon tetrachloride	µg/L	EPA624	24.9	20.00	0	125	60-157				12/6/2010 1222h

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Contact: Jim Harris
Dept: MSVOA
QC Type: MS

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
1012092-001EMS	Chlorobenzene	µg/L	EPA624	17.7	20.00	0	88.5	63-140				12/6/2010 1222h
1012092-001EMS	Chloroethane	µg/L	EPA624	18.5	20.00	0	92.4	41-173				12/6/2010 1222h
1012092-001EMS	Chloroform	µg/L	EPA624	20.1	20.00	0	100	50-146				12/6/2010 1222h
1012092-001EMS	Chloromethane	µg/L	EPA624	13.5	20.00	0	67.6	10-138				12/6/2010 1222h
1012092-001EMS	Chloroprene	µg/L	EPA624	20.1	20.00	0	100	10-161				12/6/2010 1222h
1012092-001EMS	cis-1,2-Dichloroethene	µg/L	EPA624	19.4	20.00	0	97.0	72-137				12/6/2010 1222h
1012092-001EMS	cis-1,3-Dichloropropene	µg/L	EPA624	18.7	40.00	0	46.8	10-134				12/6/2010 1222h
1012092-001EMS	Cyclohexane	µg/L	EPA624	25.1	20.00	0	125	35-230				12/6/2010 1222h
1012092-001EMS	Cyclohexanone	µg/L	EPA624	< 50.0	40.00	0	46.2	10-374				12/6/2010 1222h
1012092-001EMS	Dibromochloromethane	µg/L	EPA624	18.0	20.00	0	89.8	68-135				12/6/2010 1222h
1012092-001EMS	Dibromomethane	µg/L	EPA624	18.7	20.00	0	93.5	74-120				12/6/2010 1222h
1012092-001EMS	Dichlorodifluoromethane	µg/L	EPA624	13.8	20.00	0	69.1	10-150				12/6/2010 1222h
1012092-001EMS	Ethyl acetate	µg/L	EPA624	38.6	40.00	0	96.4	50-155				12/6/2010 1222h
1012092-001EMS	Ethyl ether	µg/L	EPA624	21.0	20.00	0	105	45-146				12/6/2010 1222h
1012092-001EMS	Ethyl methacrylate	µg/L	EPA624	15.6	20.00	0	78.0	77-151				12/6/2010 1222h
1012092-001EMS	Ethylbenzene	µg/L	EPA624	18.2	20.00	0	91.1	69-133				12/6/2010 1222h
1012092-001EMS	Hexachlorobutadiene	µg/L	EPA624	16.8	20.00	0	84.2	35-213				12/6/2010 1222h
1012092-001EMS	Iodomethane	µg/L	EPA624	19.9	20.00	0	99.4	10-233				12/6/2010 1222h
1012092-001EMS	Isobutyl alcohol	µg/L	EPA624	< 100	80.00	0	95.1	12-202				12/6/2010 1222h
1012092-001EMS	Isopropyl acetate	µg/L	EPA624	18.1	20.00	0	90.6	55-145				12/6/2010 1222h
1012092-001EMS	Isopropyl alcohol	µg/L	EPA624	59.8	80.00	0	74.7	12-250				12/6/2010 1222h
1012092-001EMS	Isopropylbenzene	µg/L	EPA624	18.7	20.00	0	93.4	60-147				12/6/2010 1222h
1012092-001EMS	Isopropyltoluene	µg/L	EPA624	17.3	20.00	0	86.3	73-156				12/6/2010 1222h
1012092-001EMS	m,p-Xylene	µg/L	EPA624	37.8	40.00	0	94.5	70-130				12/6/2010 1222h

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Kyle F. Gross

Laboratory Director

Jose Rocha

QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1012092
Project: Red Butte Spill

Contact: Jim Harris
Dept: MSVOA
QC Type: MS

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
1012092-001EMS	Methacrylonitrile	µg/L	EPA624	17.2	20.00	0	86.0	79-123				12/6/2010 1222h
1012092-001EMS	Methyl Acetate	µg/L	EPA624	27.2	20.00	0	136	5-398				12/6/2010 1222h
1012092-001EMS	Methyl methacrylate	µg/L	EPA624	15.7	20.00	0	78.7	55-128				12/6/2010 1222h
1012092-001EMS	Methyl tert-butyl ether	µg/L	EPA624	18.1	20.00	0	90.4	37-189				12/6/2010 1222h
1012092-001EMS	Methylcyclohexane	µg/L	EPA624	24.8	20.00	0	124	65-175				12/6/2010 1222h
1012092-001EMS	Methylene chloride	µg/L	EPA624	14.9	20.00	0	74.4	55-138				12/6/2010 1222h
1012092-001EMS	n-Amyl acetate	µg/L	EPA624	10.5	20.00	0	52.6	10-187				12/6/2010 1222h
1012092-001EMS	Naphthalene	µg/L	EPA624	13.9	20.00	0	69.6	41-131				12/6/2010 1222h
1012092-001EMS	n-Butyl alcohol	µg/L	EPA624	62.9	80.00	0	78.6	10-226				12/6/2010 1222h
1012092-001EMS	n-Butylbenzene	µg/L	EPA624	16.7	20.00	0	83.4	40-158				12/6/2010 1222h
1012092-001EMS	n-Hexane	µg/L	EPA624	19.5	20.00	0	97.7	10-277				12/6/2010 1222h
1012092-001EMS	n-Octane	µg/L	EPA624	16.1	20.00	0	80.6	45-158				12/6/2010 1222h
1012092-001EMS	n-Propylbenzene	µg/L	EPA624	17.5	20.00	0	87.5	67-131				12/6/2010 1222h
1012092-001EMS	o-Xylene	µg/L	EPA624	18.1	20.00	0	90.4	70-130				12/6/2010 1222h
1012092-001EMS	Pentachloroethane	µg/L	EPA624	10.7	20.00	0	53.7	10-314				12/6/2010 1222h
1012092-001EMS	Propionitrile	µg/L	EPA624	< 25.0	20.00	0	78.3	60-132				12/6/2010 1222h
1012092-001EMS	Propyl acetate	µg/L	EPA624	17.3	20.00	0	86.6	48-143				12/6/2010 1222h
1012092-001EMS	sec-Butylbenzene	µg/L	EPA624	18.1	20.00	0	90.7	72-157				12/6/2010 1222h
1012092-001EMS	Styrene	µg/L	EPA624	17.2	20.00	0	86.2	81-125				12/6/2010 1222h
1012092-001EMS	tert-Butyl alcohol	µg/L	EPA624	34.7	40.00	0	86.8	50-286				12/6/2010 1222h
1012092-001EMS	tert-Butylbenzene	µg/L	EPA624	17.3	20.00	0	86.7	75-157				12/6/2010 1222h
1012092-001EMS	Tetrachloroethene	µg/L	EPA624	25.4	20.00	0	127	49-163				12/6/2010 1222h
1012092-001EMS	Tetrahydrofuran	µg/L	EPA624	15.5	20.00	0	77.4	43-146				12/6/2010 1222h
1012092-001EMS	Toluene	µg/L	EPA624	18.4	20.00	0	92.2	18-192				12/6/2010 1222h

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Kyle F. Gross

Laboratory Director

Jose Rocha

QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1012092
Project: Red Butte Spill

Contact: Jim Harris
Dept: MSVOA
QC Type: MS

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
1012092-001EMS	trans-1,2-Dichloroethene	µg/L	EPA624	21.1	20.00	0	105	47-146				12/6/2010 1222h
1012092-001EMS	trans-1,3-Dichloropropene	µg/L	EPA624	19.4	20.00	0	97.0	29-143				12/6/2010 1222h
1012092-001EMS	trans-1,4-Dichloro-2-butene	µg/L	EPA624	18.9	20.00	0	94.4	20-214				12/6/2010 1222h
1012092-001EMS	Trichloroethene	µg/L	EPA624	21.7	20.00	0	108	61-153				12/6/2010 1222h
1012092-001EMS	Trichlorofluoromethane	µg/L	EPA624	21.6	20.00	0	108	56-166				12/6/2010 1222h
1012092-001EMS	Vinyl acetate	µg/L	EPA624	23.6	40.00	0	59.1	38-121				12/6/2010 1222h
1012092-001EMS	Vinyl chloride	µg/L	EPA624	16.4	20.00	0	82.2	13-155				12/6/2010 1222h
1012092-001EMS	Xylenes, Total	µg/L	EPA624	55.9	60.00	0	93.1	42-167				12/6/2010 1222h
1012092-001EMS	Surr: 1,2-Dichloroethane-d4	%REC	EPA624	58.0	50.00		116	77-144				12/6/2010 1222h
1012092-001EMS	Surr: 4-Bromofluorobenzene	%REC	EPA624	47.8	50.00		95.7	80-123				12/6/2010 1222h
1012092-001EMS	Surr: Dibromofluoromethane	%REC	EPA624	53.7	50.00		107	80-124				12/6/2010 1222h
1012092-001EMS	Surr: Toluene-d8	%REC	EPA624	46.9	50.00		93.8	80-125				12/6/2010 1222h
1012094-001DMS	1,1,1,2-Tetrachloroethane	µg/L	EPA624	17.5	20.00	0	87.3	74-117				12/6/2010 1454h
1012094-001DMS	1,1,1-Trichloroethane	µg/L	EPA624	22.3	20.00	0	111	67-147				12/6/2010 1454h
1012094-001DMS	1,1,2,2-Tetrachloroethane	µg/L	EPA624	15.0	20.00	0	75.2	67-119				12/6/2010 1454h
1012094-001DMS	1,1,2-Trichloro-1,2,2-trifluoroetha	µg/L	EPA624	25.5	20.00	0	128	21-206				12/6/2010 1454h
1012094-001DMS	1,1,2-Trichloroethane	µg/L	EPA624	16.7	20.00	0	83.5	80-123				12/6/2010 1454h
1012094-001DMS	1,1-Dichloropropene	µg/L	EPA624	43.1	40.00	0	108	10-140				12/6/2010 1454h
1012094-001DMS	1,1-Dichloroethane	µg/L	EPA624	19.6	20.00	0	97.8	70-130				12/6/2010 1454h
1012094-001DMS	1,1-Dichloroethene	µg/L	EPA624	25.5	20.00	0	128	62-152				12/6/2010 1454h
1012094-001DMS	1,2,3-Trichlorobenzene	µg/L	EPA624	14.6	20.00	0	73.1	67-131				12/6/2010 1454h
1012094-001DMS	1,2,3-Trichloropropane	µg/L	EPA624	17.4	20.00	0	87.0	62-116				12/6/2010 1454h
1012094-001DMS	1,2,3-Trimethylbenzene	µg/L	EPA624	17.7	20.00	0	88.6	76-140				12/6/2010 1454h
1012094-001DMS	1,2,4-Trichlorobenzene	µg/L	EPA624	13.8	20.00	0	69.2	58-133				12/6/2010 1454h

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Kyle F. Gross

Laboratory Director

Jose Rocha

QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR

Lab Set ID: 1012092

Project: Red Butte Spill

Contact: Jim Harris

Dept: MSVOA

QC Type: MS

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
1012094-001DMS	1,2,4-Trimethylbenzene	µg/L	EPA624	17.1	20.00	0	85.7	79-151				12/6/2010 1454h
1012094-001DMS	1,2-Dibromo-3-chloropropane	µg/L	EPA624	15.3	20.00	0	76.3	64-129				12/6/2010 1454h
1012094-001DMS	1,2-Dibromoethane	µg/L	EPA624	16.6	20.00	0	83.2	70-126				12/6/2010 1454h
1012094-001DMS	1,2-Dichlorobenzene	µg/L	EPA624	17.1	20.00	0	85.7	70-130				12/6/2010 1454h
1012094-001DMS	1,2-Dichloroethane	µg/L	EPA624	20.6	20.00	0	103	39-162				12/6/2010 1454h
1012094-001DMS	1,2-Dichloropropane	µg/L	EPA624	17.1	20.00	0	85.6	59-135				12/6/2010 1454h
1012094-001DMS	1,3,5-Trimethylbenzene	µg/L	EPA624	17.4	20.00	0	87.0	77-151				12/6/2010 1454h
1012094-001DMS	1,3-Dichlorobenzene	µg/L	EPA624	16.6	20.00	0	83.2	78-134				12/6/2010 1454h
1012094-001DMS	1,3-Dichloropropane	µg/L	EPA624	16.5	20.00	0	82.6	78-116				12/6/2010 1454h
1012094-001DMS	1,4-Dichlorobenzene	µg/L	EPA624	16.4	20.00	0	81.8	72-139				12/6/2010 1454h
1012094-001DMS	1,4-Dioxane	µg/L	EPA624	157	200.0	0	78.7	33-149				12/6/2010 1454h
1012094-001DMS	2,2-Dichloropropane	µg/L	EPA624	20.9	30.00	0	69.7	13-180				12/6/2010 1454h
1012094-001DMS	2-Butanone	µg/L	EPA624	25.4	20.00	0	127	10-217				12/6/2010 1454h
1012094-001DMS	2-Chloroethyl vinyl ether	µg/L	EPA624	< 5.00	40.00	0	0	32-163			1	12/6/2010 1454h
1012094-001DMS	2-Chlorotoluene	µg/L	EPA624	17.1	20.00	0	85.4	79-142				12/6/2010 1454h
1012094-001DMS	2-Hexanone	µg/L	EPA624	14.3	20.00	0	71.3	50-156				12/6/2010 1454h
1012094-001DMS	2-Nitropropane	µg/L	EPA624	19.3	20.00	0	96.3	10-243				12/6/2010 1454h
1012094-001DMS	4-Chlorotoluene	µg/L	EPA624	16.5	20.00	0	82.6	68-128				12/6/2010 1454h
1012094-001DMS	4-Isopropyltoluene	µg/L	EPA624	16.5	20.00	0	82.7	73-156				12/6/2010 1454h
1012094-001DMS	4-Methyl-2-pentanone	µg/L	EPA624	15.8	20.00	0	78.8	10-214				12/6/2010 1454h
1012094-001DMS	Acetone	µg/L	EPA624	14.0	20.00	0	70.0	10-313				12/6/2010 1454h
1012094-001DMS	Acetonitrile	µg/L	EPA624	35.6	40.00	0	88.9	37-159				12/6/2010 1454h
1012094-001DMS	Acrolein	µg/L	EPA624	66.4	40.00	0	166	10-325				12/6/2010 1454h
1012094-001DMS	Acrylonitrile	µg/L	EPA624	16.3	20.00	0	81.6	53-134				12/6/2010 1454h

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Kyle F. Gross

Laboratory Director

Jose Rocha

QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1012092
Project: Red Butte Spill

Contact: Jim Harris
Dept: MSVOA
QC Type: MS

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
1012094-001DMS	Allyl chloride	µg/L	EPA624	19.9	20.00	0	99.4	10-243				12/6/2010 1454h
1012094-001DMS	Benzene	µg/L	EPA624	19.9	20.00	0	99.4	66-145				12/6/2010 1454h
1012094-001DMS	Benzyl chloride	µg/L	EPA624	15.5	20.00	0	77.4	40-146				12/6/2010 1454h
1012094-001DMS	Bis(2-chloroisopropyl) ether	µg/L	EPA624	16.4	20.00	0	82.2	54-146				12/6/2010 1454h
1012094-001DMS	Bromobenzene	µg/L	EPA624	15.9	20.00	0	79.5	78-148				12/6/2010 1454h
1012094-001DMS	Bromochloromethane	µg/L	EPA624	19.8	20.00	0	99.0	75-134				12/6/2010 1454h
1012094-001DMS	Bromodichloromethane	µg/L	EPA624	19.0	20.00	0	95.1	74-121				12/6/2010 1454h
1012094-001DMS	Bromoform	µg/L	EPA624	16.8	20.00	0	84.1	68-131				12/6/2010 1454h
1012094-001DMS	Bromomethane	µg/L	EPA624	13.8	20.00	0	69.2	10-185				12/6/2010 1454h
1012094-001DMS	Butyl acetate	µg/L	EPA624	15.3	20.00	0	76.6	46-178				12/6/2010 1454h
1012094-001DMS	Carbon disulfide	µg/L	EPA624	30.2	20.00	0	151	21-224				12/6/2010 1454h
1012094-001DMS	Carbon tetrachloride	µg/L	EPA624	23.8	20.00	0	119	60-157				12/6/2010 1454h
1012094-001DMS	Chlorobenzene	µg/L	EPA624	17.2	20.00	0	85.8	63-140				12/6/2010 1454h
1012094-001DMS	Chloroethane	µg/L	EPA624	17.8	20.00	0	88.8	41-173				12/6/2010 1454h
1012094-001DMS	Chloroform	µg/L	EPA624	19.8	20.00	0	98.9	50-146				12/6/2010 1454h
1012094-001DMS	Chloromethane	µg/L	EPA624	13.3	20.00	0	66.4	10-138				12/6/2010 1454h
1012094-001DMS	Chloroprene	µg/L	EPA624	19.2	20.00	0	95.9	10-161				12/6/2010 1454h
1012094-001DMS	cis-1,2-Dichloroethene	µg/L	EPA624	18.8	20.00	0	94.1	72-137				12/6/2010 1454h
1012094-001DMS	cis-1,3-Dichloropropene	µg/L	EPA624	18.1	40.00	0	45.3	10-134				12/6/2010 1454h
1012094-001DMS	Cyclohexane	µg/L	EPA624	23.6	20.00	0	118	35-230				12/6/2010 1454h
1012094-001DMS	Cyclohexanone	µg/L	EPA624	< 50.0	40.00	0	49.4	10-374				12/6/2010 1454h
1012094-001DMS	Dibromochloromethane	µg/L	EPA624	17.4	20.00	0	86.9	68-135				12/6/2010 1454h
1012094-001DMS	Dibromomethane	µg/L	EPA624	18.4	20.00	0	91.8	74-120				12/6/2010 1454h
1012094-001DMS	Dichlorodifluoromethane	µg/L	EPA624	13.4	20.00	0	67.2	10-150				12/6/2010 1454h

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QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1012092
Project: Red Butte Spill

Contact: Jim Harris
Dept: MSVOA
QC Type: MS

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
1012094-001DMS	Ethyl acetate	µg/L	EPA624	35.7	40.00	0	89.2	50-155				12/6/2010 1454h
1012094-001DMS	Ethyl ether	µg/L	EPA624	20.1	20.00	0	100	45-146				12/6/2010 1454h
1012094-001DMS	Ethyl methacrylate	µg/L	EPA624	14.7	20.00	0	73.5	77-151			1	12/6/2010 1454h
1012094-001DMS	Ethylbenzene	µg/L	EPA624	17.9	20.00	0	89.5	69-133				12/6/2010 1454h
1012094-001DMS	Hexachlorobutadiene	µg/L	EPA624	15.4	20.00	0	76.8	35-213				12/6/2010 1454h
1012094-001DMS	Iodomethane	µg/L	EPA624	19.6	20.00	0	97.9	10-233				12/6/2010 1454h
1012094-001DMS	Isobutyl alcohol	µg/L	EPA624	< 100	80.00	0	95.8	12-202				12/6/2010 1454h
1012094-001DMS	Isopropyl acetate	µg/L	EPA624	17.5	20.00	0	87.6	55-145				12/6/2010 1454h
1012094-001DMS	Isopropyl alcohol	µg/L	EPA624	63.8	80.00	0	79.8	12-250				12/6/2010 1454h
1012094-001DMS	Isopropylbenzene	µg/L	EPA624	18.0	20.00	0	90.2	60-147				12/6/2010 1454h
1012094-001DMS	Isopropyltoluene	µg/L	EPA624	16.5	20.00	0	82.7	73-156				12/6/2010 1454h
1012094-001DMS	m,p-Xylene	µg/L	EPA624	36.7	40.00	0	91.7	70-130				12/6/2010 1454h
1012094-001DMS	Methacrylonitrile	µg/L	EPA624	16.2	20.00	0	81.0	79-123				12/6/2010 1454h
1012094-001DMS	Methyl Acetate	µg/L	EPA624	27.1	20.00	0	136	5-398				12/6/2010 1454h
1012094-001DMS	Methyl methacrylate	µg/L	EPA624	15.2	20.00	0	76.0	55-128				12/6/2010 1454h
1012094-001DMS	Methyl tert-butyl ether	µg/L	EPA624	18.0	20.00	0	90.2	37-189				12/6/2010 1454h
1012094-001DMS	Methylcyclohexane	µg/L	EPA624	23.3	20.00	0	116	65-175				12/6/2010 1454h
1012094-001DMS	Methylene chloride	µg/L	EPA624	14.8	20.00	0	73.8	55-138				12/6/2010 1454h
1012094-001DMS	n-Amyl acetate	µg/L	EPA624	9.88	20.00	0	49.4	10-187				12/6/2010 1454h
1012094-001DMS	Naphthalene	µg/L	EPA624	13.8	20.00	0	68.9	41-131				12/6/2010 1454h
1012094-001DMS	n-Butyl alcohol	µg/L	EPA624	83.8	80.00	0	105	10-226				12/6/2010 1454h
1012094-001DMS	n-Butylbenzene	µg/L	EPA624	16.1	20.00	0	80.4	40-158				12/6/2010 1454h
1012094-001DMS	n-Hexane	µg/L	EPA624	19.9	20.00	0	99.3	10-277				12/6/2010 1454h
1012094-001DMS	n-Octane	µg/L	EPA624	14.0	20.00	0	70.0	45-158				12/6/2010 1454h

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AMERICAN WEST ANALYTICAL LABORATORIES

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Kyle F. Gross

Laboratory Director

Jose Rocha

QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1012092
Project: Red Butte Spill

Contact: Jim Harris
Dept: MSVOA
QC Type: MS

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
1012094-001DMS	n-Propylbenzene	µg/L	EPA624	17.1	20.00	0	85.6	67-131				12/6/2010 1454h
1012094-001DMS	o-Xylene	µg/L	EPA624	17.5	20.00	0	87.5	70-130				12/6/2010 1454h
1012094-001DMS	Pentachloroethane	µg/L	EPA624	10.0	20.00	0	50.0	10-314				12/6/2010 1454h
1012094-001DMS	Propionitrile	µg/L	EPA624	< 25.0	20.00	0	77.4	60-132				12/6/2010 1454h
1012094-001DMS	Propyl acetate	µg/L	EPA624	16.6	20.00	0	83.2	48-143				12/6/2010 1454h
1012094-001DMS	sec-Butylbenzene	µg/L	EPA624	17.6	20.00	0	88.0	72-157				12/6/2010 1454h
1012094-001DMS	Styrene	µg/L	EPA624	16.8	20.00	0	83.8	81-125				12/6/2010 1454h
1012094-001DMS	tert-Butyl alcohol	µg/L	EPA624	36.1	40.00	0	90.2	50-286				12/6/2010 1454h
1012094-001DMS	tert-Butylbenzene	µg/L	EPA624	16.3	20.00	0	81.7	75-157				12/6/2010 1454h
1012094-001DMS	Tetrachloroethene	µg/L	EPA624	24.2	20.00	0	121	49-163				12/6/2010 1454h
1012094-001DMS	Tetrahydrofuran	µg/L	EPA624	15.0	20.00	0	75.2	43-146				12/6/2010 1454h
1012094-001DMS	Toluene	µg/L	EPA624	18.2	20.00	0	91.0	18-192				12/6/2010 1454h
1012094-001DMS	trans-1,2-Dichloroethene	µg/L	EPA624	20.0	20.00	0	100	47-146				12/6/2010 1454h
1012094-001DMS	trans-1,3-Dichloropropene	µg/L	EPA624	18.5	20.00	0	92.7	29-143				12/6/2010 1454h
1012094-001DMS	trans-1,4-Dichloro-2-butene	µg/L	EPA624	18.9	20.00	0	94.7	20-214				12/6/2010 1454h
1012094-001DMS	Trichloroethene	µg/L	EPA624	21.0	20.00	0	105	61-153				12/6/2010 1454h
1012094-001DMS	Trichlorofluoromethane	µg/L	EPA624	20.3	20.00	0	102	56-166				12/6/2010 1454h
1012094-001DMS	Vinyl acetate	µg/L	EPA624	21.8	40.00	0	54.6	38-121				12/6/2010 1454h
1012094-001DMS	Vinyl chloride	µg/L	EPA624	15.5	20.00	0	77.6	13-155				12/6/2010 1454h
1012094-001DMS	Xylenes, Total	µg/L	EPA624	54.2	60.00	0	90.3	42-167				12/6/2010 1454h
1012094-001DMS	Surr: 1,2-Dichloroethane-d4	%REC	EPA624	58.0	50.00		116	77-144				12/6/2010 1454h
1012094-001DMS	Surr: 4-Bromofluorobenzene	%REC	EPA624	48.7	50.00		97.4	80-123				12/6/2010 1454h
1012094-001DMS	Surr: Dibromofluoromethane	%REC	EPA624	53.4	50.00		107	80-124				12/6/2010 1454h
1012094-001DMS	Surr: Toluene-d8	%REC	EPA624	46.5	50.00		93.0	80-125				12/6/2010 1454h

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

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Kyle F. Gross

Laboratory Director

Jose Rocha

QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1012092
Project: Red Butte Spill

Contact: Jim Harris
Dept: MSVOA
QC Type: MSD

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
1012092-001EMSD	1,1,1,2-Tetrachloroethane	µg/L	EPA624	17.7	20.00	0	88.6	74-117	3.28	25		12/6/2010 1241h
1012092-001EMSD	1,1,1-Trichloroethane	µg/L	EPA624	21.6	20.00	0	108	67-147	6.48	25		12/6/2010 1241h
1012092-001EMSD	1,1,2,2-Tetrachloroethane	µg/L	EPA624	15.3	20.00	0	76.3	67-119	0.588	25		12/6/2010 1241h
1012092-001EMSD	1,1,2-Trichloro-1,2,2-trifluoroetha	µg/L	EPA624	24.9	20.00	0	124	21-206	9.06	25		12/6/2010 1241h
1012092-001EMSD	1,1,2-Trichloroethane	µg/L	EPA624	17.0	20.00	0	85.0	80-123	2.61	25		12/6/2010 1241h
1012092-001EMSD	1,1-Dichloropropene	µg/L	EPA624	42.0	40.00	0	105	10-140	7.71	25		12/6/2010 1241h
1012092-001EMSD	1,1-Dichloroethane	µg/L	EPA624	19.1	20.00	0	95.4	70-130	6.59	25		12/6/2010 1241h
1012092-001EMSD	1,1-Dichloroethene	µg/L	EPA624	24.8	20.00	0	124	62-152	7.59	25		12/6/2010 1241h
1012092-001EMSD	1,2,3-Trichlorobenzene	µg/L	EPA624	14.7	20.00	0	73.4	67-131	2.02	25		12/6/2010 1241h
1012092-001EMSD	1,2,3-Trichloropropane	µg/L	EPA624	18.0	20.00	0	90.3	62-116	1.96	25		12/6/2010 1241h
1012092-001EMSD	1,2,3-Trimethylbenzene	µg/L	EPA624	17.5	20.00	0	87.5	76-140	4.64	25		12/6/2010 1241h
1012092-001EMSD	1,2,4-Trichlorobenzene	µg/L	EPA624	13.8	20.00	0	68.8	58-133	2.01	25		12/6/2010 1241h
1012092-001EMSD	1,2,4-Trimethylbenzene	µg/L	EPA624	16.7	20.00	0	83.4	79-151	5.65	25		12/6/2010 1241h
1012092-001EMSD	1,2-Dibromo-3-chloropropane	µg/L	EPA624	15.8	20.00	0	79.0	64-129	4.20	25		12/6/2010 1241h
1012092-001EMSD	1,2-Dibromoethane	µg/L	EPA624	17.3	20.00	0	86.7	70-126	1.49	25		12/6/2010 1241h
1012092-001EMSD	1,2-Dichlorobenzene	µg/L	EPA624	16.8	20.00	0	84.2	70-130	4.02	25		12/6/2010 1241h
1012092-001EMSD	1,2-Dichloroethane	µg/L	EPA624	20.6	20.00	0	103	39-162	2.40	25		12/6/2010 1241h
1012092-001EMSD	1,2-Dichloropropane	µg/L	EPA624	17.1	20.00	0	85.6	59-135	4.46	25		12/6/2010 1241h
1012092-001EMSD	1,3,5-Trimethylbenzene	µg/L	EPA624	17.0	20.00	0	85.1	77-151	5.15	25		12/6/2010 1241h
1012092-001EMSD	1,3-Dichlorobenzene	µg/L	EPA624	16.8	20.00	0	83.8	78-134	3.06	25		12/6/2010 1241h
1012092-001EMSD	1,3-Dichloropropane	µg/L	EPA624	16.6	20.00	0	83.0	78-116	2.79	25		12/6/2010 1241h
1012092-001EMSD	1,4-Dichlorobenzene	µg/L	EPA624	16.1	20.00	0	80.4	72-139	5.03	25		12/6/2010 1241h
1012092-001EMSD	1,4-Dioxane	µg/L	EPA624	184	200.0	0	92.0	33-149	18.4	25		12/6/2010 1241h
1012092-001EMSD	2,2-Dichloropropane	µg/L	EPA624	20.4	30.00	0	68.0	13-180	9.21	25		12/6/2010 1241h

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QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1012092
Project: Red Butte Spill

Contact: Jim Harris
Dept: MSVOA
QC Type: MSD

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
1012092-001EMSD	2-Butanone	µg/L	EPA624	24.1	20.00	0	120	10-217	8.21	25		12/6/2010 1241h
1012092-001EMSD	2-Chloroethyl vinyl ether	µg/L	EPA624	< 5.00	40.00	0	0	32-163	0	25	¹	12/6/2010 1241h
1012092-001EMSD	2-Chlorotoluene	µg/L	EPA624	16.8	20.00	0	84.0	79-142	3.34	25		12/6/2010 1241h
1012092-001EMSD	2-Hexanone	µg/L	EPA624	15.2	20.00	0	75.8	50-156	3.28	25		12/6/2010 1241h
1012092-001EMSD	2-Nitropropane	µg/L	EPA624	19.5	20.00	0	97.6	10-243	2.83	25		12/6/2010 1241h
1012092-001EMSD	4-Chlorotoluene	µg/L	EPA624	16.7	20.00	0	83.7	68-128	3.64	25		12/6/2010 1241h
1012092-001EMSD	4-Isopropyltoluene	µg/L	EPA624	16.6	20.00	0	82.8	73-156	4.08	25		12/6/2010 1241h
1012092-001EMSD	4-Methyl-2-pentanone	µg/L	EPA624	16.1	20.00	0	80.6	10-214	1.81	25		12/6/2010 1241h
1012092-001EMSD	Acetone	µg/L	EPA624	14.1	20.00	0	70.6	10-313	3.09	25		12/6/2010 1241h
1012092-001EMSD	Acetonitrile	µg/L	EPA624	34.8	40.00	0	86.9	37-159	1.42	25		12/6/2010 1241h
1012092-001EMSD	Acrolein	µg/L	EPA624	68.5	40.00	0	171	10-325	3.17	25		12/6/2010 1241h
1012092-001EMSD	Acrylonitrile	µg/L	EPA624	15.7	20.00	0	78.5	53-134	4.54	25		12/6/2010 1241h
1012092-001EMSD	Allyl chloride	µg/L	EPA624	19.3	20.00	0	96.5	10-243	7.58	25		12/6/2010 1241h
1012092-001EMSD	Benzene	µg/L	EPA624	19.6	20.00	0	98.0	66-145	4.29	25		12/6/2010 1241h
1012092-001EMSD	Benzyl chloride	µg/L	EPA624	16.0	20.00	0	79.8	40-146	1.06	25		12/6/2010 1241h
1012092-001EMSD	Bis(2-chloroisopropyl) ether	µg/L	EPA624	16.0	20.00	0	80.2	54-146	2.91	25		12/6/2010 1241h
1012092-001EMSD	Bromobenzene	µg/L	EPA624	15.8	20.00	0	79.2	78-148	4.20	25		12/6/2010 1241h
1012092-001EMSD	Bromochloromethane	µg/L	EPA624	19.3	20.00	0	96.7	75-134	1.08	25		12/6/2010 1241h
1012092-001EMSD	Bromodichloromethane	µg/L	EPA624	18.8	20.00	0	94.0	74-121	4.47	25		12/6/2010 1241h
1012092-001EMSD	Bromoform	µg/L	EPA624	16.9	20.00	0	84.6	68-131	1.52	25		12/6/2010 1241h
1012092-001EMSD	Bromomethane	µg/L	EPA624	15.5	20.00	0	77.4	10-185	5.78	25		12/6/2010 1241h
1012092-001EMSD	Butyl acetate	µg/L	EPA624	16.3	20.00	0	81.4	46-178	0.988	25		12/6/2010 1241h
1012092-001EMSD	Carbon disulfide	µg/L	EPA624	29.7	20.00	0	149	21-224	6.64	25		12/6/2010 1241h
1012092-001EMSD	Carbon tetrachloride	µg/L	EPA624	23.2	20.00	0	116	60-157	7.06	25		12/6/2010 1241h

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QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1012092
Project: Red Butte Spill

Contact: Jim Harris
Dept: MSVOA
QC Type: MSD

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
1012092-001EMSD	Chlorobenzene	µg/L	EPA624	17.0	20.00	0	85.2	63-140	3.86	25		12/6/2010 1241h
1012092-001EMSD	Chloroethane	µg/L	EPA624	18.4	20.00	0	92.1	41-173	0.325	25		12/6/2010 1241h
1012092-001EMSD	Chloroform	µg/L	EPA624	19.1	20.00	0	95.4	50-146	5.11	25		12/6/2010 1241h
1012092-001EMSD	Chloromethane	µg/L	EPA624	14.0	20.00	0	70.1	10-138	3.71	25		12/6/2010 1241h
1012092-001EMSD	Chloroprene	µg/L	EPA624	18.4	20.00	0	91.9	10-161	8.84	25		12/6/2010 1241h
1012092-001EMSD	cis-1,2-Dichloroethene	µg/L	EPA624	18.5	20.00	0	92.6	72-137	4.59	25		12/6/2010 1241h
1012092-001EMSD	cis-1,3-Dichloropropene	µg/L	EPA624	18.3	40.00	0	45.7	10-134	2.38	25		12/6/2010 1241h
1012092-001EMSD	Cyclohexane	µg/L	EPA624	23.3	20.00	0	117	35-230	7.23	25		12/6/2010 1241h
1012092-001EMSD	Cyclohexanone	µg/L	EPA624	< 50.0	40.00	0	50.7	10-374	0	25		12/6/2010 1241h
1012092-001EMSD	Dibromochloromethane	µg/L	EPA624	17.6	20.00	0	87.8	68-135	2.25	25		12/6/2010 1241h
1012092-001EMSD	Dibromomethane	µg/L	EPA624	18.5	20.00	0	92.5	74-120	1.08	25		12/6/2010 1241h
1012092-001EMSD	Dichlorodifluoromethane	µg/L	EPA624	14.0	20.00	0	70.2	10-150	1.65	25		12/6/2010 1241h
1012092-001EMSD	Ethyl acetate	µg/L	EPA624	37.5	40.00	0	93.8	50-155	2.76	25		12/6/2010 1241h
1012092-001EMSD	Ethyl ether	µg/L	EPA624	20.4	20.00	0	102	45-146	3.28	25		12/6/2010 1241h
1012092-001EMSD	Ethyl methacrylate	µg/L	EPA624	15.3	20.00	0	76.7	77-151	1.74	25	1	12/6/2010 1241h
1012092-001EMSD	Ethylbenzene	µg/L	EPA624	17.7	20.00	0	88.4	69-133	2.95	25		12/6/2010 1241h
1012092-001EMSD	Hexachlorobutadiene	µg/L	EPA624	15.7	20.00	0	78.3	35-213	7.32	25		12/6/2010 1241h
1012092-001EMSD	Iodomethane	µg/L	EPA624	20.2	20.00	0	101	10-233	1.84	25		12/6/2010 1241h
1012092-001EMSD	Isobutyl alcohol	µg/L	EPA624	< 100	80.00	0	92.5	12-202	0	25		12/6/2010 1241h
1012092-001EMSD	Isopropyl acetate	µg/L	EPA624	18.1	20.00	0	90.7	55-145	0.0552	25		12/6/2010 1241h
1012092-001EMSD	Isopropyl alcohol	µg/L	EPA624	65.5	80.00	0	81.9	12-250	9.13	25		12/6/2010 1241h
1012092-001EMSD	Isopropylbenzene	µg/L	EPA624	17.8	20.00	0	89.2	60-147	4.66	25		12/6/2010 1241h
1012092-001EMSD	Isopropyltoluene	µg/L	EPA624	16.6	20.00	0	82.8	73-156	4.08	25		12/6/2010 1241h
1012092-001EMSD	m,p-Xylene	µg/L	EPA624	36.1	40.00	0	90.3	70-130	4.52	25		12/6/2010 1241h

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QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1012092
Project: Red Butte Spill

Contact: Jim Harris
Dept: MSVOA
QC Type: MSD

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
1012092-001EMSD	Methacrylonitrile	µg/L	EPA624	16.9	20.00	0	84.6	79-123	1.52	25		12/6/2010 1241h
1012092-001EMSD	Methyl Acetate	µg/L	EPA624	37.3	20.00	0	186	5-398	31.3	25	@	12/6/2010 1241h
1012092-001EMSD	Methyl methacrylate	µg/L	EPA624	16.0	20.00	0	80.2	55-128	1.89	25		12/6/2010 1241h
1012092-001EMSD	Methyl tert-butyl ether	µg/L	EPA624	18.6	20.00	0	92.8	37-189	2.51	25		12/6/2010 1241h
1012092-001EMSD	Methylcyclohexane	µg/L	EPA624	23.5	20.00	0	118	65-175	5.05	25		12/6/2010 1241h
1012092-001EMSD	Methylene chloride	µg/L	EPA624	14.3	20.00	0	71.6	55-138	3.84	25		12/6/2010 1241h
1012092-001EMSD	n-Amyl acetate	µg/L	EPA624	10.2	20.00	0	51.3	10-187	2.50	25		12/6/2010 1241h
1012092-001EMSD	Naphthalene	µg/L	EPA624	14.1	20.00	0	70.4	41-131	1.07	25		12/6/2010 1241h
1012092-001EMSD	n-Butyl alcohol	µg/L	EPA624	87.0	80.00	0	109	10-226	32.2	25	@	12/6/2010 1241h
1012092-001EMSD	n-Butylbenzene	µg/L	EPA624	15.8	20.00	0	79.0	40-158	5.48	25		12/6/2010 1241h
1012092-001EMSD	n-Hexane	µg/L	EPA624	23.7	20.00	0	119	10-277	19.4	25		12/6/2010 1241h
1012092-001EMSD	n-Octane	µg/L	EPA624	15.2	20.00	0	76.1	45-158	5.75	25		12/6/2010 1241h
1012092-001EMSD	n-Propylbenzene	µg/L	EPA624	17.1	20.00	0	85.3	67-131	2.55	25		12/6/2010 1241h
1012092-001EMSD	o-Xylene	µg/L	EPA624	17.4	20.00	0	87.2	70-130	3.66	25		12/6/2010 1241h
1012092-001EMSD	Pentachloroethane	µg/L	EPA624	10.2	20.00	0	51.1	10-314	4.96	25		12/6/2010 1241h
1012092-001EMSD	Propionitrile	µg/L	EPA624	< 25.0	20.00	0	84.7	60-132	0	25		12/6/2010 1241h
1012092-001EMSD	Propyl acetate	µg/L	EPA624	17.1	20.00	0	85.6	48-143	1.10	25		12/6/2010 1241h
1012092-001EMSD	sec-Butylbenzene	µg/L	EPA624	17.3	20.00	0	86.5	72-157	4.74	25		12/6/2010 1241h
1012092-001EMSD	Styrene	µg/L	EPA624	16.8	20.00	0	84.2	81-125	2.35	25		12/6/2010 1241h
1012092-001EMSD	tert-Butyl alcohol	µg/L	EPA624	35.8	40.00	0	89.6	50-286	3.12	25		12/6/2010 1241h
1012092-001EMSD	tert-Butylbenzene	µg/L	EPA624	16.2	20.00	0	80.8	75-157	7.11	25		12/6/2010 1241h
1012092-001EMSD	Tetrachloroethene	µg/L	EPA624	24.5	20.00	0	122	49-163	3.65	25		12/6/2010 1241h
1012092-001EMSD	Tetrahydrofuran	µg/L	EPA624	16.1	20.00	0	80.6	43-146	4.05	25		12/6/2010 1241h
1012092-001EMSD	Toluene	µg/L	EPA624	17.6	20.00	0	88.0	18-192	4.77	25		12/6/2010 1241h

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Kyle F. Gross

Laboratory Director

Jose Rocha

QA Officer

QC SUMMARY REPORT**Client:** Utah DEQ DERR
Lab Set ID: 1012092
Project: Red Butte Spill**Contact:** Jim Harris
Dept: MSVOA
QC Type: MSD

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
1012092-001EMSD	trans-1,2-Dichloroethene	µg/L	EPA624	21.4	20.00	0	107	47-146	1.51	25		12/6/2010 1241h
1012092-001EMSD	trans-1,3-Dichloropropene	µg/L	EPA624	19.2	20.00	0	96.2	29-143	0.932	25		12/6/2010 1241h
1012092-001EMSD	trans-1,4-Dichloro-2-butene	µg/L	EPA624	18.2	20.00	0	91.0	20-214	3.67	25		12/6/2010 1241h
1012092-001EMSD	Trichloroethene	µg/L	EPA624	20.5	20.00	0	103	61-153	5.64	25		12/6/2010 1241h
1012092-001EMSD	Trichlorofluoromethane	µg/L	EPA624	20.3	20.00	0	102	56-166	6.07	25		12/6/2010 1241h
1012092-001EMSD	Vinyl acetate	µg/L	EPA624	22.3	40.00	0	55.6	38-121	6.01	25		12/6/2010 1241h
1012092-001EMSD	Vinyl chloride	µg/L	EPA624	16.9	20.00	0	84.4	13-155	2.76	25		12/6/2010 1241h
1012092-001EMSD	Xylenes, Total	µg/L	EPA624	53.6	60.00	0	89.2	42-167	4.24	25		12/6/2010 1241h
1012092-001EMSD	Surr: 1,2-Dichloroethane-d4	%REC	EPA624	56.9	50.00		114	77-144				12/6/2010 1241h
1012092-001EMSD	Surr: 4-Bromofluorobenzene	%REC	EPA624	48.4	50.00		96.9	80-123				12/6/2010 1241h
1012092-001EMSD	Surr: Dibromofluoromethane	%REC	EPA624	52.8	50.00		106	80-124				12/6/2010 1241h
1012092-001EMSD	Surr: Toluene-d8	%REC	EPA624	46.8	50.00		93.6	80-125				12/6/2010 1241h
1012094-001DMSD	1,1,1,2-Tetrachloroethane	µg/L	EPA624	17.3	20.00	0	86.7	74-117	0.690	25		12/6/2010 1513h
1012094-001DMSD	1,1,1-Trichloroethane	µg/L	EPA624	21.8	20.00	0	109	67-147	2.45	25		12/6/2010 1513h
1012094-001DMSD	1,1,2,2-Tetrachloroethane	µg/L	EPA624	15.0	20.00	0	74.8	67-119	0.600	25		12/6/2010 1513h
1012094-001DMSD	1,1,2-Trichloro-1,2,2-trifluoroetha	µg/L	EPA624	24.9	20.00	0	124	21-206	2.58	25		12/6/2010 1513h
1012094-001DMSD	1,1,2-Trichloroethane	µg/L	EPA624	16.6	20.00	0	83.0	80-123	0.661	25		12/6/2010 1513h
1012094-001DMSD	1,1-Dichloropropene	µg/L	EPA624	42.0	40.00	0	105	10-140	2.61	25		12/6/2010 1513h
1012094-001DMSD	1,1-Dichloroethane	µg/L	EPA624	19.0	20.00	0	95.2	70-130	2.59	25		12/6/2010 1513h
1012094-001DMSD	1,1-Dichloroethene	µg/L	EPA624	25.1	20.00	0	126	62-152	1.54	25		12/6/2010 1513h
1012094-001DMSD	1,2,3-Trichlorobenzene	µg/L	EPA624	14.9	20.00	0	74.6	67-131	1.96	25		12/6/2010 1513h
1012094-001DMSD	1,2,3-Trichloropropane	µg/L	EPA624	17.4	20.00	0	87.1	62-116	0.115	25		12/6/2010 1513h
1012094-001DMSD	1,2,3-Trimethylbenzene	µg/L	EPA624	17.4	20.00	0	86.9	76-140	1.94	25		12/6/2010 1513h
1012094-001DMSD	1,2,4-Trichlorobenzene	µg/L	EPA624	13.7	20.00	0	68.5	58-133	0.944	25		12/6/2010 1513h

Report Date: 12/8/2010 Page 134 of 147



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QC SUMMARY REPORT

Client: Utah DEQ DERR

Lab Set ID: 1012092

Project: Red Butte Spill

Contact: Jim Harris

Dept: MSVOA

QC Type: MSD

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
1012094-001DMSD	1,2,4-Trimethylbenzene	µg/L	EPA624	16.9	20.00	0	84.7	79-151	1.12	25		12/6/2010 1513h
1012094-001DMSD	1,2-Dibromo-3-chloropropane	µg/L	EPA624	15.6	20.00	0	77.8	64-129	1.88	25		12/6/2010 1513h
1012094-001DMSD	1,2-Dibromoethane	µg/L	EPA624	17.0	20.00	0	84.8	70-126	1.90	25		12/6/2010 1513h
1012094-001DMSD	1,2-Dichlorobenzene	µg/L	EPA624	17.0	20.00	0	85.0	70-130	0.820	25		12/6/2010 1513h
1012094-001DMSD	1,2-Dichloroethane	µg/L	EPA624	20.3	20.00	0	102	39-162	1.27	25		12/6/2010 1513h
1012094-001DMSD	1,2-Dichloropropane	µg/L	EPA624	17.0	20.00	0	84.8	59-135	0.940	25		12/6/2010 1513h
1012094-001DMSD	1,3,5-Trimethylbenzene	µg/L	EPA624	17.1	20.00	0	85.7	77-151	1.45	25		12/6/2010 1513h
1012094-001DMSD	1,3-Dichlorobenzene	µg/L	EPA624	16.5	20.00	0	82.6	78-134	0.724	25		12/6/2010 1513h
1012094-001DMSD	1,3-Dichloropropane	µg/L	EPA624	16.3	20.00	0	81.6	78-116	1.16	25		12/6/2010 1513h
1012094-001DMSD	1,4-Dichlorobenzene	µg/L	EPA624	16.0	20.00	0	80.2	72-139	1.91	25		12/6/2010 1513h
1012094-001DMSD	1,4-Dioxane	µg/L	EPA624	161	200.0	0	80.3	33-149	2.04	25		12/6/2010 1513h
1012094-001DMSD	2,2-Dichloropropane	µg/L	EPA624	19.9	30.00	0	66.2	13-180	5.10	25		12/6/2010 1513h
1012094-001DMSD	2-Butanone	µg/L	EPA624	25.1	20.00	0	126	10-217	0.871	25		12/6/2010 1513h
1012094-001DMSD	2-Chloroethyl vinyl ether	µg/L	EPA624	< 5.00	40.00	0	0	32-163	0	25	1	12/6/2010 1513h
1012094-001DMSD	2-Chlorotoluene	µg/L	EPA624	16.8	20.00	0	84.0	79-142	1.65	25		12/6/2010 1513h
1012094-001DMSD	2-Hexanone	µg/L	EPA624	15.1	20.00	0	75.6	50-156	5.92	25		12/6/2010 1513h
1012094-001DMSD	2-Nitropropane	µg/L	EPA624	19.9	20.00	0	99.5	10-243	3.27	25		12/6/2010 1513h
1012094-001DMSD	4-Chlorotoluene	µg/L	EPA624	16.6	20.00	0	83.0	68-128	0.423	25		12/6/2010 1513h
1012094-001DMSD	4-Isopropyltoluene	µg/L	EPA624	16.3	20.00	0	81.7	73-156	1.22	25		12/6/2010 1513h
1012094-001DMSD	4-Methyl-2-pentanone	µg/L	EPA624	16.3	20.00	0	81.4	10-214	3.18	25		12/6/2010 1513h
1012094-001DMSD	Acetone	µg/L	EPA624	13.5	20.00	0	67.6	10-313	3.49	25		12/6/2010 1513h
1012094-001DMSD	Acetonitrile	µg/L	EPA624	33.5	40.00	0	83.8	37-159	5.93	25		12/6/2010 1513h
1012094-001DMSD	Acrolein	µg/L	EPA624	66.4	40.00	0	166	10-325	0.136	25		12/6/2010 1513h
1012094-001DMSD	Acrylonitrile	µg/L	EPA624	16.1	20.00	0	80.5	53-134	1.30	25		12/6/2010 1513h

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QC SUMMARY REPORT

Client: Utah DEQ DERR

Lab Set ID: 1012092

Project: Red Butte Spill

Contact: Jim Harris

Dept: MSVOA

QC Type: MSD

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
1012094-001DMSD	Allyl chloride	µg/L	EPA624	18.9	20.00	0	94.6	10-243	4.90	25		12/6/2010 1513h
1012094-001DMSD	Benzene	µg/L	EPA624	19.6	20.00	0	97.8	66-145	1.62	25		12/6/2010 1513h
1012094-001DMSD	Benzyl chloride	µg/L	EPA624	14.6	20.00	0	73.0	40-146	5.85	25		12/6/2010 1513h
1012094-001DMSD	Bis(2-chloroisopropyl) ether	µg/L	EPA624	17.2	20.00	0	85.9	54-146	4.34	25		12/6/2010 1513h
1012094-001DMSD	Bromobenzene	µg/L	EPA624	16.0	20.00	0	80.1	78-148	0.752	25		12/6/2010 1513h
1012094-001DMSD	Bromochloromethane	µg/L	EPA624	19.1	20.00	0	95.7	75-134	3.34	25		12/6/2010 1513h
1012094-001DMSD	Bromodichloromethane	µg/L	EPA624	18.8	20.00	0	93.8	74-121	1.43	25		12/6/2010 1513h
1012094-001DMSD	Bromoform	µg/L	EPA624	16.9	20.00	0	84.4	68-131	0.297	25		12/6/2010 1513h
1012094-001DMSD	Bromomethane	µg/L	EPA624	15.0	20.00	0	74.9	10-185	7.91	25		12/6/2010 1513h
1012094-001DMSD	Butyl acetate	µg/L	EPA624	15.2	20.00	0	76.0	46-178	0.721	25		12/6/2010 1513h
1012094-001DMSD	Carbon disulfide	µg/L	EPA624	29.6	20.00	0	148	21-224	2.24	25		12/6/2010 1513h
1012094-001DMSD	Carbon tetrachloride	µg/L	EPA624	23.0	20.00	0	115	60-157	3.54	25		12/6/2010 1513h
1012094-001DMSD	Chlorobenzene	µg/L	EPA624	16.9	20.00	0	84.6	63-140	1.35	25		12/6/2010 1513h
1012094-001DMSD	Chloroethane	µg/L	EPA624	17.7	20.00	0	88.4	41-173	0.451	25		12/6/2010 1513h
1012094-001DMSD	Chloroform	µg/L	EPA624	19.1	20.00	0	95.4	50-146	3.66	25		12/6/2010 1513h
1012094-001DMSD	Chloromethane	µg/L	EPA624	13.4	20.00	0	67.1	10-138	0.973	25		12/6/2010 1513h
1012094-001DMSD	Chloroprene	µg/L	EPA624	18.6	20.00	0	93.1	10-161	2.96	25		12/6/2010 1513h
1012094-001DMSD	cis-1,2-Dichloroethene	µg/L	EPA624	18.5	20.00	0	92.6	72-137	1.50	25		12/6/2010 1513h
1012094-001DMSD	cis-1,3-Dichloropropene	µg/L	EPA624	17.8	40.00	0	44.6	10-134	1.61	25		12/6/2010 1513h
1012094-001DMSD	Cyclohexane	µg/L	EPA624	22.7	20.00	0	114	35-230	3.97	25		12/6/2010 1513h
1012094-001DMSD	Cyclohexanone	µg/L	EPA624	< 50.0	40.00	0	41.8	10-374	0	25		12/6/2010 1513h
1012094-001DMSD	Dibromochloromethane	µg/L	EPA624	17.4	20.00	0	86.8	68-135	0.115	25		12/6/2010 1513h
1012094-001DMSD	Dibromomethane	µg/L	EPA624	18.1	20.00	0	90.6	74-120	1.37	25		12/6/2010 1513h
1012094-001DMSD	Dichlorodifluoromethane	µg/L	EPA624	13.4	20.00	0	67.0	10-150	0.223	25		12/6/2010 1513h

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QC SUMMARY REPORT**Client:** Utah DEQ DERR
Lab Set ID: 1012092
Project: Red Butte Spill**Contact:** Jim Harris
Dept: MSVOA
QC Type: MSD

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
1012094-001DMSD	Ethyl acetate	µg/L	EPA624	35.7	40.00	0	89.3	50-155	0.140	25		12/6/2010 1513h
1012094-001DMSD	Ethyl ether	µg/L	EPA624	20.0	20.00	0	100	45-146	0.199	25		12/6/2010 1513h
1012094-001DMSD	Ethyl methacrylate	µg/L	EPA624	15.1	20.00	0	75.5	77-151	2.69	25	1	12/6/2010 1513h
1012094-001DMSD	Ethylbenzene	µg/L	EPA624	17.5	20.00	0	87.4	69-133	2.37	25		12/6/2010 1513h
1012094-001DMSD	Hexachlorobutadiene	µg/L	EPA624	15.1	20.00	0	75.4	35-213	1.77	25		12/6/2010 1513h
1012094-001DMSD	Iodomethane	µg/L	EPA624	20.1	20.00	0	101	10-233	2.77	25		12/6/2010 1513h
1012094-001DMSD	Isobutyl alcohol	µg/L	EPA624	< 100	80.00	0	94.0	12-202	0	25		12/6/2010 1513h
1012094-001DMSD	Isopropyl acetate	µg/L	EPA624	17.5	20.00	0	87.5	55-145	0.114	25		12/6/2010 1513h
1012094-001DMSD	Isopropyl alcohol	µg/L	EPA624	63.6	80.00	0	79.5	12-250	0.298	25		12/6/2010 1513h
1012094-001DMSD	Isopropylbenzene	µg/L	EPA624	17.6	20.00	0	87.9	60-147	2.58	25		12/6/2010 1513h
1012094-001DMSD	Isopropyltoluene	µg/L	EPA624	16.3	20.00	0	81.7	73-156	1.22	25		12/6/2010 1513h
1012094-001DMSD	m,p-Xylene	µg/L	EPA624	36.1	40.00	0	90.2	70-130	1.57	25		12/6/2010 1513h
1012094-001DMSD	Methacrylonitrile	µg/L	EPA624	16.5	20.00	0	82.6	79-123	1.95	25		12/6/2010 1513h
1012094-001DMSD	Methyl Acetate	µg/L	EPA624	29.5	20.00	0	147	5-398	8.30	25		12/6/2010 1513h
1012094-001DMSD	Methyl methacrylate	µg/L	EPA624	15.5	20.00	0	77.5	55-128	1.95	25		12/6/2010 1513h
1012094-001DMSD	Methyl tert-butyl ether	µg/L	EPA624	18.1	20.00	0	90.7	37-189	0.553	25		12/6/2010 1513h
1012094-001DMSD	Methylcyclohexane	µg/L	EPA624	22.6	20.00	0	113	65-175	3.05	25		12/6/2010 1513h
1012094-001DMSD	Methylene chloride	µg/L	EPA624	14.6	20.00	0	73.1	55-138	0.953	25		12/6/2010 1513h
1012094-001DMSD	n-Amyl acetate	µg/L	EPA624	9.71	20.00	0	48.6	10-187	1.74	25		12/6/2010 1513h
1012094-001DMSD	Naphthalene	µg/L	EPA624	14.2	20.00	0	70.9	41-131	2.79	25		12/6/2010 1513h
1012094-001DMSD	n-Butyl alcohol	µg/L	EPA624	83.4	80.00	0	104	10-226	0.466	25		12/6/2010 1513h
1012094-001DMSD	n-Butylbenzene	µg/L	EPA624	15.6	20.00	0	78.2	40-158	2.77	25		12/6/2010 1513h
1012094-001DMSD	n-Hexane	µg/L	EPA624	21.7	20.00	0	108	10-277	8.76	25		12/6/2010 1513h
1012094-001DMSD	n-Octane	µg/L	EPA624	14.2	20.00	0	70.9	45-158	1.21	25		12/6/2010 1513h

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QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1012092
Project: Red Butte Spill

Contact: Jim Harris
Dept: MSVOA
QC Type: MSD

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
1012094-001DMSD	n-Propylbenzene	µg/L	EPA624	16.8	20.00	0	84.0	67-131	1.95	25		12/6/2010 1513h
1012094-001DMSD	o-Xylene	µg/L	EPA624	17.0	20.00	0	85.0	70-130	2.84	25		12/6/2010 1513h
1012094-001DMSD	Pentachloroethane	µg/L	EPA624	10.0	20.00	0	50.2	10-314	0.200	25		12/6/2010 1513h
1012094-001DMSD	Propionitrile	µg/L	EPA624	< 25.0	20.00	0	78.3	60-132	0	25		12/6/2010 1513h
1012094-001DMSD	Propyl acetate	µg/L	EPA624	16.0	20.00	0	80.2	48-143	3.67	25		12/6/2010 1513h
1012094-001DMSD	sec-Butylbenzene	µg/L	EPA624	17.2	20.00	0	86.2	72-157	2.07	25		12/6/2010 1513h
1012094-001DMSD	Styrene	µg/L	EPA624	16.3	20.00	0	81.4	81-125	2.91	25		12/6/2010 1513h
1012094-001DMSD	tert-Butyl alcohol	µg/L	EPA624	35.9	40.00	0	89.8	50-286	0.333	25		12/6/2010 1513h
1012094-001DMSD	tert-Butylbenzene	µg/L	EPA624	16.4	20.00	0	82.2	75-157	0.611	25		12/6/2010 1513h
1012094-001DMSD	Tetrachloroethene	µg/L	EPA624	23.4	20.00	0	117	49-163	3.53	25		12/6/2010 1513h
1012094-001DMSD	Tetrahydrofuran	µg/L	EPA624	15.0	20.00	0	75.2	43-146	0.133	25		12/6/2010 1513h
1012094-001DMSD	Toluene	µg/L	EPA624	17.7	20.00	0	88.6	18-192	2.73	25		12/6/2010 1513h
1012094-001DMSD	trans-1,2-Dichloroethene	µg/L	EPA624	19.8	20.00	0	99.2	47-146	0.953	25		12/6/2010 1513h
1012094-001DMSD	trans-1,3-Dichloropropene	µg/L	EPA624	18.6	20.00	0	92.8	29-143	0.162	25		12/6/2010 1513h
1012094-001DMSD	trans-1,4-Dichloro-2-butene	µg/L	EPA624	18.0	20.00	0	90.1	20-214	5.03	25		12/6/2010 1513h
1012094-001DMSD	Trichloroethene	µg/L	EPA624	20.6	20.00	0	103	61-153	1.73	25		12/6/2010 1513h
1012094-001DMSD	Trichlorofluoromethane	µg/L	EPA624	19.9	20.00	0	99.4	56-166	2.14	25		12/6/2010 1513h
1012094-001DMSD	Vinyl acetate	µg/L	EPA624	20.3	40.00	0	50.9	38-121	7.16	25		12/6/2010 1513h
1012094-001DMSD	Vinyl chloride	µg/L	EPA624	16.3	20.00	0	81.6	13-155	4.96	25		12/6/2010 1513h
1012094-001DMSD	Xylenes, Total	µg/L	EPA624	53.1	60.00	0	88.5	42-167	1.98	25		12/6/2010 1513h
1012094-001DMSD	Surr: 1,2-Dichloroethane-d4	%REC	EPA624	57.8	50.00		116	77-144				12/6/2010 1513h
1012094-001DMSD	Surr: 4-Bromofluorobenzene	%REC	EPA624	48.6	50.00		97.3	80-123				12/6/2010 1513h
1012094-001DMSD	Surr: Dibromofluoromethane	%REC	EPA624	53.5	50.00		107	80-124				12/6/2010 1513h
1012094-001DMSD	Surr: Toluene-d8	%REC	EPA624	46.7	50.00		93.4	80-125				12/6/2010 1513h

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

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

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



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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 DEQ DERR

Lab Set ID: 1012092

Project: Red Butte Spill

Contact: Jim Harris

Dept: WC

QC Type: DUP

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
1012092-001ADUP	Total Recoverable Petroleum Hydr	mg/L	E1664A-SG	< 3.00		2.000		-	0	20		12/6/2010 1420h
1012094-001ADUP	Total Recoverable Petroleum Hydr	mg/L	E1664A-SG	< 3.00		0		-	0	20		12/6/2010 1420h



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Laboratory Director

Jose Rocha

QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR

Lab Set ID: 1012092

Project: Red Butte Spill

Contact: Jim Harris

Dept: WC

QC Type: LCS

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
LCS1-R21210	Chemical Oxygen Demand	mg/L	HACH 8000	111	100.0	0	111	85-115				12/6/2010 1130h
LCS2-R21210	Chemical Oxygen Demand	mg/L	HACH 8000	1,060	1,000	0	106	85-115				12/6/2010 1130h
LCS3-R21210	Chemical Oxygen Demand	mg/L	HACH 8000	10.0	10.00	0	100	85-115				12/6/2010 1130h
LCS-R21210	Chemical Oxygen Demand	mg/L	HACH 8000	309	300.0	0	103	85-115				12/6/2010 1130h
LCS-R21204	Total Recoverable Petroleum Hydr	mg/L	E1664A-SG	16.7	20.00	1.900	74.0	64-132				12/6/2010 1420h



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Jose Rocha

QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR

Lab Set ID: 1012092

Project: Red Butte Spill

Contact: Jim Harris

Dept: WC

QC Type: MBLK

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
MB-R21210	Chemical Oxygen Demand	mg/L	HACH 8000	< 10.0				-				12/6/2010 1130h
MB-R21204	Total Recoverable Petroleum Hydr	mg/L	E1664A-SG	< 3.00				-				12/6/2010 1420h



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QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR

Lab Set ID: 1012092

Project: Red Butte Spill

Contact: Jim Harris

Dept: WC

QC Type: MS

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
1012092-001FMS	Chemical Oxygen Demand	mg/L	HACH 8000	51.0	50.00	0	102	85-115				12/6/2010 1130h
1012094-001FMS	Chemical Oxygen Demand	mg/L	HACH 8000	47.0	50.00	0	94.0	85-115			@	12/6/2010 1130h

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



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QC SUMMARY REPORT

Client: Utah DEQ DERR

Lab Set ID: 1012092

Project: Red Butte Spill

Contact: Jim Harris

Dept: WC

QC Type: MSD

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
1012092-001FMSD	Chemical Oxygen Demand	mg/L	HACH 8000	56.0	50.00	0	112	85-115	9.35	10		12/6/2010 1130h
1012094-001FMSD	Chemical Oxygen Demand	mg/L	HACH 8000	53.0	50.00	0	106	85-115	12.0	10	@	12/6/2010 1130h

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



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QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1012092
Project: Red Butte Spill

Contact: Jim Harris
Dept: WC
QC Type: QCS

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
QCS-R21204	Total Recoverable Petroleum Hydr	mg/L	E1664A-SG	16.6	20.00	1.900	73.5	64-132				12/6/2010 1420h



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QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR

Lab Set ID: 1012092

Project: Red Butte Spill

Contact: Jim Harris

Dept: WC

QC Type: QCSD

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	% REC	Limits	% RPD	RPD Limit	Qual	Date Analyzed
QCSD-R21204	Total Recoverable Petroleum Hydr	mg/L	E1664A-SG	17.1	20.00	1.900	76.0	64-132	2.97	34		12/6/2010 1420h

Library Search Compound Report

Data Path : M:\SVOAB\Raw Instrument Data 5973-B\DECEMBER10\06DECEMBER10\
 Data File : E74 1012092-001B.D
 Acq On : 6 Dec 2010 10:21 pm
 Operator : ROBERT A MILLAR
 Sample : 1012092-001B
 Misc : SAMP
 ALS Vial : 13 Sample Multiplier: 1

Quant Method : M:\SVOAB\METHODS\QUANT-ORIGINAL-PERFECTFULLSV-X2_11-22-10.M
 Quant Title : Semi-Volatile Compounds HP-GCMS 5973-B

TIC Library : C:\DATABASE\NIST02.L
 TIC Integration Parameters: LSCINT.P

 Peak Number 1 Thiophene, tetraphenyl- Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
16.96	8.21 ug/l	250709	ISTD-Perylene-d12	13.71

Hit#	of	5	Tentative ID	MW	MolForm	CAS#	Qual
1			Thiophene, tetraphenyl-	388	C28H20S	001884-68-0	46
2			6H-Benzo[a]naphtho[1',2':5,6]pyr...	388	C28H20O2	005724-46-9	38
3			3,6,7-Triphenylfuro[3,2-E]imidaz...	388	C25H16N4O	1000284-71-4	35
4			Dinaphtho[1,2-d:1',2'-d']benzo[1...	388	C26H12O4	003604-49-7	25
5			Cholestan-3-ol, (3.alpha.)-	388	C27H48O	018769-46-5	16

QUANT-ORIGI...2_11-22-10.M Tue Dec 07 06:46:51 2010

Library Search Compound Report

Data Path : M:\SVOAB\Raw Instrument Data 5973-B\DECEMBER10\06DECEMBER10\
 Data File : E77 1012092-002B.D
 Acq On : 6 Dec 2010 11:44 pm
 Operator : ROBERT A MILLAR
 Sample : 1012092-002B
 Misc : SAMP
 ALS Vial : 16 Sample Multiplier: 1

Quant Method : M:\SVOAB\METHODS\QUANT-ORIGINAL-PERFECTFULLSV-X2_11-22-10.M
 Quant Title : Semi-Volatile Compounds HP-GCMS 5973-B

TIC Library : C:\DATABASE\NIST02.L
 TIC Integration Parameters: LSCINT.P

 Peak Number 1 2,6,10,14,18,22-Tetracosah... Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
12.94	7.84 ug/l	251207	ISTD-Perylene-d12	13.70

Hit#	of	5	Tentative ID	MW	MolForm	CAS#	Qual
1	2,6,10,14,18,22-Tetracosahexaene...	410	C30H50	000111-02-4	91		
2	Squalene	410	C30H50	007683-64-9	91		
3	Docosa-2,6,10,14,18-pentaen-22-a...	384	C27H44O	1000163-04-7	83		
4	4,9,13,17-Tetramethyl-4,8,12,16-...	316	C22H36O	056882-09-8	83		
5	1,5,9-Undecatriene, 2,6,10-trime...	192	C14H24	062951-96-6	80		

 Peak Number 2 N,3-Diphenyl-1,2-carbazoled... Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
16.96	9.88 ug/l	316668	ISTD-Perylene-d12	13.70

Hit#	of	5	Tentative ID	MW	MolForm	CAS#	Qual
1	N,3-Diphenyl-1,2-carbazoledicarb...	388	C26H16N2O2	022315-13-5	47		
2	Thiophene, tetraphenyl-	388	C28H20S	001884-68-0	43		
3	3,6,7-Triphenylfuro[3,2-E]imidaz...	388	C25H16N4O	1000284-71-4	43		
4	6H-Benzo[a]naphtho[1',2':5,6]pyr...	388	C28H20O2	005724-46-9	38		
5	Acetamide, N-[3.beta.-(dimethyla...	388	C25H44N2O	015112-55-7	38		

QUANT-ORIGI...2_11-22-10.M Tue Dec 07 06:52:09 2010

RUSH

American West Analytical Laboratories

WORK ORDER Summary

Client: Utah DEQ DERR
 Client ID: UTD100
 Project: Red Butte Spill
 Comments: No Hard Copies. QC 2+ / Next Day Rush / Report out TIC's for Semi's -(Use #1 as MS/MSD) / client was notified that ORO would take longer, he said to send partial reports and do the best we can;

Contact: Jim Harris
 QC Level: LEVEL II+

Work Order: **1012092**
 Page 1 of 3
 12/7/2010
 WO Type: Standard

DB

Sample ID	Client Sample ID	Collected Date	Received Date	Date Due	Matrix	Test Code	Sel	Storage	
1012092-001A	Red Butte NR Greenhouse	12/5/2010 4:00:00 PM	12/6/2010 9:52:00 AM	12/7/2010	Aqueous	OGF-W-1664SGT	<input type="checkbox"/>	OGFFridge	2
1012092-001B				12/7/2010		3510-SVOA-PR	<input type="checkbox"/>	Walkin-Semi	3
				12/7/2010		625-W	<input checked="" type="checkbox"/>	Walkin-Semi	
				12/7/2010		8270-W	<input checked="" type="checkbox"/>	Walkin-Semi	
1012092-001C				12/7/2010		3510-TPH-PR	<input type="checkbox"/>	walkin - dro	
				12/7/2010		8015-W-TPH(1L)	<input checked="" type="checkbox"/>	walkin - dro	
1012092-001D				12/7/2010		3510-ORO-PR	<input type="checkbox"/>	walkin - oro	
				12/7/2010		8015-W-ORO(1L)	<input type="checkbox"/>	walkin - oro	
1012092-001E				12/7/2010		624-W	<input checked="" type="checkbox"/>	VOCFridge	
1012092-001F				12/7/2010		COD-HACH8000	<input type="checkbox"/>	cod	1
1012092-002A	Red Butte AB Gardens 4992095	12/5/2010 4:20:00 PM		12/7/2010		OGF-W-1664SGT	<input type="checkbox"/>	OGFFridge	
1012092-002B				12/7/2010		3510-SVOA-PR	<input type="checkbox"/>	Walkin-Semi	3
				12/7/2010		625-W	<input checked="" type="checkbox"/>	Walkin-Semi	
				12/7/2010		8270-W	<input checked="" type="checkbox"/>	Walkin-Semi	
1012092-002C				12/7/2010		3510-TPH-PR	<input type="checkbox"/>	walkin - dro	2
				12/7/2010		8015-W-TPH(1L)	<input checked="" type="checkbox"/>	walkin - dro	
1012092-002D				12/7/2010		3510-ORO-PR	<input type="checkbox"/>	walkin - oro	
				12/7/2010		8015-W-ORO(1L)	<input type="checkbox"/>	walkin - oro	
1012092-002E				12/7/2010		624-W	<input checked="" type="checkbox"/>	VOCFridge	3
1012092-002F				12/7/2010		COD-HACH8000	<input type="checkbox"/>	cod	1
1012092-003A	Red Butte @ Foothill	12/5/2010 4:45:00 PM		12/7/2010		OGF-W-1664SGT	<input type="checkbox"/>	OGFFridge	
1012092-003B				12/7/2010		3510-SVOA-PR	<input type="checkbox"/>	Walkin-Semi	3
				12/7/2010		625-W	<input checked="" type="checkbox"/>	Walkin-Semi	

WORK ORDER Summary

Work Order: **1012092**

Client: Utah DEQ DERR

Page 2 of 3

Client ID: UTD100

Contact: Jim Harris

12/7/2010

Project: Red Butte Spill

QC Level: LEVEL II+

WO Type: Standard

Comments: No Hard Copies. QC 2+ / Next Day Rush / Report out TIC's for Semi's -(Use #1 as MS/MSD) / client was notified that ORO would take longer, he said to send partial reports and do the best we can;

Sample ID	Client Sample ID	Collected Date	Received Date	Date Due	Matrix	Test Code	Sel Storage	
1012092-003B	Red Butte @ Foothill	12/5/2010 4:45:00 PM	12/6/2010 9:52:00 AM	12/7/2010	Aqueous	8270-W	<input checked="" type="checkbox"/> Walkin-Semi	3
1012092-003C				12/7/2010		3510-TPH-PR	<input type="checkbox"/> walkin - dro	2
				12/7/2010		8015-W-TPH(1L)	<input checked="" type="checkbox"/> walkin - dro	
1012092-003D				12/7/2010		3510-ORO-PR	<input type="checkbox"/> walkin - oro	
				12/7/2010		8015-W-ORO(1L)	<input type="checkbox"/> walkin - oro	
1012092-003E				12/7/2010		624-W	<input checked="" type="checkbox"/> VOCFridge	3
1012092-003F				12/7/2010		COD-HACH8000	<input type="checkbox"/> cod	1
1012092-004A	Red Butte @ Miller Pk (1500 E.)	12/5/2010 5:00:00 PM		12/7/2010		OGF-W-1664SGT	<input type="checkbox"/> OGFFridge	
1012092-004B				12/7/2010		3510-SVOA-PR	<input type="checkbox"/> Walkin-Semi	3
				12/7/2010		625-W	<input checked="" type="checkbox"/> Walkin-Semi	
				12/7/2010		8270-W	<input checked="" type="checkbox"/> Walkin-Semi	
1012092-004C				12/7/2010		3510-TPH-PR	<input type="checkbox"/> walkin - dro	2
				12/7/2010		8015-W-TPH(1L)	<input checked="" type="checkbox"/> walkin - dro	
1012092-004D				12/7/2010		3510-ORO-PR	<input type="checkbox"/> walkin - oro	
				12/7/2010		8015-W-ORO(1L)	<input type="checkbox"/> walkin - oro	
1012092-004E				12/7/2010		624-W	<input checked="" type="checkbox"/> VOCFridge	3
1012092-004F				12/7/2010		COD-HACH8000	<input type="checkbox"/> cod	1
1012092-005A	Red Butte @ 1100 E. 4992083	12/5/2010 5:25:00 PM		12/7/2010		OGF-W-1664SGT	<input type="checkbox"/> OGFFridge	
1012092-005B				12/7/2010		3510-SVOA-PR	<input type="checkbox"/> Walkin-Semi	3
				12/7/2010		625-W	<input checked="" type="checkbox"/> Walkin-Semi	
				12/7/2010		8270-W	<input checked="" type="checkbox"/> Walkin-Semi	
1012092-005C				12/7/2010		3510-TPH-PR	<input type="checkbox"/> walkin - dro	2
				12/7/2010		8015-W-TPH(1L)	<input checked="" type="checkbox"/> walkin - dro	
1012092-005D				12/7/2010		3510-ORO-PR	<input type="checkbox"/> walkin - oro	
				12/7/2010		8015-W-ORO(1L)	<input type="checkbox"/> walkin - oro	
1012092-005E				12/7/2010		624-W	<input checked="" type="checkbox"/> VOCFridge	3

WORK ORDER Summary

Work Order: **1012092**

Client: Utah DEQ DERR

Page 3 of 3

Client ID: UTD100

Contact: Jim Harris

12/7/2010

Project: Red Butte Spill

QC Level: LEVEL II+

WO Type: Standard

Comments: No Hard Copies. QC 2+ / Next Day Rush / Report out TIC's for Semi's -(Use #1 as MS/MSD) / client was notified that ORO would take longer, he said to send partial reports and do the best we can;

Sample ID	Client Sample ID	Collected Date	Received Date	Date Due	Matrix	Test Code	Sel Storage
1012092-005F	Red Butte @ 1100 E. 4992083	12/5/2010 5:25:00 PM	12/6/2010 9:52:00 AM	12/7/2010	Aqueous	COD-HACH8000	<input type="checkbox"/> cod 1

Client DWQ
 Address 195 N 1950 W
SLC UT 84117
City State Zip
 Phone 541-3069 Fax _____
 Contact JAMES HARRIS
 E-mail James.harris@utah.gov
 Project Name Red Butte Spill
 Project Number/P.O.# _____
 Sampler Name J. Harris



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Lab Sample Set # 1012092
 Page _____ of _____

Turn Around Time (Circle One)
 1 day 2 day 3 day 4 day 5 day Standard

Sample ID

Date/Time Collected	Matrix	Number of Containers (Total)	TESTS REQUIRED							QC LEVEL			COMMENTS	
			TRPH	Funct.	ORO/ORO	VOC	SUOC	COD	1	2	3	3+		4
12/5/10 1600			X	X	X	X	X	X						0.5 cfs
12/5/10 1620			X	X	X	X	X	X						0.1 cfs
12/5/10 1645			X	X	X	X	X	X						< 1 cfs
12/5/10 1700			X	X	X	X	X	X						0.75 cfs
12/5/10 1725			X	X	X	X	X	X						1.47 cfs.
FFP BLANK # DB 12/6/10						X								*Not received 12/6/10 - DB

LABORATORY USE ONLY

SAMPLES WERE:

1 Shipped or hand delivered
 Notes:

2 Ambient or Chilled
 Notes:

3 Temperature 0.9[°]

4 Received Broken/Leaking (Improperly Sealed)
 Y N
 Notes:

5 Properly Preserved
 Y N
 Checked at Bench
 Y N
 Notes:

6 Received Within Holding Times
 Y N
 Notes:

COC Tape Was:

1 Present on Outer Package
 Y N NA

2 Unbroken on Outer Package
 Y N NA

3 Present on Sample
 Y N NA

4 Unbroken on Sample
 Y N NA

Discrepancies Between Sample Labels and COC Record?
 Y N
 Notes:

Relinquished By: Signature <u>[Signature]</u>	Date <u>12/6/10</u>	Received By: Signature <u>Denise Brown</u>	Date <u>12/6/10</u>
PRINT NAME <u>JAMES HARRIS</u>	Time <u>09:52</u>	PRINT NAME <u>Denise Brown</u>	Time <u>09:52</u>

Relinquished By: Signature	Date	Received By: Signature	Date
PRINT NAME	Time	PRINT NAME	Time

Relinquished By: Signature	Date	Received By: Signature	Date
PRINT NAME	Time	PRINT NAME	Time

Relinquished By: Signature	Date	Received By: Signature	Date
PRINT NAME	Time	PRINT NAME	Time

Special Instructions:

Sample Set: 1012092

Preservation Check Sheet

Sample Set Extension and pH

Bottle Type	Preservative	All OK	Except	Except	Except	Except	Except	Except	Except	Except	Except	Except	Except	Except	Except	Except
Ammonia	pH <2 H ₂ SO ₄															
COD	pH <2 H ₂ SO ₄	✓														
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															

- 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