



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

Dear Jim Harris:

Lab Set ID: 1012003

463 West 3600 South
Salt Lake City, UT
84115

American West Analytical Laboratories received 2 sample(s) on 12/1/2010 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



ORGANIC ANALYTICAL REPORT

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte
Lab Sample ID: 1012003-001B
Client Sample ID: 1300 S. & 900 W.
Collection Date: 12/1/2010 0850h
Received Date: 12/1/2010 1040h
Method Used: SW8270D

Contact: Jim Harris

Analyzed: 12/2/2010 1518h

Extracted: 12/1/2010 1230h

Analytical Results

SVOA List by GC/MS Method 8270D/3545A

Units: µg/kg-dry

Dilution Factor: 1

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

84115	1,1'-Biphenyl	92-52-4	477	< 477	
	1,2,4,5-Tetrachlorobenzene	95-94-3	477	< 477	
	1,2,4-Trichlorobenzene	120-82-1	477	< 477	
	1,2-Dichlorobenzene	95-50-1	477	< 477	
(801) 263-8686	1,3,5-Trinitrobenzene	99-35-4	477	< 477	
Toll Free (888) 263-8686	1,4-Naphthoquinone	130-15-4	939	< 939	
Fax (801)263-8687	1,3-Dichlorobenzene	541-73-1	477	< 477	
email: awal@awal-labs.com	1,3-Dinitrobenzene	99-65-0	477	< 477	
	1,4-Dichlorobenzene	106-46-7	477	< 477	
Kyle F. Gross	1,4-Phenylenediamine	106-50-3	477	< 477	
Laboratory Director	1-Chloronaphthalene	90-13-1	477	< 477	
	1-Methylnaphthalene	90-12-0	477	< 477	
Jose Rocha	1-Naphthylamine	134-32-7	939	< 939	
QA Officer	2,3,4,6-Tetrachlorophenol	58-90-2	477	< 477	
	2,4,5-Trichlorophenol	95-95-4	477	< 477	
	2,4,6-Trichlorophenol	88-06-2	477	< 477	
	2,4-Dichlorophenol	120-83-2	477	< 477	
	2,4-Dimethylphenol	105-67-9	477	< 477	
	2,4-Dinitrophenol	51-28-5	939	< 939	
	2,4-Dinitrotoluene	121-14-2	477	< 477	
	2,6-Dichlorophenol	87-65-0	477	< 477	
	2,6-Dinitrotoluene	606-20-2	477	< 477	
	2-Acetylaminofluorene	53-96-3	477	< 477	
	2-Chloronaphthalene	91-58-7	477	< 477	
	2-Chlorophenol	95-57-8	477	< 477	
	2-Methylnaphthalene	91-57-6	477	< 477	
	2-Methylphenol	95-48-7	477	< 477	
	2-Naphthylamine	91-59-8	939	< 939	



ORGANIC ANALYTICAL REPORT

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Client: Utah DEQ DERR
Project: Red Butte
Lab Sample ID: 1012003-001B
Client Sample ID: 1300 S. & 900 W.
Collection Date: 12/1/2010 0850h
Received Date: 12/1/2010 1040h
Method Used: SW8270D

Contact: Jim Harris

Analyzed: 12/2/2010 1518h

Extracted: 12/1/2010 1230h

Analytical Results

SVOA List by GC/MS Method 8270D/3545A

Units: µg/kg-dry

Dilution Factor: 1

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

84115	2-Nitroaniline	88-74-4	477	< 477	
	2-Nitrophenol	88-75-5	477	< 477	
	2-Picoline	109-06-8	477	< 477	
	3&4-Methylphenol		477	< 477	
(801) 263-8686	3,3'-Dichlorobenzidine	91-94-1	477	< 477	
Toll Free (888) 263-8686	3,3'-Dimethylbenzidine	119-93-7	939	< 939	
Fax (801)263-8687	3-Methylcholanthrene	56-49-5	477	< 477	
email: awal@awal-labs.com	3-Nitroaniline	99-09-2	1,400	< 1,400	
	4,6-Dinitro-2-methylphenol	534-52-1	939	< 939	
Kyle F. Gross	4-Aminobiphenyl	92-67-1	477	< 477	
Laboratory Director	4-Bromophenyl phenyl ether	101-55-3	477	< 477	
	4-Chloro-3-methylphenol	59-50-7	477	< 477	
	4-Chloroaniline	106-47-8	477	< 477	
Jose Rocha	4-Chlorophenyl phenyl ether	7005-72-3	477	< 477	
QA Officer	4-Nitroaniline	100-01-6	1,400	< 1,400	
	4-Nitrophenol	100-02-7	939	< 939	@1
	5-Nitro-o-toluidine	99-55-8	477	< 477	
	7,12-Dimethylbenz(a)anthracene	57-97-6	477	< 477	
	a,a-Dimethylphenethylamine	122-09-8	939	< 939	
	Acenaphthene	83-32-9	477	< 477	
	Acenaphthylene	208-96-8	477	< 477	
	Acetophenone	98-86-2	477	< 477	
	alpha-Terpineol	98-55-5	477	< 477	
	Aniline	62-53-3	939	< 939	
	Anthracene	120-12-7	477	< 477	
	Aramite	140-57-8	939	< 939	
	Azobenzene	103-33-3	477	< 477	
	Benz(a)anthracene	56-55-3	477	< 477	



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Client: Utah DEQ DERR
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Lab Sample ID: 1012003-001B
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Collection Date: 12/1/2010 0850h
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Method Used: SW8270D

Contact: Jim Harris

Analyzed: 12/2/2010 1518h

Extracted: 12/1/2010 1230h

Analytical Results

SVOA List by GC/MS Method 8270D/3545A

Units: µg/kg-dry

Dilution Factor: 1

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

84115	Benzidine	92-87-5	1,880	< 1,880	
	Benzo(a)pyrene	50-32-8	477	< 477	
	Benzo(b)fluoranthene	205-99-2	477	< 477	
	Benzo(g,h,i)perylene	191-24-2	477	< 477	
(801) 263-8686	Benzo(k)fluoranthene	207-08-9	477	< 477	
Toll Free (888) 263-8686	Benzoic acid	65-85-0	1,400	< 1,400	
Fax (801)263-8687	Benzyl alcohol	100-51-6	477	< 477	
email: awal@awal-labs.com	Bis(2-chloroethoxy)methane	111-91-1	477	< 477	
	Bis(2-chloroethyl) ether	111-44-4	477	< 477	
Kyle F. Gross	Bis(2-chloroisopropyl) ether	108-60-1	477	< 477	
Laboratory Director	Bis(2-ethylhexyl) phthalate	117-81-7	477	498	
	bis(2-ethylhexyl)adipate	103-23-1	939	< 939	
Jose Rocha	Butyl benzyl phthalate	85-68-7	477	< 477	
QA Officer	Carbazole	86-74-8	477	< 477	
	Chlorobenzilate	510-15-6	477	< 477	
	Chrysene	218-01-9	477	< 477	
	Di-n-butyl phthalate	84-74-2	477	< 477	
	Di-n-octyl phthalate	117-84-0	477	< 477	
	Diallate (cis or trans)	2303-16-4	477	< 477	
	Dibenz(a,h)anthracene	53-70-3	477	< 477	
	Dibenzofuran	132-64-9	477	< 477	
	Diethyl phthalate	84-66-2	477	< 477	
	Dimethoate	60-51-5	477	< 477	
	Dimethyl phthalate	131-11-3	477	< 477	
	Dimethylaminoazobenzene	60-11-7	477	< 477	
	Dinoseb	88-85-7	939	< 939	
	Diphenylamine	122-39-4	477	< 477	
	Disulfoton	298-04-4	477	< 477	



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Project: Red Butte
Lab Sample ID: 1012003-001B
Client Sample ID: 1300 S. & 900 W.
Collection Date: 12/1/2010 0850h
Received Date: 12/1/2010 1040h
Method Used: SW8270D

Contact: Jim Harris

Analyzed: 12/2/2010 1518h

Extracted: 12/1/2010 1230h

Analytical Results

SVOA List by GC/MS Method 8270D/3545A

Units: µg/kg-dry

Dilution Factor: 1

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

84115	Ethyl methanesulfonate	62-50-0	477	< 477
	Famphur	52-85-7	477	< 477
	Fluoranthene	206-44-0	477	< 477
	Fluorene	86-73-7	477	< 477
(801) 263-8686	Hexachlorobenzene	118-74-1	477	< 477
Toll Free (888) 263-8686	Hexachlorobutadiene	87-68-3	477	< 477
Fax (801)263-8687	Hexachlorocyclopentadiene	77-47-4	477	< 477
email: awal@awal-labs.com	Hexachloroethane	67-72-1	477	< 477
	Hexachlorophene	70-30-4	477	< 477
Kyle F. Gross	Hexachloropropene	1888-71-7	477	< 477
Laboratory Director	Indene	95-13-6	477	< 477
	Indeno(1,2,3-cd)pyrene	193-39-5	477	< 477
	Isodrin	465-73-6	477	< 477
Jose Rocha	Isophorone	78-59-1	477	< 477
QA Officer	Isosafrole	120-58-1	477	< 477
	Kepone	143-50-0	477	< 477
	Methapyrilene	91-80-5	939	< 939
	Methyl methanesulfonate	66-27-3	477	< 477
	n-Decane	124-18-5	477	< 477
	N-Nitrosodi-n-butylamine	924-16-3	477	< 477
	N-Nitrosodiethylamine	55-18-5	477	< 477
	N-Nitrosodimethylamine	62-75-9	939	< 939
	N-Nitrosodiphenylamine	86-30-6	477	< 477
	N-Nitrosodi-n-propylamine	621-64-7	477	< 477
	N-Nitrosomethylethylamine	10595-95-6	477	< 477
	N-Nitrosomorpholine	59-89-2	477	< 477
	N-Nitrosopiperidine	100-75-4	477	< 477
	N-Nitrosopyrrolidine	930-55-2	477	< 477



ORGANIC ANALYTICAL REPORT

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Client: Utah DEQ DERR
Project: Red Butte
Lab Sample ID: 1012003-001B
Client Sample ID: 1300 S. & 900 W.
Collection Date: 12/1/2010 0850h
Received Date: 12/1/2010 1040h
Method Used: SW8270D

Contact: Jim Harris

Analyzed: 12/2/2010 1518h

Extracted: 12/1/2010 1230h

Analytical Results

SVOA List by GC/MS Method 8270D/3545A

Units: µg/kg-dry

Dilution Factor: 1

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

463 West 3600 South
Salt Lake City, UT
84115
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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

84115	n-Octadecane	593-45-3	477	< 477	
	Naphthalene	91-20-3	477	< 477	
	Nitrobenzene	98-95-3	477	< 477	
	Nitroquinoline-1-oxide	56-57-5	939	< 939	
(801) 263-8686	O,O,O-Triethyl phosphorothioate	126-68-1	477	< 477	
Toll Free (888) 263-8686	o-Toluidine	95-53-4	477	< 477	
Fax (801)263-8687	Parathion	56-38-2	477	< 477	
email: awal@awal-labs.com	Methyl parathion	298-00-0	477	< 477	
	Pentachlorobenzene	608-93-5	477	< 477	
	Pentachloronitrobenzene	82-68-8	477	< 477	
	Pentachlorophenol	87-86-5	477	< 477	
	Phenacetin	62-44-2	477	< 477	
	Phenanthrene	85-01-8	477	< 477	
	Phenol	108-95-2	477	< 477	1
	Phorate	298-02-2	477	< 477	
	Pronamide	23950-58-5	477	< 477	
	Pyrene	129-00-0	477	< 477	
	Pyridine	110-86-1	939	< 939	
	Quinoline	91-22-5	477	< 477	
	Safrole	94-59-7	477	< 477	
	Tetraethyl dithiopyrophosphate	3689-24-5	477	< 477	
	Thionazin	297-97-2	477	< 477	
	C11-C12 Aliphatic hydrocarbons		477	< 477	
	C13-C16 Aliphatic hydrocarbons		477	< 477	
	C17-C21 Aliphatic hydrocarbons		477	< 477	
	C22-C35 Aliphatic hydrocarbons		477	< 477	
	C11-C13 Alkyl Naphthalenes		477	< 477	
	Total C12-C22 PAH**		477	< 477	



ORGANIC ANALYTICAL REPORT

AMERICAN
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LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte
Lab Sample ID: 1012003-001B
Client Sample ID: 1300 S. & 900 W.
Collection Date: 12/1/2010 0850h
Received Date: 12/1/2010 1040h
Method Used: SW8270D

Contact: Jim Harris

Analyzed: 12/2/2010 1518h

Extracted: 12/1/2010 1230h

Analytical Results

SVOA List by GC/MS Method 8270D/3545A

Units: µg/kg-dry

Dilution Factor: 1

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
Surr: 2,4,6-Tribromophenol	118-79-6	10-237	73.5	
Surr: 2-Fluorobiphenyl	321-60-8	17-122	80.6	
Surr: 2-Fluorophenol	367-12-4	10-139	68.8	
Surr: Nitrobenzene-d5	4165-60-0	10-166	73.6	
Surr: Phenol-d6	13127-88-3	10-144	61.0	
Surr: Terphenyl-d14	1718-51-0	10-265	104	

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.

The sample was analyzed for TICs. Those results can be found on pages 46 to 47.

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

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer



ORGANIC ANALYTICAL REPORT

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte
Lab Sample ID: 1012003-002B
Client Sample ID: 900 S.
Collection Date: 12/1/2010 0930h
Received Date: 12/1/2010 1040h
Method Used: SW8270D

Contact: Jim Harris

Analyzed: 12/2/2010 1640h

Extracted: 12/1/2010 1230h

Analytical Results

SVOA List by GC/MS Method 8270D/3545A

Units: µg/kg-dry

Dilution Factor: 1

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

84115	1,1'-Biphenyl	92-52-4	483	< 483	
	1,2,4,5-Tetrachlorobenzene	95-94-3	483	< 483	
	1,2,4-Trichlorobenzene	120-82-1	483	< 483	
	1,2-Dichlorobenzene	95-50-1	483	< 483	
(801) 263-8686	1,3,5-Trinitrobenzene	99-35-4	483	< 483	
Toll Free (888) 263-8686	1,4-Naphthoquinone	130-15-4	951	< 951	
Fax (801)263-8687	1,3-Dichlorobenzene	541-73-1	483	< 483	
email: awal@awal-labs.com	1,3-Dinitrobenzene	99-65-0	483	< 483	
	1,4-Dichlorobenzene	106-46-7	483	< 483	
Kyle F. Gross	1,4-Phenylenediamine	106-50-3	483	< 483	
Laboratory Director	1-Chloronaphthalene	90-13-1	483	< 483	
	1-Methylnaphthalene	90-12-0	483	< 483	
Jose Rocha	1-Naphthylamine	134-32-7	951	< 951	
QA Officer	2,3,4,6-Tetrachlorophenol	58-90-2	483	< 483	
	2,4,5-Trichlorophenol	95-95-4	483	< 483	
	2,4,6-Trichlorophenol	88-06-2	483	< 483	
	2,4-Dichlorophenol	120-83-2	483	< 483	
	2,4-Dimethylphenol	105-67-9	483	< 483	
	2,4-Dinitrophenol	51-28-5	951	< 951	
	2,4-Dinitrotoluene	121-14-2	483	< 483	
	2,6-Dichlorophenol	87-65-0	483	< 483	
	2,6-Dinitrotoluene	606-20-2	483	< 483	
	2-Acetylaminofluorene	53-96-3	483	< 483	
	2-Chloronaphthalene	91-58-7	483	< 483	
	2-Chlorophenol	95-57-8	483	< 483	
	2-Methylnaphthalene	91-57-6	483	< 483	
	2-Methylphenol	95-48-7	483	< 483	
	2-Naphthylamine	91-59-8	951	< 951	



ORGANIC ANALYTICAL REPORT

AMERICAN
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LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte
Lab Sample ID: 1012003-002B
Client Sample ID: 900 S.
Collection Date: 12/1/2010 0930h
Received Date: 12/1/2010 1040h
Method Used: SW8270D

Contact: Jim Harris

Analyzed: 12/2/2010 1640h

Extracted: 12/1/2010 1230h

Analytical Results

SVOA List by GC/MS Method 8270D/3545A

Units: µg/kg-dry

Dilution Factor: 1

Compound

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

84115	2-Nitroaniline	88-74-4	483	< 483	
	2-Nitrophenol	88-75-5	483	< 483	
	2-Picoline	109-06-8	483	< 483	
	3&4-Methylphenol		483	< 483	
(801) 263-8686	3,3'-Dichlorobenzidine	91-94-1	483	< 483	
Toll Free (888) 263-8686	3,3'-Dimethylbenzidine	119-93-7	951	< 951	
Fax (801)263-8687	3-Methylcholanthrene	56-49-5	483	< 483	
email: awal@awal-labs.com	3-Nitroaniline	99-09-2	1,420	< 1,420	
	4,6-Dinitro-2-methylphenol	534-52-1	951	< 951	
	4-Aminobiphenyl	92-67-1	483	< 483	
	4-Bromophenyl phenyl ether	101-55-3	483	< 483	
	4-Chloro-3-methylphenol	59-50-7	483	< 483	
	4-Chloroaniline	106-47-8	483	< 483	
	4-Chlorophenyl phenyl ether	7005-72-3	483	< 483	
	4-Nitroaniline	100-01-6	1,420	< 1,420	
	4-Nitrophenol	100-02-7	951	< 951	
	5-Nitro-o-toluidine	99-55-8	483	< 483	
	7,12-Dimethylbenz(a)anthracene	57-97-6	483	< 483	
	a,a-Dimethylphenethylamine	122-09-8	951	< 951	
	Acenaphthene	83-32-9	483	< 483	
	Acenaphthylene	208-96-8	483	< 483	
	Acetophenone	98-86-2	483	< 483	
	alpha-Terpineol	98-55-5	483	< 483	
	Aniline	62-53-3	951	< 951	
	Anthracene	120-12-7	483	< 483	
	Aramite	140-57-8	951	< 951	
	Azobenzene	103-33-3	483	< 483	
	Benz(a)anthracene	56-55-3	483	< 483	



ORGANIC ANALYTICAL REPORT

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Client: Utah DEQ DERR
Project: Red Butte
Lab Sample ID: 1012003-002B
Client Sample ID: 900 S.
Collection Date: 12/1/2010 0930h
Received Date: 12/1/2010 1040h
Method Used: SW8270D

Contact: Jim Harris

Analyzed: 12/2/2010 1640h

Extracted: 12/1/2010 1230h

Analytical Results

SVOA List by GC/MS Method 8270D/3545A

Units: µg/kg-dry

Dilution Factor: 1

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

84115	Benzidine	92-87-5	1,900	< 1,900	
	Benzo(a)pyrene	50-32-8	483	< 483	
	Benzo(b)fluoranthene	205-99-2	483	< 483	
	Benzo(g,h,i)perylene	191-24-2	483	< 483	
(801) 263-8686	Benzo(k)fluoranthene	207-08-9	483	< 483	
Toll Free (888) 263-8686	Benzoic acid	65-85-0	1,420	< 1,420	
Fax (801)263-8687	Benzyl alcohol	100-51-6	483	< 483	
email: awal@awal-labs.com	Bis(2-chloroethoxy)methane	111-91-1	483	< 483	
	Bis(2-chloroethyl) ether	111-44-4	483	< 483	
Kyle F. Gross	Bis(2-chloroisopropyl) ether	108-60-1	483	< 483	
Laboratory Director	Bis(2-ethylhexyl) phthalate	117-81-7	483	< 483	
	bis(2-ethylhexyl)adipate	103-23-1	951	< 951	
Jose Rocha	Butyl benzyl phthalate	85-68-7	483	< 483	
QA Officer	Carbazole	86-74-8	483	< 483	
	Chlorobenzilate	510-15-6	483	< 483	
	Chrysene	218-01-9	483	< 483	
	Di-n-butyl phthalate	84-74-2	483	< 483	
	Di-n-octyl phthalate	117-84-0	483	< 483	
	Diallate (cis or trans)	2303-16-4	483	< 483	
	Dibenz(a,h)anthracene	53-70-3	483	< 483	
	Dibenzofuran	132-64-9	483	< 483	
	Diethyl phthalate	84-66-2	483	< 483	
	Dimethoate	60-51-5	483	< 483	
	Dimethyl phthalate	131-11-3	483	< 483	
	Dimethylaminoazobenzene	60-11-7	483	< 483	
	Dinoseb	88-85-7	951	< 951	
	Diphenylamine	122-39-4	483	< 483	
	Disulfoton	298-04-4	483	< 483	



ORGANIC ANALYTICAL REPORT

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte
Lab Sample ID: 1012003-002B
Client Sample ID: 900 S.
Collection Date: 12/1/2010 0930h
Received Date: 12/1/2010 1040h
Method Used: SW8270D

Contact: Jim Harris

Analyzed: 12/2/2010 1640h

Extracted: 12/1/2010 1230h

Analytical Results

SVOA List by GC/MS Method 8270D/3545A

Units: µg/kg-dry

Dilution Factor: 1

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

463 West 3600 South
Salt Lake City, UT

(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	Ethyl methanesulfonate	62-50-0	483	< 483
	Famphur	52-85-7	483	< 483
	Fluoranthene	206-44-0	483	< 483
	Fluorene	86-73-7	483	< 483
(801) 263-8686	Hexachlorobenzene	118-74-1	483	< 483
Toll Free (888) 263-8686	Hexachlorobutadiene	87-68-3	483	< 483
Fax (801)263-8687	Hexachlorocyclopentadiene	77-47-4	483	< 483
email: awal@awal-labs.com	Hexachloroethane	67-72-1	483	< 483
	Hexachlorophene	70-30-4	483	< 483
Kyle F. Gross	Hexachloropropene	1888-71-7	483	< 483
Laboratory Director	Indene	95-13-6	483	< 483
	Indeno(1,2,3-cd)pyrene	193-39-5	483	< 483
Jose Rocha	Isodrin	465-73-6	483	< 483
QA Officer	Isophorone	78-59-1	483	< 483
	Isosafrole	120-58-1	483	< 483
	Kepone	143-50-0	483	< 483
	Methapyrilene	91-80-5	951	< 951
	Methyl methanesulfonate	66-27-3	483	< 483
	n-Decane	124-18-5	483	< 483
	N-Nitrosodi-n-butylamine	924-16-3	483	< 483
	N-Nitrosodiethylamine	55-18-5	483	< 483
	N-Nitrosodimethylamine	62-75-9	951	< 951
	N-Nitrosodiphenylamine	86-30-6	483	< 483
	N-Nitrosodi-n-propylamine	621-64-7	483	< 483
	N-Nitrosomethylethylamine	10595-95-6	483	< 483
	N-Nitrosomorpholine	59-89-2	483	< 483
	N-Nitrosopiperidine	100-75-4	483	< 483
	N-Nitrosopyrrolidine	930-55-2	483	< 483



ORGANIC ANALYTICAL REPORT

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte
Lab Sample ID: 1012003-002B
Client Sample ID: 900 S.
Collection Date: 12/1/2010 0930h
Received Date: 12/1/2010 1040h
Method Used: SW8270D

Contact: Jim Harris

Analyzed: 12/2/2010 1640h

Extracted: 12/1/2010 1230h

Analytical Results

SVOA List by GC/MS Method 8270D/3545A

Units: µg/kg-dry

Dilution Factor: 1

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

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84115
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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

84115	n-Octadecane	593-45-3	483	< 483	
	Naphthalene	91-20-3	483	< 483	
	Nitrobenzene	98-95-3	483	< 483	
	Nitroquinoline-1-oxide	56-57-5	951	< 951	
(801) 263-8686	O,O,O-Triethyl phosphorothioate	126-68-1	483	< 483	
Toll Free (888) 263-8686	o-Toluidine	95-53-4	483	< 483	
Fax (801)263-8687	Parathion	56-38-2	483	< 483	
email: awal@awal-labs.com	Methyl parathion	298-00-0	483	< 483	
	Pentachlorobenzene	608-93-5	483	< 483	
	Pentachloronitrobenzene	82-68-8	483	< 483	
	Pentachlorophenol	87-86-5	483	< 483	
	Phenacetin	62-44-2	483	< 483	
	Phenanthrene	85-01-8	483	< 483	
	Phenol	108-95-2	483	< 483	
	Phorate	298-02-2	483	< 483	
	Pronamide	23950-58-5	483	< 483	
	Pyrene	129-00-0	483	< 483	
	Pyridine	110-86-1	951	< 951	
	Quinoline	91-22-5	483	< 483	
	Safrole	94-59-7	483	< 483	
	Tetraethyl dithiopyrophosphate	3689-24-5	483	< 483	
	Thionazin	297-97-2	483	< 483	
	C11-C12 Aliphatic hydrocarbons		483	< 483	
	C13-C16 Aliphatic hydrocarbons		483	< 483	
	C17-C21 Aliphatic hydrocarbons		483	< 483	
	C22-C35 Aliphatic hydrocarbons		483	< 483	
	C11-C13 Alkyl Naphthalenes		483	< 483	
	Total C12-C22 PAH**		483	< 483	



ORGANIC ANALYTICAL REPORT

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte
Lab Sample ID: 1012003-002B
Client Sample ID: 900 S.
Collection Date: 12/1/2010 0930h
Received Date: 12/1/2010 1040h
Method Used: SW8270D

Contact: Jim Harris

Analyzed: 12/2/2010 1640h

Extracted: 12/1/2010 1230h

Analytical Results

SVOA List by GC/MS Method 8270D/3545A

Units: µg/kg-dry

Dilution Factor: 1

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

Surr: 2,4,6-Tribromophenol

118-79-6

10-237

64.3

Surr: 2-Fluorobiphenyl

321-60-8

17-122

60.2

Surr: 2-Fluorophenol

367-12-4

10-139

52.2

Surr: Nitrobenzene-d5

4165-60-0

10-166

55.3

Surr: Phenol-d6

13127-88-3

10-144

47.5

Surr: Terphenyl-d14

1718-51-0

10-265

85.7

The sample was analyzed for TICs. Those results can be found on pages 46 to 47.

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

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer



ORGANIC ANALYTICAL REPORT

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte
Lab Sample ID: 1012003-001A
Client Sample ID: 1300 S. & 900 W.
Collection Date: 12/1/2010 0850h
Received Date: 12/1/2010 1040h
Method Used: SW8260C

Contact: Jim Harris

Analyzed: 12/1/2010 1434h

Analytical Results

VOAs by GC/MS Method 8260C

Units: µg/kg-dry

Dilution Factor: 1

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

84115	1,1,1,2-Tetrachloroethane	630-20-6	2.80	< 2.80	
	1,1,1-Trichloroethane	71-55-6	2.80	< 2.80	
	1,1,2,2-Tetrachloroethane	79-34-5	2.80	< 2.80	
	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	2.80	< 2.80	
(801) 263-8686	1,1,2-Trichloroethane	79-00-5	2.80	< 2.80	
Toll Free (888) 263-8686	1,1-Dichloropropene	563-58-6	2.80	< 2.80	
Fax (801)263-8687	1,1-Dichloroethane	75-34-3	2.80	< 2.80	
email: awal@awal-labs.com	1,1-Dichloroethene	75-35-4	2.80	< 2.80	
	1,2,3-Trichlorobenzene	87-61-6	2.80	< 2.80	
Kyle F. Gross	1,2,3-Trichloropropane	96-18-4	2.80	< 2.80	
Laboratory Director	1,2,3-Trimethylbenzene	526-73-8	2.80	< 2.80	
	1,2,4-Trichlorobenzene	120-82-1	2.80	< 2.80	
Jose Rocha	1,2,4-Trimethylbenzene	95-63-6	2.80	< 2.80	
QA Officer	1,2-Dibromo-3-chloropropane	96-12-8	7.01	< 7.01	
	1,2-Dibromoethane	106-93-4	2.80	< 2.80	
	1,2-Dichlorobenzene	95-50-1	2.80	< 2.80	@
	1,2-Dichloroethane	107-06-2	2.80	< 2.80	
	1,2-Dichloropropane	78-87-5	2.80	< 2.80	
	1,3,5-Trimethylbenzene	108-67-8	2.80	< 2.80	
	1,3-Dichlorobenzene	541-73-1	2.80	< 2.80	
	1,3-Dichloropropane	142-28-9	2.80	< 2.80	
	1,4-Dichlorobenzene	106-46-7	2.80	< 2.80	
	1,4-Dioxane	123-91-1	70.1	< 70.1	
	2,2-Dichloropropane	594-20-7	2.80	< 2.80	
	2-Butanone	78-93-3	14.0	< 14.0	
	2-Chloroethyl vinyl ether	110-75-8	7.01	< 7.01	
	2-Chlorotoluene	95-49-8	2.80	< 2.80	
	2-Hexanone	591-78-6	7.01	< 7.01	



ORGANIC ANALYTICAL REPORT

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte
Lab Sample ID: 1012003-001A
Client Sample ID: 1300 S. & 900 W.
Collection Date: 12/1/2010 0850h
Received Date: 12/1/2010 1040h
Method Used: SW8260C

Contact: Jim Harris

Analyzed: 12/1/2010 1434h

Analytical Results

VOAs by GC/MS Method 8260C

Units: µg/kg-dry

Dilution Factor: 1

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

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84115
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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

84115	2-Nitropropane	79-46-9	7.01	< 7.01	
	4-Chlorotoluene	106-43-4	2.80	< 2.80	
	4-Isopropyltoluene	99-87-6	2.80	< 2.80	
	4-Methyl-2-pentanone	108-10-1	7.01	< 7.01	
(801) 263-8686	Acetone	67-64-1	14.0	< 14.0	
Toll Free (888) 263-8686	Acetonitrile	75-05-8	7.01	< 7.01	
Fax (801)263-8687	Acrolein	107-02-8	7.01	< 7.01	
email: awal@awal-labs.com	Acrylonitrile	107-13-1	14.0	< 14.0	
	Allyl chloride	107-05-1	7.01	< 7.01	
Kyle F. Gross	Benzene	71-43-2	2.80	< 2.80	
Laboratory Director	Benzyl chloride	100-44-7	7.01	< 7.01	
	Bis(2-chloroisopropyl) ether	108-60-1	7.01	< 7.01	
Jose Rocha	Bromobenzene	108-86-1	2.80	< 2.80	
QA Officer	Bromochloromethane	74-97-5	2.80	< 2.80	
	Bromodichloromethane	75-27-4	2.80	< 2.80	
	Bromoform	75-25-2	2.80	< 2.80	
	Bromomethane	74-83-9	7.01	< 7.01	
	Butyl acetate	123-86-4	14.0	< 14.0	
	Carbon disulfide	75-15-0	2.80	< 2.80	
	Carbon tetrachloride	56-23-5	2.80	< 2.80	
	Chlorobenzene	108-90-7	2.80	< 2.80	
	Chloroethane	75-00-3	2.80	< 2.80	
	Chloroform	67-66-3	2.80	< 2.80	
	Chloromethane	74-87-3	7.01	< 7.01	
	Chloroprene	126-99-8	2.80	< 2.80	
	cis-1,2-Dichloroethene	156-59-2	2.80	< 2.80	
	cis-1,3-Dichloropropene	10061-01-5	2.80	< 2.80	
	Cyclohexane	110-82-7	2.80	< 2.80	



ORGANIC ANALYTICAL REPORT

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte
Lab Sample ID: 1012003-001A
Client Sample ID: 1300 S. & 900 W.
Collection Date: 12/1/2010 0850h
Received Date: 12/1/2010 1040h
Method Used: SW8260C

Contact: Jim Harris

Analyzed: 12/1/2010 1434h

Analytical Results

VOAs by GC/MS Method 8260C

Units: µg/kg-dry

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
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email: awal@awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

84115	Cyclohexanone	108-94-1	70.1	< 70.1
	Dibromochloromethane	124-48-1	2.80	< 2.80
	Dibromomethane	74-95-3	2.80	< 2.80
	Dichlorodifluoromethane	75-71-8	2.80	< 2.80
(801) 263-8686	Ethyl acetate	141-78-6	14.0	< 14.0
Toll Free (888) 263-8686	Ethyl ether	60-29-7	14.0	< 14.0
Fax (801)263-8687	Ethyl methacrylate	97-63-2	2.80	< 2.80
email: awal@awal-labs.com	Ethylbenzene	100-41-4	2.80	< 2.80
	Hexachlorobutadiene	87-68-3	2.80	< 2.80
Kyle F. Gross	Iodomethane	74-88-4	7.01	< 7.01
Laboratory Director	Isobutyl alcohol	78-83-1	140	< 140
	Isopropyl acetate	108-21-4	14.0	< 14.0
	Isopropyl alcohol	67-63-0	56.1	< 56.1
Jose Rocha	Isopropylbenzene	98-82-8	2.80	< 2.80
QA Officer	Isopropyltoluene	99-87-6	2.80	< 2.80
	m,p-Xylene	179601-23-1	2.80	< 2.80
	Methacrylonitrile	126-98-7	7.01	< 7.01
	Methyl Acetate	79-20-9	7.01	< 7.01
	Methyl methacrylate	80-62-6	7.01	< 7.01
	Methyl tert-butyl ether	1634-04-4	2.80	< 2.80
	Methylcyclohexane	108-87-2	2.80	< 2.80
	Methylene chloride	75-09-2	7.01	< 7.01
	n-Amyl acetate	628-63-7	14.0	< 14.0
	n-Butyl alcohol	71-36-3	140	< 140
	n-Butylbenzene	104-51-8	2.80	< 2.80
	n-Hexane	110-54-3	2.80	< 2.80
	n-Octane	111-65-9	2.80	< 2.80
	n-Propylbenzene	103-65-1	2.80	< 2.80



ORGANIC ANALYTICAL REPORT

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte
Lab Sample ID: 1012003-001A
Client Sample ID: 1300 S. & 900 W.
Collection Date: 12/1/2010 0850h
Received Date: 12/1/2010 1040h
Method Used: SW8260C

Contact: Jim Harris

Analyzed: 12/1/2010 1434h

Analytical Results

VOAs by GC/MS Method 8260C

Units: µg/kg-dry

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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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 Naphthalene	91-20-3	2.80	< 2.80	@
o-Xylene	95-47-6	2.80	< 2.80	
Pentachloroethane	76-01-7	2.80	< 2.80	
Propionitrile	107-12-0	35.1	< 35.1	
(801) 263-8686 Propyl acetate	109-60-4	14.0	< 14.0	
Toll Free (888) 263-8686 sec-Butylbenzene	135-98-8	2.80	< 2.80	
Fax (801)263-8687 Styrene	100-42-5	2.80	< 2.80	
email: awal@awal-labs.com tert-Butyl alcohol	76-65-0	28.0	< 28.0	
tert-Butylbenzene	98-06-6	2.80	< 2.80	
Kyle F. Gross Tetrachloroethene	127-18-4	2.80	< 2.80	
Laboratory Director Tetrahydrofuran	109-99-9	2.80	< 2.80	1
Toluene	108-88-3	2.80	< 2.80	
Jose Rocha trans-1,2-Dichloroethene	156-60-5	2.80	< 2.80	
QA Officer trans-1,3-Dichloropropene	10061-02-6	2.80	< 2.80	
trans-1,4-Dichloro-2-butene	110-57-6	2.80	< 2.80	
Trichloroethene	79-01-6	2.80	< 2.80	
Trichlorofluoromethane	75-69-4	2.80	< 2.80	
Vinyl acetate	108-05-4	14.0	< 14.0	
Vinyl chloride	75-01-4	1.40	< 1.40	
Xylenes, Total	1330-20-7	2.80	< 2.80	
C11&C12 Aliphatic hydrocarbons		28.0	45.7	
C6 Aliphatic hydrocarbons		28.0	< 28.0	
C7&C8 Aliphatic hydrocarbons		28.0	< 28.0	
C9&C10 Aliphatic hydrocarbons		28.0	< 28.0	
C9&C10 Alkyl Benzenes		28.0	< 28.0	
Total Purgable Petroleum Hydrocarbons (C6-C15)		28.0	45.7	
TPH C11-C15 (DRO)		28.0	45.7	
TPH C6-C10 (GRO)		28.0	< 28.0	



ORGANIC ANALYTICAL REPORT

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte
Lab Sample ID: 1012003-001A
Client Sample ID: 1300 S. & 900 W.
Collection Date: 12/1/2010 0850h
Received Date: 12/1/2010 1040h
Method Used: SW8260C

Contact: Jim Harris

Analyzed: 12/1/2010 1434h

Analytical Results

VOAs by GC/MS Method 8260C

Units: µg/kg-dry

Dilution Factor: 1

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
Surr: 1,2-Dichloroethane-d4	17060-07-0	68-147	91.3	
Surr: 4-Bromofluorobenzene	460-00-4	71-144	107	
Surr: Dibromofluoromethane	1868-53-7	71-129	97.3	
Surr: Toluene-d8	2037-26-5	72-129	110	

The sample was received with headspace.

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.

Sampling and analytical preparation performed by method 5030C.

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer



ORGANIC ANALYTICAL REPORT

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte
Lab Sample ID: 1012003-002A
Client Sample ID: 900 S.
Collection Date: 12/1/2010 0930h
Received Date: 12/1/2010 1040h
Method Used: SW8260C

Contact: Jim Harris

Analyzed: 12/1/2010 1457h

Analytical Results

VOAs by GC/MS Method 8260C

Units: µg/kg-dry

Dilution Factor: 1

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

84115	1,1,1,2-Tetrachloroethane	630-20-6	2.84	< 2.84
	1,1,1-Trichloroethane	71-55-6	2.84	< 2.84
	1,1,2,2-Tetrachloroethane	79-34-5	2.84	< 2.84
	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	2.84	< 2.84
(801) 263-8686	1,1,2-Trichloroethane	79-00-5	2.84	< 2.84
Toll Free (888) 263-8686	1,1-Dichloropropene	563-58-6	2.84	< 2.84
Fax (801)263-8687	1,1-Dichloroethane	75-34-3	2.84	< 2.84
email: awal@awal-labs.com	1,1-Dichloroethene	75-35-4	2.84	< 2.84
	1,2,3-Trichlorobenzene	87-61-6	2.84	< 2.84
Kyle F. Gross	1,2,3-Trichloropropane	96-18-4	2.84	< 2.84
Laboratory Director	1,2,3-Trimethylbenzene	526-73-8	2.84	< 2.84
	1,2,4-Trichlorobenzene	120-82-1	2.84	< 2.84
Jose Rocha	1,2,4-Trimethylbenzene	95-63-6	2.84	< 2.84
QA Officer	1,2-Dibromo-3-chloropropane	96-12-8	7.10	< 7.10
	1,2-Dibromoethane	106-93-4	2.84	< 2.84
	1,2-Dichlorobenzene	95-50-1	2.84	< 2.84
	1,2-Dichloroethane	107-06-2	2.84	< 2.84
	1,2-Dichloropropane	78-87-5	2.84	< 2.84
	1,3,5-Trimethylbenzene	108-67-8	2.84	< 2.84
	1,3-Dichlorobenzene	541-73-1	2.84	< 2.84
	1,3-Dichloropropane	142-28-9	2.84	< 2.84
	1,4-Dichlorobenzene	106-46-7	2.84	< 2.84
	1,4-Dioxane	123-91-1	71.0	< 71.0
	2,2-Dichloropropane	594-20-7	2.84	< 2.84
	2-Butanone	78-93-3	14.2	< 14.2
	2-Chloroethyl vinyl ether	110-75-8	7.10	< 7.10
	2-Chlorotoluene	95-49-8	2.84	< 2.84
	2-Hexanone	591-78-6	7.10	< 7.10



ORGANIC ANALYTICAL REPORT

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte
Lab Sample ID: 1012003-002A
Client Sample ID: 900 S.
Collection Date: 12/1/2010 0930h
Received Date: 12/1/2010 1040h
Method Used: SW8260C

Contact: Jim Harris

Analyzed: 12/1/2010 1457h

Analytical Results

VOAs by GC/MS Method 8260C

Units: µg/kg-dry

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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Fax (801)263-8687
email: awal@awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

84115	2-Nitropropane	79-46-9	7.10	< 7.10	
	4-Chlorotoluene	106-43-4	2.84	< 2.84	
	4-Isopropyltoluene	99-87-6	2.84	4.78	
	4-Methyl-2-pentanone	108-10-1	7.10	< 7.10	
(801) 263-8686	Acetone	67-64-1	14.2	32.9	
Toll Free (888) 263-8686	Acetonitrile	75-05-8	7.10	< 7.10	
Fax (801)263-8687	Acrolein	107-02-8	7.10	< 7.10	
email: awal@awal-labs.com	Acrylonitrile	107-13-1	14.2	< 14.2	
	Allyl chloride	107-05-1	7.10	< 7.10	
Kyle F. Gross	Benzene	71-43-2	2.84	< 2.84	
Laboratory Director	Benzyl chloride	100-44-7	7.10	< 7.10	
	Bis(2-chloroisopropyl) ether	108-60-1	7.10	< 7.10	
Jose Rocha	Bromobenzene	108-86-1	2.84	< 2.84	
QA Officer	Bromochloromethane	74-97-5	2.84	< 2.84	
	Bromodichloromethane	75-27-4	2.84	< 2.84	
	Bromoform	75-25-2	2.84	< 2.84	
	Bromomethane	74-83-9	7.10	< 7.10	
	Butyl acetate	123-86-4	14.2	< 14.2	
	Carbon disulfide	75-15-0	2.84	< 2.84	
	Carbon tetrachloride	56-23-5	2.84	< 2.84	
	Chlorobenzene	108-90-7	2.84	< 2.84	
	Chloroethane	75-00-3	2.84	< 2.84	
	Chloroform	67-66-3	2.84	< 2.84	
	Chloromethane	74-87-3	7.10	< 7.10	
	Chloroprene	126-99-8	2.84	< 2.84	
	cis-1,2-Dichloroethene	156-59-2	2.84	< 2.84	
	cis-1,3-Dichloropropene	10061-01-5	2.84	< 2.84	
	Cyclohexane	110-82-7	2.84	< 2.84	



ORGANIC ANALYTICAL REPORT

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte
Lab Sample ID: 1012003-002A
Client Sample ID: 900 S.
Collection Date: 12/1/2010 0930h
Received Date: 12/1/2010 1040h
Method Used: SW8260C

Contact: Jim Harris

Analyzed: 12/1/2010 1457h

Analytical Results

VOAs by GC/MS Method 8260C

Units: µg/kg-dry

Dilution Factor: 1

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

84115	Cyclohexanone	108-94-1	71.0	< 71.0	
	Dibromochloromethane	124-48-1	2.84	< 2.84	
	Dibromomethane	74-95-3	2.84	< 2.84	
	Dichlorodifluoromethane	75-71-8	2.84	< 2.84	
(801) 263-8686	Ethyl acetate	141-78-6	14.2	< 14.2	
Toll Free (888) 263-8686	Ethyl ether	60-29-7	14.2	< 14.2	
Fax (801)263-8687	Ethyl methacrylate	97-63-2	2.84	< 2.84	
email: awal@awal-labs.com	Ethylbenzene	100-41-4	2.84	< 2.84	
	Hexachlorobutadiene	87-68-3	2.84	< 2.84	
Kyle F. Gross	Iodomethane	74-88-4	7.10	< 7.10	
Laboratory Director	Isobutyl alcohol	78-83-1	142	< 142	
	Isopropyl acetate	108-21-4	14.2	< 14.2	
	Isopropyl alcohol	67-63-0	56.8	< 56.8	
Jose Rocha	Isopropylbenzene	98-82-8	2.84	< 2.84	
QA Officer	Isopropyltoluene	99-87-6	2.84	4.78	
	m,p-Xylene	179601-23-1	2.84	< 2.84	
	Methacrylonitrile	126-98-7	7.10	< 7.10	
	Methyl Acetate	79-20-9	7.10	< 7.10	
	Methyl methacrylate	80-62-6	7.10	< 7.10	
	Methyl tert-butyl ether	1634-04-4	2.84	< 2.84	
	Methylcyclohexane	108-87-2	2.84	< 2.84	
	Methylene chloride	75-09-2	7.10	< 7.10	
	n-Amyl acetate	628-63-7	14.2	< 14.2	
	n-Butyl alcohol	71-36-3	142	< 142	
	n-Butylbenzene	104-51-8	2.84	< 2.84	
	n-Hexane	110-54-3	2.84	< 2.84	
	n-Octane	111-65-9	2.84	< 2.84	
	n-Propylbenzene	103-65-1	2.84	< 2.84	



ORGANIC ANALYTICAL REPORT

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte
Lab Sample ID: 1012003-002A
Client Sample ID: 900 S.
Collection Date: 12/1/2010 0930h
Received Date: 12/1/2010 1040h
Method Used: SW8260C

Contact: Jim Harris

Analyzed: 12/1/2010 1457h

Analytical Results

VOAs by GC/MS Method 8260C

Units: µg/kg-dry

Dilution Factor: 1

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

463 West 3600 South
Salt Lake City, UT

84115

Naphthalene

91-20-3

2.84

< 2.84

o-Xylene

95-47-6

2.84

< 2.84

Pentachloroethane

76-01-7

2.84

< 2.84

Propionitrile

107-12-0

35.5

< 35.5

(801) 263-8686

Propyl acetate

109-60-4

14.2

< 14.2

Toll Free (888) 263-8686

sec-Butylbenzene

135-98-8

2.84

< 2.84

Fax (801)263-8687

Styrene

100-42-5

2.84

< 2.84

email: awal@awal-labs.com

tert-Butyl alcohol

76-65-0

28.4

< 28.4

tert-Butylbenzene

98-06-6

2.84

< 2.84

Kyle F. Gross

Tetrachloroethene

127-18-4

2.84

< 2.84

Laboratory Director

Tetrahydrofuran

109-99-9

2.84

< 2.84

Toluene

108-88-3

2.84

320

Jose Rocha

trans-1,2-Dichloroethene

156-60-5

2.84

< 2.84

QA Officer

trans-1,3-Dichloropropene

10061-02-6

2.84

< 2.84

trans-1,4-Dichloro-2-butene

110-57-6

2.84

< 2.84

Trichloroethene

79-01-6

2.84

< 2.84

Trichlorofluoromethane

75-69-4

2.84

< 2.84

Vinyl acetate

108-05-4

14.2

< 14.2

Vinyl chloride

75-01-4

1.42

< 1.42

Xylenes, Total

1330-20-7

2.84

< 2.84

C11&C12 Aliphatic hydrocarbons

28.4

1,690

C6 Aliphatic hydrocarbons

28.4

< 28.4

C7&C8 Aliphatic hydrocarbons

28.4

< 28.4

C9&C10 Aliphatic hydrocarbons

28.4

78.3

C9&C10 Alkyl Benzenes

28.4

< 28.4

Total Purgable Petroleum Hydrocarbons (C6-C15)

28.4

2,110

TPH C11-C15 (DRO)

28.4

1,690

TPH C6-C10 (GRO)

28.4

421



ORGANIC ANALYTICAL REPORT

AMERICAN
WEST
ANALYTICAL
LABORATORIES

Client: Utah DEQ DERR
Project: Red Butte
Lab Sample ID: 1012003-002A
Client Sample ID: 900 S.
Collection Date: 12/1/2010 0930h
Received Date: 12/1/2010 1040h
Method Used: SW8260C

Contact: Jim Harris

Analyzed: 12/1/2010 1457h

Analytical Results

VOAs by GC/MS Method 8260C

Units: µg/kg-dry

Dilution Factor: 1

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
Surr: 1,2-Dichloroethane-d4	17060-07-0	68-147	90.3	
Surr: 4-Bromofluorobenzene	460-00-4	71-144	116	
Surr: Dibromofluoromethane	1868-53-7	71-129	94.7	
Surr: Toluene-d8	2037-26-5	72-129	109	

The sample was received with headspace.

Sampling and analytical preparation performed by method 5030C.

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer



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Kyle F. Gross

Laboratory Director

Jose Rocha

QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR

Lab Set ID: 1012003

Project: Red Butte

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-9640	1,2,4-Trichlorobenzene	µg/kg	SW8270D	4,360	5,333	0	81.7	27-104				12/2/2010 1100h
LCS-9640	1,4-Dichlorobenzene	µg/kg	SW8270D	4,260	5,333	0	79.9	10-118				12/2/2010 1100h
LCS-9640	2,4,6-Trichlorophenol	µg/kg	SW8270D	3,930	5,333	0	73.7	37-117				12/2/2010 1100h
LCS-9640	2,4-Dimethylphenol	µg/kg	SW8270D	4,360	5,333	0	81.8	29-131				12/2/2010 1100h
LCS-9640	2,4-Dinitrotoluene	µg/kg	SW8270D	7,210	5,333	0	135	10-169				12/2/2010 1100h
LCS-9640	2-Chloronaphthalene	µg/kg	SW8270D	5,090	5,333	0	95.4	23-126				12/2/2010 1100h
LCS-9640	2-Chlorophenol	µg/kg	SW8270D	4,630	5,333	0	86.7	13-114				12/2/2010 1100h
LCS-9640	4,6-Dinitro-2-methylphenol	µg/kg	SW8270D	7,030	5,333	0	132	17-190				12/2/2010 1100h
LCS-9640	4-Chloro-3-methylphenol	µg/kg	SW8270D	4,510	5,333	0	84.6	14-148				12/2/2010 1100h
LCS-9640	4-Nitrophenol	µg/kg	SW8270D	1,360	5,333	0	25.4	10-114				12/2/2010 1100h
LCS-9640	Acenaphthene	µg/kg	SW8270D	5,410	5,333	0	102	29-116				12/2/2010 1100h
LCS-9640	Benzo(a)pyrene	µg/kg	SW8270D	5,190	5,333	0	97.3	38-194				12/2/2010 1100h
LCS-9640	N-Nitrosodi-n-propylamine	µg/kg	SW8270D	4,300	5,333	0	80.6	25-148				12/2/2010 1100h
LCS-9640	Pentachlorophenol	µg/kg	SW8270D	3,450	5,333	0	64.7	10-112				12/2/2010 1100h
LCS-9640	Phenol	µg/kg	SW8270D	4,550	5,333	0	85.3	24-131				12/2/2010 1100h
LCS-9640	Pyrene	µg/kg	SW8270D	6,150	5,333	0	115	22-167				12/2/2010 1100h
LCS-9640	Surr: 2,4,6-Tribromophenol	% REC	SW8270D	4,450	5,333		83.4	10-118				12/2/2010 1100h
LCS-9640	Surr: 2-Fluorobiphenyl	% REC	SW8270D	2,710	2,667		102	22-128				12/2/2010 1100h
LCS-9640	Surr: 2-Fluorophenol	% REC	SW8270D	4,600	5,333		86.3	10-111				12/2/2010 1100h
LCS-9640	Surr: Nitrobenzene-d5	% REC	SW8270D	2,480	2,667		92.8	10-131				12/2/2010 1100h
LCS-9640	Surr: Phenol-d6	% REC	SW8270D	4,670	5,333		87.6	10-157				12/2/2010 1100h
LCS-9640	Surr: Terphenyl-d14	% REC	SW8270D	3,020	2,667		113	22-167				12/2/2010 1100h

LCS-9640: Gel-Permeation Chromatography (GPC) Cleanup, method 3640A, utilized for this sample.



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Kyle F. Gross

Laboratory Director

Jose Rocha

QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1012003
Project: Red Butte

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-9640	1,1'-Biphenyl	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	1,2,4,5-Tetrachlorobenzene	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	1,2,4-Trichlorobenzene	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	1,2-Dichlorobenzene	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	1,3,5-Trinitrobenzene	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	1,3-Dichlorobenzene	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	1,3-Dinitrobenzene	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	1,4-Dichlorobenzene	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	1,4-Naphthoquinone	µg/kg	SW8270D	< 670				-				12/2/2010 1032h
MB-9640	1,4-Phenylenediamine	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	1-Chloronaphthalene	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	1-Methylnaphthalene	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	1-Naphthylamine	µg/kg	SW8270D	< 670				-				12/2/2010 1032h
MB-9640	2,3,4,6-Tetrachlorophenol	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	2,4,5-Trichlorophenol	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	2,4,6-Trichlorophenol	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	2,4-Dichlorophenol	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	2,4-Dimethylphenol	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	2,4-Dinitrophenol	µg/kg	SW8270D	< 670				-				12/2/2010 1032h
MB-9640	2,4-Dinitrotoluene	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	2,6-Dichlorophenol	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	2,6-Dinitrotoluene	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	2-Acetylaminofluorene	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	2-Chloronaphthalene	µg/kg	SW8270D	< 340				-				12/2/2010 1032h

Report Date: 12/6/2010 Page 25 of 47



AMERICAN WEST ANALYTICAL LABORATORIES

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Laboratory Director

Jose Rocha

QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1012003
Project: Red Butte

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-9640	2-Chlorophenol	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	2-Methylnaphthalene	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	2-Methylphenol	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	2-Naphthylamine	µg/kg	SW8270D	< 670				-				12/2/2010 1032h
MB-9640	2-Nitroaniline	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	2-Nitrophenol	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	2-Picoline	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	3&4-Methylphenol	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	3,3'-Dichlorobenzidine	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	3,3'-Dimethylbenzidine	µg/kg	SW8270D	< 670				-				12/2/2010 1032h
MB-9640	3-Methylcholanthrene	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	3-Nitroaniline	µg/kg	SW8270D	< 1,000				-				12/2/2010 1032h
MB-9640	4,6-Dinitro-2-methylphenol	µg/kg	SW8270D	< 670				-				12/2/2010 1032h
MB-9640	4-Aminobiphenyl	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	4-Bromophenyl phenyl ether	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	4-Chloro-3-methylphenol	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	4-Chloroaniline	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	4-Chlorophenyl phenyl ether	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	4-Nitroaniline	µg/kg	SW8270D	< 1,000				-				12/2/2010 1032h
MB-9640	4-Nitrophenol	µg/kg	SW8270D	< 670				-				12/2/2010 1032h
MB-9640	5-Nitro-o-toluidine	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	7,12-Dimethylbenz(a)anthracene	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	a,a-Dimethylphenethylamine	µg/kg	SW8270D	< 670				-				12/2/2010 1032h
MB-9640	Acenaphthene	µg/kg	SW8270D	< 340				-				12/2/2010 1032h

Report Date: 12/6/2010 Page 26 of 47



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: 1012003
Project: Red Butte

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-9640	Acenaphthylene	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Acetophenone	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	alpha-Terpineol	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Aniline	µg/kg	SW8270D	< 670				-				12/2/2010 1032h
MB-9640	Anthracene	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Aramite	µg/kg	SW8270D	< 670				-				12/2/2010 1032h
MB-9640	Azobenzene	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Benz(a)anthracene	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Benzidine	µg/kg	SW8270D	< 1,340				-				12/2/2010 1032h
MB-9640	Benzo(a)pyrene	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Benzo(b)fluoranthene	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Benzo(g,h,i)perylene	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Benzo(k)fluoranthene	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Benzoic acid	µg/kg	SW8270D	< 1,000				-				12/2/2010 1032h
MB-9640	Benzyl alcohol	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Bis(2-chloroethoxy)methane	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Bis(2-chloroethyl) ether	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Bis(2-chloroisopropyl) ether	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Bis(2-ethylhexyl) phthalate	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	bis(2-ethylhexyl)adipate	µg/kg	SW8270D	< 670				-				12/2/2010 1032h
MB-9640	Butyl benzyl phthalate	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	C11-C12 Aliphatic hydrocarbons	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	C11-C13 Alkyl Naphthalenes	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	C13-C16 Aliphatic hydrocarbons	µg/kg	SW8270D	< 340				-				12/2/2010 1032h

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AMERICAN WEST ANALYTICAL LABORATORIES

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Laboratory Director

Jose Rocha

QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR

Lab Set ID: 1012003

Project: Red Butte

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-9640	C17-C21 Aliphatic hydrocarbons	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	C22-C35 Aliphatic hydrocarbons	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Carbazole	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Chlorobenzilate	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Chrysene	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Diallate (cis or trans)	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Dibenz(a,h)anthracene	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Dibenzofuran	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Diethyl phthalate	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Dimethoate	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Dimethyl phthalate	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Dimethylaminoazobenzene	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Di-n-butyl phthalate	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Di-n-octyl phthalate	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Dinoseb	µg/kg	SW8270D	< 670				-				12/2/2010 1032h
MB-9640	Diphenylamine	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Disulfoton	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Ethyl methanesulfonate	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Famphur	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Fluoranthene	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Fluorene	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Hexachlorobenzene	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Hexachlorobutadiene	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Hexachlorocyclopentadiene	µg/kg	SW8270D	< 340				-				12/2/2010 1032h

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QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1012003
Project: Red Butte

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-9640	Hexachloroethane	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Hexachlorophene	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Hexachloropropene	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Indene	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Indeno(1,2,3-cd)pyrene	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Isodrin	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Isophorone	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Isosafrole	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Kepone	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Methapyrilene	µg/kg	SW8270D	< 670				-				12/2/2010 1032h
MB-9640	Methyl methanesulfonate	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Naphthalene	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	n-Decane	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Nitrobenzene	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Nitroquinoline-1-oxide	µg/kg	SW8270D	< 670				-				12/2/2010 1032h
MB-9640	N-Nitrosodiethylamine	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	N-Nitrosodimethylamine	µg/kg	SW8270D	< 670				-				12/2/2010 1032h
MB-9640	N-Nitrosodi-n-butylamine	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	N-Nitrosodiphenylamine	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	N-Nitrosodi-n-propylamine	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	N-Nitrosomethylethylamine	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	N-Nitrosomorpholine	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	N-Nitrosopiperidine	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	N-Nitrosopyrrolidine	µg/kg	SW8270D	< 340				-				12/2/2010 1032h

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QC SUMMARY REPORT

Client: Utah DEQ DERR

Lab Set ID: 1012003

Project: Red Butte

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-9640	n-Octadecane	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	O,O,O-Triethyl phosphorothioate	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	o-Toluidine	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Parathion	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Methyl parathion	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Pentachlorobenzene	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Pentachloronitrobenzene	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Pentachlorophenol	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Phenacetin	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Phenanthrene	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Phenol	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Phorate	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Pronamide	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Pyrene	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Pyridine	µg/kg	SW8270D	< 670				-				12/2/2010 1032h
MB-9640	Quinoline	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Safrole	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Tetraethyl dithiopyrophosphate	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Thionazin	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Total C12-C22 PAH**	µg/kg	SW8270D	< 340				-				12/2/2010 1032h
MB-9640	Surr: 2,4,6-Tribromophenol	% REC	SW8270D	2,210	5,333		41.5	10-118				12/2/2010 1032h
MB-9640	Surr: 2-Fluorobiphenyl	% REC	SW8270D	2,150	2,667		80.8	22-128				12/2/2010 1032h
MB-9640	Surr: 2-Fluorophenol	% REC	SW8270D	3,450	5,333		64.8	10-111				12/2/2010 1032h
MB-9640	Surr: Nitrobenzene-d5	% REC	SW8270D	1,950	2,667		73.2	10-131				12/2/2010 1032h

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Laboratory Director

Jose Rocha

QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR

Lab Set ID: 1012003

Project: Red Butte

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-9640	Surr: Phenol-d6	% REC	SW8270D	3,050	5,333		57.1	10-157				12/2/2010 1032h
MB-9640	Surr: Terphenyl-d14	% REC	SW8270D	3,250	2,667		122	22-167				12/2/2010 1032h

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

MB-9640: Gel-Permeation Chromatography (GPC) Cleanup, method 3640A, utilized for this sample.



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QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1012003
Project: Red Butte

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
1011530-001BMS	1,2,4-Trichlorobenzene	µg/kg-dry	SW8270D	7,390	9,666	0	76.5	10-107				12/2/2010 1155h
1011530-001BMS	1,4-Dichlorobenzene	µg/kg-dry	SW8270D	6,970	9,666	0	72.1	10-90				12/2/2010 1155h
1011530-001BMS	2,4,6-Trichlorophenol	µg/kg-dry	SW8270D	6,510	9,666	0	67.4	26-128				12/2/2010 1155h
1011530-001BMS	2,4-Dimethylphenol	µg/kg-dry	SW8270D	7,510	9,666	0	77.7	10-176				12/2/2010 1155h
1011530-001BMS	2,4-Dinitrotoluene	µg/kg-dry	SW8270D	11,100	9,666	0	115	10-191				12/2/2010 1155h
1011530-001BMS	2-Chloronaphthalene	µg/kg-dry	SW8270D	7,930	9,666	0	82.1	10-132				12/2/2010 1155h
1011530-001BMS	2-Chlorophenol	µg/kg-dry	SW8270D	7,720	9,666	0	79.8	10-107				12/2/2010 1155h
1011530-001BMS	4,6-Dinitro-2-methylphenol	µg/kg-dry	SW8270D	8,550	9,666	0	88.5	10-250				12/2/2010 1155h
1011530-001BMS	4-Chloro-3-methylphenol	µg/kg-dry	SW8270D	7,660	9,666	0	79.2	10-136				12/2/2010 1155h
1011530-001BMS	4-Nitrophenol	µg/kg-dry	SW8270D	1,770	9,666	0	18.3	10-135				12/2/2010 1155h
1011530-001BMS	Acenaphthene	µg/kg-dry	SW8270D	8,200	9,666	0	84.8	31-113				12/2/2010 1155h
1011530-001BMS	Benzo(a)pyrene	µg/kg-dry	SW8270D	7,600	9,666	0	78.6	38-169				12/2/2010 1155h
1011530-001BMS	N-Nitrosodi-n-propylamine	µg/kg-dry	SW8270D	6,900	9,666	0	71.4	10-133				12/2/2010 1155h
1011530-001BMS	Pentachlorophenol	µg/kg-dry	SW8270D	6,230	9,666	0	64.5	20-131				12/2/2010 1155h
1011530-001BMS	Phenol	µg/kg-dry	SW8270D	8,650	9,666	0	89.5	10-71			1	12/2/2010 1155h
1011530-001BMS	Pyrene	µg/kg-dry	SW8270D	9,870	9,666	0	102	31-150				12/2/2010 1155h
1011530-001BMS	Surr: 2,4,6-Tribromophenol	% REC	SW8270D	7,700	9,666		79.7	10-237				12/2/2010 1155h
1011530-001BMS	Surr: 2-Fluorobiphenyl	% REC	SW8270D	3,920	4,834		81.0	17-122				12/2/2010 1155h
1011530-001BMS	Surr: 2-Fluorophenol	% REC	SW8270D	7,400	9,666		76.6	10-139				12/2/2010 1155h
1011530-001BMS	Surr: Nitrobenzene-d5	% REC	SW8270D	3,950	4,834		81.8	10-166				12/2/2010 1155h
1011530-001BMS	Surr: Phenol-d6	% REC	SW8270D	7,460	9,666		77.2	10-144				12/2/2010 1155h
1011530-001BMS	Surr: Terphenyl-d14	% REC	SW8270D	4,840	4,834		100	10-265				12/2/2010 1155h
1012003-001BMS	1,2,4-Trichlorobenzene	µg/kg-dry	SW8270D	5,770	7,478	0	77.1	10-107				12/2/2010 1545h
1012003-001BMS	1,4-Dichlorobenzene	µg/kg-dry	SW8270D	5,230	7,478	0	69.9	10-90				12/2/2010 1545h

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Laboratory Director

Jose Rocha

QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1012003
Project: Red Butte

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
1012003-001BMS	2,4,6-Trichlorophenol	µg/kg-dry	SW8270D	6,350	7,478	0	84.9	26-128				12/2/2010 1545h
1012003-001BMS	2,4-Dimethylphenol	µg/kg-dry	SW8270D	6,100	7,478	0	81.6	10-176				12/2/2010 1545h
1012003-001BMS	2,4-Dinitrotoluene	µg/kg-dry	SW8270D	8,930	7,478	0	119	10-191				12/2/2010 1545h
1012003-001BMS	2-Chloronaphthalene	µg/kg-dry	SW8270D	6,580	7,478	0	88.1	10-132				12/2/2010 1545h
1012003-001BMS	2-Chlorophenol	µg/kg-dry	SW8270D	6,420	7,478	0	85.9	10-107				12/2/2010 1545h
1012003-001BMS	4,6-Dinitro-2-methylphenol	µg/kg-dry	SW8270D	4,850	7,478	0	64.8	10-250				12/2/2010 1545h
1012003-001BMS	4-Chloro-3-methylphenol	µg/kg-dry	SW8270D	6,580	7,478	0	87.9	10-136				12/2/2010 1545h
1012003-001BMS	4-Nitrophenol	µg/kg-dry	SW8270D	< 939	7,478	0	9.13	10-135			¹	12/2/2010 1545h
1012003-001BMS	Acenaphthene	µg/kg-dry	SW8270D	6,910	7,478	0	92.4	31-113				12/2/2010 1545h
1012003-001BMS	Benzo(a)pyrene	µg/kg-dry	SW8270D	5,780	7,478	0	77.3	38-169				12/2/2010 1545h
1012003-001BMS	N-Nitrosodi-n-propylamine	µg/kg-dry	SW8270D	5,710	7,478	0	76.4	10-133				12/2/2010 1545h
1012003-001BMS	Pentachlorophenol	µg/kg-dry	SW8270D	5,590	7,478	0	74.8	20-131				12/2/2010 1545h
1012003-001BMS	Phenol	µg/kg-dry	SW8270D	5,900	7,478	0	78.9	10-71			¹	12/2/2010 1545h
1012003-001BMS	Pyrene	µg/kg-dry	SW8270D	8,440	7,478	0	113	31-150				12/2/2010 1545h
1012003-001BMS	Surr: 2,4,6-Tribromophenol	% REC	SW8270D	6,890	7,478		92.1	10-237				12/2/2010 1545h
1012003-001BMS	Surr: 2-Fluorobiphenyl	% REC	SW8270D	3,280	3,739		87.8	17-122				12/2/2010 1545h
1012003-001BMS	Surr: 2-Fluorophenol	% REC	SW8270D	6,020	7,478		80.5	10-139				12/2/2010 1545h
1012003-001BMS	Surr: Nitrobenzene-d5	% REC	SW8270D	3,160	3,739		84.4	10-166				12/2/2010 1545h
1012003-001BMS	Surr: Phenol-d6	% REC	SW8270D	5,940	7,478		79.5	10-144				12/2/2010 1545h
1012003-001BMS	Surr: Terphenyl-d14	% REC	SW8270D	4,140	3,739		111	10-265				12/2/2010 1545h

¹ - Matrix spike recovery indicates matrix interference. The method is in control as indicated by the LCS.
1011530-001BMS: Gel-Permeation Chromatography (GPC) Cleanup, method 3640A, utilized for this sample.



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QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1012003
Project: Red Butte

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
1011530-001BMSD	1,2,4-Trichlorobenzene	µg/kg-dry	SW8270D	8,220	9,666	0	85.0	10-107	10.6	35		12/2/2010 1230h
1011530-001BMSD	1,4-Dichlorobenzene	µg/kg-dry	SW8270D	7,960	9,666	0	82.3	10-90	13.3	35		12/2/2010 1230h
1011530-001BMSD	2,4,6-Trichlorophenol	µg/kg-dry	SW8270D	7,770	9,666	0	80.4	26-128	17.6	35		12/2/2010 1230h
1011530-001BMSD	2,4-Dimethylphenol	µg/kg-dry	SW8270D	8,170	9,666	0	84.5	10-176	8.37	35		12/2/2010 1230h
1011530-001BMSD	2,4-Dinitrotoluene	µg/kg-dry	SW8270D	12,700	9,666	0	131	10-191	13.0	35		12/2/2010 1230h
1011530-001BMSD	2-Chloronaphthalene	µg/kg-dry	SW8270D	8,700	9,666	0	90.0	10-132	9.23	35		12/2/2010 1230h
1011530-001BMSD	2-Chlorophenol	µg/kg-dry	SW8270D	8,700	9,666	0	90.0	10-107	12.0	35		12/2/2010 1230h
1011530-001BMSD	4,6-Dinitro-2-methylphenol	µg/kg-dry	SW8270D	11,600	9,666	0	120	10-250	30.0	35		12/2/2010 1230h
1011530-001BMSD	4-Chloro-3-methylphenol	µg/kg-dry	SW8270D	8,450	9,666	0	87.5	10-136	9.85	35		12/2/2010 1230h
1011530-001BMSD	4-Nitrophenol	µg/kg-dry	SW8270D	2,250	9,666	0	23.3	10-135	23.8	35		12/2/2010 1230h
1011530-001BMSD	Acenaphthene	µg/kg-dry	SW8270D	9,190	9,666	0	95.1	31-113	11.4	35		12/2/2010 1230h
1011530-001BMSD	Benzo(a)pyrene	µg/kg-dry	SW8270D	8,530	9,666	0	88.2	38-169	11.5	35		12/2/2010 1230h
1011530-001BMSD	N-Nitrosodi-n-propylamine	µg/kg-dry	SW8270D	7,860	9,666	0	81.4	10-133	13.1	35		12/2/2010 1230h
1011530-001BMSD	Pentachlorophenol	µg/kg-dry	SW8270D	7,930	9,666	0	82.1	20-131	24.0	35		12/2/2010 1230h
1011530-001BMSD	Phenol	µg/kg-dry	SW8270D	8,150	9,666	0	84.3	10-71	5.96	35	1	12/2/2010 1230h
1011530-001BMSD	Pyrene	µg/kg-dry	SW8270D	10,700	9,666	0	111	31-150	8.35	35		12/2/2010 1230h
1011530-001BMSD	Surr: 2,4,6-Tribromophenol	%REC	SW8270D	8,930	9,666		92.3	10-237				12/2/2010 1230h
1011530-001BMSD	Surr: 2-Fluorobiphenyl	%REC	SW8270D	4,410	4,834		91.3	17-122				12/2/2010 1230h
1011530-001BMSD	Surr: 2-Fluorophenol	%REC	SW8270D	8,180	9,666		84.6	10-139				12/2/2010 1230h
1011530-001BMSD	Surr: Nitrobenzene-d5	%REC	SW8270D	4,430	4,834		91.7	10-166				12/2/2010 1230h
1011530-001BMSD	Surr: Phenol-d6	%REC	SW8270D	8,270	9,666		85.5	10-144				12/2/2010 1230h
1011530-001BMSD	Surr: Terphenyl-d14	%REC	SW8270D	5,180	4,834		107	10-265				12/2/2010 1230h
1012003-001BMSD	1,2,4-Trichlorobenzene	µg/kg-dry	SW8270D	6,660	7,478	0	89.1	10-107	14.4	35		12/2/2010 1613h
1012003-001BMSD	1,4-Dichlorobenzene	µg/kg-dry	SW8270D	6,210	7,478	0	83.1	10-90	17.2	35		12/2/2010 1613h

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Kyle F. Gross

Laboratory Director

Jose Rocha

QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1012003
Project: Red Butte

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
1012003-001BMSD	2,4,6-Trichlorophenol	µg/kg-dry	SW8270D	7,180	7,478	0	96.0	26-128	12.2	35		12/2/2010 1613h
1012003-001BMSD	2,4-Dimethylphenol	µg/kg-dry	SW8270D	6,870	7,478	0	91.9	10-176	11.9	35		12/2/2010 1613h
1012003-001BMSD	2,4-Dinitrotoluene	µg/kg-dry	SW8270D	10,700	7,478	0	144	10-191	18.4	35		12/2/2010 1613h
1012003-001BMSD	2-Chloronaphthalene	µg/kg-dry	SW8270D	8,130	7,478	0	109	10-132	21.0	35		12/2/2010 1613h
1012003-001BMSD	2-Chlorophenol	µg/kg-dry	SW8270D	7,270	7,478	0	97.2	10-107	12.4	35		12/2/2010 1613h
1012003-001BMSD	4,6-Dinitro-2-methylphenol	µg/kg-dry	SW8270D	5,880	7,478	0	78.6	10-250	19.2	35		12/2/2010 1613h
1012003-001BMSD	4-Chloro-3-methylphenol	µg/kg-dry	SW8270D	7,520	7,478	0	101	10-136	13.4	35		12/2/2010 1613h
1012003-001BMSD	4-Nitrophenol	µg/kg-dry	SW8270D	1,100	7,478	0	14.8	10-135	47.3	35	@	12/2/2010 1613h
1012003-001BMSD	Acenaphthene	µg/kg-dry	SW8270D	8,240	7,478	0	110	31-113	17.6	35		12/2/2010 1613h
1012003-001BMSD	Benzo(a)pyrene	µg/kg-dry	SW8270D	6,890	7,478	0	92.1	38-169	17.5	35		12/2/2010 1613h
1012003-001BMSD	N-Nitrosodi-n-propylamine	µg/kg-dry	SW8270D	6,540	7,478	0	87.5	10-133	13.5	35		12/2/2010 1613h
1012003-001BMSD	Pentachlorophenol	µg/kg-dry	SW8270D	6,230	7,478	0	83.3	20-131	10.9	35		12/2/2010 1613h
1012003-001BMSD	Phenol	µg/kg-dry	SW8270D	7,970	7,478	0	107	10-71	29.8	35	¹	12/2/2010 1613h
1012003-001BMSD	Pyrene	µg/kg-dry	SW8270D	10,100	7,478	0	135	31-150	18.0	35		12/2/2010 1613h
1012003-001BMSD	Surr: 2,4,6-Tribromophenol	%REC	SW8270D	8,190	7,478		110	10-237				12/2/2010 1613h
1012003-001BMSD	Surr: 2-Fluorobiphenyl	%REC	SW8270D	3,850	3,739		103	17-122				12/2/2010 1613h
1012003-001BMSD	Surr: 2-Fluorophenol	%REC	SW8270D	6,590	7,478		88.1	10-139				12/2/2010 1613h
1012003-001BMSD	Surr: Nitrobenzene-d5	%REC	SW8270D	3,510	3,739		93.8	10-166				12/2/2010 1613h
1012003-001BMSD	Surr: Phenol-d6	%REC	SW8270D	6,700	7,478		89.5	10-144				12/2/2010 1613h
1012003-001BMSD	Surr: Terphenyl-d14	%REC	SW8270D	4,890	3,739		131	10-265				12/2/2010 1613h

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

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

1011530-001BMSD: Gel-Permeation Chromatography (GPC) Cleanup, method 3640A, utilized for this sample.



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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: 1012003
Project: Red Butte

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 120110A	1,1,1-Trichloroethane	µg/kg	SW8260C	21.1	20.00	0	106	64-144				12/1/2010 1011h
LCS VOC 120110A	1,1-Dichloroethene	µg/kg	SW8260C	19.0	20.00	0	95.2	36-184				12/1/2010 1011h
LCS VOC 120110A	1,2-Dichlorobenzene	µg/kg	SW8260C	20.5	20.00	0	103	70-134				12/1/2010 1011h
LCS VOC 120110A	1,2-Dichloroethane	µg/kg	SW8260C	17.3	20.00	0	86.5	55-146				12/1/2010 1011h
LCS VOC 120110A	1,2-Dichloropropane	µg/kg	SW8260C	18.6	20.00	0	92.9	56-133				12/1/2010 1011h
LCS VOC 120110A	Benzene	µg/kg	SW8260C	20.4	20.00	0	102	60-130				12/1/2010 1011h
LCS VOC 120110A	Chlorobenzene	µg/kg	SW8260C	21.8	20.00	0	109	75-130				12/1/2010 1011h
LCS VOC 120110A	Chloroform	µg/kg	SW8260C	16.8	20.00	0	84.0	61-130				12/1/2010 1011h
LCS VOC 120110A	Ethylbenzene	µg/kg	SW8260C	21.3	20.00	0	106	69-147				12/1/2010 1011h
LCS VOC 120110A	Isopropylbenzene	µg/kg	SW8260C	21.6	20.00	0	108	65-147				12/1/2010 1011h
LCS VOC 120110A	Methyl tert-butyl ether	µg/kg	SW8260C	20.1	20.00	0	100	33.1-139				12/1/2010 1011h
LCS VOC 120110A	Methylene chloride	µg/kg	SW8260C	16.3	20.00	0	81.7	39-164				12/1/2010 1011h
LCS VOC 120110A	Naphthalene	µg/kg	SW8260C	19.1	20.00	0	95.6	40-131				12/1/2010 1011h
LCS VOC 120110A	Tetrahydrofuran	µg/kg	SW8260C	14.3	20.00	0	71.7	43-146				12/1/2010 1011h
LCS VOC 120110A	Toluene	µg/kg	SW8260C	20.5	20.00	0	103	61-140				12/1/2010 1011h
LCS VOC 120110A	Trichloroethene	µg/kg	SW8260C	20.7	20.00	0	104	51-154				12/1/2010 1011h
LCS VOC 120110A	Xylenes, Total	µg/kg	SW8260C	65.5	60.00	0	109	72-147				12/1/2010 1011h
LCS VOC 120110A	Surr: 1,2-Dichloroethane-d4	% REC	SW8260C	41.8	50.00		83.7	73-132				12/1/2010 1011h
LCS VOC 120110A	Surr: 4-Bromofluorobenzene	% REC	SW8260C	52.0	50.00		104	85-115				12/1/2010 1011h
LCS VOC 120110A	Surr: Dibromofluoromethane	% REC	SW8260C	47.1	50.00		94.3	84-121				12/1/2010 1011h
LCS VOC 120110A	Surr: Toluene-d8	% REC	SW8260C	52.5	50.00		105	85-115				12/1/2010 1011h



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QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1012003
Project: Red Butte

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 120110A	1,1,1,2-Tetrachloroethane	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	1,1,1-Trichloroethane	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	1,1,2,2-Tetrachloroethane	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	1,1,2-Trichloro-1,2,2-trifluoroethane	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	1,1,2-Trichloroethane	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	1,1-Dichloropropene	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	1,1-Dichloroethane	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	1,1-Dichloroethene	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	1,2,3-Trichlorobenzene	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	1,2,3-Trichloropropane	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	1,2,3-Trimethylbenzene	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	1,2,4-Trichlorobenzene	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	1,2,4-Trimethylbenzene	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	1,2-Dibromo-3-chloropropane	µg/kg	SW8260C	< 5.00				-				12/1/2010 1055h
MB VOC 120110A	1,2-Dibromoethane	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	1,2-Dichlorobenzene	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	1,2-Dichloroethane	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	1,2-Dichloropropane	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	1,3,5-Trimethylbenzene	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	1,3-Dichlorobenzene	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	1,3-Dichloropropane	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	1,4-Dichlorobenzene	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	1,4-Dioxane	µg/kg	SW8260C	< 50.0				-				12/1/2010 1055h
MB VOC 120110A	2,2-Dichloropropane	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h

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QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR

Lab Set ID: 1012003

Project: Red Butte

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 120110A	2-Butanone	µg/kg	SW8260C	< 10.0				-				12/1/2010 1055h
MB VOC 120110A	2-Chloroethyl vinyl ether	µg/kg	SW8260C	< 5.00				-				12/1/2010 1055h
MB VOC 120110A	2-Chlorotoluene	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	2-Hexanone	µg/kg	SW8260C	< 5.00				-				12/1/2010 1055h
MB VOC 120110A	2-Nitropropane	µg/kg	SW8260C	< 5.00				-				12/1/2010 1055h
MB VOC 120110A	4-Chlorotoluene	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	4-Isopropyltoluene	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	4-Methyl-2-pentanone	µg/kg	SW8260C	< 5.00				-				12/1/2010 1055h
MB VOC 120110A	Acetone	µg/kg	SW8260C	< 10.0				-				12/1/2010 1055h
MB VOC 120110A	Acetonitrile	µg/kg	SW8260C	< 5.00				-				12/1/2010 1055h
MB VOC 120110A	Acrolein	µg/kg	SW8260C	< 5.00				-				12/1/2010 1055h
MB VOC 120110A	Acrylonitrile	µg/kg	SW8260C	< 10.0				-				12/1/2010 1055h
MB VOC 120110A	Allyl chloride	µg/kg	SW8260C	< 5.00				-				12/1/2010 1055h
MB VOC 120110A	Benzene	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	Benzyl chloride	µg/kg	SW8260C	< 5.00				-				12/1/2010 1055h
MB VOC 120110A	Bis(2-chloroisopropyl) ether	µg/kg	SW8260C	< 5.00				-				12/1/2010 1055h
MB VOC 120110A	Bromobenzene	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	Bromochloromethane	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	Bromodichloromethane	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	Bromoform	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	Bromomethane	µg/kg	SW8260C	< 5.00				-				12/1/2010 1055h
MB VOC 120110A	Butyl acetate	µg/kg	SW8260C	< 10.0				-				12/1/2010 1055h
MB VOC 120110A	C11&C12 Aliphatic hydrocarbons	µg/kg	SW8260C	< 20.0				-				12/1/2010 1055h
MB VOC 120110A	C6 Aliphatic hydrocarbons	µg/kg	SW8260C	< 20.0				-				12/1/2010 1055h

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QC SUMMARY REPORT

Client: Utah DEQ DERR

Lab Set ID: 1012003

Project: Red Butte

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 120110A	C7&C8 Aliphatic hydrocarbons	µg/kg	SW8260C	< 20.0				-				12/1/2010 1055h
MB VOC 120110A	C9&C10 Aliphatic hydrocarbons	µg/kg	SW8260C	< 20.0				-				12/1/2010 1055h
MB VOC 120110A	C9&C10 Alkyl Benzenes	µg/kg	SW8260C	< 20.0				-				12/1/2010 1055h
MB VOC 120110A	Carbon disulfide	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	Carbon tetrachloride	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	Chlorobenzene	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	Chloroethane	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	Chloroform	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	Chloromethane	µg/kg	SW8260C	< 5.00				-				12/1/2010 1055h
MB VOC 120110A	Chloroprene	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	cis-1,2-Dichloroethene	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	cis-1,3-Dichloropropene	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	Cyclohexane	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	Cyclohexanone	µg/kg	SW8260C	< 50.0				-				12/1/2010 1055h
MB VOC 120110A	Dibromochloromethane	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	Dibromomethane	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	Dichlorodifluoromethane	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	Ethyl acetate	µg/kg	SW8260C	< 10.0				-				12/1/2010 1055h
MB VOC 120110A	Ethyl ether	µg/kg	SW8260C	< 10.0				-				12/1/2010 1055h
MB VOC 120110A	Ethyl methacrylate	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	Ethylbenzene	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	Hexachlorobutadiene	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	Iodomethane	µg/kg	SW8260C	< 5.00				-				12/1/2010 1055h
MB VOC 120110A	Isobutyl alcohol	µg/kg	SW8260C	< 100				-				12/1/2010 1055h

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QC SUMMARY REPORT

Client: Utah DEQ DERR

Lab Set ID: 1012003

Project: Red Butte

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 120110A	Isopropyl acetate	µg/kg	SW8260C	< 10.0				-				12/1/2010 1055h
MB VOC 120110A	Isopropyl alcohol	µg/kg	SW8260C	< 40.0				-				12/1/2010 1055h
MB VOC 120110A	Isopropylbenzene	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	Isopropyltoluene	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	m,p-Xylene	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	Methacrylonitrile	µg/kg	SW8260C	< 5.00				-				12/1/2010 1055h
MB VOC 120110A	Methyl Acetate	µg/kg	SW8260C	< 5.00				-				12/1/2010 1055h
MB VOC 120110A	Methyl methacrylate	µg/kg	SW8260C	< 5.00				-				12/1/2010 1055h
MB VOC 120110A	Methyl tert-butyl ether	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	Methylcyclohexane	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	Methylene chloride	µg/kg	SW8260C	< 5.00				-				12/1/2010 1055h
MB VOC 120110A	n-Amyl acetate	µg/kg	SW8260C	< 10.0				-				12/1/2010 1055h
MB VOC 120110A	Naphthalene	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	n-Butyl alcohol	µg/kg	SW8260C	< 100				-				12/1/2010 1055h
MB VOC 120110A	n-Butylbenzene	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	n-Hexane	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	n-Octane	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	n-Propylbenzene	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	o-Xylene	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	Pentachloroethane	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	Propionitrile	µg/kg	SW8260C	< 25.0				-				12/1/2010 1055h
MB VOC 120110A	Propyl acetate	µg/kg	SW8260C	< 10.0				-				12/1/2010 1055h
MB VOC 120110A	sec-Butylbenzene	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	Styrene	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h

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Kyle F. Gross

Laboratory Director

Jose Rocha

QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1012003
Project: Red Butte

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 120110A	tert-Butyl alcohol	µg/kg	SW8260C	< 20.0				-				12/1/2010 1055h
MB VOC 120110A	tert-Butylbenzene	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	Tetrachloroethene	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	Tetrahydrofuran	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	Toluene	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	Total Purgable Petroleum Hydroca	µg/kg	SW8260C	< 20.0				-				12/1/2010 1055h
MB VOC 120110A	TPH C11-C15 (DRO)	µg/kg	SW8260C	< 20.0				-				12/1/2010 1055h
MB VOC 120110A	TPH C6-C10 (GRO)	µg/kg	SW8260C	< 20.0				-				12/1/2010 1055h
MB VOC 120110A	trans-1,2-Dichloroethene	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	trans-1,3-Dichloropropene	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	trans-1,4-Dichloro-2-butene	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	Trichloroethene	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	Trichlorofluoromethane	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	Vinyl acetate	µg/kg	SW8260C	< 10.0				-				12/1/2010 1055h
MB VOC 120110A	Vinyl chloride	µg/kg	SW8260C	< 1.00				-				12/1/2010 1055h
MB VOC 120110A	Xylenes, Total	µg/kg	SW8260C	< 2.00				-				12/1/2010 1055h
MB VOC 120110A	Surr: 1,2-Dichloroethane-d4	%REC	SW8260C	48.3	50.00		96.6	73-132				12/1/2010 1055h
MB VOC 120110A	Surr: 4-Bromofluorobenzene	%REC	SW8260C	53.4	50.00		107	85-115				12/1/2010 1055h
MB VOC 120110A	Surr: Dibromofluoromethane	%REC	SW8260C	52.4	50.00		105	84-121				12/1/2010 1055h
MB VOC 120110A	Surr: Toluene-d8	%REC	SW8260C	53.0	50.00		106	85-115				12/1/2010 1055h

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QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1012003
Project: Red Butte

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
1011530-005AMS	1,1,1-Trichloroethane	µg/kg-dry	SW8260C	31.1	26.59	0	117	20-144				12/1/2010 1139h
1011530-005AMS	1,1-Dichloroethene	µg/kg-dry	SW8260C	30.3	26.59	0	114	24-174				12/1/2010 1139h
1011530-005AMS	1,2-Dichlorobenzene	µg/kg-dry	SW8260C	27.9	26.59	0	105	10-148				12/1/2010 1139h
1011530-005AMS	1,2-Dichloroethane	µg/kg-dry	SW8260C	26.6	26.59	0	100	54-133				12/1/2010 1139h
1011530-005AMS	1,2-Dichloropropane	µg/kg-dry	SW8260C	26.2	26.59	0	98.5	28-140				12/1/2010 1139h
1011530-005AMS	Benzene	µg/kg-dry	SW8260C	28.7	26.59	0	108	17-138				12/1/2010 1139h
1011530-005AMS	Chlorobenzene	µg/kg-dry	SW8260C	30.1	26.59	0	113	13-150				12/1/2010 1139h
1011530-005AMS	Chloroform	µg/kg-dry	SW8260C	24.4	26.59	0	91.6	21-147				12/1/2010 1139h
1011530-005AMS	Ethylbenzene	µg/kg-dry	SW8260C	29.2	26.59	0	110	10-164				12/1/2010 1139h
1011530-005AMS	Isopropylbenzene	µg/kg-dry	SW8260C	28.3	26.59	0	107	26-146				12/1/2010 1139h
1011530-005AMS	Methyl tert-butyl ether	µg/kg-dry	SW8260C	28.5	26.59	0	107	28-137				12/1/2010 1139h
1011530-005AMS	Methylene chloride	µg/kg-dry	SW8260C	26.8	26.59	0	101	10-217				12/1/2010 1139h
1011530-005AMS	Naphthalene	µg/kg-dry	SW8260C	25.2	26.59	0	94.8	13-156				12/1/2010 1139h
1011530-005AMS	Tetrahydrofuran	µg/kg-dry	SW8260C	15.9	26.59	0	59.7	70-130			1	12/1/2010 1139h
1011530-005AMS	Toluene	µg/kg-dry	SW8260C	28.5	26.59	0	107	23-168				12/1/2010 1139h
1011530-005AMS	Trichloroethene	µg/kg-dry	SW8260C	30.0	26.59	0	113	14-161				12/1/2010 1139h
1011530-005AMS	Xylenes, Total	µg/kg-dry	SW8260C	88.2	79.77	0	111	10-160				12/1/2010 1139h
1011530-005AMS	Surr: 1,2-Dichloroethane-d4	% REC	SW8260C	61.7	66.47		92.9	68-147				12/1/2010 1139h
1011530-005AMS	Surr: 4-Bromofluorobenzene	% REC	SW8260C	69.3	66.47		104	71-144				12/1/2010 1139h
1011530-005AMS	Surr: Dibromofluoromethane	% REC	SW8260C	66.7	66.47		100	71-129				12/1/2010 1139h
1011530-005AMS	Surr: Toluene-d8	% REC	SW8260C	69.3	66.47		104	72-129				12/1/2010 1139h
1012003-001AMS	1,1,1-Trichloroethane	µg/kg-dry	SW8260C	29.3	27.76	0	106	20-144				12/1/2010 1541h
1012003-001AMS	1,1-Dichloroethene	µg/kg-dry	SW8260C	29.2	27.76	0	105	24-174				12/1/2010 1541h
1012003-001AMS	1,2-Dichlorobenzene	µg/kg-dry	SW8260C	27.7	27.76	0	99.8	10-148				12/1/2010 1541h

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Laboratory Director

Jose Rocha

QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1012003
Project: Red Butte

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
1012003-001AMS	1,2-Dichloroethane	µg/kg-dry	SW8260C	26.4	27.76	0	95.0	54-133				12/1/2010 1541h
1012003-001AMS	1,2-Dichloropropane	µg/kg-dry	SW8260C	25.5	27.76	0	92.0	28-140				12/1/2010 1541h
1012003-001AMS	Benzene	µg/kg-dry	SW8260C	27.4	27.76	0	98.6	17-138				12/1/2010 1541h
1012003-001AMS	Chlorobenzene	µg/kg-dry	SW8260C	29.5	27.76	0	106	13-150				12/1/2010 1541h
1012003-001AMS	Chloroform	µg/kg-dry	SW8260C	24.2	27.76	0	87.1	21-147				12/1/2010 1541h
1012003-001AMS	Ethylbenzene	µg/kg-dry	SW8260C	28.2	27.76	0	101	10-164				12/1/2010 1541h
1012003-001AMS	Isopropylbenzene	µg/kg-dry	SW8260C	25.7	27.76	0	92.4	26-146				12/1/2010 1541h
1012003-001AMS	Methyl tert-butyl ether	µg/kg-dry	SW8260C	28.6	27.76	0	103	28-137				12/1/2010 1541h
1012003-001AMS	Methylene chloride	µg/kg-dry	SW8260C	27.7	27.76	0	99.6	10-217				12/1/2010 1541h
1012003-001AMS	Naphthalene	µg/kg-dry	SW8260C	20.3	27.76	0	73.2	13-156				12/1/2010 1541h
1012003-001AMS	Tetrahydrofuran	µg/kg-dry	SW8260C	15.4	27.76	0	55.6	70-130			¹	12/1/2010 1541h
1012003-001AMS	Toluene	µg/kg-dry	SW8260C	28.4	27.76	0	102	23-168				12/1/2010 1541h
1012003-001AMS	Trichloroethene	µg/kg-dry	SW8260C	28.5	27.76	0	103	14-161				12/1/2010 1541h
1012003-001AMS	Xylenes, Total	µg/kg-dry	SW8260C	84.6	83.29	0	102	10-160				12/1/2010 1541h
1012003-001AMS	Surr: 1,2-Dichloroethane-d4	%REC	SW8260C	64.6	69.41		93.1	68-147				12/1/2010 1541h
1012003-001AMS	Surr: 4-Bromofluorobenzene	%REC	SW8260C	80.5	69.41		116	71-144				12/1/2010 1541h
1012003-001AMS	Surr: Dibromofluoromethane	%REC	SW8260C	70.3	69.41		101	71-129				12/1/2010 1541h
1012003-001AMS	Surr: Toluene-d8	%REC	SW8260C	75.5	69.41		109	72-129				12/1/2010 1541h

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



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QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1012003
Project: Red Butte

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
1011530-005AMSD	1,1,1-Trichloroethane	µg/kg-dry	SW8260C	32.9	26.59	0	124	20-144	5.65	35		12/1/2010 1201h
1011530-005AMSD	1,1-Dichloroethene	µg/kg-dry	SW8260C	31.1	26.59	0	117	24-174	2.64	35		12/1/2010 1201h
1011530-005AMSD	1,2-Dichlorobenzene	µg/kg-dry	SW8260C	31.7	26.59	0	119	10-148	13.0	35		12/1/2010 1201h
1011530-005AMSD	1,2-Dichloroethane	µg/kg-dry	SW8260C	26.7	26.59	0	100	54-133	0.399	35		12/1/2010 1201h
1011530-005AMSD	1,2-Dichloropropane	µg/kg-dry	SW8260C	27.3	26.59	0	103	28-140	4.27	35		12/1/2010 1201h
1011530-005AMSD	Benzene	µg/kg-dry	SW8260C	30.4	26.59	0	114	17-138	5.63	35		12/1/2010 1201h
1011530-005AMSD	Chlorobenzene	µg/kg-dry	SW8260C	32.9	26.59	0	124	13-150	9.03	35		12/1/2010 1201h
1011530-005AMSD	Chloroform	µg/kg-dry	SW8260C	24.7	26.59	0	93.0	21-147	1.46	35		12/1/2010 1201h
1011530-005AMSD	Ethylbenzene	µg/kg-dry	SW8260C	32.2	26.59	0	121	10-164	9.92	35		12/1/2010 1201h
1011530-005AMSD	Isopropylbenzene	µg/kg-dry	SW8260C	31.5	26.59	0	118	26-146	10.5	35		12/1/2010 1201h
1011530-005AMSD	Methyl tert-butyl ether	µg/kg-dry	SW8260C	29.0	26.59	0	109	28-137	1.71	35		12/1/2010 1201h
1011530-005AMSD	Methylene chloride	µg/kg-dry	SW8260C	29.2	26.59	0	110	10-217	8.53	35		12/1/2010 1201h
1011530-005AMSD	Naphthalene	µg/kg-dry	SW8260C	26.3	26.59	0	98.9	13-156	4.29	35		12/1/2010 1201h
1011530-005AMSD	Tetrahydrofuran	µg/kg-dry	SW8260C	15.0	26.59	0	56.4	70-130	5.60	35	1	12/1/2010 1201h
1011530-005AMSD	Toluene	µg/kg-dry	SW8260C	31.4	26.59	0	118	23-168	9.76	35		12/1/2010 1201h
1011530-005AMSD	Trichloroethene	µg/kg-dry	SW8260C	31.6	26.59	0	119	14-161	5.18	35		12/1/2010 1201h
1011530-005AMSD	Xylenes, Total	µg/kg-dry	SW8260C	97.4	79.77	0	122	10-160	9.89	35		12/1/2010 1201h
1011530-005AMSD	Surr: 1,2-Dichloroethane-d4	% REC	SW8260C	59.4	66.47		89.4	68-147				12/1/2010 1201h
1011530-005AMSD	Surr: 4-Bromofluorobenzene	% REC	SW8260C	73.1	66.47		110	71-144				12/1/2010 1201h
1011530-005AMSD	Surr: Dibromofluoromethane	% REC	SW8260C	64.4	66.47		96.9	71-129				12/1/2010 1201h
1011530-005AMSD	Surr: Toluene-d8	% REC	SW8260C	70.9	66.47		107	72-129				12/1/2010 1201h
1012003-001AMSD	1,1,1-Trichloroethane	µg/kg-dry	SW8260C	26.0	28.04	0	92.6	20-144	12.1	35		12/1/2010 1603h
1012003-001AMSD	1,1-Dichloroethene	µg/kg-dry	SW8260C	26.6	28.04	0	94.9	24-174	9.34	35		12/1/2010 1603h
1012003-001AMSD	1,2-Dichlorobenzene	µg/kg-dry	SW8260C	18.8	28.04	0	67.2	10-148	38.1	35	@	12/1/2010 1603h

Report Date: 12/6/2010 Page 44 of 47



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QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1012003
Project: Red Butte

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
1012003-001AMSD	1,2-Dichloroethane	µg/kg-dry	SW8260C	23.9	28.04	0	85.2	54-133	9.87	35		12/1/2010 1603h
1012003-001AMSD	1,2-Dichloropropane	µg/kg-dry	SW8260C	22.8	28.04	0	81.4	28-140	11.2	35		12/1/2010 1603h
1012003-001AMSD	Benzene	µg/kg-dry	SW8260C	24.2	28.04	0	86.4	17-138	12.1	35		12/1/2010 1603h
1012003-001AMSD	Chlorobenzene	µg/kg-dry	SW8260C	24.0	28.04	0	85.8	13-150	20.5	35		12/1/2010 1603h
1012003-001AMSD	Chloroform	µg/kg-dry	SW8260C	22.0	28.04	0	78.6	21-147	9.26	35		12/1/2010 1603h
1012003-001AMSD	Ethylbenzene	µg/kg-dry	SW8260C	22.3	28.04	0	79.6	10-164	23.2	35		12/1/2010 1603h
1012003-001AMSD	Isopropylbenzene	µg/kg-dry	SW8260C	19.8	28.04	0	70.6	26-146	25.9	35		12/1/2010 1603h
1012003-001AMSD	Methyl tert-butyl ether	µg/kg-dry	SW8260C	25.8	28.04	0	92.1	28-137	10.1	35		12/1/2010 1603h
1012003-001AMSD	Methylene chloride	µg/kg-dry	SW8260C	25.6	28.04	0	91.2	10-217	7.80	35		12/1/2010 1603h
1012003-001AMSD	Naphthalene	µg/kg-dry	SW8260C	13.2	28.04	0	47.2	13-156	42.3	35	@	12/1/2010 1603h
1012003-001AMSD	Tetrahydrofuran	µg/kg-dry	SW8260C	13.3	28.04	0	47.6	70-130	14.6	35	¹	12/1/2010 1603h
1012003-001AMSD	Toluene	µg/kg-dry	SW8260C	24.0	28.04	0	85.5	23-168	16.8	35		12/1/2010 1603h
1012003-001AMSD	Trichloroethene	µg/kg-dry	SW8260C	24.5	28.04	0	87.2	14-161	15.4	35		12/1/2010 1603h
1012003-001AMSD	Xylenes, Total	µg/kg-dry	SW8260C	66.9	84.13	0	79.5	10-160	23.4	35		12/1/2010 1603h
1012003-001AMSD	Surr: 1,2-Dichloroethane-d4	%REC	SW8260C	65.0	70.11		92.7	68-147				12/1/2010 1603h
1012003-001AMSD	Surr: 4-Bromofluorobenzene	%REC	SW8260C	74.5	70.11		106	71-144				12/1/2010 1603h
1012003-001AMSD	Surr: Dibromofluoromethane	%REC	SW8260C	70.7	70.11		101	71-129				12/1/2010 1603h
1012003-001AMSD	Surr: Toluene-d8	%REC	SW8260C	75.7	70.11		108	72-129				12/1/2010 1603h

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

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

Tentatively Identified Compound (LSC) summary

Data Path : M:\SVOAB\Raw Instrument Data 5973-B\DECEMBER10\02DECEMBER10\
 Data File : D66 1012003-001B.D
 Acq On : 2 Dec 2010 3:18 pm
 Operator : ROBERT A MILLAR
 Sample : 1012003-001B
 Misc : SAMP
 ALS Vial : 15 Sample Multiplier: 1

Quant Method : M:\SVOAB\METHODS\QUANT-ORIGINAL-PERPECTFULLSV-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

TIC Top Hit name	RT	EstConc	Units	Response	--Internal Standard--			
					#	RT	Resp Conc	
2-Pentanone, 4-hy...	3.13	107.4 ug/l		4004810	1	4.47	1491510	40.0
Octadecanoic acid	10.16	4.7 ug/l		202075	4	8.83	1723010	40.0
Heptadecane	11.45	4.8 ug/l		201137	5	11.61	1689340	40.0
Heneicosane	12.37	11.6 ug/l		488172	5	11.61	1689340	40.0
2,6,10,14,18,22-T...	12.99	14.9 ug/l		290846	6	13.76	780421	40.0
Nonacosane	13.42	64.3 ug/l		1253900	6	13.76	780421	40.0
1,9-Tetradecadiene	14.26	9.0 ug/l		174770	6	13.76	780421	40.0
Octadecane	14.59	37.9 ug/l		738903	6	13.76	780421	40.0
.beta.-iso-Methyl...	15.19	11.0 ug/l		215544	6	13.76	780421	40.0

Tentatively Identified Compound (LSC) summary

Data Path : M:\SVOAB\Raw Instrument Data 5973-B\DECEMBER10\02DECEMBER10\
 Data File : D69 1012003-002B.D
 Acq On : 2 Dec 2010 4:40 pm
 Operator : ROBERT A MILLAR
 Sample : 1012003-002B
 Misc : SAMP
 ALS Vial : 18 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

TIC Top Hit name	RT	EstConc	Units	Response	--Internal Standard--			
					#	RT	Resp	Conc
2-Pentanone, 4-hy...	3.13	305.9	ug/l	10805000	1	4.47	1412660	40.0
Oleic Acid	10.81	10.6	ug/l	413459	5	11.61	1557180	40.0
Nonacosane	11.44	4.3	ug/l	166827	5	11.61	1557180	40.0
Eicosane	12.36	15.1	ug/l	588233	5	11.61	1557180	40.0
13-Docosenamide, ...	12.83	5.5	ug/l	112982	6	13.76	828233	40.0
2,6,10,14,18,22-T...	12.98	14.4	ug/l	298276	6	13.76	828233	40.0
Nonacosane	13.42	48.8	ug/l	1010340	6	13.76	828233	40.0
Heptadecane	14.59	44.3	ug/l	917787	6	13.76	828233	40.0

American West Analytical Laboratories

WORK ORDER Summary

Client: Utah DEQ DERR
Client ID: UTD100
Project: Red Butte
Comments: No Hard Copies. QC 2+ / Samples for TOC sent to Paragon Labs, sampled for Granular Size sent to IGES;

Contact: Jim Harris
QC Level: LEVEL II+

Work Order: 1012003
 Page 1 of 1
 12/1/2010
WO Type: Standard

HOL-DB

eh

Sample ID	Client Sample ID	Collected Date	Received Date	Date Due	Matrix	Test Code	Sel Storage
1012003-001A	1300 S. & 900 W.	12/1/2010 8:50:00 AM	12/1/2010 10:40:00 AM	12/15/2010	Solid	8260-S	<input checked="" type="checkbox"/> VOCFridge 1
1012003-001B				12/15/2010		3545A-SVOA-PR	<input type="checkbox"/> Hall-Semi
				12/15/2010		8270-S	<input checked="" type="checkbox"/> Hall-Semi
				12/15/2010		PMOIST	<input type="checkbox"/> Hall-Semi
1012003-001C				12/15/2010		OUTSIDE LAB	<input type="checkbox"/> IGES
1012003-001D				12/15/2010		OUTSIDE LAB	<input type="checkbox"/> Paragon
1012003-002A	900 S.	12/1/2010 9:30:00 AM		12/15/2010		8260-S	<input checked="" type="checkbox"/> VOCFridge
1012003-002B				12/15/2010		3545A-SVOA-PR	<input type="checkbox"/> Hall-Semi
				12/15/2010		8270-S	<input checked="" type="checkbox"/> Hall-Semi
				12/15/2010		PMOIST	<input type="checkbox"/> Hall-Semi
1012003-002C				12/15/2010		OUTSIDE LAB	<input type="checkbox"/> IGES
1012003-002D				12/15/2010		OUTSIDE LAB	<input type="checkbox"/> Paragon

