



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 Creek - Hayes Property

Dear Jim Harris:

Lab Set ID: 1101433

463 West 3600 South
Salt Lake City, UT
84115

American West Analytical Laboratories received 1 sample(s) on 1/27/2011 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

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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 Creek - Hayes Property
Lab Sample ID: 1101433-001B
Client Sample ID: Soil Test
Collection Date: 1/27/2011 1440h
Received Date: 1/27/2011 1632h

Contact: Jim Harris

Method: SW8260C

Analytical Results

VOAs by GC/MS Method 8260C

Analyzed: 1/28/2011 1539h

Units: µg/kg-dry

Dilution Factor: 50

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Compound	CAS Number	Reporting Limit	Analytical Result	Qual
1,1,1,2-Tetrachloroethane	630-20-6	127	< 127	
1,1,1-Trichloroethane	71-55-6	127	< 127	
1,1,2,2-Tetrachloroethane	79-34-5	127	< 127	
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	127	< 127	
1,1,2-Trichloroethane	79-00-5	127	< 127	
1,1-Dichloropropene	563-58-6	127	< 127	
1,1-Dichloroethane	75-34-3	127	< 127	
1,1-Dichloroethene	75-35-4	127	< 127	
1,2,3-Trichlorobenzene	87-61-6	127	< 127	
1,2,3-Trichloropropane	96-18-4	127	< 127	
1,2,3-Trimethylbenzene	526-73-8	127	203	
1,2,4-Trichlorobenzene	120-82-1	127	< 127	
1,2,4-Trimethylbenzene	95-63-6	127	473	
1,2-Dibromo-3-chloropropane	96-12-8	318	< 318	
1,2-Dibromoethane	106-93-4	127	< 127	
1,2-Dichlorobenzene	95-50-1	127	< 127	
1,2-Dichloroethane	107-06-2	127	< 127	
1,2-Dichloropropane	78-87-5	127	< 127	@
1,3,5-Trimethylbenzene	108-67-8	127	235	
1,3-Dichlorobenzene	541-73-1	127	< 127	
1,3-Dichloropropane	142-28-9	127	< 127	
1,4-Dichlorobenzene	106-46-7	127	< 127	
1,4-Dioxane	123-91-1	3,180	< 3,180	
2,2-Dichloropropane	594-20-7	127	< 127	
2-Butanone	78-93-3	636	< 636	
2-Chloroethyl vinyl ether	110-75-8	318	< 318	
2-Chlorotoluene	95-49-8	127	< 127	
2-Hexanone	591-78-6	318	< 318	
2-Nitropropane	79-46-9	318	< 318	
4-Chlorotoluene	106-43-4	127	< 127	

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer



Lab Sample ID: 1101433-001B
Client Sample ID: Soil Test
Collection Date: 1/27/2011 1440h
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Method: SW8260C

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Analytical Results

VOAs by GC/MS Method 8260C

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Units: µg/kg-dry

Dilution Factor: 50

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

4-Isopropyltoluene	99-87-6	127	317	
4-Methyl-2-pentanone	108-10-1	318	< 318	
Acetone	67-64-1	636	< 636	
Acetonitrile	75-05-8	318	< 318	
Acrolein	107-02-8	318	< 318	
Acrylonitrile	107-13-1	636	< 636	
Allyl chloride	107-05-1	318	< 318	
Benzene	71-43-2	127	< 127	
Benzyl chloride	100-44-7	318	< 318	
Bis(2-chloroisopropyl) ether	108-60-1	318	< 318	
Bromobenzene	108-86-1	127	< 127	
Bromochloromethane	74-97-5	127	< 127	
Bromodichloromethane	75-27-4	127	< 127	
Bromoform	75-25-2	127	< 127	
Bromomethane	74-83-9	318	< 318	
Butyl acetate	123-86-4	636	< 636	
Carbon disulfide	75-15-0	127	< 127	
Carbon tetrachloride	56-23-5	127	< 127	
Chlorobenzene	108-90-7	127	< 127	
Chloroethane	75-00-3	127	< 127	
Chloroform	67-66-3	127	< 127	
Chloromethane	74-87-3	318	< 318	
Chloroprene	126-99-8	127	< 127	
cis-1,2-Dichloroethene	156-59-2	127	< 127	
cis-1,3-Dichloropropene	10061-01-5	127	< 127	
Cyclohexane	110-82-7	127	< 127	
Cyclohexanone	108-94-1	3,180	< 3,180	
Dibromochloromethane	124-48-1	127	< 127	
Dibromomethane	74-95-3	127	< 127	
Dichlorodifluoromethane	75-71-8	127	< 127	
Ethyl acetate	141-78-6	636	< 636	
Ethyl ether	60-29-7	636	< 636	
Ethyl methacrylate	97-63-2	127	< 127	

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Collection Date: 1/27/2011 1440h
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Method: SW8260C

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Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

Ethylbenzene	100-41-4	127	< 127	
Hexachlorobutadiene	87-68-3	127	< 127	
Iodomethane	74-88-4	318	< 318	
Isobutyl alcohol	78-83-1	6,360	< 6,360	
Isopropyl acetate	108-21-4	636	< 636	
Isopropyl alcohol	67-63-0	2,540	< 2,540	
Isopropylbenzene	98-82-8	127	< 127	
Isopropyltoluene	99-87-6	127	317	
m,p-Xylene	179601-23-1	127	< 127	
Methacrylonitrile	126-98-7	318	< 318	
Methyl Acetate	79-20-9	318	< 318	
Methyl methacrylate	80-62-6	318	< 318	
Methyl tert-butyl ether	1634-04-4	127	< 127	@
Methylcyclohexane	108-87-2	127	200	
Methylene chloride	75-09-2	318	< 318	
n-Amyl acetate	628-63-7	636	< 636	
n-Butyl alcohol	71-36-3	6,360	< 6,360	
n-Butylbenzene	104-51-8	127	< 127	
n-Hexane	110-54-3	127	< 127	
n-Octane	111-65-9	127	2,120	
n-Propylbenzene	103-65-1	127	< 127	
Naphthalene	91-20-3	127	< 127	
o-Xylene	95-47-6	127	< 127	
Pentachloroethane	76-01-7	127	< 127	
Propionitrile	107-12-0	1,590	< 1,590	
Propyl acetate	109-60-4	636	< 636	
sec-Butylbenzene	135-98-8	127	< 127	
Styrene	100-42-5	127	< 127	
tert-Butyl alcohol	76-65-0	1,270	< 1,270	
tert-Butylbenzene	98-06-6	127	< 127	
Tetrachloroethene	127-18-4	127	< 127	
Tetrahydrofuran	109-99-9	127	< 127	
Toluene	108-88-3	127	< 127	

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Client Sample ID: Soil Test
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Received Date: 1/27/2011 1632h

Method: SW8260C

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Units: µg/kg-dry

Dilution Factor: 50

Compound

**CAS
Number**

**Reporting
Limit**

**Analytical
Result**

Qual

trans-1,2-Dichloroethene	156-60-5	127	< 127	
trans-1,3-Dichloropropene	10061-02-6	127	< 127	
trans-1,4-Dichloro-2-butene	110-57-6	127	< 127	
Trichloroethene	79-01-6	127	< 127	
Trichlorofluoromethane	75-69-4	127	< 127	
Vinyl acetate	108-05-4	636	< 636	
Vinyl chloride	75-01-4	63.6	< 63.6	
Xylenes, Total	1330-20-7	127	< 127	
C11&C12 Aliphatic hydrocarbons		1,270	80,600	
C6 Aliphatic hydrocarbons		1,270	< 1,270	
C7&C8 Aliphatic hydrocarbons		1,270	5,020	
C9&C10 Aliphatic hydrocarbons		1,270	37,000	
C9&C10 Alkyl Benzenes		1,270	3,140	
Total Purgable Petroleum Hydrocarbons (C6-C15)		1,270	126,000	
TPH C11-C15 (DRO)		1,270	80,600	
TPH C6-C10 (GRO)		1,270	45,100	
Surr: 1,2-Dichloroethane-d4	17060-07-0	68-147	106	
Surr: 4-Bromofluorobenzene	460-00-4	71-144	99.0	
Surr: Dibromofluoromethane	1868-53-7	71-129	106	
Surr: Toluene-d8	2037-26-5	72-129	97.5	

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

The sample was received with headspace.

The reporting limits were raised due to high analyte concentrations.

Sampling and analytical preparation performed by method 5030C.



ORGANIC ANALYTICAL REPORT

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Client: Utah DEQ DERR
Project: Red Butte Creek - Hayes Property
Lab Sample ID: 1101433-001A
Client Sample ID: Soil Test
Collection Date: 1/27/2011 1440h
Received Date: 1/27/2011 1632h

Contact: Jim Harris

Method: SW8270D

Analytical Results

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

Analyzed: 2/1/2011 1521h **Extracted:** 1/27/2011 1700h

Units: µg/kg-dry

Dilution Factor: 1

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
1-Methylnaphthalene	90-12-0	12.7	143	\$
2-Methylnaphthalene	91-57-6	12.7	56.8	\$
Acenaphthene	83-32-9	12.7	19.5	\$ ¹
Acenaphthylene	208-96-8	12.7	< 12.7	\$
Anthracene	120-12-7	12.7	108	\$
Benz(a)anthracene	56-55-3	12.7	130	\$
Benzo(a)pyrene	50-32-8	12.7	102	\$
Benzo(b)fluoranthene	205-99-2	12.7	73.8	\$
Benzo(g,h,i)perylene	191-24-2	12.7	73.0	\$
Benzo(k)fluoranthene	207-08-9	12.7	56.8	\$
Chrysene	218-01-9	12.7	127	\$
Dibenz(a,h)anthracene	53-70-3	12.7	64.5	\$
Fluoranthene	206-44-0	12.7	95.9	\$
Fluorene	86-73-7	12.7	32.2	\$
Indene	95-13-6	12.7	16.1	\$
Indeno(1,2,3-cd)pyrene	193-39-5	12.7	20.4	\$
Naphthalene	91-20-3	12.7	25.4	\$
Phenanthrene	85-01-8	12.7	112	\$
Pyrene	129-00-0	12.7	107	\$

\$ - Samples utilized SIM analysis to achieve required PQLs.

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

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

Analyzed: 2/2/2011 1359h **Extracted:** 1/27/2011 1700h

Units: µg/kg-dry

Dilution Factor: 1

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
1,1'-Biphenyl	92-52-4	433	< 433	
1,2,4,5-Tetrachlorobenzene	95-94-3	433	< 433	
1,2,4-Trichlorobenzene	120-82-1	433	< 433	
1,2-Dichlorobenzene	95-50-1	433	< 433	

Report Date: 2/8/2011 Page 6 of 34



Lab Sample ID: 1101433-001A
Client Sample ID: Soil Test
Collection Date: 1/27/2011 1440h
Received Date: 1/27/2011 1632h

Method: SW8270D

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LABORATORIES

Analytical Results

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

Analyzed: 2/2/2011 1359h **Extracted:** 1/27/2011 1700h

Units: µg/kg-dry

Dilution Factor: 1

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
1,3,5-Trinitrobenzene	99-35-4	433	< 433	
1,4-Naphthoquinone	130-15-4	853	< 853	
1,3-Dichlorobenzene	541-73-1	433	< 433	
1,3-Dinitrobenzene	99-65-0	433	< 433	
1,4-Dichlorobenzene	106-46-7	433	< 433	1
1,4-Phenylenediamine	106-50-3	433	< 433	
1-Chloronaphthalene	90-13-1	433	< 433	
1-Methylnaphthalene	90-12-0	433	< 433	
1-Naphthylamine	134-32-7	853	< 853	
2,3,4,6-Tetrachlorophenol	58-90-2	433	< 433	
2,4,5-Trichlorophenol	95-95-4	433	< 433	
2,4,6-Trichlorophenol	88-06-2	433	< 433	1
2,4-Dichlorophenol	120-83-2	433	< 433	
2,4-Dimethylphenol	105-67-9	433	< 433	
2,4-Dinitrophenol	51-28-5	853	< 853	
2,4-Dinitrotoluene	121-14-2	433	< 433	
2,6-Dichlorophenol	87-65-0	433	< 433	
2,6-Dinitrotoluene	606-20-2	433	< 433	
2-Acetylaminofluorene	53-96-3	433	< 433	
2-Chloronaphthalene	91-58-7	433	< 433	
2-Chlorophenol	95-57-8	433	< 433	1
2-Methylnaphthalene	91-57-6	433	< 433	
2-Methylphenol	95-48-7	433	< 433	
2-Naphthylamine	91-59-8	853	< 853	
2-Nitroaniline	88-74-4	433	< 433	
2-Nitrophenol	88-75-5	433	< 433	
2-Picoline	109-06-8	433	< 433	
3&4-Methylphenol		433	< 433	
3,3'-Dichlorobenzidine	91-94-1	433	< 433	
3,3'-Dimethylbenzidine	119-93-7	853	< 853	
3-Methylcholanthrene	56-49-5	433	< 433	
3-Nitroaniline	99-09-2	1,270	< 1,270	
4,6-Dinitro-2-methylphenol	534-52-1	853	< 853	@

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer



Lab Sample ID: 1101433-001A
Client Sample ID: Soil Test
Collection Date: 1/27/2011 1440h
Received Date: 1/27/2011 1632h

Method: SW8270D

AMERICAN
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ANALYTICAL
LABORATORIES

Analytical Results

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

Analyzed: 2/2/2011 1359h **Extracted:** 1/27/2011 1700h

Units: µg/kg-dry

Dilution Factor: 1

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
4-Aminobiphenyl	92-67-1	433	< 433	
4-Bromophenyl phenyl ether	101-55-3	433	< 433	
4-Chloro-3-methylphenol	59-50-7	433	< 433	
4-Chloroaniline	106-47-8	433	< 433	
4-Chlorophenyl phenyl ether	7005-72-3	433	< 433	
4-Nitroaniline	100-01-6	1,270	< 1,270	
4-Nitrophenol	100-02-7	853	< 853	
5-Nitro-o-toluidine	99-55-8	433	< 433	
7,12-Dimethylbenz(a)anthracene	57-97-6	433	< 433	
a,a-Dimethylphenethylamine	122-09-8	853	2,250	
Acenaphthene	83-32-9	433	< 433	1
Acenaphthylene	208-96-8	433	< 433	
Acetophenone	98-86-2	433	< 433	
alpha-Terpineol	98-55-5	433	< 433	
Aniline	62-53-3	853	< 853	
Anthracene	120-12-7	433	< 433	
Aramite	140-57-8	853	< 853	
Azobenzene	103-33-3	433	< 433	
Benz(a)anthracene	56-55-3	433	< 433	
Benzidine	92-87-5	1,710	< 1,710	
Benzo(a)pyrene	50-32-8	433	< 433	
Benzo(b)fluoranthene	205-99-2	433	< 433	
Benzo(g,h,i)perylene	191-24-2	433	< 433	
Benzo(k)fluoranthene	207-08-9	433	< 433	
Benzoic acid	65-85-0	1,270	2,980	
Benzyl alcohol	100-51-6	433	< 433	
Bis(2-chloroethoxy)methane	111-91-1	433	< 433	
Bis(2-chloroethyl) ether	111-44-4	433	< 433	
Bis(2-chloroisopropyl) ether	108-60-1	433	< 433	
Bis(2-ethylhexyl) phthalate	117-81-7	433	< 433	
bis(2-ethylhexyl)adipate	103-23-1	853	2,690	
Butyl benzyl phthalate	85-68-7	433	< 433	
Carbazole	86-74-8	433	< 433	

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Client Sample ID: Soil Test
Collection Date: 1/27/2011 1440h
Received Date: 1/27/2011 1632h

Method: SW8270D

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Analytical Results

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

Analyzed: 2/2/2011 1359h **Extracted:** 1/27/2011 1700h

Units: µg/kg-dry

Dilution Factor: 1

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
Chlorobenzilate	510-15-6	433	< 433	
Chrysene	218-01-9	433	< 433	
Di-n-butyl phthalate	84-74-2	433	< 433	
Di-n-octyl phthalate	117-84-0	433	< 433	
Diallate (cis or trans)	2303-16-4	433	< 433	
Dibenz(a,h)anthracene	53-70-3	433	< 433	
Dibenzofuran	132-64-9	433	< 433	
Diethyl phthalate	84-66-2	433	< 433	
Dimethoate	60-51-5	433	< 433	
Dimethyl phthalate	131-11-3	433	< 433	
Dimethylaminoazobenzene	60-11-7	433	< 433	
Dinoseb	88-85-7	853	< 853	
Diphenylamine	122-39-4	433	< 433	
Disulfoton	298-04-4	433	< 433	
Ethyl methanesulfonate	62-50-0	433	< 433	
Famphur	52-85-7	433	< 433	
Fluoranthene	206-44-0	433	< 433	
Fluorene	86-73-7	433	< 433	
Hexachlorobenzene	118-74-1	433	< 433	
Hexachlorobutadiene	87-68-3	433	< 433	
Hexachlorocyclopentadiene	77-47-4	433	< 433	
Hexachloroethane	67-72-1	433	< 433	
Hexachlorophene	70-30-4	433	< 433	
Hexachloropropene	1888-71-7	433	< 433	
Indene	95-13-6	433	< 433	
Indeno(1,2,3-cd)pyrene	193-39-5	433	< 433	
Isodrin	465-73-6	433	< 433	
Isophorone	78-59-1	433	< 433	
Isosafrole	120-58-1	433	< 433	
Kepone	143-50-0	433	< 433	
Methapyrilene	91-80-5	853	987	
Methyl methanesulfonate	66-27-3	433	< 433	
n-Decane	124-18-5	433	1,000	

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Method: SW8270D

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Analyzed: 2/2/2011 1359h Extracted: 1/27/2011 1700h

Units: µg/kg-dry

Dilution Factor: 1

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
N-Nitrosodi-n-butylamine	924-16-3	433	< 433	
N-Nitrosodiethylamine	55-18-5	433	< 433	
N-Nitrosodimethylamine	62-75-9	853	< 853	
N-Nitrosodiphenylamine	86-30-6	433	< 433	
N-Nitrosodi-n-propylamine	621-64-7	433	< 433	
N-Nitrosomethylethylamine	10595-95-6	433	< 433	
N-Nitrosomorpholine	59-89-2	433	< 433	
N-Nitrosopiperidine	100-75-4	433	< 433	
N-Nitrosopyrrolidine	930-55-2	433	< 433	
n-Octadecane	593-45-3	433	1,920	
Naphthalene	91-20-3	433	< 433	
Nitrobenzene	98-95-3	433	< 433	
Nitroquinoline-1-oxide	56-57-5	853	< 853	
O,O,O-Triethyl phosphorothioate	126-68-1	433	< 433	
o-Toluidine	95-53-4	433	< 433	
Parathion	56-38-2	433	< 433	
Methyl parathion	298-00-0	433	< 433	
Pentachlorobenzene	608-93-5	433	< 433	
Pentachloronitrobenzene	82-68-8	433	< 433	
Pentachlorophenol	87-86-5	433	< 433	
Phenacetin	62-44-2	433	< 433	
Phenanthrene	85-01-8	433	< 433	
Phenol	108-95-2	433	< 433	1
Phorate	298-02-2	433	< 433	
Pronamide	23950-58-5	433	< 433	
Pyrene	129-00-0	433	< 433	
Pyridine	110-86-1	853	< 853	
Quinoline	91-22-5	433	< 433	
Safrole	94-59-7	433	< 433	
Tetraethyl dithiopyrophosphate	3689-24-5	433	< 433	
Thionazin	297-97-2	433	< 433	
C11-C12 Aliphatic hydrocarbons		433	8,620	
C13-C16 Aliphatic hydrocarbons		433	11,000	

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Kyle F. Gross
 Laboratory Director
 Jose Rocha
 QA Officer



Lab Sample ID: 1101433-001A
Client Sample ID: Soil Test
Collection Date: 1/27/2011 1440h
Received Date: 1/27/2011 1632h

Method: SW8270D

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Analytical Results

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

Analyzed: 2/2/2011 1359h **Extracted:** 1/27/2011 1700h

Units: µg/kg-dry

Dilution Factor: 1

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
C17-C21 Aliphatic hydrocarbons		433	24,500	
C22-C35 Aliphatic hydrocarbons		433	36,100	
C11-C13 Alkyl Naphthalenes		433	< 433	
Total C12-C22 PAH**		433	< 433	
Surr: 2,4,6-Tribromophenol	118-79-6	10-237	121	
Surr: 2-Fluorobiphenyl	321-60-8	17-179	120	
Surr: 2-Fluorophenol	367-12-4	10-186	122	
Surr: Nitrobenzene-d5	4165-60-0	10-166	145	
Surr: Phenol-d6	13127-88-3	10-194	126	
Surr: Terphenyl-d14	1718-51-0	10-265	149	

^ - 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.

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

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

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Laboratory Director

Jose Rocha

QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1101433
Project: Red Butte Creek - Hayes Property

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-10514	1,2,4-Trichlorobenzene	µg/kg	SW8270D	5,200	5,333	0	97.5	10-129				2/2/2011 1332h
LCS-10514	1,4-Dichlorobenzene	µg/kg	SW8270D	5,850	5,333	0	110	10-129				2/2/2011 1332h
LCS-10514	2,4,6-Trichlorophenol	µg/kg	SW8270D	5,760	5,333	0	108	11-126				2/2/2011 1332h
LCS-10514	2,4-Dimethylphenol	µg/kg	SW8270D	6,170	5,333	0	116	29-131				2/2/2011 1332h
LCS-10514	2,4-Dinitrotoluene	µg/kg	SW8270D	7,020	5,333	0	132	10-169				2/2/2011 1332h
LCS-10514	2-Chloronaphthalene	µg/kg	SW8270D	5,170	5,333	0	97.0	23-126				2/2/2011 1332h
LCS-10514	2-Chlorophenol	µg/kg	SW8270D	6,040	5,333	0	113	10-141				2/2/2011 1332h
LCS-10514	4,6-Dinitro-2-methylphenol	µg/kg	SW8270D	1,470	5,333	0	27.6	10-153				2/2/2011 1332h
LCS-10514	4-Chloro-3-methylphenol	µg/kg	SW8270D	6,400	5,333	0	120	14-148				2/2/2011 1332h
LCS-10514	4-Nitrophenol	µg/kg	SW8270D	4,360	5,333	0	81.8	10-114				2/2/2011 1332h
LCS-10514	Acenaphthene	µg/kg	SW8270D	5,950	5,333	0	112	10-150				2/2/2011 1332h
LCS-10514	Acenaphthene	µg/kg	SW8270D	27.3	266.6	0	10.3	10-150			\$	2/1/2011 0051h
LCS-10514	Benzo(a)pyrene	µg/kg	SW8270D	240	266.6	0	90.0	38-194			\$	2/1/2011 0051h
LCS-10514	Benzo(a)pyrene	µg/kg	SW8270D	5,310	5,333	0	99.6	38-194				2/2/2011 1332h
LCS-10514	N-Nitrosodi-n-propylamine	µg/kg	SW8270D	6,250	5,333	0	117	25-148				2/2/2011 1332h
LCS-10514	Pentachlorophenol	µg/kg	SW8270D	3,470	5,333	0	65.1	10-112				2/2/2011 1332h
LCS-10514	Phenol	µg/kg	SW8270D	6,900	5,333	0	129	10-147				2/2/2011 1332h
LCS-10514	Pyrene	µg/kg	SW8270D	5,850	5,333	0	110	22-167				2/2/2011 1332h
LCS-10514	Pyrene	µg/kg	SW8270D	213	266.6	0	79.8	22-167			\$	2/1/2011 0051h
LCS-10514	Surr: 2,4,6-Tribromophenol	%REC	SW8270D	6,840	5,333		128	10-157				2/2/2011 1332h
LCS-10514	Surr: 2-Fluorobiphenyl	%REC	SW8270D	3,040	2,667		114	22-128				2/2/2011 1332h
LCS-10514	Surr: 2-Fluorophenol	%REC	SW8270D	6,770	5,333		127	10-135				2/2/2011 1332h
LCS-10514	Surr: Nitrobenzene-d5	%REC	SW8270D	3,260	2,667		122	10-145				2/2/2011 1332h

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Kyle F. Gross

Laboratory Director

Jose Rocha

QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1101433
Project: Red Butte Creek - Hayes Property

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-10514	Surr: Phenol-d6	%REC	SW8270D	7,340	5,333		138	10-157				2/2/2011 1332h
LCS-10514	Surr: Terphenyl-d14	%REC	SW8270D	3,730	2,667		140	22-167				2/2/2011 1332h

S - Samples utilized SIM analysis to achieve required PQLs.

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: 1101433
Project: Red Butte Creek - Hayes Property

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-10514	1,1'-Biphenyl	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	1,2,4,5-Tetrachlorobenzene	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	1,2,4-Trichlorobenzene	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	1,2-Dichlorobenzene	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	1,3,5-Trinitrobenzene	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	1,3-Dichlorobenzene	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	1,3-Dinitrobenzene	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	1,4-Dichlorobenzene	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	1,4-Naphthoquinone	µg/kg	SW8270D	< 670				-				2/2/2011 1029h
MB-10514	1,4-Phenylenediamine	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	1-Chloronaphthalene	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	1-Methylnaphthalene	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	1-Methylnaphthalene	µg/kg	SW8270D	< 10.0				-			\$	2/1/2011 1428h
MB-10514	1-Naphthylamine	µg/kg	SW8270D	< 670				-				2/2/2011 1029h
MB-10514	2,3,4,6-Tetrachlorophenol	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	2,4,5-Trichlorophenol	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	2,4,6-Trichlorophenol	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	2,4-Dichlorophenol	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	2,4-Dimethylphenol	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	2,4-Dinitrophenol	µg/kg	SW8270D	< 670				-				2/2/2011 1029h
MB-10514	2,4-Dinitrotoluene	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	2,6-Dichlorophenol	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	2,6-Dinitrotoluene	µg/kg	SW8270D	< 340				-				2/2/2011 1029h

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QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1101433
Project: Red Butte Creek - Hayes Property

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-10514	2-Acetylaminofluorene	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	2-Chloronaphthalene	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	2-Chlorophenol	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	2-Methylnaphthalene	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	2-Methylnaphthalene	µg/kg	SW8270D	< 10.0				-			\$	2/1/2011 1428h
MB-10514	2-Methylphenol	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	2-Naphthylamine	µg/kg	SW8270D	< 670				-				2/2/2011 1029h
MB-10514	2-Nitroaniline	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	2-Nitrophenol	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	2-Picoline	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	3&4-Methylphenol	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	3,3'-Dichlorobenzidine	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	3,3'-Dimethylbenzidine	µg/kg	SW8270D	< 670				-				2/2/2011 1029h
MB-10514	3-Methylcholanthrene	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	3-Nitroaniline	µg/kg	SW8270D	< 1,000				-				2/2/2011 1029h
MB-10514	4,6-Dinitro-2-methylphenol	µg/kg	SW8270D	< 670				-				2/2/2011 1029h
MB-10514	4-Aminobiphenyl	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	4-Bromophenyl phenyl ether	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	4-Chloro-3-methylphenol	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	4-Chloroaniline	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	4-Chlorophenyl phenyl ether	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	4-Nitroaniline	µg/kg	SW8270D	< 1,000				-				2/2/2011 1029h
MB-10514	4-Nitrophenol	µg/kg	SW8270D	< 670				-				2/2/2011 1029h

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QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1101433
Project: Red Butte Creek - Hayes Property

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-10514	5-Nitro-o-toluidine	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	7,12-Dimethylbenz(a)anthracene	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	a,a-Dimethylphenethylamine	µg/kg	SW8270D	< 670				-				2/2/2011 1029h
MB-10514	Acenaphthene	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Acenaphthene	µg/kg	SW8270D	< 10.0				-			\$	2/1/2011 1428h
MB-10514	Acenaphthylene	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Acenaphthylene	µg/kg	SW8270D	< 10.0				-			\$	2/1/2011 1428h
MB-10514	Acetophenone	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	alpha-Terpineol	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Aniline	µg/kg	SW8270D	< 670				-				2/2/2011 1029h
MB-10514	Anthracene	µg/kg	SW8270D	< 10.0				-			\$	2/1/2011 1428h
MB-10514	Anthracene	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Aramite	µg/kg	SW8270D	< 670				-				2/2/2011 1029h
MB-10514	Azobenzene	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Benz(a)anthracene	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Benz(a)anthracene	µg/kg	SW8270D	< 10.0				-			\$	2/1/2011 1428h
MB-10514	Benzidine	µg/kg	SW8270D	< 1,340				-				2/2/2011 1029h
MB-10514	Benzo(a)pyrene	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Benzo(a)pyrene	µg/kg	SW8270D	< 10.0				-			\$	2/1/2011 1428h
MB-10514	Benzo(b)fluoranthene	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Benzo(b)fluoranthene	µg/kg	SW8270D	< 10.0				-			\$	2/1/2011 1428h
MB-10514	Benzo(g,h,i)perylene	µg/kg	SW8270D	< 10.0				-			\$	2/1/2011 1428h
MB-10514	Benzo(g,h,i)perylene	µg/kg	SW8270D	< 340				-				2/2/2011 1029h

Report Date: 2/8/2011 Page 16 of 34



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QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1101433
Project: Red Butte Creek - Hayes Property

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-10514	Benzo(k)fluoranthene	µg/kg	SW8270D	< 10.0				-			\$	2/1/2011 1428h
MB-10514	Benzo(k)fluoranthene	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Benzoic acid	µg/kg	SW8270D	< 1,000				-				2/2/2011 1029h
MB-10514	Benzyl alcohol	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Bis(2-chloroethoxy)methane	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Bis(2-chloroethyl) ether	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Bis(2-chloroisopropyl) ether	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Bis(2-ethylhexyl) phthalate	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	bis(2-ethylhexyl)adipate	µg/kg	SW8270D	< 670				-				2/2/2011 1029h
MB-10514	Butyl benzyl phthalate	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	C11-C12 Aliphatic hydrocarbons	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	C11-C13 Alkyl Naphthalenes	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	C13-C16 Aliphatic hydrocarbons	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	C17-C21 Aliphatic hydrocarbons	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	C22-C35 Aliphatic hydrocarbons	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Carbazole	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Chlorobenzilate	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Chrysene	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Chrysene	µg/kg	SW8270D	< 10.0				-			\$	2/1/2011 1428h
MB-10514	Diallate (cis or trans)	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Dibenz(a,h)anthracene	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Dibenz(a,h)anthracene	µg/kg	SW8270D	< 10.0				-			\$	2/1/2011 1428h
MB-10514	Dibenzofuran	µg/kg	SW8270D	< 340				-				2/2/2011 1029h

Report Date: 2/8/2011 Page 17 of 34



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QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1101433
Project: Red Butte Creek - Hayes Property

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-10514	Diethyl phthalate	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Dimethoate	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Dimethyl phthalate	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Dimethylaminoazobenzene	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Di-n-butyl phthalate	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Di-n-octyl phthalate	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Dinoseb	µg/kg	SW8270D	< 670				-				2/2/2011 1029h
MB-10514	Diphenylamine	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Disulfoton	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Ethyl methanesulfonate	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Famphur	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Fluoranthene	µg/kg	SW8270D	< 10.0				-			\$	2/1/2011 1428h
MB-10514	Fluoranthene	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Fluorene	µg/kg	SW8270D	< 10.0				-			\$	2/1/2011 1428h
MB-10514	Fluorene	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Hexachlorobenzene	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Hexachlorobutadiene	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Hexachlorocyclopentadiene	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Hexachloroethane	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Hexachlorophene	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Hexachloropropene	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Indene	µg/kg	SW8270D	< 10.0				-			\$	2/1/2011 1428h
MB-10514	Indene	µg/kg	SW8270D	< 340				-				2/2/2011 1029h



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Kyle F. Gross

Laboratory Director

Jose Rocha

QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1101433
Project: Red Butte Creek - Hayes Property

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-10514	Indeno(1,2,3-cd)pyrene	µg/kg	SW8270D	< 10.0				-			\$	2/1/2011 1428h
MB-10514	Indeno(1,2,3-cd)pyrene	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Isodrin	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Isophorone	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Isosafrole	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Kepone	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Methapyrilene	µg/kg	SW8270D	< 670				-				2/2/2011 1029h
MB-10514	Methyl methanesulfonate	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Naphthalene	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Naphthalene	µg/kg	SW8270D	< 10.0				-			\$	2/1/2011 1428h
MB-10514	n-Decane	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Nitrobenzene	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Nitroquinoline-1-oxide	µg/kg	SW8270D	< 670				-				2/2/2011 1029h
MB-10514	N-Nitrosodiethylamine	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	N-Nitrosodimethylamine	µg/kg	SW8270D	< 670				-				2/2/2011 1029h
MB-10514	N-Nitrosodi-n-butylamine	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	N-Nitrosodiphenylamine	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	N-Nitrosodi-n-propylamine	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	N-Nitrosomethylethylamine	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	N-Nitrosomorpholine	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	N-Nitrosopiperidine	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	N-Nitrosopyrrolidine	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	n-Octadecane	µg/kg	SW8270D	< 340				-				2/2/2011 1029h

Report Date: 2/8/2011 Page 19 of 34



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QC SUMMARY REPORT**Client:** Utah DEQ DERR
Lab Set ID: 1101433
Project: Red Butte Creek - Hayes Property**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-10514	O,O,O-Triethyl phosphorothioate	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	o-Toluidine	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Parathion	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Methyl parathion	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Pentachlorobenzene	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Pentachloronitrobenzene	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Pentachlorophenol	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Phenacetin	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Phenanthrene	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Phenanthrene	µg/kg	SW8270D	< 10.0				-			\$	2/1/2011 1428h
MB-10514	Phenol	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Phorate	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Pronamide	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Pyrene	µg/kg	SW8270D	< 10.0				-			\$	2/1/2011 1428h
MB-10514	Pyrene	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Pyridine	µg/kg	SW8270D	< 670				-				2/2/2011 1029h
MB-10514	Quinoline	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Safrole	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Tetraethyl dithiopyrophosphate	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Thionazin	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Total C12-C22 PAH**	µg/kg	SW8270D	< 340				-				2/2/2011 1029h
MB-10514	Surr: 2,4,6-Tribromophenol	%REC	SW8270D	5,100	5,333		95.6	10-118				2/2/2011 1029h
MB-10514	Surr: 2-Fluorobiphenyl	%REC	SW8270D	2,800	2,667		105	22-128				2/2/2011 1029h

Report Date: 2/8/2011 Page 20 of 34



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Kyle F. Gross

Laboratory Director

Jose Rocha

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QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1101433
Project: Red Butte Creek - Hayes Property

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-10514	Surr: 2-Fluorophenol	%REC	SW8270D	5,820	5,333		109	10-111				2/2/2011 1029h
MB-10514	Surr: Nitrobenzene-d5	%REC	SW8270D	3,410	2,667		128	10-145				2/2/2011 1029h
MB-10514	Surr: Phenol-d6	%REC	SW8270D	5,930	5,333		111	10-157				2/2/2011 1029h
MB-10514	Surr: Terphenyl-d14	%REC	SW8270D	3,590	2,667		135	22-167				2/2/2011 1029h

§ - Samples utilized SIM analysis to achieve required PQLs.

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

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: 1101433
Project: Red Butte Creek - Hayes Property

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
1101433-001AMS	1,2,4-Trichlorobenzene	µg/kg-dry	SW8270D	6,420	6,786	0	94.7	10-107				2/2/2011 1426h
1101433-001AMS	1,4-Dichlorobenzene	µg/kg-dry	SW8270D	7,070	6,786	0	104	10-90			1	2/2/2011 1426h
1101433-001AMS	2,4,6-Trichlorophenol	µg/kg-dry	SW8270D	8,580	6,786	0	126	26-128				2/2/2011 1426h
1101433-001AMS	2,4-Dimethylphenol	µg/kg-dry	SW8270D	7,990	6,786	0	118	10-176				2/2/2011 1426h
1101433-001AMS	2,4-Dinitrotoluene	µg/kg-dry	SW8270D	8,840	6,786	0	130	10-191				2/2/2011 1426h
1101433-001AMS	2-Chloronaphthalene	µg/kg-dry	SW8270D	8,340	6,786	0	123	10-132				2/2/2011 1426h
1101433-001AMS	2-Chlorophenol	µg/kg-dry	SW8270D	7,690	6,786	0	113	10-107			1	2/2/2011 1426h
1101433-001AMS	4,6-Dinitro-2-methylphenol	µg/kg-dry	SW8270D	3,880	6,786	0	57.2	10-250				2/2/2011 1426h
1101433-001AMS	4-Chloro-3-methylphenol	µg/kg-dry	SW8270D	8,560	6,786	0	126	10-136				2/2/2011 1426h
1101433-001AMS	4-Nitrophenol	µg/kg-dry	SW8270D	8,010	6,786	0	118	10-135				2/2/2011 1426h
1101433-001AMS	Acenaphthene	µg/kg-dry	SW8270D	8,110	6,786	19.51	119	31-113			1	2/2/2011 1426h
1101433-001AMS	Acenaphthene	µg/kg-dry	SW8270D	30.5	339.3	19.51	3.25	31-113			\$1	2/1/2011 0143h
1101433-001AMS	Benzo(a)pyrene	µg/kg-dry	SW8270D	6,060	6,786	101.8	87.9	38-169				2/2/2011 1426h
1101433-001AMS	Benzo(a)pyrene	µg/kg-dry	SW8270D	349	339.3	101.8	72.8	38-169			\$	2/1/2011 0143h
1101433-001AMS	N-Nitrosodi-n-propylamine	µg/kg-dry	SW8270D	8,150	6,786	0	120	10-133				2/2/2011 1426h
1101433-001AMS	Pentachlorophenol	µg/kg-dry	SW8270D	5,680	6,786	0	83.7	20-131				2/2/2011 1426h
1101433-001AMS	Phenol	µg/kg-dry	SW8270D	8,960	6,786	0	132	10-71			1	2/2/2011 1426h
1101433-001AMS	Pyrene	µg/kg-dry	SW8270D	299	339.3	106.9	56.5	31-150			\$	2/1/2011 0143h
1101433-001AMS	Pyrene	µg/kg-dry	SW8270D	8,070	6,786	106.9	117	31-150				2/2/2011 1426h
1101433-001AMS	Surr: 2,4,6-Tribromophenol	%REC	SW8270D	9,140	6,786		135	10-237				2/2/2011 1426h
1101433-001AMS	Surr: 2-Fluorobiphenyl	%REC	SW8270D	3,830	3,394		113	17-179				2/2/2011 1426h
1101433-001AMS	Surr: 2-Fluorophenol	%REC	SW8270D	8,390	6,786		124	10-186				2/2/2011 1426h
1101433-001AMS	Surr: Nitrobenzene-d5	%REC	SW8270D	3,840	3,394		113	10-166				2/2/2011 1426h



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Kyle F. Gross

Laboratory Director

Jose Rocha

QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1101433
Project: Red Butte Creek - Hayes Property

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
1101433-001AMS	Surr: Phenol-d6	%REC	SW8270D	8,930	6,786		132	10-194				2/2/2011 1426h
1101433-001AMS	Surr: Terphenyl-d14	%REC	SW8270D	5,080	3,394		150	10-265				2/2/2011 1426h

S - Samples utilized SIM analysis to achieve required PQLs.

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

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: 1101433
Project: Red Butte Creek - Hayes Property

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
1101433-001AMSD	1,2,4-Trichlorobenzene	µg/kg-dry	SW8270D	6,510	6,786	0	95.9	10-107	1.33	35		2/2/2011 1522h
1101433-001AMSD	1,4-Dichlorobenzene	µg/kg-dry	SW8270D	7,360	6,786	0	109	10-90	4.13	35	'	2/2/2011 1522h
1101433-001AMSD	2,4,6-Trichlorophenol	µg/kg-dry	SW8270D	8,830	6,786	0	130	26-128	2.93	35	'	2/2/2011 1522h
1101433-001AMSD	2,4-Dimethylphenol	µg/kg-dry	SW8270D	8,040	6,786	0	118	10-176	0.635	35		2/2/2011 1522h
1101433-001AMSD	2,4-Dinitrotoluene	µg/kg-dry	SW8270D	9,290	6,786	0	137	10-191	4.98	35		2/2/2011 1522h
1101433-001AMSD	2-Chloronaphthalene	µg/kg-dry	SW8270D	8,540	6,786	0	126	10-132	2.39	35		2/2/2011 1522h
1101433-001AMSD	2-Chlorophenol	µg/kg-dry	SW8270D	7,860	6,786	0	116	10-107	2.14	35	'	2/2/2011 1522h
1101433-001AMSD	4,6-Dinitro-2-methylphenol	µg/kg-dry	SW8270D	2,490	6,786	0	36.7	10-250	43.5	35	@	2/2/2011 1522h
1101433-001AMSD	4-Chloro-3-methylphenol	µg/kg-dry	SW8270D	8,550	6,786	0	126	10-136	0.139	35		2/2/2011 1522h
1101433-001AMSD	4-Nitrophenol	µg/kg-dry	SW8270D	7,910	6,786	0	117	10-135	1.32	35		2/2/2011 1522h
1101433-001AMSD	Acenaphthene	µg/kg-dry	SW8270D	33.9	339.3	19.51	4.25	31-113	10.5	35	\$'	2/1/2011 0210h
1101433-001AMSD	Acenaphthene	µg/kg-dry	SW8270D	8,130	6,786	19.51	119	31-113	0.209	35	'	2/2/2011 1522h
1101433-001AMSD	Benzo(a)pyrene	µg/kg-dry	SW8270D	6,280	6,786	101.8	91.0	38-169	3.49	35		2/2/2011 1522h
1101433-001AMSD	Benzo(a)pyrene	µg/kg-dry	SW8270D	383	339.3	101.8	83.0	38-169	9.50	35	\$	2/1/2011 0210h
1101433-001AMSD	N-Nitrosodi-n-propylamine	µg/kg-dry	SW8270D	8,430	6,786	0	124	10-133	3.39	35		2/2/2011 1522h
1101433-001AMSD	Pentachlorophenol	µg/kg-dry	SW8270D	5,840	6,786	0	86.1	20-131	2.83	35		2/2/2011 1522h
1101433-001AMSD	Phenol	µg/kg-dry	SW8270D	9,200	6,786	0	136	10-71	2.55	35	'	2/2/2011 1522h
1101433-001AMSD	Pyrene	µg/kg-dry	SW8270D	336	339.3	106.9	67.5	31-150	11.8	35	\$	2/1/2011 0210h
1101433-001AMSD	Pyrene	µg/kg-dry	SW8270D	8,140	6,786	106.9	118	31-150	0.858	35		2/2/2011 1522h
1101433-001AMSD	Surr: 2,4,6-Tribromophenol	%REC	SW8270D	8,940	6,786		132	10-237				2/2/2011 1522h
1101433-001AMSD	Surr: 2-Fluorobiphenyl	%REC	SW8270D	3,870	3,394		114	17-179				2/2/2011 1522h
1101433-001AMSD	Surr: 2-Fluorophenol	%REC	SW8270D	8,650	6,786		127	10-186				2/2/2011 1522h
1101433-001AMSD	Surr: Nitrobenzene-d5	%REC	SW8270D	3,950	3,394		117	10-166				2/2/2011 1522h



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QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1101433
Project: Red Butte Creek - Hayes Property

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
1101433-001AMSD	Surr: Phenol-d6	%REC	SW8270D	8,950	6,786		132	10-194				2/2/2011 1522h
1101433-001AMSD	Surr: Terphenyl-d14	%REC	SW8270D	5,090	3,394		150	10-265				2/2/2011 1522h

\$ - Samples utilized SIM analysis to achieve required PQLs.

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

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

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: 1101433
Project: Red Butte Creek - Hayes Property

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-10536	1,1,1-Trichloroethane	µg/kg	SW8260C	870	1,000	0	87.0	64-144				1/28/2011 1623h
LCS-10536	1,1-Dichloroethene	µg/kg	SW8260C	618	1,000	0	61.9	36-184				1/28/2011 1623h
LCS-10536	1,2-Dichlorobenzene	µg/kg	SW8260C	976	1,000	0	97.6	70-134				1/28/2011 1623h
LCS-10536	1,2-Dichloroethane	µg/kg	SW8260C	854	1,000	0	85.4	55-146				1/28/2011 1623h
LCS-10536	1,2-Dichloropropane	µg/kg	SW8260C	738	1,000	0	73.9	56-133				1/28/2011 1623h
LCS-10536	Benzene	µg/kg	SW8260C	831	1,000	0	83.1	60-130				1/28/2011 1623h
LCS-10536	Chlorobenzene	µg/kg	SW8260C	960	1,000	0	96.0	75-130				1/28/2011 1623h
LCS-10536	Chloroform	µg/kg	SW8260C	879	1,000	0	87.9	61-130				1/28/2011 1623h
LCS-10536	Ethylbenzene	µg/kg	SW8260C	906	1,000	0	90.7	69-147				1/28/2011 1623h
LCS-10536	Isopropylbenzene	µg/kg	SW8260C	912	1,000	0	91.2	65-147				1/28/2011 1623h
LCS-10536	Methyl tert-butyl ether	µg/kg	SW8260C	642	1,000	0	64.2	33.1-139				1/28/2011 1623h
LCS-10536	Methylene chloride	µg/kg	SW8260C	1,170	1,000	0	117	39-164				1/28/2011 1623h
LCS-10536	Naphthalene	µg/kg	SW8260C	762	1,000	0	76.2	40-131				1/28/2011 1623h
LCS-10536	Tetrahydrofuran	µg/kg	SW8260C	548	1,000	0	54.8	43-146				1/28/2011 1623h
LCS-10536	Toluene	µg/kg	SW8260C	870	1,000	0	87.1	61-140				1/28/2011 1623h
LCS-10536	Trichloroethene	µg/kg	SW8260C	816	1,000	0	81.6	51-154				1/28/2011 1623h
LCS-10536	Xylenes, Total	µg/kg	SW8260C	2,690	3,000	0	89.6	72-147				1/28/2011 1623h
LCS-10536	Surr: 1,2-Dichloroethane-d4	%REC	SW8260C	2,510	2,500		100	73-132				1/28/2011 1623h
LCS-10536	Surr: 4-Bromofluorobenzene	%REC	SW8260C	2,400	2,500		96.1	85-115				1/28/2011 1623h
LCS-10536	Surr: Dibromofluoromethane	%REC	SW8260C	2,640	2,500		105	84-121				1/28/2011 1623h
LCS-10536	Surr: Toluene-d8	%REC	SW8260C	2,430	2,500		97.3	85-115				1/28/2011 1623h



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QC SUMMARY REPORT

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Project: Red Butte Creek - Hayes Property

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-10536	1,1,1,2-Tetrachloroethane	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	1,1,1-Trichloroethane	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	1,1,2,2-Tetrachloroethane	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	1,1,2-Trichloro-1,2,2-trifluoroethane	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	1,1,2-Trichloroethane	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	1,1-Dichloropropene	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	1,1-Dichloroethane	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	1,1-Dichloroethene	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	1,2,3-Trichlorobenzene	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	1,2,3-Trichloropropane	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	1,2,3-Trimethylbenzene	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	1,2,4-Trichlorobenzene	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	1,2,4-Trimethylbenzene	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	1,2-Dibromo-3-chloropropane	µg/kg	SW8260C	< 250				-				1/28/2011 1645h
MB-10536	1,2-Dibromoethane	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	1,2-Dichlorobenzene	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	1,2-Dichloroethane	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	1,2-Dichloropropane	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	1,3,5-Trimethylbenzene	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	1,3-Dichlorobenzene	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	1,3-Dichloropropane	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	1,4-Dichlorobenzene	µg/kg	SW8260C	< 100				-				1/28/2011 1645h

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Kyle F. Gross

Laboratory Director

Jose Rocha

QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1101433
Project: Red Butte Creek - Hayes Property

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-10536	1,4-Dioxane	µg/kg	SW8260C	< 2,500				-				1/28/2011 1645h
MB-10536	2,2-Dichloropropane	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	2-Butanone	µg/kg	SW8260C	< 500				-				1/28/2011 1645h
MB-10536	2-Chloroethyl vinyl ether	µg/kg	SW8260C	< 250				-				1/28/2011 1645h
MB-10536	2-Chlorotoluene	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	2-Hexanone	µg/kg	SW8260C	< 250				-				1/28/2011 1645h
MB-10536	2-Nitropropane	µg/kg	SW8260C	< 250				-				1/28/2011 1645h
MB-10536	4-Chlorotoluene	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	4-Isopropyltoluene	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	4-Methyl-2-pentanone	µg/kg	SW8260C	< 250				-				1/28/2011 1645h
MB-10536	Acetone	µg/kg	SW8260C	< 500				-				1/28/2011 1645h
MB-10536	Acetonitrile	µg/kg	SW8260C	< 250				-				1/28/2011 1645h
MB-10536	Acrolein	µg/kg	SW8260C	< 250				-				1/28/2011 1645h
MB-10536	Acrylonitrile	µg/kg	SW8260C	< 500				-				1/28/2011 1645h
MB-10536	Allyl chloride	µg/kg	SW8260C	< 250				-				1/28/2011 1645h
MB-10536	Benzene	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	Benzyl chloride	µg/kg	SW8260C	< 250				-				1/28/2011 1645h
MB-10536	Bis(2-chloroisopropyl) ether	µg/kg	SW8260C	< 250				-				1/28/2011 1645h
MB-10536	Bromobenzene	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	Bromochloromethane	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	Bromodichloromethane	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	Bromoform	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	Bromomethane	µg/kg	SW8260C	< 250				-				1/28/2011 1645h

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Jose Rocha

QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1101433
Project: Red Butte Creek - Hayes Property

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-10536	Butyl acetate	µg/kg	SW8260C	< 500				-				1/28/2011 1645h
MB-10536	C11&C12 Aliphatic hydrocarbons	µg/kg	SW8260C	< 1,000				-				1/28/2011 1645h
MB-10536	C6 Aliphatic hydrocarbons	µg/kg	SW8260C	< 1,000				-				1/28/2011 1645h
MB-10536	C7&C8 Aliphatic hydrocarbons	µg/kg	SW8260C	< 1,000				-				1/28/2011 1645h
MB-10536	C9&C10 Aliphatic hydrocarbons	µg/kg	SW8260C	< 1,000				-				1/28/2011 1645h
MB-10536	C9&C10 Alkyl Benzenes	µg/kg	SW8260C	< 1,000				-				1/28/2011 1645h
MB-10536	Carbon disulfide	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	Carbon tetrachloride	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	Chlorobenzene	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	Chloroethane	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	Chloroform	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	Chloromethane	µg/kg	SW8260C	< 250				-				1/28/2011 1645h
MB-10536	Chloroprene	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	cis-1,2-Dichloroethene	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	cis-1,3-Dichloropropene	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	Cyclohexane	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	Cyclohexanone	µg/kg	SW8260C	< 2,500				-				1/28/2011 1645h
MB-10536	Dibromochloromethane	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	Dibromomethane	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	Dichlorodifluoromethane	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	Ethyl acetate	µg/kg	SW8260C	< 500				-				1/28/2011 1645h
MB-10536	Ethyl ether	µg/kg	SW8260C	< 500				-				1/28/2011 1645h
MB-10536	Ethyl methacrylate	µg/kg	SW8260C	< 100				-				1/28/2011 1645h

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Laboratory Director

Jose Rocha

QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1101433
Project: Red Butte Creek - Hayes Property

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-10536	Ethylbenzene	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	Hexachlorobutadiene	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	Iodomethane	µg/kg	SW8260C	< 250				-				1/28/2011 1645h
MB-10536	Isobutyl alcohol	µg/kg	SW8260C	< 5,000				-				1/28/2011 1645h
MB-10536	Isopropyl acetate	µg/kg	SW8260C	< 500				-				1/28/2011 1645h
MB-10536	Isopropyl alcohol	µg/kg	SW8260C	< 2,000				-				1/28/2011 1645h
MB-10536	Isopropylbenzene	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	Isopropyltoluene	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	m,p-Xylene	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	Methacrylonitrile	µg/kg	SW8260C	< 250				-				1/28/2011 1645h
MB-10536	Methyl Acetate	µg/kg	SW8260C	< 250				-				1/28/2011 1645h
MB-10536	Methyl methacrylate	µg/kg	SW8260C	< 250				-				1/28/2011 1645h
MB-10536	Methyl tert-butyl ether	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	Methylcyclohexane	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	Methylene chloride	µg/kg	SW8260C	< 250				-				1/28/2011 1645h
MB-10536	n-Amyl acetate	µg/kg	SW8260C	< 500				-				1/28/2011 1645h
MB-10536	Naphthalene	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	n-Butyl alcohol	µg/kg	SW8260C	< 5,000				-				1/28/2011 1645h
MB-10536	n-Butylbenzene	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	n-Hexane	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	n-Octane	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	n-Propylbenzene	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	o-Xylene	µg/kg	SW8260C	< 100				-				1/28/2011 1645h

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Kyle F. Gross

Laboratory Director

Jose Rocha

QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1101433
Project: Red Butte Creek - Hayes Property

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-10536	Pentachloroethane	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	Propionitrile	µg/kg	SW8260C	< 1,250				-				1/28/2011 1645h
MB-10536	Propyl acetate	µg/kg	SW8260C	< 500				-				1/28/2011 1645h
MB-10536	sec-Butylbenzene	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	Styrene	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	tert-Butyl alcohol	µg/kg	SW8260C	< 1,000				-				1/28/2011 1645h
MB-10536	tert-Butylbenzene	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	Tetrachloroethene	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	Tetrahydrofuran	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	Toluene	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	Total Purgable Petroleum Hydrocarbons (C6-C15)	µg/kg	SW8260C	< 1,000				-				1/28/2011 1645h
MB-10536	TPH C11-C15 (DRO)	µg/kg	SW8260C	< 1,000				-				1/28/2011 1645h
MB-10536	TPH C6-C10 (GRO)	µg/kg	SW8260C	< 1,000				-				1/28/2011 1645h
MB-10536	trans-1,2-Dichloroethene	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	trans-1,3-Dichloropropene	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	trans-1,4-Dichloro-2-butene	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	Trichloroethene	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	Trichlorofluoromethane	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	Vinyl acetate	µg/kg	SW8260C	< 500				-				1/28/2011 1645h
MB-10536	Vinyl chloride	µg/kg	SW8260C	< 50.0				-				1/28/2011 1645h
MB-10536	Xylenes, Total	µg/kg	SW8260C	< 100				-				1/28/2011 1645h
MB-10536	Surr: 1,2-Dichloroethane-d4	%REC	SW8260C	2,780	2,500		111	73-132				1/28/2011 1645h



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Laboratory Director

Jose Rocha

QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1101433
Project: Red Butte Creek - Hayes Property

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-10536	Surr: 4-Bromofluorobenzene	%REC	SW8260C	2,400	2,500		96.1	85-115				1/28/2011 1645h
MB-10536	Surr: Dibromofluoromethane	%REC	SW8260C	2,830	2,500		113	84-121				1/28/2011 1645h
MB-10536	Surr: Toluene-d8	%REC	SW8260C	2,460	2,500		98.5	85-115				1/28/2011 1645h



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Jose Rocha

QA Officer

QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1101433
Project: Red Butte Creek - Hayes Property

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
1101433-001BMS	1,1,1-Trichloroethane	µg/kg-dry	SW8260C	912	1,272	0	71.7	20-144				1/28/2011 1941h
1101433-001BMS	1,1-Dichloroethene	µg/kg-dry	SW8260C	763	1,272	0	60.0	24-174				1/28/2011 1941h
1101433-001BMS	1,2-Dichlorobenzene	µg/kg-dry	SW8260C	1,130	1,272	0	88.9	10-148				1/28/2011 1941h
1101433-001BMS	1,2-Dichloroethane	µg/kg-dry	SW8260C	1,050	1,272	0	82.3	54-133				1/28/2011 1941h
1101433-001BMS	1,2-Dichloropropane	µg/kg-dry	SW8260C	616	1,272	0	48.4	28-140				1/28/2011 1941h
1101433-001BMS	Benzene	µg/kg-dry	SW8260C	889	1,272	0	69.9	17-138				1/28/2011 1941h
1101433-001BMS	Chlorobenzene	µg/kg-dry	SW8260C	1,070	1,272	0	84.3	13-150				1/28/2011 1941h
1101433-001BMS	Chloroform	µg/kg-dry	SW8260C	1,100	1,272	0	86.4	21-147				1/28/2011 1941h
1101433-001BMS	Ethylbenzene	µg/kg-dry	SW8260C	1,010	1,272	0	79.5	10-164				1/28/2011 1941h
1101433-001BMS	Isopropylbenzene	µg/kg-dry	SW8260C	1,040	1,272	0	81.4	26-146				1/28/2011 1941h
1101433-001BMS	Methyl tert-butyl ether	µg/kg-dry	SW8260C	452	1,272	0	35.5	28-137				1/28/2011 1941h
1101433-001BMS	Methylene chloride	µg/kg-dry	SW8260C	1,100	1,272	0	86.7	10-217				1/28/2011 1941h
1101433-001BMS	Naphthalene	µg/kg-dry	SW8260C	1,490	1,272	0	117	13-156				1/28/2011 1941h
1101433-001BMS	Tetrahydrofuran	µg/kg-dry	SW8260C	552	1,272	0	43.4	10-136				1/28/2011 1941h
1101433-001BMS	Toluene	µg/kg-dry	SW8260C	949	1,272	0	74.6	23-168				1/28/2011 1941h
1101433-001BMS	Trichloroethene	µg/kg-dry	SW8260C	751	1,272	0	59.0	14-161				1/28/2011 1941h
1101433-001BMS	Xylenes, Total	µg/kg-dry	SW8260C	2,980	3,817	0	78.0	10-160				1/28/2011 1941h
1101433-001BMS	Surr: 1,2-Dichloroethane-d4	%REC	SW8260C	3,200	3,181		101	68-147				1/28/2011 1941h
1101433-001BMS	Surr: 4-Bromofluorobenzene	%REC	SW8260C	3,050	3,181		95.9	71-144				1/28/2011 1941h
1101433-001BMS	Surr: Dibromofluoromethane	%REC	SW8260C	3,660	3,181		115	71-129				1/28/2011 1941h
1101433-001BMS	Surr: Toluene-d8	%REC	SW8260C	3,070	3,181		96.5	72-129				1/28/2011 1941h



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QC SUMMARY REPORT

Client: Utah DEQ DERR
Lab Set ID: 1101433
Project: Red Butte Creek - Hayes Property

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
1101433-001BMSD	1,1,1-Trichloroethane	µg/kg-dry	SW8260C	978	1,272	0	76.9	20-144	6.93	35		1/28/2011 2003h
1101433-001BMSD	1,1-Dichloroethene	µg/kg-dry	SW8260C	664	1,272	0	52.2	24-174	13.9	35		1/28/2011 2003h
1101433-001BMSD	1,2-Dichlorobenzene	µg/kg-dry	SW8260C	1,110	1,272	0	87.1	10-148	2.05	35		1/28/2011 2003h
1101433-001BMSD	1,2-Dichloroethane	µg/kg-dry	SW8260C	1,020	1,272	0	80.0	54-133	2.90	35		1/28/2011 2003h
1101433-001BMSD	1,2-Dichloropropane	µg/kg-dry	SW8260C	962	1,272	0	75.6	28-140	43.9	35	@	1/28/2011 2003h
1101433-001BMSD	Benzene	µg/kg-dry	SW8260C	958	1,272	0	75.3	17-138	7.51	35		1/28/2011 2003h
1101433-001BMSD	Chlorobenzene	µg/kg-dry	SW8260C	1,060	1,272	0	83.2	13-150	1.31	35		1/28/2011 2003h
1101433-001BMSD	Chloroform	µg/kg-dry	SW8260C	977	1,272	0	76.8	21-147	11.8	35		1/28/2011 2003h
1101433-001BMSD	Ethylbenzene	µg/kg-dry	SW8260C	990	1,272	0	77.8	10-164	2.10	35		1/28/2011 2003h
1101433-001BMSD	Isopropylbenzene	µg/kg-dry	SW8260C	1,020	1,272	0	80.2	26-146	1.49	35		1/28/2011 2003h
1101433-001BMSD	Methyl tert-butyl ether	µg/kg-dry	SW8260C	779	1,272	0	61.2	28-137	53.2	35	@	1/28/2011 2003h
1101433-001BMSD	Methylene chloride	µg/kg-dry	SW8260C	998	1,272	0	78.5	10-217	9.99	35		1/28/2011 2003h
1101433-001BMSD	Naphthalene	µg/kg-dry	SW8260C	1,440	1,272	0	113	13-156	3.55	35		1/28/2011 2003h
1101433-001BMSD	Tetrahydrofuran	µg/kg-dry	SW8260C	621	1,272	0	48.8	10-136	11.7	35		1/28/2011 2003h
1101433-001BMSD	Toluene	µg/kg-dry	SW8260C	952	1,272	0	74.8	23-168	0.268	35		1/28/2011 2003h
1101433-001BMSD	Trichloroethene	µg/kg-dry	SW8260C	924	1,272	0	72.7	14-161	20.7	35		1/28/2011 2003h
1101433-001BMSD	Xylenes, Total	µg/kg-dry	SW8260C	2,910	3,817	0	76.2	10-160	2.27	35		1/28/2011 2003h
1101433-001BMSD	Surr: 1,2-Dichloroethane-d4	%REC	SW8260C	3,120	3,181		98.1	68-147				1/28/2011 2003h
1101433-001BMSD	Surr: 4-Bromofluorobenzene	%REC	SW8260C	3,090	3,181		97.3	71-144				1/28/2011 2003h
1101433-001BMSD	Surr: Dibromofluoromethane	%REC	SW8260C	3,230	3,181		102	71-129				1/28/2011 2003h
1101433-001BMSD	Surr: Toluene-d8	%REC	SW8260C	3,120	3,181		98.0	72-129				1/28/2011 2003h

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

American West Analytical Laboratories

WORK ORDER Summary

Client: Utah DEQ DERR
Client ID: UTD100
Project: Red Butte Creek - Hayes Property
Comments: No Hard Copies. QC 2+. Use SIM Mode on PAHs. TOC sent to Paragon. Grain Size sent to IGES;

Contact: Jim Harris
QC Level: LEVEL II+

Work Order: 1101433
 Page 1 of 1
 1/28/2011
WO Type: Standard

DB

Sample ID	Client Sample ID	Collected Date	Received Date	Date Due	Matrix	Test Code	Sel Storage
1101433-001A	Soil Test	1/27/2011 2:40:00 PM	1/27/2011 4:32:00 PM	2/10/2011	Soil	3545A-SVOA-PR	<input type="checkbox"/> hall - semi / pmoist 2
				2/10/2011		8270-S	<input checked="" type="checkbox"/> hall - semi / pmoist
				2/10/2011		PMOIST	<input type="checkbox"/> hall - semi / pmoist
1101433-001B				2/10/2011		8260-S	<input checked="" type="checkbox"/> VOCFridge 1
1101433-001C				2/10/2011		OUTSIDE LAB	<input type="checkbox"/> Paragon
1101433-001D				2/10/2011		OUTSIDE LAB	<input type="checkbox"/> IGES

Client B DW Q
 Address 195 N 1460 W
 City State Zip
 Phone 541-3069 Fax _____
 Contact Jim Harris
 E-mail jharris@utah.gov
 Project Name Hayes Property Soil Test
 Project Number/P.O.# _____
 Sampler Name Ben Brown



AMERICAN WEST ANALYTICAL LABORATORIES
 463 West 3600 South Salt Lake City, Utah 84115
 (801) 263-8686 (888) 263-8686
 Fax (801) 263-8687 Email: awal@awal-labs.com

CHAIN OF CUSTODY

Lab Sample Set # 1101433
 Page _____ of _____

Turn Around Time (Circle One) *Per Jim Harris*
 1 day 2 day 3 day 4 day 5 day Standard *DB 11/27/11*

Sample ID	Date/Time Collected	Matrix	Number of Containers (Total)	TESTS REQUIRED						QC LEVEL			COMMENTS	
				TPH	Frac.	VOC	SVOC	8270	TOL	Grain size	1	2		2+
Red Butte Ck - Hayes Property	01/27/2011 1440			✓		✓	✓	✓	✓	✓				

LABORATORY USE ONLY

SAMPLES WERE:

1 Shipped or hand delivered
 Notes: Standard

2 Ambient or Chilled
 Notes: Chilled

3 Temperature 7.2°

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

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

6 Received Within Holding Times
Y N
 Notes: N

Relinquished By: Signature <u>Benjamin R. Brown</u>	Date <u>01/27/11</u>	Received By: Signature <u>Denise Brown</u>	Date <u>1/27/11</u>
PRINT NAME <u>Benjamin R. Brown</u>	Time <u>16:32</u>	PRINT NAME <u>Denise Brown</u>	Time <u>16:32</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: PAHS DB 1/28/11
Run SVOCs by
Sim made per Jim Harris-
DB 1/27/11

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: N