

Jim Harris Utah Division of Water Quality PO Box 144870 SLC, UT 84114

TEL: (801) 538-6329

463 West 3600 South	Dear Jim Harris:	Lab Set ID: 1405519	
Salt Lake City, UT 84115	American West Analytical Laboratories receive analyses presented in the following report.	ed 2 sample(s) on 5/27/2014 for the	
Phone: (801) 263-8686 Foll Free: (888) 263-8686 Fax: (801) 263-8687	American West Analytical Laboratories (AWA Environmental Laboratory Accreditation Progstate accredited in Colorado, Idaho, New Mex	ram (NELAP) in Utah and Texas; and is	
-mail: awal@awal-labs.com web: www.awal-labs.com	All analyses were performed in accordance to otherwise. Accreditation scope documents are questions or concerns regarding this report ple	available upon request. If you have any	
Kyle F. Gross Laboratory Director Jose Rocha QA Officer	The abbreviation "Surr" found in organic repointentionally added by the laboratory to determ purging efficiency. The "Reporting Limit" for practical quantitation limit (PQL). This is the reported by the method referenced and the san confused with any regulatory limit. Analytical figures for quality control and calculation purp	nine sample injection, extraction, and/or and on the report is equivalent to the minimum concentration that can be apple matrix. The reporting limit must not be results are reported to three significant	эe
	Thank You,		
	Approved by:	 uee	



INORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality Contact: Jim Harris

Project:

Lab Sample ID: 1405519-001

Client Sample ID: Green River Above Ruby Ranch (Background Sample of River Water)

Collection Date: 5/22/2014 1400h **Received Date:** 5/27/2014 843h

Analytical Results

463 West 3600 South Salt Lake City, UT 84115

Compound	Units	Date Prepared	Date Analy		Method Used	Reporting Limit	Analytical Result	Qual
SGT-HEM/Non-Polar Material	mg/L		5/27/2014	1400h	E1664A-SGT	3.00	< 3.00	
Total Dissolved Solids	mg/L		5/27/2014	1033h	SM2540C	20.0	392	

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Kyle F. Gross Laboratory Director

> Jose Rocha QA Officer



INORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality Contact: Jim Harris

Project:

Lab Sample ID: 1405519-002

Client Sample ID: SW Energy Well Pad #1 (Production Water Sample)

Collection Date: 5/22/2014 1150h **Received Date:** 5/27/2014 843h

Analytical Results

463 West 3600 South Salt Lake City, UT 84115

Compound	Units	Date Prepared	Date Analyz		Method Used	Reporting Limit	Analytical Result	Qual
SGT-HEM/Non-Polar Material	mg/L		5/27/2014	1400h	E1664A-SGT	3.00	12,300	
Total Dissolved Solids	mg/L		5/27/2014	1033h	SM2540C	500	187,000	

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Kyle F. Gross Laboratory Director

> Jose Rocha QA Officer

> > Report Date: 5/29/2014 Page 3 of 32



ORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality Contact: Jim Harris

Project:

Lab Sample ID: 1405519-002A

Client Sample ID: SW Energy Well Pad #1 (Production Water Sample)

Collection Date: 5/22/2014 1150h **Received Date:** 5/27/2014 843h

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

Analyzed: 5/27/2014 1428h **Extracted:** 5/27/2014 1010h

The reporting limits were raised due to high analyte concentrations.

Units: mg/L Dilution Factor: 200 Method: SW8015D

Insufficient sample mass/volume was received to perform MS/MSD analysis. An LCSD was added to provide precision data.

S - High surrogate recovery attributed to TPH interference. The method is in control as indicated by the method blank and LCS.

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CAS Reporting **Analytical** Number Limit Result Compound Qual Diesel Range Organics (DRO) (C10-C28) 1,000 68476-34-6 8,650 Surrogate CAS Result **Amount Spiked** % REC Limits Qual S Surr: 4-Bromofluorobenzene 460-00-4 44.1 0.4444 9,910 10-190

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> Jose Rocha QA Officer

> > Report Date: 5/29/2014 Page 4 of 32

Test Code: 8015-W-TPH(1L)



ORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality **Contact:** Jim Harris

Project:

1405519-001A Lab Sample ID:

Client Sample ID: Green River Above Ruby Ranch (Background Sample of River Water)

Collection Date: 5/22/2014 1400h

Received Date: 5/27/2014 843h Test Code: 8270-W

SVOA TCL List by GC/MS Method 8270D/3510C **Analytical Results Analyzed:** 5/27/2014 1804h 5/27/2014 1136h

Extracted:

SW8270D Units: µg/L **Dilution Factor:** 1 Method:

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Kyle F. Gross **Laboratory Director**

> Jose Rocha **QA** Officer

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
1,1´-Biphenyl	92-52-4	10.0	< 10.0	
1,2,4,5-Tetrachlorobenzene	95-94-3	10.0	< 10.0	
2,3,4,6-Tetrachlorophenol	58-90-2	10.0	< 10.0	
2,4,5-Trichlorophenol	95-95-4	10.0	< 10.0	
2,4,6-Trichlorophenol	88-06-2	10.0	< 10.0	
2,4-Dichlorophenol	120-83-2	10.0	< 10.0	
2,4-Dimethylphenol	105-67-9	10.0	< 10.0	
2,4-Dinitrophenol	51-28-5	10.0	< 10.0	
2,4-Dinitrotoluene	121-14-2	10.0	< 10.0	
2,6-Dinitrotoluene	606-20-2	10.0	< 10.0	
2-Chloronaphthalene	91-58-7	10.0	< 10.0	
2-Chlorophenol	95-57-8	10.0	< 10.0	
2-Methylnaphthalene	91-57-6	10.0	< 10.0	
2-Methylphenol	95-48-7	10.0	< 10.0	
2-Nitroaniline	88-74-4	10.0	< 10.0	
2-Nitrophenol	88-75-5	10.0	< 10.0	
3&4-Methylphenol		10.0	< 10.0	
3,3´-Dichlorobenzidine	91-94-1	10.0	< 10.0	
3-Nitroaniline	99-09-2	10.0	< 10.0	
4,6-Dinitro-2-methylphenol	534-52-1	10.0	< 10.0	
4-Bromophenyl phenyl ether	101-55-3	10.0	< 10.0	
4-Chloro-3-methylphenol	59-50-7	10.0	< 10.0	
4-Chloroaniline	106-47-8	10.0	< 10.0	
4-Chlorophenyl phenyl ether	7005-72-3	10.0	< 10.0	
4-Nitroaniline	100-01-6	10.0	< 10.0	
4-Nitrophenol	100-02-7	10.0	< 10.0	
Acenaphthene	83-32-9	10.0	< 10.0	
Acenaphthylene	208-96-8	10.0	< 10.0	
Acetophenone	98-86-2	10.0	< 10.0	
Anthracene	120-12-7	10.0	< 10.0	

Report Date: 5/29/2014 Page 5 of 32



1405519-001A Lab Sample ID:

Client Sample ID: Green River Above Ruby Ranch (Background Sample of River Water)

Method:

SW8270D

Analyzed: 5/27/2014 1804h 5/27/2014 1136h **Extracted:**

Units: $\mu g/L$ **Dilution Factor:** 1

			1.2011541		
American West	Compound	CAS Number	Reporting Limit	Analytical Result	Qual
	Atrazine	1912-24-9	10.0	< 10.0	
	Benz(a)anthracene	56-55-3	10.0	< 10.0	
	Benzaldehyde	100-52-7	10.0	< 10.0	
	Benzo(a)pyrene	50-32-8	10.0	< 10.0	
463 West 3600 South	Benzo(b)fluoranthene	205-99-2	10.0	< 10.0	
Salt Lake City, UT 84115	Benzo(g,h,i)perylene	191-24-2	10.0	< 10.0	
	Benzo(k)fluoranthene	207-08-9	10.0	< 10.0	
	Bis(2-chloroethoxy)methane	111-91-1	10.0	< 10.0	
Phone: (801) 263-8686	Bis(2-chloroethyl) ether	111-44-4	10.0	< 10.0	
Toll Free: (888) 263-8686	Bis(2-chloroisopropyl) ether	108-60-1	10.0	< 10.0	
Fax: (801) 263-8687	Butyl benzyl phthalate	85-68-7	10.0	< 10.0	
e-mail: awal@awal-labs.com	Caprolactam	105-60-2	10.0	< 10.0	
	Carbazole	86-74-8	10.0	< 10.0	
web: www.awal-labs.com	Chrysene	218-01-9	10.0	< 10.0	
	Dibenz(a,h)anthracene	53-70-3	10.0	< 10.0	
	Dibenzofuran	132-64-9	10.0	< 10.0	
Kyle F. Gross	Diethyl phthalate	84-66-2	10.0	< 10.0	
Laboratory Director	Dimethyl phthalate	131-11-3	10.0	< 10.0	
	Di-n-butyl phthalate	84-74-2	10.0	< 10.0	
Jose Rocha	Di-n-octyl phthalate	117-84-0	10.0	< 10.0	
QA Officer	Fluoranthene	206-44-0	10.0	< 10.0	
	Fluorene	86-73-7	10.0	< 10.0	
	Hexachlorobenzene	118-74-1	10.0	< 10.0	
	Hexachlorobutadiene	87-68-3	10.0	< 10.0	
	Hexachlorocyclopentadiene	77-47-4	10.0	< 10.0	
	Hexachloroethane	67-72-1	10.0	< 10.0	
	Indeno(1,2,3-cd)pyrene	193-39-5	10.0	< 10.0	
	Isophorone	78-59-1	10.0	< 10.0	
	Naphthalene	91-20-3	10.0	< 10.0	
	Nitrobenzene	98-95-3	10.0	< 10.0	
	N-Nitrosodi-n-propylamine	621-64-7	10.0	< 10.0	
	N-Nitrosodiphenylamine	86-30-6	10.0	< 10.0	
	Pentachlorophenol	87-86-5	10.0	< 10.0	
	Phenanthrene	85-01-8	10.0	< 10.0	
	Phenol	108-95-2	10.0	< 10.0	
	Pyrene	129-00-0	10.0	< 10.0	



Lab Sample ID: 1405519-001A

Client Sample ID: Green River Above Ruby Ranch (Background Sample of River Water)

Analyzed: 5/27/2014 1804h **Extracted:** 5/27/2014 1136h

Units: $\mu g/L$ Dilution Factor: 1 Method: SW8270D

Surrogate	CAS	Result	Amount Spiked	% REC	Limits	Qual
Surr: 2,4,6-Tribromophenol	118-79-6	67.2	80.00	84.0	14-159	
Surr: 2-Fluorobiphenyl	321-60-8	13.9	40.00	34.6	10-124	
Surr: 2-Fluorophenol	367-12-4	27.4	80.00	34.2	10-106	
Surr: Nitrobenzene-d5	4165-60-0	13.9	40.00	34.7	10-180	
Surr: Phenol-d6	13127-88-3	19.8	80.00	24.8	10-122	
Surr: Terphenyl-d14	1718-51-0	25.0	40.00	62.4	10-221	

463 West 3600 South Salt Lake City, UT 84115

Analyzed: 5/28/2014 2319h **Extracted:** 5/28/2014 1058h

Compound			CAS umber	Reporting Limit	Analytical Result	Qual
Bis(2-ethylhexyl) phthalate		11	17-81-7	10.0	< 10.0	
Surrogate	CAS	Result	Amount Spike	ed % REC	Limits	Qual
Surr: 2,4,6-Tribromophenol	118-79-6	133	160.0	83.3	14-159	
Surr: 2-Fluorobiphenyl	321-60-8	39.6	80.00	49.4	10-124	
Surr: 2-Fluorophenol	367-12-4	61.9	160.0	38.7	10-106	
Surr: Nitrobenzene-d5	4165-60-0	40.3	80.00	50.3	10-180	
Surr: Phenol-d6	13127-88-3	46.6	160.0	29.1	10-122	
Surr: Terphenyl-d14	1718-51-0	59.2	80.00	74.0	10-221	

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Kyle F. Gross Laboratory Director

> Jose Rocha QA Officer



ORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality **Contact:** Jim Harris

Project:

1405519-001B Lab Sample ID:

Client Sample ID: Green River Above Ruby Ranch (Background Sample of River Water)

Collection Date: 5/22/2014 1400h

Received Date: 5/27/2014 843h Test Code: 8260-W

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

Analytical

Analytical Results

Analyzed: 5/27/2014 1150h SW8260C Units: µg/L **Dilution Factor:** 1 Method:

463 West 3600 South

CAS Reporting Salt Lake City, UT 84115 Phone: (801) 263-8686 Toll Free: (888) 263-8686

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Lake City, UT 84115	Compound	Number	Limit	Result Qual	
	1,1,1-Trichloroethane	71-55-6	2.00	< 2.00	
	1,1,2,2-Tetrachloroethane	79-34-5	2.00	< 2.00	
Phone: (801) 263-8686	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	2.00	< 2.00	
l Free: (888) 263-8686	1,1,2-Trichloroethane	79-00-5	2.00	< 2.00	
Fax: (801) 263-8687	1,1-Dichloroethane	75-34-3	2.00	< 2.00	
ail: awal@awal-labs.com	1,1-Dichloroethene	75-35-4	2.00	< 2.00	
	1,2,4-Trichlorobenzene	120-82-1	2.00	< 2.00	
o: www.awal-labs.com	1,2-Dibromo-3-chloropropane	96-12-8	5.00	< 5.00	
	1,2-Dibromoethane	106-93-4	2.00	< 2.00	
Kyle F. Gross	1,2-Dichlorobenzene	95-50-1	2.00	< 2.00	
Laboratory Director	1,2-Dichloroethane	107-06-2	2.00	< 2.00	
Euroratory Director	1,2-Dichloropropane	78-87-5	2.00	< 2.00	
Jose Rocha	1,3-Dichlorobenzene	541-73-1	2.00	< 2.00	
QA Officer	1,4-Dichlorobenzene	106-46-7	2.00	< 2.00	
-	2-Butanone	78-93-3	10.0	< 10.0	
	2-Hexanone	591-78-6	5.00	< 5.00	
	4-Methyl-2-pentanone	108-10-1	5.00	< 5.00	
	Acetone	67-64-1	10.0	< 10.0	
	Benzene	71-43-2	2.00	< 2.00	
	Bromodichloromethane	75-27-4	2.00	< 2.00	
	Bromoform	75-25-2	2.00	< 2.00	
	Bromomethane	74-83-9	5.00	< 5.00	
	Carbon disulfide	75-15-0	2.00	< 2.00	
	Carbon tetrachloride	56-23-5	2.00	< 2.00	
	Chlorobenzene	108-90-7	2.00	< 2.00	
	Chloroethane	75-00-3	2.00	< 2.00	
	Chloroform	67-66-3	2.00	< 2.00	
	Chloromethane	74-87-3	3.00	< 3.00	
	cis-1,2-Dichloroethene	156-59-2	2.00	< 2.00	
	cis-1,3-Dichloropropene	10061-01-5	2.00	< 2.00	

Report Date: 5/29/2014 Page 8 of 32



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Lab Sample ID: 1405519-001B

Client Sample ID: Green River Above Ruby Ranch (Background Sample of River Water)

Analyzed: 5/27/2014 1150h

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

Compound		CAS Number	Reporting Limit	Analytical Result	Qual
Cyclohexane		110-82-7	2.00	< 2.00	
Dibromochloromethane		124-48-1	2.00	< 2.00	
Dichlorodifluoromethane		75-71-8	2.00	< 2.00	
Ethylbenzene		100-41-4	2.00	< 2.00	
Isopropylbenzene		98-82-8	2.00	< 2.00	
Methyl Acetate		79-20-9	5.00	< 5.00	
Methyl tert-butyl ether		1634-04-4	2.00	< 2.00	
Methylcyclohexane		108-87-2	2.00	< 2.00	
Methylene chloride		75-09-2	2.00	< 2.00	
Naphthalene		91-20-3	2.00	< 2.00	
Styrene		100-42-5	2.00	< 2.00	
Tetrachloroethene		127-18-4	2.00	< 2.00	
Toluene		108-88-3	2.00	< 2.00	
trans-1,2-Dichloroethene		156-60-5	2.00	< 2.00	
trans-1,3-Dichloropropene		10061-02-6	2.00	< 2.00	
Trichloroethene		79-01-6	2.00	< 2.00	
Trichlorofluoromethane		75-69-4	2.00	< 2.00	
Vinyl chloride		75-01-4	1.00	< 1.00	
Xylenes, Total		1330-20-7	2.00	< 2.00	
Surrogate	CAS	Result Amount S	piked % REC	Limits	Qual
G 10 D: 11 1 14	17060.07.0	10.6	00.1	72.151	

Kyle F. Gross Laboratory Director

> Jose Rocha QA Officer

Surrogate	CAS	Result	Amount Spiked	% REC	Limits	Qual
Surr: 1,2-Dichloroethane-d4	17060-07-0	49.6	50.00	99.1	72-151	
Surr: 4-Bromofluorobenzene	460-00-4	52.2	50.00	104	80-128	
Surr: Dibromofluoromethane	1868-53-7	47.6	50.00	95.2	80-124	
Surr: Toluene-d8	2037-26-5	48.7	50.00	97.3	77-129	



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Kyle F. Gross Laboratory Director

Jose Rocha QA Officer

QC SUMMARY REPORT

Client: Utah Division of Water Quality

Lab Set ID: 1405519

Project:

Contact: Jim Harris

Dept: WC

QC Type: DUP

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: 1405518-002DDUP Test Code: TDS-W-2540C	Date Analyzed:	05/27/201	4 1033h										
Total Dissolved Solids	290	mg/L	SM2540C	10.8	50.0					320	9.84	5	@
Lab Sample ID: 1405519-001DDUP Test Code: TDS-W-2540C	Date Analyzed:	05/27/201	4 1033h										
Total Dissolved Solids	400	mg/L	SM2540C	4.34	20.0					392	2.02	5	

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



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Jose Rocha QA Officer

QC SUMMARY REPORT

Utah Division of Water Quality

Lab Set ID: 1405519

Eus Set ID: 1103313

Project:

Client:

Contact: Jim Harris

Dept: WC **QC Type:** LCS

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID:LCS-R69427Test Code:OGF-W-1664SGT	Date Analyzed:	05/27/201	14 1400h										
SGT-HEM/Non-Polar Material	14.8	mg/L	E1664A-SGT	0.569	3.00	20.00	0	74.0	64 - 132				
Lab Sample ID:LCS-R69460Test Code:TDS-W-2540C	Date Analyzed:	05/27/201	14 1033h										
Total Dissolved Solids	196	mg/L	SM2540C	2.17	10.0	205.0	0	95.6	80 - 120				



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Jose Rocha QA Officer

QC SUMMARY REPORT

Client: Utah Division of Water Quality

Lab Set ID: 1405519

Project:

n Harris

Dept: WC **QC Type:** MBLK

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID:MB-R69427Test Code:OGF-W-1664SGT	Date Analyzed:	05/27/201	4 1400h										
SGT-HEM/Non-Polar Material	< 3.00	mg/L	E1664A-SGT	0.569	3.00								
Lab Sample ID: MB-R69460 Test Code: TDS-W-2540C	Date Analyzed:	05/27/201	4 1033h										
Total Dissolved Solids	< 10.0	mg/L	SM2540C	2.17	10.0								

Report Date: 5/29/2014 Page 12 of 32



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Kyle F. Gross Laboratory Director

Jose Rocha QA Officer

QC SUMMARY REPORT

Client: Utah Division of Water Quality

Lab Set ID: 1405519

Project:

Contact: Jim Harris

Dept: WC

QC Type: QCS

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: QCS-R69427 Test Code: OGF-W-1664SGT	Date Analyzed:	05/27/201	4 1400h										
SGT-HEM/Non-Polar Material	17.4	mg/L	E1664A-SGT	0.569	3.00	20.00	1.8	78.0	64 - 132				



Salt Lake City, UT 84115

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Kyle F. Gross Laboratory Director

Jose Rocha QA Officer

QC SUMMARY REPORT

Client: Utah Division of Water Quality

Lab Set ID: 1405519 Project: **Contact:** Jim Harris

Dept: WC

QC Type: QCSD

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: QCSD-R69427	Date Analyzed:	05/27/201	4 1400h										
Test Code: OGF-W-1664SGT													
SGT-HEM/Non-Polar Material	16.9	mg/L	E1664A-SGT	0.569	3.00	20.00	1.8	75.5	64 - 132	17.4	2.92	34	

Report Date: 5/29/2014 Page 14 of 32



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Kyle F. Gross Laboratory Director

Jose Rocha QA Officer

QC SUMMARY REPORT

Client: Utah Division of Water Quality

Lab Set ID: 1405519

Project:

Contact: Jim Harris

Dept: GC

QC Type: LCS

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: LCS-32519 Test Code: 8015-W-TPH(1L)	Date Analyzed: Date Prepared:												
Diesel Range Organics (DRO) (C10-C28) Surr: 4-Bromofluorobenzene	1.27 0.230	mg/L mg/L	SW8015D SW8015D	0.198	0.500	2.000 0.4000	0	63.7 57.6	36 - 132 18 - 95				

Report Date: 5/29/2014 Page 15 of 32



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Kyle F. Gross **Laboratory Director**

Jose Rocha **QA** Officer

QC SUMMARY REPORT

Utah Division of Water Quality **Client:**

Lab Set ID: 1405519 **Project:**

Contact: Jim Harris

> Dept: GC

QC Type: LCSD

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID:LCSD-32519Test Code:8015-W-TPH(1L)	Date Analyzed: Date Prepared:	05/27/201 05/27/201											
Diesel Range Organics (DRO) (C10-C28) Surr: 4-Bromofluorobenzene	1.34 0.241	mg/L mg/L	SW8015D SW8015D	0.198	0.500	2.000 0.4000	0	67.2 60.1	36 - 132 18 - 95	1.27	5.31	25	

Insufficient sample mass/volume was received to perform MS/MSD analysis. An LCSD was added to provide precision data.

Report Date: 5/29/2014 Page 16 of 32



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Kyle F. Gross Laboratory Director

Jose Rocha QA Officer

QC SUMMARY REPORT

Client: Utah Division of Water Quality

Lab Set ID: 1405519

Project:

Contact: Jim Harris

Dept: GC **QC Type:** MBLK

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: MB-32519 Test Code: 8015-W-TPH(1L)	Date Analyzed: Date Prepared:												
Diesel Range Organics (DRO) (C10-C28) Surr: 4-Bromofluorobenzene	< 0.500 0.144	mg/L mg/L	SW8015D SW8015D	0.198	0.500	0.4000		36.1	18 - 95				



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Kyle F. Gross Laboratory Director

Jose Rocha QA Officer

QC SUMMARY REPORT

Client: Utah Division of Water Quality

Lab Set ID: 1405519

Project:

Contact: Jim Harris
Dept: MSSV
QC Type: LCS

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: LCS-32521	Date Analyzed:	05/27/20	14 1546h										
Test Code: 8270-W	Date Prepared:	05/27/20	14 1136h										
1,2,4-Trichlorobenzene	26.8	μg/L	SW8270D	1.57	10.0	80.00	0	33.4	10 - 104				
1,4-Dichlorobenzene	20.1	μg/L	SW8270D	1.71	10.0	80.00	0	25.1	10 - 118				
2,4,6-Trichlorophenol	65.3	μg/L	SW8270D	1.98	10.0	80.00	0	81.7	17 - 119				
2,4-Dimethylphenol	62.1	μg/L	SW8270D	1.94	10.0	80.00	0	77.6	10 - 131				
2,4-Dinitrotoluene	70.7	μg/L	SW8270D	1.75	10.0	80.00	0	88.4	42 - 219				
2-Chloronaphthalene	41.1	μg/L	SW8270D	1.80	10.0	80.00	0	51.4	23 - 126				
2-Chlorophenol	50.7	μg/L	SW8270D	1.62	10.0	80.00	0	63.4	15 - 128				
4,6-Dinitro-2-methylphenol	84.0	μg/L	SW8270D	1.26	10.0	80.00	0	105	30 - 198				
4-Chloro-3-methylphenol	78.7	μg/L	SW8270D	2.13	10.0	80.00	0	98.4	29 - 148				
4-Nitrophenol	90.4	μg/L	SW8270D	9.39	10.0	80.00	0	113	10 - 157				
Acenaphthene	49.6	μg/L	SW8270D	1.82	10.0	80.00	0	62.0	20 - 116				
Benzo(a)pyrene	78.3	μg/L	SW8270D	2.61	10.0	80.00	0	97.8	10 - 221				
N-Nitrosodi-n-propylamine	47.9	μg/L	SW8270D	1.98	10.0	80.00	0	59.9	20 - 148				
Pentachlorophenol	83.0	μg/L	SW8270D	2.45	10.0	80.00	0	104	21 - 153				
Phenol	24.1	μg/L	SW8270D	1.20	10.0	80.00	0	30.1	10 - 131				
Pyrene	64.8	μg/L	SW8270D	2.44	10.0	80.00	0	81.0	37 - 150				
Surr: 2,4,6-Tribromophenol	86.2	μg/L	SW8270D			80.00		108	10 - 165				
Surr: 2-Fluorobiphenyl	21.4	μg/L	SW8270D			40.00		53.4	10 - 118				
Surr: 2-Fluorophenol	33.6	μg/L	SW8270D			80.00		42.0	10 - 121				
Surr: Nitrobenzene-d5	24.5	μg/L	SW8270D			40.00		61.2	10 - 127				
Surr: Phenol-d6	26.3	μg/L	SW8270D			80.00		32.9	10 - 124				
Surr: Terphenyl-d14	34.3	$\mu g/L$	SW8270D			40.00		85.8	30 - 147				
Lab Sample ID: LCS-32552	Date Analyzed:	05/28/20	14 2152h										•
Test Code: 8270-W	Date Prepared:	05/28/20	14 1058h										
1,2,4-Trichlorobenzene	32.7	μg/L	SW8270D	1.57	10.0	80.00	0	40.9	10 - 104				
1,4-Dichlorobenzene	23.5	μg/L	SW8270D	1.71	10.0	80.00	0	29.4	10 - 118				
2,4,6-Trichlorophenol	63.3	$\mu g/L$	SW8270D	1.98	10.0	80.00	0	79.1	17 - 119				



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Kyle F. Gross Laboratory Director

Jose Rocha QA Officer

QC SUMMARY REPORT

Client: Utah Division of Water Quality

Lab Set ID: 1405519

Project:

Contact: Jim Harris
Dept: MSSV
QC Type: LCS

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: LCS-32552 Test Code: 8270-W	Date Analyzed: Date Prepared:	05/28/20 05/28/20											
2,4-Dimethylphenol	64.3	μg/L	SW8270D	1.94	10.0	80.00	0	80.4	10 - 131				
2,4-Dinitrotoluene	67.1	μg/L	SW8270D	1.75	10.0	80.00	0	83.9	42 - 219				
2-Chloronaphthalene	51.9	$\mu g/L$	SW8270D	1.80	10.0	80.00	0	64.8	23 - 126				
2-Chlorophenol	52.3	$\mu g/L$	SW8270D	1.62	10.0	80.00	0	65.4	15 - 128				
4,6-Dinitro-2-methylphenol	73.6	$\mu g/L$	SW8270D	1.26	10.0	80.00	0	92.0	30 - 198				
4-Chloro-3-methylphenol	72.7	$\mu g/L$	SW8270D	2.13	10.0	80.00	0	90.9	29 - 148				
4-Nitrophenol	38.0	$\mu g/L$	SW8270D	9.39	10.0	80.00	0	47.5	10 - 157				
Acenaphthene	59.4	$\mu g/L$	SW8270D	1.82	10.0	80.00	0	74.3	20 - 116				
Benzo(a)pyrene	73.4	$\mu g/L$	SW8270D	2.61	10.0	80.00	0	91.8	10 - 221				
N-Nitrosodi-n-propylamine	51.7	$\mu g/L$	SW8270D	1.98	10.0	80.00	0	64.6	20 - 148				
Pentachlorophenol	79.6	$\mu g/L$	SW8270D	2.45	10.0	80.00	0	99.5	21 - 153				
Phenol	33.1	$\mu g/L$	SW8270D	1.20	10.0	80.00	0	41.3	10 - 131				
Pyrene	72.5	$\mu g/L$	SW8270D	2.44	10.0	80.00	0	90.6	37 - 150				
Surr: 2,4,6-Tribromophenol	148	$\mu g/L$	SW8270D			160.0		92.6	10 - 165				
Surr: 2-Fluorobiphenyl	50.3	$\mu g/L$	SW8270D			80.00		62.9	10 - 118				
Surr: 2-Fluorophenol	68.2	$\mu g/L$	SW8270D			160.0		42.7	10 - 121				
Surr: Nitrobenzene-d5	46.1	$\mu g/L$	SW8270D			80.00		57.6	10 - 127				
Surr: Phenol-d6	57.9	$\mu g/L$	SW8270D			160.0		36.2	10 - 124				
Surr: Terphenyl-d14	71.4	$\mu g/L$	SW8270D			80.00		89.3	30 - 147				



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Kyle F. Gross Laboratory Director

Jose Rocha QA Officer

QC SUMMARY REPORT

Client: Utah Division of Water Quality

Lab Set ID: 1405519

Project:

Contact: Jim Harris
Dept: MSSV
QC Type: LCSD

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: LCSD-32552	Date Analyzed:	05/28/20	14 2221h										
Test Code: 8270-W	Date Prepared:	05/28/20	14 1058h										
1,2,4-Trichlorobenzene	28.7	$\mu g/L$	SW8270D	1.57	10.0	80.00	0	35.9	10 - 104	32.7	13.0	25	
1,4-Dichlorobenzene	20.9	$\mu g/L$	SW8270D	1.71	10.0	80.00	0	26.1	10 - 118	23.5	11.8	25	
2,4,6-Trichlorophenol	54.5	$\mu g/L$	SW8270D	1.98	10.0	80.00	0	68.2	17 - 119	63.3	14.9	25	
2,4-Dimethylphenol	58.3	$\mu g/L$	SW8270D	1.94	10.0	80.00	0	72.9	10 - 131	64.3	9.81	25	
2,4-Dinitrotoluene	58.2	$\mu g/L$	SW8270D	1.75	10.0	80.00	0	72.8	42 - 219	67.1	14.1	25	
2-Chloronaphthalene	42.8	$\mu g/L$	SW8270D	1.80	10.0	80.00	0	53.5	23 - 126	51.9	19.2	25	
2-Chlorophenol	46.0	$\mu g/L$	SW8270D	1.62	10.0	80.00	0	57.6	15 - 128	52.3	12.7	25	
4,6-Dinitro-2-methylphenol	70.3	$\mu g/L$	SW8270D	1.26	10.0	80.00	0	87.9	30 - 198	73.6	4.55	25	
4-Chloro-3-methylphenol	67.4	$\mu g/L$	SW8270D	2.13	10.0	80.00	0	84.2	29 - 148	72.7	7.61	25	
4-Nitrophenol	31.2	$\mu g/L$	SW8270D	9.39	10.0	80.00	0	39.0	10 - 157	38	19.6	25	
Acenaphthene	47.6	$\mu g/L$	SW8270D	1.82	10.0	80.00	0	59.5	20 - 116	59.4	22.0	25	
Benzo(a)pyrene	63.0	$\mu g/L$	SW8270D	2.61	10.0	80.00	0	78.8	10 - 221	73.4	15.2	25	
N-Nitrosodi-n-propylamine	44.0	$\mu g/L$	SW8270D	1.98	10.0	80.00	0	55.0	20 - 148	51.7	16.1	25	
Pentachlorophenol	74.6	$\mu g/L$	SW8270D	2.45	10.0	80.00	0	93.2	21 - 153	79.6	6.55	25	
Phenol	27.4	$\mu g/L$	SW8270D	1.20	10.0	80.00	0	34.3	10 - 131	33.1	18.5	25	
Pyrene	63.6	$\mu g/L$	SW8270D	2.44	10.0	80.00	0	79.4	37 - 150	72.5	13.2	25	
Surr: 2,4,6-Tribromophenol	132	$\mu g/L$	SW8270D			160.0		82.5	10 - 165				
Surr: 2-Fluorobiphenyl	40.9	$\mu g/L$	SW8270D			80.00		51.1	10 - 118				
Surr: 2-Fluorophenol	64.7	$\mu g/L$	SW8270D			160.0		40.5	10 - 121				
Surr: Nitrobenzene-d5	42.3	$\mu g/L$	SW8270D			80.00		52.8	10 - 127				
Surr: Phenol-d6	54.2	$\mu g/L$	SW8270D			160.0		33.9	10 - 124				
Surr: Terphenyl-d14	65.2	$\mu g/L$	SW8270D			80.00		81.5	30 - 147				



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Kyle F. Gross Laboratory Director

Jose Rocha **QA** Officer

OC SUMMARY REPORT

Client: Utah Division of Water Quality

Lab Set ID: 1405519

Project:

Jim Harris **Contact:** Dept: **MSSV** QC Type: MBLK

Test Code: 1,1'-Biphenyl 1,2,4,5-Tetrachlorop 2,3,4,6-Tetrachlorop 2,4,5-Trichlorophenol 2,4-Dinitrophenol 2,4-Dinitrotoluene 2,4-Dinitrotoluene 2,6-Dinitrotoluene 2-Chlorophenol 2-Methylphenol 2-Methylphenol 2-Nitroaniline 2-Nitrophenol 3&4-Methylphenol 3,3'-Dichlorobenzid	sbenzene sphenol nol nol	Date Analyzed: Date Prepared: < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0	05/27/201 05/27/201 µg/L µg/L µg/L µg/L µg/L µg/L µg/L µg/L µg/L µg/L		1.80 2.11 1.71 1.92 1.98 1.67 1.94	10.0 10.0 10.0 10.0 10.0				
1,1'-Biphenyl 1,2,4,5-Tetrachlorob 2,3,4,6-Tetrachlorop 2,4,5-Trichlorophenol 2,4-Dichlorophenol 2,4-Dinitrophenol 2,4-Dinitrotoluene 2,6-Dinitrotoluene 2-Chlorophenol 2-Methylnaphthalenol 2-Methylnaphthalenol 2-Nitroaniline 2-Nitrophenol 3&4-Methylphenol	benzene phenol nol nol	< 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0	µg/L µg/L µg/L µg/L µg/L µg/L µg/L µg/L	SW8270D SW8270D SW8270D SW8270D SW8270D SW8270D SW8270D	2.11 1.71 1.92 1.98 1.67	10.0 10.0 10.0 10.0 10.0				
1,2,4,5-Tetrachlorob 2,3,4,6-Tetrachlorop 2,4,5-Trichlorophenol 2,4-Dirichlorophenol 2,4-Dinitrophenol 2,4-Dinitrotoluene 2,6-Dinitrotoluene 2-Chlorophenol 2-Methylnaphthalenol 2-Methylphenol 2-Nitroaniline 2-Nitrophenol 3&4-Methylphenol	phenol nol nol I	< 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0	µg/L µg/L µg/L µg/L µg/L µg/L µg/L	SW8270D SW8270D SW8270D SW8270D SW8270D SW8270D	2.11 1.71 1.92 1.98 1.67	10.0 10.0 10.0 10.0 10.0				
2,3,4,6-Tetrachlorop 2,4,5-Trichlorophenol 2,4-Dirichlorophenol 2,4-Dinitrophenol 2,4-Dinitrophenol 2,4-Dinitrotoluene 2,6-Dinitrotoluene 2-Chlorophenol 2-Methylnaphthalenol 2-Methylnaphthalenol 2-Nitroaniline 2-Nitrophenol 3&4-Methylphenol	phenol nol nol I	< 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0	µg/L µg/L µg/L µg/L µg/L µg/L	SW8270D SW8270D SW8270D SW8270D SW8270D	1.71 1.92 1.98 1.67	10.0 10.0 10.0 10.0				
2,4,5-Trichlorophene 2,4,6-Trichlorophenel 2,4-Dichlorophenel 2,4-Dinitrophenel 2,4-Dinitrotoluene 2,6-Dinitrotoluene 2-Chlorophenel 2-Chlorophenel 2-Methylnaphthalenel 2-Methylphenel 2-Nitroaniline 2-Nitrophenel 3&4-Methylphenel	nol nol I	< 10.0 < 10.0 < 10.0 < 10.0 < 10.0	µg/L µg/L µg/L µg/L µg/L µg/L	SW8270D SW8270D SW8270D SW8270D	1.92 1.98 1.67	10.0 10.0 10.0				
2,4,6-Trichlorophenol 2,4-Dintrophenol 2,4-Dinitrophenol 2,4-Dinitrotoluene 2,6-Dinitrotoluene 2-Chloronaphthalene 2-Chlorophenol 2-Methylnaphthalene 2-Methylphenol 2-Nitroaniline 2-Nitrophenol 3&4-Methylphenol	nol I	< 10.0 < 10.0 < 10.0 < 10.0	μg/L μg/L μg/L μg/L	SW8270D SW8270D SW8270D	1.98 1.67	10.0 10.0				
2,4-Dichlorophenol 2,4-Dimethylphenol 2,4-Dinitrophenol 2,4-Dinitrotoluene 2,6-Dinitrotoluene 2-Chloronaphthalene 2-Chlorophenol 2-Methylnaphthalene 2-Methylphenol 2-Nitroaniline 2-Nitrophenol 3&4-Methylphenol	1	< 10.0 < 10.0 < 10.0	μg/L μg/L μg/L	SW8270D SW8270D	1.67	10.0				
2,4-Dimethylphenol 2,4-Dinitrophenol 2,4-Dinitrotoluene 2,6-Dinitrotoluene 2-Chlorophenol 2-Methylnaphthalen 2-Methylphenol 2-Nitroaniline 2-Nitrophenol 3&4-Methylphenol		< 10.0 < 10.0	μg/L μg/L	SW8270D						
2,4-Dinitrophenol 2,4-Dinitrotoluene 2,6-Dinitrotoluene 2-Chloronaphthalene 2-Chlorophenol 2-Methylnaphthalene 2-Methylphenol 2-Nitroaniline 2-Nitrophenol 3&4-Methylphenol	ıl	< 10.0	μg/L		1.94	10.0				
2,4-Dinitrotoluene 2,6-Dinitrotoluene 2-Chloronaphthalene 2-Chlorophenol 2-Methylnaphthalene 2-Methylphenol 2-Nitroaniline 2-Nitrophenol 3&4-Methylphenol				SW8270D		10.0				
2,6-Dinitrotoluene 2-Chloronaphthalene 2-Chlorophenol 2-Methylnaphthalene 2-Methylphenol 2-Nitroaniline 2-Nitrophenol 3&4-Methylphenol		< 10.0		3 W 62 / 0D	4.48	10.0				
2-Chloronaphthalend 2-Chlorophenol 2-Methylnaphthalen 2-Methylphenol 2-Nitroaniline 2-Nitrophenol 3&4-Methylphenol			μg/L	SW8270D	1.75	10.0				
2-Chlorophenol 2-Methylnaphthalen 2-Methylphenol 2-Nitroaniline 2-Nitrophenol 3&4-Methylphenol		< 10.0	μg/L	SW8270D	2.47	10.0				
2-Methylphenol 2-Mitroaniline 2-Nitrophenol 3&4-Methylphenol	ne	< 10.0	μg/L	SW8270D	1.80	10.0				
2-Methylphenol 2-Nitroaniline 2-Nitrophenol 3&4-Methylphenol		< 10.0	μg/L	SW8270D	1.62	10.0				
2-Nitroaniline 2-Nitrophenol 3&4-Methylphenol	ne	< 10.0	μg/L	SW8270D	2.03	10.0				
2-Nitrophenol 3&4-Methylphenol		< 10.0	μg/L	SW8270D	1.67	10.0				
3&4-Methylphenol		< 10.0	μg/L	SW8270D	3.73	10.0				
		< 10.0	μg/L	SW8270D	1.48	10.0				
3,3'-Dichlorobenzid		< 10.0	μg/L	SW8270D	7.66	10.0				
,	dine	< 10.0	μg/L	SW8270D	1.18	10.0				
3-Nitroaniline		< 10.0	μg/L	SW8270D	2.08	10.0				
4,6-Dinitro-2-methy	ylphenol	< 10.0	μg/L	SW8270D	1.26	10.0				
4-Bromophenyl phenyl	enyl ether	< 10.0	μg/L	SW8270D	1.92	10.0				
4-Chloro-3-methylpl	phenol	< 10.0	μg/L	SW8270D	2.13	10.0				
4-Chloroaniline		< 10.0	μg/L	SW8270D	2.05	10.0				
4-Chlorophenyl phen	enyl ether	< 10.0	μg/L	SW8270D	2.19	10.0				
4-Nitroaniline		< 10.0	μg/L	SW8270D	9.23	10.0				
4-Nitrophenol		< 10.0	μg/L	SW8270D	9.39	10.0				
Acenaphthene		< 10.0	μg/L	SW8270D	1.82	10.0				
Acenaphthylene		< 10.0	μg/L	SW8270D	1.91	10.0				



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Kyle F. Gross
Laboratory Director

Jose Rocha QA Officer

QC SUMMARY REPORT

Client: Utah Division of Water Quality

Lab Set ID: 1405519

Project:

Contact: Jim Harris
Dept: MSSV
QC Type: MBLK

Analyte		Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID:	MB-32521	Date Analyzed:	05/27/20	14 1518h										
Test Code:	8270-W	Date Prepared:	05/27/20	14 1136h										
Acetophenone		< 10.0	μg/L	SW8270D	1.67	10.0								
Anthracene		< 10.0	μg/L	SW8270D	1.57	10.0								
Atrazine		< 10.0	$\mu g/L$	SW8270D	4.14	10.0								
Benz(a)anthracene	e	< 10.0	μg/L	SW8270D	2.21	10.0								
Benzaldehyde		< 10.0	μg/L	SW8270D	9.52	10.0								
Benzo(a)pyrene		< 10.0	μg/L	SW8270D	2.61	10.0								
Benzo(b)fluoranthe	iene	< 10.0	μg/L	SW8270D	2.08	10.0								
Benzo(g,h,i)peryle	ene	< 10.0	$\mu g/L$	SW8270D	2.32	10.0								
Benzo(k)fluoranthe	iene	< 10.0	μg/L	SW8270D	2.11	10.0								
Bis(2-chloroethoxy	y)methane	< 10.0	$\mu g/L$	SW8270D	1.53	10.0								
Bis(2-chloroethyl)	ether	< 10.0	$\mu g/L$	SW8270D	1.47	10.0								
Bis(2-chloroisopro	opyl) ether	< 10.0	$\mu g/L$	SW8270D	2.79	10.0								
Butyl benzyl phtha	alate	< 10.0	$\mu g/L$	SW8270D	2.27	10.0								
Caprolactam		< 10.0	$\mu g/L$	SW8270D	1.46	10.0								
Carbazole		< 10.0	$\mu g/L$	SW8270D	2.64	10.0								
Chrysene		< 10.0	$\mu g/L$	SW8270D	2.53	10.0								
Dibenz(a,h)anthrac	cene	< 10.0	$\mu g/L$	SW8270D	1.93	10.0								
Dibenzofuran		< 10.0	$\mu g/L$	SW8270D	2.12	10.0								
Diethyl phthalate		< 10.0	$\mu g/L$	SW8270D	2.44	10.0								
Dimethyl phthalate	e	< 10.0	$\mu g/L$	SW8270D	3.04	10.0								
Di-n-butyl phthala	nte	< 10.0	$\mu g/L$	SW8270D	1.45	10.0								
Di-n-octyl phthalat	ite	< 10.0	$\mu g/L$	SW8270D	1.91	10.0								
Fluoranthene		< 10.0	$\mu g/L$	SW8270D	2.09	10.0								
Fluorene		< 10.0	$\mu g/L$	SW8270D	2.44	10.0								
Hexachlorobenzen	ne	< 10.0	$\mu g/L$	SW8270D	1.67	10.0								
Hexachlorobutadie	ene	< 10.0	$\mu g/L$	SW8270D	1.57	10.0								
Hexachlorocyclope	entadiene	< 10.0	$\mu g/L$	SW8270D	1.54	10.0								
Hexachloroethane		< 10.0	μg/L	SW8270D	1.42	10.0								

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Kyle F. Gross
Laboratory Director

Jose Rocha QA Officer

QC SUMMARY REPORT

Client:

Project:

Lab Set ID: 1405519

Utah Division of Water Quality

Contact: Jim Harris

Dept: MSSV **QC Type:** MBLK

Reporting Spike Ref. RPD Ref. **RPD** Amount **MDL** %REC Result Units Method Amount Limits % RPD Limit Qual Analyte Limit Spiked Amt Lab Sample ID: MB-32521 Date Analyzed: 05/27/2014 1518h Test Code: 8270-W Date Prepared: 05/27/2014 1136h SW8270D 10.0 Indeno(1,2,3-cd)pyrene < 10.0 2.06 μg/L SW8270D Isophorone < 10.0 μg/L 2.52 10.0 SW8270D Naphthalene < 10.0 μg/L 1.64 10.0 Nitrobenzene < 10.0 μg/L SW8270D 1.70 10.0 SW8270D N-Nitrosodi-n-propylamine < 10.0 1.98 10.0 μg/L N-Nitrosodiphenylamine < 10.0 μg/L SW8270D 1.78 10.0 SW8270D Pentachlorophenol 2.45 10.0 < 10.0 μg/L SW8270D Phenanthrene < 10.0 μg/L 1.51 10.0 Phenol < 10.0 μg/L SW8270D 1.20 10.0 < 10.0 SW8270D 2.44 10.0 Pyrene μg/L SW8270D 80.00 10 - 165 Surr: 2,4,6-Tribromophenol 82.4 μg/L 103 Surr: 2-Fluorobiphenyl 22.8 SW8270D 40.00 56.9 10 - 118 μg/L Surr: 2-Fluorophenol 34.0 μg/L SW8270D 80.00 42.6 10 - 121 Surr: Nitrobenzene-d5 24.9 μg/L SW8270D 40.00 62.2 10 - 127 SW8270D Surr: Phenol-d6 25.2 μg/L 80.00 31.4 10 - 124 35.9 SW8270D 40.00 89.7 30 - 147 Surr: Terphenyl-d14 μg/L Lab Sample ID: MB-32552 05/28/2014 2124h Date Analyzed: Test Code: 8270-W Date Prepared: 05/28/2014 1058h SW8270D 6.60 10.0 Bis(2-ethylhexyl) phthalate < 10.0 μg/L SW8270D Surr: 2,4,6-Tribromophenol 153 μg/L 160.0 95.5 10 - 165 SW8270D 80.00 10 - 118 Surr: 2-Fluorobiphenyl 44.6 μg/L 55.7 Surr: 2-Fluorophenol 70.6 μg/L SW8270D 160.0 44.1 10 - 121 Surr: Nitrobenzene-d5 SW8270D 80.00 10 - 127 42.2 μg/L 52.7 Surr: Phenol-d6 51.6 SW8270D 160.0 32.2 10 - 124 μg/L SW8270D 82.8 80.00 Surr: Terphenyl-d14 μg/L 103 30 - 147

Report Date: 5/29/2014 Page 23 of 32



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Kyle F. Gross Laboratory Director

Jose Rocha QA Officer

QC SUMMARY REPORT

Client: Utah Division of Water Quality

Lab Set ID: 1405519

Project:

Contact: Jim Harris
Dept: MSSV
QC Type: MS

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: 1405518-002AMS	Date Analyzed:	05/27/20	14 1709h										
Test Code: 8270-W	Date Prepared:	05/27/20	14 1136h										
2,4,6-Trichlorophenol	65.6	$\mu g/L$	SW8270D	1.98	10.0	80.00	0	82.0	10 - 223				
2,4-Dimethylphenol	54.3	$\mu g/L$	SW8270D	1.94	10.0	80.00	0	67.8	10 - 176				
2,4-Dinitrotoluene	71.0	$\mu g/L$	SW8270D	1.75	10.0	80.00	0	88.8	21 - 191				
2-Chloronaphthalene	33.2	$\mu g/L$	SW8270D	1.80	10.0	80.00	0	41.6	12 - 132				
2-Chlorophenol	46.8	$\mu g/L$	SW8270D	1.62	10.0	80.00	0	58.5	20 - 107				
4,6-Dinitro-2-methylphenol	80.9	$\mu g/L$	SW8270D	1.26	10.0	80.00	0	101	20 - 250				
4-Chloro-3-methylphenol	78.8	$\mu g/L$	SW8270D	2.13	10.0	80.00	0	98.5	10 - 136				
4-Nitrophenol	87.3	$\mu g/L$	SW8270D	9.39	10.0	80.00	0	109	10 - 135				
Acenaphthene	45.6	$\mu g/L$	SW8270D	1.82	10.0	80.00	0	57.0	21 - 113				
Benzo(a)pyrene	73.7	$\mu g/L$	SW8270D	2.61	10.0	80.00	0	92.1	15 - 169				
N-Nitrosodi-n-propylamine	42.6	$\mu g/L$	SW8270D	1.98	10.0	80.00	0	53.3	10 - 133				
Pentachlorophenol	73.4	$\mu g/L$	SW8270D	2.45	10.0	80.00	0	91.7	10 - 131				
Phenol	21.7	$\mu g/L$	SW8270D	1.20	10.0	80.00	0	27.2	10 - 71				
Pyrene	63.9	$\mu g/L$	SW8270D	2.44	10.0	80.00	0	79.8	23 - 150				
Surr: 2,4,6-Tribromophenol	77.9	$\mu g/L$	SW8270D			80.00		97.4	14 - 159				
Surr: 2-Fluorobiphenyl	16.2	$\mu g/L$	SW8270D			40.00		40.6	10 - 124				
Surr: 2-Fluorophenol	27.9	$\mu g/L$	SW8270D			80.00		34.9	10 - 106				
Surr: Nitrobenzene-d5	19.1	$\mu g/L$	SW8270D			40.00		47.7	10 - 180				
Surr: Phenol-d6	23.1	$\mu g/L$	SW8270D			80.00		28.9	10 - 122				
Surr: Terphenyl-d14	29.6	$\mu g/L$	SW8270D			40.00		74.0	10 - 221				



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Kyle F. Gross **Laboratory Director**

Jose Rocha **QA** Officer

OC SUMMARY REPORT

Utah Division of Water Quality **Client:**

Lab Set ID: 1405519 **Project:**

Contact:	Jim Harris
Dept:	MSSV
OC Type:	MSD

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: 1405518-002AMSD Test Code: 8270-W	Date Analyzed: Date Prepared:	05/27/20 05/27/20											
2,4,6-Trichlorophenol	68.2	μg/L	SW8270D	1.98	10.0	80.00	0	85.3	10 - 223	65.6	3.99	25	
2,4-Dimethylphenol	63.8	μg/L	SW8270D	1.94	10.0	80.00	0	79.7	10 - 176	54.3	16.1	25	
2,4-Dinitrotoluene	74.0	$\mu g/L$	SW8270D	1.75	10.0	80.00	0	92.5	21 - 191	71	4.14	25	
2-Chloronaphthalene	37.4	$\mu g/L$	SW8270D	1.80	10.0	80.00	0	46.7	12 - 132	33.2	11.6	25	
2-Chlorophenol	49.0	$\mu g/L$	SW8270D	1.62	10.0	80.00	0	61.3	20 - 107	46.8	4.63	25	
4,6-Dinitro-2-methylphenol	85.3	$\mu g/L$	SW8270D	1.26	10.0	80.00	0	107	20 - 250	80.9	5.21	25	
4-Chloro-3-methylphenol	81.8	$\mu g/L$	SW8270D	2.13	10.0	80.00	0	102	10 - 136	78.8	3.70	25	
4-Nitrophenol	98.0	$\mu g/L$	SW8270D	9.39	10.0	80.00	0	123	10 - 135	87.3	11.5	25	
Acenaphthene	47.4	$\mu g/L$	SW8270D	1.82	10.0	80.00	0	59.2	21 - 113	45.6	3.87	25	
Benzo(a)pyrene	76.2	$\mu g/L$	SW8270D	2.61	10.0	80.00	0	95.3	15 - 169	73.7	3.38	25	
N-Nitrosodi-n-propylamine	44.5	$\mu g/L$	SW8270D	1.98	10.0	80.00	0	55.6	10 - 133	42.7	4.18	25	
Pentachlorophenol	77.7	$\mu g/L$	SW8270D	2.45	10.0	80.00	0	97.2	10 - 131	73.4	5.76	25	
Phenol	24.3	μg/L	SW8270D	1.20	10.0	80.00	0	30.4	10 - 71	21.7	11.1	25	
Pyrene	69.2	μg/L	SW8270D	2.44	10.0	80.00	0	86.5	23 - 150	63.9	8.05	25	
Surr: 2,4,6-Tribromophenol	71.6	μg/L	SW8270D			80.00		89.5	14 - 159				
Surr: 2-Fluorobiphenyl	16.4	μg/L	SW8270D			40.00		41.0	10 - 124				
Surr: 2-Fluorophenol	29.3	μg/L	SW8270D			80.00		36.6	10 - 106				
Surr: Nitrobenzene-d5	17.5	$\mu g/L$	SW8270D			40.00		43.8	10 - 180				
Surr: Phenol-d6	25.0	$\mu g/L$	SW8270D			80.00		31.3	10 - 122				
Surr: Terphenyl-d14	30.1	μg/L	SW8270D			40.00		75.2	10 - 221				



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Kyle F. Gross Laboratory Director

Jose Rocha QA Officer

QC SUMMARY REPORT

Client: Utah Division of Water Quality

Lab Set ID: 1405519

Project:

Contact: Jim Harris
Dept: MSVOA
QC Type: LCS

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID:LCS VOC-D 052714ATest Code:8260-W	Date Analyzed:	05/27/20	14 742h										
1,1,1-Trichloroethane	23.3	μg/L	SW8260C	0.206	2.00	20.00	0	116	59 - 156				
1,1-Dichloroethene	24.6	$\mu g/L$	SW8260C	0.114	2.00	20.00	0	123	46 - 171				
1,2-Dichlorobenzene	19.9	$\mu g/L$	SW8260C	0.459	2.00	20.00	0	99.6	67 - 135				
1,2-Dichloroethane	21.2	$\mu g/L$	SW8260C	0.636	2.00	20.00	0	106	60 - 137				
1,2-Dichloropropane	17.6	$\mu g/L$	SW8260C	0.0883	2.00	20.00	0	87.9	59 - 135				
Benzene	19.6	$\mu g/L$	SW8260C	0.0859	2.00	20.00	0	98.0	62 - 127				
Chlorobenzene	21.9	$\mu g/L$	SW8260C	0.263	2.00	20.00	0	110	63 - 140				
Chloroform	21.8	$\mu g/L$	SW8260C	0.626	2.00	20.00	0	109	67 - 132				
Ethylbenzene	22.0	$\mu g/L$	SW8260C	0.112	2.00	20.00	0	110	55 - 133				
Isopropylbenzene	22.5	$\mu g/L$	SW8260C	0.0883	2.00	20.00	0	113	60 - 162				
Methyl tert-butyl ether	21.0	$\mu g/L$	SW8260C	0.274	2.00	20.00	0	105	37 - 189				
Methylene chloride	22.3	$\mu g/L$	SW8260C	0.321	2.00	20.00	0	112	32 - 185				
Naphthalene	13.2	$\mu g/L$	SW8260C	0.315	2.00	20.00	0	65.9	28 - 136				
Toluene	22.0	$\mu g/L$	SW8260C	0.206	2.00	20.00	0	110	64 - 129				
Trichloroethene	21.4	$\mu g/L$	SW8260C	0.101	2.00	20.00	0	107	54 - 152				
Xylenes, Total	66.0	$\mu g/L$	SW8260C	0.333	2.00	60.00	0	110	52 - 134				
Surr: 1,2-Dichloroethane-d4	54.3	$\mu g/L$	SW8260C			50.00		109	76 - 138				
Surr: 4-Bromofluorobenzene	53.0	$\mu g/L$	SW8260C			50.00		106	77 - 121				
Surr: Dibromofluoromethane	54.0	$\mu g/L$	SW8260C			50.00		108	67 - 128				
Surr: Toluene-d8	56.8	$\mu g/L$	SW8260C			50.00		114	81 - 135				



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Kyle F. Gross Laboratory Director

Jose Rocha **QA** Officer

OC SUMMARY REPORT

Client: Utah Division of Water Quality

Lab Set ID: 1405519

Project:

Jim Harris **Contact:** Dept: **MSVOA** QC Type: MBLK

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID:MB VOC-D 052714ATest Code:8260-W	Date Analyzed:	05/27/20	14 820h										
1,1,1-Trichloroethane	< 2.00	μg/L	SW8260C	0.206	2.00								
1,1,2,2-Tetrachloroethane	< 2.00	μg/L	SW8260C	0.0937	2.00								
1,1,2-Trichloro-1,2,2-trifluoroethane	< 2.00	$\mu g/L$	SW8260C	0.147	2.00								
1,1,2-Trichloroethane	< 2.00	$\mu g/L$	SW8260C	0.0741	2.00								
1,1-Dichloroethane	< 2.00	μg/L	SW8260C	0.619	2.00								
1,1-Dichloroethene	< 2.00	μg/L	SW8260C	0.114	2.00								
1,2,4-Trichlorobenzene	< 2.00	μg/L	SW8260C	0.956	2.00								
1,2-Dibromo-3-chloropropane	< 5.00	$\mu g/L$	SW8260C	0.413	5.00								
1,2-Dibromoethane	< 2.00	$\mu g/L$	SW8260C	0.0699	2.00								
1,2-Dichlorobenzene	< 2.00	$\mu g/L$	SW8260C	0.459	2.00								
1,2-Dichloroethane	< 2.00	$\mu g/L$	SW8260C	0.636	2.00								
1,2-Dichloropropane	< 2.00	$\mu g/L$	SW8260C	0.0883	2.00								
1,3-Dichlorobenzene	< 2.00	$\mu g/L$	SW8260C	0.0877	2.00								
1,4-Dichlorobenzene	< 2.00	$\mu g/L$	SW8260C	0.137	2.00								
2-Butanone	< 10.0	$\mu g/L$	SW8260C	1.01	10.0								
2-Hexanone	< 5.00	$\mu g/L$	SW8260C	0.200	5.00								
4-Methyl-2-pentanone	< 5.00	$\mu g/L$	SW8260C	1.11	5.00								
Acetone	< 10.0	$\mu g/L$	SW8260C	3.62	10.0								
Benzene	< 2.00	$\mu g/L$	SW8260C	0.0859	2.00								
Bromodichloromethane	< 2.00	$\mu g/L$	SW8260C	0.553	2.00								
Bromoform	< 2.00	$\mu g/L$	SW8260C	0.506	2.00								
Bromomethane	< 5.00	$\mu g/L$	SW8260C	0.692	5.00								
Carbon disulfide	< 2.00	$\mu g/L$	SW8260C	0.150	2.00								
Carbon tetrachloride	< 2.00	$\mu g/L$	SW8260C	0.738	2.00								
Chlorobenzene	< 2.00	$\mu g/L$	SW8260C	0.263	2.00								
Chloroethane	< 2.00	$\mu g/L$	SW8260C	0.906	2.00								
Chloroform	< 2.00	$\mu g/L$	SW8260C	0.626	2.00								
Chloromethane	< 3.00	$\mu g/L$	SW8260C	0.214	3.00								

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Kyle F. Gross Laboratory Director

Jose Rocha QA Officer

QC SUMMARY REPORT

Client: Utah Division of Water Quality

Lab Set ID: 1405519

Project:

Contact: Jim Harris
Dept: MSVOA
QC Type: MBLK

Analyte		Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: Test Code:	MB VOC-D 052714A 8260-W	Date Analyzed:	05/27/20	14 820h										
cis-1,2-Dichloroe	ethene	< 2.00	μg/L	SW8260C	0.112	2.00								
cis-1,3-Dichlorop	propene	< 2.00	μg/L	SW8260C	0.0819	2.00								
Cyclohexane		< 2.00	$\mu g/L$	SW8260C	0.415	2.00								
Dibromochlorom	nethane	< 2.00	μg/L	SW8260C	0.461	2.00								
Dichlorodifluoro	methane	< 2.00	μg/L	SW8260C	0.108	2.00								
Ethylbenzene		< 2.00	μg/L	SW8260C	0.112	2.00								
Isopropylbenzene	e	< 2.00	μg/L	SW8260C	0.0883	2.00								
Methyl Acetate		< 5.00	$\mu g/L$	SW8260C	1.46	5.00								
Methyl tert-butyl	ether	< 2.00	$\mu g/L$	SW8260C	0.274	2.00								
Methylcyclohexa	nne	< 2.00	$\mu g/L$	SW8260C	0.181	2.00								
Methylene chlori	de	< 2.00	$\mu g/L$	SW8260C	0.321	2.00								
Naphthalene		< 2.00	$\mu g/L$	SW8260C	0.315	2.00								
Styrene		< 2.00	$\mu g/L$	SW8260C	0.331	2.00								
Tetrachloroethen	e	< 2.00	μg/L	SW8260C	0.577	2.00								
Toluene		< 2.00	$\mu g/L$	SW8260C	0.206	2.00								
trans-1,2-Dichlor	roethene	< 2.00	$\mu g/L$	SW8260C	0.138	2.00								
trans-1,3-Dichlor	ropropene	< 2.00	$\mu g/L$	SW8260C	0.256	2.00								
Trichloroethene		< 2.00	μg/L	SW8260C	0.101	2.00								
Trichlorofluorom	nethane	< 2.00	μg/L	SW8260C	0.0845	2.00								
Vinyl chloride		< 1.00	$\mu g/L$	SW8260C	0.138	1.00								
Xylenes, Total		< 2.00	$\mu g/L$	SW8260C	0.333	2.00								
Surr: 1,2-Dich	loroethane-d4	52.1	$\mu g/L$	SW8260C			50.00		104	76 - 138				
Surr: 4-Bromo	fluorobenzene	53.6	$\mu g/L$	SW8260C			50.00		107	77 - 121				
Surr: Dibromo	fluoromethane	50.1	$\mu g/L$	SW8260C			50.00		100	67 - 128				
Surr: Toluene-	·d8	52.1	$\mu g/L$	SW8260C			50.00		104	81 - 135				



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Kyle F. Gross Laboratory Director

Jose Rocha QA Officer

QC SUMMARY REPORT

Client: Utah Division of Water Quality

Lab Set ID: 1405519

Project:

Contact: Jim Harris
Dept: MSVOA
QC Type: MS

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: 1405518-001BMS Test Code: 8260-W	Date Analyzed:	05/27/20	14 1209h										
1,1,1-Trichloroethane	22.4	μg/L	SW8260C	0.206	2.00	20.00	0	112	67 - 147				
1,1-Dichloroethene	24.3	$\mu g/L$	SW8260C	0.114	2.00	20.00	0	122	51 - 152				
1,2-Dichlorobenzene	18.8	$\mu g/L$	SW8260C	0.459	2.00	20.00	0	94.2	70 - 130				
1,2-Dichloroethane	20.2	$\mu g/L$	SW8260C	0.636	2.00	20.00	0	101	39 - 162				
1,2-Dichloropropane	16.8	$\mu g/L$	SW8260C	0.0883	2.00	20.00	0	84.1	59 - 135				
Benzene	18.8	$\mu g/L$	SW8260C	0.0859	2.00	20.00	0	93.8	66 - 145				
Chlorobenzene	20.7	$\mu g/L$	SW8260C	0.263	2.00	20.00	0	104	63 - 140				
Chloroform	20.6	$\mu g/L$	SW8260C	0.626	2.00	20.00	0	103	50 - 146				
Ethylbenzene	21.0	$\mu g/L$	SW8260C	0.112	2.00	20.00	0	105	69 - 133				
Isopropylbenzene	20.4	$\mu g/L$	SW8260C	0.0883	2.00	20.00	0	102	60 - 147				
Methyl tert-butyl ether	18.8	$\mu g/L$	SW8260C	0.274	2.00	20.00	0	94.3	37 - 189				
Methylene chloride	22.1	$\mu g/L$	SW8260C	0.321	2.00	20.00	0	110	30 - 192				
Naphthalene	10.4	$\mu g/L$	SW8260C	0.315	2.00	20.00	0	52.2	41 - 131				
Toluene	20.6	$\mu g/L$	SW8260C	0.206	2.00	20.00	0	103	18 - 192				
Trichloroethene	19.8	$\mu g/L$	SW8260C	0.101	2.00	20.00	0	99.0	61 - 153				
Xylenes, Total	61.2	$\mu g/L$	SW8260C	0.333	2.00	60.00	0	102	42 - 167				
Surr: 1,2-Dichloroethane-d4	50.3	$\mu g/L$	SW8260C			50.00		101	72 - 151				
Surr: 4-Bromofluorobenzene	48.0	$\mu g/L$	SW8260C			50.00		96.1	80 - 128				
Surr: Dibromofluoromethane	49.3	$\mu g/L$	SW8260C			50.00		98.5	80 - 124				
Surr: Toluene-d8	48.4	$\mu g/L$	SW8260C			50.00		96.7	77 - 129				
Lab Sample ID: 1405519-001BMS	Date Analyzed:	05/27/20	14 1247h										
Test Code: 8260-W													
1,1,1-Trichloroethane	22.3	$\mu g/L$	SW8260C	0.206	2.00	20.00	0	111	67 - 147				
1,1-Dichloroethene	23.9	$\mu g/L$	SW8260C	0.114	2.00	20.00	0	120	51 - 152				
1,2-Dichlorobenzene	18.9	$\mu g/L$	SW8260C	0.459	2.00	20.00	0	94.4	70 - 130				
1,2-Dichloroethane	20.1	$\mu g/L$	SW8260C	0.636	2.00	20.00	0	100	39 - 162				
1,2-Dichloropropane	16.7	$\mu g/L$	SW8260C	0.0883	2.00	20.00	0	83.4	59 - 135				



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Kyle F. Gross Laboratory Director

Jose Rocha QA Officer

QC SUMMARY REPORT

Client: Utah Division of Water Quality

Lab Set ID: 1405519

Project:

Contact:	Jim Harris
Dept:	MSVOA
QC Type:	MS

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: 1405519-001BMS Test Code: 8260-W	Date Analyzed:	05/27/20	14 1247h										
Benzene	18.7	μg/L	SW8260C	0.0859	2.00	20.00	0	93.5	66 - 145				
Chlorobenzene	20.7	$\mu g/L$	SW8260C	0.263	2.00	20.00	0	103	63 - 140				
Chloroform	20.4	$\mu g/L$	SW8260C	0.626	2.00	20.00	0	102	50 - 146				
Ethylbenzene	20.9	$\mu g/L$	SW8260C	0.112	2.00	20.00	0	104	69 - 133				
Isopropylbenzene	21.1	$\mu g/L$	SW8260C	0.0883	2.00	20.00	0	106	60 - 147				
Methyl tert-butyl ether	19.0	$\mu g/L$	SW8260C	0.274	2.00	20.00	0	94.8	37 - 189				
Methylene chloride	21.7	$\mu g/L$	SW8260C	0.321	2.00	20.00	0	109	30 - 192				
Naphthalene	10.6	$\mu g/L$	SW8260C	0.315	2.00	20.00	0	52.8	41 - 131				
Toluene	20.7	$\mu g/L$	SW8260C	0.206	2.00	20.00	0	103	18 - 192				
Trichloroethene	19.6	$\mu g/L$	SW8260C	0.101	2.00	20.00	0	97.9	61 - 153				
Xylenes, Total	61.4	$\mu g/L$	SW8260C	0.333	2.00	60.00	0	102	42 - 167				
Surr: 1,2-Dichloroethane-d4	49.2	$\mu g/L$	SW8260C			50.00		98.5	72 - 151				
Surr: 4-Bromofluorobenzene	48.0	μg/L	SW8260C			50.00		96.0	80 - 128				
Surr: Dibromofluoromethane	48.3	$\mu g/L$	SW8260C			50.00		96.6	80 - 124				
Surr: Toluene-d8	48.1	μg/L	SW8260C			50.00		96.2	77 - 129				

Report Date: 5/29/2014 Page 30 of 32



American West
ANALYTICAL LABORATORIES

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Kyle F. Gross Laboratory Director

Jose Rocha QA Officer

QC SUMMARY REPORT

Client: Utah Division of Water Quality

Lab Set ID: 1405519

Project:

Contact: Jim Harris
Dept: MSVOA
QC Type: MSD

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: 1405518-001BMSD Test Code: 8260-W	Date Analyzed:	05/27/20	14 1228h										
1,1,1-Trichloroethane	23.0	μg/L	SW8260C	0.206	2.00	20.00	0	115	67 - 147	22.5	2.51	25	
1,1-Dichloroethene	25.0	μg/L	SW8260C	0.114	2.00	20.00	0	125	51 - 152	24.3	2.64	25	
1,2-Dichlorobenzene	19.6	μg/L	SW8260C	0.459	2.00	20.00	0	98.2	70 - 130	18.8	4.16	25	
1,2-Dichloroethane	20.7	μg/L	SW8260C	0.636	2.00	20.00	0	104	39 - 162	20.2	2.49	25	
1,2-Dichloropropane	17.2	μg/L	SW8260C	0.0883	2.00	20.00	0	86.0	59 - 135	16.8	2.18	25	
Benzene	19.3	μg/L	SW8260C	0.0859	2.00	20.00	0	96.7	66 - 145	18.8	2.99	25	
Chlorobenzene	21.7	$\mu g/L$	SW8260C	0.263	2.00	20.00	0	108	63 - 140	20.7	4.34	25	
Chloroform	21.3	μg/L	SW8260C	0.626	2.00	20.00	0	106	50 - 146	20.6	3.15	25	
Ethylbenzene	21.9	μg/L	SW8260C	0.112	2.00	20.00	0	110	69 - 133	21	4.19	25	
Isopropylbenzene	22.2	μg/L	SW8260C	0.0883	2.00	20.00	0	111	60 - 147	20.4	8.59	25	
Methyl tert-butyl ether	20.7	μg/L	SW8260C	0.274	2.00	20.00	0	104	37 - 189	18.9	9.40	25	
Methylene chloride	22.7	μg/L	SW8260C	0.321	2.00	20.00	0	113	30 - 192	22.1	2.68	25	
Naphthalene	10.7	μg/L	SW8260C	0.315	2.00	20.00	0	53.6	41 - 131	10.4	2.74	25	
Toluene	21.6	μg/L	SW8260C	0.206	2.00	20.00	0	108	18 - 192	20.6	4.65	25	
Trichloroethene	20.4	μg/L	SW8260C	0.101	2.00	20.00	0	102	61 - 153	19.8	2.98	25	
Xylenes, Total	64.1	μg/L	SW8260C	0.333	2.00	60.00	0	107	42 - 167	61.2	4.72	25	
Surr: 1,2-Dichloroethane-d4	49.6	μg/L	SW8260C			50.00		99.1	72 - 151				
Surr: 4-Bromofluorobenzene	47.8	μg/L	SW8260C			50.00		95.7	80 - 128				
Surr: Dibromofluoromethane	48.8	μg/L	SW8260C			50.00		97.6	80 - 124				
Surr: Toluene-d8	48.2	μg/L	SW8260C			50.00		96.4	77 - 129				
Lab Sample ID: 1405519-001BMSD	Date Analyzed:	05/27/20	14 1306h										ı
Test Code: 8260-W													
1,1,1-Trichloroethane	23.2	μg/L	SW8260C	0.206	2.00	20.00	0	116	67 - 147	22.3	4.22	25	
1,1-Dichloroethene	24.9	μg/L	SW8260C	0.114	2.00	20.00	0	125	51 - 152	23.9	4.22	25	
1,2-Dichlorobenzene	19.5	μg/L	SW8260C	0.459	2.00	20.00	0	97.7	70 - 130	18.9	3.49	25	
1,2-Dichloroethane	21.1	μg/L	SW8260C	0.636	2.00	20.00	0	106	39 - 162	20.1	5.05	25	
1,2-Dichloropropane	17.6	μg/L	SW8260C	0.0883	2.00	20.00	0	88.0	59 - 135	16.7	5.31	25	

Report Date: 5/29/2014 Page 2 of 32



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Kyle F. Gross **Laboratory Director**

Jose Rocha **QA** Officer

OC SUMMARY REPORT

Utah Division of Water Quality **Client:**

Lab Set ID: 1405519

Project:

Contact: Jim Harris Dept: **MSVOA** QC Type: MSD

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: 1405519-001BMSD Test Code: 8260-W	Date Analyzed:	05/27/20	14 1306h										
Benzene	19.6	μg/L	SW8260C	0.0859	2.00	20.00	0	97.8	66 - 145	18.7	4.50	25	
Chlorobenzene	21.7	$\mu g/L$	SW8260C	0.263	2.00	20.00	0	109	63 - 140	20.7	5.05	25	
Chloroform	21.4	$\mu g/L$	SW8260C	0.626	2.00	20.00	0	107	50 - 146	20.4	4.82	25	
Ethylbenzene	21.6	$\mu g/L$	SW8260C	0.112	2.00	20.00	0	108	69 - 133	20.9	3.25	25	
Isopropylbenzene	22.2	μg/L	SW8260C	0.0883	2.00	20.00	0	111	60 - 147	21.1	5.26	25	
Methyl tert-butyl ether	20.1	μg/L	SW8260C	0.274	2.00	20.00	0	100	37 - 189	19	5.69	25	
Methylene chloride	22.7	μg/L	SW8260C	0.321	2.00	20.00	0	114	30 - 192	21.7	4.59	25	
Naphthalene	11.2	$\mu g/L$	SW8260C	0.315	2.00	20.00	0	56.2	41 - 131	10.6	6.24	25	
Toluene	21.7	$\mu g/L$	SW8260C	0.206	2.00	20.00	0	109	18 - 192	20.7	5.00	25	
Trichloroethene	20.7	$\mu g/L$	SW8260C	0.101	2.00	20.00	0	104	61 - 153	19.6	5.71	25	
Xylenes, Total	64.6	$\mu g/L$	SW8260C	0.333	2.00	60.00	0	108	42 - 167	61.4	5.03	25	
Surr: 1,2-Dichloroethane-d4	49.3	μg/L	SW8260C			50.00		98.6	72 - 151				
Surr: 4-Bromofluorobenzene	45.8	$\mu g/L$	SW8260C			50.00		91.6	80 - 128				
Surr: Dibromofluoromethane	48.4	$\mu g/L$	SW8260C			50.00		96.9	80 - 124				
Surr: Toluene-d8	48.5	$\mu g/L$	SW8260C			50.00		96.9	77 - 129				

Report Date: 5/29/2014 Page 3 of 32

American West Analytical Laboratories

RUSH

WORK ORDER Summary

Work Order: 1405519

Page 1 of 1

Client:

Utah Division of Water Quality

Due Date: 5/28/2014

Client ID:

UTD200

Contact:

Project:

1405519-002C

QC Level:

 $\Pi +$

TDS-W-2540C

Jim Harris

WO Type: Standard

Comments:	Next Day Rush / QC2+;						₽
Sample ID	Client Sample ID	Collected Date	Received Date	Test Code	Matrix	Sel	Storage
1405519-001A	Green River Above Ruby Ranch (Background Sample of River Water)	5/22/2014 1400h	5/27/2014 0843h	3510-SVOA-PR	Aqueous		Walkin-Semi 4
				8270-W		V	Walkin-Semi
				Test Group: 8270-W-T	TCL; # of Analytes: 67 / # of Surr: 6		
1405519-001B				8260-W		V	vOC 3
				Test Group: 8260-W-A	AWAL; # of Analytes: 49 / # of Surr: 4		
1405519-001C				OGF-W-1664SGT			OGFFridge 1
1405519-001D				TDS-W-2540C			df / tds
1405519-002A	SW Energy Well Pad #1 (Production Water Sample)	5/22/2014 1150h	5/27/2014 0843h	3510-TPH-PR	Aqueous		Walkin-TPH (Liters) 1
				8015-W-TPH(1L)		V	Walkin-TPH (Liters)
				Test Group: 8015-W-T	TPH1L; # of Analytes: 1 / # of Surr: 1		
1405519-002B				OGF-W-1664SGT			OGFFridge

	()										1405519
	Client Jim Harris				AMER	ICAN VEST			N OF	Lab Sample Set#	1405518 el
	Address Division of Water Qual:	***			NALYT ORATO				ODY	Page	
	City State Zip			163 W	est 3600	South	(88))1) 263- 38) 263-	8686	Turn Around Time (Circle One)
	Phone 801-541-3069 Fax). L	Sait L	ake City				8687 wal-labs.com	1 day 2 day 3 day	4 day 5 day Standard
	Contact Jim Havis		П	Ť	, .	TEST	S REQI	JIRED)	QC LEVEL	LABORATORY USE ONLY
	E-mail jamesharrise wheh.gov			\vdash	The state of	5	1		T		SAMPLES WERE:
	Project Name		(Total)	9	1	F		12		1 2 (2+)	Shipped or hand delivered Notes:
	Project Number/P.O.#	Date/Time	ıtainers	ر	-W-			ロロ		3 3+ 4	2 Ambient of Chilled
	Sampler Name David ArioHi/Sott Hack	Collected	Ğ Ç	10	121	13/2	1	1-3		3 3 4	Notes:
	Commis ID		Matrix Number of	15	 	1 2	At	1		COMMENTO	3 Temperature (e'()
	Sample ID		Hig			10	1 0	19		COMMENTS	4 Received Broken/Leaking (Improperly Sealed)
	(Background sample of Rivar Worter)	5-22-14/2:000	13	+	\times	13		╂╼┼			Notes:
	and the second second	5-22-14/11:502	3	-	\vdash	+	1	X			5 Properly Preserved
		B - 2 / / 11 - 24	TP					+^+			Checked at Bench
	(production water sample)		ff	 				$\dagger \dagger \dagger$		·	Notes:
		~									
f											6 Received Within Holding Times
											Y N Notes:
		·									
			₩.					\perp			
			4	-				11			COC Tape Was:
			丛	<u> </u>	<u> </u>						1 Present on Outer Package
	Relinquished By Signatura S-22-14	Received by: Signature		S	te/2/14	Spe	cial Ins	truction	ns:		N NA
	PRINT NAME! D. Pacting Time	PRINT NAME + W Biro	<u>/k</u>	B	30]					2 Unbroken on Outer Package Y N NA
	Relinquistied By Signature Date 7/14	Received By: Signature		Da 5	27/14						3 Present on Sample
	PRINT-NAME FOR W BIND 19843 P	PRINTNAME Halled	,	Tir	me	╢	·				Y N NA
		Received By: Signature		Da							4 Unbroken on Sample
	PRINT NAME Time P	PRINT NAME		Tir	me						Discrepancies Between
	Relinquished By: Signature Date F	Received By: Signature		Da	ıte.	╢—					Sample Labels and COC Record?
-		PRINT NAME		Tir							Y Notes:
	THE PERSONS	LINEAL MACHINE		1 '"	116	ll .					11 1

Preservation Check Sheet

Sample Set Extension and pH

Sample Set Extension and pH														
Analysis	Preservative	1	2											
Ammonia	pH <2 H ₂ SO ₄													
COD	pH <2 H ₂ SO ₄													
Cyanide	pH >12 NaOH													
Metals	pH <2 HNO ₃								 					
NO ₂ & NO ₃	pH <2 H ₂ SO ₄												 	
O&G	pH <2 HCL	Ves	YOS											
Phenols	pH <2 H ₂ SO ₄	1	1											
Sulfide	pH > 9NaOH,							***************************************						
	Zn Acetate													
TKN	pH <2 H ₂ SO ₄													
T PO ₄	pH <2 H ₂ SO ₄													
	:													
					an engine .									

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D	cedı	****
rio	CEUI	me.

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

Frequency:

All samples requiring preservation

- The sample required additional preservative upon receipt.
- + The sample was received unpreserved
- ▲ The Sample was received unpreserved and therefore preserved upon receipt.
- # The sample pH was unadjustable to a pH < 2 due to the sample matrix
- The sample pH was unadjustable to a pH > ____ due to the sample matrix interference