



12065 Lebanon Rd.  
Mt. Juliet, TN 37122  
(615) 758-5858  
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Tax I.D. 62-0814289

Est. 1970

Stuart Hall  
OXY USA Inc - Grand Junction, CO  
760 Horizon Dr., Ste. 101  
Grand Junction, CO 81506

## Report Summary

Wednesday June 05, 2013

Report Number: L637413

Samples Received: 05/23/13

Client Project: 012-0744

Description: Oxy USA WTP CHWF Quarterly Sampling

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:

Mark W. Beasley , ESC Representative

### Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197,  
FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016,  
NC - ENV375/DW21704/BIO041, ND - R-140. NJ - TN002, NJ NELAP - TN002,  
SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612,  
MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1,  
TX - T104704245-11-3, OK - 9915, PA - 68-02979, IA Lab #364

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Note: The use of the preparatory EPA Method 3511 is not approved or endorsed by the CA ELAP.

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REPORT OF ANALYSIS

Stuart Hall  
 OXY USA Inc - Grand Junction, CO  
 760 Horizon Dr., Ste. 101  
 Grand Junction, CO 81506

June 05, 2013

Date Received : May 23, 2013  
 Description : Oxy USA WTP CHWF Quarterly Sampling  
 Sample ID : MW-1  
 Collected By : Jess Vann  
 Collection Date : 05/22/13 12:00

ESC Sample # : L637413-01  
 Site ID :  
 Project # : 012-0744

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Bromide	BDL	1.0	mg/l	9056	05/23/13	1
Chloride	76.	1.0	mg/l	9056	05/23/13	1
Fluoride	0.62	0.10	mg/l	9056	05/23/13	1
Nitrate	1.2	0.10	mg/l	9056	05/23/13	1
Nitrite	BDL	0.10	mg/l	9056	05/23/13	1
Sulfate	140	10.	mg/l	9056	05/23/13	2
Alkalinity	360	20.	mg/l	2320 B-2011	05/29/13	1
pH	7.7		su	9040C	05/30/13	1
Specific Conductance	1200		umhos/cm	9050A	05/31/13	1
Dissolved Solids	670	10.	mg/l	2540 C-2011	05/29/13	1
Calcium, Dissolved	79.	0.50	mg/l	6010B	05/31/13	1
Iron, Dissolved	BDL	0.10	mg/l	6010B	05/31/13	1
Magnesium, Dissolved	52.	0.10	mg/l	6010B	05/31/13	1
Manganese, Dissolved	0.018	0.010	mg/l	6010B	05/31/13	1
Potassium, Dissolved	3.0	0.50	mg/l	6010B	05/31/13	1
Selenium, Dissolved	BDL	0.020	mg/l	6010B	05/31/13	1
Sodium, Dissolved	96.	0.50	mg/l	6010B	05/31/13	1
TPH (GC/FID) Low Fraction	BDL	0.10	mg/l	8015D/GRO	05/24/13	1
Surrogate Recovery-% a,a,a-Trifluorotoluene(FID)	96.8		% Rec.	8015D/GRO	05/24/13	1
Benzene	BDL	0.0010	mg/l	8260B	05/24/13	1
Toluene	BDL	0.0050	mg/l	8260B	05/24/13	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	05/24/13	1
Total Xylenes	BDL	0.0030	mg/l	8260B	05/24/13	1
Surrogate Recovery						
Toluene-d8	101.		% Rec.	8260B	05/24/13	1
Dibromofluoromethane	94.4		% Rec.	8260B	05/24/13	1
a,a,a-Trifluorotoluene	97.9		% Rec.	8260B	05/24/13	1
4-Bromofluorobenzene	92.6		% Rec.	8260B	05/24/13	1
TPH (GC/FID) High Fraction	BDL	0.10	mg/l	3511/8015	05/24/13	1
Surrogate recovery(%) o-Terphenyl	125.		% Rec.	3511/8015	05/24/13	1

BDL - Below Detection Limit  
 Det. Limit - Practical Quantitation Limit(PQL)  
 Note:

The reported analytical results relate only to the sample submitted.  
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Reported: 06/05/13 14:28 Printed: 06/05/13 14:29  
 L637413-01 (PH) - 7.7@20.2c



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REPORT OF ANALYSIS

Stuart Hall  
 OXY USA Inc - Grand Junction, CO  
 760 Horizon Dr., Ste. 101  
 Grand Junction, CO 81506

June 05, 2013

Date Received : May 23, 2013  
 Description : Oxy USA WTP CHWF Quarterly Sampling  
 Sample ID : MW-2  
 Collected By : Jess Vann  
 Collection Date : 05/22/13 13:20

ESC Sample # : L637413-02  
 Site ID :  
 Project # : 012-0744

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Bromide	BDL	1.0	mg/l	9056	05/23/13	1
Chloride	67.	1.0	mg/l	9056	05/23/13	1
Fluoride	0.51	0.10	mg/l	9056	05/23/13	1
Nitrate	1.5	0.10	mg/l	9056	05/23/13	1
Nitrite	BDL	0.10	mg/l	9056	05/23/13	1
Sulfate	130	10.	mg/l	9056	05/23/13	2
Alkalinity	320	20.	mg/l	2320 B-2011	05/29/13	1
pH	7.7		su	9040C	05/30/13	1
Specific Conductance	1100		umhos/cm	9050A	05/31/13	1
Dissolved Solids	610	10.	mg/l	2540 C-2011	05/29/13	1
Calcium, Dissolved	64.	0.50	mg/l	6010B	06/05/13	1
Iron, Dissolved	BDL	0.10	mg/l	6010B	06/05/13	1
Magnesium, Dissolved	33.	0.10	mg/l	6010B	06/05/13	1
Manganese, Dissolved	BDL	0.010	mg/l	6010B	06/05/13	1
Potassium, Dissolved	1.0	0.50	mg/l	6010B	06/05/13	1
Selenium, Dissolved	BDL	0.020	mg/l	6010B	06/05/13	1
Sodium, Dissolved	61.	0.50	mg/l	6010B	06/05/13	1
TPH (GC/FID) Low Fraction	BDL	0.10	mg/l	8015D/GRO	05/24/13	1
Surrogate Recovery-% a,a,a-Trifluorotoluene(FID)	96.7		% Rec.	8015D/GRO	05/24/13	1
Benzene	BDL	0.0010	mg/l	8260B	05/24/13	1
Toluene	BDL	0.0050	mg/l	8260B	05/24/13	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	05/24/13	1
Total Xylenes	BDL	0.0030	mg/l	8260B	05/24/13	1
Surrogate Recovery						
Toluene-d8	99.5		% Rec.	8260B	05/24/13	1
Dibromofluoromethane	94.3		% Rec.	8260B	05/24/13	1
a,a,a-Trifluorotoluene	99.5		% Rec.	8260B	05/24/13	1
4-Bromofluorobenzene	94.6		% Rec.	8260B	05/24/13	1
TPH (GC/FID) High Fraction	BDL	0.10	mg/l	3511/8015	05/24/13	1
Surrogate recovery(%) o-Terphenyl	122.		% Rec.	3511/8015	05/24/13	1

BDL - Below Detection Limit  
 Det. Limit - Practical Quantitation Limit(PQL)  
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Reported: 06/05/13 14:28 Printed: 06/05/13 14:29  
 L637413-02 (PH) - 7.7@19.8c



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REPORT OF ANALYSIS

Stuart Hall  
 OXY USA Inc - Grand Junction, CO  
 760 Horizon Dr., Ste. 101  
 Grand Junction, CO 81506

June 05, 2013

Date Received : May 23, 2013  
 Description : Oxy USA WTP CHWF Quarterly Sampling  
 Sample ID : MW-3  
 Collected By : Jess Vann  
 Collection Date : 05/22/13 14:30

ESC Sample # : L637413-03  
 Site ID :  
 Project # : 012-0744

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Bromide	BDL	1.0	mg/l	9056	05/23/13	1
Chloride	74.	1.0	mg/l	9056	05/23/13	1
Fluoride	0.54	0.10	mg/l	9056	05/23/13	1
Nitrate	1.2	0.10	mg/l	9056	05/23/13	1
Nitrite	BDL	0.10	mg/l	9056	05/23/13	1
Sulfate	140	10.	mg/l	9056	05/23/13	2
Alkalinity	330	20.	mg/l	2320 B-2011	05/29/13	1
pH	7.8		su	9040C	05/30/13	1
Specific Conductance	1100		umhos/cm	9050A	05/31/13	1
Dissolved Solids	620	10.	mg/l	2540 C-2011	05/29/13	1
Calcium, Dissolved	81.	0.50	mg/l	6010B	05/31/13	1
Iron, Dissolved	BDL	0.10	mg/l	6010B	05/31/13	1
Magnesium, Dissolved	49.	0.10	mg/l	6010B	05/31/13	1
Manganese, Dissolved	BDL	0.010	mg/l	6010B	05/31/13	1
Potassium, Dissolved	2.6	0.50	mg/l	6010B	05/31/13	1
Selenium, Dissolved	BDL	0.020	mg/l	6010B	05/31/13	1
Sodium, Dissolved	73.	0.50	mg/l	6010B	05/31/13	1
TPH (GC/FID) Low Fraction	BDL	0.10	mg/l	8015D/GRO	05/24/13	1
Surrogate Recovery-% a,a,a-Trifluorotoluene(FID)	96.7		% Rec.	8015D/GRO	05/24/13	1
Benzene	BDL	0.0010	mg/l	8260B	05/24/13	1
Toluene	BDL	0.0050	mg/l	8260B	05/24/13	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	05/24/13	1
Total Xylenes	BDL	0.0030	mg/l	8260B	05/24/13	1
Surrogate Recovery						
Toluene-d8	100.		% Rec.	8260B	05/24/13	1
Dibromofluoromethane	93.0		% Rec.	8260B	05/24/13	1
a,a,a-Trifluorotoluene	98.8		% Rec.	8260B	05/24/13	1
4-Bromofluorobenzene	93.1		% Rec.	8260B	05/24/13	1
TPH (GC/FID) High Fraction	BDL	0.10	mg/l	3511/8015	05/24/13	1
Surrogate recovery(%) o-Terphenyl	122.		% Rec.	3511/8015	05/24/13	1

BDL - Below Detection Limit  
 Det. Limit - Practical Quantitation Limit(PQL)  
 Note:

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Reported: 06/05/13 14:28 Printed: 06/05/13 14:29  
 L637413-03 (PH) - 7.8@23.2c

Attachment A  
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L637413-01	WG663764	SAMP	pH	R2689340	T8
L637413-02	WG663764	SAMP	pH	R2689340	T8
	WG663577	SAMP	Alkalinity	R2689260	J6
L637413-03	WG663764	SAMP	pH	R2689340	T8

Attachment B  
Explanation of QC Qualifier Codes

Qualifier	Meaning
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low
T8	(ESC) - Additional method/sample information: Sample(s) received past/too close to holding time expiration.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods, it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

- Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.
- Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Difference.
- Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromatography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.
- TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

Summary of Remarks For Samples Printed  
06/05/13 at 14:29:08

TSR Signing Reports: 134  
R5 - Desired TAT

Log BTEX by 8260 unless otherwise noted

Sample: L637413-01 Account: OXYGJCO Received: 05/23/13 09:30 Due Date: 05/31/13 00:00 RPT Date: 06/05/13 14:28

Sample: L637413-02 Account: OXYGJCO Received: 05/23/13 09:30 Due Date: 06/05/13 00:00 RPT Date: 06/05/13 14:28

Sample: L637413-03 Account: OXYGJCO Received: 05/23/13 09:30 Due Date: 05/31/13 00:00 RPT Date: 06/05/13 14:28