



06/01/12

## Technical Report for

**Olsson Associates**

**Oxy CWHF Monitoring Wells**

**PO# 012-0744**

**Accutest Job Number: D34653**

**Sampling Date: 05/17/12**

### Report to:

**Olsson Associates**

**shall@oaconsulting.com**

**ATTN: Stuart Hall**

**Total number of pages in report: 24**



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

  
**Brad Madadian**  
**Laboratory Director**

**Client Service contact: Renea Jackson 303-425-6021**

Certifications: CO, ID, NE, NM, ND (R-027) (PW), UT (NELAP CO00049), TX (T104704511-12-1)

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Test results relate only to samples analyzed.

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## Sample Summary

Olsson Associates

Job No: D34653

Oxy CWHF Monitoring Wells  
Project No: PO# 012-0744

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
D34653-1	05/17/12	10:50 JV	05/18/12	AQ	Ground Water	MW-1
D34653-1F	05/17/12	10:50 JV	05/18/12	AQ	Groundwater Filtered	MW-1
D34653-2	05/17/12	12:20 JV	05/18/12	AQ	Ground Water	MW-2
D34653-2F	05/17/12	12:20 JV	05/18/12	AQ	Groundwater Filtered	MW-2
D34653-3	05/17/12	13:40 JV	05/18/12	AQ	Ground Water	MW-3
D34653-3F	05/17/12	13:40 JV	05/18/12	AQ	Groundwater Filtered	MW-3



## CASE NARRATIVE / CONFORMANCE SUMMARY

**Client:** Olsson Associates

**Job No** D34653

**Site:** Oxy CWHF Monitoring Wells

**Report Date** 6/1/2012 9:12:55 AM

On 05/18/2012, 3 sample(s), 0 Trip Blank(s), and 0 Field Blank(s) were received at Accutest Mountain States (AMS) at a temperature of 3.7 °C. The samples were intact and properly preserved, unless noted below. An AMS Job Number of D34653 was assigned to the project. The lab sample IDs, client sample IDs, and date of sample collection are detailed in the report's Results Summary.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

### Volatiles by GC By Method SW846 8015B

**Matrix** AQ

**Batch ID:** GGA915

- All samples were analyzed within the recommended method holding time.
- Sample(s) D34630-19DUP, D34653-1MS were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

### Volatiles by GC By Method SW846 8021B

**Matrix** AQ

**Batch ID:** GTA915

- All samples were analyzed within the recommended method holding time.
- Sample(s) D34630-19DUP, D34653-1MS were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

### Extractables by GC By Method SW846-8015B

**Matrix** AQ

**Batch ID:** OP5912

- All samples were extracted and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D34461-15MS, D34461-15MSD were used as the QC samples indicated.
- The RPD(s) for the MS and MSD recoveries of TPH-DRO (C10-C28) are outside control limits for sample OP5912-MSD. High RPD due to possible sample nonhomogeneity.

### Metals By Method EPA 200.7

**Matrix** AQ

**Batch ID:** MP7510

- All samples were digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D34653-1FMS, D34653-1FMSD were used as the QC samples for the metals analysis.

### Metals By Method EPA 200.8

**Matrix** AQ

**Batch ID:** MP7513

- All samples were digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D34605-2MS, D34605-2MSD were used as the QC samples for the metals analysis.

## Wet Chemistry By Method EPA 300/SW846 9056

**Matrix** AQ

**Batch ID:** GP7256

- All samples were prepared and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D34641-4MS, D34641-4MSD were used as the QC samples for the Bromide, Chloride, Fluoride, Nitrogen, Nitrate, Nitrogen, Nitrite, Sulfate, Bromide analysis.
- D34653-1 and D34653-3 for Nitrogen, Nitrite: Elevated detection limit due to matrix interference.

## Wet Chemistry By Method SM20 2320B

**Matrix** AQ

**Batch ID:** GN15153

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D34578-2DUP, D34578-2MS, D34578-2MSD were used as the QC samples for the Alkalinity, Total as CaCO<sub>3</sub> analysis.

**Matrix** AQ

**Batch ID:** GN15154

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D34737-1DUP, D34737-1MS, D34737-1MSD were used as the QC samples for the Alkalinity, Total as CaCO<sub>3</sub> analysis.

## Wet Chemistry By Method SM20 2510B

**Matrix** AQ

**Batch ID:** GP7260

- All samples were prepared and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D34577-1DUP were used as the QC samples for the Specific Conductivity analysis.

## Wet Chemistry By Method SM20 2540C

**Matrix** AQ

**Batch ID:** GN15100

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D34653-1DUP were used as the QC samples for the Solids, Total Dissolved analysis.

AMS certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting AMS's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

AMS is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. This report is authorized by AMS indicated via signature on the report cover.

## Sample Results

## Report of Analysis

## Report of Analysis

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Client Sample ID:	MW-1	Date Sampled:	05/17/12
Lab Sample ID:	D34653-1	Date Received:	05/18/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8015B		
Project:	Oxy CWHF Monitoring Wells		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GA16171.D	1	05/21/12	SK	n/a	n/a	GGA915
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.20	0.10	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	98%		60-140%		

ND = Not detected      MDL - Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## Report of Analysis

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Client Sample ID:	MW-1	Date Sampled:	05/17/12
Lab Sample ID:	D34653-1	Date Received:	05/18/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8021B		
Project:	Oxy CWHF Monitoring Wells		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	TA16171.D	1	05/21/12	SK	n/a	n/a	GTA915
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

## Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	2.0	1.0	ug/l	
100-41-4	Ethylbenzene	ND	2.0	1.0	ug/l	
1330-20-7	Xylenes (total)	ND	2.0	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	102%		60-140%

ND = Not detected      MDL - Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound



## Report of Analysis

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Client Sample ID:	MW-1	Date Sampled:	05/17/12
Lab Sample ID:	D34653-1	Date Received:	05/18/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846-8015B SW846 3510C		
Project:	Oxy CWHF Monitoring Wells		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FH004447.D	1	05/21/12	AW	05/19/12	OP5912	GFH244
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1050 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	1.04	0.38	0.25	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	87%		25-146%		

ND = Not detected      MDL - Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## Report of Analysis

Client Sample ID: MW-1	Date Sampled: 05/17/12
Lab Sample ID: D34653-1	Date Received: 05/18/12
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: Oxy CWHF Monitoring Wells	

## General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO <sub>3</sub>	384	5.0	mg/l	1	05/29/12	CJ	SM20 2320B
Bromide	0.40	0.20	mg/l	1	05/18/12 11:17	GH	EPA 300/SW846 9056
Chloride	74.7	5.0	mg/l	10	05/18/12 14:36	GH	EPA 300/SW846 9056
Fluoride	0.65	0.10	mg/l	1	05/18/12 11:17	GH	EPA 300/SW846 9056
Nitrogen, Nitrate	1.3	0.45	mg/l	10	05/18/12 14:36	GH	EPA 300/SW846 9056
Nitrogen, Nitrite <sup>a</sup>	< 0.020	0.020	mg/l	2	05/18/12 14:25	GH	EPA 300/SW846 9056
Solids, Total Dissolved	728	10	mg/l	1	05/23/12	JD	SM20 2540C
Specific Conductivity	886	1.0	umhos/cm	1	05/20/12	JK	SM20 2510B
Sulfate	146	5.0	mg/l	10	05/18/12 14:36	GH	EPA 300/SW846 9056
pH	7.37		su	1	05/18/12 14:50	CT	SM20 4500H

(a) Elevated detection limit due to matrix interference.

RL = Reporting Limit

## Report of Analysis

<b>Client Sample ID:</b> MW-1	<b>Date Sampled:</b> 05/17/12
<b>Lab Sample ID:</b> D34653-1F	<b>Date Received:</b> 05/18/12
<b>Matrix:</b> AQ - Groundwater Filtered	<b>Percent Solids:</b> n/a
<b>Project:</b> Oxy CWHF Monitoring Wells	

## Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	83800	400	ug/l	1	05/21/12 05/24/12	JB	EPA 200.7 <sup>1</sup>	EPA 200.7 <sup>3</sup>
Iron	10.0	10	ug/l	1	05/21/12 05/24/12	JB	EPA 200.7 <sup>1</sup>	EPA 200.7 <sup>3</sup>
Magnesium	53800	200	ug/l	1	05/21/12 05/24/12	JB	EPA 200.7 <sup>1</sup>	EPA 200.7 <sup>3</sup>
Manganese	27.8	5.0	ug/l	1	05/21/12 05/24/12	JB	EPA 200.7 <sup>1</sup>	EPA 200.7 <sup>3</sup>
Potassium	3160	1000	ug/l	1	05/21/12 05/24/12	JB	EPA 200.7 <sup>1</sup>	EPA 200.7 <sup>3</sup>
Selenium	3.4	0.80	ug/l	2	05/22/12 05/25/12	JM	EPA 200.8 <sup>2</sup>	EPA 200.8 <sup>4</sup>
Sodium	91500	400	ug/l	1	05/21/12 05/24/12	JB	EPA 200.7 <sup>1</sup>	EPA 200.7 <sup>3</sup>

(1) Instrument QC Batch: MA2457

(2) Instrument QC Batch: MA2461

(3) Prep QC Batch: MP7510

(4) Prep QC Batch: MP7513

RL = Reporting Limit

## Report of Analysis

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Client Sample ID:	MW-2	Date Sampled:	05/17/12
Lab Sample ID:	D34653-2	Date Received:	05/18/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8015B		
Project:	Oxy CWHF Monitoring Wells		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GA16173.D	1	05/21/12	SK	n/a	n/a	GGA915
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.20	0.10	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	98%		60-140%		

ND = Not detected      MDL - Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## Report of Analysis

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Client Sample ID:	MW-2	Date Sampled:	05/17/12
Lab Sample ID:	D34653-2	Date Received:	05/18/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8021B		
Project:	Oxy CWHF Monitoring Wells		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	TA16173.D	1	05/21/12	SK	n/a	n/a	GTA915
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

## Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	2.0	1.0	ug/l	
100-41-4	Ethylbenzene	ND	2.0	1.0	ug/l	
1330-20-7	Xylenes (total)	ND	2.0	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	100%		60-140%

ND = Not detected      MDL - Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## Report of Analysis

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Client Sample ID:	MW-2	Date Sampled:	05/17/12
Lab Sample ID:	D34653-2	Date Received:	05/18/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846-8015B SW846 3510C		
Project:	Oxy CWHF Monitoring Wells		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FH004449.D	1	05/21/12	AW	05/19/12	OP5912	GFH244
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1050 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	0.631	0.38	0.25	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	76%		25-146%		

ND = Not detected      MDL - Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## Report of Analysis

Client Sample ID:	MW-2	Date Sampled:	05/17/12
Lab Sample ID:	D34653-2	Date Received:	05/18/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	Oxy CWHF Monitoring Wells		

## General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO <sub>3</sub>	340	5.0	mg/l	1	05/29/12	CJ	SM20 2320B
Bromide	0.39	0.20	mg/l	1	05/18/12 11:28	GH	EPA 300/SW846 9056
Chloride	66.1	5.0	mg/l	10	05/18/12 15:21	GH	EPA 300/SW846 9056
Fluoride	0.58	0.10	mg/l	1	05/18/12 11:28	GH	EPA 300/SW846 9056
Nitrogen, Nitrate	1.9	0.090	mg/l	2	05/18/12 15:10	GH	EPA 300/SW846 9056
Nitrogen, Nitrite	< 0.010	0.010	mg/l	1	05/18/12 11:28	GH	EPA 300/SW846 9056
Solids, Total Dissolved	650	10	mg/l	1	05/23/12	JD	SM20 2540C
Specific Conductivity	835	1.0	umhos/cm	1	05/20/12	JK	SM20 2510B
Sulfate	129	5.0	mg/l	10	05/18/12 15:21	GH	EPA 300/SW846 9056
pH	7.43		su	1	05/18/12 14:50	CT	SM20 4500H

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 RL = Reporting Limit

## Report of Analysis

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<b>Client Sample ID:</b> MW-2	<b>Date Sampled:</b> 05/17/12
<b>Lab Sample ID:</b> D34653-2F	<b>Date Received:</b> 05/18/12
<b>Matrix:</b> AQ - Groundwater Filtered	<b>Percent Solids:</b> n/a
<b>Project:</b> Oxy CWHF Monitoring Wells	

## Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	82600	400	ug/l	1	05/21/12 05/24/12	JB	EPA 200.7 <sup>1</sup>	EPA 200.7 <sup>3</sup>
Iron	15.1	10	ug/l	1	05/21/12 05/24/12	JB	EPA 200.7 <sup>1</sup>	EPA 200.7 <sup>3</sup>
Magnesium	48900	200	ug/l	1	05/21/12 05/24/12	JB	EPA 200.7 <sup>1</sup>	EPA 200.7 <sup>3</sup>
Manganese	< 5.0	5.0	ug/l	1	05/21/12 05/24/12	JB	EPA 200.7 <sup>1</sup>	EPA 200.7 <sup>3</sup>
Potassium	2770	1000	ug/l	1	05/21/12 05/24/12	JB	EPA 200.7 <sup>1</sup>	EPA 200.7 <sup>3</sup>
Selenium	3.5	0.80	ug/l	2	05/22/12 05/25/12	JM	EPA 200.8 <sup>2</sup>	EPA 200.8 <sup>4</sup>
Sodium	70100	400	ug/l	1	05/21/12 05/24/12	JB	EPA 200.7 <sup>1</sup>	EPA 200.7 <sup>3</sup>

(1) Instrument QC Batch: MA2457

(2) Instrument QC Batch: MA2461

(3) Prep QC Batch: MP7510

(4) Prep QC Batch: MP7513

RL = Reporting Limit



## Report of Analysis

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Client Sample ID:	MW-3	Date Sampled:	05/17/12
Lab Sample ID:	D34653-3	Date Received:	05/18/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8015B		
Project:	Oxy CWHF Monitoring Wells		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GA16174.D	1	05/21/12	SK	n/a	n/a	GGA915
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.20	0.10	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	97%		60-140%		

ND = Not detected      MDL - Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## Report of Analysis

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Client Sample ID:	MW-3	Date Sampled:	05/17/12
Lab Sample ID:	D34653-3	Date Received:	05/18/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8021B		
Project:	Oxy CWHF Monitoring Wells		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	TA16174.D	1	05/21/12	SK	n/a	n/a	GTA915
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

## Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	2.0	1.0	ug/l	
100-41-4	Ethylbenzene	ND	2.0	1.0	ug/l	
1330-20-7	Xylenes (total)	ND	2.0	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	99%		60-140%

ND = Not detected      MDL - Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## Report of Analysis

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Client Sample ID:	MW-3	Date Sampled:	05/17/12
Lab Sample ID:	D34653-3	Date Received:	05/18/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846-8015B SW846 3510C		
Project:	Oxy CWHF Monitoring Wells		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FH004451.D	1	05/21/12	AW	05/19/12	OP5912	GFH244
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1050 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	0.623	0.38	0.25	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	83%		25-146%		

ND = Not detected      MDL - Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> MW-3	<b>Date Sampled:</b> 05/17/12
<b>Lab Sample ID:</b> D34653-3	<b>Date Received:</b> 05/18/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Project:</b> Oxy CWHF Monitoring Wells	

## General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO <sub>3</sub>	374	5.0	mg/l	1	05/29/12	CJ	SM20 2320B
Bromide	0.61	0.20	mg/l	1	05/18/12 11:39	GH	EPA 300/SW846 9056
Chloride	99.0	5.0	mg/l	10	05/18/12 15:43	GH	EPA 300/SW846 9056
Fluoride	0.60	0.10	mg/l	1	05/18/12 11:39	GH	EPA 300/SW846 9056
Nitrogen, Nitrate	1.6	0.45	mg/l	10	05/18/12 15:43	GH	EPA 300/SW846 9056
Nitrogen, Nitrite <sup>a</sup>	< 0.020	0.020	mg/l	2	05/18/12 15:32	GH	EPA 300/SW846 9056
Solids, Total Dissolved	730	10	mg/l	1	05/23/12	JD	SM20 2540C
Specific Conductivity	1010	1.0	umhos/cm	1	05/20/12	JK	SM20 2510B
Sulfate	143	5.0	mg/l	10	05/18/12 15:43	GH	EPA 300/SW846 9056
pH	7.35		su	1	05/18/12 14:50	CT	SM20 4500H

(a) Elevated detection limit due to matrix interference.

RL = Reporting Limit

## Report of Analysis

Client Sample ID:	MW-3	Date Sampled:	05/17/12
Lab Sample ID:	D34653-3F	Date Received:	05/18/12
Matrix:	AQ - Groundwater Filtered	Percent Solids:	n/a
Project:	Oxy CWHF Monitoring Wells		

## Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	94100	400	ug/l	1	05/21/12	05/24/12 JB	EPA 200.7 <sup>1</sup>	EPA 200.7 <sup>3</sup>
Iron	19.6	10	ug/l	1	05/21/12	05/24/12 JB	EPA 200.7 <sup>1</sup>	EPA 200.7 <sup>3</sup>
Magnesium	58400	200	ug/l	1	05/21/12	05/24/12 JB	EPA 200.7 <sup>1</sup>	EPA 200.7 <sup>3</sup>
Manganese	22.8	5.0	ug/l	1	05/21/12	05/24/12 JB	EPA 200.7 <sup>1</sup>	EPA 200.7 <sup>3</sup>
Potassium	3220	1000	ug/l	1	05/21/12	05/24/12 JB	EPA 200.7 <sup>1</sup>	EPA 200.7 <sup>3</sup>
Selenium	3.7	0.80	ug/l	2	05/22/12	05/25/12 JM	EPA 200.8 <sup>2</sup>	EPA 200.8 <sup>4</sup>
Sodium	78300	400	ug/l	1	05/21/12	05/24/12 JB	EPA 200.7 <sup>1</sup>	EPA 200.7 <sup>3</sup>

(1) Instrument QC Batch: MA2457

(2) Instrument QC Batch: MA2461

(3) Prep QC Batch: MP7510

(4) Prep QC Batch: MP7513

RL = Reporting Limit

## Misc. Forms

### Custody Documents and Other Forms

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**Includes the following where applicable:**

- Chain of Custody



# Accutest Laboratories Sample Receipt Summary

Accutest Job Number: D34653

Client: OLSSON ASS.

Immediate Client Services Action Required: No

Date / Time Received: 5/18/2012 10:30:00 AM

No. Coolers: 2

Client Service Action Required at Login: No

Project: OXY CWHF MONITORING WELL

Airbill #'s: Fedex

## Cooler Security

Y or N

Y or N

- |                           |                                     |                          |                       |                                     |                          |
|---------------------------|-------------------------------------|--------------------------|-----------------------|-------------------------------------|--------------------------|
| 1. Custody Seals Present: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 3. COC Present:       | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Custody Seals Intact:  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 4. Smpl Dates/Time OK | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

## Cooler Temperature

Y or N

- |                              |                                     |                          |
|------------------------------|-------------------------------------|--------------------------|
| 1. Temp criteria achieved:   | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Cooler temp verification: | Infrared gun                        |                          |
| 3. Cooler media:             | Ice (bag)                           |                          |

## Quality Control Preservation

Y or N

N/A

- |                                 |                                     |                          |                          |
|---------------------------------|-------------------------------------|--------------------------|--------------------------|
| 1. Trip Blank present / cooler: | <input type="checkbox"/>            | <input type="checkbox"/> |                          |
| 2. Trip Blank listed on COC:    | <input type="checkbox"/>            | <input type="checkbox"/> |                          |
| 3. Samples preserved properly:  | <input checked="" type="checkbox"/> | <input type="checkbox"/> |                          |
| 4. VOCs headspace free:         | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

## Sample Integrity - Documentation

Y or N

- |  |                                     |                          |
|--|-------------------------------------|--------------------------|
| 1. Sample labels present on bottles:   | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Container labeling complete:        | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. Sample container label / COC agree: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

## Sample Integrity - Condition

Y or N

- |                                  |                                     |                          |
|----------------------------------|-------------------------------------|--------------------------|
| 1. Sample recvd within HT:       | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. All containers accounted for: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. Condition of sample:          | Intact                              |                          |

## Sample Integrity - Instructions

Y or N N/A

- |   |                                     |                                     |                                     |
|---|-------------------------------------|-------------------------------------|-------------------------------------|
| 1. Analysis requested is clear:           | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |                                     |
| 2. Bottles received for unspecified tests | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |                                     |
| 3. Sufficient volume rec'd for analysis:  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |                                     |
| 4. Compositing instructions clear:        | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 5. Filtering instructions clear:          | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

Comments