

FORM  
4  
Rev 12/05

## State of Colorado



## Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203 Phone: (303)894-2100 Fax: (303)894-2109

## SUNDRY NOTICE

Submit original plus one copy. This form is to be used for general, technical and environmental sundry information. For proposed or completed operations, describe in full on Technical Information Page (Page 2 of this form.) Identify well or other facility by API Number or by OGCC Facility ID. Operator shall send an informational copy of all sundry notices for wells located in High Density Areas to the Local Government Designee (Rule 603b.)

Received 1/17/2012  
Rifle COGCCRelated documents: 2215753,  
2216559, 2216787

1. OGCC Operator Number: 66561	4. Contact Name: Daniel I. Padilla	Complete the Attachment Checklist OP OGCC
2. Name of Operator: OXY USA Inc.	Phone: 970.263.3637	
3. Address: 760 Horizon Drive, Suite 101 City: Grand Junction State: CO Zip: 81506	Fax: 970.263.3694	
5. API Number 05- 077-09174	OGCC Facility ID Number 334372 (Facility ID)	Survey Plat
6. Well/Facility Name: Currey 16-10 Res. Pit	7. Well/Facility Number 16-10	Directional Survey
8. Location (Qtr/Qtr, Sec, Twp, Rng, Meridian): NWSE, Sec 16, T9S, R94W, 6th PM		Surface Eqmpt Diagram
9. County: Mesa	10. Field Name: Brush Creek	Technical Info Page
11. Federal, Indian or State Lease Number:		Other Lab data, Map

## General Notice

<input type="checkbox"/> CHANGE OF LOCATION: Attach New Survey Plat (a change of surface qtr/qtr is substantive and requires a new permit)	
Change of Surface Footage from Exterior Section Lines:	<input type="checkbox"/> FNL/FSL <input type="checkbox"/> FEL/FWL
Change of Surface Footage to Exterior Section Lines:	<input type="checkbox"/>
Change of Bottomhole Footage from Exterior Section Lines:	<input type="checkbox"/>
Change of Bottomhole Footage to Exterior Section Lines:	<input type="checkbox"/> attach directional survey
Bottomhole location Qtr/Qtr, Sec, Twp, Rng, Mer	
Latitude	Distance to nearest property line
Longitude	Distance to nearest bldg, public rd, utility or RR
Ground Elevation	Distance to nearest lease line
	Is location in a High Density Area (rule 603b)? Yes/No
	Distance to nearest well same formation
	Surface owner consultation date:
GPS DATA:	
Date of Measurement	PDOP Reading
	Instrument Operator's Name
<input type="checkbox"/> CHANGE SPACING UNIT	<input type="checkbox"/> Remove from surface bond
Formation	Signed surface use agreement attached
Formation Code	
Spacing order number	
Unit Acreage	
Unit configuration	
<input type="checkbox"/> CHANGE OF OPERATOR (prior to drilling):	<input type="checkbox"/> CHANGE WELL NAME
Effective Date:	From:
Plugging Bond: <input type="checkbox"/> Blanket <input type="checkbox"/> Individual	To:
	Effective Date:
<input type="checkbox"/> ABANDONED LOCATION:	<input type="checkbox"/> NOTICE OF CONTINUED SHUT IN STATUS
Was location ever built? <input type="checkbox"/> Yes <input type="checkbox"/> No	Date well shut in or temporarily abandoned:
Is site ready for inspection? <input type="checkbox"/> Yes <input type="checkbox"/> No	Has Production Equipment been removed from site? <input type="checkbox"/> Yes <input type="checkbox"/> No
Date Ready for Inspection:	MIT required if shut in longer than two years. Date of last MIT
<input type="checkbox"/> SPUD DATE:	<input type="checkbox"/> REQUEST FOR CONFIDENTIAL STATUS (6 mos from date casing set)
<input type="checkbox"/> SUBSEQUENT REPORT OF STAGE, SQUEEZE OR REMEDIAL CEMENT WORK	
*submit cbl and cement job summaries	
Method used	Cementing tool setting/perf depth
Cement volume	Cement top
Cement bottom	Date
<input type="checkbox"/> RECLAMATION: Attach technical page describing final reclamation procedures per Rule 1004.	
Final reclamation will commence on approximately	
<input type="checkbox"/> Final reclamation is completed and site is ready for inspection.	

## Technical Engineering/Environmental Notice

<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Report of Work Done	
Approximate Start Date:	Date Work Completed:	
Details of work must be described in full on Technical Information Page (Page 2 must be submitted.)		
<input type="checkbox"/> Intent to Recomplete (submit form 2)	<input type="checkbox"/> Request to Vent or Flare	<input type="checkbox"/> E&P Waste Disposal
<input type="checkbox"/> Change Drilling Plans	<input type="checkbox"/> Repair Well	<input type="checkbox"/> Beneficial Reuse of E&P Waste
<input type="checkbox"/> Gross Interval Changed?	<input type="checkbox"/> Rule 502 variance requested	<input type="checkbox"/> Status Update/Change of Remediation Plans
<input type="checkbox"/> Casing/Cementing Program Change	<input checked="" type="checkbox"/> Other: Application of diff. standard	for Spills and Releases

I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct and complete.

Signed: [Signature] Date: 1/16/12 Email: daniel\_padilla@oxy.com  
Print Name: Daniel I. Padilla Title: Regulatory Advisor

Not approved

COGCC Approved:

Title: NW EPSIIDate: 10/17/2012

CONDITIONS OF APPROVAL, IF ANY:

Sundry not approved. "Statistically equal" statement requires supporting statistics. Resubmit a new sundry which provides complete project history and references all pertinent documents related to the closure of this sundry pit, including #2215753, #2216559, and #2216787. Resubmitted sundry should provide details that demonstrate compliance with the pit closure workplan, document #2216787. Approval of the resubmitted sundry will be pending a field inspection because this location failed a field inspection in on 8/11/2011.

TECHNICAL INFORMATION PAGE



FOR OGCC USE ONLY

- |  |                             |
|--|-----------------------------|
| 1. OGCC Operator Number: 66561   | API Number: 05-077-09174    |
| 2. Name of Operator: OXY USA Inc.  | OGCC Facility ID # 334372   |
| 3. Well/Facility Name: Currey 16-10 Res. Pit                                   | Well/Facility Number: 16-10 |
| 4. Location (QtrQtr, Sec, Twp, Rng, Meridian): NWSE, Sec 16, T9S, R94W, 6th PM |                             |

This form is to be completed whenever a Sundry Notice is submitted requiring detailed report of work to be performed or completed. This form shall be transmitted within 30 days of work completed as a "subsequent" report and must accompany Form 4, page 1.

5. DESCRIBE PROPOSED OR COMPLETED OPERATIONS

OXY USA Inc. (Oxy) has completed reclamation of the above-mentioned reserve pit. Oxy identified post reclamation levels for Arsenic (As) to be statistically equal to undisturbed background levels but above COGCC Table 910-1 concentration levels. Oxy requests consideration as an alternative to the default value for As in Table 910-1, based on our demonstration of naturally occurring concentrations of As in undisturbed samples taken from native material collected from nearby locations, as per foot note 1 of COGCC Table 910-1. Please refer to attached table, analytical data, and sample location map.

grab and composite post reclaim samples

The sampling method Oxy employed was to take a representative random grab sample for each background sample location, post reclaim sample, and a composite cap sample. The analytical concentrations table identifies the COGCC Table 910-1 concentration levels, Oxy's undisturbed background concentrations, Oxy's post reclamation concentrations (post reclaim 12/15/2011), and Oxy's cap concentrations (cap 01/04/2012). The post reclaim concentrations of As are statistically equal to those found in back ground samples.

statistics are not included in submittal to support statement

To address elevated concentrations of pH, Oxy buried and capped the pit bottom below at least three feet of native material to ensure a sufficient agronomic zone. The reclaimed pit was contoured to be level with the pad grade (active working surface for operations & maintenance activities) to minimize stormwater run-on and run-off, during the operational phase of the pad. Final pad reclamation will occur at the end of the life of the pad.

# Currey 16-10 Pit Bottom

Pad #:	Currey 16-10
Sample Date:	12/15/2011
Clearance Achieved Date:	

1/4/2012 per lab rpt

	Lab Report #	Sample Identifications (mg/kg)				L553413	L553413	L553413	L553417	L545160	L545160	L545160	L545160	L554491
		L552045	L552045	L552045	L552045									
	Date Sampled	12/15/2011	12/15/2011	12/15/2011	12/15/2011	12/27/2011	12/27/2011	12/27/2011	12/27/2011	11/3/2011	11/3/2011	11/3/2011	11/3/2011	1/4/2011
	Sample Name	Currey 16-10 PBCN	Currey 16-10 PBNW	Currey 16-10 PBCS	Currey 16-10 PBS	Currey 16-10 PS1	Currey 16-10 PS2	Currey 16-10 PSCOMP	Currey 16-10 PBC	Currey 16-10 BG-E	Currey 16-10 BG-NW	Currey 16-10 BG-N-14 in	Currey 16-10 BG-N-12 in	Currey 16-10 Cap
<b>Organics in Soil</b>														
	MCL (mg/kg)													
TPH (GRO and DRO)	500	1.6	3.1	6.20	2.4	BDL	9.3	6.3	BDL	BDL	BDL	0.93	2.7	8.2
Benzene	0.17	U	U	0.0038	U	BDL	0.0029	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Toluene	85	U	U	0.012	U	BDL	0.04	0.0063	BDL	BDL	BDL	BDL	BDL	BDL
Ethylbenzene	100	U	U	U	U	BDL	0.027	0.0033	BDL	BDL	BDL	BDL	BDL	BDL
Xylenes	175	U	U	0.03	U	0.0025	0.64	0.075	BDL	BDL	BDL	BDL	BDL	BDL
<b>Organics in Soil (PAH's)</b>														
Acenaphthene	1000	U	U	0.00078	U	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Anthracene	1000	U	U	U	U	BDL	0.00095	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzo(A)anthracene	0.22	U	U	U	U	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzo(B)fluoranthene	0.22	U	U	U	U	BDL	BDL	BDL	BDL	BDL	0.0013	BDL	BDL	BDL
Benzo(K)fluoranthene	2.2	U	U	U	U	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzo(A)pyrene	0.022	U	U	U	U	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Chrysene	22	U	U	U	U	BDL	0.0013	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Dibenzo(A,H)anthracene	0.022	U	U	U	U	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Fluoranthene	1000	U	U	U	U	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Fluorene	1000	U	0.00069	0.0028	U	0.00099	0.0051	0.0037	BDL	0.0016	BDL	BDL	BDL	0.0017
Indeno(1,2,3-C,D)pyrene	0.22	U	U	U	U	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Napthalene	23	0.001	0.0016	0.013	U	0.0058	0.045	0.019	0.001	BDL	BDL	BDL	BDL	0.0044
Pyrene	1000	0.00093	0.0012	0.00061	U	BDL	0.0013	0.00072	BDL	BDL	BDL	BDL	BDL	0.0012
<b>Inorganics in Soil</b>														
EC	<4 mmhos/cm or 2X background	0.380	0.370	0.350	0.170	0.18	0.430	0.360	0.280	0.036	0.025	0.095	0.032	0.28
SAR	<12	4.9	5.10	8.9	4.5	2.7	8.2	6.4	8.8	1.4	0.73	1.2	0.82	2.3
pH	6-9	11.0	9.1	8.9	8.5	6.9	9.4	9.1	8.7	6.9	7.2	6.8	6.8	8
<b>Metals in Soils</b>														
Arsenic	0.39	3.0	2.8	3.2	U	2.6	2	2	5.2	4.8	4.1	4.4	3.9	0.88
Barium (LDNR True Total)	15,000	390	830	310	54	200	4700	2700	33	170	160	160	140	740
Cadmium	70	U	U	U	U	0.11	BDL	BDL	BDL	0.82	0.87	0.77	0.87	BDL
Chromium III	120,000	1.9	4.1	6.0	4.4	17	13	15	3.9	19	17	19	16	14
Chromium VI	23	1.6	1.5	U	U	BDL	BDL	BDL	BDL	0.76	1.2	1.9	1.6	0.72
Copper	3100	3.8	6.6	5.9	5.0	18	14	16	3.3	13	14	13	12	17
Lead	400	7.5	6.8	12.0	6.2	13	10	11	7.5	18	17	18	17	11
Mercury	23	0.0240	0.019	0.0200	0.0068	0.014	0.018	0.017	0.018	0.0081	0.012	0.0081	0.0071	0.026
Nickel	1600	3.3	5.9	5.0	5.0	14	8.8	12	1.6	12	12	14	12	14
Selenium	390	0.97	0.79	1.20	0.73	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	1
Silver	390	U	U	U	U	BDL	0.18	0.2	BDL	BDL	BDL	BDL	BDL	BDL
Zinc	23,000	13.0	21.0	19.0	21.0	53	39	48	12	47	44	49	45	50





OXY USA Inc.  
760 Horizon Drive, Suite 101  
Grand Junction, CO 81506

# Currey 16-10 Reserve Pit Sampling Map

Mesa County, Colorado

0 0.008 0.016 0.024 0.032 Miles

BG-NW

BG-N 12

BG-N 14

BG-E

PB-NW  
CAP1  
PS-Comp3  
PB-CN  
CAP2  
PB-CS  
PS-1  
PS-Comp5  
PB-S  
CAP5  
PB-NW  
PS-Comp2  
PS-Comp1  
CAP3  
PB-C  
PS-2  
CAP4  
PS-Comp4

Pit or Pond Area

Pit Bottom Sample

Cap Sample

Back Ground Sample

Background Sample ID BG2

Cap Sample ID CAP1

Post Reclaim Sample ID PR2



Blair Rollins  
OXY USA Inc - Grand Junction, CO  
760 Horizon Dr., Ste. 101  
Grand Junction, CO 81506

### Report Summary

Tuesday December 27, 2011

Report Number: L552045

Samples Received: 12/16/11

Client Project:

Description: Currey 16-10 Pit Bottom

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 - I-2327, CT - PH-0197, FL - E87487  
GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704, ND - R-140  
NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 00109, WV - 233  
AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032008A,  
TX - T104704245, OK-9915, PA - 68-02979

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

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

This report may not be reproduced, except in full, without written approval from ESC Lab Sciences. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



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Est. 1970

# REPORT OF ANALYSIS

Blair Rollins  
OXY USA Inc - Grand Junction, CO  
760 Horizon Dr., Ste. 101  
Grand Junction, CO 81506

December 27, 2011

Date Received : December 16, 2011  
Description : Currey 16-10 Pit Bottom  
Sample ID : CURREY 16-10 PBCN 0-12IN  
Collected By : Matt Kasten  
Collection Date : 12/15/11 12:00

ESC Sample # : L552045-01

Site ID :

Project # :

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	1.6	0.71	2.0	mg/kg	J	3060A/7	12/21/11	1
Chromium, Trivalent	1.9	0.17	2.0	mg/kg		Calc.	12/17/11	1
ORP	40.			mV	T8	2580	12/20/11	1
pH	11.			su	T8	9045D	12/23/11	1
Sodium Adsorption Ratio	4.9					Calc.	12/20/11	1
Specific Conductance	380			umhos/cm		9050AMo	12/20/11	1
Mercury	0.024	0.0015	0.020	mg/kg		7471	12/19/11	1
Arsenic	3.0	0.32	1.0	mg/kg		6010B	12/17/11	1
Barium	390	0.050	0.25	mg/kg		6010B	12/21/11	1
Cadmium	U	0.040	0.25	mg/kg		6010B	12/17/11	1
Chromium	3.5	0.085	0.50	mg/kg		6010B	12/17/11	1
Copper	3.8	0.21	1.0	mg/kg		6010B	12/17/11	1
Lead	7.5	0.090	0.25	mg/kg		6010B	12/17/11	1
Nickel	3.3	0.26	1.0	mg/kg		6010B	12/17/11	1
Selenium	0.97	0.32	1.0	mg/kg	J	6010B	12/17/11	1
Silver	U	0.16	0.50	mg/kg		6010B	12/17/11	1
Zinc	13.	0.34	1.5	mg/kg		6010B	12/17/11	1
TPH (GC/FID) Low Fraction	U	0.25	0.50	mg/kg		8015D/G	12/17/11	5
Surrogate Recovery (70-130) a,a,a-Trifluorotoluene(FID)	94.1			% Rec.		602/801	12/17/11	5
Benzene	U	0.0017	0.0050	mg/kg		8260B	12/17/11	5
Toluene	U	0.0016	0.025	mg/kg		8260B	12/17/11	5
Ethylbenzene	U	0.0019	0.0050	mg/kg		8260B	12/17/11	5
Total Xylenes	U	0.0023	0.015	mg/kg		8260B	12/17/11	5
Surrogate Recovery								
Toluene-d8	97.9			% Rec.		8260B	12/17/11	5
Dibromofluoromethane	119.			% Rec.		8260B	12/17/11	5
a,a,a-Trifluorotoluene	99.8			% Rec.		8260B	12/17/11	5
4-Bromofluorobenzene	89.5			% Rec.		8260B	12/17/11	5
TPH (GC/FID) High Fraction	1.6	0.77	4.0	mg/kg	J	3546/DR	12/19/11	1
Surrogate recovery(%) o-Terphenyl	73.0			% Rec.		3546/DR	12/19/11	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

The reported analytical results relate only to the sample submitted.

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Reported: 12/27/11 17:48 Printed: 12/27/11 17:48

L552045-01 (PH) - 10.94@19.1c



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# REPORT OF ANALYSIS

December 27, 2011

Blair Rollins  
OXY USA Inc - Grand Junction, CO  
760 Horizon Dr., Ste. 101  
Grand Junction, CO 81506

ESC Sample # : L552045-01

Site ID :

Project # :

Date Received : December 16, 2011  
Description : Currey 16-10 Pit Bottom  
Sample ID : CURREY 16-10 PBCN 0-12IN  
Collected By : Matt Kasten  
Collection Date : 12/15/11 12:00

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Polynuclear Aromatic Hydrocarbons								
Anthracene	U	0.00076	0.0060	mg/kg		8270C-S	12/20/11	1
Acenaphthene	U	0.00071	0.0060	mg/kg		8270C-S	12/20/11	1
Acenaphthylene	U	0.00057	0.0060	mg/kg		8270C-S	12/20/11	1
Benzo(a)anthracene	U	0.00092	0.0060	mg/kg		8270C-S	12/20/11	1
Benzo(a)pyrene	U	0.00062	0.0060	mg/kg		8270C-S	12/20/11	1
Benzo(b)fluoranthene	U	0.00082	0.0060	mg/kg		8270C-S	12/20/11	1
Benzo(g,h,i)perylene	U	0.0012	0.0060	mg/kg		8270C-S	12/20/11	1
Benzo(k)fluoranthene	U	0.0013	0.0060	mg/kg		8270C-S	12/20/11	1
Chrysene	U	0.0011	0.0060	mg/kg		8270C-S	12/20/11	1
Dibenz(a,h)anthracene	U	0.0011	0.0060	mg/kg		8270C-S	12/20/11	1
Fluoranthene	U	0.0010	0.0060	mg/kg		8270C-S	12/20/11	1
Fluorene	U	0.00055	0.0060	mg/kg		8270C-S	12/20/11	1
Indeno(1,2,3-cd)pyrene	U	0.0012	0.0060	mg/kg		8270C-S	12/20/11	1
Naphthalene	0.0010	0.00065	0.0060	mg/kg	J	8270C-S	12/20/11	1
Phenanthrene	0.00093	0.00074	0.0060	mg/kg	J	8270C-S	12/20/11	1
Pyrene	U	0.00059	0.0060	mg/kg		8270C-S	12/20/11	1
1-Methylnaphthalene	0.00096	0.00079	0.0060	mg/kg	J	8270C-S	12/20/11	1
2-Methylnaphthalene	0.0024	0.00059	0.0060	mg/kg	J	8270C-S	12/20/11	1
2-Chloronaphthalene	U	0.00060	0.0060	mg/kg		8270C-S	12/20/11	1
Surrogate Recovery								
Nitrobenzene-d5	87.5			% Rec.		8270C-S	12/20/11	1
2-Fluorobiphenyl	82.0			% Rec.		8270C-S	12/20/11	1
p-Terphenyl-d14	84.7			% Rec.		8270C-S	12/20/11	1

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L552045-01 (PH) - 10.94@19.1c



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# REPORT OF ANALYSIS

Blair Rollins  
OXY USA Inc - Grand Junction, CO  
760 Horizon Dr., Ste. 101  
Grand Junction, CO 81506

December 27, 2011

Date Received : December 16, 2011  
Description : Currey 16-10 Pit Bottom  
Sample ID : CURREY 16-10 PBNW 0-12IN  
Collected By : Matt Kasten  
Collection Date : 12/15/11 12:10

ESC Sample # : L552045-02

Site ID :  
Project # :

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	1.5	0.71	2.0	mg/kg	JP1	3060A/7	12/21/11	1
Chromium, Trivalent	4.1	0.17	2.0	mg/kg		Calc.	12/17/11	1
ORP	45.			mV	T8	2580	12/20/11	1
pH	9.1			su	T8	9045D	12/23/11	1
Sodium Adsorption Ratio	5.1					Calc.	12/20/11	1
Specific Conductance	370			umhos/cm		9050AMo	12/20/11	1
Mercury	0.019	0.0015	0.020	mg/kg	J	7471	12/19/11	1
Arsenic	2.8	0.32	1.0	mg/kg		6010B	12/17/11	1
Barium	830	0.050	0.25	mg/kg		6010B	12/21/11	1
Cadmium	U	0.040	0.25	mg/kg		6010B	12/17/11	1
Chromium	5.6	0.085	0.50	mg/kg		6010B	12/17/11	1
Copper	6.6	0.21	1.0	mg/kg		6010B	12/17/11	1
Lead	6.8	0.090	0.25	mg/kg		6010B	12/17/11	1
Nickel	5.9	0.26	1.0	mg/kg		6010B	12/17/11	1
Selenium	0.79	0.32	1.0	mg/kg	J	6010B	12/17/11	1
Silver	U	0.16	0.50	mg/kg		6010B	12/17/11	1
Zinc	21.	0.34	1.5	mg/kg		6010B	12/17/11	1
TPH (GC/FID) Low Fraction	U	0.25	0.50	mg/kg		8015D/G	12/17/11	5
Surrogate Recovery (70-130) a,a,a-Trifluorotoluene (FID)	94.5			% Rec.		602/801	12/17/11	5
Benzene	U	0.0017	0.0050	mg/kg		8260B	12/17/11	5
Toluene	U	0.0016	0.025	mg/kg		8260B	12/17/11	5
Ethylbenzene	U	0.0019	0.0050	mg/kg		8260B	12/17/11	5
Total Xylenes	U	0.0023	0.015	mg/kg		8260B	12/17/11	5
Surrogate Recovery								
Toluene-d8	98.0			% Rec.		8260B	12/17/11	5
Dibromofluoromethane	119.			% Rec.		8260B	12/17/11	5
a,a,a-Trifluorotoluene	99.7			% Rec.		8260B	12/17/11	5
4-Bromofluorobenzene	92.4			% Rec.		8260B	12/17/11	5
TPH (GC/FID) High Fraction	3.1	0.77	4.0	mg/kg	J	3546/DR	12/19/11	1
Surrogate recovery (%) o-Terphenyl	72.6			% Rec.		3546/DR	12/19/11	1

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L552045-02 (PH) - 9.09@18.7c





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Est. 1970

# REPORT OF ANALYSIS

December 27, 2011

Blair Rollins  
OXY USA Inc - Grand Junction, CO  
760 Horizon Dr., Ste. 101  
Grand Junction, CO 81506

ESC Sample # : L552045-02

Date Received : December 16, 2011  
Description : Currey 16-10 Pit Bottom  
Sample ID : CURREY 16-10 PBNW 0-12IN

Site ID :

Project # :

Collected By : Matt Kasten  
Collection Date : 12/15/11 12:10

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Polynuclear Aromatic Hydrocarbons								
Anthracene	U	0.00076	0.0060	mg/kg		8270C-S	12/20/11	1
Acenaphthene	U	0.00071	0.0060	mg/kg		8270C-S	12/20/11	1
Acenaphthylene	0.00062	0.00057	0.0060	mg/kg	J	8270C-S	12/20/11	1
Benzo(a)anthracene	U	0.00092	0.0060	mg/kg		8270C-S	12/20/11	1
Benzo(a)pyrene	U	0.00062	0.0060	mg/kg		8270C-S	12/20/11	1
Benzo(b)fluoranthene	U	0.00082	0.0060	mg/kg		8270C-S	12/20/11	1
Benzo(g,h,i)perylene	U	0.0012	0.0060	mg/kg		8270C-S	12/20/11	1
Benzo(k)fluoranthene	U	0.0013	0.0060	mg/kg		8270C-S	12/20/11	1
Chrysene	U	0.0011	0.0060	mg/kg		8270C-S	12/20/11	1
Dibenz(a,h)anthracene	U	0.0011	0.0060	mg/kg		8270C-S	12/20/11	1
Fluoranthene	U	0.0010	0.0060	mg/kg		8270C-S	12/20/11	1
Fluorene	0.00069	0.00055	0.0060	mg/kg	J	8270C-S	12/20/11	1
Indeno(1,2,3-cd)pyrene	U	0.0012	0.0060	mg/kg		8270C-S	12/20/11	1
Naphthalene	0.0016	0.00065	0.0060	mg/kg	J	8270C-S	12/20/11	1
Phenanthrene	0.0012	0.00074	0.0060	mg/kg	J	8270C-S	12/20/11	1
Pyrene	U	0.00059	0.0060	mg/kg		8270C-S	12/20/11	1
1-Methylnaphthalene	0.0018	0.00079	0.0060	mg/kg	J	8270C-S	12/20/11	1
2-Methylnaphthalene	0.0041	0.00059	0.0060	mg/kg	J	8270C-S	12/20/11	1
2-Chloronaphthalene	U	0.00060	0.0060	mg/kg		8270C-S	12/20/11	1
Surrogate Recovery								
Nitrobenzene-d5	73.2			% Rec.		8270C-S	12/20/11	1
2-Fluorobiphenyl	73.5			% Rec.		8270C-S	12/20/11	1
p-Terphenyl-d14	73.0			% Rec.		8270C-S	12/20/11	1

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# REPORT OF ANALYSIS

December 27, 2011

Blair Rollins  
OXY USA Inc - Grand Junction, CO  
760 Horizon Dr., Ste. 101  
Grand Junction, CO 81506

ESC Sample # : L552045-03

Site ID :

Project # :

Date Received : December 16, 2011  
Description : Currey 16-10 Pit Bottom  
Sample ID : CURREY 16-10 PBCS 0-12IN  
Collected By : Matt Kasten  
Collection Date : 12/15/11 14:50

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	U	0.71	2.0	mg/kg		3060A/7	12/22/11	1
Chromium, Trivalent	6.0	0.17	2.0	mg/kg		Calc.	12/17/11	1
ORP	26.			mV	T8	2580	12/22/11	1
pH	8.9			su	T8	9045D	12/23/11	1
Sodium Adsorption Ratio	8.9					Calc.	12/20/11	1
Specific Conductance	350			umhos/cm		9050AMo	12/20/11	1
Mercury	0.020	0.0015	0.020	mg/kg		7471	12/19/11	1
Arsenic	3.2	0.32	1.0	mg/kg		6010B	12/17/11	1
Barium	310	0.050	0.25	mg/kg		6010B	12/21/11	1
Cadmium	U	0.040	0.25	mg/kg		6010B	12/17/11	1
Chromium	6.0	0.085	0.50	mg/kg		6010B	12/17/11	1
Copper	5.9	0.21	1.0	mg/kg		6010B	12/17/11	1
Lead	12.	0.090	0.25	mg/kg		6010B	12/17/11	1
Nickel	5.0	0.26	1.0	mg/kg		6010B	12/17/11	1
Selenium	1.2	0.32	1.0	mg/kg		6010B	12/17/11	1
Silver	U	0.16	0.50	mg/kg		6010B	12/17/11	1
Zinc	19.	0.34	1.5	mg/kg		6010B	12/17/11	1
TPH (GC/FID) Low Fraction	U	0.25	0.50	mg/kg		8015D/G	12/17/11	5
Surrogate Recovery (70-130) a,a,a-Trifluorotoluene (FID)	93.9			% Rec.		602/801	12/17/11	5
Benzene	0.0038	0.0017	0.0050	mg/kg	J	8260B	12/17/11	5
Toluene	0.012	0.0016	0.025	mg/kg	J	8260B	12/17/11	5
Ethylbenzene	U	0.0019	0.0050	mg/kg		8260B	12/17/11	5
Total Xylenes	0.030	0.0023	0.015	mg/kg		8260B	12/17/11	5
Surrogate Recovery								
Toluene-d8	98.7			% Rec.		8260B	12/17/11	5
Dibromofluoromethane	118.			% Rec.		8260B	12/17/11	5
a,a,a-Trifluorotoluene	98.0			% Rec.		8260B	12/17/11	5
4-Bromofluorobenzene	100.			% Rec.		8260B	12/17/11	5
TPH (GC/FID) High Fraction	6.2	0.77	4.0	mg/kg		3546/DR	12/19/11	1
Surrogate recovery(%) o-Terphenyl	78.5			% Rec.		3546/DR	12/19/11	1

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# REPORT OF ANALYSIS

December 27, 2011

Blair Rollins  
OXY USA Inc - Grand Junction, CO  
760 Horizon Dr., Ste. 101  
Grand Junction, CO 81506

ESC Sample # : L552045-03

Date Received : December 16, 2011  
Description : Currey 16-10 Pit Bottom  
Sample ID : CURREY 16-10 PBCS 0-12IN

Site ID :

Collected By : Matt Kasten  
Collection Date : 12/15/11 14:50

Project # :

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Polynuclear Aromatic Hydrocarbons								
Anthracene	U	0.00076	0.0060	mg/kg		8270C-S	12/20/11	1
Acenaphthene	0.00078	0.00071	0.0060	mg/kg	J	8270C-S	12/20/11	1
Acenaphthylene	U	0.00057	0.0060	mg/kg		8270C-S	12/20/11	1
Benzo(a)anthracene	U	0.00092	0.0060	mg/kg		8270C-S	12/20/11	1
Benzo(a)pyrene	U	0.00062	0.0060	mg/kg		8270C-S	12/20/11	1
Benzo(b)fluoranthene	U	0.00082	0.0060	mg/kg		8270C-S	12/20/11	1
Benzo(g,h,i)perylene	U	0.0012	0.0060	mg/kg		8270C-S	12/20/11	1
Benzo(k)fluoranthene	U	0.0013	0.0060	mg/kg		8270C-S	12/20/11	1
Chrysene	U	0.0011	0.0060	mg/kg		8270C-S	12/20/11	1
Dibenz(a,h)anthracene	U	0.0011	0.0060	mg/kg		8270C-S	12/20/11	1
Fluoranthene	U	0.0010	0.0060	mg/kg		8270C-S	12/20/11	1
Fluorene	0.0028	0.00055	0.0060	mg/kg	J	8270C-S	12/20/11	1
Indeno(1,2,3-cd)pyrene	U	0.0012	0.0060	mg/kg		8270C-S	12/20/11	1
Naphthalene	0.013	0.00065	0.0060	mg/kg		8270C-S	12/20/11	1
Phenanthrene	0.0050	0.00074	0.0060	mg/kg	J	8270C-S	12/20/11	1
Pyrene	0.00061	0.00059	0.0060	mg/kg	J	8270C-S	12/20/11	1
1-Methylnaphthalene	0.013	0.00079	0.0060	mg/kg		8270C-S	12/20/11	1
2-Methylnaphthalene	0.034	0.00059	0.0060	mg/kg		8270C-S	12/20/11	1
2-Chloronaphthalene	U	0.00060	0.0060	mg/kg		8270C-S	12/20/11	1
Surrogate Recovery								
Nitrobenzene-d5	84.3			% Rec.		8270C-S	12/20/11	1
2-Fluorobiphenyl	73.5			% Rec.		8270C-S	12/20/11	1
p-Terphenyl-d14	77.3			% Rec.		8270C-S	12/20/11	1

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# REPORT OF ANALYSIS

December 27, 2011

Blair Rollins  
OXY USA Inc - Grand Junction, CO  
760 Horizon Dr., Ste. 101  
Grand Junction, CO 81506

ESC Sample # : L552045-04

Date Received : December 16, 2011  
Description : Currey 16-10 Pit Bottom  
Sample ID : CURREY 16-10 PBS 0-12IN  
Collected By : Matt Kasten  
Collection Date : 12/15/11 15:00

Site ID :  
Project # :

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	U	0.71	2.0	mg/kg		3060A/7	12/22/11	1
Chromium, Trivalent	4.4	0.17	2.0	mg/kg		Calc.	12/17/11	1
ORP	58.			mV	T8	2580	12/22/11	1
pH	8.5			su	T8	9045D	12/23/11	1
Sodium Adsorption Ratio	4.2					Calc.	12/20/11	1
Specific Conductance	170			umhos/cm		9050AMo	12/20/11	1
Mercury	0.0068	0.0015	0.020	mg/kg	J	7471	12/19/11	1
Arsenic	U	0.32	1.0	mg/kg		6010B	12/17/11	1
Barium	54.	0.050	0.25	mg/kg		6010B	12/21/11	1
Cadmium	U	0.040	0.25	mg/kg		6010B	12/17/11	1
Chromium	4.4	0.085	0.50	mg/kg		6010B	12/17/11	1
Copper	5.0	0.21	1.0	mg/kg		6010B	12/17/11	1
Lead	6.2	0.090	0.25	mg/kg		6010B	12/17/11	1
Nickel	5.0	0.26	1.0	mg/kg		6010B	12/17/11	1
Selenium	0.73	0.32	1.0	mg/kg	J	6010B	12/17/11	1
Silver	U	0.16	0.50	mg/kg		6010B	12/17/11	1
Zinc	21.	0.34	1.5	mg/kg		6010B	12/17/11	1
TPH (GC/FID) Low Fraction	U	0.25	0.50	mg/kg	J3	8015D/G	12/16/11	5
Surrogate Recovery (70-130) a, a, a-Trifluorotoluene (FID)	94.1			% Rec.		602/801	12/16/11	5
Benzene	U	0.0017	0.0050	mg/kg		8260B	12/21/11	5
Toluene	U	0.0016	0.025	mg/kg		8260B	12/21/11	5
Ethylbenzene	U	0.0019	0.0050	mg/kg		8260B	12/21/11	5
Total Xylenes	U	0.0023	0.015	mg/kg		8260B	12/21/11	5
Surrogate Recovery								
Toluene-d8	102.			% Rec.		8260B	12/21/11	5
Dibromofluoromethane	109.			% Rec.		8260B	12/21/11	5
a, a, a-Trifluorotoluene	103.			% Rec.		8260B	12/21/11	5
4-Bromofluorobenzene	98.7			% Rec.		8260B	12/21/11	5
TPH (GC/FID) High Fraction	2.4	0.77	4.0	mg/kg	J	3546/DR	12/19/11	1
Surrogate recovery(%) o-Terphenyl	75.9			% Rec.		3546/DR	12/19/11	1

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# REPORT OF ANALYSIS

Blair Rollins  
OXY USA Inc - Grand Junction, CO  
760 Horizon Dr., Ste. 101  
Grand Junction, CO 81506

December 27, 2011

Date Received : December 16, 2011  
Description : Currey 16-10 Pit Bottom  
Sample ID : CURREY 16-10 PBS 0-12IN  
Collected By : Matt Kasten  
Collection Date : 12/15/11 15:00

ESC Sample # : L552045-04

Site ID :

Project # :

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Polynuclear Aromatic Hydrocarbons								
Anthracene	U	0.00076	0.0060	mg/kg		8270C-S	12/20/11	1
Acenaphthene	U	0.00071	0.0060	mg/kg		8270C-S	12/20/11	1
Acenaphthylene	U	0.00057	0.0060	mg/kg		8270C-S	12/20/11	1
Benzo(a)anthracene	U	0.00092	0.0060	mg/kg		8270C-S	12/20/11	1
Benzo(a)pyrene	U	0.00062	0.0060	mg/kg		8270C-S	12/20/11	1
Benzo(b)fluoranthene	U	0.00082	0.0060	mg/kg		8270C-S	12/20/11	1
Benzo(g,h,i)perylene	U	0.0012	0.0060	mg/kg		8270C-S	12/20/11	1
Benzo(k)fluoranthene	U	0.0013	0.0060	mg/kg		8270C-S	12/20/11	1
Chrysene	U	0.0011	0.0060	mg/kg		8270C-S	12/20/11	1
Dibenz(a,h)anthracene	U	0.0011	0.0060	mg/kg		8270C-S	12/20/11	1
Fluoranthene	U	0.0010	0.0060	mg/kg		8270C-S	12/20/11	1
Fluorene	U	0.00055	0.0060	mg/kg		8270C-S	12/20/11	1
Indeno(1,2,3-cd)pyrene	U	0.0012	0.0060	mg/kg		8270C-S	12/20/11	1
Naphthalene	U	0.00065	0.0060	mg/kg		8270C-S	12/20/11	1
Phenanthrene	U	0.00074	0.0060	mg/kg		8270C-S	12/20/11	1
Pyrene	U	0.00059	0.0060	mg/kg		8270C-S	12/20/11	1
1-Methylnaphthalene	U	0.00079	0.0060	mg/kg		8270C-S	12/20/11	1
2-Methylnaphthalene	0.00075	0.00059	0.0060	mg/kg	J	8270C-S	12/20/11	1
2-Chloronaphthalene	U	0.00060	0.0060	mg/kg		8270C-S	12/20/11	1
Surrogate Recovery								
Nitrobenzene-d5	69.4			% Rec.		8270C-S	12/20/11	1
2-Fluorobiphenyl	72.1			% Rec.		8270C-S	12/20/11	1
p-Terphenyl-d14	72.5			% Rec.		8270C-S	12/20/11	1

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Attachment A  
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L552045-01	WG570438	SAMP	Selenium	R1970212	J
	WG570366	SAMP	TPH (GC/FID) High Fraction	R1971392	J
	WG570854	SAMP	Chromium, Hexavalent	R1975332	J
	WG571397	SAMP	pH	R1978592	T8
	WG570429	SAMP	Naphthalene	R1972872	J
	WG570429	SAMP	Phenanthrene	R1972872	J
	WG570429	SAMP	1-Methylnaphthalene	R1972872	J
	WG570429	SAMP	2-Methylnaphthalene	R1972872	J
	WG570820	SAMP	ORP	R1974401	T8
	WG570438	SAMP	Selenium	R1970212	J
L552045-02	WG570366	SAMP	TPH (GC/FID) High Fraction	R1971392	J
	WG570854	SAMP	Chromium, Hexavalent	R1975332	JP1
	WG570486	SAMP	Mercury	R1971694	J
	WG571397	SAMP	pH	R1978592	T8
	WG570429	SAMP	Acenaphthylene	R1972872	J
	WG570429	SAMP	Fluorene	R1972872	J
	WG570429	SAMP	Naphthalene	R1972872	J
	WG570429	SAMP	Phenanthrene	R1972872	J
	WG570429	SAMP	1-Methylnaphthalene	R1972872	J
	WG570429	SAMP	2-Methylnaphthalene	R1972872	J
L552045-03	WG570820	SAMP	ORP	R1974401	T8
	WG570306	SAMP	Benzene	R1971992	J
	WG570306	SAMP	Toluene	R1971992	J
	WG571397	SAMP	pH	R1978592	T8
	WG570429	SAMP	Acenaphthene	R1972872	J
	WG570429	SAMP	Fluorene	R1972872	J
	WG570429	SAMP	Phenanthrene	R1972872	J
	WG570429	SAMP	Pyrene	R1972872	J
	WG571190	SAMP	ORP	R1977032	T8
	WG570438	SAMP	Selenium	R1970212	J
L552045-04	WG570366	SAMP	TPH (GC/FID) High Fraction	R1971392	J
	WG570486	SAMP	Mercury	R1971694	J
	WG570472	SAMP	TPH (GC/FID) Low Fraction	R1971092	J3
	WG571397	SAMP	pH	R1978592	T8
	WG570429	SAMP	2-Methylnaphthalene	R1972872	J
	WG571190	SAMP	ORP	R1977032	T8

Attachment B  
Explanation of QC Qualifier Codes

Qualifier	Meaning
J	(EPA) - Estimated value below the lowest calibration point. Confidence correlates with concentration.
J3	The associated batch QC was outside the established quality control range for precision.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
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  
12/27/11 at 17:48:59

TSR Signing Reports: 134  
R5 - Desired TAT

Sample: L552045-01 Account: OXYGJCO Received: 12/16/11 09:00 Due Date: 12/23/11 00:00 RPT Date: 12/27/11 17:48  
Sample: L552045-02 Account: OXYGJCO Received: 12/16/11 09:00 Due Date: 12/23/11 00:00 RPT Date: 12/27/11 17:48  
Sample: L552045-03 Account: OXYGJCO Received: 12/16/11 09:00 Due Date: 12/23/11 00:00 RPT Date: 12/27/11 17:48  
Sample: L552045-04 Account: OXYGJCO Received: 12/16/11 09:00 Due Date: 12/23/11 00:00 RPT Date: 12/27/11 17:48







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Daniel Padilla  
OXY USA Inc - Grand Junction, CO  
760 Horizon Dr., Ste. 101  
Grand Junction, CO 81506

### Report Summary

Friday December 30, 2011

Report Number: L553413

Samples Received: 12/28/11

Client Project:

Description: Curreyl6-10 Spoils

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 - I-2327, CT - PH-0197, FL - E87487  
GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704, ND - R-140  
NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 00109, WV - 233  
AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032008A,  
TX - T104704245, OK-9915, PA - 68-02979

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

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

December 30, 2011

Daniel Padilla  
OXY USA Inc - Grand Junction, CO  
760 Horizon Dr., Ste. 101  
Grand Junction, CO 81506

ESC Sample # : L553413-01

Date Received : December 28, 2011  
Description : Curreyl6-10 Spoils

Site ID :

Sample ID : CURREY16-10PS1

Project # :

Collected By : Matt Kasten  
Collection Date : 12/27/11 13:15

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
pH	6.9			su		9045D	12/29/11	1
Specific Conductance	180			umhos/cm		9050AMo	12/29/11	1
TPH (GC/FID) Low Fraction	U	0.25	0.50	mg/kg		8015D/G	12/28/11	5
Surrogate Recovery (70-130) a,a,a-Trifluorotoluene (FID)	102.			% Rec.		602/801	12/28/11	5
Benzene	U	0.0017	0.0050	mg/kg		8260B	12/28/11	5
Toluene	U	0.0016	0.025	mg/kg		8260B	12/28/11	5
Ethylbenzene	U	0.0019	0.0050	mg/kg		8260B	12/28/11	5
Total Xylenes	0.0025	0.0023	0.015	mg/kg	J	8260B	12/28/11	5
Surrogate Recovery								
Toluene-d8	105.			% Rec.		8260B	12/28/11	5
Dibromofluoromethane	104.			% Rec.		8260B	12/28/11	5
a,a,a-Trifluorotoluene	99.8			% Rec.		8260B	12/28/11	5
4-Bromofluorobenzene	90.9			% Rec.		8260B	12/28/11	5
TPH (GC/FID) High Fraction	U	0.77	4.0	mg/kg		3546/DR	12/29/11	1
Surrogate recovery(%) o-Terphenyl	52.8			% Rec.		3546/DR	12/29/11	1
Polynuclear Aromatic Hydrocarbons								
Anthracene	U	0.00076	0.0060	mg/kg		8270C-S	12/29/11	1
Acenaphthene	U	0.00071	0.0060	mg/kg		8270C-S	12/29/11	1
Acenaphthylene	U	0.00057	0.0060	mg/kg		8270C-S	12/29/11	1
Benzo(a)anthracene	U	0.00092	0.0060	mg/kg		8270C-S	12/29/11	1
Benzo(a)pyrene	U	0.00062	0.0060	mg/kg		8270C-S	12/29/11	1
Benzo(b)fluoranthene	U	0.00082	0.0060	mg/kg		8270C-S	12/29/11	1
Benzo(g,h,i)perylene	U	0.0012	0.0060	mg/kg		8270C-S	12/29/11	1
Benzo(k)fluoranthene	U	0.0013	0.0060	mg/kg		8270C-S	12/29/11	1
Chrysene	U	0.0011	0.0060	mg/kg		8270C-S	12/29/11	1
Dibenz(a,h)anthracene	U	0.0011	0.0060	mg/kg		8270C-S	12/29/11	1
Fluoranthene	U	0.0010	0.0060	mg/kg		8270C-S	12/29/11	1
Fluorene	0.00099	0.00055	0.0060	mg/kg	J	8270C-S	12/29/11	1
Indeno(1,2,3-cd)pyrene	U	0.0012	0.0060	mg/kg		8270C-S	12/29/11	1
Naphthalene	0.0058	0.00065	0.0060	mg/kg	J	8270C-S	12/29/11	1
Phenanthrene	0.0016	0.00074	0.0060	mg/kg	J	8270C-S	12/29/11	1
Pyrene	U	0.00059	0.0060	mg/kg		8270C-S	12/29/11	1
1-Methylnaphthalene	0.0036	0.00079	0.0060	mg/kg	J	8270C-S	12/29/11	1
2-Methylnaphthalene	0.0090	0.00059	0.0060	mg/kg		8270C-S	12/29/11	1
2-Chloronaphthalene	U	0.00060	0.0060	mg/kg		8270C-S	12/29/11	1
Surrogate Recovery								

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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L553413-01 (PH) - 6.93@16.8c



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Est. 1970

# REPORT OF ANALYSIS

Daniel Padilla  
OXY USA Inc - Grand Junction, CO  
760 Horizon Dr., Ste. 101  
Grand Junction, CO 81506

December 30, 2011

Date Received : December 28, 2011  
Description : Curreyl6-10 Spoils  
Sample ID : CURREY16-10PS1  
Collected By : Matt Kasten  
Collection Date : 12/27/11 13:15

ESC Sample # : L553413-01

Site ID :

Project # :

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrobenzene-d5	69.1			% Rec.		8270C-S	12/29/11	1
2-Fluorobiphenyl	67.7			% Rec.		8270C-S	12/29/11	1
p-Terphenyl-d14	83.1			% Rec.		8270C-S	12/29/11	1

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# REPORT OF ANALYSIS

December 30, 2011

Daniel Padilla  
OXY USA Inc - Grand Junction, CO  
760 Horizon Dr., Ste. 101  
Grand Junction, CO 81506

ESC Sample # : L553413-02

Date Received : December 28, 2011  
Description : Curreyl6-10 Spoils

Site ID :

Sample ID : CURREY16-10PS2

Project # :

Collected By : Matt Kasten  
Collection Date : 12/27/11 13:30

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
pH	9.4			su		9045D	12/29/11	1
Specific Conductance	430			umhos/cm		9050AMo	12/29/11	1
TPH (GC/FID) Low Fraction	4.6	0.25	0.50	mg/kg		8015D/G	12/28/11	5
Surrogate Recovery (70-130) a,a,a-Trifluorotoluene (FID)	96.9			% Rec.		602/801	12/28/11	5
Benzene	0.0029	0.0017	0.0050	mg/kg	J	8260B	12/28/11	5
Toluene	0.040	0.0016	0.025	mg/kg		8260B	12/28/11	5
Ethylbenzene	0.027	0.0019	0.0050	mg/kg		8260B	12/28/11	5
Total Xylenes	0.64	0.0023	0.015	mg/kg		8260B	12/28/11	5
Surrogate Recovery								
Toluene-d8	107.			% Rec.		8260B	12/28/11	5
Dibromofluoromethane	103.			% Rec.		8260B	12/28/11	5
a,a,a-Trifluorotoluene	101.			% Rec.		8260B	12/28/11	5
4-Bromofluorobenzene	94.9			% Rec.		8260B	12/28/11	5
TPH (GC/FID) High Fraction	4.7	0.77	4.0	mg/kg		3546/DR	12/29/11	1
Surrogate recovery(%) o-Terphenyl	68.2			% Rec.		3546/DR	12/29/11	1
Polynuclear Aromatic Hydrocarbons								
Anthracene	0.00095	0.00076	0.0060	mg/kg	J	8270C-S	12/29/11	1
Acenaphthene	U	0.00071	0.0060	mg/kg		8270C-S	12/29/11	1
Acenaphthylene	U	0.00057	0.0060	mg/kg		8270C-S	12/29/11	1
Benzo(a)anthracene	U	0.00092	0.0060	mg/kg		8270C-S	12/29/11	1
Benzo(a)pyrene	U	0.00062	0.0060	mg/kg		8270C-S	12/29/11	1
Benzo(b)fluoranthene	U	0.00082	0.0060	mg/kg		8270C-S	12/29/11	1
Benzo(g,h,i)perylene	U	0.0012	0.0060	mg/kg		8270C-S	12/29/11	1
Benzo(k)fluoranthene	U	0.0013	0.0060	mg/kg		8270C-S	12/29/11	1
Chrysene	0.0013	0.0011	0.0060	mg/kg	J	8270C-S	12/29/11	1
Dibenz(a,h)anthracene	U	0.0011	0.0060	mg/kg		8270C-S	12/29/11	1
Fluoranthene	U	0.0010	0.0060	mg/kg		8270C-S	12/29/11	1
Fluorene	0.0051	0.00055	0.0060	mg/kg	J	8270C-S	12/29/11	1
Indeno(1,2,3-cd)pyrene	U	0.0012	0.0060	mg/kg		8270C-S	12/29/11	1
Naphthalene	0.045	0.00065	0.0060	mg/kg		8270C-S	12/29/11	1
Phenanthrene	0.0069	0.00074	0.0060	mg/kg		8270C-S	12/29/11	1
Pyrene	0.0013	0.00059	0.0060	mg/kg	J	8270C-S	12/29/11	1
1-Methylnaphthalene	0.029	0.00079	0.0060	mg/kg		8270C-S	12/29/11	1
2-Methylnaphthalene	0.076	0.00059	0.0060	mg/kg		8270C-S	12/29/11	1
2-Chloronaphthalene	U	0.00060	0.0060	mg/kg		8270C-S	12/29/11	1
Surrogate Recovery								

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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L553413-02 (PH) - 9.37@17.6c



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REPORT OF ANALYSIS

December 30, 2011

Daniel Padilla  
OXY USA Inc - Grand Junction, CO  
760 Horizon Dr., Ste. 101  
Grand Junction, CO 81506

ESC Sample # : L553413-02

Site ID :

Project # :

Date Received : December 28, 2011  
Description : Curreyl6-10 Spoils  
Sample ID : CURREY16-10PS2  
Collected By : Matt Kasten  
Collection Date : 12/27/11 13:30

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrobenzene-d5	86.9			% Rec.		8270C-S	12/29/11	1
2-Fluorobiphenyl	86.5			% Rec.		8270C-S	12/29/11	1
p-Terphenyl-d14	77.8			% Rec.		8270C-S	12/29/11	1

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# REPORT OF ANALYSIS

December 30, 2011

Daniel Padilla  
OXY USA Inc - Grand Junction, CO  
760 Horizon Dr., Ste. 101  
Grand Junction, CO 81506

ESC Sample # : L553413-03

Date Received : December 28, 2011  
Description : Curreyl6-10 Spoils  
Sample ID : CURREY16-10PSCOMP  
Collected By : Matt Kasten  
Collection Date : 12/27/11 13:45

Site ID :  
Project # :

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
pH	9.1			su		9045D	12/29/11	1
Specific Conductance	360			umhos/cm		9050AMo	12/29/11	1
TPH (GC/FID) Low Fraction	1.1	0.25	0.50	mg/kg		8015D/G	12/28/11	5
Surrogate Recovery (70-130) a,a,a-Trifluorotoluene (FID)	100.			% Rec.		602/801	12/28/11	5
Benzene	U	0.0017	0.0050	mg/kg		8260B	12/28/11	5
Toluene	0.0063	0.0016	0.025	mg/kg	J	8260B	12/28/11	5
Ethylbenzene	0.0033	0.0019	0.0050	mg/kg	J	8260B	12/28/11	5
Total Xylenes	0.075	0.0023	0.015	mg/kg		8260B	12/28/11	5
Surrogate Recovery								
Toluene-d8	104.			% Rec.		8260B	12/28/11	5
Dibromofluoromethane	103.			% Rec.		8260B	12/28/11	5
a,a,a-Trifluorotoluene	99.3			% Rec.		8260B	12/28/11	5
4-Bromofluorobenzene	94.8			% Rec.		8260B	12/28/11	5
TPH (GC/FID) High Fraction	5.2	0.77	4.0	mg/kg		3546/DR	12/29/11	1
Surrogate recovery(%) o-Terphenyl	65.3			% Rec.		3546/DR	12/29/11	1
Polynuclear Aromatic Hydrocarbons								
Anthracene	U	0.00076	0.0060	mg/kg		8270C-S	12/29/11	1
Acenaphthene	U	0.00071	0.0060	mg/kg		8270C-S	12/29/11	1
Acenaphthylene	U	0.00057	0.0060	mg/kg		8270C-S	12/29/11	1
Benzo(a)anthracene	U	0.00092	0.0060	mg/kg		8270C-S	12/29/11	1
Benzo(a)pyrene	U	0.00062	0.0060	mg/kg		8270C-S	12/29/11	1
Benzo(b)fluoranthene	U	0.00082	0.0060	mg/kg		8270C-S	12/29/11	1
Benzo(g,h,i)perylene	U	0.0012	0.0060	mg/kg		8270C-S	12/29/11	1
Benzo(k)fluoranthene	U	0.0013	0.0060	mg/kg		8270C-S	12/29/11	1
Chrysene	U	0.0011	0.0060	mg/kg		8270C-S	12/29/11	1
Dibenz(a,h)anthracene	U	0.0011	0.0060	mg/kg		8270C-S	12/29/11	1
Fluoranthene	U	0.0010	0.0060	mg/kg		8270C-S	12/29/11	1
Fluorene	0.0037	0.00055	0.0060	mg/kg	J	8270C-S	12/29/11	1
Indeno(1,2,3-cd)pyrene	U	0.0012	0.0060	mg/kg		8270C-S	12/29/11	1
Naphthalene	0.019	0.00065	0.0060	mg/kg		8270C-S	12/29/11	1
Phenanthrene	0.0059	0.00074	0.0060	mg/kg	J	8270C-S	12/29/11	1
Pyrene	0.00072	0.00059	0.0060	mg/kg	J	8270C-S	12/29/11	1
1-Methylnaphthalene	0.017	0.00079	0.0060	mg/kg		8270C-S	12/29/11	1
2-Methylnaphthalene	0.045	0.00059	0.0060	mg/kg		8270C-S	12/29/11	1
2-Chloronaphthalene	U	0.00060	0.0060	mg/kg		8270C-S	12/29/11	1
Surrogate Recovery								

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MDL = Minimum Detection Limit = LOD

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L553413-03 (PH) - 9.11@18.0c



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REPORT OF ANALYSIS

December 30, 2011

Daniel Padilla  
OXY USA Inc - Grand Junction, CO  
760 Horizon Dr., Ste. 101  
Grand Junction, CO 81506

ESC Sample # : L553413-03

Site ID :

Project # :

Date Received : December 28, 2011  
Description : Curreyl6-10 Spoils  
Sample ID : CURREY16-10PSCOMP  
Collected By : Matt Kasten  
Collection Date : 12/27/11 13:45

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrobenzene-d5	72.1			% Rec.		8270C-S	12/29/11	1
2-Fluorobiphenyl	73.3			% Rec.		8270C-S	12/29/11	1
p-Terphenyl-d14	84.7			% Rec.		8270C-S	12/29/11	1

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L553413-03 (PH) - 9.11@18.0c

Attachment A  
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L553413-01	WG571966	SAMP	Total Xylenes	R1982554	J
	WG571796	SAMP	Fluorene	R1983895	J
	WG571796	SAMP	Naphthalene	R1983895	J
	WG571796	SAMP	Phenanthrene	R1983895	J
	WG571796	SAMP	1-Methylnaphthalene	R1983895	J
L553413-02	WG571966	SAMP	Benzene	R1982554	J
	WG571796	SAMP	Anthracene	R1983895	J
	WG571796	SAMP	Chrysene	R1983895	J
	WG571796	SAMP	Fluorene	R1983895	J
	WG571796	SAMP	Pyrene	R1983895	J
L553413-03	WG571966	SAMP	Toluene	R1982554	J
	WG571966	SAMP	Ethylbenzene	R1982554	J
	WG571796	SAMP	Fluorene	R1983895	J
	WG571796	SAMP	Phenanthrene	R1983895	J
	WG571796	SAMP	Pyrene	R1983895	J

Attachment B  
Explanation of QC Qualifier Codes

Qualifier	Meaning
J	(EPA) - Estimated value below the lowest calibration point. Confidence correlates with concentration.

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

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- 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  
12/30/11 at 11:12:19

TSR Signing Reports: 134  
R3 - Rush: Two Day

Sample: L553413-01 Account: OXYGJCO Received: 12/28/11 09:00 Due Date: 12/30/11 00:00 RPT Date:

Sample: L553413-02 Account: OXYGJCO Received: 12/28/11 09:00 Due Date: 12/30/11 00:00 RPT Date:

Sample: L553413-03 Account: OXYGJCO Received: 12/28/11 09:00 Due Date: 12/30/11 00:00 RPT Date:

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

Alternate billing information:  
CO Table 910

Report to: Steve Bellis  
Email to: david.adler@oxy.com

Project Description: Currey 16-10 Spots  
Phone: (970) 263-3601  
FAX: \_\_\_\_\_

Client Project #: \_\_\_\_\_ ESC Key: \_\_\_\_\_

Site/Facility ID#: \_\_\_\_\_ P.O.#: \_\_\_\_\_

Collected by: Matthew  
Collected by (signature): Matthew  
☒ Rush? (Lab MUST Be Notified)  
Same Day..... 200%  
Next Day..... 100%  
Two Day..... 50%

Date Results Needed:  
Email? No Yes  
FAX? No Yes

Packed on Ice N 6  
Sample ID  
Comp/Grab  
Matrix\*  
Depth  
Date  
Time  
No. of Cnts

Currey 16-10 PSI	Grab	SS	1	12/27/11	13:15	3
Currey 16-10 PSI	Grab	SS	1	12/27/11	13:30	3
Currey 16-10 PSI	Grab	SS	1	12/27/11	13:45	3

V8260BTEX, GRO  
DRO, SV8270PAHSIM  
SAR, SPCON, pH  
MRCRA8 + Cu, Ni, Zn  
CR3, CR6SS

B028

Prepared by: main of custody  
Page 1 of 1

ENVIRONMENTAL  
SCIENCE CORP.  
12065 Lebanon Road  
Mt. Juliet, TN 37122

Phone (615) 758-5858  
Phone (800) 767-5859  
FAX (615) 758-5859

CoCode OXYGJCO (lab use only)  
Template/Prelogin  
Shipped Via: \_\_\_\_\_

Remarks/Contaminant  
Sample # (lab use only)

LS53413-01

-02

-03

Matrix: SS - Soil/Solid GW - Groundwater WW - Wastewater DW - Drinking Water OT - Other

Remarks: Site on 3 day 2010 0623 3161

Relinquished by (Signature): Matthew  
Date: 12/27/11 Time: 19:00

Relinquished by (Signature): \_\_\_\_\_  
Date: \_\_\_\_\_ Time: \_\_\_\_\_

Relinquished by (Signature): \_\_\_\_\_  
Date: \_\_\_\_\_ Time: \_\_\_\_\_

Received by (Signature): \_\_\_\_\_

Received by (Signature): \_\_\_\_\_

Received for lab by (Signature): David Adler

Samples returned via: ☒ FedEx ☐ UPS

Temp: 36 Bottles Received: 9

Date: 12-28-11 Time: 09:00

Condition: JP (lab use only)

pH Checked: \_\_\_\_\_ NCF: \_\_\_\_\_



Daniel Padilla  
OXY USA Inc - Grand Junction, CO  
760 Horizon Dr., Ste. 101  
Grand Junction, CO 81506

### Report Summary

Friday December 30, 2011

Report Number: L553417

Samples Received: 12/28/11

Client Project:

Description: Curreyl6-10 Pit Bottom

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 - I-2327, CT - PH-0197, FL - E87487  
GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704, ND - R-140  
NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 00109, WV - 233  
AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032008A,  
TX - T104704245, OK-9915, PA - 68-02979

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REPORT OF ANALYSIS

December 30, 2011

Daniel Padilla  
OXY USA Inc - Grand Junction, CO  
760 Horizon Dr., Ste. 101  
Grand Junction, CO 81506

ESC Sample # : L553417-01

Date Received : December 28, 2011  
Description : Currey16-10 Pit Bottom

Site ID :

Sample ID : CURREY16-10PBC

Project # :

Collected By : Matt Kasten  
Collection Date : 12/27/11 13:00

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
pH	8.7			su		9045D	12/29/11	1
Specific Conductance	280			umhos/cm		9050AMo	12/29/11	1
TPH (GC/FID) Low Fraction	U	0.25	0.50	mg/kg		8015D/G	12/28/11	5
Surrogate Recovery (70-130) a,a,a-Trifluorotoluene (FID)	102.			% Rec.		602/801	12/28/11	5
Benzene	U	0.0017	0.0050	mg/kg		8260B	12/28/11	5
Toluene	U	0.0016	0.025	mg/kg		8260B	12/28/11	5
Ethylbenzene	U	0.0019	0.0050	mg/kg		8260B	12/28/11	5
Total Xylenes	U	0.0023	0.015	mg/kg		8260B	12/28/11	5
Surrogate Recovery								
Toluene-d8	104.			% Rec.		8260B	12/28/11	5
Dibromofluoromethane	102.			% Rec.		8260B	12/28/11	5
a,a,a-Trifluorotoluene	97.9			% Rec.		8260B	12/28/11	5
4-Bromofluorobenzene	96.0			% Rec.		8260B	12/28/11	5
TPH (GC/FID) High Fraction	U	0.77	4.0	mg/kg		3546/DR	12/29/11	1
Surrogate recovery(%) o-Terphenyl	66.0			% Rec.		3546/DR	12/29/11	1
Polynuclear Aromatic Hydrocarbons								
Anthracene	U	0.00076	0.0060	mg/kg		8270C-S	12/29/11	1
Acenaphthene	U	0.00071	0.0060	mg/kg		8270C-S	12/29/11	1
Acenaphthylene	U	0.00057	0.0060	mg/kg		8270C-S	12/29/11	1
Benzo(a)anthracene	U	0.00092	0.0060	mg/kg		8270C-S	12/29/11	1
Benzo(a)pyrene	U	0.00062	0.0060	mg/kg		8270C-S	12/29/11	1
Benzo(b)fluoranthene	U	0.00082	0.0060	mg/kg		8270C-S	12/29/11	1
Benzo(g,h,i)perylene	U	0.0012	0.0060	mg/kg		8270C-S	12/29/11	1
Benzo(k)fluoranthene	U	0.0013	0.0060	mg/kg		8270C-S	12/29/11	1
Chrysene	U	0.0011	0.0060	mg/kg		8270C-S	12/29/11	1
Dibenz(a,h)anthracene	U	0.0011	0.0060	mg/kg		8270C-S	12/29/11	1
Fluoranthene	U	0.0010	0.0060	mg/kg		8270C-S	12/29/11	1
Fluorene	U	0.00055	0.0060	mg/kg		8270C-S	12/29/11	1
Indeno(1,2,3-cd)pyrene	U	0.0012	0.0060	mg/kg		8270C-S	12/29/11	1
Naphthalene	0.0010	0.00065	0.0060	mg/kg	JJ3	8270C-S	12/29/11	1
Phenanthrene	U	0.00074	0.0060	mg/kg		8270C-S	12/29/11	1
Pyrene	U	0.00059	0.0060	mg/kg		8270C-S	12/29/11	1
1-Methylnaphthalene	0.00080	0.00079	0.0060	mg/kg	JJ3	8270C-S	12/29/11	1
2-Methylnaphthalene	0.0017	0.00059	0.0060	mg/kg	JJ3	8270C-S	12/29/11	1
2-Chloronaphthalene	U	0.00060	0.0060	mg/kg	J3	8270C-S	12/29/11	1
Surrogate Recovery								

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

The reported analytical results relate only to the sample submitted.

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Reported: Printed: 12/30/11 11:12  
L553417-01 (PH) - 8.67@17.8c



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Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

# REPORT OF ANALYSIS

December 30, 2011

Daniel Padilla  
OXY USA Inc - Grand Junction, CO  
760 Horizon Dr., Ste. 101  
Grand Junction, CO 81506

Date Received : December 28, 2011  
Description : Curreyl6-10 Pit Bottom  
Sample ID : CURREY16-10PBC  
Collected By : Matt Kasten  
Collection Date : 12/27/11 13:00

ESC Sample # : L553417-01

Site ID :

Project # :

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrobenzene-d5	79.2			% Rec.		8270C-S	12/29/11	1
2-Fluorobiphenyl	78.1			% Rec.		8270C-S	12/29/11	1
p-Terphenyl-d14	89.3			% Rec.		8270C-S	12/29/11	1

U = ND (Not Detected)

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Reported: Printed: 12/30/11 11:12  
L553417-01 (PH) - 8.67@17.8c

Attachment A  
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L553417-01	WG571796	SAMP	Naphthalene	R1983895	JJ3
	WG571796	SAMP	1-Methylnaphthalene	R1983895	JJ3
	WG571796	SAMP	2-Methylnaphthalene	R1983895	JJ3
	WG571796	SAMP	2-Chloronaphthalene	R1983895	J3

Attachment B  
Explanation of QC Qualifier Codes

Qualifier	Meaning
J	(EPA) - Estimated value below the lowest calibration point. Confidence correlates with concentration.
J3	The associated batch QC was outside the established quality control range for precision.

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  
12/30/11 at 11:12:14

TSR Signing Reports: 134  
R3 - Rush: Two Day

Sample: L553417-01 Account: OXYGJCO Received: 12/28/11 09:00 Due Date: 12/30/11 00:00 RPT Date:



Daniel Padilla  
OXY USA Inc - Grand Junction, CO  
760 Horizon Dr., Ste. 101  
Grand Junction, CO 81506

### Report Summary

Friday November 11, 2011

Report Number: L545160

Samples Received: 11/04/11

Client Project: 900546.0005.010

Description: Currey 16-10 Background

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

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NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 00109, WV - 233  
AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032008A,  
TX - T104704245, OK-9915, PA - 68-02979

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Est. 1970

# REPORT OF ANALYSIS

Daniel Padilla  
OXY USA Inc - Grand Junction, CO  
760 Horizon Dr., Ste. 101  
Grand Junction, CO 81506

November 11, 2011

Date Received : November 04, 2011  
Description : Currey 16-10 Background  
Sample ID : CURREY 16-10 BACKGROUND-E 12IN  
Collected By : CJB/LG  
Collection Date : 11/03/11 12:30

ESC Sample # : L545160-01  
Site ID :  
Project # : 900546.0005.010

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	0.76	0.71	2.0	mg/kg	J	3060A/7	11/10/11	1
Chromium, Trivalent	19.	0.17	2.0	mg/kg		Calc.	11/07/11	1
ORP	70.			mV		2580	11/08/11	1
pH	6.9			su		9045D	11/09/11	1
Sodium Adsorption Ratio	1.4					Calc.	11/09/11	1
Specific Conductance	36.			umhos/cm		9050AMo	11/09/11	1
Mercury	0.0081	0.0015	0.020	mg/kg	J	7471	11/06/11	1
Arsenic	4.8	0.32	1.0	mg/kg		6010B	11/07/11	1
Barium	170	0.050	0.25	mg/kg		6010B	11/07/11	1
Cadmium	0.82	0.040	0.25	mg/kg		6010B	11/07/11	1
Chromium	19.	0.085	0.50	mg/kg		6010B	11/07/11	1
Copper	13.	0.21	1.0	mg/kg		6010B	11/07/11	1
Lead	18.	0.090	0.25	mg/kg		6010B	11/07/11	1
Nickel	12.	0.26	1.0	mg/kg		6010B	11/07/11	1
Selenium	U	1.6	5.0	mg/kg	O	6010B	11/08/11	5
Silver	U	0.16	0.50	mg/kg		6010B	11/07/11	1
Zinc	47.	0.34	1.5	mg/kg		6010B	11/07/11	1
TPH (GC/FID) Low Fraction	U	0.25	0.50	mg/kg		8015D/G	11/05/11	5
Surrogate Recovery (70-130) a,a,a-Trifluorotoluene (FID)	100.			% Rec.		602/801	11/05/11	5
Benzene	U	0.0017	0.0050	mg/kg		8260B	11/05/11	5
Toluene	U	0.0016	0.025	mg/kg		8260B	11/05/11	5
Ethylbenzene	U	0.0019	0.0050	mg/kg		8260B	11/05/11	5
Total Xylenes	U	0.0023	0.015	mg/kg		8260B	11/05/11	5
Surrogate Recovery								
Toluene-d8	102.			% Rec.		8260B	11/05/11	5
Dibromofluoromethane	101.			% Rec.		8260B	11/05/11	5
a,a,a-Trifluorotoluene	103.			% Rec.		8260B	11/05/11	5
4-Bromofluorobenzene	99.0			% Rec.		8260B	11/05/11	5
TPH (GC/FID) High Fraction	U	0.77	4.0	mg/kg		3546/DR	11/08/11	1
Surrogate recovery(%) o-Terphenyl	73.1			% Rec.		3546/DR	11/08/11	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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Reported: 11/11/11 08:05 Printed: 11/11/11 08:56

L545160-01 (PH) - 6.92@19.7c



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Mt. Juliet, TN 37122  
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# REPORT OF ANALYSIS

Daniel Padilla  
OXY USA Inc - Grand Junction, CO  
760 Horizon Dr., Ste. 101  
Grand Junction, CO 81506

November 11, 2011

Date Received : November 04, 2011  
Description : Currey 16-10 Background  
Sample ID : CURREY 16-10 BACKGROUND-E 12IN  
Collected By : CJB/LG  
Collection Date : 11/03/11 12:30

ESC Sample # : L545160-01

Site ID :

Project # : 900546.0005.010

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
<b>Polynuclear Aromatic Hydrocarbons</b>								
Anthracene	U	0.00076	0.0060	mg/kg		8270C-S	11/07/11	1
Acenaphthene	U	0.00071	0.0060	mg/kg		8270C-S	11/07/11	1
Acenaphthylene	U	0.00057	0.0060	mg/kg		8270C-S	11/07/11	1
Benzo(a)anthracene	U	0.00092	0.0060	mg/kg		8270C-S	11/07/11	1
Benzo(a)pyrene	U	0.00062	0.0060	mg/kg		8270C-S	11/07/11	1
Benzo(b)fluoranthene	U	0.00082	0.0060	mg/kg		8270C-S	11/07/11	1
Benzo(g,h,i)perylene	U	0.0012	0.0060	mg/kg		8270C-S	11/07/11	1
Benzo(k)fluoranthene	U	0.0013	0.0060	mg/kg		8270C-S	11/07/11	1
Chrysene	U	0.0011	0.0060	mg/kg		8270C-S	11/07/11	1
Dibenz(a,h)anthracene	U	0.0011	0.0060	mg/kg		8270C-S	11/07/11	1
Fluoranthene	U	0.0010	0.0060	mg/kg		8270C-S	11/07/11	1
Fluorene	0.0016	0.00055	0.0060	mg/kg	J	8270C-S	11/07/11	1
Indeno(1,2,3-cd)pyrene	U	0.0012	0.0060	mg/kg		8270C-S	11/07/11	1
Naphthalene	U	0.00065	0.0060	mg/kg		8270C-S	11/07/11	1
Phenanthrene	U	0.00074	0.0060	mg/kg		8270C-S	11/07/11	1
Pyrene	U	0.00059	0.0060	mg/kg		8270C-S	11/07/11	1
1-Methylnaphthalene	U	0.00079	0.0060	mg/kg		8270C-S	11/07/11	1
2-Methylnaphthalene	U	0.00059	0.0060	mg/kg		8270C-S	11/07/11	1
2-Chloronaphthalene	U	0.00060	0.0060	mg/kg		8270C-S	11/07/11	1
<b>Surrogate Recovery</b>								
Nitrobenzene-d5	86.1			% Rec.		8270C-S	11/07/11	1
2-Fluorobiphenyl	75.6			% Rec.		8270C-S	11/07/11	1
p-Terphenyl-d14	84.2			% Rec.		8270C-S	11/07/11	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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L545160-01 (PH) - 6.92@19.7c



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Fax (615) 758-5859

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Est. 1970

# REPORT OF ANALYSIS

November 11, 2011

Daniel Padilla  
OXY USA Inc - Grand Junction, CO  
760 Horizon Dr., Ste. 101  
Grand Junction, CO 81506

ESC Sample # : L545160-02

Date Received : November 04, 2011  
Description : Currey 16-10 Background

Site ID :

Sample ID : CURREY 16-10 BACKGROUND-NW 14IN

Project # : 900546.0005.010

Collected By : CJB/LG  
Collection Date : 11/03/11 12:45

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	1.2	0.71	2.0	mg/kg	J	3060A/7	11/10/11	1
Chromium, Trivalent	17.	0.17	2.0	mg/kg		Calc.	11/07/11	1
ORP	94.			mV		2580	11/08/11	1
pH	7.2			su		9045D	11/09/11	1
Sodium Adsorption Ratio	0.73					Calc.	11/09/11	1
Specific Conductance	25.			umhos/cm		9050AMo	11/09/11	1
Mercury	0.012	0.0015	0.020	mg/kg	J	7471	11/06/11	1
Arsenic	4.1	0.32	1.0	mg/kg		6010B	11/07/11	1
Barium	160	0.050	0.25	mg/kg		6010B	11/07/11	1
Cadmium	0.87	0.040	0.25	mg/kg		6010B	11/07/11	1
Chromium	19.	0.085	0.50	mg/kg		6010B	11/07/11	1
Copper	14.	0.21	1.0	mg/kg		6010B	11/07/11	1
Lead	17.	0.090	0.25	mg/kg		6010B	11/07/11	1
Nickel	12.	0.26	1.0	mg/kg		6010B	11/07/11	1
Selenium	U	0.32	1.0	mg/kg		6010B	11/07/11	1
Silver	U	0.16	0.50	mg/kg		6010B	11/07/11	1
Zinc	44.	0.34	1.5	mg/kg		6010B	11/07/11	1
TPH (GC/FID) Low Fraction	U	0.25	0.50	mg/kg		8015D/G	11/05/11	5
Surrogate Recovery (70-130) a,a,a-Trifluorotoluene (FID)	101.			% Rec.		602/801	11/05/11	5
Benzene	U	0.0017	0.0050	mg/kg		8260B	11/05/11	5
Toluene	U	0.0016	0.025	mg/kg		8260B	11/05/11	5
Ethylbenzene	U	0.0019	0.0050	mg/kg		8260B	11/05/11	5
Total Xylenes	U	0.0023	0.015	mg/kg		8260B	11/05/11	5
Surrogate Recovery								
Toluene-d8	103.			% Rec.		8260B	11/05/11	5
Dibromofluoromethane	102.			% Rec.		8260B	11/05/11	5
a,a,a-Trifluorotoluene	103.			% Rec.		8260B	11/05/11	5
4-Bromofluorobenzene	99.1			% Rec.		8260B	11/05/11	5
TPH (GC/FID) High Fraction	U	0.77	4.0	mg/kg		3546/DR	11/08/11	1
Surrogate recovery(%) o-Terphenyl	63.9			% Rec.		3546/DR	11/08/11	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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L545160-02 (PH) - 7.15@19.5c



12065 Lebanon Rd.  
Mt. Juliet, TN 37122  
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Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

# REPORT OF ANALYSIS

November 11, 2011

Daniel Padilla  
OXY USA Inc - Grand Junction, CO  
760 Horizon Dr., Ste. 101  
Grand Junction, CO 81506

ESC Sample # : L545160-02

Site ID :

Project # : 900546.0005.010

Date Received : November 04, 2011  
Description : Currey 16-10 Background  
Sample ID : CURREY 16-10 BACKGROUND-NW 14IN  
Collected By : CJB/LG  
Collection Date : 11/03/11 12:45

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Polynuclear Aromatic Hydrocarbons								
Anthracene	U	0.00076	0.0060	mg/kg		8270C-S	11/07/11	1
Acenaphthene	U	0.00071	0.0060	mg/kg		8270C-S	11/07/11	1
Acenaphthylene	U	0.00057	0.0060	mg/kg		8270C-S	11/07/11	1
Benzo(a)anthracene	U	0.00092	0.0060	mg/kg		8270C-S	11/07/11	1
Benzo(a)pyrene	U	0.00062	0.0060	mg/kg		8270C-S	11/07/11	1
Benzo(b)fluoranthene	0.0013	0.00082	0.0060	mg/kg	J	8270C-S	11/07/11	1
Benzo(g,h,i)perylene	U	0.0012	0.0060	mg/kg		8270C-S	11/07/11	1
Benzo(k)fluoranthene	U	0.0013	0.0060	mg/kg		8270C-S	11/07/11	1
Chrysene	U	0.0011	0.0060	mg/kg		8270C-S	11/07/11	1
Dibenz(a,h)anthracene	U	0.0011	0.0060	mg/kg		8270C-S	11/07/11	1
Fluoranthene	U	0.0010	0.0060	mg/kg		8270C-S	11/07/11	1
Fluorene	U	0.00055	0.0060	mg/kg		8270C-S	11/07/11	1
Indeno(1,2,3-cd)pyrene	U	0.0012	0.0060	mg/kg		8270C-S	11/07/11	1
Naphthalene	U	0.00065	0.0060	mg/kg		8270C-S	11/07/11	1
Phenanthrene	U	0.00074	0.0060	mg/kg		8270C-S	11/07/11	1
Pyrene	U	0.00059	0.0060	mg/kg		8270C-S	11/07/11	1
1-Methylnaphthalene	U	0.00079	0.0060	mg/kg		8270C-S	11/07/11	1
2-Methylnaphthalene	U	0.00059	0.0060	mg/kg		8270C-S	11/07/11	1
2-Chloronaphthalene	U	0.00060	0.0060	mg/kg		8270C-S	11/07/11	1
Surrogate Recovery								
Nitrobenzene-d5	82.3			% Rec.		8270C-S	11/07/11	1
2-Fluorobiphenyl	79.6			% Rec.		8270C-S	11/07/11	1
p-Terphenyl-d14	129.			% Rec.		8270C-S	11/07/11	1

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Note:

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L545160-02 (PH) - 7.15@19.5c



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# REPORT OF ANALYSIS

November 11, 2011

Daniel Padilla  
OKY USA Inc - Grand Junction, CO  
760 Horizon Dr., Ste. 101  
Grand Junction, CO 81506

ESC Sample # : L545160-03

Site ID :

Project # : 900546.0005.010

Date Received : November 04, 2011  
Description : Currey 16-10 Background  
Sample ID : CURREY 16-10 BACKGROUND-N 14IN  
Collected By : CJB/LG  
Collection Date : 11/03/11 12:10

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	1.9	0.71	2.0	mg/kg	J	3060A/7	11/10/11	1
Chromium, Trivalent	19.	0.17	2.0	mg/kg		Calc.	11/07/11	1
ORP	100			mV		2580	11/08/11	1
pH	6.8			su		9045D	11/09/11	1
Sodium Adsorption Ratio	1.2					Calc.	11/09/11	1
Specific Conductance	95.			umhos/cm		9050AMo	11/09/11	1
Mercury	0.0081	0.0015	0.020	mg/kg	J	7471	11/06/11	1
Arsenic	4.4	0.32	1.0	mg/kg		6010B	11/07/11	1
Barium	160	0.050	0.25	mg/kg		6010B	11/07/11	1
Cadmium	0.77	0.040	0.25	mg/kg		6010B	11/07/11	1
Chromium	21.	0.085	0.50	mg/kg		6010B	11/07/11	1
Copper	13.	0.21	1.0	mg/kg		6010B	11/07/11	1
Lead	18.	0.090	0.25	mg/kg		6010B	11/07/11	1
Nickel	14.	0.26	1.0	mg/kg		6010B	11/07/11	1
Selenium	U	1.6	5.0	mg/kg	O	6010B	11/08/11	5
Silver	U	0.16	0.50	mg/kg		6010B	11/07/11	1
Zinc	49.	0.34	1.5	mg/kg		6010B	11/07/11	1
TPH (GC/FID) Low Fraction	U	0.25	0.50	mg/kg		8015D/G	11/05/11	5
Surrogate Recovery (70-130) a,a,a-Trifluorotoluene (FID)	101.			% Rec.		602/801	11/05/11	5
Benzene	U	0.0017	0.0050	mg/kg		8260B	11/05/11	5
Toluene	U	0.0016	0.025	mg/kg		8260B	11/05/11	5
Ethylbenzene	U	0.0019	0.0050	mg/kg		8260B	11/05/11	5
Total Xylenes	U	0.0023	0.015	mg/kg		8260B	11/05/11	5
Surrogate Recovery								
Toluene-d8	101.			% Rec.		8260B	11/05/11	5
Dibromofluoromethane	101.			% Rec.		8260B	11/05/11	5
a,a,a-Trifluorotoluene	104.			% Rec.		8260B	11/05/11	5
4-Bromofluorobenzene	103.			% Rec.		8260B	11/05/11	5
TPH (GC/FID) High Fraction	0.93	0.77	4.0	mg/kg	J	3546/DR	11/08/11	1
Surrogate recovery(%) o-Terphenyl	59.4			% Rec.		3546/DR	11/08/11	1

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L545160-03 (PH) - 6.79@19.4c



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Tax I.D. 62-0814289  
Est. 1970

# REPORT OF ANALYSIS

November 11, 2011

Daniel Padilla  
OXY USA Inc - Grand Junction, CO  
760 Horizon Dr., Ste. 101  
Grand Junction, CO 81506

ESC Sample # : L545160-03

Site ID :

Project # : 900546.0005.010

Date Received : November 04, 2011  
Description : Currey 16-10 Background  
Sample ID : CURREY 16-10 BACKGROUND-N 14IN  
Collected By : CJB/LG  
Collection Date : 11/03/11 12:10

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Polynuclear Aromatic Hydrocarbons								
Anthracene	U	0.00076	0.0060	mg/kg		8270C-S	11/10/11	1
Acenaphthene	U	0.00071	0.0060	mg/kg		8270C-S	11/10/11	1
Acenaphthylene	U	0.00057	0.0060	mg/kg		8270C-S	11/10/11	1
Benzo(a)anthracene	U	0.00092	0.0060	mg/kg		8270C-S	11/10/11	1
Benzo(a)pyrene	U	0.00062	0.0060	mg/kg		8270C-S	11/10/11	1
Benzo(b)fluoranthene	U	0.00082	0.0060	mg/kg		8270C-S	11/10/11	1
Benzo(g,h,i)perylene	U	0.0012	0.0060	mg/kg		8270C-S	11/10/11	1
Benzo(k)fluoranthene	U	0.0013	0.0060	mg/kg		8270C-S	11/10/11	1
Chrysene	U	0.0011	0.0060	mg/kg		8270C-S	11/10/11	1
Dibenz(a,h)anthracene	U	0.0011	0.0060	mg/kg		8270C-S	11/10/11	1
Fluoranthene	U	0.0010	0.0060	mg/kg		8270C-S	11/10/11	1
Fluorene	U	0.00055	0.0060	mg/kg		8270C-S	11/10/11	1
Indeno(1,2,3-cd)pyrene	U	0.0012	0.0060	mg/kg		8270C-S	11/10/11	1
Naphthalene	U	0.00065	0.0060	mg/kg		8270C-S	11/10/11	1
Phenanthrene	U	0.00074	0.0060	mg/kg		8270C-S	11/10/11	1
Pyrene	U	0.00059	0.0060	mg/kg		8270C-S	11/10/11	1
1-Methylnaphthalene	U	0.00079	0.0060	mg/kg		8270C-S	11/10/11	1
2-Methylnaphthalene	U	0.00059	0.0060	mg/kg		8270C-S	11/10/11	1
2-Chloronaphthalene	0.00062	0.00060	0.0060	mg/kg	J	8270C-S	11/10/11	1
Surrogate Recovery								
Nitrobenzene-d5	87.1			% Rec.		8270C-S	11/10/11	1
2-Fluorobiphenyl	76.7			% Rec.		8270C-S	11/10/11	1
p-Terphenyl-d14	77.3			% Rec.		8270C-S	11/10/11	1

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L545160-03 (PH) - 6.79@19.4c



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Tax I.D. 62-0814289

Est. 1970

# REPORT OF ANALYSIS

November 11, 2011

Daniel Padilla  
OXY USA Inc - Grand Junction, CO  
760 Horizon Dr., Ste. 101  
Grand Junction, CO 81506

ESC Sample # : L545160-04

Date Received : November 04, 2011  
Description : Currey 16-10 Background  
Sample ID : CURREY 16-10 BACKGROUND-N 12IN

Site ID :

Project # : 900546.0005.010

Collected By : CJB/LG  
Collection Date : 11/03/11 11:52

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	1.6	0.71	2.0	mg/kg	J	3060A/7	11/10/11	1
Chromium, Trivalent	16.	0.17	2.0	mg/kg		Calc.	11/07/11	1
ORP	120			mV		2580	11/08/11	1
pH	6.8			su		9045D	11/09/11	1
Sodium Adsorption Ratio	0.82					Calc.	11/09/11	1
Specific Conductance	32.			umhos/cm		9050AMo	11/09/11	1
Mercury	0.0071	0.0015	0.020	mg/kg	J	7471	11/06/11	1
Arsenic	3.9	0.32	1.0	mg/kg		6010B	11/07/11	1
Barium	140	0.050	0.25	mg/kg		6010B	11/07/11	1
Cadmium	0.87	0.040	0.25	mg/kg		6010B	11/07/11	1
Chromium	18.	0.085	0.50	mg/kg		6010B	11/07/11	1
Copper	12.	0.21	1.0	mg/kg		6010B	11/07/11	1
Lead	17.	0.090	0.25	mg/kg		6010B	11/07/11	1
Nickel	12.	0.26	1.0	mg/kg		6010B	11/07/11	1
Selenium	U	0.32	1.0	mg/kg		6010B	11/07/11	1
Silver	U	0.16	0.50	mg/kg		6010B	11/07/11	1
Zinc	45.	0.34	1.5	mg/kg		6010B	11/07/11	1
TPH (GC/FID) Low Fraction	U	0.25	0.50	mg/kg		8015D/G	11/05/11	5
Surrogate Recovery (70-130) a,a,a-Trifluorotoluene (FID)	101.			% Rec.		602/801	11/05/11	5
Benzene	U	0.0017	0.0050	mg/kg		8260B	11/05/11	5
Toluene	U	0.0016	0.025	mg/kg		8260B	11/05/11	5
Ethylbenzene	U	0.0019	0.0050	mg/kg		8260B	11/05/11	5
Total Xylenes	U	0.0023	0.015	mg/kg		8260B	11/05/11	5
Surrogate Recovery								
Toluene-d8	104.			% Rec.		8260B	11/05/11	5
Dibromofluoromethane	102.			% Rec.		8260B	11/05/11	5
a,a,a-Trifluorotoluene	103.			% Rec.		8260B	11/05/11	5
4-Bromofluorobenzene	97.6			% Rec.		8260B	11/05/11	5
TPH (GC/FID) High Fraction	2.7	0.77	4.0	mg/kg	J	3546/DR	11/08/11	1
Surrogate recovery(%) o-Terphenyl	56.6			% Rec.		3546/DR	11/08/11	1

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L545160-04 (PH) - 6.75@19.0c



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Tax I.D. 62-0814289

Est. 1970

# REPORT OF ANALYSIS

November 11, 2011

Daniel Padilla  
OXY USA Inc - Grand Junction, CO  
760 Horizon Dr., Ste. 101  
Grand Junction, CO 81506

ESC Sample # : L545160-04

Date Received : November 04, 2011  
Description : Currey 16-10 Background  
Sample ID : CURREY 16-10 BACKGROUND-N 12IN

Site ID :  
Project # : 900546.0005.010

Collected By : CJB/LG  
Collection Date : 11/03/11 11:52

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
<b>Polynuclear Aromatic Hydrocarbons</b>								
Anthracene	U	0.00076	0.0060	mg/kg		8270C-S	11/10/11	1
Acenaphthene	U	0.00071	0.0060	mg/kg		8270C-S	11/10/11	1
Acenaphthylene	U	0.00057	0.0060	mg/kg		8270C-S	11/10/11	1
Benzo(a)anthracene	U	0.00092	0.0060	mg/kg		8270C-S	11/10/11	1
Benzo(a)pyrene	U	0.00062	0.0060	mg/kg		8270C-S	11/10/11	1
Benzo(b)fluoranthene	U	0.00082	0.0060	mg/kg		8270C-S	11/10/11	1
Benzo(g,h,i)perylene	0.0019	0.0012	0.0060	mg/kg	J	8270C-S	11/10/11	1
Benzo(k)fluoranthene	U	0.0013	0.0060	mg/kg		8270C-S	11/10/11	1
Chrysene	U	0.0011	0.0060	mg/kg		8270C-S	11/10/11	1
Dibenz(a,h)anthracene	U	0.0011	0.0060	mg/kg		8270C-S	11/10/11	1
Fluoranthene	U	0.0010	0.0060	mg/kg		8270C-S	11/10/11	1
Fluorene	U	0.00055	0.0060	mg/kg		8270C-S	11/10/11	1
Indeno(1,2,3-cd)pyrene	U	0.0012	0.0060	mg/kg		8270C-S	11/10/11	1
Naphthalene	U	0.00065	0.0060	mg/kg		8270C-S	11/10/11	1
Phenanthrene	U	0.00074	0.0060	mg/kg		8270C-S	11/10/11	1
Pyrene	U	0.00059	0.0060	mg/kg		8270C-S	11/10/11	1
1-Methylnaphthalene	U	0.00079	0.0060	mg/kg		8270C-S	11/10/11	1
2-Methylnaphthalene	U	0.00059	0.0060	mg/kg		8270C-S	11/10/11	1
2-Chloronaphthalene	0.00099	0.00060	0.0060	mg/kg	J	8270C-S	11/10/11	1
<b>Surrogate Recovery</b>								
Nitrobenzene-d5	89.3			% Rec.		8270C-S	11/10/11	1
2-Fluorobiphenyl	78.3			% Rec.		8270C-S	11/10/11	1
p-Terphenyl-d14	100.			% Rec.		8270C-S	11/10/11	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

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L545160-04 (PH) - 6.75@19.0c



Attachment A  
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L545160-01	WG564183	SAMP	Selenium	R1924359	O
	WG564107	SAMP	Chromium, Hexavalent	R1927496	J
	WG564146	SAMP	Mercury	R1922125	J
	WG564083	SAMP	Fluorene	R1923095	J
L545160-02	WG564107	SAMP	Chromium, Hexavalent	R1927496	J
	WG564146	SAMP	Mercury	R1922125	J
	WG564083	SAMP	Benzo(b)fluoranthene	R1923095	J
	WG564183	SAMP	Selenium	R1924359	O
L545160-03	WG564237	SAMP	TPH (GC/FID) High Fraction	R1924152	J
	WG564107	SAMP	Chromium, Hexavalent	R1927496	J
	WG564146	SAMP	Mercury	R1922125	J
	WG564250	SAMP	2-Chloronaphthalene	R1927572	J
L545160-04	WG564237	SAMP	TPH (GC/FID) High Fraction	R1924152	J
	WG564107	SAMP	Chromium, Hexavalent	R1927496	J
	WG564146	SAMP	Mercury	R1922125	J
	WG564250	SAMP	Benzo(g,h,i)perylene	R1927572	J
	WG564250	SAMP	2-Chloronaphthalene	R1927572	J

Attachment B  
Explanation of QC Qualifier Codes

Qualifier	Meaning
J	(EPA) - Estimated value below the lowest calibration point. Confidence correlates with concentration.
O	(ESC) Sample diluted due to matrix interferences that impaired the ability to make an accurate analytical determination. The detection limit is elevated in order to reflect the necessary dilution.

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.

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

Alternate billing information:  
 CO Table 910

Report to:  
 Email to: Glenn Collins  
David Collins @oxy.com

Project Description: Curray 16-10 Background  
 Phone: (970) 263-3601 Client Project #: 90546.0005.010  
 FAX: 90546.0005.010 ESC Key:

Collected by: CSB & LCo Site/Facility ID#: P.O.#:

Collected by (signature): [Signature] Rush? (Lab MUST Be Notified)  
 Same Day.....200%  
 Next Day.....100%  
 Two Day.....50%  
 Date Results Needed:  
 Email? No Yes  
 FAX? No Yes

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cnts	V8260BTEX, GRO	DRO, SV8270PAHSIM	SAR, SPCON, pH	MRCRA8 + Cu, Ni, Zn	CR3, CR6SS	Remarks/Contaminant	Sample # (lab only)
Curray 16-10 Background-E	Grab	SS	12"	11/3/11	1230	3	X	X	X	X	X	1545160	-01
Curray 16-10 Background-NW	Grab	SS	14"	11/3/11	1245	3	X	X	X	X	X		-02
Curray 16-10 Background-NE	Grab	SS	14"	11/3/11	1210	3	X	X	X	X	X		-03
Curray 16-10 Background-N	Grab	SS	12"	11/3/11	1152	3	X	X	X	X	X		-04

**D136**  
 Prepared by:  
**ENVIRONMENTAL SCIENCE CORP.**  
 12065 Lebanon Road  
 Mt. Juliet, TN 37122  
 Phone (615) 758-5858  
 Phone (800) 767-5859  
 FAX (615) 758-5859

\*Matrix: SS - Soil/Sand GW - Groundwater WW - Wastewater DW - Drinking Water OT - Other

Remarks:

Relinquished by: (Signature) <u>[Signature]</u>	Date: <u>11/3/11</u>	Time: <u>5:00</u>	Received by: (Signature)	Received for lab by: (Signature) <u>[Signature]</u>	Date: <u>11/4/11</u>	Time: <u>0900</u>	Condition: (lab use only)
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Received for lab by: (Signature)	Date:	Time:	pH Checked: NCF:
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Received for lab by: (Signature)	Date:	Time:	pH Checked: NCF:

Daniel Padilla  
OXY USA Inc - Grand Junction, CO  
760 Horizon Dr., Ste. 101  
Grand Junction, CO 81506

### Report Summary

Thursday January 12, 2012

Report Number: L554491

Samples Received: 01/05/12

Client Project:

Description: Currey 16-10 Cap

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,  
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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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Est. 1970

# REPORT OF ANALYSIS

January 12, 2012

Daniel Padilla  
OXY USA Inc - Grand Junction, CO  
760 Horizon Dr., Ste. 101  
Grand Junction, CO 81506

ESC Sample # : L554491-01

Date Received : January 05, 2012  
Description : Currey 16-10 Cap

Site ID :

Sample ID : CURREY 16-10 CAP 10IN

Project # :

Collected By : Matt Kasten  
Collection Date : 01/04/12 09:45

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	0.72	0.71	2.0	mg/kg	J	3060A/7	01/11/12	1
Chromium, Trivalent	13.	0.17	0.50	mg/kg		Calc.	01/08/12	1
ORP	72.			mV	T8	2580	01/10/12	1
pH	8.0			su	T8	9045D	01/09/12	1
Sodium Adsorption Ratio	2.3					Calc.	01/11/12	1
Specific Conductance	280			umhos/cm		9050AMo	01/07/12	1
Mercury	0.026	0.00080	0.020	mg/kg		7471	01/09/12	1
Arsenic	0.88	0.32	1.0	mg/kg	JP1	6010B	01/08/12	1
Barium	740	0.050	0.25	mg/kg	J3V	6010B	01/08/12	1
Cadmium	U	0.040	0.25	mg/kg		6010B	01/08/12	1
Chromium	14.	0.085	0.50	mg/kg		6010B	01/08/12	1
Copper	17.	0.21	1.0	mg/kg		6010B	01/08/12	1
Lead	11.	0.090	0.25	mg/kg		6010B	01/08/12	1
Nickel	14.	0.26	1.0	mg/kg		6010B	01/08/12	1
Selenium	1.0	0.32	1.0	mg/kg	J6	6010B	01/08/12	1
Silver	U	0.16	0.50	mg/kg		6010B	01/08/12	1
Zinc	50.	0.34	1.5	mg/kg		6010B	01/08/12	1
TPH (GC/FID) Low Fraction	U	0.25	0.50	mg/kg		8015D/G	01/06/12	5
Surrogate Recovery (70-130) a,a,a-Trifluorotoluene (FID)	108.			% Rec.		602/801	01/06/12	5
Benzene	U	0.0017	0.0050	mg/kg		8260B	01/06/12	5
Toluene	U	0.0016	0.025	mg/kg		8260B	01/06/12	5
Ethylbenzene	U	0.0019	0.0050	mg/kg		8260B	01/06/12	5
Total Xylenes	U	0.0023	0.015	mg/kg		8260B	01/06/12	5
Surrogate Recovery								
Toluene-d8	103.			% Rec.		8260B	01/06/12	5
Dibromofluoromethane	101.			% Rec.		8260B	01/06/12	5
a,a,a-Trifluorotoluene	106.			% Rec.		8260B	01/06/12	5
4-Bromofluorobenzene	99.6			% Rec.		8260B	01/06/12	5
TPH (GC/FID) High Fraction	8.2	0.77	4.0	mg/kg		3546/DR	01/06/12	1
Surrogate recovery(%) o-Terphenyl	83.5			% Rec.		3546/DR	01/06/12	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

The reported analytical results relate only to the sample submitted.

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Reported: 01/12/12 09:37 Printed: 01/12/12 09:38

L554491-01 (PH) - 8.03@19.7c



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Est. 1970

# REPORT OF ANALYSIS

January 12, 2012

Daniel Padilla  
OXY USA Inc - Grand Junction, CO  
760 Horizon Dr., Ste. 101  
Grand Junction, CO 81506

ESC Sample # : L554491-01

Site ID :

Project # :

Date Received : January 05, 2012  
Description : Currey 16-10 Cap  
Sample ID : CURREY 16-10 CAP 10IN  
Collected By : Matt Kasten  
Collection Date : 01/04/12 09:45

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Polynuclear Aromatic Hydrocarbons								
Anthracene	U	0.00076	0.0060	mg/kg		8270C-S	01/08/12	1
Acenaphthene	U	0.00071	0.0060	mg/kg		8270C-S	01/08/12	1
Acenaphthylene	U	0.00057	0.0060	mg/kg		8270C-S	01/08/12	1
Benzo(a)anthracene	U	0.00092	0.0060	mg/kg		8270C-S	01/08/12	1
Benzo(a)pyrene	U	0.00062	0.0060	mg/kg		8270C-S	01/08/12	1
Benzo(b)fluoranthene	U	0.00082	0.0060	mg/kg		8270C-S	01/08/12	1
Benzo(g,h,i)perylene	U	0.0012	0.0060	mg/kg		8270C-S	01/08/12	1
Benzo(k)fluoranthene	U	0.0013	0.0060	mg/kg		8270C-S	01/08/12	1
Chrysene	U	0.0011	0.0060	mg/kg		8270C-S	01/08/12	1
Dibenz(a,h)anthracene	U	0.0011	0.0060	mg/kg		8270C-S	01/08/12	1
Fluoranthene	U	0.0010	0.0060	mg/kg		8270C-S	01/08/12	1
Fluorene	0.0017	0.00055	0.0060	mg/kg	J	8270C-S	01/08/12	1
Indeno(1,2,3-cd)pyrene	U	0.0012	0.0060	mg/kg		8270C-S	01/08/12	1
Naphthalene	0.0044	0.00065	0.0060	mg/kg	J	8270C-S	01/08/12	1
Phenanthrene	0.0037	0.00074	0.0060	mg/kg	J	8270C-S	01/08/12	1
Pyrene	0.0012	0.00059	0.0060	mg/kg	J	8270C-S	01/08/12	1
1-Methylnaphthalene	0.0042	0.00079	0.0060	mg/kg	J	8270C-S	01/08/12	1
2-Methylnaphthalene	0.011	0.00059	0.0060	mg/kg		8270C-S	01/08/12	1
2-Chloronaphthalene	U	0.00060	0.0060	mg/kg		8270C-S	01/08/12	1
Surrogate Recovery								
Nitrobenzene-d5	78.1			% Rec.		8270C-S	01/08/12	1
2-Fluorobiphenyl	87.5			% Rec.		8270C-S	01/08/12	1
p-Terphenyl-d14	80.4			% Rec.		8270C-S	01/08/12	1

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MDL = Minimum Detection Limit = LOD

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Reported: 01/12/12 09:37 Printed: 01/12/12 09:38  
L554491-01 (PH) - 8.03@19.7c

Attachment A  
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L554491-01	WG572960	SAMP	Arsenic	R1992872	JP1
	WG572960	SAMP	Barium	R1992872	J3V
	WG572960	SAMP	Selenium	R1992872	J6
	WG573347	SAMP	Chromium, Hexavalent	R1996232	J
	WG573141	SAMP	pH	R1993572	T8
	WG572944	SAMP	Fluorene	R1993452	J
	WG572944	SAMP	Naphthalene	R1993452	J
	WG572944	SAMP	Phenanthrene	R1993452	J
	WG572944	SAMP	Pyrene	R1993452	J
	WG572944	SAMP	1-Methylnaphthalene	R1993452	J
	WG573400	SAMP	ORP	R1994952	T8

Attachment B  
Explanation of QC Qualifier Codes

Qualifier	Meaning
J	(EPA) - Estimated value below the lowest calibration point. Confidence correlates with concentration.
J3	The associated batch QC was outside the established quality control range for precision.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
T8	(ESC) - Additional method/sample information: Sample(s) received past/too close to holding time expiration.
V	(ESC) - Additional QC Info: The sample concentration is too high to evaluate accurate spike recoveries.

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  
01/12/12 at 09:38:09

TSR Signing Reports: 134  
R5 - Desired TAT

Sample: L554491-01 Account: OXYGJCO Received: 01/05/12 09:00 Due Date: 01/12/12 00:00 RPT Date: 01/12/12 09:37

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

Alternate billing information:

CO Table 910

Report to: Daniel Padilla / Blair Rollins

Email to: daniel\_padilla@oxy.com, blai

Project Description: Currey 16-10 Cap

Phone: (970) 263-3601

FAX: ESC Key: OXYGJCO-TABLE910

Collected by: Matt Kasten

Site/Facility ID#: P.O.#:

☒ Rush? (Lab MUST Be Notified)

Same Day ..... 200%  
Next Day ..... 100%  
Two Day ..... 50%

Date Results Needed:

Email? ☒ No ☒ Yes  
FAX? ☒ No ☒ Yes

No. of Cntrs

Date

Time

Depth

10"

Matrix\*

SS

Comp/Grab

Comp

Currey 16-10 Cap

Sample ID

3

01/04/12

0945

Analysis/Container/Preservative

E010

Prepar



ENVIRONMENTAL  
SCIENCE CORP.

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Mt. Juliet, TN 37122

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Phone (800) 767-5859

FAX (615) 758-5859

V8260BTEX, GRO  
DRO, SV8270PAHSIM  
SAR, SPCON, PH  
MRCRA8 + Cu, Ni, Zn  
CR3, CR6SS

CoCode OXYGJCO (lab use only)  
Template/Prelogin T74772

Shipped Via:

Remarks/Contaminant

Sample # (lab only)

1554491-01

\*Matrix: SS - Soil/Solid GW - Groundwater WW - Wastewater DW - Drinking Water OT - Other

Remarks: Thru!

pH

Temp

Flow 500 0623 5660

Other

Relinquished by: (Signature)

Date: 1/4/12

Time: 1300

Received by: (Signature)

Samples returned via: ☒ UPS ☐ FedEx ☐ Courier

Condition:

(lab use only)

75

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Temp: 3.1°

Bottles Received:

3202

Time:

Relinquished by: (Signature)

Date:

Time:

Received for lab by: (Signature)

Date: 1/5/12

pH Checked:

NCF:

0900