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By OCD; Dr. Oberding at 9:50 am, Mar 12, 2015

**OXY USA, Inc.
West Dollarhide Devonian Unit #101
Delineation Report and Work Plan**

**Section 33, T24S, R38E
Lea County, New Mexico**

September 24, 2014

APPROVED

By OCD; Dr. Oberding at 9:50 am, Mar 12, 2015



Prepared for:

**OXY USA, Inc.
1017 W Stanolind Road
Hobbs, New Mexico 88240**

By:

**Safety & Environmental Solutions, Inc.
703 East Clinton Street
Hobbs, New Mexico 88240
(575) 397-0510**

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I. Company Contacts

Representative	Company	Telephone	E-mail
Austin Tramell	OXY USA, INC.	575-499-4919	Austin_Tramell@oxy.com
Bob Allen	SESI	575-397-0510	ballen@sesi-nm.com

II. Background

Safety and Environmental Solutions, Inc. (SESI) was engaged by OXY USA, INC to perform site assessment of and cleanup a release area at the West Dollarhide Devonian Unit #101 located in Section 33 of Township 24 South, Range 38 East, Lea County, New Mexico.

According to the C-141 dated January 9, 2014 the cause of release was a tank spilling over. The release was approximately 5 bbls of crude oil and 5 bbls of produced water. Approximately 3 bbls of crude oil and 3bbls of produced water were recovered.

III. Surface and Ground Water

The nearest groundwater of record is approximately 8.0 miles Northwest of the site. The New Mexico Office of State Engineer record is in Section 20 Range 38 East and Township 25 South. The reported depth was 75 feet below ground surface (BGS).

IV. Characterization

The target cleanup levels are determined using the *Guidelines for Remediation of Leaks, Spills and Releases* published by the NMOCD (August 13, 1993). Based on the ranking criteria presented below, the applicable Recommended Remediation Action Levels (RRAL) are 10 parts per million (ppm) Benzene, 50 ppm combined benzene, toluene, ethylbenzene, and total xylenes (BTEX), and 1000 ppm Total Petroleum Hydrocarbons (TPH).

Depth to Ground Water:			
(Vertical distance from contaminants to seasonal high water elevation of groundwater)	Less than 50 feet	20 points	
	50 feet to 99 feet	10 points	X
	>100 feet	0 points	
Wellhead Protection Area:			
(Less than 200 feet from a private domestic water source; or less than 1000 feet from all other water sources)	Yes	20 points	
	No	0 points	X
Distance to Surface Water:			
(Horizontal distance to perennial lakes, ponds, rivers, streams, creeks, irrigation canals and ditches)	Less than 200 feet	20 points	
	200 feet to 1000 feet	10 points	
	>1000 feet	0 points	X
RANKING SCORE (TOTAL POINTS)			10

V. Work Performed

BBC International Inc. was onsite to determine vertical extent of contamination. Samples were taken at site SP1 at the surface and at a depth of 1', 2', 3', 4', 6', 8', 10' and 12'. Samples were taken at site SP2 were taken at 1', 2', 4', 6', 8', 10' and 12'. All samples were properly packaged, preserved and transported to the Laboratory, Hobbs New Mexico and analyzed for Benzene, Toluene, Ethylbenzene, Xylenes, Total BTEX and

Chloride (Cl⁻) (Method SM4500Cl-B). The results of the analysis are presented in the table below:

Laboratory Analytical Results Summary
West Dollarhide Devonian Unit 101

		Sample	SP1 @ SURFACE	SP1 @ 1'	SP1 @ 2'	SP1 @ 3'	SP1 @ 4'	SP1 @ 6'	SP1 @ 8'	SP1 @ 10'	SP1 @ 12'
Analyte	Method	Date	12/12/13	12/12/13	12/12/13	12/12/13	1/22/14	1/22/14	1/22/14	1/22/14	1/22/14
			mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Benzene	BTEX 8021B		<0.050	<0.050	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Toluene	BTEX 8021B		<0.050	<0.050	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Ethylbenzene	BTEX 8021B		<0.050	<0.050	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total Xylenes	BTEX 8021B		<0.150	<0.150	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total BTEX	BTEX 8021B		<0.300	<0.300	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Chloride	SM4500Cl-B		1010	496	1840	1800	3560	4800	4720	6480	2200
GRO	TPH 8015M		<10.0	<10.0	n/a	n/a	n/a	n/a	n/a	n/a	n/a
DRO	TPH 8015M		288	<10.0	n/a	n/a	n/a	n/a	n/a	n/a	n/a

		Sample	SP2 @ SURFACE	SP2 @ 1'	SP2 @ 2'	SP2 @ 4'	SP2 @ 6'	SP2 @ 8'	SP2 @ 10'	SP2 @ 12'
Analyte	Method	Date	12/12/13	12/12/13	12/12/13	1/22/14	1/22/14	1/22/14	1/22/14	1/22/14
			mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Benzene	BTEX 8021B		<0.050	<0.050	n/a	n/a	n/a	n/a	n/a	n/a
Toluene	BTEX 8021B		<0.050	<0.050	n/a	n/a	n/a	n/a	n/a	n/a
Ethylbenzene	BTEX 8021B		<0.050	<0.050	n/a	n/a	n/a	n/a	n/a	n/a
Total Xylenes	BTEX 8021B		<0.150	<0.150	n/a	n/a	n/a	n/a	n/a	n/a
Total BTEX	BTEX 8021B		<0.300	<0.300	n/a	n/a	n/a	n/a	n/a	n/a
Chloride	SM4500Cl-B		1120	1150	1840	4080	4640	3920	5600	2600
GRO	TPH 8015M		<50.0	<50.0	n/a	n/a	n/a	n/a	n/a	n/a
DRO	TPH 8015M		613	551	n/a	n/a	n/a	n/a	n/a	n/a

The sample results indicate that the chloride concentration at 12' BGS is still between 2200ppm and 2600 ppm.

On March 20, 2014, BBC International Inc. was onsite to determine vertical extent of contamination using a coring rig. A bore hole was advanced to a depth of 55' BGS with samples taken a 15', 25', 35', 45' and 55'. All samples were properly packaged, preserved and transported to the Laboratory, Hobbs New Mexico and analyzed for Chloride (Cl⁻) (Method SM4500Cl-B). The results of the analysis are presented in the table below:

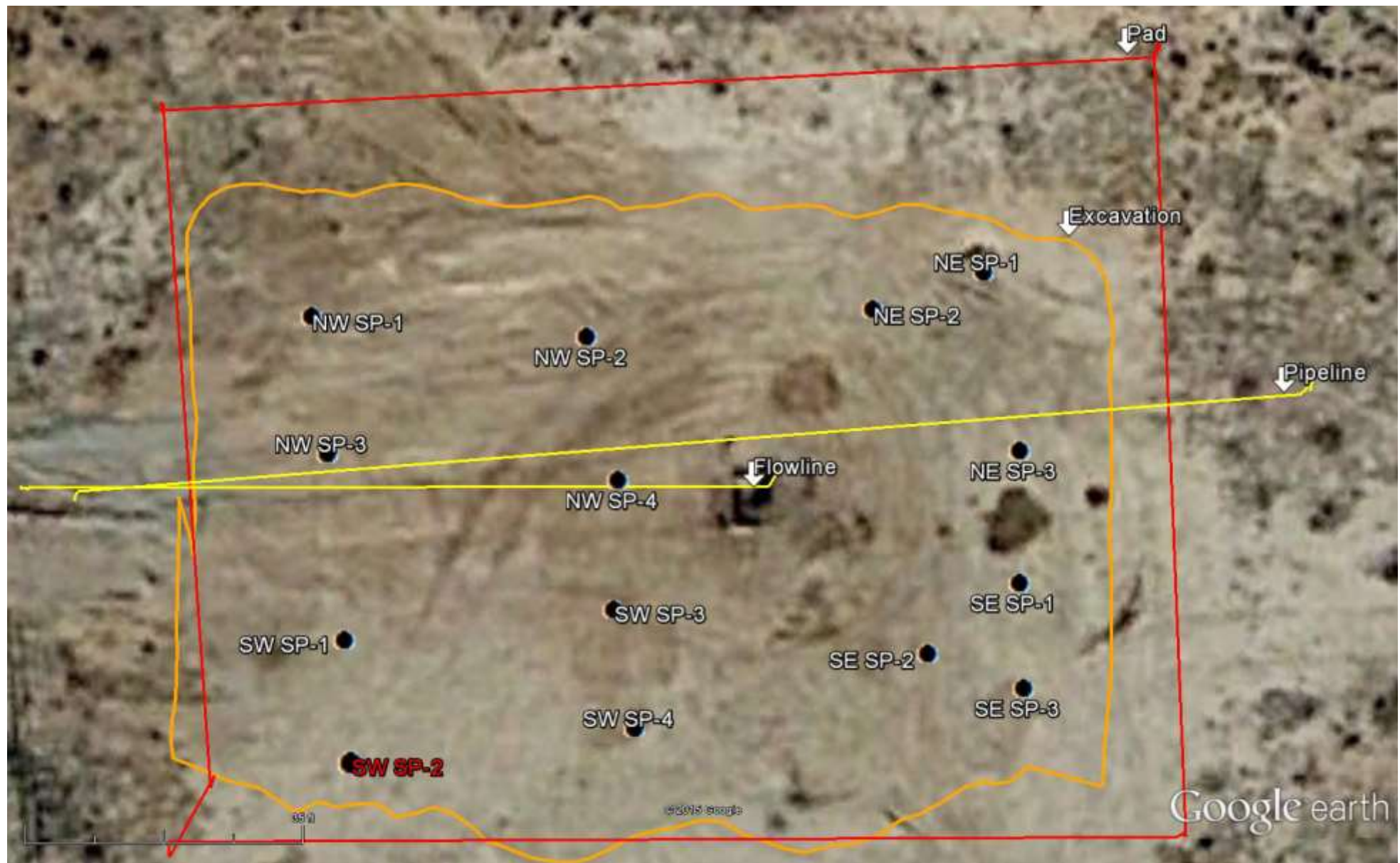
Laboratory Analytical Results Summary
West Dollarhide Devonian Unit #101

		Sample	SB1 @ 15'	SB1 @ 25'	SB1 @ 35'	SB1 @ 45'	SB1 @ 55'
Analyte	Method	Date	3/20/14	3/20/14	3/20/14	3/20/14	3/20/14
			mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Chloride	SM4500Cl-B		3280	704	816	464	128

The sample results indicate that the vertical extent of contamination was determined to be between 45' & 55'.

On February 20, 2015 excavation began on the site. The site was excavated to a depth of approximately 2'. On March 4, 2015 SESI collected 14 field samples, (refer to photo below for sample points). The results of the field samples are presented in the table below:

Northwest	Southwest	Northeast	Southeast
SP-1 152PPM	SP-1 532PPM	SP-1 204PPM	SP-1 204PPM
SP-2 580PPM	SP-2 2444PPM	SP-2 864PPM	SP-2 404PPM
SP-3 532PPM	SP-3 204PPM	SP-3 204PPM	SP-3 864PPM
Sp-4 740PPM	Sp-4 364PPM		



West Dollarhide Devonian Unit 101

VI. Action Plan

Due to the results listed above and the fact that this is an active location, the following action plan is proposed:

1. Excavate areas around NW SP-4, SW SP-2, NE SP-2 and SE SP-3 to the depth where the chloride concentrations are in the 500PPM range. Contaminated soil transport to an approved NMOCD facility for disposal. In the event that these areas do not reach the target of 500 PPM within 2' an impermeable liner will be installed in just that area. Otherwise, no liner will be installed for this site.
2. The excavated area will be backfilled with caliche and returned to grade.
3. A closure report and a final C-141 will be filed upon completion of the above work.

VII. Figures & Appendices

Figure 1 – Vicinity Map

Figure 2 – Site Plan

Figure 3 – NMOCD Trend Map

Appendix A – Analytical Results

Appendix B – C-141

Figure 1
Vicinity Map

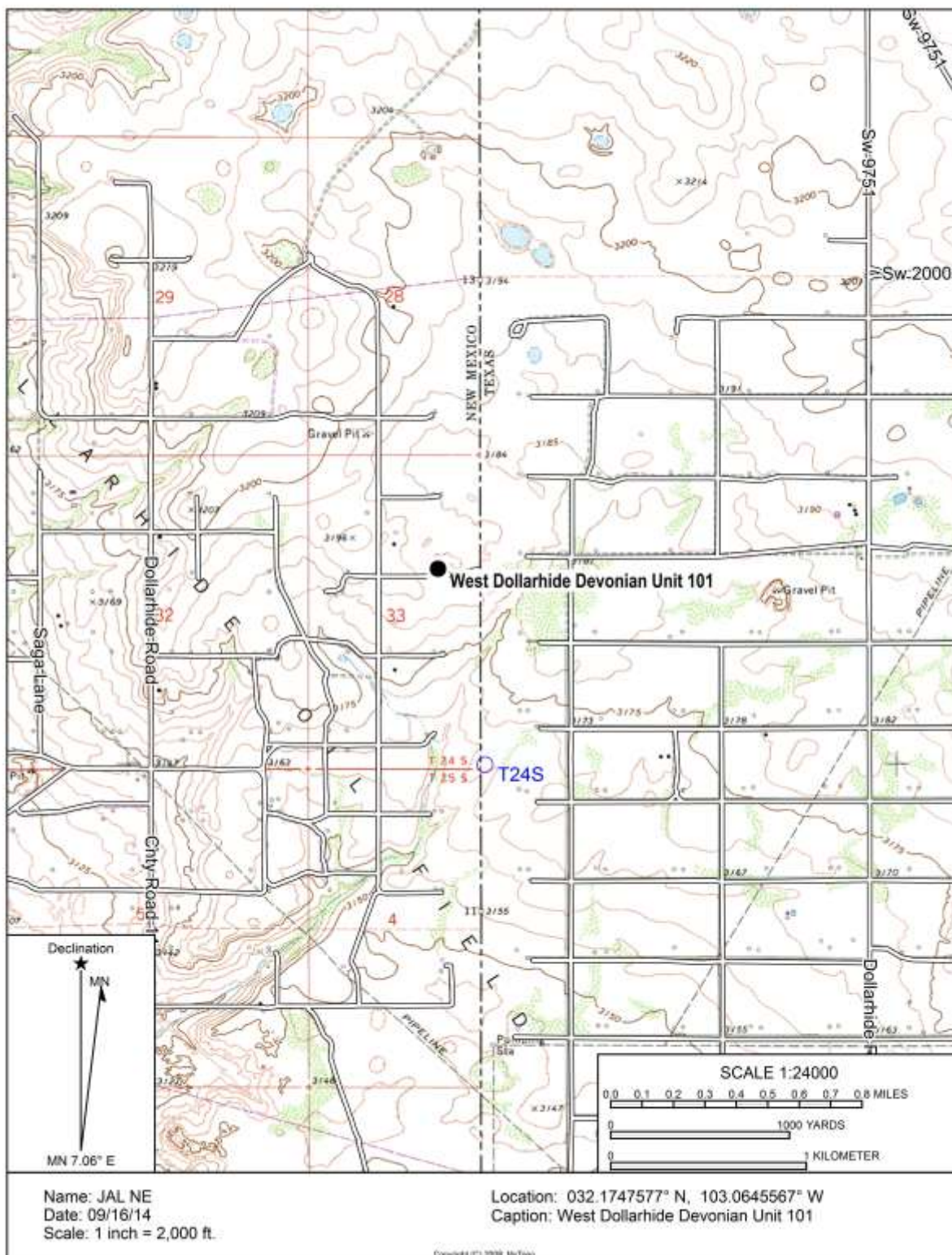


Figure 2
Site Plan



West Dollarhide Devonian Unit 101

Appendix A Analytical Results

Laboratory Analytical Results Summary
West Dollarhide Devonian Unit 101

		Sample	SP1 @ SURFACE	SP1 @ 1'	SP1 @ 2'	SP1 @ 3'	SP1 @ 4'	SP1 @ 6'	SP1 @ 8'	SP1 @ 10'	SP1 @ 12'
Analyte	Method	Date	12/12/13	12/12/13	12/12/13	12/12/13	1/22/14	1/22/14	1/22/14	1/22/14	1/22/14
			mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Benzene	BTEX 8021B		<0.050	<0.050	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Toluene	BTEX 8021B		<0.050	<0.050	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Ethylbenzene	BTEX 8021B		<0.050	<0.050	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total Xylenes	BTEX 8021B		<0.150	<0.150	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total BTEX	BTEX 8021B		<0.300	<0.300	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Chloride	SM4500Cl-B		1010	496	1840	1800	3560	4800	4720	6480	2200
GRO	TPH 8015M		<10.0	<10.0	n/a	n/a	n/a	n/a	n/a	n/a	n/a
DRO	TPH 8015M		288	<10.0	n/a	n/a	n/a	n/a	n/a	n/a	n/a

		Sample	SP2 @ SURFACE	SP2 @ 1'	SP2 @ 2'	SP2 @ 4'	SP2 @ 6'	SP2 @ 8'	SP2 @ 10'	SP2 @ 12'
Analyte	Method	Date	12/12/13	12/12/13	12/12/13	1/22/14	1/22/14	1/22/14	1/22/14	1/22/14
			mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Benzene	BTEX 8021B		<0.050	<0.050	n/a	n/a	n/a	n/a	n/a	n/a
Toluene	BTEX 8021B		<0.050	<0.050	n/a	n/a	n/a	n/a	n/a	n/a
Ethylbenzene	BTEX 8021B		<0.050	<0.050	n/a	n/a	n/a	n/a	n/a	n/a
Total Xylenes	BTEX 8021B		<0.150	<0.150	n/a	n/a	n/a	n/a	n/a	n/a
Total BTEX	BTEX 8021B		<0.300	<0.300	n/a	n/a	n/a	n/a	n/a	n/a
Chloride	SM4500Cl-B		1120	1150	1840	4080	4640	3920	5600	2600
GRO	TPH 8015M		<50.0	<50.0	n/a	n/a	n/a	n/a	n/a	n/a
DRO	TPH 8015M		613	551	n/a	n/a	n/a	n/a	n/a	n/a

Laboratory Analytical Results Summary
West Dollarhide Devonian Unit #101

		Sample	SB1 @ 15'	SB1 @ 25'	SB1 @ 35'	SB1 @ 45'	SB1 @ 55'
Analyte	Method	Date	3/20/14	3/20/14	3/20/14	3/20/14	3/20/14
			mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Chloride	SM4500Cl-B		3280	704	816	464	128

Appendix B C-141

District I
1625 N. Fieschi Dr., Hobbs, NM 88240
District II
811 S. First St., Aztec, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 8, 2011

Submit 1 Copy to appropriate District Office in
accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR		<input checked="" type="checkbox"/> Initial Report	<input type="checkbox"/> Final Report
Name of Company	Oxy Permian Ltd.	Contact	Austin Trammell
Address	1017 W. Stanolind Rd, Hobbs, NM 88240	Telephone No.	(575) 397-8210
Facility Name	West Dollahide Devonian Unit 101	Facility Type	Well location
Surface Owner	BLM	Mineral Owner	
		API No.	30-025-12335

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
F	33	24S	38E	1980	North	779'	West	Les

Latitude N 32.175350° Longitude W 103.0666°

NATURE OF RELEASE

Type of Release	Produced water	Volume of Release	35 bbls	Volume Recovered	0 bbls oil
Source of Release	2" riser on well head broke off	Date and Hour of Occurrence	09/24/2012 9:24/13 LRP	Date and Hour of Discovery	
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	Geoffrey Laking-NMOCD; Jennifer Van Curen-BLM		
By Whom?	Austin Trammell	Date and Hour	09/24/2012 @ 2:31 pm		
Was a Watercourse Reached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse:			
If a Watercourse was Impacted, Describe Fully.*					
Describe Cause of Problem and Remedial Action Taken.*					
A 2 inch riser on the well head broke off causing 35 bbls of produced water to leak onto the ground. No fluids were recovered and the riser was repaired/replaced.					
Describe Area Affected and Cleanup Action Taken.*					
The affected area is approximately 20' x 70'. Remediation will be completed in accordance with an approved remediation plan from NMOCD and the BLM.					
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.					
Signature: 		OIL CONSERVATION DIVISION			
Printed Name: Austin Trammell		Approved by Environmental Specialist:			
Title: HES Coordinator		Approval Date:		Expiration Date:	
E-mail Address: Austin.Trammell@oxy.com		Conditions of Approval:		Attached <input type="checkbox"/>	
Date: 10/2/2013		Phone: (575) 397-8216			

* Attach Additional Sheets If Necessary

Appendix C Site Photographs



West of wellhead looking Northeast (Photo # 1)



West of wellhead looking Northeast (Photo # 2)



West of wellhead looking Northeast (Photo # 3)



Wellhead facing Northeast (Photo # 4)



From wellhead looking Northwest (Photo # 5)



From wellhead looking Northwest (Photo # 6)



From North of wellhead looking West (Photo #7)



From North of wellhead looking South (Photo #8)



From North of wellhead looking Southwest (Photo #9)