

District I  
1625 N French Dr., Hobbs, NM 88240  
District II  
1301 W Grand Avenue, Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St Francis Dr., Santa Fe, NM 87505

**RECEIVED**

APR 05 2010

**HOBBSOCD**

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 October 10, 2003

Submit 2 Copies to appropriate  
District Office in accordance  
with Rule 116 on back  
side of form

**Release Notification and Corrective Action**

**OPERATOR**

Initial Report  Final Report

Name of Company OXY USA	Contact Kelton Beard	
Address 1502 W. Commerce Carlsbad, NM 88220	Telephone No. (O) 575-628-4100	
Facility Name Caleb State #1	Facility Type Tank Battery	
Surface Owner State	Mineral Owner	Lease No.

**LOCATION OF RELEASE** API # 30-025-37497-00-00

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
K	36	9S	32E					LEA

Latitude \_\_\_\_\_ Longitude \_\_\_\_\_

**NATURE OF RELEASE**

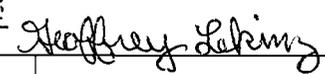
Type of Release Produced Water	Volume of Release 30bbls	Volume Recovered 0
Source of Release Tank	Date and Hour of Occurrence	Date and Hour of Discovery 9-19-09 @ 9am
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Geoffrey Leking	
By Whom? Kelton Beard	Date and Hour See above	
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.\*  
Corrosion caused a hole to form in the bottom of the tank

Describe Area Affected and Cleanup Action Taken.\*  
The area affected was inside the containment around the battery. As approved by NMOCD, 3 feet of contaminated material was removed and hauled to an Gandy Marley Disposal. The excavated area was then lined with 6" of sand, a 20 mil plastic liner, and backfilled with like material.

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: 	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Kelton Beard	Approved by <sup>ENV ENGINEER:</sup> District Supervisor: 	
Title: HES Specialist	Approval Date: 04/15/10	Expiration Date: -
E-mail Address: kelton_beard@oxy.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 4-1-2010		IRP-10-4-2481

\* Attach Additional Sheets If Necessary

## Leking, Geoffrey R, EMNRD

---

**From:** Leking, Geoffrey R, EMNRD  
**Sent:** Wednesday, February 03, 2010 7:21 AM  
**To:** 'Kelton\_Beaird@oxy.com'  
**Subject:** RE: RE: Oxy - Caleb State #1 Battery

Kelton

That is a good idea. Go ahead. Thank you.

Geoffrey Leking  
Environmental Engineer  
NMOCD-Hobbs

---

**From:** Kelton\_Beaird@oxy.com [mailto:Kelton\_Beaird@oxy.com]  
**Sent:** Wednesday, February 03, 2010 6:30 AM  
**To:** Leking, Geoffrey R, EMNRD  
**Cc:** la\_elkeenv@yahoo.com  
**Subject:** FW: RE: Oxy - Caleb State #1 Battery

Geoffrey,

Thanks for the approval on the Caleb Battery. I understand the need for sand below and on top of the liner, but have a question as to placing 2.5 feet of chat. In my opinion chat is more subject to penetration from liquids than caliche is. If we do have another spill or when it rains, I see the fluids penetrating the chat way easier than if we backfilled with caliche. Could we still put 6" of sand on top of the liner, backfill with caliche and top with gravel for more absorption.

Thanks,

**Kelton Beaird**  
**HES Specialist**  
**MidCon Southwest**  
**Carlsbad, NM**  
**Office: 575-628-4121**  
**Cell: 575-390-1903**  
**Fax: 575-628-4125**

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**From:** Logan Anderson [mailto:la\_elkeenv@yahoo.com]  
**Sent:** Tuesday, February 02, 2010 4:42 PM  
**To:** Beaird, Kelton H  
**Subject:** Fw: RE: Oxy - Caleb State #1 Battery

Here is the NMOCD Approval

Thanks,  
Logan Anderson

Project Manager  
Elke Environmental, Inc.  
off 432-366-0043  
cell 432-664-1269  
fax 432-366-0884

--- On Tue, 2/2/10, Leking, Geoffrey R, EMNRD <[GeoffreyR.Leking@state.nm.us](mailto:GeoffreyR.Leking@state.nm.us)> wrote:

From: Leking, Geoffrey R, EMNRD <[GeoffreyR.Leking@state.nm.us](mailto:GeoffreyR.Leking@state.nm.us)>  
Subject: RE: Oxy - Caleb State #1 Battery  
To: "Logan Anderson" <[la\\_elkeenv@yahoo.com](mailto:la_elkeenv@yahoo.com)>  
Date: Tuesday, February 2, 2010, 4:57 PM

Logan

The work plan is approved with the condition that excavation be performed to a depth of 3' bgs instead of only 1'. If the underlying material is rocky caliche like material then emplace 6" of soft sand material before emplacing the 20 mil liner and then emplace 6" of soft sand material and then 2' of chat over the liner. However, if the underlying material is already a soft sand material, then emplace the liner, emplace 6" of soft sand material and then 2.5' of chat.

Please contact me if you have any questions. Thank you.

Geoffrey Leking  
Environmental Engineer  
NMOCD-Hobbs

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**From:** Logan Anderson [[mailto:la\\_elkeenv@yahoo.com](mailto:la_elkeenv@yahoo.com)]  
**Sent:** Wednesday, December 30, 2009 8:37 AM  
**To:** Leking, Geoffrey R, EMNRD  
**Cc:** Kelton Beard  
**Subject:** Oxy - Caleb State #1 Battery

Mr. Leking,

Attached is a remediation plan sent to you by email on 12-4-09. I am resending the remediation plan because we never recieved a response from you on wether the plan was approved or not. Can you please review the remediation plan and let us know if you approve? Thanks for your time in this manner.

Thanks,  
Logan Anderson

Project Manager  
Elke Environmental, Inc.  
off 432-366-0043  
cell 432-664-1269  
fax 432-366-0884

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This inbound email has been scanned for malicious software and transmitted safely to you using Webroot Email Security.

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Confidentiality Notice: This e-mail, including all attachments is for the sole use of the intended recipient(s) and may contain confidential and privileged information. Any unauthorized review, use, disclosure or distribution is prohibited unless specifically provided under the New Mexico Inspection of Public Records Act. If you are not the intended recipient, please contact the sender and destroy all copies of this message. -- This email has been

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This email has been scanned using Webroot Email Security.

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**Leking, Geoffrey R, EMNRD**

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**From:** Logan Anderson [la\_elkeenv@yahoo.com]  
**Sent:** Thursday, December 03, 2009 2:13 PM  
**To:** Leking, Geoffrey R, EMNRD  
**Cc:** Kelton Beard  
**Subject:** Oxy USA - Caleb State #1 Battery  
**Attachments:** Remediation Plan.pdf; Initial C-141 (Notification).doc

Mr. Leking,

Attached is the remediation plan for the Oxy USA - Caleb State #1 Battery. There is not an RP# assigned to this spill on the NMOCD website yet. I also attached a copy of the original C-141 (Notification) that was sent on 9-21-09. If you have any questions feel free to contact me.

Thanks,  
Logan Anderson

Project Manager  
Elke Environmental, Inc.  
off 432-366-0043  
cell 432-664-1269  
fax 432-366-0884

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This inbound email has been scanned for malicious software and transmitted safely to you using Webroot Email Security.

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# **Remediation Plan**

Prepared for  
Oxy USA

**Caleb State #1 Battery**  
**Lea County, NM**

Prepared by

***Elke Environmental, Inc.***

P.O. Box 14167 Odessa, TX 79768  
Phone (432) 366-0043 Fax (432) 366-0884

# ***Elke Environmental, Inc.***

P.O. Box 14167 Odessa, TX 79768  
Phone (432) 366-0043 Fax (432) 366-0884

December 3, 2009

New Mexico Oil Conservation Division  
Mr. Geoffrey Leking  
1625 N French Drive  
Hobbs, New Mexico 88240

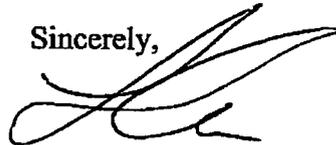
Re: Remediation Plan for Oxy USA – Caleb State #1 Battery  
UL 'K' Sec. 36 T9S R32E Lea County  
1RP-09-

Mr. Geoffrey Leking,

Elke Environmental was contracted by Oxy USA to complete the remediation of the impacted soil at the Caleb State #1 Battery Spill. The spill was contained inside the battery. A vertical and horizontal delineation of the site was completed with a backhoe. A borehole was drilled to determine groundwater, the borehole was drilled to 150' and left open for 72 hours. After 72 hours an interface probe was used to check for water in the borehole and the hole was dry. The borehole was plugged with bentonite pellets. The ranking criteria for this site is as follows: Surface Body of Water – 0 points; Wellhead Protection Area – 0 points; Groundwater Depth – 0 points (GW = >150'). The total ranking for the site is 0 points. RAL's for the site are Chloride – 250 ppm, TPH – 5,000 ppm and BTEX – 100 ppm (using field vapor headspace measurement). Attached is a plat map, field analytical, driller's log and lab confirmation for the site.

Oxy USA proposes to excavate all impacted soil to a depth of 12" and haul to Gandy Marley Disposal. A 20 mil poly liner will be installed at 12" and the excavation will be backfilled with clean native soil. The site will not be re-seeded since the site is a caliche pad for a battery. A final report will be submitted at the completion of the remediation. If you have any questions about the enclosed report please contact me at the office.

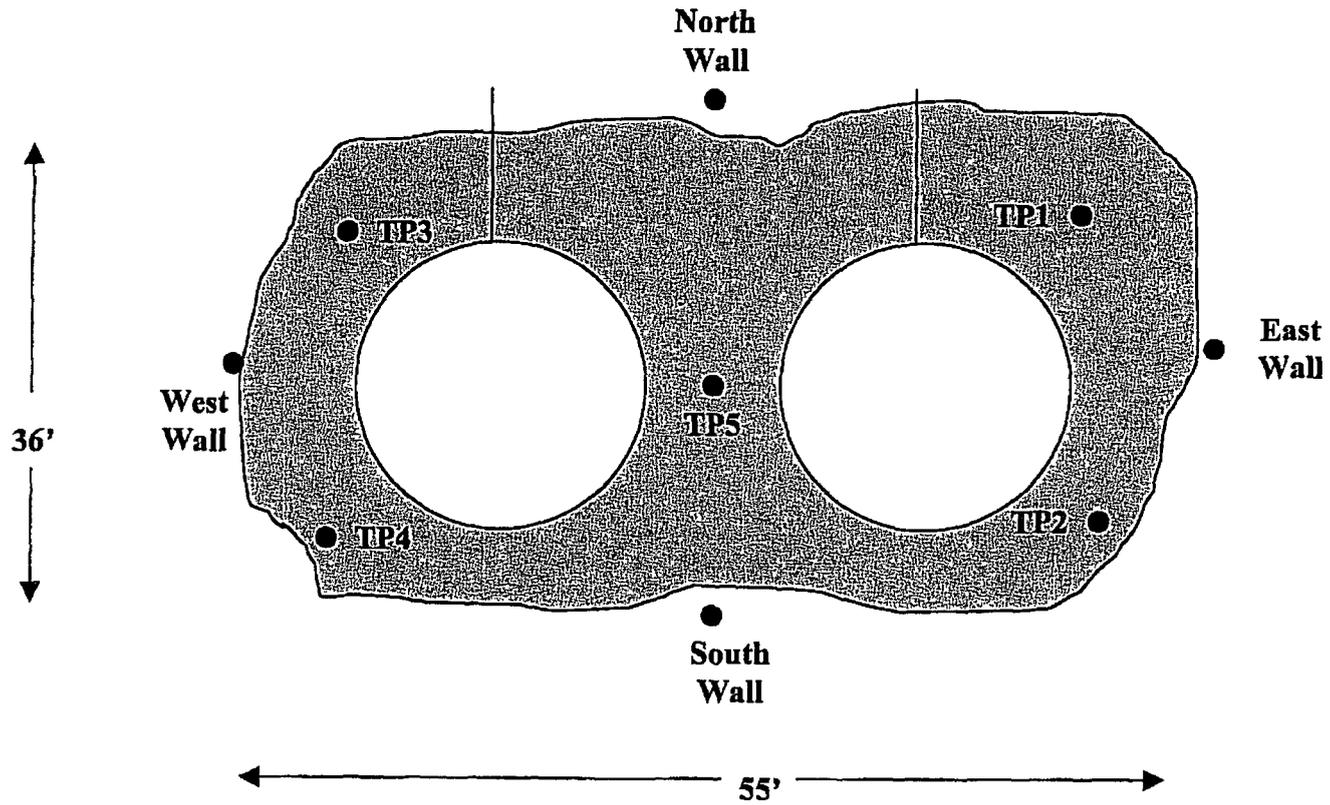
Sincerely,



Logan Anderson

**Oxy USA**  
Caleb State #1 Battery

Plat Map



# Elke Environmental, Inc.

P.O. Box 14167 Odessa, TX 79768

## Field Analytical Report Form

Client Oxy USA Analyst Curtis Elam

Site Caleb State #1

Sample ID	Date	Depth	TPH / PPM	CI / PPM	PID / PPM	GPS
TP1	9-24-09	Surface	1,480	7,231	33.1	33° 29.243' N 103° 37.621' W
TP1	9-24-09	2'	7,680	1,930	26.7	33° 29.243' N 103° 37.621' W
TP1	9-24-09	4'	6,510	612	41.3	33° 29.243' N 103° 37.621' W
TP1	9-24-09	6'	855	100	11.4	33° 29.243' N 103° 37.621' W
TP2	9-24-09	Surface	2,303	8,201	46.2	33° 29.241' N 103° 37.621' W
TP2	9-24-09	2'	5,964	2,107	71.1	33° 29.241' N 103° 37.621' W
TP2	9-24-09	4'	3,681	721	36.5	33° 29.241' N 103° 37.621' W
TP2	9-25-09	6'	1,300	562	19.9	33° 29.241' N 103° 37.621' W
TP2	9-25-09	8'	900	471	17.7	33° 29.241' N 103° 37.621' W
TP2	9-25-09	10'	100	200	14.6	33° 29.241' N 103° 37.621' W
TP3	9-24-09	Surface	1,502	12,332	210	33° 29.243' N 103° 37.630' W
TP3	9-24-09	2'	6,321	1,008	198	33° 29.243' N 103° 37.630' W
TP3	9-24-09	4'	5,480	1,000	145	33° 29.243' N 103° 37.630' W
TP3	9-25-09	6'	5,100	962	233	33° 29.243' N 103° 37.630' W
TP3	9-25-09	8'	4,790	381	234	33° 29.243' N 103° 37.630' W
TP3	9-25-09	10'	1,560	200	136	33° 29.243' N 103° 37.630' W
TP3	9-25-09	12'	23	154	93.7	33° 29.243' N 103° 37.630' W

Analyst Notes \_\_\_\_\_

# Elke Environmental, Inc.

P.O. Box 14167 Odessa, TX 79768

## Field Analytical Report Form

Client Oxy USA Analyst Curtis Elam

Site Caleb State #1

Sample ID	Date	Depth	TPH / PPM	CI / PPM	PID / PPM	GPS
TP4	9-24-09	Surface	1,267	600	403	33° 29.239' N 103° 37.630' W
TP4	9-24-09	2'	1,621	1,503	501	33° 29.239' N 103° 37.630' W
TP4	9-25-09	4'	1,115	230	458	33° 29.239' N 103° 37.630' W
TP4	9-25-09	6'	1,268	373	477	33° 29.239' N 103° 37.630' W
TP4	9-25-09	8'	1,360	280	495	33° 29.239' N 103° 37.630' W
TP4	9-25-09	10'	8,150	150	371	33° 29.239' N 103° 37.630' W
TP4	9-25-09	12'	24	175	92.9	33° 29.239' N 103° 37.630' W
TP5	9-24-09	Surface	1,431	9,213	302	33° 29.241' N 103° 37.626' W
TP5	9-24-09	2'	10,430	1,043	388	33° 29.241' N 103° 37.626' W
TP5	9-25-09	4'	2,350	1,350	210	33° 29.241' N 103° 37.626' W
TP5	9-25-09	6'	713	1,700	104	33° 29.241' N 103° 37.626' W
TP5	9-25-09	8'	322	370	39.6	33° 29.241' N 103° 37.626' W
TP5	9-25-09	10'	13	214	17.1	33° 29.241' N 103° 37.626' W
North Wall	9-25-09	Surface	37	190	11.3	33° 29.243' N 103° 37.629' W
South Wall	9-25-09	Surface	45	210	11.7	33° 29.237' N 103° 37.630' W
East Wall	9-25-09	Surface	33	175	2.9	33° 29.240' N 103° 37.623' W
West Wall	9-25-09	Surface	38	156	23.4	33° 29.239' N 103° 37.635' W

Analyst Notes \_\_\_\_\_



# WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

[www.ose.state.nm.us](http://www.ose.state.nm.us)

1. GENERAL AND WELL LOCATION	POD NUMBER (WELL NUMBER) <b>CALEB STATE #1 UNIT K SB-1</b>		1 OF 2		OSE FILE NUMBER(S)			
	WELL OWNER NAME(S) <b>OXY USA</b>				PHONE (OPTIONAL)			
	WELL OWNER MAILING ADDRESS <b>P.O. BOX 1988</b>				CITY <b>CARLSBAD</b>	STATE <b>NM</b>	ZIP <b>88221</b>	
	WELL LOCATION (FROM GPS)	DEGREES LATITUDE <b>33</b>	MINUTES <b>29</b>	SECONDS <b>16.00 N</b>	* ACCURACY REQUIRED ONE TENTH OF A SECOND			
	LONGITUDE <b>103</b>	<b>37</b>	<b>40.00 W</b>	* DATUM REQUIRED WGS 84				
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS <b>MAIN ST TATUM GO 21.7 M W ON 380 TO MORRE RD GO N 7.8 M TO MCGUFFIN RD GO E FOLLOW GPS, LEA CO</b>								
2. OPTIONAL	(2.5 ACRE) $\frac{1}{4}$	(10 ACRE) $\frac{1}{4}$	(40 ACRE) $\frac{1}{4}$	(160 ACRE) $\frac{1}{4}$	SECTION	TOWNSHIP <input type="checkbox"/> NORTH <input type="checkbox"/> SOUTH	RANGE <input type="checkbox"/> EAST <input type="checkbox"/> WEST	
	SUBDIVISION NAME				LOT NUMBER	BLOCK NUMBER	UNIT/TRACT	
	HYDROGRAPHIC SURVEY					MAP NUMBER	TRACT NUMBER	
3. DRILLING INFORMATION	LICENSE NUMBER <b>WD1478</b>	NAME OF LICENSED DRILLER <b>EDWARD BRYAN</b>			NAME OF WELL DRILLING COMPANY <b>STRAUB CORPORATION</b>			
	DRILLING STARTED <b>11-2-09</b>	DRILLING ENDED <b>11-2-09</b>	DEPTH OF COMPLETED WELL (FT) <b>0</b>	BORE HOLE DEPTH (FT) <b>150</b>	DEPTH WATER FIRST ENCOUNTERED (FT)			
	COMPLETED WELL IS <input type="checkbox"/> ARTESIAN <input checked="" type="checkbox"/> DRY HOLE <input type="checkbox"/> SHALLOW (UNCONFINED)				STATIC WATER LEVEL IN COMPLETED WELL (FT) <b>N/A</b>			
	DRILLING FLUID <input checked="" type="checkbox"/> AIR <input type="checkbox"/> MUD <input type="checkbox"/> ADDITIVES - SPECIFY							
	DRILLING METHOD <input checked="" type="checkbox"/> ROTARY <input type="checkbox"/> HAMMER <input type="checkbox"/> CABLE TOOL <input type="checkbox"/> OTHER - SPECIFY							
	DEPTH (FT)		BORE HOLE DIA. (IN)	CASING MATERIAL	CONNECTION TYPE (CASING)	INSIDE DIA. CASING (IN)	CASING WALL THICKNESS (IN)	SLOT SIZE (IN)
	FROM	TO						
	<b>0</b>	<b>150</b>	<b>5</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>
4. WATER BEARING STRATA	DEPTH (FT)		THICKNESS (FT)	FORMATION DESCRIPTION OF PRINCIPAL WATER-BEARING STRATA (INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES)	YIELD (GPM)			
	FROM	TO						
METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA				TOTAL ESTIMATED WELL YIELD (GPM)				

FOR OSE INTERNAL USE

WELL RECORD & LOG (Version 6/9/08)

FILE NUMBER	POD NUMBER	TRN NUMBER
LOCATION	PAGE 1 OF 2	

<b>5. SEAL AND PUMP</b>	TYPE OF PUMP	<input type="checkbox"/> SUBMERSIBLE <input type="checkbox"/> JET <input type="checkbox"/> NO PUMP - WELL NOT EQUIPPED <input type="checkbox"/> TURBINE <input type="checkbox"/> CYLINDER <input type="checkbox"/> OTHER - SPECIFY:					
	ANNULAR SEAL AND GRAVEL PACK	DEPTH (FT)		BORE HOLE DIA. (IN)	MATERIAL TYPE AND SIZE	AMOUNT (CUBIC FT)	METHOD OF PLACEMENT
		FROM	TO				
		0	2	5	.5 BAGS OF CEMENT		TOPLOAD
2	150	5	32 BAGS OF 3/8 PLUG		TOPLOAD		

<b>6. GEOLOGIC LOG OF WELL</b>	DEPTH (FT)		THICKNESS (FT)	COLOR AND TYPE OF MATERIAL ENCOUNTERED (INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES)	WATER BEARING?	
	FROM	TO			<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
	0	3	3	CALICHE- TAN FINE SAND- SANDSTONE	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
	3	24	21	TAN FINE SAND - SANDSTONE	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
	24	28	4	RED SILTY SAND	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
	28	31	3	RED SILTY SAND- CLAY	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
	31	50	19	TAN FINE SAND - SANDSTONE	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
	50	54	4	BIEGE FINE- VERY SAND - SANDSTONE	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
	54	55	1	TANNISH GREEN SILTY CLAY	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
	55	58	3	TAN FINE SAND - SANDSTONE	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
	58	61	3	TANNISH GREEN SILTY CLAY-SAND	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
	61	68	7	TAN FINE SAND-SANDSTONE- CLAY (LAYERS)	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
	68	72	4	GRAY SILTY CLAY	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
	72	79	7	RED & GRAY SILT CLAY LAYERS LAMINATED W/ FINE SAND	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
	79	82	3	RED SILTY CLAY - SILTY SAND (DARK)	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
	82	83	1	TAN VERY FINE SAND - SANDSTONE	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
83	85	2	DARK GRAY VERY FINE SAND - SANDSTONE	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO	
85	91	6	DARK BROWN VERY FINE SAND - W/ CLAY	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO	
91	109	18	TAN FINE SAND - SANDSTONE - RED CLAY	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO	
ATTACH ADDITIONAL PAGES AS NEEDED TO FULLY DESCRIBE THE GEOLOGIC LOG OF THE WELL						

<b>7. TEST &amp; ADDITIONAL INFO</b>	WELL TEST	METHOD. <input type="checkbox"/> BAILER <input type="checkbox"/> PUMP <input type="checkbox"/> AIR LIFT <input type="checkbox"/> OTHER - SPECIFY:			
		TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.			
ADDITIONAL STATEMENTS OR EXPLANATIONS					
SOIL BORING ONLY- SOIL BORING WAS PLUGGED AND ABANDONED UPON COMPLETION OF SAMPLING					

<b>8. SIGNATURE</b>	THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 30 DAYS AFTER COMPLETION OF WELL DRILLING.				
	_____	_____			
	SIGNATURE OF DRILLER	DATE			

FOR USE INTERNAL USE		WELL RECORD & LOG (Version 6/9/08)	
FILE NUMBER	POD NUMBER	TRN NUMBER	
LOCATION			PAGE 2 OF 2



# WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

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		LONGITUDE <b>103</b>	<b>37</b>	<b>40.00</b>	W			
* ACCURACY REQUIRED ONE TENTH OF A SECOND * DATUM REQUIRED WGS 84								
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS <b>MAIN ST TATUM GO 21.7 M W ON 380 TO MORRE RD GO N 7.8 M TO MCGUFFIN RD GO E FOLLOW GPS, LEA CO</b>								
<b>2. OPTIONAL</b>	(2.5 ACRE) <b>¼</b>	(10 ACRE) <b>¼</b>	(40 ACRE) <b>¼</b>	(160 ACRE) <b>¼</b>	SECTION	TOWNSHIP <input type="checkbox"/> NORTH <input type="checkbox"/> SOUTH	RANGE <input type="checkbox"/> EAST <input type="checkbox"/> WEST	
	SUBDIVISION NAME				LOT NUMBER	BLOCK NUMBER	UNIT/TRACT	
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	COMPLETED WELL IS <input type="checkbox"/> ARTESIAN <input checked="" type="checkbox"/> DRY HOLE <input type="checkbox"/> SHALLOW (UNCONFINED)				STATIC WATER LEVEL IN COMPLETED WELL (FT) <b>N/A</b>			
	DRILLING FLUID <input checked="" type="checkbox"/> AIR <input type="checkbox"/> MUD <input type="checkbox"/> ADDITIVES - SPECIFY							
	DRILLING METHOD <input checked="" type="checkbox"/> ROTARY <input type="checkbox"/> HAMMER <input type="checkbox"/> CABLE TOOL <input type="checkbox"/> OTHER - SPECIFY							
	DEPTH (FT)		BORE HOLE DIA. (IN)	CASING MATERIAL	CONNECTION TYPE (CASING)	INSIDE DIA CASING (IN)	CASING WALL THICKNESS (IN)	SLOT SIZE (IN)
	FROM	TO						
	<b>0</b>	<b>150</b>	<b>5</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>
<b>4. WATER BEARING STRATA</b>	DEPTH (FT)		THICKNESS (FT)	FORMATION DESCRIPTION OF PRINCIPAL WATER-BEARING STRATA (INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES)			YIELD (GPM)	
	FROM	TO						
METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA					TOTAL ESTIMATED WELL YIELD (GPM)			

FOR OSE INTERNAL USE

WELL RECORD & LOG (Version 6/9/08)

FILE NUMBER	POD NUMBER	TRN NUMBER
LOCATION	PAGE 1 OF 2	

<b>5. SEAL AND PUMP</b>	TYPE OF PUMP <input type="checkbox"/> SUBMERSIBLE <input type="checkbox"/> JET <input type="checkbox"/> NO PUMP - WELL NOT EQUIPPED <input type="checkbox"/> TURBINE <input type="checkbox"/> CYLINDER <input type="checkbox"/> OTHER - SPECIFY:						
	ANNULAR SEAL AND GRAVEL PACK	DEPTH (FT)		BORE HOLE DIA. (IN)	MATERIAL TYPE AND SIZE	AMOUNT (CUBIC FT)	METHOD OF PLACEMENT
		FROM	TO				
	0	2	5	.5 BAGS OF CEMENT		TOPLOAD	
	2	150	5	32 BAGS OF 3/8 PLUG		TOPLOAD	

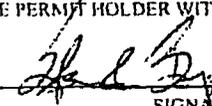
  

<b>6. GEOLOGIC LOG OF WELL</b>	DEPTH (FT)		THICKNESS (FT)	COLOR AND TYPE OF MATERIAL ENCOUNTERED (INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES)	WATER BEARING?		
	FROM	TO			<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO	
		109	113	4	TAN FINE SAND - SANDSTONE	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
		113	125	12	GRAY FINE SAND - SANDSTONE	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
		125	132	7	TAN FINE SAND - SANDSTONE	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
		132	150	18	GRAY SILTY CLAY	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
		TD	150			<input type="checkbox"/> YES	<input type="checkbox"/> NO
						<input type="checkbox"/> YES	<input type="checkbox"/> NO
						<input type="checkbox"/> YES	<input type="checkbox"/> NO
						<input type="checkbox"/> YES	<input type="checkbox"/> NO
						<input type="checkbox"/> YES	<input type="checkbox"/> NO
						<input type="checkbox"/> YES	<input type="checkbox"/> NO
						<input type="checkbox"/> YES	<input type="checkbox"/> NO
						<input type="checkbox"/> YES	<input type="checkbox"/> NO
	ATTACH ADDITIONAL PAGES AS NEEDED TO FULLY DESCRIBE THE GEOLOGIC LOG OF THE WELL						

<b>7. TEST &amp; ADDITIONAL INFO</b>	WELL TEST	METHOD <input type="checkbox"/> BAILER <input type="checkbox"/> PUMP <input type="checkbox"/> AIR LIFT <input type="checkbox"/> OTHER - SPECIFY:
		TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.
ADDITIONAL STATEMENTS OR EXPLANATIONS		
SOIL BORING ONLY- SOIL BORING WAS PLUGGED AND ABANDONED UPON COMPLETION OF SAMPLING		

<b>8. SIGNATURE</b>	I, THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 20 DAYS AFTER COMPLETION OF WELL DRILLING:	
	 _____ SIGNATURE OF DRILLER	11/4/09 _____ DATE

FOR USE INTERNAL USE

WELL RECORD & LOG (Version 6/9/08)

FILE NUMBER	POD NUMBER	TRN NUMBER
LOCATION	PAGE 2 OF 2	

# Analytical Report 347437

for

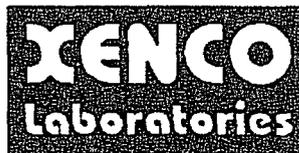
**Elke Environmental, Inc.**

**Project Manager: Logan Anderson**

**Oxy Caleb State # 1 Battery**

**Oxy Caleb State # 1 Battery**

**12-OCT-09**



**12600 West I-20 East Odessa, Texas 79765**

**Xenco-Houston (EPA Lab code: TX00122):**

Texas (T104704215-08-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)  
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)  
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)  
Rhode Island (LAO00308), USDA (S-44102)

**Xenco-Atlanta (EPA Lab Code: GA00046):**

Florida (E87428), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85)  
Louisiana (04176), USDA (P330-07-00105)

**Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)**

**Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)**

**Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-08-TX)**

**Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-08-TX)**

**Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370-08-TX)**

**Xenco-Boca Raton (EPA Lab Code: FL00449): Florida (E86240),**

**South Carolina (96031001), Louisiana (04154), Georgia (917)**



12-OCT-09

Project Manager: **Logan Anderson**  
**Elke Environmental, Inc.**  
P.O. Box 14167  
Odessa, TX 79768

Reference: XENCO Report No: **347437**  
**Oxy Caleb State # 1 Battery**  
Project Address: Oxy Caleb State # 1 Battery

**Logan Anderson:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 347437. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 347437 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

---

**Brent Barron, II**

Odessa Laboratory Manager

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**Sample Cross Reference 347437**



**Elke Environmental, Inc., Odessa, TX**

**Oxy Caleb State # 1 Battery**

<b>Sample Id</b>	<b>Matrix</b>	<b>Date Collected</b>	<b>Sample Depth</b>	<b>Lab Sample Id</b>
TP1 @ 6'	S	Sep-25-09 08:00	6 ft	347437-001
TP2 @ 10'	S	Sep-25-09 09:00	10 ft	347437-002
TP3 @ 12'	S	Sep-25-09 09:45	12 ft	347437-003
TP4 @ 12'	S	Sep-25-09 10:30	12 ft	347437-004
TP5 @ 10'	S	Sep-25-09 13:00	10 ft	347437-005

## CASE NARRATIVE



*Client Name: Elke Environmental, Inc.*

*Project Name: Oxy Caleb State # 1 Battery*

*Project ID: Oxy Caleb State # 1 Battery*  
*Work Order Number: 347437*

*Report Date: 12-OCT-09*  
*Date Received: 10/07/2009*

---

**Sample receipt non conformances and Comments:**

None

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**Sample receipt Non Conformances and Comments per Sample:**

None

**Analytical Non Conformances and Comments:**

Batch: LBA-776121 Inorganic Anions by EPA 300

None

Batch: LBA-776132 Percent Moisture

None

Batch: LBA-776370 TX1005

Batch 776370, 1-Chlorooctane recovered below QC limits; Data not confirmed by re-analysis.

~~Matrix interference is suspected in sample surrogate failures.~~

---

~~o-Terphenyl recovered below QC limits; Data not confirmed by re-analysis. Matrix interferences is suspected in sample surrogate failures.~~

~~Samples affected are: 347437-001 S, 347437-001 SD~~

C6-C12 Gasoline Range Hydrocarbons recovered above QC limits in the Matrix Spike Duplicate.

Samples affected are: 347437-001

C6-C12 Gasoline Range Hydrocarbons recovered within QC limits in the Laboratory Control Sample.



# Certificate of Analysis Summary 347437

Elke Environmental, Inc., Odessa, TX

Project Name: Oxy Caleb State # 1 Battery



Project Id: Oxy Caleb State # 1 Battery

Contact: Logan Anderson

Project Location: Oxy Caleb State # 1 Battery

Date Received in Lab: Wed Oct-07-09 11:50 am

Report Date: 12-OCT-09

Project Manager: Brent Barron, II

Analysis Requested	Lab Id:	347437-001	347437-002	347437-003	347437-004	347437-005	
	<i>Field Id:</i>	TP1 @ 6'	TP2 @ 10'	TP3 @ 12'	TP4 @ 12'	TP5 @ 10'	
	<i>Depth:</i>	6 ft	10 ft	12 ft	12 ft	10 ft	
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	
	<i>Sampled:</i>	Sep-25-09 08:00	Sep-25-09 09:00	Sep-25-09 09:45	Sep-25-09 10:30	Sep-25-09 13:00	
<b>Anions by E300</b>	<i>Extracted:</i>						
	<i>Analyzed:</i>	Oct-07-09 20:19					
	<i>Units/RL:</i>	mg/kg RL					
Chloride		51.3 4.36	124 4.45	148 4.78	28.3 4.22	88.2 4.45	
<b>Percent Moisture</b>	<i>Extracted:</i>						
	<i>Analyzed:</i>	Oct-07-09 17:00					
	<i>Units/RL:</i>	% RL					
Percent Moisture		3.73 1.00	5.69 1.00	12.1 1.00	ND 1.00	5.54 1.00	
<b>TPH By SW8015 Mod</b>	<i>Extracted:</i>	Oct-08-09 10:00					
	<i>Analyzed:</i>	Oct-09-09 04:01	Oct-09-09 04:28	Oct-09-09 05:51	Oct-09-09 06:19	Oct-09-09 06:46	
	<i>Units/RL:</i>	mg/kg RL					
C6-C12 Gasoline Range Hydrocarbons		ND 15.6	ND 15.9	ND 17.1	ND 15.1	ND 15.9	
C12-C28 Diesel Range Hydrocarbons		23.1 15.6	23.0 15.9	26.1 17.1	ND 15.1	24.1 15.9	
C28-C35 Oil Range Hydrocarbons		ND 15.6	ND 15.9	ND 17.1	ND 15.1	ND 15.9	
Total TPH		23.1 15.6	23.0 15.9	26.1 17.1	ND 15.1	24.1 15.9	

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Since 1990 Houston - Dallas - San Antonio - Austin - Tampa - Miami - Latin America - Atlanta - Corpus Christi

  
 Brent Barron, II  
 Odessa Laboratory Manager



# Flagging Criteria



- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to effect the recovery of the spike concentration. This condition could also effect the relative percent difference in the MS/MSD.
  - B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
  - D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
  - E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
  - F** RPD exceeded lab control limits.
  - J** The target analyte was positively identified below the MQL and above the SQL.
  - U** Analyte was not detected.
  - L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
  - H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
  - K** Sample analyzed outside of recommended hold time.
  - JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- BRL** Below Reporting Limit.
- RL** Reporting Limit
- \* Outside XENCO's scope of NELAC Accreditation.

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4143 Greenbriar Dr, Stafford, Tx 77477	(281) 240-4200	(281) 240-4280
9701 Harry Hines Blvd , Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
5757 NW 158th St, Miami Lakes, FL 33014	(305) 823-8500	(305) 823-8555
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
842 Cantwell Lane, Corpus Christi, TX 78408	(361) 884-0371	(361) 884-9116



# Form 2 - Surrogate Recoveries

Project Name: Oxy Caleb State # 1 Battery

Work Orders : 347437,

Project ID: Oxy Caleb State # 1 Battery

Lab Batch #: 776370

Sample: 540098-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg		Date Analyzed: 10/08/09 22:35	SURROGATE RECOVERY STUDY			
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		135	100	135	70-135	
o-Terphenyl		47.9	50.0	96	70-135	

Lab Batch #: 776370

Sample: 540098-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg		Date Analyzed: 10/08/09 23:03	SURROGATE RECOVERY STUDY			
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		129	100	129	70-135	
o-Terphenyl		42.2	50.0	84	70-135	

Lab Batch #: 776370

Sample: 540098-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg		Date Analyzed: 10/08/09 23:31	SURROGATE RECOVERY STUDY			
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		101	100	101	70-135	
o-Terphenyl		52.3	50.0	105	70-135	

Lab Batch #: 776370

Sample: 347437-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg		Date Analyzed: 10/09/09 04:01	SURROGATE RECOVERY STUDY			
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		101	100	101	70-135	
o-Terphenyl		50.7	50.0	101	70-135	

Lab Batch #: 776370

Sample: 347437-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg		Date Analyzed: 10/09/09 04:28	SURROGATE RECOVERY STUDY			
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		99.3	100	99	70-135	
o-Terphenyl		50.8	50.0	102	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B

All results are based on MDL and validated for QC purposes.



# Form 2 - Surrogate Recoveries

Project Name: Oxy Caleb State # 1 Battery

Work Orders : 347437,

Project ID: Oxy Caleb State # 1 Battery

Lab Batch #: 776370

Sample: 347437-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/09/09 05:51

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	102	100	102	70-135	
o-Terphenyl	52.7	50.0	105	70-135	

Lab Batch #: 776370

Sample: 347437-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/09/09 06:19

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	91.4	100	91	70-135	
o-Terphenyl	44.7	50.0	89	70-135	

Lab Batch #: 776370

Sample: 347437-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/09/09 06:46

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	93.3	100	93	70-135	
o-Terphenyl	47.6	50.0	95	70-135	

Lab Batch #: 776370

Sample: 347437-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/09/09 15:49

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	25.2	100	25	70-135	*
o-Terphenyl	3.22	50.0	6	70-135	*

Lab Batch #: 776370

Sample: 347437-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/09/09 16:16

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	31.6	100	32	70-135	*
o-Terphenyl	13.7	50.0	27	70-135	*

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B

All results are based on MDL and validated for QC purposes.



# Blank Spike Recovery



Project Name: Oxy Caleb State # 1 Battery

Work Order #: 347437

Project ID: Oxy Caleb State # 1 Battery

Lab Batch #: 776121

Sample: 776121-1-BKS

Matrix: Solid

Date Analyzed: 10/07/2009

Date Prepared: 10/07/2009

Analyst: LATCOR

Reporting Units: mg/kg

Batch #: 1

## BLANK /BLANK SPIKE RECOVERY STUDY

Anions by E300 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Chloride	ND	10.0	10.2	102	75-125	

Blank Spike Recovery [D] =  $100 * [C] / [B]$

All results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit



# BS / BSD Recoveries



**Project Name: Oxy Caleb State # 1 Battery**

**Work Order #: 347437**

**Analyst: BHW**

**Lab Batch ID: 776370**

**Sample: 540098-1-BKS**

**Units: mg/kg**

**Date Prepared: 10/08/2009**

**Batch #: 1**

**Project ID: Oxy Caleb State # 1 Battery**

**Date Analyzed: 10/08/2009**

**Matrix: Solid**

## BLANK / BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
C6-C12 Gasoline Range Hydrocarbons	ND	1000	1100	110	1000	1080	108	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	22.0	1000	923	92	1000	886	89	4	70-135	35	

Relative Percent Difference RPD =  $200 * (C - F) / (C + F)$

Blank Spike Recovery [D] =  $100 * (C) / [B]$

Blank Spike Duplicate Recovery [G] =  $100 * (F) / [E]$

All results are based on MDL and Validated for QC Purposes



# Form 3 - MS Recoveries



Project Name: Oxy Caleb State # 1 Battery

Work Order #: 347437

Lab Batch #: 776121

Project ID: Oxy Caleb State # 1 Battery

Date Analyzed: 10/07/2009

Date Prepared: 10/07/2009

Analyst: LATCOR

QC- Sample ID: 347430-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

### MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	3910	2120	6330	114	75-125	

Matrix Spike Percent Recovery [D] =  $100 \cdot (C-A)/B$   
 Relative Percent Difference [E] =  $200 \cdot (C-A)/(C+B)$   
 All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



# Form 3 - MS / MSD Recoveries



Project Name: Oxy Caleb State # 1 Battery

Work Order #: 347437

Project ID: Oxy Caleb State # 1 Battery

Lab Batch ID: 776370

QC- Sample ID: 347437-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 10/09/2009

Date Prepared: 10/08/2009

Analyst: BEV

Reporting Units: mg/kg

### MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	ND	1040	1200	115	1040	1480	142	21	70-135	35	X
C12-C28 Diesel Range Hydrocarbons	23.1	1040	1080	102	1040	1250	118	15	70-135	35	

Matrix Spike Percent Recovery [D] = 100\*(C-A)/B  
Relative Percent Difference RPD = 200\*((C-F)/(C+F))

Matrix Spike Duplicate Percent Recovery [G] = 100\*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable  
N = See Narrative, EQL = Estimated Quantitation Limit



# Sample Duplicate Recovery



**Project Name: Oxy Caleb State # 1 Battery**

**Work Order #: 347437**

**Lab Batch #: 776121**

**Date Analyzed: 10/07/2009**

**QC- Sample ID: 347430-001 D**

**Reporting Units: mg/kg**

**Date Prepared: 10/07/2009**

**Batch #: 1**

**Project ID: Oxy Caleb State # 1 Battery**

**Analyst: LATCOR**

**Matrix: Soil**

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Anions by E300  Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	3910	3920	0	20	

**Lab Batch #: 776132**

**Date Analyzed: 10/07/2009**

**QC- Sample ID: 347380-012 D**

**Reporting Units: %**

**Date Prepared: 10/07/2009**

**Batch #: 1**

**Analyst: WRU**

**Matrix: Soil**

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture  Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	14.5	14.3	1	20	

Spike Relative Difference  $RPD = 200 * |(B-A)/(B+A)|$   
 All Results are based on MDL and validated for QC purposes.  
 BRL - Below Reporting Limit



**Environmental Lab of Texas**  
Variance/ Corrective Action Report- Sample Log-In

Client: Ellie Env.  
 Date/ Time: 10-7-09 11:50  
 Lab ID #: 347437  
 Initials: AL

**Sample Receipt Checklist**

	(Yes)	No	Client Initials
#1 Temperature of container/ cooler?	(Yes)	No	31 °C
#2 Shipping container in good condition?	(Yes)	No	
#3 Custody Seals intact on shipping container/ cooler?	Yes	No	Not Present
#4 Custody Seals intact on sample bottles/ container?	(Yes)	No	Not Present
#5 Chain of Custody present?	(Yes)	No	
#6 Sample instructions complete of Chain of Custody?	(Yes)	No	
#7 Chain of Custody signed when relinquished/ received?	(Yes)	No	
#8 Chain of Custody agrees with sample label(s)?	(Yes)	No	ID written on Cont./ Lid
#9 Container label(s) legible and intact?	(Yes)	No	Not Applicable
#10 Sample matrix/ properties agree with Chain of Custody?	(Yes)	No	
#11 Containers supplied by ELOT?	(Yes)	No	
#12 Samples in proper container/ bottle?	(Yes)	No	See Below
#13 Samples properly preserved?	(Yes)	No	See Below
#14 Sample bottles intact?	(Yes)	No	
#15 Preservations documented on Chain of Custody?	(Yes)	No	
#16 Containers documented on Chain of Custody?	(Yes)	No	
#17 Sufficient sample amount for indicated test(s)?	(Yes)	No	See Below
#18 All samples received within sufficient hold time?	(Yes)	No	See Below
#19 Subcontract of sample(s)?	Yes	No	Not Applicable
#20 VOC samples have zero headspace?	(Yes)	No	Not Applicable

**Variance Documentation**

Contact: \_\_\_\_\_ Contacted by: \_\_\_\_\_ Date/ Time: \_\_\_\_\_

Regarding: \_\_\_\_\_

Corrective Action Taken:

- Check all that Apply:
- See attached e-bill/ fax
  - Client understands and would like to proceed with analysis
  - Cooling process had begun shortly after sampling event

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, Artesia, 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 October 10, 2003

Submit 2 Copies to appropriate  
District Office in accordance  
with Rule 116 on back  
side of form

**Release Notification and Corrective Action**

**OPERATOR**

Initial Report  Final Report

Name of Company - OXY USA	Contact - Kelton Beard
Address - 1502 W. Commerce Carlsbad, NM 88220	Telephone No. - (O) 575-628-4100
Facility Name - Caleb State #1 Battery	Facility Type - Tank Battery
Surface Owner - State	Mineral Owner
Lease No. 30-025-37497	

**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
K	36	9S	32E					LEA

Latitude 33° 29.243' N Longitude 103° 37.621' W

**NATURE OF RELEASE**

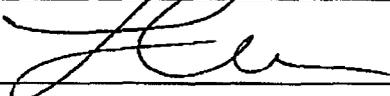
Type of Release - Produced Water	Volume of Release - 30 bbls	Volume Recovered - 0 bbls
Source of Release - Tank	Date and Hour of Occurrence	Date and Hour of Discovery 9-19-09 @ 9am
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Geoffrey Leking	
By Whom? Kelton Beard	Date and Hour See above	
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.\* Corrosion caused a hole to form in the bottom of the tank. A vertical and horizontal delineation of the site was completed with a backhoe. A borehole was drilled to determine groundwater, the borehole was drilled to 150' and left open for 72 hours. After 72 hours an interface probe was used to check for water in the borehole and the hole was dry. The borehole was plugged with bentonite pellets. The ranking criteria for this site is as follows: Surface Body of Water - 0 points; Wellhead Protection Area - 0 points; Groundwater Depth - 0 points (GW =>150'). The total ranking for the site is 0 points. RAL's for the site are Chloride - 250 ppm, TPH - 5,000 ppm and BTEX - 100 ppm (using field vapor headspace measurement). Attached is a plat map, field analytical, driller's log and lab confirmation for the site.

Describe Area Affected and Cleanup Action Taken.\* Oxy USA proposes to excavate all impacted soil to a depth of 12" and haul to Gandy Marley Disposal. A 20 mil poly liner will be installed at 12" and the excavation will be backfilled with clean native soil. The site will not be re-seeded since the site is a caliche pad for a battery. A final report will be submitted at the completion of the remediation.

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: 	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Logan Anderson	Approved by District Supervisor:	
Title: Consultant	Approval Date:	Expiration Date:
E-mail Address: la elkeenv@yahoo.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 12-3-2009	Phone: 432-366-0043	

\* Attach Additional Sheets If Necessary

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**Release Notification and Corrective Action**

**OPERATOR**

Initial Report  Final Report

Name of Company OXY USA	Contact Kelton Beard
Address 1502 W. Commerce Carlsbad, NM 88220	Telephone No. (O) 575-628-4100
Facility Name Caleb State #1	Facility Type Tank Battery

Surface Owner State	Mineral Owner	Lease No.
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**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
K	36	9S	32E					LEA

Latitude \_\_\_\_\_ Longitude \_\_\_\_\_

**NATURE OF RELEASE**

Type of Release Produced Water	Volume of Release 30bbbls	Volume Recovered 0
Source of Release Tank	Date and Hour of Occurrence	Date and Hour of Discovery 9-19-09 @ 9am
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Geoffrey Leking	
By Whom? Kelton Beard	Date and Hour See above	
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.\*  
Corrosion caused a hole to form in the bottom of the tank

Describe Area Affected and Cleanup Action Taken.\*  
The area affected was inside the containment around the battery

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:		<b><u>OIL CONSERVATION DIVISION</u></b>	
Printed Name: Kelton Beard		Approved by District Supervisor:	
Title: HES Specialist		Approval Date:	Expiration Date:
E-mail Address: kelton_beard@oxy.com		Conditions of Approval:	
Date: 9-21-2009		Attached <input type="checkbox"/>	

\* Attach Additional Sheets If Necessary