

# CLOSURE REPORT

## WEST LOVINGTON UNIT #55

NMOCD REF: 1RP #1226

EPI REF: 200066

API# 30025039160000

UL-F (SW¼ OF THE NE¼) OF SECTION 8 T17S R36E

~6 MILES SOUTH OF LOVINGTON

LEA COUNTY, NEW MEXICO

LATITUDE: N 32° 51' 04.38"

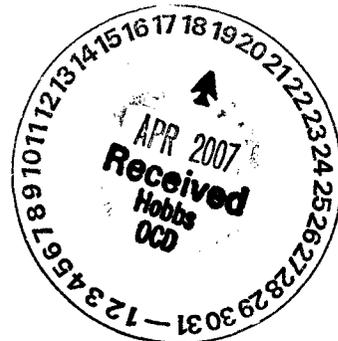
LONGITUDE: W 103° 22' 44.66"

### MARCH 2007

**PREPARED BY:**

ENVIRONMENTAL PLUS, INC.  
2100 AVENUE O  
EUNICE, NEW MEXICO 88231

**PREPARED FOR:**



incident - n PAC0711047384  
application - p PAC0711047503

# LETTER OF TRANSMITTAL

ENVIRONMENTAL PLUS, INC.



Date: April 19, 2007  
To: **Mr. Larry Johnson**  
Company Name: New Mexico Oil Conservation Division  
Address: 1625 French Drive  
City / State / Zip: Hobbs, New Mexico 88240  
From: David P. Duncan  
CC: Larry Williams, Chevron USA - Eunice, NM  
Darr Angell, Property Owner, Lovington, NM  
Project #: NMOCD Ref. 1RP#1226; EPI Ref. #200066  
Project Name: West Lovington Unit #55  
Subject: **Closure Report**

# of originals	# of copies	Description
1		Chevron USA – West Lovington Unit #55– Closure Report

## Remarks

Dear Mr. Johnson:

Enclosed is a hard bound copy of the *Closure Report* for the above referenced site. Upon approval of the document by the NMOCD, EPI will remit hard bound copies of the *Closure Report* to individuals noted on the Distribution List. Should you have any technical questions, concerns or need additional information, please contact me at (505) 394-3481 or via email at [dduncan@envplus.net](mailto:dduncan@envplus.net). Official correspondence should be directed to Mr. Larry Williams, Chevron USA, at (505) 396-4414 ext. #128 (office), (505) 390-7165 (cellular) or via e-mail at [lcwl@chevron.com](mailto:lcwl@chevron.com).

Sincerely,

David P. Duncan  
Civil Engineer



P. O. Box 1558  
Eunice, NM 88240  
(505) 394-3481  
Fax: (505) 394-2601



Distribution List

**Chevron USA – West Lovington Unit #55**  
**NMOCD Ref: IRP #1226; EPI Ref: 200066**

<b>Name</b>	<b>Title</b>	<b>Company or Agency</b>	<b>Mailing Address</b>	<b>e-mail</b>
Larry Johnson	Environmental Engineer	NMOCD – Hobbs	1625 French Drive Hobbs, NM 88240	larry.johnson@state.nm.us
Larry Williams	HES Champion	Chevron	P.O. Box 1949 Eunice, NM 88231	lcwl@chevron.com
Darr Angell	Property Owner	--	P.O. Box 190 Lovington, NM 88260	(505) 370-9048
File	--	Environmental Plus, Inc.	P.O. Box 1558 Eunice, NM 88231	dduncan@envplus.net



## STANDARD OF CARE

### Site Closure Report

West Lovington Unit #55

NMOCD Ref: 1RP #1226, (EPI Ref. #200066)

The information provided in this report was collected consistent with the New Mexico Oil Conservation Division (NMOCD) *Guidelines for Remediation of Leaks, Spills and Releases* (August 13, 1993), the NMOCD *Unlined Surface Impoundment Closure Guidelines* (February, 1993) and Environmental Plus, Inc. (EPI) *Standard Operating Procedures and Quality Assurance/Quality Control Plan*. The conclusions are based on field observations and laboratory analytical reports as presented in the report. Recommendations follow NMOCD guidance and represent the professional opinions of EPI staff. These opinions were derived using currently accepted geologic, hydro-geologic and engineering practices at this time and location. The report was prepared or reviewed by a certified or registered professional with a background in engineering, environmental and/or natural sciences.

Prepared by:

Brandon Farrar  
Environmental Consultant

4/19/07  
Date

Reviewed by:

David P. Duncan  
Civil Engineer

4/19/07  
Date



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- Appendix IV: Information and Metrics Form
  - Initial NMOCD Form C-141
  - Final NMOCD Form C-141



## 1.0 PROJECT SYNOPSIS

### *Site Specific:*

- ◆ **Company Name:** Chevron USA, Inc.
- ◆ **Facility Name:** West Lovington Unit #55
- ◆ **Project Reference:** NMOCD Ref: 1RP#1226; EPI Ref: #200066
- ◆ **Company Contacts:** Larry Williams
- ◆ **Site Location:** WGS84 N32° 51' 04.38"; W103° 22' 44.66"
- ◆ **Legal Description:** Unit Letter-F (SW¼ of the NE¼), Section 8, T17S, R36E
- ◆ **General Description:** Approximately 6-miles southeast of Lovington, New Mexico
- ◆ **Elevation:** 3,895-ft amsl
- ◆ **Land Ownership:** Darr Angell
- ◆ **EPI Personnel:** Project Consultant –Jason Stegemoller

### *Release Specific:*

- ◆ **Product Released:** Produced water
- ◆ **Volume Released:** Unknown     **Volume Recovered:** None
- ◆ **Time of Occurrence:** Unknown     **Time of Discovery:** Unknown
- ◆ **Release Source:** Flow-line failed
- ◆ **Initial Surface Area Affected:** ~ 3,130 square feet

### *Remediation Specific:*

- ◆ **Final Vertical extent of contamination:** Chlorides impact to 2-3 ft bgs
- ◆ **Depth to Ground Water:** Approximately 50-ft bgs
- ◆ **Water wells within 1,000-ft:** None
- ◆ **Private domestic water sources within 200-ft:** None
- ◆ **Surface water bodies within 1,000-ft:** None
- ◆ **NMOCD Site Ranking Index:** 10 points
- ◆ **Remedial goals for Soil:** TPH – 1,000 mg/Kg; BTEX – 50 mg/Kg; Benzene – 10 mg/Kg; Chloride residuals may not be capable of impacting groundwater above NMWQCC Groundwater Standards of 250 mg/L.
- ◆ **RCRA Waste Classification:** Exempt
- ◆ **Remediation Option Selected:** a) Most soil impacted above NMOCD remedial goals was excavated and disposed off site; b) laboratory analyses confirmed removal of most soil impacted above NMOCD remedial thresholds; c) backfilled excavation with clean soil.
- ◆ **Disposal Facility:** Unknown (excavation completed by another contractor)
- ◆ **Volume disposed:** Unknown (excavation completed by another contractor)
- ◆ **Project Completion Date:** February 28, 2007



## 2.0 SITE AND RELEASE INFORMATION

- 2.1 ***Describe the land use and pertinent geographic features within 1,000 feet of the site.***  
Land surrounding the area is rangeland and utilized for livestock grazing as well as oilfield operations.
- 2.2 ***Identify and describe the source or suspected source(s) of the release.***  
Flow-line failed.
- 2.3 ***What is the volume of the release? (if known):*** Unknown ***barrels of:*** Produced water
- 2.4 ***What is the volume recovered? (if any):*** 0 ***barrels***
- 2.5 ***When did the release occur? (if known):*** Unknown
- 2.6 ***Geological Description***  
*The United States Geological Survey (USGS) Ground-Water Report 6, "Geology and Ground-water Conditions in Southern Lea County, New Mexico," A. Nicholson and A. Clebsch, 1961,* describes the near surface geology of southern Lea County as "an intergrade of the Quaternary Alluvium (QA) sediments, i.e., fine to medium sand, with the mostly eroded Cenozoic Ogallala (CO) formation. Typically, the QA and CO formations in the area are capped by a thick interbed of caliche that was encountered between 5' and 10' bgs."
- 2.7 ***Ecological Description***  
The area is typical of the Upper Chihuahuan Desert Biome consisting primarily of sandy soil covered with short semi-arid grasses, interspersed with Honey Mesquite and forbs. Mammals represented include Orrd's and Merriam's Kangaroo Rats, Deer Mouse, White Throated Wood Rat, Cottontail Rabbit, Black Tailed Jackrabbit, Mule Deer, Bobcat, Red Fox and Coyote. Reptiles, amphibians and birds are numerous and typical of the area. A survey of Listed, Threatened or Endangered species was not conducted.
- 2.8 ***Area Groundwater***  
The unconfined groundwater aquifer at this site is projected to be ~50 feet (ft) bgs based on average water depth data obtained from the New Mexico State Engineers Office and the United States Geological Survey data base (reference *Table 1*).
- 2.9 ***Area Water Wells***  
No water well located within a 1,000-foot radius of the site (*Figure 2*).
- 2.10 ***Area Surface Water Features***  
No surface water features exist within a 1,000-foot radius of the site (reference *Figure 2*).



### 3.0 NMOCD SITE RANKING

Contaminant delineation and remedial work done at this site indicate chemical parameters of the soil and physical parameters of the groundwater were characterized consistent with the characterization and remediation/abatement goals and objectives set forth in the following New Mexico Oil Conservation Division (NMOCD) publications:

- ◆ *Guidelines for Remediation of Leaks, Spills and Releases (August 13, 1993)*
- ◆ *Unlined Surface Impoundment Closure Guidelines (February, 1993)*
- ◆ *Pit and Below-Grade Tank Guidelines (November, 2004)*

Acceptable thresholds for contaminants/constituents of concern (CoC) were determined based on the NMOCD Ranking Criteria as follows:

- ◆ *Depth to Groundwater ( i.e., distance from the lower most acceptable concentration to ground-water);*
- ◆ *Wellhead Protection Area (i.e., distance from fresh water supply wells);*
- ◆ *Distance to Surface Water Body (i.e., horizontal distance to all down gradient surface water bodies).*

Based on the proximity of the site to protectable area water wells, surface water bodies, and depth to groundwater from the lower most contamination, the NMOCD ranking score for the site is ten (10) points with the soil remedial goals highlighted in the Site Ranking table presented below:

1. Ground Water	2. Wellhead Protection Area	3. Distance to Surface Water	
Depth to GW <50 feet: <i>20 points</i>	If <1,000' from water source, or; <200' from private domestic water source: <i>20 points</i>	<200 horizontal feet: <i>20 points</i>	
Depth to GW 50 to 99 feet: <i>10 points</i>		200-1,000 horizontal feet: <i>10 points</i>	
Depth to GW >100 feet: <i>0 points</i>	If >1,000' from water source, or; >200' from private domestic water source: <i>0 points</i>	>1,000 horizontal feet: <i>0 points</i>	
Site Rank (1+2+3) = 10 + 0 + 0 = 10 points			
<b>Total Site Ranking Score and Acceptable Remedial Goal Concentrations</b>			
<b>Ranking Score</b>	20 or >	10	0
<b>Benzene<sup>1</sup></b>	10 ppm	10 ppm	10 ppm
<b>BTEX<sup>1</sup></b>	50 ppm	50 ppm	50 ppm
<b>TPH</b>	100 ppm	1,000 ppm	5,000 ppm

<sup>1</sup> A field soil vapor headspace measurement of 100 ppm can be substituted in lieu of laboratory analyses for benzene and BTEX.



4.0 **EXCAVATED SOIL INFORMATION**

4.1 *Was soil excavated for off-site treatment or disposal?*     *Yes*     *No*

*Date excavated:* Unknown (excavation completed by another contractor)

*Total volume removed:* Unknown (excavation completed by another contractor)

4.2 *Indicated soil treatment type:*

<input checked="" type="checkbox"/>	<i>Disposal</i>
<input type="checkbox"/>	<i>Land Treatment</i>
<input type="checkbox"/>	<i>Composting/Biopiling</i>
<input type="checkbox"/>	<i>Other (    )</i>

*Name and location of treatment/disposal facility:*

Unknown (excavation completed by another contractor)



## 5.0 SAMPLING INFORMATION

### 5.1 *Briefly describe the field screening methods used to distinguish contaminated from uncontaminated soil.*

Organic Vapor Concentrations – A portion of each soil sample was inserted into a self-sealing polyethylene bag to allow volatilization of organic vapors. After the samples equilibrated to ~70° F, they were analyzed for organic vapors utilizing a MiniRae® Photo-ionization Detector (PID) equipped with a 10.6 electron volt (eV) lamp and calibrated for benzene response.

Chloride Concentrations – A La Motte Chloride Test Kit (titration method) was utilized for field chloride concentration analyses.

### 5.2 *Briefly describe the soil analytical sampling and handling procedures used.*

Soil samples from the soil borings were collected initially at 2-3 ft bgs, 5-6 ft bgs and thereafter at 5-foot intervals to total depth of each respective soil boring.

Upon collection of each sample, a portion was immediately placed in a laboratory provided container, labeled and set on ice for transport to an independent laboratory for quantification of total petroleum hydrocarbons (TPH), benzene, toluene, ethylbenzene and total xylenes (BTEX constituents), chloride and sulfate concentrations.

### 5.3 *Discuss sample locations and provide rationale for their locations.*

On February 7, 2006, four (4) soil borings were advanced throughout the release area at varying depths to delineate the vertical extent of impacted soil (reference *Appendix III, Soil Boring Logs*). Soil boring SB-4 was advanced outside the release area and used for background reference data. Locations for soil borings SB-1, SB-2 and SB-3 were chosen to provide the best representative examples of soil throughout the release area (reference *Figure 4* for locations).



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6.0 **ANALYTICAL RESULTS**

6.1 ***Describe the vertical and horizontal extent and magnitude of soil contamination.***

Laboratory analyses of soil samples collected from SB-1 thru SB-3 indicated benzene, BTEX and TPH concentrations were ND at or above laboratory MDL. Chloride concentrations ranged from 8 mg/Kg (SB-3 @ 5-6-feet bgs) to 425 mg/Kg (SB-1 @ 2-3-feet bgs) (reference *Table 2*).

6.2 ***Is surface soil contamination present at the site (i.e., soil in the uppermost two feet that is visibly stained, contaminated at greater than 10 ppm (PID) or hydrocarbon saturated)?***

*yes*       *no*

***If yes, attach a site map identifying extent(s) of surface soil contamination.***



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**7.0 DISCUSSION**

**7.1 *Discuss the risks associated with the remaining soil contamination:***

Soil impacted above NMOCD remedial thresholds remains in situ. Benzene, TPH and BTEX constituent concentrations were ND at or above laboratory MDL. Laboratory analytical results indicated chloride impacted soil exists above the groundwater vadose zone. However, chloride impacted soil diminished with vertical extent. Based on depth to groundwater (~ 50 ft bgs), contaminants remaining in the soil may not be capable of impacting groundwater above NMWQCC Groundwater Standards of 250 mg/L.

**7.2 *Discuss the risks associated with the impacted groundwater:***

Groundwater not impacted.

**7.3 *Discuss other concerns not mentioned above:***

Not applicable



## 8.0 CONCLUSIONS AND RECOMMENDATIONS

- 8.1 *Recommendation for the site:*
- |                                     |  |
|-------------------------------------|--|
| <input checked="" type="checkbox"/> | <i>Site Closure</i>                      |
| <input type="checkbox"/>            | <i>Additional Groundwater Monitoring</i> |
| <input type="checkbox"/>            | <i>Corrective Action</i>                 |

- 8.2 *Base the recommendation above on Guidelines for Remediation of Leaks, Spills and Releases (August 13, 1993). Describe below how you applied the policy to support your recommendation. If closure is recommended, please summarize significant site investigative events and describe how site specific risk issues have been adequately addressed or minimized to acceptable low risk levels.*

Excavation and disposal of impacted soil was completed by another contractor. On February 7, 2006 EPI advanced three (3) soil borings (SB) throughout the release area to delineate the vertical extent of impacted soil. Soil boring SB-4 was advanced outside the release area with data used as background reference. Upon receipt of Soil Boring Soil Sample Laboratory Analytical Data confirming most soil impacted above NMOCD remedial threshold goals were excavated, EPI backfilled the excavation with approximately 14 yds<sup>3</sup> of caliche and 84 yds<sup>3</sup> of top-soil. The entire disturbed area was graded and contoured for natural drainage. The area will be seeded with a blend preferred by the property owner.

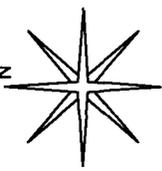
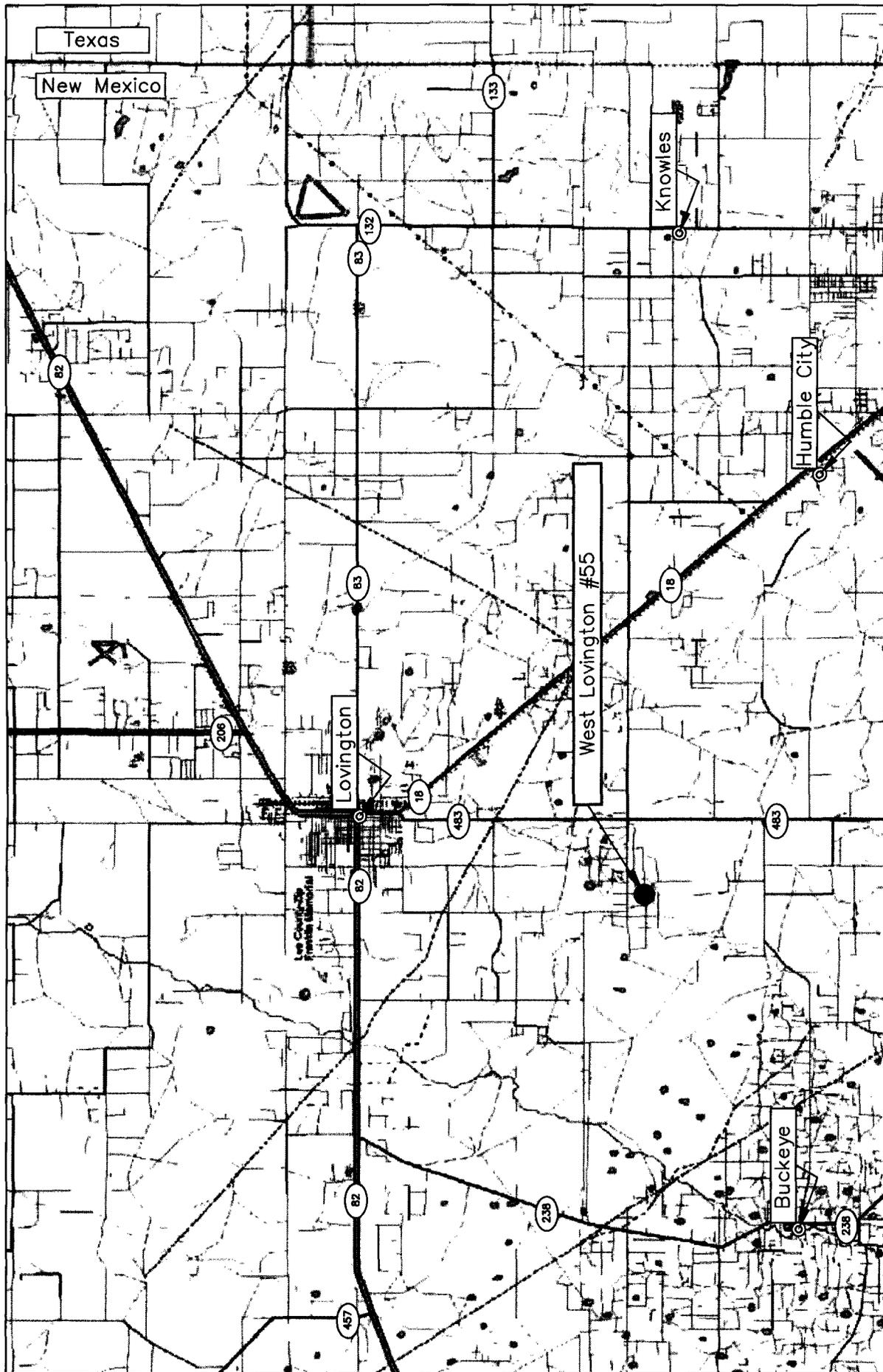
- 8.3 *If additional groundwater monitoring is recommended, indicate the proposed monitoring schedule and frequency. Conduct quarterly monitoring until the NMOCD responds to this report.*

Not Applicable

- 8.4 *If corrective action is recommended, provide a conceptual approach.*

Not applicable

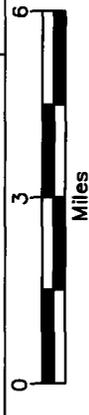
**FIGURES**



REVISED:

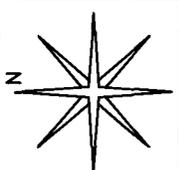
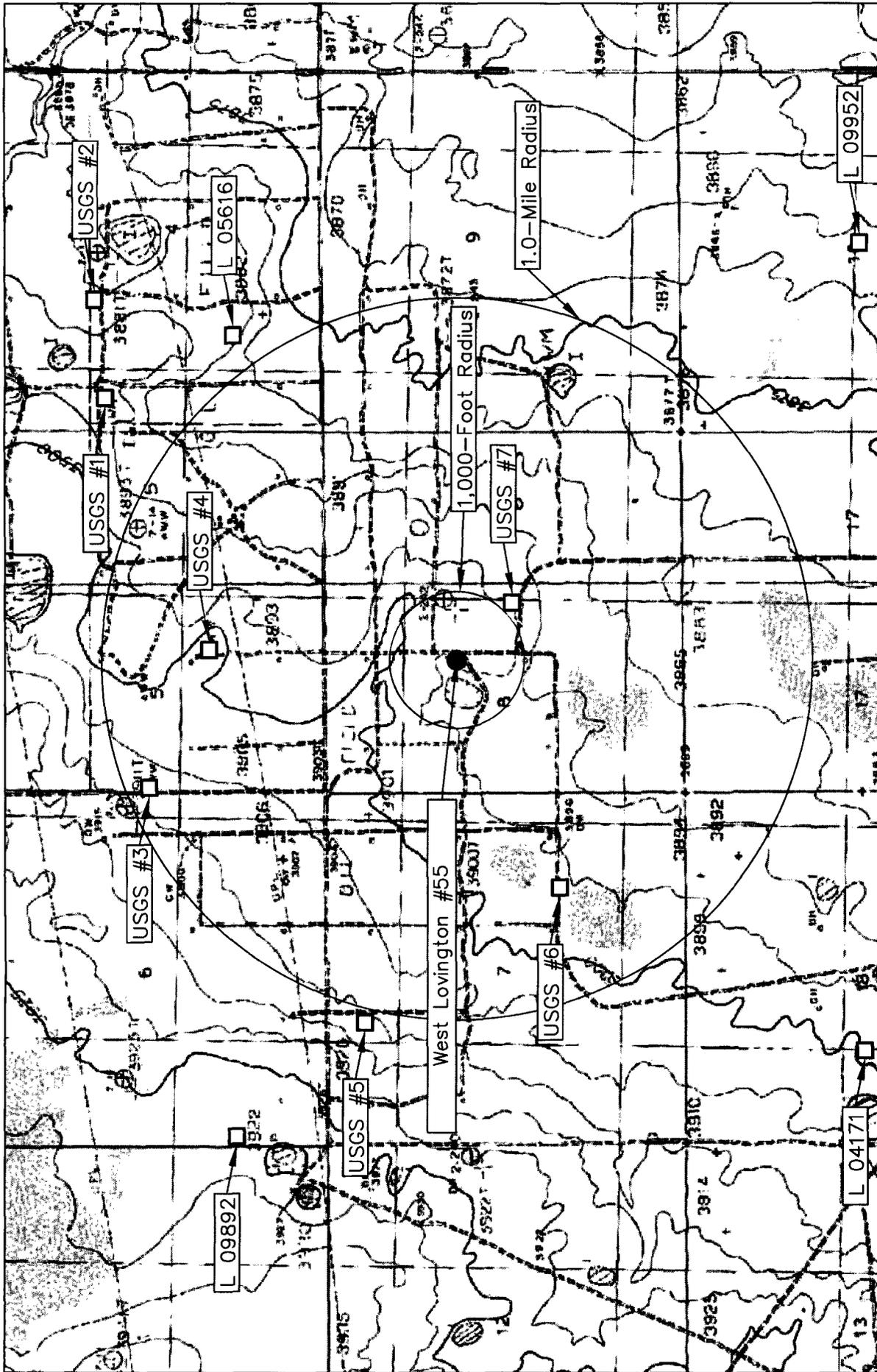
DWG By: Daniel Dominguez  
November 2006

SHEET  
1 of 1



Leas County, New Mexico  
SW 1/4 of the NE 1/4, Sec. 8, T17S, R36E  
N 32° 51' 04.38" W 103° 22' 44.66"  
Elevation: 3,895 feet amsl

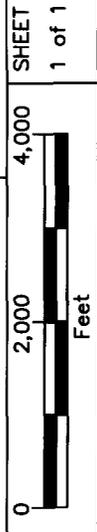
Figure 1  
Area Map  
Chevron Corporation  
West Lovington #55



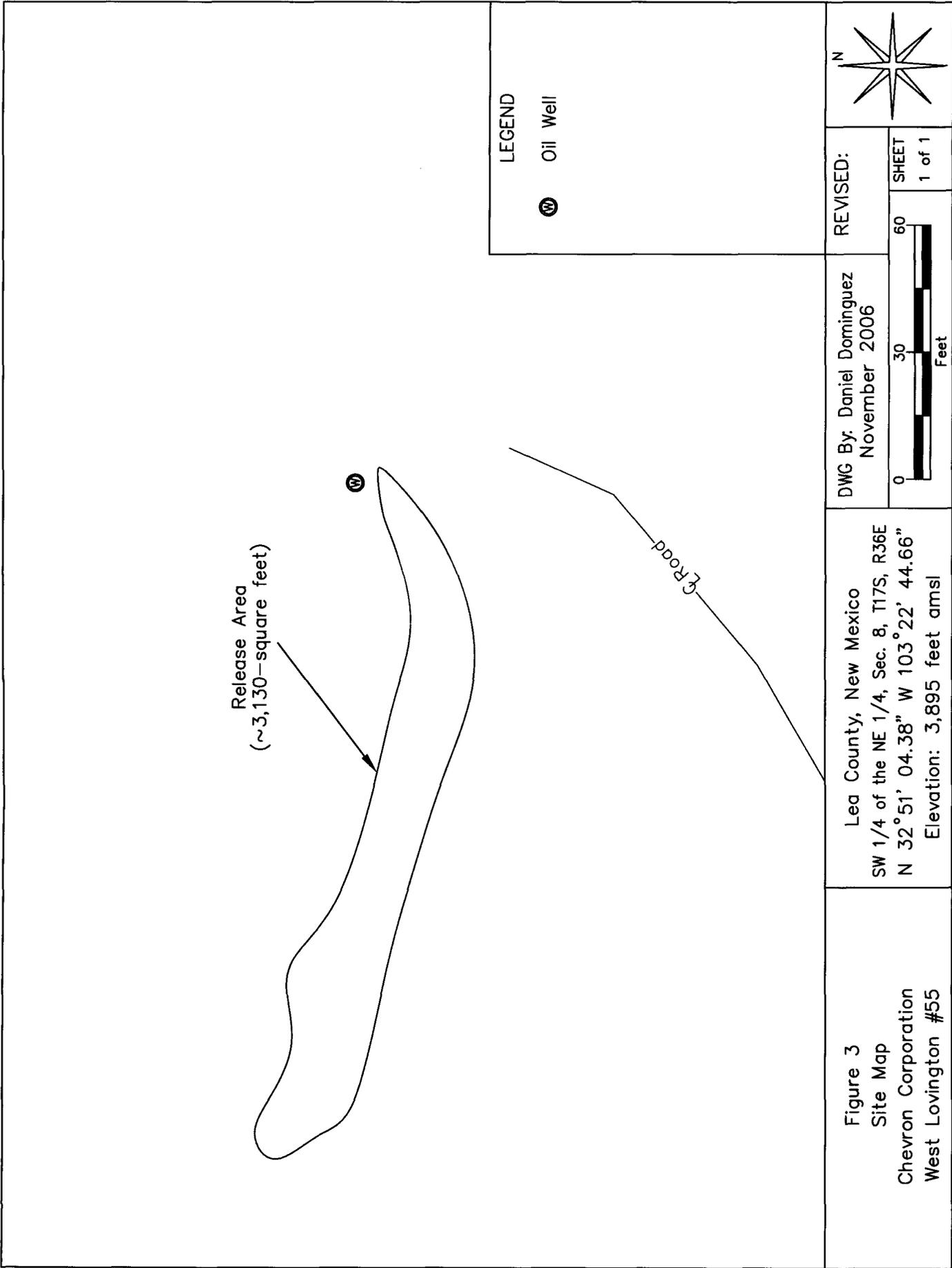
REVISSED:  
 DWG By: Daniel Dominguez  
 November 2006

Lea County, New Mexico  
 SW 1/4 of the NE 1/4, Sec. 8, T17S, R36E  
 N 32° 51' 04.38" W 103° 22' 44.66"  
 Elevation: 3,895 feet amsl

Figure 2  
 Site Location Map  
 Chevron Corporation  
 West Lovington #55



SHEET  
 1 of 1



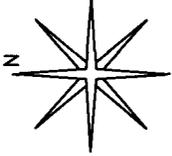
Release Area  
 (~3,130-square feet)

W

C Road

LEGEND

W Oil Well



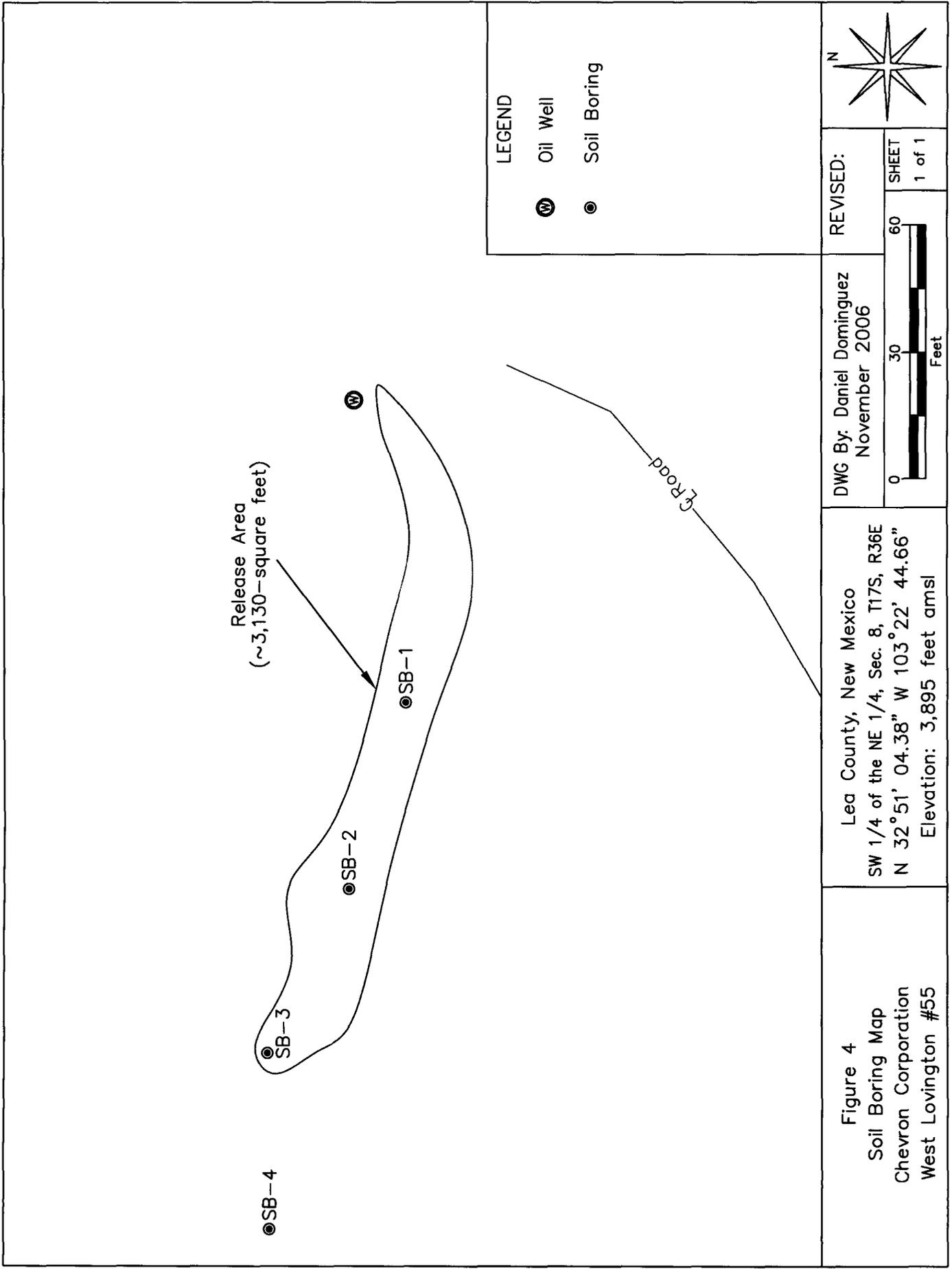
REVISED:

DWG By: Daniel Dominguez  
 November 2006



Lea County, New Mexico  
 SW 1/4 of the NE 1/4, Sec. 8, T17S, R36E  
 N 32° 51' 04.38" W 103° 22' 44.66"  
 Elevation: 3,895 feet amsl

Figure 3  
 Site Map  
 Chevron Corporation  
 West Lovington #55



**TABLES**

TABLE 1

WELL INFORMATION REPORT\*

Chevron USA - West Lovington #55 (Ref #200066)

Well Number	Diversion <sup>A</sup>	Owner	Use	Twsp	Rng	Sec q q q	Latitude	Longitude	Date Measured	Surface Elevation <sup>B</sup>	Depth to Water
L 04171	3	NORWOOD DRILLING COMPANY	PRO	17S	36E	18 1 4	N32° 50' 4.77"	W103° 23' 52.25"	09-Jun-59	3,900	128
L 05616	0	TRI-SERVICE DRILLING COMPANY	PRO	17S	36E	04 3 2	N32° 51' 37.00"	W103° 21' 48.77"	02-May-65	3,885	65
L 09892	0	GOFF DAIRY	PRO	17S	36E	06 3 1 3	N32° 51' 36.40"	W103° 24' 7.00"	30-Jan-87	3,927	50
L 09952	0	TERRA RESOURCES	PRO	17S	36E	16 2 3 3	N32° 50' 5.58"	W103° 21' 33.15"	25-Sep-87	3,867	45
USGS #1				17S	36E	4 1 3 3			15-Jan-91	3,893	61.6
USGS #2				17S	36E	4 1 4 1			03-Feb-61	3,885	51.92
USGS #3				17S	36E	5 3 1 1			25-Jan-96	3,907	54.62
USGS #4				17S	36E	5 3 2 4			14-Jan-86	3,901	57.19
USGS #5				17S	36E	7 1 2 1			15-Jan-90	3,910	49.12
USGS #6				17S	36E	7 4 1 4			25-Jan-96	3,895	42.17
USGS #7				17S	36E	8 4 1 1			25-Jan-96	3,895	50.96S

\* = Data obtained from the New Mexico Office of the State Engineer Website ([http://fwaters.ose.state.nm.us:7001/fwATERS/wt\\_RegisServlet1](http://fwaters.ose.state.nm.us:7001/fwATERS/wt_RegisServlet1)) and USGS Database.  
 Shaded well information indicates well location not shown on Figure 2

<sup>A</sup> = in acre feet per annum

<sup>B</sup> = Interpolated from USGS Topographical Map

PRO = Production

(quarters are 1=NW, 2=NE, 3=SW, 4=SE)

(quarters are biggest to smallest - X Y are in Feet - UTM are in Meters)

TABLE 2  
Summary of Soil Boring Field Analyses and Laboratory Analytical Data

Chevron USA

West Lovington Unit #55 (NMOCD Ref: 1RP# 1226; EPI Ref: 200066)

Sample I.D.	Depth (feet)	Soil Status	Sample Date	PID Field Analysis (ppm)	Field Chloride Analyses (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Total Xylenes (mg/Kg)	Total BTEX (mg/Kg)	Carbon Ranges C6-C12 (mg/Kg)	Carbon Ranges C12-C28 (mg/Kg)	Carbon Ranges C28-C35 (mg/Kg)	Total Hydrocarbons C6-C35 (mg/Kg)	Chloride (mg/Kg)
SB-1	2-3	Excavated	07-Feb-06			<0.0250	<0.0250	<0.0250	<0.050	<0.125	<20.0	<20.0	<20.0	<60.0	425
	5-6	In-situ	07-Feb-06			<0.0250	<0.0250	<0.0250	<0.050	<0.125	<10.0	62.1	32.3	94.4	25
	10-11	In-situ	07-Feb-06			<0.0250	<0.0250	<0.0250	<0.050	<0.125	<10.0	<10.0	<10.0	<30.0	171
	15-16	In-situ	07-Feb-06			--	--	--	--	--	<10.0	<10.0	<10.0	<30.0	--
SB-2	2-3	Excavated	07-Feb-06			<0.0250	J [0.0102]	J [0.0168]	0.0409	0.0409	<10.0	47.7	11.7	59.4	188
	5-6	In-situ	07-Feb-06			<0.0250	<0.0250	<0.0250	<0.050	<0.125	<10.0	62.1	32.3	94.4	161
	10-11	In-situ	07-Feb-06			<0.0250	<0.0250	<0.0250	<0.050	<0.125	<10.0	<10.0	<10.0	<30.0	--
	15-16	In-situ	07-Feb-06			--	--	--	--	--	<10.0	<10.0	<10.0	<30.0	--
SB-3	2-3	Excavated	07-Feb-06			<0.0250	<0.0250	<0.0250	<0.050	<0.125	<10.0	<10.0	<10.0	<30.0	13.2
	5-6	In-situ	07-Feb-06			<0.0250	<0.0250	<0.0250	<0.050	<0.125	<10.0	<10.0	<10.0	<30.0	8.0
SB-4	2-3	In-situ	07-Feb-06			<0.0250	<0.0250	<0.0250	<0.050	<0.125	<10.0	<10.0	<10.0	<30.0	13.5
	5-6	In-situ	07-Feb-06			<0.0250	<0.0250	<0.0250	<0.050	<0.125	<10.0	<10.0	<10.0	<30.0	18.9
NMOCD Remedial Threshold Goals				100		10				50				1,000	250 <sup>1</sup>

**BOLD** values exceed NMOCD Remedial Threshold Goals

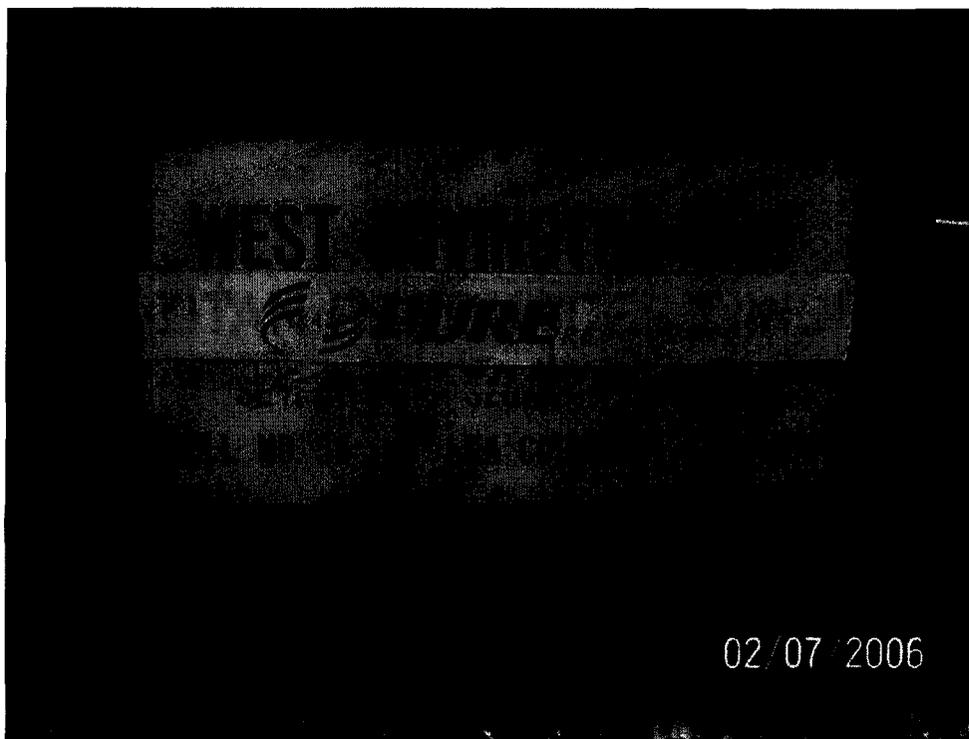
<sup>1</sup> = Chloride and Sulphate residuals may not be capable of impacting groundwater above NMWQCC Groundwater Standards of 250 mg/Kg and 600 mg/Kg, respectively

-- = Not Analyzed; J = Analyte detected, but below Reporting Limit. Therefore, result is an estimated concentration (CPL-J-Flag)

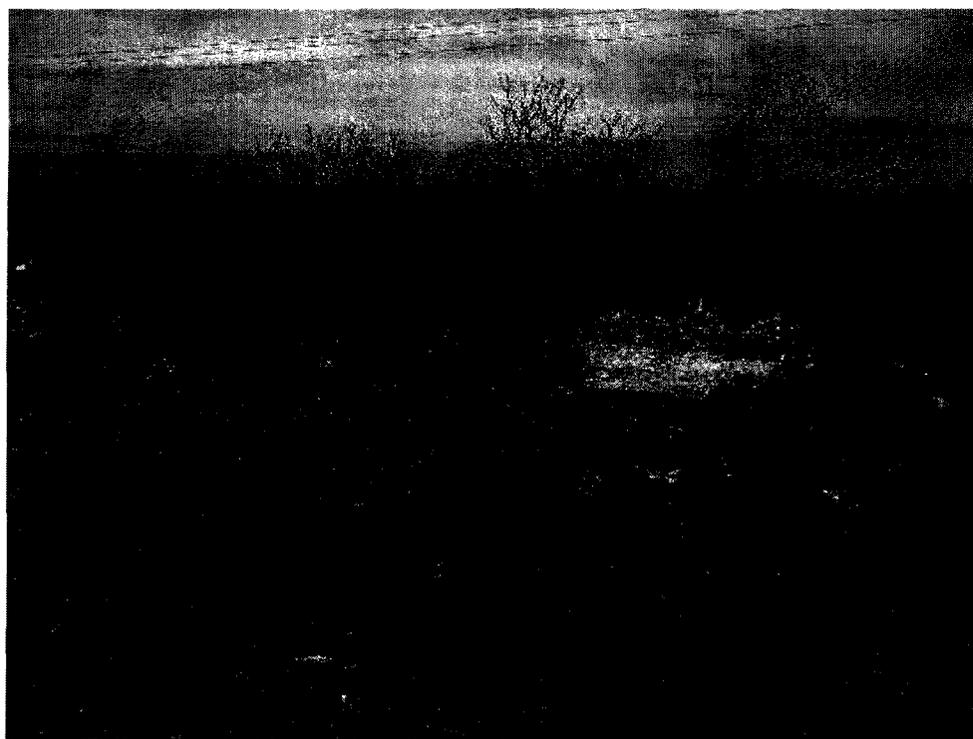
**APPENDICES**

**APPENDIX I**

**PROJECT PHOTOGRAPHS**



Photograph #1 – Lease sign.



Photograph #2 – Looking northwesterly at the release area.



Photograph #3 – Looking west at the release area.



Photograph #4 – Looking westerly at the release area.



Photograph #5 – Looking northeasterly at the release area.



Photograph #6 – Looking easterly at the release area.



Photograph #7 – Looking westerly at the release area and plugged SB-2 and SB-3.



Photograph #8 – Looking east towards the release area and SB-4.



Photograph #9 – Looking easterly towards the release area.



Photograph #10 – Looking west at remediated site with backfilled topsoil and caliche.



Photograph #11 – Looking westerly at remediated site with backfilled topsoil.

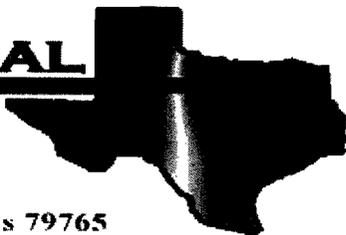


Photograph #12 – Looking westerly at remediated site with backfilled caliche and topsoil.

**APPENDIX II**

**LABORATORY ANALYTICAL REPORTS  
AND  
CHAIN-OF-CUSTODY FORMS**

**E** **NVIRONMENTAL**  
**LAB OF**



12600 West I-20 East - Odessa, Texas 79765

## Analytical Report

**Prepared for:**

Iain Olness

Environmental Plus, Incorporated

P.O. Box 1558

Eunice, NM 88231

Project: Chevron USA/ West Lovington Unit #55

Project Number: 200066

Location: UL-F, Sec. 08, T 17 S, R 36 E

Lab Order Number: 6B08017

Report Date: 02/22/06

Environmental Plus, Incorporated  
P.O. Box 1558  
Eunice NM, 88231

Project: Chevron USA/ West Lovington Unit #55  
Project Number: 200066  
Project Manager: Iain Olness

Fax: 505-394-2601

Reported:  
02/22/06 16:36

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB-1 2'-3'	6B08017-01	Soil	02/07/06 10:50	02/08/06 11:10
SB-1 5'-6'	6B08017-02	Soil	02/07/06 11:10	02/08/06 11:10
SB-1 10'-11'	6B08017-03	Soil	02/07/06 11:19	02/08/06 11:10
SB-1 15'-16'	6B08017-04	Soil	02/07/06 11:30	02/08/06 11:10
SB-2 2'-3'	6B08017-08	Soil	02/07/06 13:00	02/08/06 11:10
SB-2 5'-6'	6B08017-09	Soil	02/07/06 13:05	02/08/06 11:10
SB-2 10'-11'	6B08017-10	Soil	02/07/06 13:15	02/08/06 11:10
SB-2 15'-16'	6B08017-11	Soil	02/07/06 13:23	02/08/06 11:10
SB-3 2'-3'	6B08017-12	Soil	02/07/06 13:29	02/08/06 11:10
SB-3 5'-6'	6B08017-13	Soil	02/07/06 13:32	02/08/06 11:10
SB-4 2'-3'	6B08017-15	Soil	02/07/06 13:41	02/08/06 11:10
SB-4 5'-6'	6B08017-16	Soil	02/07/06 13:44	02/08/06 11:10

**Organics by GC**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>SB-1 2'-3' (6B08017-01) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EB61034	02/10/06	02/12/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
<b>Xylene (p/m)</b>	<b>J [0.0233]</b>	0.0250	"	"	"	"	"	"	J
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		84.2 %	80-120		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		91.2 %	80-120		"	"	"	"	
Carbon Ranges C6-C12	ND	20.0	mg/kg dry	2	EB61012	02/10/06	02/13/06	EPA 8015M	
Carbon Ranges C12-C28	ND	20.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	20.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	20.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		98.2 %	70-130		"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		89.2 %	70-130		"	"	"	"	
<b>SB-1 5'-6' (6B08017-02) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EB61034	02/10/06	02/12/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		81.8 %	80-120		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		84.8 %	80-120		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EB61012	02/10/06	02/13/06	EPA 8015M	
<b>Carbon Ranges C12-C28</b>	<b>55.6</b>	10.0	"	"	"	"	"	"	
<b>Carbon Ranges C28-C35</b>	<b>J [9.04]</b>	10.0	"	"	"	"	"	"	J
<b>Total Hydrocarbon C6-C35</b>	<b>55.6</b>	10.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		92.0 %	70-130		"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		83.0 %	70-130		"	"	"	"	
<b>SB-1 10'-11' (6B08017-03) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EB62007	02/17/06	02/20/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		90.7 %	80-120		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		108 %	80-120		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EB61408	02/14/06	02/15/06	EPA 8015M	

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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>SB-1 10'-11' (6B08017-03) Soil</b>									
Carbon Ranges C12-C28	ND	10.0	mg/kg dry	1	EB61408	02/14/06	02/15/06	EPA 8015M	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		91.0 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		92.2 %	70-130		"	"	"	"	
<b>SB-1 15'-16' (6B08017-04) Soil</b>									
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EB61408	02/14/06	02/15/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		87.6 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		91.4 %	70-130		"	"	"	"	
<b>SB-2 2'-3' (6B08017-08) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EB61034	02/10/06	02/12/06	EPA 8021B	
Toluene	J [0.0102]	0.0250	"	"	"	"	"	"	J
Ethylbenzene	J [0.0168]	0.0250	"	"	"	"	"	"	J
Xylene (p/m)	0.0409	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		87.8 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		109 %	80-120		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EB61012	02/10/06	02/13/06	EPA 8015M	
Carbon Ranges C12-C28	47.7	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	11.7	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	59.4	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		106 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		103 %	70-130		"	"	"	"	
<b>SB-2 5'-6' (6B08017-09) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EB61034	02/10/06	02/12/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		81.2 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		87.8 %	80-120		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EB61012	02/10/06	02/13/06	EPA 8015M	

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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>SB-2 5'-6' (6B08017-09) Soil</b>									
Carbon Ranges C12-C28	62.1	10.0	mg/kg dry	1	EB61012	02/10/06	02/13/06	EPA 8015M	
Carbon Ranges C28-C35	32.3	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	94.4	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		106 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		98.6 %	70-130		"	"	"	"	
<b>SB-2 10'-11' (6B08017-10) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EB62007	02/17/06	02/17/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		98.5 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		88.2 %	80-120		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EB61408	02/14/06	02/15/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		94.8 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		97.4 %	70-130		"	"	"	"	
<b>SB-2 15'-16' (6B08017-11) Soil</b>									
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EB61408	02/14/06	02/15/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		100 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		99.0 %	70-130		"	"	"	"	
<b>SB-3 2'-3' (6B08017-12) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EB61034	02/10/06	02/14/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		81.8 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		81.8 %	80-120		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EB61012	02/10/06	02/13/06	EPA 8015M	

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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>SB-3 2'-3' (6B08017-12) Soil</b>									
Carbon Ranges C12-C28	ND	10.0	mg/kg dry	1	EB61012	02/10/06	02/13/06	EPA 8015M	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		98.0 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		90.4 %	70-130		"	"	"	"	
<b>SB-3 5'-6' (6B08017-13) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EB61034	02/10/06	02/14/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		82.0 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		86.2 %	80-120		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EB61011	02/10/06	02/10/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		96.4 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		81.6 %	70-130		"	"	"	"	
<b>SB-4 2'-3' (6B08017-15) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EB61034	02/10/06	02/12/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		83.2 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		80.0 %	80-120		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EB61011	02/10/06	02/10/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		96.0 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		82.4 %	70-130		"	"	"	"	

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Reported:  
02/22/06 16:36

**Organics by GC**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>SB-4 5'-6' (6B08017-16) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EB61034	02/10/06	02/14/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		84.0 %	80-120		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		89.0 %	80-120		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EB61011	02/10/06	02/10/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		96.8 %	70-130		"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		83.8 %	70-130		"	"	"	"	

**General Chemistry Parameters by EPA / Standard Methods**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>SB-1 2'-3' (6B08017-01) Soil</b>									
Chloride	425	20.0	mg/kg	40	EB61301	02/10/06	02/13/06	EPA 300.0	
% Moisture	2.6	0.1	%	1	EB61007	02/09/06	02/10/06	% calculation	
Sulfate	1320	20.0	mg/kg	40	EB61301	02/10/06	02/13/06	EPA 300.0	
<b>SB-1 5'-6' (6B08017-02) Soil</b>									
Chloride	24.9	5.00	mg/kg	10	EB61301	02/10/06	02/13/06	EPA 300.0	
% Moisture	0.3	0.1	%	1	EB61007	02/09/06	02/10/06	% calculation	
Sulfate	55.1	5.00	mg/kg	10	EB61301	02/10/06	02/13/06	EPA 300.0	
<b>SB-1 10'-11' (6B08017-03) Soil</b>									
Chloride	171	5.00	mg/kg	10	EB61608	02/15/06	02/15/06	EPA 300.0	
% Moisture	4.7	0.1	%	1	EB61505	02/14/06	02/15/06	% calculation	
Sulfate	56.0	5.00	mg/kg	10	EB61608	02/15/06	02/15/06	EPA 300.0	
<b>SB-1 10'-11' (6B08017-03RE1) Soil</b>									
% Moisture	3.5	0.1	%	1	EB62011	02/17/06	02/20/06	% calculation	
<b>SB-1 15'-16' (6B08017-04) Soil</b>									
% Moisture	4.7	0.1	%	1	EB61505	02/14/06	02/15/06	% calculation	
<b>SB-2 2'-3' (6B08017-08) Soil</b>									
Chloride	188	10.0	mg/kg	20	EB61301	02/10/06	02/13/06	EPA 300.0	
% Moisture	0.9	0.1	%	1	EB61007	02/09/06	02/10/06	% calculation	
Sulfate	97.7	10.0	mg/kg	20	EB61301	02/10/06	02/13/06	EPA 300.0	
<b>SB-2 5'-6' (6B08017-09) Soil</b>									
Chloride	161	5.00	mg/kg	10	EB61301	02/10/06	02/13/06	EPA 300.0	
% Moisture	2.7	0.1	%	1	EB61007	02/09/06	02/10/06	% calculation	
Sulfate	66.5	5.00	mg/kg	10	EB61301	02/10/06	02/13/06	EPA 300.0	

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Fax: 505-394-2601

Reported:  
02/22/06 16:36

**General Chemistry Parameters by EPA / Standard Methods**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>SB-2 10'-11' (6B08017-10) Soil</b>									
% Moisture	4.6	0.1	%	1	EB61505	02/14/06	02/15/06	% calculation	
<b>SB-2 15'-16' (6B08017-11) Soil</b>									
% Moisture	7.1	0.1	%	1	EB61505	02/14/06	02/15/06	% calculation	
<b>SB-3 2'-3' (6B08017-12) Soil</b>									
Chloride	13.2	5.00	mg/kg	10	EB61301	02/10/06	02/13/06	EPA 300.0	
% Moisture	1.7	0.1	%	1	EB61007	02/09/06	02/10/06	% calculation	
Sulfate	97.7	5.00	mg/kg	10	EB61301	02/10/06	02/13/06	EPA 300.0	
<b>SB-3 5'-6' (6B08017-13) Soil</b>									
Chloride	8.01	5.00	mg/kg	10	EB61301	02/10/06	02/13/06	EPA 300.0	
% Moisture	1.6	0.1	%	1	EB61007	02/09/06	02/10/06	% calculation	
Sulfate	61.7	5.00	mg/kg	10	EB61301	02/10/06	02/13/06	EPA 300.0	
<b>SB-4 2'-3' (6B08017-15) Soil</b>									
Chloride	13.5	5.00	mg/kg	10	EB61301	02/10/06	02/13/06	EPA 300.0	
% Moisture	1.2	0.1	%	1	EB61007	02/09/06	02/10/06	% calculation	
Sulfate	82.2	5.00	mg/kg	10	EB61301	02/10/06	02/13/06	EPA 300.0	
<b>SB-4 5'-6' (6B08017-16) Soil</b>									
Chloride	18.9	5.00	mg/kg	10	EB61302	02/11/06	02/13/06	EPA 300.0	
% Moisture	1.5	0.1	%	1	EB61007	02/09/06	02/10/06	% calculation	
Sulfate	78.5	5.00	mg/kg	10	EB61302	02/11/06	02/13/06	EPA 300.0	

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Environmental Plus, Incorporated  
P.O. Box 1558  
Eunice NM, 88231

Project: Chevron USA/ West Lovington Unit #55  
Project Number: 200066  
Project Manager: Iain Olness

Fax: 505-394-2601

Reported:  
02/22/06 16:36

**Organics by GC - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EB61011 - Solvent Extraction (GC)**

**Blank (EB61011-BLK1)**

Prepared & Analyzed: 02/10/06

Carbon Ranges C6-C12	ND	10.0	mg/kg wet							
Carbon Ranges C12-C28	ND	10.0	"							
Carbon Ranges C28-C35	ND	10.0	"							
Total Hydrocarbon C6-C35	ND	10.0	"							
Surrogate: 1-Chlorooctane	48.8		mg/kg	50.0		97.6	70-130			
Surrogate: 1-Chlorooctadecane	43.2		"	50.0		86.4	70-130			

**LCS (EB61011-BS1)**

Prepared & Analyzed: 02/10/06

Carbon Ranges C6-C12	477		mg/kg	500		95.4	75-125			
Carbon Ranges C12-C28	508		"	500		102	75-125			
Total Hydrocarbon C6-C35	985		"	1000		98.5	75-125			
Surrogate: 1-Chlorooctane	57.2		"	50.0		114	70-130			
Surrogate: 1-Chlorooctadecane	52.4		"	50.0		105	70-130			

**Calibration Check (EB61011-CCV1)**

Prepared: 02/10/06 Analyzed: 02/11/06

Carbon Ranges C6-C12	467		mg/kg	500		93.4	80-120			
Carbon Ranges C12-C28	543		"	500		109	80-120			
Total Hydrocarbon C6-C35	1010		"	1000		101	80-120			
Surrogate: 1-Chlorooctane	56.5		"	50.0		113	70-130			
Surrogate: 1-Chlorooctadecane	48.7		"	50.0		97.4	70-130			

**Matrix Spike (EB61011-MS1)**

Source: 6B08020-07

Prepared & Analyzed: 02/10/06

Carbon Ranges C6-C12	507		mg/kg	500	ND	101	75-125			
Carbon Ranges C12-C28	579		"	500	ND	116	75-125			
Total Hydrocarbon C6-C35	1090		"	1000	ND	109	75-125			
Surrogate: 1-Chlorooctane	56.1		"	50.0		112	70-130			
Surrogate: 1-Chlorooctadecane	53.0		"	50.0		106	70-130			

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Reported:  
02/22/06 16:36

**Organics by GC - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EB61011 - Solvent Extraction (GC)**

<b>Matrix Spike Dup (EB61011-MSD1)</b>		<b>Source: 6B08020-07</b>		<b>Prepared &amp; Analyzed: 02/10/06</b>						
Carbon Ranges C6-C12	523		mg/kg	500	ND	105	75-125	3.11	20	
Carbon Ranges C12-C28	597		"	500	ND	119	75-125	3.06	20	
Total Hydrocarbon C6-C35	1120		"	1000	ND	112	75-125	2.71	20	
Surrogate: 1-Chlorooctane	56.4		"	50.0		113	70-130			
Surrogate: 1-Chlorooctadecane	54.5		"	50.0		109	70-130			

**Batch EB61012 - Solvent Extraction (GC)**

<b>Blank (EB61012-BLK1)</b>		<b>Prepared: 02/10/06 Analyzed: 02/13/06</b>								
Carbon Ranges C6-C12	ND	10.0	mg/kg wet							
Carbon Ranges C12-C28	ND	10.0	"							
Carbon Ranges C28-C35	ND	10.0	"							
Total Hydrocarbon C6-C35	ND	10.0	"							
Surrogate: 1-Chlorooctane	48.9		mg/kg	50.0		97.8	70-130			
Surrogate: 1-Chlorooctadecane	44.9		"	50.0		89.8	70-130			

<b>LCS (EB61012-BS1)</b>		<b>Prepared: 02/10/06 Analyzed: 02/13/06</b>								
Carbon Ranges C6-C12	472	10.0	mg/kg wet	500		94.4	75-125			
Carbon Ranges C12-C28	570	10.0	"	500		114	75-125			
Total Hydrocarbon C6-C35	1040	10.0	"	1000		104	75-125			
Surrogate: 1-Chlorooctane	58.0		mg/kg	50.0		116	70-130			
Surrogate: 1-Chlorooctadecane	53.6		"	50.0		107	70-130			

<b>Calibration Check (EB61012-CCV1)</b>		<b>Prepared: 02/10/06 Analyzed: 02/13/06</b>								
Carbon Ranges C6-C12	472		mg/kg	500		94.4	80-120			
Carbon Ranges C12-C28	587		"	500		117	80-120			
Total Hydrocarbon C6-C35	1060		"	1000		106	80-120			
Surrogate: 1-Chlorooctane	58.0		"	50.0		116	70-130			
Surrogate: 1-Chlorooctadecane	55.2		"	50.0		110	70-130			

Environmental Plus, Incorporated  
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Eunice NM, 88231

Project: Chevron USA/ West Lovington Unit #55  
Project Number: 200066  
Project Manager: Iain Olness

Fax: 505-394-2601

Reported:  
02/22/06 16:36

**Organics by GC - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EB61012 - Solvent Extraction (GC)**

**Matrix Spike (EB61012-MS1)**

Source: 6B08017-12

Prepared: 02/10/06 Analyzed: 02/13/06

Carbon Ranges C6-C12	573	10.0	mg/kg dry	509	ND	113	75-125			
Carbon Ranges C12-C28	588	10.0	"	509	ND	116	75-125			
Total Hydrocarbon C6-C35	1160	10.0	"	1020	ND	114	75-125			
Surrogate: 1-Chlorooctane	55.8		mg/kg	50.0		112	70-130			
Surrogate: 1-Chlorooctadecane	51.7		"	50.0		103	70-130			

**Matrix Spike Dup (EB61012-MSD1)**

Source: 6B08017-12

Prepared: 02/10/06 Analyzed: 02/13/06

Carbon Ranges C6-C12	591	10.0	mg/kg dry	509	ND	116	75-125	3.09	20	
Carbon Ranges C12-C28	602	10.0	"	509	ND	118	75-125	2.35	20	
Total Hydrocarbon C6-C35	1190	10.0	"	1020	ND	117	75-125	2.55	20	
Surrogate: 1-Chlorooctane	57.4		mg/kg	50.0		115	70-130			
Surrogate: 1-Chlorooctadecane	52.3		"	50.0		105	70-130			

**Batch EB61034 - EPA 5030C (GC)**

**Blank (EB61034-BLK1)**

Prepared: 02/10/06 Analyzed: 02/14/06

Benzene	ND	0.0250	mg/kg wet							
Toluene	ND	0.0250	"							
Ethylbenzene	ND	0.0250	"							
Xylene (p/m)	ND	0.0250	"							
Xylene (o)	ND	0.0250	"							
Surrogate: a,a,a-Trifluorotoluene	34.2		ug/kg	40.0		85.5	80-120			
Surrogate: 4-Bromofluorobenzene	43.7		"	40.0		109	80-120			

**LCS (EB61034-BS1)**

Prepared: 02/10/06 Analyzed: 02/14/06

Benzene	0.0964	0.00100	mg/kg wet	0.100		96.4	80-120			
Toluene	0.102	0.00100	"	0.100		102	80-120			
Ethylbenzene	0.108	0.00100	"	0.100		108	80-120			
Xylene (p/m)	0.199	0.00100	"	0.200		99.5	80-120			
Xylene (o)	0.118	0.00100	"	0.100		118	80-120			
Surrogate: a,a,a-Trifluorotoluene	39.4		ug/kg	40.0		98.5	80-120			
Surrogate: 4-Bromofluorobenzene	34.3		"	40.0		85.8	80-120			

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P.O. Box 1558  
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Project: Chevron USA/ West Lovington Unit #55  
Project Number: 200066  
Project Manager: Iain Olness

Fax: 505-394-2601

Reported:  
02/22/06 16:36

**Organics by GC - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EB61034 - EPA 5030C (GC)**

**Calibration Check (EB61034-CCV1)**

Prepared: 02/10/06 Analyzed: 02/14/06

Benzene	49.7		ug/kg	50.0		99.4	80-120			
Toluene	54.4		"	50.0		109	80-120			
Ethylbenzene	55.5		"	50.0		111	80-120			
Xylene (p/m)	112		"	100		112	80-120			
Xylene (o)	59.3		"	50.0		119	80-120			
Surrogate: a,a,a-Trifluorotoluene	38.0		"	40.0		95.0	80-120			
Surrogate: 4-Bromofluorobenzene	35.5		"	40.0		88.8	80-120			

**Matrix Spike (EB61034-MS1)**

Source: 6B08019-02

Prepared: 02/10/06 Analyzed: 02/14/06

Benzene	1.21	0.0250	mg/kg dry	1.25	ND	96.8	80-120			
Toluene	1.34	0.0250	"	1.25	ND	107	80-120			
Ethylbenzene	1.46	0.0250	"	1.25	ND	117	80-120			
Xylene (p/m)	2.94	0.0250	"	2.51	ND	117	80-120			
Xylene (o)	1.49	0.0250	"	1.25	ND	119	80-120			
Surrogate: a,a,a-Trifluorotoluene	36.2		ug/kg	40.0		90.5	80-120			
Surrogate: 4-Bromofluorobenzene	42.2		"	40.0		106	80-120			

**Matrix Spike Dup (EB61034-MSD1)**

Source: 6B08019-02

Prepared: 02/10/06 Analyzed: 02/14/06

Benzene	1.28	0.0250	mg/kg dry	1.25	ND	102	80-120	5.23	20	
Toluene	1.41	0.0250	"	1.25	ND	113	80-120	5.45	20	
Ethylbenzene	1.50	0.0250	"	1.25	ND	120	80-120	2.53	20	
Xylene (p/m)	2.99	0.0250	"	2.51	ND	119	80-120	1.69	20	
Xylene (o)	1.50	0.0250	"	1.25	ND	120	80-120	0.837	20	
Surrogate: a,a,a-Trifluorotoluene	37.0		ug/kg	40.0		92.5	80-120			
Surrogate: 4-Bromofluorobenzene	45.1		"	40.0		113	80-120			

**Batch EB61408 - Solvent Extraction (GC)**

**Blank (EB61408-BLK1)**

Prepared: 02/14/06 Analyzed: 02/15/06

Carbon Ranges C6-C12	ND		10.0 mg/kg wet							
Carbon Ranges C12-C28	ND		10.0 "							
Carbon Ranges C28-C35	ND		10.0 "							
Total Hydrocarbon C6-C35	ND		10.0 "							
Surrogate: 1-Chlorooctane	47.7		mg/kg	50.0		95.4	70-130			
Surrogate: 1-Chlorooctadecane	51.7		"	50.0		103	70-130			

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P.O. Box 1558  
Eunice NM, 88231

Project: Chevron USA/ West Lovington Unit #55  
Project Number: 200066  
Project Manager: Iain Olness

Fax: 505-394-2601

Reported:  
02/22/06 16:36

**Organics by GC - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EB61408 - Solvent Extraction (GC)**

**LCS (EB61408-BS1)**

Prepared: 02/14/06 Analyzed: 02/15/06

Carbon Ranges C6-C12	505	10.0	mg/kg wet	500		101	75-125			
Carbon Ranges C12-C28	521	10.0	"	500		104	75-125			
Total Hydrocarbon C6-C35	1030	10.0	"	1000		103	75-125			
Surrogate: 1-Chlorooctane	54.1		mg/kg	50.0		108	70-130			
Surrogate: 1-Chlorooctadecane	54.2		"	50.0		108	70-130			

**Calibration Check (EB61408-CCV1)**

Prepared: 02/14/06 Analyzed: 02/15/06

Carbon Ranges C6-C12	472		mg/kg	500		94.4	80-120			
Carbon Ranges C12-C28	538		"	500		108	80-120			
Total Hydrocarbon C6-C35	1010		"	1000		101	80-120			
Surrogate: 1-Chlorooctane	49.3		"	50.0		98.6	70-130			
Surrogate: 1-Chlorooctadecane	43.4		"	50.0		86.8	70-130			

**Matrix Spike (EB61408-MS1)**

Source: 6B10009-15

Prepared: 02/14/06 Analyzed: 02/15/06

Carbon Ranges C6-C12	472	10.0	mg/kg dry	510	ND	92.5	75-125			
Carbon Ranges C12-C28	587	10.0	"	510	142	87.3	75-125			
Carbon Ranges C28-C35	12.8	10.0	"	0.00	12.6		75-125			
Total Hydrocarbon C6-C35	1060	10.0	"	1020	155	88.7	75-125			
Surrogate: 1-Chlorooctane	51.0		mg/kg	50.0		102	70-130			
Surrogate: 1-Chlorooctadecane	47.8		"	50.0		95.6	70-130			

**Matrix Spike Dup (EB61408-MSD1)**

Source: 6B10009-15

Prepared: 02/14/06 Analyzed: 02/15/06

Carbon Ranges C6-C12	462	10.0	mg/kg dry	510	ND	90.6	75-125	2.14	20	
Carbon Ranges C12-C28	588	10.0	"	510	142	87.5	75-125	0.170	20	
Carbon Ranges C28-C35	13.9	10.0	"	0.00	12.6		75-125	8.24	20	
Total Hydrocarbon C6-C35	1050	10.0	"	1020	155	87.7	75-125	0.948	20	
Surrogate: 1-Chlorooctane	55.2		mg/kg	50.0		110	70-130			
Surrogate: 1-Chlorooctadecane	47.9		"	50.0		95.8	70-130			

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Environmental Plus, Incorporated  
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Project: Chevron USA/ West Lovington Unit #55  
Project Number: 200066  
Project Manager: Iain Olness

Fax: 505-394-2601

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02/22/06 16:36

**Organics by GC - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EB62007 - EPA 5030C (GC)**

**Blank (EB62007-BLK1)**

Prepared & Analyzed: 02/17/06

Benzene	ND	0.0250	mg/kg wet							
Toluene	ND	0.0250	"							
Ethylbenzene	ND	0.0250	"							
Xylene (p/m)	ND	0.0250	"							
Xylene (o)	ND	0.0250	"							
Surrogate: a,a,a-Trifluorotoluene	39.2		ug/kg	40.0		98.0	80-120			
Surrogate: 4-Bromofluorobenzene	32.3		"	40.0		80.8	80-120			

**LCS (EB62007-BS1)**

Prepared & Analyzed: 02/17/06

Benzene	0.101	0.00100	mg/kg wet	0.100		101	80-120			
Toluene	0.118	0.00100	"	0.100		118	80-120			
Ethylbenzene	0.118	0.00100	"	0.100		118	80-120			
Xylene (p/m)	0.209	0.00100	"	0.200		104	80-120			
Xylene (o)	0.117	0.00100	"	0.100		117	80-120			
Surrogate: a,a,a-Trifluorotoluene	40.0		ug/kg	40.0		100	80-120			
Surrogate: 4-Bromofluorobenzene	36.9		"	40.0		92.2	80-120			

**Calibration Check (EB62007-CCV1)**

Prepared: 02/17/06 Analyzed: 02/21/06

Benzene	40.2		ug/kg	50.0		80.4	80-120			
Toluene	43.0		"	50.0		86.0	80-120			
Ethylbenzene	48.4		"	50.0		96.8	80-120			
Xylene (p/m)	102		"	100		102	80-120			
Xylene (o)	50.0		"	50.0		100	80-120			
Surrogate: a,a,a-Trifluorotoluene	33.4		"	40.0		83.5	80-120			
Surrogate: 4-Bromofluorobenzene	38.4		"	40.0		96.0	80-120			

**Matrix Spike (EB62007-MS1)**

Source: 6B14008-16

Prepared: 02/17/06 Analyzed: 02/22/06

Benzene	0.0499	0.00100	mg/kg dry	0.0539	ND	92.6	80-120			
Toluene	0.0561	0.00100	"	0.0539	ND	104	80-120			
Ethylbenzene	0.0634	0.00100	"	0.0539	ND	118	80-120			
Xylene (p/m)	0.129	0.00100	"	0.108	ND	119	80-120			
Xylene (o)	0.0640	0.00100	"	0.0539	ND	119	80-120			
Surrogate: a,a,a-Trifluorotoluene	40.8		ug/kg	40.0		102	80-120			
Surrogate: 4-Bromofluorobenzene	46.3		"	40.0		116	80-120			

Environmental Lab of Texas

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Project: Chevron USA/ West Lovington Unit #55  
Project Number: 200066  
Project Manager: Iain Olness

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Reported:  
02/22/06 16:36

**Organics by GC - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EB62007 - EPA 5030C (GC)**

**Matrix Spike Dup (EB62007-MSD1)**

**Source: 6B14008-16**

Prepared: 02/17/06 Analyzed: 02/22/06

Benzene	0.0504	0.00100	mg/kg dry	0.0539	ND	93.5	80-120	0.967	20	
Toluene	0.0563	0.00100	"	0.0539	ND	104	80-120	0.00	20	
Ethylbenzene	0.0637	0.00100	"	0.0539	ND	118	80-120	0.00	20	
Xylene (p/m)	0.129	0.00100	"	0.108	ND	119	80-120	0.00	20	
Xylene (o)	0.0642	0.00100	"	0.0539	ND	119	80-120	0.00	20	
<i>Surrogate: a,a,a-Trifluorotoluene</i>	37.3		<i>ug/kg</i>	40.0		93.2	80-120			
<i>Surrogate: 4-Bromofluorobenzene</i>	46.7		"	40.0		117	80-120			

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02/22/06 16:36

**General Chemistry Parameters by EPA / Standard Methods - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EB61007 - General Preparation (Prep)**

<b>Blank (EB61007-BLK1)</b>				Prepared: 02/09/06		Analyzed: 02/10/06				
% Solids	100		%							
<b>Duplicate (EB61007-DUP1)</b>				Source: 6B08014-01		Prepared: 02/09/06		Analyzed: 02/10/06		
% Solids	98.8		%		98.6			0.203	20	
<b>Duplicate (EB61007-DUP2)</b>				Source: 6B08019-06		Prepared: 02/09/06		Analyzed: 02/10/06		
% Solids	99.7		%		99.7			0.00	20	
<b>Duplicate (EB61007-DUP3)</b>				Source: 6B09002-03		Prepared: 02/09/06		Analyzed: 02/10/06		
% Solids	74.8		%		74.5			0.402	20	

**Batch EB61301 - Water Extraction**

<b>Blank (EB61301-BLK1)</b>				Prepared: 02/10/06		Analyzed: 02/13/06				
Sulfate	ND	0.500	mg/kg							
Chloride	ND	0.500	"							
<b>LCS (EB61301-BS1)</b>				Prepared: 02/10/06		Analyzed: 02/13/06				
Chloride	8.86		mg/L	10.0		88.6	80-120			
Sulfate	9.66		"	10.0		96.6	80-120			
<b>Calibration Check (EB61301-CCV1)</b>				Prepared: 02/10/06		Analyzed: 02/13/06				
Sulfate	9.82		mg/L	10.0		98.2	80-120			
Chloride	9.05		"	10.0		90.5	80-120			
<b>Duplicate (EB61301-DUP1)</b>				Source: 6B07009-01		Prepared: 02/10/06		Analyzed: 02/13/06		
Chloride	180	5.00	mg/kg		180			0.00	20	
Sulfate	82.4	5.00	"		84.8			2.87	20	

Environmental Lab of Texas

*The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.*

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Environmental Plus, Incorporated  
P.O. Box 1558  
Eunice NM, 88231

Project: Chevron USA/ West Lovington Unit #55  
Project Number: 200066  
Project Manager: Iain Olness

Fax: 505-394-2601

Reported:  
02/22/06 16:36

**General Chemistry Parameters by EPA / Standard Methods - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

**Batch EB61302 - Water Extraction**

**Blank (EB61302-BLK1)**

Prepared: 02/11/06 Analyzed: 02/13/06

Sulfate	ND	0.500	mg/kg							
Chloride	ND	0.500	"							

**LCS (EB61302-BS1)**

Prepared: 02/11/06 Analyzed: 02/13/06

Sulfate	9.72		mg/L	10.0		97.2	80-120			
Chloride	8.98		"	10.0		89.8	80-120			

**Calibration Check (EB61302-CCV1)**

Prepared: 02/11/06 Analyzed: 02/13/06

Sulfate	9.84		mg/L	10.0		98.4	80-120			
Chloride	9.04		"	10.0		90.4	80-120			

**Duplicate (EB61302-DUP1)**

Source: 6B08017-16

Prepared: 02/11/06 Analyzed: 02/13/06

Sulfate	80.5	5.00	mg/kg		78.5			2.52	20	
Chloride	18.5	5.00	"		18.9			2.14	20	

**Batch EB61505 - General Preparation (Prep)**

**Blank (EB61505-BLK1)**

Prepared: 02/14/06 Analyzed: 02/15/06

% Solids	100		%							
----------	-----	--	---	--	--	--	--	--	--	--

**Duplicate (EB61505-DUP1)**

Source: 6B13007-01

Prepared: 02/14/06 Analyzed: 02/15/06

% Solids	96.5		%		97.0			0.517	20	
----------	------	--	---	--	------	--	--	-------	----	--

**Duplicate (EB61505-DUP3)**

Source: 6B14008-03

Prepared: 02/14/06 Analyzed: 02/15/06

% Solids	98.0		%		94.8			3.32	20	
----------	------	--	---	--	------	--	--	------	----	--

**Duplicate (EB61505-DUP4)**

Source: 6B14008-24

Prepared: 02/14/06 Analyzed: 02/15/06

% Solids	95.6		%		98.1			2.58	20	
----------	------	--	---	--	------	--	--	------	----	--

Environmental Lab of Texas

*The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.*

Page 17 of 19



Environmental Plus, Incorporated  
P.O. Box 1558  
Eunice NM, 88231

Project: Chevron USA/ West Lovington Unit #55  
Project Number: 200066  
Project Manager: Iain Olness

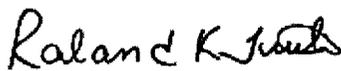
Fax: 505-394-2601

Reported:  
02/22/06 16:36

### Notes and Definitions

J Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).  
DET Analyte DETECTED  
ND Analyte NOT DETECTED at or above the reporting limit  
NR Not Reported  
dry Sample results reported on a dry weight basis  
RPD Relative Percent Difference  
LCS Laboratory Control Spike  
MS Matrix Spike  
Dup Duplicate

Report Approved By:



Date:

2/22/2006

Raland K. Tuttle, Lab Manager  
Celey D. Keene, Lab Director, Org. Tech Director  
Peggy Allen, QA Officer

Jeanne Mc Murrey, Inorg. Tech Director  
LaTasha Cornish, Chemist  
Sandra Sanchez, Lab Tech.

This material is intended only for the use of the individual (s) or entity to whom it is addressed, and may contain information that is privileged and confidential.

If you have received this material in error, please notify us immediately at 432-563-1800.

Environmental Lab of Texas

*The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.*

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# Environmental Plus, Inc.

2100 Avenue O, Eunice, NM 88231  
 (505) 394-3481 FAX: (505) 394-2601

P.O. Box 1558, Eunice, NM 88231

Chain of Custody Form

Company Name Environmental Plus, Inc.		Bill To		ANALYSIS REQUEST	
EPI Project Manager Iain Olness		PRESERV.		TPH 8015M	
Mailing Address P.O. BOX 1558		ACID/BASE		CHLORIDES (C)	
City, State, Zip Eunice New Mexico 88231		OTHER:		SULFATES (SO <sub>4</sub> )	
EPI Phone# / Fax# 505-394-3481 / 505-394-2601		SLUDGE		OTHER >>>	
Client Company Chevron USA		CRUDE OIL		PH	
Facility Name West Lovington Unit #55		SOIL		PAH	
Location UL-F, Sec. 08, T 17 S, R 36 E		WASTEWATER		OTHER >>>	
Project Reference 200066		GROUND WATER		BTEX 8021B	
EPI Sampler Name George Blackburn		# CONTAINERS			
LAB I.D. <i>80801</i>		(G) RAB OR (C) OMP.			
SAMPLE I.D.		MATRIX		DATE	
		SAMPLING		TIME	
1 SB-1 (2'-3')		WASTEWATER		07-Feb-06 10:50	
2 SB-1 (5'-6')		GROUND WATER		07-Feb-06 11:10	
3 SB-1 (10'-11')		SOIL		07-Feb-06 11:19	
4 SB-1 (15'-16')		CRUDE OIL		07-Feb-06 11:30	
5 SB-1 (20'-21')		SLUDGE		07-Feb-06 11:40	
6 SB-1 (25'-26')		OTHER:		07-Feb-06 11:50	
7 SB-1 (30'-31')		ACID/BASE		07-Feb-06 12:00	
8 SB-2 (2'-3')		ICE/COOL		07-Feb-06 13:00	
9 SB-2 (5'-6')		OTHER		07-Feb-06 13:05	
10 SB-2 (10'-11')		OTHER >>>		07-Feb-06 13:15	

Sampler Relinquished: *Jan Olness* Date: *3/18/06* Time: *09:00* Received By: *Garl Miller*

Relinquished By: *Garl Miller* Date: *3/18/06* Time: *11:10* Received By: *Carrie Kelle* (lab staff)

Delivered By: *Garl Miller* Sample Cool & Intact No  Yes  Checked By: *CK*

5.000

seal jar/label

E-mail results to: iolness@envplus.net  
 REMARK: (See analysis plus plus samples in each soil boring) for each analysis until two successive samples are 100% for organics and/or <250 mg/kg for chlorides and/or <6000 mg/kg for sulfates. ANY QUESTIONS, PLEASE CALL IAIN OLNESS AT (505) 394-3481. PLEASE READ!!!



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

Client: Highlander  
 Date/Time: 2/8/06 11:10  
 Order #: 6B08017  
 Initials: CK

**Sample Receipt Checklist**

Temperature of container/cooler?	Yes	No	3.0 C
Shipping container/cooler in good condition?	<del>Yes</del>	No	
Custody Seals intact on shipping container/cooler?	Yes	No	<del>Not present</del>
Custody Seals intact on sample bottles?	<del>Yes</del>	No	Not present
Chain of custody present?	<del>Yes</del>	No	
Sample Instructions complete on Chain of Custody?	<del>Yes</del>	No	
Chain of Custody signed when relinquished and received?	Yes	No	
Chain of custody agrees with sample label(s)	Yes	No	
Container labels legible and intact?	<del>Yes</del>	No	
Sample Matrix and properties same as on chain of custody?	Yes	No	
Samples in proper container/bottle?	Yes	No	
Samples properly preserved?	<del>Yes</del>	No	
Sample bottles intact?	<del>Yes</del>	No	
Preservations documented on Chain of Custody?	<del>Yes</del>	No	
Containers documented on Chain of Custody?	Yes	No	
Sufficient sample amount for indicated test?	<del>Yes</del>	No	
All samples received within sufficient hold time?	Yes	No	
VOC samples have zero headspace?	<del>Yes</del>	No	Not Applicable

Other observations:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Variance Documentation:**

Contact Person: - \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted by: \_\_\_\_\_  
 Regarding: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Corrective Action Taken:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**APPENDIX III**  
**SOIL BORING LOGS**

Log Of Test Borings

(NOTE - Page 1 of 1)



ENVIRONMENTAL PLUS, INC.  
CONSULTING AND  
REMEDIAL CONSTRUCTION  
EUNICE, NEW MEXICO  
505-394-3481

Project Number: 200066  
Project Name: West Lovington Unit #55  
Location: UL-G, Section 8, Township 17 South, Range 36 East  
Boring Number: SB-1 Surface Elevation: 3910-feet amsl

Time	Sample Type	Recovery (Inches)	Moisture	PID Readings (ppm)	Chloride Analysis (mg/Kg)	U.S.C.S. Symbol	Depth (feet)	Start Date: 2-07-06 Time: 1100hrs	Completion Date: 2-07-06 Time: 1220hrs	Description
1100	SS	12		.8	400		0			2' Rocky Brown Soil
1120	SS	12		0.7	160		5			5' Rocky Brown Sand
1129	SS	12		.4	320		10			10' Tan Sand
1140	SS	12		.4	400		15			15' Tan Sand
1150				.5	480		20			20' Tan sand
1200				.6	240		25			25' Tan Sand
1220				.4	200		30			30' Tan Sand
								End of Soil Boring at 32' bgs		

Water Level Measurements (feet)

Date	Time	Sample Depth	Casing Depth	Cave-in Depth	Water Level	Drilling Method: HSA 3.5' ID
-	-	-	-	-	-	Backfill Method: Bentonite
						Field Representative: GB

Log Of Test Borings

(NOTE - Page 1 of 1)



**ENVIRONMENTAL PLUS, INC.**  
 CONSULTING AND  
 REMEDIAL CONSTRUCTION  
 EUNICE, NEW MEXICO  
 505-394-3481

Project Number: 200066  
 Project Name: West Lovington Unit #55  
 Location: UL-G, Section 8, Township 17 South, Range 36 East  
 Boring Number: SB-2      Surface Elevation: 3910-feet amsl

Time	Sample Type	Recovery (inches)	Moisture	PTD Readings (ppm)	Chloride Analysis (mg/Kg)	U.S.C.S. Symbol	Depth (feet)	Start Date: 2-07-06      Time: 1300hrs Completion Date: 2-07-06      Time: 1333hrs Description
1300	SS	12		.3	24		2'	2' Rocky Brown Soil
1305	SS	12		.3	320		5'	5' Tan Sand
1315	SS	12		.3	200		10'	10' Tan Sand
1323	SS	12		.3	200		15'	15' Tan Sand
							16'	End of Soil Sample at 16'

Water Level Measurements (feet)

Date	Time	Sample Depth	Casing Depth	Cave-in Depth	Water Level	Drilling Method: HSA 3.5' ID
-	-	-	-	-	-	Backfill Method: Bentonite
						Field Representative: GB

Log Of Test Borings

(NOTE - Page 1 of 1)



**ENVIRONMENTAL PLUS, INC.**  
 CONSULTING AND  
 REMEDIAL CONSTRUCTION  
 EUNICE, NEW MEXICO  
 505-394-3481

Project Number: 200066  
 Project Name: West Lovington Unit #55  
 Location: UL-G, Section 8, Township 17 South, Range 36 East  
 Boring Number: SB-3      Surface Elevation: 3910-feet amsl

Time	Sample Type	Recovery (Inches)	Moisture	PID Readings (ppm)	Chloride Analysis (mg/Kg)	U.S.C.S. Symbol	Depth (feet)	Start Date: <u>2-07-06</u> Time: <u>1329hrs</u>	Completion Date: <u>2-07-06</u> Time: <u>1347hrs</u>	Description
1339	SS	12		.53	160					2' Rocky Brown Soil
1342	SS	12		.3	160		5			5' Tan Sand
1347	SS	12		.3	160		10			10' Tan Sand
										End of Soil Boring at 11' bgs

Water Level Measurements (feet)

Date	Time	Sample Depth	Casing Depth	Cave-in Depth	Water Level	Drilling Method: HSA 3.5' ID
-	-	-	-	-	-	Backfill Method: Bentonite
-	-	-	-	-	-	Field Representative: GB

Log Of Test Borings

(NOTE - Page 1 of 1)



**ENVIRONMENTAL PLUS, INC.**  
 CONSULTING AND  
 REMEDIAL CONSTRUCTION  
 EUNICE, NEW MEXICO  
 505-394-3481

Project Number: 200066

Project Name: West Lovington Unit #55

Location: UL-G, Section 8, Township 17 South, Range 36 East

Boring Number: SB-4

Surface Elevation: 3910-feet amsl

Time	Sample Type	Recovery (Inches)	Moisture	PID Readings (ppm)	Chloride Analysis (mg/Kg)	U.S.C.S. Symbol	Depth (feet)	Start Date: <u>2-07-06</u> Time: <u>1329hrs</u>	Completion Date: <u>2-07-06</u> Time: <u>1347hrs</u>	Description
1351	SS	12		.2	160		2'			2' Rocky Brown Soil
1354	SS	12		.4	160		5'			5' Tan Sand
1359	SS	12		.2	160		10'			10' Tan Sand
							11'			End of Soil Boring at 11' bgs

Water Level Measurements (feet)

Date	Time	Sample Depth	Casing Depth	Cave-in Depth	Water Level
-	-	-	-	-	-
-	-	-	-	-	-

Drilling Method: HSA 3.5' ID

Backfill Method: Bentonite

Field Representative: GB

**APPENDIX IV**

**INFORMATION AND METRICS FORM**

**INITIAL NMOCD FORM C-141**

**FINAL NMOCD FORM C-141**



**Information and Metrics**

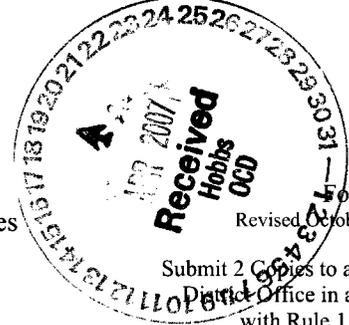
**Incident Date:**  
Unknown

**NMOCD Notified:**  
Unknown

<b>Site:</b> West Lovington Unit #55		<b>Assigned Site Reference :</b> #200066	
<b>Company:</b> Chevron USA, Inc.			
<b>Street Address:</b>			
<b>Mailing Address:</b> P.O. Box 1949			
<b>City, State, Zip:</b> Eunice, New Mexico 88231			
<b>Representative:</b> Larry Williams			
<b>Representative Telephone:</b>			
<b>Telephone:</b>			
<b>Fluid volume released (bbls):</b> unknown		<b>Recovered (bbls):</b> none	
<p>&gt;25 bbls: Notify NMOCD verbally within 24 hrs and submit form C-141 within 15 days. (Also applies to unauthorized releases &gt;500 mcf Natural Gas)</p> <p>5-25 bbls: Submit form C-141 within 15 days (Also applies to unauthorized releases of 50-500 mcf Natural Gas)</p>			
<b>Leak, Spill, or Pit (LSP) Name:</b> West Lovington Unit #55			
<b>Source of contamination:</b> Injection Well			
<b>Land Owner, i.e., BLM, ST, Fee, Other:</b> Darr Angell			
<b>LSP Dimensions:</b> Unknown			
<b>LSP Area:</b> ~3,130 ft <sup>2</sup>			
<b>Location of Reference Point (RP):</b>			
<b>Location distance and direction from RP:</b>			
<b>Latitude:</b> N 32° 52' 36.83"			
<b>Longitude:</b> W 103° 17' 19.47"			
<b>Elevation above mean sea level:</b> 3,895feet			
<b>Feet from South Section Line:</b>			
<b>Feet from East Section Line:</b>			
<b>Location- Unit or ¼/¼:</b> SW¼ of the NE¼		<b>Unit Letter:</b> F	
<b>Location- Section:</b> 8			
<b>Location- Township:</b> 17 South			
<b>Location- Range:</b> 36 East			
<b>Surface water body within 1000 ' radius of site:</b> none			
<b>Domestic water wells within 1000' radius of site:</b> none			
<b>Agricultural water wells within 1000' radius of site:</b> one			
<b>Public water supply wells within 1000' radius of site:</b> none			
<b>Depth from land surface to groundwater (DG):</b> ~50 feet			
<b>Depth of contamination (DC):</b> unknown			
<b>Depth to groundwater (DG - DC = DtGW):</b> ~50 feet			
<b>1. Groundwater</b>		<b>2. Wellhead Protection Area</b>	
If Depth to GW <50 feet: <i>20 points</i>		If <1000' from water source, or; <200' from private domestic water source: <i>20 points</i>	
If Depth to GW 50 to 99 feet: <i>10 points</i>		If >1000' from water source, or; >200' from private domestic water source: <i>0 points</i>	
If Depth to GW >100 feet: <i>0 points</i>			
<b>Site Rank (1+2+3) = 10+20+0=30</b>			
<b>Total Site Ranking Score and Acceptable Concentrations</b>			
Parameter	>19	10-19	0-9
Benzene <sup>1</sup>	10 ppm	10 ppm	10 ppm
BTEX <sup>1</sup>	50 ppm	50 ppm	50 ppm
TPH	100 ppm	1,000 ppm	5,000 ppm
<sup>1</sup> 100 ppm field VOC headspace measurement may be substituted for lab analysis			

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

<b>Name of Company:</b> Chevron	<b>Contact:</b> Larry Williams
<b>Address:</b> P.O. Box 1949 Eunice, NM 88231	<b>Telephone No.:</b>
<b>Facility Name:</b> West Lovington 55	<b>Facility Type:</b> Injection well

<b>Surface Owner:</b> State of New Mexico	<b>Mineral Owner:</b> State of New Mexico	<b>API No.:</b> 30-025-05360
---	---	------------------------------

**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
F	8	17S	36E					Lea

**Latitude:** N 32° 51' 04.38" **Longitude:** W 103° 22' 44.66"

**NATURE OF RELEASE**

<b>Type of Release:</b> produced water	<b>Volume of Release:</b> Unknown	<b>Volume Recovered:</b> none
<b>Source of Release:</b> Injection well	<b>Date and Hour of Occurrence:</b> Unknown	<b>Date and Hour of Discovery:</b> Unknown
<b>Was Immediate Notice Given?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	<b>If YES, To Whom?</b> Pat Caperton, NMOCD	
<b>By Whom?</b>	<b>Date and Hour:</b> Unknown	
<b>Was a Watercourse Reached?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>If YES, Volume Impacting the Watercourse:</b> Not Applicable	

**If a Watercourse was Impacted, Describe Fully.\*** Not Applicable

**Depth to Groundwater:** ~50 feet

**Describe Cause of Problem and Remedial Action Taken.\*** An unknown amount of produced water was released when a flow-line failed. Zero (0) barrels of fluid were recovered. Upon discovery of the release, Chevron contacted EPI for remediation activities. EPI was on-site and did remedial work on the spill on/or around January 31, 2006. Impacted material transported to CRI for disposal.

**Describe Area Affected and Cleanup Action Taken.\*** Approximately 3,130 square feet of surface area was affected by the release.

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.

<b>Signature:</b>	<b>OIL CONSERVATION DIVISION</b>	
<b>Printed Name:</b> Larry Williams	<b>Approved by District Supervisor:</b>	
<b>Title:</b> HES Champion	<b>Approval Date:</b>	<b>Expiration Date:</b>
<b>E-mail Address:</b> larry.williams@chevron.com	<b>Conditions of Approval:</b>	
<b>Date:</b> 11-28-2005 <b>Phone:</b> 505-396-4414 ex 128	<b>Attached</b> <input type="checkbox"/>	

\* Attach Additional Sheets If Necessary

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

<b>Name of Company:</b> Chevron	<b>Contact:</b> Larry Williams
<b>Address:</b> P.O. Box 1949 Eunice, NM 88231	<b>Telephone No.:</b>
<b>Facility Name:</b> West Lovington 55	<b>Facility Type:</b> Injection well
<b>Surface Owner:</b> Darr Angell	<b>Mineral Owner:</b> State of New Mexico
<b>API No.:</b> <u>                    </u>	

**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
F	8	17S	36E					Lea

Latitude: N 32° 51' 04.38" Longitude: W 103° 22' 44.66"

**NATURE OF RELEASE**

<b>Type of Release:</b> Produced water	<b>Volume of Release:</b> Unknown	<b>Volume Recovered:</b> None
<b>Source of Release:</b> Injection well	<b>Date and Hour of Occurrence:</b> Unknown	<b>Date and Hour of Discovery:</b> Unknown
<b>Was Immediate Notice Given?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	<b>If YES, To Whom?</b> Pat Caperton, NMOCD	
<b>By Whom?</b>	<b>Date and Hour:</b> Unknown	
<b>Was a Watercourse Reached?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>If YES, Volume Impacting the Watercourse:</b> Not Applicable	

**If a Watercourse was Impacted, Describe Fully.\*** Not Applicable

**Depth to Groundwater:** ~50 feet

**Describe Cause of Problem and Remedial Action Taken.\*** An unknown amount of produced water was released when a flow-line failed. Zero (0) barrels of fluid were recovered. Excavation and disposal of impacted soil was completed by another contractor.

**Describe Area Affected and Cleanup Action Taken.\*** Approximately 3,130 square feet of surface area was affected by the release. On February 7, 2006 EPI was on-site and four (4) soil borings were advanced throughout the release area to delineate vertical extent of impacted soil. Upon receipt of Soil Boring Soil Sample Laboratory Analytical Data confirming excavation of most soil impacted above NMOCD remedial threshold goals, EPI backfilled the excavation with approximately 14 yds<sup>3</sup> of caliche and 84 yds<sup>3</sup> of top-soil. The entire disturbed area was graded and contoured for natural drainage and will be seeded with a blend preferred by the property owner.

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.

<b>Signature:</b>	<b>OIL CONSERVATION DIVISION</b>	
<b>Printed Name:</b> Larry Williams	<b>Approved by District Supervisor:</b>	
<b>Title:</b> HES Champion	<b>Approval Date:</b> 4-20-07	<b>Expiration Date:</b> —
<b>E-mail Address:</b> larry.williams@chevron.com	<b>Conditions of Approval:</b>	<b>Attached</b> <input type="checkbox"/>
<b>Date:</b> 4-19-2007 <b>Phone:</b> 505-396-4414 <b>ex. 128</b>		

\* Attach Additional Sheets If Necessary