CONESTOGA-ROVERS
& ASSOCIATES

SOIL AND GROUNDWATER ASSESSMENT REPORT

CHEVRON PARDUE FARMS 27-12 WELLSITE
REMEDIATION PLAN 2RP-1395
NE/4, SW/4, SECTION 27, TOWNSHIP 23 SOUTH, RANGE 28 EAST
LATITUDE: N 32.27358 LONGITUDE: W 104.07818
EDDY COUNTY, NEW MEXICO

Prepared For:

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NOVEMBER, 2012
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1.0 INTRODUCTION

This Soil and Groundwater Assessment Report presents data collected at the Chevron Pardue Farms 27-12 Wellsite (hereafter referred to as the "Site") by Conestoga-Rovers & Associates (CRA) on behalf of Chevron Environmental Management Company (CEMC). The Site is currently owned and operated by CEMC, who acquired the Site in association with the 2005 Pure Resources acquisition.

1.1 SITE DESCRIPTION

The Site is an active well location situated approximately one mile southeast of Loving in Eddy County, New Mexico (see Figure 1, Site Location Map and Figure 2, Lease Plat). It is located in the northeast quarter of the southwest quarter of Section 27, Township 23 South, Range 28 East. CEMC personnel who were interviewed indicated that the 27-12 Pardue Farms well produces approximately 12 barrels of oil and 140 barrels of water per day. These fluids are transmitted via flowline to a central tank battery on the Pardue Farms lease.

The surface property is owned by private interests. The surrounding area is primarily developed for oil and gas extraction and agricultural purposes. A salt lake is located approximately 3.35 miles to the northeast of the Site (see Figure 1). The former U.S. Borax and Chemical Company refinery was located approximately 3.5 miles northeast of the Site. The property is situated within the Pecos River floodplain. The Pecos River is located approximately 2.5 miles east of the Site.

Currently, an excavation that is three feet (ft.) deep, three ft. wide, and 30 ft. in length is present on the site. An exposed four-inch diameter polyethylene flowline is present within the excavation. Light brownish-green surface stained soil was observed on the side of a small hill extending in a northeast direction from the flowline excavation. The surface stained soil is approximately 100 feet in length and varies in width from 10 to 30 feet. Surface soils are sandy and loose. The 27-12 Pardue Farms pump-jack and a shed structure are located north and east of the release area.

1.2 SITE HISTORY

On August 30, 2011, Mr. Tom Larson with CRA visited the well location along with Mr. Andy Roblez, with the CEMC Eunice Field Management Team. Mr. Roblez provided some history of the flowline leak that occurred on the property. The leak reportedly occurred in the spring of 2010 from a flowline (see Figure 3, Release Location Map). Based on the size of the surface expression of the leak, the volume was initially estimated at less than five barrels of oil and water. This volume is below New Mexico Oil Conservation Division (NMOCD) reporting requirements and consequently the District 2 office in Artesia was not notified.

A contractor, Ron's Welding, Inc., was hired to perform the initial repair to the flow-line and to excavate several small trenches to evaluate the magnitude of the release. Under the direction of environmental staff from the CEMC office in Midland, two soil borings

(BH-1 and BH-2) were advanced to depths ranging from 21 to 26 ft below ground surface (bgs) in July 2010 (see Figure 3 for approximate borehole locations). Soil samples were collected from the borings and analyzed for total petroleum hydrocarbons (TPH) and chlorides at selected intervals.

Results of the analytical soil data (See Table 1, Soil Analytical Data Summary) indicated TPH concentrations above regulatory levels were limited to the upper five feet in the two borings. However, chloride impacts above regulatory limits were noted in each of the two borings at depths ranging from 21 to 26 ft. bgs.

2.0 REGULATORY FRAMEWORK

The NMOCD guidelines require groundwater to be analyzed for constituents of concern (COC) as defined by the New Mexico Water Quality Control Commission (NMWQCC) Standards. Soil is to be analyzed for COCs as defined by the NMOCD Recommended Remediation Action Levels (RRALs).

2.1 REGULATORY LIMITS

The COCs in soil and groundwater at the Site are chloride, total dissolved solids (TDS), benzene, ethylbenzene, toluene, xylene, TPH-diesel range organics (TPH-DRO), and TPH-gasoline range organics (TPH-GRO). Analytical results for COCs in soil and groundwater were compared to the NMOCD RRALs and NMWQCC standards, respectively. These regulatory limits are presented in the following table:

Contaminate of Concern	*NMOCD Recommended Remediation Action Levels for Soil (mg/kg)*	*NMWQCC Standards for Groundwater (mg/L)*
Chloride 1,2	250	250
TDS2	---	1,000
Benzene1	0.2	0.01
Ethylbenzene2	---	0.75
Toluene2	---	0.75
Xylene2	---	0.62
BTEX, Total1	50	---
TPH-DRO/GRO1	500	---

Notes

1) NMOCD Guidance for Release Reporting and Corrective Actions Under Rule 29 (19.15.29 NMAC) and Rule 30 (19.15.30 NMAC) of the Oil & Gas Regulations (DRAFT)
2) NMWQCC Other Standards for Domestic Water Supply per NMAC 20.6.2.3103B

2.2 HISTORICAL GROUNDWATER INFORMATION

Several studies of groundwater quality were performed in the vicinity of the Site to support local water use planning and Project Gnome. Project Gnome was the first nuclear test of the Plowshare Program and consisted of detonating a nuclear device approximately 1200 ft. bgs (Cooper, 1962). The Project Gnome detonation occurred December 1961 and the site is located approximately 13 miles east of the Site.

Groundwater found west of the Pecos River is typically located within the Cenozoic Alluvium, is typically unconfined, and is believed to be in communication with water found in the underlying Rustler Formation (Cooper, 1962). Groundwater ranges in depth from 10 ft. bgs near the river to approximately 100 ft. bgs west of the town of Loving, New Mexico (Cooper 1962). Groundwater typically flows to the east/southeast towards the Pecos River.

Water quality within the Cenozoic Alluvium is highly variable. Concentrations of total dissolved solids (TDS) range from 188 to 15,000 milligrams per liter (mg/l) and chlorides range from five to 7400 mg/l (Richey, et. al., 1985). To assess groundwater concentrations local to the site, a table of water chemistry data obtained from wells located within the same township (23 south) and range (28 east) was compiled:

Section	Depth (Feet)	TDS	Chlorides
20	250	5780	1620
5	210	4133	731
7	195	N/A	1120
11	100	5841	1243
23	148	2900	720
24	96	3272	664
31	93	N/A	400
33	225	N/A	794

Notes
Data obtained from (Richey, et. al., 1985)
Concentrations in mg/l
N/A indicates no data available

Based on this data, naturally occurring concentrations of dissolved solids and chlorides generally exceed NMWQCC regulatory limits in wells located in the vicinity of the Site.

3.0 SOIL AND GROUNDWATER ASSESSMENT ACTIVITIES

Six additional soil borings (SB-1 through SB-3 and MW-1 through MW-3) were installed at the Site on April 9 and 10, 2012. Three of these borings (MW-1 through MW-3) were converted to groundwater monitor wells (See Figure 4, Soil Analytical Results Map for boring and well locations). These borings and monitor wells were installed to further assess the nature and magnitude of the flow-line spill in an area northeast of the release point.

3.1 FIELD METHODOLOGY

Prior to mobilizing the drilling equipment to the Site, soil boring locations were staked in the field. A utility locate notification was made at least 48-hours prior to mobilization. A post-hole digger or similar borehole clearance tool was used to check for utilities at each boring location. Checking for utilities was performed by excavating by hand to a depth of approximately five-ft. bgs and approximately 10-inches (in.) in diameter.

An air-rotary drilling rig operated by a licensed State of New Mexico water well driller, White Drilling of Clyde, Texas, was used to advance the soil borings to depths ranging from 25 to 60-feet bgs. An application for permit to drill a well with no consumptive use of water was filed with the New Mexico Office of the State Engineer (NMOSE) for each monitor well. A copy of the NMOSE monitor well permit application and Well Records and Logs are provided in Appendix A. Boring logs and details of the monitoring wells are shown in Appendix B. Data from the borings was used to assess the nature and extent of chlorides, TDS and total petroleum hydrocarbons (TPH) in the subsurface.

3.1.1 SOIL SAMPLING AND FIELD SCREENING

The field geologist recorded the subsurface lithology and field screening data on soil boring logs. One sample from each five-foot soil interval was field screened for the presence of volatile organic vapors with a photo-ionization detector (PID). Selected soil samples were collected for additional hydrocarbon analysis by laboratory methods. Three soil samples from each of the six soil borings were collected, preserved on ice and submitted to Lancaster Laboratories (Lancaster) in Lancaster, Pennsylvania for analyses of Chlorides by EPA Method 300, TPH by EPA Method 8015 (modified) and BTEX by EPA Method 8021B, respectively.

3.1.2 MONITOR WELL CONSTRUCTION

The three monitor wells (MWs 1, 2, and 3) were constructed of four-inch diameter polyvinyl chloride (PVC) casing. Monitor wells were constructed with 35 to 40 feet of 0.020" slot screen PVC well screen. Each screened interval was constructed to intersect the groundwater interface. An 8/16 silica sand pack was placed in the annular space surrounding the well screen. The sand pack extended from approximately two feet above the well screen to the bottom of each borehole. A three-ft. thick bentonite seal was placed above the sand pack in each well. The remainder of the borehole annular space was

backfilled with cement grout. Above-ground (temporary) surface completions with concrete pads were constructed to protect each monitoring well.

Drill cuttings were temporarily stockpiled onsite until disposal occurred. A composite waste characterization sample was collected from the drill cuttings and analyzed for disposal. See Appendix C for investigation derived waste (IDW) disposal manifests.

3.1.3 MONITOR WELL DEVELOPMENT AND SAMPLING

The monitor wells were developed by bailing and pumping. Gauging activities were conducted using an oil/water interface probe to measure static water levels and LNAPL thicknesses (if present) to the nearest hundredth of a foot. Three well volumes were bailed from each well using a disposable hand bailer. Measurements for temperature and conductivity were recorded until three consecutive readings indicated stabilization of parameters (i.e., variation <10%). Development and purge water was mixed with the drill cuttings after being placed in a water tight roll-off container. Both the water and cuttings were disposed of at a regulated facility (see Appendix C for disposal documentation).

Once the field parameters stabilized in each of the monitor wells, groundwater samples were collected using disposable bailers. The samples were placed in laboratory prepared containers, preserved on ice, and submitted to Lancaster Laboratories in Lancaster, Pennsylvania. Groundwater samples were analyzed for chlorides by EPA Method 300, TDS by Method SM20 2540C, TPH, gasoline range organics (GRO) and diesel range organics (DRO) by EPA Method 8015 modified, and benzene, toluene, ethylbenzene, and xylene (BTEX) by EPA Method 8021B, respectively.

Two trip blank samples were collected during the April 2012 soil and groundwater assessment. Trip blank concentrations did not result in any detection for constituents analyzed. Copies of the certified analytical reports and chain-of-custody documentation are attached in Appendix D.

3.2 SOIL ASSESSMENT RESULTS

Subsurface soils generally consist of loose silty sand in the top 25 feet with increasing gravel at depth. Logs of the soil borings and construction details of the groundwater monitoring wells are presented as Appendix B. Soil borings not converted to monitoring wells were plugged from ground surface to the total drill depth with bentonite pellets.

Table 1 presents a summary of analytical data from soil samples collected from each boring. Some observations from this data includes:

- Soil samples exceeded the NMOCD RRAL for chloride
- Results from SB-1 and SB-2 exceeded the NMOCD RRAL for TPH-GRO/DRO at 5 ft. bgs. Sample results from SB-3 exceeded NMOCD RRAL for TPH-GRO/DRO at 5 and 10 ft. bgs

- The majority of the TPH concentrations consisted of DRO
- Concentrations of BTEX were below NMOCD RRALs

Based on the data, it appears that the majority of hydrocarbon-impacted soils are located within 5 feet of ground surface. The TPH and chloride analytical results are presented on Figure 4, Soil Analytical Results Map. Analytical laboratory reports for the soil samples are provided in Appendix D.

3.3 GROUNDWATER ASSESSMENT RESULTS

A topographic survey was performed to calculate the top of casing (TOC) and depth to groundwater elevations for each monitor well. The topographic survey is presented in Appendix E. The survey was performed by West Company of Midland, Inc. on June 7, 2012.

Depth to groundwater measurements were collected on April 11, 2012 and April 20, 2012. Data from the gauging events are presented in Table 2, Groundwater Gauging Summary. The Groundwater Gradient Map (See Figure 5) depicts groundwater direction and elevation information based on data collected from the April 11, 2012 groundwater monitoring event. The data indicates that the groundwater flows toward the northeast at gradient of approximately 0.0003 foot/foot.

Table 3, Groundwater Analytical Summary, presents the analytical results obtained from the groundwater sampling event. Analytical results of the groundwater samples collected from the monitor wells indicate Chloride and TDS concentrations exceeded the NMWQCC Standards. Concentrations of TPH were not observed above the practical quantification limit and Concentrations of BTEX were not observed above laboratory reporting limits (See Figure 6, Groundwater Chloride and TDS Concentration Map Laboratory analytical reports and chain-of-custody documentation for the groundwater samples are presented in Appendix D.

Based on the analytical results a NMOCD Release Notification and Corrective Action Notice, Form C-141 was submitted to Mr. Mike Bratcher on November 7, 2012. See Appendix F for a copy of this form.

4.0 SUMMARY OF FINDINGS

Based on the soil and groundwater assessment at the Site, CRA presents the following summary:

- Petroleum hydrocarbon concentrations in the soil appear to be predominately localized within 5 five feet of ground surface. The petroleum hydrocarbons that are present are predominately diesel range organics.

- Soil concentrations of chlorides exceed NMOCD RRALs. The results of the soil assessment indicate maximum chloride concentrations in soil are located at 5 ft. bgs and diminish with depth.

- The observed depth to groundwater ranged from 26.03 to 29.35 ft. bgs and the gradient was to the north. This is contrary to the regional historical groundwater direction which is to the south-southeast towards the Pecos River. It is possible that the gradient is a localized feature.

- Petroleum hydrocarbon concentrations were not detected in groundwater above the laboratory reporting limit.

- Background TDS and chloride water quality data obtained from wells in the vicinity of the Site exceed NMWQCC regulatory limits.

- Elevated chloride and TDS concentrations were observed in groundwater samples collected from wells at the Site. These concentrations exceeded NMWQCC regulatory limits.

5.0 REFERENCES

Cooper, James B, "Groundwater Investigations of the Project Gnome Area, Eddy and Lea Counties, New Mexico," United States Department of the Interior Geologic Survey, March 1962.

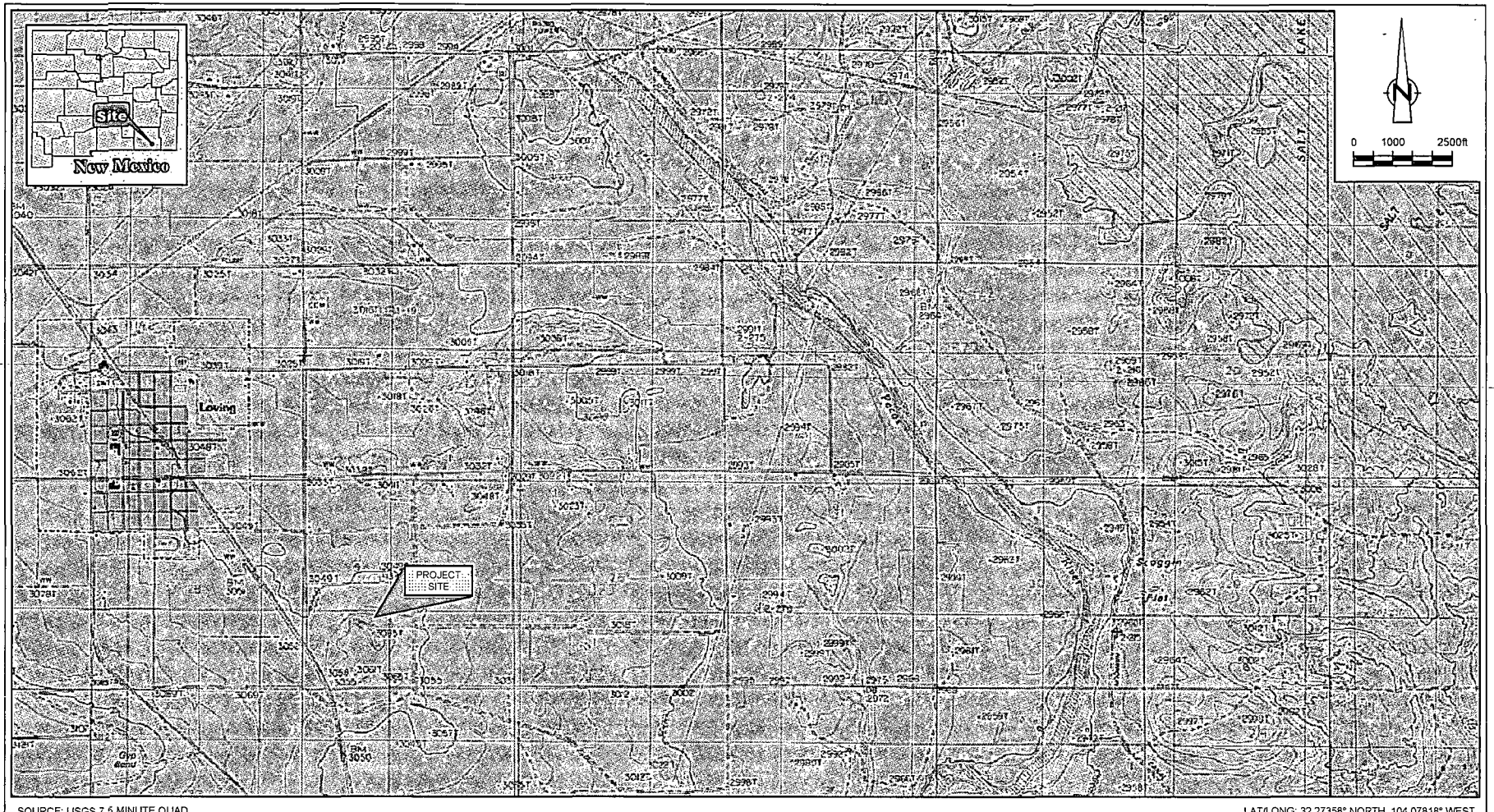
Richey, Stephen F.; Wells, Jane G.; and Stephens, Kathleen T.; "Geohydrology of the Delaware Basin and Vicinity, Texas and New Mexico," US Geological Survey, Water Resources Investigation Report 84-4077, 1985.

All of Which is Respectfully Submitted,

Thomas C. Larson, PG
Midland Operations Manager

Bernard Bockisch, PMP
Senior Project Manager

Figures



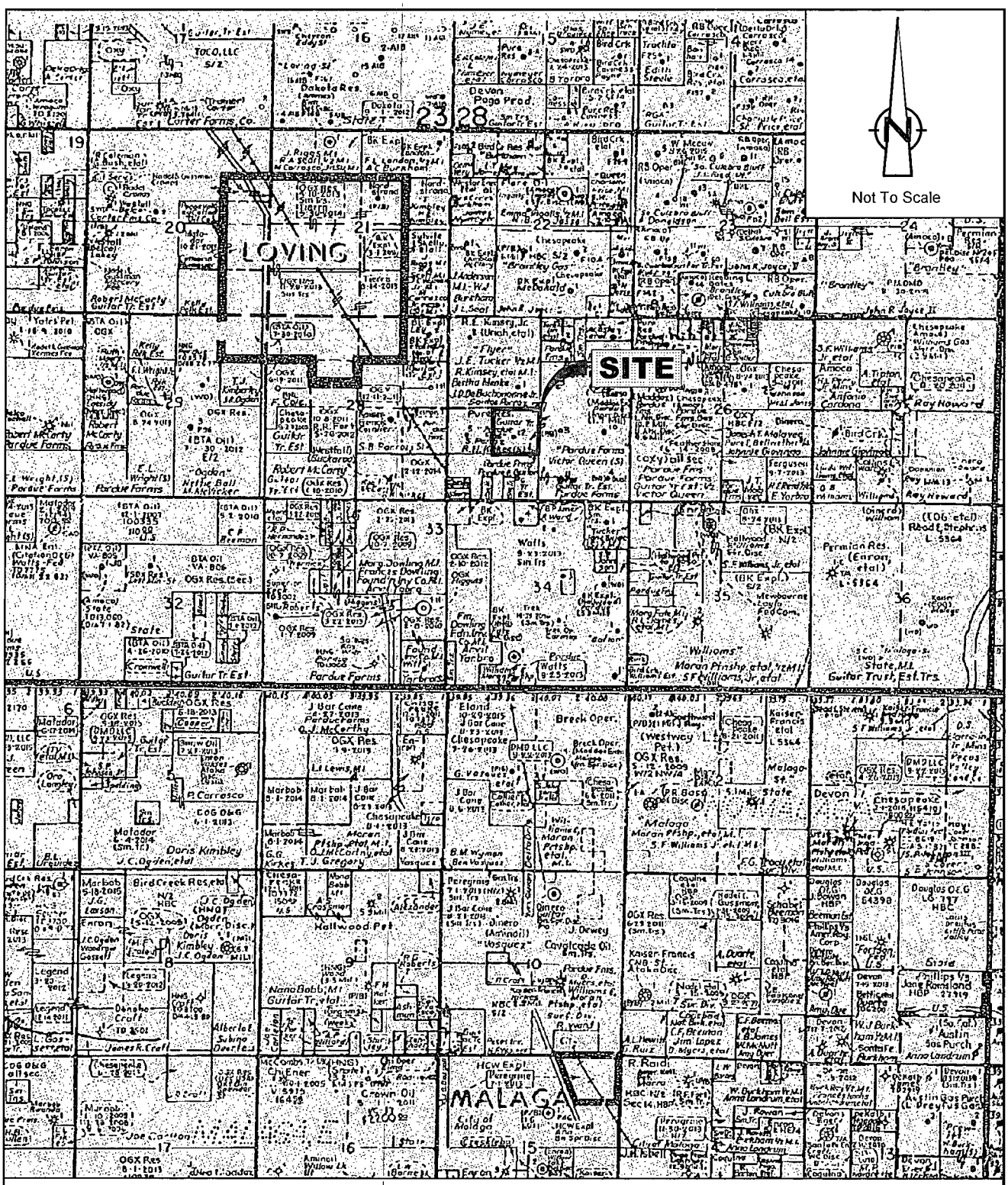
SOURCE: USGS 7.5 MINUTE QUAD
"LOVING, NEW MEXICO"

LAT/LONG: 32.27358° NORTH, 104.07818° WEST
COORDINATE: NAD83 DATUM, U.S. FOOT
STATE PLANE ZONE - NEW MEXICO EAST

Figure 1

SITE LOCATION MAP
PARDUE FARMS SOIL AND GROUNDWATER ASSESSMENT
LOVING, NEW MEXICO
Chevron Environmental Management Company

076323-00(002)GN-DL003 NOV 1/2012

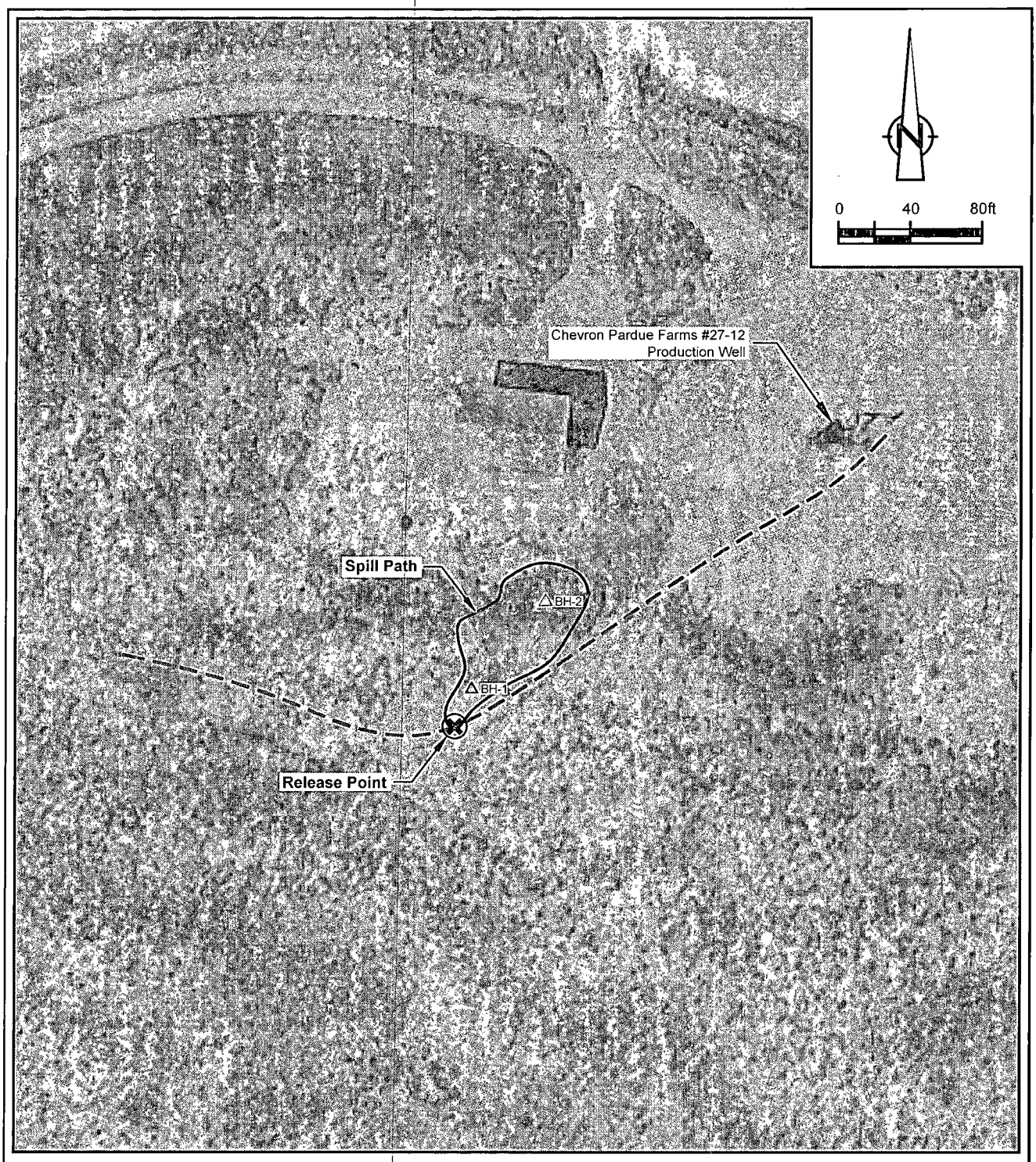


RE: Lease Plat by Midland Map Company.

Figure 2

LEASE PLAT
PARDUE FARMS SOIL AND GROUNDWATER ASSESSMENT
LOVING, NEW MEXICO
Chevron Environmental Management Company

076323-00(002)GN-DL002 AUG 20/2012



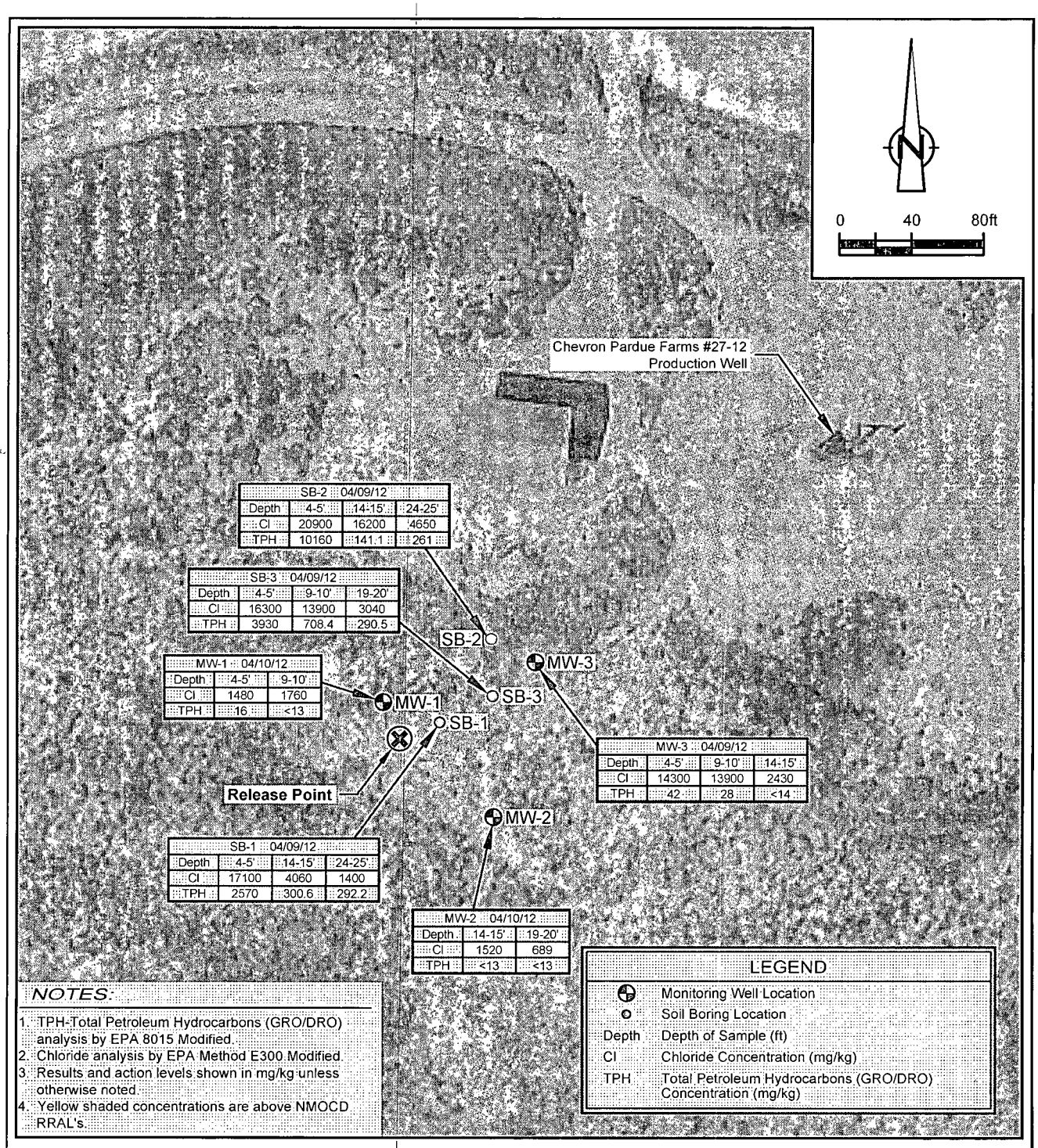
LAT/LONG: 32.27358° NORTH, 104.07818° WEST
COORDINATE: NAD83 DATUM, U.S. FOOT
STATE PLANE ZONE - NEW MEXICO EAST

LEGEND	
△	June 2010 Soil Boring Location
⊗	Flowline Release Point (Approximate)
— —	Flowline Location (Approximate)

Figure 3

RELEASE LOCATION MAP
PARDUE FARMS SOIL AND GROUNDWATER ASSESSMENT
LOVING, NEW MEXICO
Chevron Environmental Management Company

076323-00(002)GN-DL003 NOV 1/2012

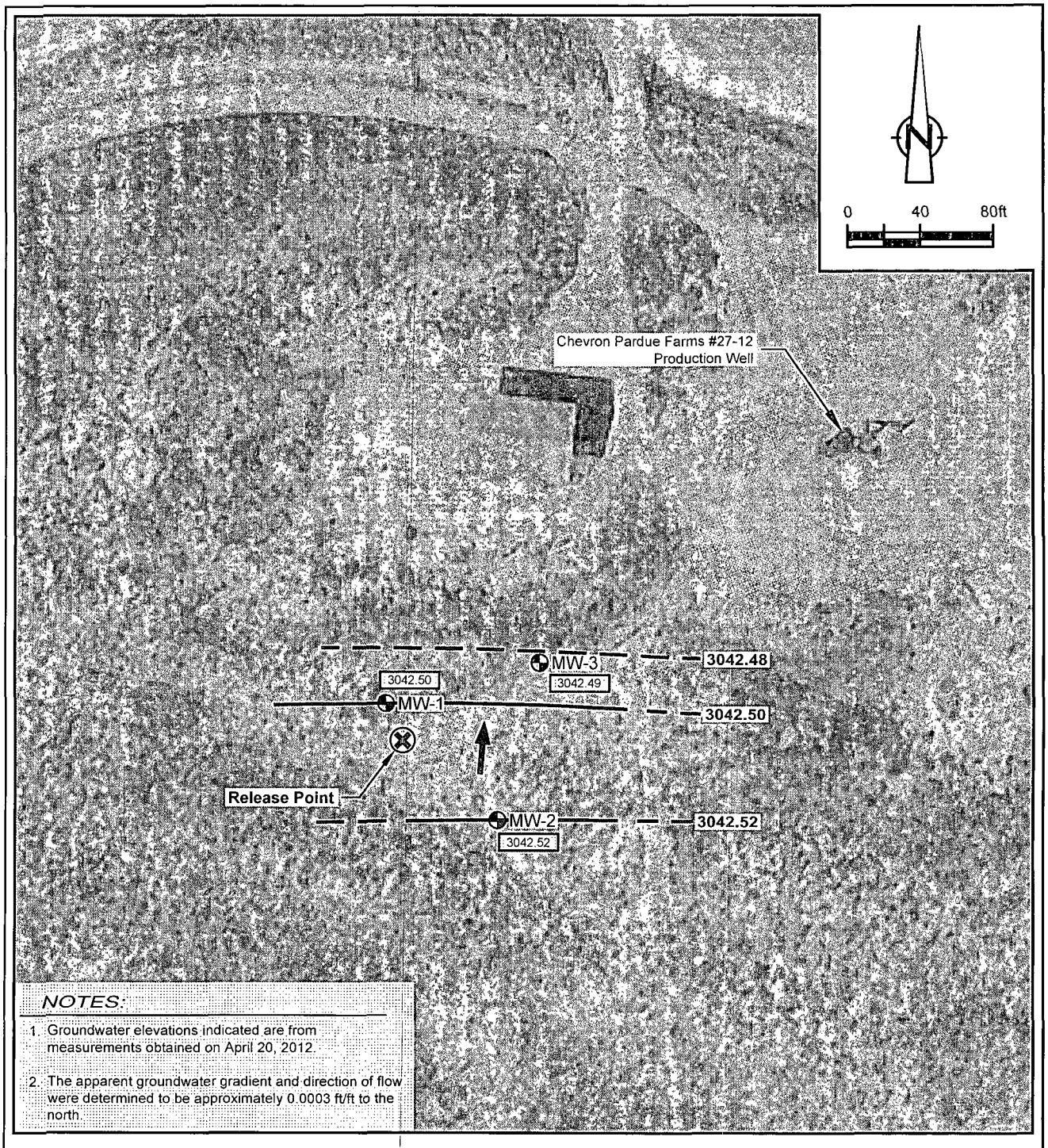


LAT/LONG: 32.27358° NORTH, 104.07818° WEST
COORDINATE: NAD83 DATUM, U.S. FOOT
STATE PLANE ZONE - NEW MEXICO EAST

Figure 4

SOIL ANALYTICAL RESULTS MAP
PARDUE FARMS SOIL AND GROUNDWATER ASSESSMENT
LOVING, NEW MEXICO
Chevron Environmental Management Company

076323-00(002)GN-DL001 AUG 20/2012



NOTES:

1. Groundwater elevations indicated are from measurements obtained on April 20, 2012.
2. The apparent groundwater gradient and direction of flow were determined to be approximately 0.0003 ft/ft to the north.

LEGEND

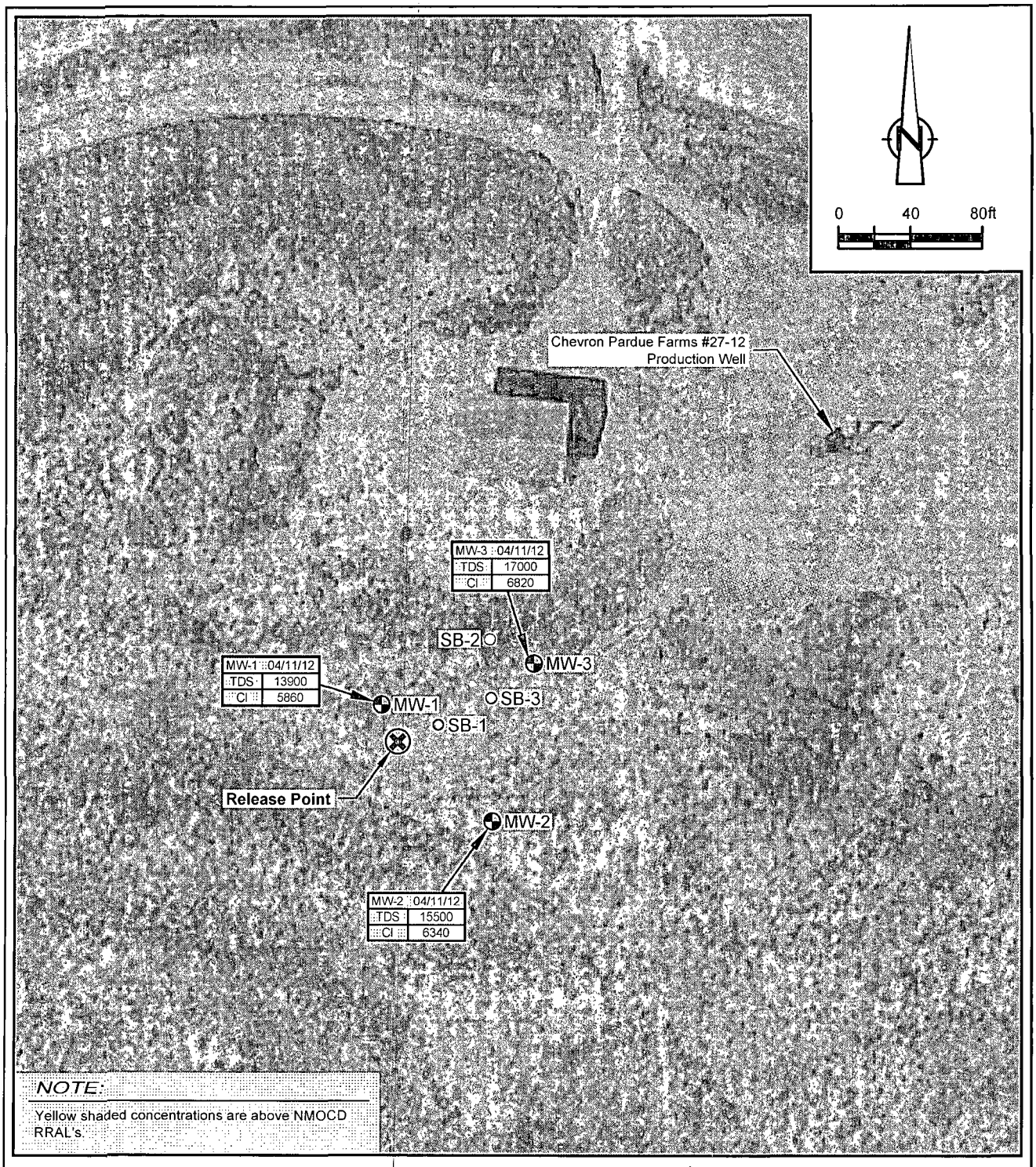
- Monitoring Well Location
- Groundwater Elevation Contour (Interval = 0.02 ft and Dashed Where Inferred)
- 3042.52 Elevation of Groundwater (ft)
- Direction Of Groundwater Flow

LAT/LONG: 32.27358° NORTH, 104.07818° WEST
COORDINATE: NAD83 DATUM, U.S. FOOT
STATE PLANE ZONE - NEW MEXICO EAST

Figure 5

GROUNDWATER GRADIENT MAP
PARDUE FARMS SOIL AND GROUNDWATER ASSESSMENT
LOVING, NEW MEXICO
Chevron Environmental Management Company

076323-00(002)GN-DL003 NOV 1/2012



LEGEND	
⊕	Monitoring Well Location
o	Soil Boring Location
TDS	Total Dissolved Solids Concentration (mg/L)
Cl	Chloride Concentration (mg/L)

LAT/LONG: 32.27358° NORTH, 104.07818° WEST
COORDINATE: NAD83 DATUM, U.S. FOOT
STATE PLANE ZONE - NEW MEXICO EAST

Figure 6

GROUNDWATER CHLORIDE AND TDS CONCENTRATION MAP
PARDUE FARMS SOIL AND GROUNDWATER ASSESSMENT
LOVING, NEW MEXICO
Chevron Environmental Management Company

076323-00(002)GN-DL003 NOV 1/2012

Tables

TABLE 1

SUMMARY OF SOIL ANALYTICAL DATA
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
PARDUE FARMS 27-12
EDDY COUNTY, NEW MEXICO

Sample ID	Sample Date	Depth (feet)	Benzene	Toluene	Ethyl-Benzene	Xylenes	Total BTEX	Percent Moisture (%)	Chloride	TPH		
										GRO	DRO	Total (GRO/DRO)
New Mexico Oil Conservation Division Recommended Remediation Action Levels (Vertical separation from groundwater less than 50')												
			0.2	---	---	---	50	---	250	---	---	500
BH-1	6/21/10	0-1	NA	NA	NA	NA	NA	NA	20,000	3,960	11,700	15,660
BH-1	6/21/10	5-6	NA	NA	NA	NA	NA	NA	18,400	346	1,270	1,616
BH-1	6/21/10	10-11	NA	NA	NA	NA	NA	NA	8,000	<10	<10	<10
BH-1	6/21/10	15-16	NA	NA	NA	NA	NA	NA	2,920	<10	61.4	61.4
BH-1	6/21/10	20-21	NA	NA	NA	NA	NA	NA	2,120	NA	NA	NA
BH-1	6/21/10	25-26	NA	NA	NA	NA	NA	NA	1,960	NA	NA	NA
BH-2	6/21/10	0-1	NA	NA	NA	NA	NA	NA	14,400	1,560	13,200	14,760
BH-2	6/21/10	5-6	NA	NA	NA	NA	NA	NA	16,800	<10	14.6	14.6
BH-2	6/21/10	10-11	NA	NA	NA	NA	NA	NA	4,320	<10	<10	<10
BH-2	6/21/10	15-16	NA	NA	NA	NA	NA	NA	2,600	<10	<10	<10
BH-2	6/21/10	20-21	NA	NA	NA	NA	NA	NA	2,360	NA	NA	NA
SB-1 5'	4/9/12	4-5	<0.020	0.33	0.62	3.9	4.9	8.4	17,100	170	2,400	2,570
SB-1 15'	4/9/12	14-15	<0.0053	<0.0053	<0.0053	<0.016	<0.016	11.2	4,060	0.6 J	300	300.6
SB-1 25'	4/9/12	24-25	<0.0054	<0.0054	0.0040 J	0.028	0.032	13	1,400	2.2	290	292.2
SB-2 5'	4/9/12	4-5	0.027 J	3.4	3.7	20	27	10.3	20,900	660	9,500	10,160
SB-2 15'	4/9/12	14-15	<0.0054	<0.0054	<0.0054	<0.016	<0.016	9.9	16,200	1.1 J	140	141.1
SB-2 25'	4/9/12	24-25	<0.0054	<0.0054	<0.0054	<0.016	<0.016	11.6	4,650	1.0 J	260	261
SB-3 5'	4/9/12	4-5	<0.021	0.36	0.81	5.1	6.3	9.3	16,300	230	3,700	3,930
SB-3 10'	4/9/12	9-10	0.0030 J	<0.0055	0.0092	0.079	0.091	7.5	13,900	8.4	700	708.4
SB-3 20'	4/9/12	19-20	<0.0057	<0.0057	<0.0057	<0.017	<0.017	10.7	3,040	0.5 J	290	290.5
MW-1 5'	4/10/12	4-5	<0.0052	<0.0052	<0.0052	<0.016	<0.016	6.4	1,480	<1.0	16	16
MW-1 10'	4/10/12	9-10	<0.0057	<0.0057	<0.0057	<0.017	<0.017	7.7	1,760	<1.1	<13	<13
MW-2 15'	4/10/12	14-15	<0.0051	<0.0051	<0.0051	<0.015	<0.015	9.2	1,520	<1.0	<13	<13
MW-2 20'	4/10/12	19-20	<0.0057	<0.0057	<0.0057	<0.017	<0.017	11.1	689	<1.1	<13	<13
MW-3 5'	4/9/12	4-5	0.0023 J	0.0023 J	0.0029 J	0.011 J	0.019	9.7	14,300	<1.1	42	42
MW-3 10'	4/9/12	9-10	<0.0054	<0.0054	<0.0054	<0.016	<0.016	9.5	13,900	<1.1	28	28
MW-3 15'	4/9/12	14-15	<0.0054	<0.0054	<0.0054	<0.016	<0.016	11.9	2,430	<1.1	<14	<14

Notes

1) Results that are bold and highlighted exceed the New Mexico Oil Conservation Division Recommended Remediation Action Levels
2) Results that are bold exceed the laboratory reporting limit (RL)
3) BTEX analysis by EPA Method 8021B
4) TPH (GRO/DRO) analysis by EPA Method 8015 Modified
5) Results and Action Levels shown in mg/kg, unless otherwise noted
6) Soil borings BH-1 and BH-2 were sampled by **CONSULTANT** on June 21, 2010
7) < = Not detected at or above the laboratory reporting limit
8) J = estimated value between RL & MDL
9) NA = Not Analyzed

TABLE 3

GROUNDWATER ANALYTICAL SUMMARY
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
PARDUE FARMS 27-12
EDDY COUNTY, NEW MEXICO

Sample ID	*Sample Date*	*Benzene*	*Toluene*	*Ethyl-Benzene*	*Xylenes*	*TDS*	*Chloride*	*TPH*		
								GRO	*DRO*	*Total (GRO/DRO)*
New Mexico Water Quality Control Commission Standards										
		0.01	**0.75**	**0.75**	**0.62**	**1,000**	**250**	---	---	---
MW-1	4/11/12	<0.0010	<0.0010	<0.0010	<0.0030	**13,900**	**5,860**	<0.050	0.035 J	0.035
MW-2	4/11/12	<0.0010	<0.0010	<0.0010	<0.0030	**15,500**	**6,340**	<0.050	0.050 J	0.050
MW-3	4/11/12	<0.0010	<0.0010	<0.0010	<0.0030	**17,000**	**6,820**	<0.050	0.094 J	0.094

Notes:

1) Results that are bold exceed the laboratory reporting limit (RL)
2) BTEX analysis by EPA Method 8021B
3) TPH (GRO/DRO) analysis by EPA Method 8015 Modified
4) Results and standards shown in mg/L
5) < = Not detected at or above the reporting limit
6) J = estimated value between RL & MDL

Appendices

A

CONESTOGA-ROVERS
& ASSOCIATES

2135 South Loop, 250 West
Midland, Texas 79703
Telephone: (432) 686-0086 Fax: (432) 686-0186
http://www.craworld.com

April 4, 2012

Reference No. 076323

Mr. Greg Alvorado
New Mexico Office of the State Engineer
Water Rights Division, District II
1900 West Second Street
Roswell, NM 88201-1712

Re: Application to Drill Three Monitor Wells with No Consumptive Use of Water
Eddy County, Texas

Dear Mr. Alvorado:

Please find enclosed an Application to Drill Three Monitor Wells with No Consumptive Use of Water in triplicate (3) and a money order for $15.00 ($5.00 fee per monitor well) to the NMOSE.

If more information is needed, please contact me at the numbers shown above.

Thank You,

CONESTOGA-ROVERS & ASSOCIATES

Thomas C. Larson
Midland Operations Manager

Enclosures Include:
Application to Drill a Well with No Consumption Use of Water (3) with original signature.
Money Order for $15.00.

File No.

NEW MEXICO OFFICE OF THE STATE ENGINEER

APPLICATION FOR PERMIT TO DRILL A WELL WITH NO CONSUMPTIVE USE OF WATER

(check applicable box):

For fees, see State Engineer website: http://www.ose.state.nm.us/

Purpose:	☐ Pollution Control And / Or Recovery	☐ Geo-Thermal
☐ Exploratory	☐ Construction Site De-Watering	☐ Other (Describe):
☒ Monitoring	☐ Mineral De-Watering	

A separate permit will be required to apply water to beneficial use.

☐ Temporary Request - Requested Start Date: Requested End Date:

Plugging Plan of Operations Submitted? ☐ Yes ☒ No

1. APPLICANT(S)

Name: **Chevron Environmental Management Company - Matt Hudson (Houston) Project Manager**	Name:
Contact or Agent: check here if Agent ☒ **Tom Larson with Conestoga Rovers and Associates**	Contact or Agent: check here if Agent ☐
Mailing Address: **2135 S Loop 250 West**	Mailing Address:
City: **Midland**	City:
State: **TX** Zip Code: **79703**	State: Zip Code:
Phone: **432-553-1681** ☐ Home ☒ Cell Phone (Work): **432-686-0086**	Phone: ☐ Home ☐ Cell Phone (Work):
E-mail (optional): **tlarson@craworld.com**	E-mail (optional):

FOR OSE INTERNAL USE

Application for Permit, Form wr-07, Rev 8/25/11

File Number:	Trn Number:
Trans Description (optional):	
Sub-Basin:	
PCW/LOG Due Date:	

2. WELL(S) Describe the well(s) applicable to this application.

Location Required: Coordinate location must be reported in NM State Plane (NAD 83), UTM (NAD 83), or Latitude/Longitude (Lat/Long - WGS84)

☐ NM State Plane (NAD83) (Feet)
☐ NM West Zone
☐ NM East Zone
☐ NM Central Zone

☐ UTM (NAD83) (Meters)
☐ Zone 12N
☐ Zone 13N

☒ Lat/Long (WGS84) (to the nearest 1/10th of second)

Well Number (if known):	X or Easting or Latitude:	Y or Northing or Longitude:	Optional: Complete boxes labeled "Other" below with PLSS (Public Land Survey System, i.e. Quarters, Section, Township, Range); Hydrographic Survey Map & Tract; Lot, Block & Subdivision; OR Land Grant Name if known.
MW-1			32 deg 16', 25.10" N 104 deg 4', 42.06"W
MW-2			32 deg 16', 24.25"N 104 deg 4, 41.07"W
MW-3			32 deg 16' 25.23"N 104 deg 4' 41.03"W
			Note: all 3 MWs located in NE/4 of SW/4 section 27, T-23-S, R-28-E

NOTE: If more well locations need to be described, complete form WR-08 (Attachment 1 – POD Descriptions)
Additional well descriptions are attached: ☐ Yes ☐ No **If yes, how many**_____

Other description relating well to common landmarks, streets, or other:

Well is on land owned by: **Billy Melton**

Well Information: NOTE: If more than one (1) well needs to be described, provide attachment. **Attached?** ☐ Yes ☒ No
If yes, how many_____

Approximate depth of well (feet): **55.00**	Outside diameter of well casing (inches): **4.00**
Driller Name: **White Drilling Company, Inc.**	Driller License Number: **1456**

3. ADDITIONAL STATEMENTS OR EXPLANATIONS

FOR OSE INTERNAL USE

Application for Permit, Form wr-07

File Number:	Trn Number:

4. SPECIFIC REQUIREMENTS: The applicant must include the following, as applicable to each well type. Please check the appropriate boxes, to indicate the information has been included and/or attached to this application:

Exploratory:	**Pollution Control and/or Recovery:**	**Construction De-Watering:**	**Mine De-Watering:**
☐ Include a description of any proposed pump test, if applicable.	☐ Include a plan for pollution control/recovery, that includes the following: ☐ A description of the need for the pollution control or recovery operation. ☐ The estimated maximum period of time for completion of the operation. ☐ The annual diversion amount. ☐ The annual consumptive use amount. ☐ The maximum amount of water to be diverted and injected for the duration of the operation. ☐ The method and place of discharge.	☐ Include a description of the proposed dewatering operation, ☐ The estimated duration of the operation, ☐ The maximum amount of water to be diverted, ☐ A description of the need for the dewatering operation, and, ☐ A description of how the diverted water will be disposed of.	☐ Include a plan for pollution control/recovery, that includes the following: ☐ A description of the need for mine dewatering. ☐ The estimated maximum period of time for completion of the operation. ☐ The source(s) of the water to be diverted. ☐ The geohydrologic characteristics of the aquifer(s). ☐ The maximum amount of water to be diverted per annum. ☐ The maximum amount of water to be diverted for the duration of the operation. ☐ The quality of the water. ☐ The method of measurement of water diverted. ☐ The recharge of water to the aquifer. ☐ Description of the estimated area of hydrologic effect of the project. ☐ The method and place of discharge. ☐ An estimation of the effects on surface water rights and underground water rights from the mine dewatering project. ☐ A description of the methods employed to estimate effects on surface water rights and underground water rights. ☐ Information on existing wells, rivers, springs, and wetlands within the area of hydrologic effect.
Monitoring: ☒ Include the reason for the monitoring well, and, ☐ The duration of the planned monitoring.	☐ The method of measurement of water produced and discharged. ☐ The source of water to be injected. ☐ The method of measurement of water injected. ☐ The characteristics of the aquifer. ☐ The method of determining the resulting annual consumptive use of water and depletion from any related stream system. ☐ Proof of any permit required from the New Mexico Environment Department. ☐ An access agreement if the applicant is not the owner of the land on which the pollution plume control or recovery well is to be located.	**Geo-Thermal:** ☐ Include a description of the geothermal heat exchange project, ☐ The amount of water to be diverted and re-injected for the project, ☐ The time frame for constructing the geothermal heat exchange project, and, ☐ The duration of the project. ☐ Preliminary surveys, design data, and additional information shall be included to provide all essential facts relating to the request.	

ACKNOWLEDGEMENT

I, We (name of applicant(s)), _____
Print Name(s)

affirm that the foregoing statements are true to the best of (my, our) knowledge and belief.

_____ _____
Applicant Signature Applicant Signature

ACTION OF THE STATE ENGINEER

This application is:

☐ approved ☐ partially approved ☐ denied

provided it is not exercised to the detriment of any others having existing rights, and is not contrary to the conservation of water in New Mexico nor detrimental to the public welfare and further subject to the attached conditions of approval.

Witness my hand and seal this _____ day of _____ 20 _____ , for the State Engineer,

_____, State Engineer

By: _____ _____
Signature Print

Title: _____
Print

FOR OSE INTERNAL USE Application for Permit, Form wr-07

File Number:	Trn Number:

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION

POD NUMBER (WELL NUMBER)	OSE FILE NUMBER(S)
MW-1	

WELL OWNER NAME(S)	PHONE (OPTIONAL)
Chevron Environmental Management Co.	713-372-9207

WELL OWNER MAILING ADDRESS	CITY	STATE	ZIP
1400 Smith St., Room 07076	Houston	TX	77002

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32	16	24.90	N
	LONGITUDE	104	4	42.50	W

* ACCURACY REQUIRED: ONE TENTH OF A SECOND
* DATUM REQUIRED: WGS 84

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS

Chevron Pardue Farms 27-12

2. OPTIONAL

(2.5 ACRE)	(10 ACRE)	(40 ACRE)	(160 ACRE)	SECTION	TOWNSHIP		RANGE	
¼	¼	¼	¼	27	23	☐ NORTH ☑ SOUTH	28	☑ EAST ☐ WEST

SUBDIVISION NAME	LOT NUMBER	BLOCK NUMBER	UNIT/TRACT

HYDROGRAPHIC SURVEY	MAP NUMBER	TRACT NUMBER

3. DRILLING INFORMATION

LICENSE NUMBER	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
WD-1456	John W. White	White Drilling Company, Inc.

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
4/11/12	4/11/12	55.0	58.0	45.0

COMPLETED WELL IS: ☐ ARTESIAN ☐ DRY HOLE ☑ SHALLOW (UNCONFINED)

STATIC WATER LEVEL IN COMPLETED WELL (FT): 26.78

DRILLING FLUID: ☑ AIR ☐ MUD ☐ ADDITIVES – SPECIFY:

DRILLING METHOD: ☑ ROTARY ☐ HAMMER ☐ CABLE TOOL ☐ OTHER – SPECIFY:

DEPTH (FT) FROM	DEPTH (FT) TO	BORE HOLE DIA. (IN)	CASING MATERIAL	CONNECTION TYPE (CASING)	INSIDE DIA. CASING (IN)	CASING WALL THICKNESS (IN)	SLOT SIZE (IN)
0.0	15.0	7 7/8	Sch. 40 PVC	Threads	4.0	1/4"	
15.0	55.0	7 7/8	Sch. 40 PVC	Threads	4.0	1/4"	.020

4. WATER BEARING STRATA

DEPTH (FT) FROM	DEPTH (FT) TO	THICKNESS (FT)	FORMATION DESCRIPTION OF PRINCIPAL WATER-BEARING STRATA (INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES)	YIELD (GPM)
45.0	58.0	13.0	Brown silty sand w/gravel.	

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

5. SEAL AND PUMP

TYPE OF PUMP: ☐ SUBMERSIBLE ☐ JET ☐ NO PUMP – WELL NOT EQUIPPED
☐ TURBINE ☐ CYLINDER ☐ OTHER – SPECIFY:

ANNULAR SEAL AND GRAVEL PACK	DEPTH (FT) FROM	DEPTH (FT) TO	BORE HOLE DIA. (IN)	MATERIAL TYPE AND SIZE	AMOUNT (CUBIC FT)	METHOD OF PLACEMENT
	58.0	13.0	7 7/8	8/16 Sand.	23 sacks	Hand Mix
	13.0	10.0	7 7/8	Bentonite Pellets	1 sacks	Hand Mix
	10.0	0.0	7 7/8	Cement	2.278	Hand Mix

6. GEOLOGIC LOG OF WELL

DEPTH (FT) FROM	DEPTH (FT) TO	THICKNESS (FT)	COLOR AND TYPE OF MATERIAL ENCOUNTERED (INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES)	WATER BEARING?
0.0	10.0	10.0	Brown silty sand w/small gravel.	☐ YES ☑ NO
10.0	45.0	35.0	Brown clayey silty sand.	☐ YES ☑ NO
45.0	58.0	13.0	Brown silty sand w/gravel.	☑ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO

ATTACH ADDITIONAL PAGES AS NEEDED TO FULLY DESCRIBE THE GEOLOGIC LOG OF THE WELL

7. TEST & ADDITIONAL INFO

WELL TEST: METHOD: ☐ BAILER ☐ PUMP ☐ AIR LIFT ☐ 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:

8. SIGNATURE

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 — DATE: 5/10/2012

FOR OSE 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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RECEIVED

MAY 19 2017

Midland

1. GENERAL AND WELL LOCATION

POD NUMBER (WELL NUMBER): MW-2	OSE FILE NUMBER(S):
WELL OWNER NAME(S): Chevron Environmental Management Co.	PHONE (OPTIONAL): 713-372-9207
WELL OWNER MAILING ADDRESS: 1400 Smith St., Room 07076	CITY: Houston STATE: TX ZIP: 77002

WELL LOCATION (FROM GPS)	DEGREES	MINUTES	SECONDS	
LATITUDE	32	16	24.20	N
LONGITUDE	104	4	41.80	W

* ACCURACY REQUIRED: ONE TENTH OF A SECOND
* DATUM REQUIRED: WGS 84

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS: Chevron Pardue Farms 27-12

2. OPTIONAL

(2.5 ACRE)	(10 ACRE)	(40 ACRE)	(160 ACRE)	SECTION	TOWNSHIP	RANGE
¼	¼	¼	¼	27	23 ☐ NORTH ☑ SOUTH	28 ☑ EAST ☐ WEST

SUBDIVISION NAME	LOT NUMBER	BLOCK NUMBER	UNIT/TRACT

HYDROGRAPHIC SURVEY	MAP NUMBER	TRACT NUMBER

3. DRILLING INFORMATION

LICENSE NUMBER	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
WD-1456	John W. White	White Drilling Company, Inc.

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
4/11/12	4/11/12	55.0	58.0	42.0

COMPLETED WELL IS: ☐ ARTESIAN ☐ DRY HOLE ☑ SHALLOW (UNCONFINED)

STATIC WATER LEVEL IN COMPLETED WELL (FT): 29.26

DRILLING FLUID: ☑ AIR ☐ MUD ☐ ADDITIVES - SPECIFY:

DRILLING METHOD: ☑ ROTARY ☐ HAMMER ☐ CABLE TOOL ☐ OTHER - SPECIFY:

DEPTH (FT) FROM	DEPTH (FT) TO	BORE HOLE DIA. (IN)	CASING MATERIAL	CONNECTION TYPE (CASING)	INSIDE DIA. CASING (IN)	CASING WALL THICKNESS (IN)	SLOT SIZE (IN)
0.0	15.0	7 7/8	Sch. 40 PVC	Threads	4.0	1/4"	
15.0	55.0	7 7/8	Sch. 40 PVC	Threads	4.0	1/4"	.020

4. WATER BEARING STRATA

DEPTH (FT) FROM	DEPTH (FT) TO	THICKNESS (FT)	FORMATION DESCRIPTION OF PRINCIPAL WATER-BEARING STRATA (INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES)	YIELD (GPM)
42.0	44.0	2.0	Gravel.	
44.0	58.0	14.0	Tight packed gravel.	

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

5. SEAL AND PUMP

TYPE OF PUMP: ☐ SUBMERSIBLE ☐ JET ☐ NO PUMP – WELL NOT EQUIPPED
☐ TURBINE ☐ CYLINDER ☐ OTHER – SPECIFY:

ANNULAR SEAL AND GRAVEL PACK	DEPTH (FT) FROM	DEPTH (FT) TO	BORE HOLE DIA. (IN)	MATERIAL TYPE AND SIZE	AMOUNT (CUBIC FT)	METHOD OF PLACEMENT
	56.0	13.0	7 7/8	8/16 Sand.	25 sacks	Hand Mix
	13.0	10.0	7 7/8	Bentonite Pellets	1 sacks	Hand Mix
	10.0	0.0	7 7/8	Cement	1.997	Hand Mix

6. GEOLOGIC LOG OF WELL

DEPTH (FT) FROM	DEPTH (FT) TO	THICKNESS (FT)	COLOR AND TYPE OF MATERIAL ENCOUNTERED (INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES)	WATER BEARING?
0.0	13.0	13.0	Tan silty sand w/small gravel.	☐ YES ☑ NO
13.0	23.0	10.0	Light brown silty clayey sand w/small gravel.	☐ YES ☑ NO
23.0	32.0	9.0	Tan silty clayey sand w/small gravel.	☐ YES ☑ NO
32.0	42.0	10.0	Brown silty clayey sand.	☐ YES ☑ NO
42.0	44.0	2.0	Gravel.	☑ YES ☐ NO
44.0	58.0	14.0	Tight packed gravel.	☑ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO

ATTACH ADDITIONAL PAGES AS NEEDED TO FULLY DESCRIBE THE GEOLOGIC LOG OF THE WELL

7. TEST & ADDITIONAL INFO

WELL TEST — METHOD: ☐ BAILER ☐ PUMP ☐ AIR LIFT ☐ 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:

8. SIGNATURE

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 — DATE: 5/10/2012

FOR OSE 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

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION

POD NUMBER (WELL NUMBER)	OSE FILE NUMBER(S)
MW-3	

WELL OWNER NAME(S)	PHONE (OPTIONAL)
Chevron Environmental Management Co.	713-372-9207

WELL OWNER MAILING ADDRESS	CITY	STATE	ZIP
1400 Smith St., Room 07076	Houston	TX	77002

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32	16	25.10	N
	LONGITUDE	104	4	41.60	W

* ACCURACY REQUIRED: ONE TENTH OF A SECOND
* DATUM REQUIRED: WGS 84

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS: Chevron Pardue Farms 27-12

2. OPTIONAL

(2.5 ACRE)	(10 ACRE)	(40 ACRE)	(160 ACRE)	SECTION	TOWNSHIP		RANGE	
¼	¼	¼	¼	27	23	☐ NORTH ☑ SOUTH	28	☑ EAST ☐ WEST

SUBDIVISION NAME	LOT NUMBER	BLOCK NUMBER	UNIT/TRACT

HYDROGRAPHIC SURVEY	MAP NUMBER	TRACT NUMBER

3. DRILLING INFORMATION

LICENSE NUMBER	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
WD-1456	John W. White	White Drilling Company, Inc.

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
4/09/12	4/11/12	54.0	54.0	45.0

COMPLETED WELL IS: ☐ ARTESIAN ☐ DRY HOLE ☑ SHALLOW (UNCONFINED)

STATIC WATER LEVEL IN COMPLETED WELL (FT): 26.03

DRILLING FLUID: ☑ AIR ☐ MUD ☐ ADDITIVES – SPECIFY:

DRILLING METHOD: ☑ ROTARY ☐ HAMMER ☐ CABLE TOOL ☐ OTHER – SPECIFY:

DEPTH (FT) FROM	DEPTH (FT) TO	BORE HOLE DIA. (IN)	CASING MATERIAL	CONNECTION TYPE (CASING)	INSIDE DIA. CASING (IN)	CASING WALL THICKNESS (IN)	SLOT SIZE (IN)
0.0	19.0	7 7/8	Sch. 40 PVC	Threads	4.0	1/4"	
19.0	54.0	7 7/8	Sch. 40 PVC	Threads	4.0	1/4"	.020

4. WATER BEARING STRATA

DEPTH (FT) FROM	DEPTH (FT) TO	THICKNESS (FT)	FORMATION DESCRIPTION OF PRINCIPAL WATER-BEARING STRATA (INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES)	YIELD (GPM)
45.0	54.0	9.0	Silty sand & gravel.	

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

5. SEAL AND PUMP

TYPE OF PUMP: ☐ SUBMERSIBLE ☐ JET ☐ NO PUMP – WELL NOT EQUIPPED
☐ TURBINE ☐ CYLINDER ☐ OTHER – SPECIFY:

ANNULAR SEAL AND GRAVEL PACK	DEPTH (FT) FROM	DEPTH (FT) TO	BORE HOLE DIA. (IN)	MATERIAL TYPE AND SIZE	AMOUNT (CUBIC FT)	METHOD OF PLACEMENT
	54.0	16.0	7 7/8	8/16 Sand.	24 sacks	Hand Mix
	16.0	10.0	7 7/8	Bentonite Pellets	2 sacks	Hand Mix
	10.0	0.0	7 7/8	Cement	2.278	Hand Mix

6. GEOLOGIC LOG OF WELL

DEPTH (FT) FROM	DEPTH (FT) TO	THICKNESS (FT)	COLOR AND TYPE OF MATERIAL ENCOUNTERED (INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES)	WATER BEARING?
0.0	2.0	2.0	Brown silty sand.	☐ YES ☑ NO
2.0	45.0	43.0	Light brown silty clayey sand.	☐ YES ☑ NO
45.0	54.0	9.0	Silty sand & gravel.	☑ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO

ATTACH ADDITIONAL PAGES AS NEEDED TO FULLY DESCRIBE THE GEOLOGIC LOG OF THE WELL.

7. TEST & ADDITIONAL INFO

WELL TEST: METHOD: ☐ BAILER ☐ PUMP ☐ AIR LIFT ☐ 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:

8. SIGNATURE

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 — DATE: 5/10/2012

FOR OSE 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

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION

POD NUMBER (WELL NUMBER): SB-1	OSE FILE NUMBER(S):
WELL OWNER NAME(S): Chevron Environmental Management Co.	PHONE (OPTIONAL): 713-372-9207
WELL OWNER MAILING ADDRESS: 1400 Smith St., Room 07076	CITY: Houston / STATE: TX / ZIP: 77002

WELL LOCATION (FROM GPS)	DEGREES	MINUTES	SECONDS	
LATITUDE	32	16	24.70	N
LONGITUDE	104	4	42.00	W

* ACCURACY REQUIRED: ONE TENTH OF A SECOND
* DATUM REQUIRED: WGS 84

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS: Chevron Pardue Farms 27-12

2. OPTIONAL

(2.5 ACRE)	(10 ACRE)	(40 ACRE)	(160 ACRE)	SECTION	TOWNSHIP	RANGE
¼	¼	¼	¼	27	23 ☐ NORTH ☑ SOUTH	28 ☑ EAST ☐ WEST

SUBDIVISION NAME	LOT NUMBER	BLOCK NUMBER	UNIT/TRACT

HYDROGRAPHIC SURVEY	MAP NUMBER	TRACT NUMBER

3. DRILLING INFORMATION

LICENSE NUMBER	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
WD-1456	John W. White	White Drilling Company, Inc.

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
4/09/12	4/09/12		25.0	Dry

COMPLETED WELL IS: ☐ ARTESIAN ☑ DRY HOLE ☐ SHALLOW (UNCONFINED) — STATIC WATER LEVEL IN COMPLETED WELL (FT): Dry

DRILLING FLUID: ☑ AIR ☐ MUD ☐ ADDITIVES – SPECIFY:

DRILLING METHOD: ☑ ROTARY ☐ HAMMER ☐ CABLE TOOL ☐ OTHER – SPECIFY:

DEPTH (FT) FROM	DEPTH (FT) TO	BORE HOLE DIA. (IN)	CASING MATERIAL	CONNECTION TYPE (CASING)	INSIDE DIA. CASING (IN)	CASING WALL THICKNESS (IN)	SLOT SIZE (IN)

4. WATER BEARING STRATA

DEPTH (FT) FROM	DEPTH (FT) TO	THICKNESS (FT)	FORMATION DESCRIPTION OF PRINCIPAL WATER-BEARING STRATA (INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES)	YIELD (GPM)

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

5. SEAL AND PUMP

TYPE OF PUMP: ☐ SUBMERSIBLE ☐ JET ☐ NO PUMP – WELL NOT EQUIPPED
☐ TURBINE ☐ CYLINDER ☐ OTHER – SPECIFY:

ANNULAR SEAL AND GRAVEL PACK	DEPTH (FT) FROM	DEPTH (FT) TO	BORE HOLE DIA. (IN)	MATERIAL TYPE AND SIZE	AMOUNT (CUBIC FT)	METHOD OF PLACEMENT
	25.0	0.0	6	Bentonite Pellets	6 sacks	Hand Mix

6. GEOLOGIC LOG OF WELL

DEPTH (FT) FROM	DEPTH (FT) TO	THICKNESS (FT)	COLOR AND TYPE OF MATERIAL ENCOUNTERED (INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES)	WATER BEARING?
0.0	2.0	2.0	Brown silty sand w/gravel.	☐ YES ☑ NO
2.0	25.0	23.0	Light brown silty clayey sand.	☐ YES ☑ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO

ATTACH ADDITIONAL PAGES AS NEEDED TO FULLY DESCRIBE THE GEOLOGIC LOG OF THE WELL

7. TEST & ADDITIONAL INFO

WELL TEST — METHOD: ☐ BAILER ☐ PUMP ☐ AIR LIFT ☐ 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:

8. SIGNATURE

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 — DATE: 5/10/2012

FOR OSE 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

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION

POD NUMBER (WELL NUMBER)	OSE FILE NUMBER(S)
SB-2	
WELL OWNER NAME(S)	**PHONE (OPTIONAL)**
Chevron Environmental Management Co.	713-372-9207
WELL OWNER MAILING ADDRESS	**CITY / STATE / ZIP**
1400 Smith St., Room 07076	Houston / TX / 77002

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32	16	25.10 N	* ACCURACY REQUIRED: ONE TENTH OF A SECOND
	LONGITUDE	104	4	41.70 W	* DATUM REQUIRED: WGS 84

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS

Chevron Pardue Farms 27-12

2. OPTIONAL

(2.5 ACRE)	(10 ACRE)	(40 ACRE)	(160 ACRE)	SECTION	TOWNSHIP	RANGE
¼	¼	¼	¼	27	23 ☐ NORTH ☑ SOUTH	28 ☑ EAST ☐ WEST

SUBDIVISION NAME	LOT NUMBER	BLOCK NUMBER	UNIT/TRACT

HYDROGRAPHIC SURVEY	MAP NUMBER	TRACT NUMBER

3. DRILLING INFORMATION

LICENSE NUMBER	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
WD-1456	John W. White	White Drilling Company, Inc.

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
4/09/12	4/09/12		30.0	Dry

COMPLETED WELL IS: ☐ ARTESIAN ☑ DRY HOLE ☐ SHALLOW (UNCONFINED) — STATIC WATER LEVEL IN COMPLETED WELL (FT): Dry

DRILLING FLUID: ☑ AIR ☐ MUD ☐ ADDITIVES – SPECIFY:

DRILLING METHOD: ☑ ROTARY ☐ HAMMER ☐ CABLE TOOL ☐ OTHER – SPECIFY:

DEPTH (FT) FROM	DEPTH (FT) TO	BORE HOLE DIA. (IN)	CASING MATERIAL	CONNECTION TYPE (CASING)	INSIDE DIA. CASING (IN)	CASING WALL THICKNESS (IN)	SLOT SIZE (IN)

4. WATER BEARING STRATA

DEPTH (FT) FROM	DEPTH (FT) TO	THICKNESS (FT)	FORMATION DESCRIPTION OF PRINCIPAL WATER-BEARING STRATA (INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES)	YIELD (GPM)

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

5. SEAL AND PUMP

TYPE OF PUMP: ☐ SUBMERSIBLE ☐ JET ☐ NO PUMP – WELL NOT EQUIPPED
☐ TURBINE ☐ CYLINDER ☐ OTHER – SPECIFY:

ANNULAR SEAL AND GRAVEL PACK	DEPTH (FT) FROM	DEPTH (FT) TO	BORE HOLE DIA. (IN)	MATERIAL TYPE AND SIZE	AMOUNT (CUBIC FT)	METHOD OF PLACEMENT
	30.0	0.0	6	Bentonite Pellets	7 sacks	Hand Mix

6. GEOLOGIC LOG OF WELL

DEPTH (FT) FROM	DEPTH (FT) TO	THICKNESS (FT)	COLOR AND TYPE OF MATERIAL ENCOUNTERED (INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES)	WATER BEARING?
0.0	2.0	2.0	Brown silty sand w/gravel.	☐ YES ☑ NO
2.0	30.0	28.0	Light brown silty clayey sand.	☐ YES ☑ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO

ATTACH ADDITIONAL PAGES AS NEEDED TO FULLY DESCRIBE THE GEOLOGIC LOG OF THE WELL

7. TEST & ADDITIONAL INFO

WELL TEST — METHOD: ☐ BAILER ☐ PUMP ☐ AIR LIFT ☐ 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:

8. SIGNATURE

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 — DATE: 5/10/2012

FOR OSE 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

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION

POD NUMBER (WELL NUMBER)	OSE FILE NUMBER(S)
SB-3	
WELL OWNER NAME(S)	**PHONE (OPTIONAL)**
Chevron Environmental Management Co.	713-372-9207
WELL OWNER MAILING ADDRESS	**CITY / STATE / ZIP**
1400 Smith St., Room 07076	Houston / TX / 77002

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32	16	24.90	N
	LONGITUDE	104	4	41.70	W

* ACCURACY REQUIRED: ONE TENTH OF A SECOND

* DATUM REQUIRED: WGS 84

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS

Chevron Pardue Farms 27-12

2. OPTIONAL

(2.5 ACRE)	(10 ACRE)	(40 ACRE)	(160 ACRE)	SECTION	TOWNSHIP	RANGE
¼	¼	¼	¼	27	23 ☐ NORTH ☑ SOUTH	28 ☑ EAST ☐ WEST

SUBDIVISION NAME	LOT NUMBER	BLOCK NUMBER	UNIT/TRACT

HYDROGRAPHIC SURVEY	MAP NUMBER	TRACT NUMBER

3. DRILLING INFORMATION

LICENSE NUMBER	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
WD-1456	John W. White	White Drilling Company, Inc.

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
4/09/12	4/09/12		25.0	Dry

COMPLETED WELL IS: ☐ ARTESIAN ☑ DRY HOLE ☐ SHALLOW (UNCONFINED)

STATIC WATER LEVEL IN COMPLETED WELL (FT): Dry

DRILLING FLUID: ☑ AIR ☐ MUD ☐ ADDITIVES – SPECIFY:

DRILLING METHOD: ☑ ROTARY ☐ HAMMER ☐ CABLE TOOL ☐ OTHER – SPECIFY:

DEPTH (FT) FROM	DEPTH (FT) TO	BORE HOLE DIA. (IN)	CASING MATERIAL	CONNECTION TYPE (CASING)	INSIDE DIA. CASING (IN)	CASING WALL THICKNESS (IN)	SLOT SIZE (IN)

4. WATER BEARING STRATA

DEPTH (FT) FROM	DEPTH (FT) TO	THICKNESS (FT)	FORMATION DESCRIPTION OF PRINCIPAL WATER-BEARING STRATA (INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES)	YIELD (GPM)

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

5. SEAL AND PUMP

TYPE OF PUMP: ☐ SUBMERSIBLE ☐ JET ☐ NO PUMP – WELL NOT EQUIPPED
☐ TURBINE ☐ CYLINDER ☐ OTHER – SPECIFY:

ANNULAR SEAL AND GRAVEL PACK	DEPTH (FT) FROM	DEPTH (FT) TO	BORE HOLE DIA. (IN)	MATERIAL TYPE AND SIZE	AMOUNT (CUBIC FT)	METHOD OF PLACEMENT
	25.0	0.0	6	Bentonite Pellets	6 sacks	Hand Mix

6. GEOLOGIC LOG OF WELL

DEPTH (FT) FROM	DEPTH (FT) TO	THICKNESS (FT)	COLOR AND TYPE OF MATERIAL ENCOUNTERED (INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES)	WATER BEARING?
0.0	2.0	2.0	Brown silty sand w/gravel.	☐ YES ☑ NO
2.0	25.0	23.0	Light brown silty clayey sand.	☐ YES ☑ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO
				☐ YES ☐ NO

ATTACH ADDITIONAL PAGES AS NEEDED TO FULLY DESCRIBE THE GEOLOGIC LOG OF THE WELL

7. TEST & ADDITIONAL INFO

WELL TEST

METHOD: ☐ BAILER ☐ PUMP ☐ AIR LIFT ☐ 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:

8. SIGNATURE

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

5/10/2012
DATE

FOR OSE INTERNAL USE — WELL RECORD & LOG (Version 6/9/08)

FILE NUMBER	POD NUMBER	TRN NUMBER
LOCATION		PAGE 2 OF 2

B

SOIL BORING LOG

Project: PARDUE FARMS
Sec 27, T-23-S, R-28-E
Eddy Co, NM

No. MW-1

Client: CHEVRON ENVIROMENTAL MANAGEMENT COMPANY

File No.: 76323
Date: 4/10/2012
Drilling Co.: WHITE DRILLING
Supervisor: BO ATKINS
Type Rig: AIR ROTARY
Logged by: T. LARSON

LABORATORY TEST DATA (Results Reported in mg/kg)						FIELD DATA				BORING DATA	
Benzene	Toluene	Ethyl-benzene	Xylenes	Total TPH (C6-C35)	Chlorides	Photo-Ionization Detection Reading (ppm)	Sampling	Depth (feet)	Water Level	Screen Interval	Start Time: 1000 Finish Time: 1100
											Silty Sand: Tan, light brown, very fine grained, well rounded, loose, dry.
N.D.	N.D.	N.D.	N.D.	16	1480	(1.1)	☒	5			
N.D.	N.D.	N.D.	N.D.	N.D.	1760	(2.0)	☒	10			
						2.4	☒	15			
						2.4	☒	20			
						2.7	☒	25			Silty sand: As above with increasing gravel content to 30%, damp to moist.
						1.9	☒	30			Silty sand with gravel: Light brown, loose, wet fine gravel.
								35			Silty sand with gravel: As above, saturated.
								40			

☒ Sampling Interval

Stratification is Inferred And May Not be Exact.
Soil Classification Based on Visual-Manual Procedure

▽ Water First Noted

(1.1) Analyzed Sample

SOIL BORING LOG

Project: PARDUE FARMS
Sec 27, T-23-S, R-28-E
Eddy Co, NM

No. MW-1

Client: CHEVRON ENVIROMENTAL
MANAGEMENT COMPANY

File No.: 76323
Date: 4/10/2012
Drilling Co.: WHITE DRILLING
Supervisor: BO ATKINS
Type Rig: AIR ROTARY
Logged by: T. LARSON

LABORATORY TEST DATA (Results Reported in mg/kg)						FIELD DATA				BORING DATA	
Benzene	Toluene	Ethyl-benzene	Xylenes	Chlorides	Total TPH (C6-C35)	Photo-Ionization Detection Reading (ppm)	Sampling	Depth (feet)	Water Level	Screen Interval	Start Time: 1000 Finish Time: 1100
								45			Silty sand with gravel: As above, saturated.
								50			
								55			TD 58'

Stratification is Inferred And May Not be Exact.
Soil Classification Based on Visual-Manual Procedure

MONITORING WELL CONSTRUCTION DETAIL

Project: PARDUE FARMS
Sec 27, T-23-S, R-28-E
Eddy Co, NM

Client: CHEVRON ENVIROMENTAL MANAGEMENT COMPANY

No. MW-1

File No.: 76323
Date: 4/10/2012
Drilling Co.: WHITE DRILLING
Supervisor: BO ATKINS
Type Rig: AIR ROTARY
Logged by: T. LARSON

Top of Casing Elevation: 3,070.30 ft. AMSL

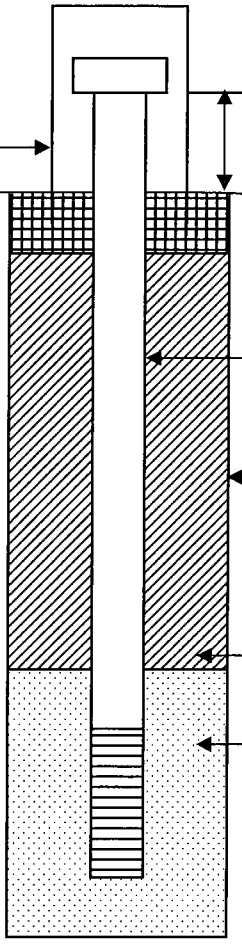
Surface Completion: Above Ground

Stick Up: 3 ft

ground surface

Surface Seal:

Top of Seal at 10 ft



Well Casing

Annulus
Backfill Type: Cement/Bentonite Grout

Bottom of Seal at 13 ft

Seal Type: 0.25-in. Bentonite Pellets

Top of Screen at 15 ft

Pack Type:
Sand, size 8/16 Brady
Gravel
Natural

Depth to Groundwater (TOC) 26.78 ft

Bottom of screen at 55 ft

Total Well Depth (TOC) 58 ft

Note: All dimensions are below ground surface (bgs) except where noted.

Screen Type: [X] slotted [ ] perforated other:

Screen Material: [ ] stainless steel [X] PVC other:

Screen Length: 40 ft Screen Diameter: 4 inches Screen Slot Size: 0.020-in.

Well Casing Material: PVC Well Casing Diameter: 4 inches

Development - Method: Bail and swab Hole Diameter: 8 inches

Duration/Volume: 100 gallons

SOIL BORING LOG

Project: PARDUE FARMS

Client: CHEVRON ENVIROMENTAL MANAGEMENT COMPANY

No. MW-2
On hillside SE of release

File No.: 76323
Date: 4/10/2012
Drilling Co.: WHITE DRILLING
Supervisor: BO ATKINS
Type Rig: AIR ROTARY
Logged by: T. LARSON

LABORATORY TEST DATA (Results Reported in mg/kg)						FIELD DATA				BORING DATA	
Benzene	Toluene	Ethyl-benzene	Xylenes	Total TPH (C6-C35)	Chlorides	Photo-Ionization Detection Reading (ppm)	Sampling	Depth (feet)	Water Level	Screen Interval	Start Time: 1345 Finish Time: 1425
											Silty Sand: Tan, light brown, very fine grained, loose, dry with 10% fine gravel.
						1.8	X	5			
						1.7	X	10			
N.D.	N.D.	N.D.	N.D.	N.D.	1520	(2.0)	X	15			
N.D.	N.D.	N.D.	N.D.	N.D.	689	(1.8)	X	20			
						1.8	X	25			
						1.9	X	30			Silty sand with gravel: tan, light brown, very fine grained, damp to moist with fine gravel.
						1.9	X	35			
								40			Poorly Graded Gravel: Multicolor (black, gray, white), subangular to subrounded, loose to well consolidated, wet.

X Sampling Interval

Stratification is Inferred And May Not be Exact.
Soil Classification Based on Visual-Manual Procedure

Water First Noted

(2.0) Analyzed Sample

SOIL BORING LOG

Project: PARDUE FARMS

No. MW-2

Client: CHEVRON ENVIROMENTAL MANAGEMENT COMPANY

File No.: 76323
Date: 4/10/2012
Drilling Co.: WHITE DRILLING
Supervisor: BO ATKINS
Type Rig: AIR ROTARY
Logged by: T. LARSON

LABORATORY TEST DATA (Results Reported in mg/kg)						FIELD DATA				BORING DATA	
Benzene	Toluene	Ethyl-benzene	Xylenes	Chlorides	Total TPH (C6-C35)	Photo-Ionization Detection Reading (ppm)	Sampling	Depth (feet)	Water Level	Screen Interval	Start Time: 1345 Finish Time: 1425
											Silty sand, as above.
								45			Soil density increasing to TD.
								50			
								55			TD 58'

Stratification is Inferred And May Not be Exact.
Soil Classification Based on Visual-Manual Procedure

MONITORING WELL CONSTRUCTION DETAIL

Project: PARDUE FARMS

Client: CHEVRON ENVIROMENTAL MANAGEMENT COMPANY

No. MW-2
On hillside SE of release

File No.: 76323
Date: 4/10/2012
Drilling Co.: WHITE DRILLING
Supervisor: BO ATKINS
Type Rig: AIR ROTARY
Logged by: T. LARSON

Top of Casing Elevation: 3071.87 ft AMSL

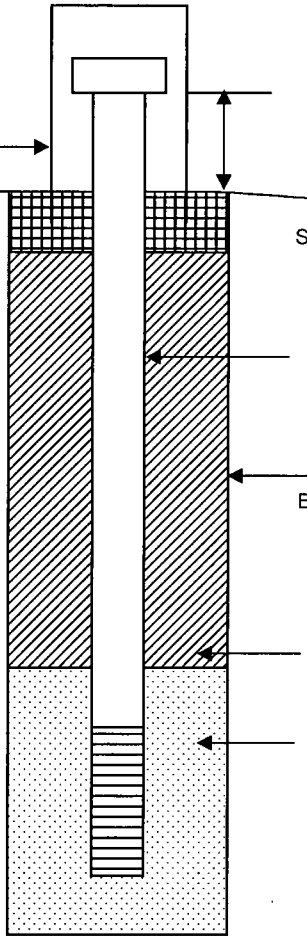
Surface Completion: Above Ground

Stick Up: 3 ft

ground surface

Surface Seal: 4'x4' Concrete Pad

Top of Seal at 10 ft



Well Casing

Annulus Backfill Type: Cement/Bentonite Grout

Bottom of Seal at 13 ft

Seal Type: 0.25-in. Bentonite Pellets

Top of Screen at 15 ft

Pack Type:
Sand, size 8/16 Brady
Gravel
Natural

Depth to Groundwater (TOC) 29.26 ft

Bottom of screen at 55 ft

Total Well Depth (TOC) 58 ft

Note: All dimensions are below ground surface (bgs) except where noted.

Screen Type: [X] slotted [ ] perforated other:

Screen Material: [ ] stainless steel [X] PVC other:

Screen Length: 40 ft Screen Diameter: 4 inches Screen Slot Size: 0.020-in.

Well Casing Material: PVC Well Casing Diameter: 4 inches

Development - Method: Bail, swab, and pump Hole Diameter: 8 inches

Duration/Volume: 140 gallons

SOIL BORING LOG

Project: PARDUE FARMS
Sec 27, T-23-S, R-28-E
Eddy Co, NM

Client: CHEVRON ENVIROMENTAL
MANAGEMENT COMPANY

No. MW-3
NE/4 of SW/4

File No.: 76323
Date: 4/9/2012
Drilling Co.: WHITE DRILLING
Supervisor: BO ATKINS
Type Rig: AIR ROTARY
Logged by: T. LARSON

LABORATORY TEST DATA (Results Reported in mg/kg)						FIELD DATA				BORING DATA	
Benzene	Toluene	Ethyl-benzene	Xylenes	Total TPH (C6-C35)	Chlorides	Photo-Ionization Detection Reading (ppm)	Sampling	Depth (feet)	Water Level	Screen Interval	Start Time: 1505 Finish Time: 1615
											Silty Sand: Tan, lt. brown, very fine grained, loose some firm seams, dry.
0.0023 J	0.0023 J	0.0029 J	0.011 J	42	14300	(16.2)	X	5			
N.D.	N.D.	N.D.	N.D.	28	13900	(8.2)	X	10			
N.D.	N.D.	N.D.	N.D.	N.D.	2430	(3.1)	X	15			
						1.7	X	20			
						0.5	X	25			Silty sand: light brown, very fine grained, saturated.
								30			
								35			
								40			

X Sampling Interval

Stratification is Inferred And May Not be Exact.
Soil Classification Based on Visual-Manual Procedure

▽ Water First Noted

( ) Analyzed Sample

SOIL BORING LOG

Project: PARDUE FARMS
Sec 27, T-23-S, R-28-E
Eddy Co, NM

Client: CHEVRON ENVIROMENTAL
MANAGEMENT COMPANY

No. MW-3
NE/4 of SW/4

File No.: 76323
Date: 4/9/2012
Drilling Co.: WHITE DRILLING
Supervisor: BO ATKINS
Type Rig: AIR ROTARY
Logged by: T. LARSON

LABORATORY TEST DATA (Results Reported in mg/kg)						FIELD DATA				BORING DATA	
Benzene	Toluene	Ethyl-benzene	Xylenes	Chlorides	Total TPH (C6-C35)	Photo-Ionization Detection Reading (ppm)	Sampling	Depth (feet)	Water Level	Screen Interval	Start Time: 1505 Finish Time: 1615
											Silty sand, as above.
								45			
											Silty sand with gravel: Silty sand as above, with fine angular gravel. Logged cuttings with mud.
								50			
								55			
											TD 60'
								60			

Stratification is Inferred And May Not be Exact.
Soil Classification Based on Visual-Manual Procedure

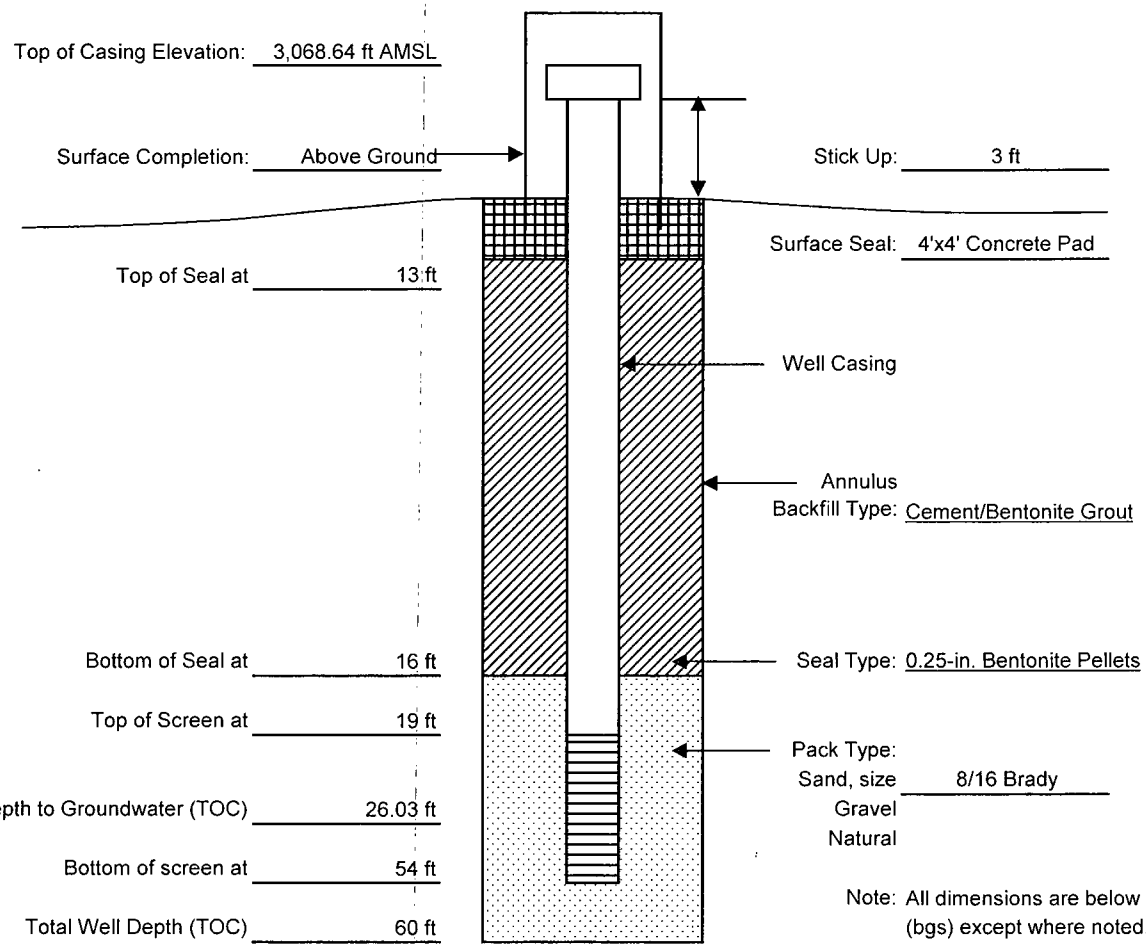
MONITORING WELL CONSTRUCTION DETAIL

Project: PARDUE FARMS
Sec 27, T-23-S, R-28-E
Eddy Co, NM

Client: CHEVRON ENVIROMENTAL
MANAGEMENT COMPANY

No. MW-3
NE/4 of SW/4

File No.: 76323
Date: 4/9/2012
Drilling Co.: WHITE DRILLING
Supervisor: BO ATKINS
Type Rig: AIR ROTARY
Logged by: T. LARSON



Screen Type: [X] slotted [ ] perforated other: _____

Screen Material: [ ] stainless steel [X] PVC other: _____

Screen Length: 35 ft Screen Diameter: 4 inches Screen Slot Size: 0.020-in.

Well Casing Material: PVC Well Casing Diameter: 4 inches

Development - Method: Bailed, swabbed, and pumped Hole Diameter: 8 inches

Duration/Volume: 30 Gallons

SOIL BORING LOG

Project: PARDUE FARMS

Client: CHEVRON ENVIROMENTAL MANAGEMENT COMPANY

No. SB-1
Closest to source SW of 2&3

File No.: 76323
Date: 4/9/2012
Drilling Co.: WHITE DRILLING
Supervisor: BO ATKINS
Type Rig: AIR ROTARY
Logged by: T. LARSON

LABORATORY TEST DATA (Results Reported in mg/kg)						FIELD DATA				BORING DATA	
Benzene	Toluene	Ethyl-benzene	Xylenes	Total TPH (C6-C35)	Chlorides	Photo-Ionization Detection Reading (ppm)	Sampling	Depth (feet)	Water Level	Screen Interval	Start Time: 1430 Finish Time: 1500
											Silty Sand: Tan, lt. brown, very fine grained, loose, dry
N.D.	0.33	0.62	3.9	2570	17100	(245.6)	☒	5			
						30.6	☒	10			
N.D.	N.D.	N.D.	N.D.	300.6	4060	(23.3)	☒	15			
						21.7	☒	20			Silty sand: As above, becoming damp at 25'
N.D.	N.D.	0.0040 J	0.028	292.2	1400	(31.8)	☒	25			TD 25'

☒ Sampling Interval

Stratification is Inferred And May Not be Exact.
Soil Classification Based on Visual-Manual Procedure

▽ Water First Noted

( ) Analyzed Sample

SOIL BORING LOG

Project: PARDUE FARMS

Client: CHEVRON ENVIROMENTAL MANAGEMENT COMPANY

No. SB-2

File No.: 76323
Date: 4/9/2012
Drilling Co.: WHITE DRILLING
Supervisor: BO ATKINS
Type Rig: AIR ROTARY
Logged by: T. LARSON

LABORATORY TEST DATA (Results Reported in mg/kg)						FIELD DATA				BORING DATA	
Benzene	Toluene	Ethyl-benzene	Xylenes	Total TPH (C6-C35)	Chlorides	Photo-Ionization Detection Reading (ppm)	Sampling	Depth (feet)	Water Level	Screen Interval	Start Time: 1320 Finish Time: 1345
											Silty Sand: brown, tan, very fine grained, loose, dry
.027 J	3.4	3.7	20	10160	20900	(176.5)	☒	5			
						105.2	☒	10			
N.D.	N.D.	N.D.	N.D.	141.1	16200	(79.8)	☒	15			
						45.6	☒	20			
N.D.	N.D.	N.D.	N.D.	261	4650	(42.2)	☒	25			
							▽				Silty sand: As above, becoming wet at 30'
						17.5		30			TD 30'

☒ Sampling Interval

Stratification is Inferred And May Not be Exact.
Soil Classification Based on Visual-Manual Procedure

▽ Water First Noted

(⬭) Analyzed Sample

SOIL BORING LOG

Project: PARDUE FARMS

Client: CHEVRON ENVIROMENTAL MANAGEMENT COMPANY

No. SB-3
SW of SB-2

File No.: 76323
Date: 4/9/2012
Drilling Co.: WHITE DRILLING
Supervisor: BO ATKINS
Type Rig: AIR ROTARY
Logged by: T. LARSON

LABORATORY TEST DATA (Results Reported in mg/kg)						FIELD DATA				BORING DATA	
Benzene	Toluene	Ethyl-benzene	Xylenes	Total TPH (C6-C35)	Chlorides	Photo-Ionization Detection Reading (ppm)	Sampling	Depth (feet)	Water Level	Screen Interval	Start Time: 1350 Finish Time: 1420
											Silty Sand: brown, tan, very fine grained, loose, dry
N.D.	0.36	0.81	5.1	3930	16300	182.4	X	5			
0.0030 J	N.D.	0.0092	0.079	708.4	13900	118.2	X	10			
						59.2	X	15			
N.D.	N.D.	N.D.	N.D.	290.5	3040	34.7	X	20			Silty sand: As above becoming damp at 25'
						24.6	X	25			TD 25'

X Sampling Interval

Stratification is Inferred And May Not be Exact.
Soil Classification Based on Visual-Manual Procedure

▽ Water First Noted

(182.4) Analyzed Sample

SOIL BORING LOG

Project: PARDUE FARMS

Client: CHEVRON ENVIROMENTAL MANAGEMENT COMPANY

No. SB-3
SW of SB-2

File No.: 76323
Date: 4/9/2012
Drilling Co.: WHITE DRILLING
Supervisor: BO ATKINS
Type Rig: AIR ROTARY
Logged by: T. LARSON

LABORATORY TEST DATA (Results Reported in mg/kg)						FIELD DATA				BORING DATA	
Benzene	Toluene	Ethyl-benzene	Xylenes	Total TPH (C6-C35)	Chlorides	Photo-Ionization Detection Reading (ppm)	Sampling	Depth (feet)	Water Level	Screen Interval	Start Time: 1350 Finish Time: 1420
											Silty Sand: brown, tan, very fine grained, loose, dry
N.D.	0.36	0.81	5.1	3930	16300	(182.4)	X	5			
0.0030 J	N.D.	0.0092	0.079	708.4	13900	(118.2)	X	10			
						59.2	X	15			
N.D.	N.D.	N.D.	N.D.	290.5	3040	(34.7)	X	20			Silty sand: As above becoming damp at 25'
						24.6	X	25			TD 25'

X Sampling Interval

Stratification is Inferred And May Not be Exact.
Soil Classification Based on Visual-Manual Procedure

▽ Water First Noted

( ) Analyzed Sample

C

NON-HAZARDOUS WASTE MANIFEST

076323 #8006

PART I: Generator CEMC

Address

City/State

( ) Telephone No.

ORGINATION OF WASTE:

Operations Center Eunice

Permit No.

Property Name Pirelwa Farms 2

(Well, Tank Battery, Plant, Facility)

WASTE IDENTIFICATION AND AMOUNT (BARRELS, YARDS, TONS, CU.FT., LBS., UNITS, ETC.)					
Drilling Fluids		Tank Bottoms		Exempt Fluids	
Completion Fluids		Gas Plant Waste		C117 No.	
Contaminated Soil		Other Materials	✓	Pit No.	

DESCRIPTION / NOTES

Soil R171 on Bankom
[illegible]
[illegible]
[illegible]
[illegible]

CERTIFICATION: The waste described above is not hazardous pursuant to 40 CFR Part 261 and was consigned to the transporter named below. I certify that the foregoing is true and correct to the best of my knowledge.

[signature] — Signature of Generator's Authorized Agent

[illegible] — Date and Time of Shipment

PART II: TRANSPORTER: (To be completed in full by Transporter)

Name CRI

Address PO B 388

City/State Hobbs NM

393-1159 — Telephone No.

[illegible] — Truck No.

CERTIFICATION: I certify that the waste in quantity above was received by me for shipment to the destination below.

[signature] — Signature of Transporter's Agent

[illegible] 9:15 — Date and Time Received

PART III: DISPOSAL OR RECLAMATION SITE:

Name Controlled Recovery, Inc.

Address P.O. Box 388

City/State Hobbs, N.M. 88241-0388

(575) 393-1079 — Telephone No.

www.crihobbs.com — E-mail

CERTIFICATION: I certify that the waste described in Part I was received by me via the transporter described in Part II.

Signature of Facility Agent

Date and Time Received

TCP - II7520-A

NON-HAZARDOUS WASTE MANIFEST

98800

PART I: Generator Chevron
Address
City/State
( ) Telephone No.

ORGINATION OF WASTE:

Operations Center ______ Permit No. ______

Property Name Pardue Farms #7-12 location (Well, Tank Battery, Plant, Facility) [illegible] UWDB-M1045-SFH

WASTE IDENTIFICATION AND AMOUNT (BARRELS, YARDS, TONS, CU.FT., LBS., UNITS, ETC.)		
[illegible]		
Drilling Fluids ___	Tank Bottoms ___	Exempt Fluids ___
Completion Fluids ___	Gas Plant Waste ___	C117 No. ___
Contaminated Soil ___	Other Materials ___	Pit No. ___

DESCRIPTION / NOTES
Box # [illegible] 5 Yds Drillcuttings

CERTIFICATION: The waste described above is not hazardous pursuant to 40 CFR Part 261 and was consigned to the transporter named below. I certify that the foregoing is true and correct to the best of my knowledge.

[signature] Signature of Generator's Authorized Agent — 4-20-12 11:30 Date and Time of Shipment

PART II: TRANSPORTER: (To be completed in full by Transporter)

Name CRI [illegible]
Address [illegible]
City/State Hobbs [illegible]
393-1079 Telephone No.
RO-92 Truck No.

CERTIFICATION: I certify that the waste in quantity above was received by me for shipment to the destination below.

[signature] Signature of Transporter's Agent — 4-20-12 12:45pm Date and Time Received

PART III: DISPOSAL OR RECLAMATION SITE:

Name **Controlled Recovery, Inc.**
Address **P.O. Box 388**
City/State **Hobbs, N.M. 88241-0388**
(575) 393-1079 Telephone No.
www.crihobbs.com E-mail

CERTIFICATION: I certify that the waste described in Part I was received by me via the transporter described in Part II.

Signature of Facility Agent ______ Date and Time Received ______

TCP - #7520-A

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number: N/A	2. Page 1 of	3. Emergency Response Phone: 800 424 9300	4. Waste Tracking Number: 0013449

5. Generator's Name and Mailing Address
Chevron Environmental Management Co
1400 Smith St Room 07062
Houston TX 77002
Generator's Phone: 713 372 9967 Attn: Matt Hudson

Generator's Site Address (if different than mailing address)
Pardue Farms 27 12 Wellsite
Sec 27, Unit K, T23S R28E
Eddy County NM 88220

6. Transporter 1 Company Name: Controlled Recovery Inc
U.S. EPA ID Number: Permit# RN166

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address
Controlled Recovery Inc
4507 West Carlsbad Highway
[illegible] NM 88240
Facility's Phone: [illegible]
U.S. EPA ID Number: Permit# RN166

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.
1.	Non DOT Regulated Material	1	DM		Y
2.					
3.					
4.					

13. Special Handling Instructions and Additional Information
(1) [illegible]
(2) [illegible]
(3) [illegible]
(4) [illegible]

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: [illegible] | Signature: [illegible] | Month: [illegible] | Day: [illegible] | Year: [illegible]

As Agent of Chevron Environmental Management Company

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: [illegible] | Signature: [illegible] | Month | Day | Year
Transporter 2 Printed/Typed Name: | Signature: | Month | Day | Year

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

17b. Alternate Facility (or Generator) | U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator) | Month | Day | Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name: | Signature: | Month | Day | Year

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

NABORS WELL SERVICES CO.

PLEASE REMIT TO: P.O. BOX 973510, DALLAS, TX 75397-3510

1811035

TRUCK FIELD REPORT

WAYBILL
WORK TICKET

Production Services: Vacuum Trucks • Pump Trucks • Transport Trucks • Winch Trucks • Mud Tanks • Frac Tanks • Fluid Sales

W.H.P. 630

Truck No. 94-87553	Tank No. 93-14265	Day of Week: Fri	Date: 6-20-12
Customer Chevron	Address	Tom Larson 432-686-0086	
Order No.	RRC# TLarson@CRAworld.com		Field
From Lease/Well # PF 27-12	Miles N S E W of	Town Carlsbad	County Eddy
To Lease/Well #	Miles N S E W of	Town Carlsbad	County Eddy

TARIFF #	ITEM #	COL	TRUCK #	TIME: START: 9:30 AM END: 12:00	HRS.	UNIT PRICE	AMOUNT
Starting Time 9:30	AM PM			TRUCK	2 1/2	86.00	215.00
Arrived Pt. Of Origin	AM PM			TRUCK BBLS.			
Load & Left	AM PM			TRUCK BBLS.			
Arrived Destination	AM PM						
Started Unloading	AM PM			EXTRA MAN			
Released	AM PM			50 LB. 100 LB. SACKS KCL			
Quitting Time 12:00	AM PM			FRESH WATER BBLS.			
Mileage Out 150154 In 150192				WEIGHTED FLUIDS BBLS.			
Miles Hauled 38				WASTE DISPOSAL BBLS.			
Rate Per 100 # 20				WASTE DISPOSAL HRS.			
Weight 10				SALT WATER DISPOSAL PF. SWD 2 BBLS.		N/C	
Chgble. Waiting Hrs. 0				MUD BBLS.			
Surcharges				FRAC TANKS NO. BBLS.			
TOTAL HOURS				SET CHARGE MIN. DAYS			
TANK MEASUREMENT				TRANSPORTATION CHARGE HRS. MILES			
Begin End				EXTRA DAYS			
Inches Of Oil							
SWD Loc.							
SWD Ticket # RRC #							
Top Gauge	Bottom Gauge						

Date Set:	Date Picked Up:	Subtotal	215.00
		Tax 7.4375	15.99
Well Description: ☐ Oil ☐ Gas ☐ Misc		Total	230.99

Remarks: Early Runoff Tank. Took To 27-8 swd (2 BBLS) PF

WITH MY INITIALS, I CONFIRM THAT THE TIME SHOWN IN THE "HOURS" COLUMN, ACCURATELY REFLECTS MY COMPENSABLE TIME.

Employee Name (Print)	Hours	Initials
Driver Scott Colclasure	2 1/2	SC
Swamper		

*ACCIDENT REPORT MUST BE ATTACHED WHEN NOT SIGNED

CUSTOMER AGREES to pay Nabors Well Services Co. (the "Company") on a net 30 day basis from date of invoice. If Customer disputes any item invoiced, Customer shall, within 20 days after receipt of invoice, notify the Company of the item(s) disputed, specifying the reason(s) therefor; payment of the disputed item(s) may be withheld until settlement of dispute, but payment of undisputed portion of invoice shall be made without delay. All payments shall be made at the address shown on the reverse side of this document. In the absence of a separate written contract, CUSTOMER REPRESENTATIVE REPRESENTS AND WARRANTS THAT HE/SHE IS AUTHORIZED TO ENTER INTO THIS AGREEMENT ON BEHALF OF CUSTOMER AND ACCEPTS ALL TERMS AND CONDITIONS AS PRINTED ON THE REVERSE SIDE OF THIS DOCUMENT (WHICH INCLUDES INDEMNITY LANGUAGE THAT ALLOCATES RISKS RELATED TO THE ABOVE DESCRIBED SERVICES). Pricing and extensions, if shown above, are subject to verification and correction at time of invoicing.

X _____ NABORS WELL SERVICES CO. REPRESENTATIVE

X Tom Larson CRA CUSTOMER REPRESENTATIVE

Bill Chumney EAK
Matt Hudson (Hou)
WBS Code
UWDPS - M1045 - SFH

NAB0457 (02/12) 8082 • GMG Services, Inc. • 713.460.8801

ORIGINAL

NABORS WELL SERVICES LTD.

No. GT 048651

GAUGE TICKET

(LOCATION)

Date 4/12/11 Time

Company Name

Lease

Tank No.

Top Gauge Ft In.

Bottom Gauge Ft In.

Comments

Unit No. Driver

NAB0605 (7/09) PAGE 2 - YELLOW

D

ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

Conestoga-Rovers & Associates
6320 Rothway, Suite 100
Houston TX 77040

April 25, 2012

Project: Chevron Pardue Farms Eddy County, NM

Submittal Date: 04/12/2012
Group Number: 1301809
PO Number: 4047851
Release Number: EDDY COUNTY, NM
State of Sample Origin: NM

Client Sample Description	Lancaster Labs #	Collected
SB-2 5' Grab Soil Chevron Pardue Farms Eddy County, NM	6614482	04/09/2012 13:25
SB-2 15' Grab Soil Chevron Pardue Farms Eddy County, NM	6614483	04/09/2012 13:30
SB-2 25' Grab Soil Chevron Pardue Farms Eddy County, NM	6614484	04/09/2012 13:35
SB-3 5' Grab Soil Chevron Pardue Farms Eddy County, NM	6614485	04/09/2012 13:55
SB-3 10' Grab Soil Chevron Pardue Farms Eddy County, NM	6614486	04/09/2012 14:00
SB-3 20' Grab Soil Chevron Pardue Farms Eddy County, NM	6614487	04/09/2012 14:10
SB-1 5' Grab Soil Chevron Pardue Farms Eddy County, NM	6614488	04/09/2012 14:35
SB-1 15' Grab Soil Chevron Pardue Farms Eddy County, NM	6614489	04/09/2012 14:45
SB-1 25' Grab Soil Chevron Pardue Farms Eddy County, NM	6614490	04/09/2012 14:55
MW-3 5' Grab Soil Chevron Pardue Farms Eddy County, NM	6614491	04/09/2012 15:15
MW-3 10' Grab Soil Chevron Pardue Farms Eddy County, NM	6614492	04/09/2012 15:20
MW-3 15' Grab Soil Chevron Pardue Farms Eddy County, NM	6614493	04/09/2012 15:25
MW-1 5' Grab Soil Chevron Pardue Farms Eddy County, NM	6614494	04/10/2012 10:05
MW-1 10' Grab Soil Chevron Pardue Farms Eddy County, NM	6614495	04/10/2012 10:10
MW-2 15' Grab Soil Chevron Pardue Farms Eddy County, NM	6614496	04/10/2012 14:00

ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

Conestoga-Rovers & Associates
6320 Rothway, Suite 100
Houston TX 77040

April 25, 2012

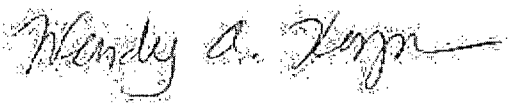
MW-2 20' Grab Soil Chevron Pardue Farms Eddy County, NM	6614497	04/10/2012 14:05
Trip Blank Water Chevron Pardue Farms Eddy County, NM	6614498	04/09/2012
MW-1 Grab Water Chevron Pardue Farms Eddy County, NM	6614499	04/11/2012 09:00
MW-3 Grab Water Chevron Pardue Farms Eddy County, NM	6614500	04/11/2012 09:30
MW-2 Grab Water Chevron Pardue Farms Eddy County, NM	6614501	04/11/2012 11:00
Trip Blank Water Chevron Pardue Farms Eddy County, NM	6614502	04/11/2012

METHODOLOGY

The specified methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC COPY TO	Conestoga-Rovers & Associates	Attn: Tom Larson
ELECTRONIC COPY TO	LLI	Attn: EDD Group - Report
ELECTRONIC COPY TO	Conestoga-Rovers & Associates	Attn: Claudia Ramos

Respectfully Submitted,



Wendy A. Kozma
Principal Specialist Group Leader

(717) 556-7257

Conestoga-Rovers & Associates
Project: Chevron Pardue Farms Eddy County, NM
SDG:

Report Date: 4/25/2012 14:53
Submit Date: 4/12/2012 10:20

Analysis Name	Units	6614482 SB-2 5'	Dry LOQ	6614483 SB-2 15'	Dry LOQ	6614484 SB-2 25'	Dry LOQ
		Dry Result		Dry Result		Dry Result	
TPH-GRO soil C6-C10	mg/kg	660	41	1.1 J	1.1	1.0 J	1.1
Benzene	mg/kg	0.027 J	0.041	N.D.	0.0054	N.D.	0.0054
Ethylbenzene	mg/kg	3.7	0.041	N.D.	0.0054	N.D.	0.0054
Toluene	mg/kg	3.4	0.041	N.D.	0.0054	N.D.	0.0054
Total Xylenes	mg/kg	20	0.12	N.D.	0.016	N.D.	0.016
TPH-DRO soil C10-C28	mg/kg	9,500	1,300	140	13	260	14
Chloride by IC (solid)	mg/kg	20,900	11,000	16,200	11,100	4,650	2,830
Moisture	%	10.3	0.50	9.9	0.50	11.6	0.50

Analysis Name	Units	6614485 SB-3 5'	Dry LOQ	6614486 SB-3 10'	Dry LOQ	6614487 SB-3 20'	Dry LOQ
		Dry Result		Dry Result		Dry Result	
TPH-GRO soil C6-C10	mg/kg	230	10	8.4	1.1	0.5 J	1.1
Benzene	mg/kg	N.D.	0.021	0.0030 J	0.0055	N.D.	0.0057
Ethylbenzene	mg/kg	0.81	0.021	0.0092	0.0055	N.D.	0.0057
Toluene	mg/kg	0.36	0.021	N.D.	0.0055	N.D.	0.0057
Total Xylenes	mg/kg	5.1	0.062	0.079	0.017	N.D.	0.017
TPH-DRO soil C10-C28	mg/kg	3,700	330	700	64	290	13
Chloride by IC (solid)	mg/kg	16,300	10,900	13,900	10,800	3,040	2,800
Moisture	%	9.3	0.50	7.5	0.50	10.7	0.50

Analysis Name	Units	6614488 SB-1 5'	Dry LOQ	6614489 SB-1 15'	Dry LOQ	6614490 SB-1 25'	Dry LOQ
		Dry Result		Dry Result		Dry Result	
TPH-GRO soil C6-C10	mg/kg	170	10	0.6 J	1.1	2.2	1.1
Benzene	mg/kg	N.D.	0.020	N.D.	0.0053	N.D.	0.0054
Ethylbenzene	mg/kg	0.62	0.020	N.D.	0.0053	0.0040 J	0.0054
Toluene	mg/kg	0.33	0.020	N.D.	0.0053	N.D.	0.0054
Total Xylenes	mg/kg	3.9	0.061	N.D.	0.016	0.028	0.016
TPH-DRO soil C10-C28	mg/kg	2,400	320	300	13	290	14
Chloride by IC (solid)	mg/kg	17,100	10,900	4,060	2,820	1,400	1,140
Moisture	%	8.4	0.50	11.2	0.50	13.0	0.50

Analysis Name	Units	6614491 MW-3 5'	Dry LOQ	6614492 MW-3 10'	Dry LOQ	6614493 MW-3 15'	Dry LOQ
		Dry Result		Dry Result		Dry Result	
TPH-GRO soil C6-C10	mg/kg	N.D.	1.1	N.D.	1.1	N.D.	1.1
Benzene	mg/kg	0.0023 J	0.0057	N.D.	0.0054	N.D.	0.0054
Ethylbenzene	mg/kg	0.0029 J	0.0057	N.D.	0.0054	N.D.	0.0054
Toluene	mg/kg	0.0023 J	0.0057	N.D.	0.0054	N.D.	0.0054
Total Xylenes	mg/kg	0.011 J	0.017	N.D.	0.016	N.D.	0.016
TPH-DRO soil C10-C28	mg/kg	42	13	28	13	N.D.	14

Conestoga-Rovers & Associates
Project: Chevron Pardue Farms Eddy County, NM
SDG:

Report Date: 4/25/2012 14:53
Submit Date: 4/12/2012 10:20

Chloride by IC (solid)	mg/kg	14,300	11,100	13,900	10,900	2,430	1,130
Moisture	%	9.7	0.50	9.5	0.50	11.9	0.50

Analysis Name	Units	6614494 MW-1 5'	Dry LOQ	6614495 MW-1 10'	Dry LOQ	6614496 MW-2 15'	Dry LOQ
		Dry Result		Dry Result		Dry Result	
TPH-GRO soil C6-C10	mg/kg	N.D.	1.0	N.D.	1.1	N.D.	1.0
Benzene	mg/kg	N.D.	0.0052	N.D.	0.0057	N.D.	0.0051
Ethylbenzene	mg/kg	N.D.	0.0052	N.D.	0.0057	N.D.	0.0051
Toluene	mg/kg	N.D.	0.0052	N.D.	0.0057	N.D.	0.0051
Total Xylenes	mg/kg	N.D.	0.016	N.D.	0.017	N.D.	0.015
TPH-DRO soil C10-C28	mg/kg	16	13	N.D.	13	N.D.	13
Chloride by IC (solid)	mg/kg	1,480	532	1,760	542	1,520	1,090
Moisture	%	6.4	0.50	7.7	0.50	9.2	0.50

Analysis Name	Units	6614497 MW-2 20'	Dry LOQ
		Dry Result	
TPH-GRO soil C6-C10	mg/kg	N.D.	1.1
Benzene	mg/kg	N.D.	0.0057
Ethylbenzene	mg/kg	N.D.	0.0057
Toluene	mg/kg	N.D.	0.0057
Total Xylenes	mg/kg	N.D.	0.017
TPH-DRO soil C10-C28	mg/kg	N.D.	13
Chloride by IC (solid)	mg/kg	689	556
Moisture	%	11.1	0.50

Analysis Name	Units	6614498 Trip Blank	LOQ	6614499 MW-1	LOQ	6614500 MW-3	LOQ
		Result		Result		Result	
TPH-GRO water C6-C10	ug/l	n.a.	n.a.	N.D.	50	N.D.	50
Benzene	mg/l	N.D.	0.0010	N.D.	0.0010	N.D.	0.0010
Ethylbenzene	mg/l	N.D.	0.0010	N.D.	0.0010	N.D.	0.0010
Toluene	mg/l	N.D.	0.0010	N.D.	0.0010	N.D.	0.0010
Total Xylenes	mg/l	N.D.	0.0030	N.D.	0.0030	N.D.	0.0030
TPH-DRO water C10-C28	ug/l	n.a.	n.a.	35 J	98	94 J	95
Chloride	mg/l	n.a.	n.a.	5,860	1,000	6,820	1,000
Total Dissolved Solids	mg/l	n.a.	n.a.	13,900	2,400	17,000	2,400

Analysis Name	Units	6614501 MW-2		6614502 Trip Blank	
		Result	LOQ	Result	LOQ
TPH-GRO water C6-C10	ug/l	N.D.	50	n.a.	n.a.
Benzene	mg/l	N.D.	0.0010	N.D.	0.0010
Ethylbenzene	mg/l	N.D.	0.0010	N.D.	0.0010
Toluene	mg/l	N.D.	0.0010	N.D.	0.0010

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SDG:

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Total Xylenes	mg/l	N.D.	0.0030	N.D.	0.0030
TPH-DRO water C10-C28	ug/l	50 J	96	n.a.	n.a.
Chloride	mg/l	6,340	1,000	n.a.	n.a.
Total Dissolved Solids	mg/l	15,500	2,400	n.a.	n.a.

CAT No.	Analysis Name	Method	Trial ID	Batch	Analysis Date/Time	Analyst	Dilution
6614482	**SB-2 5' Grab Soil**						
01638	TPH-GRO soil C6-C10	SW-846 8015B modified	1	12107A31A	4/18/12 0800	Laura M Krieger	913.24
08179	BTEX by 8021	SW-846 8021B	1	12104A31B	4/16/12 2255	Carrie E Miller	182.65
01150	GC - Bulk Soil Prep	SW-846 5035A Modified	1	201210427357	4/12/12 2334	Scott W Freisher	n.a.
08270	TPH-DRO soil C10-C28	SW-846 8015B	1	121070031A	4/24/12 2053	Glorines Suarez-Rivera	100
07004	Extraction - DRO (Soils)	SW-846 3550B	1	121070031A	4/17/12 0840	Kerrie A Freeburn	1
07333	Chloride by IC (solid)	EPA 300.0	1	12108108201A	4/21/12 1447	Christopher D Meeks	1000
01352	Deionized Water Extraction	EPA 300.0	1	12108108201A	4/17/12 0800	Nancy J Shoop	1
00111	Moisture	SM20 2540 G	1	12104820002B	4/13/12 0936	Scott W Freisher	1
6614483	**SB-2 15' Grab Soil**						
01638	TPH-GRO soil C6-C10	SW-846 8015B modified	1	12104A31A	4/14/12 1332	Laura M Krieger	24.25
08179	BTEX by 8021	SW-846 8021B	1	12104A31A	4/14/12 1332	Laura M Krieger	24.25
01150	GC - Bulk Soil Prep	SW-846 5035A Modified	1	201210427357	4/12/12 2336	Scott W Freisher	n.a.
08270	TPH-DRO soil C10-C28	SW-846 8015B	1	121070031A	4/24/12 0256	Glorines Suarez-Rivera	1
07004	Extraction - DRO (Soils)	SW-846 3550B	1	121070031A	4/17/12 0840	Kerrie A Freeburn	1
07333	Chloride by IC (solid)	EPA 300.0	1	12108108201A	4/21/12 1603	Christopher D Meeks	1000
01352	Deionized Water Extraction	EPA 300.0	1	12108108201A	4/17/12 0800	Nancy J Shoop	1
00111	Moisture	SM20 2540 G	1	12104820002B	4/13/12 0936	Scott W Freisher	1
6614484	**SB-2 25' Grab Soil**						
01638	TPH-GRO soil C6-C10	SW-846 8015B modified	1	12104A31A	4/14/12 1408	Laura M Krieger	23.79
08179	BTEX by 8021	SW-846 8021B	1	12104A31A	4/14/12 1408	Laura M Krieger	23.79
01150	GC - Bulk Soil Prep	SW-846 5035A Modified	1	201210427357	4/12/12 2338	Scott W Freisher	n.a.
08270	TPH-DRO soil C10-C28	SW-846 8015B	1	121070031A	4/24/12 0318	Glorines Suarez-Rivera	1
07004	Extraction - DRO (Soils)	SW-846 3550B	1	121070031A	4/17/12 0840	Kerrie A Freeburn	1
07333	Chloride by IC (solid)	EPA 300.0	2	12108108201A	4/24/12 1137	Christopher D Meeks	250
01352	Deionized Water Extraction	EPA 300.0	1	12108108201A	4/17/12 0800	Nancy J Shoop	1
00111	Moisture	SM20 2540 G	1	12104820002B	4/13/12 0936	Scott W Freisher	1
6614485	**SB-3 5' Grab Soil**						
01638	TPH-GRO soil C6-C10	SW-846 8015B modified	1	12104A31B	4/16/12 1836	Carrie E Miller	236.07
08179	BTEX by 8021	SW-846 8021B	1	12104A31B	4/16/12 2331	Carrie E Miller	94.43
01150	GC - Bulk Soil Prep	SW-846 5035A Modified	1	201210427357	4/12/12 2341	Scott W Freisher	n.a.
08270	TPH-DRO soil C10-C28	SW-846 8015B	1	121070031A	4/24/12 2032	Glorines Suarez-Rivera	25
07004	Extraction - DRO (Soils)	SW-846 3550B	1	121070031A	4/17/12 0840	Kerrie A Freeburn	1
07333	Chloride by IC (solid)	EPA 300.0	1	12108108201A	4/21/12 1633	Christopher D Meeks	1000
01352	Deionized Water Extraction	EPA 300.0	1	12108108201A	4/17/12 0800	Nancy J Shoop	1
00111	Moisture	SM20 2540 G	1	12104820002B	4/13/12 0936	Scott W Freisher	1

CAT No.	Analysis Name	Method	Trial ID	Batch	Analysis Date/Time	Analyst	Dilution
6614486	**SB-3 10' Grab Soil**						
01638	TPH-GRO soil C6-C10	SW-846 8015B modified	1	12104A31A	4/14/12 1444	Marie D John	25.48
08179	BTEX by 8021	SW-846 8021B	1	12104A31A	4/14/12 1444	Marie D John	25.48
01150	GC - Bulk Soil Prep	SW-846 5035A Modified	1	201210427357	4/12/12 2344	Scott W Freisher	n.a.
01150	GC - Bulk Soil Prep	SW-846 5035A Modified	2	201210427357	4/12/12 2343	Scott W Freisher	n.a.
01150	GC - Bulk Soil Prep	SW-846 5035A Modified	3	201210427357	4/12/12 2345	Scott W Freisher	n.a.
01150	GC - Bulk Soil Prep	SW-846 5035A Modified	4	201210427357	4/12/12 2346	Scott W Freisher	n.a.
01150	GC - Bulk Soil Prep	SW-846 5035A Modified	5	201210427357	4/12/12 2347	Scott W Freisher	n.a.
01150	GC - Bulk Soil Prep	SW-846 5035A Modified	6	201210427357	4/12/12 2348	Scott W Freisher	n.a.
08270	TPH-DRO soil C10-C28	SW-846 8015B	1	121070031A	4/24/12 1950	Glorines Suarez-Rivera	5
07004	Extraction - DRO (Soils)	SW-846 3550B	1	121070031A	4/17/12 0840	Kerrie A Freeburn	1
07333	Chloride by IC (solid)	EPA 300.0	1	12108108201A	4/21/12 1648	Christopher D Meeks	1000
01352	Deionized Water Extraction	EPA 300.0	1	12108108201A	4/17/12 0800	Nancy J Shoop	1
00111	Moisture	SM20 2540 G	1	12104820002B	4/13/12 0936	Scott W Freisher	1
6614487	**SB-3 20' Grab Soil**						
01638	TPH-GRO soil C6-C10	SW-846 8015B modified	1	12104A31A	4/14/12 1744	Laura M Krieger	25.48
08179	BTEX by 8021	SW-846 8021B	1	12104A31A	4/14/12 1744	Laura M Krieger	25.48
01150	GC - Bulk Soil Prep	SW-846 5035A Modified	1	201210427357	4/12/12 2350	Scott W Freisher	n.a.
08270	TPH-DRO soil C10-C28	SW-846 8015B	1	121070031A	4/24/12 0340	Glorines Suarez-Rivera	1
07004	Extraction - DRO (Soils)	SW-846 3550B	1	121070031A	4/17/12 0840	Kerrie A Freeburn	1
07333	Chloride by IC (solid)	EPA 300.0	2	12108108201A	4/22/12 1116	Christopher D Meeks	250
01352	Deionized Water Extraction	EPA 300.0	1	12108108201A	4/17/12 0800	Nancy J Shoop	1
00111	Moisture	SM20 2540 G	1	12104820002B	4/13/12 0936	Scott W Freisher	1
6614488	**SB-1 5' Grab Soil**						
01638	TPH-GRO soil C6-C10	SW-846 8015B modified	1	12104A31B	4/16/12 1912	Carrie E Miller	232.13
08179	BTEX by 8021	SW-846 8021B	1	12104A31B	4/17/12 0007	Carrie E Miller	92.85
01150	GC - Bulk Soil Prep	SW-846 5035A Modified	1	201210427357	4/12/12 2352	Scott W Freisher	n.a.
08270	TPH-DRO soil C10-C28	SW-846 8015B	1	121070031A	4/24/12 2011	Glorines Suarez-Rivera	25
07004	Extraction - DRO (Soils)	SW-846 3550B	1	121070031A	4/17/12 0840	Kerrie A Freeburn	1
07333	Chloride by IC (solid)	EPA 300.0	1	12108108201A	4/21/12 1719	Christopher D Meeks	1000
01352	Deionized Water Extraction	EPA 300.0	1	12108108201A	4/17/12 0800	Nancy J Shoop	1
00111	Moisture	SM20 2540 G	1	12104820002B	4/13/12 0936	Scott W Freisher	1
6614489	**SB-1 15' Grab Soil**						
01638	TPH-GRO soil C6-C10	SW-846 8015B modified	1	12104A31A	4/14/12 1820	Laura M Krieger	23.39
08179	BTEX by 8021	SW-846 8021B	1	12104A31A	4/14/12 1820	Laura M Krieger	23.39

CAT No.	Analysis Name	Method	Trial ID	Batch	Analysis Date/Time	Analyst	Dilution
01150	GC - Bulk Soil Prep	SW-846 5035A Modified	1	201210427357	4/12/12 2353	Scott W Freisher	n.a.
08270	TPH-DRO soil C10-C28	SW-846 8015B	1	121070031A	4/24/12 0402	Glorines Suarez-Rivera	1
07004	Extraction - DRO (Soils)	SW-846 3550B	1	121070031A	4/17/12 0840	Kerrie A Freeburn	1
07333	Chloride by IC (solid)	EPA 300.0	2	12108108201A	4/22/12 1131	Christopher D Meeks	250
01352	Deionized Water Extraction	EPA 300.0	1	12108108201A	4/17/12 0800	Nancy J Shoop	1
00111	Moisture	SM20 2540 G	1	12104820002B	4/13/12 0936	Scott W Freisher	1
6614490	**SB-1 25' Grab Soil**						
01638	TPH-GRO soil C6-C10	SW-846 8015B modified	1	12104A31A	4/14/12 2008	Laura M Krieger	23.52
08179	BTEX by 8021	SW-846 8021B	1	12104A31A	4/14/12 2008	Laura M Krieger	23.52
01150	GC - Bulk Soil Prep	SW-846 5035A Modified	1	201210427357	4/12/12 2355	Scott W Freisher	n.a.
08270	TPH-DRO soil C10-C28	SW-846 8015B	1	121070031A	4/24/12 0424	Glorines Suarez-Rivera	1
07004	Extraction - DRO (Soils)	SW-846 3550B	1	121070031A	4/17/12 0840	Kerrie A Freeburn	1
07333	Chloride by IC (solid)	EPA 300.0	3	12108108201A	4/24/12 1345	Christopher D Meeks	100
01352	Deionized Water Extraction	EPA 300.0	1	12108108201A	4/17/12 0800	Nancy J Shoop	1
00111	Moisture	SM20 2540 G	1	12104820002B	4/13/12 0936	Scott W Freisher	1
6614491	**MW-3 5' Grab Soil**						
01638	TPH-GRO soil C6-C10	SW-846 8015B modified	1	12104A31A	4/14/12 2044	Laura M Krieger	25.56
08179	BTEX by 8021	SW-846 8021B	1	12104A31A	4/14/12 2044	Laura M Krieger	25.56
01150	GC - Bulk Soil Prep	SW-846 5035A Modified	1	201210427357	4/12/12 2358	Scott W Freisher	n.a.
08270	TPH-DRO soil C10-C28	SW-846 8015B	1	121070031A	4/24/12 0234	Glorines Suarez-Rivera	1
07004	Extraction - DRO (Soils)	SW-846 3550B	1	121070031A	4/17/12 0840	Kerrie A Freeburn	1
07333	Chloride by IC (solid)	EPA 300.0	1	12108108201A	4/21/12 1804	Christopher D Meeks	1000
01352	Deionized Water Extraction	EPA 300.0	1	12108108201A	4/17/12 0800	Nancy J Shoop	1
00111	Moisture	SM20 2540 G	1	12104820002B	4/13/12 0936	Scott W Freisher	1
6614492	**MW-3 10' Grab Soil**						
01638	TPH-GRO soil C6-C10	SW-846 8015B modified	1	12104A31A	4/14/12 2120	Laura M Krieger	24.46
08179	BTEX by 8021	SW-846 8021B	1	12104A31A	4/14/12 2120	Laura M Krieger	24.46
01150	GC - Bulk Soil Prep	SW-846 5035A Modified	1	201210427357	4/13/12 0001	Scott W Freisher	n.a.
08270	TPH-DRO soil C10-C28	SW-846 8015B	1	121070031A	4/24/12 0212	Glorines Suarez-Rivera	1
07004	Extraction - DRO (Soils)	SW-846 3550B	1	121070031A	4/17/12 0840	Kerrie A Freeburn	1
07333	Chloride by IC (solid)	EPA 300.0	1	12108108201B	4/21/12 1819	Christopher D Meeks	1000
01352	Deionized Water Extraction	EPA 300.0	1	12108108201B	4/17/12 0800	Nancy J Shoop	1
00111	Moisture	SM20 2540 G	1	12104820002B	4/13/12 0936	Scott W Freisher	1
6614493	**MW-3 15' Grab Soil**						
01638	TPH-GRO soil C6-C10	SW-846 8015B modified	1	12104A31A	4/14/12 2156	Laura M Krieger	23.67
08179	BTEX by 8021	SW-846 8021B	1	12104A31A	4/14/12 2156	Laura M Krieger	23.67

CAT No.	Analysis Name	Method	Trial ID	Batch	Analysis Date/Time	Analyst	Dilution
01150	GC - Bulk Soil Prep	SW-846 5035A Modified	1	201210427357	4/13/12 0004	Scott W Freisher	n.a.
08270	TPH-DRO soil C10-C28	SW-846 8015B	2	121070031A	4/24/12 0128	Tracy A Cole	1
07004	Extraction - DRO (Soils)	SW-846 3550B	1	121070031A	4/17/12 0840	Kerrie A Freeburn	1
07333	Chloride by IC (solid)	EPA 300.0	3	12108108201A	4/24/12 1401	Christopher D Meeks	100
01352	Deionized Water Extraction	EPA 300.0	1	12108108201B	4/17/12 0800	Nancy J Shoop	1
00111	Moisture	SM20 2540 G	1	12104820002B	4/13/12 0936	Scott W Freisher	1
6614494	**MW-1 5' Grab Soil**						
01638	TPH-GRO soil C6-C10	SW-846 8015B modified	1	12104A31A	4/14/12 2232	Laura M Krieger	24.18
08179	BTEX by 8021	SW-846 8021B	1	12104A31A	4/14/12 2232	Laura M Krieger	24.18
01150	GC - Bulk Soil Prep	SW-846 5035A Modified	1	201210427357	4/13/12 0006	Scott W Freisher	n.a.
08270	TPH-DRO soil C10-C28	SW-846 8015B	1	121070031A	4/24/12 0150	Glorines Suarez-Rivera	1
07004	Extraction - DRO (Soils)	SW-846 3550B	1	121070031A	4/17/12 0840	Kerrie A Freeburn	1
07333	Chloride by IC (solid)	EPA 300.0	2	12108108201B	4/24/12 1000	Christopher D Meeks	50
01352	Deionized Water Extraction	EPA 300.0	1	12108108201B	4/17/12 0800	Nancy J Shoop	1
00111	Moisture	SM20 2540 G	1	12104820002B	4/13/12 0936	Scott W Freisher	1
6614495	**MW-1 10' Grab Soil**						
01638	TPH-GRO soil C6-C10	SW-846 8015B modified	1	12104A31A	4/14/12 2308	Laura M Krieger	26.21
08179	BTEX by 8021	SW-846 8021B	1	12104A31A	4/14/12 2308	Laura M Krieger	26.21
01150	GC - Bulk Soil Prep	SW-846 5035A Modified	1	201210427357	4/13/12 0008	Scott W Freisher	n.a.
08270	TPH-DRO soil C10-C28	SW-846 8015B	2	121070031A	4/24/12 0022	Tracy A Cole	1
07004	Extraction - DRO (Soils)	SW-846 3550B	1	121070031A	4/17/12 0840	Kerrie A Freeburn	1
07333	Chloride by IC (solid)	EPA 300.0	2	12108108201B	4/24/12 1015	Christopher D Meeks	50
01352	Deionized Water Extraction	EPA 300.0	1	12108108201B	4/17/12 0800	Nancy J Shoop	1
00111	Moisture	SM20 2540 G	1	12104820002B	4/13/12 0936	Scott W Freisher	1
6614496	**MW-2 15' Grab Soil**						
01638	TPH-GRO soil C6-C10	SW-846 8015B modified	1	12104A31A	4/14/12 2344	Laura M Krieger	23.21
08179	BTEX by 8021	SW-846 8021B	1	12104A31A	4/14/12 2344	Laura M Krieger	23.21
01150	GC - Bulk Soil Prep	SW-846 5035A Modified	1	201210427357	4/13/12 0011	Scott W Freisher	n.a.
08270	TPH-DRO soil C10-C28	SW-846 8015B	2	121070031A	4/24/12 0044	Tracy A Cole	1
07004	Extraction - DRO (Soils)	SW-846 3550B	1	121070031A	4/17/12 0840	Kerrie A Freeburn	1
07333	Chloride by IC (solid)	EPA 300.0	2	12108108201B	4/24/12 1031	Christopher D Meeks	100
01352	Deionized Water Extraction	EPA 300.0	1	12108108201B	4/17/12 0800	Nancy J Shoop	1
00111	Moisture	SM20 2540 G	1	12104820002B	4/13/12 0936	Scott W Freisher	1
6614497	**MW-2 20' Grab Soil**						
01638	TPH-GRO soil C6-C10	SW-846 8015B modified	1	12104A31A	4/15/12 0020	Laura M Krieger	25.25
08179	BTEX by 8021	SW-846 8021B	1	12104A31A	4/15/12 0020	Laura M Krieger	25.25
01150	GC - Bulk Soil Prep	SW-846 5035A Modified	1	201210427357	4/13/12 0013	Scott W Freisher	n.a.
08270	TPH-DRO soil C10-C28	SW-846 8015B	2	121070031A	4/24/12 0106	Tracy A Cole	1

CAT No.	Analysis Name	Method	Trial ID	Batch	Analysis Date/Time	Analyst	Dilution
07004	Extraction - DRO (Soils)	SW-846 3550B	1	121070031A	4/17/12 0840	Kerrie A Freeburn	1
07333	Chloride by IC (solid)	EPA 300.0	3	12108108201B	4/25/12 0409	Christopher D Meeks	50
01352	Deionized Water Extraction	EPA 300.0	1	12108108201B	4/17/12 0800	Nancy J Shoop	1
00111	Moisture	SM20 2540 G	1	12104820002B	4/13/12 0936	Scott W Freisher	1
6614498	**Trip Blank Water**						
02102	Method 8021 Water Master	SW-846 8021B	1	12104A94A	4/16/12 1521	Catherine J Schwarz	1
01146	GC VOA Water Prep	SW-846 5030B	1	12104A94A	4/16/12 1521	Catherine J Schwarz	1
6614499	**MW-1 Grab Water**						
01636	TPH-GRO water C6-C10	SW-846 8015B modified	1	12104A53A	4/16/12 1939	Marie D John	1
02102	Method 8021 Water Master	SW-846 8021B	1	12104A53A	4/16/12 1939	Marie D John	1
01146	GC VOA Water Prep	SW-846 5030B	1	12104A53A	4/16/12 1939	Marie D John	1
08269	TPH-DRO water C10-C28	SW-846 8015B	1	121070008A	4/17/12 1206	Tracy A Cole	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	121070008A	4/16/12 1330	Kelli M Barto	1
00224	Chloride	EPA 300.0	1	12111987121A	4/21/12 0017	Clinton M Wilson	2500
00212	Total Dissolved Solids	SM20 2540 C	1	12107021202A	4/16/12 1408	Bronson L Cole	10
6614500	**MW-3 Grab Water**						
01636	TPH-GRO water C6-C10	SW-846 8015B modified	1	12104A53A	4/16/12 2005	Marie D John	1
02102	Method 8021 Water Master	SW-846 8021B	1	12104A53A	4/16/12 2005	Marie D John	1
01146	GC VOA Water Prep	SW-846 5030B	1	12104A53A	4/16/12 2005	Marie D John	1
08269	TPH-DRO water C10-C28	SW-846 8015B	1	121070008A	4/17/12 1229	Tracy A Cole	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	121070008A	4/16/12 1330	Kelli M Barto	1
00224	Chloride	EPA 300.0	1	12111987121A	4/21/12 0032	Clinton M Wilson	2500
00212	Total Dissolved Solids	SM20 2540 C	1	12107021202A	4/16/12 1408	Bronson L Cole	10
6614501	**MW-2 Grab Water**						
01636	TPH-GRO water C6-C10	SW-846 8015B modified	1	12104A53A	4/16/12 2032	Marie D John	1
02102	Method 8021 Water Master	SW-846 8021B	1	12104A53A	4/16/12 2032	Marie D John	1
01146	GC VOA Water Prep	SW-846 5030B	1	12104A53A	4/16/12 2032	Marie D John	1
08269	TPH-DRO water C10-C28	SW-846 8015B	1	121070008A	4/17/12 1252	Tracy A Cole	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	121070008A	4/16/12 1330	Kelli M Barto	1
00224	Chloride	EPA 300.0	1	12111987121A	4/21/12 0046	Clinton M Wilson	2500
00212	Total Dissolved Solids	SM20 2540 C	1	12107021202A	4/16/12 1408	Bronson L Cole	10
6614502	**Trip Blank Water**						
02102	Method 8021 Water Master	SW-846 8021B	1	12104A53A	4/16/12 1417	Marie D John	1
01146	GC VOA Water Prep	SW-846 5030B	1	12104A53A	4/16/12 1417	Marie D John	1

Client Name: Conestoga-Rovers & Associates Group Number: 1301809

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank LOQ	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	Max RPD
Batch number: 12104A31A	Sample number(s): 6614483-6614484,6614486-6614487,6614489-6614497							
Benzene	N.D.	0.0050	mg/kg	90		76-118		
Ethylbenzene	N.D.	0.0050	mg/kg	91		77-115		
Toluene	N.D.	0.0050	mg/kg	89		80-120		
TPH-GRO soil C6-C10	N.D.	1.0	mg/kg	90		67-119		
Total Xylenes	N.D.	0.015	mg/kg	90		78-115		
Batch number: 12104A31B	Sample number(s): 6614482,6614485,6614488							
Benzene	N.D.	0.0050	mg/kg	90		76-118		
Ethylbenzene	N.D.	0.0050	mg/kg	91		77-115		
Toluene	N.D.	0.0050	mg/kg	89		80-120		
TPH-GRO soil C6-C10	N.D.	1.0	mg/kg	90		67-119		
Total Xylenes	N.D.	0.015	mg/kg	90		78-115		
Batch number: 12104A53A	Sample number(s): 6614499-6614502							
Benzene	N.D.	0.0010	mg/l	100		80-120		
Ethylbenzene	N.D.	0.0010	mg/l	105		80-120		
Toluene	N.D.	0.0010	mg/l	105		80-120		
TPH-GRO water C6-C10	N.D.	50.	ug/l	118		75-135		
Total Xylenes	N.D.	0.0030	mg/l	107		80-120		
Batch number: 12104A94A	Sample number(s): 6614498							
Benzene	N.D.	0.0010	mg/l	100	100	80-120	0	30
Ethylbenzene	N.D.	0.0010	mg/l	100	100	80-120	0	30
Toluene	N.D.	0.0010	mg/l	95	95	80-120	0	30
Total Xylenes	N.D.	0.0030	mg/l	102	102	80-120	0	30
Batch number: 12107A31A	Sample number(s): 6614482							
TPH-GRO soil C6-C10	N.D.	1.0	mg/kg	76		67-119		

* - Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Batch number: 121070008A	Sample number(s): 6614499-6614501							
TPH-DRO water C10-C28	N.D.	100.	ug/l	88		56-122		
Batch number: 121070031A	Sample number(s): 6614482-6614497							
TPH-DRO soil C10-C28	N.D.	12.	mg/kg	78		76-117		
Batch number: 12108108201A	Sample number(s): 6614482-6614491,6614493							
Chloride by IC (solid)	N.D.	10.0	mg/kg	99		90-110		
Batch number: 12108108201B	Sample number(s): 6614492,6614494-6614497							
Chloride by IC (solid)	N.D.	10.0	mg/kg	99		90-110		
Batch number: 12111987121A	Sample number(s): 6614499-6614501							
Chloride	N.D.	0.40	mg/l	101		90-110		
Batch number: 12107021202A	Sample number(s): 6614499-6614501							
Total Dissolved Solids	N.D.	30.0	mg/l	101	87	80-120	15*	9
Batch number: 12104820002B	Sample number(s): 6614482-6614497							
Moisture				100		99-101		

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	DUP RPD Max
Batch number: 12104A31A	Sample number(s): 6614483-6614484,6614486-6614487,6614489-6614497 UNSPK: 6614486								
Benzene	109	109	52-135	5	30				

* - Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Ethylbenzene	114	116	56-132	4	30
Toluene	113	115	59-129	3	30
TPH-GRO soil C6-C10	118	128*	39-118	7	30
Total Xylenes	113*	114*	66-112	4	30

Batch number: 12104A31B Sample number(s): 6614482,6614485,6614488 UNSPK: 6614486

Benzene	109	109	52-135	5	30
Ethylbenzene	114	116	56-132	4	30
Toluene	113	115	59-129	3	30
TPH-GRO soil C6-C10	118	128*	39-118	7	30
Total Xylenes	113*	114*	66-112	4	30

Batch number: 12104A53A Sample number(s): 6614499-6614502 UNSPK: P614533, P614540

Benzene	105	110	80-130	5	30
Ethylbenzene	110	110	80-133	0	30
Toluene	110	115	80-133	4	30
TPH-GRO water C6-C10	109	118	75-135	8	30
Total Xylenes	110	113	80-132	3	30

Batch number: 12107A31A Sample number(s): 6614482 UNSPK: P616689

TPH-GRO soil C6-C10	4*	102	39-118	35*	30

Batch number: 121070008A Sample number(s): 6614499-6614501 UNSPK: P615748

TPH-DRO water C10-C28	88	93	19-173	0	20

Batch number: 121070031A Sample number(s): 6614482-6614497 UNSPK: 6614482 BKG: 6614482

TPH-DRO soil C10-C28	3 (2)		30-159	8,500	9,800	14	20

Batch number: 12108108201A Sample number(s): 6614482-6614491,6614493 UNSPK: 6614482 BKG: 6614482

Chloride by IC (solid)	-18556 (2)		90-110	18,700	18,400	2 (1)	20

Batch number: 12108108201B Sample number(s): 6614492,6614494-6614497 UNSPK: 6614492 BKG: 6614492

Chloride by IC (solid)	-8413 (2)		90-110	12,600	10,500	17 (1)	20

Batch number: 12111987121A Sample number(s): 6614499-6614501 UNSPK: P614674 BKG: P614674

* - Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Chloride	100		90-110			2.0	2.1	3	20
Batch number: 12107021202A	Sample number(s): 6614499-6614501 UNSPK: P614674 BKG: P614674								
Total Dissolved Solids	104	104	62-135	0	12	157	159	1	9
Batch number: 12104820002B	Sample number(s): 6614482-6614497 BKG: 6614489								
Moisture						11.2	10.3	8	15

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: Method 8021 Soil Master
Batch number: 12104A31A

	Trifluorotoluene-F	Trifluorotoluene-P
6614483	95	92
6614484	92	90
6614486	102	93
6614487	96	91
6614489	98	95
6614490	90	88
6614491	96	94
6614492	94	98
6614493	92	90
6614494	95	95
6614495	96	94
6614496	92	94
6614497	89	91
Blank	93	92
LCS	95	90
MS	96	86
MSD	99	85
Limits:	61-122	73-117

Analysis Name: Method 8021 Soil Master

* - Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Batch number: 12104A31B

	Trifluorotoluene-F	Trifluorotoluene-P
6614482		70*
6614485	90	72*
6614488	90	70*
Blank	83	95
LCS	95	90
MS	96	86
MSD	99	85
Limits:	61-122	73-117

Analysis Name: Method 8021 Water Master
Batch number: 12104A53A

	Trifluorotoluene-F	Trifluorotoluene-P
6614499	76	80
6614500	76	81
6614501	76	80
6614502		80
Blank	76	79
LCS	81	80
MS	79	80
MSD	81	80
Limits:	63-135	51-120

Analysis Name: Method 8021 Water Master
Batch number: 12104A94A

	Trifluorotoluene-P
6614498	84
Blank	84
LCS	85
LCSD	84
Limits:	51-120

Analysis Name: TPH-GRO soil C6-C10

* - Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Batch number: 12107A31A

	Trifluorotoluene-F
6614482	87
Blank	77
LCS	83
MS	88
MSD	87
Limits:	61-122

Analysis Name: TPH-DRO water C10-C28
Batch number: 121070008A

	Orthoterphenyl
6614499	88
6614500	60
6614501	41*
Blank	89
LCS	91
MS	91
MSD	91
Limits:	50-154

Analysis Name: TPH-DRO soil C10-C28
Batch number: 121070031A

	Orthoterphenyl
6614482	198*
6614483	93
6614484	82
6614485	118
6614486	80
6614487	87
6614488	106
6614489	85
6614490	84
6614491	86
6614492	89
6614493	87
6614494	89
6614495	89
6614496	104

* - Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

6614497	110
Blank	89
DUP	230*
LCS	91
MS	207*
Limits:	50-143

* - Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

QC Comment

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

6614482 SB-2 5' Grab Soil

00111 Moisture

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

08179 Method 8021 Soil Master
Reporting limits were raised due to interference from the sample matrix.

6614483 SB-2 15' Grab Soil

00111 Moisture

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

6614484 SB-2 25' Grab Soil

00111 Moisture

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

6614485 SB-3 5' Grab Soil

00111 Moisture

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

08179 Method 8021 Soil Master
Reporting limits were raised due to interference from the sample matrix.

6614486 SB-3 10' Grab Soil

00111 Moisture

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

6614487 SB-3 20' Grab Soil

00111 Moisture

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

6614488 SB-1 5' Grab Soil

00111 Moisture

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

08179 Method 8021 Soil Master
Reporting limits were raised due to interference from the sample matrix.

6614489 SB-1 15' Grab Soil

00111 Moisture

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

6614490 SB-1 25' Grab Soil

00111 Moisture

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

6614491 MW-3 5' Grab Soil

00111 Moisture

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

6614492 MW-3 10' Grab Soil

00111 Moisture

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

6614493 MW-3 15' Grab Soil

00111 Moisture

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

6614494 MW-1 5' Grab Soil

00111 Moisture

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

6614495 MW-1 10' Grab Soil

00111 Moisture

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

6614496 MW-2 15' Grab Soil

00111 Moisture

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

6614497 MW-2 20' Grab Soil

00111 Moisture

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

6614498 Trip Blank Water

6614499 MW-1 Grab Water

6614500 MW-3 Grab Water

6614501 MW-2 Grab Water

08269 TPH-DRO water C10-C28
The recovery for the sample surrogate(s) is outside the QC acceptance limits as noted on the QC Summary. Sufficient sample was not available to repeat the analysis.

6614502 Trip Blank Water

eurofins | Lancaster Laboratories

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

< less than - The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Data Qualifiers:

C – result confirmed by reanalysis.

J - estimated value – The result is ≥ the Method Detection Limit (MDL) and < the Limit of Quantitation (LOQ).

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers		Inorganic Qualifiers	
A	TIC is a possible aldol-condensation product	**B**	Value is <CRDL, but ≥IDL
B	Analyte was also detected in the blank	**E**	Estimated due to interference
C	Pesticide result confirmed by GC/MS	**M**	Duplicate injection precision not met
D	Compound quantitated on a diluted sample	**N**	Spike sample not within control limits
E	Concentration exceeds the calibration range of the instrument	**S**	Method of standard additions (MSA) used for calculation
N	Presumptive evidence of a compound (TICs only)	**U**	Compound was not detected
P	Concentration difference between primary and confirmation columns >25%	**W**	Post digestion spike out of control limits
U	Compound was not detected	*	Duplicate analysis not within control limits
X,Y,Z	Defined in case narrative	+	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

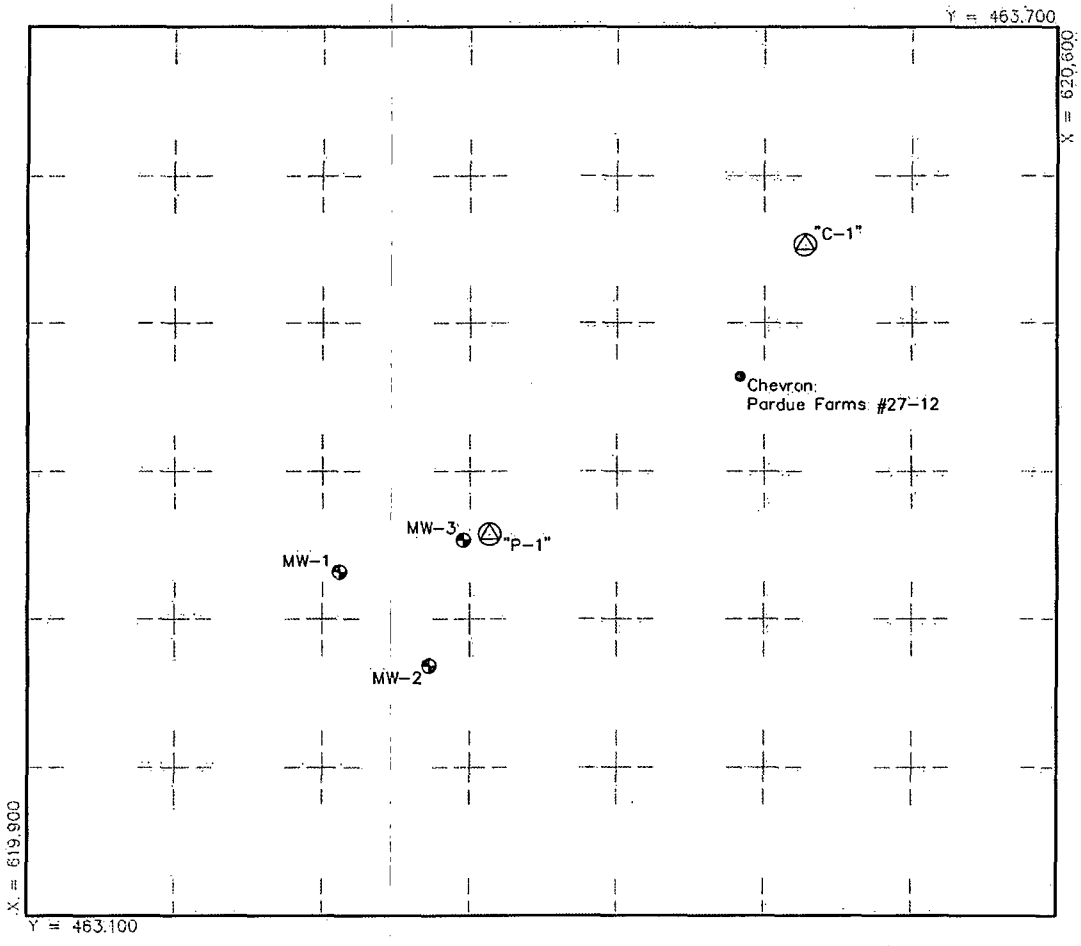
Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR part 136 Table II as "analyze immediately" are not performed within 15 minutes.

E

L-2012-1018



THIS IS NOT A BOUNDARY SURVEY
Apparent property corners and property lines, if shown, are for information only.

DESCRIPTION	GEODETIC POSITIONS				STATE PLANE COORDINATES		ELEVATION		
	NORTH AMERICAN DATUM OF 1983				NAD '83 - New Mexico East Zone (US FT)		NAVD '88 (US FT)		
	Latitude (D.M.S.)	Longitude (D.M.S.)	Latitude (D.D.)	Longitude (D.D.)	Northing (Y)	Easting (X)	Top of Casing	Concrete Pad	Natural Ground
MW-1	32°16'24.66" N	104°04'42.44" W	32.27352	-104.07846	463,331.95	620,111.34	3,070.30	3,067.69	3,067.4
MW-2	32°16'24.03" N	104°04'41.73" W	32.27334	-104.07826	463,268.71	620,172.25	3,071.87	3,069.30	3,068.8
MW-3	32°16'24.88" N	104°04'41.46" W	32.27358	-104.07818	463,353.84	620,195.54	3,068.64	3,066.15	3,065.8
C-1	32°16'26.84" N	104°04'38.76" W	32.27412	-104.07743	463,552.62	620,427.00			3,061.6
P-1	32°16'24.91" N	104°04'41.25" W	32.27359	-104.07812	463,357.47	620,213.48			3,065.5

Date Surveyed: May 25, 2012
Weather: Hot & Breezy

NOTE:

1) Plane Coordinates shown hereon are Transverse Mercator Grid and Conform to the "New Mexico Coordinate System", New Mexico East Zone, North American Datum of 1983.

2) Elevations shown hereon reference the North American Vertical Datum of 1988.

3) Geodetic Coordinates shown hereon references the North American Datum of 1983 (GRS '80). Reference Stations – "ANDREWS" – CORS (DM4149), "KERMIT" – CORS (DM4161) and "PECOS" – CORS (DM4167).

LEGEND

- ● – Denotes Producing Well Location
- ⊕ – Denotes Monitoring Well
- △ – Denotes Static GPS Control Station

100 0 100 200
Graphic Scale in Feet

I HEREBY CERTIFY THAT THIS PLAT WAS MADE FROM NOTES TAKEN IN THE FIELD IN A BONA FIDE SURVEY MADE UNDER MY SUPERVISION.

MACON McDONALD NEW MEXICO P.S. No. 12185

NEW MEXICO 12185 REGISTERED PROFESSIONAL SURVEYOR

WEST COMPANY
of Midland, Inc.
110 W. LOUISIANA, STE. 110
MIDLAND TEXAS, 79701
(432) 687-0865 – (432) 687-0868 FAX

CONESTOGA-ROVERS & ASSOCIATES

Topographic Survey of
MONITOR WELLS
Located at Pardue Farms
Section 27, Township 23 South, Range 28 East
New Mexico Principal Meridian
Eddy County, New Mexico

Drawn By: LVA	Date: June 7, 2012
Scale: 1" = 100'	Field Book: 410 / 76-78
Revision Date:	Quadrangles: Angel Draw
W.O. No: 2012-1018	Dwg. No.: L-2012-1018

F

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., 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 August 8, 2011

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: Chevron	Contact: Ms. Donna Burt
Address: 2401 Avenue O, P.O. Box 1949, Eunice, NM 88231	Telephone No.: (575) 631-2151
Facility Name: Pardue Farms 27-12	Facility Type: Oil Well

Surface Owner: Billy Melton	Mineral Owner: Chevron	API No.

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
12	27	23 S	28 W					Eddy

Latitude N 32.27358 Longitude W 104.07818

NATURE OF RELEASE

Type of Release: Produced water with oil.	Volume of Release: Initial estimate of 3.617 bbls	Volume Recovered: None.
Source of Release: Flowline	Date and Hour of Occurrence: May 2010	Date and Hour of Discovery: June 7, 2010, 12:00 pm
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.* No impact to a watercourse occurred.

Describe Cause of Problem and Remedial Action Taken.*
Flowline had a pin hole on the top side of the pipe caused by internal corrosion. The leak was stopped upon discovery and a subcontractor was called to remediate impacted soil and replace the flowline. The release was initially estimated at less than 5 bbls and an internal report was produced.

Describe Area Affected and Cleanup Action Taken.*
The area surrounding the pin hole on the flow line appeared wet. A subcontractor was called to remediate the impacted soil and replace the flow line. The contractor excavated some impacted soil. However once excavation began it appeared that the release was greater than 5 bbls. Two boreholes were drilled that indicated that the release may be larger than 5 bbls. The exact amount of fluid lost has not been determined.

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: Bobby J. Hill	OIL CONSERVATION DIVISION
Printed Name: Bobby J. Hill	Approved by Environmental Specialist:
Title: Production Team Leader	Approval Date: / Expiration Date:
E-mail Address: bobbyhill@chevron.com	Conditions of Approval: / Attached ☐
Date: 11/7/12 Phone: 575.631.9108	