AP-81 Chevron Mark #13 Drill Pit

Jan 2006 - drilled (pit constructed before spud date)
Mar 2006 - started stiffening drill mud with clean dirt and transporting for disposal
Jan 2007 - excavation of drill pit and adjacent overflow area
July 2007 - soil borings made to determine groundwater flow direction - converted to temporary monitoring wells
August 2007 - additional samples taken from TMW 1 & 2; two more monitoring wells developed TMW 3 & 4
Jan 2008 - remediation proposal submitted
Feb 2008 - plan approved; backfilled pit and installed 40 mil liner at bottom of pit

100 x 100 x 8 ft deep drilling pit with 80 x 80 x 8 feet deep horseshoe
3000 bbl storage volume
12 mil polyethylene liner

contamination at 18 ft bgs (below ground surface) - Mar 2006 closure activity
soil concentrations 96 to 2000 mg/kg chlorides - one sample showed 10,477 mg/kg
additional sampling up to 20,000 mg/kg chlorides

"overflow area" contamination - liner at SE corner of drill pit failed
"possible leakage through plastic liner"

depth to groundwater determined using a table of surrounding water wells - 63 ft bgs
Mark #13 in Section 3 -- no GW depth data for section 2,3, or 4

2 boring logs show "very moist soil" at 20 feet bgs

6A

AP - 081

STAGE 1 WORKPLANS

DATE: 02/28/2008

ENVIRONMENTAL PLUS, INC.
CONSULTING AND REMEDIAL CONSTRUCTION

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28 January 2008

Mr. Glenn Von Gonten
Hydrologist; Groundwater Remediations
New Mexico Oil Conservation Division
Environmental Bureau
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

RE: **Groundwater Impacts**
Chevron USA – Mark #13 Drill Pit 30-025-37385
UL-G (SW ¼ of the NE ¼), Section 3, T 22 S, R 37 E
Latitude: 32° 25' 22.65"; Longitude: 103° 08' 46.23"
NMOCD Ref. #1NSL-5227-A; EPI Ref. #200074

Dear Mr. Von Gonten:

On July 26, 2007 Environmental Plus, Inc., on behalf of Chevron, USA, advanced two (2) soil borings to respective depths as noted on Appendix III, *Soil Boring Logs* (reference *Closure Proposal*). The soil borings were converted to temporary monitor wells (TMW-1 and TMW-2) with TMW-1 located up gradient and TMW-2 down gradient of projected groundwater flow. The two (2) TMWs were developed and water samples collected with transportation to an independent laboratory for analyses. Laboratory analytical results indicated groundwater had miscellaneous contaminants above New Mexico Water Quality Conservation Commission (NMWQCC) Ground Water Standards with the prevalent contaminant being chlorides (reference *Table 4*). On August 16, 2007 the two (2) TMWs were developed again and water samples collected with transportation to an independent laboratory for analyses of selected constituents. As with the first analyses, chlorides were above NMWQCC Ground Water Standards of 250 mg/Kg and demonstrated characteristics with increasing concentrations from TMW-1 to TMW-2.

After more study and consultations with professionals, two (2) additional temporary monitor wells (TWM-3 and TMW-4) were installed on August 18, 2007 at locales which more clearly represent groundwater flow (reference *Figure 11* for locations). Development of the TMWs, groundwater sampling methods and laboratory analyses duplicated those techniques used on TMW-1 and TMW-2. Laboratory analytical results correlated previous data with chlorides above NMWQCC Ground Water Standards and concentrations increasing between TMW-3 and TMW-4. While dormant in previous analyses, sulfates were above NMWQCC Ground Water Standards of 600 mg/Kg, but showed a reverse trend with dissipation in concentrations from TMW-3 to TMW-4.

In conformance with NMOCD Rules and Regulations, TMW-1 and TMW-2 were plugged and abandoned (P&A) with TMW-3 and TMW-4 converted to permanent monitor wells. P&A and conversion of the temporary monitor wells were done in strict conformance to State of New Mexico Engineer's Rules and Regulations. Groundwater MW-3 and -4 will be sampled on a quarterly basis with analytical results submitted to the NMOCD for review.

P.O. BOX 1558 ••• 2100 WEST AVENUE O ••• EUNICE, NEW MEXICO 88231
TELEPHONE 575•394•3481 ••• FAX 575•394•2601

Cognizant of the fact groundwater appears to be impacted throughout the area, EPI is submitting a *Closure Proposal* for the Mark #13 Drill Pit in an effort to limit additional contamination. The *Closure Proposal* is essentially a "risk based" procedure in an effort to seal the bottom of the drill pit and overflow areas plus backfill excavations. Additional excavation of adjacent ground to remove chloride concentrations is not prudent or economically sound as groundwater and surrounding areas are already impacted. Upon approval of the *Closure Report*, EPI will initiate remedial activities.

Should you have concerns, questions or need additional technical information, please contact me at (575) 394-3481 (office), (575) 441-7802 (cellular) or via e-mail at dduncan@envplus.net. Official communications should be directed to Mr. Billy A. Anderson at (575) 394-1237 (office), (575) 441-5438 (cellular) or via e-mail at BillyAnderson@chevron.com while correspondence should be addressed to:

Mr. Billy A. Anderson
HES Champion
MidContinent SBU
Chevron North America
Exploration and Production Company
2401 West Avenue "O"
P.O. Box 1949
Eunice, New Mexico 88231

Sincerely,

ENVIRONMENTAL PLUS, INC.

David P. Duncan
Civil Engineer

Cc: Larry Johnson, NMOCD-Hobbs
Billy A. Anderson, Chevron USA - Eunice
File

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SITE CLOSURE PROPOSAL

MARK #13 DRILL PIT

NMOCD REF: #NSL -5227-A

EPI REF: 200074

UL-G (SW¼ OF THE NE¼) OF SECTION 3, T22S, R37E

~1.2 MILES SOUTHEAST OF EUNICE

LEA COUNTY, NEW MEXICO

LATITUDE: N 32° 25' 22.65" LONGITUDE: W 103° 08' 46.23"

JANUARY 2008

PREPARED BY:

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

PREPARED FOR:

Chevron

Distribution List

Chevron USA – Mark #13 Drill Pit

NMOCD Ref: #NSL-5227-A

EPI Ref: 200074

Name	Title	Company or Agency	Mailing Address	e-mail
Larry Johnson	Environmental Engineer	NMOCD – Hobbs	1625 N. French Drive Hobbs, NM 88240	larry.johnson@state.nm.us
Glenn Von Gotten	Hydrologist; Groundwater Remediations	NMOCD – Santa Fe	1220 South St. Francis Drive Santa Fe, NM 87505	Glenn.VonGonten@state.nm.us
Bill Anderson	HES Champion	Chevron USA	2401 West Avenue "O" P.O. Box 1949 Eunice NM 88230	BillyAnderson@chevron.com
Targa Midstream, LLC	Property Owner	- -	25 Middle Plant Lane Eunice, New Mexico 88231	- -
File		Environmental Plus, Inc.	P.O. Box 1558 Eunice, NM 88231	dduncan@envplus.net

STANDARD OF CARE

Site Closure Report

Mark #13 Drill Pit

NMOCD Ref: #NSL-5227-A

EPI Ref: #200074

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

Prepared by:

David P. Duncan
Civil Engineer

1-15-08
Date

Reviewed by:

Jason Stegemoller
Environmental Scientist

21 January 2008
Date

Table of Contents

1.0 PROJECT SYNOPSIS

Site Specific:

- ***Company Name:*** Chevron USA, Inc.
- ***Facility Name:*** Mark #13 Drill Pit
- ***Project Reference:*** NMOCD Ref. #NSL-5227-A;EPI Ref. #200074
- ***Company Contacts:*** Billy Anderson
- ***Site Location:*** WGS84 N32° 25' 22.65"; W103° 08' 46.23"
- ***Legal Description:*** Unit Letter-G (SW¼ of the NE¼), Section 3, T22S, R37E
- ***General Description:*** Approximately 1.2-miles southeast of Eunice, New Mexico
- ***Elevation:*** 3,412-ft amsl
- ***Land Ownership:*** Targa Midstream, LLC
- ***EPI Personnel:*** Project Consultant – David P. Duncan

Release Specific:

- ***Product Released:*** Possible leakage of drilling fluids through pit liner
- ***Volume Released:*** >5.0 bbls ***Volume Recovered:*** Unknown
- ***Time of Occurrence:*** Unknown ***Time of Discovery:*** Unknown
- ***Release Source:*** Pit- Seepage of drilling fluids; Overflow Area – Drilling fluids from Pit
- ***Initial Surface Area Affected:*** ~ 6,100-ft^2 (Drill Pit);~ 3,400-ft^2 (Overflow Area)

Remediation Specific:

- ***Final Vertical extent of contamination:*** Drill Pit (~18-ft. bgs); Overflow Area (~15-ft. bgs)
- ***Depth to Ground Water:*** ~ 63-ft bgs
- ***Water wells within 1,000-ft:*** None
- ***Private domestic water sources within 200-ft:*** None
- ***Surface water bodies within 1,000-ft:*** None
- ***NMOCD Site Ranking Index:*** 20 points
- ***Remedial goals for Soil:*** TPH – 100 mg/Kg; BTEX – 50 mg/Kg; Benzene – 10 mg/Kg; Chloride residuals may not be capable of impacting groundwater above NMWQCC groundwater standards of 250 mg/L.
- ***RCRA Waste Classification:*** Exempt
- ***Remediation Option Selected:*** **Completed Activities:** a) Stiffened and removed drill pit contents and 12-mil polyethylene liner; b) excavated and disposed impacted soil from drill pit bottom ; c) collected soil samples from excavation floor and sidewalls with submittal to an independent laboratory for quantification of TPH, BTEX constituents and chloride concentrations; d) based on laboratory analyses, excavated impacted soil from drill pit sidewalls/bottom and initiated excavation of overflow area; and f) transported impacted soil from the drill pit and overflow area to Sundance Services Inc. for disposal; **Proposed Activities:** a) install 40-mil polyethylene barrier in original drill pit and 20-mil polyethylene barrier in overflow area; b) sandwich polyethylene liners between two (2) foot thick layers of cushion sand (over/under) in original drill pit and one (1) foot

layers in overflow area; c) backfill drill pit excavation with caliche from top of cushion sand to surface of production well pad; d) backfill overflow area excavation with topsoil from top of cushion sand to original ground surface: e) grade/contour both areas for natural drainage; and f) seed overflow area with a blend preferred by the property owner

- ***Disposal Facility:*** Sundance Services, Inc.
- ***Volume disposed:*** Drill Mud ~ 816 cubic yards; Impacted soil ~ 3,128 cubic yards (drill pit and overflow area excavations)
- ***Project Completion Date:*** Commensurate with implementation of Site Closure Proposal

2.0 SITE AND RELEASE INFORMATION

2.1 ***Describe the land use and pertinent geographic features within 1,000 feet of the site.***
The drill pit and overflow area are located to the south of an active gas plant. Immediate surrounding area is laced with surface and subsurface pipelines, production wells and debris (steel plates, vessels, pieces of metal in various states of decay, etc.)

2.2 ***Identify and describe the source or suspected source(s) of the release.***
If a leak occurred in the drill pit, suspected problem would be a hole in the pit liner. The overflow area was inundated with drilling fluid when the SE corner of the drill pit failed.

2.3 ***What is the volume of the release? (if known):*** >5.0 bbls ***barrels of:*** Drilling fluids

2.4 ***What is the volume recovered? (if any):*** Unknown ***barrels***

2.5 ***When did the release occur? (if known):*** Historical prior to 2006

2.6 ***Geological Description***
The United States Geological Survey (USGS) Ground-Water Report 6, "Geology and Ground-water Conditions in Southern Lea County, New Mexico," A. Nicholson and A. Clebsch, 1961, describes the near surface geology of southern Lea County as "an inter-grade of the Quaternary Alluvium (QA) sediments, i.e., fine to medium sand, with the mostly eroded Cenozoic Ogallala (CO) formation. Typically, the QA and CO formations in the area are capped by a thick interbed of caliche that was encountered between 5' and 10' bgs."

2.7 ***Ecological Description***
The area is typical of the Upper Chihuahuan Desert Biome consisting primarily of sandy soil covered with short semi-arid grasses, interspersed with Honey Mesquite and forbs. Mammals represented include Orrd's and Merriam's Kangaroo Rats, Deer Mouse, White Throated Wood Rat, Cottontail Rabbit, Black Tailed Jackrabbit, Mule Deer, Bobcat, Red Fox and Coyote. Reptiles, amphibians and birds are numerous and typical of the area. A survey of Listed, Threatened or Endangered species was not conducted.

2.8 ***Area Groundwater***
Unconfined groundwater aquifer at this site is projected to be ~ 63 feet (ft) bgs based on water depth data obtained from the New Mexico State Engineers Office, United States Geological Survey data base and Chevron's Ground Water Gradient Maps (reference *Table 1 and Figure 4)*).

2.9 ***Area Water Wells***
No water wells exist within a 1,000-foot radius of the site (reference *Figure 2*).

2.10 ***Area Surface Water Features***
No surface water features exist within a 1,000-foot radius of the site (reference *Figure 2*).

3.0 NMOCD SITE RANKING

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

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

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

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

Based on the proximity of the site to protectable area water wells, surface water bodies, and depth to groundwater from the lower most contamination, the NMOCD ranking score for the site is twenty (20) points with the soil remedial goals highlighted in the Site Ranking table presented below:

1. Ground Water	2. Wellhead Protection Area	3. Distance to Surface Water
Depth to GW <50 feet: *20 points*	If <1,000' from water source, or; <200' from private domestic water source: *20 points*	<200 horizontal feet: *20 points*
Depth to GW 50 to 99 feet: *10 points*		200-1,000 horizontal feet: *10 points*
Depth to GW >100 feet: 0 points	If >1,000' from water source, or; >200' from private domestic water source: *0 points*	>1,000 horizontal feet: *0 points*
Site Rank (1+2+3) = 20 + 0 + 0 = 20 points		

Total Site Ranking Score and Acceptable Remedial Goal Concentrations			
Site Ranking	20 or >	10	0
Benzene[1]	10 ppm	10 ppm	10 ppm
BTEX[1]	50 ppm	50 ppm	50 ppm
TPH	100 ppm	1,000 ppm	5,000 ppm

[1] A field soil vapor headspace measurement of 100 ppm can be substituted in lieu of laboratory analyses for benzene and BTEX.

4.0 EXCAVATED SOIL INFORMATION

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

Date excavated: March 8, 2006 through March 10, 2006; January 9, 2007 through January 30, 2007

Total volume removed: Drilling Mud ~ 816 yds^3; Impacted Soil ~ 3,128 yds^3

4.2 Indicated soil treatment type:

☒ ***Disposal***
☐ ***Land Treatment***
☐ ***Composting/Biopiling***
☐ ***Other***

Name and location of treatment/disposal facility:

Sundance Services, Inc., Lea County, Eunice, New Mexico

5.0 SAMPLING INFORMATION

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

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

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

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

Soil samples from the excavation were collected utilizing hand and/or mechanical excavation equipment to gather the sample from at least 6-inches below/within the surface of the excavation. Prior to the collection of each sample, the sampling instrument was decontaminated with an Alconox solution.

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

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

Soil samples were collected from the drill pit on April 5, 2006 (20-ea.), April 6, 2006 (7-ea.) and January 8, 2007 (5-ea.). Two (2) soil borings were advanced on January 12, 2007 with twelve (12-ea.) soil samples collected. Soil samples were collected from the overflow area on January 30, 2007 (9-ea.). *Figure #5* through *Figure #8* provide soil sample information with respect to sample point locations (i.e., sidewall or bottom of the excavations). *Table #2* and *Table #3* provide soil samples field analyses and laboratory analytical data. Soil sample locations within the drill pit and overflow areas were chosen to provide the best representative location for delineating vertical and horizontal extents of impacted soil.

6.0 ANALYTICAL RESULTS

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

Soil samples collected on March 13, 2006 were analyzed in the field for organic vapor concentrations. PID concentrations indicated BTEX organic vapors were extremely low or not present. Based on this data, laboratory analytical tests for BTEX and TPH concentrations were randomly taken during the excavation phase. Laboratory analysis of selected soil samples quantified for BTEX and TPH concentrations were ND at or above laboratory analytical MDL.

Primary emphasis for soil samples collected on April 5-6, 2006 from sidewalls and bottom of the drill pit excavation was quantification of chloride concentrations. Laboratory analyses indicate chloride concentrations ranged from a high of 18,394 mg/Kg (ESSW @ 5-ft. bgs) to a low of 16 mg/Kg (ENSW @ 10-ft. bgs). Thirteen (13) soil samples were collected from the excavation sidewalls and bottom with only two (2) indicating chloride concentrations below remedial threshold goals of 250 mg/Kg (reference *Figure 6* for locations). Coincidental with sidewall and bottom soil sampling event, test trenches were excavated from four (4) quadrants (Q1 through Q4) in the bottom to delineate vertical extent of chloride impacted soil (reference *Figure 5*). Laboratory analytical data indicated in situ chlorides diminish in concentrations with vertical depth.

On January 8, 2007 soil samples were collected from the drill pit excavation berm and analyzed in the field for chloride concentrations. Zones within the earthen berm which displayed high chloride concentrations (>320 mg/Kg) were transported to Sundance Services, Inc., for disposal. The remaining berm material will be used for backfill purposes.

After additional excavation of sidewalls in the drill pit, soil samples were collected on January 12, 2007 from the four (4) quadrants bottom and sidewalls from sample point locations previously sampled on April 5-6, 2006. Bottom soil samples in quadrants Q2 (5') and Q3 (5') indicate chloride concentrations lower than previous laboratory analytical results. Quadrant Q1 (5') soil sample chloride concentration was comparable with the previous concentration. Quadrant Q4 (5') soil sample concentration was higher than previous concentration. Soil samples collected from sidewalls displayed no predictable pattern for chloride concentrations with respect to delineation efforts (i.e., to establish whether additional sidewall excavation will reduce chloride concentrations to remedial threshold goals of 250 mg/Kg) (reference *Table #2*).

Soil samples collected on January 30, 2007 from sidewalls and bottom of the overflow area excavation indicated chloride concentrations in excess of remedial threshold goal of 250 mg/Kg remain in situ (reference *Figure 8* for locations and *Table 2* for laboratory analytical results). Concurrent with the soil sampling event, one (1) soil boring was advanced within the interior perimeter of the overflow area excavation. A second (2) soil boring was advanced to the south of the overflow area as a background reference. Both soil borings displayed identical traits of high chloride concentrations from five (5) feet bgs to fifteen (15) feet bgs. Chloride concentrations within remedial threshold goals of 250 mg/Kg were attained in the fifteen (15) feet bgs to twenty (20) feet bgs zone (reference *Figure 8* for soil sample locations, *Figure #9* for soil boring locations and *Table 3* for laboratory analytical results).

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

☐ *yes* ☒ *no*

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

7.0 DISCUSSION

7.1 Discuss the risks associated with the remaining soil contamination:

Chloride impacted soil with concentrations above remedial threshold goal of 250 mg/Kg remain in sidewalls and bottom of both excavations. Similarly, the surrounding area appears to be chloride impacted a depth of eighteen (18) feet bgs as noted from laboratory analytical results for soil boring SB-2 (background reference). Chloride concentrations in the up gradient flow direction indicates groundwater was impacted by some source other than Chevron USA. Benzene, TPH and BTEX constituent concentrations were ND at or above laboratory MDL for all soil sample events. Water samples collected from four (4) temporary monitor wells indicate chloride contamination of groundwater. However, to further restrict elevated chloride concentrations in the groundwater, the bottoms of both excavations will be covered with polyethylene liners to abate vertical migration.

7.2 Discuss the risks associated with the impacted groundwater:

Water samples collected from four (4) temporary monitor wells have indicated groundwater is moderately impacted with elevated chloride concentrations significantly exceeding NMWQCC Ground Water Standards of 250 mg/L. However, based on soil boring data, groundwater may be a perched layer (reference Section 8, *Conclusions and Recommendations*).

7.3 Discuss other concerns not mentioned above:

Not applicable.

8.0 CONCLUSIONS AND RECOMMENDATIONS

8.1 ***Recommendation for the site:***

- ☐ ***Site Closure***
- ☐ ***Additional Groundwater Monitoring***
- ☒ ***Corrective Action*** (install impermeable liner barrier)

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

As areas surrounding the drill pit and overflow area are chloride impacted as indicated by laboratory analytical results for soil boring SB-2, efforts to remediate the area by continued excavation will not be successful. Test trenches and soil borings have indicated chloride impacted soil exist to approximately eighteen (18) feet bgs. Surface and subsurface physical barriers make additional excavation of the overflow area in the easterly direction impossible. Of particular concern is projected depth between potential groundwater (~63-feet bgs) and field determination of existing groundwater (~24-feet bgs). During advancement of soil borings, a dense layer of limestone was encountered at ~20-feet bgs. Soil borings indicated perched water may exist at this depth indicative the limestone layer is acting as a barrier to retard migration of contaminants. Groundwater samples collected from TMW-3 and TMW-4 at 24-feet bgs indicated groundwater was moderately impacted with chlorides being the largest contributor. Chloride concentrations were in excess of NMWQCC Ground Water Standards of 250 mg/L (reference *Table #4*). To further impede migration of in situ chloride contaminants, an impervious 40-mil thick liner will be installed over the bottom of the drill pit excavation. The polyethylene liner will be sandwiched between two (2) layers of cushion sand (over/under). The remainder of the excavation will be backfilled with caliche from cushion sand to surface elevation of existing production pad. A 20-mil thick liner will be placed over the bottom of the overflow area excavation. As this is a non-traffic bearing area, the polyethylene liner is to be sandwiched between one (1) foot layers of cushion sand (over/under). The overflow area excavation will be backfilled with clean topsoil from cushion sand to original ground surface. Upon completion, both areas will be contoured for natural drainage. The overflow area will be seeded with a blend approved by the property owner.

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

Groundwater samples will be collected from TMW-3 and TMW-4 on a quarterly basis unless procedure is modified by the NMOCD. Groundwater samples will be transported to an independent laboratory for analyses. Constituents to be analyzed will conform to NMOCD *Guidelines for Remediation of Leaks, Spills and Releases (August 13,1993)*, Section C, *Ground Water Sampling*, Sub-Section 5, *Ground Water Laboratory Analysis*. Laboratory analytical results will be forwarded to the NMOCD for review.

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

Not applicable

FIGURES

AP - 081

STAGE 1 WORKPLANS

DATE: 02/28/2008

AP - 081

STAGE 1 WORKPLANS

DATE: 02/28/2008

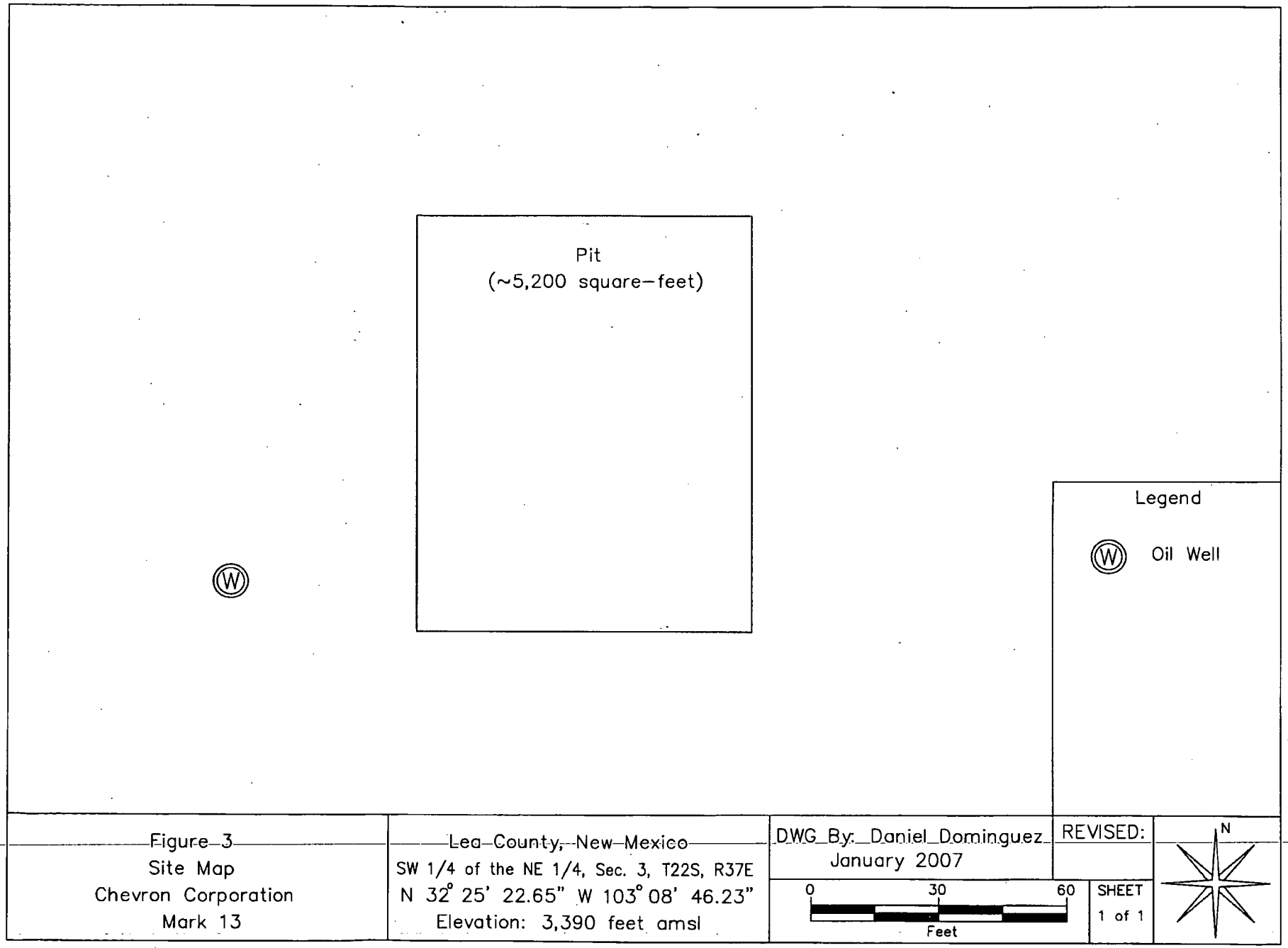


Figure 3
Site Map
Chevron Corporation
Mark 13

Lea County, New Mexico
SW 1/4 of the NE 1/4, Sec. 3, T22S, R37E
N 32° 25' 22.65" W 103° 08' 46.23"
Elevation: 3,390 feet amsl

DWG By: Daniel Dominguez
January 2007

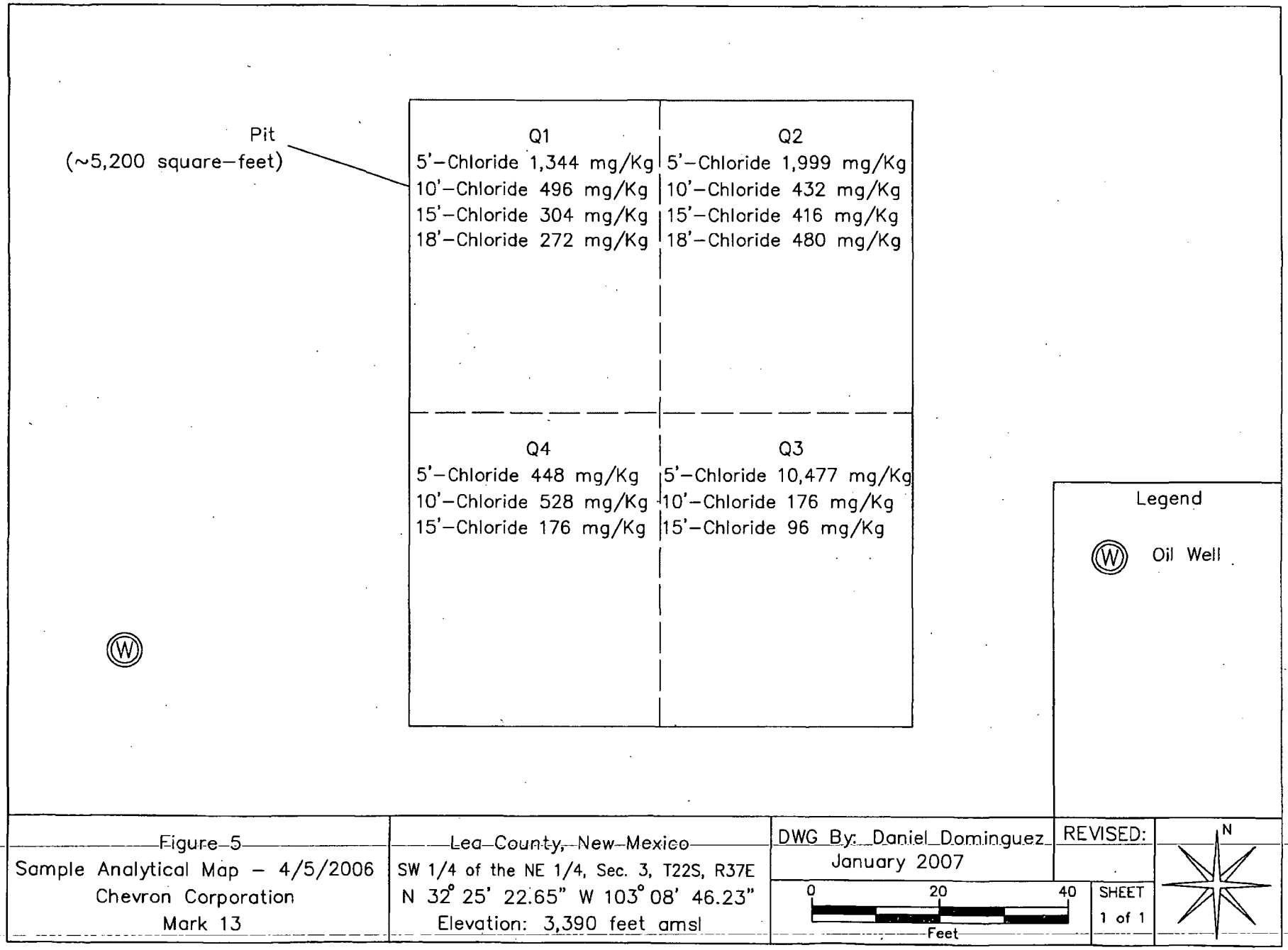
REVISED:

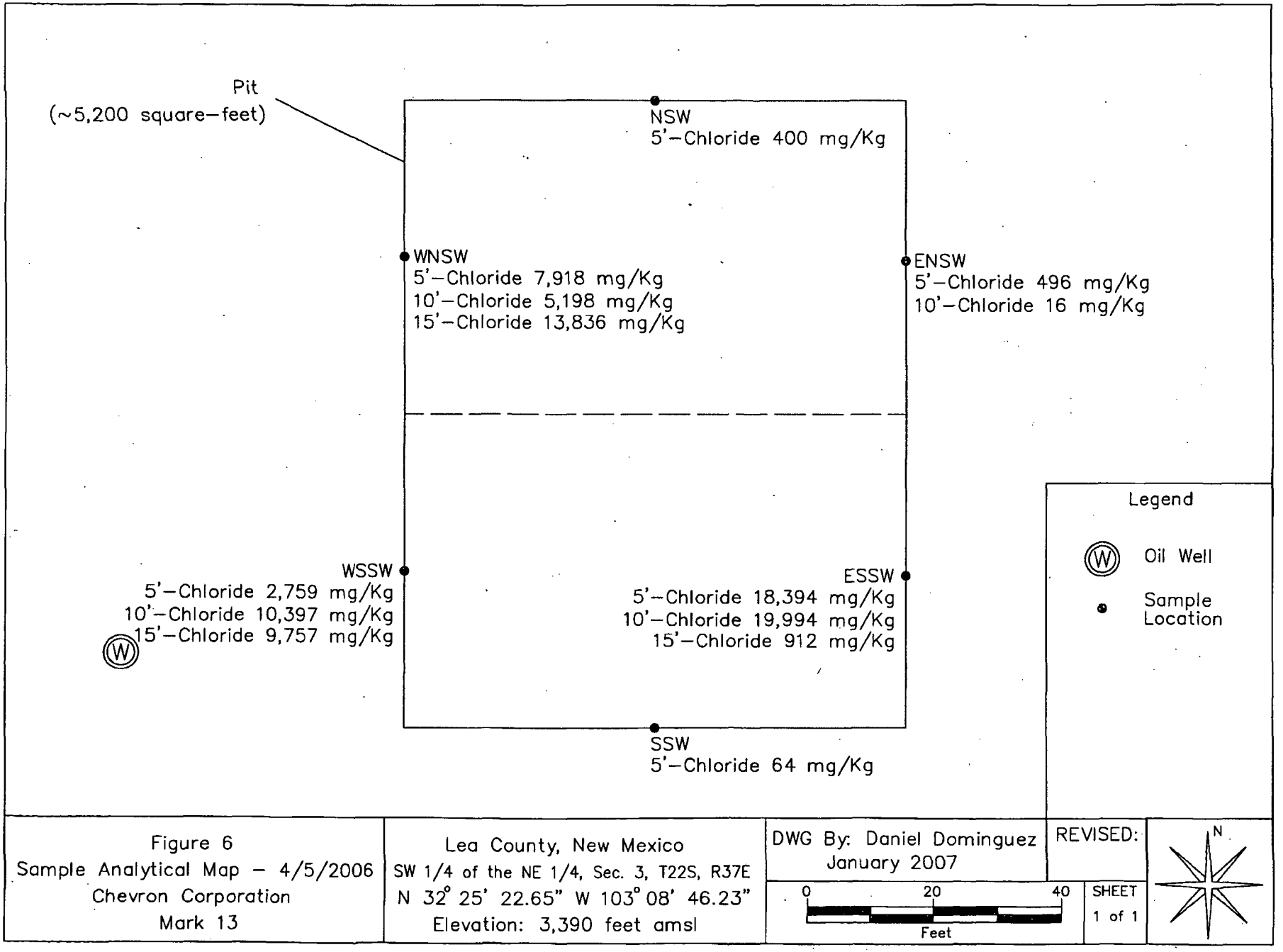
SHEET
1 of 1

AP - 081

STAGE 1 WORKPLANS

DATE: 02/28/2008


Pit
(~5,200 square-feet)
Q1
5'-Chloride 1,344 mg/Kg
10'-Chloride 496 mg/Kg
15'-Chloride 304 mg/Kg
18'-Chloride 272 mg/Kg
Q2
5'-Chloride 1,999 mg/Kg
10'-Chloride 432 mg/Kg
15'-Chloride 416 mg/Kg
18'-Chloride 480 mg/Kg
Q4
5'-Chloride 448 mg/Kg
10'-Chloride 528 mg/Kg
15'-Chloride 176 mg/Kg
Q3
5'-Chloride 10,477 mg/Kg
10'-Chloride 176 mg/Kg
15'-Chloride 96 mg/Kg
Legend
Oil Well
Figure 5
Sample Analytical Map - 4/5/2006
Chevron Corporation
Mark 13
Lea County, New Mexico
SW 1/4 of the NE 1/4, Sec. 3, T22S, R37E
N 32° 25' 22.65" W 103° 08' 46.23"
Elevation: 3,390 feet amsl
DWG By: Daniel Dominguez
January 2007
REVISED:
0
20
40
Feet
SHEET
1 of 1
N


Pit
(~5,200 square-feet)
NSW
5'-Chloride 400 mg/Kg
WNSW
5'-Chloride 7,918 mg/Kg
10'-Chloride 5,198 mg/Kg
15'-Chloride 13,836 mg/Kg
ENSW
5'-Chloride 496 mg/Kg
10'-Chloride 16 mg/Kg
WSSW
5'-Chloride 2,759 mg/Kg
10'-Chloride 10,397 mg/Kg
15'-Chloride 9,757 mg/Kg
ESSW
5'-Chloride 18,394 mg/Kg
10'-Chloride 19,994 mg/Kg
15'-Chloride 912 mg/Kg
SSW
5'-Chloride 64 mg/Kg
Legend
Oil Well
Sample Location
Figure 6
Sample Analytical Map - 4/5/2006
Chevron Corporation
Mark 13
Lea County, New Mexico
SW 1/4 of the NE 1/4, Sec. 3, T22S, R37E
N 32° 25' 22.65" W 103° 08' 46.23"
Elevation: 3,390 feet amsl
DWG By: Daniel Dominguez
January 2007
REVISED:
0
20
40
Feet
SHEET
1 of 1
N

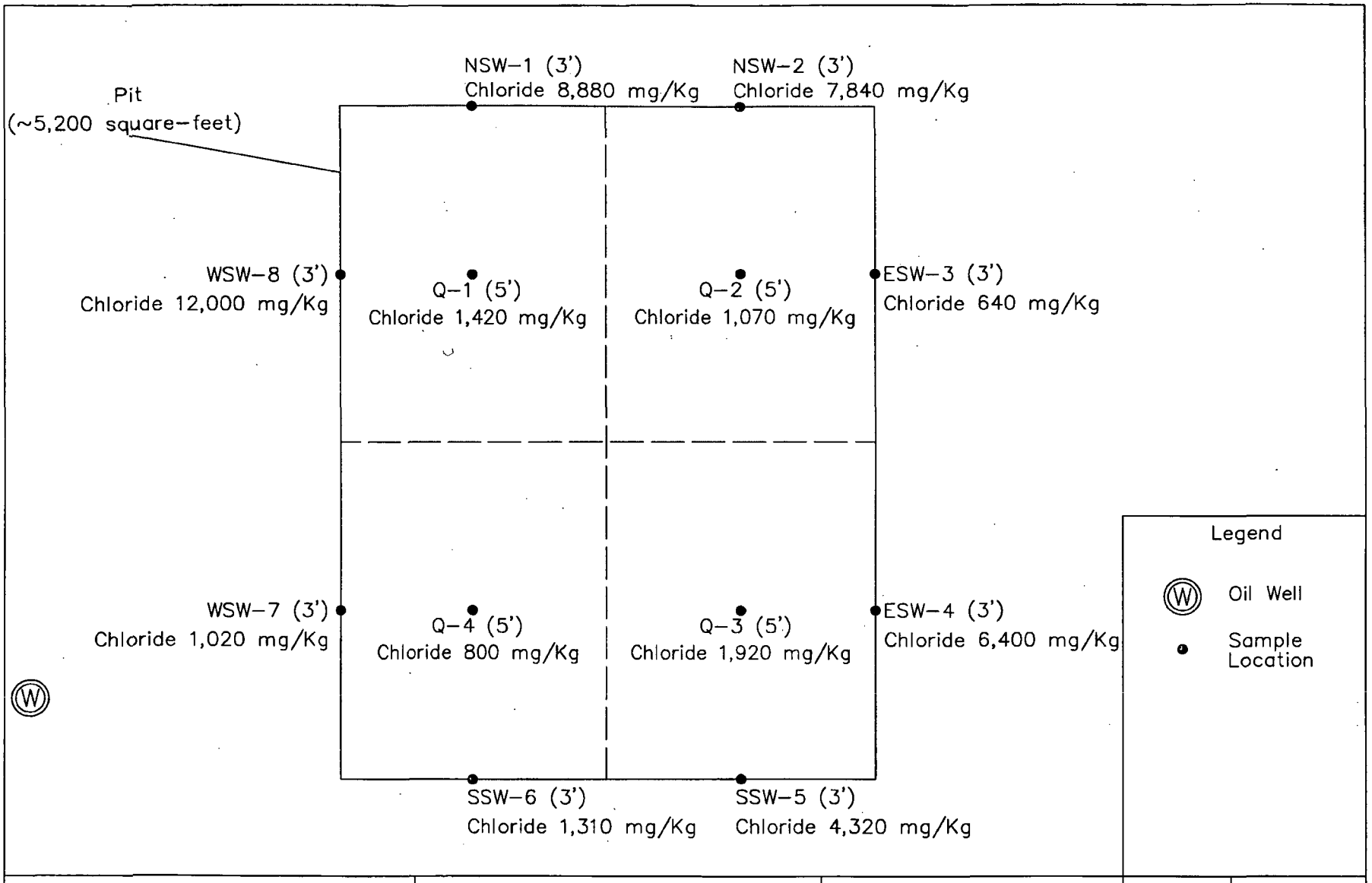


Figure 7 Sample Analytical Map – 1/12/2007 Chevron Corporation Mark 13	Lea County, New Mexico SW 1/4 of the NE 1/4, Sec. 3, T22S, R37E N 32° 25' 22.65" W 103° 08' 46.23" Elevation: 3,390 feet amsl	DWG By: Daniel Dominguez January 2007 0 20 40 Feet	REVISED: SHEET 1 of 1 N

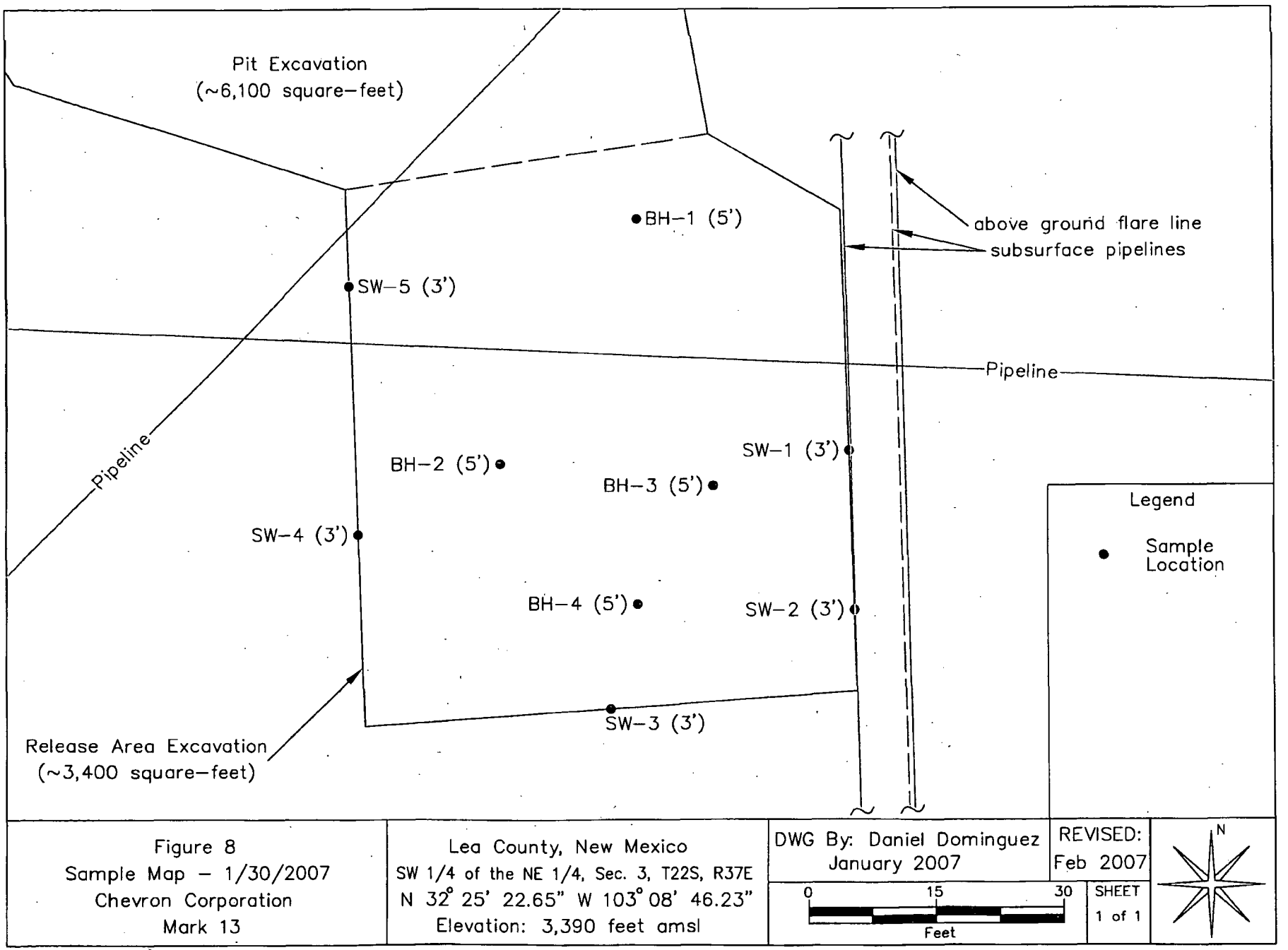


Figure 8 Sample Map – 1/30/2007 Chevron Corporation Mark 13	Lea County, New Mexico SW 1/4 of the NE 1/4, Sec. 3, T22S, R37E N 32° 25' 22.65" W 103° 08' 46.23" Elevation: 3,390 feet amsl	DWG By: Daniel Dominguez January 2007	REVISED: Feb 2007	N
		0 15 30 Feet	SHEET 1 of 1	

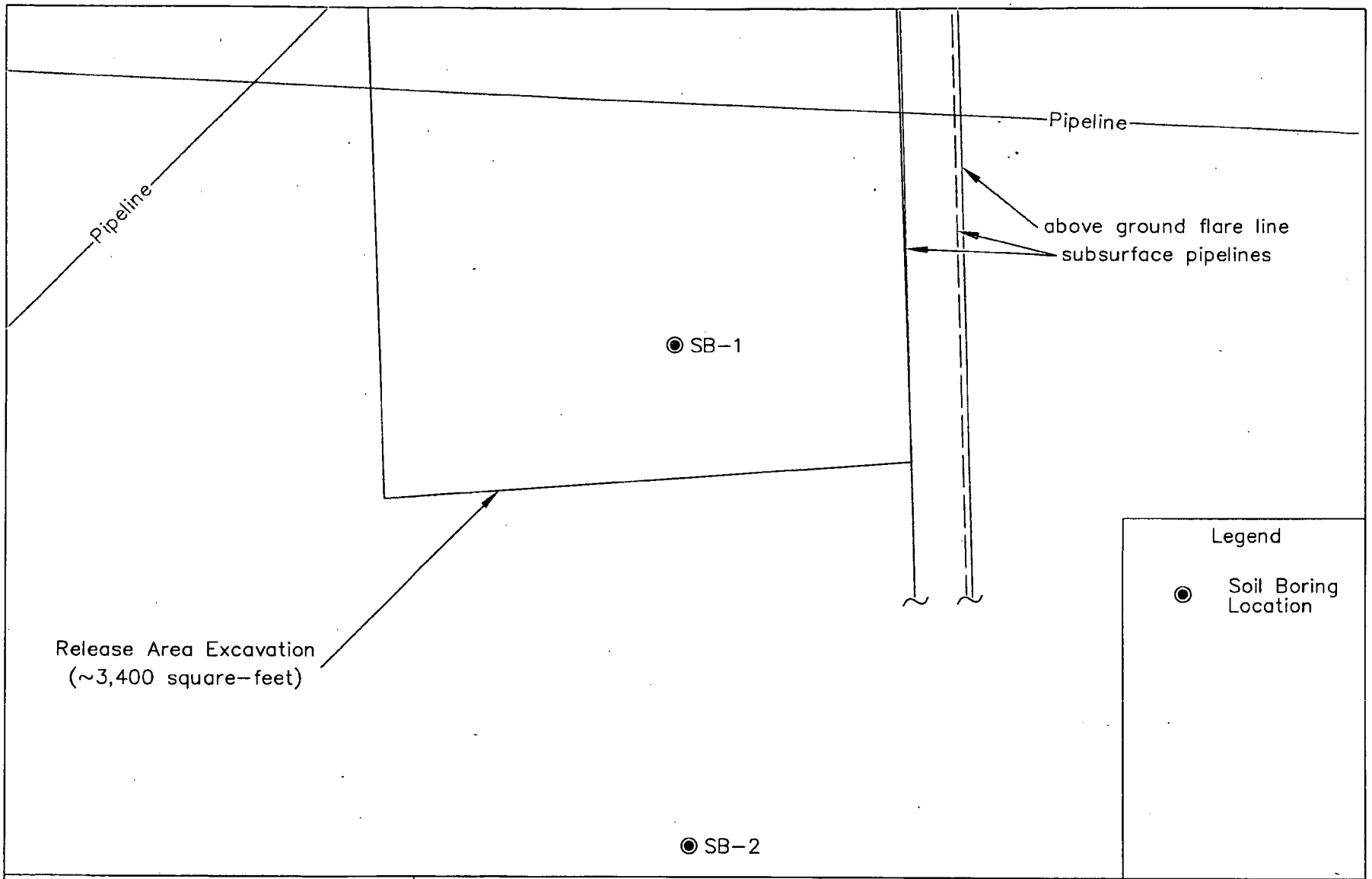


Figure 9 Soil Boring Map Chevron Corporation Mark 13	Lea County, New Mexico SW 1/4 of the NE 1/4, Sec. 3, T22S, R37E N 32° 25' 22.65" W 103° 08' 46.23" Elevation: 3,390 feet amsl	DWG By: Daniel Dominguez January 2007 0 15 30 Feet	REVISED: May 2007 SHEET 1 of 1	N

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STAGE 1 WORKPLANS

DATE: 02/28/2008

TABLES

TABLE 1

WELL INFORMATION REPORT*

Chevron Mark 13 - (NMOCD Ref. #NSL-5227-A; EPI Ref #200074)

Well Number	Diversion[A]	Owner	Use	Twsp	Rng	Sec q q q	Latitude	Longitude	Date Measured	Surface Elevation[B]	Depth to Water (ft bgs)
CP 00929 EXPLORE	0	STATE OF NM STATE ENGINEER	EXP	22S	37E	02 3 3 3	N32° 24' 48.58"	W103° 08' 30.64"		3,379	
CP 00254	64	WERSADO GAS PROCESSORS, LLC	IND	22S	37E	04 1 4 2	N32° 25' 14.63"	W103° 10' 18.31"	31-Aug-50	3,438	
CP 00255	60	WERSADO GAS PROCESSORS, LLC	IND	22S	37E	04 1 4 1	N32° 25' 14.63"	W103° 10' 18.31"	31-May-54	3,438	
CP 00451	0	SKELLY OIL COMPANY	PUB	22S	37E	04 3 1 3	N32° 25' 1.55"	W103° 10' 33.70"		3,434	
CP 00468 DCL	0	L. W. FRISTOE	DOM	22S	37E	04 4 4 3	N32° 24' 48.55"	W103° 09' 47.56"		3,425	
CP 00154	34	HOMBLE OIL AND REFINING COMPAN	COM	22S	37E	09 1 1 3	N32° 24' 35.45"	W103° 10' 33.70"		3,425	
CP 00467 DCL	0	L. W. FRISTOE	DOM	22S	37E	09 2 2 1	N32° 24' 35.50"	W103° 09' 47.55"		3,425	
CP 00560 EXP 2				22S	37E	09 1 1 2	N32° 24' 35.45"	W103° 10' 33.70"		3,425	
CP 00756	3	CHARLIE BETTIS	DOM	22S	37E	09 4 4 2	N32° 23' 56.34"	W103° 09' 47.53"	30-Oct-90	3,412	85
CP 00726	3	CLAYTON L. WOOTEN	DOM	21S	37E	33 4 2	N32° 25' 53.76"	W103° 09' 47.50"	23-Feb-88	3,445	100
CP 00548 EXP	0	A. J. REDDEN	DOM	21S	37E	34 1 1 3	N32° 26' 19.86"	W103° 09' 32.11"		3,445	
CP 00835	3	PAUL D PRATHER	STK	21S	37E	34 3 2 3	N32° 25' 53.75"	W103° 09' 16.72"	25-Feb-94	3,445	
CP 00133 DCL	0	HARIEN STEPHENS	DOM	21S	37E	35 4 2 2	N32° 25' 53.75"	W103° 07' 44.38"		3,369	
CP 00138 DCL	0	MARION AND WILLIAM O STEPHENS	STK	21S	37E	35 2 2 3	N32° 26' 19.87"	W103° 07' 44.40"		3,376	
CP 00214 DCL	0	J. M. AND M. W. OWEN	DOM	21S	37E	35 4 1 2	N32° 25' 53.75"	W103° 07' 59.77"		3,373	
CP 00221 DCL	0	J. M. OWEN	DOM	21S	37E	35	N32° 25' 40.70"	W103° 08' 30.55"		3,389	
CP 00222	15	WERSADO GAS PROCESSORS, LLC	IND	21S	37E	35 4 4 2	N32° 25' 40.69"	W103° 07' 44.37"		3,366	
CP 00223	69	WERSADO GAS PROCESSORS, LLC	IND	21S	37E	35 4 2 3	N32° 25' 53.75"	W103° 07' 44.38"	15-Mar-49	3,369	
CP 00225	32.38	WERSADO GAS PROCESSORS, LLC	IND	21S	37E	35 4 2 2	N32° 25' 53.75"	W103° 07' 44.38"	31-Jul-57	3,369	
CP 00229	19.36	WERSADO GAS PROCESSORS, LLC	IND	21S	37E	35 4 3 4	N32° 25' 40.69"	W103° 07' 59.76"	17-Mar-63	3,369	
USGS #18				22S	37E	3 4 3 2			27-Jan-76		32.58
USGS #15				22S	37E	2 2 4 2			17-Mar-81		58.79
USGS #16				22S	37E	2 4 4 2			09-Oct-53		53.3
USGS #17				22S	37E	2 2 2 2			26-Feb-86		55.12
USGS #19				22S	37E	4 4 4 3			16-Nov-65		83.15
USGS #20				22S	37E	4 2 3 2			06-Mar-54		114.81
USGS #21				22S	37E	4 1 4 1			25-Jul-66		115.8
USGS #22				22S	37E	4 2 2 3			15-Feb-96		93.07
USGS #23				22S	37E	9 2 1 2			17-Mar-81		76.2
USGS #29				22S	37E	10 2 3 2			27-Jan-76		54.44
USGS #30				22S	37E	10 1 3 2			27-Jan-76		65.59
USGS #31				22S	37E	10 2 1 4			27-Jan-76		41.88
USGS #35				22S	37E	11 2 2 4			26-Apr-91		54.87
USGS #36				22S	37E	11 2 3 1			30-Jun-76		20.51
USGS #4				21S	37E	33 3 2 1			17-Dec-70		92.12
USGS #5				21S	37E	35 2 2 4			22-Jan-76		55.77
USGS #6				21S	37E	35 2 3 1			01-Feb-96		43.68
USGS #7				21S	37E	35 2 4 4			23-Jan-76		58.29
USGS #8				21S	37E	35 4 1 2			23-Jan-76		57.05
USGS #9				21S	37E	35 4 2 2			23-Jan-76		58.97

TABLE 1

WELL INFORMATION REPORT*

Chevron Mark 13 - (NMOCD Ref. #NSL-5227-A; EPI Ref #200074)

Well Number	Diversion[A]	Owner	Use	Twsp	Rng	Sec q q q	Latitude	Longitude	Date Measured	Surface Elevation[B]	Depth to Water (ft bgs)
USGS #10				21S	37E	35 4 2 2			23-Jan-76		58.76
USGS #11				21S	37E	35 4 3 4			23-Jan-76		62.44
USGS #12				21S	37E	35 4 4 2			23-Jan-76		59.08
USGS #13				21S	37E	35 3 2 1			25-Apr-91		54.51
USGS #14				21S	37E	35 4 2 3			23-Jan-76		59.77
CP 00560 EXP 1	0	SKELLY OIL COMPANY	DOM	22S	37E	09 3 3 2	N32° 23' 56.30"	W103° 10' 33.67"		3,405	
CP 00871	3	BILL OREAR AND IRA TRULL	DOM	22S	37E	09 3	N32° 23' 56.30"	W103° 10' 33.67"	29-Sep-97	3,405	94
USGS #1				21S	37E	33 1 1 1			22-Jan-76		97.8
USGS #2				21S	37E	33 1 1 1			22-Jan-76		93.95
USGS #3				21S	37E	33 2 1 1			06-Jun-55		101.92
USGS #24				22S	37E	9 3 1 3			29-Sep-53		72.74
USGS #25				22S	37E	9 3 3 3			08-Mar-96		74.66
USGS #26				22S	37E	9 3 1 3			07-Mar-68		71.68R
USGS #27				22S	37E	9 4 2 2			02-May-91		81.1
USGS #28				22S	37E	9 4 2 3			29-Sep-53		85.51
USGS #32				22S	37E	10 3 2 1			27-Jan-76		69.54
USGS #33				22S	37E	10 3 2 1			17-Mar-81		66.05
USGS #34				22S	37E	10 3 4 1			15-Feb-96		91.64
USGS #37				22S	37E	11 3 2 2			18-Mar-96		38.97
USGS #38				22S	37E	11 4 4 4			25-Apr-91		57.98

* = Data obtained from the New Mexico Office of the State Engineer Website (http://iwaters.ose.state.nm.us:7001/iWATERS/wr_RegisServlet) and USGS Database.

[A] = in acre feet per annum

[B] = Interpolated from USGS Topographical Map

DOM = Domestic one household

EXP = Exploration

PUB = 2-12-1 Construction of public works

COM = Commercial

STK = 72-12-1 Livestock watering

IND = Industrial

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

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

Shaded area indicates wells not shown on Figure 2

TABLE 2

Summary of Excavation Soil Sample Field Analyses and Laboratory Analytical Results

Chevron U.S.A. Inc.

Mallank #13 Drill Pit (NMOCD Ref. #NSL-5227-A; EPI Ref.# 200074)

Sample I.D.	Depth (feet)	Soil Status	Sample Date	PID Field Analysis (ppm)	Field Chloride Analyses (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Total Xylenes (mg/Kg)	Total BTEX (mg/Kg)	GRO (C6-C10) (mg/Kg)	DRO (>C10-C28) (mg/Kg)	Total Hydrocarbons nC6-nC28 (mg/Kg)	Chloride (mg/Kg)
WNSW	1	Excavated	13-Mar-05	89	5,840	--	--	--	--	--	--	--	--	--
WNSW	1	Excavated	13-Mar-05	07	420	--	--	--	--	--	--	--	--	--
SSW	1	Excavated	13-Mar-05	05	1,000	--	--	--	--	--	--	--	--	--
SB	1.5	Excavated	13-Mar-05	05	2,180	--	--	--	--	--	--	--	--	--
ESSW	1	Excavated	13-Mar-05	03	1,600	--	--	--	--	--	--	--	--	--
ENSW	1	Excavated	13-Mar-05	05	5,600	--	--	--	--	--	--	--	--	--
NB	1.5	Excavated	13-Mar-05	07	4,240	--	--	--	--	--	--	--	--	--
NSW	1	Excavated	13-Mar-05	05	5,040	--	--	--	--	--	--	--	--	--
WNSW	5	Excavated	05-Apr-05	--	4,000	--	--	--	--	--	--	--	--	**798**
NSW	5	Excavated	05-Apr-05	--	240	--	--	--	--	--	--	--	--	**400**
ENSW	5	Excavated	05-Apr-05	--	400	--	--	--	--	--	--	--	--	**48**
ESSW	5	Excavated	05-Apr-05	--	4,000+	--	--	--	--	--	--	--	--	**189**
SSW	5	Excavated	05-Apr-05	--	160	--	--	--	--	--	--	--	--	64
WSSW	5	Excavated	05-Apr-05	--	4,000+	<0.005	<0.005	<0.005	<0.015	<0.030	<10.0	<10.0	<20.0	**2759**

TABLE 2

Summary of Soil Sample Field Analyses and Laboratory Analytical Results

Chevron U.S.A. Inc.

Mark West Pipeline (NMOCD Ref. #NSL-5227-A; EPI Ref.# 200074)

Sample I.D.	Depth (feet)	Soil Status	Sample Date	PID Field Analysis (ppm)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Total Xylenes (mg/Kg)	Total BTEX (mg/Kg)	GRO (C6-C10) (mg/Kg)	DRO (>C10-C28) (mg/Kg)	Total Hydrocarbons nC6-nC28 (mg/Kg)	Chloride (mg/Kg)
WNSW	10	In situ	05-Apr-06	--	--	--	--	--	--	--	--	--	518
ENSW	10	In situ	05-Apr-06	--	--	--	--	--	--	--	--	--	16
ESSW	10	In situ	05-Apr-06	--	--	--	--	--	--	--	--	--	18
WSSW	10	In situ	05-Apr-06	--	--	--	--	--	--	--	--	--	1039
WNSW	15	In situ	05-Apr-06	--	--	--	--	--	--	--	--	--	1386
ESSW	15	In situ	05-Apr-06	--	--	--	--	--	--	--	--	--	92
WSSW	15	In situ	05-Apr-06	--	--	--	--	--	--	--	--	--	957
Q1 (Test Trench)	5	In situ	05-Apr-06	--	--	--	--	--	--	--	--	--	1344
Q1 (Test Trench)	10	In situ	05-Apr-06	--	--	--	--	--	--	--	--	--	48
Q1 (Test Trench)	15	In situ	05-Apr-06	--	--	--	--	--	--	--	--	--	304
Q1 (Test Trench)	18	In situ	05-Apr-06	--	--	--	--	--	--	--	--	--	272
Q2 (Test Trench)	5	In situ	05-Apr-06	--	<0.005	<0.005	<0.005	<0.015	<0.030	<10.0	<10.0	<20.0	19
Q2 (Test Trench)	10	In situ	05-Apr-06	--	--	--	--	--	--	--	--	--	432
Q2 (Test Trench)	15	In situ	06-Apr-06	--	--	--	--	--	--	--	--	--	416
Q2 (Test Trench)	18	In situ	06-Apr-06	--	<0.005	<0.005	<0.005	<0.015	<0.030	<10.0	<10.0	<20.0	48

TABLE 2

Summary of Excavation Soil Sample Field Analyses and Laboratory Analytical Results

Chevron U.S.A. Inc.

Mark #13 Drill Pit (NMOCD Ref. #NSL-5227-A; EPI Ref.# 200074)

Sample I.D.	Depth (feet)	Soil Status	Sample Date	PID Field Analysis (ppm)	Field Chloride Analyses (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Total Xylenes (mg/Kg)	Total BTEX (mg/Kg)	GRO (C6-C10) (mg/Kg)	DRO (>C10-C28) (mg/Kg)	Total Hydrocarbons nC6-nC28 (mg/Kg)	Chloride (mg/Kg)
Q3 (Test Trench)	5	In situ	06-Apr-06	--	4,000+	--	--	--	--	--	--	--	--	**10,477**
Q3 (Test Trench)	10	In situ	06-Apr-06	--	1,640	--	--	--	--	--	--	--	--	176
Q3 (Test Trench)	15	In situ	06-Apr-06	--	160	--	--	--	--	--	--	--	--	96
Q4 (Test Trench)	5	In situ	06-Apr-06	--	480	--	--	--	--	--	--	--	--	**448**
Q4 (Test Trench)	10	In situ	06-Apr-06	--	440	--	--	--	--	--	--	--	--	**528**
Q4 (Test Trench)	15	In situ	06-Apr-06	--	160	--	--	--	--	--	--	--	--	176
N (Berm)	N/A	Berm	08-Jan-07	--	1,120	--	--	--	--	--	--	--	--	--
NE (Berm)	N/A	Berm	08-Jan-07	--	3,520	--	--	--	--	--	--	--	--	--
EB-1 (Berm)	N/A	Berm	08-Jan-07	--	240	--	--	--	--	--	--	--	--	--
SEB-2 (Berm	N/A	Berm	08-Jan-07	--	720	--	--	--	--	--	--	--	--	--
SB-3 (Berm)	N/A	Berm	08-Jan-07	--	240	--	--	--	--	--	--	--	--	--
SWB-4 (Berm)	N/A	Berm	08-Jan-07	--	240	--	--	--	--	--	--	--	--	--
WB-5 (Berm)	N/A	Berm	08-Jan-07	--	320	--	--	--	--	--	--	--	--	--
NW (Berm)	N/A	Berm	08-Jan-07	--	2,080	--	--	--	--	--	--	--	--	--

TABLE 2

Summary of Excavation Soil Sample Field Analyses and Laboratory Analytical Results

Chevron U.S.A. Inc.

Mark #13 Drill Pit (NMOCD Ref. #NSL-5227-A; EPI Ref.# 200074)

Sample I.D.	Depth (feet)	Soil Status	Sample Date	PID Field Analysis (ppm)	Field Chloride Analyses (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Total Xylenes (mg/Kg)	Total BTEX (mg/Kg)	GRO (C6-C10) (mg/Kg)	DRO (>C10-C28) (mg/Kg)	Total Hydrocarbons nC6-nC28 (mg/Kg)	Chloride (mg/Kg)
Q-1 (5')	5	In situ	12-Jan-07	--	1,440	--	--	--	--	--	--	--	--	1420
Q-2 (5')	5	In situ	12-Jan-07	--	880	--	--	--	--	--	--	--	--	1070
Q-3 (5')	5	In situ	12-Jan-07	--	1,280	--	--	--	--	--	--	--	--	190
Q-4 (5')	5	In situ	12-Jan-07	--	720	--	--	--	--	--	--	--	--	80
NSW-1 (3')	3	In situ	12-Jan-07	--	4,000+	--	--	--	--	--	--	--	--	8
NSW-2 (3')	3	In situ	12-Jan-07	--	4,000+	--	--	--	--	--	--	--	--	780
ESW-3 (3')	3	In situ	12-Jan-17	--	560	--	--	--	--	--	--	--	--	60
ESW-4 (3')	3	In situ	12-Jan-07	--	4,000+	--	--	--	--	--	--	--	--	600
SSW-5 (3')	3	In situ	12-Jan-07	--	4,000+	--	--	--	--	--	--	--	--	4320
SSW-6 (3')	3	In situ	12-Jan-07	--	1,120	--	--	--	--	--	--	--	--	1310
WSW-7 (3')	3	In situ	12-Jan-07	--	1,120	--	--	--	--	--	--	--	--	1020
WSW-8 (3')	3	In situ	12-Jan-07	--	4,000+	--	--	--	--	--	--	--	--	12000
OVERFLOW AREA														
BH -1 (5')	5	In situ	30-Jan-07	9.4	880	--	--	--	--	--	--	--	--	752
BH-2 (5')	5	In situ	30-Jan-06	26.2	2,320	--	--	--	--	--	--	--	--	295

TABLE 2

Summary of Excavation Soil Sample Field Analyses and Laboratory Analytical Results

Chevron U.S.A. Inc.

Mark #13 Drill Pit (NMOCD Ref. #NSL-5227-A; EPI Ref.# 200074)

Sample I.D.	Depth (feet)	Soil Status	Sample Date	PID Field Analysis (ppm)	Field Chloride Analyses (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Total Xylenes (mg/Kg)	Total BTEX (mg/Kg)	GRO (C6-C10) (mg/Kg)	DRO (>C10-C28) (mg/Kg)	Total Hydrocarbons nC6-nC28 (mg/Kg)	Chloride (mg/Kg)
BH-3 (5')	5	In situ	30-Jan-07	5.0	640	--	--	--	--	--	--	--	--	**720**
BH-4 (5')	5	In situ	30-Jan-07	27.5	1,200	--	--	--	--	--	--	--	--	**2111**
SW-1 (3')	3	In situ	30-Jan-07	19.5	640	--	--	--	--	--	--	--	--	736
SW-2 (3')	3	In situ	30-Jan-07	26.8	4,000+	--	--	--	--	--	--	--	--	**1559**
SW-3 (3')	3	In situ	30-Jan-07	36.1	1,200	--	--	--	--	--	--	--	--	**2015**
SW-4 (3')	3	In situ	30-Jan-07	16.3	880	--	--	--	--	--	--	--	--	**118**
SW-5 (3')	3	In situ	30-Jan-07	8.8	4,000+	--	--	--	--	--	--	--	--	**5478**
NMOCD Remedial Thresholds				100		10				50			100	250

Bolded values are in excess of NMOCD Remediation Threshold Goals

-- = Not Analyzed

BH = Soil samples collected from the bottom of the excavation; SW = Soil samples collected from the side walls of the excavation (E=East, W=West, N=North and S=South)

TABLE 3

Summary of Soil Boring Soil Sample Field Analyses and Laboratory Analytical Results

Chevron U.S.A. Inc.

Mark #13 Drill Pit (NMOCD Ref.#NSL-5227-A; EPI Ref.# 200074)

Sample I.D.	Depth (feet)	Soil Status	Sample Date	PID Field Analysis (ppm)	Field Chloride Analyses (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Total Xylenes (mg/Kg)	Total BTEX (mg/Kg)	GRO (C6-C10) (mg/Kg)	DRO (>C10-C28) (mg/Kg)	Total Hydrocarbons nC6-nC28 (mg/Kg)	Chloride (mg/Kg)
SB1-1 (5')	5	In situ	12-Jan-07	--	840	--	--			--	--	--	--	**1010**
SB1-2 (10)	10	In situ	12-Jan-07	--	840	--	--	--	--	--	--	--	--	**672**
SB1-3 (15')	15	In situ	12-Jan-07	--	560	--	--	--	--	--	--	--	--	**464**
SB1-4 (20')	20	In situ	12-Jan-07	--	320	--	--	--	--	--	--	--	--	208
SB2-1 (5') (Background)	5	In situ	12-Jan-07	--	880	--	--	-	--	--	--	--	--	**752**
SB2-2 (10') (Background)	10	In situ	12-Jan-07	--	800	--	--	--	--	--	--	--	--	**592**
SB2-3 (15') (Background)	15	In situ	12-Jan-07	--	680	--	--	--	--	--	--	--	--	**528**
SB2-4 (20') (Background)	20	In situ	12-Jan-07	--	320	--	--	--	--	--	--	--	--	176
NMOCD Remedial Thresholds				100		10				50			100	250

Bolded values are in excess of NMOCD Remediation Threshold Goals
-- = Not Analyzed
BH = Soil samples collected from the bottom of the excavation; SW = Soil samples collected from the side walls of the excavation (E=East, W=West, N=North and S=South)

TABLE 4

Temporary Monitor Wells Laboratory Analytical Results

Chevron U.S.A. Inc.

Mark #13 Drill Pit (NMOCD Ref. #NSL-5227-A; EPI Ref.# 200074)

Sample I.D.	Sample Date	TDS	Mercury (mg/L)	Silver (mg/L)	Lead (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Selenium (mg/L)	Chromium (mg/L)	Arsenic (mg/L)	pH (SU)	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	Total BTEX (mg/L)	Sulfates (mg/L)	Chloride (mg/L)
TMW-1A (North)	30-Jul-07	**1,350**	ND	ND	ND	**1.02**	**0.018**	ND	ND	ND	7.52	**6.73**	**8.047**	**1.92**	**3.999**	20.697	42.20	**387**
TMW-2A (South)	30-Jul-07	**3,000**	ND	ND	ND	**2.55**	**0.019**	ND	ND	ND	7.32	**0.0684**	0.0195	0.0479	0.0607	0.1965	51.9	**1,380**
TMW-1A (North)	16-Aug-07	--	--	--	--	--	--	--	--	--	7.52	--	--	--	--	--	--	**457**
TMW-2A (South)	16-Aug-07	--	--	--	--	--	--	--	--	--	7.32	--	--	--	--	--	--	**1,540**
TMW-3A (North)	24-Sep-07	**1,990**	ND	ND	ND	0.131	ND	ND	ND	ND	7.16	0.0013	ND	ND	ND	0.0013	124.00	**549**
TMW-4A (South)	24-Sep-07	**3,770**	ND	ND	ND	**14.60**	ND	ND	ND	ND	6.99	**0.4313**	0.0017	0.1076	0.1086	0.6492	ND	**1,960**
TMW-3A (North)	23-Oct-07	**1,750**	ND	ND	ND	0.133	ND	ND	ND	ND	7.12	ND	ND	ND	ND	ND	**25,500**	**718**
TMW-4A (South)	23-Oct-07	**3,700**	ND	ND	ND	**4.76**	ND	ND	ND	ND	6.89	**0.4362**	ND	0.1564	0.1712	0.7638	774.0	**1,550**
NMWQCC Remedial Threshold Goals		1,000	0.002	0.05	0.05	1.0	0.01	0.05	0.05	0.1	Between 6 & 9	0.01	0.75	0.75	0.62	100	600	250

Bolded values are in excess of NMWQCC Remediation Threshold Goals

-- = Not Analyzed

TABLE 4

Temporary Monitor Wells Laboratory Analytical Results

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Mark #13 Drill Pit (NMOCD Ref. #NSL-5227-A; EPI Ref.# 200074)

Sample I.D.	Sample Date	Acenaphthene (mg/L)	Acenaphthylene (mg/L)	Anthracene (mg/L)	Benzo(a)anthracene (mg/L)	Benzo(a)pyrene (mg/L)	Benzo(b)fluoranthene (mg/L)	Benzo(k)fluoranthene (mg/L)	Benzo(g,h,i)perylene (mg/L)	Chrysene (mg/L)	Dibenz(a,h)Anthracene (mg/L)	Fluoranthene (mg/L)	Fluorene (mg/L)	Indeno(1,2,3-c,d)Pyrene (mg/L)	1-Methylnaphthalene (mg/L)	2-Methylnaphthalene (mg/L)	Naphthalene (mg/L)	Phenanthrene (mg/L)	Pyrene (mg/L)
TMW-1A (North)	30-Jul-07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
NMWQCC Remedial Threshold Goals [TMW-1A (North)]		0.060	0.060	0.060	0.060	0.0007	0.060	0.060	0.060	0.060	0.060	0.060	0.060	0.060	0.060	0.060	0.060	0.060	0.060
TMW-2A (South)	30-Jul-07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
NMWQCC Remedial Threshold Goals [TMW-2A (South)]		0.005	0.005	0.005	0.005	0.0007	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005

Bolded values are in excess of NMWQCC Remediation Threshold Goals
-- = Not Analyzed
ND = Not detected at or above laboratory analytical method detection limits (MDL)

APPENDICES

APPENDIX I

LABORATORY ANALYTICAL REPORTS

CHAIN-OF CUSTODY FORMS

NOTE:

Laboratory analytical results are consolidated in a Compact Disc located on the back cover of the Final Closure Report

APPENDIX II

PROJECT PHOTOGRAPHS

AP - 081

STAGE 1 WORKPLANS

DATE: 02/28/2008

AP - 081

STAGE 1 WORKPLANS

DATE: 02/28/2008

AP - 081

STAGE 1 WORKPLANS

DATE: 02/28/2008

APPENDIX III

SOIL BORING LOGS

Log Of Test Borings

(NOTE - Page 1 of 1)

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

Project Number: 200074
Project Name: Chevron - Mark #13
Location: UL-G, Section 3, Township 22 South, Range 37 East
Boring Number: SB-1 | Surface Elevation: 3,390-feet amsl
Start Date: 1-12-07 Time: 0700 hrs
Completion Date: 1-12-07 Time: 1115 hrs

Time	Sample Type	Recovery (inches)	Moisture	PID Readings (ppm)	Chloride Analysis (mg/Kg)	U.S.C.S. Symbol	Depth (feet)	Description
								Top Soil, brown
								Fractured Rock
0800	SS	6	little		840		5	5' CALICHE
0830	SS	6	little		840		10	10' SAND/Caliche, tan
								SAND, brown
0845	SS	6	damp		560		15	15' SAND, brown
0900	SS	6	very moist		320		20	20' SANDSTONE, dark brown, very dense
1100								Limestone
								Refusal
							25	
							30	

Water Level Measurements (feet)

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

Drilling Method: Auger
Backfill Method: Bentonite
Field Representative: GB

Log Of Test Borings

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

Project Number: 200074

Project Name: Chevron - Mark #13

Location: UL-G, Section 3, Township 22 South, Range 37 East

Boring Number: SB-2 | Surface Elevation: 3,390-feet amsl

Start Date: 1-12-07 Time: 1300 hrs

Completion Date: 1-12-07 Time: 1630 hrs

Time	Sample Type	Recovery (inches)	Moisture	PID Readings (ppm)	Chloride Analysis (mg/Kg)	U.S.C.S. Symbol	Depth (feet)	Description
								Top Soil, brown
								Fractured Rock
1300	SS	6	little		880		5	5' CALICHE
1315	SS	6	little		800		10	10' SAND, brown/red
1330	SS	6	damp		680		15	15' SAND, brown/red
1400	SS	6	very moist		320		20	20' SAND, brown/muddy
1600								Limestone
								Refusal
							25	
							30	

Water Level Measurements (feet)

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

Drilling Method: Auger

Backfill Method: Bentonite

Field Representative: GB

APPENDIX IV

COPY OF INITIAL NMOCD FORM C-141

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-144
June 1, 2004

For drilling and production facilities, submit to appropriate NMOCD District Office.
For downstream facilities, submit to Santa Fe office

Pit or Below-Grade Tank Registration or Closure

Is pit or below-grade tank covered by a "general plan"? Yes ☒ No ☐

Type of action: Registration of a pit or below-grade tank ☒ Closure of a pit or below-grade tank ☐

Operator: Chevron USA Telephone: 505.394.3133 e-mail address: lduke@chevrontexaco.com

Address: PO Box 1949 2401 Avenue O Eunice, New Mexico 88231

Facility or well name: Mark 13 API #: 30-025-37385 Unit Letter (UL): G Qtr/Qtr: SW¼ NE¼ Section: 3, T22S, R37E

County: Lea Latitude: N 32°25'22.65" Longitude: W 103°08'46.23" NAD: 1927 ☐ 1983 ☐ WGS 84 ☒

Surface Owner: Federal ☐ State ☐ Private ☒(Targa) Indian ☐

Pit	**Below-grade tank**	
Type: Drilling ☒ Production ☐ Disposal ☐ Workover ☐ Emergency ☐	Volume: bbl Type of fluid:	
Lined ☒ Unlined ☐	Construction material:	
Liner type: Synthetic ☒ Thickness 12 mil Clay ☐	Double-walled, with leak detection? Yes ☐ If not, explain why not.	
Pit Volume: ~3,000 bbl		
Depth to ground water (vertical distance from bottom of pit to seasonal high water elevation of ground water.) ~45'bgs	Less than 50 feet 50 feet or more, but less than 100 feet 100 feet or more	(20 points) ☒ (10 points) ☐ (0 points) ☐
Wellhead protection area: (Less than 200 feet from a private domestic water source, or less than 1000 feet from all other water sources.)	Yes No	(20 points) ☐ (0 points) ☒
Distance to surface water: (horizontal distance to all wetlands, playas, irrigation canals, ditches, and perennial and ephemeral watercourses.)	Less than 200 feet 200 feet or more, but less than 1,000 feet 1,000 feet or more	(20 points) ☐ (10 points) ☐ (0 points) ☒
	Ranking Score (Total Points)	**20**

If this is a pit closure: (1) Attach a diagram of the facility showing the pit's relationship to other equipment and tanks. (2) Indicate disposal location: (check the onsite box if your are burying in place) onsite ☐ offsite ☒ If offsite, name of facility Sundance. (3) Attach a general description of remedial action taken including remediation start date and end date. (4) Groundwater encountered: No ☒ Yes ☐ If yes, show depth below ground surface _____ ft. and attach sample results. (5) Attach soil sample results and a diagram of sample locations and excavations.

Additional Comments: It is proposed to close this pit consistent with the "ChevronTexaco Drilling and Reserve Pit Closure General Plan, December 2004" and the NMOCD Pit and Below-Grade Tank Guidelines, November 1, 2004 as promulgated under NMOCD Rule 50 (19.15.2.50 NMAC).

Pit Status: Liner intact ☒ Liner punctured or torn ☐

Method of Closure: Disposal (i.e. pit contents stiffened and hauled to disposal facility, excavation will be tested, backfilled with clean soil if acceptable.)

I hereby certify that the information above is true and complete to the best of my knowledge and belief. **I further certify that the above-described pit or below-grade tank will be closed according to NMOCD guidelines ☒, a general permit ☒, or an (attached) alternative OCD-approved plan ☐.**

Date 2-9-04 Printed Name/Title Jim Duke, Construction Representative Signature

Your certification and NMOCD approval of this application/closure does not relieve the operator of liability should the contents of the pit or tank contaminate ground water or otherwise endanger public health or the environment. Nor does it relieve the operator of its responsibility for compliance with any other federal, state, or local laws and/or regulations.

Approval:

Printed Name/Title _____ Signature _____ Date: _____