

**NM2 - \_\_\_\_\_ 12 \_\_\_\_\_**

**MONITORING  
REPORTS  
YEAR(S):**

**\_\_\_\_\_ 2009 \_\_\_\_\_**



March 8, 2010

Mr. Glenn Von Gonten  
State of New Mexico – Department of Natural Resources  
Oil Conservation Division – Environmental Bureau  
1220 South St. Francis Drive  
Santa Fe, New Mexico 87505

Re: 2009 Annual Report for Chevron North America Exploration & Production Co.  
Centralized Surface Waste Management Facility  
Permit Number NM-2-0012  
W/2 of Section 17, Township 24 South, Range 36 East, NMPM  
Lea County, New Mexico

RECEIVED OCD  
2010 MAR 16 A 11:32

Dear Mr. Von Gonten:

The enclosed report is submitted to the New Mexico Oil Conservation Division on behalf of Chevron North America Exploration & Production Co., to present the results and closure request of Surface Waste Management monitoring performed at the Chevron Landfarm for the 2009 calendar year.

If you have any questions or concerns, please call me at 432.687.0901 to discuss.

Sincerely,

**LARSON & ASSOCIATES, INC.**

A handwritten signature in black ink, appearing to read 'Michelle L. Green', is written over the company name.

Michelle L. Green  
Environmental Scientist

Attachments: 2009 Surface Waste Management Annual Report and Closure Request

CC Rodney Bailey, Chevron, Midland, TX  
Brad Jones, NM OCD, Santa Fe, NM  
Larry Johnson, NM OCD, Hobbs, NM

**2009 SURFACE WASTE MANAGEMENT  
ANNUAL REPORT AND CLOSURE REQUEST**

**Chevron Landfarm  
NM-2-0012  
Lea County, New Mexico**

**Project No. 6-0137**

**March 8, 2010**

**Prepared for:  
Chevron North America Exploration & Production Co.  
15 Smith Road  
Midland, Texas 79710**

**Prepared by:  
Michelle L. Green  
Environmental Scientist**

**Larson & Associates, Inc.  
507 North Marienfeld, Suite 200  
Midland, Texas 79701**

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## 1.0 Executive Summary

Larson & Associates, Inc. (LAI), as consultant to Chevron North America Exploration and Production Company (Chevron), submits this report to the New Mexico Oil Conservation Division (OCD) for the above referenced centralized surface waste management facility (NM-2-0012). This report is submitted in accordance with the approved Sampling Plan dated September 29, 2009.

The following activities were conducted during the past year:

- Vadose and Treatment Zone Sampling Event on March 25, 2009
- Vadose Zone Background Sampling Event on June 25, 2009
- Vadose Zone Sampling Event on June 26, 2009
- Vadose Zone Sampling Event on October 1, 2009
- Vadose and Treatment Zone Sampling Event on December 21, 2009

A location map and facility drawing are presented in Figures 1 and 2, respectively.

## 2.0 Background Samples

A background sample of native soil from approximately 2 to 3 feet below ground surface was collected before construction of the facility on June 24, 1998. This sample was analyzed for total petroleum hydrocarbons (TPH), total metals (arsenic, barium, calcium, cadmium, chromium, lead, magnesium, mercury, potassium, selenium, silver and sodium), and general chemistry parameters (alkalinity, chloride, sulfate, fluoride and nitrate).

An additional composite background sample of native soil from approximately 2 to 3 feet below native ground surface was collected from Cells 29, 30, 31 and 32, on March 25, 2009. The sample was analyzed according to OCD requirements for TPH, including Gasoline and Diesel Range Organics, Benzene, Toluene, Ethylbenzene and Total Xylenes (BTEX), total metals and chloride.

On June 26, 2009, LAI personnel collected ten (10) additional composite background samples from an area located north of the utilized cells to establish a representative statistical baseline. The composite samples were collected at varying depths between six (6) inches and 2 ½ feet below ground surface. The samples were analyzed for chloride and total metals (arsenic, barium, chromium, iron, lead, mercury, selenium and zinc). The results were evaluated using the Student t's – Descriptive Statistics calculations with 95% and 98% confidence levels. Vadose zone sample results exceeding established background were compared to the Student t's confidence levels.

## 3.0 Vadose Zone Samples

Samples for the vadose zone from Cells 17, 18, 19, 20, 21, 25, and 26 were collected by LAI personnel on March 25, October 1, and December 21, 2009. The samples were collected between approximately 2 to 3 feet below native ground surface. The samples were collected using direct-push technology. The samples were placed in pre-cleaned 4-ounce jars, properly labeled and placed on ice upon collection and were submitted to DHL Analytical, Inc. (DHL) located in Round Rock, Texas.

### **3.1 March 25, 2009 Sampling Event**

Samples for the vadose zone from Cells 17 through 21, 25 and 26 were collected by LAI personnel on March 25, 2009. The samples were collected from approximately 2 to 3 feet below native ground surface near the center of each cell. The samples were collected using direct-push technology and dual-tube system. The direct push and dual tube system involves hydraulically pushing or percussion hammering a stainless steel core barrel into the subsurface. The stainless steel core barrel is housed inside an outer steel casing that is simultaneously pushed into the subsurface. Overlying soil is removed to prevent caving and minimizing the possibility of cross-contamination. The core barrel is equipped with dedicated polyethylene liners to reduce cross-contamination between samples. Samples were placed in pre-cleaned 4-ounce jars, properly labeled and placed on ice upon collection. The samples were submitted to DHL.

The vadose zone samples were analyzed for the following constituents:

- BTEX by EPA method SW8021B,
- TPH by EPA method SW8015 for gasoline range organics (GRO) and diesel range organics (DRO),
- TRPH by EPA method 418.1,
- Metals and Mercury analyses by EPA methods SW6020 and SW7471A, respectively, and
- Anions by EPA method 300.

The TPH, TRPH, BTEX and benzene results of the vadose zone samples for Cells 17 through 21, 25 and 26 were below the method detection limits.

Cells 17, 18 and 20 were above background but below the Water Quality Control Commission (WQCC) level for chloride.

Arsenic and barium were detected above background levels for Cells 17, 18, and 26. Copper was detected in Cell 21 slightly above the background level. Chromium, iron, lead, selenium, and zinc were detected in Cell 25 above background. These are within the normal variation of the soil.

### **3.2 October 1, 2009 Sampling Event**

Samples for the vadose zone from Cells 17, 18, 19, 20, 21, 25, and 26 were collected by LAI personnel on October 1, 2009. The samples were collected between approximately 2 to 3 feet below native ground surface. The samples were collected using direct-push technology. The samples were placed in pre-cleaned 4-ounce jars, properly labeled and placed on ice upon collection and were submitted to DHL Analytical, Inc. (DHL).

The vadose zone samples were analyzed for the following constituents:

- BTEX by EPA method SW8021B,
- TPH by EPA method SW8015 for gasoline range organics (GRO) and diesel range organics (DRO),
- TRPH by EPA method 418.1, and
- Metals and Mercury analyses by EPA methods SW6020 and SW7471A, respectively.

The TPH, TRPH, BTEX and benzene results of the vadose zone samples for Cells 17 through 21, 25 and 26 were below the method detection limits.

The statistical background confidence levels for arsenic, barium, chromium, copper, iron, lead, selenium, and zinc were compared to the vadose zone samples that exceeded the established background levels.

	Arsenic	Barium	Chromium	Copper	Iron	Lead	Selenium	Zinc
Background	3.79	271	9.20	4.01	8,510	4.96	2.77	19.8
95% min/max:	2.66 - 3.22	70.1 - 145.5	8.76 - 10.28	4.01 - 5.09	8,131 - 9,647	5.70 - 6.62	1.61 - 2.11	19.7 - 22.7
98% min/max:	2.60 - 3.28	61.0 - 154.6	8.58 - 10.46	3.88 - 5.22	7,949 - 9,829	5.59 - 6.73	1.55 - 2.17	19.3 - 23.1
NM SSL – Res	3.90	15,600	100,000	3,130	23,500	400	391	23,500
NM SSL – Ind.	17.7	100,000	100,000	45,400	100,000	800	5,680	100,000
Cell 17	3.78	<b>478</b>	3.46	1.97	3,540	2.11	1.02	6.44
Cell 18	3.64	<b>352</b>	2.15	1.26	1,870	1.22	0.659	3.05
Cell 19	2.60	73.0	9.41	3.84	8,930	5.47	2.08	16.0
Cell 20	2.82	104	5.63	2.77	4,660	3.19	1.29	7.81
Cell 21	4.71	<b>708</b>	2.95	1.35	2,410	1.64	0.824	4.49
Cell 25	3.15	57.4	<b>10.8</b>	3.21	<b>11,500</b>	6.61	2.32	19.7
Cell 26	<b>4.56</b>	88.3	<b>15.5</b>	<b>5.87</b>	<b>16,900</b>	<b>9.12</b>	<b>3.34</b>	<b>32.2</b>

The sample results demonstrated that the 95% and 98% confidence levels were exceeded for arsenic (Cell 26), barium (Cells 17, 18 and 21), chromium (Cells 25 and 26), copper (Cell 26), iron (Cells 25 and 26), lead, selenium and zinc (Cell 26).

Sample results were also compared to the New Mexico Environment Department (NMED) Soil Screening Levels (SSL) presented in the *Technical Background Document for Development of Soil Screening Levels, Revision 4.0* dated June 2006. For the samples collected on October 1, 2009, results for Cell 26 were above the residential soil screening level established for arsenic (3.90 ppm) but below the Industrial/Occupational screening level for arsenic (17.7 ppm). Cells 17, 18, and 21 were below residential screening levels established for barium (15,600 ppm). These results conclude that no remedial action of the treatment or vadose zone soil is required.

### 3.3 December 21, 2009 Sampling Event

Samples for the vadose zone from Cells 17, 18, 19, 20, 21, 25, and 26 were collected by LAI personnel on December 21, 2009. The samples were collected between approximately 2 to 3 feet below native ground surface.

The vadose zone samples were analyzed for the following constituents:

- BTEX by EPA method SW8021B,
- TPH by EPA method SW8015 for gasoline range organics (GRO) and diesel range organics (DRO),
- TRPH by EPA method 418.1,
- Metals and Mercury analyses by EPA methods SW6020 and SW7471A, respectively, and
- Anions by EPA method 300.

The BTEX and benzene results of the vadose zone samples for Cells 17 through 21, 25 and 26 were below the method detection limits. TPH was detected in Cell 18 (19.6 ppm) above the established background level. This may be due to possible cross contamination with soil from the treatment zone.

Chloride was detected in Cells 17, 19, 20, and 21 above the establish background concentration (8.89 ppm).

The statistical background confidence levels for arsenic, barium, chromium, lead, and selenium were compared to the vadose zone samples that exceeded the established background levels.

	<b>Arsenic</b>	<b>Barium</b>	<b>Chromium</b>	<b>Lead</b>	<b>Selenium</b>
Background	3.79	271	9.20	4.96	2.77
95% min/max:	2.66 - 3.22	70.1 - 145.5	8.76 - 10.28	5.70 - 6.62	1.61 - 2.11
98% min/max:	2.60 - 3.28	61.0 - 154.6	8.58 - 10.46	5.59 - 6.73	1.55 - 2.17
NM SSL – Res	3.90	15,600	100,000	400	391
NM SSL – Ind.	17.7	100,000	100,000	800	5,680
Cell 17	2.96	<b>353</b>	4.07	2.13	0.704
Cell 18	2.59	82.1	7.32	5.92	1.11
Cell 19	4.52	<b>876</b>	2.75	1.27	0.362
Cell 20	3.69	263	3.33	1.82	0.41
Cell 21	3.46	<b>840</b>	3.39	1.85	0.609
Cell 25	3.90	114	<b>13.3</b>	<b>7.05</b>	1.19
Cell 26	<b>3.87</b>	<b>787</b>	2.14	0.959	0.259

The sample results demonstrated that the 95% and 98% confidence levels were exceeded for arsenic (Cell 26), barium (Cells 19, 21 and 26), chromium and lead (Cell 25).

The results for samples collected on December 21, 2009, were also compared to the established SSL. The result for Cell 26 was below the residential soil screening level established for arsenic (3.90 ppm). Cell 25 was below the residential screening levels for chromium (100,000 ppm) and lead (400 ppm). Cells 17, 19, 21, and 26 were below residential screening levels established for barium (15,600 ppm). These results indicate that no remedial action of the treatment or vadose zone soil is required.

Vadose zones and background statistical confidence level tables are presented in the Tables section. Laboratory analytical reports are presented in Appendix A.

## 4.0 Treatment Zone Samples

### 4.1 March 25, 2009 Sampling Event

On March 25, 2009, LAI collected random five (5) part soil composite samples from Cells 17 through 21, 25 and 26. The soil samples were collected using a stainless steel hand auger. The samples were collected from the tilled zone, placed in pre-cleaned 4-ounce jars, properly labeled and placed on ice upon collection. The samples were submitted to DHL under custody seals and chain of custody.

The treatment samples were analyzed for the following constituents:

- BTEX,
- Chloride,
- Metals and mercury,
- TPH, and
- TRPH.

The results of the March 25, 2009 composite treatment samples (Cells 17 through 21, 25 and 26) were below the remediation standards for BTEX (50 ppm), Benzene (10 ppm), TPH (500 ppm), and Chloride (250 ppm) as specified in accordance with 19.15.36 NMAC Part 36.

The treatment zone soil samples were analyzed for metals in accordance to subsections A and B of 20.6.23103 NMAC. The results were compared to the background sample. Cells 17 through 21, 25 and 26 were below background levels for arsenic, barium, cadmium, chromium, copper, iron, manganese, selenium, and silver. Cell 17 was above background for lead (6.34 ppm), mercury (0.168 ppm), and zinc (21.5 ppm). Cell 18 was above background for lead (6.00 ppm). Cell 21 was above background for lead (7.41 ppm) and zinc (23.4 ppm). Cell 25 was above background for zinc (22.9 ppm). Cell 26 was above background for lead (5.01 ppm). However, these concentrations appear within the normal variation of the soil.

#### **4.2 September 30, 2009 Sampling Event**

A treatment zone sample for Cell 21 collected on September 30, 2009 as per the approved sampling plant. The results that exceeded the background levels were compared to the statistical confidence levels for metals.

	<b>Lead</b>	<b>Zinc</b>
Background	4.96	19.8
95% min/max:	5.70 - 6.62	19.7 - 22.7
98% min/max:	5.59 - 6.73	19.3 - 23.1
Cell 21	<b>12.5</b>	<b>20.4</b>

Cell 21 exceeded the established background levels for lead (4.96 ppm) and zinc (19.8 ppm). Lead did not meet the 95% and 98% confidence levels.

#### **4.3 December 21, 2009 Sampling Event**

In December, LAI collected random five (5) part soil composite samples from Cells 17 through 21, 25 and 26. The soil samples were collected as previously described.

The treatment samples were analyzed for the following constituents:

- BTEX,
- Chloride,
- TPH, and
- TRPH.

The results of the December 2009 sampling event for composite treatment samples (Cells 17 through 21, 25 and 26) were below the remediation standards for BTEX (50 ppm), Benzene (10 ppm), TPH (500 ppm), and Chloride (250 ppm) as specified in accordance with 19.15.36 NMAC Part 36.

Treatment zones and background statistical confidence level tables are presented in the Tables section. Laboratory analytical reports are presented in Appendix A.

## 5.0 Additional Information

Boring logs from monitoring wells in the west half (W/2) of Section 15, Township 24 South, Range 36 East indicates a general lithology of unconsolidated eolian sand over a variable thickness carbonate-indurated sand (caliche) layer between approximately 23 to 60-feet below ground surface (bgs) with groundwater levels observed between 149 to 180 feet bgs. The regional direction for groundwater flow is towards the southeast.

The caliche creates an interpreditory layer for the downward migration of mobilized metals. Background and vadose zone samples indicate that the pH at the facility is between 7.5 and 8.2. An increased pH (basic environment) in the caliche layer would create a flocculation zone. Most metals are considered to be multivalent cations. Positively charged molecules interact with negatively charged particles in the caliche to form aggregate. In addition, many of these analytes and compounds, under the appropriate pH (greater than 7) and conditions (temperature, pressure and salinity) will link together to form long chains or meshes, physically trapping small and fine particles thus minimizing the migration of metals. Transition metals (i.e. iron, chromium, copper, lead, zinc, etc.) become more soluble, thus more mobile, under low pH conditions.

## 6.0 References

The following published and unpublished works were used in the preparation of this report.

*NMED. 2006. Technical Background Document for Development of Soil Screening Levels, Hazardous Waste Bureau and Groundwater Quality Bureau, Revision 4.0.*

*DBS&A. 2002. Geochemical Mobility of Selected Inorganic Constituents in Groundwater, Texas Natural Resource Conservation Commission. Austin, TX.*

## 7.0 Summary

Treatment zone soil samples from Cells 17 through 21, 25 and 26 were below action levels for TPH (method 8015M), BTEX, benzene and chloride. Lead and Zinc were slightly above the 98% confidence levels for Cell 21 in the September sampling event.

Vadose zone samples Cells 17, 18, 20, 25 and 26 had exceedance for various metals using the Student t's – Descriptive Statistics. The levels were then compared to the New Mexico Soil Screening Level document. Cells 17, 18, 19, 20, 21, 25 and 26 were below the established Industrial/Occupational screening levels for arsenic, barium, chromium, iron, lead, mercury, selenium and zinc. This indicates that environmental conditions do not require remedial action of the treatment or vadose zone soil.

The background and vadose zone samples indicate that the pH at the facility is slightly basic. Depth to groundwater in this area is observed between 149 to 180 feet bgs. Monitor well boring logs from an adjacent site indicate a general lithology of an unconsolidated veneer of eolian sand over a variable thickness carbonate-indurated sand layer encountered at approximately 23 to 60-feet bgs. With this stratification profile and soil conditions; metals are less likely to become soluble and migration would be minimal.

Remediation of the treatment zone has been satisfied according to the guidelines set forth in the permit. Chevron requests the OCD to grant closure for Cells 17 through 21, 25 and 26.

**Table 1**  
**Summary of BTEX Analyses of Treatment Soil Samples**  
**Chevron North America Exploration and Production Company, Landfarm (Permit NM-2-0012)**  
**W/2 of Section 17, Township 24 South, Range 36 East**  
**Lea County, New Mexico**

Sample	Cell Number	Date	Sample Depth (Feet)	Benzene	Ethylbenzene	Toluene	Total Xylenes	Total BTEX
<b>Action Level (mg/Kg):</b>				<b>10</b>	<b>50</b>			
Cell 17	17	05/21/07	0 - 1	<0.00304	<0.00506	<0.00506	<0.00506	<0.00304
		09/11/07	0 - 1	<0.00106	<0.00106	<0.00106	<0.00106	<0.00106
		03/13/08	0 - 1	<0.00282	<0.00470	<0.00470	<0.00470	<0.00282
		03/19/08	0 - 1	<0.00264	<0.00440	<0.00440	<0.00440	<0.00264
		08/25/08	0 - 1	<0.00301	<0.00501	<0.00501	<0.00501	<0.00301
		12/09/08	0 - 1	<0.00280	<0.00467	<0.00467	<0.00467	<0.00280
		03/25/09	0 - 1	<0.00295	<0.00491	<0.00491	<0.00491	<0.00295
		12/21/09	0 - 1	<0.00302	<0.00503	<0.00503	<0.00503	<0.00302
Cell 18	18	05/21/07	0 - 1	<0.00311	<0.00519	<0.00519	<0.00519	<0.00311
		09/11/07	0 - 1	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011
		03/19/08	0 - 1	<0.00288	<0.00480	<0.00480	<0.00480	<0.00288
		08/25/08	0 - 1	<0.00268	<0.00447	<0.00447	<0.00447	<0.00268
		12/09/08	0 - 1	<0.00299	<0.00498	<0.00498	<0.00498	<0.00299
		03/25/09	0 - 1	<0.00263	<0.00438	<0.00438	<0.00438	<0.00263
		12/21/09	0 - 1	<0.00288	<0.00479	<0.00479	<0.00479	<0.00288
		Cell 19	19	05/21/07	0 - 1	<0.00292	<0.00486	<0.00486
09/11/07	0 - 1			<0.00114	<0.00114	<0.00114	<0.00114	<0.00114
03/19/08	0 - 1			<0.00267	<0.00444	<0.00444	<0.00444	<0.00267
08/25/08	0 - 1			<0.00312	<0.00520	<0.00520	<0.00520	<0.00312
12/09/08	0 - 1			<0.00265	<0.00441	<0.00441	<0.00441	<0.00265
03/25/09	0 - 1			<0.00297	<0.00495	<0.00495	<0.00495	<0.00297

**Table 1**  
**Summary of BTEX Analyses of Treatment Soil Samples**  
**Chevron North America Exploration and Production Company, Landfarm (Permit NM-2-0012)**  
**W/2 of Section 17, Township 24 South, Range 36 East**  
**Lea County, New Mexico**

Sample	Cell Number	Date	Sample Depth (Feet)	Benzene	Ethylbenzene	Toluene	Total Xylenes	Total BTEX
<b>Action Level (mg/Kg):</b>				<b>10</b>			<b>50</b>	
Cell 19	19	12/21/09	0 - 1	<0.00295	<0.00492	<0.00492	<0.00492	<0.00295
Cell 20	20	05/21/07	0 - 1	<0.00312	<0.00520	<0.00520	<0.00520	<0.00312
		09/11/07	0 - 1	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011
		03/19/08	0 - 1	<0.00270	<0.00450	<0.00450	<0.00450	<0.00270
		08/25/08	0 - 1	<0.00293	<0.00488	<0.00488	<0.00488	<0.00293
		12/09/08	0 - 1	<0.00294	<0.00489	<0.00489	<0.00489	<0.00294
		03/25/09	0 - 1	<0.00268	<0.00447	<0.00447	<0.00447	<0.00268
		12/21/09	0 - 1	<0.00291	<0.00485	<0.00485	<0.00485	<0.00291
Cell 21	21	05/21/07	0 - 1	<0.00293	<0.00489	<0.00489	<0.00489	<0.00293
		09/11/07	0 - 1	<0.00113	<0.00113	<0.00113	<0.00113	<0.00113
		03/19/08	0 - 1	<0.00263	<0.00438	<0.00438	<0.00438	<0.00263
		08/25/08	0 - 1	<0.00308	<0.00513	<0.00513	<0.00513	<0.00308
		12/09/08	0 - 1	<0.00290	<0.00483	<0.00483	<0.00483	<0.00290
		03/25/09	0 - 1	<0.00268	<0.00446	<0.00446	<0.00446	<0.00268
		12/21/09	0 - 1	<0.00276	<0.00461	<0.00461	<0.00461	<0.00276
Cell 25	25	05/21/07	0 - 1	<0.00302	<0.00503	<0.00503	<0.00503	<0.00302
		09/11/07	0 - 1	<0.00103	<0.00103	<0.00103	<0.00103	<0.00103
		08/25/08	0 - 1	<0.00278	<0.00463	<0.00463	<0.00463	<0.00278
		12/09/08	0 - 1	<0.00308	<0.00513	<0.00513	<0.00513	<0.00308
		03/25/09	0 - 1	<0.00265	<0.00441	<0.00441	<0.00441	<0.00265

**Table 1**  
**Summary of BTEX Analyses of Treatment Soil Samples**  
**Chevron North America Exploration and Production Company, Landfarm (Permit NM-2-0012)**  
**W/2 of Section 17, Township 24 South, Range 36 East**  
**Lea County, New Mexico**

Sample	Cell Number	Date	Sample Depth (Feet)	Benzene	Ethylbenzene	Toluene	Total Xylenes	Total BTEX
<b>Action Level (mg/Kg):</b>				<b>10</b>				
Cell 25	25	12/21/09	0 - 1	<0.00312	<0.00520	<0.00520	<0.00520	<0.00312
Cell 26	26	02/21/07	0 - 1	<0.01	<0.01	<0.01	<0.02	<0.01
		09/11/07	0 - 1	<0.00118	<0.00118	<0.00118	<0.00118	<0.00118
		05/21/07	0 - 1	<0.00323	<0.00539	<0.00539	<0.00539	<0.00323
		08/25/08	0 - 1	<0.00358	<0.00597	<0.00597	<0.00597	<0.00358
		12/09/08	0 - 1	<0.00301	<0.00501	<0.00501	<0.00501	<0.00301
		03/25/09	0 - 1	<0.00268	<0.00447	<0.00447	<0.00447	<0.00268
		12/21/09	0 - 1	<0.00296	<0.00494	<0.00494	<0.00494	<0.00296

Notes:

Samples were analyzed by DHL Analytical, Inc., Round Rock, TX

BTEX analysis was performed by SW846 method 8021B

Results are reported in milligram per Kilograms (mg/Kg).

1. <: Less than method detection limit

Table 2  
 Summary of TPH Analysis of Treatment Soil Samples  
 Chevron North America Exploration and Production Company, Landfarm (Permit NM-2-0012)  
 W/2 of Section 17, Township 24 South, Range 36 East  
 Lea County, New Mexico

Sample	Cell Number	Date	Depth	TRPH 418.1	TPH - GRO C6-C10	TPH - DRO C10-C28	Total TPH	Chloride
<b>Action Level (mg/Kg):</b>				<b>2500</b>			<b>500</b>	<b>250</b>
Cell 17	17	05/21/07	0 - 1	108	<0.0635	27.7	27.7	--
		09/11/08	0 - 1	--	<0.0645	233	233	<b>361</b>
		03/13/08	0 - 1	216	--	--	--	42.4
		03/19/08	0 - 1	1090	<0.0519	470	470	--
		08/25/08	0 - 1	68.1	<0.0609	210	210	--
		12/09/08	0 - 1	169	<0.0578	206	206	34.7
		03/25/09	0 - 1	166	<0.0521	120	120	19.5
		12/21/09	0 - 1	73.2	<0.101	119	119	135
Cell 18	18	05/21/07	0 - 1	456	<0.0594	418	418	--
		09/11/07	0 - 1	--	<0.0615	695	<b>695</b>	<5.78
		03/19/08	0 - 1	787	<0.0546	422	422	--
		08/25/08	0 - 1	219	<0.0587	167	167	--
		12/09/08	0 - 1	525	<0.0576	207	207	<4.99
		03/25/09	0 - 1	212	<0.0524	93.0	93.0	8.19
		12/21/09	0 - 1	274	<0.0934	127	127	<5.07
Cell 19	19	05/21/07	0 - 1	109	<0.0597	11.7	11.7	--
		09/11/07	0 - 1	--	<0.0620	272	272	5.91
		03/19/08	0 - 1	512	<0.0552	401	401	--
		08/25/08	0 - 1	85.8	<0.0552	96.6	96.6	--
		12/09/08	0 - 1	159	<0.0552	52.6	52.6	20.2
		03/25/09	0 - 1	225	<0.0591	64.2	64.2	32.5

Table 2  
 Summary of TPH Analysis of Treatment Soil Samples  
 Chevron North America Exploration and Production Company, Landfarm (Permit NM-2-0012)  
 W/2 of Section 17, Township 24 South, Range 36 East  
 Lea County, New Mexico

Sample	Cell Number	Date	Depth	TRPH 418.1	TPH - GRO C6-C10	TPH - DRO C10-C28	Total TPH	Chloride
<b>Action Level (mg/Kg):</b>				<b>2500</b>			<b>500</b>	<b>250</b>
Cell 19	19	12/21/09	0 - 1	76.8	<0.0965	73.4	73.4	24.6
Cell 20	20	05/21/07	0 - 1	527	<0.0567	30.2	30.2	--
		09/11/07	0 - 1	--	<0.0614	403	403	14.6
		03/19/08	0 - 1	169	<0.0541	171	171	--
		08/25/08	0 - 1	39.2	<0.0593	64.3	64.3	--
		12/09/08	0 - 1	126	<0.0620	44.3	44.3	35.8
		03/25/09	0 - 1	256	<0.0540	33.1	33.1	50.9
		12/21/09	0 - 1	46.8	<0.101	49.9	49.9	30.8
Cell 21	21	05/21/07	0 - 1	389	<0.0611	15.4	15.4	--
		09/11/07	0 - 1	--	<0.0638	838	<b>838</b>	<5.67
		03/19/08	0 - 1	434	<0.0564	359	359	--
		08/25/08	0 - 1	157	<0.0599	210	210	--
		12/09/08	0 - 1	1780	<0.0567	271	271	<5.06
		03/25/09	0 - 1	678	<0.0561	90.1	90.1	14.5
		12/21/09	0 - 1	680	<0.0952	135	135	<5.13
Cell 25	25	05/21/07	0 - 1	85.9	<0.0607	2.97	2.97	--
		09/11/07	0 - 1	--	<0.0618	166	166	128
		08/25/08	0 - 1	115	<0.0557	96.5	96.5	--
		12/09/08	0 - 1	107	<0.0555	66.2	66.2	<5.13
		03/25/09	0 - 1	96.6	<0.0530	26.8	26.8	13.2

**Table 2**  
**Summary of TPH Analysis of Treatment Soil Samples**  
**Chevron North America Exploration and Production Company, Landfarm (Permit NM-2-0012)**  
**W/2 of Section 17, Township 24 South, Range 36 East**  
**Lea County, New Mexico**

Sample	Cell Number	Date	Depth	TRPH 418.1	TPH - GRO C6-C10	TPH - DRO C10-C28	Total TPH	Chloride
<b>Action Level (mg/Kg):</b>				<b>2500</b>			<b>500</b>	<b>250</b>
Cell 25	25	12/21/09	0 - 1	85.9	<0.0946	59.2	59.2	<5.18
Cell 26	26	02/21/07	0 - 1	<b>3450</b>	<1	726	<b>726</b>	--
		05/21/07	0 - 1	59.3	<0.0591	4.98	4.98	--
		09/11/07	0 - 1	--	<0.0696	455	455	<5.92
		08/25/08	0 - 1	16.7	<0.0663	116	116	--
		12/09/08	0 - 1	226	<0.0543	32.0	32.0	<5.07
		03/25/09	0 - 1	1260	<0.0596	202	202	8.61
		12/21/09	0 - 1	201	<0.103	77.4	77.4	<5.21

**Notes:**

Samples were analyzed by DHL Analytical, Inc., Round Rock, TX  
Results are reported in milligram per Kilograms (mg/Kg).  
GRO and DRO analyses were performed by SW846 method 8015  
TRPH analysis was performed by EPA method 418.1  
1. <: Less than method detection limit

**Table 3**  
**Summary of Metals Analysis of Treatment Zone Soil Samples**  
**Chevron North America Exploration and Production Company, Landfarm (Permit NM-2-0012)**  
**W/2 of Section 17, Township 24 South, Range 36 East**  
**Lea County, New Mexico**

Sample	Cell Number	Date	Depth	Arsenic	Barium	Cadmium	Chromium	Copper	Iron	Lead	Manganese	Mercury	Selenium	Silver	Zinc
<b>Background Level (3/25/09):</b>				3.79	271	0.201	9.20	4.01	8,510	4.96	81.5	<0.0145	2.77	<0.0957	19.8
<b>WQCC Level:</b>				0.1	1.0	0.01	0.05	1.0	1.0	0.05	0.2	0.002	0.05	0.05	10.0
Cell 17	17	03/25/09	0 - 1	2.99	119	0.167	7.89	3.99	7,160	6.34	76.5	0.0168	1.83	<0.0912	21.5
Cell 18	18	03/25/09	0 - 1	2.68	108	0.132	6.81	3.41	5,690	6.00	61.3	<0.0148	1.55	<0.0861	17.2
Cell 19	19	03/25/09	0 - 1	2.65	173	0.159	6.93	2.42	6,210	3.96	45.3	<0.0147	1.41	<0.0899	15.6
Cell 20	20	03/25/09	0 - 1	2.43	173	0.162	6.48	1.92	5,670	3.42	43.3	<0.0138	1.51	<0.0901	19.5
Cell 21	21	03/25/09	0 - 1	2.96	114	0.187	8.17	3.22	6,480	7.41	58.4	<0.0143	1.63	<0.0900	23.4
	21	09/30/09	0 - 6"	--	--	--	--	--	--	12.5	--	--	--	--	20.4
Cell 25	25	03/25/09	0 - 1	2.41	103	0.171	6.68	2.58	6,090	4.42	57.4	<0.0143	1.64	<0.100	22.9
Cell 26	26	03/25/09	0 - 1	2.63	54.1	0.158	7.60	3.59	7,500	5.01	80.9	<0.0152	2.03	<0.0864	19.8

Notes: Analysis performed by DHL Analytical, Inc., Round Rock, TX  
Results are reported in milligram per Kilograms (mg/Kg).  
Metals analysis was performed by SW846 method 6020

Mercury analysis was performed by SW846 method 7471A  
1. <: Less than method detection limit

**Table 4**  
**Summary of BTEX Analyses of Vadose Zone Soil Samples**  
**Chevron North America Exploration and Production Company, Landfarm (Permit NM-2-0012)**  
**W/2 of Section 17, Township 24 South, Range 36 East**  
**Lea County, New Mexico**

Sample	Cell Number	Date	Sample Depth (Feet)	Benzene	Ethylbenzene	Toluene	Total Xylenes	Total BTEX
<b>Background Level (3/25/09):</b>				<b>&lt;0.00313</b>	<b>&lt;0.00521</b>	<b>&lt;0.00521</b>	<b>&lt;0.00521</b>	<b>&lt;0.01876</b>
<b>WQCC Level:</b>				<b>10</b>				<b>50</b>
Cell 17	17	05/22/07	2 - 3	<0.00354	<0.00590	<0.00590	<0.00590	<0.00354
		09/13/07	2 - 3	<0.00112	<0.00112	<0.00112	<0.00112	<0.00112
		03/19/08	2 - 3	<0.00319	<0.00531	<0.00531	<0.00531	<0.00319
		08/26/08	2 - 3	<0.00318	<0.00530	<0.00530	<0.00530	<0.00318
		12/08/08	2 - 3	<0.00386	<0.00643	<0.00643	<0.00643	<0.00386
		03/25/09	2 - 3	<0.00289	<0.00481	<0.00481	<0.00481	<0.00289
		10/01/09	2 - 3	<0.00361	<0.00601	<0.00601	<0.00601	<0.00361
		12/21/09	2 - 3	<0.0342	<0.00571	<0.00571	<0.00571	<0.0342
Cell 18	18	05/22/07	2 - 3	<0.00306	<0.00510	<0.00510	<0.00510	<0.00306
		09/13/07	2 - 3	<0.00101	<0.00101	<0.00101	<0.00101	<0.00101
		03/19/08	2 - 3	<0.00302	<0.00503	<0.00503	<0.00503	<0.00302
		08/25/08	2 - 3	<0.00305	<0.00509	<0.00509	<0.00509	<0.00305
		12/08/08	2 - 3	<0.00286	<0.00477	<0.00477	<0.00477	<0.00286
		03/25/09	2 - 3	<0.00311	<0.00519	<0.00519	<0.00519	<0.00311
		10/01/09	2 - 3	<0.00324	<0.00540	<0.00540	<0.00540	<0.00324
		12/21/09	2 - 3	<0.00310	<0.00517	<0.00517	<0.00517	<0.00310
Cell 19	19	05/22/07	2 - 3	<0.00294	<0.00491	<0.00491	<0.00491	<0.00294
		09/13/07	2 - 3	<0.00107	<0.00107	<0.00107	<0.00107	<0.00107
		03/19/08	2 - 3	<0.00282	<0.00470	<0.00470	<0.00470	<0.00282
		08/25/08	2 - 3	<0.00307	<0.00512	<0.00512	<0.00512	<0.00307

**Table 4**  
**Summary of BTEX Analyses of Vadose Zone Soil Samples**  
**Chevron North America Exploration and Production Company, Landfarm (Permit NM-2-0012)**  
**W/2 of Section 17, Township 24 South, Range 36 East**  
**Lea County, New Mexico**

Sample	Cell Number	Date	Sample Depth (Feet)	Benzene	Ethylbenzene	Toluene	Total Xylenes	Total BTEX
<b>Background Level (3/25/09):</b>				<b>&lt;0.00313</b>	<b>&lt;0.00521</b>	<b>&lt;0.00521</b>	<b>&lt;0.00521</b>	<b>&lt;0.01876</b>
<b>WQCC Level:</b>				<b>10</b>				<b>50</b>
Cell 19	19	12/08/08	2 - 3	<0.00311	<0.00519	<0.00519	<0.00519	<0.00311
		03/25/09	2 - 3	<0.00318	<0.00530	<0.00530	<0.00530	<0.00318
		10/01/09	2 - 3	<0.00325	<0.00541	<0.00541	<0.00541	<0.00325
		12/21/09	2 - 3	<0.00320	<0.00534	<0.00534	<0.00534	<0.00320
Cell 20	20	05/22/07	2 - 3	<0.00326	<0.00543	<0.00543	<0.00543	<0.00326
		09/13/07	2 - 3	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012
		03/19/08	2 - 3	<0.00302	<0.00503	<0.00503	<0.00503	<0.00302
		08/25/08	2 - 3	<0.00264	<0.00440	<0.00440	<0.00440	<0.00264
		12/08/08	2 - 3	<0.00311	<0.00518	<0.00518	<0.00518	<0.00311
		03/25/09	2 - 3	<0.00307	<0.00512	<0.00512	<0.00512	<0.00307
		10/01/09	2 - 3	<0.00307	<0.00512	<0.00512	<0.00512	<0.00307
		12/21/09	2 - 3	<0.00331	<0.00551	<0.00551	<0.00551	<0.00331
Cell 21	21	05/22/07	2 - 3	<0.00346	<0.00577	<0.00577	<0.00577	<0.00346
		09/13/07	2 - 3	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012
		03/19/08	2 - 3	<0.00311	<0.00519	<0.00519	<0.00519	<0.00311
		08/26/08	2 - 3	<0.00318	<0.00530	<0.00530	<0.00530	<0.00318
		12/08/08	2 - 3	<0.00303	<0.00505	<0.00505	<0.00505	<0.00303
		03/25/09	2 - 3	<0.00308	<0.00514	<0.00514	<0.00514	<0.00308
		10/01/09	2 - 3	<0.00351	<0.00584	<0.00584	<0.00584	<0.00351
		12/21/09	2 - 3	<0.00301	<0.00501	<0.00501	<0.00501	<0.00301

Table 4  
**Summary of BTEX Analyses of Vadose Zone Soil Samples**  
**Chevron North America Exploration and Production Company, Landfarm (Permit NM-2-0012)**  
**W/2 of Section 17, Township 24 South, Range 36 East**  
**Lea County, New Mexico**

Sample	Cell Number	Date	Sample Depth (Feet)	Benzene	Ethylbenzene	Toluene	Total Xylenes	Total BTEX
<b>Background Level (3/25/09):</b>				<b>&lt;0.00313</b>	<b>&lt;0.00521</b>	<b>&lt;0.00521</b>	<b>&lt;0.00521</b>	<b>&lt;0.01876</b>
<b>WQCC Level:</b>				<b>10</b>				<b>50</b>
Cell 25	25	05/22/07	2 - 3	<0.00281	<0.00468	<0.00468	<0.00468	<0.00281
		09/13/07	2 - 3	<0.000928	<0.000928	<0.000928	<0.000928	<0.000928
		08/25/08	2 - 3	<0.00302	<0.00504	<0.00504	<0.00504	<0.00302
		12/08/08	2 - 3	<0.00326	<0.00543	<0.00543	<0.00543	<0.00326
		03/25/09	2 - 3	<0.00302	<0.00504	<0.00504	<0.00504	<0.00302
		10/01/09	2 - 3	<0.00308	<0.00513	<0.00513	<0.00513	<0.00308
		12/21/09	2 - 3	<0.00323	<0.00538	<0.00538	<0.00538	<0.00323
Cell 26	26	05/22/07	2 - 3	<0.00295	<0.00492	<0.00492	<0.00492	<0.00295
		09/13/07	2 - 3	<0.00108	<0.00108	<0.00108	<0.00108	<0.00108
		08/26/08	2 - 3	<0.00315	<0.00525	<0.00525	<0.00525	<0.00315
		09/25/08	2 - 3	<0.00295	<0.00492	<0.00492	<0.00492	<0.00295
		12/08/08	2 - 3	<0.00309	<0.00515	<0.00515	<0.00515	<0.00309
		03/25/09	2 - 3	<0.00323	<0.00538	<0.00538	<0.00538	<0.00323
		10/01/09	2 - 3	<0.00355	<0.00591	<0.00591	<0.00591	<0.00355
		12/21/09	2 - 3	<0.00332	<0.00553	<0.00553	<0.00553	<0.00332

Notes: Analysis performed by DHL Analytical, Inc., Round Rock, TX  
Results are reported in milligram per Kilograms (mg/Kg).  
BTEX analysis was performed by SW846 method 8021B  
1. <: Less than method detection limit

Table 5  
**Summary of TPH Analysis of Vadose Zone Soil Samples**  
**Chevron North America Exploration and Production Company, Landfarm (Permit NM-2-0012)**  
**W/2 of Section 17, Township 24 South, Range 36 East**  
**Lea County, New Mexico**

Sample	Cell Number	Date	Depth	TRPH	TPH - GRO C6-C10	TPH - DRO C10-C28	Total TPH
<b>Background Level (3/25/09):</b>				<b>&lt;5.30</b>	<b>&lt;0.0632</b>	<b>&lt;3.05</b>	<b>&lt;3.1132</b>
<b>WQCC Level:</b>				<b>500</b>			<b>500</b>
Cell 17	17	05/22/07	2 - 3	<b>149</b>	<0.0161	<b>60.4</b>	<b>60.4</b>
		03/19/08	2 - 3	<5.82	<0.0604	<1.69	ND
		08/26/08	2 - 3	<5.49	<0.0633	<9.10	ND
		12/08/08	2 - 3	<6.11	<0.0772	<b>3.49</b>	<b>3.49</b>
		03/25/09	2 - 3	<5.54	<0.0772	<3.19	ND
		10/01/09	2 - 3	<6.12	<0.115	<4.59	ND
		12/21/09	2 - 3	<11.4	<0.110	<3.34	ND
Cell 18	18	05/22/07	2 - 3	<5.84	<0.0608	<3.09	ND
		03/19/08	2 - 3	<b>16.5</b>	<0.0561	<b>1.72</b>	<b>1.72</b>
		08/25/08	2 - 3	<5.43	<0.0575	<b>16.7</b>	<b>16.7</b>
		12/08/08	2 - 3	<b>730</b>	<0.0646	<b>111</b>	<b>111</b>
		01/20/09	2 - 3	<b>23.0</b>	<0.0557	<b>54.5</b>	<b>54.5</b>
		03/25/09	2 - 3	<5.55	<0.0707	<3.35	ND
		10/01/09	2 - 3	<5.78	<0.104	<4.39	ND
		12/21/09	2 - 3	<b>55.7</b>	<0.105	<b>19.6</b>	<b>19.6</b>
Cell 19	19	05/22/07	2 - 3	<b>47.5</b>	<0.0614	<3.14	ND
		03/19/08	2 - 3	<5.30	<0.0595	<b>2.15</b>	<b>2.15</b>
		08/25/08	2 - 3	<5.21	<0.0602	<9.29	ND
		12/08/08	2 - 3	<5.38	<0.0597	<b>3.61</b>	<b>3.61</b>
		03/25/09	2 - 3	<5.39	<0.0662	<3.08	ND

Table 5  
 Summary of TPH Analysis of Vadose Zone Soil Samples  
 Chevron North America Exploration and Production Company, Landfarm (Permit NM-2-0012)  
 W/2 of Section 17, Township 24 South, Range 36 East  
 Lea County, New Mexico

Sample	Cell Number	Date	Depth	TRPH	TPH - GRO C6-C10	TPH - DRO C10-C28	Total TPH
Background Level (3/25/09):				<5.30	<0.0632	<3.05	<3.1132
WQCC Level:				500			500
Cell 19	19	10/01/09	2 - 3	<5.38	<0.106	<4.01	ND
		12/21/09	2 - 3	<11.2	<0.100	<3.25	ND
Cell 20	20	05/22/07	2 - 3	<5.59	<0.0598	<2.98	ND
		03/19/08	2 - 3	<5.79	<0.0636	<1.68	ND
		08/25/08	2 - 3	<5.07	<0.0558	<8.50	ND
		12/08/08	2 - 3	<5.35	<0.0603	<b>3.24</b>	<b>3.24</b>
		03/25/09	2 - 3	<5.86	<0.0785	<3.54	ND
		10/01/09	2 - 3	<5.39	<0.104	<4.15	ND
		12/21/09	2 - 3	<11.4	<0.106	<3.38	ND
Cell 21	21	05/22/07	2 - 3	<5.73	<0.0633	<3.23	ND
		03/19/08	2 - 3	<5.57	<0.0579	<b>1.87</b>	<b>1.87</b>
		08/26/08	2 - 3	<b>15.5</b>	<0.0611	<b>44.5</b>	<b>44.5</b>
		12/08/08	2 - 3	<b>65.2</b>	<0.0585	<b>24.5</b>	<b>24.5</b>
		03/25/09	2 - 3	<5.34	<0.0705	<3.18	ND
		10/01/09	2 - 3	<6.37	<0.116	<4.79	ND
		12/21/09	2 - 3	<10.4	<0.102	<3.21	ND
Cell 25	25	05/22/07	2 - 3	<5.50	<0.0574	<3.04	ND
		08/25/08	2 - 3	<5.25	<0.0565	<9.36	ND
		12/08/08	2 - 3	<5.61	<0.0657	<b>9.58</b>	<b>9.58</b>

**Table 5**  
**Summary of TPH Analysis of Vadose Zone Soil Samples**  
**Chevron North America Exploration and Production Company, Landfarm (Permit NM-2-0012)**  
**W/2 of Section 17, Township 24 South, Range 36 East**  
**Lea County, New Mexico**

Sample	Cell Number	Date	Depth	TRPH	TPH - GRO C6-C10	TPH - DRO C10-C28	Total TPH
<b>Background Level (3/25/09):</b>				<b>&lt;5.30</b>	<b>&lt;0.0632</b>	<b>&lt;3.05</b>	<b>&lt;3.1132</b>
<b>WQCC Level:</b>				<b>500</b>			<b>500</b>
Cell 25	25	03/25/09	2 - 3	<5.45	<0.0665	<3.14	ND
		10/01/09	2 - 3	<5.72	<0.113	<4.53	ND
		12/21/09	2 - 3	<11.2	<0.104	<3.23	ND
Cell 26	26	05/22/07	2 - 3	<5.81	<0.0609	<3.41	ND
		08/26/08	2 - 3	<b>386</b>	<0.0619	<b>175</b>	<b>175</b>
		09/25/08	2 - 3	<5.2	<0.0617	<3.27	ND
		12/08/08	2 - 3	12.4	<0.0664	<b>18.6</b>	<b>18.6</b>
		03/25/09	2 - 3	<5.74	<0.0787	<3.29	ND
		10/01/09	2 - 3	<5.72	<0.113	<4.53	ND
		12/21/09	2 - 3	<11.0	<0.0973	<3.27	ND

Notes: Analysis performed by DHL Analytical, Inc., Round Rock, TX  
Results are reported in milligram per Kilograms (mg/Kg).  
GRO and DRO analyses were performed by SW846 method 8015  
TRPH analysis was performed by EPA method 418.1  
1. <: Less than method detection limit

**Table 6**  
**Summary of Metals Analysis of Vadose Zone Soil Samples**  
**Chevron North America Exploration and Production Company, Landfarm (Permit NM-2-0012)**  
**W/2 of Section 17, Township 24 South, Range 36 East**  
**Lea County, New Mexico**

Sample	Cell Number	Date	Depth	Arsenic	Barium	Cadmium	Calcium	Chromium	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Potassium	Selenium	Silver	Sodium	Zinc	
<b>Background Level (3/25/09):</b>				<b>3.79</b>	<b>271</b>	<b>0.201</b>	<b>--</b>	<b>9.20</b>	<b>4.01</b>	<b>8,510</b>	<b>4.96</b>	<b>--</b>	<b>81.5</b>	<b>&lt;0.0145</b>	<b>--</b>	<b>2.77</b>	<b>&lt;0.0957</b>	<b>--</b>	<b>19.8</b>	
<b>WQCC Level:</b>				<b>0.1</b>	<b>1.0</b>	<b>0.01</b>	<b>--</b>	<b>0.05</b>	<b>1.0</b>	<b>1.0</b>	<b>0.05</b>	<b>--</b>	<b>0.2</b>	<b>0.002</b>	<b>--</b>	<b>0.05</b>	<b>0.05</b>	<b>--</b>	<b>10.0</b>	
Cell 17	17	05/22/07	2-3	3.30	164	0.188	153,000	7.90	--	--	4.360	2,230	--	<b>0.0171</b>	1,820	0.866	<0.107	607	--	
		03/19/08	2-3	<b>5.22</b>	<b>356</b>	<0.113	279,000	1.09	--	--	0.591	2,480	--	<0.0180	251	0.407	<0.113	174	--	
		08/26/08	2-3	2.87	213	0.138	319,000	3.19	--	--	1.67	1,970	--	<0.0155	617	0.716	<0.109	136	--	
		03/25/09	2-3	<b>4.43</b>	<b>1,330</b>	0.182	--	3.64	2.17	2,440	1.93	--	26.6	<0.0169	--	1.35	<0.0997	--	6.94	
		06/26/09	3-4	--	<b>325</b>	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
		10/01/09	2-3	3.78	<b>478</b>	--	--	3.46	1.97	3,540	2.11	--	--	--	--	1.02	--	--	6.44	
		12/21/09	2-3	2.96	<b>353</b>	0.140	--	4.07	--	--	2.13	--	--	--	<0.0164	--	0.704	<0.106	--	--
Cell 18	18	05/22/07	2-3	<b>4.70</b>	<b>717</b>	0.183	335,000	3.41	--	--	1.75	2,180	--	<0.0186	725	0.635	<0.104	205	--	
		03/19/08	2-3	3.18	139	0.168	220,000	4.53	--	--	3.08	1,800	--	<0.0167	982	0.987	<0.0911	117	--	
		08/25/08	2-3	<b>3.91</b>	149	0.172	229,000	3.97	--	--	3.48	1,980	--	<0.0164	919	0.897	<0.109	127	--	
		03/25/09	2-3	<b>4.81</b>	<b>730</b>	<0.112	--	3.46	2.25	2,200	1.36	--	24.0	<0.0156	--	0.909	<0.112	--	10.2	
		06/26/09	3-4	--	<b>390</b>	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
		10/01/09	2-3	3.64	<b>352</b>	--	--	2.15	1.26	1,870	1.22	--	--	--	--	0.659	--	--	3.05	
		12/21/09	2-3	2.59	82.1	0.153	--	7.32	--	--	<b>5.92</b>	--	--	--	<0.0149	--	1.11	<0.0969	--	--
Cell 19	19	05/22/07	2-3	2.29	61	0.135	10,500	<b>9.69</b>	--	--	4.82	1,720	--	<0.0162	2,090	1.03	<0.0912	95.5	--	
		03/19/08	2-3	2.35	89.8	0.166	79,900	7.83	--	--	4.42	1,540	--	<0.0162	1,650	1.50	<0.0965	40.3	--	
		08/25/08	2-3	1.72	40.9	<0.101	1,660	6.83	--	--	4.20	1,040	--	<0.0162	1,550	1.28	<0.101	16.9	--	
		03/25/09	2-3	2.84	197	0.118	--	4.28	2.26	3,380	2.30	--	38.1	<0.0163	--	1.23	<0.102	--	7.97	
		10/01/09	2-3	2.60	73.0	--	--	<b>9.41</b>	3.84	<b>8,930</b>	<b>5.47</b>	--	--	--	--	2.08	--	--	16.0	
		12/21/09	2-3	<b>4.52</b>	<b>876</b>	<0.110	--	2.75	--	--	1.27	--	--	--	<0.0165	--	0.362	<0.110	--	--
		Cell 20	20	05/22/07	2-3	2.98	96.1	0.202	112,000	7.16	--	--	4.65	1,230	--	<0.0169	1,490	1.140	<0.104	36.2
03/19/08	2-3			3.30	247	0.099	259,000	2.45	--	--	1.35	2,080	--	<0.0158	530	0.459	<0.0989	150	--	
08/25/08	2-3			1.43	29.6	<0.0990	8,070	5.11	--	--	3.08	720	--	<0.0154	1,050	0.865	<0.0990	12.9	--	
03/25/09	2-3			4.29	204	<0.111	--	2.16	2.00	1,370	1.01	--	19.5	<0.0169	--	0.705	<0.111	--	4.84	
10/01/09	2-3			2.82	104	--	--	5.63	2.77	4,660	3.19	--	--	--	--	1.29	--	--	7.81	

**Table 6**  
**Summary of Metals Analysis of Vadose Zone Soil Samples**  
**Chevron North America Exploration and Production Company, Landfarm (Permit NM-2-0012)**  
**W/2 of Section 17, Township 24 South, Range 36 East**  
**Lea County, New Mexico**

Sample	Cell Number	Date	Depth	Arsenic	Barium	Cadmium	Calcium	Chromium	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Potassium	Selenium	Silver	Sodium	Zinc
<b>Background Level (3/25/09):</b>				<b>3.79</b>	<b>271</b>	<b>0.201</b>	<b>--</b>	<b>9.20</b>	<b>4.01</b>	<b>8,510</b>	<b>4.96</b>	<b>--</b>	<b>81.5</b>	<b>&lt;0.0145</b>	<b>--</b>	<b>2.77</b>	<b>&lt;0.0957</b>	<b>--</b>	<b>19.8</b>
<b>WQCC Level:</b>				<b>0.1</b>	<b>1.0</b>	<b>0.01</b>	<b>--</b>	<b>0.05</b>	<b>1.0</b>	<b>1.0</b>	<b>0.05</b>	<b>--</b>	<b>0.2</b>	<b>0.002</b>	<b>--</b>	<b>0.05</b>	<b>0.05</b>	<b>--</b>	<b>10.0</b>
Cell 20	20	12/21/09	2 - 3	3.69	263	<0.109	--	3.33	--	--	1.82	--	--	<0.0168	--	0.41	<0.109	--	--
Cell 21	21	05/22/07	2 - 3	3.6	230	0.151	307,000	4.29	--	--	2.18	2,490	--	<0.0177	1,020	0.626	<0.117	118	--
		03/19/08	2 - 3	<b>4.53</b>	<b>736</b>	0.125	311,000	2.15	--	--	1.21	2,660	--	<0.0158	432	0.460	<0.108	137	--
		08/26/08	2 - 3	2.67	73.1	0.141	6,440	<b>9.52</b>	--	--	<b>6.55</b>	1,840	--	<0.0149	2,210	2.41	<0.102	20.0	--
		03/25/09	2 - 3	2.61	74.4	0.147	--	8.83	<b>4.03</b>	8,130	4.76	--	87.7	<0.0154	--	2.45	<0.102	--	19.0
		10/01/09	2 - 3	<b>4.71</b>	<b>708</b>	--	--	2.95	1.35	2,410	1.64	--	--	--	--	0.824	--	--	4.49
		12/21/09	2 - 3	3.46	<b>840</b>	0.169	--	3.39	--	--	1.85	--	--	<0.0158	--	0.609	<0.609	--	--
Cell 25	25	05/22/07	2 - 3	2.96	76.7	0.197	6,820	<b>11.70</b>	--	--	<b>6.13</b>	1,970	--	<0.0171	3,020	1.39	<0.103	94.4	--
		08/25/08	2 - 3	2.88	60.8	0.155	17,000	8.91	--	--	<b>5.51</b>	1,600	--	<0.0154	1,920	1.41	<0.105	<13.1	--
		03/25/09	2 - 3	3.85	65.5	0.215	--	<b>11.6</b>	3.83	<b>11,800</b>	<b>6.61</b>	--	91.7	<0.0158	--	<b>2.86</b>	<0.110	--	<b>25.8</b>
		10/01/09	2 - 3	3.15	57.4	--	--	<b>10.8</b>	3.21	<b>11,500</b>	<b>6.61</b>	--	--	--	--	2.32	--	--	19.7
		12/21/09	2 - 3	3.90	114	--	--	<b>13.3</b>	--	--	<b>7.05</b>	--	--	<0.0171	--	1.19	<0.0964	--	--
Cell 26	26	05/22/07	2 - 3	2.96	121	0.197	83,700	9.20	--	--	4.79	1,930	--	<0.0177	2,060	1.23	<0.109	93	--
		08/26/08	2 - 3	2.58	85.1	0.115	43,700	6.73	--	--	4.77	1,500	--	<0.0149	1,610	1.64	<0.103	50.8	--
		09/25/08	2 - 3	<b>4.25</b>	128	<b>0.271</b>	2,370	<b>14.60</b>	--	--	<b>9.17</b>	2,370	--	<0.0172	2,860	2.20	0.109	62.7	--
		03/25/09	2 - 3	<b>5.19</b>	<b>692</b>	0.132	--	3.07	2.37	2100	1.38	--	20.0	<0.0177	--	0.960	<0.110	--	5.85
		06/26/09	3 - 4	--	<b>301</b>	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		10/01/09	2 - 3	<b>4.56</b>	88.3	--	--	<b>15.5</b>	<b>5.87</b>	<b>16,900</b>	<b>9.12</b>	--	--	--	--	<b>3.34</b>	--	--	<b>32.2</b>
		12/21/09	2 - 3	<b>3.87</b>	<b>787</b>	<108	--	2.14	--	--	0.959	--	--	<0.0165	--	0.259	<0.108	--	--

Notes: Analysis performed by DHL Analytical, Inc., Round Rock, TX  
Results are reported in milligram per Kilograms (mg/Kg).  
Metals analysis was performed by SW846 method 6020

Mercury analysis was performed by SW846 method 7471A  
1. <: Less than method detection limit

**Table 7**  
**Summary of Anion Analyses of Vadose Zone Soil Samples**  
**Chevron North America Exploration and Production Company, Landfarm (Permit NM-2-0012)**  
**W/2 of Section 17, Township 24 South, Range 36 East**  
**Lea County, New Mexico**

Sample	Cell Number	Date	Depth	Alkalinity	Chloride	Sulfate
<b>Background Level (3/25/09):</b>				--	<b>8.89</b>	--
<b>WQCC Level:</b>				--	<b>250</b>	<b>600</b>
Cell 17	17	05/22/07	2 - 3	--	<b>304</b>	202
		03/19/08	2 - 3	11,100	<b>61.2</b>	71.4
		08/26/08	2 - 3	5,780	<5.41	46.4
		12/08/08	2 - 3	--	<6.50	--
		03/25/09	2 - 3	--	<b>134</b>	--
		06/26/09	3 - 4	--	<b>90.8</b>	--
		12/21/09	2 - 3	--	<b>443</b>	--
Cell 18	18	05/22/07	2 - 3	--	<b>18.9</b>	150
		03/19/08	2 - 3	700	6.37	217
		08/25/08	2 - 3	2,600	<b>9.94</b>	123
		12/08/08	2 - 3	--	<5.52	--
		03/25/09	2 - 3	--	<b>353</b>	--
		06/26/09	3 - 4	--	<b>22.5</b>	--
		12/21/09	2 - 3	--	<5.35	--
Cell 19	19	05/22/07	2 - 3	--	<5.06	205
		03/19/08	2 - 3	210	<5.36	300
		08/25/08	2 - 3	123	<5.14	152
		12/08/08	2 - 3	--	<b>10.8</b>	--
		03/25/09	2 - 3	--	6.94	--
		12/21/09	2 - 3	--	<b>11.0</b>	--

**Table 7**  
**Summary of Anion Analyses of Vadose Zone Soil Samples**  
**Chevron North America Exploration and Production Company, Landfarm (Permit NM-2-0012)**  
**W/2 of Section 17, Township 24 South, Range 36 East**  
**Lea County, New Mexico**

Sample	Cell Number	Date	Depth	Alkalinity	Chloride	Sulfate
<b>Background Level (3/25/09):</b>				--	<b>8.89</b>	--
<b>WQCC Level:</b>				--	<b>250</b>	<b>600</b>
Cell 20	20	05/22/07	2 - 3	--	<5.57	39.8
		03/19/08	2 - 3	152	<b>15.3</b>	561
		08/25/08	2 - 3	126	7.02	199
		12/08/08	2 - 3	--	<5.23	--
		03/25/09	2 - 3	--	<b>10.8</b>	--
		12/21/09	2 - 3	--	<b>9.55</b>	--
Cell 21	21	05/22/07	2 - 3	--	<b>7.17</b>	286
		03/19/08	2 - 3	523	<b>13.0</b>	320
		08/26/08	2 - 3	204	<5.32	23.9
		12/08/08	2 - 3	--	<b>17.7</b>	--
		03/25/09	2 - 3	--	<5.44	--
		12/21/09	2 - 3	--	<b>14.4</b>	--
Cell 25	25	05/22/07	2 - 3	--	<b>6.05</b>	45.6
		08/25/08	2 - 3	211	<5.20	52.3
		12/08/08	2 - 3	--	7.20	--
		03/25/09	2 - 3	--	<5.55	--
		12/21/09	2 - 3	--	<5.56	--

**Table 7**  
**Summary of Anion Analyses of Vadose Zone Soil Samples**  
**Chevron North America Exploration and Production Company, Landfarm (Permit NM-2-0012)**  
**W/2 of Section 17, Township 24 South, Range 36 East**  
**Lea County, New Mexico**

Sample	Cell Number	Date	Depth	Alkalinity	Chloride	Sulfate
<b>Background Level (3/25/09):</b>				--	<b>8.89</b>	--
<b>WQCC Level:</b>				--	<b>250</b>	<b>600</b>
Cell 26	26	05/22/07	2 - 3	--	3.9	152
		08/26/08	2 - 3	1,430	<5.33	91
Cell 26	26	09/25/08	2 - 3	106	<5.65	--
		12/08/08	2 - 3	--	<5.48	--
		03/25/09	2 - 3	--	<5.79	--
		06/26/09	3 - 4	--	<6.36	--
		12/21/09	2 - 3	--	<5.51	--

Notes: Analysis performed by DHL Analytical, Inc., Round Rock, TX  
Results are reported in milligram per Kilograms (mg/Kg).  
Anion analysis was performed by SW846 method 9056  
1. <: Less than method detection limit

**Summary of Metals Analysis of Vadose Zone Soil Samples**  
**Chevron North America Exploration and Production Company, Landfarm (Permit NM-2-0012)**  
**W/2 of Section 17, Township 24 South, Range 36 East**  
**Lea County, New Mexico**

Sample	Date	Depth	Arsenic	Barium	Cadmium	Calcium	Chromium	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Potassium	Selenium	Silver	Sodium	Zinc
<b>WQCC Level:</b>			<b>0.1</b>	<b>1.0</b>	<b>0.01</b>	<b>--</b>	<b>0.05</b>	<b>1.0</b>	<b>1.0</b>	<b>0.05</b>	<b>--</b>	<b>0.2</b>	<b>0.002</b>	<b>--</b>	<b>0.05</b>	<b>0.05</b>	<b>--</b>	<b>10.0</b>
Background	03/25/09	2 - 3'	3.79	271	0.201	--	9.20	4.01	8,510	4.96	--	81.5	<0.0145	--	2.77	<0.0957	--	19.8
BK-L-32	06/25/09	8"	2.58	109	--	--	7.81	4.41	7,370	6.10	--	--	<0.0108	--	1.78	--	--	18.9
BK-M-32	06/25/09	12"	2.74	84.1	--	--	9.29	5.55	8,560	6.69	--	--	<0.0150	--	1.87	--	--	21.7
BK-R-32	06/25/09	18"	2.94	95.1	--	--	9.99	5.48	9,220	6.32	--	--	<0.0189	--	2.01	--	--	22.2
BK-L-31	06/25/09	12"	3.01	116	--	--	8.89	4.73	8,190	5.92	--	--	<0.0166	--	1.71	--	--	20.3
BK-R-31	06/25/09	12"	2.57	97.9	--	--	9.64	5.07	8,860	6.11	--	--	<0.0201	--	1.86	--	--	22.6
BK-L-30	06/25/09	12"	2.33	82.2	--	--	8.52	4.71	8,440	5.95	--	--	<0.0108	--	1.71	--	--	19.8
BK-M-30	06/25/09	8"	3.12	78.3	--	--	10.3	4.94	9,620	6.46	--	--	<0.0180	--	1.90	--	--	22.6
BK-R-30	06/25/09	10"	3.21	77.1	--	--	11.3	4.73	10,800	7.22	--	--	<0.0178	--	1.98	--	--	24.7
BK-L-29	06/25/09	36"	2.70	107	--	--	8.49	2.91	7,510	5.13	--	--	<0.0160	--	1.23	--	--	17.1
BK-R-29	06/25/09	30"	3.31	68.3	--	--	11.3	3.48	10,700	6.88	--	--	<0.0164	--	1.63	--	--	23.9

Notes: Analysis performed by DHL Analytical, Inc., Round Rock, TX  
Results are reported in milligram per Kilograms (mg/Kg).  
Metals analysis was performed by SW846 method 6020

Mercury analysis was performed by SW846 method 7471A  
1. <: Less than method detection limit

Summary of Background Soil Samples  
 Chevron North America Exploration and Production Company, Landfarm (Permit NM-2-0012)  
 W/2 of Section 17, Township 24 South, Range 36 East  
 Lea County, New Mexico

Sample	Date	Depth	Chloride		Descriptive Statistics	
<b>WQCC Level:</b>			<b>250</b>			
Background	03/25/09	2 - 3'	8.89	8.89	Mean	6.20
BK-L-32	06/25/09	8"	<6.39	6.39	Standard Error	0.31
BK-M-32	06/25/09	12"	<5.27	5.27	Median	6.29
BK-R-32	06/25/09	18"	<6.47	6.47	Mode	6.39
BK-L-31	06/25/09	12"	<5.40	5.40	Standard Deviation	1.02
BK-R-31	06/25/09	12"	<6.34	6.34	Sample Variance	1.03
BK-L-30	06/25/09	12"	<6.29	6.29	Kurtosis	5.26
BK-M-30	06/25/09	8"	<5.93	5.93	Skewness	1.99
BK-R-30	06/25/09	10"	<6.39	6.39	Range	3.68
BK-L-29	06/25/09	36"	<5.21	5.21	Minimum	5.21
BK-R-29	06/25/09	30"	<5.62	5.62	Maximum	8.89
					Sum	68.2
					Count	11
					Confidence Level (95.0%)	0.68
					<i>Student-t's 95% minimum</i>	5.52
					<i>Student-t's 95% maximum</i>	6.88
					Confidence Level (98.0%)	0.85
					<i>Student-t's 98% minimum</i>	5.35
					<i>Student-t's 98% maximum</i>	7.05

Notes: Analysis performed by DHL Analytical, Inc., Round Rock, TX  
 Results are reported in milligram per Kilograms (mg/Kg).  
 Anion analysis was performed by SW846 method 9056  
 1. <

**Summary of Background Soil Samples**  
**Chevron North America Exploration and Production Company, Landfarm (Permit NM-2-0012)**  
**W/2 of Section 17, Township 24 South, Range 36 East**  
**Lea County, New Mexico**

Sample	Date	Depth	Arsenic	Descriptive Statistics	
<b>WQCC Level:</b>			<b>0.1</b>		
Background	03/25/09	2 - 3'	3.79	Mean	2.94
BK-L-32	06/25/09	8"	2.58	Standard Error	0.12
BK-M-32	06/25/09	12"	2.74	Median	2.94
BK-R-32	06/25/09	18"	2.94	Mode	#N/A
BK-L-31	06/25/09	12"	3.01	Standard Deviation	0.41
BK-R-31	06/25/09	12"	2.57	Sample Variance	0.17
BK-L-30	06/25/09	12"	2.33	Kurtosis	0.44
BK-M-30	06/25/09	8"	3.12	Skewness	0.63
BK-R-30	06/25/09	10"	3.21	Range	1.46
BK-L-29	06/25/09	36"	2.70	Minimum	2.33
BK-R-29	06/25/09	30"	3.31	Maximum	3.79
				Sum	32.30
				Count	11
				Confidence Level (95.0%)	0.28
				<i>Student-t's 95% minimum</i>	2.66
				<i>Student-t's 95% maximum</i>	3.22
				Confidence Level (98.0%)	0.34
				<i>Student-t's 98% minimum</i>	2.60
				<i>Student-t's 98% maximum</i>	3.28

Notes: Analysis performed by DHL Analytical, Inc., Round Rock, TX

Results are reported in milligram per Kilograms (mg/Kg).

Metals analysis was performed by SW846 method 6020

Mercury analysis was performed by SW846 method 7471A

1. <

**Summary of Background Soil Samples**  
**Chevron North America Exploration and Production Company, Landfarm (Permit NM-2-0012)**  
**W/2 of Section 17, Township 24 South, Range 36 East**  
**Lea County, New Mexico**

Sample	Date	Depth	Barium	Descriptive Statistics	
WQCC Level:			1.0		
Background	03/25/09	2 - 3'	271	Mean	107.8
BK-L-32	06/25/09	8"	109	Standard Error	16.9
BK-M-32	06/25/09	12"	84.1	Median	95.1
BK-R-32	06/25/09	18"	95.1	Mode	#N/A
BK-L-31	06/25/09	12"	116	Standard Deviation	56.2
BK-R-31	06/25/09	12"	97.9	Sample Variance	3155.3
BK-L-30	06/25/09	12"	82.2	Kurtosis	9.0
BK-M-30	06/25/09	8"	78.3	Skewness	2.9
BK-R-30	06/25/09	10"	77.1	Range	202.7
BK-L-29	06/25/09	36"	107	Minimum	68.3
BK-R-29	06/25/09	30"	68.3	Maximum	271
				Sum	1186
				Count	11
				Confidence Level (95.0%)	37.7
				<i>Student-t's 95% minimum</i>	70.1
				<i>Student-t's 95% maximum</i>	145.5
				Confidence Level (98.0%)	46.8
				<i>Student-t's 98% minimum</i>	61.0
				<i>Student-t's 98% maximum</i>	154.6

Notes: Analysis performed by DHL Analytical,  
Results are reported in milligram per Kilogram  
Metals analysis was performed by SW846 met  
Mercury analysis was performed by SW846 m  
1. <

**Summary of Background Soil Samples**  
**Chevron North America Exploration and Production Company, Landfarm (Permit NM-2-0012)**  
**W/2 of Section 17, Township 24 South, Range 36 East**  
**Lea County, New Mexico**

Sample	Date	Depth	Chromium	<i>Descriptive Statistics</i>	
<b>WQCC Level:</b>			<b>0.05</b>		
Background	03/25/09	2 - 3'	9.20	Mean	9.52
BK-L-32	06/25/09	8"	7.81	Standard Error	0.34
BK-M-32	06/25/09	12"	9.29	Median	9.29
BK-R-32	06/25/09	18"	9.99	Mode	11.3
BK-L-31	06/25/09	12"	8.89	Standard Deviation	1.13
BK-R-31	06/25/09	12"	9.64	Sample Variance	1.27
BK-L-30	06/25/09	12"	8.52	Kurtosis	-0.62
BK-M-30	06/25/09	8"	10.3	Skewness	0.38
BK-R-30	06/25/09	10"	11.3	Range	3.49
BK-L-29	06/25/09	36"	8.49	Minimum	7.81
BK-R-29	06/25/09	30"	11.3	Maximum	11.3
				Sum	104.73
				Count	11
				Confidence Level (95.0%)	0.76
				<i>Student-t's 95% minimum</i>	<i>8.76</i>
				<i>Student-t's 95% maximum</i>	<i>10.28</i>
				Confidence Level (98.0%)	0.94
				<i>Student-t's 98% minimum</i>	<i>8.58</i>
				<i>Student-t's 98% maximum</i>	<i>10.46</i>

Notes: Analysis performed by DHL Analytical,  
Results are reported in milligram per Kilogram  
Metals analysis was performed by SW846 met  
Mercury analysis was performed by SW846 m  
1. <

**Summary of Background Soil Samples**  
**Chevron North America Exploration and Production Company, Landfarm (Permit NM-2-0012)**  
**W/2 of Section 17, Township 24 South, Range 36 East**  
**Lea County, New Mexico**

Sample	Date	Depth	Copper	<i>Descriptive Statistics</i>	
<b>WQCC Level:</b>			<b>1.0</b>		
Background	03/25/09	2 - 3'	4.01	Mean	4.55
BK-L-32	06/25/09	8"	4.41	Standard Error	0.24
BK-M-32	06/25/09	12"	5.55	Median	4.73
BK-R-32	06/25/09	18"	5.48	Mode	4.73
BK-L-31	06/25/09	12"	4.73	Standard Deviation	0.81
BK-R-31	06/25/09	12"	5.07	Sample Variance	0.65
BK-L-30	06/25/09	12"	4.71	Kurtosis	0.33
BK-M-30	06/25/09	8"	4.94	Skewness	-0.86
BK-R-30	06/25/09	10"	4.73	Range	2.64
BK-L-29	06/25/09	36"	2.91	Minimum	2.91
BK-R-29	06/25/09	30"	3.48	Maximum	5.55
				Sum	50.02
				Count	11
				Confidence Level (95.0%)	0.54
				<i>Student-t's 95% minimum</i>	4.01
				<i>Student-t's 95% maximum</i>	5.09
				Confidence Level (98.0%)	0.67
				<i>Student-t's 98% minimum</i>	3.88
				<i>Student-t's 98% maximum</i>	5.22

Notes: Analysis performed by DHL Analytical,  
Results are reported in milligram per Kilogram  
Metals analysis was performed by SW846 met  
Mercury analysis was performed by SW846 m  
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**Summary of Background Soil Samples**  
**Chevron North America Exploration and Production Company, Landfarm (Permit NM-2-0012)**  
**W/2 of Section 17, Township 24 South, Range 36 East**  
**Lea County, New Mexico**

Sample	Date	Depth	Iron	Descriptive Statistics	
<b>WQCC Level:</b>			<b>1.0</b>		
Background	03/25/09	2 - 3'	8,510	Mean	8889
BK-L-32	06/25/09	8"	7,370	Standard Error	340
BK-M-32	06/25/09	12"	8,560	Median	8560
BK-R-32	06/25/09	18"	9,220	Mode	#N/A
BK-L-31	06/25/09	12"	8,190	Standard Deviation	1128
BK-R-31	06/25/09	12"	8,860	Sample Variance	1272749
BK-L-30	06/25/09	12"	8,440	Kurtosis	-0.36
BK-M-30	06/25/09	8"	9,620	Skewness	0.57
BK-R-30	06/25/09	10"	10,800	Range	3430
BK-L-29	06/25/09	36"	7,510	Minimum	7370
BK-R-29	06/25/09	30"	10,700	Maximum	10800
				Sum	97780
				Count	11
				Confidence Level (95.0%)	758
				<i>Student-t's 95% minimum</i>	8131
				<i>Student-t's 95% maximum</i>	9647
				Confidence Level (98.0%)	940
				<i>Student-t's 98% minimum</i>	7949
				<i>Student-t's 98% maximum</i>	9829

Notes: Analysis performed by DHL Analytical,  
Results are reported in milligram per Kilogram  
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Mercury analysis was performed by SW846 m  
1. <

**Summary of Background Soil Samples**  
**Chevron North America Exploration and Production Company, Landfarm (Permit NM-2-0012)**  
**W/2 of Section 17, Township 24 South, Range 36 East**  
**Lea County, New Mexico**

Sample	Date	Depth	Lead	<i>Descriptive Statistics</i>	
<b>WQCC Level:</b>			<b>0.05</b>		
Background	03/25/09	2 - 3'	4.96	Mean	6.16
BK-L-32	06/25/09	8"	6.10	Standard Error	0.21
BK-M-32	06/25/09	12"	6.69	Median	6.11
BK-R-32	06/25/09	18"	6.32	Mode	#N/A
BK-L-31	06/25/09	12"	5.92	Standard Deviation	0.68
BK-R-31	06/25/09	12"	6.11	Sample Variance	0.46
BK-L-30	06/25/09	12"	5.95	Kurtosis	-0.08
BK-M-30	06/25/09	8"	6.46	Skewness	-0.41
BK-R-30	06/25/09	10"	7.22	Range	2.26
BK-L-29	06/25/09	36"	5.13	Minimum	4.96
BK-R-29	06/25/09	30"	6.88	Maximum	7.22
				Sum	67.74
				Count	11
				Confidence Level (95.0%)	0.46
				<i>Student-t's 95% minimum</i>	5.70
				<i>Student-t's 95% maximum</i>	6.62
				Confidence Level (98.0%)	0.57
				<i>Student-t's 98% minimum</i>	5.59
				<i>Student-t's 98% maximum</i>	6.73

Notes: Analysis performed by DHL Analytical,  
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Mercury analysis was performed by SW846 m  
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**Summary of Background Soil Samples**  
**Chevron North America Exploration and Production Company, Landfarm (Permit NM-2-0012)**  
**W/2 of Section 17, Township 24 South, Range 36 East**  
**Lea County, New Mexico**

Sample	Date	Depth	Mercury		Descriptive Statistics	
<b>WQCC Level:</b>			<b>0.002</b>			
Background	03/25/09	2 - 3'	<0.0145	0.0145	Mean	0.0159
BK-L-32	06/25/09	8"	<0.0108	0.0108	Standard Error	0.0009
BK-M-32	06/25/09	12"	<0.0150	0.0150	Median	0.0164
BK-R-32	06/25/09	18"	<0.0189	0.0189	Mode	0.0108
BK-L-31	06/25/09	12"	<0.0166	0.0166	Standard Deviation	0.0030
BK-R-31	06/25/09	12"	<0.0201	0.0201	Sample Variance	9.02E-06
BK-L-30	06/25/09	12"	<0.0108	0.0108	Kurtosis	-0.1501
BK-M-30	06/25/09	8"	<0.0180	0.0180	Skewness	-0.6817
BK-R-30	06/25/09	10"	<0.0178	0.0178	Range	0.0093
BK-L-29	06/25/09	36"	<0.0160	0.0160	Minimum	0.0108
BK-R-29	06/25/09	30"	<0.0164	0.0164	Maximum	0.0201
					Sum	0.1749
					Count	11
					Confidence Level (95.0%)	0.0020
					<i>Student-t's 95% minimum</i>	<i>0.0139</i>
					<i>Student-t's 95% maximum</i>	<i>0.0179</i>
					Confidence Level (98.0%)	0.0025
					<i>Student-t's 98% minimum</i>	<i>0.0134</i>
					<i>Student-t's 98% maximum</i>	<i>0.0184</i>

Notes: Analysis performed by DHL Analytical,  
Results are reported in milligram per Kilogram  
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Mercury analysis was performed by SW846 m  
1. <

**Summary of Background Soil Samples**  
**Chevron North America Exploration and Production Company, Landfarm (Permit NM-2-0012)**  
**W/2 of Section 17, Township 24 South, Range 36 East**  
**Lea County, New Mexico**

Sample	Date	Depth	Selenium	<i>Descriptive Statistics</i>	
<b>WQCC Level:</b>			<b>0.05</b>		
Background	03/25/09	2 - 3'	2.77	Mean	1.86
BK-L-32	06/25/09	8"	1.78	Standard Error	0.11
BK-M-32	06/25/09	12"	1.87	Median	1.86
BK-R-32	06/25/09	18"	2.01	Mode	1.71
BK-L-31	06/25/09	12"	1.71	Standard Deviation	0.37
BK-R-31	06/25/09	12"	1.86	Sample Variance	0.14
BK-L-30	06/25/09	12"	1.71	Kurtosis	4.16
BK-M-30	06/25/09	8"	1.90	Skewness	1.19
BK-R-30	06/25/09	10"	1.98	Range	1.54
BK-L-29	06/25/09	36"	1.23	Minimum	1.23
BK-R-29	06/25/09	30"	1.63	Maximum	2.77
				Sum	20.45
				Count	11
				Confidence Level (95.0%)	0.25
				<i>Student-t's 95% minimum</i>	1.61
				<i>Student-t's 95% maximum</i>	2.11
				Confidence Level (98.0%)	0.31
				<i>Student-t's 98% minimum</i>	1.61
				<i>Student-t's 98% maximum</i>	2.17

Notes: Analysis performed by DHL Analytical,  
Results are reported in milligram per Kilogram  
Metals analysis was performed by SW846 met  
Mercury analysis was performed by SW846 m  
1. <

**Summary of Background Soil Samples**  
**Chevron North America Exploration and Production Company, Landfarm (Permit NM-2-0012)**  
**W/2 of Section 17, Township 24 South, Range 36 East**  
**Lea County, New Mexico**

Sample	Date	Depth	Zinc	Descriptive Statistics	
WQCC Level:			10.0		
Background	03/25/09	2 - 3'	19.8	Mean	21.2
BK-L-32	06/25/09	8"	18.9	Standard Error	0.68
BK-M-32	06/25/09	12"	21.7	Median	21.7
BK-R-32	06/25/09	18"	22.2	Mode	19.8
BK-L-31	06/25/09	12"	20.3	Standard Deviation	2.27
BK-R-31	06/25/09	12"	22.6	Sample Variance	5.15
BK-L-30	06/25/09	12"	19.8	Kurtosis	-0.48
BK-M-30	06/25/09	8"	22.6	Skewness	-0.25
BK-R-30	06/25/09	10"	24.7	Range	7.6
BK-L-29	06/25/09	36"	17.1	Minimum	17.1
BK-R-29	06/25/09	30"	23.9	Maximum	24.7
				Sum	233.6
				Count	11
				Confidence Level (95.0%)	1.52
				<i>Student-t's 95% minimum</i>	19.7
				<i>Student-t's 95% maximum</i>	22.7
				Confidence Level (98.0%)	1.89
				<i>Student-t's 98% minimum</i>	19.3
				<i>Student-t's 98% maximum</i>	23.1

Notes: Analysis performed by DHL Analytical,  
Results are reported in milligram per Kilogram  
Metals analysis was performed by SW846 met  
Mercury analysis was performed by SW846 me  
1. <

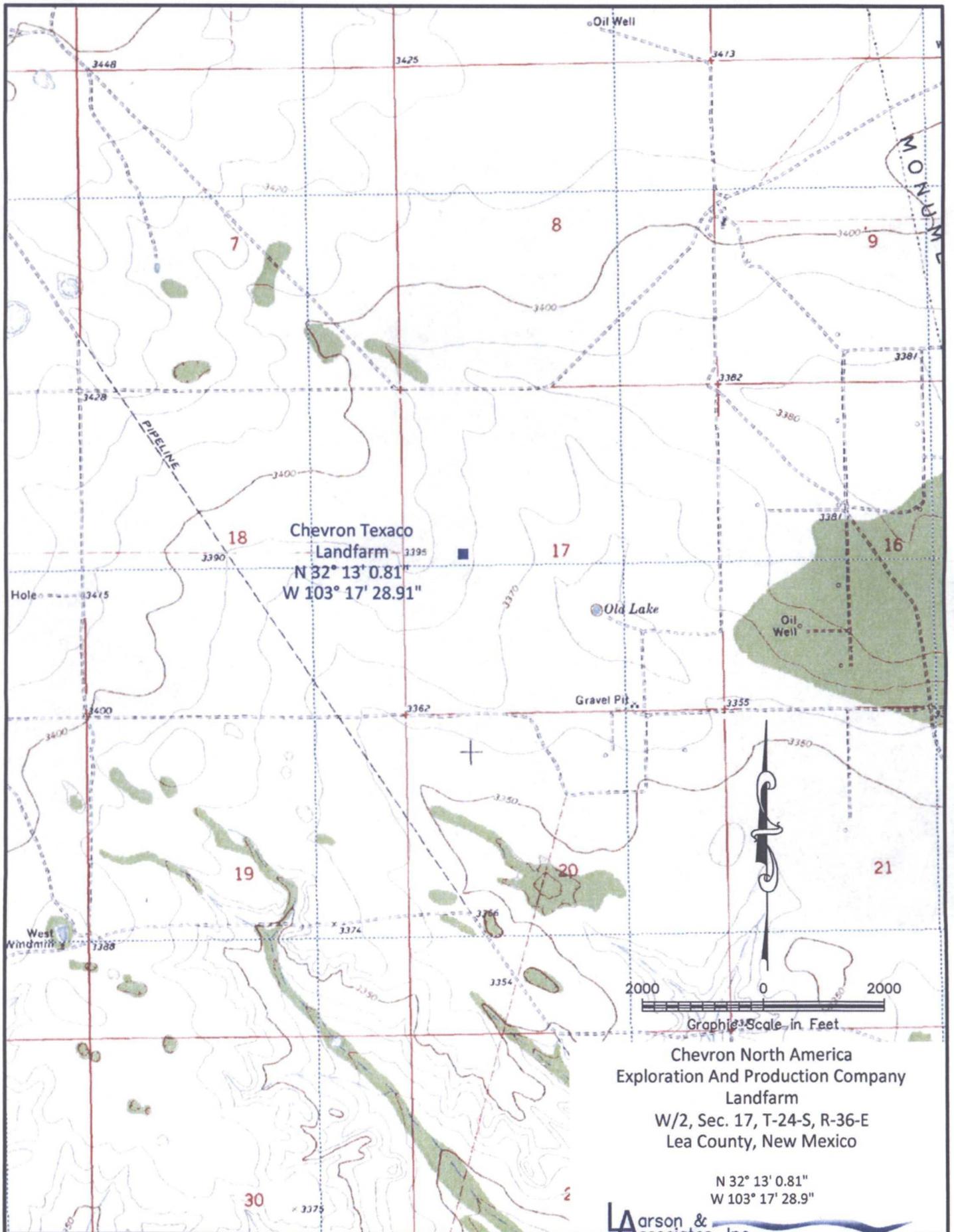


Figure 1 - Topographic Map

Chevron North America  
 Exploration And Production Company  
 Landfarm  
 W/2, Sec. 17, T-24-S, R-36-E  
 Lea County, New Mexico

$N 32^{\circ} 13' 0.81''$   
 $W 103^{\circ} 17' 28.9''$

**L**arson &  
 Associates, Inc.  
 Environmental Consultants

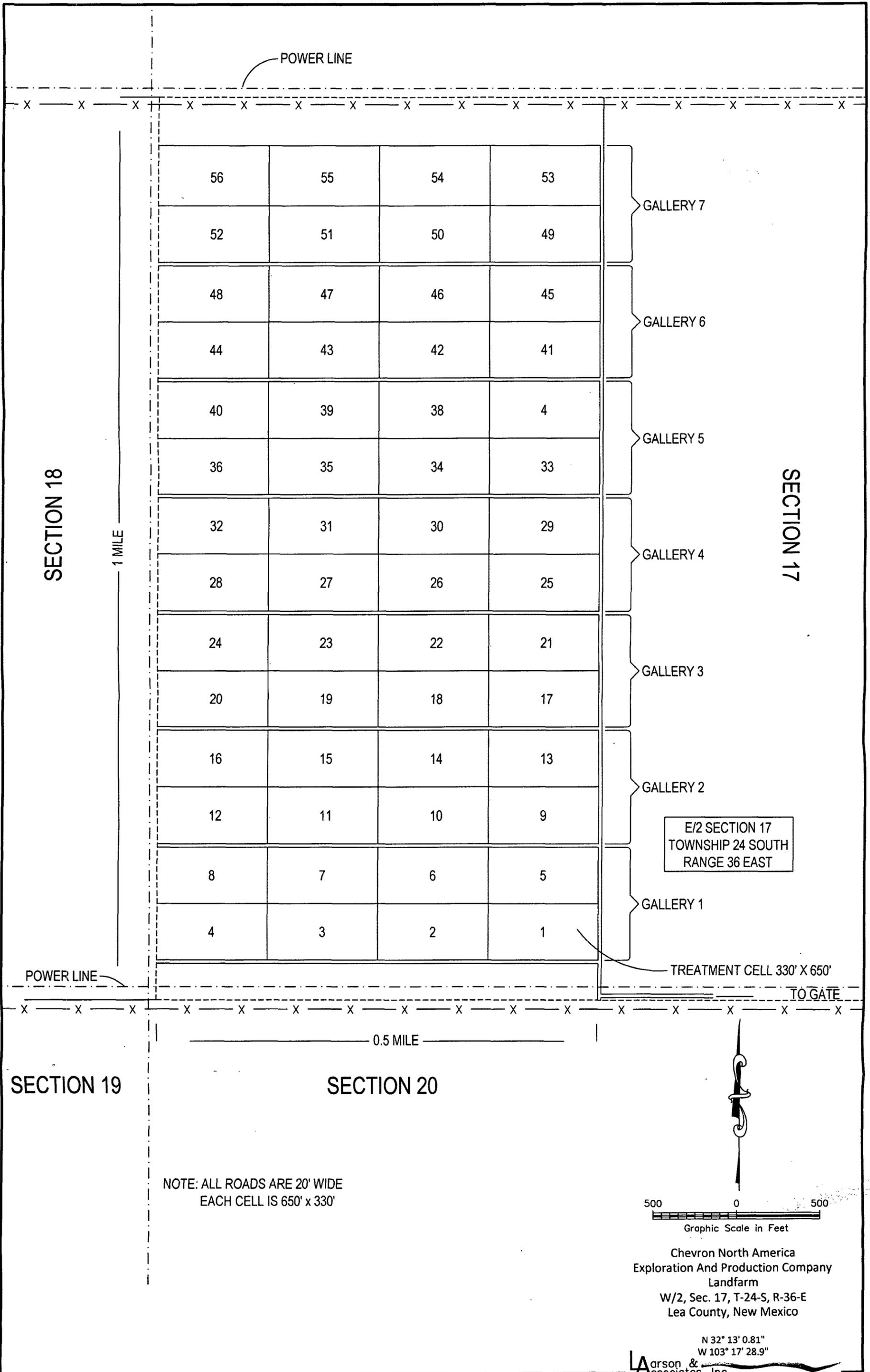


Figure 2 - Site Drawing