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# REPORTS

DATE:

2/01/2007

Oil Conservation Division  
Environmental Bureau

February 1, 2007

VIA: FEDERAL EXPRESS (TRACKING NO. 8527 9150 1919)

Mr. Glenn Von Gonton  
Senior Hydrologist  
State of New Mexico  
Oil Conservation Division – Environmental Bureau  
1220 South St. Francis Drive  
Santa Fe, New Mexico 87505

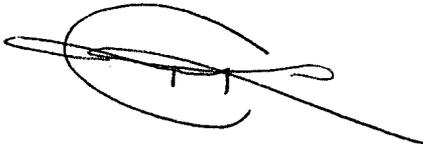
**Re: Final Ground Water Investigation Report, John H. Hendrix Corporation, Will Cary Unlined Pit, Unit Letter F (SE/4, NW/4), Section 22, Township 22 South, Range 37 East, Lea County, New Mexico**

Dear Mr. Von Gonton:

This letter is submitted to the State of New Mexico Oil Conservation Division (“OCD”) on behalf of John H. Hendrix Corporation (“JHHC”) by Larson and Associates, Inc. (“LA”), its consultant, and transmits the above-referenced report detailing the results of a ground water investigation of an unlined pit located on the Will Cary Lease in unit letter F (SE/4, NW/4), Section 22, Township 22 South, Range 37 East, Lea County, New Mexico. Please call Mr. Ron Westbrook with JHHC at (432) 684-6681, myself at (432) 687-0901 or email [ronniew@jhhc.org](mailto:ronniew@jhhc.org) or [mark@laenvironmental.com](mailto:mark@laenvironmental.com) if you have questions.

Sincerely,

*Larson and Associates, Inc.*



Mark J. Larson, P.G., C.P.G., C.G.W.P.  
Senior Project Manager/President

Encl.

cc: Ron Westbrook/JHHC  
Marvin Burrows/JHHC  
Larry Johnson/NMOCD District 1

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FEB 05 2007

Oil Conservation Division  
Environmental Bureau

1RP0465  
GROUND WATER  
INVESTIGATION REPORT  
WILL CARY UNLINED PIT  
LEA COUNTY, NEW MEXICO

Prepared for:

John H. Hendrix Corporation  
101 N. Marienfeld Street, Suite 400  
Midland, Texas

Prepared by:

Larson and Associates, Inc.  
507 N. Marienfeld Street  
Suite 202  
Midland, Texas

January 31, 2007



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Mark J. Larson, P.G., C.P.G., C.G.W.P.  
Senior Project Manager



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**John H. Hendrix Corporation**  
**Will Cary Unlined Pit Investigation Report (1RP0465)**  
**Unit F (SE/4, NW/4), Section 22, Township 22 South, Range 37 East**  
**Lea County, New Mexico**

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**1.0 INTRODUCTION**

This report is submitted to the State of New Mexico Oil Conservation Division (NMOCD) on behalf of John H. Hendrix Corporation (JHHC) by Larson and Associates, Inc. (LA), its consultant, to convey the results of an investigation of groundwater contamination from an unlined pit (Site) located on the Will Cary Lease in unit F (SE/4, NW/4), Section 22, Township 22 South, Range 37 East, Lea County, New Mexico. The latitude and longitude for the Site are North 32° 22' 48.5" and West 103° 09' 03.4". Figure 1 presents the site located on topographic map. Contact information for JHHC is as follows:

Contact: Ron Westbrook  
Title: Vice President  
Address: 110 N. Marienfeld Street, Suite 400  
Midland, Texas 79701  
Telephone: (432) 684-6631  
Fax: (432) 684-7317  
Email: ronnie@jhhc.org

**1.1 Background**

The unlined pit was located about 300 feet east of the Will Cary Well #5. On July 6, 2004, the NMOCD discovered the pit during a routine inspection of the lease. On July 8, 2004, the NMOCD issued a notice of violation (NOV) to JHHC that required pit closure under the existing NMOCD rules. In April 2005, JHHC hauled approximately 1,600 cubic yards of soil from the Site to a centralized surface waste management facility (NM-02-0021) located in Section 15, Township 24 South, Range 36 east, about 7 miles northwest of Jal, New Mexico.

On August 4, 2005, the NMOCD granted verbal approval to fill the excavation, but required JHHC to install a clay barrier near the top of the excavation and a monitoring well near the southeast corner of the excavation. The excavation was filled with clean soil to approximately 6 feet below ground surface (bgs) where clay was installed from about 4 to 6 feet bgs and compacted to 95% proctor density. The remainder of the excavation was filled with clean soil and crowned at the surface.

Scarborough Drilling, Inc. drilled monitoring well MW-1 on September 13, 2005, approximately 20 feet southeast of the excavation. A truck-mounted water rotary rig was used to advance a 5-inch diameter boring to approximately 90 feet. The boring was terminated approximately 4 feet in Triassic-age shale of the Dockum group (Chinle formation) that was encountered at approximately 86 feet bgs. Well MW-1 was constructed with 2-inch schedule 40 PVC screw-threaded casing and screen. Approximately 20 feet of screen was placed in the well between approximately 68.81 to 89.50 feet bgs and surrounded with graded silica sand to about 4 feet above the screen. A layer of bentonite chips approximately 4 feet thick was placed over the sand and hydrated with potable water. The remainder of the annulus was filled with cement-bentonite grout to about 1-foot bgs. The well was secured with a locking steel cover anchored in concrete.

Scarborough bailed the well to remove fine-grained sediment. Groundwater samples were collected from the well on September 20, 2005. The groundwater samples were collected after approximately 3-casing volumes of ground water were removed from the well using a dedicated disposable polyethylene bailer. The groundwater samples were collected by carefully

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pouring from the dedicated bailer into laboratory prepared containers, which were labeled, chilled in an ice chest, delivered under chain of custody control to Environmental Lab of Texas, Inc. (ELTI).

The laboratory analyzed the samples for Benzene, Toluene, Ethyl benzene and Total Xylenes (BTEX), dissolved metals (Arsenic, Cadmium, Chromium, Lead, Mercury, Selenium and Silver), anions (Chloride and Sulfate), cations (Calcium, Magnesium, Potassium and Sodium), alkalinity and total dissolved solids (TDS). The initial groundwater sample results were transmitted to the NMOCD on September 28, 2005, in a report titled, "*Closure Report for Unlined Pit Excavation and Results of Groundwater Sample Analysis, John H. Hendrix Corporation, Will Cary Lease, Unit Letter F (SE/4, NW/4), Section 22, Township 22 South, Range 37 East, Lea County, New Mexico*". The report presented the excavation closure details, monitoring well installation and ground water sample results. The report proposed installing a monitoring well (MW-2) up gradient (northwest) to evaluate the background conditions for the Site. On October 25, 2005, the NMOCD approved the request to install the background well, which was installed approximately 450 feet northwest of the Site on November 8, 2005. The well was installed according to the work plan, which included a proposal to investigate the extent of groundwater contamination if the background well confirmed that a release had occurred. The work plan was approved by the NMOCD on January 25, 2006 and required JHHC to submit a final investigation report to the NMOCD no later than 60 days after completing its fieldwork. An extension was verbally requested from the NMOCD and approved that would allow JHHC to complete two (2) ground water sampling events with submittal of a final investigation report in January 2007. Appendix A presents the NMOCD correspondence.

The laboratory reported no BTEX constituents in the groundwater samples and the metals concentrations were below the New Mexico Water Quality Control Commission (WQCC) human health standards. The laboratory reported Chloride at 12,100 milligrams per liter (mg/L) and 101 mg/L in samples MW-1 and MW-2, respectively. The laboratory also reported TDS at 21,400 mg/L and 694 mg/L in samples MW-1 and MW-2, respectively. The WQCC domestic water quality standards for chloride and TDS are 250 mg/L and 1,000 mg/L, respectively. These results confirm that a release had occurred. Figure 2 depicts monitoring well locations. Table 1 presents a summary of the monitoring well drilling and completion details. Table 2 presents a summary of the BTEX analyses. Table 3 presents a summary of the dissolved metals analysis and Table 4 presents a summary of the general chemistry parameters. Appendix B presents geologic logs and construction records for the monitoring wells. Appendix C presents the laboratory reports.

## **2.0 CURRENT INVESTIGATIONS**

The work plan dated December 6, 2005 proposed the following:

- Review aerial photographs to assess other potential sources for the impact in the vicinity of the Site;
- Perform an electromagnetic ("EM") terrain conductivity survey to qualitatively assess the extent of contamination;
- Install 3 to 5 monitoring wells to quantitatively assess the extent of contamination;

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- Collect and analyze ground water samples from the monitoring wells for BTEX, metals, anions, cations and TDS;
- Survey wells for ground, surface and top of casing elevation;
- Determine depth to ground water, ground water flow direction and gradient;
- Perform slug tests in wells to calculate an average horizontal hydraulic conductivity for the aquifer;
- Perform field reconnaissance to locate water wells within 1000 feet of the Site; and
- Prepare a report.

**2.1 Aerial Photograph Review**

Aerial photographs were reviewed from the following dates: February 2, 1949, April 28, 1954, February 4, 1968, August 1973, March 29, 1977, June 3, 1983, July 19, 1986 and January 1, 1991. The aerial photographs did not reveal any other sources for the TDS and chloride in the immediate vicinity of the Site.

**2.2 Electromagnetic (EM) Terrain Conductivity Survey**

On February 1 and 2, 2006, LA personnel conducted an electromagnetic ("EM") terrain conductivity survey using an EM-34-3 terrain conductivity meter manufactured by Geonics, Ltd.. The EM-34-3 survey was performed over an area that measured approximately 600 x 1300 feet or 18 acres and encompassed the Site, as well as the areas up gradient and down gradient to the Site. The purpose of the EM-34-3 survey was to identify an anomaly in the vicinity of the unlined pit that would indicate that lateral limits of the ground water impact. The EM-34-3 measures the electrical properties of soil and rock, as well as the electrical properties of groundwater, which is influenced by TDS concentration of the formation water. The EM-34-3 utilizes current flow induced into the subsurface materials by a surface transmitter that generates an alternating magnetic field to induce current flow through the earth material. The alternating magnetic field creates a secondary magnetic field that is sensed by a surface receiver. The primary magnetic field, current frequency, and coil separation can be accounted for, leaving ground conductivity as the only unknown variable to be measured. The EM-34-3 has exploration capabilities ranging from approximately 0 to 196.9 feet bgs depending on the separation of the transmitter and receiver coils (i.e., 10, 20 or 40 meters) and coil orientation (i.e., horizontal dipole [HD]) mode or vertical dipole [VD] mode). The EM-34-3 survey was performed using the 10-meter, 20-meter and 40-meter coil spacing and HD and VD modes, however, the best resolution and quality was observed with the 40-meter coil spacing and HD mode. The exploration depth of the EM-34-3, 40-meter HD survey was from 0 to approximately 98.4 feet bgs. The maximum response of the EM-34-3 in the HD mode occurs near the surface and decreases with depth. The EM-34-3 measurements were collected using sample grids that measured approximately 100 x 100 feet and were accurately located using a Nikon DTM-310 total station system. Figure 2 presents the EM measurement stations. Figure 3 presents a contoured drawing of the EM-34-3, 40 meter HD survey. Appendix D presents the EM survey field sheets.

Referring to Figure 3, an anomaly of elevated EM-34-3, 40-meter HD readings between 26.4 to 28.3 millimhos per meter (mmhos/m) was observed in the vicinity of the former pit and

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showed migration of a ground water plume southeast for approximately 300 feet. Another area of elevated EM-34-3 readings (30.5 mmhos/m) was recorded east of the Site near the Apache Corporation, Eugene Wood Well #9. This impact is not associated with the Site.

**2.3 Monitoring Wells and Ground Water Flow**

Based on the results of the EM-34-3 survey, three (3) additional monitoring wells (MW-3, MW-4 and MW-5) were installed at the Site on February 23 and 24, 2006. Scarborough drilled the wells northeast (MW-3), southwest (MW-4), and southeast (MW-5) of the former pit in a manner consistent with wells MW-1, except that ten (10) feet of well screen was placed in the wells, as requested by the NMOCD. Shale was encountered at each location between approximately 76 to 77 feet bgs. The screens were placed near the bottom of the borings, which were advanced into the shale approximately 3 feet. The drill cuttings were examined for geologic properties according to the Unified Soil Classification System (USCS) and a log and construction record was prepared for each well. Figure 2 presents a drawing showing the well locations. Geologic cross-sections were prepared from descriptions drill cuttings and are presented in Figure 4 (Cross-Section A to A') and Figure 5 (Cross-Section B to B'). The cross-section locations are shown on Figure 2. Appendix B presents the geologic logs and well completion records.

Referring to Figure 4 and Figure 5, the shale is laterally continuous across the Site and occurs between approximately 76 and 86 feet bgs. The shale is overlain by the Tertiary-age Ogallala formation that consists of yellowish red and reddish yellow sand and silty-sand. A layer of caliche, approximately 15 feet thick, was observed at each location and is laterally continuous across the Site. No vertical barriers (i.e., clay, shale, etc.) were observed in the borings, except the Triassic-age shale (Chinle formation) that is the lower confining unit for the Tertiary-age Ogallala formation. Ground water was observed in the Ogallala formation and has an average saturated thickness of approximately 9.7 feet. Ground water occurs between approximately 68 and 70 feet bgs.

On April 13, 2006 and December 13, 2006, depth to groundwater was measured in the wells using an electronic oil and water interface probe. The measurements were referenced to the top of the PVC well casing and no phase-separated hydrocarbons (PSH) were observed in the wells. Table 1 presents a summary of the depth to groundwater measurements and groundwater elevations. Figure 6 presents a groundwater potentiometric map for April 13, 2006. Figure 7 presents a ground water potentiometric map for December 13, 2006.

Referring to Figure 6, the depth to groundwater ranged from approximately 68.07 feet bgs at well MW-4 (southwest) to 70.51 feet bgs at well MW-2 (northwest). The elevation of the ground water surface ranged from approximately 3296.80 feet above mean sea level ("MSL") at well MW-2 (upgradient) to 3293.50 feet above MSL at well MW-5 (downgradient). The ground water flow direction was from northwest to southeast at approximately 0.0039 feet per foot ("ft/ft").

Referring to Figure 7, the depth to groundwater ranged from approximately 69.82 feet bgs at well MW-4 (southwest) to 72.46 feet bgs at well MW-1 (pit). The elevation of the ground water surface ranged from approximately 3296.79 feet above MSL at well MW-2 (up gradient) to 3293.72 feet above MSL at well MW-5 (downgradient). The groundwater flow direction was from northwest to southeast at approximately 0.0037 ft/ft. No significant variations in

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groundwater elevation flow direction or gradient were observed between April 13, 2006 and December 13, 2006.

**2.4 Ground Water Samples**

On April 11, 2006 and December 14, 2006, ground water samples were collected from wells MW-1 through MW-5 using dedicated disposable polyethylene bailers. The wells were bailed to remove approximately three (3) casing-volumes of ground water, which was contained in a portable tank and disposed in a commercial Class II disposal well. The groundwater was carefully transferred from the bailers into laboratory prepared containers, which were labeled, chilled in an ice chest, delivered under chain of custody control to ELTI and analyzed for BTEX, metals, anions, cations and TDS. The metals samples were filtered using dedicated 0.45-micron dedicated disposable filters. Table 2 presents a summary of the BTEX analysis. Table 3 presents a summary of the metals analysis. Table 4 presents a summary of the cations, anions and TDS analysis. Appendix C presents the laboratory reports.

Referring to Table 2, no BTEX constituents were reported in the groundwater samples above the analytical method detection limits. Referring to Table 3, no metals exceeded the WQCC human health standards. Referring to Table 4, the WQCC domestic water quality standard for chloride (250 mg/L) was exceeded in samples from wells MW-1 (April 13, 2006 and December 13, 2006) and MW-3 (December 13, 2006). The WQCC domestic water quality standards for TDS (1,000 mg/L) and sulfate (300 mg/L) were exceeded in samples from wells MW-1 and MW-3 (April 13, 2006 and December 13, 2006). Figure 8 and Figure 9 present isopleth maps for chloride concentrations reported in groundwater on April 13, 2006 and December 13, 2006, respectively. Figure 10 and Figure 11 present isopleth maps for TDS concentrations in groundwater on April 13, 2006 and December 13, 2006, respectively. Figure 12 and Figure 13 present isopleth maps for sulfate concentrations in ground water samples on April 13, 2006 and December 13, 2006, respectively.

Referring to Figure 8, the concentration of chloride in ground water on April 13, 2006, ranged from 142 mg/L at well MW-2 (up gradient) to 10,000 mg/L at well MW-1 located immediately down gradient (southeast) of the pit. The concentration of chloride decreased down gradient (southeast) to 185 mg/L at well MW-5. The concentration of chloride in well MW-3, located northeast (cross gradient) of the pit was 248 mg/L. Referring to Figure 9, the concentration of chloride in groundwater on December 13, 2006, ranged from 115 mg/L at well MW-4 (cross gradient) to 10,900 mg/L at well MW-1 located immediately down gradient (southeast) of the pit. The concentration of chloride decreased down gradient (southeast) to 138 mg/L at well MW-5. The concentration of chloride in wells MW-2 (up gradient) and MW-3 (cross gradient) were 152 mg/L and 257 mg/L, respectively. The groundwater at well MW-3 was elevated with respect to chloride, but is not associated with Site.

Referring to Figure 10, the concentration of TDS in ground water on April 13, 2006, ranged from 638 mg/L at well MW-3 (cross-gradient) to 19,600 mg/L at well MW-1 located immediately downgradient (southeast) of the pit. The concentration of TDS in groundwater decreased downgradient (southeast) to 754 mg/L at well MW-5. The concentration of TDS in groundwater at well MW-3 located northeast (cross-gradient) of the pit was 1,180 mg/L. Referring to Figure 11, the concentration of TDS in ground water on December 13, 2006, ranged from 582 mg/L at well MW-5 located down gradient of the pit to 17,500 mg/L at well MW-1 located immediately down gradient (southeast) of the pit. The concentration of TDS in wells

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MW-2 (upgradient) and MW-3 (cross-gradient) were 800 mg/L and 1,130 mg/L, respectively. The ground water at well MW-3 was elevated with respect to TDS, but is not associated with Site.

Referring to Figure 12, the concentration of sulfate in groundwater on April 13, 2006, ranged from 155 mg/L at well MW-4 (cross-gradient) to 671 mg/L at well MW-1 located immediately down gradient (southeast) of the pit. The concentration of sulfate decreased down gradient (southeast) to 157 mg/L at well MW-5. The concentration of sulfate in well MW-3 was 367 mg/L. Referring to Figure 13, the concentration of sulfate in groundwater on December 13, 2006, ranged from 172 mg/L at well MW-4 (cross-gradient) to 610 mg/L at well MW-1 located immediately downgradient (southeast) of the pit. The concentration of TDS in groundwater decreased to 181 mg/L at well MW-5 (downgradient). The groundwater at well MW-3 was elevated with respect to sulfate, but is not associated with Site.

**2.5 Horizontal Hydraulic Conductivity (Slug) Tests**

LA personnel attempted in-situ horizontal hydraulic conductivity (slug) tests in the wells, but the limited saturated thickness of the Ogallala formation prevented collecting data. A pneumatic procedure is available but requires the well screen to be completely submerged. The limited saturated thickness prevents using this procedure. LA will explore other options to conduct the hydraulic conductivity tests and report the data to the NMOCD if successful.

**3.0 CONCLUSIONS**

The following were concluded from the investigations:

1. Aerial photographs did not reveal other potential sources for the groundwater impact at the Site;
2. The EM-34-3, 40-meter HD survey identified an anomaly associated with a release from the pit that contained readings ranging from 26.4 to 28.3 mmhos/m and shows migration to the southeast for approximately 300 feet;
3. The EM-34-3, 40-meter HD survey identified another anomaly with a maximum reading of 30.5 mmhos/m near the Apache Corporation, Eugene Wood Well #9, which is located east of the Site. The impact is not associated with the Site;
4. Ground water occurs in the Ogallala formation between approximately 68 and 70 feet bgs and the average saturated thickness is 9.7 feet;
5. The Site is underlain by shale of the Triassic-age Chinle formation between approximately 76 to 86 feet bgs. The shale is the lower confining unit for the overlying Ogallala formation;
6. Ground water flows from northwest to southeast at a gradient between approximately 0.0037 and 0.0039 ft/ft;
7. No BTEX constituents were reported in the groundwater samples above the analytical method detection limits;
8. No metals exceeded the WQCC human health standards;

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9. The WQCC domestic water quality standard for chloride (250 mg/L) was exceeded in samples from wells MW-1 (April 13, 2006 and December 13, 2006) and MW-3 (December 13, 2006);
10. The WQCC domestic water quality standards for TDS (1,000 mg/L) and sulfate (300 mg/L) were exceeded in samples from wells MW-1 and MW-3 (April 13, 2006 and December 13, 2006); and
11. The extent of contamination from the release was determined from the investigation and the impact is confined to the area of monitoring wells MW-1 through MW-5.

**TABLES**

**Table 1**  
**Summary of Monitoring Well Drilling and Completion Details**  
**John H. Hendrix Corporation, Will Cary #5 Emergency Pit**  
**Unit Letter F (SE/4, NW/4), Section 22, Township 22 South, Range 37 East**  
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Well Number	Date Drilled	Drilled Depth (Feet BGS)	Well Depth (Feet TOC)	Well Diameter (Inches)	Top-of-Casing Elevation (Feet AMSL)	Ground Elevation (Feet AMSL)	Casing Stickup (Feet)	Screen Interval (Feet BGS)	Groundwater Depth (Feet TOC) 04/13/06	Groundwater Level (Feet TOC) 12/13/2006
MW-1	09/13/05	90.00	92.14	2	3368.13	3365.39	2.74	68.81 - 89.59	72.24 (3295.89)	72.29 (3295.84)
MW-2	11/08/05	82.40	83.35	2	3370.25	3367.31	2.94	65.41 - 79.72	73.45 (3296.80)	73.46 (3296.79)
MW-3	02/23/06	80.00	80.48	2	3366.93	3365.20	1.73	68.64 - 78.00	70.39 (3296.54)	70.46 (3296.47)
MW-4	02/23/06	80.00	80.48	2	3365.46	3363.70	1.76	68.94 - 78.38	69.83 (3295.63)	69.82 (3295.64)
MW-5	02/24/06	78.00	79.65	2	3364.51	3362.07	2.44	67.00 - 76.50	71.01 (3293.50)	68.35 (3293.72)

Notes: Wells drilled and constructed by Scarborough Drilling, Inc., Lamesa, Texas, using 2-inch Schedule 40 screw-threaded PVC casing and screen.

1. BGS: Feet below ground surface
2. TOC: Feet below top of well casing
3. AMSL: Feet above mean sea level

Table 2

Summary of BTEX Analysis of Groundwater Samples  
 John H. Hendrix Corporation, Will Cary #5 Emergency Pit  
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Well Number	Sample Date	Benzene mg/L	Toluene mg/L	Ethyl benzene mg/L	Xylene mg/L
<b>WQCC Human Health Standard:</b>					
		0.01	0.8	0.75	0.62
MW-1	09/20/2005	<0.001	<0.001	<0.001	<0.004
	11/15/2005	<0.001	<0.001	<0.001	<0.004
	04/11/2006	<0.001	<0.001	<0.001	<0.004
	12/14/2006	<0.001	<0.001	<0.001	<0.002
MW-2	11/15/2005	<0.001	<0.001	<0.001	<0.004
	04/11/2006	<0.001	<0.001	<0.001	<0.004
	12/14/2006	0.000558	<0.001	<0.001	<0.002
MW-3	04/11/2006	<0.001	<0.001	<0.001	<0.004
	12/14/2006	<0.001	<0.001	<0.001	<0.002
MW-4	04/11/2006	<0.001	<0.001	<0.001	<0.004
	12/14/2006	<0.001	<0.001	<0.001	<0.002
MW-5	04/11/2006	<0.001	<0.001	<0.001	<0.004
	12/14/2006	<0.001	<0.001	<0.001	<0.002
<b>Duplicate</b>					
MW-3	12/14/06	<0.001	<0.001	<0.001	<0.002

Notes: Analyses performed by Environmental Lab of Texas, Ltd., Odessa, Texas

1. mg/L: Milligrams per liter (equivalent to parts per million)

2. <: Less than method detection limit

Table 3

Summary of Dissolved Metals Analysis of Groundwater Samples

John H. Hendrix Corporation, Will Cary #5 Emergency Pit

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Well Number	Sample Date	Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Lead (mg/L)	Mercury (mg/L)	Selenium (mg/L)	Silver (mg/L)
WQCC Standard:		0.1	1.0	0.01	0.05	0.05	0.002	0.05	0.05
MW-1	09/20/05	0.0162	0.371	<0.001	<0.005	<0.011	<0.0005	0.0061	<0.005
	04/11/06	0.0486	0.0851	<0.00297	0.00331	<0.00843	<0.000250	0.0123	0.0219
MW-2	11/15/05	0.0215	0.0571	<0.004	0.0126	0.0148	<0.001	0.00653	<0.005
	04/11/06	0.0147	0.0339	<0.000297	0.00458	<0.000843	0.00006	0.0103	<0.000754
MW-3	04/11/06	0.00923	0.0369	<0.000297	0.00367	<0.000843	<0.000250	0.0177	<0.000754
MW-4	04/11/06	0.00567	0.0529	<0.000297	0.00411	<0.000843	0.00005	0.00834	<0.000754
MW-5	04/11/06	0.0113	0.0676	<0.000297	0.00333	0.00122	<0.000250	0.0113	<0.000504

Notes:

1. mg/L: Milligrams per liter

2. <: Less than method detection limit

Table 4

Summary of Anion, Cation and Total Dissolved Solids Analysis of Groundwater Samples

John H. Hendrix Corporation, Will Cary #5 Emergency Pit

Unit Letter F (SE/4, NW/4), Section 22, Township 22 South, Range 37 East

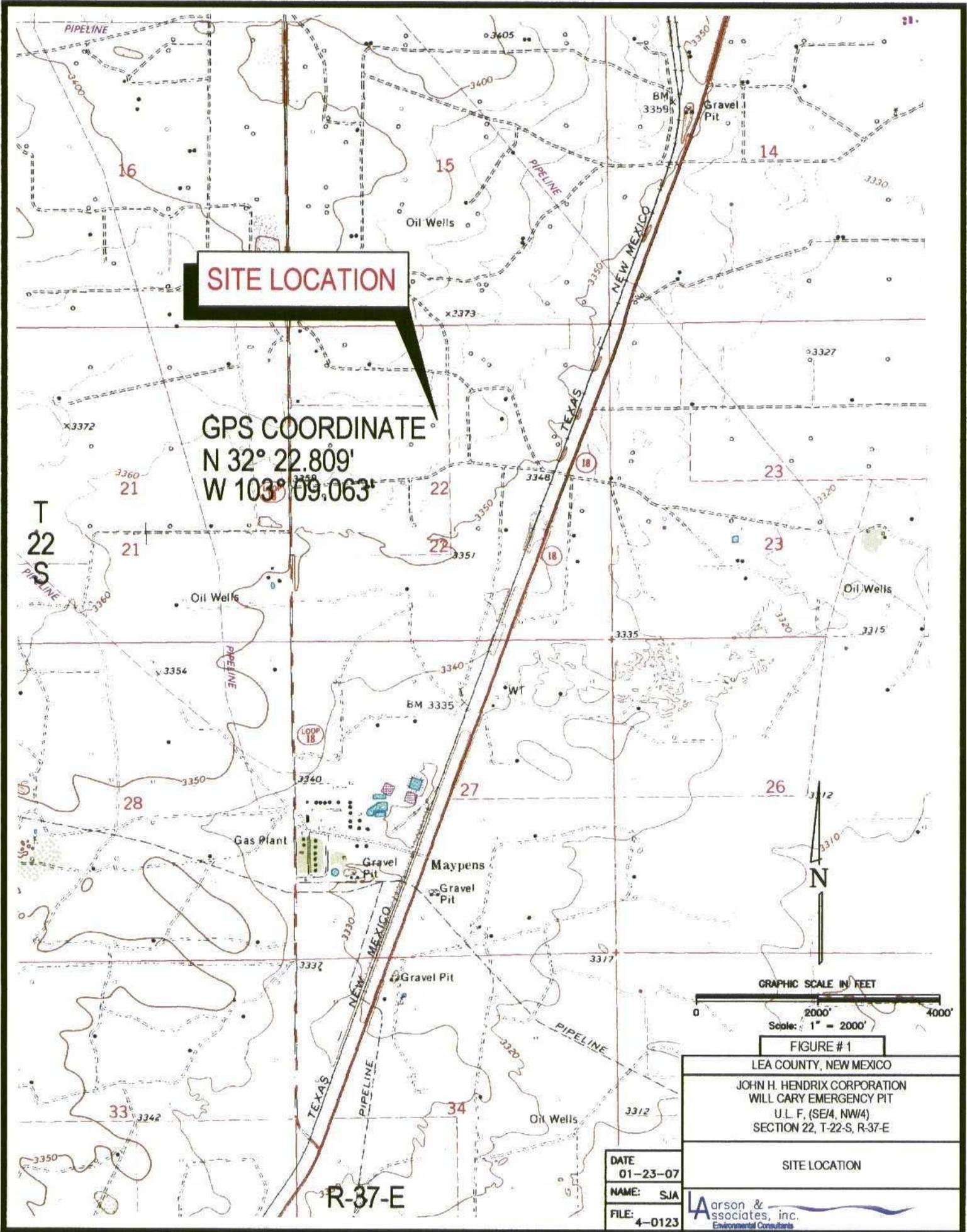
Lea County, New Mexico

Well Number	Sample Date	Alkalinity (mg/L)	Chloride (mg/L)	TDS (mg/L)	Sulfate (mg/L)	Calcium (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)
WQCC Standard: 250 1,000 300									
MW-1	09/21/05	233	9,550	19,300	1,200	870	519	102	4,300
	11/15/05	292	12,100	21,400	1,020	1,090	675	214	7,040
	04/11/06	378	10,000	19,600	671	744	448	141	7,590
	12/14/06	456	10,900	17,500	610	960	482	127	5,660
MW-2	11/15/05	164	101	694	146	74.4	49.8	10.0	109
	04/11/06	163	142	756	214	60.1	44.8	7.9	113
	12/14/06	180	152	800	250	64.9	66.3	7.7	107
MW-3	04/11/06	164	248	1,180	367	98.4	65.2	10.6	146
	12/14/06	178	257	1,300	430	139	110	10.6	149
MW-4	04/11/06	200	146	638	155	55.3	37.6	8.62	115
	12/14/06	236	115	702	172	62.6	39.6	7.35	104
MW-5	04/11/06	192	185	754	157	49.3	32.3	8.48	175
	12/14/06	204	138	582	181	81.3	44.1	7.98	114
Duplicate									
MW-3	12/14/06	180	238	1,090	391	145.0	122.0	11.20	173

Notes: Analyses by Environmental Lab of Texas, Inc., Odessa, Texas

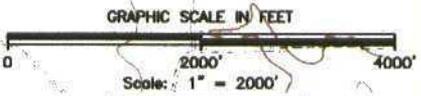
1. mg/L: Milligrams per liter (equivalent to parts per million)

**FIGURES**



**SITE LOCATION**

**GPS COORDINATE**  
 N 32° 22.809'  
 W 103° 09.063'



**FIGURE #1**

LEA COUNTY, NEW MEXICO

JOHN H. HENDRIX CORPORATION  
 WILL CARY EMERGENCY PIT  
 U. L. F. (SE/4, NW/4)  
 SECTION 22, T-22-S, R-37-E

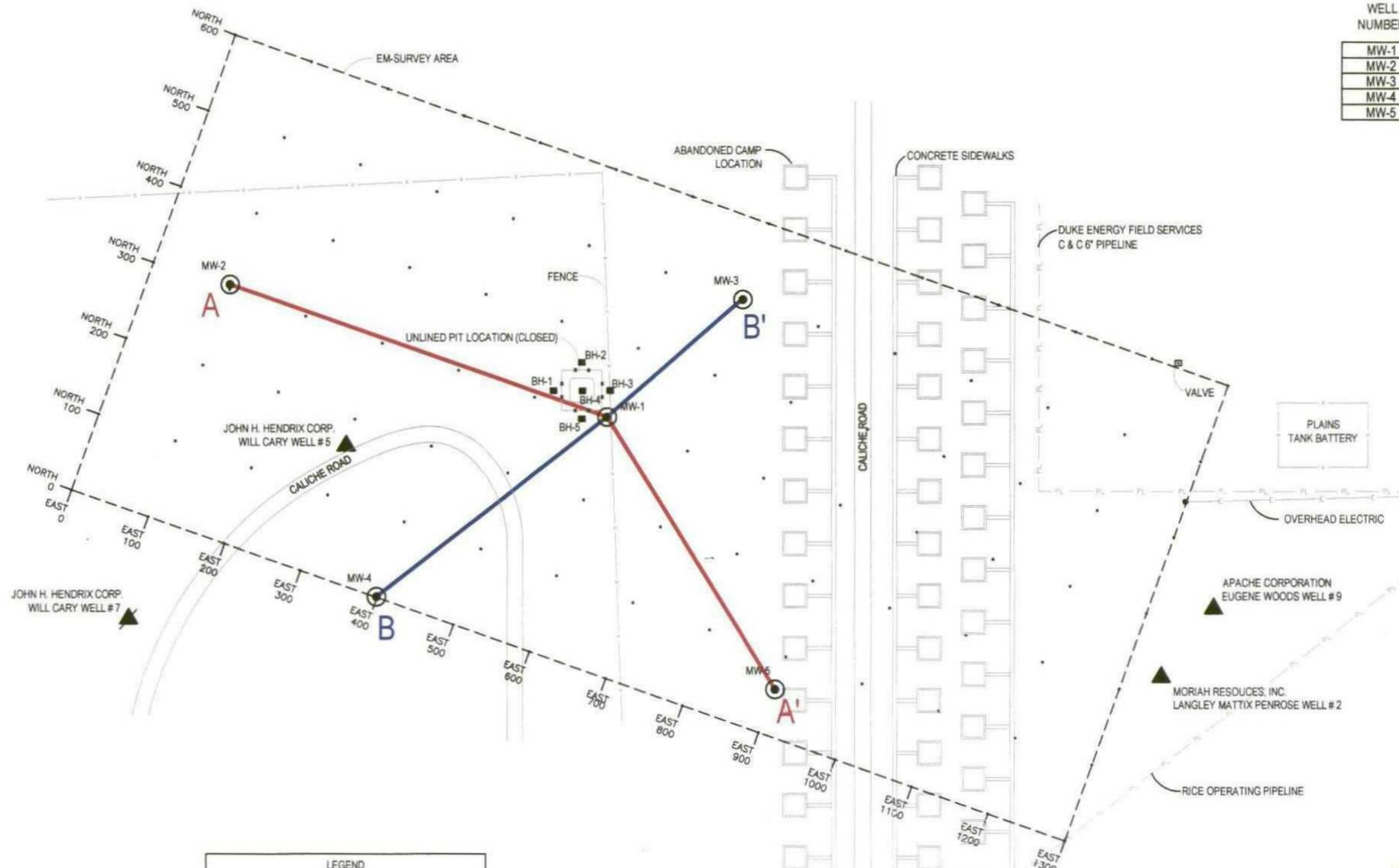
SITE LOCATION

DATE  
 01-23-07  
 NAME: SJA  
 FILE: 4-0123

**L**arson & associates, inc.  
 Environmental Consultants

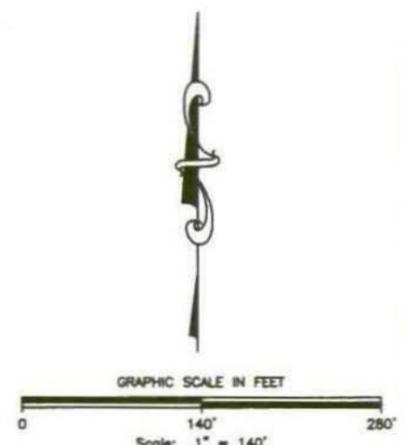
**MONITORING WELL DATA**

WELL NUMBER	TOP OF CASING ELEVATION (FEET) AMSL	GROUND ELEVATION (FEET) AMSL
MW-1	3368.13	3365.39
MW-2	3370.25	3367.31
MW-3	3366.93	3365.20
MW-4	3365.46	3363.70
MW-5	3364.51	3362.07



**LEGEND**

- BH-1 - SOIL BORING LOCATION
- - EM-34 TERRAIN CONDUCTIVITY MEASURING STATION
- MW-1 - MONITORING WELL LOCATION
- ▲ - OIL WELL LOCATION (PRODUCER)
- ▲ - OIL WELL LOCATION (PLUGGED)



**FIGURE # 2**  
 LEA COUNTY, NEW MEXICO  
 JOHN H. HENDRIX CORPORATION  
 WILL CARY EMERGENCY PIT  
 U.L. F. (SE/4, NW/4)  
 SECTION 22, T-22-S, R-37-E

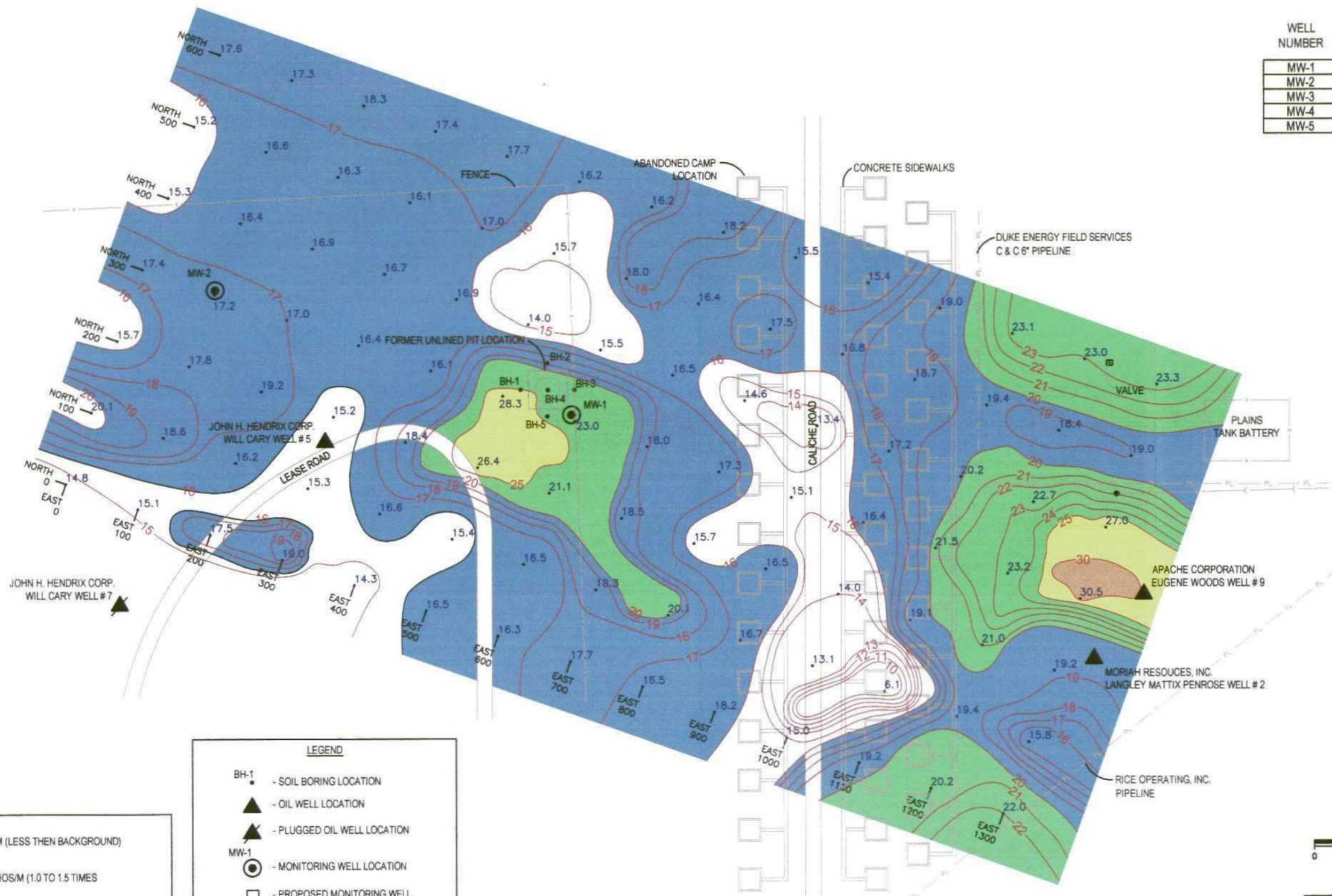
DATE: 01-31-07  
 NAME: SJA  
 FILE: 4-0123

**Larson & Associates, Inc.**  
 Environmental Consultants

SITE DRAWING

**MONITORING WELL DATA**

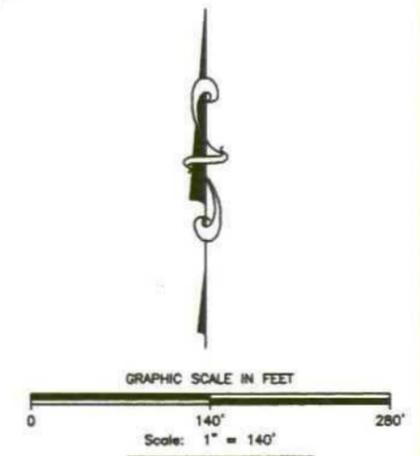
WELL NUMBER	TOP OF CASING ELEVATION (FEET) AMSL	GROUND ELEVATION (FEET) AMSL
MW-1	3368.13	3365.39
MW-2	3370.25	3367.31
MW-3	3366.93	3365.20
MW-4	3365.46	3363.70
MW-5	3364.51	3362.07



	<16.5 MMHOS/M (LESS THEN BACKGROUND)
	- 16.5 TO 20 MMHOS/M (1.0 TO 1.5 TIMES BACKGROUND)
	- 20 TO 25 MMHOS/M (1.5 TO 2.0 TIMES BACKGROUND)
	- 25 TO 30 MMHOS/M (1.5 TO 2.0 TIMES BACKGROUND)
	- >30 MMHOS/M (GREATER THAN 3.0 TIMES BACKGROUND)

**LEGEND**

	BH-1 - SOIL BORING LOCATION
	- OIL WELL LOCATION
	- PLUGGED OIL WELL LOCATION
	MW-1 - MONITORING WELL LOCATION
	- PROPOSED MONITORING WELL LOCATION
	26.4 - EM - 34, 40 - METER HD MEASUREMENT STATION AND CONDUCTIVITY READING, MMHOS/METER, 02/03/06
	-15- CONTOUR OF EQUAL EM-34, 40 - METER HD READINGS, MMHOS/METER, 02/03/06



**FIGURE #3**

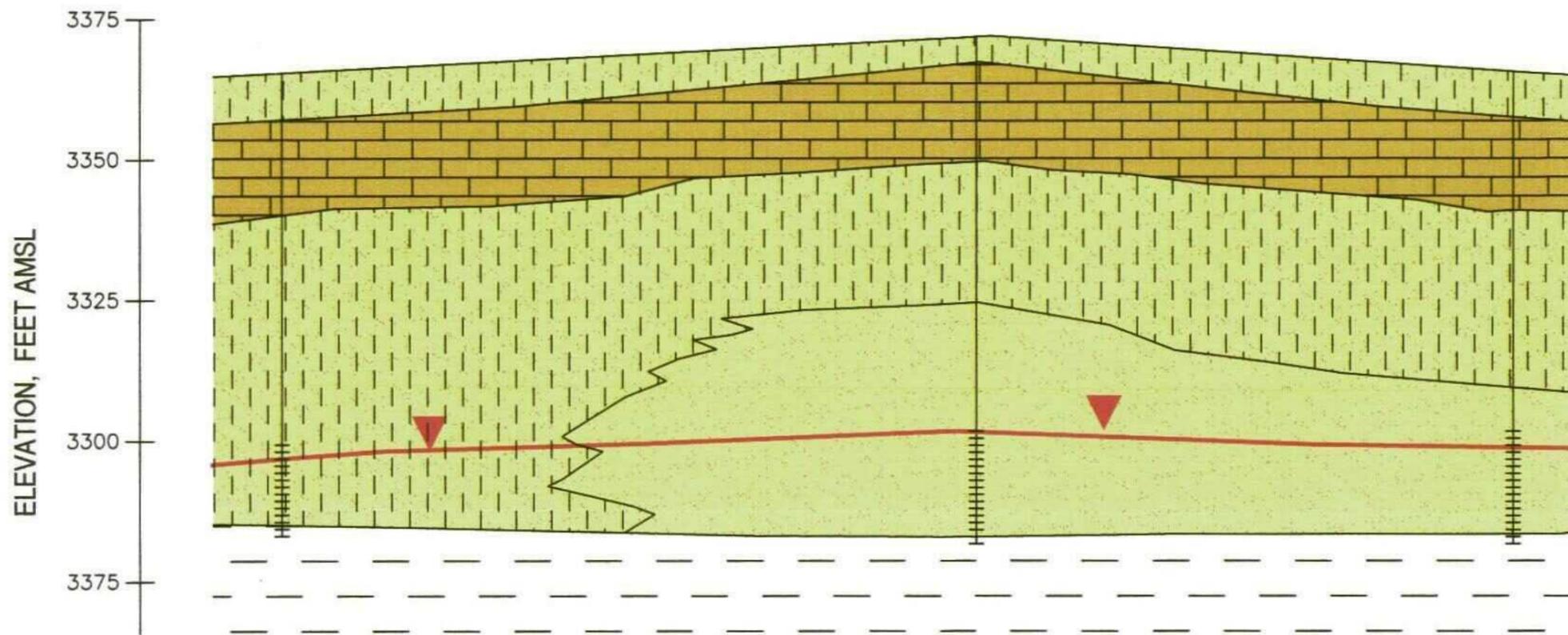
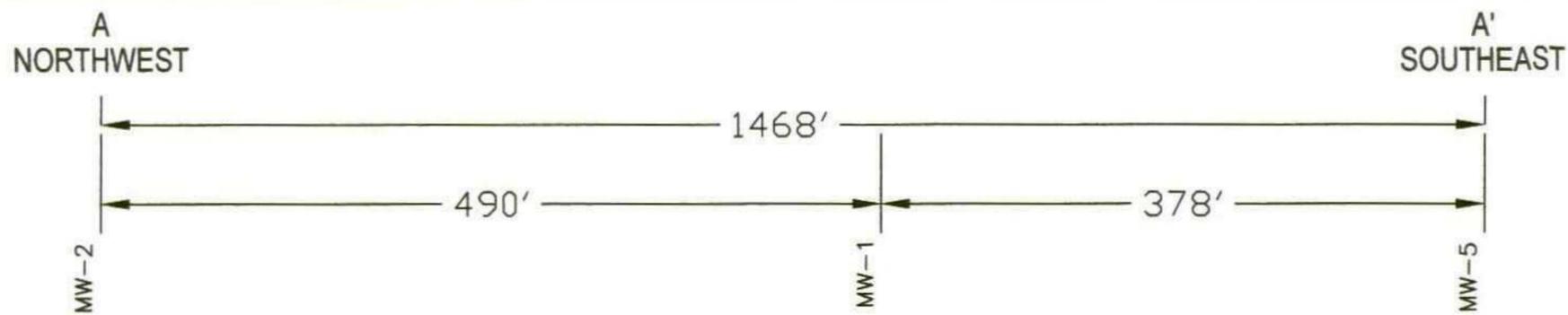
LEA COUNTY, NEW MEXICO

JOHN H. HENDRIX CORPORATION  
WILL CARY EMERGENCY PIT  
U.L.F. (SE/4, NW/4)  
SECTION 22, T-22-S, R-37-E

EM-34, 40 - METER HD CONDUCTIVITY MAP  
EXPLORATION DEPTH: 0 - 0.3 METERS (0 - 9.8 FEET)

DATE: 01-23-07  
NAME: SJA  
FILE: 4-0123

**Larson & Associates, Inc.**  
Environmental Consultants



-  CALICHE
-  SILTY SAND
-  SAND
-  SHALE

**LEGEND**

HORIZONTAL SCALE: 1" = 100'  
 VERTICAL SCALE: 1" = 25'  
 VERTICAL EXAGGERATION: X4

 MONITORING WELL LOCATION AND SCREEN INTERVAL

 GROUNDWATER POTENTIOMETRIC SURFACE, APRIL 13, 2006

REFER TO FIGURE # 2 FOR CROSS-SECTION LOCATION

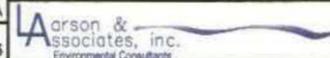
**FIGURE # 4**

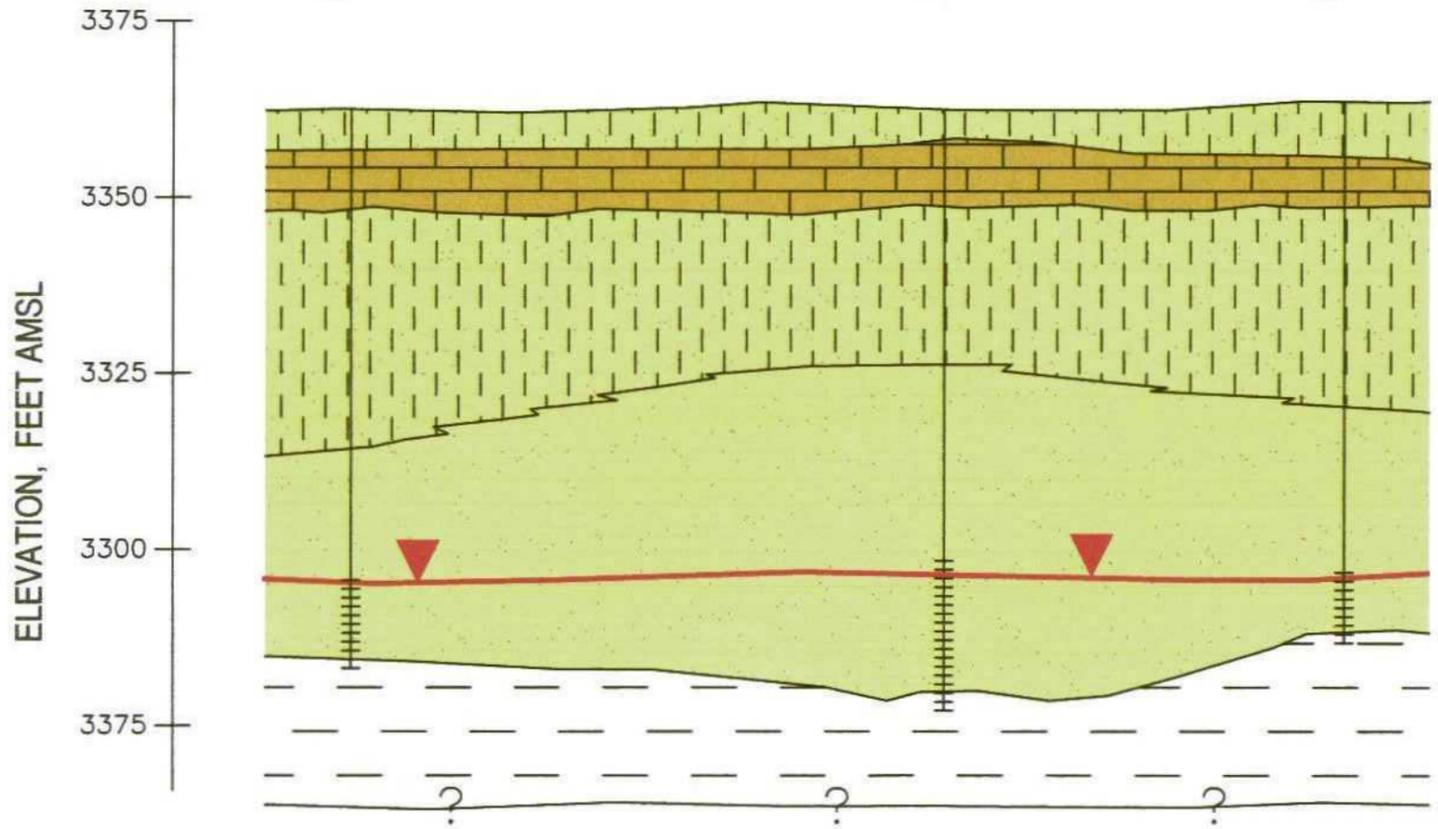
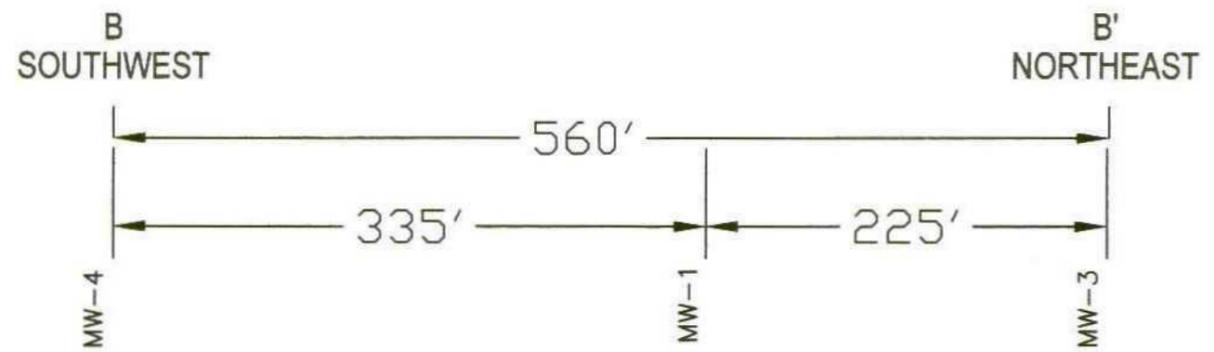
LEA COUNTY, NEW MEXICO

JOHN H. HENDRIX CORPORATION  
 WILL CARY EMERGENCY PIT  
 U.L.F. (SE/4, NW/4)  
 SECTION 22, T-22-S, R-37-E

NORTHWEST TO SOUTHEAST  
 GEOLOGICAL CROSS SECTION  
 A TO A'

DATE	05-03-06
NAME:	SJA
FILE:	4-0123

  
 Larson & Associates, Inc.  
 Environmental Consultants



-  CALICHE
-  SILTY SAND
-  SAND
-  SHALE

**LEGEND**

HORIZONTAL SCALE: 1" = 100'  
 VERTICAL SCALE: 1" = 25'  
 VERTICAL EXAGGERATION: X4

 MONITORING WELL LOCATION AND SCREEN INTERVAL

 GROUNDWATER POTENTIOMETRIC SURFACE, APRIL 13, 2006

REFER TO FIGURE # 2 FOR CROSS-SECTION LOCATION

**FIGURE # 5**

LEA COUNTY, NEW MEXICO

JOHN H. HENDRIX CORPORATION  
 WILL CARY EMERGENCY PIT  
 U.L.F. (SE/4, NW/4)  
 SECTION 22, T-22-S, R-37-E

SOUTHWEST TO NORTHEAST  
 GEOLOGICAL CROSS SECTION  
 B TO B'

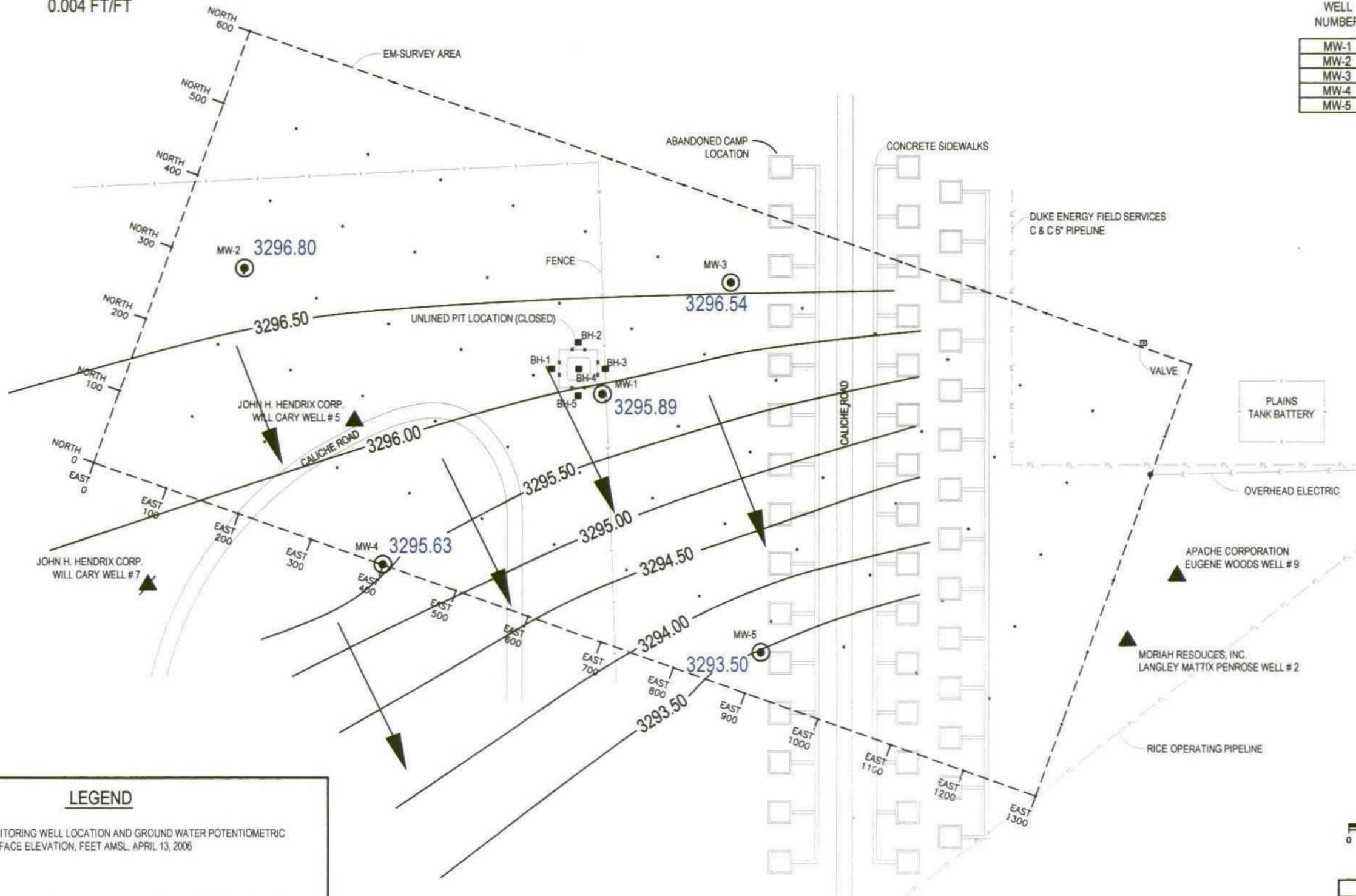
DATE	05-03-06
NAME:	SJA
FILE:	4-0123

  
 Arson & Associates, Inc.  
 Environmental Consultants

**MONITORING WELL DATA**

WELL NUMBER	TOP OF CASING ELEVATION (FEET) AMSL	GROUND ELEVATION (FEET AMSL)
MW-1	3368.13	3365.39
MW-2	3370.25	3367.31
MW-3	3366.93	3365.20
MW-4	3365.46	3363.70
MW-5	3364.51	3362.07

0.004 FT/FT



**LEGEND**

MW-1  
3295.89  
MONITORING WELL LOCATION AND GROUND WATER POTENTIOMETRIC SURFACE ELEVATION, FEET AMSL, APRIL 13, 2006

3295.00  
CONTOUR OF GROUND WATER POTENTIOMETRIC SURFACE ELEVATION, FEET AMSL, APRIL 13, 2006

GROUND WATER FLOW DIRECTION

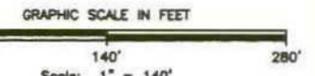


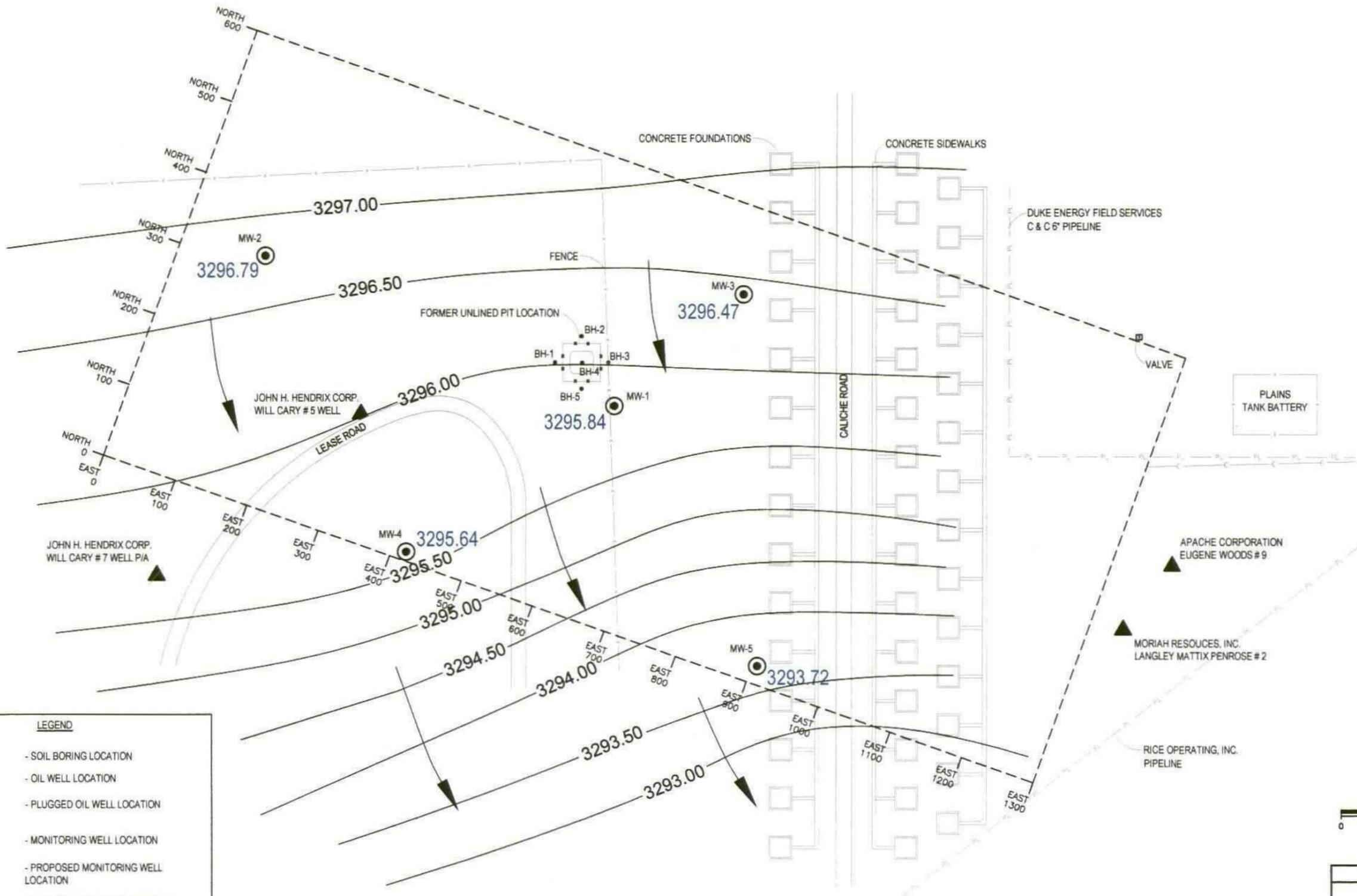
FIGURE # 6

LEA COUNTY, NEW MEXICO  
JOHN H. HENDRIX CORPORATION  
WILL CARY EMERGENCY PIT  
U.L. F. (SE4, NW/4)  
SECTION 22, T-22-S, R-37-E

DATE: 01-31-07  
NAME: SJA  
FILE: 4-0123

GROUNDWATER POTENTIOMETRIC SURFACE MAP  
APRIL 13, 2006

Larson & Associates, Inc.  
Environmental Consultants



**LEGEND**

- BH-1 - SOIL BORING LOCATION
- OIL WELL LOCATION
- PLUGGED OIL WELL LOCATION
- MW-1 - MONITORING WELL LOCATION
- PROPOSED MONITORING WELL LOCATION
- GROUNDWATER FLOW DIRECTION
- CONTOUR OF GROUNDWATER POTENTIOMETRIC SURFACE ELEVATION, (FEET AMSL), 12/13/06

GRAPHIC SCALE IN FEET

0 140' 280'

Scale: 1" = 140'

FIGURE #7

LEA COUNTY, NEW MEXICO

JOHN H. HENDRIX CORPORATION  
WILL CARY EMERGENCY PIT  
SE/4, NW/4  
SECTION 22, T-22-S, R-37-E

GROUNDWATER POTENTIOMETRIC SURFACE MAP  
DECEMBER 13, 2006

DATE: 01-31-07

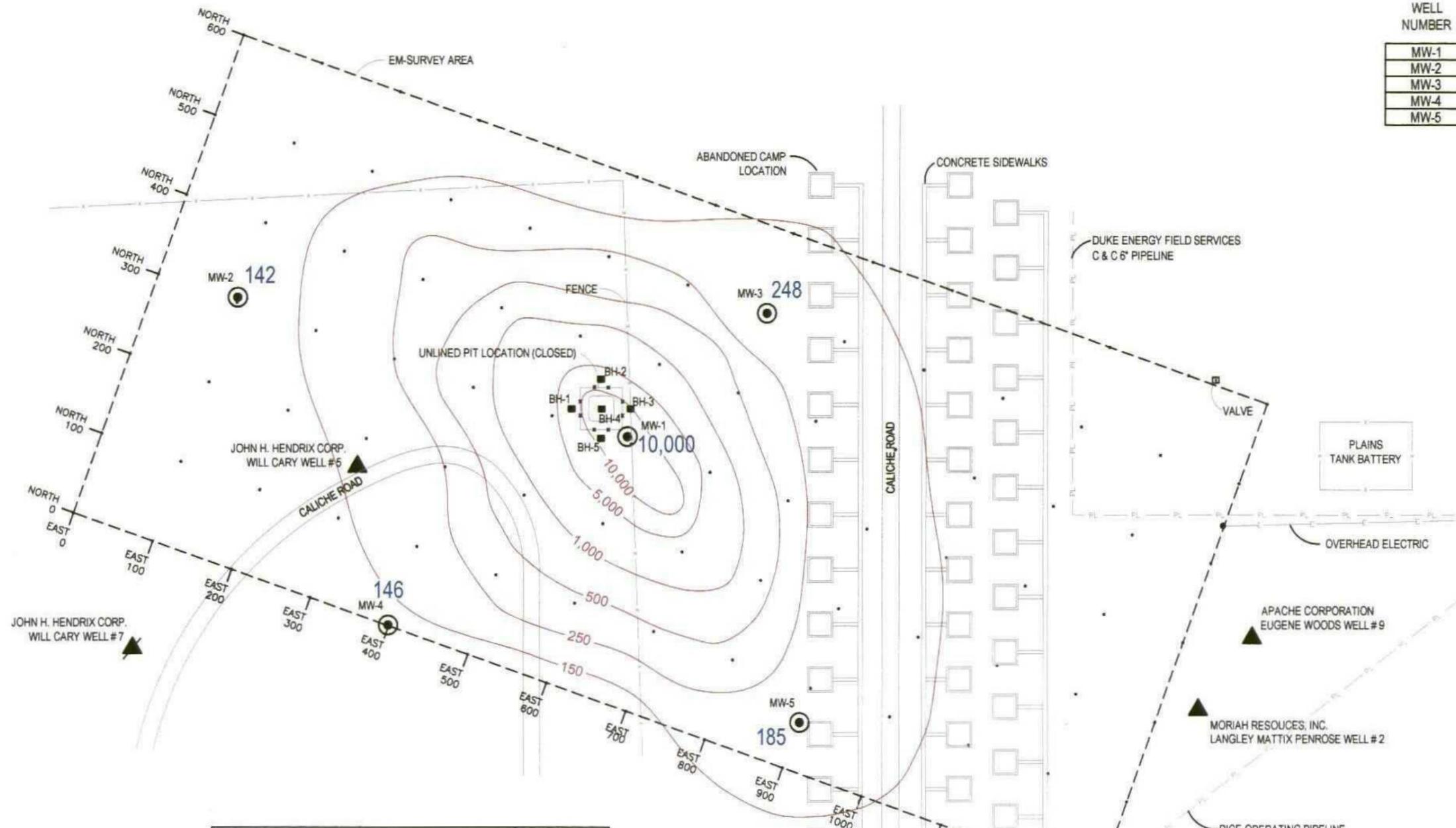
NAME: SJA

FILE: 4-0123

**L**arson & associates, inc.  
Environmental Consultants

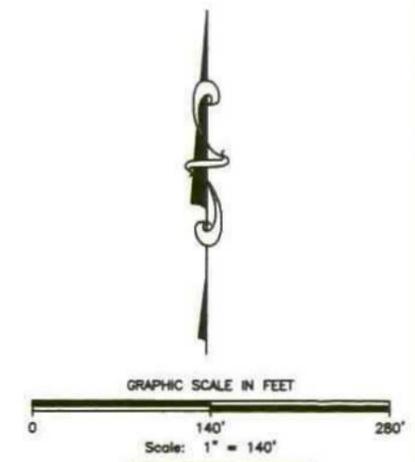
**MONITORING WELL DATA**

WELL NUMBER	TOP OF CASING ELEVATION (FEET) AMSL	GROUND ELEVATION (FEET AMSL)
MW-1	3368.13	3365.39
MW-2	3370.25	3367.31
MW-3	3366.93	3365.20
MW-4	3365.46	3363.70
MW-5	3364.51	3362.07



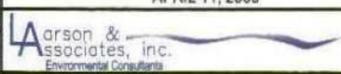
**LEGEND**

- BH-1 ■ - SOIL BORING LOCATION
- - EM-34 TERRAIN CONDUCTIVITY MEASURING STATION
- MW-1 10,000 ○ - MONITORING WELL LOCATION AND CHLORIDE CONCENTRATION IN GROUND WATER, MG/L, APRIL 11, 2006
- ▲ - OIL WELL LOCATION (PRODUCER)
- ▲ - OIL WELL LOCATION (PLUGGED)
- 1,000 - CONTOUR OF CHLORIDE CONCENTRATION IN GROUND WATER, MG/L, APRIL 11, 2006



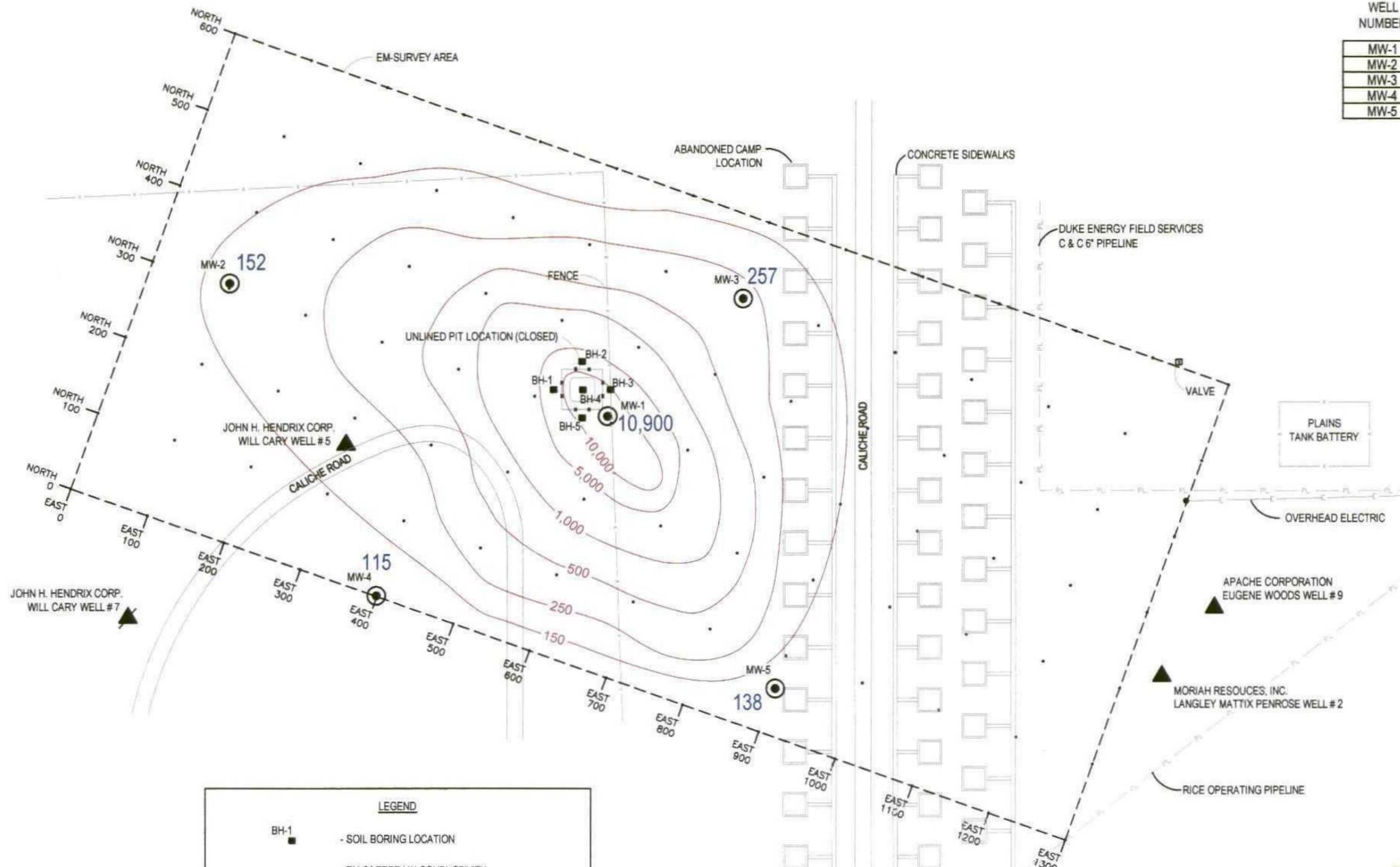
**FIGURE # 8**  
 LEA COUNTY, NEW MEXICO  
 JOHN H. HENDRIX CORPORATION  
 WILL CARY EMERGENCY PIT  
 U.L.F. (SE/4, NW/4)  
 SECTION 22, T-22-S, R-37-E  
 ISOPLETH MAP OF CHLORIDE CONCENTRATION  
 IN GROUND WATER,  
 APRIL 11, 2006

DATE: 01-31-07  
 NAME: SJA  
 FILE: 4-0123



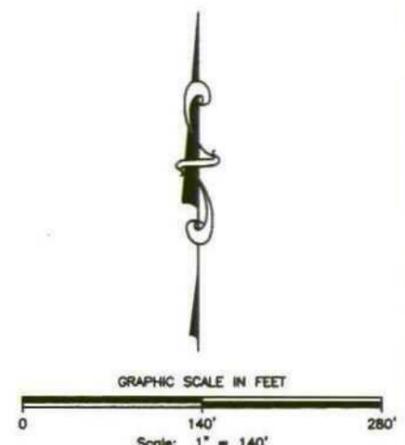
**MONITORING WELL DATA**

WELL NUMBER	TOP OF CASING ELEVATION (FEET) AMSL	GROUND ELEVATION (FEET AMSL)
MW-1	3368.13	3365.39
MW-2	3370.25	3367.31
MW-3	3366.93	3365.20
MW-4	3365.46	3363.70
MW-5	3364.51	3362.07



**LEGEND**

- BH-1 ■ - SOIL BORING LOCATION
- - EM-34 TERRAIN CONDUCTIVITY MEASURING STATION
- MW-1 ● - MONITORING WELL LOCATION AND CHLORIDE CONCENTRATION IN GROUND WATER, MG/L, DECEMBER 14, 2006
- ▲ - OIL WELL LOCATION (PRODUCER)
- ▲ - OIL WELL LOCATION (PLUGGED)
- 1,000- - CONTOUR OF CHLORIDE CONCENTRATION IN GROUND WATER, MG/L, DECEMBER 14, 2006



**FIGURE # 9**  
 LEA COUNTY, NEW MEXICO  
 JOHN H. HENDRIX CORPORATION  
 WILL CARY EMERGENCY PIT  
 U.L.F. (SE4, NW4)  
 SECTION 22, T-22-S, R-37-E  
 ISOPLETH MAP OF CHLORIDE CONCENTRATION  
 IN GROUND WATER,  
 DECEMBER 14, 2006

DATE: 01-31-07  
 NAME: SJA  
 FILE: 4-0123

**Larson & Associates, Inc.**  
 Environmental Consultants

**MONITORING WELL DATA**

WELL NUMBER	TOP OF CASING ELEVATION (FEET) AMSL	GROUND ELEVATION (FEET AMSL)
MW-1	3368.13	3365.39
MW-2	3370.25	3367.31
MW-3	3366.93	3365.20
MW-4	3365.46	3363.70
MW-5	3364.51	3362.07

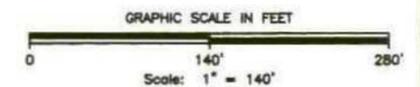
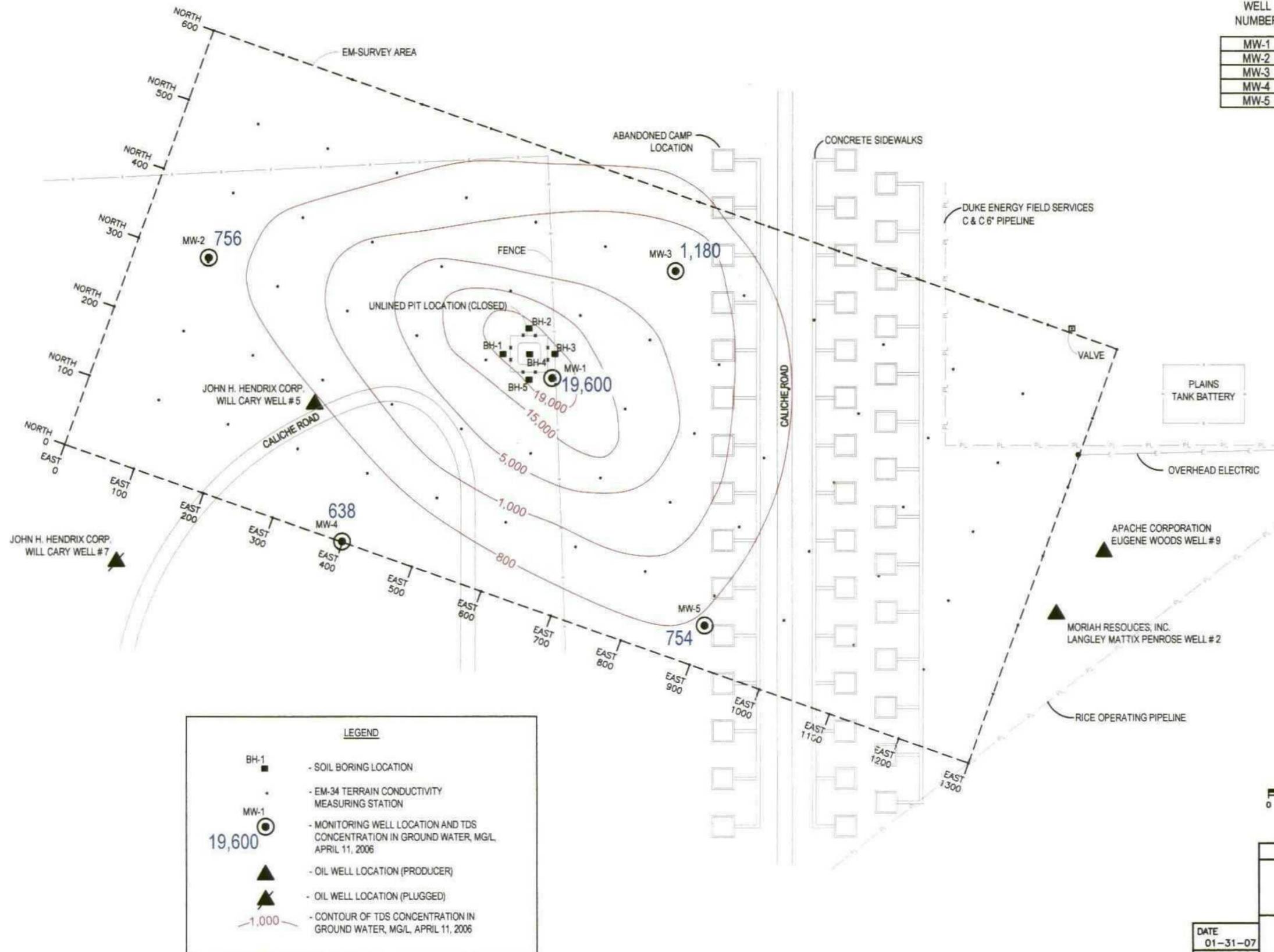


FIGURE # 10

LEA COUNTY, NEW MEXICO

JOHN H. HENDRIX CORPORATION  
WILL CARY EMERGENCY PIT  
U.L.F., (SE/4, NW/4)  
SECTION 22, T-22-S, R-37-E

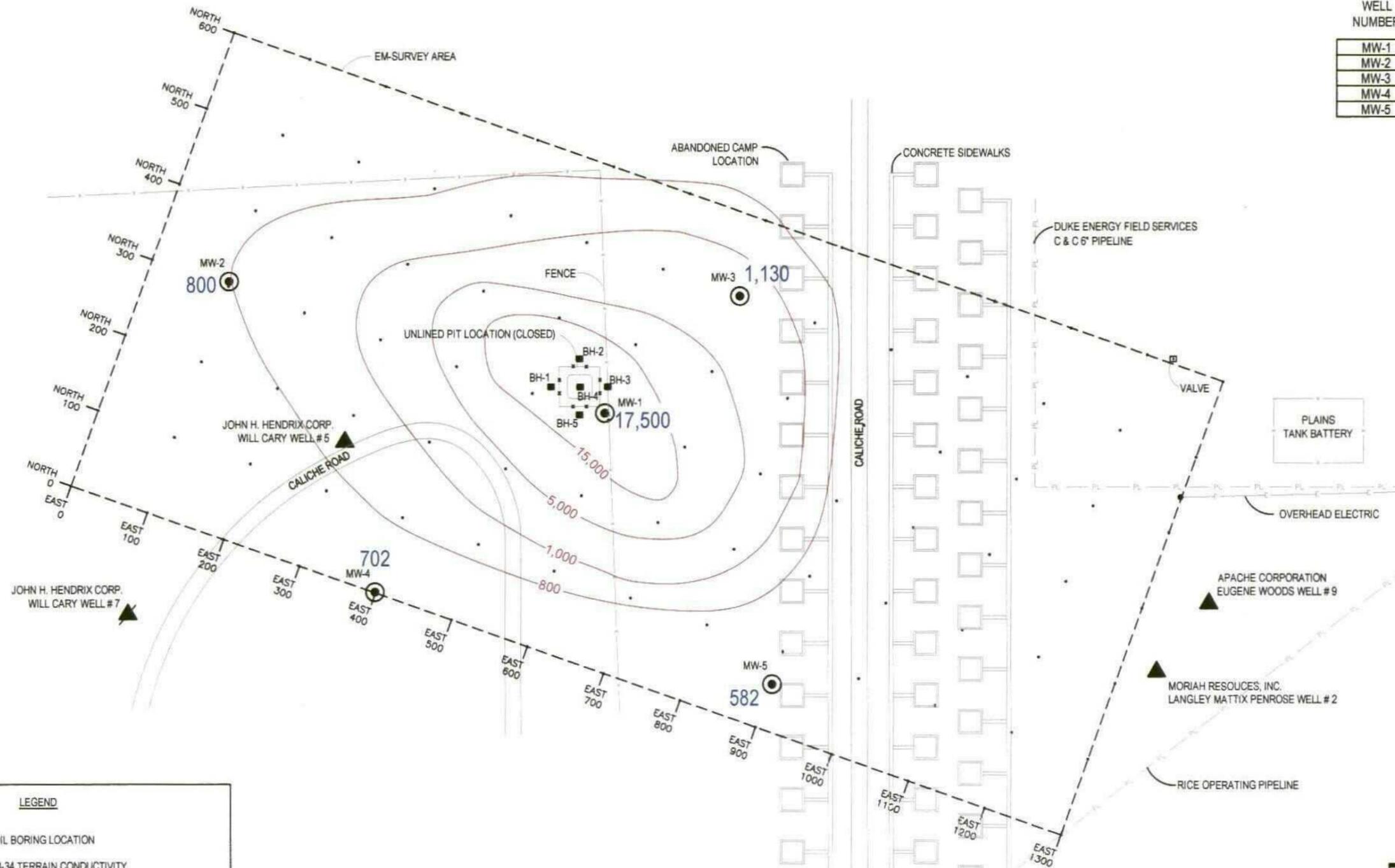
ISOPLETH MAP OF TDS CONCENTRATION  
IN GROUND WATER,  
APRIL 11, 2006

DATE  
01-31-07  
NAME: SJA  
FILE: 4-0123

Larson & Associates, Inc.  
Environmental Consultants

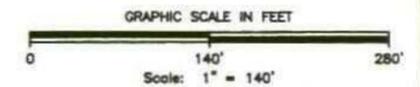
**MONITORING WELL DATA**

WELL NUMBER	TOP OF CASING ELEVATION (FEET) AMSL	GROUND ELEVATION (FEET AMSL)
MW-1	3368.13	3365.39
MW-2	3370.25	3367.31
MW-3	3366.93	3365.20
MW-4	3365.46	3363.70
MW-5	3364.51	3362.07



**LEGEND**

- BH-1 ■ - SOIL BORING LOCATION
- - EM-34 TERRAIN CONDUCTIVITY MEASURING STATION
- MW-1 ○ (with 17,500) - MONITORING WELL LOCATION AND TDS CONCENTRATION IN GROUND WATER, MG/L, DECEMBER 14, 2006
- ▲ - OIL WELL LOCATION (PRODUCER)
- ▲ (with slash) - OIL WELL LOCATION (PLUGGED)
- 1,000- - CONTOUR OF TDS CONCENTRATION IN GROUND WATER, MG/L, DECEMBER 14, 2006



**FIGURE # 11**  
 LEA COUNTY, NEW MEXICO  
 JOHN H. HENDRIX CORPORATION  
 WILL CARY EMERGENCY PIT  
 U.L.F., (SE/4, NW/4)  
 SECTION 22, T-22-S, R-37-E

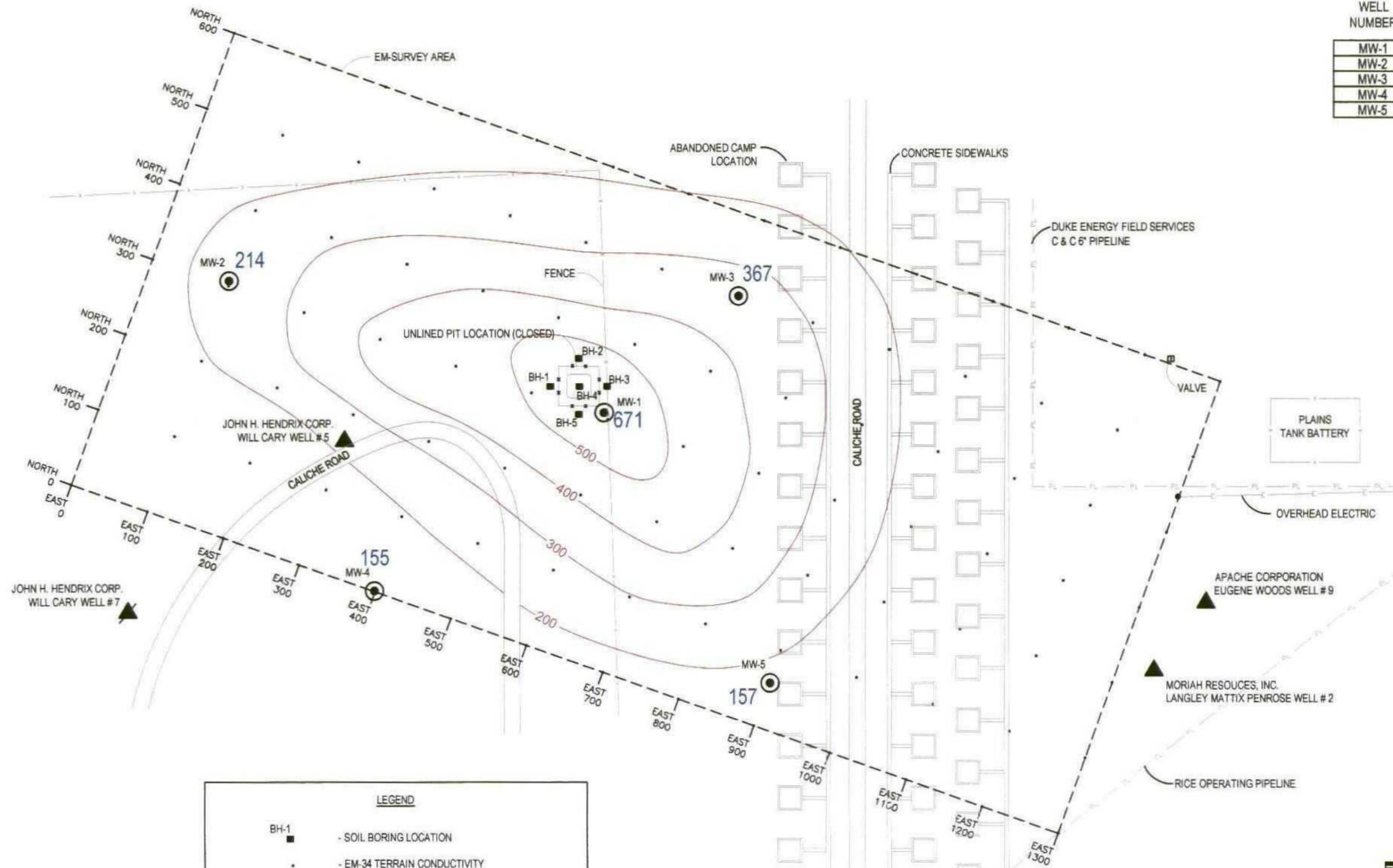
DATE: 01-31-07  
 NAME: SJA  
 FILE: 4-0123

ISOPLETH MAP OF TDS CONCENTRATION IN GROUND WATER, DECEMBER 14, 2006

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

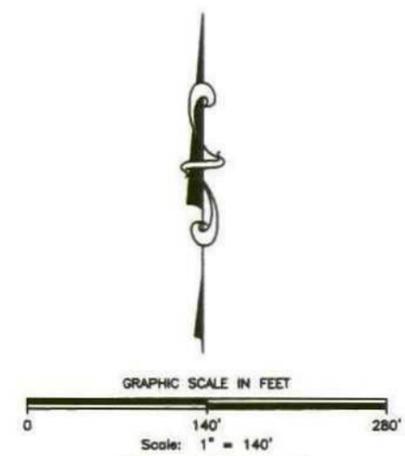
**MONITORING WELL DATA**

WELL NUMBER	TOP OF CASING ELEVATION (FEET) AMSL	GROUND ELEVATION (FEET AMSL)
MW-1	3368.13	3365.39
MW-2	3370.25	3367.31
MW-3	3366.93	3365.20
MW-4	3365.46	3363.70
MW-5	3364.51	3362.07



**LEGEND**

- BH-1 ■ - SOIL BORING LOCATION
- - EM-34 TERRAIN CONDUCTIVITY MEASURING STATION
- MW-1 671 ● - MONITORING WELL LOCATION AND SULFATE CONCENTRATION IN GROUND WATER, MG/L, APRIL 11, 2006
- ▲ - OIL WELL LOCATION (PRODUCER)
- ▲ - OIL WELL LOCATION (PLUGGED)
- 300— - CONTOUR OF SULFATE CONCENTRATION IN GROUND WATER, MG/L, APRIL 11, 2006



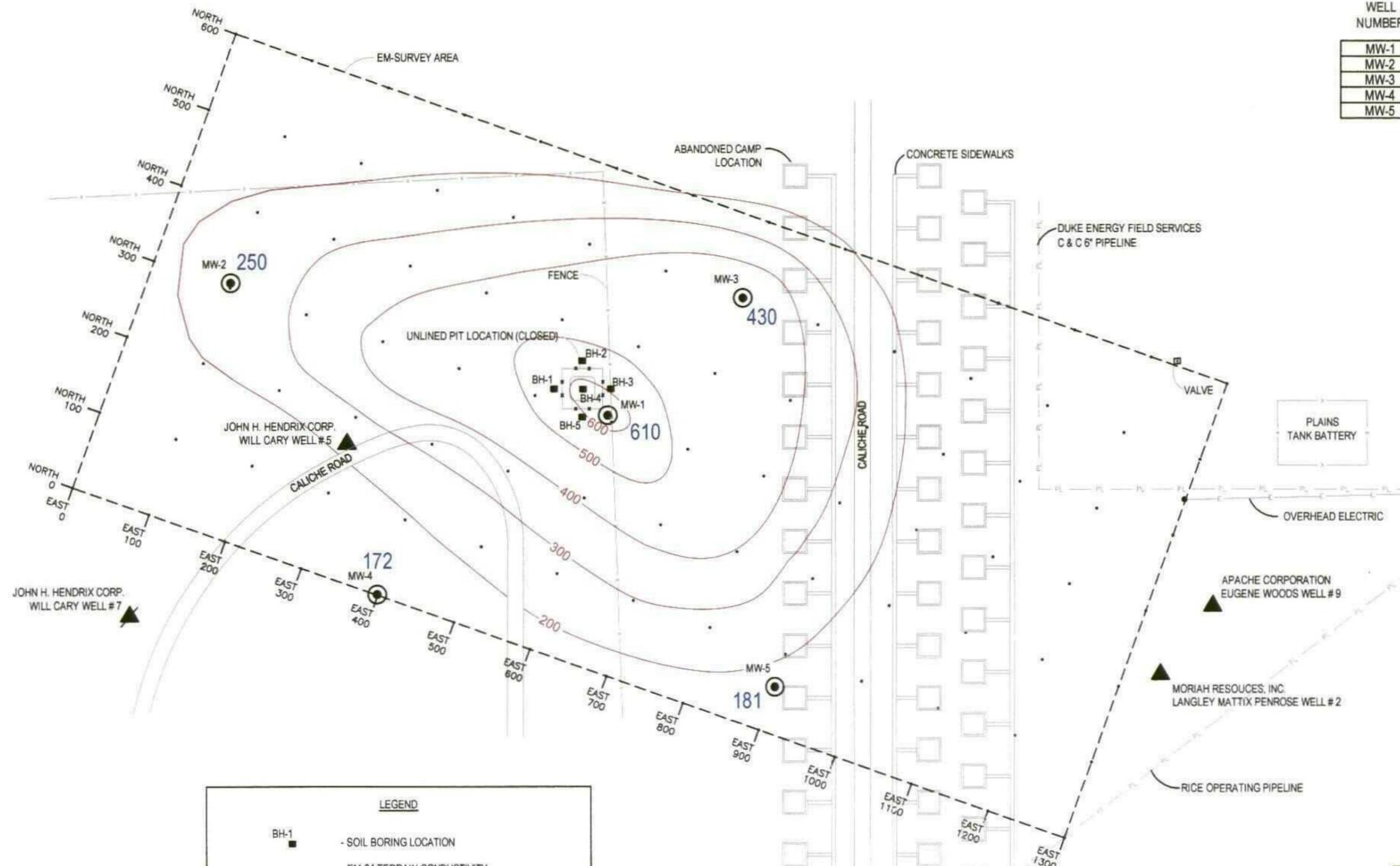
**FIGURE # 12**  
 LEA COUNTY, NEW MEXICO  
 JOHN H. HENDRIX CORPORATION  
 WILL CARY EMERGENCY PIT  
 U.L.F. (SE/4, NW/4)  
 SECTION 22, T-22-S, R-37-E  
 ISOPLETH MAP OF SULFATE CONCENTRATION  
 IN GROUND WATER,  
 APRIL 11, 2006

DATE  
01-31-07  
 NAME: SJA  
 FILE: 4-0123

Larson & Associates, Inc.  
 Environmental Consultants

**MONITORING WELL DATA**

WELL NUMBER	TOP OF CASING ELEVATION (FEET) AMSL	GROUND ELEVATION (FEET) AMSL
MW-1	3368.13	3365.39
MW-2	3370.25	3367.31
MW-3	3366.93	3365.20
MW-4	3365.46	3363.70
MW-5	3364.51	3362.07



LEGEND	
BH-1	- SOIL BORING LOCATION
.	- EM-34 TERRAIN CONDUCTIVITY MEASURING STATION
MW-1 610	- MONITORING WELL LOCATION AND SULFATE CONCENTRATION IN GROUND WATER, MG/L, DECEMBER 14, 2006
▲	- OIL WELL LOCATION (PRODUCER)
▲	- OIL WELL LOCATION (PLUGGED)
—300—	- CONTOUR OF SULFATE CONCENTRATION IN GROUND WATER, MG/L, DECEMBER 14, 2006

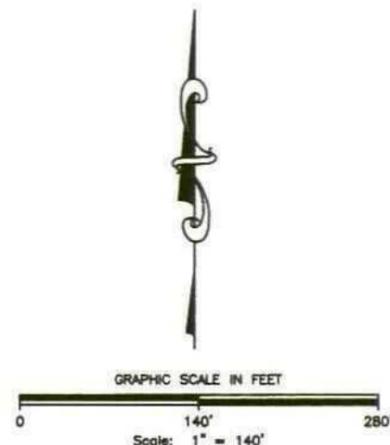


FIGURE # 13  
 LEA COUNTY, NEW MEXICO  
 JOHN H. HENDRIX CORPORATION  
 WILL CARY EMERGENCY PIT  
 U.L.F., (SE/4, NW/4)  
 SECTION 22, T-22-S, R-37-E  
 ISOPLETH MAP OF SULFATE CONCENTRATION  
 IN GROUND WATER,  
 DECEMBER 14, 2006

DATE: 01-31-07  
 NAME: SJA  
 FILE: 4-0123



**APPENDICES**

**APPENDIX A**

**NMOCD Correspondence**



# NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

**BILL RICHARDSON**

Governor

**Joanna Prukop**

Cabinet Secretary

**Mark E. Fesmire, P.E.**

Director

**Oil Conservation Division**

January 25, 2006

Mr. Ron Westbrook, Vice President  
John H. Hendrix Corporation  
110 North Marienfeld  
Suite 400  
Midland, TX 79701

**RE: GROUND WATER INVESTIGATION WORK PLAN  
JOHN H. HENDRIX CORPORATION, WILL CARY LEASE, UNIT LETTER F  
(SE/4, NW/4), SECTION 22, TOWNSHIP 22 SOUTH, RANGE 37 EAST  
LEA COUNTY, NEW MEXICO (1RP0465)**

Dear Mr. Westbrook:

The New Mexico Oil Conservation Division (OCD) has reviewed the ground water investigation work plan (Remediation Plan 1RP0465) submitted by Larson & Associates, Inc. on behalf of John H. Hendrix Corporation (JHHC) on December 6, 2005. JHHC confirmed that it had impacted ground water at a former unlined pit site at its Will Cary lease and proposed a ground water investigation work plan. OCD hereby approves JHHC's proposal with the following conditions.

1. JHHC shall notify OCD at least 3 working days in advance of fieldwork.
2. JHHC shall submit its final investigation report no later than 60 days after completing its fieldwork.

Sincerely,

Glenn von Gonten  
Senior Hydrologist

xc: Paul Sheeley, OCD Hobbs District Office

**APPENDIX B**

**Boring Logs and Well Completion Records**

**Client:** John H. Hendrix Corporation

**Project:** Will Cary # 5

**Project No.:** 4-0123

**Location:** Lea County, New Mexico

**Log:** MW-1

**Geologist:** M.J. Larson

**Page:** 1 of 1

SUBSURFACE PROFILE				SAMPLE			PID Measurement			Well Detail	Notes
Depth	Description	Symbol	Ground Elevation	Number	Type	Recovery	(PPM)				
							50	100	150		
5	<b>Silty Sand</b> 10 YR 4/3, brown, very fine grained quartz sand, very poorly sorted, subround, dry, loose	[Symbol]									Well finished with above grade locking cap and cover anchored in concrete
10	<b>Sand</b> 7.5 YR 7/2, to 7/3, pinkish gray to pink, very fine grained quartz sand, poorly sorted, round to sub-angular, dry, loose	[Symbol]									
25	<b>Caliche</b> 10 YR 7/2 to 8/2, light gray to very pale brown, sandy, indurated to interbedded with sand, dry	[Symbol]									0.00' - 56.00' BGS Cement-Benonite Grout
35	<b>Silty Sand</b> 7.5 YR 7/3, pink, very fine grained quartz sand, poorly sorted, dry, loose	[Symbol]									0.00' - 68.81' BGS 2" Sch. 40 PVC threaded riser
50	<b>Sand</b> 5 YR 5/6 to 6/6, reddish yellow to yellowish red, fine to very fine grained quartz sand, poorly sorted, loose to lightly cemented, round	[Symbol]									56.00' - 66.00' BGS Benonite chips
65	medium to coarse grained quartz sand, angular to round from 75.0' to 86.0'	[Symbol]									69.50' BGS Water level, 4/13/06
85	<b>Shale</b> 2.5 YR 4/6 to 2.5 Y 6/11, red to gray, silty, very fine grained quartz sand, moderately hard	[Symbol]									68.81' - 89.50' BGS 2" Sch. 40 PVC threaded screen, 0.010" slots
90	<b>TD: 90'</b>	[Symbol]									66.00' - 88.89' BGS 10-20 Silica sand
95											88.89' BGS 2" Sch. 40 PVC threaded cap
100											88.89 - 90.00' BGS Native fill

**Drilled By:** Scarborough Drilling

**Drill Method:** Water Rotary

**Drill Date:** 9-13-05

Larson and Associates Inc.  
507 N. Marienfeld, Suite 202  
Midland, Texas 79701  
(432) 687-0901

**Boring Diameter:** 5"

**TOC Elevation:** 3368.13'

**Checked By:** MJL

**Client:** John H. Hendrix Corporation

**Project:** Will Cary # 5

**Project No.:** 4-0123

**Location:** Lea County, New Mexico

**Log:** MW-1

**Geologist:** M.J. Larson

**Page:** 1 of 1

SUBSURFACE PROFILE				SAMPLE			PID Measurement			Well Detail	Notes
Depth	Description	Symbol	Ground Elevation	Number	Type	Recovery	(PPM)				
							50	100	150		
5	<b>Silty Sand</b> 10 YR 4/3, brown, very fine grained quartz sand, very poorly sorted, subround, dry, loose	[Symbol]									Well finished with above grade locking cap and cover anchored in concrete
10	<b>Sand</b> 7.5 YR 7/2, to 7/3, pinkish gray to pink, very fine grained quartz sand, poorly sorted, round to sub-angular, dry, loose	[Symbol]									
25	<b>Caliche</b> 10 YR 7/2 to 8/2, light gray to very pale brown, sandy, indurated to interbedded with sand, dry	[Symbol]									0.00' - 56.00' BGS Cement-Benonite Grout
35	<b>Silty Sand</b> 7.5 YR 7/3, pink, very fine grained quartz sand, poorly sorted, dry, loose	[Symbol]									0.00' - 68.81' BGS 2" Sch. 40 PVC threaded riser
45	<b>Sand</b> 5 YR 5/6 to 6/6, reddish yellow to yellowish red, fine to very fine grained quartz sand, poorly sorted, loose to lightly cemented, round	[Symbol]									56.00' - 66.00' BGS Benonite chips
65	medium to coarse grained quartz sand, angular to round from 75.0' to 86.0'	[Symbol]									69.50' BGS Water level, 4/13/06
75		[Symbol]									68.81' - 89.50' BGS 2" Sch. 40 PVC threaded screen, 0.010" slots
85		[Symbol]									66.00' - 88.89' BGS 10-20 Silica sand
90	<b>Shale</b> 2.5 YR 4/6 to 2.5 Y 6/11, red to gray, silty, very fine grained quartz sand, moderately hard	[Symbol]									88.89' BGS 2" Sch. 40 PVC threaded cap
95		[Symbol]									88.89 - 90.00' BGS Native fill
100	<b>TD: 90'</b>	[Symbol]									

**Drilled By:** Scarborough Drilling

**Drill Method:** Water Rotary

**Drill Date:** 9-13-05

Larson and Associates Inc.  
507 N. Marienfeld, Suite 202  
Midland, Texas 79701  
(432) 687-0901

**Boring Diameter:** 5"

**TOC Elevation:** 3368.13'

**Checked By:** MJL

**Client:** John H. Hendrix Corporation

**Project:** Will Cary # 5

**Project No.:** 4-0123

**Location:** Lea County, New Mexico

**Log:** MW-2

**Geologist:** M. J. Larson

**Page:** 1 of 1

SUBSURFACE PROFILE				SAMPLE			PID Measurement			Well Detail	Notes
Depth	Description	Symbol	Ground Elevation	Number	Type	Recovery	(PPM)				
							50	100	150		
5	<b>Silty Sand</b> 10 YR 7/3, brown, very fine grained quartz sand, very poorly sorted, subround, dry	[Symbol]								Well finished with locking cap above grade cover anchored in concrete	
10	<b>Sand</b> 7.5 YR 7/2, to 7/3, pinkish gray to pink, very fine grained quartz sand, very poorly sorted, round, dry	[Symbol]									
20	<b>Caliche</b> 10 YR 7/2 to 8/2, light gray to very pale brown, very fine grained quartz sand, hard, indurated	[Symbol]								0.00' - 58.00' BGS Cement - benonite grout	
30	<b>Silty Sand</b> 7.5 YR 7/3, pink, very fine grained quartz sand, poorly sorted, weakly cemented	[Symbol]								0.00' - 65.41' BGS 2" Sch. 40 PVC threaded riser	
60		[Symbol]								58.00' - 62.00' BGS Benonite Chips	
65		[Symbol]								62.00' - 82.40' BGS 10-20 Silica sand	
70		[Symbol]								70.51' BGS Water level , 4/13/06	
80	<b>Shale</b> 2.5 YR 4/6, red, silty, very fine grained quartz sand, firm	[Symbol]								65.41' - 79.72' BGS 2" Sch. 40 PVC threaded screen 0.010" slots 80.40' BGS 2" Sch. 40 PVC threaded cap	
85	<b>TD: 82.40'</b>	[Symbol]									
90		[Symbol]									

**Drilled By:** Scarborough Drilling

**Drill Method:** Water Rotary

**Drill Date:** 11-08-05

Larson and Associates Inc.  
507 N. Marienfeld, Suite 202  
Midland, Texas 79701  
(432) 687-0901

**Boring Diameter:** 5"

**TOC Elevation:** 3370.25'

**Checked By:** MJL

**Client:** John H. Hendrix Corporation

**Project:** Will Cary # 5

**Project No.:** 4-0123

**Location:** Lea County, New Mexico

**Log:** MW-3

**Geologist:** Mark J. Larson

**Page:** 1 of 1

SUBSURFACE PROFILE				SAMPLE			PID Measurement			Well Detail	Notes
Depth	Description	Symbol	Ground Elevation	Number	Type	Recovery	(PPM)				
							50	100	150		
5	<b>Silty Sand</b> 10 YR 4/3, brown, very fine grained quartz sand, dry	[Symbol]									Well finished with locking cap above grade cover anchored in concrete
10	<b>Silty Sand</b> 7.5 YR 7/2, pinkish gray, very fine grained quartz sand, poorly sorted, loose	[Symbol]									
15	<b>Caliche</b> 10 YR 7/2, gray, sandy, very fine grained quartz sand, indurated to interbedded with sand	[Symbol]									0.00' - 62.00' BGS cement - benonite grout
25	<b>Silty Sand</b> 7.5 YR 7/3, pink, very fine grained quartz sand, moderately to poorly sorted, interbedded with caliche	[Symbol]									0.00' - 68.64' BGS 2" Sch. 40 PVC threaded riser
45	<b>Sand</b> 5 YR 5/6, reddish yellow, very fine grained quartz sand, moderately sorted, weakly to well cemented, hard from 71.0' to 73.0'	[Symbol]									
60											62.00' - 66.50' BGS benonite chips
65											66.50' - 78.68' BGS 10-20 Silica sand
70											68.66' BGS, water level, 4/13/06
75											68.64' - 78.08' BGS 2" Sch. 40 PVC threaded screen, 0.010" slots
80	<b>Shale</b> 2.5 YR 4/6, red, silty, very fine grained quartz sand, hard	[Symbol]									78.68' BGS 2" Sch. 40 PVC threaded cap
85											78.68' - 80.00' BGS Silica sand
90											

**Drilled By:** Scarborough Drilling

**Drill Method:** Water Rotary

**Drill Date:** 02-23-06

Larson and Associates Inc.  
507 N. Marienfeld, Suite 202  
Midland, Texas 79701  
(432) 687-0901

**Boring Diameter:** 5"

**TOC Elevation:** 3366.93'

**Checked By:** MJL

**Client:** John H. Hendrix Corporation

**Project:** Will Cary # 5

**Project No.:** 4-0123

**Location:** Lea County, New Mexico

**Log:** MW-4

**Geologist:** M. J. Larson

**Page:** 1 of 1

SUBSURFACE PROFILE				SAMPLE			PID Measurement			Well Detail	Notes
Depth	Description	Symbol	Ground Elevation	Number	Type	Recovery	(PPM)				
							50	100	150		
5	<b>Silty Sand</b> 10 YR 4/3, brown, very fine grained quartz sand, dry, loose	[Symbol]								Well finished with locking cap above grade cover anchored in concrete	
10	<b>Silty Sand</b> 7.5 YR 7/2, pinkish gray, very fine grained quartz sand, poorly sorted, dry, loose	[Symbol]									
15											
20	<b>Caliche</b> 10 YR 7/3, gray, sandy, very fine grained quartz sand, cemented to hard, indurated to interbedded with sand	[Symbol]								0.00' - 64.00' BGS cement - benonite grout	
25											
30	<b>Silty Sand</b> 7.5 YR 7/3, pink, very fine grained quartz sand, moderately to poorly sorted, interbedded with caliche, moderately cemented	[Symbol]								0.00' - 68.94' BGS 2" Sch. 40 PVC threaded riser	
35											
40											
45											
50											
55	<b>Sand</b> 5 YR 5/6, reddish yellow, very fine grained quartz sand, moderately sorted, weakly to well cemented, hard from 71.0' to 73.0'	[Symbol]									
60											
65										64.00' - 67.00' BGS benonite chips	
70										68.07' BGS, water level, 4/13/06	
75										67.00' - 78.98' BGS 10-20 silica sand	
80	<b>Shale</b> 2.5 YR 4/6, red, silty, very fine grained quartz sand, hard	[Symbol]								68.94' - 78.38' BGS 2" Sch. 40 PVC threaded screen, 0.010" slots	
85										78.98' BGS 2" Sch. 40 PVC threaded cap	
90											

**Drilled By:** Scarborough Drilling

**Drill Method:** Water Rotary

**Drill Date:** 02-23-06

Larson and Associates Inc.  
507 N. Marienfeld, Suite 202  
Midland, Texas 79701  
(432) 687-0901

**Boring Diameter:** 5"

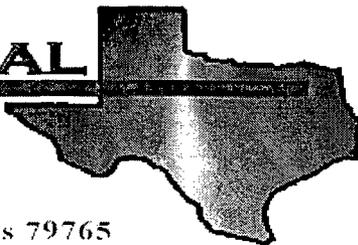
**TOC Elevation:** 3365.46'

**Checked By:** MJL

**APPENDIX C**

**Laboratory Reports**

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



12600 West I-20 East - Odessa, Texas 79765

## Analytical Report

**Prepared for:**

Mark Larson

Larson & Associates, Inc.

P.O. Box 50685

Midland, TX 79710

Project: John H. Hendrix/ Will Cary #5

Project Number: 4-0123

Location: None Given

Lab Order Number: 5I21001

Report Date: 09/27/05

Larson & Associates, Inc.  
P.O. Box 50685  
Midland TX, 79710

Project: John H. Hendrix/ Will Cary #5  
Project Number: 4-0123  
Project Manager: Mark Larson

Fax: (432) 687-0456  
**Reported:**  
09/27/05 17:31

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	5I21001-01	Water	09/20/05 11:30	09/21/05 09:05

Larson & Associates, Inc.  
P.O. Box 50685  
Midland TX, 79710

Project: John H. Hendrix/ Will Cary #5  
Project Number: 4-0123  
Project Manager: Mark Larson

Fax: (432) 687-0456  
Reported:  
09/27/05 17:31

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-1 (SI21001-01) Water</b>									
Benzene	ND	0.00100	mg/L	1	E152622	09/26/05	09/26/05	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
Surrogate: <i>a,a,a</i> -Trifluorotoluene		93.2 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.0 %	80-120		"	"	"	"	

Larson & Associates, Inc.  
P.O. Box 50685  
Midland TX, 79710

Project: John H. Hendrix/ Will Cary #5  
Project Number: 4-0123  
Project Manager: Mark Larson

Fax: (432) 687-0456

Reported:  
09/27/05 17:31

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-1 (5I21001-01) Water</b>									
Total Alkalinity	233	2.00	mg/L	1	EI52214	09/21/05	09/21/05	EPA 310.2M	
Chloride	9550	250	"	500	EI52207	09/22/05	09/22/05	EPA 300.0	
Total Dissolved Solids	19300	5.00	"	1	EI52607	09/21/05	09/22/05	EPA 160.1	
Sulfate	1200	250	"	500	EI52207	09/22/05	09/22/05	EPA 300.0	

Larson & Associates, Inc.  
P.O. Box 50685  
Midland TX, 79710

Project: John H. Hendrix/ Will Cary #5  
Project Number: 4-0123  
Project Manager: Mark Larson

Fax: (432) 687-0456  
Reported:  
09/27/05 17:31

**Total Metals by EPA / Standard Methods**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-1 (SI21001-01) Water</b>									
Silver	ND	0.00500	mg/L	1	EI52603	09/22/05	09/23/05	EPA 6010B	
Arsenic	0.0162	0.00800	"	"	"	"	"	"	
Barium	0.371	0.00100	"	"	"	"	"	6010B	
Calcium	870	2.00	"	200	EI52709	09/27/05	09/27/05	EPA 6010B	
Magnesium	519	0.0500	"	50	"	"	"	"	
Potassium	102	10.0	"	200	"	"	"	"	
Sodium	4300	20.0	"	2000	"	"	"	"	
Cadmium	ND	0.00100	"	1	EI52603	09/22/05	09/23/05	"	
Chromium	ND	0.00500	"	"	"	"	"	"	
Mercury	ND	0.000500	"	"	EI52712	09/27/05	09/27/05	EPA 7470A	
Lead	ND	0.0110	"	"	EI52603	09/22/05	09/23/05	EPA 6010B	
Selenium	0.00610	0.00400	"	"	"	"	"	"	

Larson & Associates, Inc.  
P.O. Box 50685  
Midland TX, 79710

Project: John H. Hendrix/ Will Cary #5  
Project Number: 4-0123  
Project Manager: Mark Larson

Fax: (432) 687-0456

Reported:  
09/27/05 17:31

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EI52622 - EPA 5030C (GC)**

**Blank (EI52622-BLK1)**

Prepared & Analyzed: 09/26/05

Benzene	ND	0.00100	mg/L							
Toluene	ND	0.00100	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00100	"							
Xylene (o)	ND	0.00100	"							
Surrogate: a,a,a-Trifluorotoluene	44.5		ug/l	40.0		111	80-120			
Surrogate: 4-Bromofluorobenzene	47.8		"	40.0		120	80-120			

**LCS (EI52622-BS1)**

Prepared & Analyzed: 09/26/05

Benzene	43.1		ug/l	50.0		86.2	80-120			
Toluene	41.6		"	50.0		83.2	80-120			
Ethylbenzene	49.3		"	50.0		98.6	80-120			
Xylene (p/m)	91.4		"	100		91.4	80-120			
Xylene (o)	52.4		"	50.0		105	80-120			
Surrogate: a,a,a-Trifluorotoluene	38.0		"	40.0		95.0	80-120			
Surrogate: 4-Bromofluorobenzene	42.0		"	40.0		105	80-120			

**Calibration Check (EI52622-CCV1)**

Prepared: 09/26/05 Analyzed: 09/27/05

Benzene	49.9		ug/l	50.0		99.8	80-120			
Toluene	44.9		"	50.0		89.8	80-120			
Ethylbenzene	50.2		"	50.0		100	80-120			
Xylene (p/m)	92.4		"	100		92.4	80-120			
Xylene (o)	50.9		"	50.0		102	80-120			
Surrogate: a,a,a-Trifluorotoluene	40.2		"	40.0		100	0-200			
Surrogate: 4-Bromofluorobenzene	39.6		"	40.0		99.0	0-200			

**Matrix Spike (EI52622-MS1)**

Source: 5I23008-07

Prepared: 09/26/05 Analyzed: 09/27/05

Benzene	0.0413	0.00100	mg/L	0.0500	ND	82.6	80-120			
Toluene	0.0406	0.00100	"	0.0500	ND	81.2	80-120			
Ethylbenzene	0.0483	0.00100	"	0.0500	ND	96.6	80-120			
Xylene (p/m)	0.0887	0.00100	"	0.100	ND	88.7	80-120			
Xylene (o)	0.0537	0.00100	"	0.0500	ND	107	80-120			
Surrogate: a,a,a-Trifluorotoluene	33.5		ug/l	40.0		83.8	80-120			
Surrogate: 4-Bromofluorobenzene	43.5		"	40.0		109	80-120			

Larson & Associates, Inc.  
P.O. Box 50685  
Midland TX, 79710

Project: John H. Hendrix/ Will Cary #5  
Project Number: 4-0123  
Project Manager: Mark Larson

Fax: (432) 687-0456

Reported:  
09/27/05 17:31

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EI52622 - EPA 5030C (GC)**

**Matrix Spike Dup (EI52622-MSD1)**

Source: 5123008-07

Prepared: 09/26/05

Analyzed: 09/27/05

Benzene	0.0461	0.00100	mg/L	0.0500	ND	92.2	80-120	11.0	20	
Toluene	0.0448	0.00100	"	0.0500	ND	89.6	80-120	9.84	20	
Ethylbenzene	0.0553	0.00100	"	0.0500	ND	111	80-120	13.9	20	
Xylene (p/m)	0.0985	0.00100	"	0.100	ND	98.5	80-120	10.5	20	
Xylene (o)	0.0572	0.00100	"	0.0500	ND	114	80-120	6.33	20	
Surrogate: a,a,a-Trifluorotoluene	34.5		ug/l	40.0		86.2	80-120			
Surrogate: 4-Bromofluorobenzene	46.8		"	40.0		117	80-120			

Environmental Lab of Texas

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

Page 6 of 12

Larson & Associates, Inc.  
P.O. Box 50685  
Midland TX, 79710

Project: John H. Hendrix/ Will Cary #5  
Project Number: 4-0123  
Project Manager: Mark Larson

Fax: (432) 687-0456

Reported:  
09/27/05 17:31

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EI52207 - General Preparation (WetChem)**

**Blank (EI52207-BLK1)** Prepared & Analyzed: 09/22/05

Sulfate	ND	0.500	mg/L							
Chloride	ND	0.500	"							

**LCS (EI52207-BS1)** Prepared & Analyzed: 09/22/05

Sulfate	8.98		mg/L	10.0		89.8	80-120			
Chloride	8.42		"	10.0		84.2	80-120			

**Calibration Check (EI52207-CCV1)** Prepared & Analyzed: 09/22/05

Chloride	8.44		mg/L	10.0		84.4	80-120			
Sulfate	8.99		"	10.0		89.9	80-120			

**Duplicate (EI52207-DUP1)** Source: 5I19032-06 Prepared & Analyzed: 09/22/05

Chloride	2040	100	mg/L		2070			1.46	20	
Sulfate	796	100	"		804			1.00	20	

**Batch EI52214 - General Preparation (WetChem)**

**Blank (EI52214-BLK1)** Prepared & Analyzed: 09/21/05

Total Alkalinity	ND	2.00	mg/L							
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**Calibration Check (EI52214-CCV1)** Prepared & Analyzed: 09/21/05

Bicarbonate Alkalinity	229		mg/L	200		114	80-120			
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**Duplicate (EI52214-DUP1)** Source: 5I19006-01 Prepared & Analyzed: 09/21/05

Total Alkalinity	174	2.00	mg/L		173			0.576	20	
------------------	-----	------	------	--	-----	--	--	-------	----	--

Larson & Associates, Inc.  
P.O. Box 50685  
Midland TX, 79710

Project: John H. Hendrix/ Will Cary #5  
Project Number: 4-0123  
Project Manager: Mark Larson

Fax: (432) 687-0456

Reported:  
09/27/05 17:31

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

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

**Batch EI52607 - General Preparation (WetChem)**

**Blank (EI52607-BLK1)**

Prepared & Analyzed: 09/22/05

Total Dissolved Solids                      ND                      5.00                      mg/L

**Duplicate (EI52607-DUP1)**

Source: 5I19003-01

Prepared & Analyzed: 09/22/05

Total Dissolved Solids                      812                      5.00                      mg/L                      840                      3.39                      5

**Duplicate (EI52607-DUP2)**

Source: 5I19033-08

Prepared & Analyzed: 09/22/05

Total Dissolved Solids                      22100                      5.00                      mg/L                      22400                      1.35                      5

Larson & Associates, Inc.  
P.O. Box 50685  
Midland TX, 79710

Project: John H. Hendrix/ Will Cary #5  
Project Number: 4-0123  
Project Manager: Mark Larson

Fax: (432) 687-0456

Reported:  
09/27/05 17:31

**Total Metals by EPA / Standard Methods - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EI52603 - EPA 3005A**

**Blank (EI52603-BLK1)**

Prepared: 09/22/05 Analyzed: 09/23/05

Selenium	ND	0.00400	mg/L							
Lead	ND	0.0110	"							
Chromium	ND	0.00500	"							
Cadmium	ND	0.00100	"							
Barium	ND	0.00100	"							
Arsenic	ND	0.00800	"							
Silver	ND	0.00500	"							

**LCS (EI52603-BS1)**

Prepared: 09/22/05 Analyzed: 09/23/05

Cadmium	0.203	0.00100	mg/L	0.200		102	85-115			
Selenium	0.424	0.00400	"	0.400		106	85-115			
Silver	0.103	0.00500	"	0.100		103	85-115			
Chromium	0.205	0.00500	"	0.200		102	85-115			
Barium	0.215	0.00100	"	0.200		108	85-115			
Arsenic	0.822	0.00800	"	0.800		103	85-115			
Lead	1.08	0.0110	"	1.10		98.2	85-115			

**LCS Dup (EI52603-BSD1)**

Prepared: 09/22/05 Analyzed: 09/23/05

Silver	0.0953	0.00500	mg/L	0.100		95.3	85-115	7.77	20	
Chromium	0.213	0.00500	"	0.200		106	85-115	3.83	20	
Cadmium	0.200	0.00100	"	0.200		100	85-115	1.49	20	
Barium	0.212	0.00100	"	0.200		106	85-115	1.41	20	
Arsenic	0.835	0.00800	"	0.800		104	85-115	1.57	20	
Selenium	0.434	0.00400	"	0.400		108	85-115	2.33	20	
Lead	1.07	0.0110	"	1.10		97.3	85-115	0.930	20	

**Calibration Check (EI52603-CCV1)**

Prepared: 09/22/05 Analyzed: 09/23/05

Lead	1.04		mg/L	1.00		104	90-110			
Barium	1.08		"	1.00		108	90-110			
Cadmium	1.08		"	1.00		108	90-110			
Selenium	1.03		"	1.00		103	90-110			
Arsenic	1.06		"	1.00		106	90-110			
Chromium	1.10		"	1.00		110	90-110			
Silver	0.521		"	0.500		104	90-110			

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P.O. Box 50685  
Midland TX, 79710

Project: John H. Hendrix/ Will Cary #5  
Project Number: 4-0123  
Project Manager: Mark Larson

Fax: (432) 687-0456

Reported:  
09/27/05 17:31

**Total Metals by EPA / Standard Methods - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EI52603 - EPA 3005A**

<b>Matrix Spike (EI52603-MS1)</b>		<b>Source: 5I21001-01</b>		<b>Prepared: 09/22/05</b>		<b>Analyzed: 09/23/05</b>				
Chromium	0.185	0.00500	mg/L	0.200	ND	92.5	75-125			
Cadmium	0.193	0.00100	"	0.200	ND	96.5	75-125			
Lead	1.19	0.0110	"	1.10	ND	108	75-125			
Selenium	0.443	0.00400	"	0.400	0.00610	109	75-125			
Silver	0.150	0.00500	"	0.100	ND	150	75-125			
Arsenic	0.882	0.00800	"	0.800	0.0162	108	75-125			
Barium	0.577	0.00100	"	0.200	0.371	103	75-125			

<b>Matrix Spike Dup (EI52603-MSD1)</b>		<b>Source: 5I21001-01</b>		<b>Prepared: 09/22/05</b>		<b>Analyzed: 09/23/05</b>				
Barium	0.575	0.00100	mg/L	0.200	0.371	102	75-125	0.347		20
Cadmium	0.195	0.00100	"	0.200	ND	97.5	75-125	1.03		20
Chromium	0.197	0.00500	"	0.200	ND	98.5	75-125	6.28		20
Lead	1.16	0.0110	"	1.10	ND	105	75-125	2.55		20
Selenium	0.435	0.00400	"	0.400	0.00610	107	75-125	1.82		20
Arsenic	0.866	0.00800	"	0.800	0.0162	106	75-125	1.83		20
Silver	0.157	0.00500	"	0.100	ND	157	75-125	4.56		20

<b>Post Spike (EI52603-PS1)</b>		<b>Source: 5I21001-01</b>		<b>Prepared: 09/22/05</b>		<b>Analyzed: 09/23/05</b>				
Silver	0.170		mg/L	0.100	ND	170	85-115			PS-1

**Batch EI52709 - 6010B/No Digestion**

<b>Blank (EI52709-BLK1)</b>		<b>Prepared &amp; Analyzed: 09/27/05</b>									
Calcium	ND	0.0100	mg/L								
Magnesium	ND	0.00100	"								
Potassium	ND	0.0500	"								
Sodium	ND	0.0100	"								

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Fax: (432) 687-0456  
Reported:  
09/27/05 17:31

**Total Metals by EPA / Standard Methods - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EI52709 - 6010B/No Digestion**

**Calibration Check (EI52709-CCV1)**

Prepared & Analyzed: 09/27/05

Calcium	2.02		mg/L	2.00		101	85-115			
Magnesium	1.83		"	2.00		91.5	85-115			
Potassium	2.08		"	2.00		104	85-115			
Sodium	1.77		"	2.00		88.5	85-115			

**Duplicate (EI52709-DUP1)**

Source: 5I19003-01

Prepared & Analyzed: 09/27/05

Calcium	78.0	0.500	mg/L		80.2			2.78	20	
Magnesium	32.2	0.0100	"		32.6			1.23	20	
Potassium	8.07	0.250	"		8.08			0.124	20	
Sodium	88.9	0.500	"		87.7			1.36	20	

**Batch EI52712 - EPA 7470A**

**Blank (EI52712-BLK1)**

Prepared & Analyzed: 09/27/05

Mercury	ND	0.000500	mg/L							
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**LCS (EI52712-BS1)**

Prepared & Analyzed: 09/27/05

Mercury	0.000860	0.000500	mg/L	0.00100		86.0	85-115			
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**Calibration Check (EI52712-CCV1)**

Prepared & Analyzed: 09/27/05

Mercury	0.000900		mg/L	0.00100		90.0	90-110			
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**Matrix Spike (EI52712-MS1)**

Source: 5I21001-01

Prepared & Analyzed: 09/27/05

Mercury	0.000750	0.000500	mg/L	0.00100	ND	75.0	75-125			
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**Matrix Spike Dup (EI52712-MSD1)**

Source: 5I21001-01

Prepared & Analyzed: 09/27/05

Mercury	0.000760	0.000500	mg/L	0.00100	ND	76.0	75-125	1.32	20	
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Project Number: 4-0123  
Project Manager: Mark Larson

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Reported:  
09/27/05 17:31

### Notes and Definitions

PS-1 Matix spike recoveries were outside method and/or historical control limits due to matrix interference. Interference was confirmed by similar results from a post matrix spike.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

LCS Laboratory Control Spike

MS Matrix Spike

Dup Duplicate

Report Approved By: Raland K Tuttle

Date: 9-28-05

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

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

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

Environmental Lab of Texas

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# Environmental Lab of Texas

## Variance / Corrective Action Report – Sample Log-In

Client: Larson

Date/Time: 9/21/05 9:05

Order #: 5I21001

Initials: CK

### Sample Receipt Checklist

Temperature of container/cooler?	Yes	No	1.0	C
Shipping container/cooler in good condition?	<del>Yes</del>	No		
Custody Seals intact on shipping container/cooler?	Yes	No	<del>Not present</del>	
Custody Seals intact on sample bottles?	Yes	No	<del>Not present</del>	
Chain of custody present?	<del>Yes</del>	No		
Sample Instructions complete on Chain of Custody?	<del>Yes</del>	No		
Chain of Custody signed when relinquished and received?	<del>Yes</del>	No		
Chain of custody agrees with sample label(s)	<del>Yes</del>	No		
Container labels legible and intact?	<del>Yes</del>	No		
Sample Matrix and properties same as on chain of custody?	<del>Yes</del>	No		
Samples in proper container/bottle?	<del>Yes</del>	No		
Samples properly preserved?	<del>Yes</del>	No		
Sample bottles intact?	<del>Yes</del>	No		
Preservations documented on Chain of Custody?	<del>Yes</del>	No		
Containers documented on Chain of Custody?	<del>Yes</del>	No		
Sufficient sample amount for indicated test?	<del>Yes</del>	No		
All samples received within sufficient hold time?	<del>Yes</del>	No		
VOC samples have zero headspace?	<del>Yes</del>	No	Not Applicable	

Other observations:

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### Variance Documentation:

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

Corrective Action Taken:

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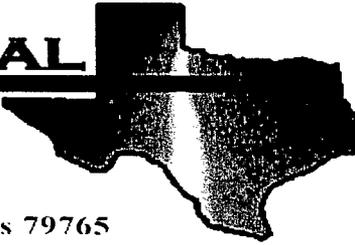
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**E** NVIRONMENTAL  
LAB OF



12600 West I-20 East - Odessa, Texas 79765

## Analytical Report

**Prepared for:**

Mark Larson  
Larson & Associates, Inc.  
P.O. Box 50685  
Midland, TX 79710

Project: John Hendrix/ Will Cary #5

Project Number: 4-0123

Location: None Given

Lab Order Number: 6D13006

Report Date: 04/25/06

Larson & Associates, Inc.  
P.O. Box 50685  
Midland TX, 79710

Project: John Hendrix/ Will Cary #5  
Project Number: 4-0123  
Project Manager: Mark Larson

Fax: (432) 687-0456

**Reported:**  
04/25/06 14:17

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-3	6D13006-01	Water	04/11/06 11:10	04/13/06 09:00
MW-5	6D13006-02	Water	04/11/06 12:07	04/13/06 09:00
MW-4	6D13006-03	Water	04/11/06 12:55	04/13/06 09:00
MW-2	6D13006-04	Water	04/11/06 13:35	04/13/06 09:00
MW-1	6D13006-05	Water	04/11/06 14:30	04/13/06 09:00

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Reported:  
04/25/06 14:17

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-3 (6D13006-01) Water</b>									
Benzene	ND	0.00100	mg/L	1	ED61702	04/17/06	04/18/06	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		82.0 %	80-120		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		90.0 %	80-120		"	"	"	"	
<b>MW-5 (6D13006-02) Water</b>									
Benzene	ND	0.00100	mg/L	1	ED61702	04/17/06	04/18/06	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		99.8 %	80-120		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		91.0 %	80-120		"	"	"	"	
<b>MW-4 (6D13006-03) Water</b>									
Benzene	ND	0.00100	mg/L	1	ED61702	04/17/06	04/18/06	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		95.8 %	80-120		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.0 %	80-120		"	"	"	"	
<b>MW-2 (6D13006-04) Water</b>									
Benzene	ND	0.00100	mg/L	1	ED61702	04/17/06	04/19/06	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		94.5 %	80-120		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		87.0 %	80-120		"	"	"	"	

Environmental Lab of Texas

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Larson & Associates, Inc.  
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Midland TX, 79710

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Project Number: 4-0123  
Project Manager: Mark Larson

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Reported:  
04/25/06 14:17

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-1 (6D13006-05) Water</b>									
Benzene	ND	0.00100	mg/L	1	ED61702	04/17/06	04/18/06	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
Surrogate: <i>a,a,a</i> -Trifluorotoluene		97.5 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	80-120		"	"	"	"	

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Reported:  
04/25/06 14:17

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-3 (6D13006-01) Water</b>									
Total Alkalinity	164	2.00	mg/L	1	ED61405	04/14/06	04/14/06	EPA 310.1M	
Chloride	248	5.00	"	10	ED61710	04/17/06	04/17/06	EPA 300.0	
Total Dissolved Solids	1180	5.00	"	1	ED61705	04/13/06	04/14/06	EPA 160.1	
Sulfate	367	5.00	"	10	ED61710	04/17/06	04/17/06	EPA 300.0	
<b>MW-5 (6D13006-02) Water</b>									
Total Alkalinity	192	2.00	mg/L	1	ED61405	04/14/06	04/14/06	EPA 310.1M	
Chloride	185	5.00	"	10	ED61710	04/17/06	04/17/06	EPA 300.0	
Total Dissolved Solids	754	5.00	"	1	ED61705	04/13/06	04/14/06	EPA 160.1	
Sulfate	157	5.00	"	10	ED61710	04/17/06	04/17/06	EPA 300.0	
<b>MW-4 (6D13006-03) Water</b>									
Total Alkalinity	200	2.00	mg/L	1	ED61405	04/14/06	04/14/06	EPA 310.1M	
Chloride	146	5.00	"	10	ED61710	04/17/06	04/17/06	EPA 300.0	
Total Dissolved Solids	638	5.00	"	1	ED61705	04/13/06	04/14/06	EPA 160.1	
Sulfate	155	5.00	"	10	ED61710	04/17/06	04/17/06	EPA 300.0	
<b>MW-2 (6D13006-04) Water</b>									
Total Alkalinity	163	2.00	mg/L	1	ED61405	04/14/06	04/14/06	EPA 310.1M	
Chloride	142	5.00	"	10	ED61710	04/17/06	04/17/06	EPA 300.0	
Total Dissolved Solids	756	5.00	"	1	ED61705	04/13/06	04/14/06	EPA 160.1	
Sulfate	214	5.00	"	10	ED61710	04/17/06	04/17/06	EPA 300.0	
<b>MW-1 (6D13006-05) Water</b>									
Total Alkalinity	378	2.00	mg/L	1	ED61405	04/14/06	04/14/06	EPA 310.1M	
Chloride	10000	250	"	500	ED61710	04/17/06	04/17/06	EPA 300.0	
Total Dissolved Solids	19600	5.00	"	1	ED61705	04/13/06	04/14/06	EPA 160.1	
Sulfate	671	100	"	200	ED61710	04/17/06	04/17/06	EPA 300.0	

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Project: John Hendrix/ Will Cary #5  
Project Number: 4-0123  
Project Manager: Mark Larson

Fax: (432) 687-0456

Reported:  
04/25/06 14:17

**Total Metals by EPA / Standard Methods  
Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-3 (6D13006-01) Water</b>									
Calcium	98.4	0.100	mg/L	10	ED61308	04/13/06	04/13/06	EPA 6010B	
Magnesium	65.2	0.0100	"	"	"	"	"	"	
Potassium	10.6	0.500	"	"	"	"	"	"	
Sodium	146	0.500	"	50	"	"	"	"	
Mercury	ND	0.000250	"	1	ED61414	04/13/06	04/14/06	EPA 7470A	
Chromium	0.00367	0.000644	"	"	ED61411	04/13/06	04/14/06	EPA 6020A	
Arsenic	0.00923	0.00194	"	"	"	"	"	"	
Selenium	0.0177	0.00258	"	"	"	"	"	"	
Silver	ND	0.000754	"	"	"	"	"	"	
Cadmium	ND	0.000297	"	"	"	"	"	"	
Barium	0.0369	0.000265	"	"	"	"	"	"	
Lead	ND	0.000843	"	"	"	"	"	"	

**MW-5 (6D13006-02) Water**

Calcium	49.3	0.100	mg/L	10	ED61308	04/13/06	04/13/06	EPA 6010B	
Magnesium	32.3	0.0100	"	"	"	"	"	"	
Potassium	8.48	0.500	"	"	"	"	"	"	
Sodium	175	0.500	"	50	"	"	"	"	
Mercury	ND	0.000250	"	1	ED61414	04/13/06	04/14/06	EPA 7470A	
Chromium	0.00330	0.000644	"	"	ED61411	04/13/06	04/14/06	EPA 6020A	
Arsenic	0.0113	0.00194	"	"	"	"	"	"	
Selenium	0.0113	0.00258	"	"	"	"	"	"	
Silver	J [0.000504]	0.000754	"	"	"	"	"	"	J
Cadmium	ND	0.000297	"	"	"	"	"	"	
Barium	0.0676	0.000265	"	"	"	"	"	"	
Lead	0.00122	0.000843	"	"	"	"	"	"	

**MW-4 (6D13006-03) Water**

Calcium	55.3	0.100	mg/L	10	ED61308	04/13/06	04/13/06	EPA 6010B	
Magnesium	37.6	0.0100	"	"	"	"	"	"	
Potassium	8.62	0.500	"	"	"	"	"	"	
Sodium	115	0.500	"	50	"	"	"	"	
Mercury	0.0000500	0.000250	"	1	ED61414	04/13/06	04/14/06	EPA 7470A	J
Chromium	0.00411	0.000644	"	"	ED61411	04/13/06	04/14/06	EPA 6020A	
Arsenic	0.00567	0.00194	"	"	"	"	"	"	
Selenium	0.00834	0.00258	"	"	"	"	"	"	
Silver	ND	0.000754	"	"	"	"	"	"	
Cadmium	ND	0.000297	"	"	"	"	"	"	

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Larson & Associates, Inc.  
P.O. Box 50685  
Midland TX, 79710

Project: John Hendrix/ Will Cary #5  
Project Number: 4-0123  
Project Manager: Mark Larson

Fax: (432) 687-0456

Reported:  
04/25/06 14:17

**Total Metals by EPA / Standard Methods  
Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-4 (6D13006-03) Water</b>									
Barium	0.0529	0.000265	mg/L	1	ED61411	04/13/06	04/14/06	EPA 6020A	
Lead	ND	0.000843	"	"	"	"	"	"	
<b>MW-2 (6D13006-04) Water</b>									
Silver	0.0106	0.00405	mg/L	10	ED62408	04/13/06	04/24/06	EPA 6020A	
Calcium	60.1	0.100	"	"	ED61308	04/13/06	04/13/06	EPA 6010B	
Magnesium	44.8	0.0100	"	"	"	"	"	"	
Potassium	7.90	0.500	"	"	"	"	"	"	
Sodium	113	0.500	"	50	"	"	"	"	
Mercury	J [0.0000600]	0.000250	"	1	ED61414	04/13/06	04/14/06	EPA 7470A	J
Chromium	0.00458	0.000644	"	"	ED61411	04/13/06	04/14/06	EPA 6020A	
Arsenic	0.0147	0.00194	"	"	"	"	"	"	
Selenium	0.0103	0.00258	"	"	"	"	"	"	
Silver	ND	0.000754	"	"	"	"	"	"	
Cadmium	ND	0.000297	"	"	"	"	"	"	
Barium	0.0339	0.000265	"	"	"	"	"	"	
Lead	ND	0.000843	"	"	"	"	"	"	
<b>MW-1 (6D13006-05) Water</b>									
Calcium	744	2.00	mg/L	200	ED61308	04/13/06	04/13/06	EPA 6010B	
Magnesium	448	0.200	"	"	"	"	"	"	
Potassium	141	2.50	"	50	"	"	"	"	
Sodium	7590	50.0	"	5000	"	"	"	"	
Mercury	ND	0.000250	"	1	ED61414	04/13/06	04/14/06	EPA 7470A	
Chromium	J [0.00331]	0.00644	"	10	ED62408	04/13/06	04/24/06	EPA 6020A	J
Arsenic	0.0486	0.0194	"	"	"	"	"	"	
Selenium	J [0.0123]	0.0258	"	"	"	"	"	"	J
Silver	0.0219	0.00754	"	"	"	"	"	"	
Cadmium	ND	0.00297	"	"	"	"	"	"	
Barium	0.0851	0.00265	"	"	"	"	"	"	
Lead	ND	0.00843	"	"	"	"	"	"	

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Larson & Associates, Inc.  
P.O. Box 50685  
Midland TX, 79710

Project: John Hendrix/ Will Cary #5  
Project Number: 4-0123  
Project Manager: Mark Larson

Fax: (432) 687-0456

Reported:  
04/25/06 14:17

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch ED61702 - EPA 5030C (GC)**

**Blank (ED61702-BLK1)**

Prepared & Analyzed: 04/17/06

Benzene	ND	0.00100	mg/L							
Toluene	ND	0.00100	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00100	"							
Xylene (o)	ND	0.00100	"							
Surrogate: a,a,a-Trifluorotoluene	38.1		ug/l	40.0		95.2	80-120			
Surrogate: 4-Bromofluorobenzene	33.2		"	40.0		83.0	80-120			

**LCS (ED61702-BS1)**

Prepared & Analyzed: 04/17/06

Benzene	0.0505	0.00100	mg/L	0.0500		101	80-120			
Toluene	0.0529	0.00100	"	0.0500		106	80-120			
Ethylbenzene	0.0579	0.00100	"	0.0500		116	80-120			
Xylene (p/m)	0.120	0.00100	"	0.100		120	80-120			
Xylene (o)	0.0584	0.00100	"	0.0500		117	80-120			
Surrogate: a,a,a-Trifluorotoluene	32.4		ug/l	40.0		81.0	80-120			
Surrogate: 4-Bromofluorobenzene	40.2		"	40.0		100	80-120			

**Calibration Check (ED61702-CCV1)**

Prepared: 04/17/06 Analyzed: 04/18/06

Benzene	59.0		ug/l	50.0		118	80-120			
Toluene	55.5		"	50.0		111	80-120			
Ethylbenzene	57.5		"	50.0		115	80-120			
Xylene (p/m)	115		"	100		115	80-120			
Xylene (o)	58.7		"	50.0		117	80-120			
Surrogate: a,a,a-Trifluorotoluene	41.0		"	40.0		102	80-120			
Surrogate: 4-Bromofluorobenzene	42.3		"	40.0		106	80-120			

**Matrix Spike (ED61702-MS1)**

Source: 6D13006-01

Prepared: 04/17/06 Analyzed: 04/19/06

Benzene	0.0546	0.00100	mg/L	0.0500	ND	109	80-120			
Toluene	0.0567	0.00100	"	0.0500	ND	113	80-120			
Ethylbenzene	0.0587	0.00100	"	0.0500	ND	117	80-120			
Xylene (p/m)	0.120	0.00100	"	0.100	ND	120	80-120			
Xylene (o)	0.0555	0.00100	"	0.0500	ND	111	80-120			
Surrogate: a,a,a-Trifluorotoluene	42.0		ug/l	40.0		105	80-120			
Surrogate: 4-Bromofluorobenzene	44.2		"	40.0		110	80-120			

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Midland TX, 79710

Project: John Hendrix/ Will Cary #5  
Project Number: 4-0123  
Project Manager: Mark Larson

Fax: (432) 687-0456

Reported:  
04/25/06 14:17

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch ED61702 - EPA 5030C (GC)**

**Matrix Spike Dup (ED61702-MSD1)**

Source: 6D13006-01

Prepared: 04/17/06 Analyzed: 04/18/06

Benzene	0.0491	0.00100	mg/L	0.0500	ND	98.2	80-120	10.4	20	
Toluene	0.0495	0.00100	"	0.0500	ND	99.0	80-120	13.2	20	
Ethylbenzene	0.0504	0.00100	"	0.0500	ND	101	80-120	14.7	20	
Xylene (p/m)	0.111	0.00100	"	0.100	ND	111	80-120	7.79	20	
Xylene (o)	0.0555	0.00100	"	0.0500	ND	111	80-120	0.00	20	
Surrogate: a,a,a-Trifluorotoluene	37.4		ug/l	40.0		93.5	80-120			
Surrogate: 4-Bromofluorobenzene	40.2		"	40.0		100	80-120			

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Project: John Hendrix/ Will Cary #5  
Project Number: 4-0123  
Project Manager: Mark Larson

Fax: (432) 687-0456

Reported:  
04/25/06 14:17

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch ED61405 - General Preparation (WetChem)**

**Blank (ED61405-BLK1)** Prepared & Analyzed: 04/14/06

Total Alkalinity	ND	2.00	mg/L							
Hydroxide Alkalinity	ND	0.100	"							

**LCS (ED61405-BS1)** Prepared: 04/14/06 Analyzed: 04/21/06

Total Alkalinity	0.00		mg/L	200			85-115			
Carbonate Alkalinity	0.00	0.100	"				85-115			
Bicarbonate Alkalinity	216		"	200		108	85-115			
Hydroxide Alkalinity	0.00	0.100	"				85-115			

**Duplicate (ED61405-DUP1)** Source: 6D12002-01 Prepared & Analyzed: 04/14/06

Total Alkalinity	193	2.00	mg/L		194			0.517	20	
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**Reference (ED61405-SRM1)** Prepared & Analyzed: 04/14/06

Total Alkalinity	97.0		mg/L	100		97.0	90-110			
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**Batch ED61705 - General Preparation (WetChem)**

**Blank (ED61705-BLK1)** Prepared: 04/13/06 Analyzed: 04/14/06

Total Dissolved Solids	ND	5.00	mg/L							
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**Duplicate (ED61705-DUP1)** Source: 6D12002-03RE1 Prepared: 04/13/06 Analyzed: 04/14/06

Total Dissolved Solids	3410	5.00	mg/L		3580			4.86	5	
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**Batch ED61710 - General Preparation (WetChem)**

**Blank (ED61710-BLK1)** Prepared & Analyzed: 04/17/06

Sulfate	ND	0.500	mg/L							
Chloride	ND	0.500	"							

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Reported:  
04/25/06 14:17

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch ED61710 - General Preparation (WetChem)**

**LCS (ED61710-BS1)**

Prepared & Analyzed: 04/17/06

Chloride	10.1		mg/L	10.0		101	80-120			
Sulfate	9.39		"	10.0		93.9	80-120			

**Calibration Check (ED61710-CCV1)**

Prepared & Analyzed: 04/17/06

Chloride	10.7		mg/L	10.0		107	80-120			
Sulfate	11.5		"	10.0		115	80-120			

**Duplicate (ED61710-DUP1)**

Source: 6D12002-01

Prepared & Analyzed: 04/17/06

Sulfate	164	25.0	mg/L		167			1.81	20	
Chloride	2180	25.0	"		2130			2.32	20	

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Project Number: 4-0123  
Project Manager: Mark Larson

Fax: (432) 687-0456

Reported:  
04/25/06 14:17

**Total Metals by EPA / Standard Methods - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch ED61308 - 6010B/No Digestion**

**Blank (ED61308-BLK1)**

Prepared & Analyzed: 04/13/06

Calcium	ND	0.0100	mg/L							
Magnesium	ND	0.00100	"							
Potassium	ND	0.0500	"							
Sodium	ND	0.0100	"							

**Calibration Check (ED61308-CCV1)**

Prepared & Analyzed: 04/13/06

Calcium	2.00		mg/L	2.00		100	85-115			
Magnesium	2.17		"	2.00		108	85-115			
Potassium	1.80		"	2.00		90.0	85-115			
Sodium	2.08		"	2.00		104	85-115			

**Duplicate (ED61308-DUP1)**

Source: 6D12002-01

Prepared & Analyzed: 04/13/06

Calcium	285	0.500	mg/L		286			0.350	20	
Magnesium	145	0.0500	"		153			5.37	20	
Potassium	11.6	0.500	"		13.4			14.4	20	
Sodium	707	2.00	"		734			3.75	20	

**Batch ED61411 - EPA 3005A**

**Blank (ED61411-BLK1)**

Prepared: 04/13/06 Analyzed: 04/14/06

Chromium	ND	0.000644	mg/L							
Arsenic	ND	0.00194	"							
Selenium	ND	0.00258	"							
Silver	ND	0.000754	"							
Cadmium	ND	0.000297	"							
Barium	ND	0.000265	"							
Lead	ND	0.000843	"							

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Reported:  
04/25/06 14:17

**Total Metals by EPA / Standard Methods - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch ED61411 - EPA 3005A**

**LCS (ED61411-BS1)**

Prepared: 04/13/06 Analyzed: 04/14/06

Chromium	0.214	0.000644	mg/L	0.200		107	85-115			
Arsenic	0.723	0.00194	"	0.800		90.4	85-115			
Selenium	0.414	0.00258	"	0.400		104	85-115			
Silver	0.108	0.000754	"	0.100		108	85-115			
Cadmium	0.209	0.000297	"	0.200		104	85-115			
Barium	0.196	0.000265	"	0.200		98.0	85-115			
Lead	1.15	0.000843	"	1.10		105	85-115			

**LCS Dup (ED61411-BSD1)**

Prepared: 04/13/06 Analyzed: 04/14/06

Chromium	0.216	0.000644	mg/L	0.200		108	85-115	0.930	20	
Arsenic	0.740	0.00194	"	0.800		92.5	85-115	2.32	20	
Selenium	0.426	0.00258	"	0.400		106	85-115	2.86	20	
Silver	0.107	0.000754	"	0.100		107	85-115	0.930	20	
Cadmium	0.208	0.000297	"	0.200		104	85-115	0.480	20	
Barium	0.195	0.000265	"	0.200		97.5	85-115	0.512	20	
Lead	1.13	0.000843	"	1.10		103	85-115	1.75	20	

**Calibration Check (ED61411-CCV1)**

Prepared: 04/13/06 Analyzed: 04/14/06

Chromium	0.0505		mg/L	0.0500		101	90-110			
Arsenic	0.0518		"	0.0500		104	90-110			
Selenium	0.0493		"	0.0500		98.6	90-110			
Silver	0.0468		"	0.0500		93.6	90-110			
Cadmium	0.0469		"	0.0500		93.8	90-110			
Barium	0.0465		"	0.0500		93.0	90-110			
Lead	0.0498		"	0.0500		99.6	90-110			

**Matrix Spike (ED61411-MS1)**

Source: 6D13006-01

Prepared: 04/13/06 Analyzed: 04/14/06

Chromium	0.193	0.000644	mg/L	0.200	0.00367	94.7	75-125			
Arsenic	0.806	0.00194	"	0.800	0.00923	99.6	75-125			
Selenium	0.428	0.00258	"	0.400	0.0177	103	75-125			
Silver	0.0939	0.000754	"	0.100	ND	93.9	75-125			
Cadmium	0.196	0.000297	"	0.200	ND	98.0	75-125			
Barium	0.215	0.000265	"	0.200	0.0369	89.0	75-125			
Lead	1.02	0.000843	"	1.10	ND	92.7	75-125			

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**Reported:**  
04/25/06 14:17

**Total Metals by EPA / Standard Methods - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch ED61411 - EPA 3005A**

**Matrix Spike Dup (ED61411-MSD1)**

**Source: 6D13006-01**

Prepared: 04/13/06

Analyzed: 04/14/06

Chromium	0.195	0.000644	mg/L	0.200	0.00367	95.7	75-125	1.03	20	
Arsenic	0.789	0.00194	"	0.800	0.00923	97.5	75-125	2.13	20	
Selenium	0.427	0.00258	"	0.400	0.0177	102	75-125	0.234	20	
Silver	0.0910	0.000754	"	0.100	ND	91.0	75-125	3.14	20	
Cadmium	0.195	0.000297	"	0.200	ND	97.5	75-125	0.512	20	
Barium	0.211	0.000265	"	0.200	0.0369	87.0	75-125	1.88	20	
Lead	1.01	0.000843	"	1.10	ND	91.8	75-125	0.985	20	

**Batch ED61414 - EPA 7470A**

**Blank (ED61414-BLK1)**

Prepared: 04/13/06

Analyzed: 04/14/06

Mercury	ND	0.000250	mg/L							
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**LCS (ED61414-BS1)**

Prepared: 04/13/06

Analyzed: 04/14/06

Mercury	0.000960	0.000250	mg/L	0.00100		96.0	85-115			
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**LCS Dup (ED61414-BSD1)**

Prepared: 04/13/06

Analyzed: 04/14/06

Mercury	0.000980	0.000250	mg/L	0.00100		98.0	85-115	2.06	20	
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**Calibration Check (ED61414-CCV1)**

Prepared: 04/13/06

Analyzed: 04/14/06

Mercury	0.00110		mg/L	0.00100		110	90-110			
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**Matrix Spike (ED61414-MS1)**

**Source: 6D13006-01**

Prepared: 04/13/06

Analyzed: 04/14/06

Mercury	0.00113	0.000250	mg/L	0.00100	ND	113	75-125			
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**Matrix Spike Dup (ED61414-MSD1)**

**Source: 6D13006-01**

Prepared: 04/13/06

Analyzed: 04/14/06

Mercury	0.00116	0.000250	mg/L	0.00100	ND	116	75-125	2.62	20	
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Reported:  
04/25/06 14:17

**Total Metals by EPA / Standard Methods - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch ED62408 - EPA 3005A**

**Blank (ED62408-BLK1)**

Prepared: 04/21/06 Analyzed: 04/24/06

Silver	ND	0.000405	mg/L							
Chromium	ND	0.000644	"							
Arsenic	ND	0.00194	"							
Selenium	ND	0.00258	"							
Silver	ND	0.000754	"							
Cadmium	ND	0.000297	"							
Barium	ND	0.000265	"							
Lead	ND	0.000843	"							

**LCS (ED62408-BS1)**

Prepared: 04/21/06 Analyzed: 04/24/06

Silver	0.107	0.000405	mg/L	0.100		107	85-115			
Chromium	0.210	0.000644	"	0.200		105	85-115			
Arsenic	0.729	0.00194	"	0.800		91.1	85-115			
Selenium	0.405	0.00258	"	0.400		101	85-115			
Silver	0.107	0.000754	"	0.100		107	85-115			
Cadmium	0.209	0.000297	"	0.200		104	85-115			
Barium	0.201	0.000265	"	0.200		100	85-115			
Lead	1.12	0.000843	"	1.10		102	85-115			

**LCS Dup (ED62408-BSD1)**

Prepared: 04/21/06 Analyzed: 04/24/06

Silver	0.110	0.000405	mg/L	0.100		110	85-115	2.76	20	
Chromium	0.212	0.000644	"	0.200		106	85-115	0.948	20	
Arsenic	0.737	0.00194	"	0.800		92.1	85-115	1.09	20	
Selenium	0.424	0.00258	"	0.400		106	85-115	4.58	20	
Silver	0.110	0.000754	"	0.100		110	85-115	2.76	20	
Cadmium	0.208	0.000297	"	0.200		104	85-115	0.480	20	
Barium	0.202	0.000265	"	0.200		101	85-115	0.496	20	
Lead	1.13	0.000843	"	1.10		103	85-115	0.889	20	

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Project: John Hendrix/ Will Cary #5  
Project Number: 4-0123  
Project Manager: Mark Larson

Fax: (432) 687-0456  
**Reported:**  
04/25/06 14:17

**Total Metals by EPA / Standard Methods - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch ED62408 - EPA 3005A**

**Calibration Check (ED62408-CCV1)**

Prepared: 04/21/06 Analyzed: 04/24/06

Silver	0.0503		mg/L	0.0500		101	90-110			
Chromium	0.0514		"	0.0500		103	90-110			
Arsenic	0.0498		"	0.0500		99.6	90-110			
Selenium	0.0509		"	0.0500		102	90-110			
Silver	0.0503		"	0.0500		101	90-110			
Cadmium	0.0512		"	0.0500		102	90-110			
Barium	0.0512		"	0.0500		102	90-110			
Lead	0.0520		"	0.0500		104	90-110			

**Matrix Spike (ED62408-MS1)**

Source: 6D20004-01

Prepared: 04/21/06 Analyzed: 04/24/06

Silver	0.145	0.00405	mg/L	0.100	0.0169	128	75-125			MS-3
Chromium	0.198	0.00644	"	0.200	0.00386	97.1	75-125			
Arsenic	0.746	0.0194	"	0.800	ND	93.2	75-125			
Selenium	0.395	0.0258	"	0.400	ND	98.8	75-125			
Silver	0.145	0.00754	"	0.100	0.0169	128	75-125			MS-3, QM-05
Cadmium	0.199	0.00297	"	0.200	ND	99.5	75-125			
Barium	0.418	0.00265	"	0.200	0.237	90.5	75-125			
Lead	1.10	0.00843	"	1.10	0.0513	95.3	75-125			

**Matrix Spike Dup (ED62408-MSD1)**

Source: 6D20004-01

Prepared: 04/21/06 Analyzed: 04/24/06

Silver	0.145	0.00405	mg/L	0.100	0.0169	128	75-125	0.00	20	MS-3
Chromium	0.201	0.00644	"	0.200	0.00386	98.6	75-125	1.50	20	
Arsenic	0.756	0.0194	"	0.800	ND	94.5	75-125	1.33	20	
Selenium	0.413	0.0258	"	0.400	ND	103	75-125	4.46	20	
Silver	0.145	0.00754	"	0.100	0.0169	128	75-125	0.00	20	MS-3, QM-05
Cadmium	0.201	0.00297	"	0.200	ND	100	75-125	1.00	20	
Barium	0.427	0.00265	"	0.200	0.237	95.0	75-125	2.13	20	
Lead	1.09	0.00843	"	1.10	0.0513	94.4	75-125	0.913	20	

Environmental Lab of Texas

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Larson & Associates, Inc.  
P.O. Box 50685  
Midland TX, 79710

Project: John Hendrix/ Will Cary #5  
Project Number: 4-0123  
Project Manager: Mark Larson

Fax: (432) 687-0456

Reported:  
04/25/06 14:17

**Total Metals by EPA / Standard Methods - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch ED62408 - EPA 3005A</b>										
<b>Post Spike (ED62408-PS1)</b>										
Source: 6D20004-01 Prepared: 04/21/06 Analyzed: 04/25/06										
Silver	5.01	0.0202	mg/L	5.00	0.0169	99.9	75-125			
Silver	5.01	0.0377	"	5.00	0.0169	99.9	85-115			

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Larson & Associates, Inc.  
P.O. Box 50685  
Midland TX, 79710

Project: John Hendrix/ Will Cary #5  
Project Number: 4-0123  
Project Manager: Mark Larson

Fax: (432) 687-0456

Reported:  
04/25/06 14:17

### Notes and Definitions

- QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
- MS-3 Matrix spike and/or matrix spike duplicate outside 75-125% limits. Serial dilution (x5) outside 10% RPD limits. Post spike for the serial dilution sample was within 75-125% recoveries, therefore data accepted based on method requirements.
- J Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- LCS Laboratory Control Spike
- MS Matrix Spike
- Dup Duplicate

Report Approved By: \_\_\_\_\_

*Raland K Tuttle*

Date: \_\_\_\_\_

*4-25-06*

Raland K. Tuttle, Lab Manager

Celey D. Keene, Lab Director, Org. Tech Director

Peggy Allen, QA Officer

Jeanne Mc Murrey, Inorg. Tech Director

LaTasha Cornish, Chemist

Sandra Sanchez, Lab Tech.

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

Client: LARSON  
 Date/Time: 4/13/06 9:00  
 Order #: 6D13006  
 Initials: CK

### Sample Receipt Checklist

	Yes	No	
Temperature of container/cooler?			3,0 C
Shipping container/cooler in good condition?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Custody Seals intact on shipping container/cooler?	<input type="checkbox"/>	<input type="checkbox"/>	<del>Not present</del>
Custody Seals intact on sample bottles?	<input type="checkbox"/>	<input type="checkbox"/>	<del>Not present</del>
Chain of custody present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Sample Instructions complete on Chain of Custody?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Chain of Custody signed when relinquished and received?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Chain of custody agrees with sample label(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Container labels legible and intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Sample Matrix and properties same as on chain of custody?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Samples in proper container/bottle?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Samples properly preserved?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Sample bottles intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Preservations documented on Chain of Custody?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Containers documented on Chain of Custody?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Sufficient sample amount for indicated test?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
All samples received within sufficient hold time?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
VOC samples have zero headspace?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Nct Applicable

Other observations:

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### Variance Documentation:

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

Corrective Action Taken:

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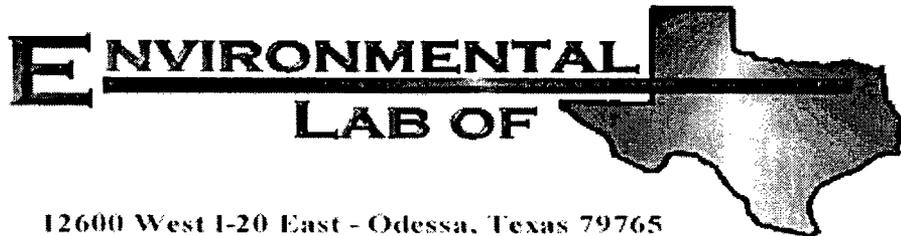


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12600 West I-20 East - Odessa, Texas 79765

## Analytical Report

**Prepared for:**

Mark Larson

Larson & Associates, Inc.

P.O. Box 50685

Midland, TX 79710

Project: John Hendrix/ Will Cary

Project Number: 4-0123

Location: None Given

Lab Order Number: 6L15006

Report Date: 01/02/07

Larson & Associates, Inc.  
P.O. Box 50685  
Midland TX, 79710

Project: John Hendrix/ Will Cary  
Project Number: 4-0123  
Project Manager: Mark Larson

Fax: (432) 687-0456

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	6L15006-01	Water	12/14/06 10:35	12-15-2006 09:35
MW-2	6L15006-02	Water	12/14/06 09:15	12-15-2006 09:35
MW-3	6L15006-03	Water	12/14/06 12:00	12-15-2006 09:35
MW-4	6L15006-04	Water	12/14/06 09:45	12-15-2006 09:35
MW-5	6L15006-05	Water	12/14/06 11:00	12-15-2006 09:35
DUP #1	6L15006-06	Water	12/14/06 00:00	12-15-2006 09:35

Larson & Associates, Inc.  
P.O. Box 50685  
Midland TX, 79710

Project: John Hendrix/ Will Cary  
Project Number: 4-0123  
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-1 (6L15006-01) Water</b>									
Benzene	ND	0.00100	mg/L	1	EL62008	12/20/06	12/21/06	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		93.2 %	80-120		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		86.0 %	80-120		"	"	"	"	
<b>MW-2 (6L15006-02) Water</b>									
<b>Benzene</b>	<b>I [0.000558]</b>	0.00100	mg/L	1	EL62008	12/20/06	12/21/06	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		92.5 %	80-120		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		91.8 %	80-120		"	"	"	"	
<b>MW-3 (6L15006-03) Water</b>									
Benzene	ND	0.00100	mg/L	1	EL62008	12/20/06	12/21/06	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		120 %	80-120		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		106 %	80-120		"	"	"	"	
<b>MW-4 (6L15006-04) Water</b>									
Benzene	ND	0.00100	mg/L	1	EL62008	12/20/06	12/21/06	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		85.8 %	80-120		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		85.5 %	80-120		"	"	"	"	

Environmental Lab of Texas

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Larson & Associates, Inc.  
P.O. Box 50685  
Midland TX, 79710

Project: John Hendrix/ Will Cary  
Project Number: 4-0123  
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-5 (6L15006-05) Water</b>									
Benzene	ND	0.00100	mg/L	1	EL62008	12/20/06	12/22/06	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		83.2 %		80-120	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		90.5 %		80-120	"	"	"	"	
<b>DUP #1 (6L15006-06) Water</b>									
Benzene	ND	0.00100	mg/L	1	EL62110	12/21/06	12/21/06	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		87.5 %		80-120	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		87.2 %		80-120	"	"	"	"	

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Project: John Hendrix/ Will Cary  
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**General Chemistry Parameters by EPA / Standard Methods  
Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-1 (6L15006-01) Water</b>									
Total Alkalinity	456	2.00	mg/L	1	EL61808	12/15/06	12/15/06	EPA 310.1M	B
Chloride	10900	250	"	500	EL62105	12/20/06	12/21/06	EPA 300.0	
Total Dissolved Solids	17500	10.0	"	1	EL61530	12/18/06	12/19/06	EPA 160.1	
Sulfate	610	250	"	500	EL62105	12/20/06	12/21/06	EPA 300.0	
<b>MW-2 (6L15006-02) Water</b>									
Total Alkalinity	180	2.00	mg/L	1	EL61808	12/15/06	12/15/06	EPA 310.1M	B
Chloride	152	5.00	"	10	EL62105	12/20/06	12/21/06	EPA 300.0	
Total Dissolved Solids	800	10.0	"	1	EL61530	12/18/06	12/19/06	EPA 160.1	
Sulfate	250	5.00	"	10	EL62105	12/20/06	12/21/06	EPA 300.0	
<b>MW-3 (6L15006-03) Water</b>									
Total Alkalinity	178	2.00	mg/L	1	EL61808	12/15/06	12/15/06	EPA 310.1M	B
Chloride	257	10.0	"	20	EL62105	12/20/06	12/21/06	EPA 300.0	
Total Dissolved Solids	1300	10.0	"	1	EL61530	12/18/06	12/19/06	EPA 160.1	
Sulfate	430	10.0	"	20	EL62105	12/20/06	12/21/06	EPA 300.0	
<b>MW-4 (6L15006-04) Water</b>									
Total Alkalinity	236	2.00	mg/L	1	EL61808	12/15/06	12/15/06	EPA 310.1M	B
Chloride	115	5.00	"	10	EL62105	12/20/06	12/21/06	EPA 300.0	
Total Dissolved Solids	702	10.0	"	1	EL61530	12/18/06	12/19/06	EPA 160.1	
Sulfate	172	5.00	"	10	EL62105	12/20/06	12/21/06	EPA 300.0	
<b>MW-5 (6L15006-05) Water</b>									
Total Alkalinity	204	2.00	mg/L	1	EL61808	12/15/06	12/15/06	EPA 310.1M	B
Chloride	138	5.00	"	10	EL62105	12/20/06	12/21/06	EPA 300.0	
Total Dissolved Solids	582	10.0	"	1	EL61530	12/18/06	12/19/06	EPA 160.1	
Sulfate	181	5.00	"	10	EL62105	12/20/06	12/21/06	EPA 300.0	
<b>DUP #1 (6L15006-06) Water</b>									
Total Alkalinity	180	2.00	mg/L	1	EL61808	12/15/06	12/15/06	EPA 310.1M	B
Chloride	238	10.0	"	20	EL62105	12/20/06	12/21/06	EPA 300.0	
Total Dissolved Solids	1090	10.0	"	1	EL61530	12/18/06	12/19/06	EPA 160.1	
Sulfate	391	10.0	"	20	EL62105	12/20/06	12/21/06	EPA 300.0	

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Project: John Hendrix/ Will Cary  
Project Number: 4-0123  
Project Manager: Mark Larson

Fax: (432) 687-0456

**Total Metals by EPA / Standard Methods**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-1 (6L15006-01) Water</b>									
Calcium	960	40.5	mg/L	500	EL61906	12/19/06	12/19/06	EPA 6010B	
Magnesium	482	3.60	"	100	"	"	"	"	
Potassium	127	6.00	"	"	"	"	"	"	
Sodium	5660	108	"	2500	"	"	"	"	
<b>MW-2 (6L15006-02) Water</b>									
Calcium	64.9	4.05	mg/L	50	EL61906	12/19/06	12/19/06	EPA 6010B	
Magnesium	66.3	1.80	"	"	"	"	"	"	
Potassium	7.70	0.600	"	10	"	"	"	"	
Sodium	107	2.15	"	50	"	"	"	"	
<b>MW-3 (6L15006-03) Water</b>									
Calcium	139	4.05	mg/L	50	EL61906	12/19/06	12/19/06	EPA 6010B	
Magnesium	110	1.80	"	"	"	"	"	"	
Potassium	10.6	0.600	"	10	"	"	"	"	
Sodium	149	2.15	"	50	"	"	"	"	
<b>MW-4 (6L15006-04) Water</b>									
Calcium	62.6	4.05	mg/L	50	EL61906	12/19/06	12/19/06	EPA 6010B	
Magnesium	39.6	0.360	"	10	"	"	"	"	
Potassium	7.35	0.600	"	"	"	"	"	"	
Sodium	104	2.15	"	50	"	"	"	"	
<b>MW-5 (6L15006-05) Water</b>									
Calcium	81.3	4.05	mg/L	50	EL61906	12/19/06	12/19/06	EPA 6010B	
Magnesium	44.1	0.360	"	10	"	"	"	"	
Potassium	7.98	0.600	"	"	"	"	"	"	
Sodium	114	2.15	"	50	"	"	"	"	
<b>DUP #1 (6L15006-06) Water</b>									
Calcium	145	4.05	mg/L	50	EL61906	12/19/06	12/19/06	EPA 6010B	
Magnesium	122	1.80	"	"	"	"	"	"	
Potassium	11.2	0.600	"	10	"	"	"	"	
Sodium	173	2.15	"	50	"	"	"	"	

Environmental Lab of Texas

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Page 5 of 12

Larson & Associates, Inc.  
P.O. Box 50685  
Midland TX, 79710

Project: John Hendrix/ Will Cary  
Project Number: 4-0123  
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch EL62008 - EPA 5030C (GC)</b>										
<b>Blank (EL62008-BLK1)</b> Prepared & Analyzed: 12/20/06										
Benzene	ND	0.00100	mg/L							
Toluene	ND	0.00100	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00100	"							
Xylene (o)	ND	0.00100	"							
Surrogate: a,a,a-Trifluorotoluene	41.7		ug/l	40.0		104	80-120			
Surrogate: 4-Bromofluorobenzene	32.6		"	40.0		81.5	80-120			
<b>LCS (EL62008-BS1)</b> Prepared & Analyzed: 12/20/06										
Benzene	0.0468	0.00100	mg/L	0.0500		93.6	80-120			
Toluene	0.0469	0.00100	"	0.0500		93.8	80-120			
Ethylbenzene	0.0500	0.00100	"	0.0500		100	80-120			
Xylene (p/m)	0.0893	0.00100	"	0.100		89.3	80-120			
Xylene (o)	0.0431	0.00100	"	0.0500		86.2	80-120			
Surrogate: a,a,a-Trifluorotoluene	34.7		ug/l	40.0		86.8	80-120			
Surrogate: 4-Bromofluorobenzene	40.0		"	40.0		100	80-120			
<b>Calibration Check (EL62008-CCV1)</b> Prepared & Analyzed: 12/20/06										
Benzene	56.0		ug/l	50.0		112	80-120			
Toluene	48.1		"	50.0		96.2	80-120			
Ethylbenzene	42.2		"	50.0		84.4	80-120			
Xylene (p/m)	81.5		"	100		81.5	80-120			
Xylene (o)	41.4		"	50.0		82.8	80-120			
Surrogate: a,a,a-Trifluorotoluene	39.4		"	40.0		98.5	80-120			
Surrogate: 4-Bromofluorobenzene	33.9		"	40.0		84.8	80-120			
<b>Matrix Spike (EL62008-MS1)</b> Source: 6L15012-01 Prepared: 12/20/06 Analyzed: 12/21/06										
Benzene	0.0482	0.00100	mg/L	0.0500	0.00450	87.4	80-120			
Toluene	0.0434	0.00100	"	0.0500	0.000269	86.3	80-120			
Ethylbenzene	0.0438	0.00100	"	0.0500	ND	87.6	80-120			
Xylene (p/m)	0.0882	0.00100	"	0.100	0.000759	87.4	80-120			
Xylene (o)	0.0432	0.00100	"	0.0500	ND	86.4	80-120			
Surrogate: a,a,a-Trifluorotoluene	32.0		ug/l	40.0		80.0	80-120			
Surrogate: 4-Bromofluorobenzene	34.7		"	40.0		86.8	80-120			

Larson & Associates, Inc.  
P.O. Box 50685  
Midland TX, 79710

Project: John Hendrix/ Will Cary  
Project Number: 4-0123  
Project Manager: Mark Larson

Fax: (432) 687-0456

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EL62008 - EPA 5030C (GC)**

**Matrix Spike Dup (EL62008-MSD1)**

Source: 6L15012-01

Prepared: 12/20/06 Analyzed: 12/21/06

Benzene	0.0455	0.00100	mg/L	0.0500	0.00450	82.0	80-120	6.38	20	
Toluene	0.0421	0.00100	"	0.0500	0.000269	83.7	80-120	3.06	20	
Ethylbenzene	0.0431	0.00100	"	0.0500	ND	86.2	80-120	1.61	20	
Xylene (p/m)	0.0853	0.00100	"	0.100	0.000759	84.5	80-120	3.37	20	
Xylene (o)	0.0425	0.00100	"	0.0500	ND	85.0	80-120	1.63	20	
Surrogate: a,a,a-Trifluorotoluene	34.1		ug/l	40.0		85.2	80-120			
Surrogate: 4-Bromofluorobenzene	34.9		"	40.0		87.2	80-120			

**Batch EL62110 - EPA 5030C (GC)**

**Blank (EL62110-BLK1)**

Prepared: 12/21/06 Analyzed: 12/22/06

Benzene	ND	0.00100	mg/L							
Toluene	ND	0.00100	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00100	"							
Xylene (o)	ND	0.00100	"							
Surrogate: a,a,a-Trifluorotoluene	46.9		ug/l	40.0		117	80-120			
Surrogate: 4-Bromofluorobenzene	41.9		"	40.0		105	80-120			

**LCS (EL62110-BS1)**

Prepared: 12/21/06 Analyzed: 12/22/06

Benzene	0.0588	0.00100	mg/L	0.0500		118	80-120			
Toluene	0.0591	0.00100	"	0.0500		118	80-120			
Ethylbenzene	0.0588	0.00100	"	0.0500		118	80-120			
Xylene (p/m)	0.118	0.00100	"	0.100		118	80-120			
Xylene (o)	0.0548	0.00100	"	0.0500		110	80-120			
Surrogate: a,a,a-Trifluorotoluene	47.3		ug/l	40.0		118	80-120			
Surrogate: 4-Bromofluorobenzene	37.7		"	40.0		94.2	80-120			

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EL62110 - EPA 5030C (GC)**

**Calibration Check (EL62110-CCV1)**

Prepared: 12/21/06 Analyzed: 12/22/06

Benzene	59.4		ug/l	50.0		119	80-120			
Toluene	59.1		"	50.0		118	80-120			
Ethylbenzene	59.1		"	50.0		118	80-120			
Xylene (p/m)	117		"	100		117	80-120			
Xylene (o)	59.1		"	50.0		118	80-120			
Surrogate: a,a,a-Trifluorotoluene	46.0		"	40.0		115	80-120			
Surrogate: 4-Bromofluorobenzene	45.2		"	40.0		113	80-120			

**Matrix Spike (EL62110-MS1)**

Source: 6L15008-02

Prepared: 12/21/06 Analyzed: 12/23/06

Benzene	0.0583	0.00100	mg/L	0.0500	0.00270	111	80-120			
Toluene	0.0567	0.00100	"	0.0500	0.00108	111	80-120			
Ethylbenzene	0.0573	0.00100	"	0.0500	ND	115	80-120			
Xylene (p/m)	0.109	0.00100	"	0.100	ND	109	80-120			
Xylene (o)	0.0516	0.00100	"	0.0500	ND	103	80-120			
Surrogate: a,a,a-Trifluorotoluene	41.4		ug/l	40.0		104	80-120			
Surrogate: 4-Bromofluorobenzene	40.3		"	40.0		101	80-120			

**Matrix Spike Dup (EL62110-MSD1)**

Source: 6L15008-02

Prepared: 12/21/06 Analyzed: 12/23/06

Benzene	0.0555	0.00100	mg/L	0.0500	0.00270	106	80-120	4.61	20	
Toluene	0.0543	0.00100	"	0.0500	0.00108	106	80-120	4.61	20	
Ethylbenzene	0.0571	0.00100	"	0.0500	ND	114	80-120	0.873	20	
Xylene (p/m)	0.103	0.00100	"	0.100	ND	103	80-120	5.66	20	
Xylene (o)	0.0486	0.00100	"	0.0500	ND	97.2	80-120	5.79	20	
Surrogate: a,a,a-Trifluorotoluene	42.7		ug/l	40.0		107	80-120			
Surrogate: 4-Bromofluorobenzene	43.4		"	40.0		108	80-120			

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EL61530 - Filtration Preparation**

**Blank (EL61530-BLK1)** Prepared: 12/18/06 Analyzed: 12/19/06

Total Dissolved Solids	ND	10.0	mg/L							
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**Duplicate (EL61530-DUP1)** Source: 6L14006-01 Prepared: 12/18/06 Analyzed: 12/19/06

Total Dissolved Solids	9510	10.0	mg/L		9600			0.942	20	
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**Duplicate (EL61530-DUP2)** Source: 6L15006-03 Prepared: 12/18/06 Analyzed: 12/19/06

Total Dissolved Solids	1250	10.0	mg/L		1300			3.92	20	
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**Batch EL61808 - General Preparation (WetChem)**

**Blank (EL61808-BLK1)** Prepared & Analyzed: 12/15/06

Total Alkalinity	14.0	2.00	mg/L							B
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**LCS (EL61808-BS1)** Prepared & Analyzed: 12/15/06

Bicarbonate Alkalinity	196	2.00	mg/L	200		98.0	85-115			B
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**Duplicate (EL61808-DUP1)** Source: 6L15006-01 Prepared & Analyzed: 12/15/06

Total Alkalinity	444	2.00	mg/L		456			2.67	20	B
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**Reference (EL61808-SRM1)** Prepared & Analyzed: 12/15/06

Total Alkalinity	256	2.00	mg/L	250		102	90-110			B
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**Batch EL62105 - General Preparation (WetChem)**

**Blank (EL62105-BLK1)** Prepared: 12/20/06 Analyzed: 12/21/06

Chloride	ND	0.500	mg/L							
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Sulfate	ND	0.500	"							
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Project Number: 4-0123  
Project Manager: Mark Larson

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch EL62105 - General Preparation (WetChem)</b>										
<b>LCS (EL62105-BS1)</b>				Prepared: 12/20/06 Analyzed: 12/21/06						
Sulfate	10.2	0.500	mg/L	10.0		102	80-120			
Chloride	10.5	0.500	"	10.0		105	80-120			
<b>Calibration Check (EL62105-CCV1)</b>				Prepared: 12/20/06 Analyzed: 12/21/06						
Chloride	9.93		mg/L	10.0		99.3	80-120			
Sulfate	11.0		"	10.0		110	80-120			
<b>Duplicate (EL62105-DUP1)</b>		<b>Source: 6L15005-01</b>		Prepared: 12/20/06 Analyzed: 12/21/06						
Chloride	7610	125	mg/L		7510			1.32	20	
Sulfate	505	125	"		493			2.40	20	
<b>Duplicate (EL62105-DUP2)</b>		<b>Source: 6L15006-04</b>		Prepared: 12/20/06 Analyzed: 12/21/06						
Chloride	114	5.00	mg/L		115			0.873	20	
Sulfate	173	5.00	"		172			0.580	20	
<b>Matrix Spike (EL62105-MS1)</b>		<b>Source: 6L15005-01</b>		Prepared: 12/20/06 Analyzed: 12/21/06						
Sulfate	3490	125	mg/L	2500	493	120	80-120			
Chloride	10500	125	"	2500	7510	120	80-120			
<b>Matrix Spike (EL62105-MS2)</b>		<b>Source: 6L15006-04</b>		Prepared: 12/20/06 Analyzed: 12/21/06						
Chloride	221	5.00	mg/L	100	115	106	80-120			
Sulfate	277	5.00	"	100	172	105	80-120			

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**Total Metals by EPA / Standard Methods - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EL61906 - 6010B/No Digestion**

**Blank (EL61906-BLK1)**

Prepared & Analyzed: 12/19/06

Calcium	ND	0.0810	mg/L							
Magnesium	ND	0.0360	"							
Potassium	ND	0.0600	"							
Sodium	ND	0.0430	"							

**Calibration Check (EL61906-CCV1)**

Prepared & Analyzed: 12/19/06

Calcium	2.26		mg/L	2.00		113	85-115			
Magnesium	1.87		"	2.00		93.5	85-115			
Potassium	1.70		"	2.00		85.0	85-115			
Sodium	1.93		"	2.00		96.5	85-115			

**Duplicate (EL61906-DUP1)**

Source: 6L15005-01

Prepared & Analyzed: 12/19/06

Calcium	96.1	4.05	mg/L		95.0			1.15	20	
Magnesium	186	1.80	"		199			6.75	20	
Potassium	39.2	0.600	"		39.3			0.255	20	
Sodium	4870	43.0	"		5060			3.83	20	

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Project Manager: Mark Larson

Fax: (432) 687-0456

### Notes and Definitions

B Analyte is found in the associated blank as well as in the sample (CLP B-flag).  
DET Analyte DETECTED  
ND Analyte NOT DETECTED at or above the reporting limit  
NR Not Reported  
dry Sample results reported on a dry weight basis  
RPD Relative Percent Difference  
LCS Laboratory Control Spike  
MS Matrix Spike  
Dup Duplicate

Report Approved By:

*Raland K Tuttle*

Date:

1/2/2007

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

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

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

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

CHAIN-OF-CUSTODY RECORD

CLIENT NAME: JHHC

SITE MANAGER: M. LARSON

PROJECT NO.: 4-0123

LAB. PO #

PROJECT NAME: WILL CARY

REMARKS (I.E., FILTERED, UNFILTERED, PRESERVED, UNPRESERVED, GRAB COMPOSITE)

DATE	TIME	WATER	SOIL	OTHER	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	PARAMETERS/METHOD NUMBER	LAB. I.D. NUMBER (LAB USE ONLY)	REMARKS
12/14	10:35	X			MW-1	3	BTX TDS AZ/CA+P	15004-d	
	9:15	X			MW-2	3		02	
	12:	X			MW-3	3		03	
	9:45	X			MW-4	3		04	
12/19	11:00	X			MW-5	3		05	
WLA					DUP #1	3		06	

RECEIVED BY: (Signature) \_\_\_\_\_ DATE: 12/19 TIME: 12:50

RELINQUISHED BY: (Signature) \_\_\_\_\_ DATE: 12/19 TIME: 9:33

RECEIVED BY: (Signature) \_\_\_\_\_ DATE: 12/19 TIME: 9:35

RELINQUISHED BY: (Signature) \_\_\_\_\_ DATE: 12/19 TIME: 9:35

COMMENTS: *See Larson*

RECEIVING LABORATORY: \_\_\_\_\_ RECEIVED BY: (Signature) \_\_\_\_\_

ADDRESS: \_\_\_\_\_ STATE: \_\_\_\_\_ ZIP: \_\_\_\_\_

CITY: \_\_\_\_\_ PHONE: \_\_\_\_\_

CONTACT: \_\_\_\_\_

LA CONTACT PERSON: \_\_\_\_\_

SAMPLE CONDITION WHEN RECEIVED: 0.5 mL labels

SAMPLE TYPE: \_\_\_\_\_

RECEIVED BY: (Signature) \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

RELINQUISHED BY: (Signature) \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

RECEIVED BY: (Signature) \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

RELINQUISHED BY: (Signature) \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

COMMENTS: \_\_\_\_\_

RECEIVING LABORATORY: \_\_\_\_\_ RECEIVED BY: (Signature) \_\_\_\_\_

ADDRESS: \_\_\_\_\_ STATE: \_\_\_\_\_ ZIP: \_\_\_\_\_

CITY: \_\_\_\_\_ PHONE: \_\_\_\_\_

CONTACT: \_\_\_\_\_

LA CONTACT PERSON: \_\_\_\_\_

SAMPLE CONDITION WHEN RECEIVED: \_\_\_\_\_

SAMPLE TYPE: \_\_\_\_\_

# Environmental Lab of Texas

## Variance/ Corrective Action Report- Sample Log-In

Client: Larson  
 Date/ Time: 12/15/06 9:35  
 Lab ID #: 6615006  
 Initials: CK

### Sample Receipt Checklist

Client Initials

#	Question	Yes	No	Temperature / Other	Client Initials
#1	Temperature of container/ cooler?	Yes	No	0.5 °C	
#2	Shipping container in good condition?	<del>Yes</del>	No		
#3	Custody Seals intact on shipping container/ cooler?	Yes	No	<del>Not Present</del>	
#4	Custody Seals intact on sample bottles/ container?	Yes	No	<del>Not Present</del>	
#5	Chain of Custody present?	<del>Yes</del>	No		
#6	Sample instructions complete of Chain of Custody?	<del>Yes</del>	No		
#7	Chain of Custody signed when relinquished/ received?	<del>Yes</del>	No		
#8	Chain of Custody agrees with sample label(s)?	<del>Yes</del>	No	ID written on Cont./ Lid	
#9	Container label(s) legible and intact?	<del>Yes</del>	No	Not Applicable	
#10	Sample matrix/ properties agree with Chain of Custody?	<del>Yes</del>	No		
#11	Containers supplied by ELOT?	<del>Yes</del>	No		
#12	Samples in proper container/ bottle?	<del>Yes</del>	No	See Below	
#13	Samples properly preserved?	<del>Yes</del>	No	See Below	
#14	Sample bottles intact?	<del>Yes</del>	No		
#15	Preservations documented on Chain of Custody?	<del>Yes</del>	No		
#16	Containers documented on Chain of Custody?	<del>Yes</del>	No		
#17	Sufficient sample amount for indicated test(s)?	<del>Yes</del>	No	See Below	
#18	All samples received within sufficient hold time?	<del>Yes</del>	No	See Below	
#19	Subcontract of sample(s)?	Yes	No	<del>Not Applicable</del>	
#20	VOC samples have zero headspace?	<del>Yes</del>	No	Not Applicable	

### Variance Documentation

Contact: Scott      Contacted by: Pamie      Date/ Time: 12/15/06  
 Regarding: Adding DUPs to COC & run

Corrective Action Taken:  
 \_\_\_\_\_  
 \_\_\_\_\_

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

**APPENDIX D**

**EM-34-3 Field Sheets**

**JOHN H. HENDRIX CORPORATION**

**WILL CARY LEASE**

**EM-34 SURVEY**

<b>Profile:</b>	0 North	<b>Date:</b>	2/1/2006
<b>Spacing:</b>	100 Feet	<b>20 HD</b>	<b>40 HD</b>
<b>Scale</b>	100	<b>Start:</b>	10:54      14:53
<b>Direction:</b>	W-E	<b>Stop:</b>	11:11      15:12

STATION	20 HD (mmhos/m)	20 VD (mmhos/m)	40 HD (mmhos/m)	Comments
0 East	11.8	14.9	14.8	
100 East	11.3	20.1	15.1	
200 East	11.7	Int.	17.5	
300 East	16.8	61.6	19.0	
400 East	10.4	Int.	14.3	
500 East	12.6	18.5	16.5	
600 East	13.2	14.5	16.3	
700 East	11.2	16.3	17.7	Fence 30' East
800 East	11.9	13.6	16.5	
900 East	12.9	17.7	18.2	Foundation 2' South
1000 East	7.4	Int.	15.0	
1100 East	13.5	15.7	19.2	
1200 East	14.6	24.6	20.2	
1300 East	19.4	15.8	22.0	Rice Pipeline 20' West (NE-SW)

Notes:

**JOHN H. HENDRIX CORPORATION**

**WILL CARY LEASE**

**EM-34 SURVEY**

<b>Profile:</b>	100 North	<b>Date:</b>	2/2/2006	
<b>Spacing:</b>	100 Feet		<b>20 HD</b>	<b>40 HD</b>
<b>Scale</b>	100	<b>Start:</b>	8:22	13:04
<b>Direction:</b>	W-E	<b>Stop:</b>	8:48	13:23

STATION	20 HD (mmhos/m)	20 VD (mmhos/m)	40 HD (mmhos/m)	Comments
0 East	11.8	34.7	20.1	
100 East	15.2	18.8	18.6	
200 East	18.5	16.7	16.2	
300 East	17.3	142.7	15.3	
400 East	10.7	Int.	16.6	
500 East	15.9	25.0	15.4	
600 East	13.7	18.6	16.5	
700 East	9.7	15.0	18.3	
800 East	10.2	15.3	20.1	
900 East	11.5	22.0	16.7	
1000 East	9.3	Int.	13.1	
1100 East	10.4	6.9	6.1	
1200 East	13.7	14.9	19.4	
1300 East	15.3	14.7	15.8	

Notes:

**JOHN H. HENDRIX CORPORATION**

**WILL CARY LEASE**

**EM-34 SURVEY**

<b>Profile:</b>	200 North	<b>Date:</b>	2/1/2006
<b>Spacing:</b>	100 Feet	<b>20 HD</b>	<b>40 HD</b>
<b>Scale:</b>	100	<b>Start:</b>	12:35      13:26
<b>Direction:</b>	E-W	<b>Stop:</b>	13:11      13:41

STATION	20 HD (mmhos/m)	20 VD (mmhos/m)	40 HD (mmhos/m)	Comments
0 East	12.7	12.6	15.7	
100 East	13.9	16.0	17.8	
200 East	16.2	23.3	19.2	
300 East	26.0	25.3	15.2	
400 East	40.6	105.3	18.4	
500 East	23.2	25.2	26.4	
600 East	16.3	21.4	21.1	
700 East	11.7	17.1	18.5	
800 East	11.4	12.4	15.7	
900 East	21.1	Int.	16.5	
1000 East	14.1	63.6	14.0	
1100 East	14.2	23.1	19.1	
1200 East	16.2	Int.	21.0	
1300 East	16.9	23.1	19.2	

Notes:

**JOHN H. HENDRIX CORPORATION**  
**WILL CARY LEASE**  
**EM-34 SURVEY**

Profile:	300 North	Date:	2/2/2006	
Spacing:	100 Feet		20 HD	40 HD
Scale:	100	Start:	8:50	13:45
Direction:	E-W	Stop:	9:13	14:03

STATION	20 HD (mmhos/m)	20 VD (mmhos/m)	40 HD (mmhos/m)	Comments
0 East	12.7	14.7	17.4	
100 East	13.0	14.3	17.2	MW-2
200 East	13.7	18.1	17.0	
300 East	13.5	19.9	16.4	
400 East	23.0	10.8	16.1	
500 East	25.0	18.4	28.3	
600 East	18.3	10.5	23.0	MW-1 7' NW
700 East	10.8	16.5	18.0	
800 East	10.5	19.3	17.3	Foundation at receiver
900 East	8.8	Int	15.1	Concrete of transmitter
1000 East	9.4	Int	16.4	
1100 East	13.2	15.6	21.5	
1200 East	19.3	19.3	23.2	
1300 East	44.5	39.3	30.5	

Notes:

**JOHN H. HENDRIX CORPORATION**

**WILL CARY LEASE**

**EM-34 SURVEY**

<b>Profile:</b>	400 North	<b>Date:</b>	2/2/2006
<b>Spacing:</b>	100 Feet	<b>20 HD</b>	<b>40 HD</b>
<b>Scale:</b>	100	<b>Start:</b>	9:18      14:07
<b>Direction:</b>	W-E	<b>Stop:</b>	10:26      14:30

STATION	20 HD (mmhos/m)	20 VD (mmhos/m)	40 HD (mmhos/m)	Comments
0 East	12.1	16.1	15.3	15' South of fence
100 East	12.9	13.0	16.4	
200 East	12.7	14.6	16.9	
300 East	12.6	12.6	16.7	
400 East	12.1	15.9	16.9	
500 East	11.5	13.8	14.0	
600 East	10.2	18.0	15.5	
700 East	10.6	13.1	16.5	Pictures
800 East	11.1	28.3	14.6	
900 East	13.2	Int.	13.4	N-S Reading
1000 East	13.2	42.7	17.2	N-S Reading
1100 East	15.7	41.1	20.2	Duke Pipeline 25' N (E-W)
1200 East	21.7	21.4	22.7	
1300 East	66.1	Int.	27.0	

Notes:

**JOHN H. HENDRIX CORPORATION**

**WILL CARY LEASE**

**EM-34 SURVEY**

<b>Profile:</b>	500 North	<b>Date:</b>	2/1/2006
<b>Spacing:</b>	100 Feet	<b>20 HD</b>	<b>40 HD</b>
<b>Scale:</b>	100	<b>Start:</b>	10:28      14:34
<b>Direction:</b>	E-W	<b>Stop:</b>	10:52      14:50

STATION	20 HD (mmhos/m)	20 VD (mmhos/m)	40 HD (mmhos/m)	Comments
0 East	11.9	13.7	15.2	
100 East	11.3	14.5	16.6	
200 East	10.9	12.9	16.3	
300 East	12.0	12.7	16.1	
400 East	12.5	12.2	17.0	
500 East	12.1	14.0	15.7	
600 East	10.9	17.2	18.0	
700 East	11.6	11.6	16.4	
800 East	11.2	9.2	17.5	
900 East	9.8	Int.	16.8	Foundation concrete
1000 East	11.9	Int.	18.7	Duke Pipeline 20' E N-S
1100 East	11.3	22.7	19.4	
1200 East	11.4	23.1	18.4	
1300 East	14.6	86.3	19.0	

Notes:

**JOHN H. HENDRIX CORPORATION**

**WILL CARY LEASE**

**EM-34 SURVEY**

<b>Profile:</b>	600 North	<b>Date:</b>	2/1/2006
<b>Spacing:</b>	100 Feet	<b>20 HD</b>	<b>40 HD</b>
<b>Scale</b>	100	<b>Start:</b>	10:54      14:53
<b>Direction:</b>	W-E	<b>Stop:</b>	11:19      15:12

STATION	20 HD (mmhos/m)	20 VD (mmhos/m)	40 HD (mmhos/m)	Comments
0 East	12.0	12.4	17.6	
100 East	11.7	13.7	17.3	
200 East	12.1	12.4	18.3	
300 East	11.6	13.3	17.4	
400 East	12.1	15.6	17.7	
500 East	12.1	14.3	16.2	Moved 15' East
600 East	11.8	11.6	16.2	
700 East	10.9	17.2	18.2	Foundation 5' East
800 East	12.1	16.2	15.5	
900 East	10.9	32.6	15.4	Moved point 20' west of concrete
1000 East	12.7	48.4	19.0	
1100 East	13.8	19.1	23.1	
1200 East	12.7	Int.	23.0	Valve 2' north of pipe line E-W
1300 East	23.0	62.5	23.3	

Notes: Off site 17:30