

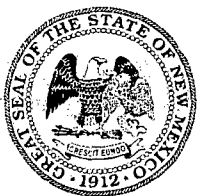
NM2 -

21

**GENERAL  
CORRESPONDENCE  
YEAR(S):**

2004-2006





# NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

**BILL RICHARDSON**

Governor

**Joanna Prukop**

Cabinet Secretary

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

Director

**Oil Conservation Division**

July 11, 2006

Mr. Mark J. Larson  
Larson & Associates, Inc.  
507 North Marienfeld, Suite 202  
Midland, TX 79701

RE: Minor Permit Modification Request  
John H. Hendrix Corp. Centralized Surface Waste Management Facility  
NMOCD Permit Number NM-02-0021  
W/2 NW/4, W/2 SW/4 Section 15, Township 24 South, Range 36 East  
Lea County, New Mexico

Dear Mr. Larson:

The New Mexico Oil Conservation Division (NMOCD) has received and reviewed the above request submitted by Larson & Associates, Inc. on behalf of John H. Hendrix Corp. (JHHC) dated June 5, 2006. This request is hereby approved with the following understandings and conditions:

1. Cell #3 may be designated as a salt-contaminated waste cell and cells #1 through #12 may be divided into three sub-cells with the understanding that the resulting configuration of the landfarm does not exceed its originally permitted boundaries.
2. JHHC may utilize the buffer zone on either side of the "out-of-service" Southern Union Gas pipeline that crosses cells #2 and #3 for waste treatment. This portion of the approval was contingent upon the receipt of a letter from Southern Union Gas stating that they would be willing to relocate the pipeline if it were placed back in service. This letter has been received by the NMOCD.
3. The sub-cells referred to in item number 2 above are to be constructed as described in section 6.0 of the request.
4. The landfarm operation will continue to be performed according to all prior conditions placed upon it in previous correspondence.

NMOCD approval does not relieve JHHC of responsibility should its operations at this facility prove to have been harmful to public health or the environment. Nor does it relieve JHHC of its responsibility to comply with the rules and regulations of any other governmental agency.

If you have any questions contact me at (505) 476-3490 or [wayne.price@state.nm.us](mailto:wayne.price@state.nm.us).

NEW MEXICO OIL CONSERVATION DIVISION

Wayne Price  
Environmental Bureau Chief

Copy: NMOCD, Hobbs



## Martin, Ed, EMNRD

---

**From:** Mark Larson [mark@laenvironmental.com]  
**Sent:** Monday, July 10, 2006 10:44 AM  
**To:** Martin, Ed, EMNRD  
**Cc:** mburrows@valornet.com; ronnie@jhhc.org  
**Subject:** Re: Letter from Southern Union Gas Services

**Attachments:** Southern Union Pipeline Letter, June 30, 2006.doc



Southern Union  
Pipeline Letter...

Ed: Please recall our meeting on June 5, 2006, at which time Mr. Marvin Burrows with John H. Hendrix Corporation ("JHHC") and myself presented a minor permit modification request for the JHHC centralized surface waste management facility (NM-02-0021) located in Lea County, New Mexico. The modification request included, among other things, permission from the New Mexico Oil Conservation Division ("OCD") for JHHC to place contaminated soil across the right-of-way of an out-of-service gas pipeline that is owned by Southern Union Gas Services and crosses the Facility from southeast to northwest near Cell #2 and Cell #3. The OCD requested a letter from Southern Union that states the status of the line and concurrence for rerouting the line if it is used in the future. On June 30, 2006, Southern Union issued a letter to JHHC that discusses the status of the pipeline and its willingness to accept a proposal of alternate routing should the line be needed at a future date. You may contact me with questions as listed below or contact Mr. Burrows at (505) 394-2649.  
Sincerely,

Mark J. Larson  
Sr. Project Manager/President  
Larson and Associates, Inc.  
507 N. Marienfeld Street, Suite 202  
Midland, Texas 79701  
(432) 786-0901 (Office)  
(432) 687-0456 (Fax)  
(432) 556-8656 (Cell)  
mark@laenvironmental.com





201 Main Street, Suite 3000  
Fort Worth, TX 76102  
817.390.8600 Fax: 817.390.8000

RECEIVED

JUL 07 2006

EUNICE

6/30/2006

John H. Hendrix, Corp.  
PO Box 910  
Eunice, NM 88240

Attn: Mr. Marvin Burrows

In response to your letter to Mr. Royce Dunn and dated 6/08/06, Southern Union offers the following:

Despite any comments to the contrary, the line in question has not been "abandoned". At most, it has been rendered "inactive" or "idle" with all associated Rights of Way intact.

While Southern Union is not prepared to relinquish these particular rights, it would be prepared to agree to the removal of said pipeline by John H. Hendrix, Corp. to accomplish the proposed surface use.

However, in the event that the use of the pipeline was rendered necessary, Southern Union retains the right to replace the pipeline under the original Right of Way agreement.

At such time that such action was deemed necessary, Southern Union would accept proposal of alternate routing.

Thank You,

A handwritten signature in black ink, appearing to read "RD", is placed above the typed name.

Randall Dunn  
Lea County Field Manager  
Southern Union Gas Services, Ltd.



June 5, 2006

Mr. Wayne Price, Chief  
Environmental Bureau  
New Mexico Oil Conservation Division  
1220 South St. Francis Drive  
Santa Fe, New Mexico 87505

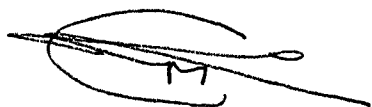
**Re: Minor Permit Modification Request, John H. Hendrix Corporation Centralized Surface Waste Management Facility No. NM-02-0021, W/2 NW/4, W/2 SW/4, Section 15, Township 24 South, Range 36 East, Lea County, New Mexico**

Dear Mr. Price:

On behalf of John H. Hendrix Corporation ("JHHC"), Larson and Associates, Inc. ("LA"), its agent, submits the enclosed minor permit modification for the above-referenced centralized surface waste management facility (NM-02-0021). Public notice is not required for a minor permit modification therefore no affidavit of publication is attached. A copy of the application will also be forwarded to Mr. Chris Williams at the OCD District 1 office located in Hobbs, New Mexico. Please call Mr. Ron Westbrook with John H. Hendrix Corporation at (432) 684-6631, myself at (432) 687-0901 or by email: [ronniew@JHHC.org](mailto:ronniew@JHHC.org) or [Mark@LAEnvironmental.com](mailto:Mark@LAEnvironmental.com).

Sincerely,

*Larson & Associates, Inc.*



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

Encl.

cc: Mr. Ron Westbrook/JHHC  
Mr. Marvin Burrows/JHHC  
Mr. Chris Williams/OCD – District 1



**PERMIT NW-02-0021  
MINOR PERMIT MODIFICATION REQUEST  
JOHN H. HENDRIX CORPORATION**

**Prepared for:**

**John H. Hendrix Corporation  
110 North Marienfeld Street, Suite 400  
Midland, Texas 79701  
(432) 684-6631**

**Prepared by:**

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

**June 5, 2006**

A handwritten signature in black ink, appearing to read 'Mark J. Larson', is written over a horizontal line.

**Mark J. Larson, P.G., C.P.G., C.G.W.P.**



## Table of Contents

<u>Section</u>	<u>Page</u>
TABLE OF CONTENTS	i
LIST OF TABLES	iii
LIST OF FIGURES	iii
LIST OF APPENDICES	iii
1.0 INTRODUCTION	1
2.0 DESCRIPTION AND OPERATION	1
3.0 OWNER	2
4.0 LOCATION	2
5.0 EXPANSION REQUEST	3
6.0 MODIFICATION REQUEST	2
7.0 LAND OWNERSHIP	3
8.0 CONSTRUCTION	4
8.1 <u>Fences and Signs</u>	4
8.2 <u>Buffer Zones</u>	4
8.3 <u>Berms</u>	5
8.4 <u>Treatment Zone Monitoring</u>	5
8.5 <u>Double-Lined System</u>	5
9.0 OPERATION	5
9.1 <u>Facility Operation</u>	5
9.2 <u>Waste Characterization and Tracking</u>	7
9.3 <u>Spill and Leak Prevention and Reporting</u>	8
9.4 <u>Inspection, Maintenance and Reporting</u>	8



**Table of Contents  
(Continued)**

<u>Section</u>	<u>Page</u>
10.0 CLOSURE PLAN	8
11.0 FACILITY CHARACTERISTICS	8
12.0 PROOF OF NOTICE	10
13.0 H <sub>2</sub> S CONTINGENCY PLAN	10
14.0 ADDITIONAL INFORMATION	10



## **List of Tables**

### **Table**

1. **Summary of Monitoring Well Drilling and Completion Details**
2. **Summary of Depth to Ground Water Measurements from Monitoring Wells**
3. **Summary of BTEX Analysis of Ground Water Samples**
4. **Summary of Cation, Anion and TDS Analysis of Ground Water Samples**
5. **Summary of Dissolved Metals Analysis of Ground Water Samples**

## **List of Figures**

### **Figure**

1. **Location and Topographic Map**
2. **Facility Drawing**
3. **Depth-to-Ground Water Map, April 26, 2006**
4. **Ground Water Potentiometric Map, April 26, 2006**
5. **Chloride Isopleth Map, April 26, 2006**
6. **Sulfate Isopleth Map, April 26, 2006**
7. **TDS Isopleth Map, April 26, 2006**

## **List of Appendices**

### **Appendix**

- A. **Form C-137**
- B. **Well Logs**
- C. **Laboratory Report**



**PERMIT NM-02-0021**  
**MINOR PERMIT MODIFICATION REQUEST**  
**JOHN H. HENDRIX CORPORATION**

**1.0 INTRODUCTION**

This minor permit modification request is presented to the New Mexico Oil Conservation Division ("OCD") on behalf of John H. Hendrix Corporation ("JHHC") and is submitted by Larson and Associates, Inc. ("LA"), its consultant, for the JHHC centralized surface waste management facility ("Facility") located in Lea County, New Mexico. The Facility is permitted by the OCD (NM-02-0021) to accept and treat non-hazardous oilfield solids ("Waste") exempt under the Resource Conservation and Recovery Act ("RCRA"), including soils contaminated by petroleum hydrocarbon and salt from remediation of spills, releases and pits.

On January 11, 2006, OCD approved a major modification request that allows the Facility to accept and treat Waste contaminated by salts from spills, releases and pits. Cell # 1 and Cell #2 are designated for treatment of salt-contaminated waste from JHHC operations.

This minor modification request is for the following:

- Designating Cell #3 for treatment of salt-contaminated waste, in addition to Cell #1 and Cell #2;
- Divide cells #1 through #12 into three (3) sub-cells; and
- Utilizing the buffer zone on either side of an out-of-service pipeline that crosses Cell #2 and Cell #3 for Waste treatment.

Appendix A presents Form C-137.

**2.0 DESCRIPTION AND OPERATION**

A barbed wire fence secures the Facility and a gate provides access near the southeast corner of the Facility. The gate is locked while the Facility is unattended. A staging area is located near the south end of the Facility and is used for parking, equipment staging and truck turn-around. A 100-foot buffer zone is located between the cells and perimeter fence. No waste is placed in the buffer zone or staging area. A caliche road, approximately 20 feet wide, is located adjacent to the east fence. An overhead power line is located near the south end of the Facility. An out-of-service natural gas pipeline crosses Cell #2 and Cell #3 and is owned by Southern Union Natural Gas (formerly Sid Richardson Natural Gas). The pipeline is apparently cut on the east and west sides of the Facility and is no longer used. The pipeline location is shown on Figure 4.



**Permit NM-02-0021**  
**Minor Modification Request**  
**John H. Hendrix Corporation**

---

The Facility is comprised of twelve (12) cells (Cell #1 through Cell #12) measuring approximately 400 x 1280 feet or approximately twelve (12) acres. Cell #12 is the only cell in use for treating RCRA exempt non-hazardous oilfield Waste contaminated with petroleum hydrocarbons from remediation of spills, releases and pits using landfarm techniques. The Waste is spread on the surface approximately twelve (12) inches thick and tilled bi-weekly to reduce concentrations of benzene, toluene, ethyl benzene, xylene ("BTEX") and total petroleum hydrocarbons ("TPH"). No waste has been placed in Cell #1 or Cell #2.

**3.0 OWNER**

John H. Hendrix Corporation owns the property. Contact information for JHHC is as follows:

Corporate Office  
110 N. Marienfeld Street  
Suite 400  
Midland, Texas 79701

Contact Person: Ron Westbrook  
Phone Number: (432) 684-6631  
Email: ronnie@jhhc.org

John H. Hendrix Corporation  
Field Office  
1310 18<sup>th</sup> Street  
Eunice, New Mexico 88231

Contact Person: Marvin Burrows  
Phone Number: (505) 394-2649  
Email: mburrows@valornet.com

**4.0 LOCATION**

The Facility is located approximately 7 miles northwest of Jal, New Mexico, and occupies approximately 200 acres in the west half ("W/2") of the northwest quarter ("NW/4") and the west half ("W/2") of the southwest quarter ("SW/4"), Section 15, Township 24 South, Range 36 East, Lea County, New Mexico. Figure 1 presents a topographic and location map. Figure 2 presents a Facility drawing.



**Permit NM-02-0021**  
**Minor Modification Request**  
**John H. Hendrix Corporation**

---

Driving directions to the Facility, beginning at the intersection of New Mexico State Highway #128 and New Mexico State Highway #18 in Jal, New Mexico, are as follows:

- Proceed north on New Mexico State Highway #18 approximately 6.2 miles to Jal-Cooper Cemetery Road;
- Proceed west on Jal-Cooper Cemetery Road for approximately 3.6 miles to Facility, located on north side of road.

**5.0 EXPANSION REQUEST**

This is not an expansion request.

**6.0 MODIFICATION REQUEST**

This is a minor modification request for permit NM-02-0021 to allow the Facility to utilize Cell #3, in addition to Cell #1 and Cell #3, for treatment of RCRA exempt non-hazardous oilfield Waste contaminated by salt from produced water resulting from remediation of spills, release and pits. This minor modification also requests to divide each cell into three (3) sub-cells measuring approximately 400 x 426 feet or approximately 4 acres. The sub-cells will be labeled A, B and C. Finally, this minor modification requests permission from OCD that will allow the Facility to utilize the buffer zone on each side of an out-of-service natural gas pipeline that is located near the north end of the Facility. Figure 2 presents a Facility drawing showing the location of Cell #3, sub-cells and out-of-service pipeline.

**7.0 LAND OWNERSHIP**

JHHC owns the Facility. Landowners within 1- mile of the Facility include:

Cooper Family Heirs  
c/o Bart Bishop  
6202 South Bowie  
Amarillo, Texas 79118

Sec. 9

RRR Land and Cattle Company  
2205 Bedford Drive  
Midland, Texas 79118

Sec. 10  
Sec. 11 ("SW/4")  
Sec. 15 ("E/2")

Chevron USA Inc.  
15 Smith Road

Sec. 14 ("W/2")  
Sec. 23 ("NW/4")



**Permit NM-02-0021**  
**Minor Modification Request**  
**John H. Hendrix Corporation**

---

Midland, Texas 79705

Sec. 16

Jal Public Library Fund, Trustees  
P.O. Box 1166  
Jal, New Mexico 88252

Sec.21 ("N/2")  
Sec. 22 ("N/2")

Notification of landowners within 1-mile is not required for a minor permit modification. No residences, public buildings or facilities, other than oil and gas installations, are located within one (1) mile of the Facility.

**8.0 CONSTRUCTION**

**8.1 Fences and Signs**

A barbed wire fence surrounds the Facility, and a gate is located near the southeast corner of the Facility. The gate is locked while the Facility is unattended. A sign is posted near the gate and is legible from a distance of 50 feet with the following information:

- Facility name;
- Owner;
- Legal description; and
- Emergency contact information.

**8.2 Buffer Zones**

A 100-foot buffer zone surrounds the Facility and separates the cells from the perimeter fence. A 20-foot wide buffer zone was previously established on either side of a pipeline that crosses the Facility diagonally between Cell #2 and Cell #3. The pipeline is no longer used and is apparently cut on the east and west sides of the Facility. The next closest pipeline is located about 200 feet west of the Facility in Section 16, Township 24 South, Range 36 East, Lea County, New Mexico. No waste is placed in the perimeter buffer zone. Figure 4 shows the buffer zones.

**8.3 Berms**

An earthen perimeter berm measuring approximately four (4) feet wide at the base and two (2) feet above grade separates the cells and buffer zone to prevent storm water runoff and run-on. Each cell is separated by an earthen berm no less than 2 feet above grade. Each sub-cell will be separated by an earthen berm no less than 2 feet above grade. Figure 4 shows the berms.



**Permit NM-02-0021**  
**Minor Modification Request**  
**John H. Hendrix Corporation**

---

**8.4 Treatment Zone Monitoring**

The treatment zone comprises native soil beneath the base of each cell to a depth no greater than three (3) feet below the cell. A background sample was collected near the center of the Facility from approximately 2 to 3 feet below native ground surface prior to construction. The sample was analyzed for total petroleum hydrocarbons ("TPH"), benzene, toluene, ethyl benzene, xylene ("BTEX"), total RCRA metals (arsenic, cadmium, chromium, lead, mercury, selenium, silver), cations (calcium, magnesium, sodium, potassium) and anions (bicarbonate, sulfate, chloride) using EPA methods. A sample was collected from the treatment zone of Cell#12 within six (6) months after receipt of first soil using direct-push methods and analyzed for TPH and BTEX. Treatment zone samples are required on a quarterly (4 times per year) schedule, with the fourth (4<sup>th</sup>) quarter sample analyzed for BTEX, TPH, total RCRA metals, cations and anions.

Treatment zone samples are currently collected on a semi-annual (2 times per year) schedule and within six (6) months after first soil are placed in a new cell. Four (4) samples are collected from each cell and analyzed for BTEX and TPH. Samples from the second (2<sup>nd</sup>) semi-annual event are analyzed for TPH, BTEX, total RCRA metals, cations and anions. Direct push method utilizing a dual tube sampler is used to collect the samples in order to minimize introduction of contaminated soil from the tilled zone into the treatment zone. The direct push core barrel is equipped with polyethylene liners to prevent sample cross contamination. Sample locations are recorded using global positioning system ("GPS") technology and holes are filled with bentonite, and hydrated with potable water. The OCD is notified at least 48-hours prior to each sample event and the laboratory report is submitted to OCD within 45 days following receipt from the laboratory.

**8.5 Double-Lined System**

OCD approved the modification request for Cell #2 and Cell #3 without requiring a double-lined system since ground water occurs at approximately 170 feet below ground surface ("bgs"). A double-lined system is not proposed for Cell #3. The Waste will be blended with clean soil to reduce chloride below 1000 mg/Kg.

**9.0 OPERATION**

**9.1 Facility Operation**

The Facility will be operated in a manner that does not adversely impact groundwater, surface water, public health or the environment and will involve the following procedures:



**Permit NM-02-0021**  
**Minor Modification Request**  
**John H. Hendrix Corporation**

---

- a) Disposal of Waste will only occur while an attendant is present;
- b) Gate will be locked when an attendant is not present;
- c) Chloride contaminated Waste will only be placed in Cell #1 and Cell #2, immediately spread to a uniform thickness of approximately six (6) inches, analyzed for chloride and blended with clean soil to reduce chloride below 1000 mg/Kg;
- d) Hydrocarbon Waste will be placed in the remaining cells, spread to a uniform thickness of approximately 6-inches and disked within 72 hours of receipt;
- e) All cells will be disked bi-weekly (every two weeks) to remediate petroleum hydrocarbons to 100 mg/Kg (TPH), 50 mg/Kg (BTEX) and 10 mg/Kg (benzene);
- f) No mixing of exempt and nonexempt Waste will occur;
- g) No new Waste will be spread over existing Waste without OCD approval and TPH, BTEX, benzene and chloride are below 100 mg/Kg, 50 mg/Kg, 10 mg/Kg and 1000 mg/Kg, respectively, in the existing Waste;
- h) A background sample will be collected from the treatment zone of each cell no deeper than 3 feet below the cell and analyzed for TPH, BTEX, total RCRA metals, cations and anions;
- i) Four (4) representative soil samples will be collected from the treatment zone of each cell no greater than 3 feet below the base of the cell on a semi-annual (2 times per year) schedule for active cells and beginning six (6) months after first waste is placed in a new cell. The samples will be analyzed for TPH and BTEX. Samples collected during the second (2<sup>nd</sup>) semi-annual event will be analyzed for TPH, BTEX, total RCRA metals, cations and anions. OCD will be notified 48-hours prior to the sample event and analysis will be submitted to OCD within 45 days after receipt from the laboratory report. Sample locations will be recorded using GPS technology and documented in a field book. Samples will be collected using direct push technology and holes will be filled with bentonite and hydrated with potable water;



**Permit NM-02-0021**  
**Minor Modification Request**  
**John H. Hendrix Corporation**

---

- j) Moisture will only be added to enhance remediation and control dust, as needed;
- k) No pooling of water will be allowed, and accumulated water from precipitation will be removed upon discovery;
- l) Enhanced remediation through the addition of amendments will only be applied upon OCD approval;
- m) No free liquid or Waste containing free liquid will be accepted at the Facility;
- n) Waste will be tracked using manifests that includes the following information:
  - Waste origin (well/lease);
  - Shipment date;
  - Waste quantity;
  - Certification of exempt status or analysis for hazardous constituents if non-exempt; and
  - Disposal location (cell number).

Five (5) monitoring wells (MW-1, MW-2, MW-3, MW-4 and MW-5) have been installed at the Facility to assess ground water conditions, including depth-to-ground water, ground water flow and water quality. Ground water monitoring is currently performed on a semi-annual (twice annually) and ground water samples are analyzed for New Mexico Water Quality Control Commission ("WQCC") constituents, including BTEX, anions, cations and total dissolved solids. Ground water samples are analyzed once annually for WQCC metals, including arsenic, barium, cadmium, chromium, lead, mercury, selenium and silver.

**9.2 Waste Characterization and Tracking**

The Facility will only accept RCRA exempt non-hazardous oilfield Waste and at no time will the hazardous waste be accepted at the Facility. A Waste manifest that includes a certification of Waste status shall be signed by the transporter and shall accompany each load of Waste brought to the Facility. Waste will only be accepted from JHHC operations and no additional material will be added to the loads during transport. The transporter shall acknowledge that no additional material has been added to the load during transport.



**Permit NM-02-0021**  
**Minor Modification Request**  
**John H. Hendrix Corporation**

---

**9.3 Spill and Leak Prevention and Reporting**

No spills are anticipated at the Facility since no liquid wastes will be accepted. Water may be used as necessary to control dust and enhance remediation. JHHC will notify the OCD in accordance with Rule 116 in case of a break, spill, blow out or undesirable event.

**9.4 Inspection, Maintenance and Reporting**

Berms, fences and cells will be inspected frequently, and necessary repairs and maintenance will be performed immediately. Inspection information including date, type of inspection, type of repair, etc., will be recorded in a bound field book. A perimeter berm at least four (4) feet at its base and no less than two (2) feet above grade will be maintained to prevent runoff or run-on. Cells and sub-cells will be separated by berms no less than two (2) feet above grade. Berms and cells will be inspected after rainfall or windstorms and will be immediately repaired, if required. No Waste will be accepted without proper documentation, as previously discussed in Section 10.1 (n). Records of Waste accepted at the Facility will be maintained at the JHHC field office located in Eunice, New Mexico.

**10.0 CLOSURE PLAN**

JHHC will notify OCD one (1) month prior to cessation of operations at Facility. No new Waste will be accepted at the Facility after OCD is notified of closing and existing material will be remediated to the permit requirements. Six (6) months following cessation of disposal operations, JHHC will complete cleanup of constructed facilities and restoration will occur within the next six (6) months, unless an extension is granted by the OCD. The Facility will be seeded with natural grasses and allowed to return to its natural state. The estimate cost for Facility closure is \$20,000.00.

**11.0 FACILITY CHARACTERISTICS**

The Facility is situated near the southern edge of the Eunice Plain physiographic province. The Eunice Plain is underlain by caliche referred to as "caprock" and is almost entirely covered by reddish-brown dune sand. In some places the underlying surface consists of alluvial sediments. The average annual precipitation is between 9 to 10 inches and no major drainages are located in close proximity to the Facility. The ground elevation ranges from about 3390 feet above mean sea level ("AMSL") near the northwest corner to about 3350 feet AMSL near the southeast corner and slopes gently to the southeast.



**Permit NM-02-0021**  
**Minor Modification Request**  
**John H. Hendrix Corporation**

---

Soils beneath the Facility belong to the Pyote, Simona and Berino series. The surface layer is composed of light-brown fine sand and loamy fine sand and is about 12 inches thick. A subsoil of pale brown fine sandy loam underlies the surface layer and is underlain by substratum of white, platy to indurated caliche.

The Ogallala formation (Tertiary) is the upper geological stratum and consists of continental materials (clay, silt, sand, and gravel) derived from erosion of mountainous regions to the west and northwest. Caliche occurs as a secondary deposit in the upper part of the Ogallala formation in many places. An unconformity exists between the Ogallala formation and underlying Chinle formation (Triassic).

Five (5) monitoring wells (MW-1, MW-2, MW-3, MW-4 and MW-5) have been installed in the Ogallala formation beneath the Facility to assess ground water conditions. Ground water occurs from approximately 178 feet bgs near the southwest (up gradient) corner of the Facility at well MW-3 and decreases to approximately 146 feet bgs near the southeast (down gradient) corner of the Facility at well MW-1. Figure 3 presents a depth-to-ground water map.

On April 26, 2006, the elevation of the ground water surface ranged from 3213.27 feet AMSL at well MW-4 (up gradient) to 3207.80 feet AMSL at well MW-2 (down gradient). Ground water flow was generally from north to south at approximately 0.001 feet per foot. Figure 4 presents a ground water potentiometric map. Table 1 presents well drilling and completion details. Table 2 presents a summary of depth-to-ground water measurements. Appendix B presents geologic logs and completion records for wells MW-4 and MW-5.

On April 26, 2006, ground water samples were collected wells MW-1 through MW-5 and were analyzed for BTEX, dissolved RCRA metals (arsenic, cadmium, chromium, lead, mercury, selenium, silver), anions (carbonate, sulfate, chloride), cations (calcium, magnesium, potassium, sodium) and total dissolved solids ("TDS"). No BTEX was reported in the samples and the metals were below WQCC human health standards. Chloride ranged from 55 milligrams per liter ("mg/L") in sample MW-3 to 438 mg/L in sample MW-5. Samples from wells MW-1 (342 mg/L) and MW-5 (438 mg/L) exceeded the WQCC domestic water quality standard of 250 mg/L. Figure 5 presents an isopleth map for chloride in ground water. Sulfate ranged from 42.3 mg/L in sample MW-3 to 427 mg/L in sample MW-5. Sulfate was below the WQCC domestic water quality



**Permit NM-02-0021**  
**Minor Modification Request**  
**John H. Hendrix Corporation**

---

standard of 600 mg/L. Figure 6 presents an isopleth map for sulfate ion ground water. TDS ranged from 328 mg/L in sample MW-3 to 1,770 mg/L in sample MW-5. TDS exceeded the WQCC domestic water quality standard of 1,000 mg/L in samples MW-1 (1,030 mg/L) and MW-5 (1,770 mg/L). Figure 7 presents an isopleth map for TDS in ground water. Table 3 presents a summary of the BTEX analysis. Table 4 presents a summary of the anion, cation and TDS analysis. Table 5 presents a summary of the dissolved metals analysis. Appendix C presents the laboratory report.

**12.0 PROOF OF NOTICE**

No adjacent landowner notification is required for a minor permit modification.

**13.0 H<sub>2</sub>S CONTINGENCY PLAN**

A H<sub>2</sub>S contingency plan is not applicable to this Facility since H<sub>2</sub>S will not be generated.

**14.0 ADDITIONAL INFORMATION**

JHHC issued financial assurance to OCD in the amount of \$25,000.00 upon approval of permit NM-02-0021.



## TABLES



Table 1

**Summary of Monitoring Well Drilling and Completion Details**  
**John H. Hendrix Corporation, Centralized Surface Waste Management Facility**  
**W/2 NW/4 and W/2 SW/4, Section 15, Township 24 South, Range 36 East**  
**Lea County, New Mexico**

Well Number	Date Drilled	Depth Drilled (Feet BGS)	Well Diameter (Inches)	Top-of-Casing Elevation (Feet AMSL)	Ground Elevation (Feet AMSL)	Casing Stickup (Feet)	Screen Interval (Feet BGS)
MW-1	07/01/05	165	2	3357.29	3355.45	1.84	144.41 - 164.41
MW-2	07/01/05	160	2	3356.46	3354.20	2.26	139.41 - 159.41
MW-3	07/01/05	190	2	3391.74	3389.92	1.82	169.41 - 189.41
MW-4	4/26/2006	195	2	3390.38	3387.88	2.50	174.49 - 194.49
MW-5	4/26/2006	190	4	3389.33	3386.88	2.45	163.49 - 188.49

Notes: Wells constructed with 2-inch Schedule 40 threaded PVC casing and 0.010-inch factory-slotted screen.

1. BGS: Depth in feet below ground surface

2. AMSL: Elevation in feet above mean sea level



**Table 2**

**Summary of Depth to Ground Water Measurements from Monitoring Wells  
John H. Hendrix Corporation, Centralized Surface Waste management Facility (NM-02-0021)  
W/2 NW/4 and W/2 SW/4, Section 15, Township 24 South, Range 36 East, Lea County, New Mexico**

Date	MW-1	MW-2	MW-3	MW-4	M-5
08/01/05	148.48	148.55	179.33	--	--
	(3207.98)	(3208.74)	(3,212.41)	--	--
04/26/2006	148.61	148.66	179.59	177.11	177.28
	(3207.85)	(3208.63)	(3212.15)	(3213.27)	(3212.05)

**Notes:**

1. (3554.18):
2. --:

All measurements presented in feet below top of PVC well casing.

Groundwater elevation in feet above mean sea level (AMSL)

No data available



Table 3

**Summary of BTEX Analysis of Groundwater Samples from Monitoring Wells  
John H. Hendrix Corporation, Centralized Surface Waste Management Facility  
W/2 NW/4 and W/2 SW/4, Section 15, Township 24 South, Range 36 East  
Lea County, New Mexico**

Page 1 of 1

Well Number	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylene (mg/L)	BTEX (mg/L)
NMWQCC Standard:		0.01	0.75	0.75	0.62	
MW-1	08/30/05	<0.001	<0.001	<0.001	<0.001	<0.005
	04/26/06	<0.001	<0.001	<0.001	<0.001	<0.005
MW-2	08/30/05	<0.001	<0.001	<0.001	<0.001	<0.005
	04/26/06	<0.001	<0.001	<0.001	<0.001	<0.005
MW-3	08/30/05	<0.001	<0.001	<0.001	<0.001	<0.005
	04/26/06	<0.001	<0.001	<0.001	<0.001	<0.005
MW-4	04/26/06	<0.001	<0.001	<0.001	<0.001	<0.005
MW-5	04/26/06	<0.001	<0.001	<0.001	<0.001	<0.005

## Notes:

Analysis performed by Environmental Lab of Texas, inc., Odessa, Texas, using method SW-846-8021B.

1. mg/L: Milligrams per liter

2. &lt;: Less than method detection limit



Table 4

**Summary of General Chemistry Analysis of Groundwater Samples from Monitoring Wells  
John H. Hendrix Corporation, Centralized Surface Waste Management Facility  
W/2 NW/4, W/s SW/4, Section 15, Township 24 South, Range 36 East  
Lea County, New Mexico**

Page 1 of 1

Well Number	Sample Date	Calcium (mg/L)	Potassium (mg/L)	Magnesium (mg/L)	Sodium (mg/L)	Carbonate Alkalinity (mg/L)	Bicarbonate Alkalinity (mg/L)	Hydroxide Alkalinity (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	TDS (mg/L)
NMWQCC Standard:		--	--	--	--	--	--	--	250	600	1,000
MW-1	08/30/05	260	8.30	80.2	329	<0.1	186	<0.1	511	486	1,970
	04/26/06	157	5.48	39.4	66.3	--	--	--	342	42.3	1,030
MW-2	08/30/05	185	6.48	49.2	330	<0.1	202	<0.1	360	457	1,610
	04/26/06	64.3	3.18	17.6	36.4	--	--	--	109	90	408
MW-3	08/30/05	279	7.62	82.1	407	<0.1	210	<0.1	508	650	2,390
	04/26/06	56.3	3.06	16.1	47.0	--	--	--	55	47	328
MW-4	04/26/06	92.6	5.09	20.90	94.20	--	--	--	169	179	584
MW-5	04/26/06	345	7.74	52.60	270	--	---	--	438	427	1,770

Notes: All analysis performed by Environmental Lab of Texas, Inc., Odessa, Texas.

1. mg/L: Milligrams per liter

2. &lt;: Less than method detection limit

3. --: No standard



Table 5

**Summary of Dissolved Metals Analysis of Groundwater Samples from Monitoring Wells  
John H. Hendrix Corporation, Centralized Surface Waste Management Facility  
W/2 NW/4, W/s SW/4, Section 15, Township 24 South, Range 36 East**

Lea County, New Mexico

Page 1 of 1

Well	Sample Date	Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Lead (mg/L)	Mercury (mg/L)	Silver (mg/L)	Selenium (mg/L)
NMWQCC Standard:		0.1	1.0	0.01	0.05	0.05	0.002	0.05	0.05
MW-1	08/30/05	<0.008	0.07	<0.001	<0.005	0.0052	<0.001	<0.005	0.0133
	04/26/06	<0.00170	0.138	<0.000692	0.00301	0.000303	<0.000250	<0.000405	0.00767
MW-2	08/30/05	0.0076	0.125	0.0018	0.0016	0.0103	<0.001	<0.005	<0.004
	04/26/06	<0.00170	0.0951	<0.000692	0.00363	<0.000296	<0.000250	<0.000405	0.00998
MW-3	08/30/05	<0.008	0.111	<0.001	<0.005	<0.011	<0.001	<0.005	0.0198
	04/26/06	<0.00170	0.0831	<0.000692	0.00448	<0.000296	<0.000250	<0.000405	0.0104
MW-4	04/26/06	<0.00170	0.0591	<0.000692	0.00413	<0.000296	<0.000250	<0.000405	0.0106
MW-5	04/26/06	<0.00170	0.0682	<0.000692	0.00305	<0.000296	0.00022	<0.000405	0.0148

Notes: All analysis performed by Environmental Lab of Texas, Inc., Odessa, Texas.

1. mg/L: Milligrams per liter

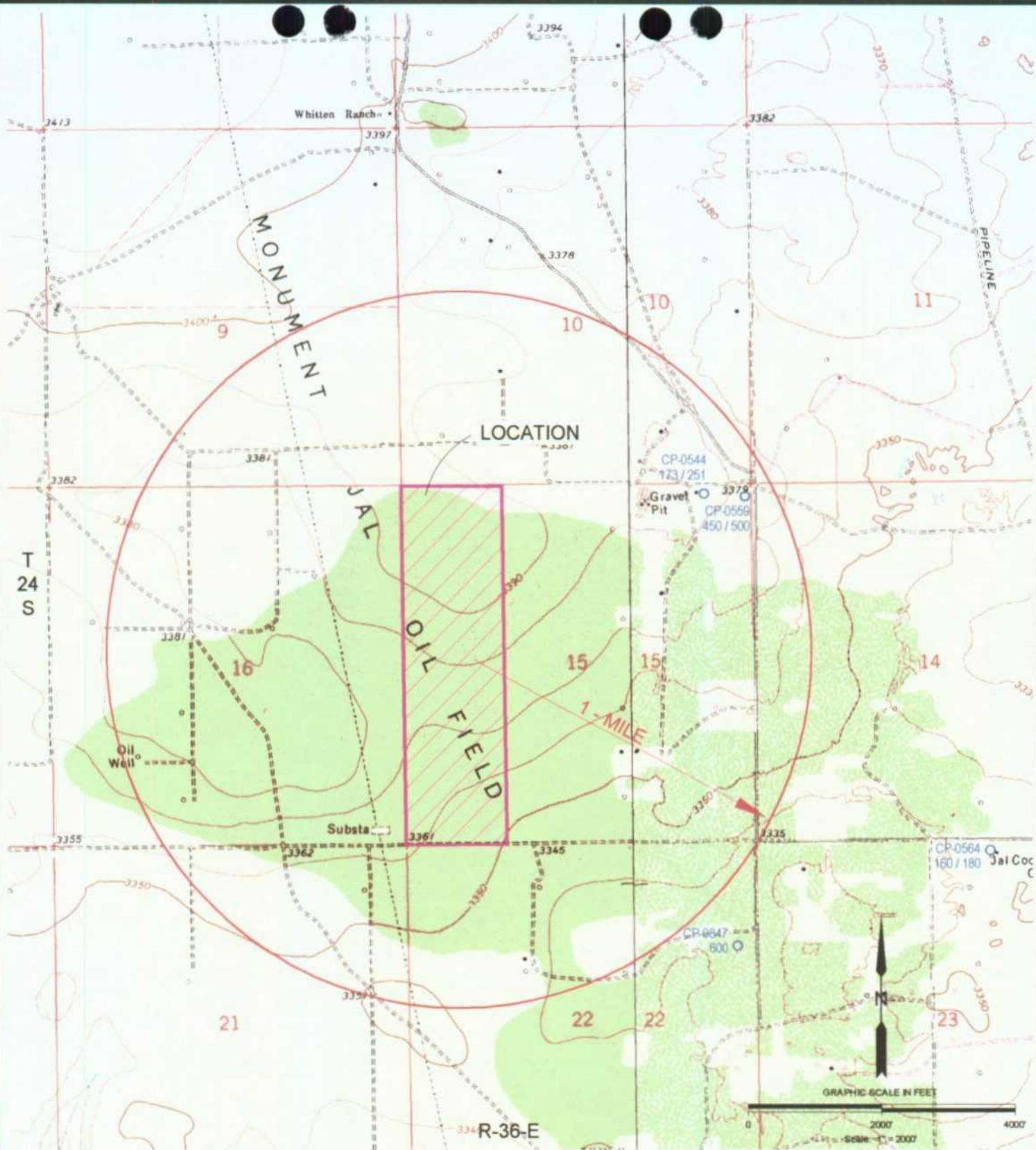
2. &lt;: Less than method detection limit

3. --: No standard



**FIGURES**



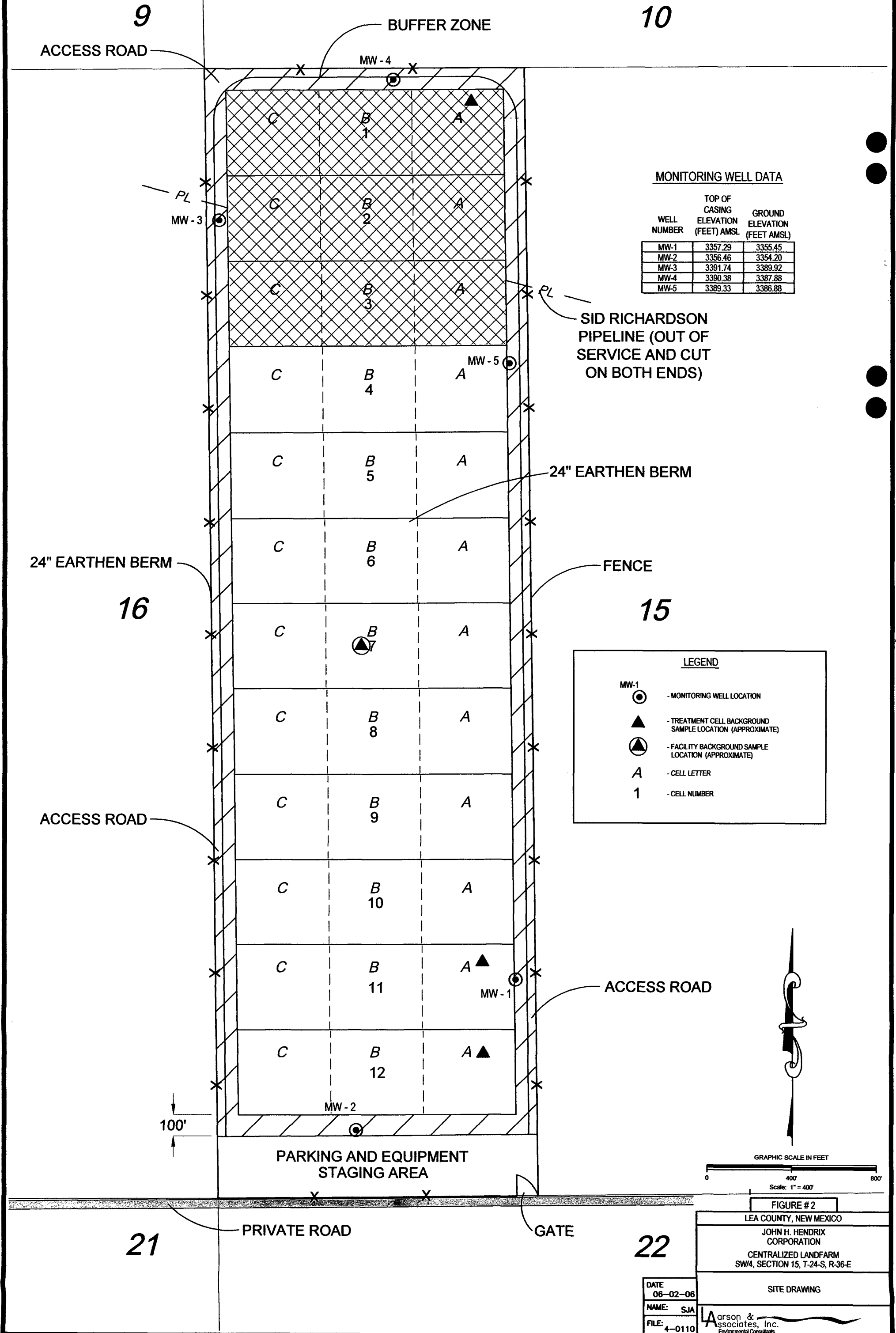


LEGEND	
	WATER WELL LOCATION
160 / 180	DEPTH TO GROUND (UPPER NUMBER) WELL DEPTH (LOWER NUMBER)
CP-0564	NEW MEXICO STATE ENGINEER PERMIT NUMBER

DATE  
05-19-06  
NAME: SJA  
FILE: 4-0110

FIGURE #1	
LEA COUNTY, NEW MEXICO	
JOHN H. HENDRIX CORPORATION	
CENTRALIZED LANDFARM	
W/2, W/2, SECTION 15, T-24-S, R-36-E	
TOPOGRAPHICAL MAP	





MONITORING WELL DATA

WELL NUMBER	TOP OF CASING ELEVATION (FEET) AMSL	GROUND ELEVATION (FEET) AMSL
MW-1	3357.29	3355.45
MW-2	3356.46	3354.20
MW-3	3391.74	3389.92
MW-4	3390.38	3387.88
MW-5	3389.33	3386.88

SID RICHARDSON PIPELINE (OUT OF SERVICE AND CUT ON BOTH ENDS)

LEGEND

- MW-1  
● - MONITORING WELL LOCATION
- ▲ - TREATMENT CELL BACKGROUND SAMPLE LOCATION (APPROXIMATE)
- ⊙ - FACILITY BACKGROUND SAMPLE LOCATION (APPROXIMATE)
- A - CELL LETTER
- 1 - CELL NUMBER

GRAPHIC SCALE IN FEET

0 400' 800'  
Scale: 1" = 400'

FIGURE #2

LEA COUNTY, NEW MEXICO

JOHN H. HENDRIX CORPORATION

CENTRALIZED LANDFARM  
SW/4, SECTION 15, T-24-S, R-36-E

SITE DRAWING

DATE  
06-02-06

NAME: SJA

FILE: 4-0110

Larson & Associates, Inc.  
Environmental Consultants



9

10

ACCESS ROAD

BUFFER ZONE

174.61  
MW-4

## MONITORING WELL DATA

WELL NUMBER	TOP OF CASING ELEVATION (FEET) AMSL	GROUND ELEVATION (FEET AMSL)
MW-1	3357.29	3355.45
MW-2	3356.46	3354.20
MW-3	3391.74	3389.92
MW-4	3390.38	3387.88
MW-5	3389.33	3386.88

PIPELINE BUFFER ZONE

177.77  
MW-3SID RICHARDSON  
PIPELINE (OUT OF  
SERVICE AND CUT  
ON BOTH ENDS)MW-5  
174.83

170.00

24" EARTHEN BERM

24" EARTHEN BERM

FENCE

16

15

ACCESS ROAD

ACCESS ROAD

PARKING AND EQUIPMENT  
STAGING AREA

100'

PRIVATE ROAD

GATE

21

22

## LEGEND

- MW-1 146.77
- 150.00
- ▲ TREATMENT CELL BACKGROUND SAMPLE LOCATION (APPROXIMATE)
- FACILITY BACKGROUND SAMPLE LOCATION (APPROXIMATE)
- A CELL LETTER
- 1 CELL NUMBER

GRAPHIC SCALE IN FEET

0 400' 800'

Scale: 1" = 400'

FIGURE #3

LEA COUNTY, NEW MEXICO

JOHN H. HENDRIX  
CORPORATIONCENTRALIZED LANDFARM  
SW/4, SECTION 15, T-24-S, R-36-EDEPTH TO GROUNDWATER MAP  
APRIL, 26, 2006DATE  
06-02-06

NAME: SJA

FILE: 4-0110

Larson &  
Associates, Inc.  
Environmental Consultants



9

10

BUFFER ZONE

ACCESS ROAD

3213.27  
MW-4C  
1C  
2C  
3C  
4C  
5C  
6C  
7C  
8C  
9C  
10C  
11C  
12C  
13C  
14C  
15C  
16C  
17C  
18C  
19C  
20C  
21C  
22C  
23C  
24C  
25C  
26C  
27C  
28C  
29C  
30C  
31C  
32C  
33C  
34C  
35C  
36C  
37C  
38C  
39C  
40C  
41C  
42C  
43C  
44C  
45C  
46C  
47C  
48C  
49C  
50C  
51C  
52C  
53C  
54C  
55C  
56C  
57C  
58C  
59C  
60C  
61C  
62C  
63C  
64C  
65C  
66C  
67C  
68C  
69C  
70C  
71C  
72C  
73C  
74C  
75C  
76C  
77C  
78C  
79C  
80C  
81C  
82C  
83C  
84C  
85C  
86C  
87C  
88C  
89C  
90C  
91C  
92C  
93C  
94C  
95C  
96C  
97C  
98C  
99C  
100C  
101C  
102C  
103C  
104C  
105C  
106C  
107C  
108C  
109C  
110C  
111C  
112C  
113C  
114C  
115C  
116C  
117C  
118C  
119C  
120C  
121C  
122C  
123C  
124C  
125C  
126C  
127C  
128C  
129C  
130C  
131C  
132C  
133C  
134C  
135C  
136C  
137C  
138C  
139C  
140C  
141C  
142C  
143C  
144C  
145C  
146C  
147C  
148C  
149C  
150C  
151C  
152C  
153C  
154C  
155C  
156C  
157C  
158C  
159C  
160C  
161C  
162C  
163C  
164C  
165C  
166C  
167C  
168C  
169C  
170C  
171C  
172C  
173C  
174C  
175C  
176C  
177C  
178C  
179C  
180C  
181C  
182C  
183C  
184C  
185C  
186C  
187C  
188C  
189C  
190C  
191C  
192C  
193C  
194C  
195C  
196C  
197C  
198C  
199C  
200C  
201C  
202C  
203C  
204C  
205C  
206C  
207C  
208C  
209C  
210C  
211C  
212C  
213C  
214C  
215C  
216C  
217C  
218C  
219C  
220C  
221C  
222C  
223C  
224C  
225C  
226C  
227C  
228C  
229C  
230C  
231C  
232C  
233C  
234C  
235C  
236C  
237C  
238C  
239C  
240C  
241C  
242C  
243C  
244C  
245C  
246C  
247C  
248C  
249C  
250C  
251C  
252C  
253C  
254C  
255C  
256C  
257C  
258C  
259C  
260C  
261C  
262C  
263C  
264C  
265C  
266C  
267C  
268C  
269C  
270C  
271C  
272C  
273C  
274C  
275C  
276C  
277C  
278C  
279C  
280C  
281C  
282C  
283C  
284C  
285C  
286C  
287C  
288C  
289C  
290C  
291C  
292C  
293C  
294C  
295C  
296C  
297C  
298C  
299C  
300C  
301C  
302C  
303C  
304C  
305C  
306C  
307C  
308C  
309C  
310C  
311C  
312C  
313C  
314C  
315C  
316C  
317C  
318C  
319C  
320C  
321C  
322C  
323C  
324C  
325C  
326C  
327C  
328C  
329C  
330C  
331C  
332C  
333C  
334



9

10

ACCESS ROAD

BUFFER ZONE

169  
MW-4PL  
55  
MW-3

## MONITORING WELL DATA

WELL NUMBER	TOP OF CASING ELEVATION (FEET) AMSL	GROUND ELEVATION (FEET) AMSL
MW-1	3357.29	3355.45
MW-2	3356.46	3354.20
MW-3	3391.74	3389.92
MW-4	3390.38	3387.88
MW-5	3389.33	3386.88

SID RICHARDSON  
PIPELINE (OUT OF  
SERVICE AND CUT  
ON BOTH ENDS)

24" EARTHEN BERM

24" EARTHEN BERM

FENCE

16

15

ACCESS ROAD

ACCESS ROAD

100'

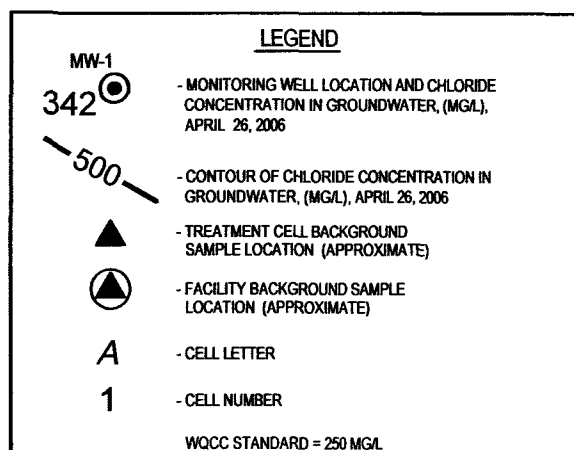
PARKING AND EQUIPMENT  
STAGING AREA

PRIVATE ROAD

GATE

21

22



GRAPHIC SCALE IN FEET

0 400' 800'  
Scale: 1" = 400'

FIGURE #5

LEA COUNTY, NEW MEXICO

JOHN H. HENDRIX  
CORPORATIONCENTRALIZED LANDFARM  
SW/4, SECTION 15, T-24-S, R-36-ECHLORIDE ISOPLETH MAP  
APRIL 26, 2006DATE  
06-02-06

NAME: SJA

FILE: 4-0110

Larson &  
Associates, Inc.  
Environmental Consultants



9

10

ACCESS ROAD

BUFFER ZONE

179  
MW-4PI  
47  
MW-3

## MONITORING WELL DATA

WELL NUMBER	TOP OF CASING ELEVATION (FEET) AMSL	GROUND ELEVATION (FEET) AMSL
MW-1	3357.29	3355.45
MW-2	3356.46	3354.20
MW-3	3391.74	3389.92
MW-4	3390.38	3387.88
MW-5	3389.33	3386.88

SID RICHARDSON  
PIPELINE (OUT OF  
SERVICE AND CUT  
ON BOTH ENDS)

24" EARTHEN BERM

24" EARTHEN BERM

FENCE

16

15

ACCESS ROAD

ACCESS ROAD

100'

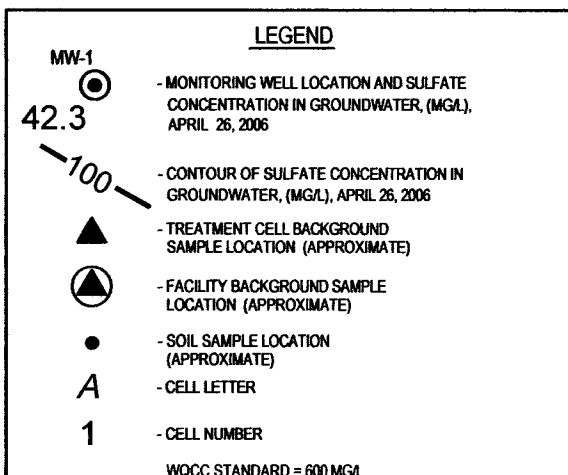
PARKING AND EQUIPMENT  
STAGING AREA

PRIVATE ROAD

GATE

21

22



GRAPHIC SCALE IN FEET

0 400' 800'  
Scale: 1" = 400'

FIGURE #6

LEA COUNTY, NEW MEXICO

JOHN H. HENDRIX  
CORPORATION  
CENTRALIZED LANDFARM  
SW/4, SECTION 15, T-24-S, R-36-ESULFATE ISOPLETH MAP  
APRIL 26, 2006DATE  
06-02-06

NAME: SJA

FILE: 4-0110

Larson &  
Associates, Inc.  
Environmental Consultants



9

10

ACCESS ROAD

BUFFER ZONE

584  
MW-4328  
MW-3

## MONITORING WELL DATA

WELL NUMBER	TOP OF CASING ELEVATION (FEET) AMSL	GROUND ELEVATION (FEET) AMSL
MW-1	3357.29	3355.45
MW-2	3356.46	3354.20
MW-3	3391.74	3389.92
MW-4	3390.38	3387.88
MW-5	3389.33	3386.88

SID RICHARDSON  
PIPELINE (OUT OF  
SERVICE AND CUT  
ON BOTH ENDS)

24" EARTHEN BERM

24" EARTHEN BERM

FENCE

16

15

ACCESS ROAD

ACCESS ROAD

PARKING AND EQUIPMENT  
STAGING AREA

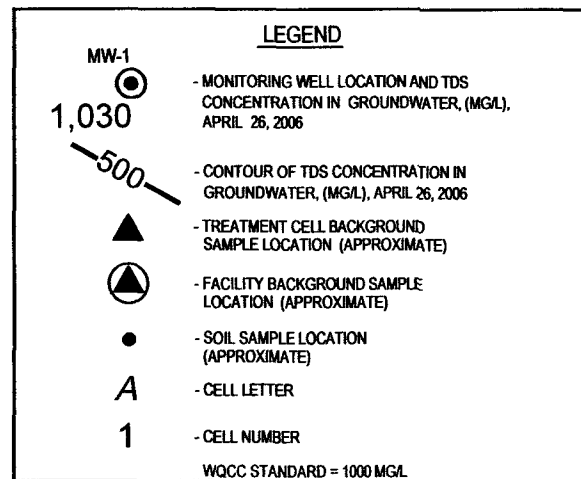
100'

PRIVATE ROAD

GATE

21

22



GRAPHIC SCALE IN FEET

0 400' 800'

Scale: 1" = 400'

FIGURE #7

LEA COUNTY, NEW MEXICO

JOHN H. HENDRIX CORPORATION

CENTRALIZED LANDFARM  
SW/4, SECTION 15, T-24-S, R-36-ETOTAL DISSOLVED SOLIDS ISOPLETH MAP  
APRIL 26, 2006DATE  
06-02-06

NAME: SJA

FILE: 4-0110

Larson &  
Associates, Inc.  
Environmental Consultants



**APPENDIX A**

**Form C-137**



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

State of New Mexico  
Energy Minerals and Natural Resources

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

Form C-137  
Revised June 10, 2003

Submit Original Plus 1  
Copy to Santa Fe  
1 Copy Appropriate  
District Office

**APPLICATION FOR WASTE MANAGEMENT FACILITY**

(Refer to the OCD Guidelines for assistance in completing the application)

☐ Commercial

☒ Centralized

1. Type: ☐ Evaporation ☐ Injection ☐ Other

☒ Solids/Landfarm

☐ Treating Plant

2. Operator: John H. Hendrix Corporation

Address: 110 N. Marienfeld Street, Suite 400, Midland, Texas 79701

Contact Person: Ron Westbrook

Phone: (432) 684-6631

3. Location: W/2 NW/4 and W/2 NW/4, Section 15, Township 24 South, Range 36 East, Lea County, New Mexico

Submit large scale topographic map showing exact location

4. Is this a modification of an existing facility? ☒ Yes ☐ No

5. Attach the name and address of the landowner of the facility site and landowners of record within one mile of the site.

6. Attach description of the facility with a diagram indicating location of fences, pits, dikes, and tanks on the facility.

7. Attach designs prepared in accordance with Division guidelines for the construction/installation of the following: pits or ponds, leak-detection systems, aerations systems, enhanced evaporation (spray) systems, waste treating systems, security systems, and landfarm facilities.

8. Attach a contingency plan for reporting and clean-up for spills or releases.

9. Attach a routine inspection and maintenance plan to ensure permit compliance.

10. Attach a closure plan.

11. Attach geological/hydrological evidence demonstrating that disposal of oil field wastes will not adversely impact groundwater. Depth to and quality of ground water must be included.

12. Attach proof that the notice requirements of OCD Rule 711 have been met.

13. Attach a contingency plan in the event of a release of H<sub>2</sub>S.

14. Attach such other information as necessary to demonstrate compliance with any other OCD rules, regulations and orders.

15. CERTIFICATION

I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

Name: Mark J. Larson (Agent for John H. Hendrix Corporation)

Title: Sr. Project Manager/President

Signature: 

Date: June 5, 2006

E-mail Address: mark@laenvironmental.com



**APPENDIX B**

**Well Logs**



**Client:** John H. Hendrix Corporation

**Project:** Centralized Landfarm

**Project No.:** 4-0110

**Location:** Lea County, New Mexico

**Log:** MW - 4

**Geologist:** C. Crain

**Page:** 1 of 1

SUBSURFACE PROFILE				SAMPLE			PID Measurement (PPM)	Well Detail	Notes
Depth	Description	Symbol	Ground Elevation	Number	Type	Recovery			
5	<b>Sand</b>								Well secured with locking cover 0.0' - 2.0' BGS Cement surface seal
10	2.5 YR 5/8, Red, quartz								
15	sand, very fine grained,								
20	moderately well sorted,								
25	dry								
30	<b>Caliche</b>								2.0' - 169.0' BGS Cement-bentonite grout
35	7.5YR 7/4, Pink, quartz								
40	sand, non-indurated, dry								
45									
50	<b>Gravelly Sand</b>								169.0' - 172.0' BGS Bentonite Pellets
55	5 YR 7/4, Pink quartz								
60	sand and gravel, fine								
65	grained, very poorly								
70	sorted, dry								
75									
80									
85									
90									
95									
100									
105									
110									
115									
120									
125									
130									
135									
140	<b>Sand</b>								172.0' - 195.0' BGS CSSI Sand 174.49' - 194.49' BGS Sch. 40 PVC Screen Slot 0.020"
145	5 YR 6/6, Reddish yellow,								
150	quartz sand, very fine								
155	grained, well sorted, loose								
160									
165									
170									
175									
180									
185									
190									
195	<b>TD: 195'</b>								195.0' BGS 2" Threaded Sch. 40 PVC Cap
200									
205									
210									

**Drilled By:** Scarborough Drilling

**Drill Method:** Water Rotary

**Drill Date:** 3/29/06

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

**Well Size:** 2"

**TOC Elevation:** 3390.38'

**Checked By:** CC



**Client:** John H. Hendrix Corporation

**Project:** Centralized Landfarm

**Project No.:** 4-0110

**Location:** Lea County, New Mexico

**Log:** MW - 5

**Geologist:** C. Crain

**Page:** 1 of 1

SUBSURFACE PROFILE				SAMPLE			PID Measurement (PPM)	Well Detail	Notes
Depth	Description	Symbol	Ground Elevation	Number	Type	Recovery			
5	<b>Sand</b>						50 100 150		Well secured with locking cover 0.0' - 2.0' BGS Cement surface seal
10	2.5 YR 5/8, Red, quartz								
15	sand, very fine grained,								
20	moderately well sorted,								
25	dry								
30	<b>Caliche</b>								2.0' - 158.0' BGS Cement-bentonite grout
35	7.5YR 7/4, Pink, quartz								
40	sand, non-indurated, dry								
45	<b>Gravelly Sand</b>								
50	5 YR 7/4, Pink quartz								
55	sand and gravel, fine								
60	grained, very poorly								
65	sorted, dry								
70	<b>Sand</b>								
75	5 YR 6/6, Reddish yellow,								
80	quartz sand, very fine								
85	grained, well sorted, loose								
90									
95									
100									
105									
110									
115									
120									
125									
130									
135									
140									
145									
150									
155									
160									
165									
170									
175									
180									
185									
190									
195	<b>TD: 190'</b>								
200									
205									
210									

**Drilled By:** Scarborough Drilling

**Drill Method:** Water Rotary

**Drill Date:** 3/30/06

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

**Well Size:** 4"

**TOC Elevation:** 3389.33'

**Checked By:** CC

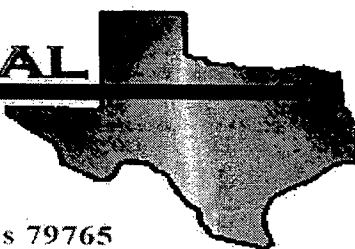


**APPENDIX C**

**Laboratory Report**



# ENVIRONMENTAL 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/ Land Farm

Project Number: 4-0110

Location: None Given

Lab Order Number: 6D27023

Report Date: 05/05/06



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

Project: John Hendrix/ Land Farm  
Project Number: 4-0110  
Project Manager: Mark Larson

Fax: (432) 687-0456

Reported:  
05/05/06 11:09

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	6D27023-01	Water	04/26/06 08:35	04/27/06 16:40
MW-2	6D27023-02	Water	04/26/06 09:46	04/27/06 16:40
MW-3	6D27023-03	Water	04/26/06 10:32	04/27/06 16:40
MW-4	6D27023-04	Water	04/26/06 11:38	04/27/06 16:40
MW-5	6D27023-05	Water	04/26/06 12:49	04/27/06 16:40



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

Project: John Hendrix/ Land Farm  
Project Number: 4-0110  
Project Manager: Mark Larson

Fax: (432) 687-0456

Reported:  
05/05/06 11:09

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-1 (6D27023-01) Water</b>									
Benzene	ND	0.00100	mg/L	1	ED62807	04/28/06	05/01/06	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		99.8 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.2 %	80-120		"	"	"	"	
<b>MW-2 (6D27023-02) Water</b>									
Benzene	ND	0.00100	mg/L	1	ED62807	04/28/06	05/01/06	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		98.5 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	80-120		"	"	"	"	
<b>MW-3 (6D27023-03) Water</b>									
Benzene	ND	0.00100	mg/L	1	ED62807	04/28/06	05/01/06	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		100 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.2 %	80-120		"	"	"	"	
<b>MW-4 (6D27023-04) Water</b>									
Benzene	ND	0.00100	mg/L	1	ED62807	04/28/06	05/01/06	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		95.8 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		93.8 %	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 2 of 14



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

Project: John Hendrix/ Land Farm  
Project Number: 4-0110  
Project Manager: Mark Larson

Fax: (432) 687-0456

Reported:  
05/05/06 11:09

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-5 (6D27023-05) Water</b>									
Benzene	ND	0.00100	mg/L	1	ED62807	04/28/06	05/01/06	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		95.5 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.2 %	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 3 of 14



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

Project: John Hendrix/ Land Farm  
Project Number: 4-0110  
Project Manager: Mark Larson

Fax: (432) 687-0456

Reported:  
05/09/06 11:03

**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 (6D27023-01) Water</b>									
Total Alkalinity	133	2.00	mg/L	1	EE60302	05/03/06	05/03/06	EPA 310.1M	
Chloride	342	5.00	"	10	EE60116	05/01/06	05/01/06	EPA 300.0	
Total Dissolved Solids	1030	5.00	"	1	EE60308	05/02/06	05/04/06	EPA 160.1	
Sulfate	42.3	5.00	"	10	EE60116	05/01/06	05/01/06	EPA 300.0	
<b>MW-2 (6D27023-02) Water</b>									
Total Alkalinity	170	2.00	mg/L	1	EE60302	05/03/06	05/03/06	EPA 310.1M	
Chloride	109	5.00	"	10	EE60116	05/01/06	05/01/06	EPA 300.0	
Total Dissolved Solids	408	5.00	"	1	EE60308	05/02/06	05/04/06	EPA 160.1	
Sulfate	89.7	5.00	"	10	EE60116	05/01/06	05/01/06	EPA 300.0	
<b>MW-3 (6D27023-03) Water</b>									
Total Alkalinity	177	2.00	mg/L	1	EE60302	05/03/06	05/03/06	EPA 310.1M	
Chloride	55.0	5.00	"	10	EE60116	05/01/06	05/01/06	EPA 300.0	
Total Dissolved Solids	328	5.00	"	1	EE60308	05/02/06	05/04/06	EPA 160.1	
Sulfate	46.7	5.00	"	10	EE60116	05/01/06	05/01/06	EPA 300.0	
<b>MW-4 (6D27023-04) Water</b>									
Total Alkalinity	170	2.00	mg/L	1	EE60302	05/03/06	05/03/06	EPA 310.1M	
Chloride	169	5.00	"	10	EE60116	05/01/06	05/01/06	EPA 300.0	
Total Dissolved Solids	584	5.00	"	1	EE60308	05/02/06	05/04/06	EPA 160.1	
Sulfate	179	5.00	"	10	EE60116	05/01/06	05/01/06	EPA 300.0	
<b>MW-5 (6D27023-05) Water</b>									
Total Alkalinity	176	2.00	mg/L	1	EE60302	05/03/06	05/03/06	EPA 310.1M	
Chloride	438	12.5	"	25	EE60116	05/01/06	05/01/06	EPA 300.0	
Total Dissolved Solids	1770	5.00	"	1	EE60308	05/02/06	05/04/06	EPA 160.1	
Sulfate	427	12.5	"	25	EE60116	05/01/06	05/01/06	EPA 300.0	

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 4 of 14



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

Project: John Hendrix/ Land Farm  
Project Number: 4-0110  
Project Manager: Mark Larson

Fax: (432) 687-0456

Reported:  
05/05/06 11:09

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-1 (6D27023-01) Water</b>									
Calcium	157	0.500	mg/L	50	EE60304	05/03/06	05/03/06	EPA 6010B	
Magnesium	39.4	0.0100	"	10	"	"	"	"	
Potassium	5.48	0.500	"	"	"	"	"	"	
Sodium	66.3	0.100	"	"	"	"	"	"	
Mercury	ND	0.000250	"	1	EE60120	04/28/06	05/01/06	EPA 7470A	
Chromium	0.00301	0.000698	"	"	EE60114	04/28/06	05/01/06	EPA 6020A	
Arsenic	ND	0.00170	"	"	"	"	"	"	
Selenium	0.00767	0.00300	"	"	"	"	"	"	
Silver	ND	0.000405	"	"	"	"	"	"	
Cadmium	ND	0.000692	"	"	"	"	"	"	
Barium	0.138	0.000489	"	"	"	"	"	"	
Lead	0.000303	0.000296	"	"	"	"	"	"	

**MW-2 (6D27023-02) Water**

Calcium	64.3	0.100	mg/L	10	EE60304	05/03/06	05/03/06	EPA 6010B	
Magnesium	17.6	0.0100	"	"	"	"	"	"	
Potassium	3.18	0.500	"	"	"	"	"	"	
Sodium	36.4	0.100	"	"	"	"	"	"	
Mercury	ND	0.000250	"	1	EE60120	04/28/06	05/01/06	EPA 7470A	
Chromium	0.00363	0.000698	"	"	EE60114	04/28/06	05/01/06	EPA 6020A	
Arsenic	ND	0.00170	"	"	"	"	"	"	
Selenium	0.00998	0.00300	"	"	"	"	"	"	
Silver	ND	0.000405	"	"	"	"	"	"	
Cadmium	ND	0.000692	"	"	"	"	"	"	
Barium	0.0951	0.000489	"	"	"	"	"	"	
Lead	ND	0.000296	"	"	"	"	"	"	

**MW-3 (6D27023-03) Water**

Calcium	56.3	0.100	mg/L	10	EE60304	05/03/06	05/03/06	EPA 6010B	
Magnesium	16.1	0.0100	"	"	"	"	"	"	
Potassium	3.06	0.500	"	"	"	"	"	"	
Sodium	47.0	0.100	"	"	"	"	"	"	
Mercury	ND	0.000250	"	1	EE60120	04/28/06	05/01/06	EPA 7470A	
Chromium	0.00448	0.000698	"	"	EE60114	04/28/06	05/01/06	EPA 6020A	
Arsenic	ND	0.00170	"	"	"	"	"	"	
Selenium	0.0104	0.00300	"	"	"	"	"	"	
Silver	ND	0.000405	"	"	"	"	"	"	
Cadmium	ND	0.000692	"	"	"	"	"	"	

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 5 of 14



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

Project: John Hendrix/ Land Farm  
Project Number: 4-0110  
Project Manager: Mark Larson

Fax: (432) 687-0456

Reported:  
05/05/06 11:09

**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
---------	--------	--------------------	-------	----------------	------------------	------	----------------	-----	--------------	-------

**Batch ED62807 - EPA 5030C (GC)**

**Blank (ED62807-BLK1)**

Prepared: 04/28/06 Analyzed: 04/30/06

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	42.7		ug/l	40.0		107	80-120			
Surrogate: 4-Bromofluorobenzene	42.2		"	40.0		106	80-120			

**LCS (ED62807-BS1)**

Prepared: 04/28/06 Analyzed: 04/30/06

Benzene	0.0599	0.00100	mg/L	0.0500		120	80-120			
Toluene	0.0580	0.00100	"	0.0500		116	80-120			
Ethylbenzene	0.0551	0.00100	"	0.0500		110	80-120			
Xylene (p/m)	0.120	0.00100	"	0.100		120	80-120			
Xylene (o)	0.0596	0.00100	"	0.0500		119	80-120			
Surrogate: a,a,a-Trifluorotoluene	43.0		ug/l	40.0		108	80-120			
Surrogate: 4-Bromofluorobenzene	42.2		"	40.0		106	80-120			

**Calibration Check (ED62807-CCV1)**

Prepared: 04/28/06 Analyzed: 05/01/06

Benzene	55.0		ug/l	50.0		110	80-120			
Toluene	53.0		"	50.0		106	80-120			
Ethylbenzene	55.9		"	50.0		112	80-120			
Xylene (p/m)	110		"	100		110	80-120			
Xylene (o)	55.9		"	50.0		112	80-120			
Surrogate: a,a,a-Trifluorotoluene	39.0		"	40.0		97.5	80-120			
Surrogate: 4-Bromofluorobenzene	39.1		"	40.0		97.8	80-120			

**Matrix Spike (ED62807-MS1)**

Source: 6D27008-01

Prepared: 04/28/06 Analyzed: 05/01/06

Benzene	0.0576	0.00100	mg/L	0.0500	ND	115	80-120			
Toluene	0.0568	0.00100	"	0.0500	ND	114	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)	0.0600	0.00100	"	0.0500	ND	120	80-120			
Surrogate: a,a,a-Trifluorotoluene	41.7		ug/l	40.0		104	80-120			
Surrogate: 4-Bromofluorobenzene	47.5		"	40.0		119	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 7 of 14



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

Project: John Hendrix/ Land Farm  
Project Number: 4-0110  
Project Manager: Mark Larson

Fax: (432) 687-0456

Reported:  
05/05/06 11:09

**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
---------	--------	--------------------	-------	----------------	------------------	------	----------------	-----	--------------	-------

**Batch ED62807 - EPA 5030C (GC)**

**Matrix Spike Dup (ED62807-MSD1)**

**Source: 6D27008-01**

**Prepared: 04/28/06 Analyzed: 05/01/06**

Benzene	0.0597	0.00100	mg/L	0.0500	ND	119	80-120	3.42	20	
Toluene	0.0579	0.00100	"	0.0500	ND	116	80-120	1.74	20	
Ethylbenzene	0.0585	0.00100	"	0.0500	ND	117	80-120	0.00	20	
Xylene (p/m)	0.120	0.00100	"	0.100	ND	120	80-120	0.00	20	
Xylene (o)	0.0598	0.00100	"	0.0500	ND	120	80-120	0.00	20	
Surrogate: a,a,a-Trifluorotoluene	43.5		ug/l	40.0		109	80-120			
Surrogate: 4-Bromofluorobenzene	46.4		"	40.0		116	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 8 of 14



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

Project: John Hendrix/ Land Farm  
Project Number: 4-0110  
Project Manager: Mark Larson

Fax: (432) 687-0456

Reported:  
05/05/06 11:09

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

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

**Batch EE60116 - General Preparation (WetChem)**

**Blank (EE60116-BLK1)**

Prepared & Analyzed: 05/01/06

Sulfate	ND	0.500	mg/L						
Chloride	ND	0.500	"						

**LCS (EE60116-BS1)**

Prepared & Analyzed: 05/01/06

Chloride	9.71	0.500	mg/L	10.0		97.1	80-120		
Sulfate	9.47	0.500	"	10.0		94.7	80-120		

**Calibration Check (EE60116-CCV1)**

Prepared & Analyzed: 05/01/06

Chloride	9.86		mg/L	10.0		98.6	80-120		
Sulfate	8.11		"	10.0		81.1	80-120		

**Duplicate (EE60116-DUP1)**

Source: 6D27008-01

Prepared & Analyzed: 05/01/06

Chloride	49.3	2.50	mg/L		49.0		0.610	20	
Sulfate	80.0	2.50	"		79.2		1.01	20	

**Batch EE60302 - General Preparation (WetChem)**

**Blank (EE60302-BLK1)**

Prepared & Analyzed: 05/03/06

Total Alkalinity	ND	2.00	mg/L						
------------------	----	------	------	--	--	--	--	--	--

**LCS (EE60302-BS1)**

Prepared & Analyzed: 05/03/06

Bicarbonate Alkalinity	215		mg/L	200		108	85-115		
------------------------	-----	--	------	-----	--	-----	--------	--	--

**Reference (EE60302-SRM1)**

Prepared & Analyzed: 05/03/06

Total Alkalinity	96.0		mg/L	100		96.0	90-110		
------------------	------	--	------	-----	--	------	--------	--	--

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 9 of 14



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

Project: John Hendrix/ Land Farm  
Project Number: 4-0110  
Project Manager: Mark Larson

Fax: (432) 687-0456

Reported: 05/05/06 11:09

**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 EE60308 - Filtration Preparation**

**Blank (EE60308-BLK1)**

Prepared: 05/02/06 Analyzed: 05/04/06

Total Dissolved Solids ND 5.00 mg/L

**Duplicate (EE60308-DUP1)**

Source: 6D27023-01

Prepared: 05/02/06 Analyzed: 05/04/06

Total Dissolved Solids 2240 5.00 mg/L 2310 3.08 5

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 10 of 14



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

Project: John Hendrix/ Land Farm  
Project Number: 4-0110  
Project Manager: Mark Larson

Fax: (432) 687-0456

Reported:  
05/05/06 11:09

**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
---------	--------	--------------------	-------	----------------	------------------	------	----------------	-----	--------------	-------

**Batch EE60114 - EPA 3005A**

**Blank (EE60114-BLK1)**

Prepared: 04/28/06 Analyzed: 05/01/06

Chromium	ND	0.000698	mg/L
Arsenic	ND	0.00170	"
Selenium	ND	0.00300	"
Silver	ND	0.000405	"
Cadmium	ND	0.000692	"
Barium	ND	0.000489	"
Lead	ND	0.000296	"

**LCS (EE60114-BS1)**

Prepared: 04/28/06 Analyzed: 05/01/06

Chromium	0.222	0.000698	mg/L	0.200	111	85-115
Arsenic	0.771	0.00170	"	0.800	96.4	85-115
Selenium	0.415	0.00300	"	0.400	104	85-115
Silver	0.107	0.000405	"	0.100	107	85-115
Cadmium	0.219	0.000692	"	0.200	110	85-115
Barium	0.217	0.000489	"	0.200	108	85-115
Lead	1.20	0.000296	"	1.10	109	85-115

**LCS Dup (EE60114-BSD1)**

Prepared: 04/28/06 Analyzed: 05/01/06

Chromium	0.226	0.000698	mg/L	0.200	113	85-115	1.79	20
Arsenic	0.767	0.00170	"	0.800	95.9	85-115	0.520	20
Selenium	0.423	0.00300	"	0.400	106	85-115	1.91	20
Silver	0.108	0.000405	"	0.100	108	85-115	0.930	20
Cadmium	0.219	0.000692	"	0.200	110	85-115	0.00	20
Barium	0.216	0.000489	"	0.200	108	85-115	0.462	20
Lead	1.20	0.000296	"	1.10	109	85-115	0.00	20

**Calibration Check (EE60114-CCV1)**

Prepared: 04/28/06 Analyzed: 05/01/06

Chromium	0.0500		mg/L	0.0500	100	90-110
Arsenic	0.0486		"	0.0500	97.2	90-110
Selenium	0.0502		"	0.0500	100	90-110
Silver	0.0481		"	0.0500	96.2	90-110
Cadmium	0.0498		"	0.0500	99.6	90-110
Barium	0.0510		"	0.0500	102	90-110
Lead	0.0501		"	0.0500	100	90-110

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 11 of 14



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

Project: John Hendrix/ Land Farm  
Project Number: 4-0110  
Project Manager: Mark Larson

Fax: (432) 687-0456

Reported:  
05/05/06 11:09

**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
---------	--------	--------------------	-------	----------------	------------------	------	----------------	-----	--------------	-------

**Batch EE60114 - EPA 3005A**

**Matrix Spike (EE60114-MS1)** Source: 6D27023-01 Prepared: 04/28/06 Analyzed: 05/01/06

Chromium	0.220	0.00698	mg/L	0.200	0.00301	108	75-125			
Arsenic	0.765	0.0170	"	0.800	ND	95.6	75-125			
Selenium	0.444	0.0300	"	0.400	0.00767	109	75-125			
Silver	0.0990	0.00405	"	0.100	ND	99.0	75-125			
Cadmium	0.216	0.00692	"	0.200	ND	108	75-125			
Barium	0.353	0.00489	"	0.200	0.138	108	75-125			
Lead	1.15	0.00296	"	1.10	0.000303	105	75-125			

**Matrix Spike Dup (EE60114-MSD1)** Source: 6D27023-01 Prepared: 04/28/06 Analyzed: 05/01/06

Chromium	0.221	0.00698	mg/L	0.200	0.00301	109	75-125	0.454	20	
Arsenic	0.770	0.0170	"	0.800	ND	96.2	75-125	0.651	20	
Selenium	0.450	0.0300	"	0.400	0.00767	111	75-125	1.34	20	
Silver	0.0986	0.00405	"	0.100	ND	98.6	75-125	0.405	20	
Cadmium	0.217	0.00692	"	0.200	ND	108	75-125	0.462	20	
Barium	0.353	0.00489	"	0.200	0.138	108	75-125	0.00	20	
Lead	1.15	0.00296	"	1.10	0.000303	105	75-125	0.00	20	

**Batch EE60120 - EPA 7470A**

**Blank (EE60120-BLK1)** Prepared: 04/28/06 Analyzed: 05/01/06

Mercury	ND	0.000250	mg/L							
---------	----	----------	------	--	--	--	--	--	--	--

**LCS (EE60120-BS1)** Prepared: 04/28/06 Analyzed: 05/01/06

Mercury	0.00100	0.000250	mg/L	0.00100		100	85-115			
---------	---------	----------	------	---------	--	-----	--------	--	--	--

**LCS Dup (EE60120-BSD1)** Prepared: 04/28/06 Analyzed: 05/01/06

Mercury	0.00102	0.000250	mg/L	0.00100		102	85-115	1.98	20	
---------	---------	----------	------	---------	--	-----	--------	------	----	--

Environmental Lab of Texas

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

Page 12 of 14



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

Project: John Hendrix/ Land Farm  
Project Number: 4-0110  
Project Manager: Mark Larson

Fax: (432) 687-0456

Reported:  
05/05/06 11:09

**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
---------	--------	--------------------	-------	----------------	------------------	------	----------------	-----	--------------	-------

**Batch EE60120 - EPA 7470A**

**Calibration Check (EE60120-CCV1)**

Prepared: 04/28/06 Analyzed: 05/01/06

Mercury	0.00103		mg/L	0.00100		103	90-110			
---------	---------	--	------	---------	--	-----	--------	--	--	--

**Matrix Spike (EE60120-MS1)**

Source: 6D27023-01

Prepared: 04/28/06 Analyzed: 05/01/06

Mercury	0.00120	0.000250	mg/L	0.00100	ND	120	75-125			
---------	---------	----------	------	---------	----	-----	--------	--	--	--

**Matrix Spike Dup (EE60120-MSD1)**

Source: 6D27023-01

Prepared: 04/28/06 Analyzed: 05/01/06

Mercury	0.00124	0.000250	mg/L	0.00100	ND	124	75-125	3.28	20	
---------	---------	----------	------	---------	----	-----	--------	------	----	--

**Batch EE60304 - 6010B/No Digestion**

**Blank (EE60304-BLK1)**

Prepared & Analyzed: 05/03/06

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

**Calibration Check (EE60304-CCV1)**

Prepared & Analyzed: 05/03/06

Calcium	2.07		mg/L	2.00		104	85-115			
Magnesium	2.19		"	2.00		110	85-115			
Potassium	1.88		"	2.00		94.0	85-115			
Sodium	1.90		"	2.00		95.0	85-115			

**Duplicate (EE60304-DUP1)**

Source: 6D27023-01

Prepared & Analyzed: 05/03/06

Calcium	150	0.500	mg/L	157		4.56	20			
Magnesium	39.0	0.0100	"	39.4		1.02	20			
Potassium	5.48	0.500	"	5.48		0.00	20			
Sodium	64.6	0.100	"	66.3		2.60	20			

Environmental Lab of Texas

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

Page 13 of 14



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

Project: John Hendrix/ Land Farm  
Project Number: 4-0110  
Project Manager: Mark Larson

Fax: (432) 687-0456

Reported:  
05/05/06 11:09

### Notes and Definitions

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

Report Approved By:

Raland K Tuttle

Date:

5-09-06

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.

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

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

Environmental Lab of Texas

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

Page 14 of 14



# Environmental Lab of Texas

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

Client: Larson + Associates

Date/Time: 04-27-06 @ 1640

Order #: 6D27023

Initials: JMM

### Sample Receipt Checklist

Temperature of container/cooler?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	0.5	C	not frozen
Shipping container/cooler in good condition?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No			
Custody Seals intact on shipping container/cooler?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Not present		
Custody Seals intact on sample bottles?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Not present		
Chain of custody present?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No			
Sample Instructions complete on Chain of Custody?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No			
Chain of Custody signed when relinquished and received?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No			
Chain of custody agrees with sample label(s)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No			
Container labels legible and intact?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No			
Sample Matrix and properties same as on chain of custody?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No			
Samples in proper container/bottle?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No			
Samples properly preserved?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No			
Sample bottles intact?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No			
Preservations documented on Chain of Custody?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No			
Containers documented on Chain of Custody?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No			
Sufficient sample amount for indicated test?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No			
All samples received within sufficient hold time?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No			
VOC samples have zero headspace?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No			Not Applicable

Other observations:

---



---



---

### Variance Documentation:

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

---



---

Corrective Action Taken:

---



---



---



---



---



---



---



---







**Martin, Ed, EMNRD**

---

**To:** Mark Larson  
**Subject:** RE: Notice for Monitoring Well Installations at the John H. Hendrix Corporation, Centralized Surface Waste Management Facility (Permit NM-02-0021), W/2 SW/4 and w/2 NW/4, Section 15, Township 24 South, Range 36 East, Lea County, New Mexico

Thanks for the notification.

Ed Martin  
New Mexico Oil Conservation Division  
Environmental Bureau  
1220 S. St. Francis  
Santa Fe, NM 87505  
Phone: 505-476-3492  
Fax: 505-476-3462  
email: ed.martin@state.nm.us

-----Original Message-----

From: Mark Larson [mailto:mark@laenvironmental.com]  
Sent: Monday, March 27, 2006 7:41 AM  
To: Martin, Ed, EMNRD  
Cc: Martin, Ed, EMNRD; Ron H. Westbrook; Price, Wayne, EMNRD; chris.william@state.nm.us; Sheeley, Paul, EMNRD; Johnson, Larry, EMNRD  
Subject: Re: Notice for Monitoring Well Installations at the John H. Hendrix Corporation, Centralized Surface Waste Management Facility (Permit NM-02-0021), W/2 SW/4 and w/2 NW/4, Section 15, Township 24 South, Range 36 East, Lea County, New Mexico

Dear Mr. Martin: This message is submitted to the New Mexico Oil Conservation Division ("OCD") on behalf of John H. Hendrix Corporation ("JHHC") by Larson and Associates, Inc. ("LA"), its agent, and provide notification of pending monitoring well installations at the above-referenced facility. A drilling rig is scheduled to be mobilized to the location as early as today (3/27/06) and drilling will proceed through Wednesday, March 29, 2006, barring no unforeseen problems. Two (2) monitoring wells will be installed in accordance with the modification request for permit NM-02-0021, which was submitted to the OCD on November 24, 2005 and approved on January 4, 2006. You may call Mr. Marvin Burrows with JHHC at (505) 394-2649 or email mburrows@valornet.com, if you have questions. I may reached with questions at the contact information presented below.

Sincerely,

Mark J. Larson  
Sr. Project Manager/President  
Larson and Associates, Inc.  
507 N. Marienfeld Street, Suite 202  
Midland, Texas 79701  
(432) 687-0901 (Office)  
(432) 687-0456 (Fax)  
(432) 556-8656 (Cell)  
mark@laenvironmental.com





# 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 4, 2006

Mr. Ron Westbrook  
John H. Hendrix Corp.  
110 N. Marienfeld St., Suite 400  
Midland, TX 79701-4412

RE: Application for Modification to NMOCD Permit No. NM-2-0021  
For Operation of a Surface Waste Management Facility (Landfarm)  
Located in the W/2 SW/4 and the W/2 NW/4 of Section 15, Township 24 South, Range 36 East  
NMPM, Lea County, New Mexico

Dear Mr. Westbrook:

The New Mexico Oil Conservation Division (NMOCD) has reviewed the application, submitted on behalf of John H. Hendrix Corp. (JHHC) by Mark J. Larson of Larson and Associates, Inc. NMOCD permit number NM-2-0021 is hereby modified as follows:

1. All permit conditions previously agreed to by you on December 4, 2004 remain in effect except for condition #3 under the heading "Treatment Zone Monitoring".
2. JHHC will now be able to accept RCRA-exempt, non-hazardous waste contaminated by salts from remediation of produced water releases and pits.
3. The origin of such waste shall be JHHC properties, either leased or owned for oil and gas exploration.
4. Prior to placement in the landfarm operating areas, such salt-contaminated soils shall be blended with fresh soils so that the chloride concentration in the resulting blend is less than 1,000 mg/Kg (1,000 parts per million). This standard may be modified upon the promulgation of NMOCD Rule 53. At least six samples of the resulting blend will be analyzed for chlorides for verification prior to placement in the landfarm cells. JHHC will maintain records of such sampling and analyses for NMOCD inspection.
5. Only landfarm operating areas designated as cells #1 and #2 will be used for the placement of such salt-contaminated waste.
6. Cells #1 and #2 shall continue to be tilled bi-weekly to remediate hydrocarbon-contaminated materials in the cells.
7. Treatment Zone Monitoring: JHHC or its agent will collect a background treatment zone sample from each landfarm cell. Treatment zone samples will be collected semi-annually thereafter in active cells, and within six (6) months after waste is first placed in a new cell.



Four (4) samples will be collected from each cell and analyzed for BTEX (benzene, toluene, ethylbenzene, and xylene) and TPH (total petroleum hydrocarbons). Samples from every second semi-annual sampling event will be analyzed for TPH, BTEX, total RCRA metals, and major cations and anions. JHHC will notify the NMOCD 48 hours prior to each sampling event. Laboratory analyses will be submitted to the NMOCD Santa Fe office within 45 days following receipt of the laboratory report.

8. JHHC will install two (2) additional groundwater-monitoring wells. One of these will be up gradient and one will be down gradient of landfarm cells #1 and #2. Groundwater samples from these new wells and the three existing wells at the facility will be collected semi-annually and analyzed for BTEX, TPH, and chlorides. Analyses results shall be submitted to the NMOCD Santa Fe office within 45 days after the receipt of the laboratory report.
9. Your attention is called to 19.15.1.41 NMAC which states, in pertinent part, "Any person who conducts any activity pursuant to a permit . . . from the division shall comply with every term, condition and provision of such permit, . . ."

If you have any questions, please contact Ed Martin at (505) 476-3492 or [ed.martin@state.nm.us](mailto:ed.martin@state.nm.us)

NEW MEXICO OIL CONSERVATION DIVISION



Roger C. Anderson  
Environmental Bureau Chief

Copy: NMOCD, Hobbs, NM  
Mark J. Larson, Larson and Associates



**RECEIVED**

DEC 5 - 2005

**OIL CONSERVATION  
DIVISION**

December 2, 2005

VIA EMAIL: Ed.Martin@state.nm.us

Mr. Ed Martin  
Environmental Engineer  
State of New Mexico  
Oil Conservation Division  
1220 South St. Francis Drive  
Santa Fe, New Mexico 87505

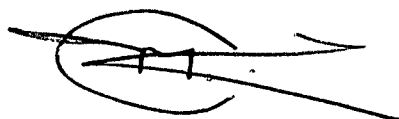
**Re: Documentation of Notification and Publication, John H. Hendrix Corporation,  
Centralized Surface Waste Management (NM-02-0021) Permit Modification  
Request, W/2 NW/4, W/2 SW/4, Section 15, Township 24 South, Range 36 East, Lea  
County, New Mexico**

Dear Ed:

The enclosed documents are 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, with regard to the proposed modification request for centralized surface waste management permit NM-02-0021. The documents include return receipts for notification made to landowners within 1-mile of the Facility and affidavit of publication of the public notice published by the Hobbs News Sun on November 27, 2005. The notification submitted to the Cooper Family Estate in care of Mr. Bart Bishop was returned undelivered. Please call Mr. Ron Westbrook with JHHC at (432) 684-6631, 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 & Associates, Inc.*



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

Encl.

cc: Ron Westbrook/JHHC  
Marvin Burrows/JHHC  
Chris Williams/OCD District 1



## SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.  
■ Print your name and address on the reverse so that we can return the card to you.  
■ Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

JAL Public Library  
Fund  
P.O. Box 1166  
Jal, NM 88252

## COMPLETE THIS SECTION ON DELIVERY

- A. Signature *[Signature]* ☐ Agent ☐ Addressee  
B. Received by (Printed Name) *[Signature]* C. Date of Delivery

- D. Is delivery address different from item 1? ☐ Yes  
If YES, enter delivery address below: ☐ No

3. Service Type ☒ Certified Mail ☐ Express Mail  
☐ Registered ☐ Return Receipt for Merchandise  
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number  
(Transfer from service label) 7004 2510 0001 1869 2914

PS Form 3811, February 2004

102595-02-M-1540

## SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.  
■ Print your name and address on the reverse so that we can return the card to you.  
■ Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

R.R. Land & Cattle, Co.  
2205 Bedford Dr  
Amarillo, TX 79718

## COMPLETE THIS SECTION ON DELIVERY

- A. Signature *[Signature]* ☐ Agent ☐ Addressee  
B. Received by (Printed Name) *[Signature]* C. Date of Delivery *11-21-05*

- D. Is delivery address different from item 1? ☐ Yes  
If YES, enter delivery address below: ☐ No

3. Service Type ☒ Certified Mail ☐ Express Mail  
☐ Registered ☐ Return Receipt for Merchandise  
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number  
(Transfer from service label) 7004 2510 0001 1869 2853

PS Form 3811, February 2004

102595-02-M-1540

## SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.  
■ Print your name and address on the reverse so that we can return the card to you.  
■ Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Chetron USA  
15 Smith Rd.  
Midland, TX 79705

## COMPLETE THIS SECTION ON DELIVERY

- A. Signature *[Signature]* ☐ Agent ☐ Addressee  
B. Received by (Printed Name) *[Signature]* C. Date of Delivery *11/9/05*

- D. Is delivery address different from item 1? ☐ Yes  
If YES, enter delivery address below: ☐ No

3. Service Type ☒ Certified Mail ☐ Express Mail  
☐ Registered ☐ Return Receipt for Merchandise  
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number  
(Transfer from service label) 7004 2510 0001 1869 2891

PS Form 3811, February 2004

102595-02-M-1540

## SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.  
■ Print your name and address on the reverse so that we can return the card to you.  
■ Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

County Commissioners  
County of Lea, NM  
100 N. Main, Ste. 4  
Lovington, NM 88260

## COMPLETE THIS SECTION ON DELIVERY

- A. Signature *[Signature]* ☐ Agent ☐ Addressee  
B. Received by (Printed Name) *[Signature]* C. Date of Delivery *11/9/05*

- D. Is delivery address different from item 1? ☐ Yes  
If YES, enter delivery address below: ☐ No

3. Service Type ☒ Certified Mail ☐ Express Mail  
☐ Registered ☐ Return Receipt for Merchandise  
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number  
(Transfer from service label) 7004 2510 0001 1869 2587

PS Form 3811, February 2004

102595-02-M-1540



# AFFIDAVIT OF PUBLICATION

State of New Mexico,  
County of Lea.

I, KATHI BEARDEN

Publisher

of the Hobbs News-Sun, a  
newspaper published at  
Hobbs, New Mexico, do solemnly  
swear that the clipping attached  
hereto was published once a  
week in the regular and entire  
issue of said paper, and not a  
supplement thereof for a period.

of 1

weeks.

Beginning with the issue dated

November 27 2005

and ending with the issue dated

November 27 2005

Kathi Bearden

Publisher

Sworn and subscribed to before

me this 28th day of

November 2005

[Signature]  
Notary Public.

My Commission expires  
February 07, 2009  
(Seal)



OFFICIAL SEAL  
DORA MONTZ  
NOTARY PUBLIC  
STATE OF NEW MEXICO

My Commission Expires: \_\_\_\_\_

## LEGAL NOTICE November 27, 2005

John H. Hendrix Corporation, located at 1310 18th Street, Eunice, New Mexico 88231 has submitted for approval an application to modify its permit (NM-02-0021) to operate a Rule 711 centralized landfarm facility located in the W/2 NW/4 and W/2 SW/4, Section 15, Township 24 South, Range 36 East N.M.P.M., Lea County, New Mexico. The permit modification is for treating non-hazardous soil contaminated by petroleum hydrocarbons from crude oil and salts from produced waters, which are exempt under Subtitle C of RCRA. The permit modification request addresses the construction, operation, spill/leak prevention and monitoring procedures to be incorporated at the Facility.

Any interested person may obtain further information from the State of New Mexico Oil Conservation Division and may submit written comments to the Director of the Oil Conservation Division, 1220 South Saint Francis Drive, Santa Fe, New Mexico 87505, Telephone 505-476-3440. The application may be viewed at the above address or at the Hobbs district office at 1625 N. French Drive, Hobbs, New Mexico between 8:00 a.m. and 4:00 p.m., Monday thru Friday. Prior to ruling on any proposed permit modification, the Director of the Oil and Gas Conservation Division shall allow at least thirty (30) days after the date of publication of this notice during which comments may be submitted and any interested person may request public hearing. Request for a public hearing shall set forth the reasons why a public hearing shall be held. A hearing will be held if the director determines that there is significant public interest.  
#21967

This newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Laws of 1937, and payment of fees for said publication has been made.

02105581000 67534695  
LARSON AND ASSOCIATES  
507 NORTH MARIENFELD SUITE 202  
MIDLAND, TX 79701





# NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

**BILL RICHARDSON**

Governor

**Joanna Prukop**

Cabinet Secretary

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

Director

**Oil Conservation Division**

November 21, 2005

Mr. Mark J. Larson, P.G.  
Larson and Associates, Inc.  
507 North Marienfeld  
Suite 202  
Midland, TX 79701

RE: Centralized Surface Waste Management Facility Permit NM-02-0021  
Modification Request, November 9, 2005, John H. Hendrix Corporation  
W/2 NW/4, W/2, SW/4, Section 15, Township 24 South, Range 35 East  
Lea County, New Mexico

Dear Mr. Larson:

The New Mexico Oil Conservation Division (NMOCD) has received and reviewed the above application submitted by you on behalf of John H. Hendrix Corp. (JHHC). This application is hereby deemed administratively complete. Please complete public notice requirements by publishing the notice shown as appendix E of the application.

Please forward to this office the publisher's affidavit as promised in your cover letter to the application.

NMOCD approval does not relieve JHHC of liability should its operations at its centralized facility shown above prove to have been harmful to the public or the environment. Nor does it relieve JHHC of its responsibility to comply with the rules and regulations of any other local, state or federal governmental agency.

If you have any questions, contact Ed Martin at (505) 476-3492 or [ed.martin@state.nm.us](mailto:ed.martin@state.nm.us)

NEW MEXICO OIL CONSERVATION DIVISION

Roger C. Anderson  
Environmental Bureau Chief



November 25, 2005

Mr. Edwin Martin  
Environmental Engineer  
New Mexico Oil Conservation Division  
1220 South St. Francis Drive  
Santa Fe, New Mexico 87505

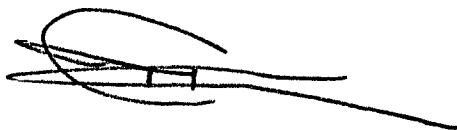
**Re: Centralized Surface Waste Management Facility Permit NM-02-0021 Modification Request, John H. Hendrix Corporation, W/2 NW/4, W/2 SW/4, Section 15, Township 24 South, Range 36 East, Lea County, New Mexico**

Dear Mr. Martin:

On behalf of John H. Hendrix Corporation ("JHHC"), Larson and Associates, Inc. ("LA"), its agent, submits the enclosed centralized surface waste management facility (NM-02-0021) modification request. This submittal replaces the initial submittal on November 9, 2005. A public notice will be published in the Hobbs News-Sun on November 26, 2005 or November 27, 2005, and an affidavit of publication will be sent to the New Mexico Oil and Gas Conservation Division ("OCD") upon its receipt from the publisher. A copy of the application will also be forwarded to Mr. Chris Williams at the OCD District 1 office located in Hobbs, New Mexico. Please call Mr. Ron Westbrook with John H. Hendrix Corporation at (432) 684-6631, myself at (432) 687-0901 or by email: [ronniew@JHHC.org](mailto:ronniew@JHHC.org) or [Mark@LAEnvironmental.com](mailto:Mark@LAEnvironmental.com).

Sincerely,

*Larson & Associates, Inc.*



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

Encl.

cc: Mr. Ron Westbrook/JHHC  
Mr. Marvin Burrows/JHHC  
Mr. Chris Williams/OCD – District 1



**PERMIT NW-02-0021  
MODIFICATION REQUEST  
JOHN H. HENDRIX CORPORATION**


**Prepared for:**

**John H. Hendrix Corporation  
110 North Marienfeld Street, Suite 400  
Midland, Texas 79701  
(432) 684-6631**

**Prepared by:**

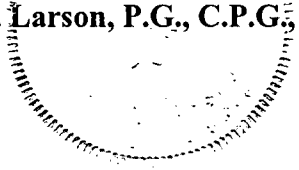
**Larson and Associates, Inc.  
507 North Marienfeld Street, Suite 202  
Midland, Texas 79701  
(432) 687-0901**

**November 24, 2005**

---

**Mark J. Larson, P.G., C.P.G., C.G.W.P.**









## Table of Contents

<u>Section</u>	<u>Page</u>
TABLE OF CONTENTS	i
LIST OF TABLES	iii
LIST OF FIGURES	iii
LIST OF APPENDICES	iii
1.0 INTRODUCTION	1
2.0 OPERATION	1
3.0 OWNER	1
4.0 LOCATION	2
5.0 EXPANSION REQUEST	2
6.0 MODIFICATION REQUEST	2
7.0 LAND OWNERSHIP	3
8.0 FACILITY DESCRIPTION	3
9.0 CONSTRUCTION	4
9.1 <u>Fences and Signs</u>	4
9.2 <u>Buffer Zones</u>	4
9.3 <u>Berms</u>	5
9.4 <u>Treatment Zone Monitoring</u>	5
9.5 <u>Double-Lined System</u>	6
10.0 OPERATION	6
10.1 <u>Facility Operation</u>	6
10.2 <u>Waste Characterization and Tracking</u>	8
10.3 <u>Spill and Leak Prevention and Reporting</u>	8
10.4 <u>Inspection, Maintenance and Reporting</u>	8



**Table of Contents  
(Continued)**

<b><u>Section</u></b>	<b><u>Page</u></b>
<b>11.0 CLOSURE PLAN</b>	<b>8</b>
<b>12.0 FACILITY CHARACTERISTICS</b>	<b>9</b>
<b>13.0 PROOF OF NOTICE</b>	<b>10</b>
<b>14.0 H<sub>2</sub>S CONTINGENCY PLAN</b>	<b>10</b>
<b>15.0 ADDITIONAL INFORMATION</b>	<b>10</b>



## **List of Tables**

### **Table**

1. **Summary of Monitoring Well Drilling and Completion Details**
2. **Summary of BTEX Analysis of Ground Water Samples**
3. **Summary of Cation, Anion and TDS Analysis of Ground Water Samples**
4. **Summary of Dissolved Metals Analysis of Ground Water Samples**

## **List of Figures**

### **Figure**

1. **General Location Map**
2. **Topographic Map**
3. **Land Ownership Map**
4. **Facility Drawing**
5. **Depth-to-Ground Water Map, August 10, 2005**
6. **Ground Water Potentiometric Map, August 10, 2005**

## **List of Appendices**

### **Appendix**

- A **Form C-137**
- B. **Well Logs**
- C. **Laboratory Report**
- D. **Letters of Notification**
- E. **Public Notice**



**PERMIT NM-02-0021  
MODIFICATION REQUEST  
JOHN H. HENDRIX CORPORATION**

**1.0 INTRODUCTION**

John H. Hendrix Corporation ("JHHC") is the owner and operator of a centralized surface waste management facility ("Facility") permitted by the New Mexico Oil Conservation Division ("OCD") to accept and treat non-hazardous oilfield solids ("Waste") exempt under the Resource Conservation and Recovery Act ("RCRA"), including soils contaminated by petroleum hydrocarbons resulting from remediation of spills, releases and pits.

On March 4, 2005, OCD issued an administrative modification to owners and operators of commercial and centralized surface waste management facilities in New Mexico that prohibits these facilities from accepting Waste contaminated with salts. A facility may submit an application for permit modification under OCD Rule 711.B (1) and follow notification requirements of OCD Rule 711B(2) to obtain authorization to accept Waste contaminated with salts. This modification request is for permit NM-021-0021 and is submitted to OCD in accordance with Rule 711.B (1) and 711.B (2) to allow the Facility to accept and treat RCRA exempt non-hazardous Waste contaminated by petroleum hydrocarbons from crude oil and salts from produced waters. The Facility is a centralized facility that only accepts Waste from JHHC operations. Appendix A presents OCD Form C-137.

**2.0 OPERATION**

The Facility is a centralized surface waste management facility that is permitted by OCD (NM-02-0021) to accept and treat RCRA exempt non-hazardous oilfield Waste. The Facility treats Waste contaminated with petroleum hydrocarbons from crude oil resulting from remediation of spills, releases and pits using landfarm techniques. The Waste is spread on the surface and tilled to remediate petroleum hydrocarbons. The Facility only accepts Waste from JHHC operations.

**3.0 OWNER**

John H. Hendrix Corporation  
Corporate Office  
110 N. Marienfeld Street  
Suite 400  
Midland, Texas 79701

Contact Person: Ron Westbrook  
Phone Number: (432) 684-6631



**Permit NM-02-0021  
Modification Request  
John H. Hendrix Corporation**

---

John H. Hendrix Corporation  
Eunice Field Office  
1310 18<sup>th</sup> Street  
Eunice, New Mexico 88231

Contact Person: Marvin Burrows  
Phone Number: (505) 394-2649

#### **4.0 LOCATION**

The Facility is located approximately 7 miles northwest of Jal, New Mexico, in the west half ("W/2") of the northwest quarter ("NW/4") and the west half ("W/2") of the southwest quarter ("SW/4"), Section 15, Township 24 South, Range 36 East, Lea County, New Mexico. The Facility occupies approximately 200 acres, which is owned by JHHC. Figure 1 presents a general location map. Figure 2 presents a topographic map.

Driving directions:

- Beginning at the intersection of New Mexico State Highway #128 and New Mexico State Highway #18 in Jal, New Mexico;
- Proceed north on New Mexico State Highway #18 approximately 6.2 miles to Jal-Cooper Cemetery Road;
- Proceed west on Jal-Cooper Cemetery Road for approximately 3.0 miles where pavement ends;
- Continue west on gravel road approximately 0.6 miles to Facility located on north side of road.

#### **5.0 EXPANSION REQUEST**

This is not an expansion request.

#### **6.0 MODIFICATION REQUEST**

This is a request to modify permit NM-02-0021 to allow the Facility to accept and treat RCRA exempt non-hazardous oilfield Waste contaminated by petroleum hydrocarbons from crude oil and salts from produced waters resulting from remediation of spills, release and pits.



**Permit NM-02-0021  
Modification Request  
John H. Hendrix Corporation**

---

**7.0 LAND OWNERSHIP**

JHHC owns approximately 200-acres in the west half ("W/2") of the northwest quarter ("NW/4") and the west half ("W/2") of the southwest quarter ("SW/4"), Section 15, Township 24 South, Range 36 East, Lea County, New Mexico. Landowners within 1- mile of the Facility include:

Cooper Family Heirs c/o Bart Bishop 6202 South Bowie Amarillo, Texas 79118	Sec. 9
RRR Land and Cattle Company 2205 Bedford Drive Midland, Texas 79118	Sec. 10 Sec. 11 ("SW/4") Sec. 15 ("E/2")
Chevron USA Inc. 15 Smith Road Midland, Texas 79705	Sec. 14 ("W/2") Sec. 23 ("NW/4") Sec. 16
Jal Public Library Fund, Trustees P.O. Box 1166 Jal, New Mexico 88252	Sec.21 ("N/2") Sec. 22 ("N/2")

No residences, public buildings or facilities, other than oil and gas installations, are located within one (1) mile of the Facility. Figure 3 presents a land ownership map.

**8.0 FACILITY DESCRIPTION**

The Facility is permitted by OCD to accept and treat RCRA exempt non-hazardous oilfield Waste in twelve (12) cells, each measuring approximately 400 x 1450 feet. The Facility is bordered on the south by a gravel road owned by the Woolworth Estate and administered by the Jal Public Library Fund, Trustees, located in Jal, New Mexico. The land bordering the Facility to the east, west and north is used for livestock grazing and oil and gas production. A gate provides access near the southeast corner of the Facility and is locked while unattended. A staging area is located near the south end of the Facility and is used for parking, equipment staging and truck turn-around. A 100-foot buffer zone is located between the cells and perimeter fence. No waste is placed in the buffer zone or staging area. A caliche road, approximately 20 feet wide, is located adjacent to the east fence. An overhead power line is located near the south end of the Facility, and a pipeline crosses the Facility diagonally between Cell #2 and Cell



**Permit NM-02-0021**  
**Modification Request**  
**John H. Hendrix Corporation**

---

#3. The pipeline is out-of-service and owned by Sid Richardson Gasoline Company. No waste is placed within twenty (20) feet of the pipeline. Figure 4 presents a Facility drawing.

The Facility currently uses Cell #12 to treat RCRA exempt non-hazardous oilfield Waste contaminated by petroleum hydrocarbons from crude oil resulting from remediation of spills, releases and pits. The Waste is delivered to the Facility in end or belly dump trucks, unloaded into the cell, spread to a uniform thickness of approximately 6 to 12 inches and tilled bi-weekly (every 2 weeks) to remediate petroleum hydrocarbons.

This modification request will allow the Facility to accept and treat RCRA exempt non-hazardous oilfield Waste contaminated by petroleum hydrocarbons from crude oil and salts from produced waters resulting from remediation of spills, release and pits. Waste contaminated with salts will only be placed in Cell #1 and Cell #2. The Waste will be delivered to the Facility in end or belly dump trucks, unloaded in the cells and immediately spread to a uniform thickness of approximately 6 inches. Approximately six (6) to twelve (12) samples of the Waste will be collected after spreading and analyzed for chloride using field methods. Clean soil will be blended into the Waste to reduce the chloride below 1,000 milligrams per kilogram ("mg/Kg") and tilled bi-weekly (every 2 weeks) to remediate petroleum hydrocarbons.

## **9.0 CONSTRUCTION**

### **9.1 Fences and Signs**

A barbed wire fence surrounds the Facility, and a gate is located near the southeast corner of the Facility. The gate is locked while the Facility is unattended. A sign is posted near the gate and is legible from a distance of 50 feet with the following information:

- Facility name;
- Owner;
- Legal description; and
- Emergency contact information.

### **9.2 Buffer Zones**

A 100-foot buffer zone surrounds the Facility and separates the cells from the perimeter fence. A 20-foot wide buffer zone is present on either side of a pipeline that crosses the Facility diagonally between Cell #2 and Cell #3. The pipeline is out-of-service and owned by Sid Richardson Gasoline Company. The



**Permit NM-02-0021**  
**Modification Request**  
**John H. Hendrix Corporation**

---

next closest pipeline is located about 200 feet west of the Facility in Section 16, Township 24 South, Range 36 East, Lea County, New Mexico. No waste is placed in the buffer zones. Figure 4 shows the buffer zones.

**9.3     Berms**

An earthen perimeter berm measuring approximately four (4) feet wide at the base and two (2) feet above grade separates the cells and buffer zone to prevent storm water runoff and run-on. Each cell is separated by an earthen berm no less than 2 feet above grade. Figure 4 shows the berms.

**9.4     Treatment Zone Monitoring**

The treatment zone comprises native soil beneath the base of each cell to a depth no greater than three (3) feet below the cell. A background sample was collected near the center of the Facility from approximately 2 to 3 feet below native ground surface prior to construction. The sample was analyzed for total petroleum hydrocarbons ("TPH"), benzene, toluene, ethyl benzene, xylene ("BTEX"), total RCRA metals (arsenic, cadmium, chromium, lead, mercury, selenium, silver), cations (calcium, magnesium, sodium, potassium) and anions (bicarbonate, sulfate, chloride) using EPA methods. A sample was collected from the treatment zone of Cell#12 within six (6) months after receipt of first soil using direct-push methods and analyzed for TPH and BTEX. Treatment zone samples are required on a quarterly (4 times per year) schedule, with the fourth (4<sup>th</sup>) quarter sample analyzed for BTEX, TPH, total RCRA metals, cations and anions.

Upon approval of this permit modification, JHHC or its agent will collect a background treatment zone sample from each cell. Treatment zone samples will be collected on a semi-annual (2 times per year) schedule thereafter, and within six (6) months after first soil is placed in a new cell. Four (4) samples will be collected from each cell and analyzed for BTEX and TPH. However, samples from the second (2<sup>nd</sup>) semi-annual event will be analyzed for TPH, BTEX, total RCRA metals, cations and anions. Direct push methods and a dual tube sampler will used to prevent introduction of contaminated soil from the tilled zone into the treatment zone. The direct push core barrel is equipped with polyethylene liners to prevent sample cross contamination. Sample locations will be recorded using global positioning system ("GPS") technology and holes will be filled with bentonite and hydrated with potable water. JHHC or its agent will notify OCD 48-hours prior to each sample event and laboratory analysis will be submitted to OCD within 45 days following receipt of the laboratory report.



**Permit NM-02-0021**  
**Modification Request**  
**John H. Hendrix Corporation**

---

**9.5 Double-Lined System**

A double-lined system is not proposed since Chloride contaminated Waste will only be placed in Cell #1 and Cell #2 where ground water occurs at approximately 170 feet bgs. The Waste will be blended with clean soil to reduce chloride below 1000 mg/Kg.

**10.0 OPERATION**

**10.1 Facility Operation**

The Facility will be operated in a manner that does not adversely impact groundwater, surface water, public health or the environment and will involve the following procedures:

- a) Disposal of Waste will only occur while an attendant is present;
- b) Gate will be locked when an attendant is not present;
- c) Chloride contaminated Waste will only be placed in Cell #1 and Cell #2, immediately spread to a uniform thickness of approximately six (6) inches, analyzed for chloride and blended with clean soil to reduce chloride below 1000 mg/Kg;
- d) Hydrocarbon Waste will be placed in the remaining cells, spread to a uniform thickness of approximately 6-inches and disked within 72 hours of receipt;
- e) All cells will be disked bi-weekly (every two weeks) to remediate petroleum hydrocarbons to 100 mg/Kg (TPH), 50 mg/Kg (BTEX) and 10 mg/Kg (benzene);
- f) No mixing of exempt and nonexempt Waste will occur;
- g) No new Waste will be spread over existing Waste without OCD approval and TPH, BTEX, benzene and chloride are below 100 mg/Kg, 50 mg/Kg, 10 mg/Kg and 1000 mg/Kg, respectively, in the existing Waste;
- h) A background sample will be collected from the treatment zone of each cell no deeper than 3 feet below the cell and analyzed for TPH, BTEX, total RCRA metals, cations and anions;



**Permit NM-02-0021**  
**Modification Request**  
**John H. Hendrix Corporation**

---

- i) Four (4) representative soil samples will be collected from the treatment zone of each cell no greater than 3 feet below the base of the cell on a semi-annual (2 times per year) schedule for active cells and beginning six (6) months after first waste is placed in a new cell. The samples will be analyzed for TPH and BTEX. Samples collected during the second (2<sup>nd</sup>) semi-annual event will be analyzed for TPH, BTEX, total RCRA metals, cations and anions. OCD will be notified 48-hours prior to the sample event and analysis will be submitted to OCD within 45 days after receipt from the laboratory report. Sample locations will be recorded using GPS technology and documented in a field book. Samples will be collected using direct push technology and holes will be filled with bentonite and hydrated with potable water;
- j) Moisture will only be added to enhance remediation and control dust, as needed;
- k) No pooling of water will be allowed, and accumulated water from precipitation will be removed upon discovery;
- l) Enhanced remediation through the addition of amendments will only be applied upon OCD approval;
- m) No free liquid or Waste containing free liquid will be accepted at the Facility;
- n) Waste will be tracked using manifests that includes the following information:
  - Waste origin (well/lease);
  - Shipment date;
  - Waste quantity;
  - Certification of exempt status or analysis for hazardous constituents if non-exempt; and
  - Disposal location (cell number).

Three (3) monitoring wells (MW-1, MW-2 and MW-3) have been installed at the Facility to assess ground water conditions, including depth-to-ground water, ground water flow and water quality. JHHC proposes to install two (2) additional monitoring wells hydraulically up gradient (northwest) and down gradient (southeast) of Cell #1 and Cell #2 once the permit modification is



**Permit NM-02-0021**  
**Modification Request**  
**John H. Hendrix Corporation**

---

granted. Ground water monitoring will be performed at intervals and for constituents specified by OCD.

**10.2 Waste Characterization and Tracking**

The Facility will only accept RCRA exempt non-hazardous oilfield Waste and at no time will the hazardous waste be accepted at the Facility. A Waste manifest that includes a certification of Waste status shall be signed by the transporter and shall accompany each load of Waste brought to the Facility. Waste will only be accepted from JHHC operations and no additional material will be added to the loads during transport. The transporter shall acknowledge that no additional material has been added to the load during transport.

**10.3 Spill and Leak Prevention and Reporting**

No spills are anticipated at the Facility since no liquid wastes will be accepted. Water may be used as necessary to control dust and enhance remediation. JHHC will notify the OCD in accordance with Rule 116 in case of a break, spill, blow out or undesirable event.

**10.4 Inspection, Maintenance and Reporting**

Berms, fences and cells will be inspected frequently, and necessary repairs and maintenance will be performed immediately. Inspection information including date, type of inspection, type of repair, etc., will be recorded in a bound field book. A perimeter berm at least four (4) feet at its base and no less than two (2) feet above grade will be maintained to prevent runoff or run-on. Cells will be separated by berms no less than two (2) feet above grade. Berms and cells will be inspected after rainfall or windstorms and will be immediately repaired, if required. No Waste will be accepted without proper documentation, as previously discussed in Section 10.1 (n). Records of Waste accepted at the Facility will be maintained at the JHHC field office located in Eunice, New Mexico.

**11.0 CLOSURE PLAN**

JHHC will notify OCD one (1) month prior to cessation of operations at Facility. No new Waste will be accepted at the Facility after OCD is notified of closing and existing material will be remediated to the permit requirements. Six (6) months following cessation of disposal operations, JHHC will complete cleanup of constructed facilities and restoration will occur within the next six (6) months, unless an extension is granted by the OCD. The Facility will be seeded with natural grasses and allowed to return to its natural state. The estimate cost for Facility closure is \$20,000.00.



## 12.0 FACILITY CHARACTERISTICS

The Facility is situated near the southern edge of the Eunice Plain physiographic province. The Eunice Plain is underlain by caliche referred to as "caprock" and is almost entirely covered by reddish-brown dune sand. In some places the underlying surface consists of alluvial sediments. The average annual precipitation is between 9 to 10 inches and no major drainages are located in close proximity to the Facility. The ground elevation ranges from about 3390 feet above mean sea level ("AMSL") near the northwest corner to about 3350 feet AMSL near the southeast corner and slopes gently to the southeast.

Soils beneath the Facility belong to the Pyote, Simona and Berino series. The surface layer is composed of light-brown fine sand and loamy fine sand and is about 12 inches thick. A subsoil of pale brown fine sandy loam underlies the surface layer and is underlain by substratum of white, platy to indurated caliche.

The Ogallala formation (Tertiary) is the upper geological stratum and consists of continental materials (clay, silt, sand, and gravel) derived from erosion of mountainous regions to the west and northwest. Caliche occurs as a secondary deposit in the upper part of the Ogallala formation in many places. An unconformity exists between the Ogallala formation and underlying Chinle formation (Triassic).

Three (3) monitoring wells (MW-1, MW-2 and MW-3) have been installed in the Ogallala formation beneath the Facility to assess ground water conditions. Ground water occurs from approximately 180 feet bgs near the southwest (up gradient) corner of the Facility at well MW-3 and decreases to approximately 140 feet bgs near the southeast (down gradient) corner of the Facility at well MW-1 and is controlled by the ground elevation.

On August 10, 2005, the elevation of the ground water surface ranged from 3212.41 feet AMSL at well MW-3 (up gradient) to 3207.98 feet AMSL at well MW-1 (down gradient) and ground water flow was from northwest to southeast at approximately 0.001 feet per foot. Figure 5 presents a depth-to-ground water map. Figure 6 presents a ground water potentiometric map. Table 1 presents well drilling and completion details. Appendix B presents well logs.

On August 8, 2005, ground water samples were collected from monitoring wells MW-1, MW-2 and MW-3 and analyzed for BTEX, dissolved RCRA metals (arsenic, cadmium, chromium, lead, mercury, selenium, silver), anions (carbonate, sulfate, chloride), cations (calcium, magnesium, potassium, sodium) and total dissolved solids ("TDS"). No BTEX was reported in the samples. Chloride



**Permit NM-02-0021**  
**Modification Request**  
**John H. Hendrix Corporation**

---

ranged from 360 milligrams per liter ("mg/L") in sample MW-2 to 511 mg/L in sample MW-1 and exceeded the New Mexico Water Quality Control Commission ("WQCC") standard of 250 mg/L for domestic water. TDS ranged from 1,610 mg/L in sample MW-2 to 2,390 mg/L in sample MW-3, and exceeded the WQCC domestic water quality standard of 1000 mg/L. JHHC proposes to install two (2) additional wells up gradient (northwest) and down gradient (southeast) of Cell #1 and Cell #2 upon approval of this modification request. OCD does not require ground water monitoring at surface waste management facilities, however JHHC will monitor ground water for constituents and frequency specified by OCD. Table 2 presents a summary of the BTEX analysis. Table 3 presents a summary of the anion, cation and TDS analysis. Table 4 presents a summary of the dissolved metals analysis. Appendix C presents the laboratory report.

Records from the New Mexico State Engineer indicate that the nearest water well is located in unit A (NE/4, NE/4), Section 15, Township 24 South and Range 36 East. Figure 2 presents locations of water wells within 1-mile of the Facility.

### **13.0 PROOF OF NOTICE**

JHHC has sent notices to landowners within 1-mile of the Facility, as well as the commissioners of Lea County, New Mexico, as required by OCD Rule 711B (2). The notifications were sent via certified mail with return receipt requested. A publication will occur in the Hobbs News Sun, a local newspaper of sufficient circulation in Lea County, New Mexico, on November 26, 2005 or November 27, 2005. An affidavit of publication will be submitted to OCD upon receipt from the publisher. Appendix D presents copies of the notification letters. Appendix E presents the public notice.

### **14.0 H<sub>2</sub>S CONTINGENCY PLAN**

A H<sub>2</sub>S contingency plan is not applicable to this Facility since H<sub>2</sub>S will not be generated.

### **15.0 ADDITIONAL INFORMATION**

JHHC issued financial assurance to OCD in the amount of \$25,000.00 upon approval of permit NM-02-0021.



TABLES



Table 1

**Summary of Monitoring Well Drilling and Completion Details**  
**John H. Hendrix Corporation, Centralized Surface Waste Management Facility**  
**W/2 NW/4 and W/2 SW/4, Section 15, Township 24 South, Range 36 East**

Lea County, New Mexico

Page 1 of 1

Well Number	Date Drilled	Depth Drilled (Feet BGS)	Well Diameter (Inches)	Top-of-Casing Elevation (Feet AMSL)	Ground Elevation (Feet AMSL)	Casing Stickup (Feet)	Screen Interval (Feet BGS)	Water Level (Feet BGS)	Groundwater Elevation 08/10/05 (Feet AMSL)
MW-1	07/01/05	165	2	3,356.46	3,354.20	2.26	44.41 - 164.4	146.22	3,207.98
MW-2	07/01/05	160	2	3,357.29	3,355.45	1.84	38.00 - 159.4	146.71	3,208.74
MW-3	07/01/05	190	2	3,391.74	3,390.22	1.52	68.00 - 190.00	177.81	3,212.41

Notes: Wells constructed with 2-inch Schedule 40 threaded PVC casing and 0.010-inch factory-slotted screen.

1. BGS: Depth in feet below ground surface

2. AMSL: Elevation in feet above mean sea level



Table 2

Summary of BTEX Analysis of Groundwater Samples from Monitoring Wells  
 John H. Hendrix Corporation, Centralized Surface Waste Management Facility  
 W/2 NW/4 and W/2 SW/4, Section 15, Township 24 South, Range 36 East

Lea County, New Mexico

Page 1 of 1

Well Number	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylene (mg/L)	BTEX (mg/L)
NMWQCC Standard:		0.01	0.75	0.75	0.62	
MW-1	08/30/05	<0.001	<0.001	<0.001	<0.001	<0.005
MW-2	08/30/05	<0.001	<0.001	<0.001	<0.001	<0.005
MW-3	08/30/05	<0.001	<0.001	<0.001	<0.001	<0.005

## Notes:

Analysis performed by Environmental Lab of Texas, inc., Odessa, Texas, using method SW-846-8021B.

1. mg/L: Milligrams per liter

2. &lt;: Less than method detection limit



Table 3

Summary of General Chemistry Analysis of Groundwater Samples from Monitoring Wells  
 John H. Hendrix Corporation, Centralized Surface Waste Management Facility  
 W/2 NW/4, W/s SW/4, Section 15, Township 24 South, Range 36 East

Lea County, New Mexico

Page 1 of 1

Well Number	Sample Date	Calcium (mg/L)	Potassium (mg/L)	Magnesium (mg/L)	Sodium (mg/L)	Carbonate Alkalinity (mg/L)	Bicarbonate Alkalinity (mg/L)	Hydroxide Alkalinity (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	TDS (mg/L)
NMWQCC Standard:		--	--	--	--	--	--	--	250	600	1,000
MW-1	08/30/05	260	8.30	80.2	329	<0.1	186	<0.1	511	486	1,970
MW-2	08/30/05	185	6.48	49.2	330	<0.1	202	<0.1	360	457	1,610
MW-3	08/30/05	279	7.62	82.1	407	<0.1	210	<0.1	508	650	2,390

Notes: All analysis performed by Environmental Lab of Texas, Inc., Odessa, Texas.

1. mg/L: Milligrams per liter

2. &lt;: Less than method detection limit

3. --: No standard



Table 4

**Summary of Dissolved Metals Analysis of Groundwater Samples from Monitoring Wells  
John H. Hendrix Corporation, Centralized Surface Waste Management Facility  
W/2 NW/4, W/s SW/4, Section 15, Township 24 South, Range 36 East**

Lea County, New Mexico

Page 1 of 1

Well	Sample Date	Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Lead (mg/L)	Mercury (mg/L)	Silver (mg/L)	Selenium (mg/L)
NMWQCC Standard:		0.1	1.0	0.01	0.05	0.05	0.002	0.05	0.05
MW-1	08/30/05	<0.008	0.07	<0.001	<0.005	0.0052	<0.001	<0.005	0.0133
MW-2	08/30/05	0.0076	0.125	0.0018	0.0016	0.0103	<0.001	<0.005	<0.004
MW-3	08/30/05	<0.008	0.111	<0.001	<0.005	<0.011	<0.001	<0.005	0.0198

Notes: All analysis performed by Environmental Lab of Texas, Inc., Odessa, Texas.

1. mg/L: Milligrams per liter

2. &lt;: Less than method detection limit

3. --: No standard

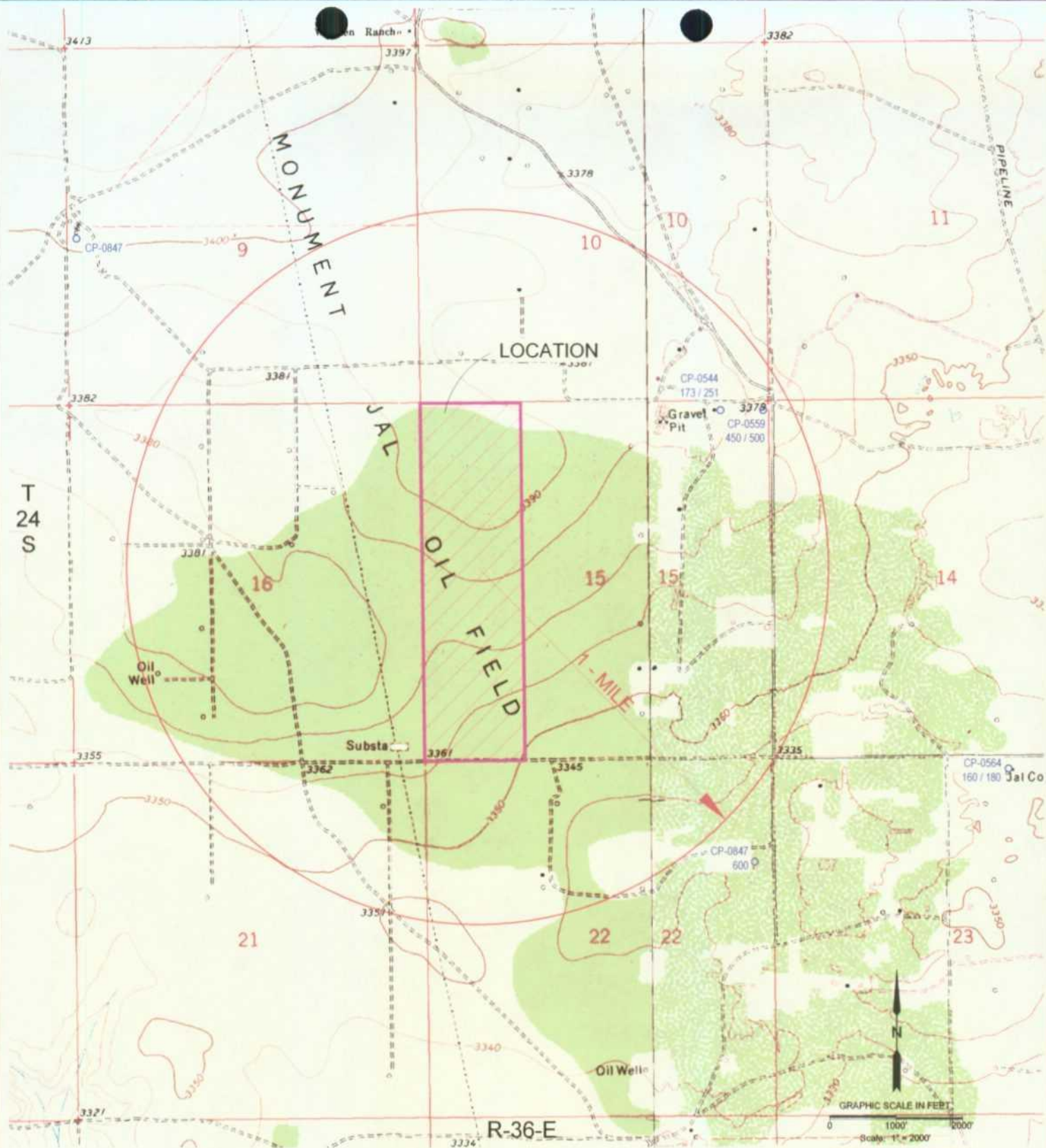


**FIGURES**









LEGEND	
○	WATER WELL LOCATION
160 / 180	DEPTH TO GROUND (UPPER NUMBER) WELL DEPTH (LOWER NUMBER)
CP-0564	NEW MEXICO STATE ENGINEER PERMIT NUMBER

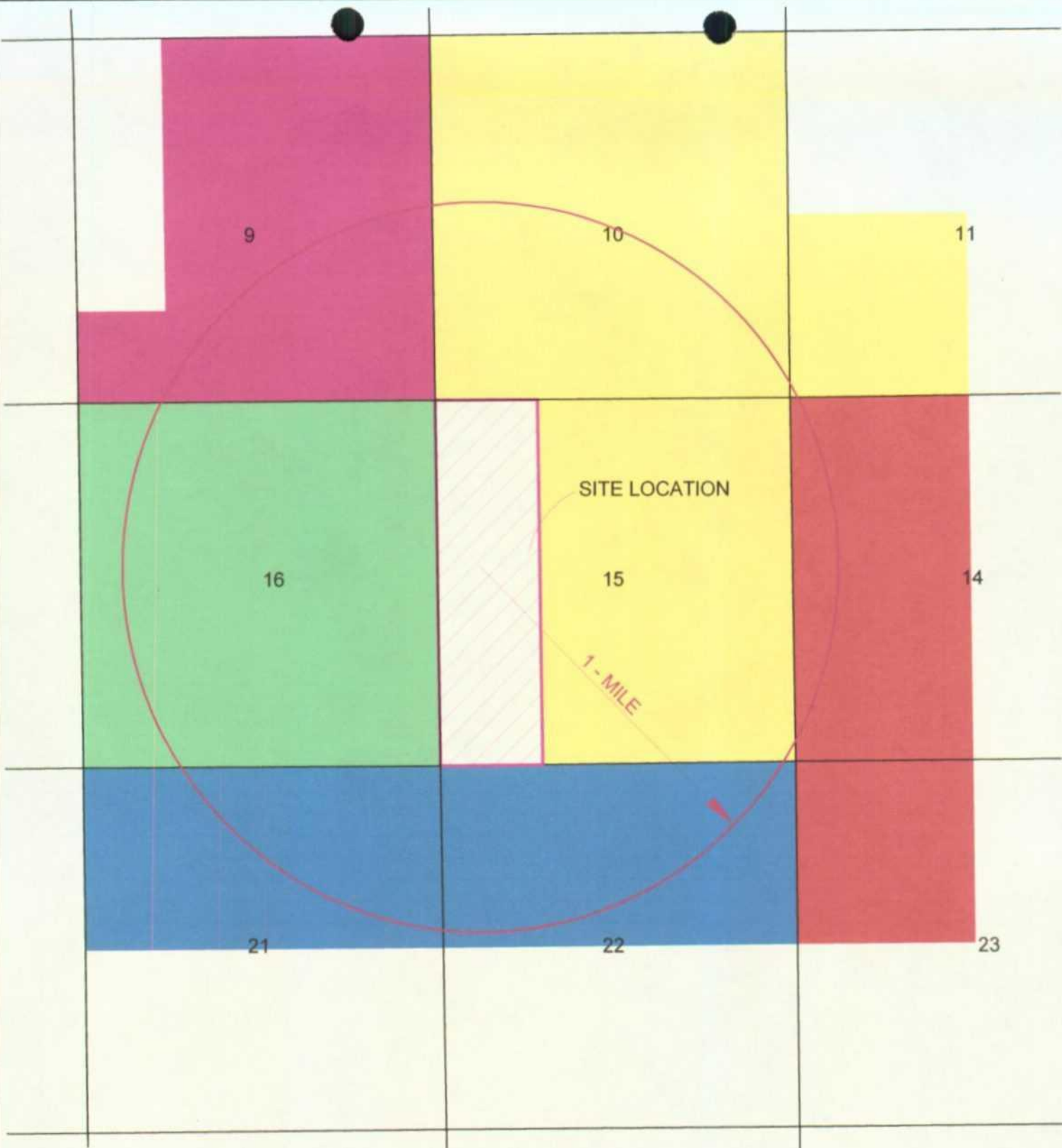
DATE  
11-08-05

NAME: SJA

FILE: 4-0110

FIGURE #2
LEA COUNTY, NEW MEXICO
JOHN H. HENDRIX CORPORATION
W/2, W/2, SECTION 15, T-24-S, R-36-E
TOPOGRAPHICAL MAP
LA ASSOCIATES, INC. Environmental Consultants



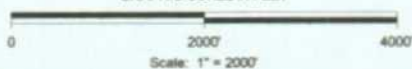


**SURFACE OWNERSHIP**

- RRR LAND AND CATTLE COMPANY
- COOPER FAMILY HEIRS (LEASES TO RRR LAND AND CATTLE)
- JAL PUBLIC LIBRARY FUND
- CHEVRON U.S.A., INC.
- WHITTEN FAMILY
- JOHN H. HENDRIX CORP.



GRAPHIC SCALE IN FEET



**FIGURE #3**

LEA COUNTY, NEW MEXICO

JOHN H. HENDRIX CORPORATION

SECTION 15, T-24-S, R-36-E

LAND OWNERSHIP MAP

DATE  
11-08-05  
NAME: SJA  
FILE: 4-0110





9

10

BUFFER ZONE

PROPOSED CHLORIDE CELL  
(400' x 1450')

## MONITORING WELL DATA

WELL NUMBER	TOP OF CASING ELEVATION (FEET) AMSL	GROUND ELEVATION (FEET) AMSL
MW-1	3356.46	3354.20
MW-2	3357.29	3355.45
MW-3	3391.74	3390.22

PIPELINE BUFFER  
ZONE

MW - 3

SID RICHARDSON  
PIPELINE (OUT  
OF SERVICE)

24" EARTHEN BERM

24" EARTHEN BERM

FENCE

15

## LEGEND

MW-1

- MONITORING WELL LOCATION  
(EXISTING)

- PROPOSED MONITORING WELL

ACCESS ROAD

MW - 1

11

12

MW - 2

PARKING AND EQUIPMENT  
STAGING AREA

100'

JAL - COOPER CEMETERY ROAD

GATE

21

22

GRAPHIC SCALE IN FEET

0 400' 800'

Scale: 1" = 400'

FIGURE #4

LEA COUNTY, NEW MEXICO

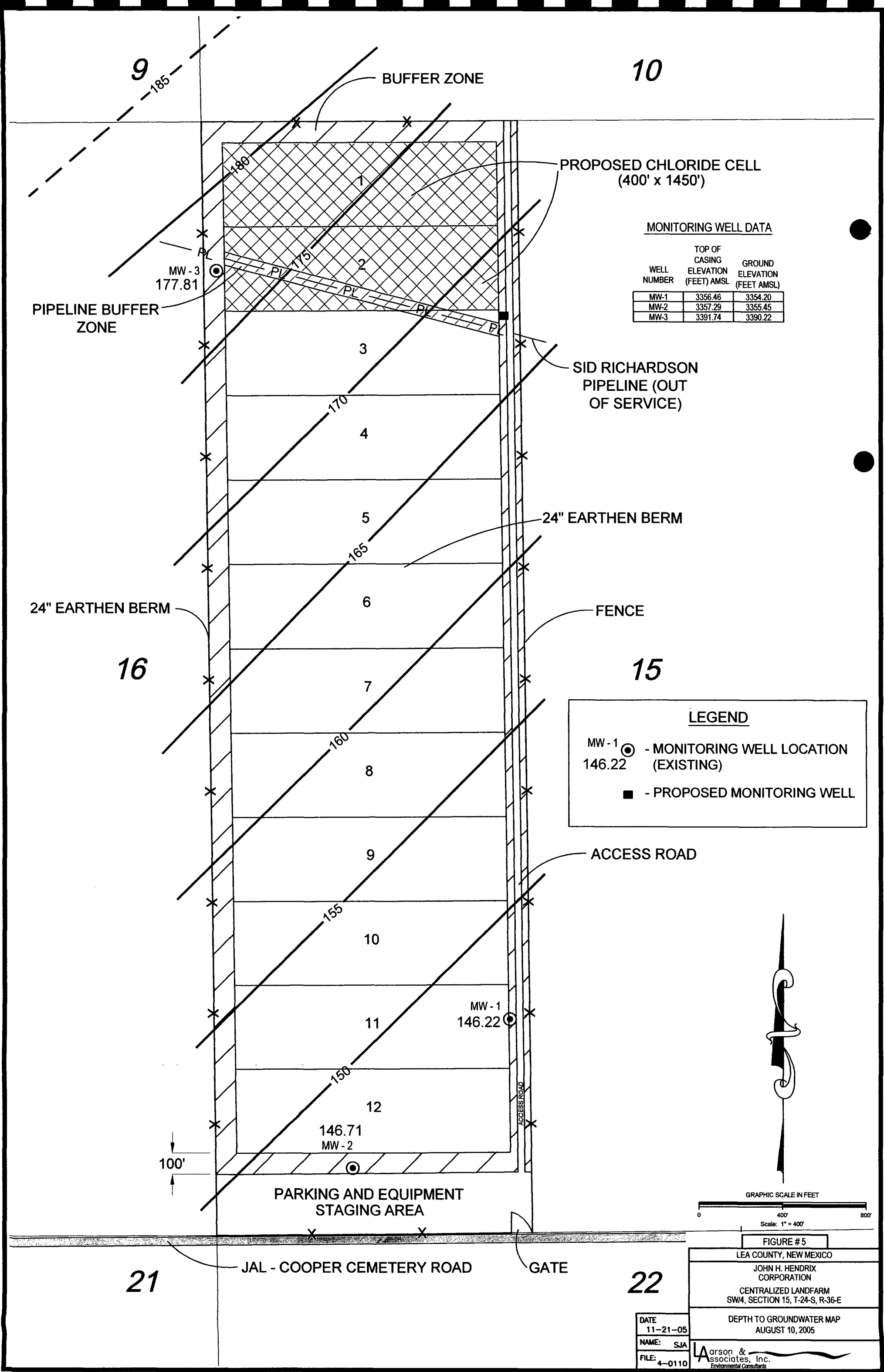
JOHN H. HENDRIX  
CORPORATIONCENTRALIZED LANDFARM  
SW/4, SECTION 15, T-24-S, R-36-E

FACILITY DRAWING

DATE  
11-21-05  
NAME: SJA  
FILE: 4-0110

Larson &  
Associates, Inc.  
Environmental Consultants





MONITORING WELL DATA

WELL NUMBER	TOP OF CASING ELEVATION (FEET) AMSL	GROUND ELEVATION (FEET) AMSL
MW-1	3356.46	3354.20
MW-2	3357.29	3355.45
MW-3	3391.74	3390.22

LEGEND

- MW - 1 - MONITORING WELL LOCATION (EXISTING)
- PROPOSED MONITORING WELL

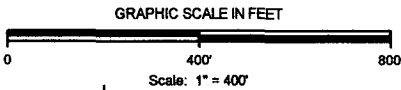


FIGURE #5

LEA COUNTY, NEW MEXICO  
JOHN H. HENDRIX CORPORATION  
CENTRALIZED LANDFARM  
SW/4, SECTION 15, T-24-S, R-36-E  
DEPTH TO GROUNDWATER MAP  
AUGUST 10, 2005

DATE  
11-21-05  
NAME: SJA  
FILE: 4-0110

Larson & Associates, Inc.  
Environmental Consultants



9

10

BUFFER ZONE

PROPOSED CHLORIDE CELL  
(400' x 1450')

## MONITORING WELL DATA

WELL NUMBER	TOP OF CASING ELEVATION (FEET) AMSL	GROUND ELEVATION (FEET) AMSL
MW-1	3356.46	3354.20
MW-2	3357.29	3355.45
MW-3	3391.74	3390.22

PIPELINE BUFFER  
ZONESID RICHARDSON  
PIPELINE (OUT  
OF SERVICE)

24" EARTHEN BERM



24" EARTHEN BERM

FENCE

16

15

## LEGEND

- MW - 1  - MONITORING WELL LOCATION  
3,207.98 (EXISTING)
-  - PROPOSED MONITORING WELL

ACCESS ROAD

100'

PARKING AND EQUIPMENT  
STAGING AREA

JAL - COOPER CEMETERY ROAD

GATE

21

22

GRAPHIC SCALE IN FEET

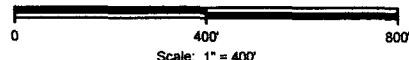


FIGURE # 6

LEA COUNTY, NEW MEXICO

JOHN H. HENDRIX  
CORPORATIONCENTRALIZED LANDFARM  
SW1/4, SECTION 15, T-24-S, R-36-EGROUNDWATER POTENTIOMETRIC SURFACE MAP  
AUGUST 10, 2005DATE  
11-21-05

NAME: SJA

FILE: 4-0110

Larson &  
Associates, Inc.  
Environmental Consultants



## APPENDICES



**APPENDIX A**

**Form C-137**



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

State of New Mexico  
Energy Minerals and Natural Resources

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

Form C-137  
Revised June 10, 2003

Submit Original Plus 1  
Copy to Santa Fe  
1 Copy Appropriate  
District Office

## APPLICATION FOR WASTE MANAGEMENT FACILITY

(Refer to the OCD Guidelines for assistance in completing the application)

☐ Commercial ☒ Centralized

1. Type: ☐ Evaporation ☐ Injection ☐ Other  
☒ Solids/Landfarm ☐ Treating Plant

2. Operator: John H. Hendrix Corporation

Address: 110 N. Marienfeld St., Ste. 400 Midland, TX

Contact Person: Ronnie Westbrook

Phone: (432) 684-6631

3. Location: W/2 SW /4 W/2 NW /4 Section 15 Township 24 Range 36

Submit large scale topographic map showing exact location

4. Is this a modification of an existing facility? ☒ Yes ☐ No

5. Attach the name and address of the landowner of the facility site and landowners of record within one mile of the site.

6. Attach description of the facility with a diagram indicating location of fences, pits, dikes, and tanks on the facility.

7. Attach designs prepared in accordance with Division guidelines for the construction/installation of the following: pits or ponds, leak-detection systems, aerations systems, enhanced evaporation (spray) systems, waste treating systems, security systems, and landfarm facilities.

8. Attach a contingency plan for reporting and clean-up for spills or releases.

9. Attach a routine inspection and maintenance plan to ensure permit compliance.

10. Attach a closure plan.

11. Attach geological/hydrological evidence demonstrating that disposal of oil field wastes will not adversely impact groundwater. Depth to and quality of ground water must be included.

12. Attach proof that the notice requirements of OCD Rule 711 have been met.

13. Attach a contingency plan in the event of a release of H<sub>2</sub>S.


14. Attach such other information as necessary to demonstrate compliance with any other OCD rules, regulations and orders.

### 15. CERTIFICATION

I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

Name: Mark J. Larson

Title: Agent

Signature: 

Date: November 9, 2005

E-mail Address: Mark@LAEnvironmental.com



## **APPENDIX B**

### **Geologic Logs and Well Completion Records**



**Client:** John H. Hendrix Corporation

**Project:** Centralized Landfarm

**Project No.:** 4-0110

**Location:** Lea County, New Mexico

**Log:** MW - 1

**Geologist:** C. Crain

**Page:** 1 of 1

SUBSURFACE PROFILE				SAMPLE			PID Measurement (PPM) 400 800 1200 1600	Well Detail	Notes
Depth	Description	Symbol	Ground Elevation	Number	Type	Recovery			
5	Sand								Well secured with locking cover
10	2.5 YR 5/8, Red, quartz sand, very fine grained, moderately well sorted, dry		3341						
15									0.0' - 2.0' BGS Cement surface seal
20	Caliche								
25	7.5YR 7/4, Pink, quartz sand, non-indurated, dry								2.0' - 141.0' BGS Cement-bentonite grout
30									
35	Sand								
40	2.5 YR 6/6, Light red, quartz sand, very fine grained, moderately well sorted, dry		3314						
45									
50	Sand								
55	5 YR 7/4, Pink, quartz sand, fine grained, poorly sorted, dry								
60									
65			3288						
70	Sand								
75	5 YR 6/6, Reddish yellow, quartz sand, very fine grained, well sorted, loose, dry								
80									
85									
90									
95									
100									
105									
110									
115									
120									
125									
130									
135									141.0' - 143.0' BGS Bentonite Pellets
140									
145									141.0' - 165.0' BGS CSSI Sand
150									
155									144.41' - 164.41' BGS Sch. 40 PVC Screen Slot 0.020"
160									
165			3189						146.22' BGS Water level, 8/10/05
170	TD: 165'								
									165.0' BGS 2" Threaded Sch. 40 PVC Cap

**Drilled By:** Scarborough Drilling

**Drill Method:** Water Rotary

**Drill Date:** 7/01/05

**Hole Diameter:**

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

**Well Size:** 2"

**TOC Elevation:** 3,356.46

**Checked By:** CC



**Client:** John H. Hendrix Corporation

**Project:** Centralized Landfarm

**Project No.:** 4-0110

**Location:** Lea County, New Mexico

**Log:** MW - 2

**Geologist:** C. Crain

**Page:** 1 of 1

SUBSURFACE PROFILE				SAMPLE			PID Measurement (PPM)	Well Detail	Notes
Depth	Description	Symbol	Ground Elevation	Number	Type	Recovery			
5	<b>Sand</b> 2.5 YR 5/8, Red, quartz sand, very fine grained, moderately well sorted, dry		3331						Well secured with locking cover 0.0' - 2.0' BGS Cement surface seal
10									
15									
20	<b>Sand</b> Light brown, quartz sand, very fine grained, moderately well sorted, dry		3293						0.0' - 136.0' BGS Cement-bentonite grout
25									
30									
35	<b>Caliche</b> 7.5YR 7/4, Pink, quartz sand, non-indurated, dry		3195						
40									
45									
50									
55									
60									
65	<b>Sand</b> 5 YR 6/6, Reddish yellow, quartz sand, very fine grained, well sorted, loose, dry								
70									
75									
80									
85									
90									
95									
100									
105									
110									
115									
120									
125									
130									
135									
140									
145									
150									
155									
160									
165									
170									

**Drilled By:** Scarborough Drilling

**Drill Method:** Water Rotary

**Drill Date:** 7/01/05

**Hole Diameter:**

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

**Well Size:** 2"

**TOC Elevation:** 3,357.29

**Checked By:** CC



**Checked By: CC**

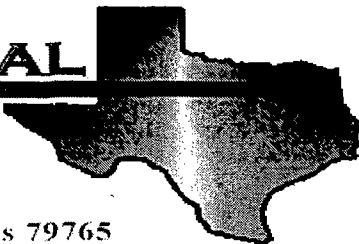


**APPENDIX C**

**Laboratory Report**



# ENVIRONMENTAL 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/ Land Farm

Project Number: 0-0114

Location: None Given

Lab Order Number: 5H30015

Report Date: 09/09/05



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

Project: John Hendrix/ Land Farm  
Project Number: 0-0114  
Project Manager: Mark Larson

Fax: (432) 687-0456  
**Reported:**  
09/09/05 14:53

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW1	5H30015-01	Water	08/30/05 10:30	08/30/05 13:00
MW2	5H30015-02	Water	08/30/05 11:40	08/30/05 13:00
MW3	5H30015-03	Water	08/30/05 12:50	08/30/05 13:00



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

Project: John Hendrix/ Land Farm  
Project Number: 0-0114  
Project Manager: Mark Larson

Fax: (432) 687-0456

Reported:  
09/09/05 14:53

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW1 (5H30015-01) Water</b>									
Benzene	ND	0.00100	mg/L	1	E150105	09/01/05	09/01/05	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		85.9 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		84.7 %	80-120		"	"	"	"	
<b>MW2 (5H30015-02) Water</b>									
Benzene	ND	0.00100	mg/L	1	E150105	09/01/05	09/01/05	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		91.6 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		93.8 %	80-120		"	"	"	"	
<b>MW3 (5H30015-03) Water</b>									
Benzene	ND	0.00100	mg/L	1	E150105	09/01/05	09/01/05	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		90.0 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		91.3 %	80-120		"	"	"	"	



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

Project: John Hendrix/ Land Farm  
Project Number: 0-0114  
Project Manager: Mark Larson

Fax: (432) 687-0456

Reported:  
09/09/05 14:53

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW1 (5H30015-01) Water</b>									
Carbonate Alkalinity	ND	0.100	mg/L	1	EI50101	08/31/05	08/31/05	EPA 310.2M	
Bicarbonate Alkalinity	186	2.00	"	"	"	"	"	"	
Hydroxide Alkalinity	ND	0.100	"	"	"	"	"	"	
Chloride	511	10.0	"	20	EH53109	08/31/05	08/31/05	EPA 300.0	
Total Dissolved Solids	1970	5.00	"	1	EI50208	08/31/05	08/31/05	EPA 160.1	
Sulfate	486	10.0	"	20	EH53109	08/31/05	08/31/05	EPA 300.0	
<b>MW2 (5H30015-02) Water</b>									
Carbonate Alkalinity	ND	0.100	mg/L	1	EI50101	08/31/05	08/31/05	EPA 310.2M	
Bicarbonate Alkalinity	202	2.00	"	"	"	"	"	"	
Hydroxide Alkalinity	ND	0.100	"	"	"	"	"	"	
Chloride	360	10.0	"	20	EH53109	08/31/05	08/31/05	EPA 300.0	
Total Dissolved Solids	1610	5.00	"	1	EI50208	08/31/05	08/31/05	EPA 160.1	
Sulfate	457	10.0	"	20	EH53109	08/31/05	08/31/05	EPA 300.0	
<b>MW3 (5H30015-03) Water</b>									
Carbonate Alkalinity	ND	0.100	mg/L	1	EI50101	08/31/05	08/31/05	EPA 310.2M	
Bicarbonate Alkalinity	210	2.00	"	"	"	"	"	"	
Hydroxide Alkalinity	ND	0.100	"	"	"	"	"	"	
Chloride	508	12.5	"	25	EH53109	08/31/05	08/31/05	EPA 300.0	
Total Dissolved Solids	2390	5.00	"	1	EI50208	08/31/05	08/31/05	EPA 160.1	
Sulfate	650	12.5	"	25	EH53109	08/31/05	08/31/05	EPA 300.0	

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 3 of 13



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

Project: John Hendrix/ Land Farm  
Project Number: 0-0114  
Project Manager: Mark Larson

Fax: (432) 687-0456

Reported:  
09/09/05 14:53

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW1 (5H30015-01) Water</b>									
Silver	ND	0.00500	mg/L	1	EI50903	08/31/05	09/09/05	EPA 6010B	
Arsenic	ND	0.00800	"	"	"	"	"	"	
Barium	0.0700	0.00100	"	"	"	"	"	6010B	
Calcium	260	0.500	"	50	EI50708	09/06/05	09/06/05	EPA 6010B	
Magnesium	80.2	0.0500	"	"	"	"	"	"	
Potassium	8.30	0.500	"	10	"	"	"	"	
Sodium	329	0.500	"	50	"	"	"	"	
Cadmium	ND	0.00100	"	1	EI50903	08/31/05	09/09/05	"	
Chromium	ND	0.00500	"	"	"	"	"	"	
Mercury	ND	0.00100	"	2	EI50305	08/31/05	09/01/05	EPA 7470A	
Lead	J [0.00520]	0.0110	"	1	EI50903	08/31/05	09/09/05	EPA 6010B	J
Selenium	0.0133	0.00400	"	"	"	"	"	"	
<b>MW2 (5H30015-02) Water</b>									
Silver	ND	0.00500	mg/L	1	EI50903	08/31/05	09/09/05	EPA 6010B	
Arsenic	J [0.00760]	0.00800	"	"	"	"	"	"	J
Barium	0.125	0.00100	"	"	"	"	"	6010B	
Calcium	185	0.500	"	50	EI50708	09/06/05	09/06/05	EPA 6010B	
Magnesium	49.2	0.0100	"	10	"	"	"	"	
Potassium	6.48	0.500	"	"	"	"	"	"	
Sodium	330	0.500	"	50	"	"	"	"	
Cadmium	0.00180	0.00100	"	1	EI50903	08/31/05	09/09/05	"	
Chromium	0.00160	0.00500	"	"	"	"	"	"	J
Mercury	ND	0.00100	"	2	EI50305	08/31/05	09/01/05	EPA 7470A	
Lead	J [0.0103]	0.0110	"	1	EI50903	08/31/05	09/09/05	EPA 6010B	J
Selenium	ND	0.00400	"	"	"	"	"	"	
<b>MW3 (5H30015-03) Water</b>									
Silver	ND	0.00500	mg/L	1	EI50903	08/31/05	09/09/05	EPA 6010B	
Arsenic	ND	0.00800	"	"	"	"	"	"	
Barium	0.111	0.00100	"	"	"	"	"	6010B	
Calcium	279	0.500	"	50	EI50708	09/06/05	09/06/05	EPA 6010B	
Magnesium	82.1	0.0500	"	"	"	"	"	"	
Potassium	7.62	0.500	"	10	"	"	"	"	
Sodium	407	2.00	"	200	"	"	"	"	
Cadmium	ND	0.00100	"	1	EI50903	08/31/05	09/09/05	"	
Chromium	ND	0.00500	"	"	"	"	"	"	
Mercury	ND	0.00100	"	2	EI50305	08/31/05	09/01/05	EPA 7470A	

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 4 of 13



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

Project: John Hendrix/ Land Farm  
Project Number: 0-0114  
Project Manager: Mark Larson

Fax: (432) 687-0456

Reported:  
09/09/05 14:53

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW3 (5H30015-03) Water									
Lead	ND	0.0110	mg/L	1	EI50903	08/31/05	09/09/05	EPA 6010B	
Selenium	0.0198	0.00400	"	"	"	"	"	"	

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 5 of 13



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

Project: John Hendrix/ Land Farm  
Project Number: 0-0114  
Project Manager: Mark Larson

Fax: (432) 687-0456

Reported:  
09/09/05 14:53

**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
---------	--------	--------------------	-------	----------------	------------------	------	----------------	-----	--------------	-------

**Batch EI50105 - EPA 5030C (GC)**

**Blank (EI50105-BLK1)**

Prepared & Analyzed: 09/01/05

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	92.2		ug/l	100		92.2	80-120			
Surrogate: 4-Bromofluorobenzene	81.2		"	100		81.2	80-120			

**LCS (EI50105-BS1)**

Prepared & Analyzed: 09/01/05

Benzene	80.9		ug/l	100		80.9	80-120			
Toluene	82.0		"	100		82.0	80-120			
Ethylbenzene	94.1		"	100		94.1	80-120			
Xylene (p/m)	185		"	200		92.5	80-120			
Xylene (o)	97.3		"	100		97.3	80-120			
Surrogate: a,a,a-Trifluorotoluene	101		"	100		101	80-120			
Surrogate: 4-Bromofluorobenzene	104		"	100		104	80-120			

**Calibration Check (EI50105-CCV1)**

Prepared & Analyzed: 09/01/05

Benzene	84.5		ug/l	100		84.5	80-120			
Toluene	82.2		"	100		82.2	80-120			
Ethylbenzene	89.0		"	100		89.0	80-120			
Xylene (p/m)	176		"	200		88.0	80-120			
Xylene (o)	89.6		"	100		89.6	80-120			
Surrogate: a,a,a-Trifluorotoluene	105		"	100		105	80-120			
Surrogate: 4-Bromofluorobenzene	106		"	100		106	80-120			

**Matrix Spike (EI50105-MS1)**

Source: 5H30013-01

Prepared: 09/01/05 Analyzed: 09/02/05

Benzene	83.3		ug/l	100	ND	83.3	80-120			
Toluene	83.4		"	100	ND	83.4	80-120			
Ethylbenzene	95.5		"	100	ND	95.5	80-120			
Xylene (p/m)	187		"	200	ND	93.5	80-120			
Xylene (o)	97.7		"	100	ND	97.7	80-120			
Surrogate: a,a,a-Trifluorotoluene	103		"	100		103	80-120			
Surrogate: 4-Bromofluorobenzene	110		"	100		110	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 13



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

Project: John Hendrix/ Land Farm  
Project Number: 0-0114  
Project Manager: Mark Larson

Fax: (432) 687-0456

Reported:  
09/09/05 14:53

**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
---------	--------	--------------------	-------	----------------	------------------	------	----------------	-----	--------------	-------

**Batch EI50105 - EPA 5030C (GC)**

**Matrix Spike Dup (EI50105-MSD1)**      **Source: 5H30013-01**      Prepared: 09/01/05      Analyzed: 09/02/05

Benzene	82.3		ug/l	100	ND	82.3	80-120	1.21	20	
Toluene	84.0		"	100	ND	84.0	80-120	0.717	20	
Ethylbenzene	98.7		"	100	ND	98.7	80-120	3.30	20	
Xylene (p/m)	194		"	200	ND	97.0	80-120	3.67	20	
Xylene (o)	103		"	100	ND	103	80-120	5.28	20	
Surrogate: a,a,a-Trifluorotoluene	100		"	100		100	80-120			
Surrogate: 4-Bromofluorobenzene	112		"	100		112	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 7 of 13



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

Project: John Hendrix/ Land Farm  
Project Number: 0-0114  
Project Manager: Mark Larson

Fax: (432) 687-0456

Reported:  
09/09/05 14:53

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

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

**Batch EH53109 - General Preparation (WetChem)**

**Blank (EH53109-BLK1)** Prepared & Analyzed: 08/31/05

Chloride	ND	0.500	mg/L						
Sulfate	ND	0.500	"						

**LCS (EH53109-BS1)** Prepared & Analyzed: 08/31/05

Chloride	9.62		mg/L	10.0		96.2	80-120		
Sulfate	8.52		"	10.0		85.2	80-120		

**Calibration Check (EH53109-CCV1)** Prepared & Analyzed: 08/31/05

Chloride	9.02		mg/L	10.0		90.2	80-120		
Sulfate	8.42		"	10.0		84.2	80-120		

**Duplicate (EH53109-DUP1)** Source: 5H30012-01 Prepared & Analyzed: 08/31/05

Chloride	2330	25.0	mg/L		2380		2.12	20	
Sulfate	2120	25.0	"		2170		2.33	20	

**Batch EI50101 - General Preparation (WetChem)**

**Blank (EI50101-BLK1)** Prepared & Analyzed: 08/31/05

Total Alkalinity	ND	2.00	mg/L						
------------------	----	------	------	--	--	--	--	--	--

**Duplicate (EI50101-DUP1)** Source: 5H30013-01 Prepared & Analyzed: 08/31/05

Carbonate Alkalinity	0.00	0.100	mg/L		0.00			20	
Bicarbonate Alkalinity	249	2.00	"		248		0.402	20	
Hydroxide Alkalinity	0.00	0.100	"		0.00			20	

**Reference (EI50101-SRM1)** Prepared & Analyzed: 08/31/05

Bicarbonate Alkalinity	230		mg/L	200		115	80-120		
------------------------	-----	--	------	-----	--	-----	--------	--	--



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

Project: John Hendrix/ Land Farm  
Project Number: 0-0114  
Project Manager: Mark Larson

Fax: (432) 687-0456

Reported:  
09/09/05 14:53

**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 EI50208 - General Preparation (WetChem)**

**Blank (EI50208-BLK1)**

Prepared & Analyzed: 08/31/05

Total Dissolved Solids ND 5.00 mg/L

**Duplicate (EI50208-DUP1)**

Source: 5H30012-01

Prepared & Analyzed: 08/31/05

Total Dissolved Solids 3870 5.00 mg/L 3830 1.04 5



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

Project: John Hendrix/ Land Farm  
Project Number: 0-0114  
Project Manager: Mark Larson

Fax: (432) 687-0456

Reported:  
09/09/05 14:53

**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
---------	--------	--------------------	-------	----------------	------------------	------	----------------	-----	--------------	-------

**Batch EI50305 - EPA 7470A**

**Blank (EI50305-BLK1)**

Prepared: 08/31/05 Analyzed: 09/01/05

Mercury ND 0.00100 mg/L

**LCS (EI50305-BS1)**

Prepared: 08/31/05 Analyzed: 09/01/05

Mercury 0.00100 0.000500 mg/L 0.00100 100 85-115

**Calibration Check (EI50305-CCV1)**

Prepared: 08/31/05 Analyzed: 09/01/05

Mercury 0.00109 mg/L 0.00100 109 90-110

**Matrix Spike (EI50305-MS1)**

Source: 5H30015-01

Prepared: 08/31/05 Analyzed: 09/01/05

Mercury 0.000990 0.000500 mg/L 0.00100 ND 99.0 75-125

**Matrix Spike Dup (EI50305-MSD1)**

Source: 5H30015-01

Prepared: 08/31/05 Analyzed: 09/01/05

Mercury 0.00110 0.000500 mg/L 0.00100 ND 110 75-125 10.5 20

**Batch EI50708 - 6010B/No Digestion**

**Blank (EI50708-BLK1)**

Prepared & Analyzed: 09/06/05

Calcium ND 0.0100 mg/L

Magnesium ND 0.00100 "

Potassium ND 0.0500 "

Sodium ND 0.0100 "

**Calibration Check (EI50708-CCV1)**

Prepared & Analyzed: 09/06/05

Calcium 2.14 mg/L 2.00 107 85-115

Magnesium 2.19 " 2.00 110 85-115

Potassium 1.77 " 2.00 88.5 85-115

Sodium 1.86 " 2.00 93.0 85-115

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 10 of 13



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

Project: John Hendrix/ Land Farm  
Project Number: 0-0114  
Project Manager: Mark Larson

Fax: (432) 687-0456

Reported:  
09/09/05 14:53

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

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

**Batch EI50708 - 6010B/No Digestion**

**Duplicate (EI50708-DUP1)**

Source: 5H18012-01

Prepared & Analyzed: 09/06/05

Calcium	19.4	0.100	mg/L		19.8		2.04	20	
Magnesium	22.1	0.0100	"		23.2		4.86	20	
Potassium	22.4	0.500	"		23.3		3.94	20	
Sodium	51.3	0.100	"		51.0		0.587	20	

**Batch EI50903 - EPA 3005A**

**Blank (EI50903-BLK1)**

Prepared & Analyzed: 09/09/05

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

**LCS (EI50903-BS1)**

Prepared & Analyzed: 09/09/05

Barium	0.216	0.00100	mg/L	0.200	108	85-115			
Selenium	0.410	0.00400	"	0.400	102	85-115			
Arsenic	0.784	0.00800	"	0.800	98.0	85-115			
Cadmium	0.214	0.00100	"	0.200	107	85-115			
Chromium	0.208	0.00500	"	0.200	104	85-115			
Lead	1.11	0.0110	"	1.10	101	85-115			
Silver	0.0903	0.00500	"	0.100	90.3	85-115			

**LCS Dup (EI50903-BSD1)**

Prepared & Analyzed: 09/09/05

Cadmium	0.214	0.00100	mg/L	0.200	107	85-115	0.00	20	
Selenium	0.430	0.00400	"	0.400	108	85-115	4.76	20	
Arsenic	0.792	0.00800	"	0.800	99.0	85-115	1.02	20	
Chromium	0.210	0.00500	"	0.200	105	85-115	0.957	20	
Silver	0.101	0.00500	"	0.100	101	85-115	11.2	20	
Lead	1.09	0.0110	"	1.10	99.1	85-115	1.82	20	
Barium	0.213	0.00100	"	0.200	106	85-115	1.40	20	

Environmental Lab of Texas

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

Page 11 of 13



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

Project: John Hendrix/ Land Farm  
Project Number: 0-0114  
Project Manager: Mark Larson

Fax: (432) 687-0456

Reported:  
09/09/05 14:53

**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
---------	--------	--------------------	-------	----------------	------------------	------	----------------	-----	--------------	-------

**Batch EI50903 - EPA 3005A**

**Calibration Check (EI50903-CCV1)**

Prepared & Analyzed: 09/09/05

Chromium	1.09		mg/L	1.00		109	90-110			
Cadmium	1.04		"	1.00		104	90-110			
Barium	1.05		"	1.00		105	90-110			
Silver	0.458		"	0.500		91.6	90-110			
Arsenic	0.928		"	1.00		92.8	90-110			
Lead	1.02		"	1.00		102	90-110			
Selenium	1.04		"	1.00		104	90-110			

**Matrix Spike (EI50903-MS1)**

Source: 5H18012-01

Prepared & Analyzed: 09/09/05

Selenium	1.64	0.00400	mg/L	0.400	1.17	118	75-125			
Lead	1.26	0.0110	"	1.10	0.108	105	75-125			
Cadmium	0.238	0.00100	"	0.200	0.0278	105	75-125			
Barium	0.850	0.00100	"	0.200	0.626	112	75-125			
Arsenic	1.34	0.00800	"	0.800	0.338	125	75-125			
Chromium	0.471	0.00500	"	0.200	0.247	112	75-125			

**Matrix Spike (EI50903-MS3)**

Source: 5I06002-01

Prepared & Analyzed: 09/09/05

Silver	0.0981	0.00500	mg/L	0.100	ND	98.1	75-125			
--------	--------	---------	------	-------	----	------	--------	--	--	--

**Matrix Spike Dup (EI50903-MSD1)**

Source: 5H18012-01

Prepared & Analyzed: 09/09/05

Chromium	0.472	0.00500	mg/L	0.200	0.247	112	75-125	0.212	20	
Arsenic	1.34	0.00800	"	0.800	0.338	125	75-125	0.00	20	
Cadmium	0.246	0.00100	"	0.200	0.0278	109	75-125	3.31	20	
Lead	1.27	0.0110	"	1.10	0.108	106	75-125	0.791	20	
Selenium	1.62	0.00400	"	0.400	1.17	112	75-125	1.23	20	
Barium	0.872	0.00100	"	0.200	0.626	123	75-125	2.56	20	

**Matrix Spike Dup (EI50903-MSD3)**

Source: 5I06002-01

Prepared & Analyzed: 09/09/05

Silver	0.0969	0.00500	mg/L	0.100	ND	96.9	75-125	1.23	20	
--------	--------	---------	------	-------	----	------	--------	------	----	--

Environmental Lab of Texas

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

Page 12 of 13



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

Project: John Hendrix/ Land Farm  
Project Number: 0-0114  
Project Manager: Mark Larson

Fax: (432) 687-0456

Reported:  
09/09/05 14:53

### Notes and Definitions

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

Report Approved By:

Raland K Tuttle

Date:

9-09-05

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.

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

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

Environmental Lab of Texas

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

Page 13 of 13



[illegible]



# Environmental Lab of Texas

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

Client: LARSON

Date/Time: 8/30/05 13:00

Order #: SH30015

Initials: CR

### Sample Receipt Checklist

Temperature of container/cooler?	Yes	No	-0.5 C
Shipping container/cooler in good condition?	<input checked="" type="checkbox"/> Yes	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?	<input checked="" type="checkbox"/> Yes	No	
Sample Instructions complete on Chain of Custody?	<input checked="" type="checkbox"/> Yes	No	
Chain of Custody signed when relinquished and received?	<input checked="" type="checkbox"/> Yes	No	
Chain of custody agrees with sample label(s)	<input checked="" type="checkbox"/> Yes	No	
Container labels legible and intact?	<input checked="" type="checkbox"/> Yes	No	
Sample Matrix and properties same as on chain of custody?	<input checked="" type="checkbox"/> Yes	No	
Samples in proper container/bottle?	<input checked="" type="checkbox"/> Yes	No	
Samples properly preserved?	<input checked="" type="checkbox"/> Yes	No	
Sample bottles intact?	<input checked="" type="checkbox"/> Yes	No	
Preservations documented on Chain of Custody?	<input checked="" type="checkbox"/> Yes	No	
Containers documented on Chain of Custody?	<input checked="" type="checkbox"/> Yes	No	
Sufficient sample amount for indicated test?	<input checked="" type="checkbox"/> Yes	No	
All samples received within sufficient hold time?	<input checked="" type="checkbox"/> Yes	No	
VOC samples have zero headspace?	<input checked="" type="checkbox"/> Yes	No	Not Applicable

Other observations:

---



---



---

### Variance Documentation:

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

---



---



---

Corrective Action Taken:

---



---



---



---



---



---



---



---

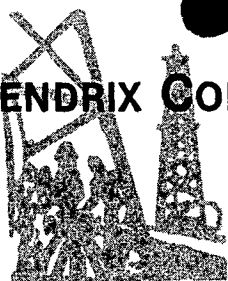


**APPENDIX D**

**Notification Letters**



# JOHN H. HENDRIX CORPORATION



MAILING ADDRESS  
P.O. BOX 3040  
MIDLAND, TX 79702-3040

(432) 684-6631  
FAX (432) 684-7317  
110 N. MARIENFELD, SUITE 400  
MIDLAND, TEXAS 79701-4412

November 8, 2005

Chevron USA Inc.  
15 Smith Road  
Midland, Texas 79705

ATT: Denice Beckham

**Re: Notification of Application to Modify Centralized Surface Management  
Permit NM-02-0021, W/2, NW/4 and W/2, SW/4, Section 15, Township 24  
South, Range 36 East, Lea County, New Mexico**

Dear Ms. Beckham:

John H. Hendrix Corporation is the owner of 200-acres in the west-half (W/2) of the northwest quarter (NW/4) and the west-half (W/2) of the southwest quarter (SW/4), Section 15, Township 24 South, Range 36 East, in Lea County, New Mexico, and has made an application with the State of New Mexico Oil Conservation Division ("OCD") to modify its permit (NM-02-0021) to operate a centralized surface management facility permit. You have received this letter as a landowner within 1-mile of the above-referenced property, and the notification requirements of NMOCD Rule 711. The application is on file with the NMOCD in Santa Fe, New Mexico and District I office in Hobbs, New Mexico.

Sincerely,

*John H. Hendrix Corporation*

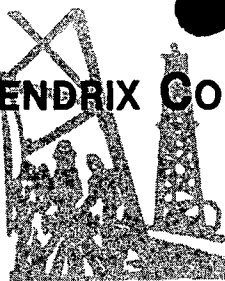
A handwritten signature in cursive script, reading "Ronnie Westbrook". The signature is written in dark ink and is positioned above the printed name and title.

Ronnie Westbrook  
Vice President

cc: NMOCD



# JOHN H. HENDRIX CORPORATION



MAILING ADDRESS  
P.O. BOX 3040  
MIDLAND, TX 79702-3040

(432) 684-6631  
FAX (432) 684-7317  
110 N. MARIENFELD, SUITE 400  
MIDLAND, TEXAS 79701-4412

November 8, 2005

Cooper Family Estate  
6202 South Bowie  
Amarillo, Texas 79118

ATT: Bart Bishop

**Re: Notification of Application to Modify Centralized Surface Management  
Permit NM-02-0021, W/2, NW/4 and W/2, SW/4, Section 15, Township 24  
South, Range 36 East, Lea County, New Mexico**

Dear Mr. Bishop:

John H. Hendrix Corporation is the owner of 200-acres in the west-half (W/2) of the northwest quarter (NW/4) and the west-half (W/2) of the southwest quarter (SW/4), Section 15, Township 24 South, Range 36 East, in Lea County, New Mexico, and has made an application with the State of New Mexico Oil Conservation Division ("OCD") to modify its permit (NM-02-0021) to operate a centralized surface management facility permit. You have received this letter as a landowner within 1-mile of the above-referenced property, and the notification requirements of NMOCD Rule 711. The application is on file with the NMOCD in Santa Fe, New Mexico and District I office in Hobbs, New Mexico.

Sincerely,

*John H. Hendrix Corporation*

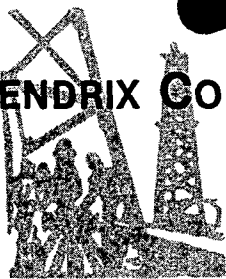
A handwritten signature in dark ink, appearing to read "Ronnie Westbrook". The signature is fluid and cursive, written over the printed name.

Ronnie Westbrook  
Vice President

cc: NMOCD



# JOHN H. HENDRIX CORPORATION



MAILING ADDRESS  
P.O. BOX 3040  
MIDLAND, TX 79702-3040

(432) 684-6631  
FAX (432) 684-7317  
110 N. MARIENFELD, SUITE 400  
MIDLAND, TEXAS 79701-4412

November 8, 2005

Jal Public Library Fund  
P.O. Box 1166  
Jal, New Mexico 88252

ATT: Trustees

**Re: Notification of Application to Modify Centralized Surface Management  
Permit NM-02-0021, W/2, NW/4 and W/2, SW/4, Section 15, Township 24  
South, Range 36 East, Lea County, New Mexico**

Dear Ladies and Gentlemen:

John H. Hendrix Corporation is the owner of 200-acres in the west-half (W/2) of the northwest quarter (NW/4) and the west-half (W/2) of the southwest quarter (SW/4), Section 15, Township 24 South, Range 36 East, in Lea County, New Mexico, and has made an application with the State of New Mexico Oil Conservation Division ("OCD") to modify its permit (NM-02-0021) to operate a centralized surface management facility permit. You have received this letter as a landowner within 1-mile of the above-referenced property, and the notification requirements of NMOCD Rule 711. The application is on file with the NMOCD in Santa Fe, New Mexico and District I office in Hobbs, New Mexico.

Sincerely,

*John H. Hendrix Corporation*

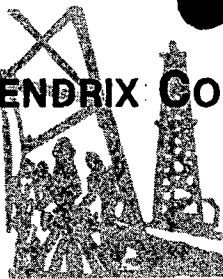
A handwritten signature in dark ink, appearing to read "Ronnie Westbrook". The signature is fluid and cursive, with the first name "Ronnie" being more prominent and the last name "Westbrook" following in a similar style.

Ronnie Westbrook  
Vice President

cc: NMOCD



# JOHN H. HENDRIX CORPORATION



MAILING ADDRESS  
P.O. BOX 3040  
MIDLAND, TX 79702-3040

(432) 684-6631  
FAX (432) 684-7317  
110 N. MARIENFELD, SUITE 400  
MIDLAND, TEXAS 79701-4412

November 8, 2005

County Commissioners  
County of Lea, New Mexico  
100 North Main, Suite 4  
Lovington, New Mexico 88260

ATT: Harry Teague, Chairman

**Re: Notification of Application to Modify Centralized Surface Management  
Permit NM-02-0021, W/2, NW/4 and W/2, SW/4, Section 15, Township 24  
South, Range 36 East, Lea County, New Mexico**

Dear Mr. Teague:

John H. Hendrix Corporation is the owner of 200-acres in the west-half (W/2) of the northwest quarter (NW/4) and the west-half (W/2) of the southwest quarter (SW/4), Section 15, Township 24 South, Range 36 East, in Lea County, New Mexico, and has made an application with the State of New Mexico Oil Conservation Division ("OCD") to modify its permit (NM-02-0021) to operate a centralized surface management facility permit. You have received this letter as a landowner within 1-mile of the above-referenced property, and the notification requirements of NMOCD Rule 711. The application is on file with the NMOCD in Santa Fe, New Mexico and District I office in Hobbs, New Mexico.

Sincerely,

*John H. Hendrix Corporation*

Ronnie Westbrook  
Vice President

cc: NMOCD



# JOHN H. HENDRIX CORPORATION



MAILING ADDRESS  
P.O. BOX 3040  
MIDLAND, TX 79702-3040

(432) 684-6631  
FAX (432) 684-7317  
110 N. MARIENFELD, SUITE 400  
MIDLAND, TEXAS 79701-4412

November 8, 2005

RRR Land and Cattle Company  
2205 Bedford Drive  
Midland, Texas 79118

ATT: T. Richard Crawford  
Randall J. Crawford  
Russell D. Crawford

**Re: Notification of Application to Modify Centralized Surface Management  
Permit NM-02-0021, W/2, NW/4 and W/2, SW/4, Section 15, Township 24  
South, Range 36 East, Lea County, New Mexico**

Gentlemen:

John H. Hendrix Corporation is the owner of 200-acres in the west-half (W/2) of the northwest quarter (NW/4) and the west-half (W/2) of the southwest quarter (SW/4), Section 15, Township 24 South, Range 36 East, in Lea County, New Mexico, and has made an application with the State of New Mexico Oil Conservation Division ("OCD") to modify its permit (NM-02-0021) to operate a centralized surface management facility permit. You have received this letter as a landowner within 1-mile of the above-referenced property, and the notification requirements of NMOCD Rule 711. The application is on file with the NMOCD in Santa Fe, New Mexico and District I office in Hobbs, New Mexico.

Sincerely,

*John H. Hendrix Corporation*

A handwritten signature in cursive script that reads "Ronnie Westbrook". The signature is written in dark ink and is positioned above the printed name and title.

Ronnie Westbrook  
Vice President

cc: NMOCD



**APPENDIX E**

**Public Notice**



November 8, 2005

**VIA FACSIMILE: (505) 397-0610**

Hobbs News-Sun  
Legal Department  
201 N. Thorp  
Hobbs, New Mexico 88240

ATT: Ms. Tonya Heiser

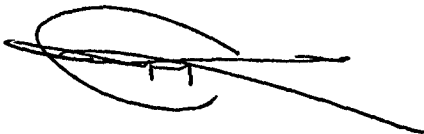
**Re: Public Notice**

Dear Tonya:

Please find attached public notice to be printed one time in the Hobbs News-Sun on Saturday, November 26, 2005 or Sunday, November 27, 2005. Please provide me with an affidavit of publication, and call me at (432) 687-0901 if you have questions.

Sincerely

*Larson and Associates, Inc.*



Mark J. Larson

Encl.



### NOTICE

John H. Hendrix Corporation, located at 1310 18<sup>th</sup> Street, Eunice, New Mexico 88231 has submitted for approval an application to modify its permit (NM-02-0021) to operate a Rule 711 centralized landfarm facility located in the W/2 NW/4 and W/2 SW/4, Section 15, Township 24 South, Range 36 East N.M.P.M., Lea County, New Mexico. The permit modification is for treating non-hazardous soil contaminated by petroleum hydrocarbons from crude oil and salts from produced waters, which are exempt under Subtitle C of RCRA. The permit modification request addresses the construction, operation, spill/leak prevention and monitoring procedures to be incorporated at the Facility.

Any interested person may obtain further information from the State of New Mexico Oil Conservation Division and may submit written comments to the Director of the Oil Conservation Division, 1220 South Saint Francis Drive, Santa Fe, New Mexico 87505, Telephone 505-476-3440. The application may be viewed at the above address or at the Hobbs district office at 1625 N. French Drive, Hobbs, New Mexico between 8:00 a.m. and 4:00 p.m., Monday thru Friday. Prior to ruling on any proposed permit modification, the Director of the Oil and Gas Conservation Division shall allow at least thirty (30) days after the date of publication of this notice during which comments may be submitted and any interested person may request public hearing. Request for a public hearing shall set forth the reasons why a public hearing shall be held. A hearing will be held if the director determines that there is significant public interest.



22-141 50 SHEETS  
22-142 100 SHEETS  
22-144 200 SHEETS



NM-2-021



22-141 50 SHEETS  
22-142 100 SHEETS  
22-144 200 SHEETS



JOHN HENDRIX LANDFARM

NM-2-021





**William F. Carr**  
wcarr@hollandhart.com  
46980-0005

October 27, 2004

Mr. Roger Anderson  
Bureau Chief  
New Mexico Oil Conservation Division  
1220 South St. Francis Drive  
Santa Fe, NM 87505

**Re: Centralized Surface Waste Management Facility Permit Application, John H. Hendrix Corp., W/2 NW/4, W/2 SW/4, Section 15, Township 24 South, Range 36 East, Lea County, New Mexico**

2004 OCT 27 PM 3:22

Dear Roger:

I represent the John H. Hendrix Corporation in the above-referenced matter. Larson and Associates, Inc. has submitted the application.

Pleased find enclosed the Affidavit of Publication from the Hobbs News-Sun. This Affidavit should complete the application.

I respectfully request the Bureau copy me, together with Larson and Associates, on all documentation regarding the application. If I can be of assistance in expediting this matter, please feel free to call me.

Very truly yours,

A handwritten signature in black ink, appearing to read "William F. Carr".

William F. Carr  
of Holland & Hart LLP

WFC  
Enclosures

3292394\_1.DOC

**Holland & Hart LLP**

Phone [505] 988-4421 Fax [505] 983-6043 [www.hollandhart.com](http://www.hollandhart.com)

110 North Guadalupe Suite 1 Santa Fe, NM 87501 Mailing Address P.O. Box 2208 Santa Fe, NM 87504-2208

Aspen Billings Boise Boulder Cheyenne Colorado Springs Denver Denver Tech Center Jackson Hole Salt Lake City Santa Fe Washington, D.C. ♻



AFFIDAVIT OF PUBLICATION

State of New Mexico,  
County of Lea.

I, KATHI BEARDEN

Publisher

of the Hobbs News-Sun, a  
newspaper published at  
Hobbs, New Mexico, do solemnly  
swear that the clipping attached  
hereto was published once a  
week in the regular and entire  
issue of said paper, and not a  
supplement thereof for a period.

of 1

weeks.

Beginning with the issue dated

October 10 2004

and ending with the issue dated

October 10 2004

*Kathi Bearden*

Publisher

Sworn and subscribed to before

me this 11th day of

October 2004

*Joseph M. Hawes*  
Notary Public.

My Commission expires

November 27, 2004

(Seal)

This newspaper is duly qualified  
to publish legal notices or adver-  
tisements within the meaning of  
Section 3, Chapter 167, Laws of  
1937, and payment of fees for  
said publication has been made.

LEGAL NOTICE

October 10, 2004

NOTICE

John H. Hendrix Corp., 1310 18th Street, Eunice, New Mexico 88231 has submitted for approval an application to construct and operate a Rule 711 centralized landfarm facility located in the W/2 NW/4 and W/2 SW/4, Section 15, Township 24 South, Range 36 East N.M.P.M. Lea County, New Mexico. The permit application address the construction, operations, spill/leak prevention and monitoring procedures to be incorporated at the proposed.

Any interested person may obtain further information from the Oil Conservation Division and may submit written comments to the Director of the Oil Conservation Division, 1220 South Saint Francis Drive, Santa Fe, New Mexico 87505, Telephone 505-476-3440. The application may be viewed at the above address or at the Hobbs District office at 1625 N. French Dr., Hobbs, New Mexico between 8:00 a.m. and 4:00 p.m., Monday thru Friday. Prior to ruling on any proposed application the Director of the Oil and Gas Conservation Division shall allow at least thirty (30) days after the date of publication of this notice during which comments may be submitted and any interested person may request public hearing. Request for a public hearing shall set forth the reasons why a public hearing shall be held. A hearing will be held if the director determines that there is significant public interest.  
#21004

02105581000

67525563

Larson And Associates  
507 North Marienfeld Suite 202  
MIDLAND, TX 79701



October 11, 2004

Mr. Roger Anderson  
Bureau Chief  
New Mexico Oil Conservation Division  
1220 South St. Francis Drive  
Santa Fe, New Mexico 87505

NM-2-0021


**Re: Centralized Surface Waste Management Facility Permit Application, John H. Hendrix Corp., W/2 NW/4, W/2 SW 1/4, Section 15, Township 24 South, Range 36 East, Lea County, New Mexico**

Dear Mr. Anderson:

On behalf of John H. Hendrix Corp., please find enclosed in duplicate the above-referenced application for a centralized surface waste management facility (landfarm) to be located in the W/2 NW/4, W/2 SW/4, Section 15, Township 24 South, Range 36 East, in Lea County, New Mexico. Form C-137, as well as copies of letters of notification to surrounding landowners within 1-mile of the proposed facility are included in the application. A public notice was submitted to the Hobbs News-Sun for one-time publication in October 9, 2004 or October 10, 2004 additions. An affidavit of publication will be sent to the New Mexico Oil and Gas Conservation Division (NMOCD) upon its receipt from the publisher. A copy of the application has also been sent to Mr. Chris Williams at the Hobbs district office. Please call Mr. Ron Westbrook with John H. Hendrix Corp. at (432) 684-6631 or myself at (432) 687-0901 if you have questions. We may be reached by email at [ronniew@JHHC.org](mailto:ronniew@JHHC.org) or [mark@LAEnvironmental.com](mailto:mark@LAEnvironmental.com).

Sincerely,

*Larson & Associates, Inc.*



Mark J. Larson, PG, CPG, CGWP  
President

Encl.

cc: Mr. Marvin Burrows – John H. Hendrix Corp.  
Mr. Ron Westbrook – John H. Hendrix Corp.  
Mr. Chris Williams - NMOCD, Hobbs District



**JOHN H. HENDRIX CORP.  
CENTRALIZED SURFACE WASTE  
MANAGEMENT FACILITY APPLICATION**

**Prepared for:**

**John H. Hendrix Corp.  
110 North Marienfeld Street, Suite 400  
Midland, Texas 79701**

**Prepared by:**

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

**October 8, 2004**



**Mark J. Larson, CPG, CGWP**



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

State of New Mexico  
Energy Minerals and Natural Resources

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

Form C-137  
Revised June 10, 2003

Submit Original Plus 1  
Copy to Santa Fe  
1 Copy Appropriate  
District Office

## APPLICATION FOR WASTE MANAGEMENT FACILITY

(Refer to the OCD Guidelines for assistance in completing the application)

☐ Commercial ☒ Centralized

1. Type: ☐ Evaporation ☐ Injection ☐ Other  
☒ Solids/Landfarm ☐ Treating Plant

2. Operator: John H. Hendrix Corp.

Address: 1310 18th Street, Eunice, New Mexico 88231

Contact Person: Marvin Burrows Phone: (505) 394-2694

3. Location: W/2 NW/4 & W/2 SW/4 Section 15 Township 24 South Range 36 East  
Submit large scale topographic map showing exact location

4. Is this a modification of an existing facility? ☐ Yes ☒ No

5. Attach the name and address of the landowner of the facility site and landowners of record within one mile of the site.

6. Attach description of the facility with a diagram indicating location of fences, pits, dikes, and tanks on the facility.

7. Attach designs prepared in accordance with Division guidelines for the construction/installation of the following: pits or ponds, leak-detection systems, aerations systems, enhanced evaporation (spray) systems, waste treating systems, security systems, and landfarm facilities.

8. Attach a contingency plan for reporting and clean-up for spills or releases.

9. Attach a routine inspection and maintenance plan to ensure permit compliance.

10. Attach a closure plan.

11. Attach geological/hydrological evidence demonstrating that disposal of oil field wastes will not adversely impact groundwater. Depth to and quality of ground water must be included.

12. Attach proof that the notice requirements of OCD Rule 711 have been met.

13. Attach a contingency plan in the event of a release of H<sub>2</sub>S.

14. Attach such other information as necessary to demonstrate compliance with any other OCD rules, regulations and orders.

### 15. CERTIFICATION

I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

Name: Ron Westbrook

Title: Vice President

Signature: Ron Westbrook

Date: October 8, 2004

E-mail Address: ronniew@JHHC.org



## Table of Contents

<u>Section</u>	<u>Page</u>
NEW MEXICO OIL CONSERVATION DIVISION FORM C-137	
TABLE OF CONTENTS	i
LIST OF FIGURES	ii
1.0 <u>Type of Operation</u>	1
2.0 <u>Operator</u>	1
3.0 <u>Facility Location</u>	1
4.0 <u>Expansion Request</u>	1
5.0 <u>Land Ownership</u>	2
6.0 <u>Facility Description</u>	3
7.0 <u>Facility Construction and Operation</u>	3
7.1 Facility Construction	3
7.1.1 Location	3
7.1.2 Fences and Signs	3
7.1.3 Facility Buffer Zone	4
7.1.4 Pipeline Buffer Zone	4
7.1.5 Facility Berming	4
7.1.6 Treatment Zone Monitoring	4
7.1.7 Double-Lined System	5
7.2 Facility Operation	5
7.2.1 Characterization and Waste Tracking	6
8.0 <u>Spill and Leak Detection and Reporting</u>	7
9.0 <u>Inspection, Maintenance and Reporting</u>	7
10.0 <u>Closure Plan</u>	8



Table of Contents  
(Continued)

<u>Section</u>	<u>Page</u>
11.0 <u>Facility Characteristics</u>	8
12.0 <u>Proof of Notice</u>	9
13.0 <u>H<sub>2</sub>S Contingency Plan</u>	10
14.0 <u>Additional Information</u>	10



## **List of Figures**

### **Figure**

- 1. Site Location and Topographic Map**
- 2. Land Ownership**
- 3. Facility Drawing**

## **List of Appendices**

### **Appendix**

- A Letters of Notification to Land Owners within 1 – Mile and  
County Commissioners**
- B Public Notice**



**JOHN H. HENDRIX CORP.  
CENTRALIZED SURFACE WASTE MANAGEMENT  
FACILITY APPLICATION  
LEA COUNTY, NEW MEXICO**

**1.0    Type of Operation**

Centralized Surface Waste Management Facility

**2.0    Operator**

John H. Hendrix Corp.  
Eunice Field Office  
1310 18<sup>th</sup> Street  
Eunice, New Mexico 88231

Contact Person:     Marvin Burrows  
Phone Number:     (505) 394-2649

John H. Hendrix Corp.  
Corporate Office  
110 North Marienfeld Street, Suite 400  
Midland, Texas 79701

Contact Person:     Ron Westbrook  
Phone Number:     (432) 684-6631

**3.0    Facility Location**

The Facility is located approximately 7 miles northwest of Jal, NM, and occupies the west half (W/2) of the northwest quarter (NW/4) and the west half (W/2) of the southwest quarter (SW/4), Section 15, Township 24 South, Range 36 East, Lea County, New Mexico. Figure 1 presents a location and topographic map.

Direction to the facility:

- Starting at the intersection of highway #128 and highway #18 in Jal, New Mexico, travel north on highway #18 for approximately 6.2 miles to Jal-Cooper Cemetery Road;
- Travel west on Jal-Cooper Cemetery Road for approximately 3.6 miles to Facility.

**4.0    Expansion Request**

This is an application for a new Facility, and not an expansion request.



**Centralized Waste Management Facility Application  
John H. Hendrix Corp., Lea County, New Mexico**

---

**5.0 Land Ownership**

John H. Hendrix Corp. owns 200-acres in the west half (W/2) of the northwest quarter (NW/4) and the west half of the southwest quarter (SW/4), Section 15, Township 24 South, Range 36 East, Lea County, New Mexico. Landowners within 1- mile are:

<u>Landowner</u>	<u>Legal Description</u>
Cooper Family Heirs c/o Bart Bishop 6202 South Bowie Amarillo, Texas 79118	Sec. 9
RRR Land and Cattle Company 2205 Bedford Drive Midland, Texas 79118	Sec. 10 Sec. 11 (SW/4) Sec. 15 (Remaining)
Whitten/Lea, Ltd. 4305 North Garfield, Suite 203 Midland, Texas 79705	Sec. 14 (W/2) Sec. 23 (NW/4)
Melvin Whitten HCR 1, Box 300 Jal, New Mexico 88252	Sec. 16
Donald Ray Whitten P.O. Box 1713 Oracle, Arizona 85623	Sec. 16
Johnny Mack Whitten P.O. Box 1713 Oracle, Arizona 85623	Sec. 16 Sec. 16
Terry Lee Whitten (No Address Available)	Sec. 16
Jal Public Library Fund, Trustees P.O. Box 1166 Jal, New Mexico 88252	Sec.21 (N2, N/2) Sec. 22 (N/2, N/2)



**Centralized Waste Management Facility Application**  
**John H. Hendrix Corp., Lea County, New Mexico**

---

There are no residences, public buildings or facilities, other than oil and gas installations, within one mile of the Facility. Figure 2 presents a drawing of land ownership within one mile.

**6.0 Facility Description**

The Facility will be permitted to accept only non-hazardous oilfield solids that are exempt under Subtitle C of the Resource Conservation and Recovery Act (RCRA), including soil contaminated by petroleum hydrocarbons resulting from remediation of spills, releases and pits. Soil will be remediated using land-farming techniques. The Facility will only accept waste from operations of John H. Hendrix Corp.

Jal-Cooper Cemetery Road borders the south side of Section 15, Township 24 South, Range 36 East, and a gate near the southeast corner will provide access to the Facility. A staging area measuring approximately 300 x 1,450 feet has been designed near the south end of the Facility for parking, equipment and turn-around for trucks. A 100-foot buffer zone will be established around the perimeter of the Facility, and no waste will be placed inside the buffer zone or staging area. The waste management area will be accessed from a haul road constructed along the east side of the Facility. The haul road will be about 20 feet wide. The Facility will be fenced, and gated at the entrance. The gate will remain locked when an attendant is not present. Figure 3 presents a Facility drawing.

There are no pipelines crossing the Facility, and no oil and gas installations are located on the Facility. John H. Hendrix Corp. does not anticipate constructing an office or storage buildings, and no chemicals will be stored at the Facility

**7.0 Facility Construction and Operation**

**7.1 Facility Construction**

**7.1.1 Location**

The Facility will be constructed on a 200-acre parcel of land owned by John H. Hendrix Corp. that is located adjacent to the west line of Section 15, Township 24 South, Range 36 East, Lea County, New Mexico. A total of twelve (12) cells are proposed for the Facility, and each cell will measure approximately 400 x 1,450 feet. Figure 3 presents a Facility drawing.

**7.1.2 Fences and Signs**

The Facility will be fenced, and a locking gate will be located near the southeast corner. A sign of sufficient size to be able to read from a



**Centralized Waste Management Facility Application  
John H. Hendrix Corp., Lea County, New Mexico**

---

distance of approximately 50 feet will be posted near the gate. The sign will include the following information:

- Facility name;
- Owner;
- Legal description; and
- Emergency contact information.

**7.1.3 Facility Buffer Zone**

A minimum separation of 100 feet will be maintained between the waste management area and property boundary.

**7.1.4 Pipeline Buffer Zone**

No pipelines cross the Facility, and the nearest pipeline is located approximately 200 feet west of the Facility, in Section 16, Township 24 South, Range 36 East, Lea County, New Mexico.

**7.1.5 Facility Berming**

Each treatment cell will be bermed to prevent precipitation runoff and runoff. The berms will be constructed with sufficient height to contain a 100-year flood event. A 100-year flood event of 6.0 inches has been reported for a 24-hour duration storm, based on information reviewed at the City of Hobbs, New Mexico, Engineering Department. Based on this information, the minimum berm height should be greater than six inches, therefore, berm height of 18 inches will be maintained for each cell. Annual rainfall for the area is reported to be less than 10 inches.

Proposed cell dimension (feet):	400 x 1,450
Cell area (acre):	13.32
Proposed berm height (inches):	18
Volume (gallons):	6.5 M
(Approximately 3 times the 100-year flood volume collected in a cell)	

**7.1.6 Treatment Zone Monitoring**

A soil sample will be collected from approximately 2 to 3 feet below native ground surface (ngs) near the center the Facility prior to construction. The sample will be submitted to a qualified laboratory under proper preservation and chain-of-custody control, and will be analyzed for total petroleum hydrocarbons (TPH), cations, anions, benzene, toluene,



**Centralized Waste Management Facility Application**  
**John H. Hendrix Corp., Lea County, New Mexico**

---

ethyl benzene and xylene (collectively referred to as BTEX), and metals (RCRA 8) using EPA approved methods. The laboratory report will be included in the first (1<sup>st</sup>) annual report submitted to the New Mexico Oil Conservation Division (NMOCD).

Treatment zone monitoring will begin six (6) months following the first shipment of contaminated soil, and quarterly thereafter. A random sample will be collected from each active cell. A sample of tilled soil will be collected followed by a sample from the treatment zone from approximately 2 to 3 feet below ngs. The samples will be collected using methods that will minimize the potential for cross-contamination of soil from the tilled zone with the treatment zone sample (i.e., dual tube direct push, etc.). The boring will be filled with bentonite after obtaining the samples, and all sampling equipment will be decontaminated between locations. The samples will be submitted under proper preservation and chain-of-custody control to a qualified laboratory. The samples of tilled soil and from the treatment zone will be analyzed for TPH and BTEX. During the fourth (4<sup>th</sup>) quarter the treatment zone samples will also be analyzed for cations, anions and metals. The laboratory will use EPA approved methods, and John H. Hendrix Corp. will submit annual reports to the NMOCD.

**7.1.7 Double-Lined System**

The treatment zone at the proposed location is composed of uncemented materials, and a double-lined system is not applicable.

**7.2 Facility Operation**

The Facility will be operated in a way as to not adversely impact groundwater, surface water, public health or the environment. Facility operating procedures will involve the following:

- a) Disposal of waste will occur only under the supervision of an attendant on duty. The Facility will be secured when an attendant is not present.
- b) All contaminated soils received at the Facility will be spread and disked within 72 hours of receipt.
- c) Soils will be spread on the surface in 6 to 12-inch lifts, and disked to enhance biodegradation.



**Centralized Waste Management Facility Application**  
**John H. Hendrix Corp., Lea County, New Mexico**

---

- d) Soils will be disked every two weeks to enhance biodegradation of contaminants.
- e) There will be no mixing of exempt and nonexempt soils.
- f) A new layer of contaminated soil will not be spread over an existing layer until the TPH is less than 500 mg/Kg, BTEX is less than 50 mg/Kg and benzene is less than 10 mg/Kg in the existing layer. Laboratory analysis and a sampling location record will be maintained at the Facility. Authorization from the NMOCD will be obtained prior to application of successive lifts where soils meet the above-referenced criteria.
- g) Moisture will only be added to enhance bioremediation or to control dust when necessary. Any pooling of water following precipitation will be removed within 72 hours of discovery.
- h) Enhanced bio-remediation through addition of microbes or fertilizers is not anticipated at the Facility.
- i) No free liquids or soils with free liquids will be accepted at the Facility.
- j) Comprehensive records of all material brought to disposed of at the facility will be maintained. The records for each load will include: 1) generator name, 2) the origin (location), 3) date received, 4) quantity, 5) certification of exempt status or analysis for hazardous constituents if non-exempt, 6) exact cell number/location where soil disposed and any addition of moisture, etc.

**7.2.1 Characterization and Waste Tracking**

The Facility will accept only non-hazardous oilfield contaminated solids exempt from RCRA Subtitle C (hazardous waste) regulations. Tests for hazardous characteristics will be performed if non-hazardous, non-exempt oilfield contaminated solids needs to be disposed at the Facility. The approval of the NMOCD will also be sought prior to receiving non-exempt oilfield contaminated soil for disposal. At no time will the Facility accept hazardous waste. A "Certification of Waste Status", signed by a representative of John H. Hendrix Corp., will accompany all loads brought to the Facility.



**Centralized Waste Management Facility Application  
John H. Hendrix Corp., Lea County, New Mexico**

---

The wastes will be transported from operations owned by John H. Hendrix Corp., and no additional material will be added to the loads during transport. The transporter will acknowledge that no additional materials have been added during transport.

**8.0 Spill and Leak Prevention and Reporting**

No spills are anticipated at the Facility since no liquid wastes will be accepted. The only time water may be used is for dust control or enhance remediation. In case of any break, spill, blow out, or undesirable event John H. Hendrix Corp., will notify the NMOCD in accordance with Rule 116.

**9.0 Inspection, Maintenance and Reporting**

Berms, fences and remediation cells will be inspected frequently, and any necessary repairs or general maintenance will be performed immediately. Inspection records including date, kinds of inspections, and type of repairs made will be maintained. A berm height of 18 inches will be maintained all around the cell at all times to prevent runoff or run-on. Berms and cells will be inspected after any significant rainfall or windstorms. During dry and windy months, water may be added periodically to the soil in the cell to prevent wind drift.

The waste material transported by the truck will not be accepted without the proper documentation. Procedures discussed in Section 7.2.1 will be followed before transporter delivery is accepted. Contaminated soil received at the Facility will be spread and disked within 72 hours of receipt. Soils will be spread on the surface in 6 to 12-inch lifts and disked every 2 weeks to enhance remediation of contaminants. Monitoring of the tilled soil will be performed in conjunction with treatment zone monitoring to evaluate remediation progress. Section 7.1.6 discusses the sample protocol. Enhancing remediation by addition of water and nutrients will be evaluated as remediation progresses. Successive lifts of soils will not be in the cells until laboratory tests results confirm that soil has been remediated below thresholds, as discussed in Section 7.2 (f), and the NMOCD has authorized placing a successive lift in any cell. Form C-117-A will be filed with the NMOCD if tank bottoms or miscellaneous hydrocarbons are to be remediated at the Facility.

Comprehensive records of all materials accepted at the Facility will be documented and logged as described in Section 7.2 (j). Monitoring of the



**Centralized Waste Management Facility Application**  
**John H. Hendrix Corp., Lea County, New Mexico**

---

treatment zone will be performed quarterly beginning six (6) months after the initial soil shipment is received, as discussed in section 7.2 (f).

**10.0 Closure Plan**

John H. Hendrix Corp. will provide notification to the NMOCD within one (1) month of cessation of operations at Facility. After notifying the NMOCD, John H. Hendrix Corp. will accept no new material at the Facility, and existing soil will be remediated to the permit requirements. The Facility will be seeded with natural grasses and allowed to return to its natural state.

Six (6) months following cessation of disposal operations, John H. Hendrix Corp. will complete cleanup of constructed facilities and restoration of the Facility within the next six (6) months, unless an extension is granted by the NMOCD. The estimate cost for Facility closure is \$20,000.00.

**11.0 Facility Characteristics**

The Facility is situated near the southern edge of the Eunice Plain physiographic subdivision. The Eunice Plain is underlain by a hard caliche surface and is almost entirely covered by reddish-brown dune sand. In some places the underlying surface consists of alluvial sediments.

The average annual precipitation is between 9 to 10 inches. There are no major surface drainage features in close proximity to the Facility, and the topography slopes gently from northwest to southeast. The ground surface elevation ranges from about 3,390 feet above mean sea level (MSL) near the northwest corner to about 3,350 feet above MSL near the southeast corner.

Soils in the area belong to the Pyote, Simona and Berino series. The surface layer is typically light-brown fine sand and loamy fine sand about 12 inches thick. The subsoil is pale brown fine sandy loam. The substratum is white, platy, indurated caliche.

The Facility is underlain by the Ogallala formation (Tertiary) consisting continental materials derived from erosion of mountainous regions to the west and northwest. The Ogallala is composed of beds and lenses of clay, silt, sand, and gravel. Caliche occurs as a secondary deposit in the upper part of the Ogallala formation in many places. The Ogallala formation



**Centralized Waste Management Facility Application  
John H. Hendrix Corp., Lea County, New Mexico**

---

rests on an unconformable and eroded surface of the Chinle formation of the Dockum group (Triassic).

Ground water occurs under water table conditions in the Ogallala formation (Tertiary) between 170 and 180 feet below ground surface. Ground water flow generally parallels the surface topography, and is from northwest to southeast. An inventory of water wells assembled from a review of records maintained by the New Mexico State Engineer indicates that the nearest well is located in NE/4, NE/4, Section 15, Township 24 South, Range 36 East, Lea County, New Mexico. Figure 1 presents locations of wells within 1-mile, and includes depth-to-ground water and well depth, where available.

Uncontaminated water from the Ogallala formation generally has low concentrations of total dissolved solids (TDS). An analysis of a sample from a windmill (West Windmill) located in the NE/4, SE/4, Section 24, Township 24 South, Range 35 East, reported a TDS concentration of less than 300 milligrams per liter (g/L). The closest down gradient well is located in the SE/4, NE/4, Section 22, Township 24 South, Range 36 East, and appears to be completed in the Dockum Group. The New Mexico State Engineer indicates that the well drilled in 1930 to a depth of 600 feet, and no depth-to-groundwater information was available. Information presented in this section was acquired from Ground Water Report 6, "Geology and Ground Water Conditions in Southern Lea County, New Mexico," published by New Mexico Institute of Mining & Technology (1961).

**12.0 Proof of Notice**

John H. Hendrix Corp. is seeking this permit for construction of a centralized waste management facility, and has sent notices to surrounding landowners within 1-mile of the Facility and the commissioners of Lea County, New Mexico, in accordance with the notification requirements of NMOCD Rule 711. Notifications were sent certified mail return receipt requested. Appendix A presents copies of the notification letters.

John H. Hendrix Corp will publish a one-time notice to the public in the Hobbs News Sun, a local newspaper of sufficient circulation in Lea County, New Mexico. John H. Hendrix Corp. will submit an affidavit of publication to the NMOCD upon its receipt from the publisher. Appendix B presents the public notice.



**Centralized Waste Management Facility Application**  
**John H. Hendrix Corp., Lea County, New Mexico**

---

**13.0 H<sub>2</sub>S Contingency Plan**

The requirement for an H<sub>2</sub>S contingency plan is not applicable since H<sub>2</sub>S will not be generated at the Facility.

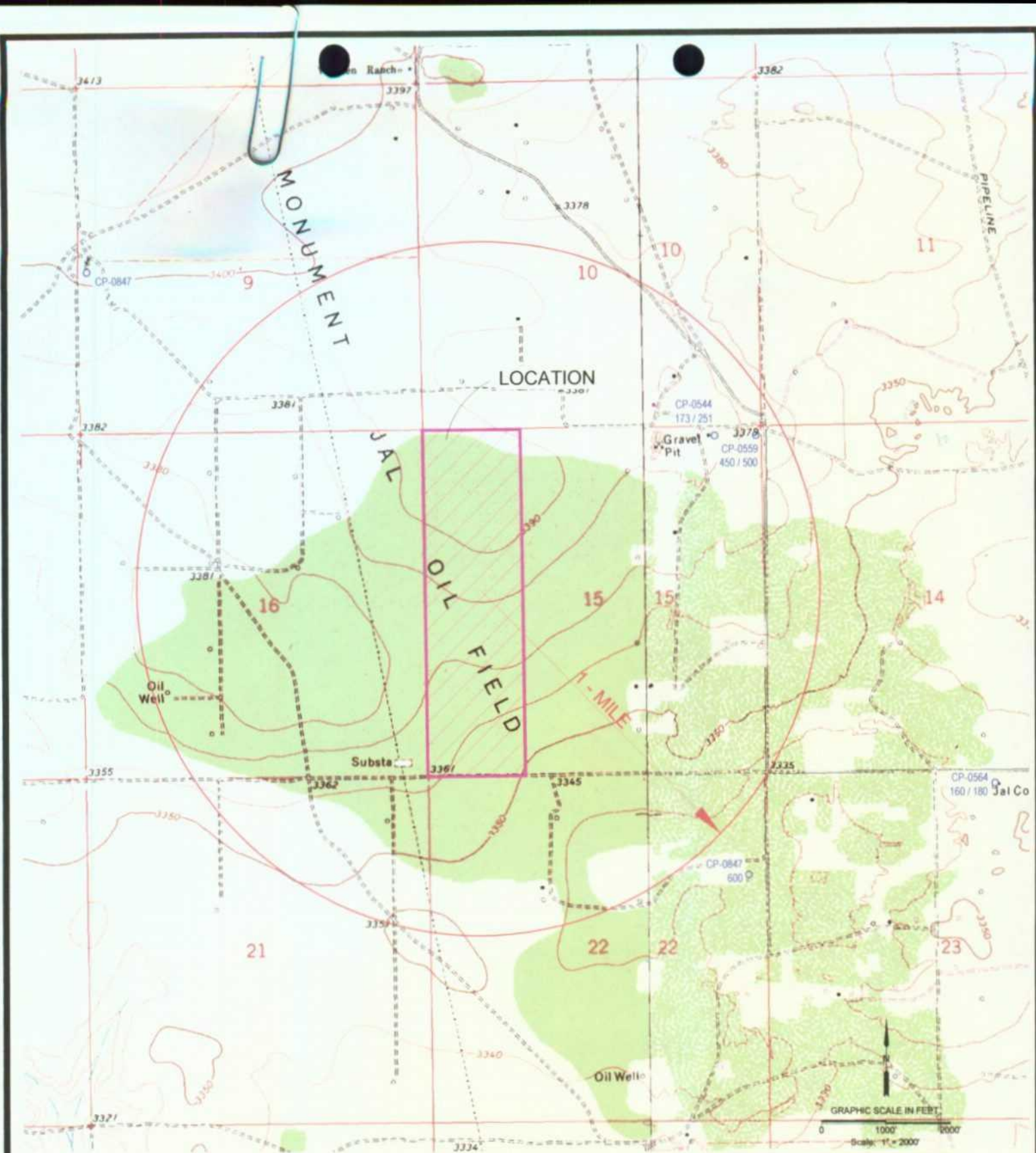
**14.0 Additional Information**

John H. Hendrix Corp. will furnish the NMOCD with a bond for \$25,000.00 upon approval of this centralized landfarm permit application, as per Rule 711.



## FIGURES





LEGEND	
	WATER WELL LOCATION
160 / 180	DEPTH TO GROUND (UPPER NUMBER) WELL DEPTH (LOWER NUMBER)
CP-0564	NEW MEXICO STATE ENGINEER PERMIT NUMBER

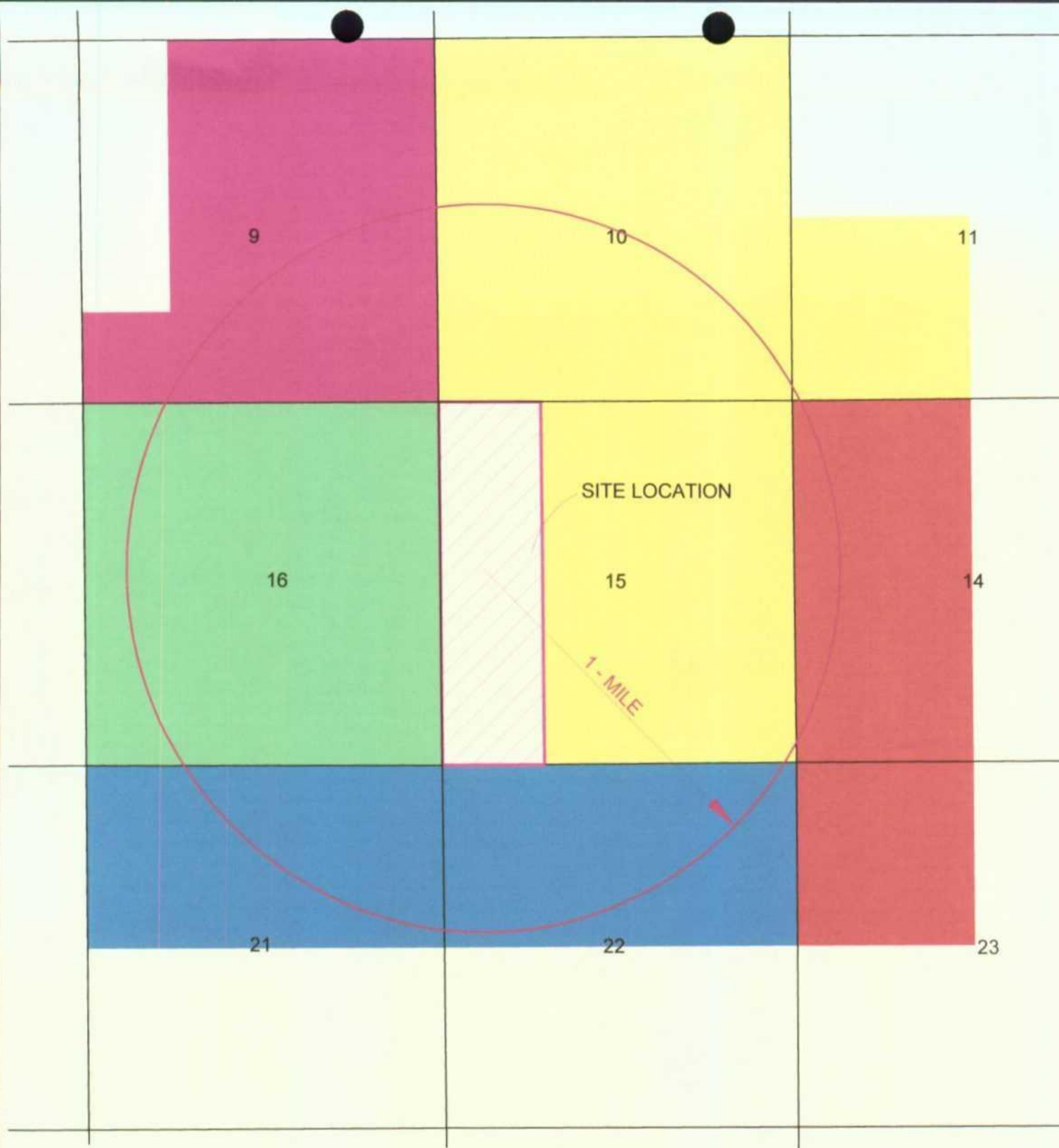
DATE  
10-5-04

NAME  
SJA

FILE  
4-0110

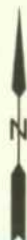
FIGURE 1
LEA COUNTY, NEW MEXICO
JOHN H. HENDRIX CORPORATION
W/2, W/2, SECTION 15, T-24-S, R-36-E
WATER WELL LOCATIONS
Larson & Associates, Inc. Environmental Consultants





**SURFACE OWNERSHIP**

- RRR LAND AND CATTLE COMPANY
- COOPER FAMILY HEIRS (LEASES TO RRR LAND AND CATTLE)
- JAL PUBLIC LIBRARY FUND
- MELVEN WHITTEN 3/4 AND WHITTEN/LEA, LTD. 1/4
- WHITTEN FAMILY
- JOHN H. HENDRIX CORP.



GRAPHIC SCALE IN FEET

0 2000' 4000'  
Scale: 1" = 2000'

**FIGURE 2**

LEA COUNTY, NEW MEXICO

JOHN H. HENDRIX CORPORATION

SECTION 15, T-24-S, R-36-E

LAND OWNERSHIP MAP

DATE  
10-13-04  
NAME: SJA  
FILE: 4-0110

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



9

10

BUFFER ZONE

PROPOSED LANDFARM CELL  
(400' x 1450')

1

2

3

4

5

6

7

8

9

10

11

12

18" EARTHEN BERM

18" EARTHEN BERM

FENCE

ACCESS ROAD

16

15

100'

PARKING AND EQUIPMENT  
STAGING AREA

JAL - COOPER CEMETERY ROAD

GATE

21

22

GRAPHIC SCALE IN FEET

0 400' 800'  
Scale: 1" = 400'

FIGURE 3

LEA COUNTY, NEW MEXICO

JOHN H. HENDRIX  
CORPORATION

SECTION 15, T-24-S, R-36-E

PROPOSED LANDFARM  
FACILITY DRAWING

DATE  
10-7-04

NAME: SJA

FILE: 4-0110

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

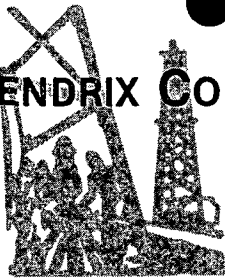


**APPENDIX A**

**Letters of Notification**



# JOHN H. HENDRIX CORPORATION



MAILING ADDRESS  
P.O. BOX 3040  
MIDLAND, TX 79702-3040

(432) 684-6631  
FAX (432) 684-7317  
110 N. MARIENFELD, SUITE 400  
MIDLAND, TEXAS 79701-4412

October 8, 2004

Cooper Family Estate  
6202 South Bowie  
Amarillo, Texas 79118

ATT: Bart Bishop

**Re: Notification of Application for Centralized Surface Management Facility,  
W/2, NW/4 and W/2, SW/4, Section 15, Township 24 South, Range 36 East,  
Lea County, New Mexico**

Dear Mr. Bishop:

John H. Hendrix Corp. is the owner of 200-acres in the west-half (W/2) of the northwest quarter (NW/4) and the west-half (W/2) of the southwest quarter (SW/4), Section 15, Township 24 South, Range 36 East, in Lea County, New Mexico, and has submitted an application with the New Mexico Oil Conservation Division (NMOCD) for a centralized surface management facility permit. You have received this letter as a representative of a landowner (Cooper Family) within 1-mile of the above-referenced property, and the notification requirements of NMOCD Rule 711. The application is on file with the NMOCD in Santa Fe, New Mexico and District I office in Hobbs, New Mexico.

Sincerely,  
John H. Hendrix Corp.

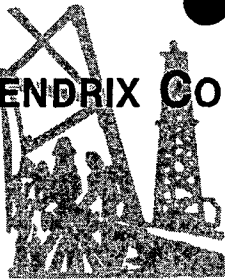
A handwritten signature in dark ink, appearing to read 'Ronnie Westbrook'. The signature is fluid and cursive, written over a horizontal line.

Ronnie Westbrook  
Vice President

cc: NMOCD



# JOHN H. HENDRIX CORPORATION



MAILING ADDRESS  
P.O. BOX 3040  
MIDLAND, TX 79702-3040

(432) 684-6631  
FAX (432) 684-7317  
110 N. MARIENFELD, SUITE 400  
MIDLAND, TEXAS 79701-4412

October 8, 2004

Johnny Mack Whitten  
P.O. Box 1713  
Oracle, Arizona 85623

**Re: Notification of Application for Centralized Surface Management Facility,  
W/2, NW/4 and W/2, SW/4, Section 15, Township 24 South, Range 36 East,  
Lea County, New Mexico**

Dear Mr. Whitten:

John H. Hendrix Corp. is the owner of 200-acres in the west-half (W/2) of the northwest quarter (NW/4) and the west-half (W/2) of the southwest quarter (SW/4), Section 15, Township 24 South, Range 36 East, in Lea County, New Mexico, and has submitted an application with the New Mexico Oil Conservation Division (NMOCD) for a centralized surface management facility permit. You have received this letter as a landowner within 1-mile of the above-referenced property, and the notification requirements of NMOCD Rule 711. The application is on file with the NMOCD in Santa Fe, New Mexico and District I office in Hobbs, New Mexico.

Sincerely,  
John H. Hendrix Corp.

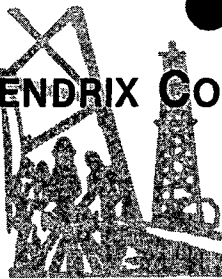
A handwritten signature in dark ink, appearing to read "Ronnie Westbrook". The signature is fluid and cursive, with the first name "Ronnie" being more prominent than the last name "Westbrook".

Ronnie Westbrook  
Vice President

cc: NMOCD



# JOHN H. HENDRIX CORPORATION



MAILING ADDRESS  
P.O. BOX 3040  
MIDLAND, TX 79702-3040

(432) 684-6631  
FAX (432) 684-7317  
110 N. MARIENFELD, SUITE 400  
MIDLAND, TEXAS 79701-4412

October 8, 2004

Melvin Curtis Whitten  
HCR 1 Box 300  
Jal, New Mexico 88252

**Re: Notification of Application for Centralized Surface Management Facility,  
W/2, NW/4 and W/2, SW/4, Section 15, Township 24 South, Range 36 East,  
Lea County, New Mexico**

Dear Mr. Whitten:

John H. Hendrix Corp. is the owner of 200-acres in the west-half (W/2) of the northwest quarter (NW/4) and the west-half (W/2) of the southwest quarter (SW/4), Section 15, Township 24 South, Range 36 East, in Lea County, New Mexico, and has submitted an application with the New Mexico Oil Conservation Division (NMOCD) for a centralized surface management facility permit. You have received this letter as a landowner within 1-mile of the above-referenced property, and the notification requirements of NMOCD Rule 711. The application is on file with the NMOCD in Santa Fe, New Mexico and District I office in Hobbs, New Mexico.

Sincerely,  
John H. Hendrix Corp.

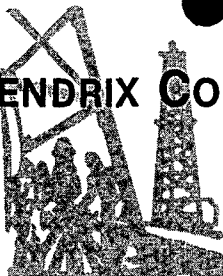
A handwritten signature in dark ink, appearing to read "Ronnie Westbrook". The signature is fluid and cursive, with the first name "Ronnie" being more prominent.

Ronnie Westbrook  
Vice President

cc: NMOCD



# JOHN H. HENDRIX CORPORATION



MAILING ADDRESS  
P.O. BOX 3040  
MIDLAND, TX 79702-3040

(432) 684-6631  
FAX (432) 684-7317  
110 N. MARIENFELD, SUITE 400  
MIDLAND, TEXAS 79701-4412

October 8, 2004

Whitten/Lea Ltd.  
4305 North Garfield Street, Suite 203  
Midland, Texas 79705

ATT: Beverly Pevehouse, President

**Re: Notification of Application for Centralized Surface Management Facility,  
W/2, NW/4 and W/2, SW/4, Section 15, Township 24 South, Range 36 East,  
Lea County, New Mexico**

Dear Ms. Pevehouse:

John H. Hendrix Corp. is the owner of 200-acres in the west-half (W/2) of the northwest quarter (NW/4) and the west-half (W/2) of the southwest quarter (SW/4), Section 15, Township 24 South, Range 36 East, in Lea County, New Mexico, and has submitted an application with the New Mexico Oil Conservation Division (NMOCD) for a centralized surface management facility permit. You have received this letter as general partner in the above-referenced corporation that is a landowner within 1-mile of the above-referenced property, and the notification requirements of NMOCD Rule 711. The application is on file with the NMOCD in Santa Fe, New Mexico and District I office in Hobbs, New Mexico.

Sincerely,  
John H. Hendrix Corp.

A handwritten signature in dark ink, appearing to read 'Ronnie Westbrook'. The signature is fluid and cursive, written over the printed name.

Ronnie Westbrook  
Vice President

cc: NMOCD



# JOHN H. HENDRIX CORPORATION



MAILING ADDRESS  
P.O. BOX 3040  
MIDLAND, TX 79702-3040

(432) 684-6631  
FAX (432) 684-7317  
110 N. MARIENFELD, SUITE 400  
MIDLAND, TEXAS 79701-4412

October 8, 2004

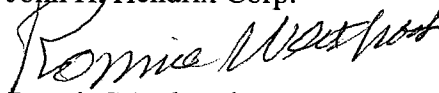
Donald Ray Whitten  
P.O. Box 1713  
Oracle, Arizona 85623

**Re: Notification of Application for Centralized Surface Management Facility,  
W/2, NW/4 and W/2, SW/4, Section 15, Township 24 South, Range 36 East,  
Lea County, New Mexico**

Dear Mr. Whitten:

John H. Hendrix Corp. is the owner of 200-acres in the west-half (W/2) of the northwest quarter (NW/4) and the west-half (W/2) of the southwest quarter (SW/4), Section 15, Township 24 South, Range 36 East, in Lea County, New Mexico, and has submitted an application with the New Mexico Oil Conservation Division (NMOCD) for a centralized surface management facility permit. You have received this letter as a landowner within 1-mile of the above-referenced property, and the notification requirements of NMOCD Rule 711. The application is on file with the NMOCD in Santa Fe, New Mexico and District I office in Hobbs, New Mexico.

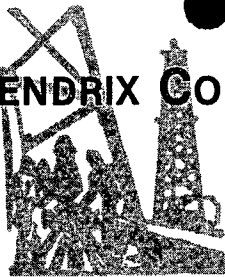
Sincerely,  
John H. Hendrix Corp.

  
Ronnie Westbrook  
Vice President

cc: NMOCD



# JOHN H. HENDRIX CORPORATION



MAILING ADDRESS  
P.O. BOX 3040  
MIDLAND, TX 79702-3040

(432) 684-6631  
FAX (432) 684-7317  
110 N. MARIENFELD, SUITE 400  
MIDLAND, TEXAS 79701-4412

October 8, 2004

County Commissioners  
County of Lea, New Mexico  
100 North Main, Suite 4  
Lovington, New Mexico 88260

ATT: Harry Teague, Chairman

**Re: Notification of Application for Centralized Surface Management Facility,  
W/2, NW/4 and W/2, SW/4, Section 15, Township 24 South, Range 36 East,  
Lea County, New Mexico**

Dear Mr. Teague:

John H. Hendrix Corp. is the owner of 200-acres in the west-half (W/2) of the northwest quarter (NW/4) and the west-half (W/2) of the southwest quarter (SW/4), Section 15, Township 24 South, Range 36 East, in Lea County, New Mexico, and has submitted an application with the New Mexico Oil Conservation Division (NMOCD) for a centralized surface management facility permit. You have received this letter as a requirement of NMOCD Rule 711. The application is on file with the NMOCD in Santa Fe, New Mexico and District I office in Hobbs, New Mexico.

Sincerely,  
John H. Hendrix Corp.

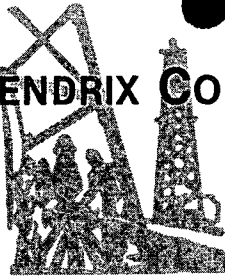
A handwritten signature in dark ink, appearing to read "Ronnie Westbrook". The signature is fluid and cursive, with a large initial "R".

Ronnie Westbrook  
Vice President

cc: NMOCD



# JOHN H. HENDRIX CORPORATION



MAILING ADDRESS  
P.O. BOX 3040  
MIDLAND, TX 79702-3040

(432) 684-6631  
FAX (432) 684-7317  
110 N. MARIENFELD, SUITE 400  
MIDLAND, TEXAS 79701-4412

October 8, 2004

RRR Land and Cattle Company  
2205 Bedford Drive  
Midland, Texas 79118

ATT: T. Richard Crawford  
Randall J. Crawford  
Russell D. Crawford

**Re: Notification of Application for Centralized Surface Management Facility,  
W/2, NW/4 and W/2, SW/4, Section 15, Township 24 South, Range 36 East,  
Lea County, New Mexico**

Gentlemen:

John H. Hendrix Corp. is the owner of 200-acres in the west-half (W/2) of the northwest quarter (NW/4) and the west-half (W/2) of the southwest quarter (SW/4), Section 15, Township 24 South, Range 36 East, in Lea County, New Mexico, and has submitted an application with the New Mexico Oil Conservation Division (NMOCD) for a centralized surface management facility permit. You have received this letter as a landowner within 1-mile of the above-referenced property, and the notification requirements of NMOCD Rule 711. The application is on file with the NMOCD in Santa Fe, New Mexico and District I office in Hobbs, New Mexico.

Sincerely,  
John H. Hendrix Corp.

A handwritten signature in cursive script, appearing to read "Ronnie Westbrook".

Ronnie Westbrook  
Vice President

cc: NMOCD



**APPENDIX B**

**Public Notice**



### NOTICE

John H. Hendrix Corp., 1310 18<sup>th</sup> Street, Eunice, New Mexico 88231 has submitted for approval an application to construct and operate a Rule 711 centralized landfarm facility located in the W/2 NW/4 and W/2 SW/4, Section 15, Township 24 South, Range 36 East N.M.P.M., Lea County, New Mexico. The permit application addresses the construction, operations, spill/leak prevention and monitoring procedures to be incorporated at the proposed

Any interested person may obtain further information from the Oil Conservation Division and may submit written comments to the Director of the Oil Conservation Division, 1220 South Saint Francis Drive, Santa Fe, New Mexico 87505, Telephone 505-476-3440. The application may be viewed at the above address or at the Hobbs district office at 1625 N. French Dr., Hobbs, New Mexico between 8:00 a.m. and 4:00 p.m., Monday thru Friday. Prior to ruling on any proposed application, the Director of the Oil and Gas Conservation Division shall allow at least thirty (30) days after the date of publication of this notice during which comments may be submitted and any interested person may request public hearing. Request for a public hearing shall set forth the reasons why a public hearing shall be held. A hearing will be held if the director determines that there is significant public interest.