

# XERIC OIL & GAS CORPORATION DRC

1801 W. Texas, P. O. Box 352

Midland, Texas 79702

(432) 683-3171, Fax: (432) 683-6348

**RECEIVED**

OCT 06 2003

September 30, 2003

OIL CONSERVATION  
DIVISION

New Mexico Oil Conservation Division  
1220 S. St. Francis Dr.  
Santa Fe, New Mexico 87505

Re: Request for Administrative Approval  
for Saltwater Disposal, Howse #1 Well  
Unit L, Sec. 17, 20S, 39E  
Lea County, New Mexico

903

30-025-36226

Gentlemen:

Please find enclosed a Form C-108 requesting approval to convert the Howse #1 to a salt-water disposal well. If all attachments are satisfactory Xeric Oil & Gas Corporation respectfully requests approval be granted administratively. I have sent this C-108 to the District Office in Hobbs.

Xeric Oil & Gas plans to inject water into the San Andres Formation from 4332'-4346', 4356'-4362', 4412'-4428', 4454'-4464', 4558'-4568', 4600'-4608', 4640'-4658', 4716'-4724', 4826'-4832', 4836'-4842'. The 2 7/8" internally plastic coated injection tubing will be set at approximately 4,370' with a Baker Model AD-1 packer.

The maximum anticipated injection rate will be 1200 BWPD with an injection pressure not to exceed 980 psi. If injection pressures need to be increased, a State witnessed step-rate test will be performed.

A copy of the required legal notice is attached. A copy of the certified letter of notice sent to the surface owner, Robert McCasland, and the other lease operator within the area of interest is also enclosed.

We have ordered a water analysis on the two producing fresh water wells and will forward to you as Attachment H upon receipt.

If you have any questions, or I can be of any assistance please do not hesitate to call me at the above-mentioned address or telephone number.

Sincerely,



R. C. Barnett  
President

AC

**Xeric Oil & Gas Corporation**  
**Application for Authorization to Inject**  
**HOWSE #1**

- I. Purpose: Produced Water Disposal
- II. Operator: Xeric Oil & Gas Corporation, P O Box 352, Midland, TX 79702, Attn: R. C. Barnett (432) 683-3171
- III. Well Data: Attachment A
- IV. This is not an expansion of an existing project.
- V. Map: Attachment B
- VI. Wells in Area of Review: Attachment C
- VII. Proposed Operations: Attachment D.
- VIII. Geological Data: Attachment E.
- IX. Proposed Stimulation: None planned at this time.
- X. Logs and Test Data: Cement Bond Log Attachment F.
- XI. Chemical Analysis of Fresh Water: Will be forwarded as Attachment G when we receive them.
- XII. Affirmative statement concerning drinking water: Attachment H.
- XIII. Proof of Notice: Attachment I.

**APPLICATION FOR AUTHORIZATION TO INJECT**

- I. PURPOSE: Secondary Recovery Pressure Maintenance X Disposal Storage  
Application qualifies for administrative approval? X Yes No
- II. OPERATOR: Xeric Oil & Gas Corporation  
ADDRESS: P. O. Box 352, Midland, TX 79702  
CONTACT PARTY: Angie Crawford PHONE: 432-683-3171
- III. WELL DATA: Complete the data required on the reverse side of this form for each well proposed for injection.  
Additional sheets may be attached if necessary.
- IV. Is this an expansion of an existing project? Yes X No  
If yes, give the Division order number authorizing the project: \_\_\_\_\_
- V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.
- VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.
- VII. Attach data on the proposed operation, including:
1. Proposed average and maximum daily rate and volume of fluids to be injected;
  2. Whether the system is open or closed;
  3. Proposed average and maximum injection pressure;
  4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,
  5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).
- \*VIII. Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.
- IX. Describe the proposed stimulation program, if any.
- \*X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted).
- \*XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.
- XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.
- XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.
- XIV. Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

NAME: Angie Crawford

TITLE: Production Analyst

SIGNATURE: Angie Crawford

DATE: 9/30/03

E-MAIL ADDRESS: ACrawford@xericoil.com

- \* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted.  
Please show the date and circumstances of the earlier submittal: Logs: DLL & SDL sent w/C-105 9/2/03

### III. WELL DATA

A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:

- (1) Lease name; Well No.; Location by Section, Township and Range; and footage location within the section.
- (2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.
- (3) A description of the tubing to be used including its size, lining material, and setting depth.
- (4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

Division District Offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.

- (1) The name of the injection formation and, if applicable, the field or pool name.
- (2) The injection interval and whether it is perforated or open-hole.
- (3) State if the well was drilled for injection or, if not, the original purpose of the well.
- (4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.
- (5) Give the depth to and the name of the next higher and next lower oil or gas zone in the area of the well, if any.

### XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

- (1) The name, address, phone number, and contact party for the applicant;
- (2) The intended purpose of the injection well; with the exact location of single wells or the Section, Township, and Range location of multiple wells;
- (3) The formation name and depth with expected maximum injection rates and pressures; and,
- (4) A notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, within 15 days.

NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

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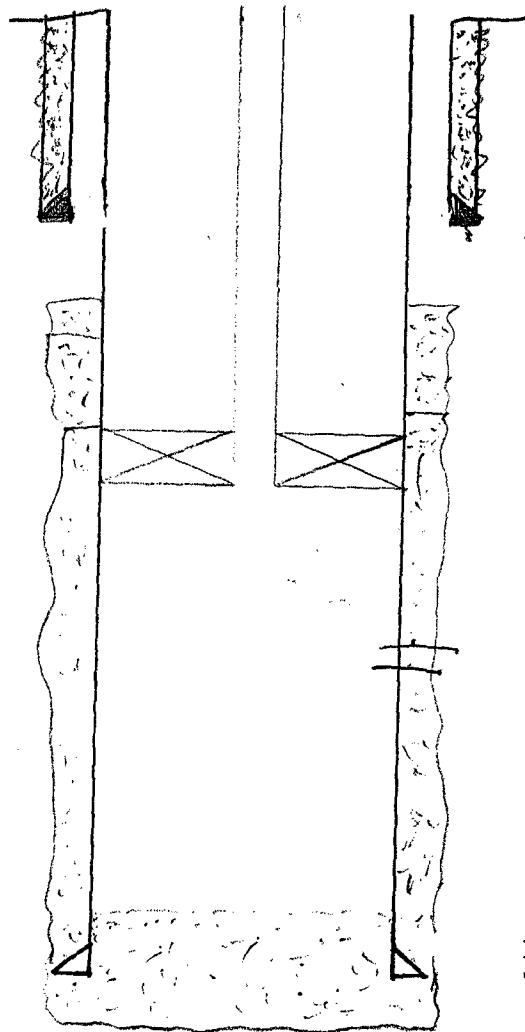
NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

Side 1

## INJECTION WELL DATA SHEET

OPERATOR: Xeric Oil & Gas CorporationWELL NAME & NUMBER: Howse #1

WELL LOCATION: <u>1980' FSL &amp; 330' FWL</u>	<u>L</u>	<u>17</u>	<u>20S</u>	<u>39E</u>
FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE

WELLBORE SCHEMATIC

Surface Csg.  
8 5/8" 24# J-55  
set @ 1660'  
TOC=Surface

Production Csg.  
5 1/2" 17# J-55  
set @ 4900'  
TOC=2750' as per CBL

5 1/2" x 2 3/8"  
Double Grip Baker  
AD-1 Packer  
set @ 4370'

Perfs:  
4332'-4346'  
4356'-4362'  
4412'-4428'  
4454'-4464'  
4558'-4568'  
4600'-4608'  
4640'-4658'  
4716'-4724'  
4826'-4832'  
4836'-4842'

PBTD=4846'  
TD=4900'

WELL CONSTRUCTION DATASurface Casing

Hole Size: 12 1/4" Casing Size: 8 5/8"  
Cemented with: 850 sx. or                      ft<sup>3</sup>  
Top of Cement: Surface Method Determined: Circulated

Intermediate Casing

Hole Size:                      Casing Size:                       
Cemented with:                      sx. or                      ft<sup>3</sup>  
Top of Cement:                      Method Determined:                     

Production Casing

Hole Size: 7 7/8" Casing Size: 5 1/2"  
Cemented with: 725 sx. or                      ft<sup>3</sup>  
Top of Cement: 2750' Method Determined: CBL  
Total Depth: 4900', PBTD 4846'

Injection Interval

4332' feet to 4842' Perforated

(Perforated or Open Hole; indicate which)

**INJECTION WELL DATA SHEET**

Tubing Size: 2 7/8" 6.5# J-55 Lining Material: IPC

Type of Packer: 5 1/2" X 2 3/8" Double Grip Baker Type AD-1

Packer Setting Depth: 4370'

Other Type of Tubing/Casing Seal (if applicable): N/A

**Additional Data**

1. Is this a new well drilled for injection? Yes X No

If no, for what purpose was the well originally drilled? Oil & Gas Exploration

2. Name of the Injection Formation: San Andres

3. Name of Field or Pool (if applicable): House San Andres

4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e. sacks of cement or plug(s) used. No

5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area: Tubb - underlying - Estimate top @ 6600'

7 Rivers - overlying - 2993'-4306'

ATTACHMENT "C"  
AREA OF REVIEW

Xeric Oil & Gas Corporation  
Application for Authorization to Inject  
Howse #1

<u>Well Name</u>	<u>Well Type</u>	<u>Construction</u>	<u>Cement &amp; Tops</u>	<u>Date Drilled</u>	<u>Location</u>	<u>Depth</u>	<u>Record of Completion</u>
(Allison) Howse #1	Oil	8 5/8" 24# set @ 300' 5 1/2" 14# set @ 4340'	300 sx    Surface 175 sx	10/28/73	UL F Sec. 17, T20S, R39E	4340'	4326'-4336 San Andres
(Penrose) State #1	Oil	8 5/8" 24# set @ 200' 5 1/2" 15.5# set @ 4337'	150 sx 50 sx	11/5/51	SE4/SW4 Sec. 17, T20S, R39E	4435'	Open hole

**ATTACHMENT "C"**

**XERIC OIL & GAS CORPORATION**  
**Application for Authorization to Inject**  
**HOWSE #1**

**Well Bore Diagram**

Well: Penrose State #1

Status: Plugged and Abandon

Location: SE/4/SW/4, Sec. 17, T20S, R39E  
Lea County, New Mexico

Elevation: 3553.4' GR

Well History:

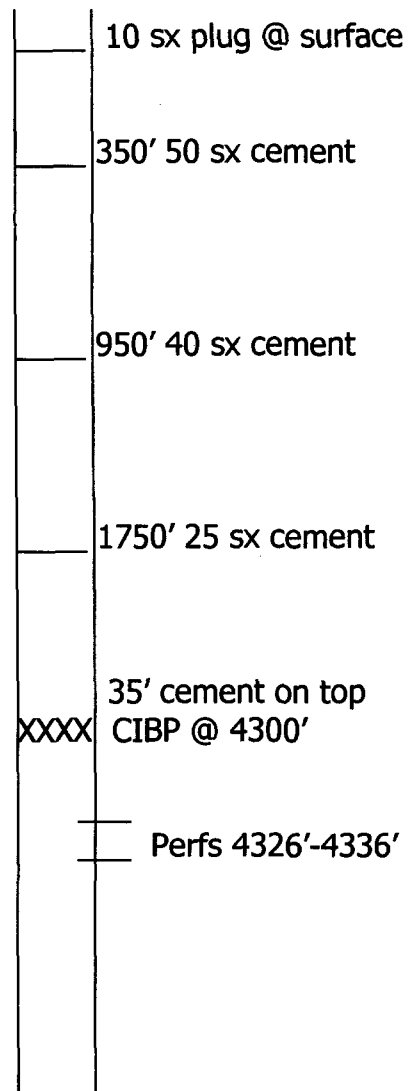
Drilled 10/28/73

Casing Record: 8 5/8" 24# Set at 300'  
5 1/2" 14# Set at 4340'

Perforated 4326'-4336'

Plugging Record:

11/85 Set CIBP at 4300' w/35' cement on top of perfs.  
25 sx plug set @ 1750', Pulled 897' of 5 1/2" csg.  
40 sx plug set @ 950', 50' in & out of stub.  
50 sx plug set @ 350, 50' in & out of shoe of  
8 5/8" csg.  
10 sx plug set at surface.





**ATTACHMENT "C"**

**XERIC OIL & GAS CORPORATION**  
**Application for Authorization to Inject**  
**HOWSE #1**

**Well Bore Diagram**

Well: Allison Howse #1

Status: Plugged and Abandon

Location: Unit F, 2310 FNL & 2310 FwL, Sec. 17, T20S, R39E  
Lea County, New Mexico

Elevation: 3553.4' GR

Well History:

Drilled 10/28/73

Casing Record: 8 5/8" 24# Set at 300'  
5 1/2" 14# Set at 4340'

Perforated 4326'-4336'

Plugging Record:

11/85 Set CIBP at 4300' w/35' cement on top of perms.  
25 sx plug set @ 1750', Pulled 897' of 5 1/2" csg.  
40 sx plug set @ 950', 50' in & out of stub.  
50 sx plug set @ 350, 50' in & out of shoe of  
8 5/8" csg.  
10 sx plug set at surface.

	301' 125 sx class C cement
	1650' 25 sx class C cement
	2954' 25 sx class C cement
	3979' 150 sx class C cement

P. O. Box 352  
Midland, TX 79702  
Phone (915) 683-3650  
Fax (915) 683-6348

**XERIC OIL & GAS CORPORATION**

**To:** David Catanach

**Fax:** 505-476-3462

OCD

**From:** Angie Crawford

**Date:** 10/30/03

**Re:** Howse #3 SWD App.

**Pages:** 2

The wellbore diagrams for the two plugged well are enclosed with this fax. These should replace the ones sent previously. If you need anything else let me know.

**ATTACHMENT "C"**

**XERIC OIL & GAS CORPORATION**  
**Application for Authorization to Inject**  
**HOWSE #1**

**Well Bore Diagram**

**Well:** Allison Howse #1

**Status:** Plugged and Abandon 6/22/79

**Location:** Unit F, 2310 FNL & 2310 FWL, Sec. 17, T20S, R39E  
 Lea County, New Mexico

**Elevation:** 3553.4' GR

**Well History:**

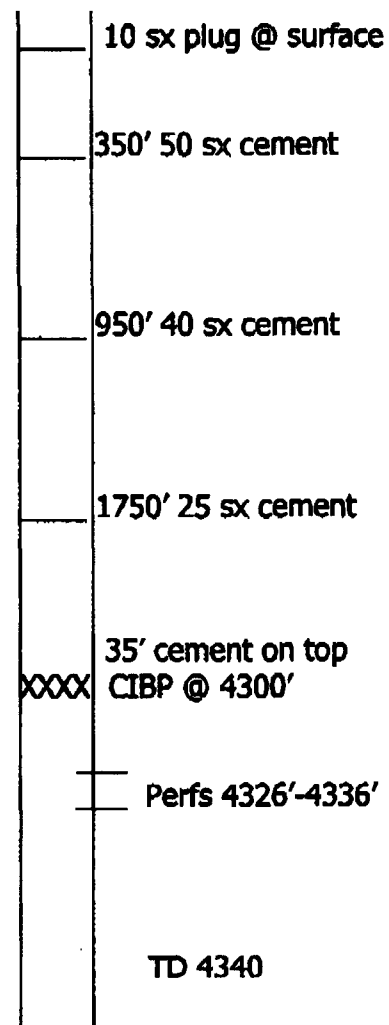
**Drilled** 10/28/73

**Casing Record:** 8 5/8" 24# Set at 300'  
 5 1/2" 14# Set at 4340'

**Perforated** 4326'-4336'

**Plugging Record:**

11/85 Set CIBP at 4300' w/35' cement on top of perfs.  
 25 sx plug set @ 1750', Pulled 897' of 5 1/2" csg.  
 40 sx plug set @ 950', 50' in & out of stub.  
 50 sx plug set @ 350, 50' in & out of shoe of  
 8 5/8" csg.  
 10 sx plug set at surface.



**XERIC OIL & GAS CORPORATION**  
**Application for Authorization to Inject**  
**HOWSE #1**

**Well Bore Diagram**

**Well:** Penrose State #1

**Status:** Plugged and Abandon 12/51

**Location:** Unit N, (SE/4SW/4) 660' FSL & 1980' FWL, Sec. 17, T20S, R39E  
Lea County, New Mexico

**Elevation:** 3537' Gr.

**Well History:**

**Drilled** 11/05/51

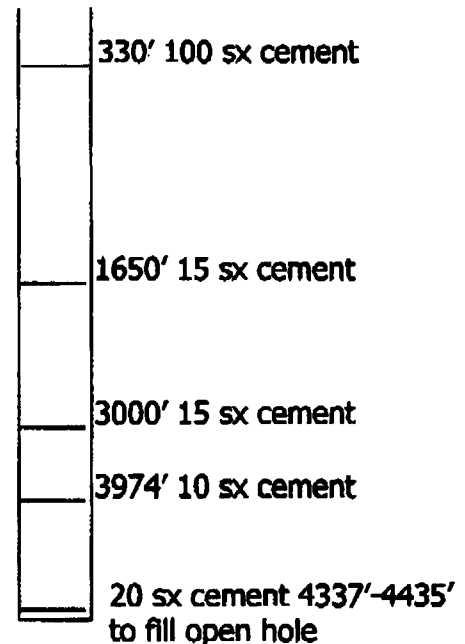
**Casing Record:** 8 5/8" 24# Set at 200'  
5 1/2" 15.5# Set at 4337'

**Open Hole**

**Plugging Record:**

11/28/51 20 sx cement plug on open hole 4337'-4435'.  
Shot 5 1/2" csg @ 3974' & Pulled 5 1/2" csg.  
10 sx plug set @ 3974'.  
15 sx plug set @ 3000'.  
15 sx plug @ 1650'.  
Squeezed 100 sx @ 330' & filled to surface.

TD 4435



McCasland & P(S) Soeighr		T.C. Wellmer		T.C. Wellmer		McNeill, Tr	
Great Westn. Drig. etal		Pet Tech. Serv. etal		Maynard Oil		Pet Tech. Serv.	
Union		Mrs. O.B. Terry, M.		Angelo Brumley, etal		W.F. McNeill	
Hitchcock		Epstond		Foster - Dunbar		P.S. Dunbar, etal, M.I.	
Lanexco Inc.		Central Drig		Mrs. P.S. Dunbar		McCasland Ltd. Prtshp	
Sage Ener.		PUBLIC		B.B. Ralph, Est. etal		C.C. Greenwood(S)	
Parsley E, Smith		Parsley E, Smith		Parsley E, Smith		Parsley E, Smith	
Xeric O.E.G		Xeric O.E.G		Xeric O.E.G		Xeric O.E.G	
Verdad O.E.G		Verdad O.E.G		Verdad O.E.G		Verdad O.E.G	
Mewbourne Oil		Mewbourne Oil		Mewbourne Oil		Mewbourne Oil	
Conoco		Conoco		Conoco		Conoco	
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Chaparral		Chaparral		Chaparral		Chaparral	
Verdad O.E.G		Verdad O.E.G		Verdad O.E.G		Verdad O.E.G	
Mewbourne Oil		Mewbourne Oil		Mewbourne Oil		Mewbourne Oil	
Conoco		Conoco		Conoco		Conoco	
Chaparral		Chaparral		Chaparral		Chaparral	
Brendau Oil		Brendau Oil		Brendau Oil		Brendau Oil	
Chaparral		Chaparral		Chaparral		Chaparral	
Verdad O.E.G		Verdad O.E.G		Verdad O.E.G		Verdad O.E.G	
Mewbourne Oil		Mewbourne Oil		Mewbourne Oil		Mewbourne Oil	
Conoco		Conoco		Conoco		Conoco	
Chaparral		Chaparral		Chaparral		Chaparral	
Brendau Oil		Brendau Oil		Brendau Oil		Brendau Oil	
Chaparral		Chaparral		Chaparral		Chaparral	
Verdad O.E.G		Verdad O.E.G		Verdad O.E.G		Verdad O.E.G	
Mewbourne Oil		Mewbourne Oil		Mewbourne Oil		Mewbourne Oil	
Conoco		Conoco		Conoco		Conoco	
Chaparral		Chaparral		Chaparral		Chaparral	
Brendau Oil		Brendau Oil		Brendau Oil		Brendau Oil	
Chaparral		Chaparral		Chaparral		Chaparral	
Verdad O.E.G		Verdad O.E.G		Verdad O.E.G		Verdad O.E.G	
Mewbourne Oil		Mewbourne Oil		Mewbourne Oil		Mewbourne Oil	
Conoco		Conoco		Conoco		Conoco	
Chaparral		Chaparral		Chaparral		Chaparral	
Brendau Oil		Brendau Oil		Brendau Oil		Brendau Oil	
Chaparral		Chaparral		Chaparral		Chaparral	
Verdad O.E.G		Verdad O.E.G		Verdad O.E.G		Verdad O.E.G	
Mewbourne Oil		Mewbourne Oil		Mewbourne Oil		Mewbourne Oil	
Conoco		Conoco		Conoco		Conoco	
Chaparral		Chaparral		Chaparral		Chaparral	
Brendau Oil		Brendau Oil		Brendau Oil		Brendau Oil	
Chaparral		Chaparral		Chaparral		Chaparral	
Verdad O.E.G		Verdad O.E.G		Verdad O.E.G		Verdad O.E.G	
Mewbourne Oil		Mewbourne Oil		Mewbourne Oil		Mewbourne Oil	
Conoco		Conoco		Conoco		Conoco	
Chaparral		Chaparral		Chaparral		Chaparral	
Brendau Oil		Brendau Oil		Brendau Oil		Brendau Oil	
Chaparral		Chaparral		Chaparral		Chaparral	
Verdad O.E.G		Verdad O.E.G		Verdad O.E.G		Verdad O.E.G	
Mewbourne Oil		Mewbourne Oil		Mewbourne Oil		Mewbourne Oil	
Conoco		Conoco		Conoco		Conoco	
Chaparral		Chaparral		Chaparral		Chaparral	
Brendau Oil		Brendau Oil		Brendau Oil		Brendau Oil	
Chaparral		Chaparral		Chaparral		Chaparral	
Verdad O.E.G		Verdad O.E.G		Verdad O.E.G		Verdad O.E.G	
Mewbourne Oil		Mewbourne Oil		Mewbourne Oil		Mewbourne Oil	
Conoco		Conoco		Conoco		Conoco	
Chaparral		Chaparral		Chaparral		Chaparral	
Brendau Oil		Brendau Oil		Brendau Oil		Brendau Oil	
Chaparral		Chaparral		Chaparral		Chaparral	
Verdad O.E.G		Verdad O.E.G		Verdad O.E.G		Verdad O.E.G	
Mewbourne Oil		Mewbourne Oil		Mewbourne Oil		Mewbourne Oil	
Conoco		Conoco		Conoco		Conoco	
Chaparral		Chaparral		Chaparral		Chaparral	
Brendau Oil		Brendau Oil		Brendau Oil		Brendau Oil	
Chaparral		Chaparral		Chaparral		Chaparral	
Verdad O.E.G		Verdad O.E.G		Verdad O.E.G		Verdad O.E.G	
Mewbourne Oil		Mewbourne Oil		Mewbourne Oil		Mewbourne Oil	
Conoco		Conoco		Conoco		Conoco	
Chaparral		Chaparral		Chaparral		Chaparral	
Brendau Oil		Brendau Oil		Brendau Oil		Brendau Oil	
Chaparral		Chaparral		Chaparral		Chaparral	
Verdad O.E.G		Verdad O.E.G		Verdad O.E.G		Verdad O.E.G	
Mewbourne Oil		Mewbourne Oil		Mewbourne Oil		Mewbourne Oil	
Conoco		Conoco		Conoco		Conoco	
Chaparral		Chaparral		Chaparral		Chaparral	
Brendau Oil		Brendau Oil		Brendau Oil		Brendau Oil	
Chaparral		Chaparral		Chaparral		Chaparral	
Verdad O.E.G		Verdad O.E.G		Verdad O.E.G		Verdad O.E.G	
Mewbourne Oil		Mewbourne Oil		Mewbourne Oil		Mewbourne Oil	
Conoco		Conoco		Conoco		Conoco	
Chaparral		Chaparral		Chaparral		Chaparral	
Brendau Oil		Brendau Oil		Brendau Oil		Brendau Oil	
Chaparral		Chaparral		Chaparral		Chaparral	
Verdad O.E.G		Verdad O.E.G		Verdad O.E.G		Verdad O.E.G	
Mewbourne Oil		Mewbourne Oil		Mewbourne Oil		Mewbourne Oil	
Conoco		Conoco		Conoco		Conoco	
Chaparral		Chaparral		Chaparral		Chaparral	
Brendau Oil		Brendau Oil		Brendau Oil		Brendau Oil	
Chaparral		Chaparral		Chaparral		Chaparral	
Verdad O.E.G		Verdad O.E.G		Verdad O.E.G		Verdad O.E.G	
Mewbourne Oil		Mewbourne Oil		Mewbourne Oil		Mewbourne Oil	
Conoco		Conoco		Conoco		Conoco	
Chaparral		Chaparral		Chaparral		Chaparral	
Brendau Oil		Brendau Oil		Brendau Oil		Brendau Oil	
Chaparral		Chaparral		Chaparral		Chaparral	
Verdad O.E.G		Verdad O.E.G		Verdad O.E.G		Verdad O.E.G	
Mewbourne Oil		Mewbourne Oil		Mewbourne Oil		Mewbourne Oil	
Conoco		Conoco		Conoco		Conoco	
Chaparral		Chaparral		Chaparral		Chaparral	
Brendau Oil		Brendau Oil		Brendau Oil		Brendau Oil	
Chaparral		Chaparral		Chaparral		Chaparral	
Verdad O.E.G		Verdad O.E.G		Verdad O.E.G		Verdad O.E.G	
Mewbourne Oil		Mewbourne Oil		Mewbourne Oil		Mewbourne Oil	
Conoco		Conoco		Conoco		Conoco	
Chaparral		Chaparral		Chaparral		Chaparral	
Brendau Oil		Brendau Oil		Brendau Oil		Brendau Oil	
Chaparral		Chaparral		Chaparral		Chaparral	
Verdad O.E.G		Verdad O.E.G		Verdad O.E.G		Verdad O.E.G	
Mewbourne Oil		Mewbourne Oil		Mewbourne Oil		Mewbourne Oil	
Conoco		Conoco		Conoco		Conoco	
Chaparral		Chaparral		Chaparral		Chaparral	
Brendau Oil		Brendau Oil		Brendau Oil		Brendau Oil	
Chaparral		Chaparral		Chaparral		Chaparral	
Verdad O.E.G		Verdad O.E.G		Verdad O.E.G		Verdad O.E.G	
Mewbourne Oil		Mewbourne Oil		Mewbourne Oil		Mewbourne Oil	
Conoco		Conoco		Conoco		Conoco	
Chaparral		Chaparral		Chaparral		Chaparral	
Brendau Oil		Brendau Oil		Brendau Oil		Brendau Oil	
Chaparral		Chaparral		Chaparral		Chaparral	
Verdad O.E.G		Verdad O.E.G		Verdad O.E.G		Verdad O.E.G	
Mewbourne Oil		Mewbourne Oil		Mewbourne Oil		Mewbourne Oil	
Conoco		Conoco		Conoco		Conoco	
Chaparral		Chaparral		Chaparral		Chaparral	
Brendau Oil		Brendau Oil		Brendau Oil		Brendau Oil	
Chaparral		Chaparral		Chaparral		Chaparral	
Verdad O.E.G		Verdad O.E.G		Verdad O.E.G		Verdad O.E.G	
Mewbourne Oil		Mewbourne Oil		Mewbourne Oil		Mewbourne Oil	
Conoco		Conoco		Conoco		Conoco	
Chaparral		Chaparral		Chaparral		Chaparral	
Brendau Oil		Brendau Oil		Brendau Oil		Brendau Oil	
Chaparral		Chaparral		Chaparral		Chaparral	
Verdad O.E.G		Verdad O.E.G		Verdad O.E.G		Verdad O.E.G	
Mewbourne Oil		Mewbourne Oil		Mewbourne Oil		Mewbourne Oil	
Conoco		Conoco		Conoco		Conoco	
Chaparral		Chaparral		Chaparral		Chaparral	

## ATTACHMENT D

Xeric Oil & Gas Corporation  
Application for Authorization to Inject  
HOWSE #1  
Proposed Operations

1. The proposed average volume of fluids to be injected will be 750 bbls/day. The maximum daily rate would be 1200 bbls/day.
2. The system will be a closed system.
3. The proposed average injection pressure is 600 psi. The proposed maximum injection pressure is 980 psi.
4. The proposed injection fluid is produced water from Xeric Oil & Gas offsetting leases. A water analysis from these wells is attached.
5. There is no production from this zone within one mile of the Howse #1. Attached is a water analysis from from the Howse #1 disposal zone (San Andres).

## ATTACHMENT D



**Champion**  
Technologies, Inc.

Committed To Improvement

Customer: Xerox  
Attention: Eddie Maddox

# Water Analysis Report

Address: P.O. Box 352  
Midland, TX 79702

9/26/2003

Lessee: House  
Formation:  
Salesman: Jason Usery

CC.

Target Name: House 1

Sample Point: House 1

Sample Date: 06/26/2003

Test Date: 09/05/2003

## Water Analysis (mg/L)

Calcium	2006
Magnesium	1993
Barium	
Strontium	
Sodium (calc.)	19836
Bicarbonate Alkalinity	647
Sulfate	1710
Chloride	38000

## Appended Data (mg/L)

CO2	50
H2S	154
Iron	225
Oxygen	

## Additional Data

Specific Gravity	1.04
Total Dissolved Solids (Mg/L)	63991
Total Hardness (CaCO3 Eq Mg)	13181

## Physical Properties

Ion Strength (calc.)	1.27
pH (calc.)	
Temperature (°F)	90
Pressure (Psi)	50
Density	8.70

Dew Point	
Lead	
Zinc	

## Calcite Calculation Information

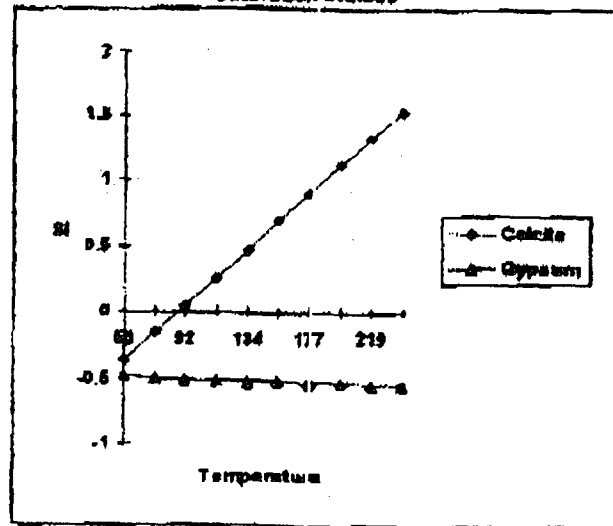
Calculation Method	Value
Known pH	6.85

Remarks

## SI & PTB Results

Scale Type	SI	PTB
Calcite (Calcium Carbonate)	0.04	14.60
Gypsum (Calcium Sulfate)	-0.50	
Hemihydrate (Calcium Sulfate)	-0.49	
Anhydrite (Calcium Sulfate)	-0.66	
Barite (Barium Sulfate)		
Celestine (Strontium Sulfate)		

## Saturation Indices



## Saturation Index Data Points

	50	71	92	113	134	156	177	198	219	240
Calcite	-0.38	-0.15	0.08	0.27	0.48	0.70	0.91	1.12	1.34	1.55
Gypsum	-0.67	-0.49	-0.60	-0.51	-0.32	-0.32	-0.53	-0.53	-0.54	-0.54



**Champion**  
Technologies, Inc.

*Committed To Improvement*

Customer: Xeric

Attention: Eddie Maddox

CC:

## Water Analysis Report

Address: P.O. Box 352

Midland, TX 79702

04/18/2002

Lease: Patty

Formation:

Target Name: Patty 1

Sample Point: Patty 1

Sample Date: 04/01/2002

Test Date: 04/17/2002

### Water Analysis(mg/L)

Calcium	7940
Magnesium	2867
Barium	
Strontium	
Sodium(calc.)	35315
Bicarbonate Alkalinity	342
Sulfate	2255
Chloride	75000

### Appended Data(mg/L)

CO2	20
H2S	17
Iron	6

### Physical Properties

Ionic Strength(calc.)	2.51
pH(calc.)	
Temperature(*F)	90
Pressure(psi)	50
Density	9.05

### Additional Data

Specific Gravity	1.09
Total Dissolved Solids(Mg/L)	123719
Total Hardness(CaCO3 Eq Mg/L)	31600

Dew Point	
Lead	
Zinc	

### Calcite Calculation Information

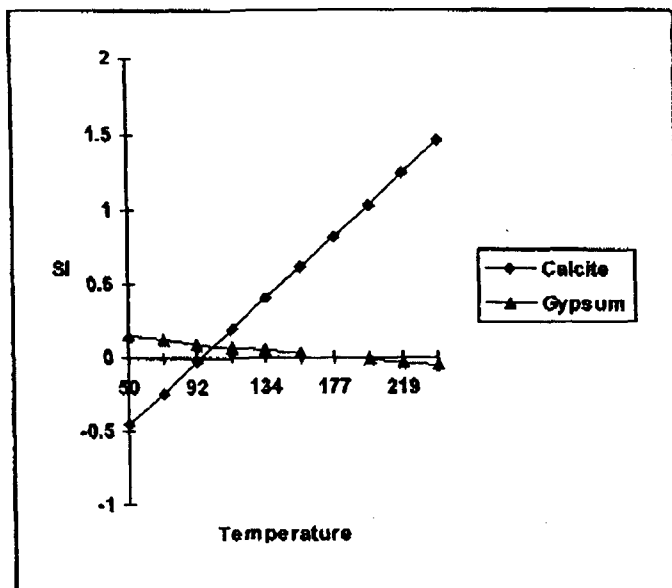
Calculation Method	Value
Known pH	6.56

Remarks:

### SI & PTB Results

Scale Type	SI	PTB
Calcite (Calcium Carbonate)	-0.05	
Gypsum (Calcium Sulfate)	0.09	206.30
Hemihydrate (Calcium Sulfate)	0.06	126.50
Anhydrite (Calcium Sulfate)	0.06	118.70
Barite (Barium Sulfate)		
Celestite (Strontium Sulfate)		

### Saturation Indices



### Saturation Index Data Points

	Calcite	Gypsum
50	-0.45	0.15
71	-0.24	0.12
92	-0.03	0.09
113	0.18	0.06
134	0.40	0.04
156	0.61	0.02
177	0.82	0.00
198	1.03	-0.02
219	1.25	-0.04
240	1.46	-0.05





**Champion**  
Technologies, Inc.

**Committed To Improvement**

## Water Analysis Report

Address: P.O. Box 352  
Midland, TX 79702

04/18/2002

Customer: Xeric

Attention: Eddie Maddox

Lease: Paige

Formation:

CC:

Target Name: Paige 1

Sample Point: Paige 1

Sample Date: 04/01/2002

Test Date: 04/17/2002

### Water Analysis(mg/L)

Calcium	8742
Magnesium	2722
Barium	
Strontium	
Sodium(calc.)	53843
Bicarbonate Alkalinity	256
Sulfate	1735
Chloride	105000

### Appended Data(mg/L)

CO2	20
H2S	0
Iron	149

### Physical Properties

Ionic Strength(calc.)	3.35
pH(calc.)	
Temperature(*F)	90
Pressure(psia)	50
Density	9.33

### Additional Data

Specific Gravity	1.12
Total Dissolved Solids(Mg/L)	172298
Total Hardness(CaCO3 Eq Mg/L)	33011

Dew Point	
Lead	
Zinc	

### Calcite Calculation Information

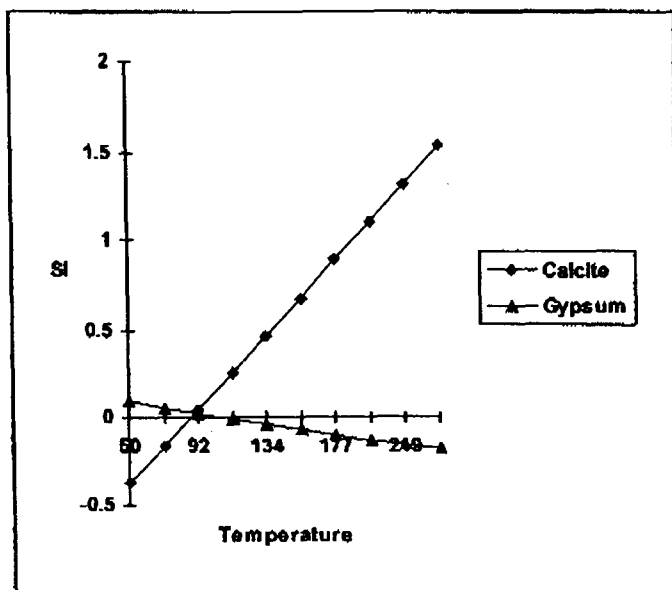
Calculation Method	Value
Known pH	6.65

Remarks:

### SI & PTB Results

Scale Type	SI	PTB
Calcite (Calcium Carbonate)	0.03	4.60
Gypsum (Calcium Sulfate)	0.03	59.70
Hemihydrate (Calcium Sulfate)	-0.01	
Anhydrite (Calcium Sulfate)	0.08	118.00
Barite (Barium Sulfate)		
Celestite (Strontium Sulfate)		

### Saturation Indices



### Saturation Index Data Points

	Calcite	Gypsum
50	-0.37	0.10
71	-0.16	0.06
92	0.05	0.02
113	0.26	-0.01
134	0.47	-0.04
156	0.68	-0.07
177	0.90	-0.10
198	1.11	-0.13
219	1.32	-0.15
240	1.54	-0.17



**Champion**  
Technologies, Inc.

*Committed To Improvement*

Customer: Xeric

Attention: Eddie Maddox

## Water Analysis Report

Address: P.O. Box 352

Midland, TX 79702

Lease: TCB State

Formation:

04/18/2002

CC:

Target Name: TCB State 1

Sample Point: TCB State 1

Sample Date: 04/01/2002

Test Date: 04/17/2002

### Water Analysis(mg/L)

Calcium	9303
Magnesium	3159
Barium	
Strontium	
Sodium(calc.)	57561
Bicarbonate Alkalinity	256
Sulfate	1735
Chloride	113000

### Appended Data(mg/L)

CO2	20
H2S	0
Iron	14

### Physical Properties

Ionic Strength(calc.)	3.61
pH(calc.)	
Temperature(°F)	90
Pressure(psi)	50
Density	9.40

### Additional Data

Specific Gravity	1.13
Total Dissolved Solids(Mg/L)	185014
Total Hardness(CaCO3 Eq Mg/L)	36204

Dew Point	
Lead	
Zinc	

### Calcite Calculation Information

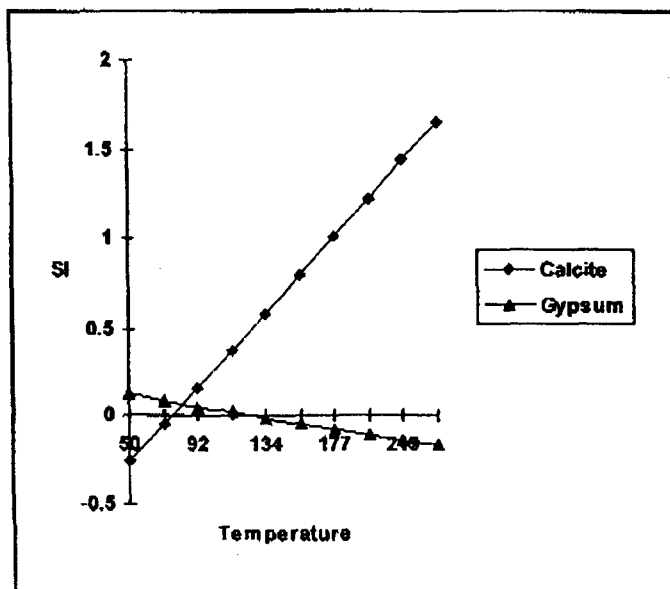
Calculation Method	Value
Known pH	6.70

Remarks:

### SI & PTB Results

Scale Type	SI	PTB
Calcite (Calcium Carbonate)	0.14	21.80
Gypsum (Calcium Sulfate)	0.06	118.80
Hemihydrate (Calcium Sulfate)	0.02	37.60
Anhydrite (Calcium Sulfate)	0.14	199.60
Barite (Barium Sulfate)		
Celestite (Strontium Sulfate)		

### Saturation Indices



### Saturation Index Data Points

	Calcite	Gypsum
50	-0.26	0.13
71	-0.05	0.09
92	0.16	0.05
113	0.37	0.02
134	0.58	-0.02
156	0.80	-0.05
177	1.01	-0.08
198	1.22	-0.11
219	1.44	-0.14
240	1.65	-0.16



**Champion**  
Technologies, Inc.

**Committed To Improvement**

## Water Analysis Report

Address: P.O. Box 352  
Midland, TX 79702

04/18/2002

Customer: Xeric

Attention: Eddie Maddox

Lease: Mooney

Formation:

CC:

Target Name: Mooney 1

Sample Point: Mooney 1

Sample Date: 04/01/2002

Test Date: 04/17/2002

### Water Analysis(mg/L)

Calcium	8822
Magnesium	2819
Barium	
Strontium	
Sodium(calc.)	56307
Bicarbonate Alkalinity	305
Sulfate	2000
Chloride	109000

### Appended Data(mg/L)

CO2	10
H2S	0
Iron	80

### Physical Properties

Ionic Strength(calc.)	3.48
pH(calc.)	
Temperature(°F)	90
Pressure(psi)	50
Density	9.37

### Additional Data

Specific Gravity	1.12
Total Dissolved Solids(Mg/L)	179253
Total Hardness(CaCO3 Eq Mg/L)	33808

Dew Point	
Lead	
Zinc	

### Calcite Calculation Information

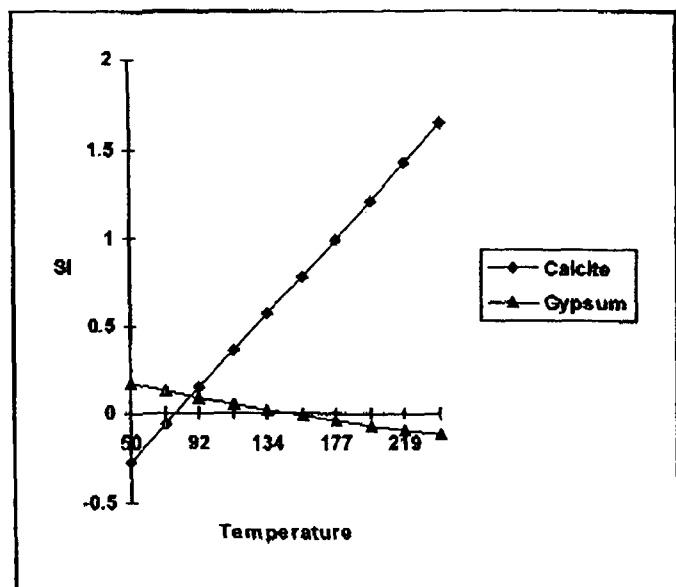
Calculation Method	Value
Known pH	6.65

Remarks:

### SI & PTB Results

Scale Type	SI	PTB
Calcite (Calcium Carbonate)	0.12	21.90
Gypsum (Calcium Sulfate)	0.09	189.50
Hemihydrate (Calcium Sulfate)	0.06	116.20
Anhydrite (Calcium Sulfate)	0.16	258.80
Barite (Barium Sulfate)		
Celestite (Strontium Sulfate)		

### Saturation Indices



### Saturation Index Data Points

	Calcite	Gypsum
50	-0.27	0.17
71	-0.06	0.13
92	0.15	0.09
113	0.36	0.06
134	0.57	0.02
156	0.78	-0.01
177	0.99	-0.04
198	1.21	-0.07
219	1.42	-0.09
240	1.64	-0.11



**Champion**  
Technologies, Inc.

**Committed To Improvement**

## Water Analysis Report

Address: P.O. Box 352  
Midland, TX 79702

04/18/2002

Customer: Xeric

Attention: Eddie Maddox

Lease: Jerry State

Formation:

CC:

Target Name: Jerry State 1

Sample Point: Jerry State 1

Sample Date: 04/01/2002

Test Date: 04/17/2002

### Water Analysis(mg/L)

Calcium	9624
Magnesium	3596
Barium	
Strontium	
Sodium(calc.)	57783
Bicarbonate Alkalinity	281
Sulfate	1965
Chloride	115000

### Appended Data(mg/L)

CO2	30
H2S	0
Iron	154

### Physical Properties

Ionic Strength(calc.)	3.70
pH(calc.)	
Temperature(°F)	90
Pressure(psi)	50
Density	9.42

### Additional Data

Specific Gravity	1.13
Total Dissolved Solids(Mg/L)	188249
Total Hardness(CaCO3 Eq Mg/L)	38798

Dew Point	
Lead	
Zinc	

### Calcite Calculation Information

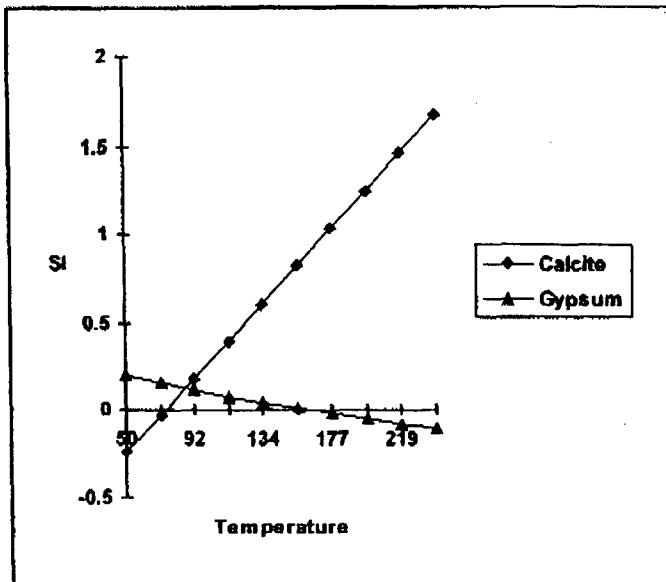
Calculation Method	Value
Known pH	6.65

Remarks:

### Saturation Indices

### SI & PTB Results

Scale Type	SI	PTB
Calcite (Calcium Carbonate)	0.16	26.50
Gypsum (Calcium Sulfate)	0.12	250.50
Hemihydrate (Calcium Sulfate)	0.09	154.90
Anhydrite (Calcium Sulfate)	0.22	317.00
Barite (Barium Sulfate)		
Celestite (Strontium Sulfate)		



### Saturation Index Data Points

	Calcite	Gypsum
50	-0.24	0.20
71	-0.03	0.16
92	0.18	0.12
113	0.39	0.08
134	0.60	0.05
156	0.82	0.01
177	1.03	-0.02
198	1.24	-0.05
219	1.46	-0.08
240	1.67	-0.10

**Water Analysis Report**

04/18/2002

Address: P.O. Box 352  
Midland, TX 79702

Lease: Capps Fed  
Formation:

Customer: Xeric

Attention: Eddie Maddox

CC:

Target Name: Capps Fed 2

Sample Point: Capps Fed 2

Sample Date: 04/01/2002

Test Date: 04/17/2002

**Water Analysis(mg/L)**

Calcium	8341
Magnesium	2819
Barium	
Strontium	
Sodium(calc.)	54913
Bicarbonate Alkalinity	305
Sulfate	2000
Chloride	106000

**Appended Data(mg/L)**

CO2	150
H2S	0
Iron	21

**Physical Properties**

Ionic Strength(calc.)	3.38
pH(calc.)	
Temperature(*F)	90
Pressure(psia)	50
Density	9.34

**Additional Data**

Specific Gravity	1.12
Total Dissolved Solids(Mg/L)	174378
Total Hardness(CaCO3 Eq Mg/L)	32406

Dew Point	
Lead	
Zinc	

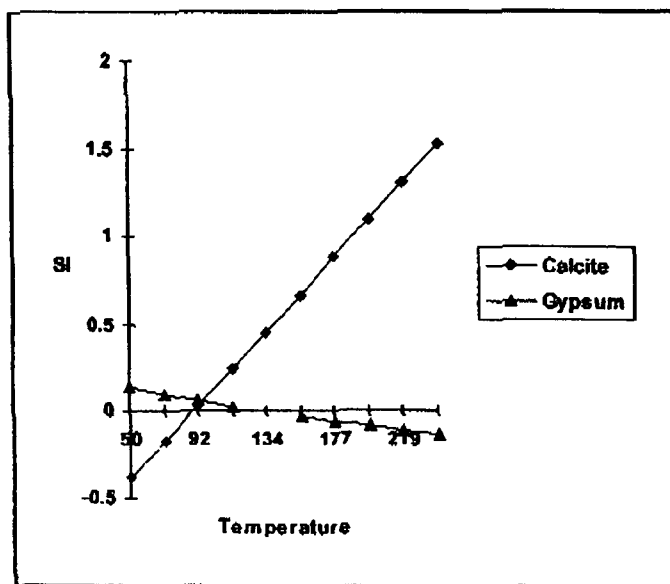
**Calcite Calculation Information**

Calculation Method	Value
Known pH	6.58

Remarks:

**SI & PTB Results**

Scale Type	SI	PTB
Calcite (Calcium Carbonate)	0.02	4.10
Gypsum (Calcium Sulfate)	0.07	155.30
Hemihydrate (Calcium Sulfate)	0.03	58.20
Anhydrite (Calcium Sulfate)	0.13	218.40
Barite (Barium Sulfate)		
Celestite (Strontium Sulfate)		

**Saturation Indices****Saturation Index Data Points**

	Calcite	Gypsum
50	-0.38	0.14
71	-0.17	0.10
92	0.04	0.07
113	0.25	0.03
134	0.46	0.00
156	0.67	-0.03
177	0.89	-0.06
198	1.10	-0.08
219	1.31	-0.11
240	1.53	-0.13



**Champion**  
Technologies, Inc.

**Committed To Improvement**

## Water Analysis Report

Address: P.O. Box 352  
Midland, TX 79702

04/18/2002

Customer: Xeric

Attention: Eddie Maddox

CC:

Lease: Carter

Formation:

Target Name: Carter 1

Sample Point: Carter 1

Sample Date: 04/01/2002

Test Date: 04/17/2002

### Water Analysis(mg/L)

Calcium	9704
Magnesium	3845
Barium	
Strontium	
Sodium(calc.)	62028
Bicarbonate Alkalinity	378
Sulfate	1660
Chloride	122000

### Appended Data(mg/L)

CO2	140
H2S	0
Iron	135

### Physical Properties

Ionic Strength(calc.)	3.89
pH(calc.)	
Temperature(*F)	90
Pressure(psi)	50
Density	9.48

### Additional Data

Specific Gravity	1.14	Dew Point	
Total Dissolved Solids(Mg/L)	199415	Lead	
Total Hardness(CaCO3 Eq Mg/L)	39199	Zinc	

### Calcite Calculation Information

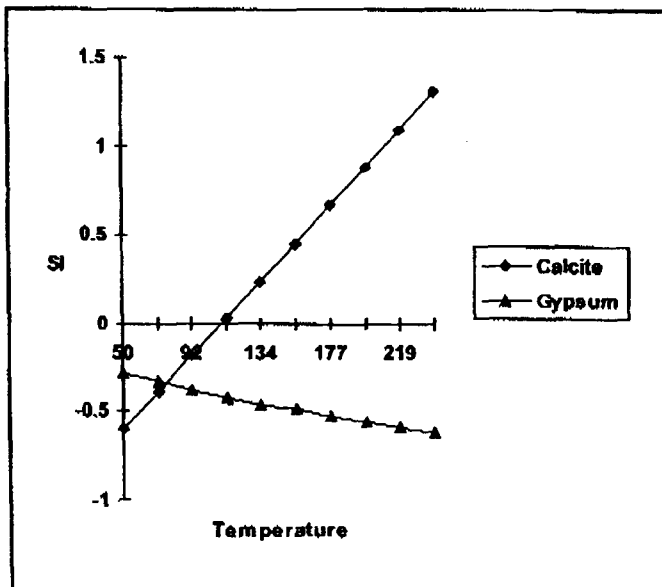
Calculation Method	Value
Known pH	6.53

Remarks:

### SI & PTB Results

Scale Type	SI	PTB
Calcite (Calcium Carbonate)	0.20	44.10
Gypsum (Calcium Sulfate)	0.06	113.10
Hemihydrate (Calcium Sulfate)	0.03	47.70
Anhydrite (Calcium Sulfate)	0.18	234.80
Barite (Barium Sulfate)		
Celestite (Strontium Sulfate)		

### Saturation Indices



### Saturation Index Data Points

	Calcite	Gypsum
50	-0.60	-0.29
71	-0.39	-0.33
92	-0.18	-0.38
113	0.03	-0.42
134	0.24	-0.46
156	0.45	-0.49
177	0.67	-0.53
198	0.88	-0.56
219	1.09	-0.59
240	1.31	-0.62



**Champion**  
Technologies, Inc.

**Committed To Improvement**

## Water Analysis Report

Address: P.O. Box 352  
Midland, TX 79702

04/18/2002

Customer: Xeric

Lease: TCB State

Attention: Eddie Maddox

Formation:

CC:

Target Name: TCB State 3

Sample Point: TCB State 3

Sample Date: 04/01/2002

Test Date: 04/17/2002

### Water Analysis(mg/L)

Calcium	9865
Magnesium	3159
Barium	
Strontium	
Sodium(calc.)	59580
Bicarbonate Alkalinity	256
Sulfate	1880
Chloride	117000

### Appended Data(mg/L)

CO2	10
H2S	0
Iron	14

### Physical Properties

Ionic Strength(calc.)	3.74
pH(calc.)	
Temperature(*F)	90
Pressure(psla)	50
Density	9.44

### Additional Data

Specific Gravity	1.13
Total Dissolved Solids(Mg/L)	191740
Total Hardness(CaCO3 Eq Mg/L)	37609

Dew Point	
Lead	
Zinc	

### Calcite Calculation Information

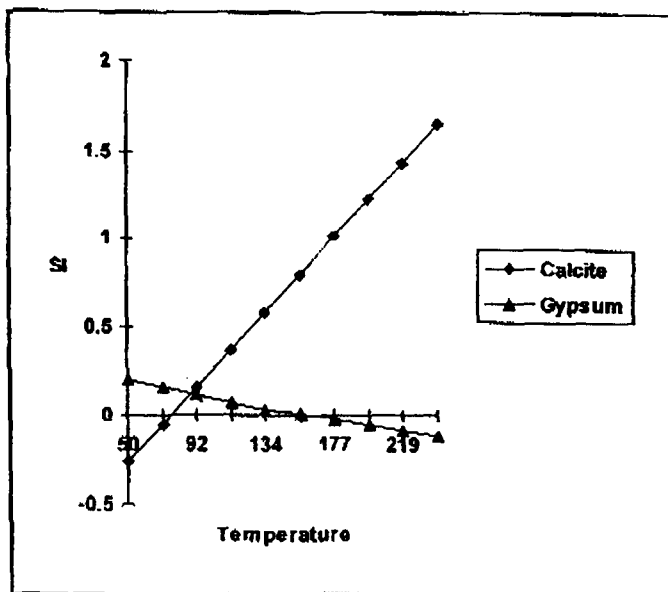
Calculation Method	Value
Known pH	6.65

Remarks:

### SI & PTB Results

Scale Type	SI	PTB
Calcite (Calcium Carbonate)	0.14	21.80
Gypsum (Calcium Sulfate)	0.12	240.80
Hemihydrate (Calcium Sulfate)	0.09	148.90
Anhydrite (Calcium Sulfate)	0.22	304.80
Barite (Barium Sulfate)		
Celestite (Strontium Sulfate)		

### Saturation Indices



### Saturation Index Data Points

	Calcite	Gypsum
50	-0.26	0.20
71	-0.05	0.16
92	0.16	0.12
113	0.37	0.08
134	0.58	0.04
156	0.79	0.01
177	1.01	-0.02
198	1.22	-0.05
219	1.43	-0.08
240	1.65	-0.11

ATTACHMENT "E"  
Xeric Oil & Gas Corporation  
Application for Authorization to Inject  
Howse #1  
Geological Data of the Injection Zone

Depth	Lithologic	Geological Name	Thickness
4306'-4900'	Dolomite	San Andres	594'
Perfs:			
4332-4346'			
4356-4362'			
4412-4428'			
4454-4464'			
4558-4568			
4600-4608'			
4640-4658'			
4716-4724'			
4826-4832'			
4836-4842'			

According to the State of New Mexico Engineering Department there are no known underground sources of drinking water overlying the proposed injection zone as well as known underground sources of drinking water underlying the injection interval.



ATTACHMENT H

XERIC OIL & GAS CORPORATION  
APPLICATION FOR AUTHORIZATION TO INJECT  
HOWSE #1

I, Randy Hall, of Xeric Oil & Gas Corporation, have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water concerning the Howse #1 located in Unit Letter L, Section 17, Township 20 South, Range 39 East, Lea County, New Mexico.

  
\_\_\_\_\_  
Randy Hall, Geologist

9-30-03  
\_\_\_\_\_  
Date

AFFIDAVIT OF PUBLICATION

ATTACHMENT I

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

September 14 2003

and ending with the issue dated

September 14 2003

Kathi Bearden

Publisher

Sworn and subscribed to before

me this 15th day of

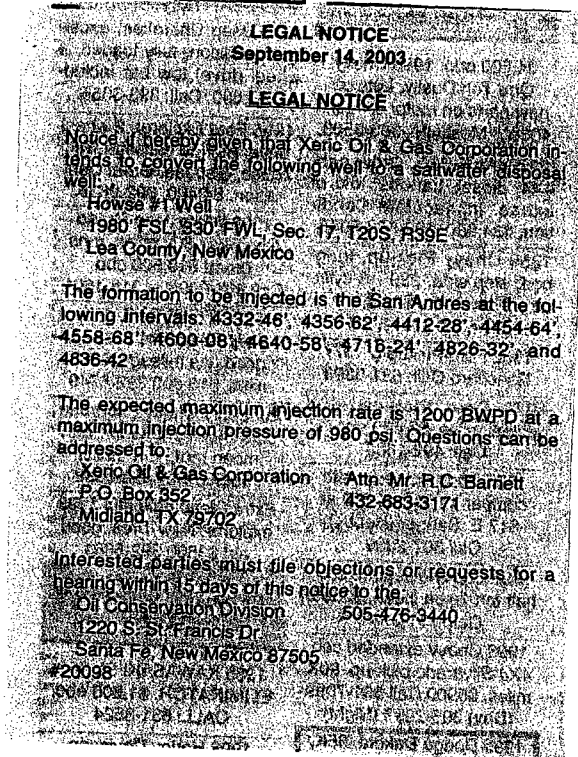
September 2003

Janie Holdridge  
Notary Public.

My Commission expires

4-16-04  
(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.



01105518000

67516423

Xeric Oil & Gas

P.O. Box 352

MIDLAND, TX 79702

# XERIC OIL & GAS CORPORATION

1801 W. Texas, P. O. Box 352  
Midland, Texas 79702  
(432) 683-3171, Fax: (432) 683-6348

SENT VIA CERTIFIED MAIL

7002 0460 0002 0065 5494

September 30, 2003

Apache Corporation  
Attn: Land Administration  
2000 Post Oak Blvd., Ste. 100  
Houston, TX 77056-4400

Re: Howse #1 Application for Saltwater Disposal  
Unit L, Sec. 17, 20S, 39E  
Lea County, New Mexico

Gentlemen:

In accordance with Rules and Regulations of the Oil Conservation Division of the State of New Mexico you are being provided a copy of the Application for Authorization to Inject on the above captioned well.

Objections or requests for hearing must be filed with the Oil Conservation Division within fifteen (15) days from the above date. Objections and requests for hearing should be addressed to: Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico, 87505.

Yours truly,



Angie Crawford

AC

U.S. Postal Service  
**CERTIFIED MAIL RECEIPT**  
(Domestic Mail Only; No Insurance Coverage Provided)

OFFICIAL USE

Postage \$

Certified Fee

Return Receipt Fee  
(Endorsement Required)

Restricted Delivery Fee  
(Endorsement Required)

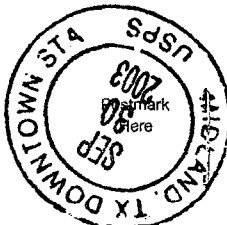
Total Postage & Fees \$

Sent To

Street, Apt. No.,  
or PO Box No.

City, State, ZIP+4

Apache Corporation  
Attn: Land Administration  
2000 Post Oak Blvd., Ste. 100  
Houston, TX 77056-4400



7002 0460 0002 0065 5494

## XERIC OIL &amp; GAS CORPORATION

1801 W. Texas, P. O. Box 352

Midland, Texas 79702

(432) 683-3171, Fax: (432) 683-6348

SENT VIA CERTIFIED MAIL

7002 0460 0002 0065 5487

September 30, 2003

Mr. Robert McCasland  
P. O. Box 206  
Eunice, New Mexico 88231

Re: Howse #1 Application for Saltwater Disposal  
Unit L, Sec. 17, 20S, 39E  
Lea County, New Mexico

Dear Mr. McCasland:

In accordance with Rules and Regulations of the Oil Conservation Division of the State of New Mexico you are being provided a copy of the Application for Authorization to Inject on the above captioned well.

Objections or requests for hearing must be filed with the Oil Conservation Division within fifteen (15) days from the above date. Objections and requests for hearing should be addressed to: Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico, 87505.

Yours truly,



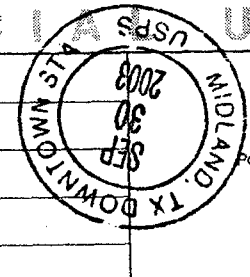
Angie Crawford

AC

U.S. Postal Service  
**CERTIFIED MAIL RECEIPT**  
(Domestic Mail Only; No Insurance Coverage Provided)

OFFICIAL USE

Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$

Postmark  
Here

Sent To  
Street, Apt. 1  
or PO Box N  
City, State, Z

Mr. Robert McCasland  
P. O. Box 206  
Eunice, New Mexico 88231

# XERIC OIL & GAS CORPORATION

1801 W. Texas, P. O. Box 352  
Midland, Texas 79702  
(432) 683-3171, Fax: (432) 683-6348

October 17, 2003

RECEIVED

OCT 20 2003

Richard Azanium  
New Mexico Oil Conservation Division  
1220 S. St. Francis Dr.  
Santa Fe, New Mexico 87505

OIL CONSERVATION  
DIVISION

Re: Request for Administrative Approval  
for Saltwater Disposal, Howse #1 Well  
Unit L, Sec. 17, 20S, 39E  
Lea County, New Mexico

Dear Richard:

As per our conversation late yesterday, please find enclosed Attachment G, water analysis for two of the water wells in the area of interest for the above application.

If you have any questions, or I can be of any assistance please do not hesitate to call me at the above-mentioned address or telephone number.

Sincerely,



Angie Crawford

AC

CC: OCD, District I



# Water Analysis

Date: 07-Oct-03

2708 West County Road, Hobbs NM 88240

Phone (505) 392-5556 Fax (505) 392-7307

## Analyzed For

Company	Well Name	County	State
Xeric	West Windmill # 1	Lea	New Mexico

**Sample Source**      **Wellhead**      **Sample #**      **1**

**Formation**      **Depth**

Specific Gravity	1.005	SG @ 60 °F	1.007
pH	6.69	Sulfides	Absent
Temperature (°F)	70	Reducing Agents	

## Cations

Sodium (Calc)	in Mg/L	263	in PPM	261
Calcium	in Mg/L	80	in PPM	79
Magnesium	in Mg/L	24	in PPM	24
Soluble Iron (FE2)	in Mg/L	0.0	in PPM	0

## Anions

Chlorides	in Mg/L	240	in PPM	238
Sulfates	in Mg/L	300	in PPM	298
Bicarbonates	in Mg/L	268	in PPM	267
Total Hardness (as CaCO3)	in Mg/L	300	in PPM	298
Total Dissolved Solids (Calc)	in Mg/L	1,176	in PPM	1,168
Equivalent NaCl Concentration	in Mg/L	844	in PPM	838

## Scaling Tendencies

\*Calcium Carbonate Index 21,472

Below 500,000 Remote / 500,000 - 1,000,000 Possible / Above 1,000,000 Probable

\*Calcium Sulfate (Gyp) Index 24,000

Below 500,000 Remote / 500,000 - 10,000,000 Possible / Above 10,000,000 Probable

*\*This Calculation is only an approximation and is only valid before treatment of a well or several weeks after treatment.*

**Remarks**      rw=10@70f

NENW Sec 19

**Report #**      1406

NENW



BJ SERVICES

ATTACHMENT G

# Water Analysis

Date: 07-Oct-03

2708 West County Road, Hobbs NM 88240

Phone (505) 392-5556 Fax (505) 392-7307

## Analyzed For

Company	Well Name	County	State
Xeric	South Windmill # 3	Lea	New Mexico

**Sample Source**                      **Wellhead**                      **Sample #**                      **1**

**Formation**    **Depth**

Specific Gravity	1.005	SG @ 60 °F	1.007
pH	6.53	Sulfides	Absent
Temperature (°F)	70	Reducing Agents	

## Cations

Sodium (Calc)	in Mg/L	225	in PPM	223
Calcium	in Mg/L	144	in PPM	143
Magnesium	in Mg/L	19	in PPM	19
Soluable Iron (FE2)	in Mg/L	0.0	in PPM	0

## Anions

Chlorides	in Mg/L	240	in PPM	238
Sulfates	in Mg/L	350	in PPM	348
Bicarbonates	in Mg/L	273	in PPM	271
Total Hardness (as CaCO3)	in Mg/L	440	in PPM	437
Total Dissolved Solids (Calc)	in Mg/L	1,251	in PPM	1,243
Equivalent NaCl Concentration	in Mg/L	883	in PPM	876

## Scaling Tendencies

\*Calcium Carbonate Index 39,352

Below 500,000 Remote / 500,000 - 1,000,000 Possible / Above 1,000,000 Probable

\*Calcium Sulfate (Gyp) Index 50,400

Below 500,000 Remote / 500,000 - 10,000,00 Possible / Above 10,000,00 Probable

\*This Calculation is only an approximation and is only valid before treatment of a well or several weeks after treatment.

**Remarks**      rw=9@70f

NESE Sec 19

**Report #**      1408



# NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

**BILL RICHARDSON**

Governor

**Joanna Prukop**  
Cabinet Secretary

**Lori Wrotenbery**

Director

**Oil Conservation Division**

Oil Conservation Division  
1220 S. Francis Drive  
Santa Fe, NM 87505

RE: Proposed:

MC \_\_\_\_\_  
DHC \_\_\_\_\_  
NSL \_\_\_\_\_  
NSP \_\_\_\_\_  
SWD   X   \_\_\_\_\_  
WFX \_\_\_\_\_  
PMX \_\_\_\_\_

Gentlemen:

I have examined the application for the:

Xeric Oil & Gas Corp Howse # 1-L-17-20s-39e  
Operator Lease & Well No. Unit S-T-R 30-025-36226

and my recommendations are as follows:

OK  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Yours very truly,

Chris Williams (RL)  
Chris Williams  
Supervisor, District 1