

PMX

7/11/00



580 WestLake Park Blvd.  
Houston, TX 77079  
PO Box 4294  
Houston, TX 77210-4294  
Phone: 281-552-1000

June 22, 2000

State of New Mexico  
Energy, Minerals & Natural Resources Department  
Oil Conservation Division  
2040 South Pacheco Street  
Santa Fe, NM 87505

26

RE: Expansion of Pressure Maintenance Project  
North Hobbs (Grayburg/San Andres) Unit  
Hobbs; Grayburg – San Andres Pool  
Well No. 411  
Letter A, Section 30, T-18-S, R-38-E  
Lea County, NM

Gentlemen:

Occidental Permian Limited Partnership respectfully requests administrative approval for expansion of the subject pressure maintenance project by converting North Hobbs (G/SA) Unit Well No. 411 from production to water injection. Administrative Order No. R-6199 granted November 30, 1979, authorized Shell Western E&P Inc. (Occidental Permian Limited Partnership's predecessor) to conduct the North Hobbs (G/SA) Unit pressure maintenance project within the Hobbs; Grayburg – San Andres Pool.

The following data is submitted in support of this request:

- Form C-108 with miscellaneous data attached
- Form C-102
- A map reflecting the location of the proposed injection well (No. 411). The map identifies all wells located within a two-mile radius of the proposed injector and has a one-half mile radius circle drawn around the proposed injection well which identifies the well's Area of Review.
- An injection well data sheet
- A tabulation of data on all wells of public record within the well's Area of Review



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- Schematics of plugged wells of public record within the well's Area of Review
- A list of Offset Operators and Surface Owners (these parties have been notified of this application by certified mail)
- An Affidavit of Publication and copy of the legal advertisement that was published in the county in which the well is located.

Your favorable consideration of our request will be appreciated. If you have any questions of a technical nature, please call David Nelson at (505) 397-8211. Otherwise, please call me at (281) 552-1158.

Very truly yours,

*Mark Stephens*

Mark Stephens  
Business Analyst (SG)

CC: Oil Conservation Division  
Hobbs District Office  
1625 N. French Drive  
Hobbs, NM 88240

State of New Mexico  
Commissioner of Public Lands  
P.O. Box 1148  
Santa Fe, NM 87504-1148

Offset Operators (see attached list)

Surface Owners (see attached list)

**APPLICATION FOR AUTHORIZATION TO INJECT**

- I. PURPOSE: \_\_\_\_\_ Secondary Recovery     Pressure Maintenance    \_\_\_\_\_ Disposal    \_\_\_\_\_ Storage  
Application qualifies for administrative approval?     Yes    \_\_\_\_\_ No
- II. OPERATOR: Occidental Permian Limited Partnership  
ADDRESS: P.O. Box 4294, Houston, TX 77210-4294  
CONTACT PARTY: Mark Stephens, Rm. 338-B, WL2    PHONE: (281) 552-1158
- 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     No  
If yes, give the Division order number authorizing the project: R-6199 (11/30/79)
- 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:
- Proposed average and maximum daily rate and volume of fluids to be injected;
  - Whether the system is open or closed;
  - Proposed average and maximum injection pressure;
  - Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,
  - 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: Mark Stephens    TITLE: Business Analyst (SG)  
SIGNATURE: Mark Stephens    DATE: June 22, 2000
- \* 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: Hearing October 3, 1979; Case No. 6653, Order No. R-6199

### 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, 2040 South Pacheco, 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.

Attachment To Form C-108  
Miscellaneous Data

North Hobbs (Grayburg/San Andres) Unit  
Well No. 411  
Letter A, Section 30, T-18-S, R-38-E  
Lea County, New Mexico

III. Well Data

- B.(5) Next higher oil zone -- Grayburg @ +/- 3700'  
Next lower oil zone -- Glorieta @ +/- 5300'

VII. Proposed Operation

1. Average Injection Rate        1500 BWPD  
   Maximum Injection Rate       4000 BWPD
2. Closed Injection System
3. Average Injection Pressure    500 PSIG  
   Maximum Injection Pressure   805 PSIG (approx.)  
   (will not exceed 0.2 psi/ft. to top perforation)
4. Source Water – San Andres Produced Water  
   (Mitchell Analytical Laboratory analysis attached)

IX. Stimulation Program

Acid treatment of unitized perforations will be performed during conversion work

- XI. Fresh Water Sample Analysis  
(Laboratory Services, Inc. analysis attached – 2 ea.)

- XII. Occidental Permian Limited Partnership affirms that available geologic and engineering data has been examined resulting in the finding of no evidence of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water.

# MITCHELL ANALYTICAL LABORATORY

2638 Faudree  
Odessa, Texas 79765-8538  
561-5579

## Water Analysis

Company.... Nalco/Exxon Energy Chemicals  
Well # .... WIS DISCHARGE PUMP  
Lease..... ALTURA NHU  
Location...  
Date Run... 11/08/1999  
Lab Ref #.. 99-NOV-N05126

Sample Temp... 70.0  
Date Sampled.. 11/05/1999  
Sampled by.... Mike Athey  
Employee # ... 27-008  
Analyzed by... DANIEL

### Dissolved Gasses

		Mg/L	Eq. Wt.	MEq/L
Hydrogen Sulfide	(H <sub>2</sub> S)	486.00	16.00	30.38
Carbon Dioxide	(CO <sub>2</sub> )	Not Analyzed		
Dissovled Oxygen	(O <sub>2</sub> )	Not Analyzed		

### Cations

Calcium	(Ca <sup>++</sup> )	804.00	20.10	40.00
Magnesium	(Mg <sup>++</sup> )	195.20	12.20	16.00
Sodium	(Na <sup>+</sup> )	3,459.66	23.00	150.42
Barium	(Ba <sup>++</sup> )	Not Analyzed		
Manganese	(Mn <sup>++</sup> )	Not Analyzed		

### Anions

Hydroxyl	(OH <sup>-</sup> )	Not Analyzed		
Carbonate	(CO <sub>3</sub> <sup>=</sup> )	0.00	30.00	0.00
Bicarbonate	(HCO <sub>3</sub> <sup>-</sup> )	1,869.66	61.10	30.60
Sulfate	(SO <sub>4</sub> <sup>=</sup> )	1,700.00	48.80	34.84
Chloride	(Cl <sup>-</sup> )	5,005.50	35.50	141.00
Total Iron	(Fe)	0.30	18.60	0.02
Total Dissolved Solids		13,520.32		
Total Hardness As CaCO <sub>3</sub>		2,810.32		
Conductivity MICROMHOS/CM		23,500		

pH 6.500 Specific Gravity 60/60 F. 1.009

CaSO<sub>4</sub> Solubility @ 80 F. 46.63 MEq/L, CaSO<sub>4</sub> scale is unlikely

### CaCO<sub>3</sub> Scale Index

70.0	0.190
80.0	0.310
90.0	0.530
100.0	0.530
110.0	0.790
120.0	0.790
130.0	1.090
140.0	1.090
150.0	1.370

*Nalco/Exxon Energy Chemicals*



**Laboratory Services, Inc.**

4016 Fiesta Drive  
Hobbs, New Mexico 88240  
Telephone: (505) 397-3713

**Water Analysis**

COMPANY Altura Energy Ltd,  
SAMPLE Fresh Water Well For Well 30-411  
SAMPLED BY \_\_\_\_\_  
DATE TAKEN 5/10/00  
REMARKS T18S-R38E-Sec 29, Sec. 1,2,3

Barium as Ba	0	
Carbonate alkalinity PPM	0	
Bicarbonate alkalinity PPM	204	
pH at Lab	7.47	
Specific Gravity @ 60°F	1	
Magnesium as Mg	190	
Total Hardness as CaCO3	328	
Chlorides as Cl	136	
Sulfate as SO4	120	
Iron as Fe	0	
Potassium	0.03	
Hydrogen Sulfide	0	
Rw	9.1	23.0 C
Total Dissolved Solids	805	
Calcium as Ca	138	
Nitrate	5.3	

Results reported as Parts per Million unless stated

Langelier Saturation Index - 0.19

Analysis by: Rolland Perry  
Date: 5/14/00



**Laboratory Services, Inc.**

4016 Fiesta Drive  
Hobbs, New Mexico 88240  
Telephone: (505) 397-3713

**Water Analysis**

**COMPANY** Altura Energy Ltd,  
**SAMPLE** Fresh Water Well For Well 30-411  
**SAMPLED BY**  
**DATE TAKEN** 5/11/00  
**REMARKS** T18S-R38E-Sec 30, Qtr Sec 2,2.2

Barium as Ba	0	
Carbonate alkalinity PPM	0	
Bicarbonate alkalinity PPM	360	
pH at Lab	6.97	
Specific Gravity @ 60°F	1.001	
Magnesium as Mg	248	
Total Hardness as CaCO3	428	
Chlorides as Cl	200	
Sulfate as SO4	170	
Iron as Fe	0.1	
Potassium	0.13	
Hydrogen Sulfide	0	
Rw	9.5	23.0 C
Total Dissolved Solids	1,205	
Calcium as Ca	180	
Nitrate	33.9	

Results reported as Parts per Million unless stated

Langelier Saturation Index - 0.18

Analysis by: Rolland Perry  
Date: 5/14/00

DISTRICT I  
P. Box 1980, Hobbs, NM 88241-1980

State of New Mexico  
Energy, Minerals and Natural Resources Department

Form C-102  
Revised February 10, 1994  
Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

DISTRICT II  
P.O. Drawer DD, Artesia, NM 88211-0719

DISTRICT III  
1000 Rio Hrasco Rd., Artec, NM 87410

DISTRICT IV  
P.O. BOX 2088, SANTA FE, N.M. 87504-2088

OIL CONSERVATION DIVISION  
P.O. Box 2088  
Santa Fe, New Mexico 87504-2088

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-025-07470		Pool Code 31920	Pool Name HOBBS; GRAYBURG - SAN ANDRES
Property Code 19520	Property Name NORTH HOBBS G/SA UNIT		Well Number 411
OGRED No. 157984	Operator Name Occidental Permian Limited Partnership		Elevation 3652

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	30	18 S	38 E		330	NORTH	330	EAST	LEA

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
Dedicated Acres		Joint or Infill	Consolidation Code		Order No.				

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

	<p align="center"><b>OPERATOR CERTIFICATION</b></p> <p><i>I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.</i></p> <p align="right"><u>Mark Stephens</u></p> <p>Signature</p> <p align="right">Mark Stephens</p> <p>Printed Name</p> <p align="right">Business Analyst (SG)</p> <p>Title</p> <p align="right">June 22, 2000</p> <p>Date</p>
	<p align="center"><b>SURVEYOR CERTIFICATION</b></p> <p><i>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</i></p> <p align="right">JANUARY 6, 2000</p> <p>Date Surveyed</p> <p align="right">DC</p> <p>Signature &amp; Seal of Professional Surveyor</p> <p align="right"><u>Gary E. Edson 1/28/2000</u></p> <p align="right">00-13-0019</p>
	<p>Certificate No. RONALD J. EDSON 3239 GARY EDSON 12541 MACON McDONALD 12185</p>

DISTRICT I  
P.O. Box 1900, Hobbs, NM 88241-1900

State of New Mexico  
Energy, Minerals and Natural Resources Department

Form C-102  
Revised February 10, 1994  
Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

DISTRICT II  
P.O. Drawer 80, Artesia, NM 88211-0719

DISTRICT III  
1000 Rio Branco Rd., Artec, NM 87410

OIL CONSERVATION DIVISION  
P.O. Box 2088  
Santa Fe, New Mexico 87504-2088

DISTRICT IV  
P.O. Box 2088, SANTA FE, N.M. 87504-2088

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-025-07470	Pool Code 31920	Pool Name HOBBS; GRAYBURG - SAN ANDRES
Property Code 19520	Property Name NORTH HOBBS G/SA UNIT	Well Number 411
OGRID No. 157984	Operator Name Occidental Permian Limited Partnership	Elevation 3652

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	30	18 S	38 E		330	NORTH	330	EAST	LEA

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.

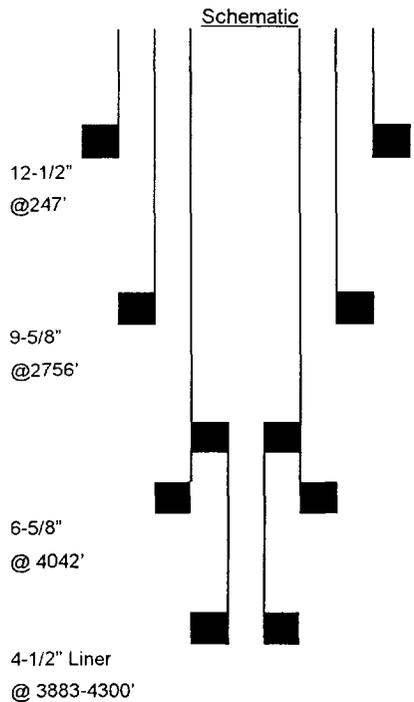
NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

	<p><b>OPERATOR CERTIFICATION</b></p> <p><i>I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.</i></p> <p style="text-align: right;"><u>Mark Stephens</u> Signature</p> <p style="text-align: right;">Mark Stephens Printed Name</p> <p style="text-align: right;">Business Analyst (SG) Title</p> <p style="text-align: right;">June 22, 2000 Date</p>
	<p><b>SURVEYOR CERTIFICATION</b></p> <p><i>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</i></p> <p style="text-align: right;">JANUARY 6, 2000 Date Surveyed</p> <p style="text-align: right;">DC</p> <p style="text-align: right;">Signature &amp; Seal of Professional Surveyor</p> <p style="text-align: right;"><u>Gary Eidsen</u> 1/06/2000 00-13-0019</p>
	<p>Certificate No. RONALD J. EIDSON 3239 GARY EIDSON 12841 MACON McDONALD 12185</p>

LARGE FORMAT  
EXHIBIT HAS  
BEEN REMOVED  
AND IS LOCATED  
IN THE NEXT FILE

**INJECTION WELL DATA SHEET**

Operator	<b>Occidental Permian Limited Partnership</b>	Lease	<b>North Hobbs G/SA Unit</b>	County	<b>Lea</b>
Well No.	<b>30-411</b>	Footage Location	<b>330 FNL &amp; 330 FEL</b>	Section	<b>30</b>
				Township	<b>18-S</b>
				Range	<b>38-E</b>
				Unit Letter	<b>A</b>



<u>Surface Casing</u>		<u>Tubular Data</u>	
Size	<u>12-1/2"</u>	Cemented with	<u>250</u> sxs.
TOC	<u>Circ.</u>	Determined by	<u>Calc. w/ 50% eff.</u>
Hole size	<u>18"</u>		
<u>Intermediate Casing</u>			
Size	<u>9-5/8"</u>	Cemented with	<u>600</u> sxs.
TOC	<u>554</u>	Determined by	<u>Calc. w/ 50% eff.</u>
Hole size	<u>                    </u>		
<u>Long string Casing</u>			
Size	<u>6-5/8"</u>	Cemented with	<u>250</u> sxs.
TOC	<u>3210'</u>	Determined by	<u>CBL</u>
Hole size	<u>8-1/4"</u>		
<u>Liner</u>			
Size	<u>4-1/2"</u>	Cemented with	<u>75</u> sxs.
TOC	<u>3883</u>	Determined by	<u>Calc. w/ 50% eff.</u>
Hole size	<u>                    </u>		
<u>Total depth</u>	<u>4329'</u>		
<u>Injection interval</u>	<u>4171</u> feet to <u>4300</u> feet		

Completion type Perforated Casing

Tubing size 2-7/8" lined with Duoline (Fiberglass liner) set in a

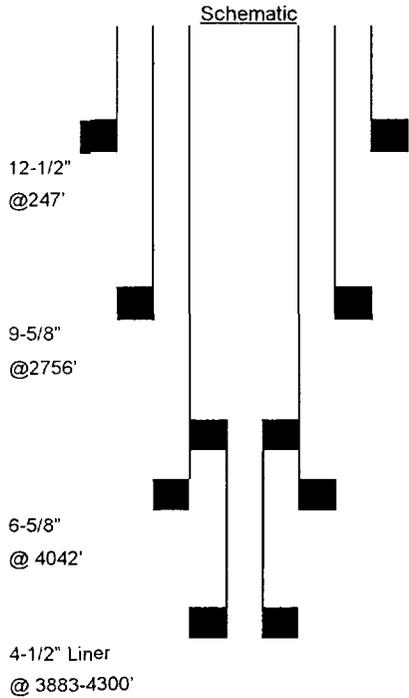
Guiberson - Uni VI packer at 4150' feet  
(brand and model)

Other Data

- Name of the injection formation San Andres
- Name of field or Pool Hobbs (Grayburg/San Andres)
- Is this a new well drilled for injection? Yes  No   
If no, for what purpose was the well originally drilled? Producer
- Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) 4056-4124, squeezed w/ 150 sxs
- Give the depth to and name of any overlying and/or underlying oil and gas zones (pools) in this area.  
Grayburg - 3270, Glorieta - 5300

# INJECTION WELL DATA SHEET

Operator	Occidental Permian Limited Partnership	Lease	North Hobbs G/SA Unit	County	Lea
Well No.	Footage Location	Section	Township	Range	Unit Letter
30-411	330 FNL & 330 FEL	30	18-S	38-E	A



<u>Surface Casing</u>	<u>Tubular Data</u>
Size <u>12-1/2"</u>	Cemented with <u>250</u> sxs.
TOC <u>Circ.</u>	Determined by <u>Calc. w/ 50% eff.</u>
Hole size <u>18"</u>	
<u>Intermediate Casing</u>	
Size <u>9-5/8"</u>	Cemented with <u>600</u> sxs.
TOC <u>554</u>	Determined by <u>Calc. w/ 50% eff.</u>
Hole size _____	
<u>Long string Casing</u>	
Size <u>6-5/8"</u>	Cemented with <u>250</u> sxs.
TOC <u>3210'</u>	Determined by <u>CBL</u>
Hole size <u>8-1/4"</u>	
<u>Liner</u>	
Size <u>4-1/2"</u>	Cemented with <u>75</u> sxs.
TOC <u>3883</u>	Determined by <u>Calc. w/ 50% eff.</u>
Hole size _____	
<u>Total depth</u> <u>4329'</u>	

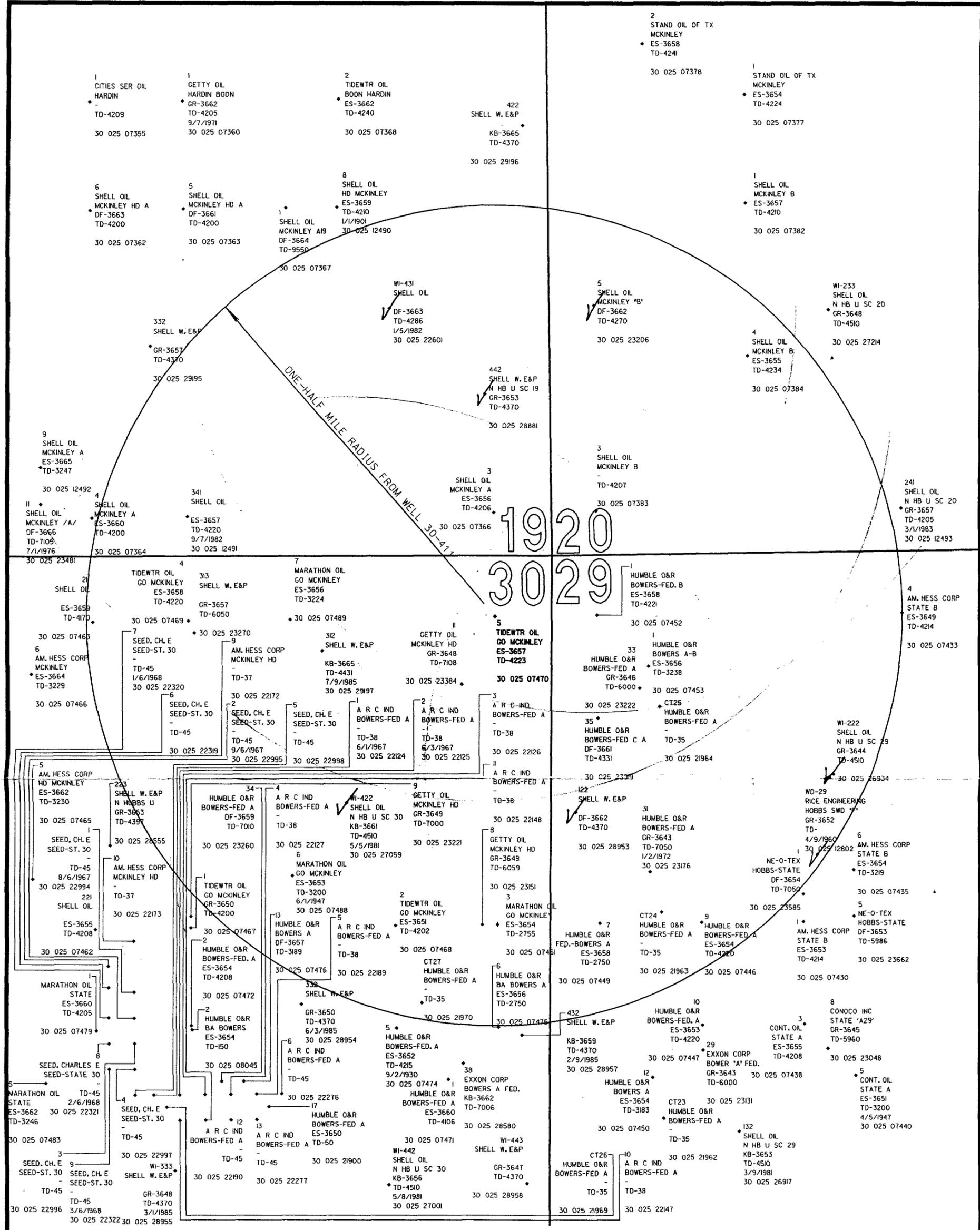
Injection interval  
4171 feet to 4300 feet

Completion type Perforated Casing

Tubing size 2-7/8" lined with Duoline (Fiberglass liner) set in a  
Guiberson - Uni VI packer at 4150' feet  
(brand and model)

Other Data

1. Name of the injection formation San Andres
2. Name of field or Pool Hobbs (Grayburg/San Andres)
3. Is this a new well drilled for injection? Yes  No   
 If no, for what purpose was the well originally drilled? Producer
4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) 4056-4124, squeezed w/ 150 sxs
5. Give the depth to and name of any overlying and/or underlying oil and gas zones (pools) in this area.  
Grayburg - 3270, Glorieta - 5300



NOTE:  
WELL DATA DERIVED FROM THE PETROLEUM  
INFORMATION - DATA MANAGEMENT SYSTEM.  
WELL DATA SYSTEM PREPARED FOR AMOCO.



**Altura** Altura Energy Ltd.  
ENERGY, LTD.

Area of Review Plat  
**NORTH HOBBS (GRAYBURG  
SAN ANDRES) UNIT**  
WELL NO. 30-411  
T-18-S, R-38-E  
Lea County, New Mexico

Scale: 1" = 600' 01-05-00 nm438a00.dgn - 12  
Plat prepared by PJE Drafting, Inc.  
For Horizon Survey, Inc.

OFFSET WELLS WITHIN A HALF MILE OF PROPOSED INJECTOR

FOR WELL 30411		API No.	Sec.	T	R	Un	Drill Date	Well Type	TD or PBT	Top Perf	Bot. Perf	Sqz. Perfs	Csg. Size	Hole Size	Depth	No. of Sxs.	TOC
Operator						Ltr			PBTD	Perf	Perf		Size	Size			
HD McKinley #8	30-025-23151	30	-18S	-38E	H	6/69	P	5615	3676	3754			13.375	17.5	360	340	CIRC
Getty Texaco													8.625	11	3842	1400	CIRC
													5.5	7.875	6057	650	3300
Hobbs SWD F #WD29	30-025-12802	29	-18S	-38E	F	2/60	I	5050	4469	5050			9.625	12.25	400	300	No data
Rice										OH			7	8.75	4700	700	
19341	30-025-12491	19	-18S	-38E	O	9/30	TA	4005	4140	4272			9.625	12.25	2750	600	330**
Altura								(CIBP)					7	8.75	3975	225	3299 CBL
													5.5 Lnr	6.125	3937-4245	100	3937
19431	30-025-22601	19	-18S	-38E	I	7/68	I	4281	4197	4266			7.875	11	277	200	CIRC
Altura													4.5	6.25	4285	435	2537 CBL
19441	30-025-07366	19	-18S	-38E	P	12/32	TA	4030	4173	4236			15.5	18	221	200	CIRC
Altura								CIBP					9	12	2775	600	CIRC
													6.625	8.75	3982	200	3090
													5	6.25	3949-4242	100	3949
19442	30-025-28881	19	-18S	-38E	P	11/84	I	4292	4156	4283			13.375	17.5	50	NA	NA
Altura													8.625	12.25	1525	620	CIRC
													5.5	7.875	4369	1320	CIRC
20131	30-025-23206	20	-18S	-38E	L	7/69	I	4269	4227	4256			8.625	12.25	292	300	CIRC
Altura								PBTD					5.5	7.875	4266	600	2390
20141	30-025-07383	20	-18S	-38E	M	12/32	P	4252	4197	4250			12.5	18	223	200	CIRC**
Altura								PBTD					9.625	12	2797	600	CIRC**
													7	8.75	3980	200	3334**
													5	6.25	4228	NA	NA

\*\* - Denotes calculated TOC with 50% efficiency.

OFFSET WELLS WITHIN A HALF MILE OF PROPOSED INJECTOR

FOR WELL 30411																
Well Name	API No.	Sec.	T	R	U	Drill Date	Well Type	TD or PBD	Top Perf	Bot. Perf	Sqz. Perfs	Csg. Size	Hole Size	Depth	No. of Sxs.	TOC
Operator					Ltr			PBTD								
20232	30-025-07384	20	-18S	-38E	K	7/33	TA	4275	4158	4252	4225-4234	15.5	18	243	150	CIRC**
Altura											4253-4258	9.625	12	1615	75	1892**
												7	8.75	4089	250	2839**
29111	30-025-23919	29	-18S	-38E	D	12/71	P	4287	4183	4287	3905-4250	8.625	11	310	150	CIRC
Altura								PBTD				5.5	7.875	3905	300	2427**
29121	30-025-07449	29	-18S	-38E	E	3/47	P	4275	3924	4275	4070-85	9.625	12.25	2739	650	890
											4110-20	7	8.75	3104	100	2640 CBL
											4130-50	4.5 Lnr	6.25	2900-4201	100	2900
29122	30-025-28953	29	-18S	-38E	E	2/85	I	4215	4154	4211	NONE	13.375	17.5	40	NA	CIRC
Altura								(CIBP)				8.625	11	1510	785	CIRC
												5.5	7.875	4370	435	CIRC
29211	30-025-07433	29	-18S	-38E	C	11/30	TA	4003	4217	4270	4053-4215	12.5	16	243	250	CIRC
Altura								CIBP				9.625	11.75	2796	400	2764
												7	8.75	4007	500	3990
												5.5	6.125	3957-4228	130	4145
30211	30-025-07463	30	-18S	-38E	C	8/30	P	4254	4149	4250	4078	9.625	12.25	2647	400	2940**
Altura											4086	6.625	7.875	3972	250	3130 CBL
											4100	5 Lnr	6.5	3867-4310	100	CIRC**
29222	30-025-26934	29	-18S	-38E	F	4/81	I	4465	4175	4265	NONE	16	20	40	40	CIRC
Altura												8.625	12.25	1605	950	CIRC
												5.5	7.875	4510	1050	CIRC
30311	30-025-07469	30	-18S	-38E	B	8/30	TA	3950	3998	4121	2601	13.5	16	245	200	CIRC
Altura								RBP				9.625	11.75	2753	600	551
												7	8.75	3998	250	3154
30312	30-025-29197	30	-18S	-38E	B	5/85	P	4380	4215	4333	NONE	13.375	17.5	40	NA	NA
Altura												9.625	12.25	1500	650	CIRC
												7	8.75	4431	700	CIRC
30313	30-025-23270	30	-18S	-38E	B	11/69	TA	4065	5871	5951	5805-53	13.375	17.5	382	400	CIRC
Altura								CIBP				8.625	12.25	3849	1256	600

\*\* - Denotes calculated TOC with 50% efficiency.

OFFSET WELLS WITHIN A HALF MILE OF PROPOSED INJECTOR

FOR WELL 30411		API No.	Sec.	T	R	Un	Drill Date	Well Type	TD or PBTD	Top Perf	Bot. Perf	Sqz. Perfs	Csg. Size	Hole Size	Depth	No. of Sxs	TOC	
Well Name	Operator					Ltr												
30411	Altura	30-025-07470	30 -18S	-38E	A	12/32	TA	4000	CIBP	4177	4287	4056-4124	12.5	16	247	250	CIRC	
30412	Altura	30-025-23384	30 -18S	-38E	A	1/70	P	4440	PBTD	4009	4261	4142-4200	13.375	17.5	379	400	CIRC	
30421	Altura	30-025-07468	30 -18S	-38E	H	7/30	P	4258		4114	4258	NONE	12.5	16	251	200	CIRC	
30422	Altura	30-025-27059	30 -18S	-38E	H	5/81	I	4477		4110	4265	4108-23	16	20	40	40	CIRC	
Bowers A Fed. #9	E Exxon	30-025-07446	29 -18S	-38E	E	8/30	PA	4259		3222	3227	2400	12.5	16	213	650	CIRC**	
Bowers Fed. A #CT24	Humble	30-025-21963	29 -18S	-38E	E	1/67	PA	35				3736-3741	9.625	12	2736	650	2011**	
Bowers A Fed. #CT25	E Exxon	30-025-21964	29 -18S	-38E	D	1/67	PA	35					7	8.75	3976	300	CIRC**	
Bowers A Fed. #CT27	E Exxon	30-025-21970	30 -18S	-38E	H	1/67	PA	35					No data in State records					
Bowers A Fed. #31	E Exxon	30-025-23176	29 -18S	-38E	E	6/69	PA	7050		6075	6991		8.625	11	3836	500	1858**	
													5.5	7.875	7038	650	3125**	
													2	7.875	7005	NA	NA	

\*\* - Denotes calculated TOC with 50% efficiency.



**WELL SCHEMATIC:  
EXXON BOWERS A FED #9**

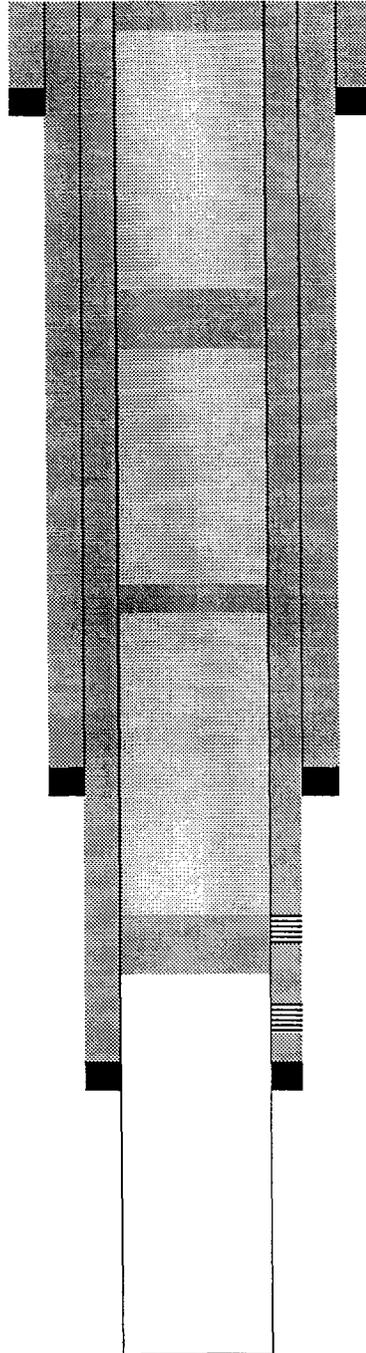
WELL PLUGGED:  
12/3/70

12.5"  
213'  
650 SX  
TOC: SURF (C)

9 5/8"  
2736'  
650 SX  
TOC: SURF (C)

7"  
3970'  
300 SX  
TOC: 2000(C)

TD: 4259'



Spotted 10 sx cmt plug from  
0' to 25'.

Hole was loaded with mud  
Laden fluids.

Spotted 20 sx cmt plug from  
1400' to 1550'.

Spotted 40 sx cmt plug from  
2300' to 2400'.

Perf's at 3220'-3227'.

Spotted 50 sx cmt plug from  
3000' to 3250'.

Squeezed perf's at 3726'  
To 3741'.

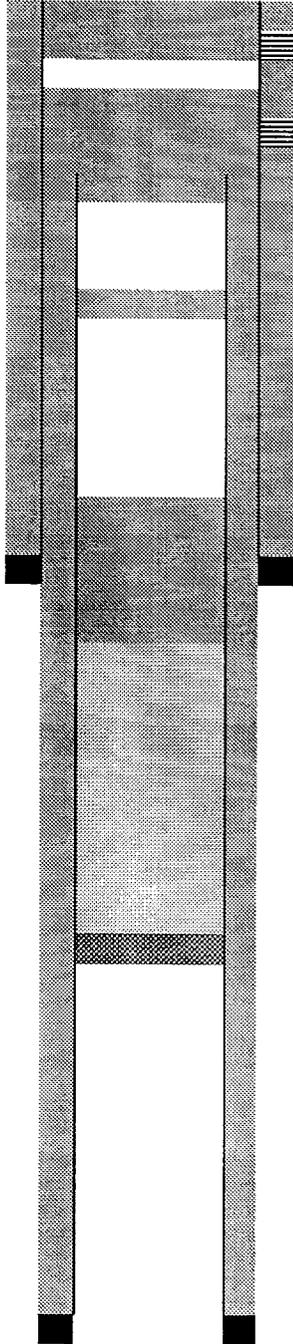
**WELL SCHEMATIC:  
EXXON BOWERS A FED #31**

WELL PLUGGED:  
8/30/90

8 5/8"  
3836'  
500 SX  
TOC:1858' CALC

5 1/2"  
7038'  
650 SX  
TOC:3125' CALC

TD: 7050'



Perf'd @ 450'. Pump 211 sx  
Down 8 5/8" csg to surf.  
Spot 77 sx from 1490-1200'  
Perf'd at 1485'.  
Cut off 5 1/2" csg at 1500'.

Spotted 25 sx cmt plug at  
2716'.

Spot 50 sx cmt from 4100' to  
3600'.

Displaced hole with salt gel  
Mud.

Tagged CIBP w/35' cmt cap  
At 5710'.

**WELL SCHEMATIC:  
EXXON BOWERS A FED #33**

WELL PLUGGED:  
10/3/72

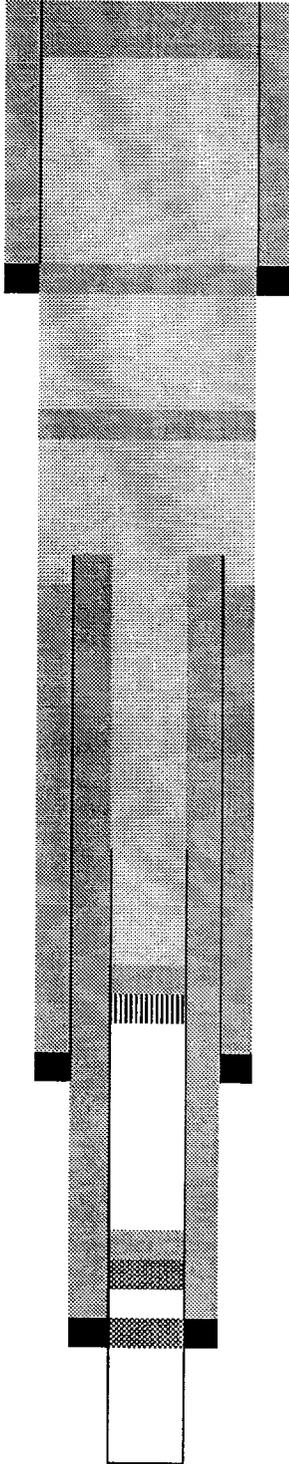
13 3/8"  
416'  
400 sxs.  
TOC: Circ.

9 5/8"  
3836'  
350 sxs  
TCO: 2555' T.S.

CIBP at 3970'

7"  
5988'  
550 sxs  
TOC: 2900' T.S.

TD: 6000'



Spot 20' cmt plug at surf

Spot 100' cmt plug at 416'

Run tbg to 1400' & spot 100'  
cmt plug

Cut & pull 9 5/8" csg from  
1889'

Cut & pull 7" csg from 2560'

Spot 100' cmt on top of CIBP

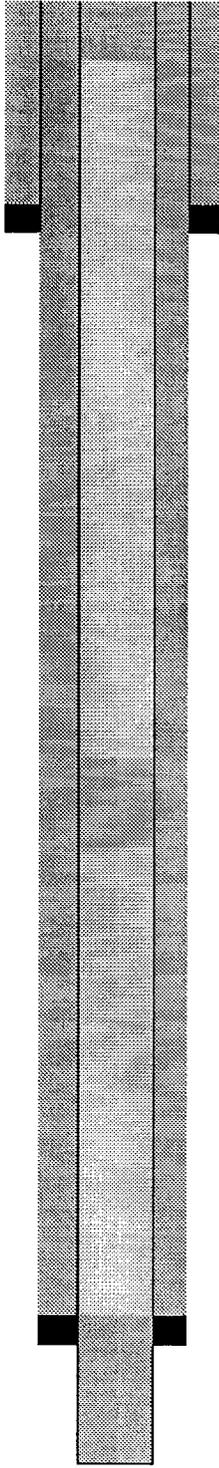
Set CIBP at 5800' and  
Capped with cmt.

Set CIBP at 5900'.

**WELL SCHEMATIC:  
EXXON BOWERS AB FED #1**

WELL PLUGGED:  
11/26/48

8 5/8"  
260'  
150 SX  
TOC: CIRC



Spotted 20 sx cmt plug from  
160' to surface.

All intervals between plugs  
Was filled with mud laden  
Fluid.

5 1/2"  
3179'  
1050 SX  
TOC: CIRC

Spotted 40 sx cmt plug from  
1800' to 1480'.

TD: 3238'

Spotted 15 sx cmt plug from  
3238' to 3136'.

**WELL SCHEMATIC:  
EXXON BOWERS A FED #6**

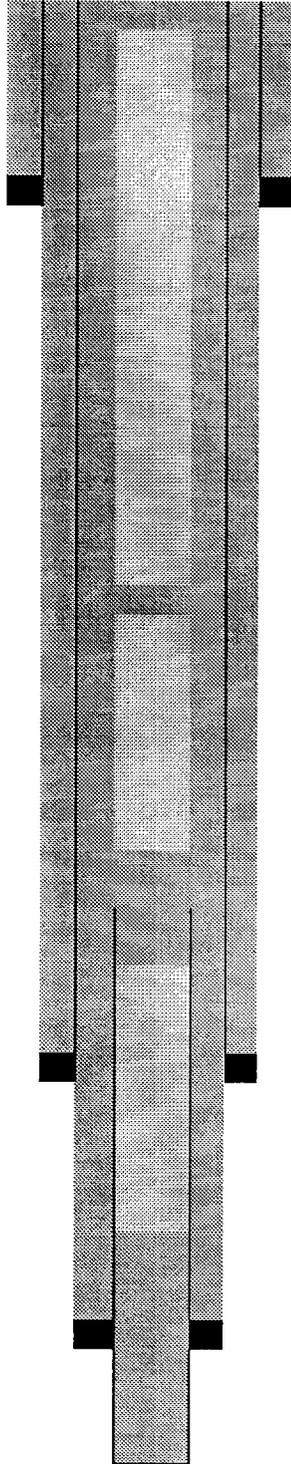
WELL PLUGGED:  
5/10/71

12 1/2"  
217'  
200 SX  
TOC: NA

9 5/8"  
2750'  
650 SX  
TOC: NA

7"  
3147'  
120 SX  
TOC: 2470 TS

TD: 3190'



Spotted 10 sx cmt plug from  
35' to top.

Circulated well bore with 9#  
Mud.

Spotted 20 sx cmt plug from  
1500' to 1400'.

7" csg shot loose at 2435'.  
Spotted 50 sx cmt plug from  
2485' to 2340'.

Spotted 50 sx cmt plug from  
3190' to 2950'.

**WELL SCHEMATIC:  
EXXON BOWERS B FED #1**

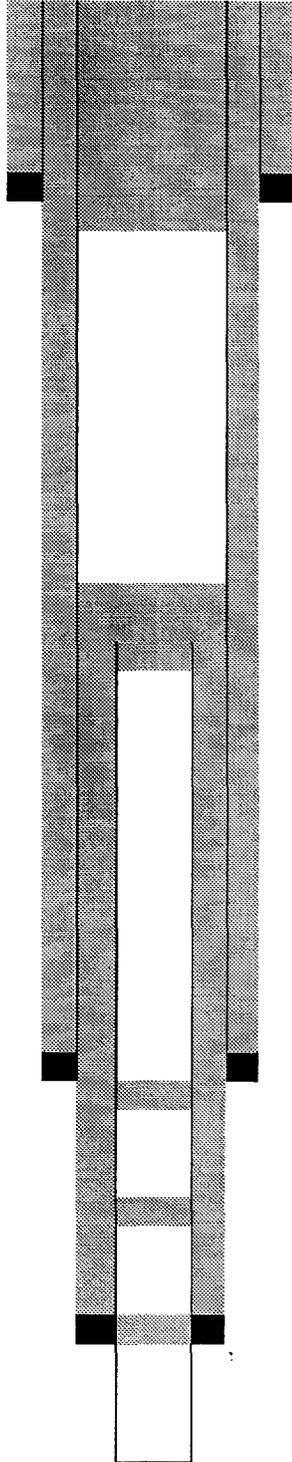
WELL PLUGGED:  
12/21/71

15 1/2"  
235'  
225 SX  
TOC: NA

9 5/8"  
2716'  
650 SX  
TOC: SURF (C)

7"  
3987'  
300 SX  
TOC: 2027 (C)

TD: 4239



Set 120 sx cmt plug at 250'  
And circulate.

Cut off 7" csg. at 1500' and  
Pull out of hole. Pump 60 sx  
Cmt plug at 1500'.

Set plug at 2800'.

Spotted 25 sx cmt plug at  
3355'.

Spotted 28 sx cmt plug at  
3970'.

**WELL SCHEMATIC:  
GETTY G.O. MCKINLEY #3**

WELL PLUGGED:  
8/26/75

Laid 10 sx cmt plug in top.

9 5/8"  
2755'  
600 SX  
TOP: 337' CALC

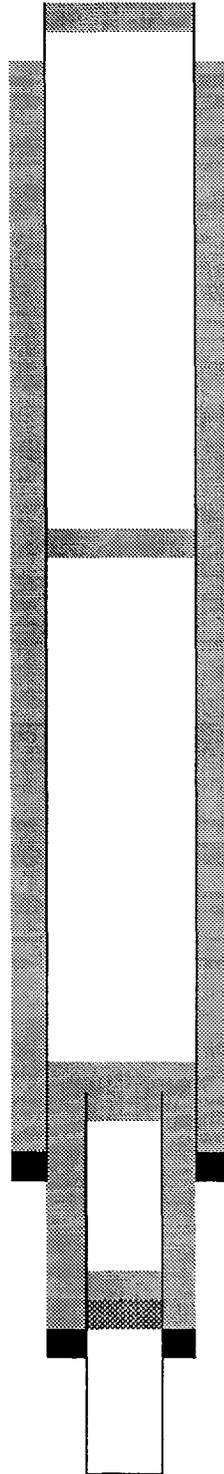
Laid 37 sx cmt plug from  
1575' to 1475'.

Ran 2 3/8" tbg to 3000'.  
Circulated hole with 123 bbls.  
Brine water w/23 sx salt gel.  
Pulled tbg.  
Shot csg at 2547'. Pulled and  
Laid down 84 joints(2555') 7"  
Csg. Ran tbg to 2616' and  
Laid 28sx cmt plug from  
2616' to 2516'.

7"  
3166'  
100 SX  
TOC: 2595' CALC

Set Titan CIBP at 3095'.  
Dumped 7 sx cmt on top of  
CIBP.

TD: 3199'

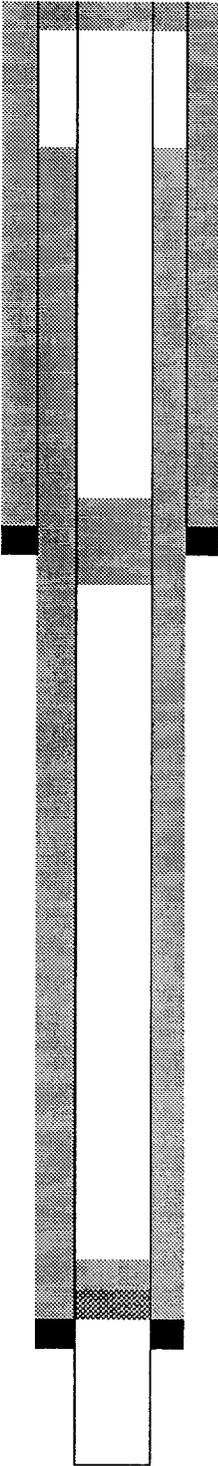


**WELL SCHEMATIC:  
GETTY G.O. MCKINLEY #6**

WELL PLUGGED:  
8/26/75

8 5/8"  
1474'  
400 SX  
TOC: CIRC

Laid 10 sx cmt plug in top.



Laid 20 sx cmt plug from  
1542' to 1374'.

5 1/2"  
3178'  
200 SX  
TOC: 498 (C)

TD:3200'

Set CIBP at 3100'. Dumped  
5 sx cmt on top of CIBP.

**WELL SCHEMATIC:  
GETTY G.O. MCKINLEY #7**

WELL PLUGGED:  
10/14/75

Laid 10 sx cmt plug in top.

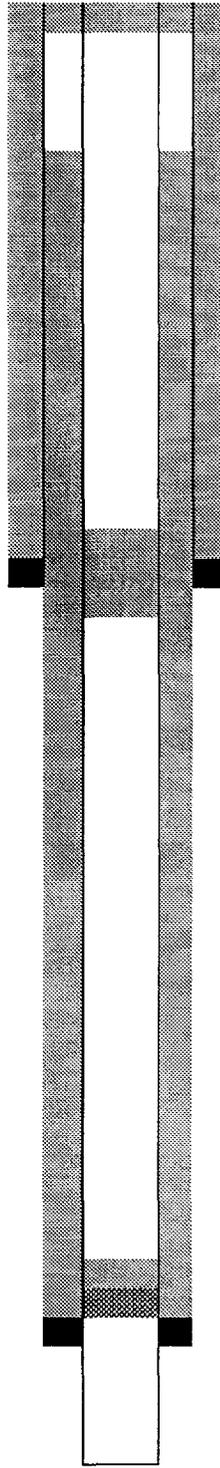
8 5/8"  
1504'  
400 SX  
TOC: SURF (C)

Laid 24 sx cmt plug from  
1514' to 1346'.

5 1/2"  
3192'  
200 SX  
TOC: 918 (C)

Laid 5 sx cmt plug on top of  
CIBP.(38' plug)  
Set CIBP at 3100'.

TD:3224'



## LIST OF OFFSET OPERATORS & SURFACE OWNERS

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North Hobbs (Grayburg/San Andres) Unit  
Well No. 411  
Letter A, Section 30, T-18-S, R-38-E  
Lea County, New Mexico

### Offset Operators

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Occidental Permian Limited Partnership  
P.O. Box 4294  
Houston, TX 77210-4294

Texaco E&P Inc.  
P.O. Box 3900  
Midland, TX 79702

Rice Operating Company  
122 West Taylor  
Hobbs, NM 88240

### Surface Owners

---

John Wayne Ivory  
P.O. Box 2291  
Hobbs, NM 88240

Is your RETURN ADDRESS completed on the reverse side?

<b>SENDER:</b> ■ Complete items 1 and/or 2 for additional services. ■ Complete items 3, 4a, and 4b. ■ Print your name and address on the reverse of this form so that we can return this card to you. ■ Attach this form to the front of the mailpiece, or on the back if space does not permit. ■ Write "Return Receipt Requested" on the mailpiece below the article number. ■ The Return Receipt will show to whom the article was delivered and the date delivered.		I also wish to receive the following services (for an extra fee): 1. <input type="checkbox"/> Addressee's Address 2. <input type="checkbox"/> Restricted Delivery Consult postmaster for fee.
3. Article Addressed to:  Texaco E&P Inc. P.O. Box 3900 Midland, TX 79702	4a. Article Number P 436 313 781	4b. Service Type <input type="checkbox"/> Registered <input checked="" type="checkbox"/> Certified <input type="checkbox"/> Express Mail <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> COD
5. Received By: (Print Name)		
6. Signature: (Addressee or Agent) X		7. Date of Delivery  8. Addressee's Address (Only if requested and fee is paid)
PS Form 3811, December 1994		102595-97-B-0179 Domestic Return Receipt

Thank you for using Return Receipt Service.

Is your RETURN ADDRESS completed on the reverse side?

<b>SENDER:</b> ■ Complete items 1 and/or 2 for additional services. ■ Complete items 3, 4a, and 4b. ■ Print your name and address on the reverse of this form so that we can return this card to you. ■ Attach this form to the front of the mailpiece, or on the back if space does not permit. ■ Write "Return Receipt Requested" on the mailpiece below the article number. ■ The Return Receipt will show to whom the article was delivered and the date delivered.		I also wish to receive the following services (for an extra fee): 1. <input type="checkbox"/> Addressee's Address 2. <input type="checkbox"/> Restricted Delivery Consult postmaster for fee.
3. Article Addressed to:  Rice Operating Company 122 West Taylor Hobbs, NM 88240	4a. Article Number P 436 313 783	4b. Service Type <input type="checkbox"/> Registered <input checked="" type="checkbox"/> Certified <input type="checkbox"/> Express Mail <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> COD
5. Received By: (Print Name)		
6. Signature: (Addressee or Agent) X		7. Date of Delivery  8. Addressee's Address (Only if requested and fee is paid)
PS Form 3811, December 1994		102595-97-B-0179 Domestic Return Receipt

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3. Article Addressed to:  John Wayne Ivory P.O. Box 2291 Hobbs, NM 88240	4a. Article Number P 436 313 784	4b. Service Type <input type="checkbox"/> Registered <input checked="" type="checkbox"/> Certified <input type="checkbox"/> Express Mail <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> COD
5. Received By: (Print Name)		
6. Signature: (Addressee or Agent) X		7. Date of Delivery  8. Addressee's Address (Only if requested and fee is paid)
PS Form 3811, December 1994		102595-97-B-0179 Domestic Return Receipt

Thank you for using Return Receipt Service.

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 December 31 1999 and ending with the issue dated

December 31 1999

Kathi Bearden

Publisher

Sworn and subscribed to before

me this 3rd day of

January 2000

Jodi Henson  
Notary Public.

My Commission expires  
October 18, 2000  
(Seal)

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.

**LEGAL NOTICE**  
**December 31, 1999**

Notice is hereby given of the application of Altura Energy LTD, Attn: Mark Stephens, P.O. Box 4294, Rm. 338-B, Houston, TX 77210-4294 (281/552-1158), to the Oil Conservation Division, New Mexico Energy, Minerals and Natural Resources Department, for approval of the following injection wells for the purpose of secondary recovery:

- Pool Name: Hobbs; Grayburg-San Andres
- Lease/Unit Name: North Hobbs G/SA Unit
- Well No. 231
- Loc.: 2310' FSL & 2310' FWL, Unit Letter K, Sec. 19, T-18-S, R-38-E, Lea Co., NM
- Well No. 422
- Loc.: 2310' FNL & 330' FWL, Unit Letter H, Sec. 24, T-18-S, R-37-E, Lea Co., NM
- Well No. 431
- Loc.: 2310' FSL & 330' FEL, Unit Letter I, Sec. 25, T-18-S, R-37-E, Lea Co., NM
- Well No. 131
- Loc.: 2310' FSL & 330' FWL, Unit Letter L, Sec. 28, T-18-S, R-38-E, Lea Co., NM
- Well No. 332
- Loc.: 2470' FNL & 1800' FEL, Unit Letter G, Sec. 28, T-18-S, R-38-E, Lea Co., NM
- Well No. 231
- Loc.: 2310' FSL & 1650' FWL, Unit Letter K, Sec. 29, T-18-S, R-38-E, Lea Co., NM
- Well No. 321
- Loc.: 2310' FNL & 1650' FEL, Unit Letter G, Sec. 29, T-18-S, R-38-E, Lea Co., NM
- Well No. 223
- Loc.: 1770' FNL & 2405' FWL, Unit Letter F, Sec. 30, T-18-S, R-38-E, Lea Co., NM
- Well No. 411
- Loc.: 330' FNL & 3300' FEL, Unit Letter A, Sec. 30, T-18-S, R-38-E, Lea Co., NM
- Well No. 211
- Loc.: 440' FNL & 2310' FWL, Unit Letter C, Sec. 31, T-18-S, R-38-E, Lea Co., NM
- Well No. 144
- Loc.: 765' FSL & 1175' FWL, Unit Letter M, Sec. 32, T-18-S, R-38-E, Lea Co., NM
- Well No. 312
- Loc.: 210' FNL & 1400' FEL, Unit Letter B, Sec. 32, T-18-S, R-38-E, Lea Co., NM
- Well No. 431
- Loc.: 2310' FSL & 330' FEL, Unit Letter I, Sec. 32, T-18-S, R-38-E, Lea Co., NM
- Well No. 111
- Loc.: 330' FNL & 330' FWL, Unit Letter D, Sec. 33, T-18-S, R-38-E, Lea Co., NM
- Well No. 211
- Loc.: 330' FNL & 2310' FWL, Unit Letter C, Sec. 33, T-18-S, R-38-E, Lea Co., NM

The injection formation is the Hobbs; Grayburg - San Andres Pool between the intervals of +/- 3700' and +/- 5300' below the surface of the ground. Expected maximum injection rate is 4000 BWPD and the expected maximum injection pressure is approximately 805 psi. Interested parties must file objections or requests for hearing with the Oil Conservation Division, 2040 S. Pacheco, Santa Fe, NM 87505 within fifteen (15) days.  
#17073

02101173000      02533892  
altura  
P. O. Box 4294  
Houston, TX 77210-4294