PMX 7/5/00

Occidental Permian Ltd.

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

204

June 14, 2000

19

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

RE: Expansion of Pressure Maintenance Project
North Hobbs (Grayburg/San Andres) Unit
Hobbs; Grayburg – San Andres Pool
Well No. 422
Letter K, Section 24, T-18-S, R-37-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. 422 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. 422). 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

OXY Occidental Permian Ltd.

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

- 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 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)

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 SOUTH PACHECO
SANTA FE, NEW MEXICO 87505

FORM C-108
Revised 4-1-98

APPLICATION FOR AUTHORIZATION TO INJECT

I. PURPOSE: _____Secondary Recovery __X__Pressure Maintenance _____Disposal _____Storage
Application qualifies for administrative approval? __X__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? __X__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:

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: Mark Stephens TITLE: Business Analyst (SG)

SIGNATURE: Mark Stephens DATE: 6/14/00

* 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

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate District Office

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.

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. 422
Letter H, Section 24, T-18-S, R-37-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	(H2S)		486.00	16.00	30.38
Carbon Dioxide	(CO2)	Not Analyzed			
Dissovled Oxygen	(O2)	Not Analyzed			

Cations

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

Anions

Hydroxyl	(OH-)	Not Analyzed			
Carbonate	(CO3=)		0.00	30.00	0.00
Bicarbonate	(HCO3-)		1,869.66	61.10	30.60
Sulfate	(SO4=)		1,700.00	48.80	34.84
Chloride	(Cl-)		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 CaCO3			2,810.32		
Conductivity MICROMHOS/CM			23,500		

pH 6.500 Specific Gravity 60/60 F. 1.009

CaSO4 Solubility @ 80 F. 46.63 MEq/L, CaSO4 scale is unlikely

CaCO3 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 24-422
SAMPLED BY

DATE TAKEN 5/11/00
REMARKS T18S-R38E-Sec 19, Qtr Sec 3,4,1

Barium as Ba	0	
Carbonate alkalinity PPM	20	
Bicarbonate alkalinity PPM	188	
pH at Lab	7.6	
Specific Gravity @ 60°F	1	
Magnesium as Mg	148	
Total Hardness as CaCO3	256	
Chlorides as Cl	60	
Sulfate as SO4	125	
Iron as Fe	0.2	
Potassium	0.08	
Hydrogen Sulfide	0	
Rw	11.8	23.0 C
Total Dissolved Solids	785	
Calcium as Ca	108	
Nitrate	9.2	

Results reported as Parts per Million unless stated

Langelier Saturation Index - 0.01

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 24-422
SAMPLED BY

DATE TAKEN 5/11/00
REMARKS T18S-R38E-Sec 19, Qtr Sec 3,3,1

Barium as Ba	0	
Carbonate alkalinity PPM	0	
Bicarbonate alkalinity PPM	184	
pH at Lab	7.33	
Specific Gravity @ 60°F	1	
Magnesium as Mg	130	
Total Hardness as CaCO3	224	
Chlorides as Cl	60	
Sulfate as SO4	90	
Iron as Fe	0.03	
Potassium	0.08	
Hydrogen Sulfide	0	
Rw	11.8	23.0 C
Total Dissolved Solids	677	
Calcium as Ca	94	
Nitrate	10.6	

Results reported as Parts per Million unless stated

Langelier Saturation Index - 0.43

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

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

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

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

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

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-025-05478	31920	HOBBS; GRAYBURG - SAN ANDRES

Property Code	Property Name	Well Number
19520	NORTH HOBBS G/SA UNIT	422

OGRID No.	Operator Name	Elevation
157984	Occidental Permian Limited Partnership	3667

Surface Location

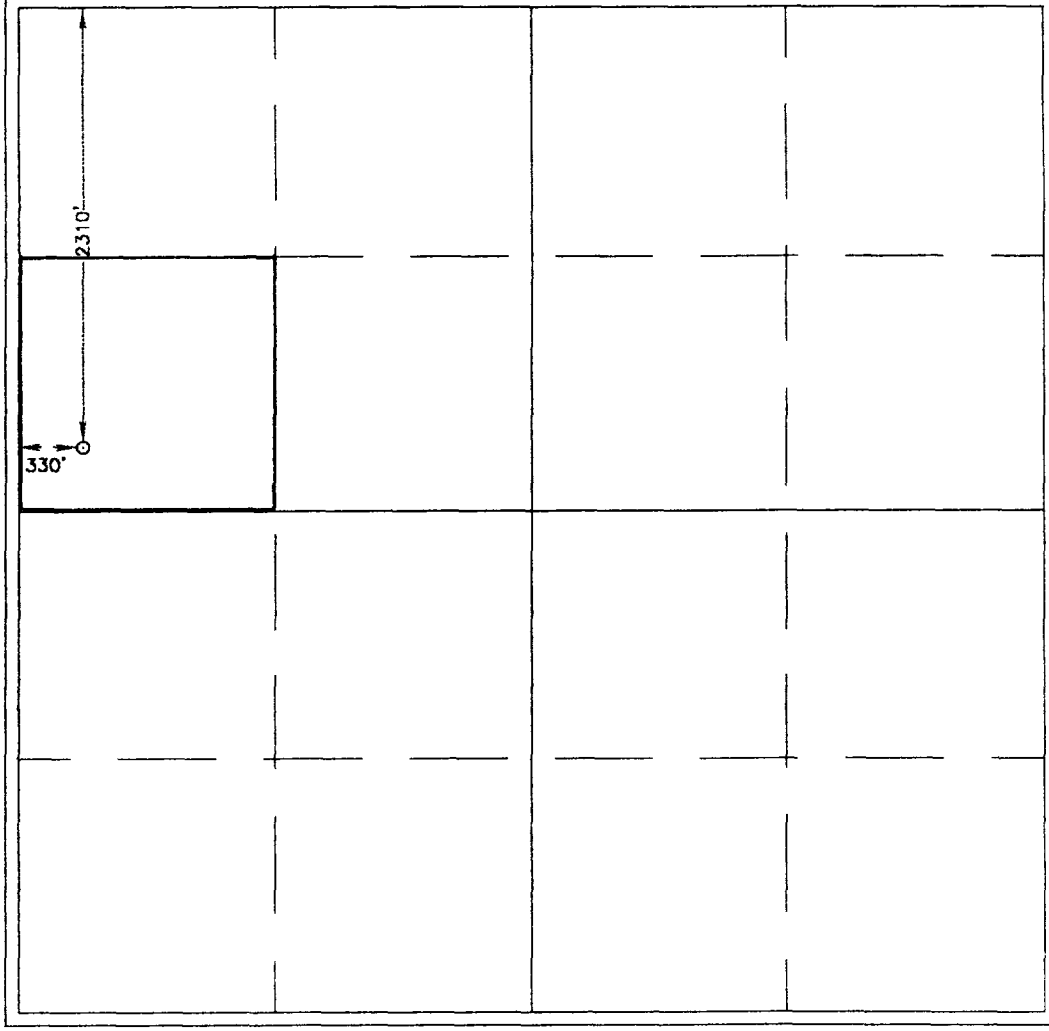
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	24	18 S	37 E		2310	NORTH	330	WEST	LEA

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



OPERATOR CERTIFICATION

I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.

Mark Stephens
Signature

Mark Stephens
Printed Name

Business Analyst (SG)
Title

June 14, 2000
Date

SURVEYOR CERTIFICATION

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 supervison, and that the same is true and correct to the best of my belief.

JANUARY 6, 2000
Date Surveyed DC

Signature & Seal of Professional Surveyor

Gary L. Eidson 1/20/2000

00-13-0019

Certificate No. RONALD J. EIDSON 3239
GARY EIDSON 12641
MACON McDONALD 12185

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

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

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

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

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

OIL CONSERVATION DIVISION

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-025-05478	31920	HOBBS; GRAYBURG - SAN ANDRES

Property Code	Property Name	Well Number
19520	NORTH HOBBS G/SA UNIT	422

OGRID No.	Operator Name	Elevation
157984	Occidental Permian Limited Partnership	3667

Surface Location

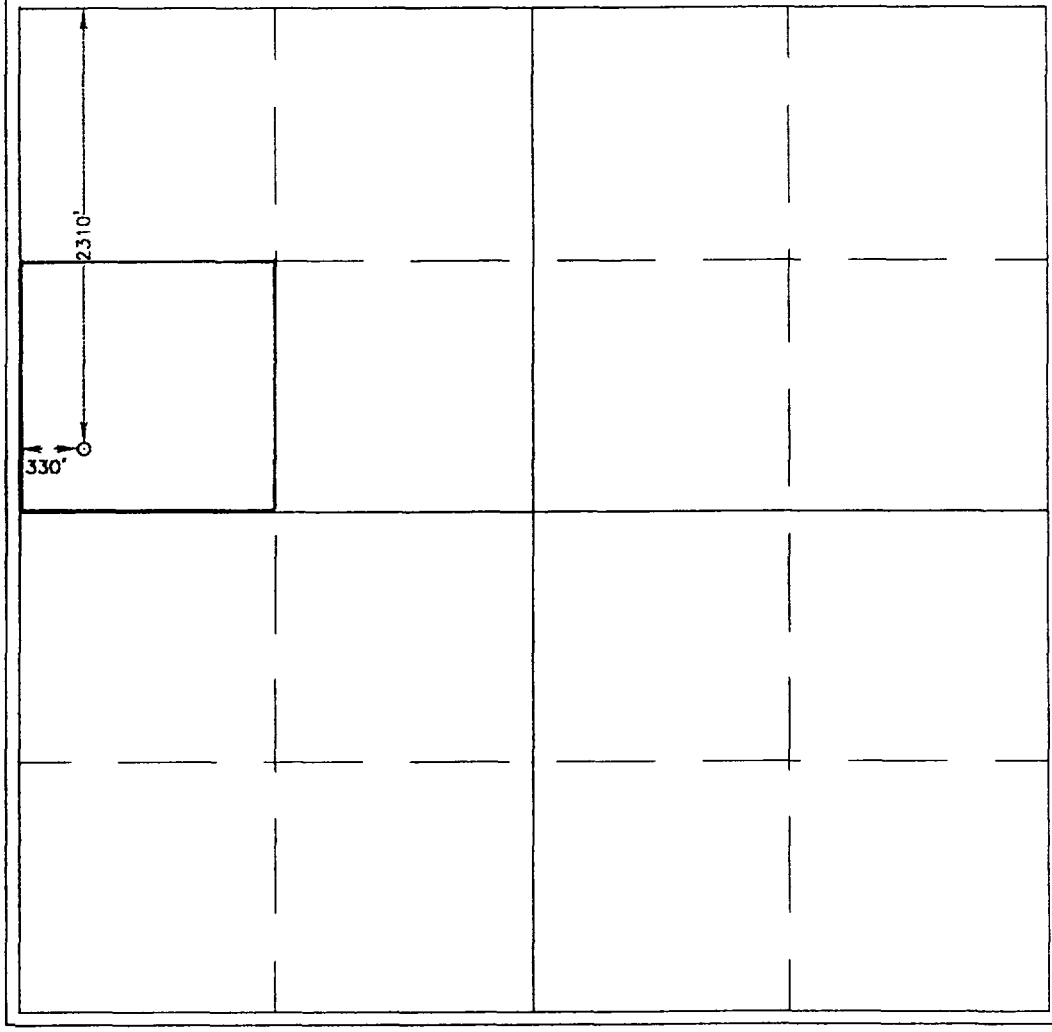
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	24	18 S	37 E		2310	NORTH	330	WEST	LEA

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



OPERATOR CERTIFICATION

I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.

Mark Stephens
Signature

Mark Stephens
Printed Name

Business Analyst (SG)
Title

June 14, 2000
Date

SURVEYOR CERTIFICATION

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 supervison, and that the same is true and correct to the best of my belief.

JANUARY 6, 2000
Date Surveyed DC

Signature & Seal of Professional Surveyor

RONALD G. EIDSON
NEW MEXICO
REGISTERED PROFESSIONAL SURVEYOR

Gary Eidson 1/20/2000

00-13-0019

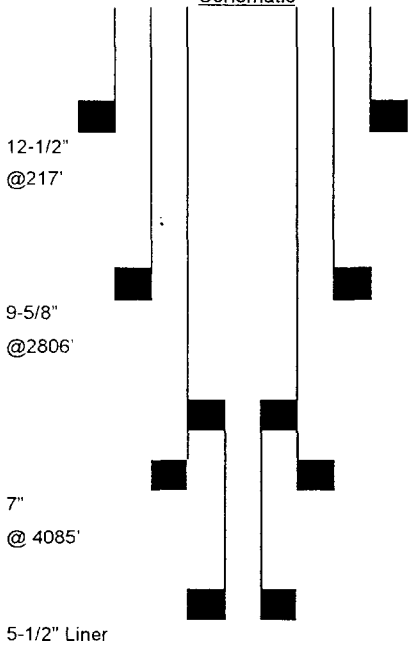
Certificate No. RONALD E EIDSON 3239
GARY EIDSON 12641
MACON McDONALD 12185

INJECTION WELL DATA SHEET

Operator	Lease	County
Occidental Permian Limited Partnership	North Hobbs G/SA Unit	Lea

Well No.	Footage Location	Section	Township	Range	Unit Letter
24-422	2310 FNL & 330 FEL	24	18-S	37-E	H

Schematic



Tubular Data

Surface Casing
Size 13-3/8" Cemented with 200 sxs.
TOC Circ. Determined by Calc. w/ 50% eff.
Hole size 16"

Intermediate Casing
Size 9-5/8" Cemented with 600 sxs.
TOC 1769 Determined by Calc. w/ 50% eff.
Hole size 11-3/4"

Long string Casing
Size 7" Cemented with 375 sxs.
TOC 3000' Determined by CBL
Hole size 8-1/4"

Liner
Size 5-1/2" Cemented with 100 sxs.
TOC 3960 Determined by CBL
Hole size

Total depth 4310'

Injection interval
4130 feet to 4254 feet

Completion type Perforated Casing

Tubing size 2-7/8" lined with Duoline (Fiberglass liner) set in a
Guiberson – Uni VI packer at 4097' 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 [X]
If no, for what purpose was the will 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): 3963-4034 squeezed w/ 40 sxs

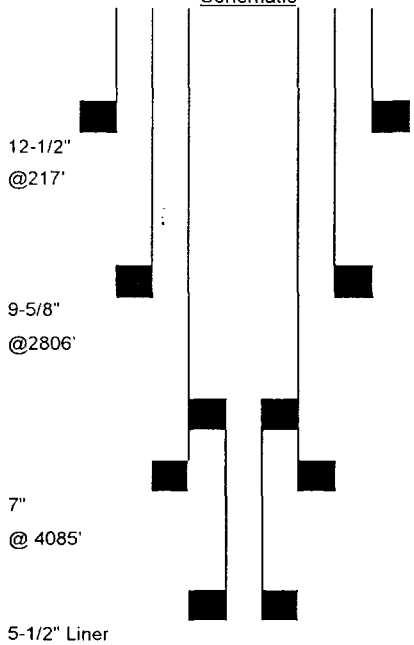
5. Give the depth to and name of any overlying and/or underlying oil and gas zones (pools) in this area.
Grayburg – 3270, Glorieta - 5300

INJECTION WELL DATA SHEET

Operator	Lease		County
Occidental Permian Limited Partnership	North Hobbs G/SA Unit		Lea

Well No.	Footage Location	Section	Township	Range	Unit Letter
24-422	2310 FNL & 330 FEL	24	18-S	37-E	H

Schematic



Tubular Data

Surface Casing
Size 13-3/8" Cemented with 200 sxs.
TOC Circ. Determined by Calc. w/ 50% eff.
Hole size 16"

Intermediate Casing
Size 9-5/8" Cemented with 600 sxs.
TOC 1769 Determined by Calc. w/ 50% eff.
Hole size 11-3/4"

Long string Casing
Size 7" Cemented with 375 sxs.
TOC 3000' Determined by CBL
Hole size 8-1/4"

Liner
Size 5-1/2" Cemented with 100 sxs.
TOC 3960 Determined by CBL
Hole size

Total depth 4310'

Injection interval
4130 feet to 4254 feet

Completion type Perforated Casing

Tubing size 2-7/8" lined with Duoline (Fiberglass liner) set in a
Guiberson – Uni VI packer at 4097' 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 will 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): 3963-4034 squeezed w/ 40 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

OFFSET WELLS WITHIN A HALF MILE OF PROPOSED INJECTOR

FOR WELL 24422																	
Well Name	API No.		Sec.	T	R	Un	Drill	Well	TD or	Top	Bot.	Sqz.	Csg.	Hole		No. of	
Operator						Ltr	Date	Type	PBTD	Perf	Perf	Perfs	Size	Size	Depth	Sxs.	TOC
Quarry #1	30-025-	32297	19	-18S	-38E	L	11//93	P	3200	2666	3260	NONE	8.625	12.25	318	200	CIRC**
Erwin O&G													5.5	7.875	3320	550	CIRC**
13441	30-025-	12732	13	-18S	-37E	P	9//32	P	4258	4000	4054	4110	12.5	18	228	200	CIRC**
Altura													9	12	2786	600	720**
													7	8.125	3922	250	3074-CBL
													5	6.25	3844-4258	100	CIRC**
19112	30-025-	07358	19	-18S	38E	D	5//52	I	4270	4127	4285	460-530	8.625	11	251	200	CIRC
Altura												4127-4149	5.5	6.125	4254	1500	1108
19121	30-025-	07357	19	-18S	-38E	E	9//30	SI	4280	4050	4280	NONE	12.5	16	245	200	987**
Altura													9	11.75	2752	500	945**
													7	8.75	4020	200	3394**
19131	30-025-	07361	19	-18S	-38E	L	8//30	P	4278	4034	4282	4068-4158	12.5	18	240	200	CIRC
Altura									PBTD				9.625	12	2774	600	CIRC**
													7	8.75	3980	225	3005**
19142	30-025-	27138	19	-18S	-38E	N	7//81	I	4437	4170	4270	4110-4113	16	18	40	40	CIRC
Altura												4118-4129	8.625	12.25	1600	875	CIRC
												4134-4144	5.5	6.125	4510	900	3450 CBL
19232	30-025-	29172	19	-18S	-38E	K	5//85	P	4270	4076	4337	NONE	13.38	17.5	40	NA	CIRC
Altura													9.625	12.25	1498	625	CIRC
													7	8.75	4419	900	CIRC
24212	30-025-	29129	24	-18S	-37E	C	4//85	I	4313	4135	4288	4112-14	13.38	17.5	40	200	CIRC**

** - Denotes calculated TOC with 50% efficiency.

OFFSET WELLS WITHIN A HALF MILE OF PROPOSED INJECTOR

FOR WELL 24422																	
Well Name	API No.		Sec.	T	R	Un	Drill	Well	TD or	Top	Bot.	Sqz.	Csg.	Hole		No. of	
Operator						Ltr	Date	Type	PBTD	Perf	Perf	Perfs	Size	Size	Depth	Sxs.	TOC
Altura													9.625	12.25	1500	600	CIRC**
													7	8.75	4368	580	CIRC
24221	30-025-	09876	24	-18S	-37E	F	9//34	I	4259	4166	4240	4054-4098	9.625	12.25	2802	150	CIRC
Altura													7	8.625	4030	250	3005-CBL
													5.5	7.875	3953-4259	100	TOL-CBL
24311	30-025-	05481	24	-18S	-37E	B	8//35	I	4274	4132	4256	NONE	9.625	12.25	1588	400	427
Altura													6.25	8	3976	320	3072 CBL
													4.5 Lnr	6.25	3745-4288	150	3946
24321	30-025-	05480	24	-18S	-37E	G	8//34	P	4315	3994	4315	NONE	13.38	17	214	415	CIRC
Altura									PBTD				9.625	12.25	2815	350	1730
													7	8.75	3994	200	2721
24331	30-025-	05488	24	-18S	-37E	J	6//32	P	4215	3878	4215	NONE	12.5	16	215	200	CIRC
Altura													9	12	2810	400	1909**
													7	8.75	3878	300	1864**
24411	30-025-	23522	24	-18S	-37E	A	7//70	P	4274	4138	4260	NONE	8.625	12.25	322	210	CIRC
Altura													5.5	7.875	4283	265	2524 CBL
24412	30-025-	05479	24	-18S	-37E	A	7//32	TA	4114	3975	4217	NONE	13.38	17	229	200	CIRC
Altura									PBTD				9.625	12.25	2790	600	1048
													7	8.75	3975	250	300-CBL
24413	30-025-	28414	24	-18S	-37E	A	5//84	I	4286	4181	4295	4104,10	16	18	40	NA	NA
Altura												4123-61	8.625	11	1520	750	CIRC
													5.5	7.875	4400	625	CIRC
24414	30-025-	28879	24	-18S	-37E	A	10//84	P	4325	4216	4293	NONE	13.38	17.5	40	NA	CIRC
Altura									PBTD				8.625	12.25	1520	711	CIRC
													5.5	7.875	4370	730	CIRC

** - Denotes calculated TOC with 50% efficiency.

OFFSET WELLS WITHIN A HALF MILE OF PROPOSED INJECTOR

FOR WELL 24422																	
Well Name	API No.		Sec.	T	R	Un	Drill	Well	TD or	Top	Bot.	Sqz.	Csg.	Hole		No. of	
Operator						Ltr	Date	Type	PBTD	Perf	Perf	Perfs	Size	Size	Depth	Sxs.	TOC
24421	30-025-	23081	24	-18S	-37E	H	5//69	P	4298	4064	4316	NONE	13.38	17.5	408	400	CIRC
Altura									(CIBP)				8.625	11	3903	500	2115
													5.5	7.875	6106	385	2840
24431	30-025-	05487	24	-18S	-37E	I	11//30	P	4218	NA	NA	NONE	12.5	16	221	180	CIRC**
Altura													9	12	2782	510	1233**
													7	8.75	3951	250	2632**
24432	30-025-	29073	24	-18S	-37E	I	4//85	TA	4015	4065	4229	NONE	13.38	17.5	40	NA	NA
Altura									(CIBP)				9.625	12.25	1534	425	CIRC
													7	8.75	4370	550	CIRC
24442	30-025-	29098	24	-18S	-37E	P	3//85	I	4254	4165	4271	4070-4156	13.38	17.5	40	NA	NA
Altura									(CIBP)				9.625	12.25	1527	375	CIRC
													7	8.75	4384	576	CIRC
19111	30-025-	07356	19	-18S	-38E	D	8//32	PA	3845	3945	4067	NONE	12.5	16	230	150	CIRC**
Altura									PBTD				9	11.75	2770	500	972**
													7	8.75	3945	250	2623**

** - Denotes calculated TOC with 50% efficiency.

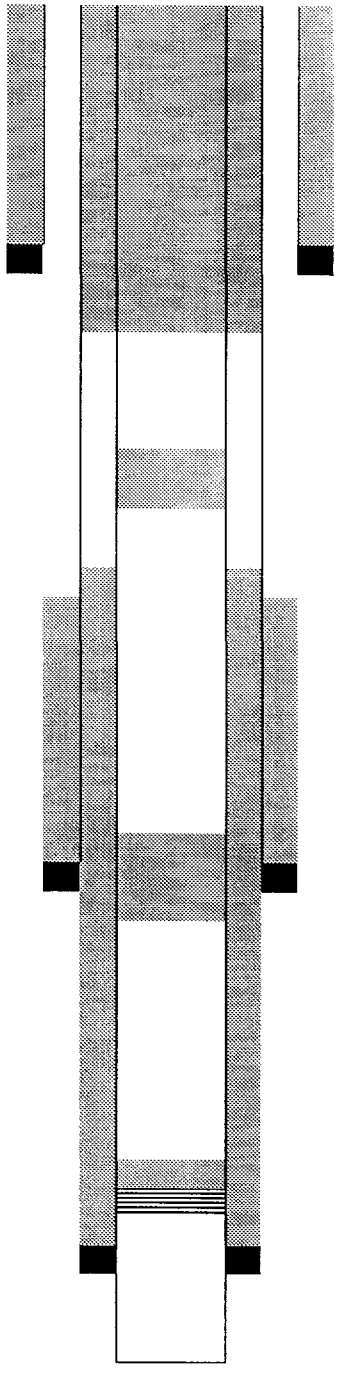
NHU 19-111
(Formally Hardin #4)
Cities Services
Unit D, 330 FNL & 330 FWL
Sec 19, T-18-S, R-38-E

P&A'd: 10/9/97
DATUM:3672 df

Size: 12-1/2"
Weight: 50#
Depth: 230'
Hole Size: 16"
Cmt: 150 sxs
TOC: Circ.

Size: 9"
Weight: 34#
Depth: 2770'
Hole Size: 11-3/4"
Cmt: 500 sxs
TOC:

Size: 7"
Weight: 24#
Depth: 3945'
Hole Size: 8-3/4"
Cmt: 250 sxs
TOC: 2128 CBL



Perfed 7" at 400' and circulated
110 sxs cmt plug to surface

25 sxs cmt plug, 1475-1623'

25 sxs cmt plug, 2705-2832'

25 sxs cmt plug 3690-3840'
CIBP w/ cmt @ 3845'

TD: 4204'

05/16/00

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

442
SHELL W. E&P
N HB U SC 13
DF-3677
TD-4370

30 025 28878

WI-242
SHELL OIL
N HB U SC 18
KB-3675
TD-4510

30 025 27198

1
CONTINENTAL OIL
STATE B-13
-
TD-4038
7/5/1935
30 025 05436

2
SHELL OIL
RICE
ES-3678
TD-4263

30 025 05446

441
SHELL OIL

ES-3668
TD-4175

30 025 12732

4
AM. HESS CORP
HARDIN B
ES-3673
TD-3270

30 025 07340

1
AM. HESS CORP
HARDIN B
ES-3671
TD-4158

30 025 07337

2
AM. HESS CORP
HARDIN B
ES-3670
TD-4152

30 025 07338

312
SHELL W E&P

GR-3668
TD-4370

30 025 29130

414
SHELL W. E&P
N HB U S 24
DF-3679
TD-4370

30 025 28879

2419

212
SHELL W. E&P

GR-3665
TD-4370

30 025 28880

2
GULF OIL
GRAHAM
ES-3670
TD-4217

30 025 05479

4
CITIES SER OIL
HARDIN
-
TD-4204

30 025 07356

2
SHELL OIL
STATE D
ES-3678
TD-4260

30 025 07047

WI-311
SHELL OIL

GR-3670
TD-4230

30 025 05481

411
SHELL OIL
N HB U S 24
GR-3675
TD-4283

30 025 23522

413
SHELL W. E&P
N HB U S 24
DF-3672
TD-4400

30 025 28414

WI-112
SHELL OIL

DF-3670
TD-4255

30 025 07358

211
SHELL OIL

GR-3660
TD-4220
3/8/1983
30 025 07359

212
SHELL W E&P

GR-3666
TD-4370

30 025 29129

ONE-HALF MILE RADIUS FROM WELL 24-422

421
SHELL OIL

GR-3668
TD-6107
3/3/1983
30 025 23081

2
CITIES SER OIL
HARDIN
-
TD-4210

30 025 07357

1
CITIES SER OIL
HARDIN
-
TD-4209

30 025 07355

SHELL OIL
STATE D
ES-3674
TD-4260

30 025 09876

3
GULF OIL
GRAHAM-STATE A
ES-3671
TD-4219

30 025 05480

1
GULF OIL
GRAHAM-STATE A
-
TD-4225
9/9/1930
30 025 05478

232
SHELL W. E&P
NORTH HOBBS

KB-3675
TD-4420

30 025 29172

7
SHELL OIL
MCKINLEY A

DF-3667
TD-4210

30 025 07361

6
SHELL OIL
MCKINLEY HD A
DF-3663
TD-4200

30 025 07362

432
SHELL W. E&P

GR-3669
TD-4368

30 025 29073

2
TX PACIFIC OIL
STATE G
ES-3669
TD-4218

30 025 05487

1
ERWIN O&G
QUARRY

KB-3676
TD-3320

30 025 32297

2
SAMEDAN OIL
STATE C
ES-3672
TD-4171

30 025 05483

332
SHELL W. E&P

GR-3657
TD-4370

30 025 29195

WI-242
SHELL OIL

KB-3677
TD-4443

30 025 26832

3
TEXAS PACIFIC OIL
STATE G
ES-3670
TD-4227

30 025 05488

442
SHELL W. E&P

GR-3668
TD-4384

30 025 29098

WI-142
SHELL OIL
N HB U SC 19
GR-3650
TD-4510

30 025 27138

9
SHELL OIL
MCKINLEY A
ES-3665
TD-3247

30 025 12492

1
SAMEDAN OIL
STATE C
ES-3669
TD-4188

30 025 05482

4
TEXAS PACIFIC OIL
STATE G
ES-3667
TD-4225

30 025 05490

342
SHELL W E&P

KB-3679
TD-4371

30 025 29062

1
TX PACIFIC OIL
STATE G
ES-3667
TD-4214
7/3/1930
30 025 05486

141
SHELL OIL

DF-3663
TD-4210

30 025 07365

11
SHELL OIL
MCKINLEY /A/
DF-3666
TD-7105
7/1/1976
30 025 23481

4
SHELL OIL
MCKINLEY A
ES-3660
TD-4200

30 025 07364

2530

1
CONTINENTAL OIL
STATE B-25
GR-3365
TD-4225

30 025 05489

4
TEXACO INC
STATE C-DD-B NCT-1
DF-3672
TD-4232

30 025 05506

411
SHELL OIL

DF-3671
TD-4206
3/8/1983
30 025 05503

112
SHELL W. E&P

GR-3658
TD-4370
4/6/1985
30 025 29063

211
SHELL OIL

ES-3659
TD-4170

30 025 07463

1
AM. HESS CORP
HD MCKINLEY
ES-3662
TD-4230
7/8/1930
30 025 07077

6
AM. HESS CORP
MCKINLEY
ES-3664
TD-3229

30 025 07466

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

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

Area of Review Plat

NORTH HOBBS (GRAYBURG SAN ANDRES) UNIT

WELL NO. 24-422

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.

LIST OF OFFSET OPERATORS & SURFACE OWNERS

North Hobbs (Grayburg/San Andres) Unit
Well No. 422
Letter H, Section 24, T-18-S, R-37-E
Lea County, New Mexico

Offset Operators

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

Erwin Oil & Gas Ltd. Co.
P.O. Box 1506
Hobbs, NM 88241

Surface Owners

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

Is your RETURN ADDRESS completed on the reverse side?

SENDER:
- 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. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

Erwin Oil & Gas Ltd. Co.
P.O. Box 1506
Hobbs, NM 88241

4a. Article Number
P 447 842 754

4b. Service Type
☐ Registered ☒ Certified
☐ Express Mail ☐ Insured
☒ Return Receipt for Merchandise ☐ COD

7. Date of Delivery

5. Received By: *(Print Name)*

8. Addressee's Address *(Only if requested and fee is paid)*

6. Signature: *(Addressee or Agent)*
X

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?

SENDER:
- 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. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

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

4a. Article Number
P 447 842 835

4b. Service Type
☐ Registered ☒ Certified
☐ Express Mail ☐ Insured
☒ Return Receipt for Merchandise ☐ COD

7. Date of Delivery

5. Received By: *(Print Name)*

8. Addressee's Address *(Only if requested and fee is paid)*

6. Signature: *(Addressee or Agent)*
X

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)

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

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.

02101173000 02533892

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