

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:
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: July 17, 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. 144  
Letter M, Section 32, 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 32144

**SAMPLED BY** \_\_\_\_\_

**DATE TAKEN** 5/31/00

**REMARKS** T18S-R38E-Sec 32, Qtr Sec. 1,3,4

Barium as Ba	0	
Carbonate alkalinity PPM	40	
Bicarbonate alkalinity PPM	220	
pH at Lab	7.35	
Specific Gravity @ 60°F	1	
Magnesium as Mg	181	
Total Hardness as CaCO3	312	
Chlorides as Cl	127	
Sulfate as SO4	125	
Iron as Fe	0.07	
Potassium	0.1	
Hydrogen Sulfide	0	
Rw	9.5	@ 25 C
Total Dissolved Solids	850	
Calcium as Ca	131	
Nitrate	9.7	

Results reported as Parts per Million unless stated

**Langelier Saturation Index** + 0.20

Analysis by: Vickie Walker  
Date: 6/5/00



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

**Water Analysis**

**COMPANY**      Altura Energy Ltd,

**SAMPLE**      Fresh Water Well For Well 32144

**SAMPLED BY**      \_\_\_\_\_

**DATE TAKEN**      6/1/00

**REMARKS**      T18S-R38E-Sec 32, Qtr Sec. 3,3,3

Barium as Ba	0	
Carbonate alkalinity PPM	0	
Bicarbonate alkalinity PPM	220	
pH at Lab	7.23	
Specific Gravity @ 60°F	1	
Magnesium as Mg	288	
Total Hardness as CaCO3	496	
Chlorides as Cl	311	
Sulfate as SO4	100	
Iron as Fe	0.11	
Potassium	0.13	
Hydrogen Sulfide	0	
Rw	9.2	@ 25° C
Total Dissolved Solids	1,140	
Calcium as Ca	208	
Nitrate	7.9	

Results reported as Parts per Million unless stated

Langelier Saturation Index      + 0.43

Analysis by: Vickie Walker  
Date: 6/5/00

DISTRICT I  
P.O. Box 1880, Hobbs, NM 88241-1880

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 88, Artesia, NM 88211-0718

DISTRICT III  
1000 Rio Brazos 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 30-025-31662	Pool Code 31920	Pool Name HOBBS; GRAYBURG - SAN ANDRES
Property Code 19520	Property Name NORTH HOBBS G/SA UNIT	Well Number 144
OGRID No. 157984	Operator Name Occidental Permian Limited Partnership	Elevation 3627

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	32	18 S	38 E		765	SOUTH	1175	WEST	LEA

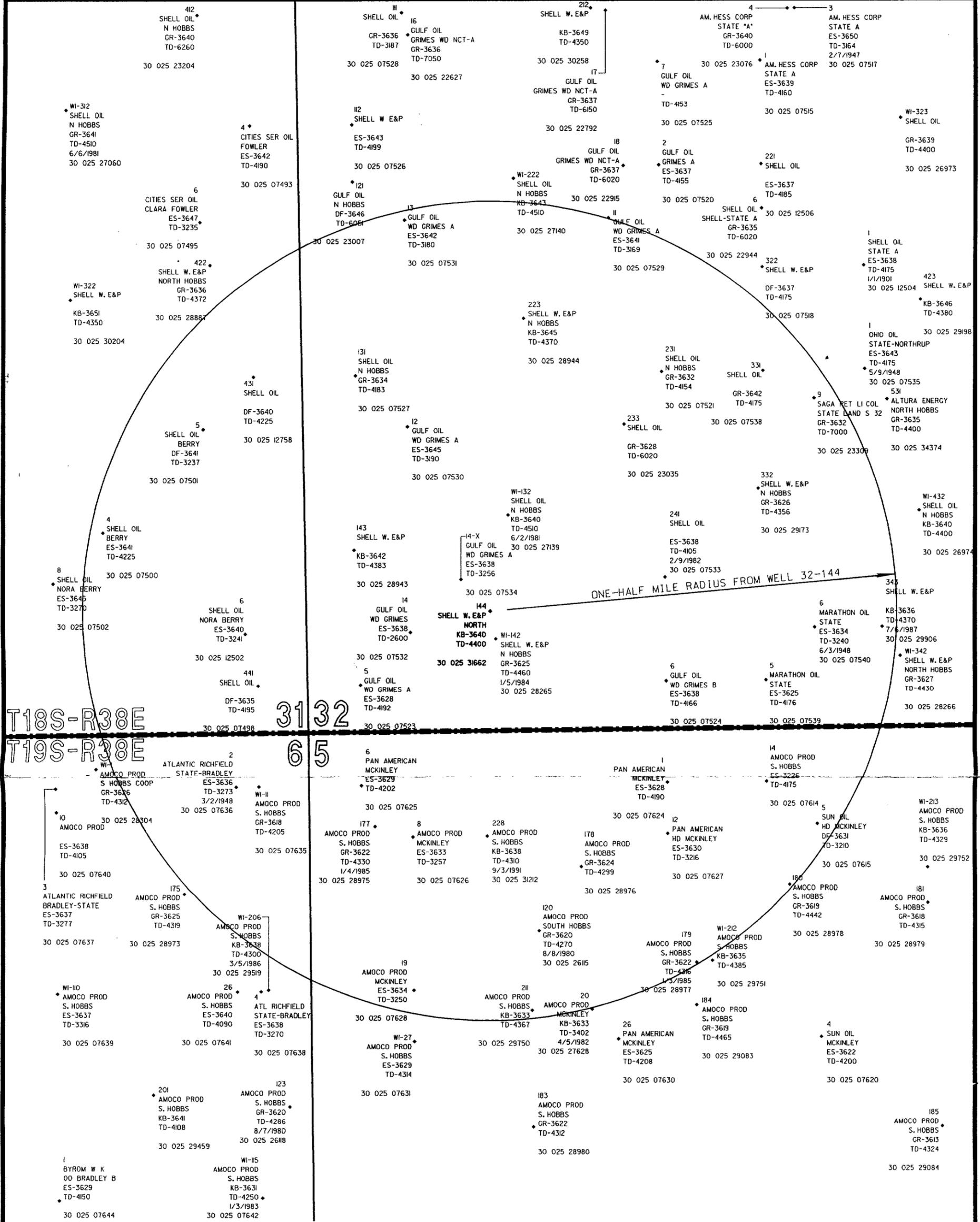
Bottom Hole Location If Different From Surface

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

	<p><b>OPERATOR CERTIFICATION</b></p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.</p> <p><u>Mark Stephens</u> Signature</p> <p>Mark Stephens Printed Name</p> <p>Business Analyst (SG) Title</p> <p>July 14, 2000 Date</p>
	<p><b>SURVEYOR CERTIFICATION</b></p> <p>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.</p> <p>JANUARY 6, 2000 Date Surveyed</p> <p>Signature &amp; Seal of Professional Surveyor</p> <p><u>Gary Edson 1/28/2000</u> 60-13-0019</p>
	<p>Certificate No. RONALD J. EDSON 3239 GARY EDSON 12841 MACON McDONALD 12185</p>



T18S-R38E  
T19S-R38E

3132  
65

ONE-HALF MILE RADIUS FROM WELL 32-144

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. 32-144  
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.

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

OFFSET WELLS WITHIN ONE HALF MILE OF PROPOSED INJECTOR

FOR WELL 32144		API No.	Sec.	T	R	Un	Drill Date	Well Type	TD or	Top Perf	Bot. Perf	Sqz. Perfs	Csg. Size	Hole Size	Depth	No. of Sxs.	TOC	
Well Name																		
Operator																		
31431	30-025-12758	31	-18S	-38E	I	7/1/34	P	4222	PBTD	3962	4225	NONE	12.5	18	233	150	25**	
Altura													9.625	12	2766	150	3088**	
													7	8.75	3962	250	2876-CBL	
													5.5	6.25	3923-4224	100	NA	
31441	30-025-07498	31	-18S	-38E	P	9/1/30	TA	3875		3939	4215	NONE	12.5	16	242	200	CIRC**	
Altura								CIBP					9	12	2800	600	741**	
													6.625	8.75	3975	200	2820-CBL	
													5	6.25	3930-4219	71	3930	
32131	30-025-07527	32	-18S	-38E	L	9/1/34	P	4250		4116	4237	4067-4150	13.375	17.5	212	200	CIRC**	
Altura								PBTD					9.625	12.25	2740	350	1896**	
													7	8.75	3966	150	3972**	
													4.5	6.25	3813-4250	65	3813**	
32132	30-025-27139	32	-18S	-38E	L	12/1/80	I	4466		4128	4254	4092-4097	16	20	40	40	CIRC	
Altura								PBTD					8.625	12.25	1550	875	CIRC	
													5.5	7.875	4510	1275	CIRC	
32141	30-025-07523	32	-18S	-38E	M	9/1/30	I	4256		4146	4256	4078-4105	13.375	17	257	200	CIRC**	
Altura													9.625	12.25	2794	600	396**	
													7	8.75	3908	405	CIRC	
													5.5	6.25	3840-4192	60	2900-CBL	
32142	30-025-28265	32	-18S	-38E	M/N	9/1/83	I	4360		4175	4313	NONE	16	20	40	40	CIRC	
Altura								PBTD					8.625	12.25	1525	850	CIRC	
													5.5	7.875	4460	680	CIRC**	
32143	30-025-28943	32	-18S	-38E	G	11/1/30	P	4341		4077	4181	320-350	13.375	16	40	150	CIRC	
Altura								PBTD					9.625	11.75	1534	625	1289	
													7	8.75	4373	830	3133-CBL	
32223	30-025-28944	32	-18S	-38E	F	5/1/85	I	4325		4079	4251	NONE	13.375	17.5	40	NA	NA	
Altura								CIBP					9.625	12.25	1500	600	CIRC	
													7	8.75	4369	975	CIRC	

\*\* Denotes calculated TOC with 50% efficiency

OFFSET WELLS WITHIN ONE HALF MILE OF PROPOSED INJECTOR

Well Name Operator	API No.	Sec.	T	R	Un Ltr	Drill Date	Well Type	TD or PBTD	Top Perf	Bot. Perf	Sqz. Perfs	Csg. Size	Hole Size	Depth	No. of	
															Sxs.	TOC
32231 Altura	30-025-07521	32	-18S	-38E	K	8/30	P	4030 PBTD	3876	4222	4068-4083 4109-4168	15.5 9.625 7 4	17.5 12.25 8.75 6.25	207 2738 3946 3701-4194	200 600 300 90	CIRC 996 2246 3701
32232 Altura	30-025-23035	32	-18S	-38E	K	4/69	P	4201 PBTD	4115	4191	4234-4236	13.375 8.625 5.5 5.5	17.5 11 7.875 7.875	383 3829 6019 6019	400 500 450 450	CIRC 2041* 3685-CBL 3685-CBL
32241 Altura	30-025-07533	32	-18S	-38E	N	2/49	P	4236 PBTD	4065	4236	1398-1399 3670-3730 4065-4072	13.375 7 7	17.5 8.75 8.75	328 4094 4094	325 1425 1425	CIRC 2337 2337
32331 Altura	30-025-07538	32	-18S	-38E	J	9/30	I	4220 PBTD	3940	4200	1414 2670 3964-3997 4050-4261	15.5 9.625 7 5	18 11.75 8.75 6.25	300 2750 3940 4247	250 300 700 750	CIRC 915** CIRC 2430-CBL
32332 Altura	30-025-29173	32	-18S	-38E	J	4/85	P	4310 PBTD	4055	4208	4019-4021	13.375 9.625 7	17.5 12.25 8.75	40 1534 4356	NA 680 875	NA CIRC CIRC
32343 Altura	30-025-29906	32	-18S	-38E	O	6/87	P	4220 PBTD	4141	4208	4000-4002 4224-4035	14 9.625 7	18 12.25 8.75	40 1498 4370	NA 1400 1350	NA CIRC CIRC
SHU #11 Altura	30-025-07614	5	-18S	-38E	B	10/30	P	4220	4062	4180	180 590 2761-3061 4046-4165	13.375 9.625 7 5.5	18 12.25 8.875 6.25	201 2761 3930 4175	150 500 230 50	CIRC** 979** 3088** 4202**
SHU#14 Altura	30-025-28970	34	-18S	-38E	K	9/30	I	4231	4127	4214	4020-4044	12.25 9.625 7	16 12.25 8.75	214 2810 3968	75 500 300	64** 1052** 1999**

\*\* Denotes calculated TOC with 50% efficiency

OFFSET WELLS WITHIN ONE HALF MILE OF PROPOSED INJECTOR

Well Name Operator	API No.	Sec.	T	R	Un Ltr	Drill Date	Well Type	TD or PBTD	Top Perf	Bot. Perf	Sqz. Perfs	Csg. Size	Hole Size	Depth	No. of	
															Sxs.	TOC
SHU #120 Altura	30-025-26115	5 -18S	-38E	C	1/1/79	I	4204 PBTD	4110	4197	4063-4095 4104-4107	4.5	6.25	3795-4232	80	3795**	
SHU #177 Altura	30-025-28975	5 -18S	-38E	D	11/1/84	P	4223 PBTD	4105	4211	4215-4276	14	18	40	83	CIRC**	
SHU #178 Altura	30-025-28976	5 -19S	-38E	C	12/1/84	P	4290 PBTD	4116	4248	NONE	14	18	40	93	CIRC**	
SHU #179 Altura	30-025-28977	5 -19S	-38E	F	11/1/84	P	4213 PBTD	4106	4198	4202-4264	8.625	12.25	1486	825	CIRC	
SHU #211 Altura	30-025-29750	5 -18S	-38E	F/E	10/1/86	TA	4272 PBTD	4173	4263	NONE	14	18	36	NA	NA	
SHU #228 Altura	30-025-31212	5 -18S	-38E	D	6/1/91	P	4300 PBTD	3896	4216	4014-4050	10.75	14.75	1608	1100	CIRC	
McKinley #8 Amoco/Altura	30-025-07626	5 -19S	-38E	D	6/1/48	TA	3170 CIBP	3172	3220	355	9.625	12.125	336	200	CIRC**	
McKinley #19 Amoco	30-025-07628	5 -19S	-38E	E	7/1/48	TA	3080 CIBP	3134	3250	NONE	6.625	8.75	3179	800	CIRC**	
Nora Berry #6 Ralph C. Bruton	30-025-12502	31 -18S	-38E	P	11/1/47	P	3242	3179	3242	NONE	8.625	11	420	200	CIRC**	
											4.5	7.875	3179	800	CIRC**	

\*\* Denotes calculated TOC with 50% efficiency

OFFSET WELLS WITHIN ONE HALF MILE OF PROPOSED INJECTOR

Well Name	API No.	Sec.	T	R	Un	Drill Date	Well Type	TD or P/BTD	Top Perf	Bot. Perf	Sqz. Perfs	Csg. Size	Hole Size	Depth	No. of Sxs.	TOC
Operator					Ltr											
State A #6	30-025-07540	32 -18S	-38E	O	6//48	TA	3240	3156	3198	NONE		8.625	11	301	125	CIRC**
Saga Petroleum												5.5	7	3116	750	CIRC**
HD McKinley #12	30-025-07627	5 -19S	-38E	C	8//48	TA	3090	3162	3210	NONE		9.625	12	450	300	CIRC**
Pan Amer./Aitura							CIBP					5.5	7.375	3140	1000	CIRC**
State Land S32 #9	30-025-23309	32 -18S	-38E	J	1//70	P	6710	5954	6560	NONE		13.375	17.5	364	160	90**
Saga Petroleum							CIBP					9.625	12.25	3799	1140	CIRC**
												7	8.75	3573-6998	490	CIRC**
State Bradley #2	30-025-07636	6 -19S	-38E	A	3//48	PA	3273	3200	3273	NONE		8.625	12	483	250	CIRC**
Arco												5.5	7.375	3190	800	CIRC**
Grimes A #11	30-025-07529	32 -18S	-38E	F	12//47	PA	3169	3140	3169	NA		9.625	12.25	294	200	CIRC**
Chevron								OH				7	8.75	3130	600	CIRC**
Grimes A #13	30-025-07531	32 -18S	-38E	E	2//48	PA	3222	3140	3222	NA		8.625	12	299	225	CIRC**
Chevron								OH				5.5	7.375	3129	600	CIRC**
WD Grimes #14	30-025-07532	32 -18S	-38E	M	4//48	PA	2600	NONE	NONE	NONE		8.625	12	313	235	CIRC
Gulf																
							This well was never completed.									
WD Grimes #14-Y	30-025-07534	32 -18S	-38E	M	4//48	PA	3100	3141	3256	NONE		9.625	12.25	318	225	CIRC**
Gulf								CIBP				5.5	8.75	3130	800	CIRC**
Grimes A #12	30-025-07530	32 -18S	-38E	L	2//48	PA	3038	3145	3234	NONE		9.625	12.25	292	200	CIRC**
								CIBP				7	8.75	3134	700	CIRC**
WD Grimes B #6	30-025-07558	33 -18S	-38E	I	4//49	PA	2956	3150	3229	350		9.625	12.25	289	225	CIRC
Gulf								CIBP				5.5	7.875	3140	775	550-TS

\*\* Denotes calculated TOC with 50% efficiency

OFFSET WELLS WITHIN ONE HALF MILE OF PROPOSED INJECTOR

Well Name Operator	API No.	Sec.	T	R	Un Ltr	Drill Date	Well Type	TD or PBTD	Top Perf	Bot. Perf	Sqz. Perfs	Csg. Size	Hole Size	Depth	No. of	
															Sxs.	TOC
Nora Berry #5 Shell	30-025-07501	31	-18S	-38E	I	10//47	PA	3237	3186	3233	NONE	8 625	11	403	200	CIRC**
HD McKinley #5 Sun Oil Co.	30-025-07615	5	-18S	-38E	B	9//48	PA	3775 CMT	3638	3722	NONE	9 625	13.75	281	150	CIRC**
												4.5	7.875	3152	850	CIRC**
												7	8.75	2073	625	CIRC**

\*\* Denotes calculated TOC with 50% efficiency

State Bradley #2  
Arco Oil and Gas Co.  
Unit A, 330 FNL & 480 FEL  
Sec 6, T-19S, R-38E

WELL PLUGGED:  
10/16/75

Size: 8.625"  
Depth: 483'  
Hole size: 12"  
Cmt: 250 sxs  
TOC: Circ.- Calc.  
50% efficiency

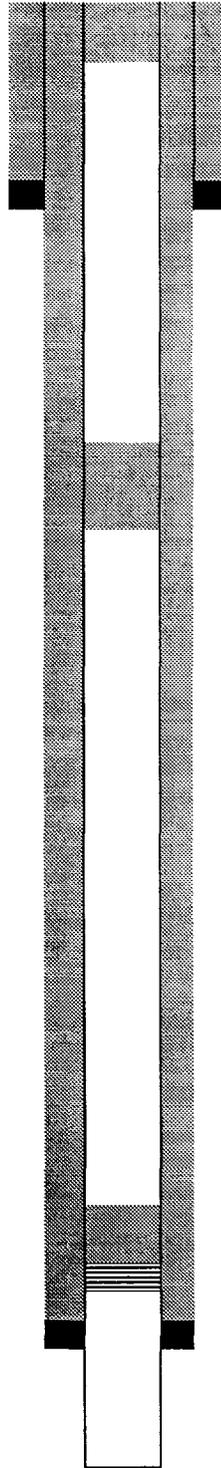
Spotted 10 sxs at surface.

Spotted 12 sxs at 1600'

Size: 5.5"  
Depth: 3190'  
Hole size: 7.375"  
Cmt: 800 sxs  
TOC: Circ.- Calc.  
50% efficiency

CIBP at 3123 + 10 sxs cmt

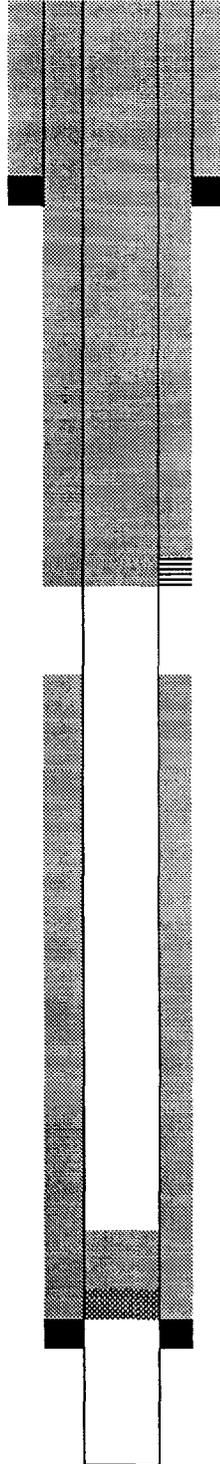
TD: 3273'



**WELL SCHEMATIC:  
CHEVRON WD GRIMES A #11**

WELL PLUGGED:  
6/19/96

9 5/8"  
294'  
300 SX  
TOC: CIRC



Pumped 55 sx down annulus.  
Pumped 45 sx and circ. 7"  
Full. Topped off csg.

7"  
3130'  
600 SX  
TOC: NA

Perf'd at 1500'. Sqzd perms  
With 50 sx. No circ. Sqzd  
Perfs with 80 sx and circ.  
TOC: 307'.

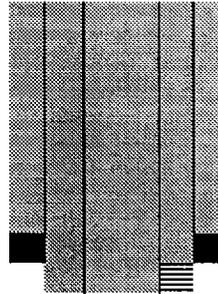
TD: 3169'

Set CIBP at 3092'. Spot 25  
Sx cmt and circ(TOC: 2947')

**WELL SCHEMATIC:  
CHEVRON WD GRIMES A #13**

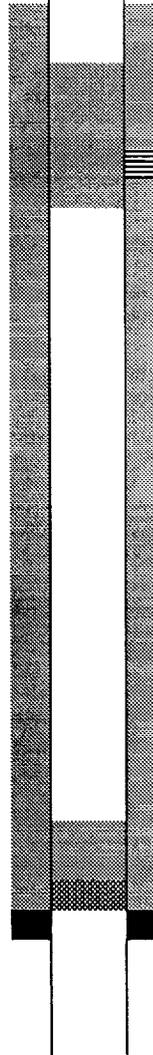
WELL PLUGGED:  
6/20/96

8 5/8"  
299'  
225 SX  
TOC: CIRC



Perfd at 362' and circ surf  
Csg full with 132 sx.

5 1/2"  
3129'  
600 SX  
TOC: 1555 TS



Perfd at 1470'. Spot 35 sx  
At 1593' and circ(TOC:1256')

TD: 3222'

Set CIBP at 3100'. Spot 25  
Sx and circ (TOC: 2860')

**Chevron**  
**Unit M, 660 FWL & 660 FSL**  
**Sec 32, T-18S, R-38E**

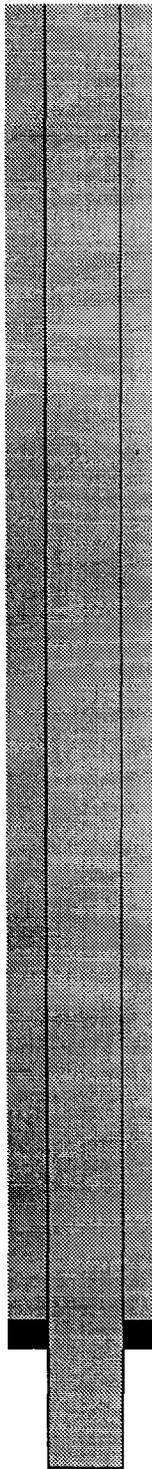
WELL PLUGGED:  
4/1/48

Well plugged while drilling.

Pumped 320 sxs from 328' to surface

Size: 8.625"  
Depth: 313'  
Hole size: 12"  
Cmt: 235 sxs  
TOC: Circ.

TD: 313'



W. D. Cramer & Co., Inc.  
**Chevron**  
Unit M, 990 FSL & 990 FWL  
Sec 32, T-18S, R-38E

WELL PLUGGED:  
6/22/96

Size: 9.625"  
Depth: 318'  
Hole size: 12.25"  
Cmt: 225 sxs  
TOC: Circ.- Calc.  
50% efficiency

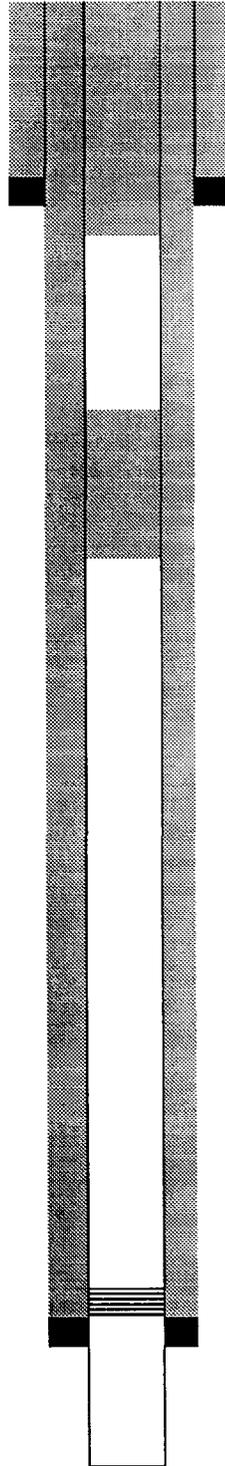
Spotted 120 sxs from 625 to surface

Spotted 35 sxs from 1560 to 1271'

Size: 5.5"  
Depth: 3130'  
Hole size: 8.75"  
Cmt: 800 sxs  
TOC: Circ.- Calc.  
50% efficiency

TD: 3256'

CIBP - 3100'

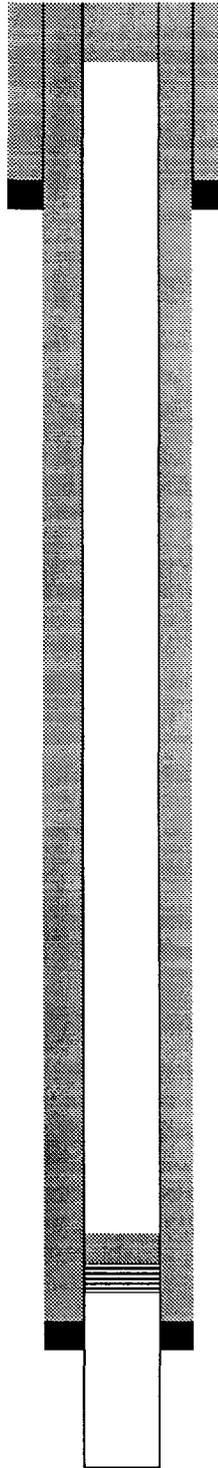


W.D. GAMES FIELD  
Gulf  
Unit L, 1980 FSL & 660 FWL  
Sec 32, T-18S, R-38E

WELL PLUGGED:  
3/24/66

Size: 9.625"  
Depth: 292'  
Hole size: 12.25"  
Cmt: 200 sxs  
TOC: Circ.- Calc.  
50% efficiency

Spotted 10 sxs at surface



Size: 7"  
Depth: 3134'  
Hole size: 8.75"  
Cmt: 700 sxs  
TOC: Circ.- Calc.  
50% efficiency

BP at 3092 + 10 sxs on top

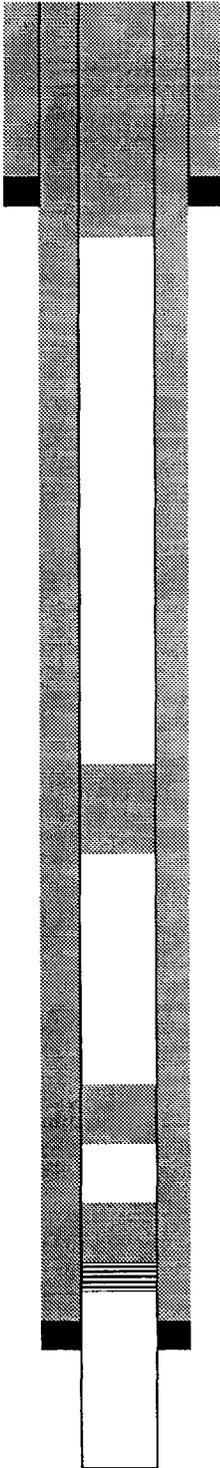
TD: 3234'

W. D. GUMS D #0  
Chevron  
Unit I, 1980 FSL & 960 FEL  
Sec 33, T-18S, R-38E

WELL PLUGGED:  
12/8/95

Size: 9.625"  
Depth: 289'  
Hole size: 12.25"  
Cmt: 225 sxs  
TOC: Circ.

Perfed and circulated 100 sxs to surface  
from 350'.  
Filled 5.5 csg with 136 sxs to surface.



Spotted 25 sxs plug from 1670-1430'

Spotted 25 sxs from 2715 to 2475'

Dumped 15 sxs on top of CIBP

CIBP: 3100

Size: 5.5"  
Depth: 3140'  
Hole size: 7.875"  
Cmt: 775 sxs  
TOC: 550' - TS

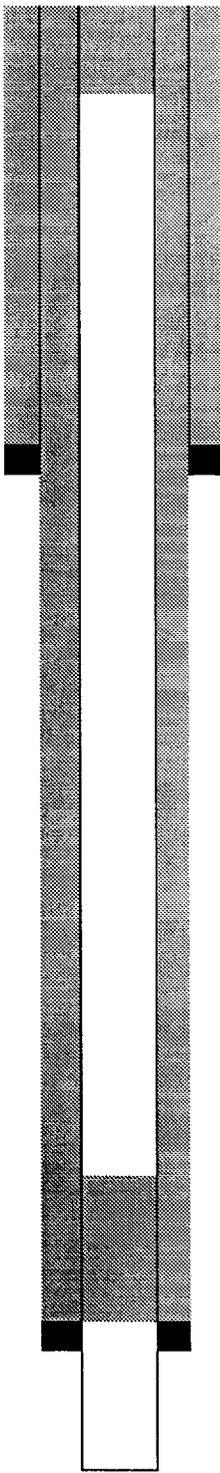
TD: 3229'

Shell Oil Co.  
Unit I, NE1/4 SE1/4  
Sec 31, T-18S, R-38E

WELL PLUGGED:  
4/2/53

Size: 8.625"  
Depth: 403'  
Hole size: 11"  
Cmt: 200 sxs  
TOC: Circ.- Calc.  
50% efficiency

Spotted 15 sxs plug from 45' to surface



Size: 4.5"  
Depth: 3152'  
Hole size: 7.875"  
Cmt: 850 sxs  
TOC: Circ.- Calc.  
50% efficiency

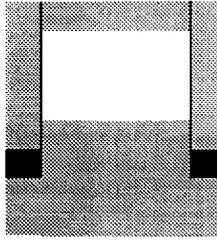
Spotted 15 sxs plug from 3100 to 2915'

TD: 3237'

LD McKamey Co.  
Sun Oil Co.  
Unit B, 610 FNL & 1980 FEL  
Sec 5, T-19S, R-38E

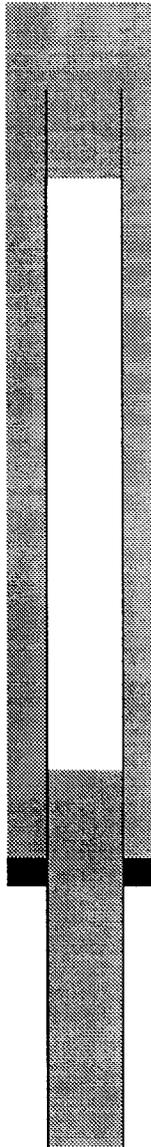
WELL PLUGGED:  
1/24/74

Size: 9.625"  
Depth: 281'  
Hole Size: 13.75"  
Cmt: 150 sxs  
TOC: Circ-Calc  
50% efficiency



Spotted 15 sxs plug at 30'

Spotted 50 sxs plug at 340'



Cut off and pulled 7" csg. at 1031'

Spotted 30 sxs plug 1063'

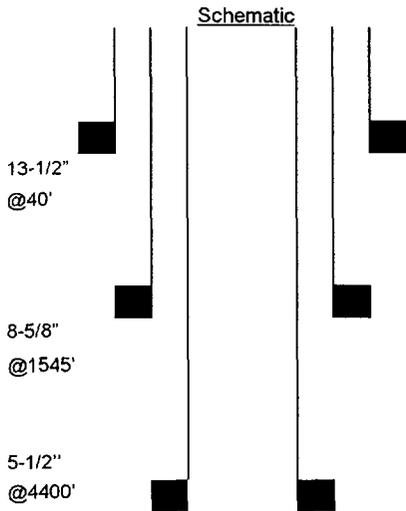
Size: 7"  
Depth: 2073'  
Hole size: 8.75"  
Cmt: 625 sxs  
TOC:

TD: 3775'

Pumped 45 sxs plug

**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>32-144</b>	Footage Location	<b>765' FSL &amp; 1175' FWL</b>	Section	<b>32</b>
				Township	<b>18-S</b>
				Range	<b>38-E</b>
				Unit Letter	<b>M</b>



<u>Surface Casing</u>		<u>Tubular Data</u>	
Size	<u>13-1/2"</u>	Cemented with	<u>NA</u> sxs.
TOC	<u>SURF</u>	Determined by	<u>CIRC.</u>
Hole size	_____		
<u>Intermediate Casing</u>			
Size	<u>8-5/8"</u>	Cemented with	<u>850</u> sxs.
TOC	<u>SURF</u>	Determined by	_____
Hole size	_____		
<u>Long string Casing</u>			
Size	<u>5-1/2"</u>	Cemented with	<u>810</u> sxs.
TOC	<u>SURF</u>	Determined by	_____
Hole size	_____		
<u>Liner</u>			
Size	_____	Cemented with	_____ sxs.
TOC	_____	Determined by	_____
Hole size	_____		
Total depth	<u>4400'</u>		

Injection interval  
4100 feet to 4300 feet

Completion type Perforated Casing

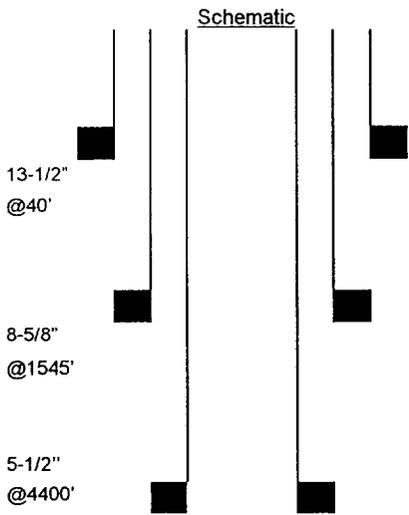
Tubing size 2-7/8" lined with Duoline (Fiberglass liner) set in a  
Guiberson - Uni VI packer at 4000' feet  
 (brand and model)

Other Data

- Name of the injection formation San Andres
- Name of field or Pool Hobbs
- 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) San Andres, 4041'-4089', sqz'
- 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	<b>Occidental Permian Limited Partnership</b>	Lease	<b>North Hobbs G/SA Unit</b>	County	<b>Lea</b>
Well No.	<b>32-144</b>	Footage Location	<b>765' FSL &amp; 1175' FWL</b>	Section	<b>32</b>
				Township	<b>18-S</b>
				Range	<b>38-E</b>
				Unit Letter	<b>M</b>



<u>Surface Casing</u>		<u>Tubular Data</u>	
Size	<u>13-1/2"</u>	Cemented with	<u>NA</u> sxs.
TOC	<u>SURF</u>	Determined by	<u>CIRC.</u>
Hole size	_____		
<u>Intermediate Casing</u>			
Size	<u>8-5/8"</u>	Cemented with	<u>850</u> sxs.
TOC	<u>SURF</u>	Determined by	_____
Hole size	_____		
<u>Long string Casing</u>			
Size	<u>5-1/2"</u>	Cemented with	<u>810</u> sxs.
TOC	<u>SURF</u>	Determined by	_____
Hole size	_____		
<u>Liner</u>			
Size	_____	Cemented with	_____ sxs.
TOC	_____	Determined by	_____
Hole size	_____		
Total depth	<u>4400'</u>		

Injection interval  
4100 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 4000' feet  
 (brand and model)

Other Data

- Name of the injection formation San Andres
- Name of field or Pool Hobbs
- 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) San Andres, 4041'-4089', sqz'
- Give the depth to and name of any overlying and/or underlying oil and gas zones (pools) in this area.  
Grayburg - 3270, Glorieta - 5300

LIST OF OFFSET OPERATORS & SURFACE OWNERS

---

North Hobbs (Grayburg/San Andres) Unit  
Well No. 144  
Letter M, Section 32, T-18-S, R-38-E  
Lea County, New Mexico

Offset Operators

---

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

Ralph C. Bruton  
3500 Acoma  
Hobbs, NM 88240

Saga Petroleum LLC  
415 W. Wall, Suite 835  
Midland, TX 79701

Surface Owner

---

Clyde Harrison Sr. &  
Jerry Charlene Harrison  
513 E. Abo  
Hobbs, NM 88240

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:

Ralph C. Bruton  
3500 Acoma  
Hobbs, NM 88240

4a. Article Number  
P 436 313 656

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**

Thank you for using Return Receipt Service.

Is your RETURN ADDRESS completed on the reverse side?

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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:

Clyde Harrison Sr. &  
Jerry Charlene Harrison  
513 E. Abo  
Hobbs, NM 88240

4a. Article Number  
P 436 313 657

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**

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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:

Saga Petroleum LLC  
415 W. Wall, Suite 835  
Midland, TX 79701

4a. Article Number  
P 436 313 658

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**

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