FMX 11/30/99

Altura
ENERGY LTD.

NOV 15 1999

November 10, 1999

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

RE: Expansion of Pressure Maintenance Project
North Hobbs (Grayburg/San Andres) Unit
Hobbs; Grayburg – San Andres Pool
Well No. 342
Letter O, Section 24, T-18-S, R-37-E
Lea County, NM

Gentlemen:

Altura Energy LTD respectfully requests administrative approval for expansion of the subject pressure maintenance project by converting North Hobbs (G/SA) Unit Well No. 342 from production to water injection. Administrative Order No. R-6199 granted November 30, 1979, authorized Shell Western E&P Inc. (Altura'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. 342). 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
- A list of Offset Operators and Surface Owners (these parties have been notified of this application by certified mail)

W:\MES CTN29-141.doc

P.O. BOX 4294 • HOUSTON, TX 77210-4294
PHONE 281-552-1000 • FAX 281-552-1200

Altura
ENERGY LTD.

- 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) 397-82ll. 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
P.O. Box 1980
Hobbs, NM 88241

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)

*W:\MES CTI\29-141.doc*

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: Altura Energy LTD

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: 11/10/99

* 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.

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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. 342
Letter O, 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
(Champion Technologies, Inc. analysis attached)

IX. Stimulation Program

Acid treatment of unitized perforations will be performed during conversion work

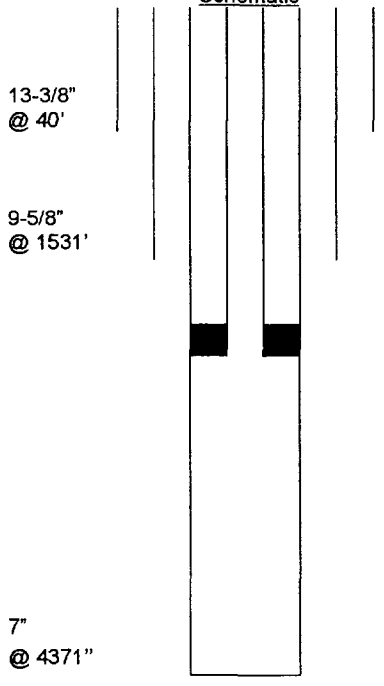
XI. Fresh Water Sample Analysis
(Laboratory Services, Inc. analysis attached – 2 ea.)

XII. Altura Energy LTD 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.

# INJECTION WELL DATA SHEET

| Operator | Lease | | | | County |
|---|---|---|---|---|---|
| Altura Energy LTD. | North Hobbs G/SA Unit | | | | Lea |
| **Well No.** | **Footage Location** | **Section** | **Township** | **Range** | **Unit Letter** |
| 24-342 | 145 FSL & 1435 FEL | 24 | 18-S | 37-E | O |

Schematic




Tubular Data

Surface Casing
Size 13-3/8 Cemented with _____ sxs.
TOC _____ Determined by _____
Hole size _____

Intermediate Casing
Size 9-5/8 Cemented with 600 sxs.
TOC Surf Determined by Circ.
Hole size _____

Long string Casing
Size 7" Cemented with 850 sxs.
TOC Surf Determined by Circ.
Hole size _____

Total depth 4402'

Injection interval
4000 feet to 4350 feet

Completion type Perforations

Tubing size 2-7/8" lined with Fiberglass Epoxy set in a

Giberson Uni VI packer at ±3950 feet
(brand and model)

Other Data

1. Name of the injection formation San Andres

2. Name of field or Pool Hobbs (Grayburg/San Andres) Pool

3. Is this a new well drilled for injection? Yes No
If no, for what purpose was the will originally drilled? San Andres 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)
None

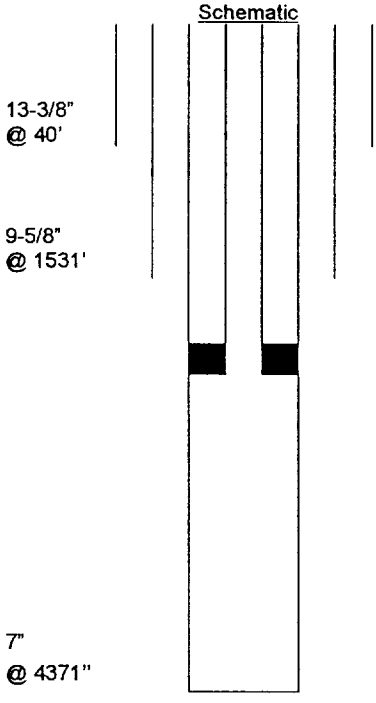
5. Give the depth to and name of any overlying and/or underlying oil and gas zones (pools) in this area.
Grayburg – 3700, Glorieta - 5300

# INJECTION WELL DATA SHEET

| Operator | Lease | County |
|---|---|---|
| Altura Energy LTD. | North Hobbs G/SA Unit | Lea |

| Well No. | Footage Location | Section | Township | Range | Unit Letter |
|---|---|---|---|---|---|
| 24-342 | 145 FSL & 1435 FEL | 24 | 18-S | 37-E | O |

Schematic




Tubular Data

Surface Casing
Size 13-3/8 Cemented with _____ sxs.
TOC _____ Determined by _____
Hole size _____

Intermediate Casing
Size 9-5/8 Cemented with 600 sxs.
TOC Surf Determined by Circ.
Hole size _____

Long string Casing
Size 7" Cemented with 850 sxs.
TOC Surf Determined by Circ.
Hole size _____

Total depth 4402'

Injection interval
4000 feet to 4350 feet

Completion type Perforations

Tubing size 2-7/8" lined with Fiberglass Epoxy set in a

Giberson Uni VI packer at ±3950 feet
(brand and model)

Other Data

1. Name of the injection formation: San Andres

2. Name of field or Pool: Hobbs (Grayburg/San Andres) Pool

3. Is this a new well drilled for injection? Yes [ ] No [X]
If no, for what purpose was the will originally drilled? San Andres 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)
None

5. Give the depth to and name of any overlying and/or underlying oil and gas zones (pools) in this area.
Grayburg – 3700, Glorieta - 5300

Champion Technologies, Inc.
P.O. BOX 2187
HOBBS, NEW MEXICO 88240

# Saturation Index Calculations

*Champion Technologies, Inc.*
(Based on the Tomson-Oddo Model)

Telephone (505) 393-7726

**Site Information**

| | |
|---|---|
| Company | Altura |
| Field | North Hobbs Unit |
| Point | IPD |
| Date | 4/15/98 |

**Water Analysis (mg/L)**

| | |
|---|---|
| Calcium | 1,122 |
| Magnesium | 194 |
| Barium | 0 |
| Strontium | 0 |
| Sodium* | 3730 |
| Bicarbonate Alkalinity | 1,769 |
| Sulfate | 1,726 |
| Chloride | 6,000 |

**Appended Data**

| | |
|---|---|
| Dissolved CO2 | 228 mg/L |
| Dissolved O2 | N/A PPB |
| H2S | 596 mg/L |
| Iron | 0.0 mg/L |
| Specific Gravity | 1.010 value |
| TDS | 14551 mg/L |
| Total Hardness | 3600 mg/L |
| Well head pH | N/A value |

* - Calculated Value

**Physical Properties**

| | |
|---|---|
| Ionic Strength* | 0.29 |
| pH† | 6.52 |
| Temperature | 86°F |
| Pressure | 100 psia |

* - Calculated Value † - Known/Specified Value

**Calcite Calculation Information**

| *Calculation Method* | *Value* |
|---|---|
| pH | 6.52 |
| *Bicarbonate Alkalinity Correction(s)* | *Value* |
| None Used | --- |

**SI & PTB Results**

| *Scale Type* | *SI* | *PTB* |
|---|---|---|
| Calcite (Calcium Carbonate) | 0.48 | 310.4 |
| Gypsum (Calcium Sulfate) | -0.45 | N/A |
| Hemihydrate (Calcium Sulfate) | -0.32 | N/A |
| Anhydrite (Calcium Sulfate) | -0.72 | N/A |
| Barite (Barium Sulfate) | N/A | N/A |
| Celestite (Strontium Sulfate) | N/A | N/A |

Champion Technologies, Inc.
P.O. BOX 2187
HOBBS, NEW MEXICO 88240

# Ranged Data

*Champion Technologies, Inc.*

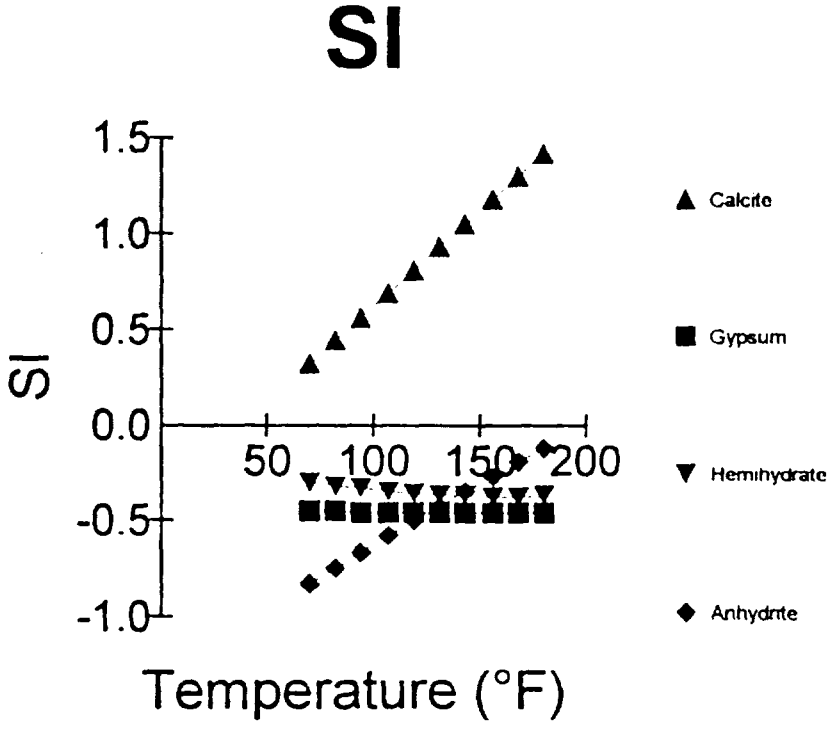
Telephone (505) 393-7726

**Site Information**

| | |
|---|---|
| Company | Altura |
| Field | North Hobbs Unit |
| Point | IPD |
| Date | 4/15/98 |

**SI Results**

| *Temperature (°F)* | *Calcite* | *Gypsum* | *Hemihydrate* | *Anhydrite* |
|---|---|---|---|---|
| 70 | 0.32 | -0.45 | -0.30 | -0.83 |
| 82 | 0.44 | -0.45 | -0.32 | -0.75 |
| 94 | 0.56 | -0.46 | -0.33 | -0.67 |
| 107 | 0.69 | -0.46 | -0.35 | -0.58 |
| 119 | 0.81 | -0.46 | -0.36 | -0.50 |
| 131 | 0.93 | -0.46 | -0.37 | -0.43 |
| 143 | 1.05 | -0.46 | -0.37 | -0.35 |
| 156 | 1.18 | -0.46 | -0.38 | -0.27 |
| 168 | 1.30 | -0.46 | -0.38 | -0.19 |
| 180 | 1.42 | -0.46 | -0.37 | -0.12 |



**Laboratory Services, Inc.**
4016 Fiesta Drive
Hobbs, New Mexico 88240
Telephone: (505) 397-3713

# Water Analysis

**COMPANY** Altura Energy Ltd,

**SAMPLE** 18S-37E-Sec 24 SE1/4,SE1/4,SE1/4,SE1/4,SE1/4,SW1/4
**SAMPLED BY** David Nelson

**DATE TAKEN** 10/12/99
**REMARKS**

| | | |
|---|---|---|
| Barium as Ba | 0 | |
| Carbonate alkalinity PPM | 0 | |
| Bicarbonate alkalinity PPM | 224 | |
| pH at Lab | 7.47 | |
| Specific Gravity @ 60°F | 1.001 | |
| Magnesium as Mg | 197 | |
| Total Hardness as CaCO3 | 340 | |
| Chlorides as Cl | 141 | |
| Sulfate as SO4 | 105 | |
| Iron as Fe | 0 | |
| Potassium | 0.1 | |
| Hydrogen Sulfide | 0 | |
| Rw | 7.5 | 23 C |
| Total Dissolved Solids | 885 | |
| Calcium as Ca | 143 | |
| Nitrate | 2.4 | |

Results reported as Parts per Million unless stated

Langelier Saturation Index - 0.03

Analysis by: Rolland Perry
Date: 10/19/99

**Laboratory Services, Inc.**
4016 Fiesta Drive
Hobbs, New Mexico 88240
Telephone: (505) 397-3713

# Water Analysis

**COMPANY** Altura Energy Ltd,

**SAMPLE** 18S-38E-Sec 30 NW1/4, NE1/4,SW1/4,SE1/4,SW1/4
**SAMPLED BY** David Nelson

**DATE TAKEN** 10/12/99
**REMARKS**

| | | |
|---|---|---|
| Barium as Ba | 0 | |
| Carbonate alkalinity PPM | 0 | |
| Bicarbonate alkalinity PPM | 212 | |
| pH at Lab | 7.46 | |
| Specific Gravity @ 60°F | 1.001 | |
| Magnesium as Mg | 172 | |
| Total Hardness as CaCO3 | 296 | |
| Chlorides as Cl | 85 | |
| Sulfate as SO4 | 135 | |
| Iron as Fe | 0.01 | |
| Potassium | 0.1 | |
| Hydrogen Sulfide | 0 | |
| Rw | 7 | 23 C |
| Total Dissolved Solids | 922 | |
| Calcium as Ca | 124 | |
| Nitrate | 7.9 | |

Results reported as Parts per Million unless stated

Langelier Saturation Index - 0.04

Analysis by: Rolland Perry
Date: 10/19/99

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

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

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

☐ AMENDED REPORT

## WELL LOCATION AND ACREAGE DEDICATION PLAT

| API Number | Pool Code | Pool Name |
|---|---|---|
| 30-025-29062 | 31920 | HOBBS; GRAYBURG - SAN ANDRES |

| Property Code | Property Name | Well Number |
|---|---|---|
| 19520 | NORTH HOBBS G/SA UNIT | 342 |

| OGRID No. | Operator Name | Elevation |
|---|---|---|
| 157984 | ALTURA ENERGY LTD. | 3667 |

### Surface Location

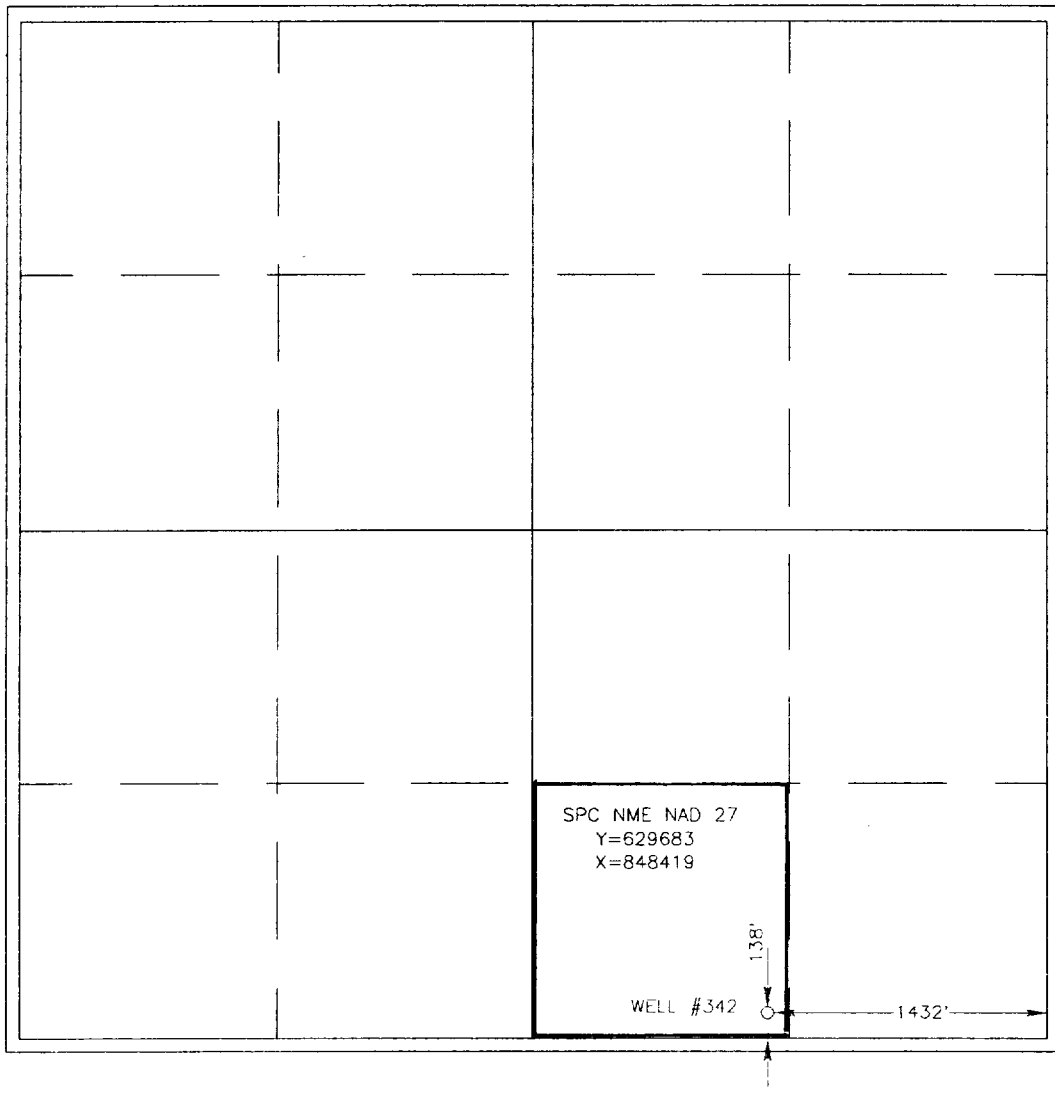
| UL or lot No. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---|---|---|---|---|---|---|---|---|---|
| O | 24 | 18 S | 37 E | | 138 | SOUTH | 1432 | EAST | LEA |

### 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




### 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

November 10, 1999
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.*

JULY 20, 1999
Date Surveyed DMCC

Signature & Seal of Professional Surveyor

RONALD J. EIDSON NEW MEXICO REGISTERED PROFESSIONAL SURVEYOR

3239 12-27-99

99-11-0591

Certificate No. RONALD J. EIDSON 3239
GARY L. JOBSON 12641
JASON L. JONES 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 |
|---|---|---|
| 30-025-29062 | 31920 | HOBBS; GRAYBURG - SAN ANDRES |

| Property Code | Property Name | Well Number |
|---|---|---|
| 19520 | NORTH HOBBS G/SA UNIT | 342 |

| OGRID No. | Operator Name | Elevation |
|---|---|---|
| 157984 | ALTURA ENERGY LTD. | 3667 |

### Surface Location

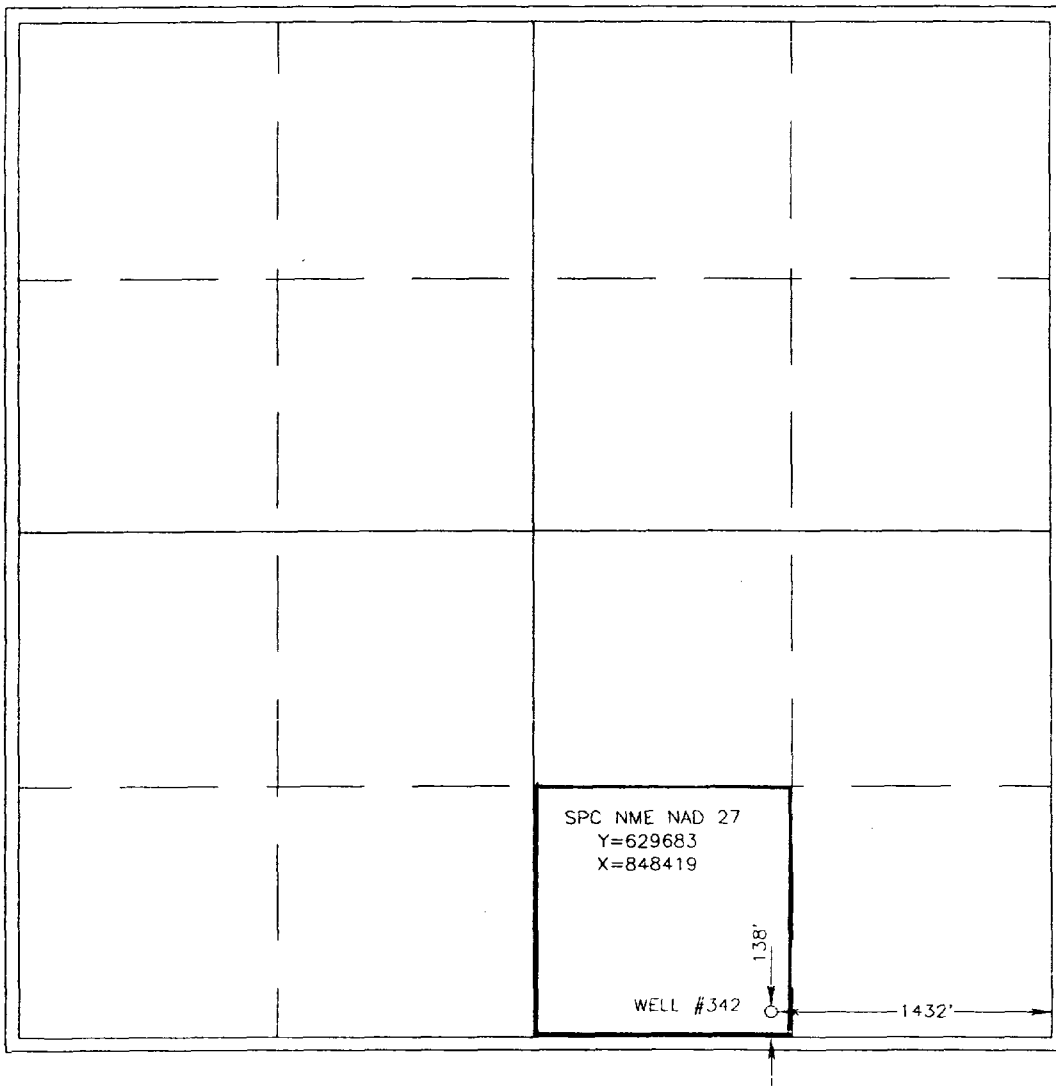
| UL or lot No. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---|---|---|---|---|---|---|---|---|---|
| O | 24 | 18 S | 37 E | | 138 | SOUTH | 1432 | EAST | LEA |

### 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




### 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

November 10, 1999
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.*

JULY 20, 1999
Date Surveyed

DMCC

Signature & Seal of Professional Surveyor

RONALD J. EIDSON NEW MEXICO 3239 REGISTERED PROFESSIONAL SURVEYOR

7-27-99

99-11-0591

Certificate No. RONALD J. EIDSON 3239
GARY L. EIDSON 12641
MACON L. MCDONALD 12185

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

212
SHELL WESTERN EXPL&PROD
GR-3666
TD-4370
5/23/85
30 025 29129

WI-121
SHELL OIL
NORTH HOBBS(GBSA)UNIT SEC
DF-3682
TD-4240
9/22/82
30 025 05476

421
SHELL OIL
GR-3668
TD-6107
3/3/83
30 025 23081

1
SHELL OIL
STATE D
ES-3674
TD-4260
10/15/57
30 025 09876

3
GULF OIL
GRAHAM-STATE A
ES-3671
TD-4219
8/30/34
30 025 05480

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

2
CITIES SERVICE OIL
HARDIN
-
TD-4210
9/26/30
30 025 07357

232
SHELL WESTERN EXPL&PROD
NORTH HOBBS
KB-3675
TD-4420
9/24/85
30 025 29172

7
SHELL OIL
MCKINLEY A
DF-3667
TD-4210
12/17/71
30 025 07361

1
ERWIN O&G
QUARRY
KB-3676
TD-3320
2/13/97
30 025 32297

432
SHELL WESTERN EXPL&PROD
GR-3669
TD-4368
4/26/85
30 025 29073

3
SAMEDAN OIL
STATE C
GR-3671
TD-4200
4/16/35
30 025 05484

2
SAMEDAN OIL
STATE C
ES-3672
TD-4171
6/26/34
30 025 05483

2
TEXAS PACIFIC OIL
STATE G
ES-3669
TD-4218
11/14/30
30 025 05487

ONE-HALF MILE RADIUS FROM WELL 24-342

4
SAMEDAN OIL
STATE C
ES-3678
TD-4218
10/24/35
30 025 05485

WI-242
SHELL OIL
KB-3677
TD-4443
3/28/82
30 025 26832

3
TEXAS PACIFIC OIL
STATE G
ES-3670
TD-4227
6/16/32
30 025 05488

442
SHELL WESTERN EXPL&PROD
GR-3662
TD-4384
3/30/85
30 025 29098

WI-142
SHELL OIL
N HB(GR-S A)U SC 19
GR-3650
TD-4510
7/12/81
30 025 27138

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

342
SHELL WESTERN EXPL&PROD
KB-3679
TD-4371
3/31/85
30 025 29062

1
SAMEDAN OIL
STATE C
ES-3669
TD-4188
3/27/34
30 025 05482

4
TEXAS PACIFIC OIL
STATE G
ES-3667
TD-4225
5/14/33
30 025 05490

141
SHELL OIL
DF-3663
TD-4210
7/21/81
30 025 07365

24-342
N. HOBBS
UNIT

25

1
CONTINENTAL OIL
STATE B-25
GR-3365
TD-4225
9/29/33
30 025 05489

4
TEXACO INC
STATE C-DD-B NCT-1
DF-3672
TD-4232
3/14/33
30 025 05506

411
SHELL OIL
DF-3671
TD-4206
3/8/83
30 025 05503

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

112
SHELL WESTERN
GR-3658
TD-4370
4/6/85
30 025 29063

113
SHELL WESTERN E&P
GR-3658
TD-4370
2/17/85
30 025 29064

222
SHELL OIL
N HOBBS /GBSD/UNIT
DF-3668
TD-4349
8/25/80
30 025 26833

WI-422
SHELL OIL
N HB(GR-S A)U SC 25
GR-3661
TD-4510
12/4/81
30 025 26933

WI-121
SHELL OIL
DF-3667
TD-4260
7/21/82
30 025 05502

1
SAMEDAN OIL
STATE B
-
TD-4343
10/14/35
30 025 05496

3
TEXACO INC
STATE AR
ES-3665
TD-4240
12/10/30
30 025 05505

2
TEXACO INC
STATE C-DD-B NCT-1
ES-3661
TD-4210
9/24/30
30 025 05504

121
SHELL OIL
DF-3662
TD-4198
10/25/83
30 025 07464

131
SHELL OIL
DF-3665
TD-4208
4/6/83
30 025 07481

233
SHELL W. E&P
GR-3654
TD-4383
2/16/85
30 025 28942

WI-231
SHELL OIL
DF-3670
TD-4253
9/14/82
30 025 05498

1
HUMBLE OIL & REFINING
STATE A
-
TD-4215
10/22/30
30 025 05492

4
HUMBLE OIL & REFINING
NM STATE A
ES-3664
TD-3270
8/22/48
30 025 05495

8
MARATHON OIL
STATE
ES-3663
TD-3271
5/16/48
30 025 07486

3
HUMBLE OIL & REFINING
STATE A
ES-3666
TD-4220
11/29/30
30 025 05494

8
HUMBLE OIL & REFINING
NM STATE A
DF-3666
TD-4110
2/18/58
30 025 05500

N

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. 24-342

T-18-S, R-37-E

Lea County, New Mexico

Scale: 1"= 600' 07-03-99 nm438a00.dgn - 11
Plat prepared by PJE Drafting, Inc.
For Horizon Survey, Inc.

## Active Offset wells within 1/2 mile radius of proposed 24-342 conversion

| Well Name | Oper | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 19141 | Altura | 30-025- | 07365 | 19 | -18S | -38E | M | 06/15/1930 | Prod | 4275 | 4033 | 4079 | | 9 | 11.75 | 2783 | 500 | 1800 Calc. |
| | | | | | | | | | | | | | | 7 | 8.75 | 3880 | 500 | 2616 CBL |
| | | | | | | | | | | | | | | 5.5 Lnr | 6.75 | 3810-4247 | 100 | 3810 |
| 24231 | Altura | 30-025- | 05483 | 24 | -18S | -38E | K | 6//34 | Prod | 4169 | 4050 | 4148 | | 9.625 | 11.75 | 2823 | 200 | 2089 |
| | | | | | | | | | | | | | | 7 | 8.75 | 3966 | 150 | 3272 CBL |
| | | | | | | | | | | | | | | 5 Lnr | 6.25 | 3917-4171 | 50 | 3917 |
| 24241 | Altura | 30-025- | 05482 | 24 | -18S | -38E | N | 3//34 | Prod | 4050 | 4105 | 4127 | | 9.625 | 11.75 | 2827 | 175 | 2450 |
| | | | | | | | | | | (CIBP) | | | | 7 | 8.75 | 3930 | 150 | 3175 CBL |
| | | | | | | | | | | | | | | 5 Lnr | 6.25 | 3865-4188 | 39 | 3865 |
| 24242 | Altura | 30-025- | 26832 | 24 | -18S | -38E | N | 11/21/1980 | Inj | 4293 | 4204 | 4280 | 4236-56 | 16 | 20 | 40 | 40 | Surf |
| | | | | | | | | | | (CIBP) | | | 4315-89 | 8.625 | 12.25 | 1600 | 785 | Surf |
| | | | | | | | | | | | | | | 5.5 | 7.875 | 4442 | 1350 | Surf/CBL |
| 24331 | Altura | 30-025- | 05488 | 24 | -18S | -38E | J | 6//32 | Prod | 4218 | 3878 | 4215 | | 12.5 | 16 | 215 | 200 | Circ |
| | | | | | | | | | | | (OH) | | | 9 | 11.75 | 2810 | 400 | 1642 |
| | | | | | | | | | | | | | | 7 | 8.75 | 3878 | 300 | Surf CBL |
| 24341 | Altura | 30-025- | 05490 | 24 | -18S | -38E | O | 5//33 | Prod | 4270 | 4186 | 4258 | | 9 | 11.75 | 2810 | 400 | 1642 |
| | | | | | | | | | | | | | | 7 | 8.75 | 3896 | 300 | 2986 CBL |
| | | | | | | | | | | | | | | 5.5 Lnr | | 3821-4312 | 45 | 3921 |
| 24431 | Altura | 30-025- | 05487 | 24 | -18S | -38E | I | 11//30 | Prod | 4218 | 3951-4218 | | | 12.5 | 15.5 | 221 | 180 | Circ |
| | | | | | | | | | | | (OH) | | | 9 | 11.75 | 2782 | 510 | 1292 |
| | | | | | | | | | | | | | | 7 | 8.75 | 3951 | 250 | Surf |
| 24432 | Altura | 30-025- | 29073 | 24 | -18S | -38E | I | 04/03/1985 | Prod | 4015 | 4065 | 4229 | | 13.375 | 17.5 | 40 | | |
| | | | | | | | | | | (CIBP) | | | | 9.625 | 12.5 | 1534 | 425 | Circ |
| | | | | | | | | | | | | | | 7 | 8.25 | 4370 | 550 | Circ |
| 24441 | Altura | 30-025- | 05486 | 24 | -18S | -38E | P | 7//30 | Prod | 4139 | 3880-4139 | | | 12 | 15.5 | 1521 | 300 | Circ |
| | | | | | | | | | | | (OH) | | | 9 | 11.75 | 2815 | 700 | 770 |
| | | | | | | | | | | | | | | 7 | 8.25 | 3880 | 200 | 2131 |

Note: Calculated TOC's are estimated with 50% efficiency

## Active Offset wells within 1/2 mile radius of proposed 24-342 conversion

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24442 | Altura | 30-025- | 29098 | 24 | -18S | -38E | P | 3//85 | Inj | 4254 | 4165 | 4271 | 4070-4156 | 13.375 | 17.5 | 40 | | |
| | | | | | | | | | | (CIBP) | | | | 9.625 | 12.5 | 1527 | 375 | Circ |
| | | | | | | | | | | | | | | 7 | 8.25 | 4384 | 576 | Circ |
| | | | | | | | | | | | | | | | | | | |
| 25221 | Altura | 30-025- | 05496 | 25 | -18S | -38E | F | 11//37 | Prod | 3955 | 4039-4153 | | | 12.5 | 16 | 205 | 175 | Circ |
| | | | | | | | | | | (CIBP) | (OH) | | | 7 | 8.75 | 4039 | 500 | 2800 CBL |
| | | | | | | | | | | | | | | | | | | |
| 25311 | Altura | 30-025- | 05506 | 25 | -18S | -38E | B | 3//33 | Prod | 3850 | 3932-4122 | | | 12.5 | 16 | 220 | 190 | Circ |
| | | | | | | | | | | | (OH) | | | 9 | 11.75 | 2754 | 600 | 1001 |
| | | | | | | | | | | | | | | 7 | 8.25 | 3932 | 200 | 2183 |
| | | | | | | | | | | | | | | | | | | |
| 25321 | Altura | 30-025- | 05505 | 25 | -18S | -38E | G | 12//30 | Prod | 4095 | 3961 | 4239 | | 9 | 11.75 | 222 | 600 | 997 |
| | | | | | | | | | | | | | | 7 | 8.5 | 3937 | 200 | 2503 |
| | | | | | | | | | | | | | | 4.5 Lnr | 6.25 | 3803-4267 | 75 | 3050 CBL |
| | | | | | | | | | | | | | | | | | | |
| 25411 | Altura | 30-025- | 05503 | 25 | -18S | -38E | A | 4//30 | Prod | 4106 | 3959 | 4244 | | 8.25 | 11.75 | 2750 | 600 | 1362 |
| | | | | | | | | | | (CIBP) | | | | 6.25 | 7.625 | 3969 | 200 | 2926 CBL |
| | | | | | | | | | | | | | | 4.5 Lnr | 5.75 | 3869-4257 | 50 | 4188 |
| | | | | | | | | | | | | | | | | | | |
| 25422 | Altura | 30-025- | 26933 | 25 | -18S | -38E | H | 12//81 | Inj | 4378 | 4184 | 4294 | 4170-74 | 16 | | 40 | 40 | SURF |
| | | | | | | | | | | | | | | 8.625 | | 1600 | 850 | CIRC |
| | | | | | | | | | | | | | | 5.5 | | 4510 | 1000 | 3760 CBL |
| | | | | | | | | | | | | | | | | | | |
| 30111 | Altura | 30-025- | 07077 | 30 | -18S | -38E | D | 7//30 | Prod | 4200 | 4042 | 4227 | 4081-92 | 9.625 | | 2755 | 450 | 1700 |
| | | | | | | | | | | | | | 4120-28 | 7 | | 3851 | 200 | 2836 CBL |
| | | | | | | | | | | | | | 4138-68 | 4.5 Lnr | | 3784-4229 | 220 | 3784 |
| | | | | | | | | | | | | | | | | | | |
| 30113 | Altura | 30-025- | 29064 | 30 | -18S | -38E | D | 1//85 | Prod | 4310 | 4042 | 4285 | | 13.375 | 17.5 | 55 | ?? | Circ |
| | | | | | | | | | | CIBP | | | | 8.625 | | 1495 | 620 | Circ |
| | | | | | | | | | | | | | | 5.5 | 7.875 | 4370 | 990 | Circ |

Note: Calculated TOC's are estimated with 50% efficiency

## Plugged Offset wells within 1/2 mile radius of proposed 24-342 conversion

| Well Name | Oper | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25211 | Altura | 30-025- | 05489 | 25 | -18S | -38E | C | 3//33 | Prod | 4200 | 4162 | 4169 | 4233-69 | 9.625 | 12.5 | 2767 | 600 | 1025 Calc. |
| | | | | | | | | | | CIBP | | | | 7 | 8.25 | 4026 | 325 | 2980 CBL |
| | | | | | | | | | | | | | | 5.5 Lnr | | 3858-4275 | 50 | 4030 CBL |

Note: Calculated TOC's are estimated with 50% efficiency

# LIST OF OFFSET OPERATORS & SURFACE OWNERS

North Hobbs (Grayburg/San Andres) Unit
Well No. 342
Letter O, Section 24, T-18-S, R-37-E
Lea County, New Mexico

Offset Operators

Altura Energy LTD
P.O. Box 4294
Houston, TX 77210-4294

Surface Owners

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

Sally Huston Seed (State of New Mexico Agricultural Lease GT-766)
4721 Lovington Hwy
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:

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

4a. Article Number
P 447 842 807

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:

Sally Huston Seed
4721 Lovington Hwy
Hobbs, NM 88240

4a. Article Number
P 447 842 808

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 2

weeks.

Beginning with the issue dated

September 11 1999

and ending with the issue dated

September 12 1999

Kathi Bearden

Publisher

Sworn and subscribed to before me this 22nd day of

October 1999

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.

02101173000 01535865

Altura Energy LTD
P. O. Box 4294
Houston, TX 77210-4294

**LEGAL NOTICE**
**SEPTEMBER 12, 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 Adres
Lease/Unit Name: North Hobbs G/SA Unit
Well No. 221
Loc.: 2310' FNL & 2310' FWL, Unit Letter F, Sec. 24, T-18-S, R-37-E, Lea Co., NM
Well No. 342
Loc: 145' FSL & 1435' FEL, Unit Letter O, Sec. 24, T-18-S, R-37-E, Lea Co., NM
Well No. 432
Loc.: 2480' FSL & 1280' FEL, Unit Letter I, Sec. 24, T-18-S, R-37-E, Lea Co., NM
Well No. 141
Loc.: 330' FSL & 330' FWL, Unit Letter M, Sec. 29, T-18-S, R-38-E, Lea Co., NM
Well No. 241
Loc.: 330' FSL & 2310' FWL, Unit Letter N, Sec. 29, T-18-S, R-38-E, Lea Co., NM
Well No. 112
Loc.: 200' FNL & 1310' FWL, Unit Letter D, Sec. 30, T-18-S, R-38-E, Lea Co., NM
Well No. 233
Loc.: 2455' FSL & 1480' FWL, Unit Letter K, Sec. 30, T-18-S, R-38-E, LEA Co., NM
Well No. 313
Loc.: 405' FNL & 2272' FEL, Unit Letter B, Sec. 30, T-18-S, R-38-E, Lea Co., NM
Well No. 332
Loc.: 2470' FSL & 1600' FEL, Unit Letter J, Sec. 30, T-18-S, R-38-E, Lea Co., NM
Well No. 412
Loc.: 760' FNL & 550' FEL, Unit Letter A, Sec. 30, T-18-S, R-38-E, Lea Co., NM
Well No. 432
Loc,: 2260' FSL & 180' FEL, Unit Letter I, Sec. 30, 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 infection 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.
#16873

PMX-199

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION
HOBBS DISTRICT OFFICE

GOVERNOR

11/16/99

POST OFFICE BOX 1980
HOBBS, NEW MEXICO 88241-1980
(505) 393-6161

OIL CONSERVATION DIVISION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

RE: Proposed:
MC
DHC
NSL
NSP
SWD
WFX
PMX X

Gentlemen:

I have examined the application for the:

Altura Energy Ltd # Hobbs GB/SA Unit # 342-O-24-18-37
Operator Lease & Well No. Unit S-T-R 30-025-29062

and my recommendations are as follows:

OK -

Yours very truly,

Chris Williams
Supervisor, District 1

/ed