

PMX 12/21/99



November 30, 1999

DEC - 6 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. 233  
Letter K, Section 30, T-18-S, R-38-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. 233 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. 233). 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
- Schematics of plugged wells that are within the well's Area of Review



- A list of Offset Operators and Surface Owners (these parties have been notified of this application by certified mail)
- An Affidavit of Publication and copy of the legal advertisement that was published in the county in which the well is located.

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

Very truly yours,

*Mark Stephens*

Mark Stephens  
Business Analyst (SG)

CC: Oil Conservation Division  
Hobbs District Office  
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)

**APPLICATION FOR AUTHORIZATION TO INJECT**

**I. PURPOSE:** Secondary Recovery ☒ Pressure Maintenance ☐ Disposal ☐ Storage  
Application qualifies for administrative approval? ☒ 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?** ☒ 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:** 11/22/99

**\* 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. 233  
Letter K, Section 30, T-18-S, R-38-E  
Lea County, New Mexico

III. Well Data

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

VII. Proposed Operation

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

IX. Stimulation Program

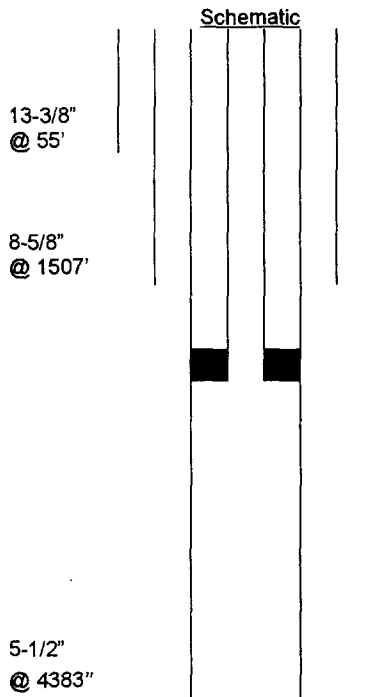
Acid treatment of unitized perforations will be performed during conversion work

- XI. Fresh Water Sample Analysis  
(Laboratory Services, Inc. analysis attached – 3 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<br><b>Altura Energy LTD.</b> |  | Lease<br><b>North Hobbs G/SA Unit</b> |                         |                      | County<br><b>Lea</b>    |
| Well No.<br><b>30-233</b>             | Footage Location<br><b>2455 FSL &amp; 1480 FWL</b> | Section<br><b>30</b>                  | Township<br><b>18-S</b> | Range<br><b>38-E</b> | Unit Letter<br><b>K</b> |



Tubular Data

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

Intermediate Casing  
 Size 8-5/8 Cemented with 629 sxs.  
 TOC Surf Determined by Circ.  
 Hole size \_\_\_\_\_

Long string Casing  
 Size 5-1/2" Cemented with 1070 sxs.  
 TOC Surf Determined by Circ.  
 Hole size \_\_\_\_\_

Total depth 4383'

Injection interval  
4000 feet to 4350 feet

Completion type Perforations

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

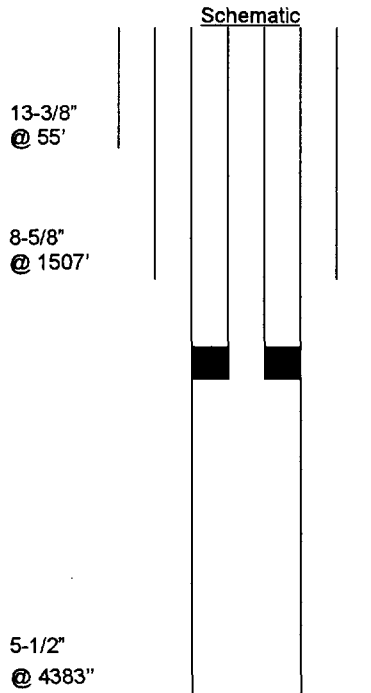
Giberson Uni VI packer at ±3950 feet  
 (brand and model)

Other Data

- Name of the injection formation San Andres
- Name of field or Pool Hobbs (Grayburg/San Andres) Pool
- Is this a new well drilled for injection? Yes ☐ No ☒  
 If no, for what purpose was the well originally drilled? San Andres 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)  
None
- 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<br>Altura Energy LTD. |   | Lease<br>North Hobbs G/SA Unit |                  |               | County<br>Lea    |
| Well No.<br>30-233             | Footage Location<br>2455 FSL & 1480 FWL | Section<br>30                  | Township<br>18-S | Range<br>38-E | Unit Letter<br>K |



Tubular Data

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

Intermediate Casing  
 Size 8-5/8 Cemented with 629 sxs.  
 TOC Surf Determined by Circ.  
 Hole size \_\_\_\_\_

Long string Casing  
 Size 5-1/2" Cemented with 1070 sxs.  
 TOC Surf Determined by Circ.  
 Hole size \_\_\_\_\_

Total depth 4383'

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

- Name of the injection formation San Andres
- Name of field or Pool Hobbs (Grayburg/San Andres) Pool
- Is this a new well drilled for injection? Yes ☐ No ☒  
 If no, for what purpose was the well originally drilled? San Andres 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)  
None
- Give the depth to and name of any overlying and/or underlying oil and gas zones (pools) in this area.  
Grayburg - 3700, Glorieta - 5300

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<br>30-025-28942 | Pool Code<br>31920                     | Pool Name<br>HOBBS; GRAYBURG - SAN ANDRES |
| Property Code<br>19520     | Property Name<br>NORTH HOBBS G/SA UNIT | Well Number<br>233                        |
| OGRID No.<br>157984        | Operator Name<br>ALTURA ENERGY LTD.    | Elevation<br>3654                         |

Surface Location

|                    |               |                  |               |         |                       |                           |                       |                        |               |
|--------------------|---------------|------------------|---------------|---------|-----------------------|---------------------------|-----------------------|------------------------|---------------|
| UL or lot No.<br>K | Section<br>30 | Township<br>18 S | Range<br>38 E | Lot Idn | Feet from the<br>2454 | North/South line<br>SOUTH | Feet from the<br>1491 | East/West line<br>WEST | County<br>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

|                      |  |  |  |  |  |  |  |  |  |
|----------------------|--|--|--|--|--|--|--|--|--|
| LOT 1<br>37.81 ACRES | SPC NME NAD 27<br>Y=626719<br>X=851376 |  |  |  |  |  |  |  |  |
| LOT 3<br>1491'       | WELL #233                              |  |  |  |  |  |  |  |  |
| LOT 4<br>37.87 ACRES | 2454'                                  |  |  |  |  |  |  |  |  |
| 37.91 ACRES          |  |  |  |  |  |  |  |  |  |

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

JULY 20, 1999

Date Surveyed  
Signature Ronald E. Edson  
Professional Surveyor  
NEW MEXICO  
7-27-99  
3239-11-0592  
Certificate No. RONALD E. EDSON 3239  
GARY E. DONALD 2641  
WILLIAM DONALD 12185



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

State of New Mexico  
Energy, Minerals and Natural Resources Department

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

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

OIL CONSERVATION DIVISION

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

|                            |  |   |
|----------------------------|--|---|
| API Number<br>30-025-28942 | Pool Code<br>31920                     | Pool Name<br>HOBBS; GRAYBURG - SAN ANDRES |
| Property Code<br>19520     | Property Name<br>NORTH HOBBS G/SA UNIT | Well Number<br>233                        |
| OGRID No.<br>157984        | Operator Name<br>ALTURA ENERGY LTD.    | Elevation<br>3654                         |

Surface Location

|                    |               |                  |               |         |                       |                           |                       |                        |               |
|--------------------|---------------|------------------|---------------|---------|-----------------------|---------------------------|-----------------------|------------------------|---------------|
| UL or lot No.<br>K | Section<br>30 | Township<br>18 S | Range<br>38 E | Lot Idn | Feet from the<br>2454 | North/South line<br>SOUTH | Feet from the<br>1491 | East/West line<br>WEST | County<br>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>LOT 1</p> <p>37.81 ACRES</p> <p>SPC NME NAD 27<br/>Y=626719<br/>X=851376</p> <p>37.85 ACRES</p> <p>LOT 3<br/>1491'</p> <p>WELL #233</p> <p>37.87 ACRES</p> <p>LOT 4</p> <p>37.91 ACRES</p> <p>2454'</p> |  | <p>OPERATOR CERTIFICATION</p> <p>I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.</p> <p><u>Mark Stephens</u><br/>Signature</p> <p>Mark Stephens<br/>Printed Name</p> <p>Business Analyst (SG)<br/>Title</p> <p>November 22, 1999<br/>Date</p> <p>SURVEYOR CERTIFICATION</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>JULY 20, 1999</p> <p>Date Surveyed</p> <p>Signature <u>Ronald J. Edson</u><br/>Professional Surveyor</p> <p>NEW MEXICO<br/>REGISTERED PROFESSIONAL SURVEYOR<br/>3269-11-0599<br/>7-27-99</p> <p>Certificate No. RONALD J. EDSON 3239<br/>12641<br/>EDONALD 12185</p> |  |
|--|--|---|--|



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 |

\* - Calculated Value

**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   |

**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   |



P.O. BOX 2187  
HOBBS, NEW MEXICO 88240

**Ranged Data**  
*Champion Technologies, Inc.*

Telephone (505) 393-7726

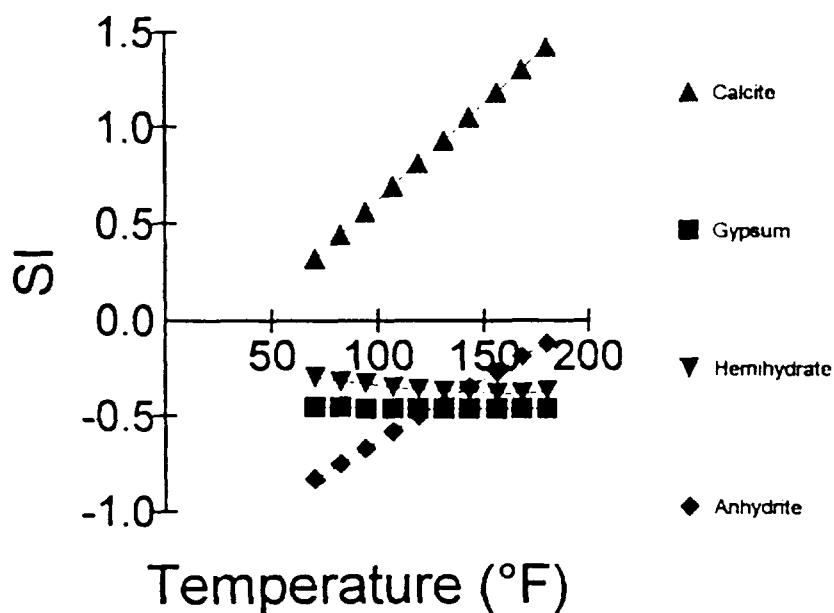
#### Site Information

|         |                  |
|---------|------------------|
| 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     |

# SI



**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 CaCO <sub>3</sub> | 296   |      |
| Chlorides as Cl                     | 85    |      |
| Sulfate as SO <sub>4</sub>          | 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

**Laboratory Services, Inc.**

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

**Water Analysis**

**COMPANY** Altura Energy Ltd,

**SAMPLE** 18S-38E-Sec30 NE1/4, SW1/4, SW1/4

**SAMPLED BY** David Nelson

**DATE TAKEN** 10/12/99

**REMARKS**

|                                     |       |      |
|-------------------------------------|-------|------|
| Barium as Ba                        | 0     |      |
| Carbonate alkalinity PPM            | 0     |      |
| Bicarbonate alkalinity PPM          | 204   |      |
| pH at Lab                           | 7.52  |      |
| Specific Gravity @ 60°F             | 1.001 |      |
| Magnesium as Mg                     | 125   |      |
| Total Hardness as CaCO <sub>3</sub> | 216   |      |
| Chlorides as Cl                     | 64    |      |
| Sulfate as SO <sub>4</sub>          | 55    |      |
| Iron as Fe                          | 0.01  |      |
| Potassium                           | 0.1   |      |
| Hydrogen Sulfide                    | 0     |      |
| Rw                                  | 9     | 23 C |
| Total Dissolved Solids              | 595   |      |
| Calcium as Ca                       | 91    |      |
| Nitrate                             | 1.2   |      |

Results reported as Parts per Million unless stated

Langelier Saturation Index - 0.18

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 SW1/4,NE1/4,NE1/4,SW1/4,NE1/4

**SAMPLED BY** David Nelson

**DATE TAKEN** 10/12/99

**REMARKS**

|                            |       |      |
|----------------------------|-------|------|
| Barium as Ba               | 0     |      |
| Carbonate alkalinity PPM   | 0     |      |
| Bicarbonate alkalinity PPM | 248   |      |
| pH at Lab                  | 7.15  |      |
| Specific Gravity @ 60°F    | 1.001 |      |
| Magnesium as Mg            | 174   |      |
| Total Hardness as CaCO3    | 300   |      |
| Chlorides as Cl            | 71    |      |
| Sulfate as SO4             | 110   |      |
| Iron as Fe                 | 0.22  |      |
| Potassium                  | 0.1   |      |
| Hydrogen Sulfide           | 0     |      |
| Rw                         | 7.5   | 23 C |
| Total Dissolved Solids     | 820   |      |
| Calcium as Ca              | 126   |      |
| Nitrate                    | 2.2   |      |

Results reported as Parts per Million unless stated

Langelier Saturation Index - 0.35

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

**WELL SCHEMATIC:  
ALTURA NHU 30-342**

WELL PLUGGED:  
4/27/99

12 1/2"  
220'  
210 SX  
TOC: SURF

Spotted 10 sx cmt plug from  
60' to 3'.

Spotted 36 sx cmt plug from  
306' to 97'.

Circulated plugging mud.

Spotted 25 sx cmt plug from  
1713' to 1564'.

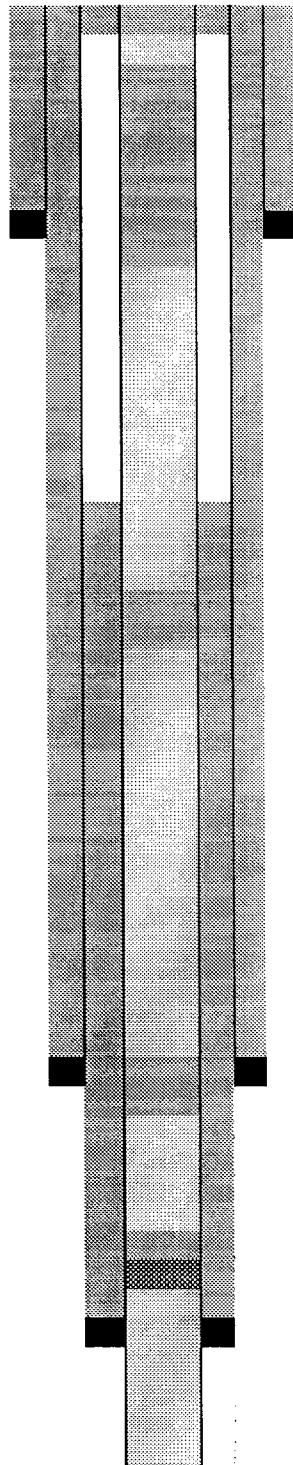
9 5/8"  
2750'  
650' SX  
TOC: SURF

Spotted 25 sx cmt plug from  
2825' to 2696'.

7"  
3974'  
300 SX  
TOC: 1144' CBL

Dumped 25 sx cmt on top of  
CIBP at 3825'.

TD: 4268'



**WELL SCHEMATIC:  
EXXON BOWERS #2**

WELL PLUGGED:  
5/12/30

Hole cemented with 40 sxs  
From 66' to surface.

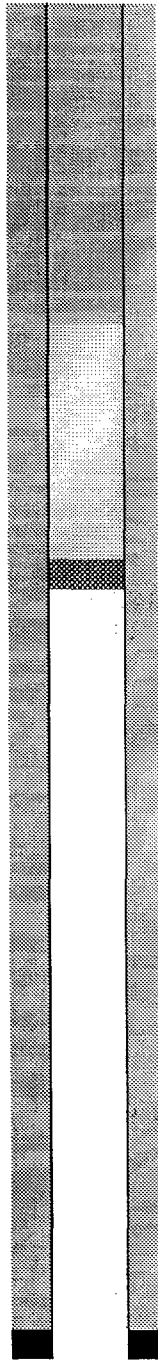
Hole mudded from 106'  
To 66'.

PBTD: 106'

Plugged back at 106' with ?

12.5"  
25 sxs  
TOC: SURF(C)

TD: 242'





**WELL SCHEMATIC: EXXON  
BOWERS A FED. #13**

WELL PLUGGED:  
5/10/71

8 5/8"  
283'  
125 sxs  
TOC: SURF (C)

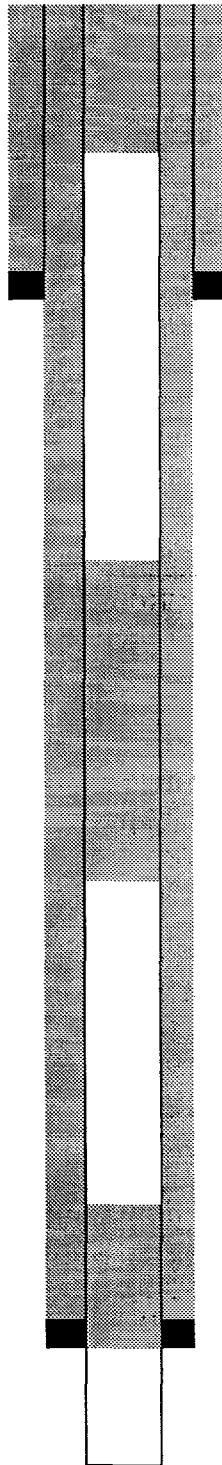
10 sxs cmt plug set from  
50' to surf

20 sxs cmt plug set from  
1500' to 1400'

5 1/2"  
3150'  
1350 sxs  
TOC: SURF (C)

50 sxs cmt plug set from  
3189' to 2800'

TD: 3189'



**WELL SCHEMATIC:  
EXXON BOWERS A FED #16**

WELL PLUGGED:  
11/27/70

Spotted a 10 sxs cmt plug at  
surface with marker.

8 5/8 "  
262'  
150 SXS  
TOC: CIRC

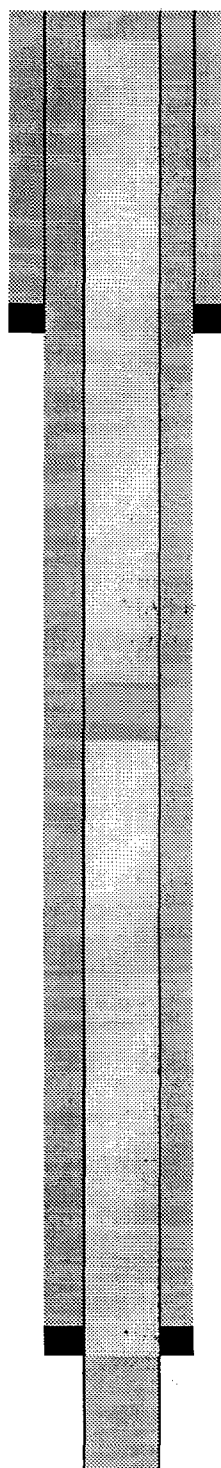
Hole loaded with mud laden  
fluids.

5 1/2"  
3151'  
1000 SXS  
TOC: CIRC

Spotted a 20 sxs cmt plug  
from 1400' to 1550'

TD: 3225'

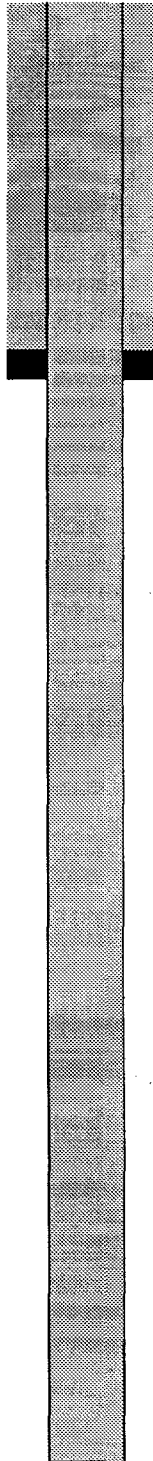
Spotted a 30 sxs cmt plug from  
3050' to 3225'



**WELL SCHEMATIC:  
EXXON BOWERS A FED #17**

WELL PLUGGED:  
11/30/66

7"  
12'  
6 SX  
TOC: CIRC



12' of 7" csg left in hole.

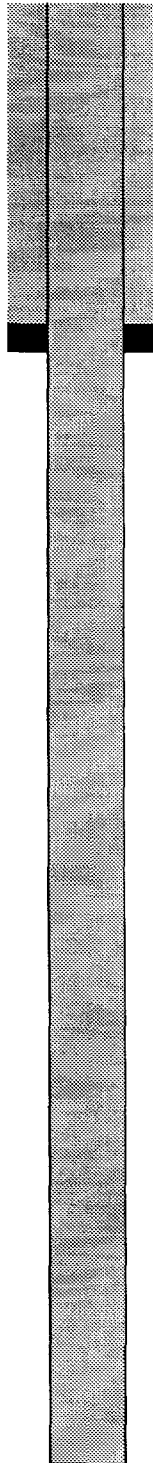
Filled hole with approximately  
.75 yards of 5 sx Redi-Mix.

TD: 50'

**WELL SCHEMATIC:  
ARC IND BOWERS A FED #1**

WELL PLUGGED:  
8/19/98

6 5/8"  
10'  
3 SX  
TOC: NA



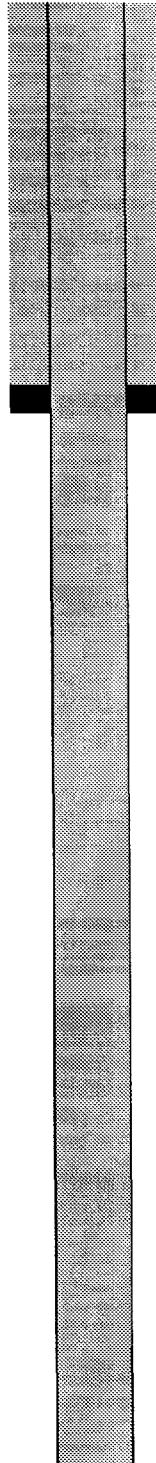
Csg was pulled out of hole.  
Well was filled to the surface  
With approximately .75 yards  
Of 5 sx Redi-Mix.

TD: 42'

**WELL SCHEMATIC:  
EXXON BOWERS A FED #10**

WELL PLUGGED:  
8/19/98

7"  
10'  
3 SX  
TOC: NA



Csg was pulled out of hole.  
Well was filled to the surface  
With approximately .75 cu.  
Yds. of 5 sx Redi-Mix.

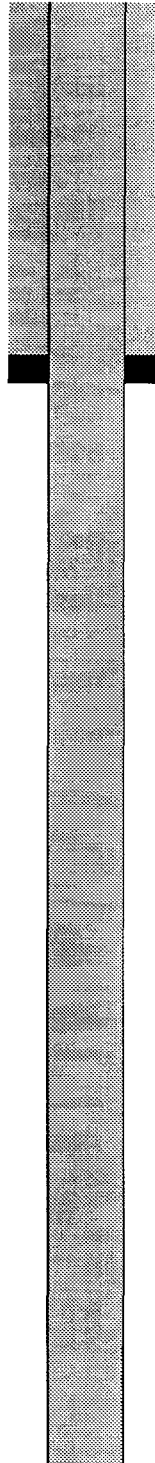
10' to 38' – open hole.

TD: 38'

**WELL SCHEMATIC:  
EXXON BOWERS A FED #11**

WELL PLUGGED:  
8/19/98

6 5/8"  
10'  
3 SX  
TOC: NA



Csg was pulled out of hole.  
Well was filled to the surface  
With approximately .75 yards  
Of 5 sx Redi-Mix.

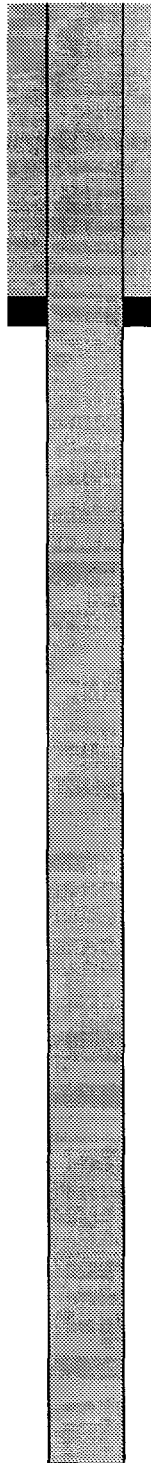
10' to 38' – open hole.

TD: 38'

**WELL SCHEMATIC:  
EXXON BOWERS A FED #12**

WELL PLUGGED:  
8/19/98

6 5/8"  
10'  
3 SX  
TOC: NA



Csg was pulled out of hole.  
Well was filled to the surface  
With approximately .75 yards  
Of 5 sx Redi-Mix.

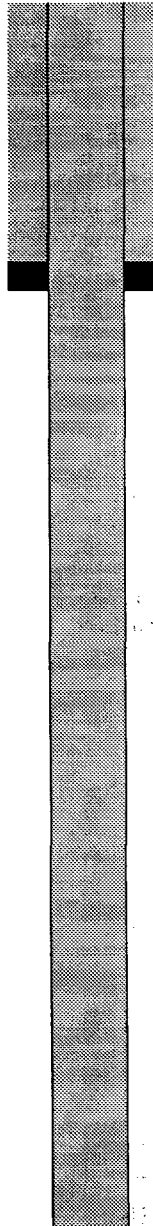
10' to 45' – open hole

TD: 45'

**WELL SCHEMATIC:  
ARC IND BOWERS A FED #2**

WELL PLUGGED:  
8/19/98

6 5/8"  
10'  
3 SX  
TOC: NA



Csg was pulled out of hole.  
Well was filled to the surface  
With approximately .75 yards  
Of 5 sx Redi-Mix.

10' to 38' – open hole.

TD: 38'

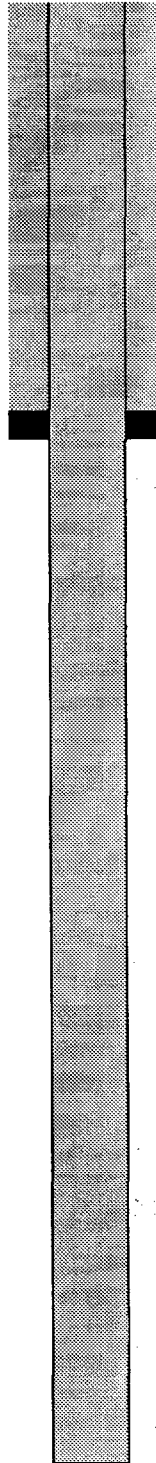


**WELL SCHEMATIC:  
EXXON BOWERS A FED #4**

WELL PLUGGED:  
8/19/98

6 5/8"  
10'  
3 SX  
TOC: NA

Csg was pulled out of hole.  
Well was filled to the surface  
With approximately .75 yards  
Of 5 sx Redi-Mix.



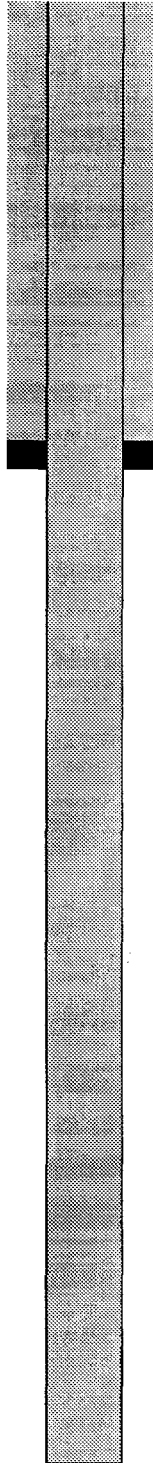
TD: 38'

**WELL SCHEMATIC:  
EXXON BOWERS A FED #5**

WELL PLUGGED:  
8/19/98

6 5/8"  
10'  
3 SX  
TOC: NA

Csg was pulled out of hole.  
Well was filled to the surface  
With approximately .75 yards  
Of 5 sx Redi-Mix.

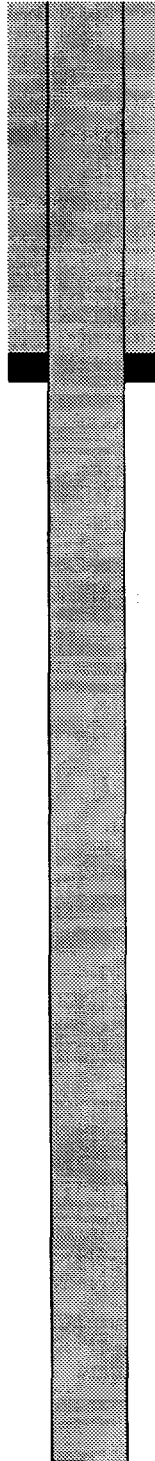


TD: 38'

**WELL SCHEMATIC:  
ARC IND BOWERS A FED #6**

WELL PLUGGED:  
8/19/98

6 ¾"  
10'  
3 SX  
TOC: NA

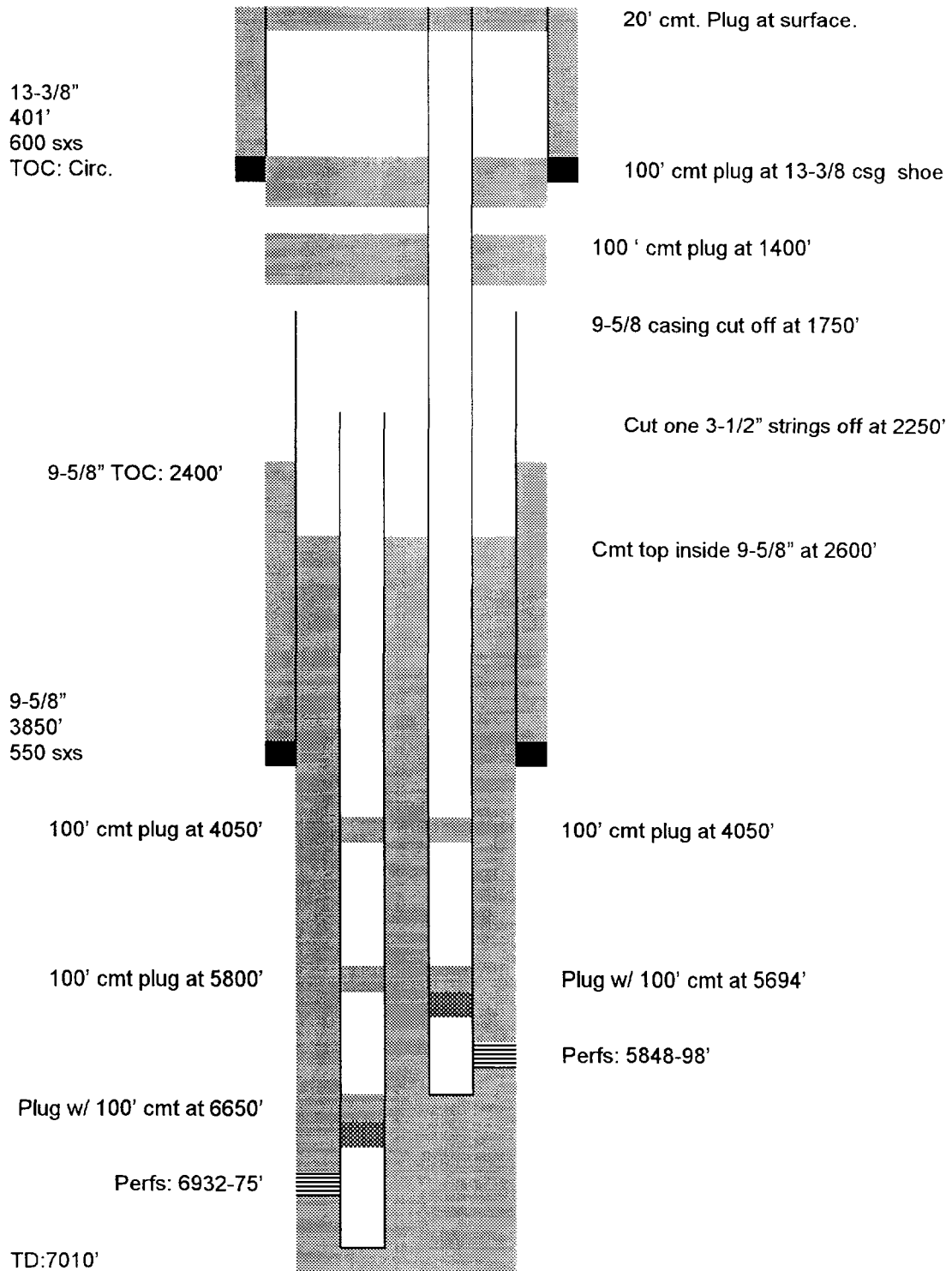


Csg was pulled and well was  
Filled with approximately  
.75 yards of 5 sx Redi-Mix.

TD: 45'

# WELL SCHEMATIC - Exxon Bowers A Federal #34

Well plugged 9/26/72



**WELL SCHEMATIC:  
GETTY HD MCKINLEY #6**

WELL PLUGGED:  
8/26/75

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

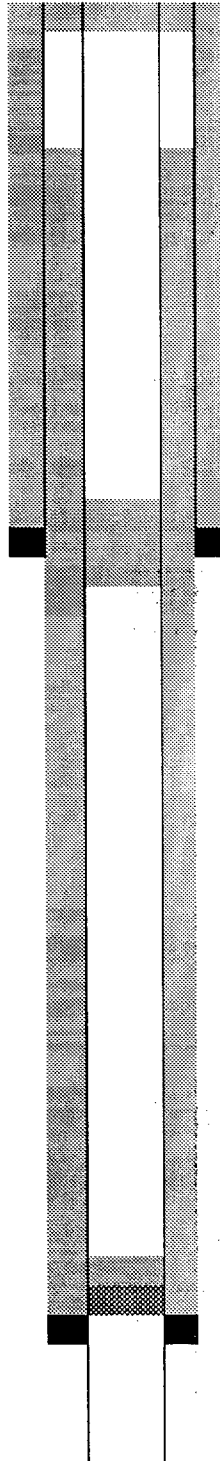
Laid 10 sx cmt plug in top.

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

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

TD:3200'

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



**WELL SCHEMATIC:  
AMERADA H.D. MCKINLEY #5**

WELL PLUGGED:  
5/19/93

7 5/8"  
432'  
200 SX  
TOC: CIRC

Spotted 25 sx cmt plug from  
250' to surface.

Displaced hole with 75 bbls  
Of 9 1/2 # mud.

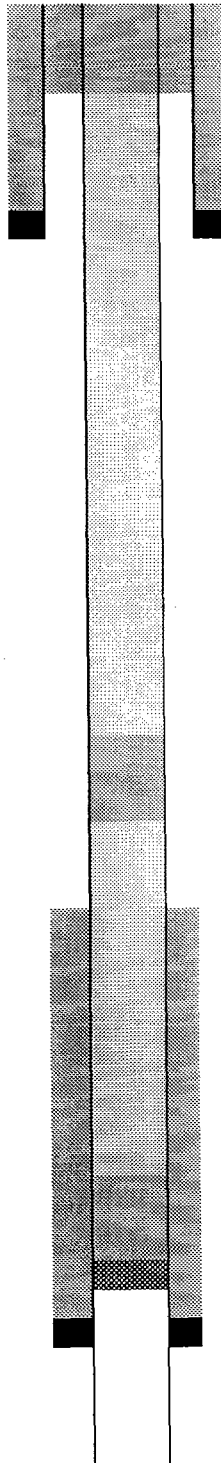
5 1/2"  
3130'  
600 SX  
TOC: 2992'

Spotted 25 sx cmt plug from  
1850' to 1600'.

TD: 3230'

Spotted 25 sx cmt plug from  
3050' to 2800'.

Set CIBP at 3050'.

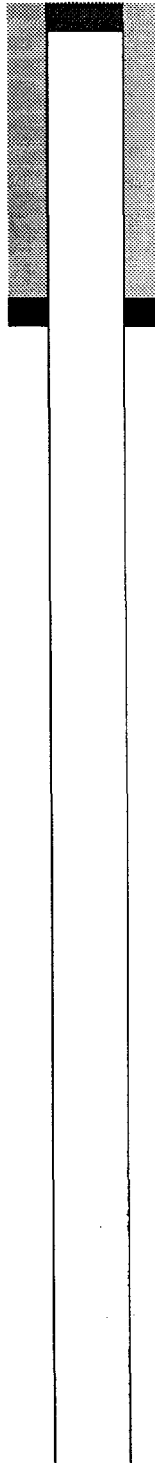


**WELL SCHEMATIC:  
AMERADA MCKINLEY #10**

WELL PLUGGED:  
8/14/82

5 ½"  
10'  
1 yd. Redi-Mix

The pump was pulled from  
The well and steel plates  
Were welded on top of the  
Well.



TD: 37'

**WELL SCHEMATIC:  
AMERADA H.D. MCKINLEY # 6**

WELL PLUGGED:  
5/17/93

7 5/8"  
416'  
200 SX  
TOC: CIRC

Spotted 25 sx cmt plug from  
250' to surface.

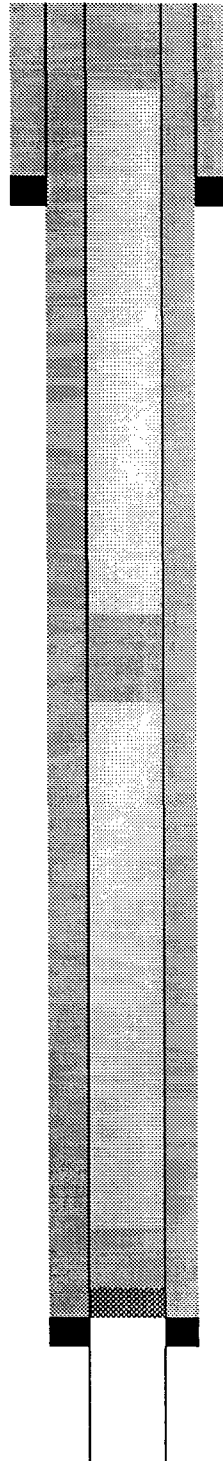
Displaced hole with 70 bbls  
Of 9 1/2 # mud.

5 1/2"  
3145'  
625 SX  
TOC: 20' TS

Spotted 25 sx cmt plug from  
1850' to 1600'.

TD: 3229'

Spotted 25 sx cmt plug from  
3100' to 2850'.  
Set CIBP at 3100'.



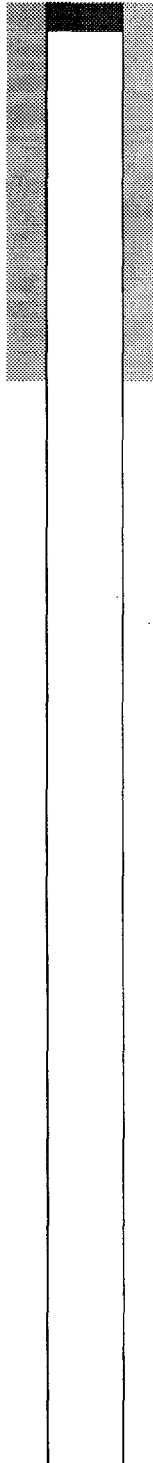


**WELL SCHEMATIC:  
AMERADA MCKINLEY #9**

WELL PLUGGED:  
8/14/82

5 ½"  
10'  
1 YD REDI-MIX  
TOC: NA

The pump was pulled from  
Well and steel plates were  
Welded on top of well.

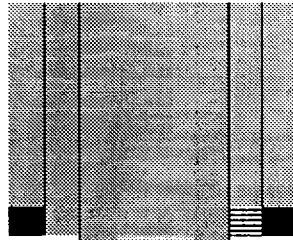


TD: 37'

**WELL SCHEMATIC:  
MARATHON STATE #4**

WELL PLUGGED:  
3/14/57

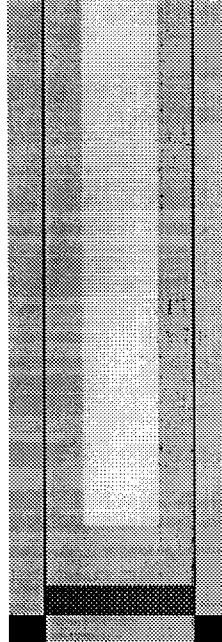
16"  
260'  
225 SX  
TOC: SURF (C)



Perfd 9 5/8" csg at 255'. Circ  
300 sx cmt to surf 9 5/8" x  
16" csg annulus leaving 255'  
Cmt plug in top of 9 5/8" csg  
And 16" surf pipe.

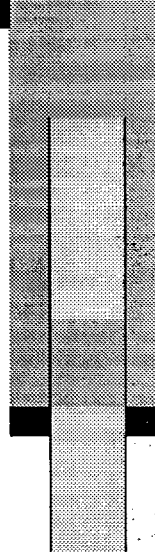
Hole loaded with gel based  
Mud.

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



Spotted 125' cmt plug from  
2703' to 2578'.  
Set cast iron cmt ret in 9 5/8"  
Csg at 2703' and sqzd 50 sx  
Cmt below cmt ret.

7"  
3946'  
350 SX  
TOC: NA



Cut 7" csg at 3060' and  
Pulled same.

TD: 4215'

Spotted 312' cmt plug from  
3602' to 3914'.

**WELL SCHEMATIC:  
EXXON STATE A #1**

WELL PLUGGED:  
8/24/48

8 5/8"  
252'  
150 SX  
TOC: SURF (C)

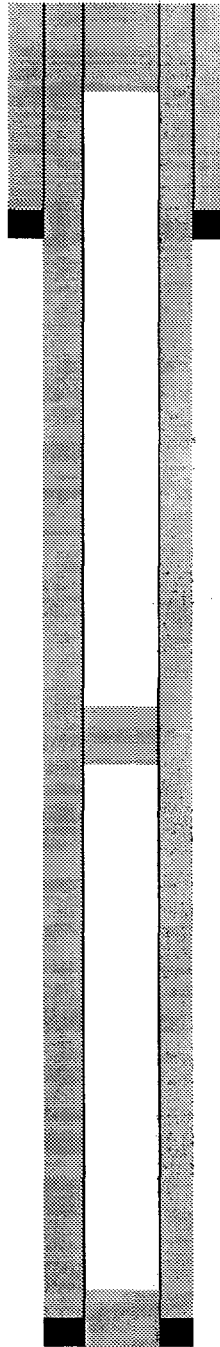
Pulled tbg and plugged hole  
From 100' to surface

5 1/2"  
3188'  
1325 SX  
TOC: CIRC

Pulled tbg up and spotted 40  
Sx cmt from 1500' to 1800'

TD: 3270'

Spotted 15 sx cmt at 3270.



## LIST OF OFFSET OPERATORS & SURFACE OWNERS

---

North Hobbs (Grayburg/San Andres) Unit  
Well No. 233  
Letter K, Section 30, T-18-S, R-38-E  
Lea County, New Mexico

### Offset Operators

---

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

Getty Oil Company  
P.O. Box 797035  
Dallas, TX 75379-7035

Charles E. Seed  
Houston Ranch  
Lovington Hwy.  
Hobbs, NM 88240

Marathon Oil Company  
P.O. Box 552  
Midland, TX 79702-0552

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

### 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:

Sally Huston Seed  
4721 Lovington Hwy.  
Hobbs, NM 88240

4a. Article Number

P 447 842 749

4b. Service Type

- |   |   |
|---|---|
| <input type="checkbox"/> Registered                     | <input checked="" type="checkbox"/> Certified |
| <input type="checkbox"/> Express Mail                   | <input type="checkbox"/> Insured              |
| <input type="checkbox"/> Return Receipt for Merchandise | <input type="checkbox"/> COD                  |

7. Date of Delivery

5. Received By: (Print Name)

6. Signature: (Addressee or Agent)

X

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

PS Form 3811, December 1994

102595-97-B-0179

Domestic Return Receipt

Thank you for using Return Receipt Service.

Is your RETURN ADDRESS completed on the reverse side?

**SENDER:**

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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:

Getty Oil Company  
P.O. Box 797035  
Dallas, TX 75379-7035

4a. Article Number

P 447 842 816

4b. Service Type

- |   |   |
|---|---|
| <input type="checkbox"/> Registered                     | <input checked="" type="checkbox"/> Certified |
| <input type="checkbox"/> Express Mail                   | <input type="checkbox"/> Insured              |
| <input type="checkbox"/> Return Receipt for Merchandise | <input type="checkbox"/> COD                  |

7. Date of Delivery

5. Received By: (Print Name)

6. Signature: (Addressee or Agent)

X

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

PS Form 3811, December 1994

102595-97-B-0179

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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:

Charles E. Seed  
Houston Ranch  
Lovington Hwy.  
Hobbs, NM 88240

4a. Article Number

P 447 842 817

4b. Service Type

- |   |   |
|---|---|
| <input type="checkbox"/> Registered                     | <input checked="" type="checkbox"/> Certified |
| <input type="checkbox"/> Express Mail                   | <input type="checkbox"/> Insured              |
| <input type="checkbox"/> Return Receipt for Merchandise | <input type="checkbox"/> COD                  |

7. Date of Delivery

5. Received By: (Print Name)

6. Signature: (Addressee or Agent)

X

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

PS Form 3811, December 1994

102595-97-B-0179

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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:

Marathon Oil Company  
P.O. Box 552  
Midland, TX 79702-0552

4a. Article Number

P 447 842 818

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

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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 447 842 819

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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102595-97-B-0179

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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:

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

4a. Article Number

P 447 842 820

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

Joan Hansen

Notary Public.

My Commission expires  
October 18, 2000  
(Seal)

This newspaper is duly qualified  
to publish legal notices or adver-  
tisements within the meaning of  
Section 3, Chapter 167, Laws of  
1937, and payment of fees for  
said publication has been made.

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 Depart-  
ment, for approval of the fol-  
lowing injection wells for the  
purpose of secondary recov-  
ery:

Pool Name: Hobbs; Grayburg  
-San Andres

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. Ex-  
pected 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 Conser-  
vation Division, 2040, S. Pa-  
checo, Santa Fe, NM 87505  
within fifteen (15) days.  
#16873

02101173000 01535865

Altura Energy LTD

P. O. Box 4294

Houston, TX 77210-4294

**Active wells within 1/2 mile radius of proposed 30-233 conversion**

[illegible]

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



Active wells within 1/2 mile radius of proposed 30-233 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                            |
|-----------|--------|--------------|------|------|------|--------|------------|-----------|--------------|-----------------|-----------|---------------------------------|------------------------|-----------------------|---------------------------|-------------------|--------------------------------|
| 30221     | Altura | 30-025-07462 | 30   | -18S | -38E | F      | 4//30      | Prod      | 4279         | 4072            | 4208-79   | 4023-25<br>4081-4104<br>4120-28 | 9.625<br>7<br>4.5 Lnr  | 11.75<br>8.25<br>6.25 | 2750<br>3852<br>3799-4207 | 535<br>250<br>125 | 787<br>1500 CBL<br>3799        |
| 30222     | Altura | 30-025-26833 | 30   | -18S | -38E | F      | 10//80     | Inj       | 4290<br>CIBP | 4123<br>4302    | 4302      | 3718<br>4322-29                 | 16<br>8.625<br>5.5     | 20<br>12.25<br>7.875  | 40<br>1570<br>4349        | 40<br>950<br>800  | Surf<br>Surf<br>2608 CBL       |
| 30223     | Altura | 30-025-28555 | 30   | -18S | -38E | F      | 7//84      | Prod      | 4321         | 4139            | 4280      |                                 | 16<br>8.625<br>5.5     |                       | 30<br>1455<br>4394        |                   | Circ<br>650<br>250<br>2496 CBL |
| 30231     | Altura | 30-025-07479 | 30   | -18S | -38E | K      | 7//30      | Prod      | 4015<br>CIBP | 4119<br>4200-56 | 4200-56   |                                 | 9.625<br>7<br>5        | 12.25<br>8.75<br>6.25 | 2750<br>3930<br>4200      | 400<br>550<br>60  | 1589<br>604<br>3193 CBL        |
| 30232     | Altura | 30-025-26935 | 30   | -18S | -38E | K      | 12//80     | Inj       | 4519         | 4138            | 4310      | 4170-78<br>4186-94              | 16<br>8.625<br>5.5     |                       | 40<br>1600<br>4555        | 40<br>875<br>1155 | Circ<br>Circ<br>2614 CBL       |
| 30241     | Altura | 30-025-07480 | 30   | -18S | -38E | N      | 9//30      | Prod      | 3900         | 3946            | 4101      | 4118-38<br>4158                 | 9.625<br>7<br>5        | 12.25<br>8.75<br>6.25 | 2750<br>3900<br>4167      | 550<br>275<br>60  | 1154<br>2237<br>3368 CBL       |
| 30242     | Altura | 30-025-28886 | 30   | -18S | -38E | N      | 3//85      | Prod      | 3975         | 4024            | 4240      |                                 | 13.375<br>8.625<br>5.5 |                       | 40<br>1514<br>4368        | 425<br>525        | Circ<br>Circ                   |
| 30321     | Altura | 30-025-07467 | 30   | -18S | -38E | G      | 7//30      | Prod      | 4257         | 4130            | 4196      | 4030-60                         | 9.625<br>7<br>5        | 11.75<br>8.75<br>7    | 2755<br>3854<br>4200      | 600<br>250<br>405 | 553<br>2342<br>Circ/CBL        |
| 30331     | Altura | 30-025-07472 | 30   | -18S | -38E | J      | 9//30      | Prod      | 4225         | 4014            | 4225      | 4068-72<br>4074-92              | 9.625<br>7<br>5.5      | 12<br>8.75<br>6.125   | 2750<br>3960<br>4238      | 650<br>300<br>30  | 1000<br>Circ<br>3650 CBL       |

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

**Active wells within 1/2 mile radius of proposed 30-233 conversion**

| Well Name | Oper   | API No.      | Sec. | T    | R    | Un Ltr | Drill Date | Well Type | TD or PBTD | Top Perf | Bot. Perf | Sq. Perfs | Csg. Size | Hole Size | Depth     | No. of Sxs. | TOC      |
|-----------|--------|--------------|------|------|------|--------|------------|-----------|------------|----------|-----------|-----------|-----------|-----------|-----------|-------------|----------|
| 30332     | Altura | 30-025-28954 | 30   | -18S | -38E | J      | 5/85       | Prod      | 4323       | 4103     | 4288      |           | 13.375    |           | 40        | 650         | Circ     |
|           |        |              |      |      |      |        |            |           |            |          |           |           | 9.625     |           | 1503      | 800         | Circ     |
|           |        |              |      |      |      |        |            |           |            |          |           |           | 7         |           | 4371      |             |          |
| 30333     | Altura | 30-025-28955 | 30   | -18S | -38E | J      | 2/85       | Inj       | 4328       | 4137     | 4290      |           | 13.375    |           | 40        | 425         | Surf     |
|           |        |              |      |      |      |        |            |           |            |          |           |           | 8.625     |           | 1579      |             |          |
|           |        |              |      |      |      |        |            |           |            |          |           |           | 5.5       |           | 4370      | 500         | Circ     |
| 30341     | Altura | 30-025-24665 | 30   | -18S | -38E | O      | 3/74       | Prod      | 4202       | 4042     | 4276      | 4104-26   | 9.625     | 12.25     | 1463      | 500         | Circ     |
|           |        |              |      |      |      |        |            |           |            |          |           | 4164-70   | 5.5       | 7.875     | 3956      | 625         | 1910 CBL |
|           |        |              |      |      |      |        |            |           |            |          |           | 4180-96   | 3.5 Lnr   | 4.75      | 3715-4350 | 125         | 3715     |
|           |        |              |      |      |      |        |            |           |            |          |           | 4056-69   |           |           |           |             |          |

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

Active Outside Operated wells within 1/2 mile of proposed 30-233 conversion

| Well Name      | API No.      | Sec. | T    | R    | Un  | Drill Date | Well Type | TD or PBTD | Top Perf | Bot. Perf | Sqz. Perfs | Csg. Size | Hole Size | Depth | No. of Sxs. | TOC      |
|----------------|--------------|------|------|------|-----|------------|-----------|------------|----------|-----------|------------|-----------|-----------|-------|-------------|----------|
| Oper           |              |      |      |      | Ltr |            |           |            |          |           |            |           |           |       |             |          |
| HD McKinley #9 | 30-025-23221 | 30   | -18S | -38E | G   | 8/169      | Prod      | 6961       | 5761     | 6965      |            | 13.375    | 17.5      | 378   | 400         | Circ.    |
| Getty          |              |      |      |      |     |            |           | CIBP       |          |           |            | 9.625     | 12.25     | 3851  | 1748        | Circ.    |
|                |              |      |      |      |     |            |           |            |          |           |            | 7         | 8.75      | 6999  | 650         | 2700 TS  |
| Seed St 30 #1  | 30-025-22994 | 30   | -18S | -38E | K   | 2/169      | Prod      | 45         | 10       | 45        |            | 7         | 8.5       | 10    | 2           | No data  |
| C.E. Seed      |              |      |      |      |     |            |           |            | OH       |           |            |           |           |       |             |          |
| Seed St 30 #2  | 30-025-22995 | 30   | -18S | -38E | K   | 2/169      | Prod      | 45         | 10       | 45        |            | 7         | 8.5       | 10    | 2           | No data  |
| C.E. Seed      |              |      |      |      |     |            |           |            | OH       |           |            |           |           |       |             |          |
| Seed St 30 #3  | 30-025-22996 | 30   | -18S | -38E | K   | 2/169      | Prod      | 45         | 10       | 45        |            | 7         | 8.5       | 10    | 2           | No data  |
| C.E. Seed      |              |      |      |      |     |            |           |            | OH       |           |            |           |           |       |             |          |
| Seed St 30 #4  | 30-025-22997 | 30   | -18S | -38E | K   | 2/169      | Prod      | 45         | 10       | 45        |            | 7         | 8.5       | 10    | 2           | No data  |
| C.E. Seed      |              |      |      |      |     |            |           |            | OH       |           |            |           |           |       |             |          |
| Seed St 30 #5  | 30-025-22998 | 30   | -18S | -38E | K   | 2/169      | Prod      | 45         | 10       | 45        |            | 7         | 8.5       | 10    | 2           | No data  |
| C.E. Seed      |              |      |      |      |     |            |           |            | OH       |           |            |           |           |       |             |          |
| Seed St 30 #6  | 30-025-22319 | 30   | -18S | -38E | K   | 2/169      | Prod      | 45         | 10       | 45        |            | 7         | 8.5       | 10    | 2           | No data  |
| C.E. Seed      |              |      |      |      |     |            |           |            | OH       |           |            |           |           |       |             |          |
| Seed St 30 #7  | 30-025-22320 | 30   | -18S | -38E | K   | 2/169      | Prod      | 45         | 10       | 45        |            | 7         | 8.5       | 10    | 2           | No data  |
| C.E. Seed      |              |      |      |      |     |            |           |            | OH       |           |            |           |           |       |             |          |
| Seed St 30 #8  | 30-025-22321 | 30   | -18S | -38E | K   | 2/169      | Prod      | 45         | 10       | 45        |            | 7         | 8.5       | 10    | 2           | No data  |
| C.E. Seed      |              |      |      |      |     |            |           |            | OH       |           |            |           |           |       |             |          |
| Seed St 30 #9  | 30-025-22322 | 30   | -18S | -38E | K   | 2/169      | Prod      | 45         | 10       | 45        |            | 7         | 8.5       | 10    | 2           | No data  |
| C.E. Seed      |              |      |      |      |     |            |           |            | OH       |           |            |           |           |       |             |          |
| St #5          | 30-025-07483 | 30   | -18S | -38E | K   | 2/148      | Prod      | 3246       | 3155     | 3244      |            | 8.625     | 11        | 326   | 125         | Surf 'c' |
| Saga Pet. LLC  |              |      |      |      |     |            |           |            | OH       |           |            | 5.5       | 7         | 3155  | 1000        | Surf 'c' |
| St #6          | 30-025-07484 | 30   | -18S | -38E | M   | 3/148      | Prod      | 3210       | 3197     | 3210      |            | 8.625     | 11        | 295   | 125         | Surf 'c' |
| Saga Pet. LLC  |              |      |      |      |     |            |           |            | OH       |           |            | 5.5       | 7         | 3197  | 900         | Surf 'c' |

Note: 'c' in TOC column denotes calculated cmt top w/ 50% efficiency.

Active Outside Operated wells within 1/2 mile of proposed 30-233 conversion

| Well Name     | API No.      | Sec. | T    | R    | Un  | Drill Date | Well Type | TD or PBTD | Top Perf | Bot. Perf | Sqz. Perfs | Csg. Size | Hole Size | Depth | No. of Sxs. | TOC      |
|---------------|--------------|------|------|------|-----|------------|-----------|------------|----------|-----------|------------|-----------|-----------|-------|-------------|----------|
| Oper          |              |      |      |      | Ltr |            |           |            |          |           |            |           |           |       |             |          |
| St #7         | 30-025-07485 | 30   | -18S | -38E | N   | 4//48      | Prod      | 3252       | 3171     | 3252      |            | 8.625     | 11        | 296   | 125         | Surf 'c' |
| Saga Pet. LLC |              |      |      |      |     |            |           |            | OH       |           |            | 5.5       | 7         | 3171  | 900         | Surf 'c' |
| St #8         | 30-025-07486 | 30   | -18S | -38E | L   | 4//48      | Prod      | 3271       | 3173     | 3271      |            | 8.625     | 11        | 295   | 125         | Circ.    |
| Marathon      |              |      |      |      |     |            |           |            | OH       |           |            | 5.5       | 7         | 3173  | 900         | Circ.    |

Note: 'c' in TOC column denotes calculated cmt top w/ 50% efficiency.

Plugged wells within 1/2 mile of proposed 30-233 conversion

| Well Name           | API No.      | Sec. | T    | R    | Un  | Drill Date | Well Type | TD or PBTD | Top Perf | Bot. Perf | Sqz. Perfs | Csg. Size | Hole Size | Depth | No. of Sxs. | TOC      |
|---------------------|--------------|------|------|------|-----|------------|-----------|------------|----------|-----------|------------|-----------|-----------|-------|-------------|----------|
| Oper                |              |      |      |      | Ltr |            |           |            |          |           |            |           |           |       |             |          |
| 30342               | 30-025-12501 | 30   | -18S | -38E | O   | 9/30       | PA        | 4268       | 3974     | 4268      |            | 12.5      | 18        | 210   | 210         | Circ.    |
| Altura              |              |      |      |      |     |            |           |            |          | OH        |            | 9.625     | 12        | 2738  | 650         | Circ.    |
|                     |              |      |      |      |     |            |           |            |          |           |            | 7         | 8.75      | 3974  | 300         | 1144 cbl |
| B.A. Bowers #2      | 30-025-08045 | 30   | -18S | -38E | J   | 5/30       | PA        | 242        | No data  | No data   |            | 12.5      |           | 242   | 225         | Surf 'c' |
| Exxon               |              |      |      |      |     |            |           |            |          |           |            |           |           |       |             |          |
| Bowers A #13        | 30-025-07476 | 30   | -18S | -38E | J   | 7/147      | PA        | 3189       | 3148     | 3189      |            | 8.625     | 11        | 283   | 125         | Surf 'c' |
| Exxon               |              |      |      |      |     |            |           |            | OH       |           |            | 5.5       | 7.625     | 3150  | 1350        | Surf 'c' |
| Bowers A #16        | 30-025-07478 | 30   | -18S | -38E | O   | 10/147     | PA        | 3225       | 3151     | 3221      |            | 8.625     | 11        | 262   | 150         | Circ.    |
| Exxon               |              |      |      |      |     |            |           |            | OH       |           |            | 5.5       | 7.625     | 3151  | 1000        | Circ.    |
| Bowers A Fed. #17   | 30-025-21900 | 30   | -18S | -38E | J   | 10/166     | PA        | 50         | 12       | 50        |            | 7         | 8         | 12    | 6           | Circ.    |
| Exxon               |              |      |      |      |     |            |           |            | OH       |           |            |           |           |       |             |          |
| Bowers A Fed. #CT18 | 30-025-21965 | 30   | -18S | -38E |     | 1/167      | PA        | 50         |          |           |            |           |           |       |             |          |
| Exxon               |              |      |      |      |     |            |           |            |          |           |            |           |           |       |             |          |
| Bowers A Fed. #CT19 | 30-025-21966 | 30   | -18S | -38E |     | 1/167      | PA        | 30         |          |           |            |           |           |       |             |          |
| Exxon               |              |      |      |      |     |            |           |            |          |           |            |           |           |       |             |          |
| Bowers A Fed. #CT26 | 30-025-21969 | 30   | -18S | -38E |     | 1/167      | PA        | 35         |          |           |            |           |           |       |             |          |
| Exxon               |              |      |      |      |     |            |           |            |          |           |            |           |           |       |             |          |
| Bowers Fed. A #1    | 30-025-22124 | 30   | -18S | -38E | J   | 6/167      | PA        | 42         | 10       | 38        |            | 6.625     | 6.75      | 10    | 3           | No data  |
| ARC Ind.            |              |      |      |      |     |            |           |            | OH       |           |            |           |           |       |             |          |
| Bowers Fed. A #10   | 30-025-22147 | 30   | -18S | -38E | J   | 6/167      | PA        | 38         | 10       | 38        |            | 7         | 7.875     | 10    | 3           | No data  |
| ARC Ind.            |              |      |      |      |     |            |           |            | OH       |           |            |           |           |       |             |          |
| Bowers Fed. A #11   | 30-025-22148 | 30   | -18S | -38E | J   | 6/167      | PA        | 38         | 10       | 38        |            | 6.625     | 6.75      | 10    | 3           | No data  |
| ARC Ind.            |              |      |      |      |     |            |           |            | OH       |           |            |           |           |       |             |          |
| Bowers Fed. A #12   | 30-025-22190 | 30   | -18S | -38E | J   | 10/167     | PA        | 45         | 10       | 45        |            | 6.625     | 6.75      | 10    | 3           | No data  |
| ARC Ind.            |              |      |      |      |     |            |           |            | OH       |           |            |           |           |       |             |          |

NO DATA RECORDS

Note: 'c' in TOC column denotes calculated cmt top w/ 50% efficiency.

**Plugged wells within 1/2 mile of proposed 30-233 conversion**

| Well Name         | 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      |
|-------------------|---------------|------|---------|------|--------|------------|-----------|------------|----------|-----------|------------|-----------|-----------|-------|------------|----------|
| Oper              |               |      |         |      |        |            |           |            |          |           |            |           |           |       |            |          |
| Bowers Fed. A #2  | 30-025- 22125 |      | 30 -18S | -38E | J      | 6//67      | PA        | 38         | 10       | 38        |            | 6.625     | 6.75      | 10    | 3          | No data  |
| ARC Ind.          |               |      |         |      |        |            |           |            | OH       |           |            |           |           |       |            |          |
| F.A Bowers #4     | 30-025- 22127 |      | 30 -18S | -38E | J      | 7//67      | PA        | 38         | 10       | 38        |            | 6.625     | 6.75      | 10    | 3          | No data  |
| ARC Ind.          |               |      |         |      |        |            |           |            | OH       |           |            |           |           |       |            |          |
| F.A Bowers #5     | 30-025- 22189 |      | 30 -18S | -38E | J      | 7//67      | PA        | 38         | 10       | 38        |            | 6.625     | 6.75      | 10    | 3          | No data  |
| ARC Ind.          |               |      |         |      |        |            |           |            | OH       |           |            |           |           |       |            |          |
| F.A Bowers #6     | 30-025- 22276 |      | 30 -18S | -38E | J      | 10//67     | PA        | 45         | 10       | 45        |            | 5.5       | 6.75      | 10    | 3          | No data  |
| ARC Ind.          |               |      |         |      |        |            |           |            | OH       |           |            |           |           |       |            |          |
| Bowers A Fed. #34 | 30-025- 23260 |      | 30 -18S | -38E | J      | 8//69      | PA        | 7010       | 5822     | 6979      | 5848-98    | 9.625     | 12.25     | 3850  | 550        | 2400     |
| Exxon             |               |      |         |      |        |            |           |            |          |           | 6932-75    | 3.5 B     | 7.875     | 6088  | 895        | 2600     |
|                   |               |      |         |      |        |            |           |            |          |           |            | 3.5 D     | 7.875     | 7010  | 895        | 2600     |
| H.D. McKinley #6  | 30-025- 07488 |      | 30 -18S | -38E | G      | 6//47      | PA        | 3200       | 3178     | 3200      |            | 8.625     | 11        | 1474  | 400        | Circ.    |
| Getty             |               |      |         |      |        |            |           |            | OH       |           |            | 5.5       | 6.875     | 3178  | 200        | 498 'c'  |
| HD McKinley #5    | 30-025- 07465 |      | 30 -18S | -38E | F      | 3//47      | PA        | 3230       | 3197     | 3206      |            | 7.625     | 9.875     | 432   | 200        | Circ.    |
| Amerada           |               |      |         |      |        |            |           |            | OH       |           |            | 5.5       | 6.75      | 3130  | 600        | 2992     |
| McKinley #10      | 30-025- 22173 |      | 30 -18S | -38E | F      | 6//67      | PA        | 37         | 10-37 OH |           |            | 5.5       | 6.75      | 10    | 1YD        | No data  |
| Amerada           |               |      |         |      |        |            |           |            |          |           |            |           |           |       |            |          |
| McKinley #6       | 30-025- 07466 |      | 30 -18S | -38E | C      | 3//47      | PA        | 3229       | 3145     | 3229      |            | 7.625     | 9.875     | 416   | 200        | Circ.    |
| Amerada           |               |      |         |      |        |            |           |            | OH       |           |            | 5.5       | 6.75      | 3145  | 625        | 20 TS    |
| McKinley #9       | 30-025- 22172 |      | 30 -18S | -38E | F      | 6//67      | PA        | 37         | 10-37 OH |           |            | 5.5       | 6.75      | 10    | 1 YD       | No data  |
| Amerada           |               |      |         |      |        |            |           |            |          |           |            |           |           |       |            |          |
| St #4             | 30-025- 07482 |      | 30 -18S | -38E | M      | 11//30     | PA        | 4215       | 3758     | 3850      |            | 16        | 20        | 260   | 225        | Surf 'c' |
| Marathon/Saga     |               |      |         |      |        |            |           |            |          |           |            | 9.625     | 11.5      | 2750  | 500        | No data  |
|                   |               |      |         |      |        |            |           |            |          |           |            | 7         | 8.75      | 3946  | 350        | 1307 'c' |
| St A #1           | 30-025- 05495 |      | 25 -18S | -37E | I      | 8//48      | PA        | 3270       | 3188     | 3270      |            | 8.625     | 11        | 261   | 150        | Surf 'c' |
| Exxon             |               |      |         |      |        |            |           |            | OH       |           |            | 5.5       | 7.875     | 3188  | 1325       | Circ.    |

Note: 'c' in TOC column denotes calculated cnt top w/ 50% efficiency.

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

25

36

30-233  
N. HOBBS  
UNIT

ONE-MILE RADIUS FROM WELL 30-233

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

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

Area of Review Plat  
**NORTH HOBBS (GRAYBURG  
SAN ANDRES) UNIT**  
WELL NO. 30-233  
T-18-S, R-38-E  
Lea County, New Mexico

Scale: 1" = 600' 07-03-99 nm138a00.dgn - 11  
Plat prepared by PJE Drafting, Inc.  
For Horizon Survey, Inc.





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

PMX-202

12/10/99

GOVERNOR

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 #1 233-K-3D-185-38e  
Operator Lease & Well No. Unit S-T-R 30-025-28942

and my recommendations are as follows:

OK

Yours very truly,

*Chris Williams*

Chris Williams  
Supervisor, District 1

/ed