

WFX 10/16/98



J.O. EASLEY INC.
ESTABLISHED 1979
P.O. Box 245 88211-0245
119 South Roselawn, Suite 302
Artesia, New Mexico 88210

September 30, 1998

Telephone (505) 746-1070
Fax (505) 746-1073

Mr. David Catanach
New Mexico Oil Conservation Division
2040 South Pacheco
Santa Fe, New Mexico 87505

CC - 1

RE: C-108
Caprock Maljamar Waterflood Unit
Lea County, New Mexico

Dear Mr. Catanach:

Enclosed is an original and one copy of the C-108 for 2 new injection wells within The Wiser Oil Company's Caprock Maljamar Waterflood Unit.

If you have any questions, please call me at 505-624-9677 or Mike Burch at 505-746-1070.

Sincerely,

J. O. EASLEY, INC.

Bonita L. Limpus Jones
Consulting Landman

/bj

Enclosures

cc/enclosure: Mr. Chris Williams
New Mexico Oil Conservation Division
P. O. Box 1980
Hobbs, New Mexico 88240

Mr. Matt Eagleston
The Wiser Oil Company
8115 Preston Road, Suite 400
Dallas, Texas 75225

Mr. Mike Jones
The Wiser Oil Company
P. O. Box 2568
Hobbs, New Mexico 88240

AOR 57
TOTAL 9
P&A 0
REPAIR 0
28

APPLICATION FOR AUTHORIZATION TO INJECT

- I. PURPOSE: Secondary Recovery Pressure Maintenance Disposal Storage
Application qualifies for administrative approval? Yes No
- II. OPERATOR: The Wiser Oil Company
ADDRESS: P. O. Box 2568, Hobbs, NM 88241
CONTACT PARTY: Mike Jones PHONE: (505) 392-9797
- III. WELL DATA: Complete the data required on the reverse side of this form for each well processed 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-10094 Caprock Maljamar Unit
- 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 geological data on the injection zone including appropriate lithologic detail, geological 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 source 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: Michael R. Burch, CPL

TITLE: Agent

SIGNATURE: Michael R. Burch, Jr. DATE: 9-30-98

- * 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 circumstance of the earlier submittal.

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 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, PO Box 2088, Santa Fe, NM 87504-2088 within 15 days.

NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

C-108
APPLICATION FOR AUTHORIZATION TO INJECT

III. WELL DATA

The following data sheets describe the 2 Water Injection Wells for which this application is submitted by The Wiser Oil Company.

INJECTION WELL DATA SHEET

| | | | | | |
|--|-----------------------|--|------------------|----------------------------|-----|
| OPERATOR | The Wiser Oil Company | | LEASE | Caprock Maljamar Unit | |
| WELL NO. | #98 | | FOOTAGE LOCATION | 660' FSL, 660' FWL, Unit M | |
| | | | SECTION | 28 | 17S |
| | | | TOWNSHIP | | 33E |
| | | | RANGE | | |
| <u>Schematic</u> | | | | | |
| | | | | | |
| <u>Well Construction Data</u> | | | | | |
| <p><u>Surface Casing</u> Set @ <u>367'</u> Cemented with <u>250'</u> sx. <u>Size</u> <u>8 5/8"</u> <u>TOC</u> <u>Surface</u> <u>feet determined by</u> <u>"</u></p> <p><u>Intermediate Casing</u> Set @ <u>12 1/4'</u> Cemented with <u>"</u> sx. <u>Size</u> <u>"</u> <u>TOC</u> <u>Hole Size</u> <u>Feet determined</u> <u>"</u></p> <p><u>Long String</u> Set @ <u>4439'</u> Cemented with <u>500'</u> sx. <u>Size</u> <u>5 1/2"</u> <u>TOC</u> <u>1885'</u> <u>feet determined by</u> <u>"</u> Calculation <u>Hole Size</u> <u>7 7/8"</u> <u>Total Depth</u> <u>4440'</u></p> <p><u>Injection Interval</u> feet to <u>4440'</u> Feet</p> <p>(perforated or open-hole; Indicate which) <u>Tubing Size</u> <u>2 7/8"</u> lined with <u>(type of internal coating)</u></p> <p>Set in a</p> <p>Packer at <u>4109'</u> Feet</p> <p>Other type of tubing / casing seal if applicable</p> <p>Other Data</p> <p>1. Is this a new well drilled for injection? Yes X No If no, for what purpose was the well originally drilled? Oil Production</p> <p>The Wiser Oil Company plans to convert this well to WIW</p> <p>2. Name of the Injection formation Gravburg-San Andres Vacuum 3. Name of Field or Pool (if applicable) Grrog Jackson 7-Rivers-ON-GB-SA 4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e., sacks of cement or plug(s) used 4128-86', 4234-70', 4299-4362' 5. Give the names and depths of any over or underlying oil or gas zones (pools) in this area.</p> | | | | | |

INJECTION WELL DATA SHEET

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|-----------------------|-------------------------|----------------------------|---|-----------------------------|------------------------|--|-------------|------------|----------------------------|----------------------|-----|-----|---------|--|--|--|--|-----------|--|--|--|--|--|---------------------|--------------|-------------------------|----------------------|-----|-----|--|--|--|--|-----------|--|--|--|--|-------------|-------------|------------|--------------------|----------------------|-----|-----|--|--|--|--|--|-----------|--|--|--|--|--|-------------|------|--------------------|---------|---|----------|--|--|--|--|--|--|
| OPERATOR | The Wiser Oil Company | | | | LEASE Caprock Maljamar Unit | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| WELL NO. | #283 | | FOOTAGE LOCATION | | SECTION 28 | TOWNSHIP 17S RANGE 33E | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <u>Schematic</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| <u>Well Construction Data</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="0" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">Surface Casing</td> <td style="width: 15%;">Size 8 5/8"</td> <td style="width: 15%;">Set @ 387'</td> <td style="width: 15%;">Cemented with 300</td> <td style="width: 15%;">feet determined by "</td> <td style="width: 15%;">sx.</td> </tr> <tr> <td>TOC</td> <td>Surface</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Hole Size</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <table border="0" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">Intermediate Casing</td> <td style="width: 15%;">Size 12 1/4"</td> <td style="width: 15%;">Set @ " Cemented with "</td> <td style="width: 15%;">feet determined by "</td> <td style="width: 15%;">sx.</td> </tr> <tr> <td>TOC</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Hole Size</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <table border="0" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">Long String</td> <td style="width: 15%;">Size 5 1/2"</td> <td style="width: 15%;">Set @ 4800</td> <td style="width: 15%;">Cemented with 1450</td> <td style="width: 15%;">feet determined by "</td> <td style="width: 15%;">sx.</td> </tr> <tr> <td>TOC</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Hole Size</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <table border="0" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">Total Depth</td> <td style="width: 15%;">4800</td> <td style="width: 15%;">Injection Interval</td> <td style="width: 15%;">feet to</td> <td style="width: 15%;">(perforated or open-hole; Indicate which)</td> <td style="width: 15%;">set in a</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table> | | | | | | | Surface Casing | Size 8 5/8" | Set @ 387' | Cemented with 300 | feet determined by " | sx. | TOC | Surface | | | | | Hole Size | | | | | | Intermediate Casing | Size 12 1/4" | Set @ " Cemented with " | feet determined by " | sx. | TOC | | | | | Hole Size | | | | | Long String | Size 5 1/2" | Set @ 4800 | Cemented with 1450 | feet determined by " | sx. | TOC | | | | | | Hole Size | | | | | | Total Depth | 4800 | Injection Interval | feet to | (perforated or open-hole; Indicate which) | set in a | | | | | | |
| Surface Casing | Size 8 5/8" | Set @ 387' | Cemented with 300 | feet determined by " | sx. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TOC | Surface | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hole Size | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Intermediate Casing | Size 12 1/4" | Set @ " Cemented with " | feet determined by " | sx. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TOC | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hole Size | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Long String | Size 5 1/2" | Set @ 4800 | Cemented with 1450 | feet determined by " | sx. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TOC | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hole Size | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Total Depth | 4800 | Injection Interval | feet to | (perforated or open-hole; Indicate which) | set in a | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| <table border="0" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">Tubing Size</td> <td style="width: 15%;">2 7/8"</td> <td style="width: 15%;">lined with</td> <td style="width: 15%;">(type of internal coating)</td> <td style="width: 15%;">feet</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table> | | | | | | | Tubing Size | 2 7/8" | lined with | (type of internal coating) | feet | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Tubing Size | 2 7/8" | lined with | (type of internal coating) | feet | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| <table border="0" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">Other type of tubing / casing seal if applicable</td> <td style="width: 15%;">4671</td> <td style="width: 15%;">feet</td> <td style="width: 15%;">Oil Production</td> <td style="width: 15%;">Packer at</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table> | | | | | | | Other type of tubing / casing seal if applicable | 4671 | feet | Oil Production | Packer at | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Other type of tubing / casing seal if applicable | 4671 | feet | Oil Production | Packer at | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| <p>1. Is this a new well drilled for injection? <u>Yes</u> <u>X</u> <u>No</u> If no, for what purpose was the well originally drilled?</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>The Wiser Oil Company plans to convert this well to WIW</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>2. Name of the Injection formation <u>Grayburg-San Andres Vacuum</u></p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>3. Name of Field or Pool (if applicable) <u>Grybg Jackson 7-Rivers-QN-GB-SA</u></p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>4. Has the well ever been perforated in any other zone(s)? List all such Perforated intervals and give plugging detail, i.e., sacks of cement or Plug(s) used <u>4415-37', 4633-52'</u></p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>5. Give the names and depths of any over or underlying oil or gas zones (pools) in this area.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

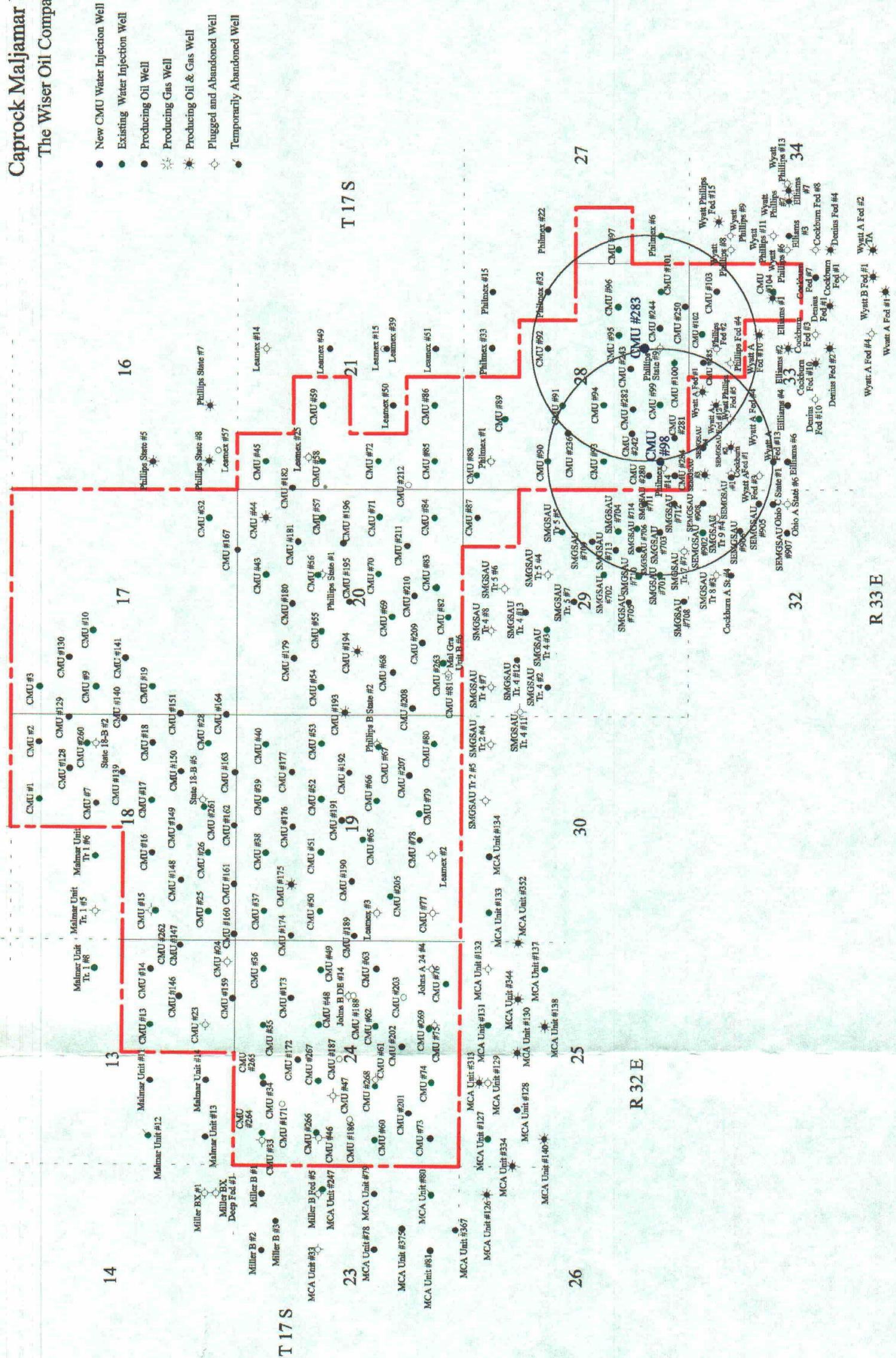
C-108
APPLICATION FOR AUTHORIZATION TO INJECT

V. AREA OF REVIEW

The attached maps show all wells and leases within two miles of the proposed injection wells with a one-half mile radius circle drawn around each proposed injection well.

Caprock Maljamar Unit
The Wiser Oil Company

R 33 E



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APPLICATION FOR AUTHORIZATION TO INJECT

VI. HALF MILE WELLS

The following is a table showing data for all wells which penetrate the proposed injection zone and which lie within the area of review.

Immediately following the table are schematics for the 9 wells within the area of review which have been plugged and abandoned as noted on the table.

| NAME | OPERATOR | LOCATION | SEC | TSHP | RG | COMPL DATE | TYPE | TD | HOLE SIZE | CSG SIZE | DEPTH SET | SX CMT | TOC | PERFS | TUBI/ PKR | COMMENTS | LEASE |
|---|----------------------------|------------------------------------|-----|------|-----|------------|------|-------|-------------------|----------|-----------|--------|-------------|--|------------------------------|------------------------------|-------|
| Township 17 South, Range 33 East | | | | | | | | | | | | | | | | | |
| CMU #97 | The Wiser Oil Co. | 1650' FSL, 330' FWL, Unit L | 27 | 17S | 33E | 2-17-58 | WTW | 4610' | 12 1/4" 7 3/4" | 8 5/8" | 351' | 175 | 3900', Calc | 2" @ 4430' | Converted to WTW 12-17-68 | State B-2229 | |
| Philmex #6 | Phillips Petroleum Company | 660' FSL, 660' FWL, Unit M | 27 | 17S | 33E | 6-13-56 | WTW | 4555' | 11" | 8 5/8" | 1490' | 100 | 255', T.S. | 4250-60' 4294-4306' 4400-4420' | 2 1/16" (@ 4100') | State B-2229 | |
| Township 17 South, Range 33 East | | | | | | | | | | | | | | | | | |
| CMU #90 | The Wiser Oil Co. | 1980' FNL, 660' FWL, Unit E | 28 | 17S | 33E | 12-15-57 | WTW | 4690' | 11" | 8 5/8" | 1407' | 500 | 3915', Calc | 4240-46' 4313-15' 4406-09' 4471-81' | 2 1/16" (@ 4198') | State B-2229 | |
| CMU #236 | The Wiser Oil Co. | 2460' FNL, 1308' FWL, Unit E | 28 | 17S | 33E | 9-17-96 | O | 4900' | 12 1/4" 7 7/8" | 8 5/8" | 365' | 325 | | | | APD expires 7-10-97. | |
| CMU #91 | The Wiser Oil Co. | 2310' FNL, 1980' FWL, Unit F | 28 | 17S | 33E | 1-7-58 | WTW | 4512' | 12 1/4" 7 7/8" | 8 5/8" | 347' | 175 | 3865', Calc | 4232-48' 4286-4303' 4368-78' | 2" @ 4475' | Converted to WTW 4-19-67. | |
| CMU #92 | The Wiser Oil Co. | 1980' FNL, 1980' FEI, Unit G | 28 | 17S | 33E | 12-8-57 | O&G | 4627' | 11" | 8 5/8" | 355' | 150 | 3749', Calc | 44260', 100 | 2" @ 4461' | State B-2229 | |
| Philmex #32 | Phillips Petroleum Co. | 1980' FNL, 660' FEI, Unit H | 28 | 17S | 33E | 7-21-88 | O | 4800' | 12 1/4" 7 7/8" | 8 5/8" | 1489' | 1000 | 4524-4532' | 4541-4546' 4561-4565' 4568' | 2 7/8" (@ 4568') | State B-2229-1 | |
| CMU #96 | The Wiser Oil Co. | 1650' FSL, 990' FEI, Unit J | 28 | 17S | 33E | 1-6-58 | WTW | 4500' | 12 1/4" 7 7/8" | 8 5/8" | 351' | 175 | 3810', Calc | 4463-78' 500 | 2 3/8" (@ 4158' | Converted to WTW 2-12-97 | |
| CMU #95 | The Wiser Oil Co. | 1650' FSL, 1650' FEI, Unit J | 28 | 17S | 33E | 12-27-57 | WTW | 4548' | 12 1/4" 7 7/8" | 8 5/8" | 345' | 175 | 3710', Calc | 4404-4428' 300 | 2" @ 4440' | Converted to WTW 5-1-67. | |
| CMU #243 | The Wiser Oil Co. | 1384' FSL, 2453' FEI, Unit J | 28 | 17S | 33E | 2-29-96 | O | 4950' | 12 1/4" 7 7/8" | 8 5/8" | 1285' | 550 | 4406-24' | 4750-55' 4666-95' | 2 7/8" (@ 4713') | State B-2229 | |
| CMU #94 | The Wiser Oil Co. | 1980' FSL, 1980' FWL, Unit K | 28 | 17S | 33E | 12-15-57 | WTW | 4450' | 11" | 8 5/8" | 346' | 150 | 3740', Calc | 4194-4201' 4238-60' 4273-75' 4287-90' | 2 3/8" (@ 4142') | Converted to WTW 10-3-96 | |

NAME OPERATOR LOCATION SEC TSHP RG COMPL DATE TYPE TD HOLE SIZE CSG DEPTH SET SX CMT TOC PERFS TUBI PKR COMMENTS LEASE

Section 28 (Continued)

| | | | | | | | | | | | | | | | | |
|------------|---|------------------------------|----|-----|-----|----------|-----|-------|---------|---------|------|-----|-------------|----------|----------------|----------------------------|
| CMU #242 | The Wiser Oil Co. | 1330' FSL, 1330' FWL, Unit K | 28 | 17S | 33E | 4-4-96 | O | 4803' | 12 1/4" | 8 5/8" | 496' | 300 | 4277-79' | 2 7/8" | @ 4255' | State B-2229 |
| CMU #93 | The Wiser Oil Co. | 1980' FSL, 660' FWL, Unit L | 28 | 17S | 33E | 12-8-57 | WTW | 4460' | 11" | 8 5/8" | 347' | 150 | 3813', Calc | 4200-08' | 2" @ 4379' | Converted to WIW 4-19-67. |
| Philmax 14 | Phillips Oil Co. 4001 Penbrook St. Odessa, TX 79762 | 569' FSL, 507' FWL, Unit M | 28 | 17S | 33E | P&A | | | 12 1/4" | 11 3/4" | 350' | 400 | | | | P&A 4-18-95 (See attached) |
| CMU #280 | The Wiser Oil Co. | 932' FSL, 330' FWL, Unit M | 28 | 17S | 33E | 4-5-97 | O | 4827' | 12 1/4" | 8 5/8" | 444' | 325 | 4200-13' | 2 7/8" | @ 4698' | State B-2229 |
| CMU #281 | The Wiser Oil Co. | 330' FSL, 1210' FWL, Unit M | 28 | 17S | 33E | 1-31-97 | O | 4775' | 12 1/4" | 8 5/8" | 391' | 325 | 4273-85' | 2 7/8" | @ 4229' | State B-2229 |
| CMU #284 | The Wiser Oil Co. | 330' FSL, 330' FWL, Unit M | 28 | 17S | 33E | 12-24-97 | O | 4550' | 12 1/4" | 8 5/8" | 396' | 300 | 4291-99' | 2 7/8" | @ 4374' | State B-2229 |
| CMU #99 | The Wiser Oil Co. | 660' FSL, 1980' FWL, Unit N | 28 | 17S | 33E | 11-28-57 | WTW | 4450' | 11" | 8 5/8" | 357' | 125 | 4450', Calc | 4281-84' | 2" @ 4333' | Converted to WIW 4-19-67. |
| CMU #282 | The Wiser Oil Co. | 1310' FSL, 1892' FWL, Unit N | 28 | 17S | 33E | 10-8-97 | O | 4800' | 12 1/4" | 8 5/8" | 371' | 300 | 4312-29' | 2 7/8" | @ 4531-77' | State B-2229 |
| CMU #100 | The Wiser Oil Co. | 330' FSL, 2310' FWL, Unit O | 28 | 17S | 33E | 3-31-58 | WTW | 4650' | 12 1/4" | 8 5/8" | 375' | 175 | 3723', Calc | 4138-79' | 2 3/8" @ 4620' | Converted to WIW 10-26-97. |
| CMU #244 | The Wiser Oil Co. | 682' FSL, 1475' FWL, Unit O | 28 | 17S | 33E | 8-30-96 | O | 4900' | 12 1/4" | 8 5/8" | 498' | 350 | 4372-91' | 2 7/8" | @ 4488-4540' | State B-2229 |

| NAME | OPERATOR | LOCATION | SFC | TSHP | RG | COMPL DATE | TYPE | TD | HOLE SIZE | CSG SIZE | DEPTH SET | SX CMT | TOC | PERFS | TUBI/ PKR | COMMENTS | LEASE |
|---|-----------------------------|-------------------------------|-----|------|-----|------------|--------|-------|-----------|----------|-----------|--------|-------------|----------------------------|----------------|---|--------------|
| Section 28 (Continued) | | | | | | | | | | | | | | | | | |
| Phillips State #9 | Zapata Petroleum Corp. | 660' FSL, 1980' FEI, Unit O | 28 | 17S | 33E | 12-23-57 | P&A | 4542' | 11" | 8 5/8" | 350' | 150 | 3725', Calc | 4468-4480' | 2" @ 4495' | P&A approx 1-20-59 (See attached) | State B-2229 |
| CMU #101 | The Wiser Oil Co. | 660' FSL, 660' FEI, Unit P | 28 | 17S | 33E | 12-22-57 | WTW | 4540' | 11" | 8 5/8" | 325' | 150 | 2060', Calc | 4218-40' 4341-53' 4420-40' | 2" @ 4375' | Converted to WIW 5-1-67. | State B-2229 |
| CMU #250 | The Wiser Oil Co. | 105' FSL, 991' FEI, Unit P | 28 | 17S | 33E | 4-13-96 | O | 4950' | 12 1/4" | 8 5/8" | 499' | 375 | 4716-52' | 4676-97' | 2 7/8" @ 4810' | | State B-2229 |
| Township 17 South, Range 33 East | | | | | | | | | | | | | | | | | |
| Section 29 | | | | | | | | | | | | | | | | | |
| SMGSAU #704 | Cross Timbers Operating Co. | 1650' FSL, 990' FEI, Unit I | 29 | 17S | 33E | 11-1-54 | WTW TA | 4360' | 11" | 8 5/8" | 297' | 300 | 159', Calc | 4246' | 2" @ 4311' | This well was converted to WIW 10-13-72. It has been temporarily abandoned since but there is no record of exactly when. (See attached) | State B-2516 |
| SMGSAU Tr. 709 | Cross Timbers Operating Co. | 2250' FSL, 1225' FEI,, Unit I | 29 | 17S | 33E | 12-9-81 | O | 4450' | 12 1/2" | 8 5/8" | 1314' | 735 | 4340-4343' | | | | State B-2516 |
| SMGSAU #713 | Cross Timbers Operating Co. | 1700' FSL, 1400' FEI, Unit J | 29 | 17S | 33E | 5-1-97 | O | 4390' | 12 1/4" | 8 5/8" | 398' | 250 | 4348-4350' | | | | State B-2516 |
| SMGSAU #701 | Cross Timbers Operating Co. | 660' FSL, 1980' FEI, Unit O | 29 | 17S | 33E | 12-29-71 | WTW | 4440' | 14" | 10 1/4" | 1300' | 1000 | 1976', Calc | 4222-4322' | 2 3/8" @ 4188' | | State B-2516 |
| SMGSAU #706 | Cross Timbers Operating Co. | 1155' FSL, 1385' FEI, Unit O | 29 | 17S | 33E | 8-12-72 | O | 4355' | 11" | 8 5/8" | 354' | 200 | 2420', Calc | 4244-4254' | 2 7/8" @ 4248' | | State B-2516 |

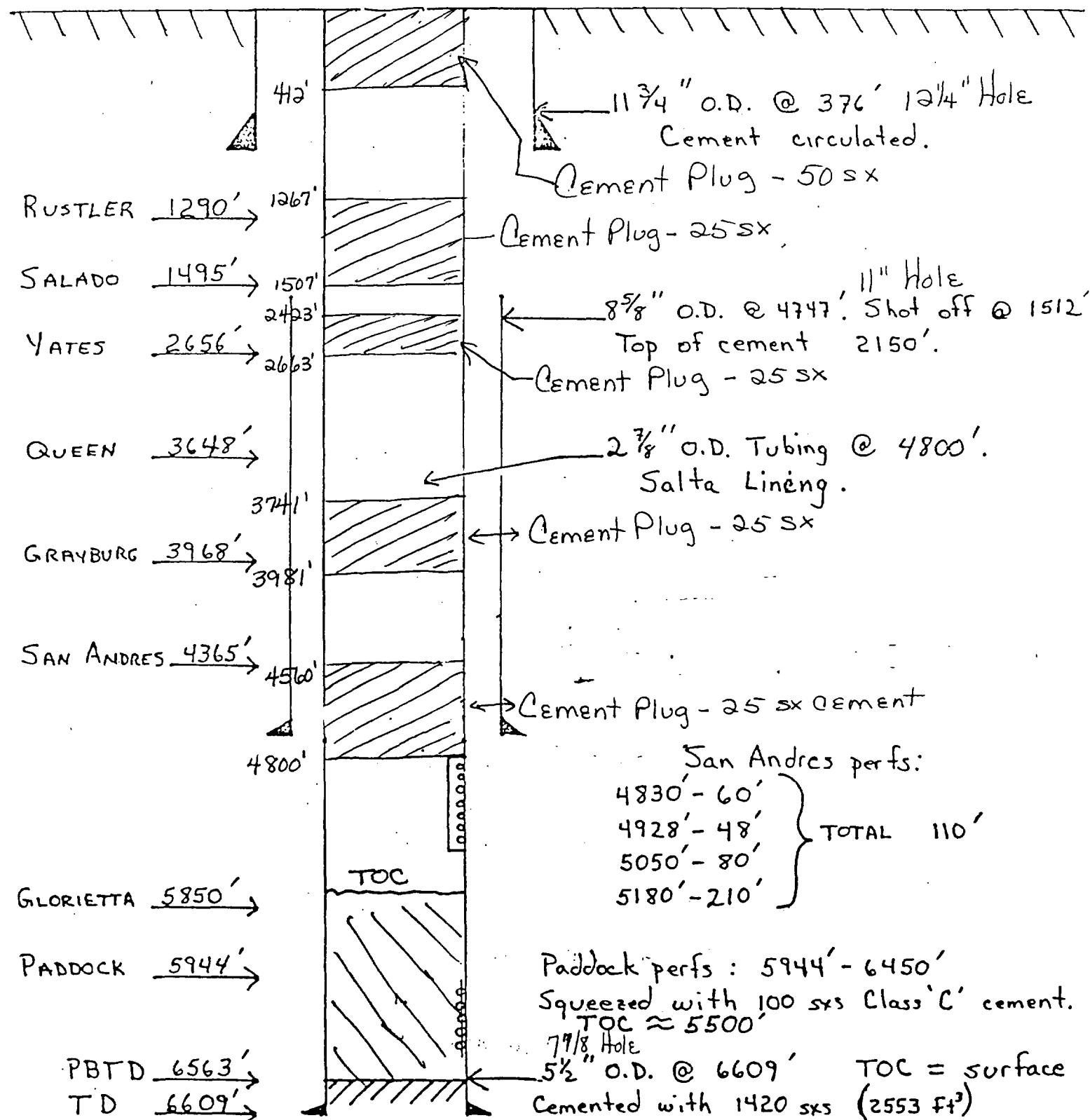
| NAME | OPERATOR | LOCATION | SEC | TSHP | RG | COMPL DATE | TYPE | TD | HOLE SIZE | CSC SIZE | DEPTH SET | SX CMT | TOC | PERFS | FUBI/ PKR | COMMENTS | LEASE |
|---|-----------------------------|------------------------------|-----|------|-----|------------|------|--------|-----------|----------|-----------|-------------|-------------|-------------------------|--|-------------------|-------|
| Section 29 (Continued) | | | | | | | | | | | | | | | | | |
| SMGSAU Tr 7 #7 | Cities Service Oil Company | 100' FSL, 1430' FEI, Unit O | 29 | 17S | 33E | 11-26-72 | P&A | 4430' | 11" | 8 5/8" | 810' | 350 | 4272-4284' | 2 7/8" | P&A 7-10-73 (See attached) | State B-2516 | |
| SMGSAU #710 | Cross Timbers Operating Co. | 1165' FSL, 2010' FEI, Unit O | 29 | 17S | 33E | 6-4-96 | WTW | 4400' | 12 1/4" | 8 5/8" | 404" | 250 | 52', Calc | 4272-4324' | 2 3/8" (@ 4272-425' | State B-2516 | |
| SMGSAU #703 | Cross Timbers Operating Co. | 660' FSL, 990' FEI, Unit P | 29 | 17S | 33E | 1-16-53 | O | 4340' | 11" | 8 5/8" | 1257" | 550 | 2755', Calc | | 2" | State B-2516 | |
| SMGSAU #711 | Cross Timbers Operating Co. | 1040' FSL, 330' FEI, Unit P | 29 | 17S | 33E | 11-24-96 | O | 4405' | 12 1/4" | 8 5/8" | 407" | 300 | 317', Calc | 4299-4355' | 2 3/8" (@ 4311-4233' | State B-2516 | |
| SMGSAU #712 | Cross Timbers Operating Co. | 330' FSL, 330' FEI, Unit P | 29 | 17S | 33E | 12-21-96 | O | 4500' | 12 1/4" | 8 5/8" | 405" | 275 | 157', Calc | 4301-71' | 2 3/8" (@ 4282-4332' | State B-2516 | |
| SMGSAU #714 | Cross Timbers Operating Co. | 1200' FSL, 900' FEI, Unit P | 29 | 17S | 33E | 5-6-97 | WTW | 4450' | 12 1/4" | 8 5/8" | 383" | 250 | 680', Calc | 4282-4332' | 2 3/8" (@ 4191' | State B-2516 | |
| Township 17 South, Range 33 East | | | | | | | | | | | | | | | | | |
| SEMGSUA #902 | Cross Timbers Operating Co. | 330' FNL, 990' FEI, Unit A | 32 | 17S | 33E | 5-10-51 | WTW | 4313' | 12 1/4" | 8 5/8" | 1257" | 50 | 1100', Calc | 4264-4313' | 2 3/8" (@ 3966' | State B-5310-19 | |
| SMGSAU Tr 9 #4 | Cities Service Oil Company | 660' FNL, 660' FEI, Unit A | 32 | 17S | 33E | 7-24-46 | P&A | 4306' | 7" | 8 5/8" | 1300" | 50 | 4025-87' | | P&A 7-10-73 (See attached) | State B-5310-19 | |
| SEMGSUA #906 | Cross Timbers Operating Co. | 1200' FNL, 950' FEI, Unit A | 32 | 17S | 33E | 12-31-91 | O | 4545' | 12 1/4" | 8 5/8" | 307" | 250 | 4170-4270' | 4301-4306' | | State B-5310-19 | |
| SEMGSUA #908 | Cross Timbers Operating Co. | 330' FNL, 330' FEI, Unit A | 32 | 17S | 33E | 11-23-96 | O | 4450' | 7 7/8" | 8 5/8" | 4545" | 1300 | 4270-4374' | 2 3/8" (@ 4481-4175' | | State B-5310-19 | |
| SEMGSUA #905 | Cross Timbers Operating Co. | 1650' FNL, 330' FEI, Unit H | 32 | 17S | 33E | 10-24-64 | O | 4476' | 9 5/8" | 8 5/8" | 415" | 275 | 4261-4399' | 2 3/8" (@ 4175' | | State B-5310-19 | |
| Township 17 South, Range 33 East | | | | | | | | | | | | | | | | | |
| CMU #103 | The Wiser Oil Co. | 660' FNL, 660' FEI, Unit A | 33 | 17S | 33E | 12-6-57 | O | 4570' | 8 5/8" | 352" | 150 | 1730', Calc | 4420-30' | 2" (@ 4495' | Federal NM 801 | | |
| CMU #102 | The Wiser Oil Co. | 330' FNL, 1650' FEI, Unit B | 33 | 17S | 33E | 12-26-57 | WTW | 4560' | 5 1/2" | 4569" | 767+ | 350 | 4416-26' | 2" (@ 4451' | Converted to Federal LC 060967 | | |
| Phillips Federal #2 | Zapata Petroleum Corp. | 660' FNL, 1980' FEI, Unit B | 33 | 17S | 33E | 11-25-57 | P&A | 8 5/8" | 5 1/2" | 4559" | 525+ | 329+ | 4434-60' | | P&A approx. 12-11-57 (See attached) | Federal LC 060967 | |
| CMU #285 | The Wiser Oil Company | 330' FNL, 2310' FEI, Unit B | 33 | 17S | 33E | 1-30-98 | O | 4622' | 12 1/4" | 8 5/8" | 405" | 300 | 4421-67' | 2 7/8" (@ 4512' | Federal NM-801 | | |

| NAME | OPERATOR | LOCATION | SEC | TSHP | RG | COMPL DATE | TYPE | TD | HOLE SIZE | CSSG | DEPTH SET | SX CMT | TOC | PERFS | TUBU PKR | COMMENTS | LEASE |
|-------------------------------------|---|------------------------------|-----|------|-----|------------|------|-------|-------------------|------------------|-----------|----------------------------------|---------------------|--------------------------------|--|-------------------|-------|
| Section 33 (Continued) | | | | | | | | | | | | | | | | | |
| Phillips Federal #4 | Pennzoil Company | 990' FNL, 2310' FEL, Unit B | 33 | 17S | 33E | 5-20-78 | P&A | 4490' | 17 1/2" 5 3/8" | 355' | 475 | 4472-79' 4442-60' 4416-32' | 2 3/8" (@ 4250') | P&A 8-12-80 (See Attached) | Federal NM 801 | | |
| Wyatt "A" Federal #1 | Phillips Petroleum Co. | 330' FNL, 2310' FWL, Unit C | 33 | 17S | 33E | 3-26-62 | O&G | 4506' | 11 3/4" 4 1/2" | 314' | 250 | 4377' | 2 3/8" (@ 4380') | Federal LC | Federal NM 801 | | |
| Wyatt "A" Federal #12 | Phillips Petroleum Co. | 660' FNL, 1980' FWL,, Unit C | 33 | 17S | 33E | 1-15-56 | O&G | 4305' | 8 5/8" 5 1/2" | 224.79 | 50 | Open Hole | | | 060967C | | |
| Wyatt Phillips Fed. #5 | HR Denius, et al. | 990' FNL, 1650' FWL, Unit C | 33 | 17S | 33E | 1-28-55 | P&A | 4305' | 8 5/8" 7" | 1170' | 166 | None | | P&A 11-2-59 (See attached) | Federal LC | | |
| SEMGSAU #4 | Cross Timbers Operating Co. | 330' FNL, 990' FWL, Unit D | 33 | 17S | 33E | 6-1-97 | O | 4505' | 12 1/4" 4 1/2" | 8 5/8" 5 1/2" | 428' | 250 | 163', Calc | 2 3/8" (@ 4239') | Federal NM-010388 | | |
| SEMGSAU #1 (f/k/a U.S. Minerals #1) | Cross Timbers Operating Co. | 990' FNL, 330' FWL, Unit D | 33 | 17S | 33E | 9-5-53 | O | 4448' | 7" 5 1/2" | 4278' | 50 | 100 | | 2" | Federal NM-010388 | | |
| Cockburn Fed #1 | Phillips Petroleum Company | 990' FNL, 380' FWL, Unit D | 33 | 17S | 33E | 4-5-61 | P&A | 8940' | 13 3/8" 8 5/8" | 309' | 340 | 1900 | | P&A 2-12-85 (See attached) | Federal NM-010388 | | |
| SEMGSAU #2 (f/k/a U.S. Minerals #2) | Cross Timbers Operating Co. | 990' FNL, 990' FWL, Unit D | 33 | 17S | 33E | 7-22-53 | O&G | 4452' | 8 5/8" 7" | 1305' | 50 | 100 | | 2" | Federal NM 010388 | | |
| SEMGSAU #3 (f/k/a U.S. Minerals #3) | Cross Timbers Operating Co. P.O. Box 52070 Midland 79710-2070 | 380' FNL, 350' FWL, Unit D | 33 | 17S | 33E | 5-2-96 | O&G | 4480' | 12 1/4" 7 7/8" | 8 5/8" 5 1/2" | 394' | 250 | 950 | | 2 3/8" (@ 4429') | Federal NM 010388 | |
| Wyatt A Fed #3 | Phillips Petroleum Co. | 1650' FNL, 330' FWL, Unit E | 33 | 17S | 33E | 6-18-52 | P&A | 4432' | 7" 5 1/2" | 1318' | 50 | 4270-4325' | 2" (@ 4175') | P&A 12-22-92 (See attached) | Federal NM-801 | | |
| Wyatt A Fed #13 | Phillips Petroleum Co. | 1980' FNL, 660' FWL, Unit E | 33 | 17S | 33E | 1-17-88 | O | 4582' | NR 8 3/4" | 20" | 5 | 1220' | 3695-3720' | 2 3/8" (@ 4263') | Commissioned Queen & Grayburg-San Andres per Order #DHIC-662 | | |
| Wyatt "A" Federal #4 | Phillips Petroleum Co. | 1650' FNL, 1650' FWL, Unit F | 33 | 17S | 33E | 12-21-52 | WIW | 3735' | 8 5/8" 7" | 1350' | 50 | None | 2" (@ 3635') | Converted to WIW 11-28-83. | Federal NM 801 | | |
| Wyatt A Federal #10 | Phillips Petroleum Company | 1650' FNL, 1650' FEL, Unit G | 33 | 17S | 33E | 4-1-55 | O&G | 4400' | 8 5/8" 5 1/2" | 1398' | 50 | 4261-4312' | 2 3/8" (@ 4296') | Federal NM-801 | | | |

PHILLIPS PETROLEUM Company

PHILMEX WELL No. 14
Maljamar Grayburg - San Andres Pool, Lea County, New Mexico

P+A 4/95

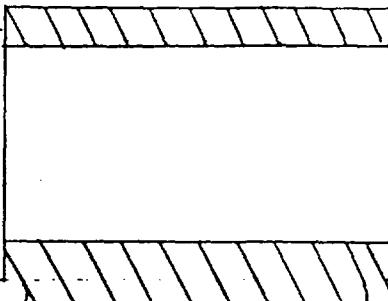


Phillips State #9

Z8° - 175 - 32E

12/12/57

SET 10 SX AT SURFACE



12 1/4" HOLE

8 5/8" 24# SA 300'
W/125 SX - NO CIRC.

PUMPGO 175 SX DOWN
8 5/8" / 12 1/4" OH

SET 20 SX PLUG 1500-1530'

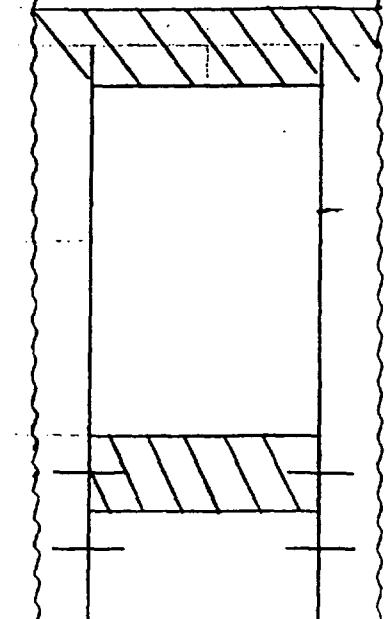
7 7/8" HOLE

CUT & PULLED 5 1/2" FROM 3625'
SET 30 SX PLUG FROM 3600-3654
TOC 3725'

SET 30 SX PLUG 4200-4245'

PERFS 4228-4480 O.A.

TD 4542'



5 1/2" 15.5# SA 4541
W/150 SX

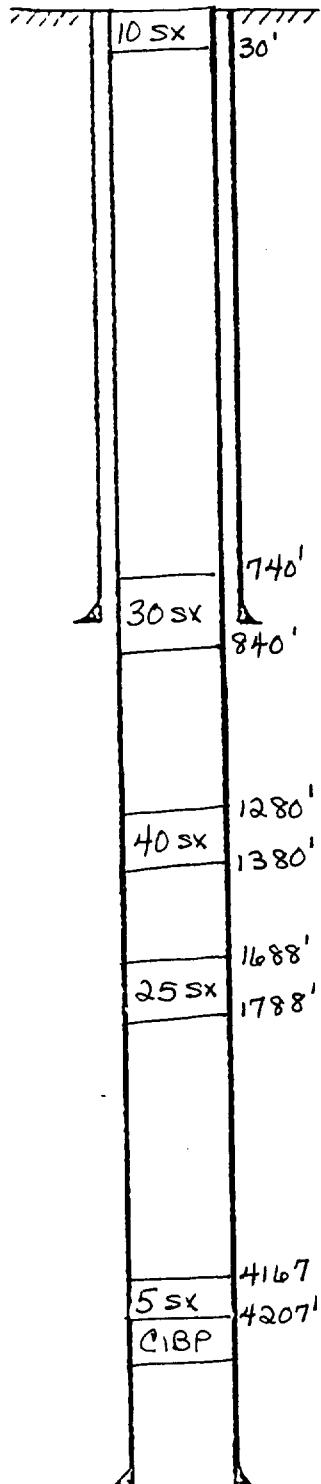
P&A 3/58

11/29/94

SPOTLIGHTS FILM 12 SQUAR
50 SPOTS EYE EASE 12 SQUAR
100 SPOTS EYE EASE 12 SQUAR
200 SPOTS EYE EASE 12 SQUAR
42-382 107 RECYCLED WHITE 5 SQUAR
42-382 200 RECYCLED WHITE 5 SQUAR
42-389 200 RECYCLED WHITE 5 SQUAR

National Brand

| | | | |
|----------|----------------------------|----------|---|
| OPERATOR | Cities Service Oil Company | DATE | 7-10-73 |
| LEASE | SMGSAU Tr. 7 | WELL NO. | #7 |
| | | LOCATION | 100' FSL, 1430' FEL, Unit 0 SFC. 29, 17S-3E |



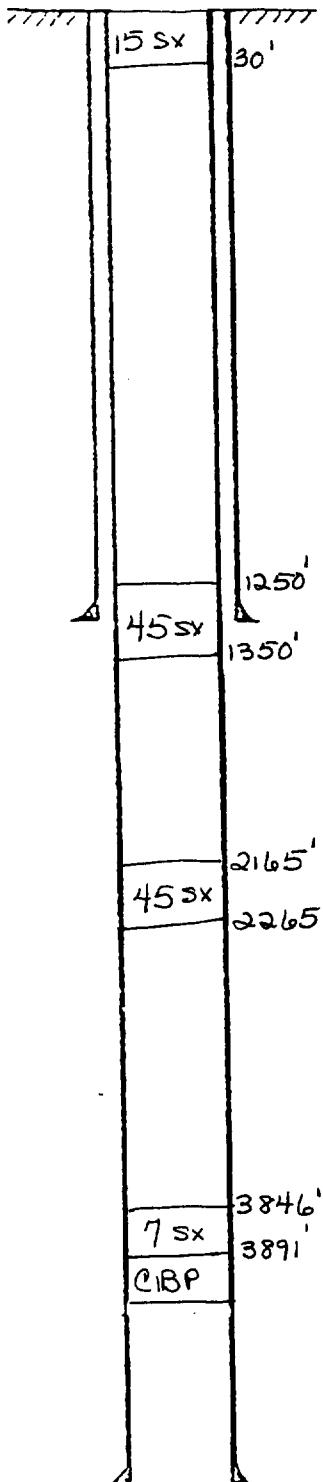
8 5/8" casing set at 810' with 350 sx of _____ cem

Hole size 11"

5 1/2" casing set at 4429' with 435 sx of _____ cer
Total Depth 4430' Hole size 7 7/8"

TD

| | | | |
|----------|----------------------------|----------|--|
| OPERATOR | Cities Service Oil Company | DATE | 7-10-73 |
| LEASE | SM6SAU Tr. 9 | WELL NO | #4 |
| | | LOCATION | 660' FNL, 660' FEH, Unit A, Sec. 32, 17S - 33E |



8 5/8" casing set at 1300' with 50 sx of _____ cem.

Hole size Unknown

7" casing set at 3943' with 100 sx of _____ cer

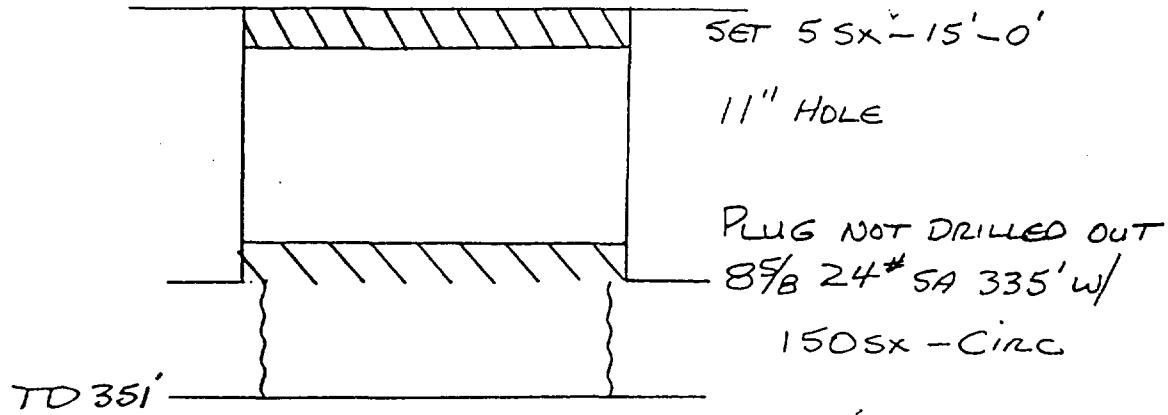
Total Depth 4306' Hole size Unknown

ZAPATA • PHILLIPS FED'L #2

33 "B" - 175 - 33 E

500 SQ FT 15' X 33' 250 SQ FT
12x32 100 SQ FEET 15' X 33' 150 SQ FT
12x32 200 SQ FEET 15' X 33' 200 SQ FT
12x32 100 RECYCLED WHITE 15' X 33' 100 RECYCLED WHITE 15' X 33'
12x32 200 RECYCLED WHITE 15' X 33' 200 RECYCLED WHITE 15' X 33'

National "Brand"



P&A 1/20/58

7/15/94

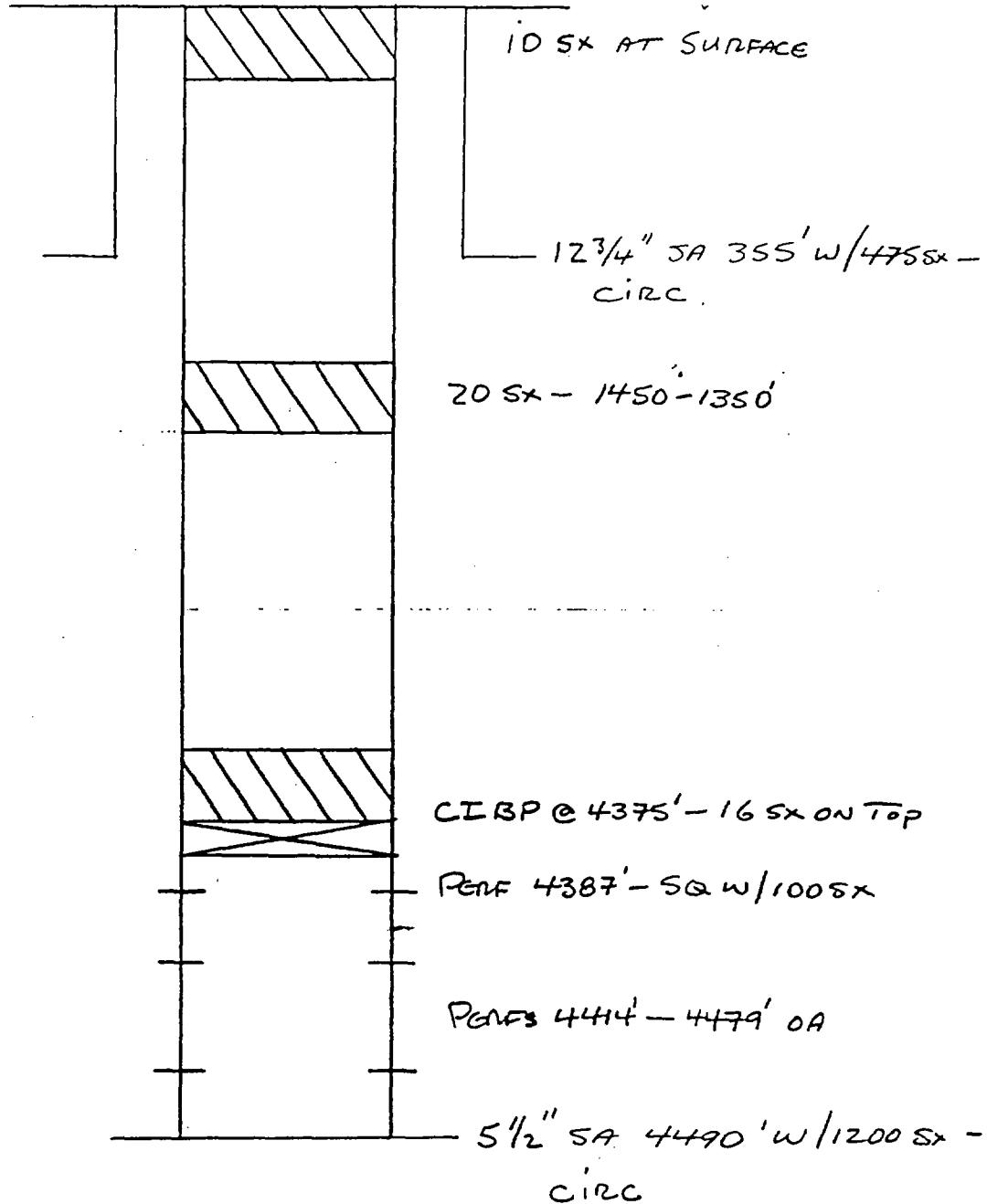
PENNZOIL PHILLIPS FED'L #4

33"B"-175-33E

5/20/78

12702
12704
42301
42302
42303
42309
200 SHEETS LIV. EAST 5 SQ YARD
200 SHEETS LIV. EAST 5 SQ YARD
200 RECYCLED WHITE 5 SQ YARD
Liber U.S.A.

National® Brand



P & A 8/12/80

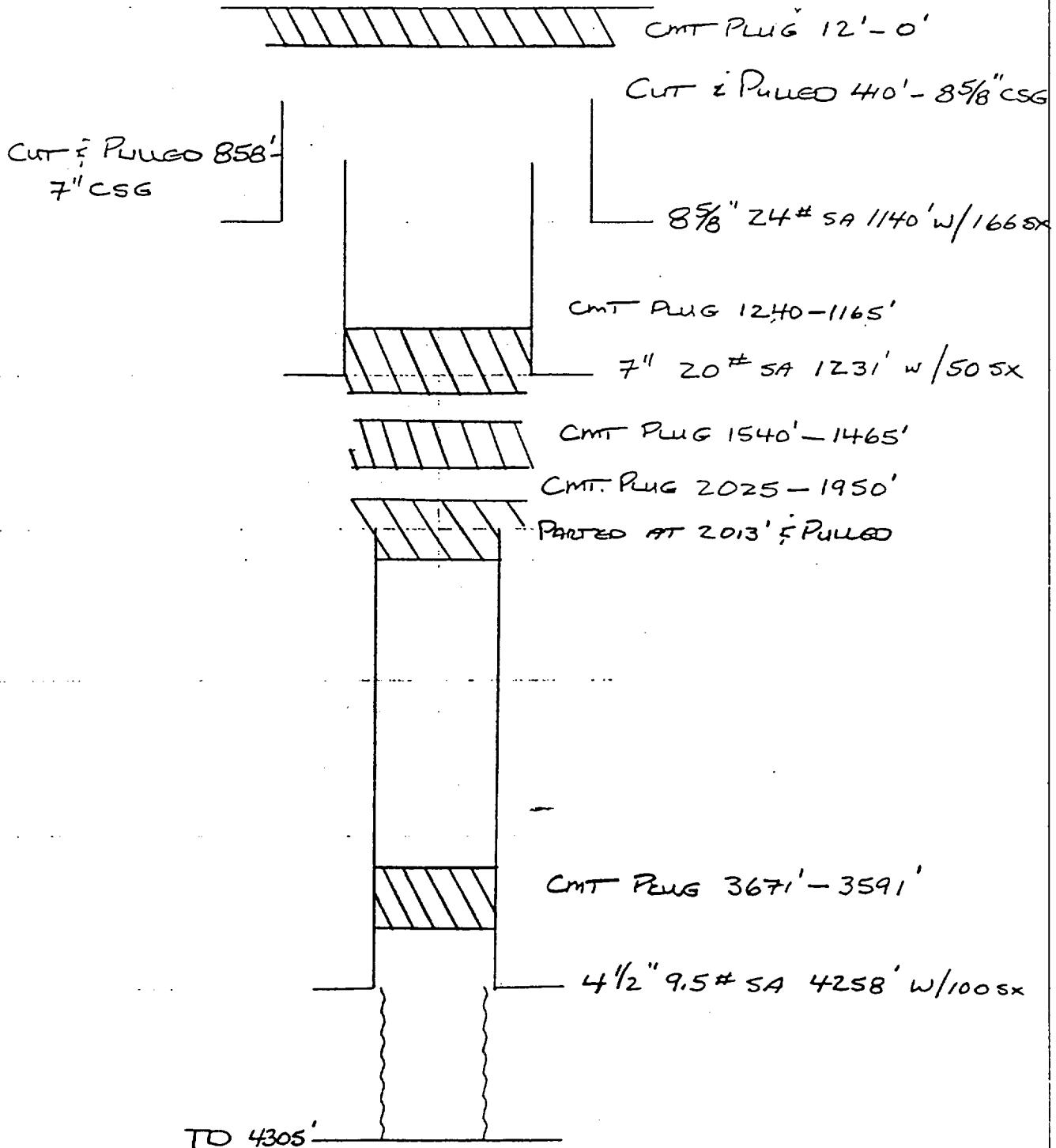
11/15/94

National® Brand
13 102
12 31
4 300
42 322
42 300
100 SHEETS LYFLASH
100 RECYCLED WHITE 5 SQUARE
100 RECYCLED WHITE 5 SQUARE

DENNIS WYATT PHILLIPS FEO #5.

33°C - 175 - 33E

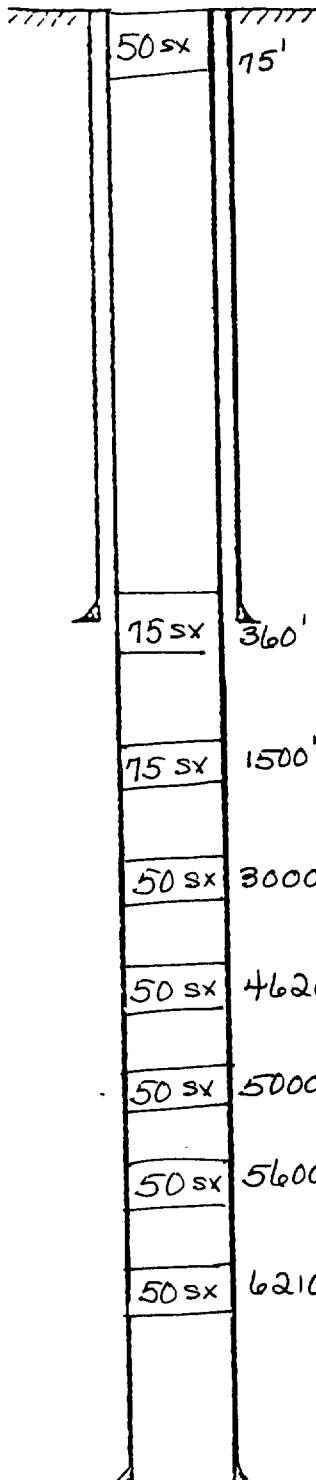
1/28/55



P&A 11/24/59

1/7/59

| | | | |
|----------|----------------------------|---------|---|
| OPERATOR | Phillips Petroleum Company | DATE | 2-12-85 |
| LEASE | Cockburn Federal | WELL No | 990' FNL, 380' FWL, Unit D, Sec. 33, 17S. 33E |



$13\frac{3}{8}$ " casing set at 309' with 340 sx of _____ cem.

Hole size Unknown."

$8\frac{5}{8}$ " casing set at 4557' with 1900 sx of _____ cer

Total Depth 8940' Hole size Unknown"

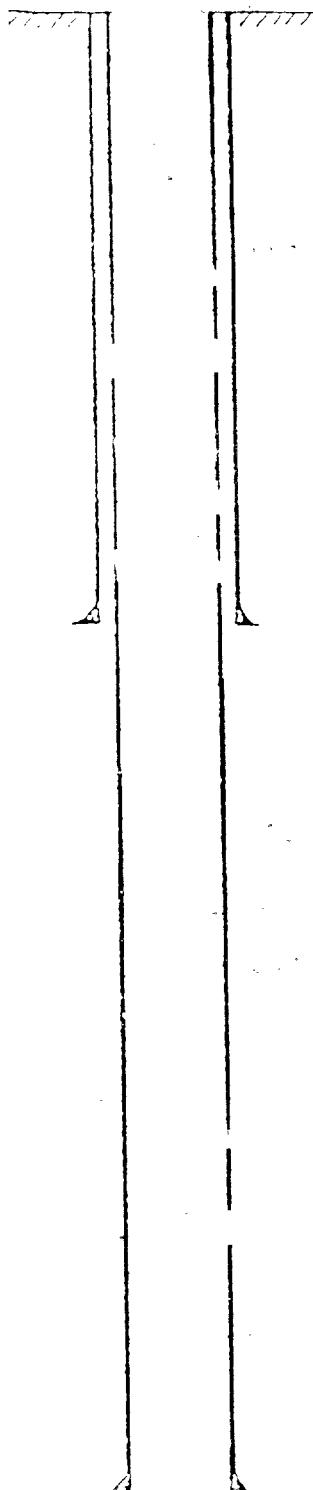
OPERATOR

DATE

LEASE

WELL No.

LOCATION



_____ " casing set at _____' with _____" sx of _____ cement
Hole size _____ "

_____ " casing set at _____' with _____" sx of _____ cement
Total Depth _____' Hole size _____ "

C-108
APPLICATION FOR AUTHORIZATION TO INJECT

VII. PROPOSED OPERATION

1. Average Daily Rate of Fluids to be Injected: 175 BWPD
Maximum Daily Rate of Fluids to be Injected: 250 BWPD

2. This is to be a closed injection system.

3. Average Injection Pressure: 500 psi
Maximum Injection Pressure; 920 psi

4. Injection fluid will be obtained from the following sources:

Produced water: Water Analysis Reports on water produced from Batteries A & B of the Caprock Maljamar Unit, as prepared by Joe Hughes of Permian Treating Chemicals, are attached as Exhibit VII-A. The data contained therein is representative of water produced across the entire unit.

Extraneous Water: A Water Analysis Report on extraneous water to be obtained from Double Eagle (City of Carlsbad), as prepared by Joe Hughes of Permian Treating Chemicals, is attached as Exhibit VII-B.

The Wiser Oil Company will use water from Double Eagle temporarily until water from Conoco has been secured and tied in. At that time, The Wiser Oil Company will provide a Conoco water analysis.

CMU (Produced) Water Exhibit
Permian Treating ChemicalsVIIA-1
WATER ANALYSIS REPORT

SAMPLE

Oil Co. : Wiser Oil Co.
 Lease : CMU Battery 'A'
 Well No.: Water Transfer Pump
 Salesman:

Sample Loc. :
 Date Reported: 30-May-1996
 Date Sampled : 30-May-1996

ANALYSIS

1. pH 6.900
 2. Specific Gravity 60/60 F. 1.092
 3. CaCO₃ Saturation Index @ 80 F. +0.459
 @ 140 F. +1.339

Dissolved Gasses

4. Hydrogen Sulfide 60
 5. Carbon Dioxide 130
 6. Dissolved Oxygen 0.4

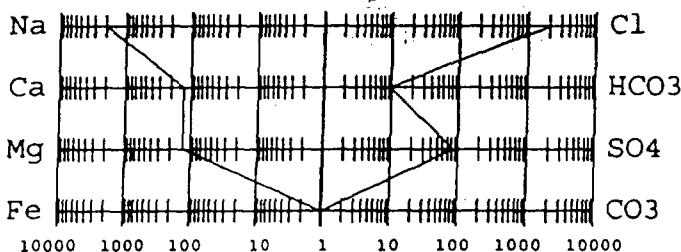
Cations

- | | | | | |
|--------------|---------------------|---------------------|----------|----------|
| 7. Calcium | {Ca ⁺⁺ } | 2,505 | / 20.1 = | 124.63 |
| 8. Magnesium | {Mg ⁺⁺ } | 1,520 | / 12.2 = | 124.59 |
| 9. Sodium | {Na ⁺ } | (Calculated) 44,953 | / 23.0 = | 1,954.48 |
| 10. Barium | (Ba ⁺⁺) | Not Determined | | |

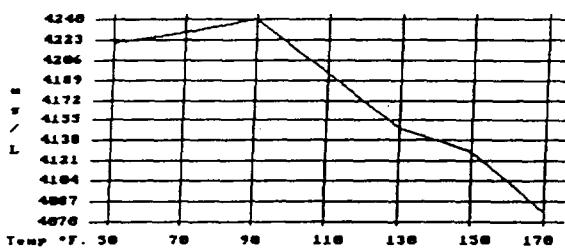
Anions

- | | | | | |
|---|----------------------------------|------------|----------|----------|
| 11. Hydroxyl | (OH ⁻) | 0 | / 17.0 = | 0.00 |
| 12. Carbonate | {CO ₃ ⁼ } | 0 | / 30.0 = | 0.00 |
| 13. Bicarbonate | {HCO ₃ ⁻ } | 561 | / 61.1 = | 9.18 |
| 14. Sulfate | {SO ₄ ⁼ } | 3,900 | / 48.8 = | 79.92 |
| 15. Chloride | (Cl ⁻) | 74,983 | / 35.5 = | 2,112.20 |
| 16. Total Dissolved Solids | | 128,422 | | |
| 17. Total Iron (Fe) | | 1 | / 18.2 = | 0.05 |
| 18. Total Hardness As CaCO ₃ | | 12,511 | | |
| 19. Resistivity @ 75 F. (Calculated) | | 0.060 /cm. | | |

LOGARITHMIC WATER PATTERN
 *meq/L.



Calcium Sulfate Solubility Profile



PROBABLE MINERAL COMPOSITION
 COMPOUND EQ. WT. X *meq/L = mg/L.

| | | | |
|------------------------------------|-------|----------|---------|
| Ca(HCO ₃) ₂ | 81.04 | 9.18 | 744 |
| CaSO ₄ | 68.07 | 79.92 | 5,440 |
| CaCl ₂ | 55.50 | 35.53 | 1,972 |
| Mg(HCO ₃) ₂ | 73.17 | 0.00 | 0 |
| MgSO ₄ | 60.19 | 0.00 | 0 |
| MgCl ₂ | 47.62 | 124.59 | 5,933 |
| NaHCO ₃ | 84.00 | 0.00 | 0 |
| NaSO ₄ | 71.03 | 0.00 | 0 |
| NaCl | 58.46 | 1,952.08 | 114,119 |

*Milli Equivalents per Liter

This water is slightly corrosive due to the pH observed on analysis. The corrosivity is increased by the content of mineral salts, and the presence of H₂S, CO₂, Oxygen in solution.

CMU Project Water Exhibit

Permian Treating Chemicals ^{VII-A-2}

SAMPLE

Oil Co. : Wiser Oil Co.
 Lease : CMU Battery 'B'
 Well No.: Water Transfer Pump
 Salesman:

Sample Loc. :
 Date Reported: 30-May-1996
 Date Sampled : 30-May-1996

ANALYSIS

1. pH 6.500
 2. Specific Gravity 60/60 F. 1.091
 3. CaCO₃ Saturation Index @ 80 F. +0.095
 @ 140 F. +0.975

| <u>Dissolved Gasses</u> | | MG/L | EQ. WT. | *MEQ/L |
|-------------------------|--|------|---------|--------|
| 4. Hydrogen Sulfide | | 60 | | |
| 5. Carbon Dioxide | | 150 | | |
| 6. Dissolved Oxygen | | 0.6 | | |

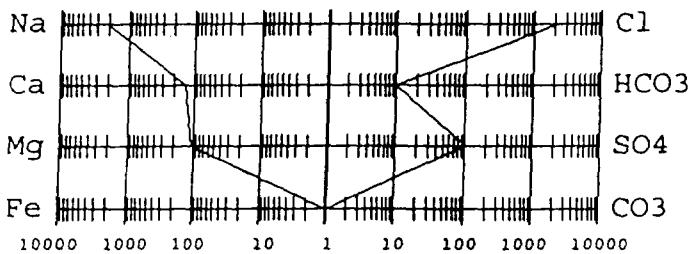
Cations

| | | | | |
|--------------|---------------------|---------------------|----------|----------|
| 7. Calcium | (Ca ⁺⁺) | 2,605 | / 20.1 = | 129.60 |
| 8. Magnesium | (Mg ⁺⁺) | 1,276 | / 12.2 = | 104.59 |
| 9. Sodium | (Na ⁺) | (Calculated) 45,740 | / 23.0 = | 1,988.70 |
| 10. Barium | (Ba ⁺⁺) | Not Determined | | |

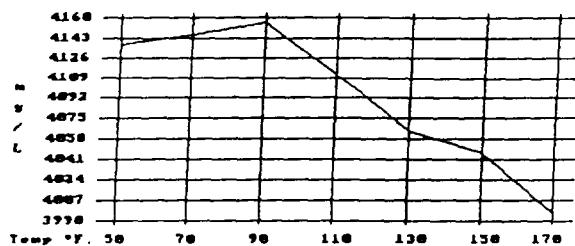
Anions

| | | | | |
|---|----------------------------------|------------|----------|----------|
| 11. Hydroxyl | (OH ⁻) | 0 | / 17.0 = | 0.00 |
| 12. Carbonate | (CO ₃ ⁼) | 0 | / 30.0 = | 0.00 |
| 13. Bicarbonate | (HCO ₃ ⁻) | 586 | / 61.1 = | 9.59 |
| 14. Sulfate | (SO ₄ ⁼) | 4,800 | / 48.8 = | 98.36 |
| 15. Chloride | (Cl ⁻) | 74,983 | / 35.5 = | 2,112.20 |
| 16. Total Dissolved Solids | | 129,990 | | |
| 17. Total Iron (Fe) | | 2 | / 18.2 = | 0.08 |
| 18. Total Hardness As CaCO ₃ | | 11,760 | | |
| 19. Resistivity @ 75 F. (Calculated) | | 0.059 /cm. | | |

LOGARITHMIC WATER PATTERN
 *meq/L.



Calcium Sulfate Solubility Profile



| COMPOUND | EQ. WT. | X | *meq/L = mg/L |
|------------------------------------|---------|----------|---------------|
| Ca(HCO ₃) ₂ | 81.04 | 9.59 | 771 |
| CaSO ₄ | 68.07 | 98.36 | 6,691 |
| CaCl ₂ | 55.50 | 21.65 | 1,201 |
| Mg(HCO ₃) ₂ | 73.17 | 0.00 | |
| MgSO ₄ | 60.19 | 0.00 | |
| MgCl ₂ | 47.62 | 104.59 | 4,981 |
| NaHCO ₃ | 84.00 | 0.00 | |
| NaSO ₄ | 71.03 | 0.00 | |
| NaCl | 58.46 | 1,985.96 | 116,096 |

*Milli Equivalents per Liter

This water is slightly corrosive due to the pH observed on analysis. The corrosivity is increased by the content of mineral salts, and the presence of H₂S, CO₂, Oxygen in solution.

DURK EAGLE FRESH (CYRANTAS)
WATER

Exhibit

VII-B

Permian Treating Chemicals

SAMPLE

WATER ANALYSIS REPORT

Oil Co. : Wiser Oil Co.
 Lease : North Plant
 Well No.: Fresh Water
 Salesman:

Sample Loc. :
 Formation : 06-June-1996
 Date Analyzed: 06-June-1996

ANALYSIS

1. pH 7.760
 2. Specific Gravity 60/60 F. 1.008
 3. CaCO₃ Saturation Index @ 80 F. +0.429
 @ 140 F. +1.029

| | <u>Dissolved Gasses</u> | MG/L | EQ. WT. | *MEQ/L |
|---------------------|-------------------------|------|---------|--------|
| 4. Hydrogen Sulfide | Not Present | | | |
| 5. Carbon Dioxide | Not Determined | | | |
| 6. Dissolved Oxygen | Not Determined | | | |

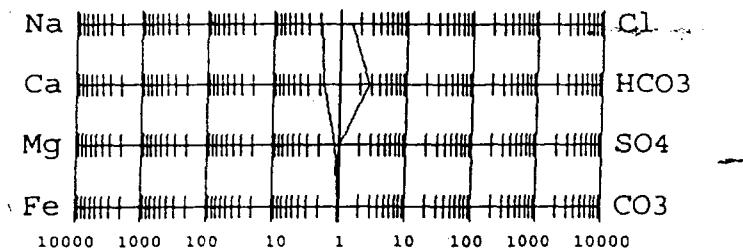
Cations

| | | | | |
|--------------|---------------------|--------------|----------|------|
| 7. Calcium | (Ca ⁺⁺) | 33 | / 20.1 = | 1.64 |
| 8. Magnesium | (Mg ⁺⁺) | 13 | / 12.2 = | 1.07 |
| 9. Sodium | (Na ⁺) | 42 | / 23.0 = | 1.83 |
| 10. Barium | (Ba ⁺⁺) | Below 10 (1) | | |

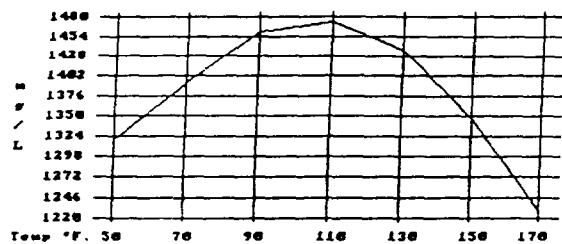
Anions

| | | | | |
|---|----------------------------------|------------|----------|------|
| 11. Hydroxyl | (OH ⁻) | 0 | / 17.0 = | 0.00 |
| 12. Carbonate | (CO ₃ ⁼) | 0 | / 30.0 = | 0.00 |
| 13. Bicarbonate | (HCO ₃ ⁻) | 161 | / 61.1 = | 2.64 |
| 14. Sulfate | (SO ₄ ⁼) | 23 | / 48.8 = | 0.47 |
| 15. Chloride | (Cl ⁻) | 50 | / 35.5 = | 1.41 |
| 16. Total Dissolved Solids | | 322 | | |
| 17. Total Iron (Fe) | | 1 | / 18.2 = | 0.05 |
| 18. Total Hardness As CaCO ₃ | | 138 | | |
| 19. Resistivity @ 75 F. (Calculated) | | 2.310 /cm. | | |

LOGARITHMIC WATER PATTERN
 *meq/L.



Calcium Sulfate Solubility Profile



| COMPOUND | EQ. WT. | X | *MEQ/L = mg/L |
|------------------------------------|---------|------|---------------|
| Ca(HCO ₃) ₂ | 81.04 | 1.64 | 133 |
| CaSO ₄ | 68.07 | 0.00 | 0 |
| CaCl ₂ | 55.50 | 0.00 | 0 |
| Mg(HCO ₃) ₂ | 73.17 | 0.99 | 73 |
| MgSO ₄ | 60.19 | 0.07 | 4 |
| MgCl ₂ | 47.62 | 0.00 | 0 |
| NaHCO ₃ | 84.00 | 0.00 | 0 |
| NaSO ₄ | 71.03 | 0.40 | 28 |
| NaCl | 58.46 | 1.41 | 82 |

*Milli Equivalents per Liter

This water is mildly corrosive due to the pH observed on analysis.
 The corrosivity is increased by the content of mineral salts in solution.

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APPLICATION FOR AUTHORIZATION TO INJECT

VIII. GEOLOGICAL DATA

The proposed injection interval is in the Grayburg-San Andres formations at depths of 3900 to 5500 feet. The Grayburg formation primarily consists of quartz sands with dolomitic cementation; while, the San Andres formation primarily consists of dolomite with intermingled stringers of quartz sand with dolomitic cementation. The surface formation is Cretaceous and has no known sources of drinking water. The Ogallala aquifer and the Caprock overlies the northeastern portion of the Unit Area; while there are no known sources of drinking water underlying the injection interval.

Attached, as Exhibits VIII-A and VIII-B, are two Type Logs illustrating geology, lithology, thickness, and depths.

TYPE LOG FOR
CAKE PRODUCING
INTERVALS

L144 NO. 1

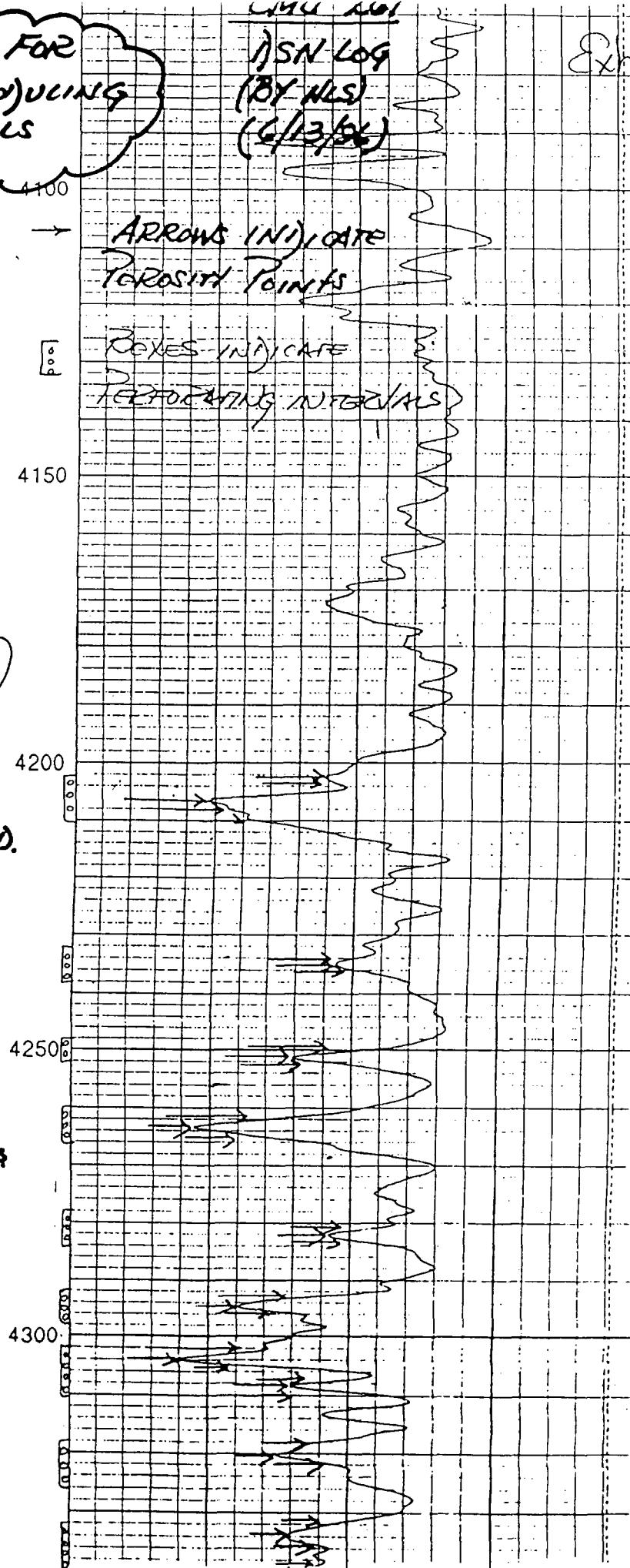
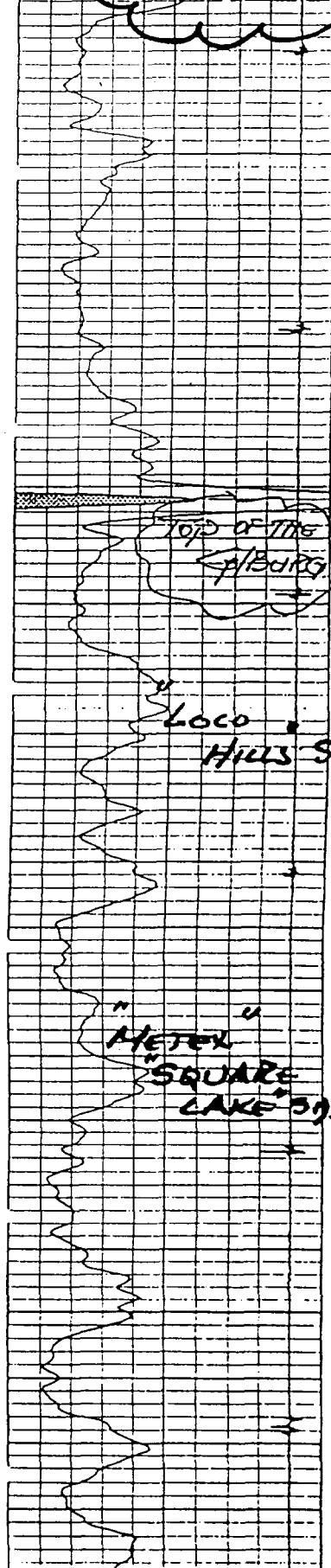
1 SN LOG

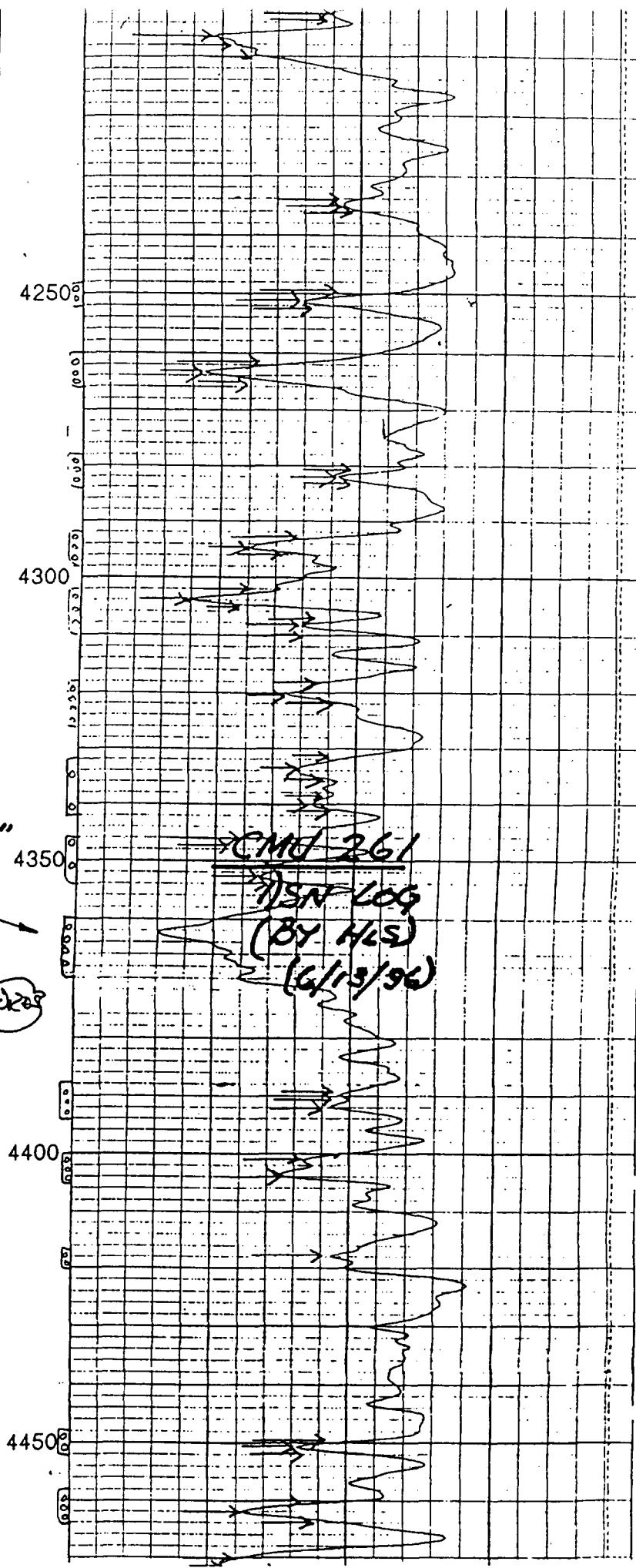
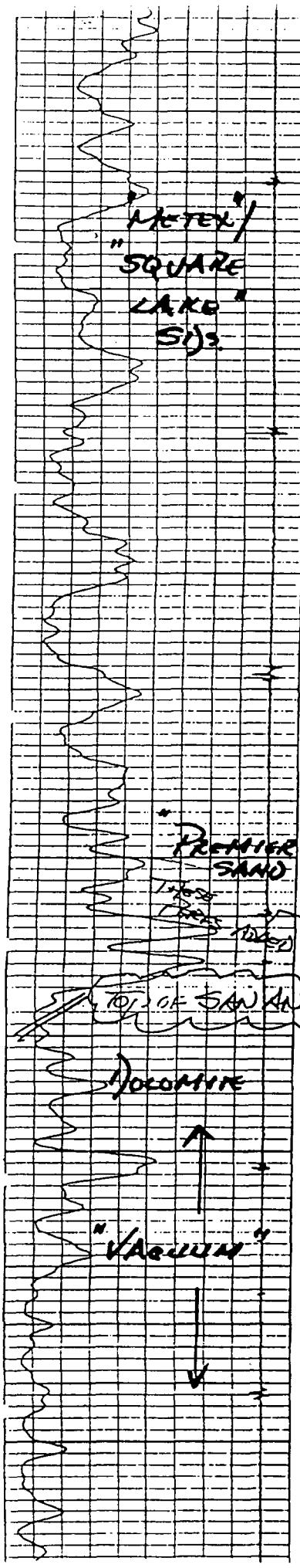
(BY M.S.)

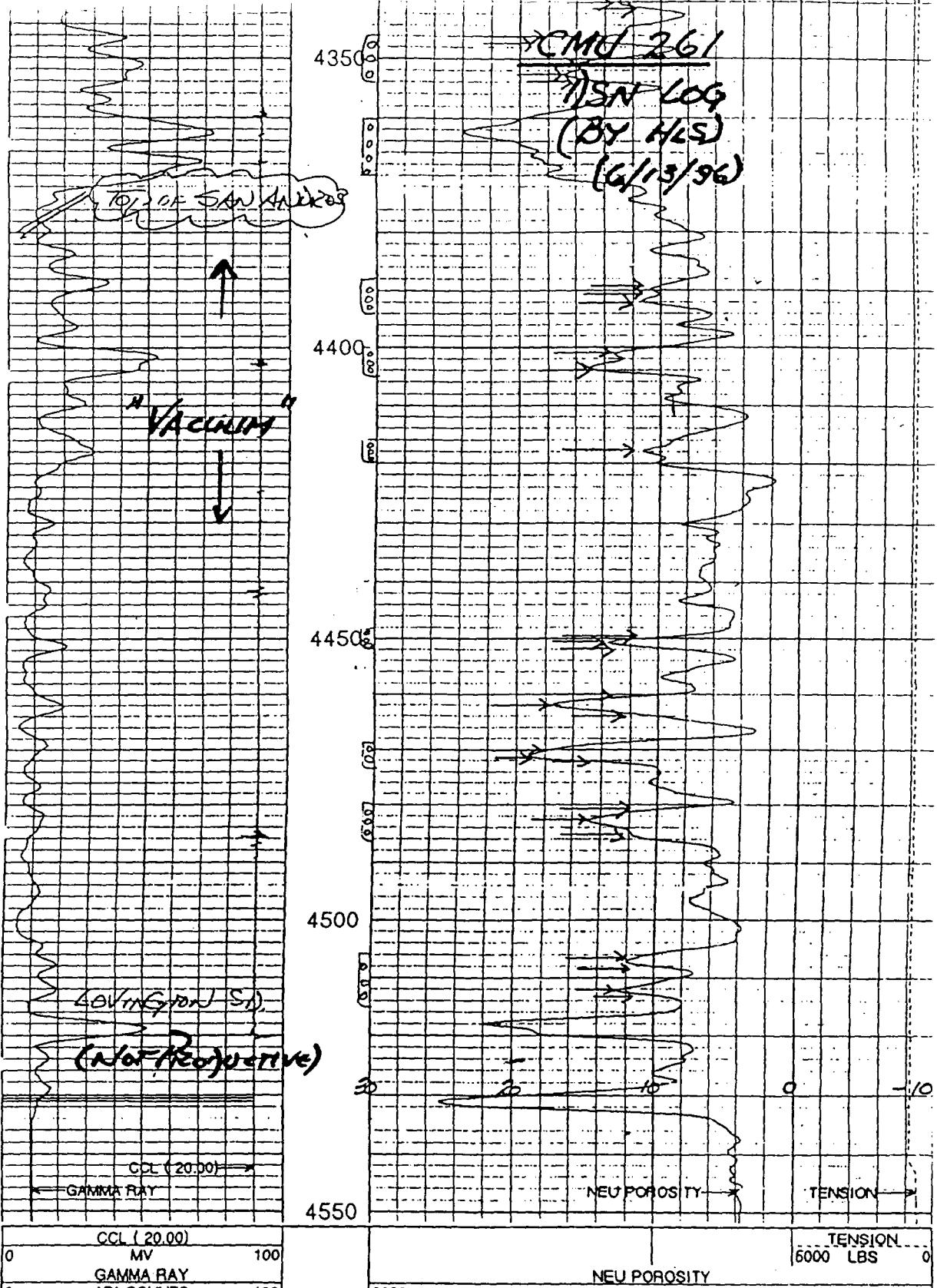
(6/13/56)

Exhibit

VIII-A







HALLIBURTON

Version No: 2.001 hc2.0

Data File: 0613_1654_r0411.sds

Control File: plot_01_1.apc

Raster File: 0613_1654_r0411.plot_01_1

Top Depth: —

Bottom Depth: 4551.76

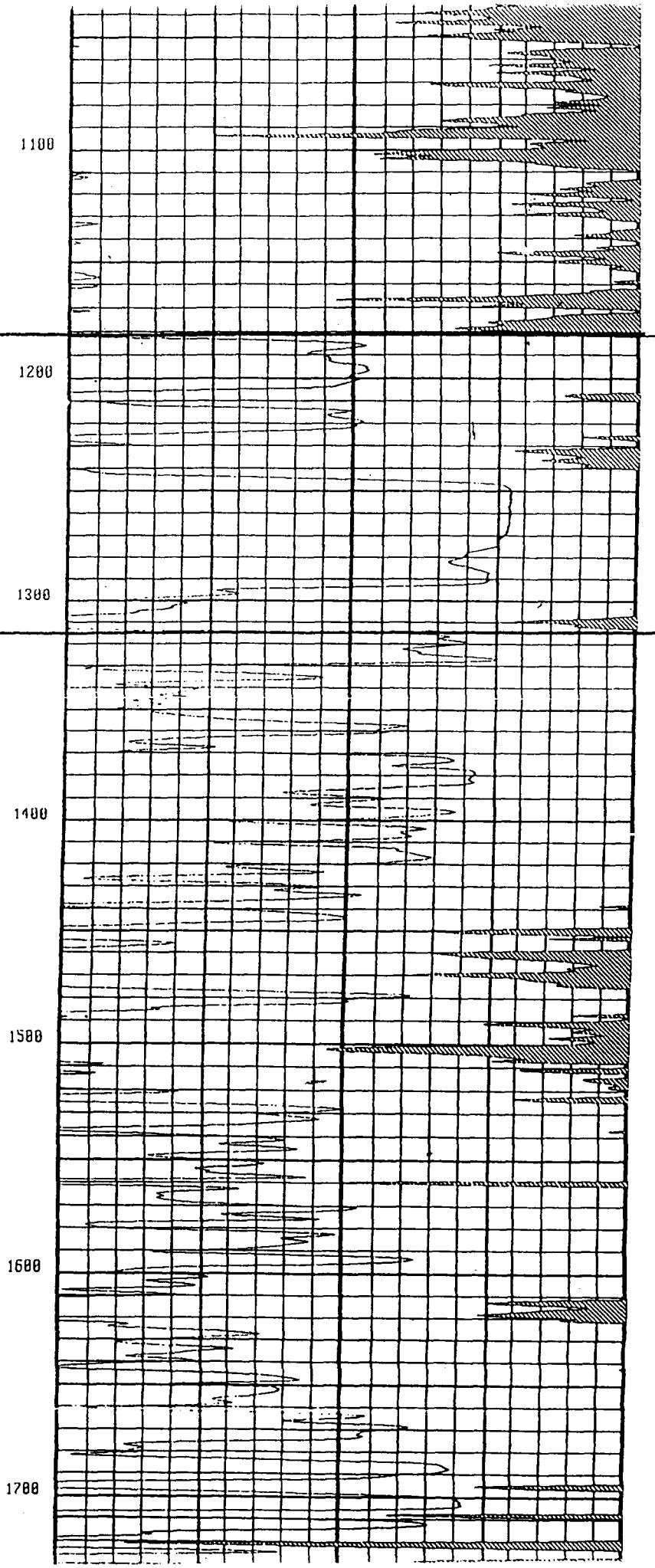
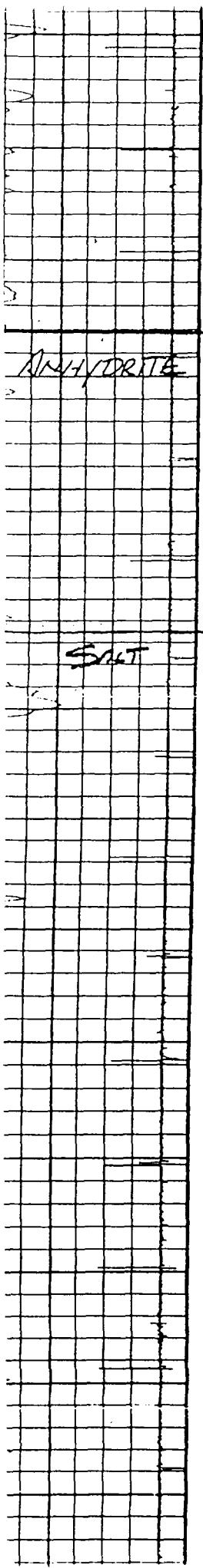
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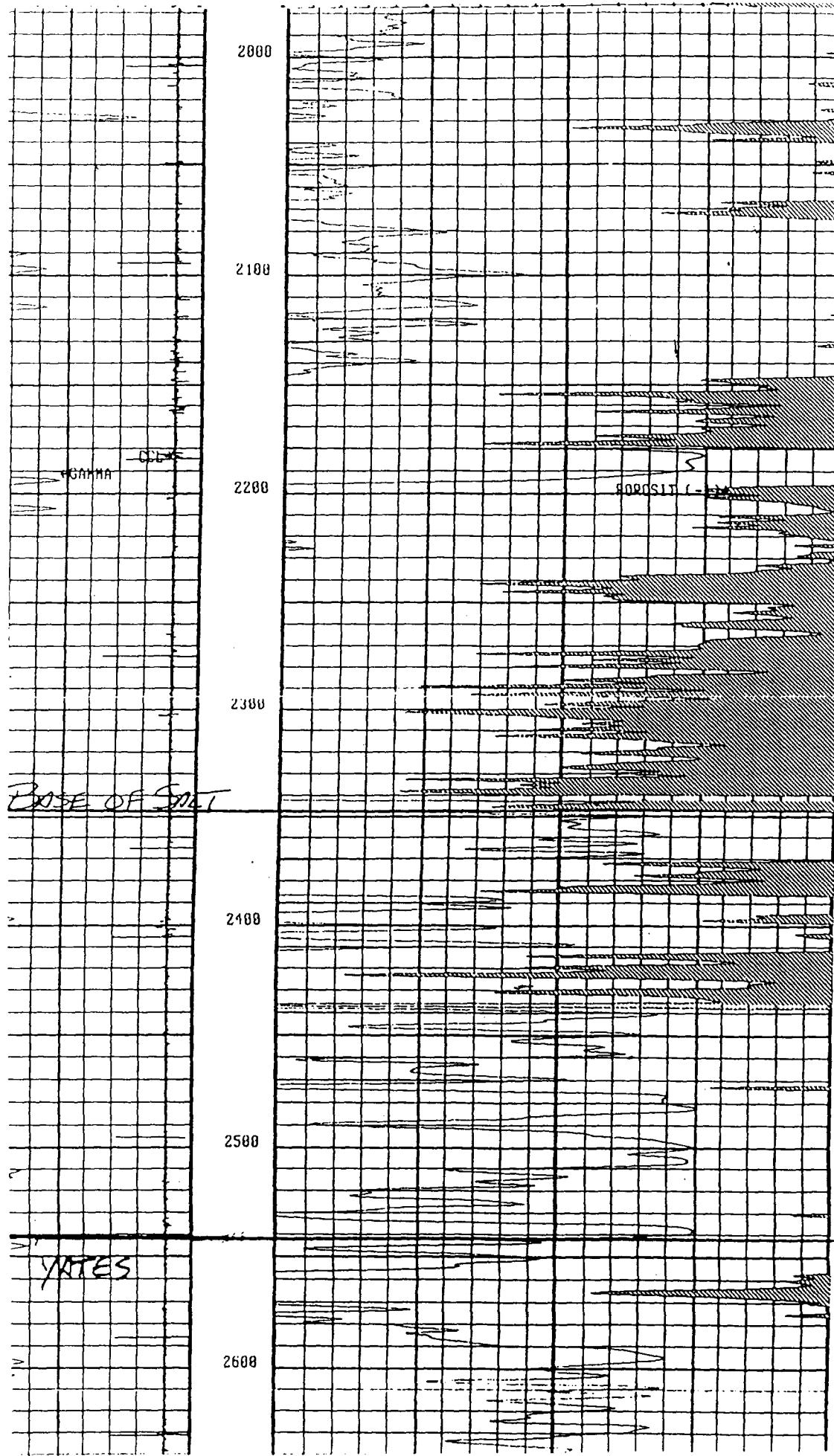
TYPE LOG FOR CMU SHOWING FORMATION TOPS

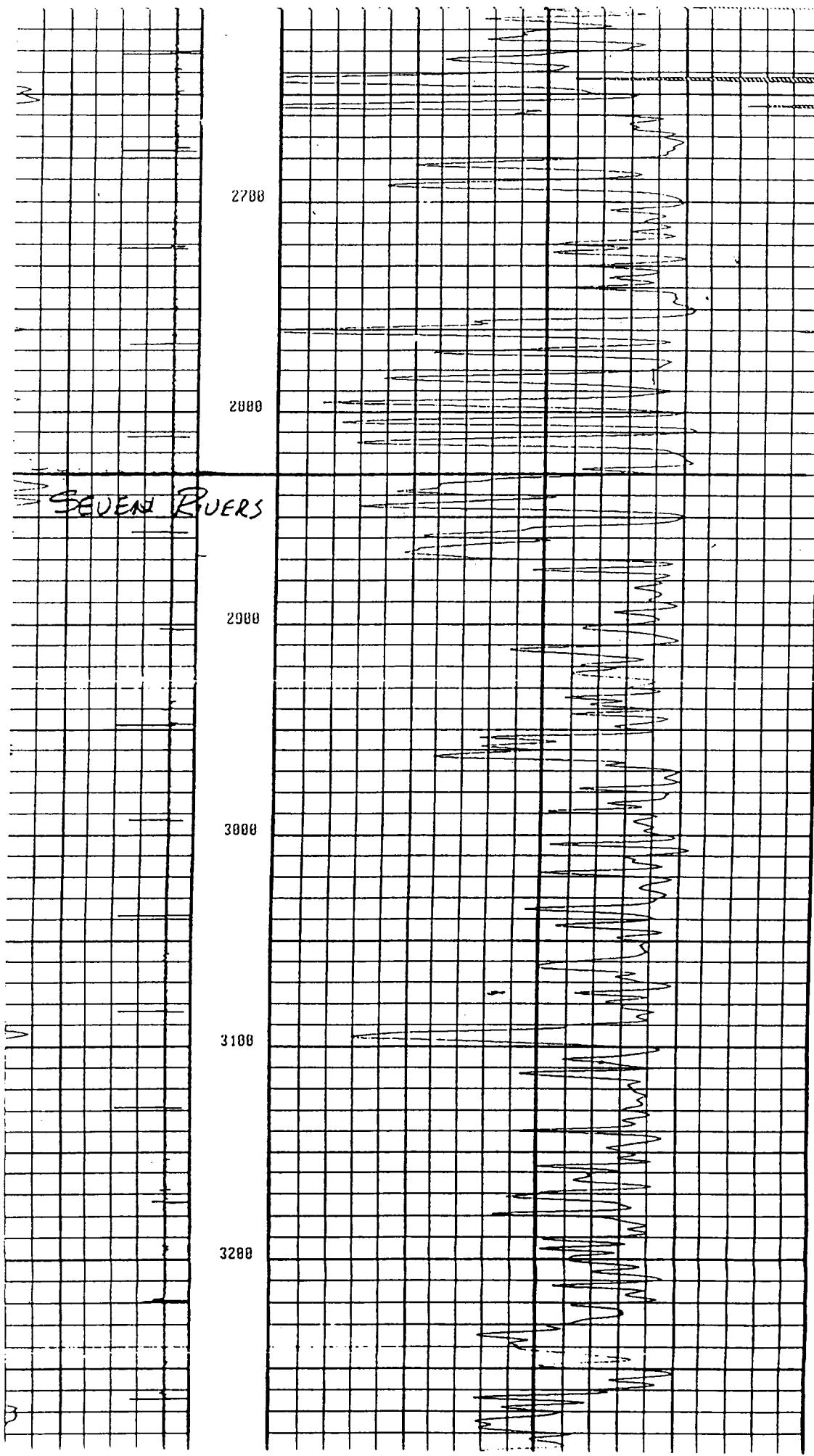
Exhibit VIII-B

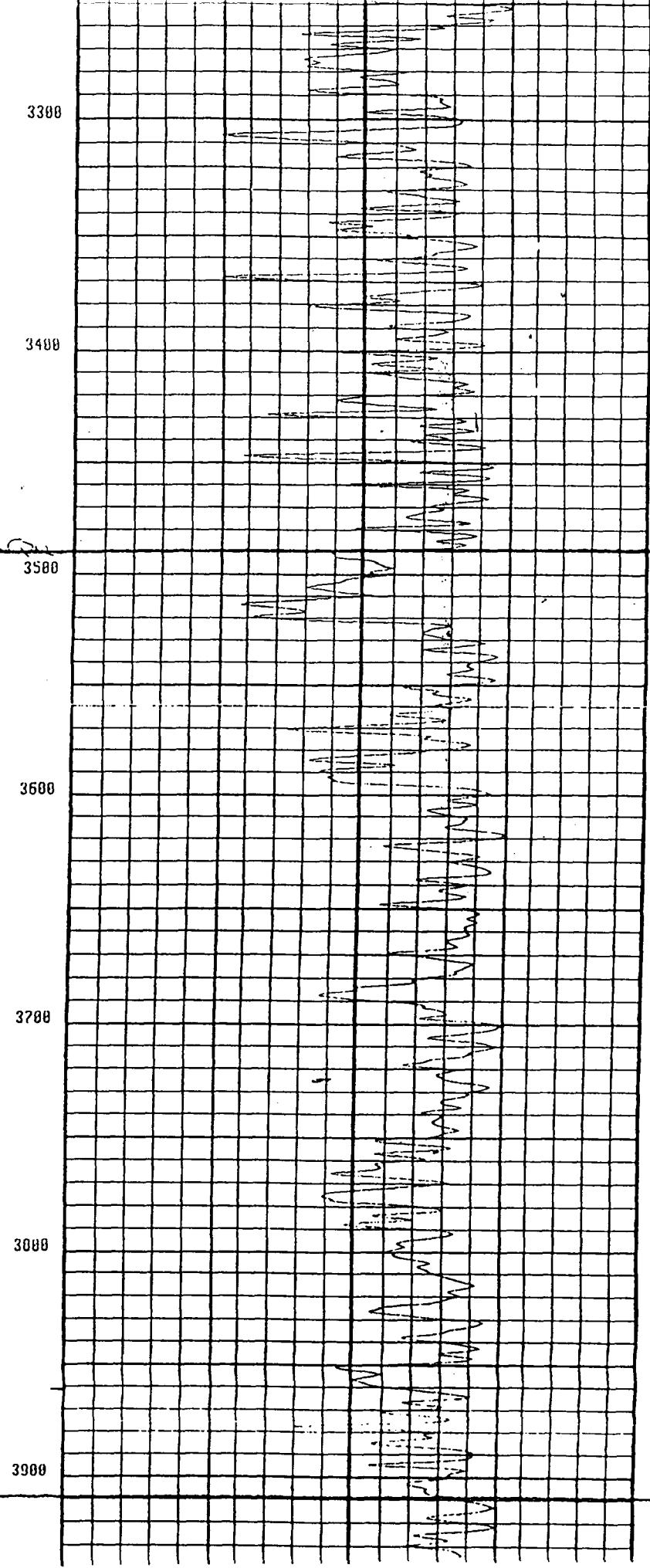
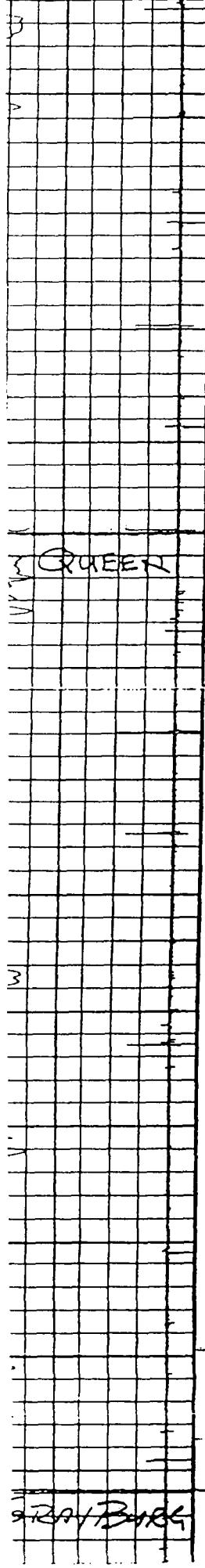
TYPE LOG

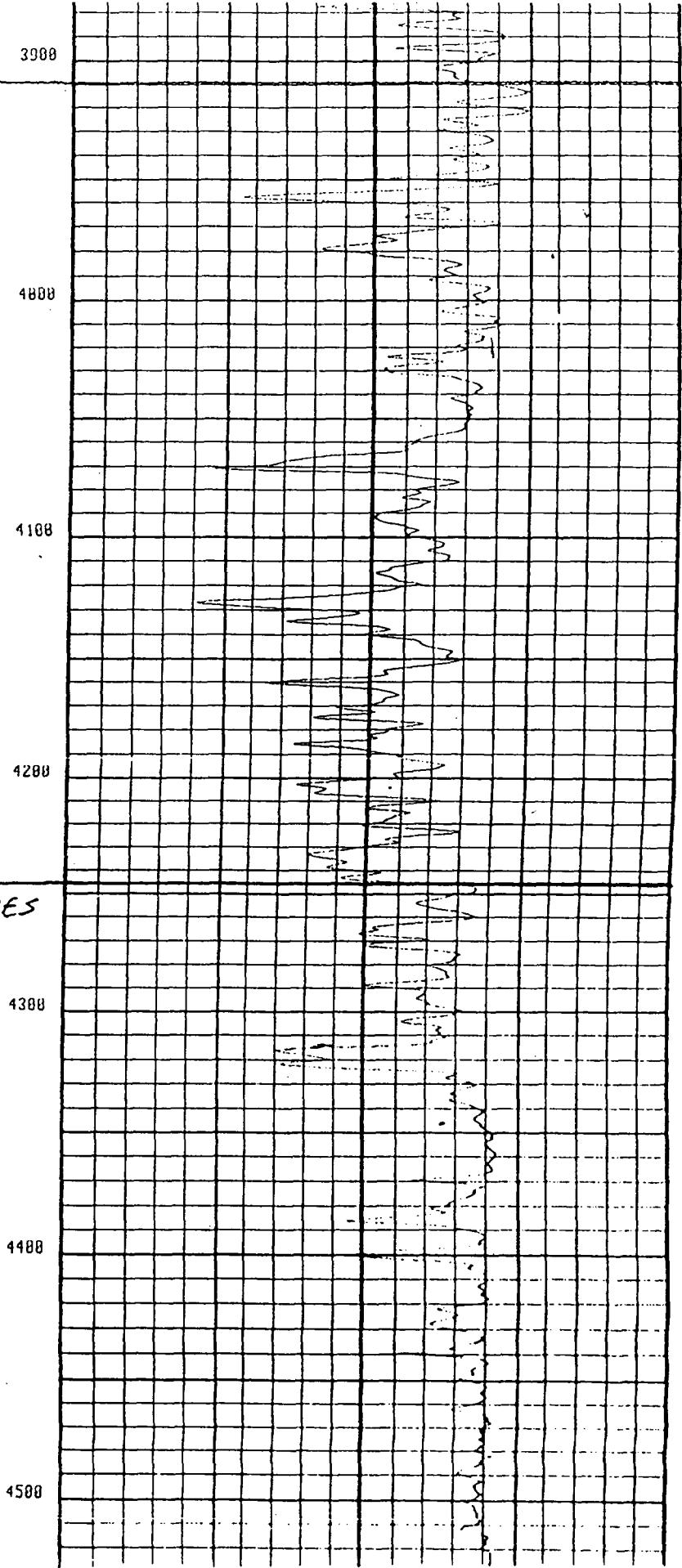
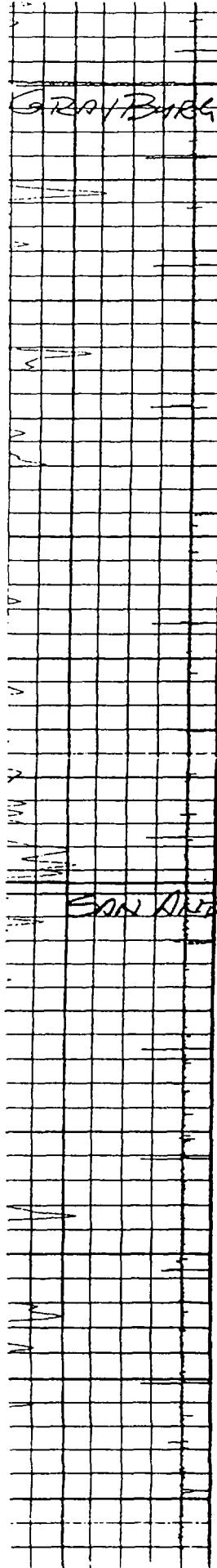
| | | | | | | | |
|---|------------------|----------------------------|---|--------------------------|------|------|------|
|  HALLIBURTON | | | GAMMA COLLAR | | | | |
| | | | DSN | | | | |
| COMP. : HISER OIL COMPANY INC. | WELL : CMU #168 | ST. N.M. : LEA | COMPANY WISER OIL COMPANY INC. | | | | |
| FIELD : MALJAMAR GRAYBURG | | COUNTY : LEA | WELL CMU #168 | | | | |
| | | | FIELD MALJAMAR GRAYBURG SAN ANDRES | | | | |
| | | | COUNTY LEA STATE N.M. | | | | |
| | | | API NO. 38-025-32927 OTHER SERVICES | | | | |
| | | | LOCATION : 48° FSL & 15° FWL CBL. PERF. | | | | |
| | | | UNIT LETTER M | | | | |
| SEC. 18 | TWP. 17-S | RGE. 33-E | | | | | |
| PERMANENT DATUM | SL | ELEV. 4137' | ELEV.: K.B. 4145' | | | | |
| LOG MEASURED FROM | K8 | 12.0 FT. ABOVE PERM. DATUM | D.F. 4137' | | | | |
| DRILLING MEAS FROM | K9 | | C.L. 4137' | | | | |
| DATE & TIME LOGGED | 12/08/95 2:00:00 | TYPE OF FLUID IN HOLE | WATER | | | | |
| RUN No. | ONE | DENSITY OF FLUID | NA | | | | |
| DEPTH - DRILLER | 4850 | FLUID LEVEL | FUL. | | | | |
| DEPTH - LOGGER | 4788 | CEMENT TOP EST/LOGGED | NA | | | | |
| BTM LOGGED INTERVAL | 4787 | EQUIPMENT : LOCATION | 7634 : POSSE | | | | |
| TOP LOGGED INTERVAL | SURF | RECORDED BY | HILL | | | | |
| MAX RECORDED TEMP. | NA | WITNESSED BY | MR. G. NEUTON | | | | |
| CEMENTING DATA | SURF. STRING | INT. STRING | PROD. STRING | | | | |
| DATE/TIME CEMENTED | / . | / . | / . | | | | |
| PRIMARY/SQUEEZE | | | | | | | |
| COMPRESSIVE STR. | | | | | | | |
| EXPECTED P | : Hrs | : Hrs | : Hrs | | | | |
| CEMENT VOLUME | | | | | | | |
| CEMENT TYPE/WEIGHT | | | | | | | |
| MUD TYPE/MUD WGT. | | | | | | | |
| FORMULATION | | | | | | | |
| RUN | | BOREHOLE RECORD | | CASING AND TUBING RECORD | | | |
| No. | BIT SZ. | FROM | TO | SIZE | WGT. | FROM | TO |
| ONE | | | | 8.625 | NA | 8 | 1200 |
| TWO | 7.675 | 1200 | 4850 | 5.5 | 17.0 | 8 | 4850 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |











C-108
APPLICATION FOR AUTHORIZATION TO INJECT

IX. PROPOSED STIMULATION PROGRAM

Acid breakdown jobs will be done if new perforations are added. When treating old perforations, acid "wash" treatment will be done to remove scales and flow-back solids at formation face.

X. LOGGING DATA

The available logs are those on file with the Oil Conservation Division from the original operators of the wells.

XI. FRESH WATER WELLS

Information on fresh water wells in the area as recorded in the office of the State Engineer was previously submitted. None of these wells are still active or productive.

XII. Not applicable

C-108
APPLICATION FOR AUTHORIZATION TO INJECT

XIII. PROOF OF NOTICE

Copies of this C-108 Application have been mailed to the surface owners and to each leasehold operator within one-half mile of the proposed injection wells as identified on the mailing list attached as Exhibit XIII-A. An Affidavit of such notice is attached as Exhibit VIII-B. Copies of the certified receipts will be furnished upon request. The notice attached as Exhibit VIII-C is being published in the Hobbs News Sun. An Affidavit of Publication will be forwarded as soon as available.

EXHIBIT XIII-A

MAILING LIST

Surface Owners:

Mr. Hershel Caviness
General Delivery
Causey, New Mexico 88113

Mrs. Janice Caviness
P. O. Box 25
Maljamar, New Mexico 88264

Offset Well Operators:

Phillips Petroleum Company
4001 Penbrook Street
Odessa, Texas 79762

Cross Timbers Oil Co., LP
P. O. Box 52070
Midland, Texas 79710

OXY USA Inc.
P. O. Box 50250
Midland, Texas 79710

Pennzoil Petroleum Company
2402 West Wadley
Midland, Texas 79705

Mr. Homer Denius
Address Unknown

Offset Leasehold Operators:

Chase Oil Corporation
P. O. Box 276
Artesia, New Mexico 88210

Mr. & Mrs. Johnny &
Maggie S. Cockburn
Address Unknown

Cross Timbers Oil Co., LP
P. O. Box 52070
Midland, Texas 79710

OXY USA Inc.
P. O. Box 50250
Midland, Texas 79710

Phillips Petroleum Company
4001 Penbrook Street
Odessa, Texas 79762

Southwest Developmental
Drilling Fund 1993 LP
P. O. Box 11390
Midland, Texas 79702

Petrus Energy Company
P. O. Box 820101
Houston, Texas 77282-0101

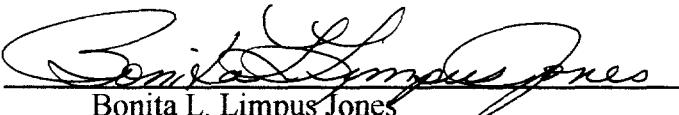
Mr. C. W. Chancellor
Address Unknown

EXHIBIT VIII-B

AFFIDAVIT OF MAILING

STATE OF NEW MEXICO |
COUNTY OF CHAVES | SS.

I, Bonita L. Limpus Jones, do solemnly swear that a copy of this Application has been mailed by certified mail, to each of the interested parties listed on Exhibit XIII-A.


Bonita L. Limpus Jones
Consulting Landman with J. O. Easley, Inc.
on behalf of The Wiser Oil Company

SWORN AND SUBSCRIBED TO before me this 30th day of September, 1998.

My Commission Expires:

1-30-99

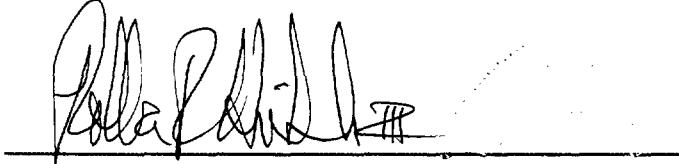

Notary Public

EXHIBIT VIII-C

NOTICE TO BE PUBLISHED IN THE HOBBS DAILY NEWS-SUN
ON WEDNESDAY, SEPTEMBER 30, 1998

PROPOSED INJECTION WELLS

The Wiser Oil Company proposes to expand its Caprock Maljamar Unit and inject water into 2 wells in Section 28, T17S-R33E, Lea County, New Mexico, to provide injection service for the existing Caprock Maljamar Unit Waterflood, Order No. R-10094. The zones to be injected into are Grayburg and San Andres from 3900' to 5500', with a maximum injection rate of 250 BWPD/well at a maximum pressure of 920 psi. Any interested parties with objection or request for hearing should notify the New Mexico Oil Conservation Division at P. O. Box 2088, Santa Fe, New Mexico 87501, within 15 days of this notice. Any questions should be directed to Mike Jones with The Wiser Oil Company, at P. O. Box 2568, Hobbs, New Mexico 88241, 505-392-9797.



J.O. EASLEY INC.
ESTABLISHED 1979
P.O. Box 245 88211-0245
119 South Roselawn, Suite 302
Artesia, New Mexico 88210

October 17, 1998

Telephone (505) 746-1070
Fax (505) 746-1073

Mr. David Catanach
New Mexico Oil Conservation Division
2040 South Pacheco
Santa Fe, New Mexico 87505

RE: C-108
Caprock Maljamar Waterflood Unit
Lea County, New Mexico

Dear Mr. Catanach:

Enclosed for your file is the Affidavit of Publication in the Hobbs Daily News-Sun of the notice of Wiser's proposed expansion of the Caprock Maljamar water injection project.

If you have any questions, please call me at 505-624-9677.

Sincerely,

J. O. EASLEY, INC.

Bonita L. Limpus Jones
Consulting Landman

/bj

Enclosures

cc/enclosure: Mr. Chris Williams
New Mexico Oil Conservation Division
P. O. Box 1980
Hobbs, New Mexico 88240

Mr. Matt Eagleston
The Wiser Oil Company
8115 Preston Road, Suite 400
Dallas, Texas 75225

Mr. Mike Jones
The Wiser Oil Company
P. O. Box 2568
Hobbs, New Mexico 88240

AFFIDAVIT OF PUBLICATION

State of New Mexico,
County of Lea.

I, KATHI BEARDEN

Publisher

of the Hobbs Daily News-Sun, a daily newspaper published at Hobbs, New Mexico, do solemnly swear that the clipping attached hereto was published once a week in the regular and entire issue of said paper, and not a supplement thereof for a period.

of 1

 weeks.

Beginning with the issue dated

September 30 1998

and ending with the issue dated

September 30 1998

Kathi Bearden

Publisher

Sworn and subscribed to before

me this 29th day of

September 1998

Jodi Henson

Notary Public.

My Commission expires
October 18, 2000
(Seal)

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

LEGAL NOTICE
September 30, 1998

EXHIBIT VIII-C

**PROPOSED INJECTION
WELLS**

The Wiser Oil Company proposes to expand its Caprock Maljamar Unit and inject water into 2 wells in Section 28, T17S-R33E, Lea County, New Mexico, to provide injection service for the existing Caprock Maljamar Unit Water flood, Order No. R-10094. The zones to be injected into are Grayburg and San Andres from 3900' to 5500', with a maximum injection rate of 250 BWPD/well at a maximum pressure of 920 psi. Any interested parties with objection or request for hearing should notify the New Mexico Oil Conservation Division at P.O. Box 2088, Santa Fe, New Mexico 87501, within 15 days of this notice. Any questions should be directed to Mike Jones with The Wiser Oil Company, at P.O. Box 2568, Hobbs, New Mexico 88241, 505-392-9797.
#16176

01100659000 01526775
J O Easley, Inc.-Consulting La
705 W. Mescalero Rd.
a/c
Roswell NM, NM 88201



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

GOVERNOR

10/5/98

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 X _____
PMX _____

Gentlemen:

I have examined the application for the:

Wise Oil Co Caprock Maljamar # 98-m-28-17-33
Operator Lease & Well No. Unit S-T-R # 283-0-28-17-33

and my recommendations are as follows:

None -

Yours very truly,

Chris Williams

Chris Williams
Supervisor, District 1

/ed