

**MERIDIAN OIL**

July 26, 1988

Mr. William LeMay  
New Mexico Oil Conservation Division  
P.O. Box 2088  
Santa Fe, New Mexico 87501

Dear Mr. LeMay:

This is a request for a salt water disposal well located in the Morrison/  
Entrada formation.

It is intended to locate the Meridian Oil Inc.'s San Juan 30-6 Unit SWD #2  
at 285' from the North line and 598' from the East line of Section 23,  
T30N-R7W, San Juan County, New Mexico.

A copy of this application is being submitted to all offset operators by  
certified mail with a request that they furnish your Santa Fe office with a  
Waiver of Objection, and return one copy to this office.

Attached is the C-108, with accompanying support data for this proposal.

Sincerely Yours,

*Richard E. Fraley by CFB*  
Richard E. Fraley  
Regional Production Engineer

WSS/dj  
Encl.

WAIVER

\_\_\_\_\_ hereby waives objection to Meridian Oil Inc.'s  
San Juan 30-6 Unit SWD #2 as proposed above.

BY: \_\_\_\_\_

DATE: \_\_\_\_\_

## APPLICATION FOR AUTHORIZATION TO INJECT

- I. Purpose:  Secondary Recovery  Pressure Maintenance  Disposal  Storage  
Application qualifies for administrative approval?  yes  no
- II. Operator: MERIDIAN OIL INC.  
Address: PO Box 4289, Farmington, NM 87499  
Contact party: R. E. Fraley Phone: (505) 326-9712
- 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. ATTACH
- IV. Is this an expansion of an existing project?  yes  no  
If yes, give the Division order number authorizing the project \_\_\_\_\_.
- 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. ATTACHED
- \* 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. NONE
- VII. Attach data on the proposed operation, including: ATTACHED
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 source known to be immediately underlying the injection interval. ATTACHED
- IX. Describe the proposed stimulation program, if any. ATTACHED
- \* X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division they need not be resubmitted.) Currently not available
- \* 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. Currently not available
- 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. ATTACHED
- XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.
- XIV. Certification ATTACHED

I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

Name: R. E. Fraley Title Regional Production Engineer

Signature: R. E. Fraley by CRB Date: July 22, 1988

- \* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be duplicated and 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, P. O. Box 2088, Santa Fe, New Mexico 87501 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.

San Juan 30-6 Unit SWD #2

III. A. Proposed Disposal Well Data

- (1) Lease Name - San Juan 30-6 Unit SWD  
Well Number - 2

Location - Footage -285 FNL & 598' FEL  
Section 23, T-30-N, R-7-W  
Rio Arriba, County, New Mexico

- (2) Well Bore Casing Configuration:

| <u>Casing</u>         | <u>Hole Size</u> | <u>Csg. Size</u> | <u>Depth Set</u> | <u>Cement Vol</u>                            | <u>Top/Cement</u>                       |
|-----------------------|------------------|------------------|------------------|--|---|
| Surf.Cond.<br>Interm. | 26"<br>17 1/2"   | 20"<br>13 3/8"   | 500'<br>3500'    | 1500 ft <sup>3</sup><br>3600 ft <sup>3</sup> | surface<br>1st st-2315'<br>2nd st-surf. |
| Drilling<br>Liner     | 12 1/4"          | 9 5/8"           | 3350'-6000'      | 1200 ft <sup>3</sup>                         | Circ.liner<br>top @ 3350'               |
| Long String           | 8 3/4"           | 7"               | 8875'            | 1300 ft <sup>3</sup>                         | 6000'                                   |

- (3) Injection Tubing:

Tubing size - 3 1/2" O.D., 9.3 #/ft. J-55  
Internally Coated  
Setting depth - 7750'

- (4) Isolation Packer:

Packer - Size - 7"  
Type - OTIS  
Model - "WB"  
Seal Assembly - Type ' OTIS  
Model - "PR"

B. Proposed Well Data

- (1) Formation name: Morrison and Entrada
- (2) Injection Intervals:  
Morrison - 7800-8545' perforated  
Entrada - 8632-8832' perforated
- (3) The original purpose for drilling this well is to dispose of produced water.
- (4) There are to be no additional perforated intervals in the proposed well.
- (5) There are no lower producing zones, and the next higher producing interval is the Dakota at 7590' -7800'.

San Juan 30-6 Unit SWD #2

- VI. There are no wells penetrating the proposed depth interval within the area of review.
- VII. (1) The proposed average injection rate is estimated at 5000 bbls/day. The estimated maximum is 20,000 bbls/day.
- (2) The system will be closed.
- (3) The estimated maximum surface injection pressure is 1980 psi.
- (4) The source of injected fluid will be produced water from the Fruitland Coal formation.
- (5) Injection is for disposal purposes into a zone productive of oil and gas. The distance to the nearest well penetrating the proposed zones is greater than 5 miles. Chemical analysis of the zone formation water will be supplied when available.
- VIII. The proposed injection zones are the Morrison and Entrada, both zones are sandstone. The Morrison interval is estimate @ 7800'-8545' from G.L. (6282') having a thickness of 745'. The Entrada interval is estimated @ 8632'-8833' from G.L. (6282') having a thickness of 200'.
- The only overlying fresh water aquifer is the Ojo Alamo having an estimated base depth of 2315' from G.L. There is no fresh water known below the injection zone.
- IX. The proposed stimulation program will consist of sand water fracturing of each interval using 1000 pounds of 20/40 sand per net foot of formation interval. Proppant concentration will be from 1/2 to 3 lbs./gal. The fracturing fluid will be a 40 lb./gal linear gel.
- X. No logs or test data available at present.
- XI. There are no existing fresh water wells within one mile of the proposed injection well.
- XII. An examination of geologic and engineering data indicates no evidence of open faults or any other hydrologic connection between the disposal zone and any source of drinking water. This conclusion is based on proof of isolation between upper gas and oil bearing zones within the area of review.

C-108 Attachments

San Juan 30-6 Unit SWD #2

XIV. Proof of Notice

- A) Designated Unit Operator:  
El Paso Natural Gas Co.  
(Meridian Oil Inc.)
  
- B) Copies Sent to Working Interest owners:
  - 1. Tenneco Oil Co.
  - 2. Conoco
  - 3. T.H. McElvain
  - 4. James M. Raymond
  
- C) Surface Owner  
Roque & Agapita Abeyta

Addresses for Working  
Interest Owners  
San Juan 30-6 SWD #2

Tenneco Oil Co.  
P.O. Box 3249  
Anglewood, CO 80155

Conoco  
P.O. Box 460  
Hobbs, NM 88240

T.H. McElvain  
P.O. Box 2148  
Santa Fe, NM 87501

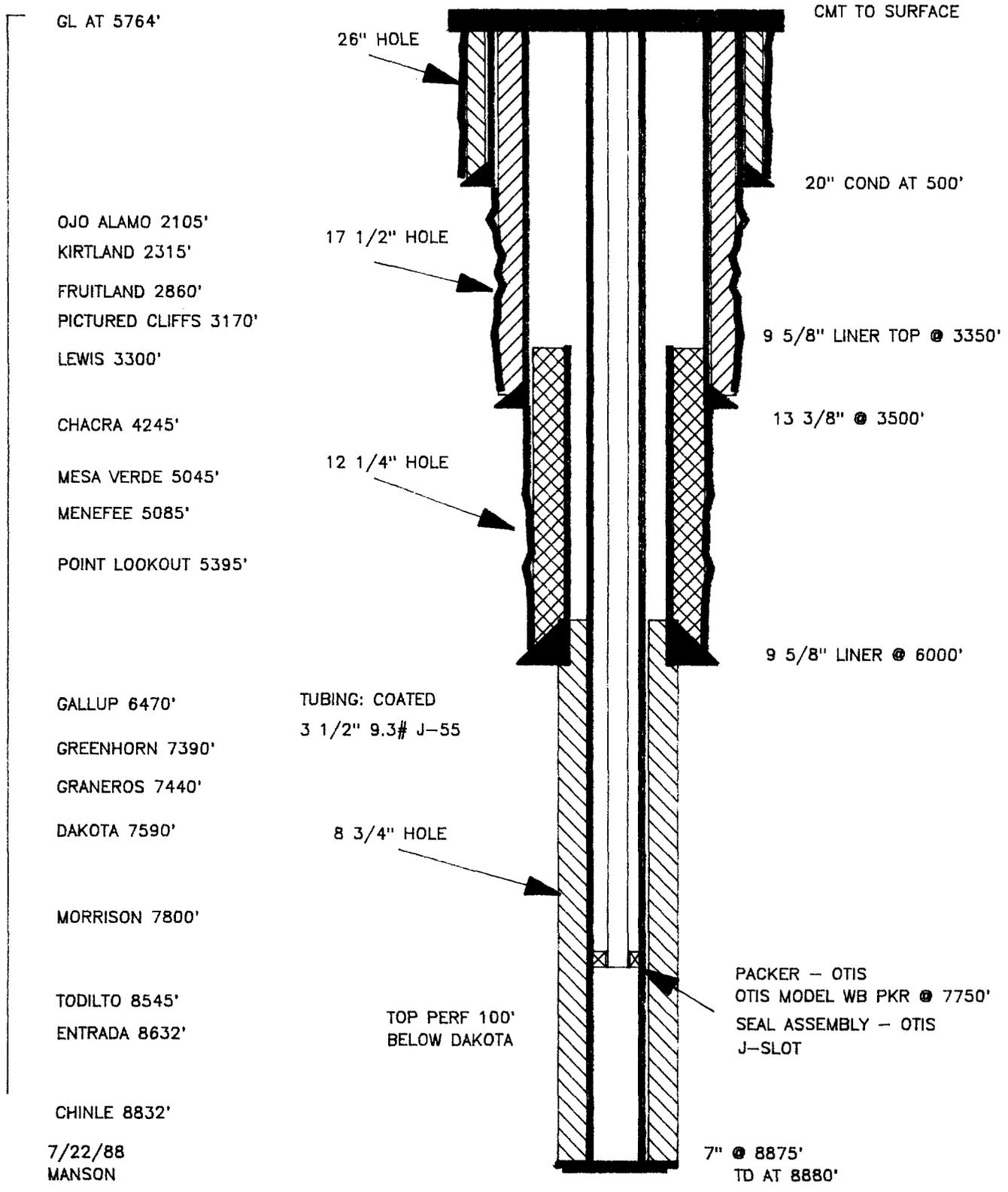
James M. Raymond  
P.O. Box 1445  
Kerrville, TX 78028

Surface Owners

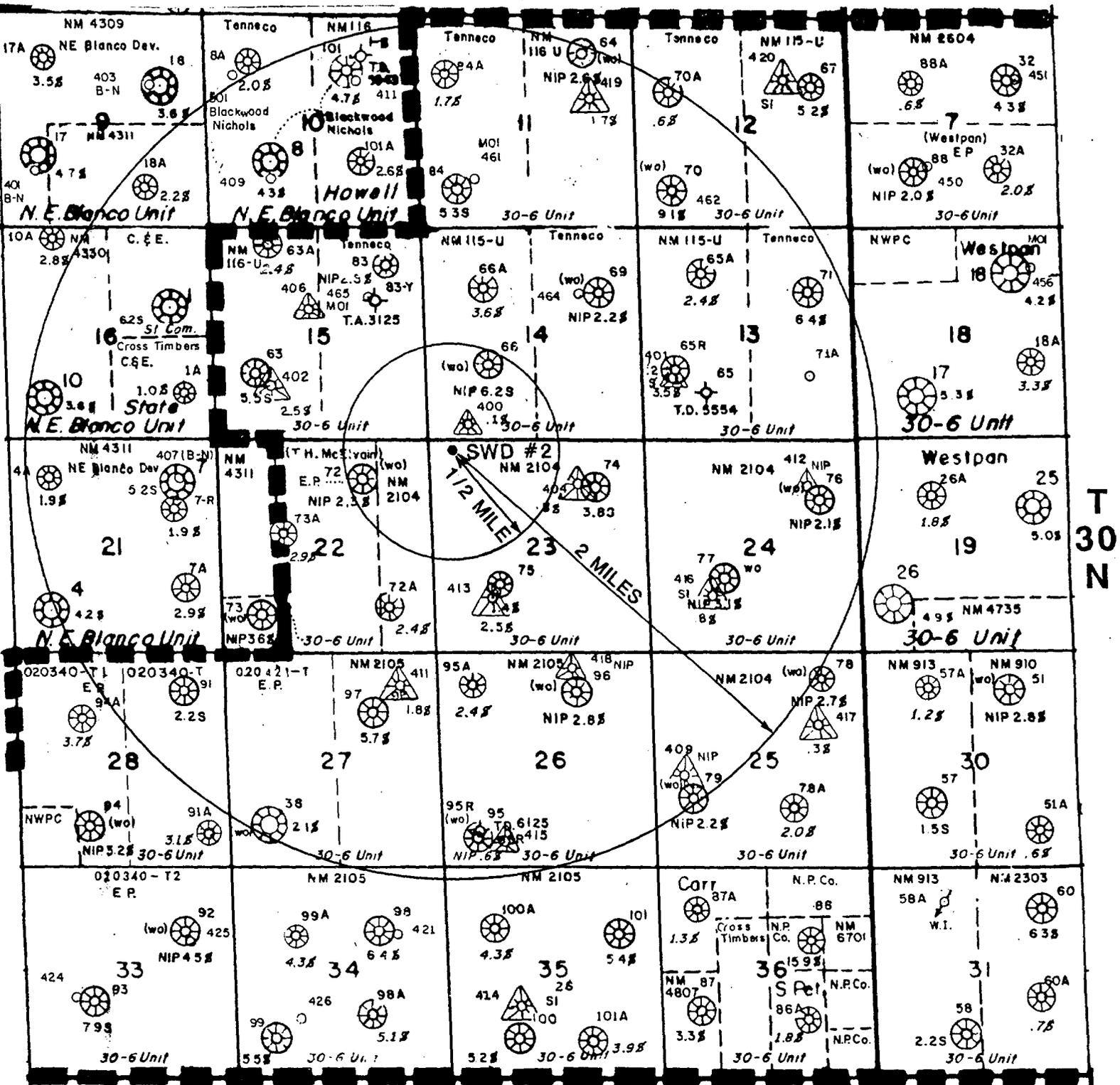
Roque & Agapita Abeyta  
General Delivery  
Los Ojos, NM 87551

# SAN JUAN 30-6 UNIT SWD #2

## WELLBORE DIAGRAM ENTRADA/MORRISON



R 7 W



MERIDIAN OIL INC.  
 SAN JUAN 30-6 UNIT SWD #2  
 NW NW SEC.23, T30N-R7W  
 RIO ARRIBA COUNTY, NEW MEXICO

All distances must be from the outer boundaries of the Section.

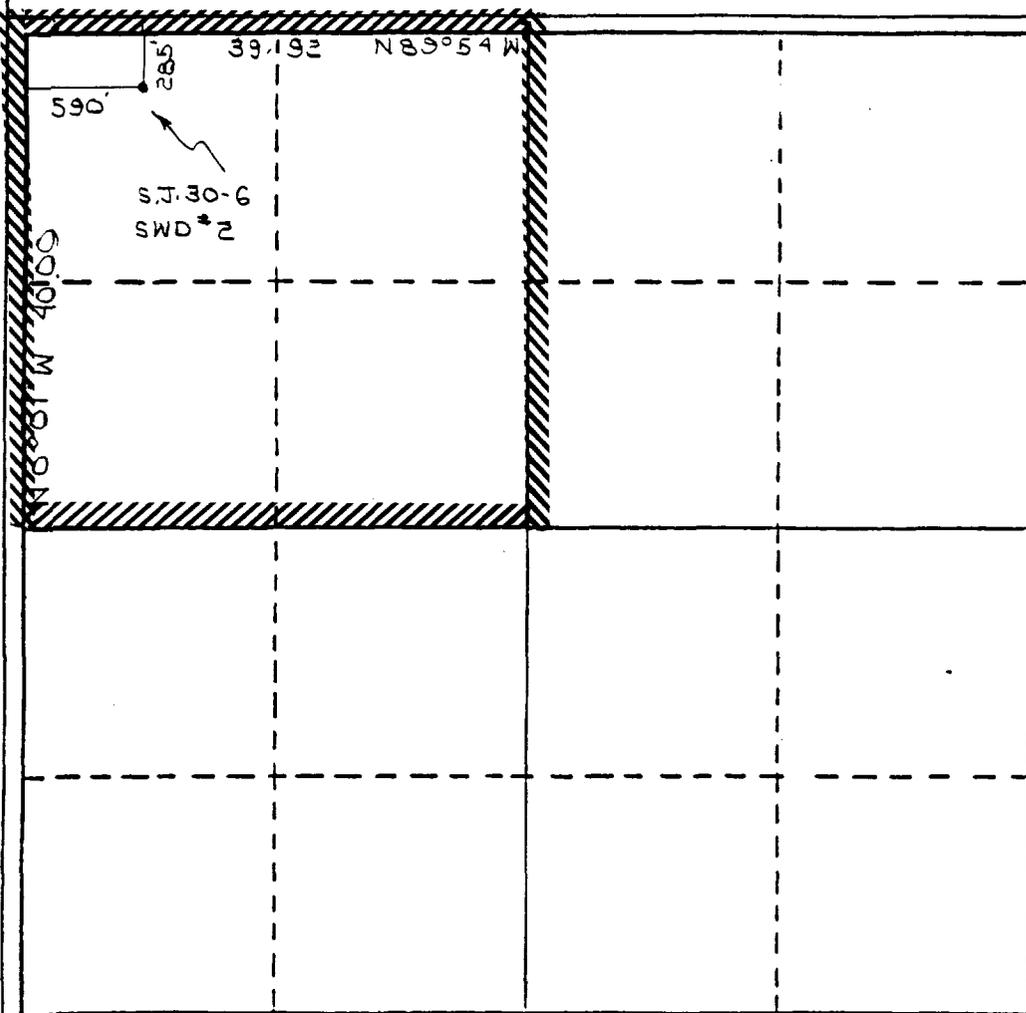
|  |                            |                        |              |                             |               |
|--|----------------------------|------------------------|--------------|-----------------------------|---------------|
| Operator<br>El Paso Natural Gas Company  |                            | Lease<br>San Juan 30-6 |              | WD(SF-079382)               | Well No.<br>2 |
| Unit Letter<br>D   | Section<br>23              | Township<br>T30N       | Range<br>R7W | County<br>Rio Arriba County |               |
| Actual Footage Location of Wells<br>285 feet from the North line and 590 feet from the West line |                            |                        |              |                             |               |
| Ground Level Elev.<br>6263   | Producing Formation<br>SWD | Pool                   |              | Dedicated Acreage<br>Acres  |               |

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

Yes  No If answer is "yes," type of consolidation \_\_\_\_\_

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) \_\_\_\_\_

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Division.



CERTIFICATION

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

Name  
Drilling Clerk

Position  
El Paso Natural Gas Co

Company

Date

I hereby certify that the 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 knowledge and belief.

Registered Professional  
Land Surveyor

Date Surveyed  
June 6, 1988

Registered Land Surveyor  
R. Howard Daggett

Certificate No. 9679

P 838 256 623

**RECEIPT FOR CERTIFIED MAIL**

NO INSURANCE COVERAGE PROVIDED  
NOT FOR INTERNATIONAL MAIL  
(See Reverse)

|   |    |
|---|----|
| Sent to<br><b>Tenneco Oil Co.</b>                             |    |
| Street and No.<br><b>P.O. Box 3249</b>                        |    |
| P.O. State and ZIP Code<br><b>Anglewood, CO 80155</b>         |    |
| Postage   | \$ |
| Certified Fee   |    |
| Special Delivery Fee  |    |
| Restricted Delivery Fee                                       |    |
| Return Receipt showing to whom and Date Delivered             |    |
| Return Receipt showing to whom, Date, and Address of Delivery |    |
| TOTAL Postage and Fees  | \$ |
| Postmark or Date  |    |

PS Form 3800, June 1985

**RECEIPT FOR CERTIFIED MAIL**  
NO INSURANCE COVERAGE PROVIDED  
NOT FOR INTERNATIONAL MAIL  
(See Reverse)

P 838 256 624

|   |    |
|---|----|
| Sent to<br><b>Conoco</b>                                      |    |
| Street and No.<br><b>P.O. Box 460</b>                         |    |
| P.O. State and ZIP Code<br><b>Hubbs, NM 88246</b>             |    |
| Postage   | \$ |
| Certified Fee   |    |
| Special Delivery Fee  |    |
| Restricted Delivery Fee                                       |    |
| Return Receipt showing to whom and Date Delivered             |    |
| Return Receipt showing to whom, Date, and Address of Delivery |    |
| TOTAL Postage and Fees  | \$ |
| Postmark or Date  |    |

P 838 256 627

**RECEIPT FOR CERTIFIED MAIL**  
NO INSURANCE COVERAGE PROVIDED  
NOT FOR INTERNATIONAL MAIL  
(See Reverse)

|   |    |
|---|----|
| Sent to<br><b>Rogee Aguirre Albea</b>                         |    |
| Street and No.<br><b>General Delivery</b>                     |    |
| P.O. State and ZIP Code<br><b>Los Ojos, NM 87557</b>          |    |
| Postage   | \$ |
| Certified Fee   |    |
| Special Delivery Fee  |    |
| Restricted Delivery Fee                                       |    |
| Return Receipt showing to whom and Date Delivered             |    |
| Return Receipt showing to whom, Date, and Address of Delivery |    |
| TOTAL Postage and Fees  | \$ |
| Postmark or Date  |    |

P 838 256 626

**RECEIPT FOR CERTIFIED MAIL**

NO INSURANCE COVERAGE PROVIDED  
NOT FOR INTERNATIONAL MAIL  
(See Reverse)

|   |    |
|---|----|
| Sent to<br><b>James M. Raymond</b>                            |    |
| Street and No.<br><b>P.O. Box 1445</b>                        |    |
| P.O. State and ZIP Code<br><b>Kerrville, TX 78028</b>         |    |
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| Certified Fee   |    |
| Special Delivery Fee  |    |
| Restricted Delivery Fee                                       |    |
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PS Form 3800, June 1985

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NO INSURANCE COVERAGE PROVIDED  
NOT FOR INTERNATIONAL MAIL  
(See Reverse)

P 838 256 625

|   |    |
|---|----|
| Sent to<br><b>T.H. McElvain</b>                               |    |
| Street and No.<br><b>P.O. Box 2148</b>                        |    |
| P.O. State and ZIP Code<br><b>Santa Fe, NM 87501</b>          |    |
| Postage   | \$ |
| Certified Fee   |    |
| Special Delivery Fee  |    |
| Restricted Delivery Fee                                       |    |
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# MERIDIAN OIL

July 26, 1988

Farmington Daily Times  
P.O. Box 450  
Farmington, New Mexico 87401

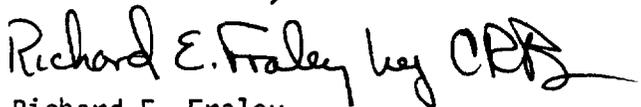
RE: Legal Notice

Dear Sir/Madam:

Enclosed please find a Legal Notice for publication one time. Please send two proofs of publication with our statement.

Thank you.

Very Truly Yours,

A handwritten signature in black ink that reads "Richard E. Fraley" followed by a stylized flourish.

Richard E. Fraley  
Regional Production Engineer

WSS/dj  
Encl.

xc: CRO (Meridian)  
SWN (Meridian)  
David Catanach (OCD)

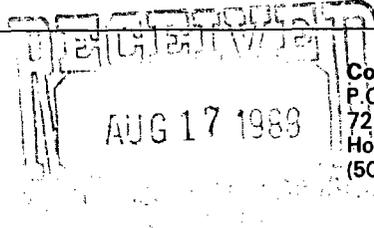
Intent to Dispose of Water  
in the Subsurface

Meridian Oil Inc. proposes to dispose of produced water in the Morrison & Entrada Formations. The injection well will be the San Juan 30-6 Unit SWD #2 located 285' FNL & 590' FWL of section 23 T-30-N, R-7-W N.M.P.M., Rio Arriba County, New Mexico. The depth of injection will be from 7800'-8832'. The maximum anticipated injection rate is 20,000 BWPD @ an estimated surface injection pressure of 1980 psig.

Questions should be addressed to Meridian Oil Inc., Attention R. E. Fraley P.O. Box 4289 Farmington, NM 87499. Objections to this proposal or request for hearing by interested parties must be filed with the NMOCD P.O. Box 2088 Santa Fe, New Mexico 87501 within 15 days.



David L. Wacker  
Division Manager  
Production Department  
Hobbs Division  
North American Production



Conoco Inc.  
P.O. Box 460  
726 East Michigan  
Hobbs, NM 88240  
(505) 397-5800

August 11, 1988

Mr. William LeMay  
New Mexico Oil Conservation Division  
P. O. Box 2088  
Santa Fe, New Mexico 87501

Dear Mr. LeMay:

Meridian Oil Inc.'s San Juan 30-6 Unit SWD No. 2

Enclosed is a Waiver of Objection for the above referenced well as requested by Meridian Oil Inc.

If you should have any questions please contact Kevin W. Pewitt at (505) 397-5805.

Yours very truly,

D. L. Wacker  
Division Manager

KWP/dw

# MERIDIAN OIL

July 26, 1988

The New Mexican  
P.O. Box 2048  
Santa Fe, New Mexico 87501

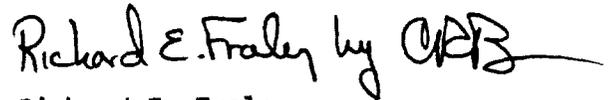
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Regional Production Engineer

WSS/dj  
Encl.

xc: CRO (Meridian)  
SWN (Meridian)  
David Catanach (OCD)

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certified mail with a request that they furnish your Santa Fe office with a  
Waiver of Objection, and return one copy to this office.

Attached is the C-108, with accompanying support data for this proposal.

Sincerely Yours,

*Richard E. Fraley by CFB*  
Richard E. Fraley  
Regional Production Engineer

WSS/dj  
Encl.

CONOCO INC. WAIVER  
hereby waives objection to Meridian Oil Inc.'s  
San Juan 30-6 Unit SWD #2 as proposed above.  
BY: David L. Wacker DATE: 8/12/88