

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: P.O. 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.
- 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.
- 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.
- * 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. Attached
- 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 Date: June 27, 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.

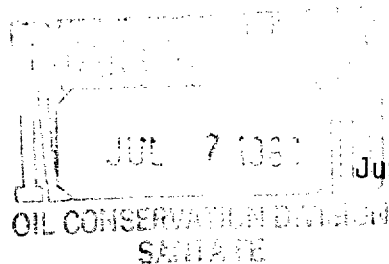
Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

- (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.

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.

MERIDIAN OIL



June 27, 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 Lindsey SWD #1 at 645' from the North line and 525' from the East line of Section 30, T30N-R8W, 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. Freley
Regional Production Engineer

WSS/lm
Encl.

WAIVER

_____ hereby waives objection to Meridian Oil Inc.'s
Lindsey SWD #1 as proposed above.

BY: _____

Date _____

c: Tenneco Oil Co.

C-108 Attachments

Lindsey SWD #1

III. General Well Data:

- A. (1) Lease Name - Lindsey SWD
Well Number - 1
Location - Footage, 645' FNL, 525' FEL
Section 30, T30N-R8W
San Juan County, New Mexico

- (2) See Attached Diagram.

<u>Csg.</u>	<u>Hole Size</u>	<u>Csg. Size</u>	<u>Depth Set</u>	<u>Cmt. Vol.</u>	<u>Proposed Top Cement</u>
Surface	26"	20", 133# K-55	500'	1275 sx	Surface
Inter	17 1/2"	13 3/8" 61&68# K-55	2760'	1900 sx	1st stage st-1500'
					2nd stage st-Surface
Drlg Liner	12 1/4"	9 5/8" 40# N-80	5185'	900 sx	st-liner top = 2610'
Inj. strg.	8 3/4"	7" 23# N-80	8205'	400 sx	5390'

- (3) Injection Tubing:

Tubing size - 3 1/2" OD, 9.3#, J-55, int-coated. Setting depth - 7100', top perforation at 7149', which is 100' below the bottom of the Dakota zone.

- (4) Isolation Packer:
Packer - Size 7"
Type Otis
Model WD
Seal Assembly - Type Otis
Model J-slot

B. Well Data:

- (1) Injection formation Name: Morrison and Entrada
(2) Injection interval
Morrison Perforated
Entrada 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 in this area. The next higher producing zone is the Dakota at 6899' to 7049'.

VI. There are no wells penetrating the proposed depth interval within the two-mile area of review.

VII. Proposed Injection Operations:

1. The average injection rate is estimated at 3500 bbls/day. The estimated maximum is 20,000 bbls/day.
2. The injection system will be closed.
3. The surface injection system will have an estimated maximum pressure of 1700 psig.
4. The source water will be from the Fruitland Coal formation.
5. Injection is for disposal purposes into a zone with no known oil and gas production within several miles. Chemical analysis and compatibility with injected water will be supplied when the data becomes available.

VIII. The proposed injection zones are the Morrison and Entrada formations, both zones are sandstone. The Morrison formation is estimated at 7049' to 7894' from GL (5764') having a thickness of 845'. The Entrada formation is estimated at 7954' to 8154' from GL having a thickness of 200'.

The only overlaying freshwater aquifer is the Ojo Alamo, having an estimated depth of 1426' from GL. There is no known fresh water below the injection zone.

IX. The proposed stimulation program will consist of sand water fracturing each interval using 1000 lbs of 20/40 sand per net foot of formation interval. Proppant concentrations will be from 1/2 to 2 lbs/gallon. The fracturing fluid will be a 40 lb/gallon linear gel.

X. No logs or test data are available at present.

XI. Any fresh water wells in the area will have water samples analyzed in the near future. Specifically, SJ-1516 owned by Gadora Archuleta located at NE/NE Section 19, T30N-R8W, drilled to a depth of 15 feet.

XII. An examination of geologic and engineering data indicates no evidence of open faults or 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 study area.

C-108 Attachments
Lindsey SWD #1
P. 3

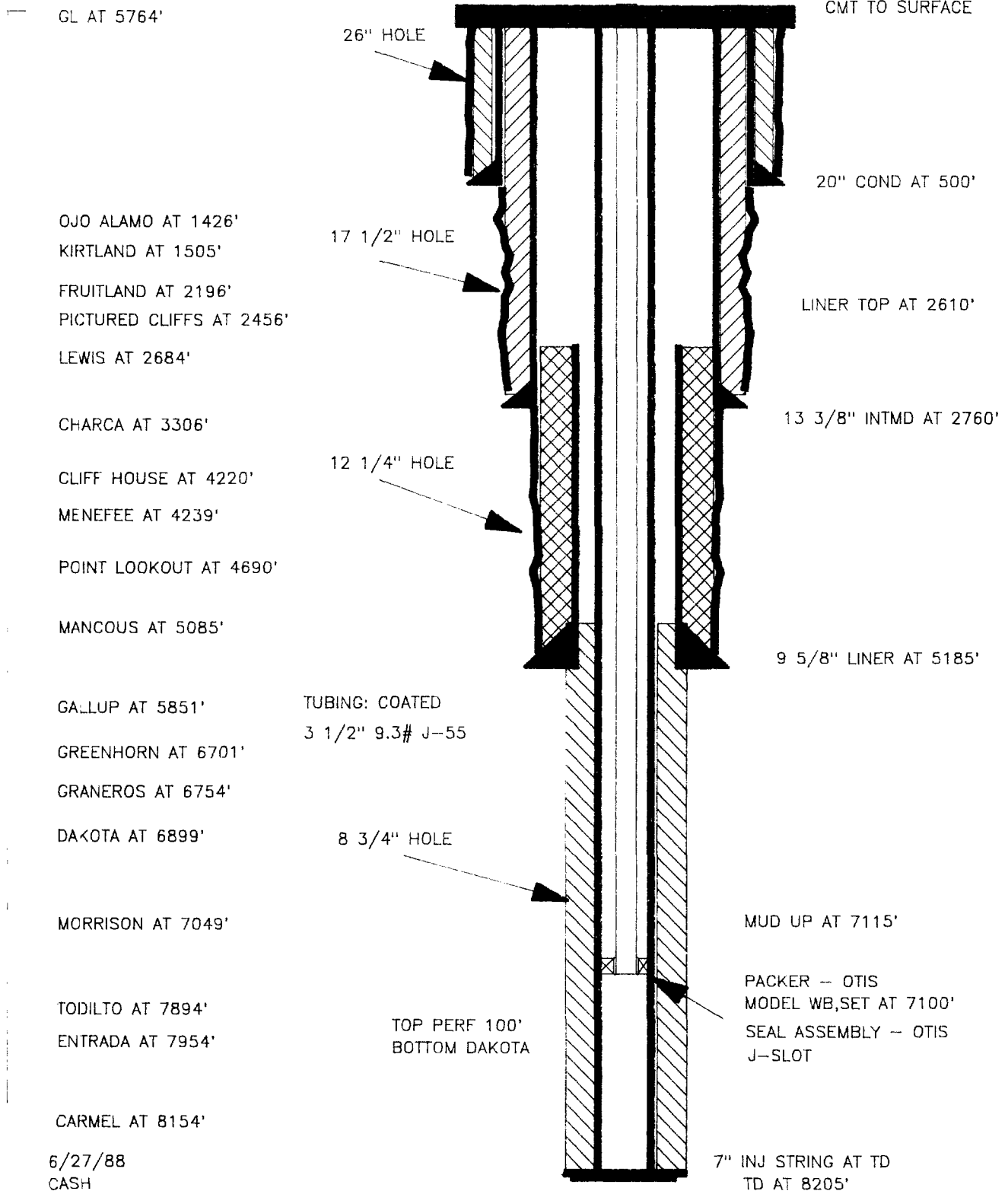
X. Proof of Notice:

A copy of the application and support material has been sent by certified mail to the following:

Tenneco Oil Company
Rocky Mtn. Division
P.O. Box 3249
Englewood, Colorado 80155
Attn: Louis D. Jones
(303) 740-4800

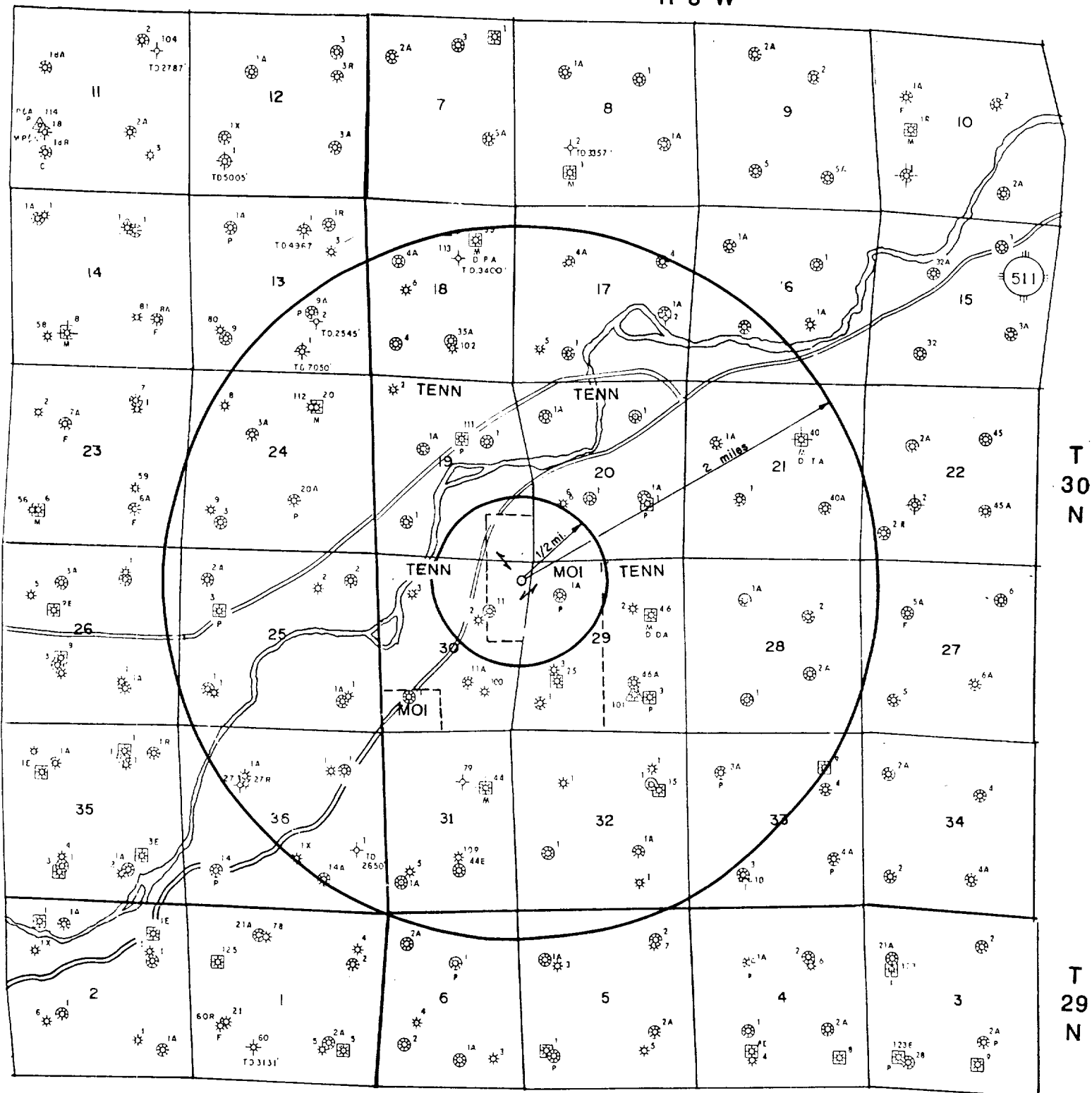
LINDSEY SWD #1

WELLBORE DIAGRAM ENTRADA/MORRISON



R 9 W

R 8 W

T
30
NT
29
N

MERIDIAN OIL INC.
 Lindsey SWD #1
 NE NE 30-30N-8W
 San Juan County, New Mexico

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

Operator Meridian Oil Inc.			Lease Lindsey SWD (NM-012708)		Well No. 1
Unit Letter A	Section 30	Township 30 North	Range 8 West	County San Juan	
Actual Footage Location of Wells: 645 feet from the North line and 525 feet from the East line					
Ground Level Elev. 5740	Producing Formation		Pool	Dedicated Acreage: Acres	

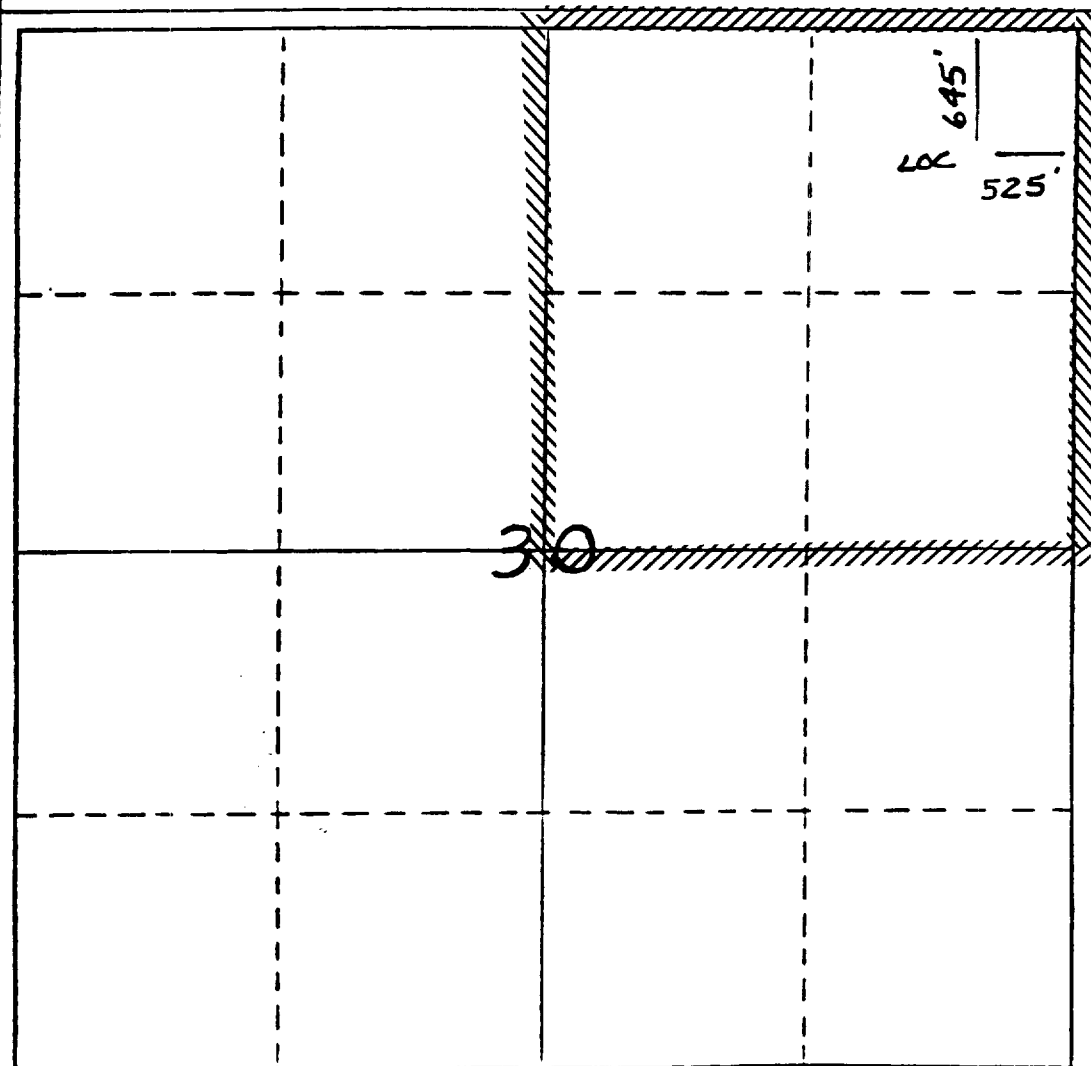
1. Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
3. If more than one lease of different ownership is 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

NOTE: reissued to show moved location.



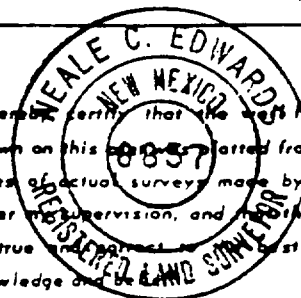
CERTIFICATION

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

Name
Meridian Oil Inc.
Position
Drilling Clerk
Company

Date
6-16-80

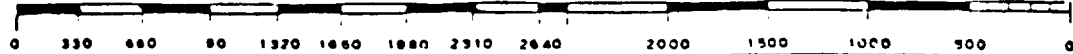
I hereby certify that the well location shown on this plat is plotted from field notes of actual surveys made by me or under my supervision, and to the same is true to the best of my knowledge and belief.



Neale C. Edwards

Date Surveyed
6-16-80
Registered Professional Engineer
and/or Land Surveyor

Neale C. Edwards
Certificate No.
6857



P 058 365 432

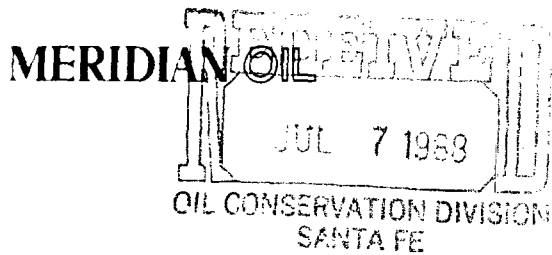
RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL

(See Reverse)

PS Form 3800, Feb. 1982
★ U.S.G.P.O. 1984-448-014

Sent to	Tenneco Oil
Street and No.	Rocky mtn. Div. P.O. Box 3249
P.O., State and ZIP Code	Englewood, Colo.
Postage	\$ 80155 Attn: Lewis P. Jones
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	



June 27, 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, appearing to read "R. E. Fraley".

Richard E. Fraley
Regional Production Engineer

WSS/1m
Encl.

c: C.R. Owen (Meridian)
S.W. Nance (Meridian)
David Catanach (OCD)

LEGAL NOTICE

Public Notice is hereby given that Meridian Oil Inc., P.O. Box 4289, Farmington, New Mexico has applied for administrative approval to drill its Lindsey Salt Water Disposal Well No. 1, at a location 645 feet FNL and 525 feet FEL of Section 30, T30N-R8W, San Juan County, New Mexico, as a produced water disposal well. The operator intends to inject formation water produced from the Fruitland Coal formation into the Morrison and Entrada formations at a depth of approximately 7049 to 7894 feet and 7954 to 8154 feet at a maximum rate of 20,000 bbls/day with a maximum injection surface pressure 1700 psi. Interested parties must file objections or request for hearing with the Oil Conservation Division, P.O. Box 2008, Santa Fe, New Mexico 87504, within fifteen days of the date of publication.



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION
AZTEC DISTRICT OFFICE

1000 RIO BRAZOS ROAD
AZTEC, NEW MEXICO 87410
(505) 334-6178

OIL CONSERVATION DIVISION
BOX 2088
SANTA FE, NEW MEXICO 87501

DATE 7-7-88

RE: Proposed MC _____
Proposed DHC _____
Proposed HSL _____
Proposed SWD X _____
Proposed WFX _____
Proposed PMX _____

Gentlemen:

I have examined the application dated 7-6-88
for the MERIDIAN OIL INC. BLINDSEY SWD #1 A-30-30N-8W
Operator Lease and Well No. Unit, _____

and my recommendations are as follows:

APPROPRIATE

Yours truly,

[Signature]

Memo

From

DAVID CATANACH
Petroleum Engineer

To Talked to Mark Mann
7-19-88. They have obtained formation
water samples from the Cedar Hill
SWD located about 25 miles away.
The results are as follows:

*Estancia - 3 samples
Range 16,400 - 16,600 TDS*

*Norrwin - 3 samples
Range - 12,000 - 13,500 TDS*