

MERIDIAN OIL

July 13, 1988

Mr. William LeMay
New Mexico Oil Conservation Division
Post Office Box 2088
Santa Fe, New Mexico 87501

Dear Mr. LeMay:

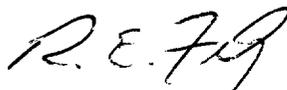
This is a request for a salt water disposal well located in the Morrison/Entrada formation.

It is intended to locate Southland Royalty Company's Middle Mesa SWD #1 at 1555' from the South line and 1210' from the West line of Section 25, T-32-N, R-7-W, 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 a C-108 with accompanying support data for this proposal.

Sincerely yours,



R. E. Fraley
Regional Production Engineer

CJS:oh
Attachment

Waiver

_____ hereby waives objection to Southland Royalty Company's Middle Mesa SWD #1 as proposed above.

_____ Date: _____

cc: Bureau of Land Management
Northwest Pipeline Corporation
Oil Conservation Commission - Aztec



APPLICATION FOR AUTHORIZATION TO INJECT

I. Purpose: Secondary Recovery Pressure Maintenance Disposal Storage
Application qualifies for administrative approval? yes no

II. Operator: Southland Royalty Company

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. Attached

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 Date: AUG 2, 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.

MIDDLE MESA SWD #1

III.

A. Proposed Disposal Well Data

- 1) Lease Name - Middle Mesa SWD
Well Number - 1

Location 1555'FSL, 1210'FWL
Section 25, T32N-R7W
San Juan County, New Mexico

- 2) Well Bore Casing Configuration:

<u>Casing</u>	<u>Hole Size</u>	<u>Casing Size</u>	<u>Depth Set</u>	<u>Cement Vol.</u>	<u>Proposed Top/Cmt.</u>
Surf. Cond.	26"	20"	500'	1505 cf (100% ex)	Surface
Interm.	17 1/2"	13 3/8"	3765'	4860 cf (75% ex)	2 stage to surface
Drlg Liner	12 1/4"	9 5/8"	3615-6500'	1270 cf (40% ex)	Circ. to liner top @ 3615'
Long String	8 3/4"	7"	9450'	621 cf (40% ex)	6500'

- 3) Injection Tubing:

Tubing Size - 3 1/2" outside diameter, 9.3#/ft, J-55 coated - IGO SE650.
Setting Depth - 8365'.

- 4) Isolation Packer:

Packer, Size - 7"
Type - Baker
Model - "FA-1"

Seal Assembly, Type - Baker
Model - "K"

B. Proposed Well Data:

- 1) Formation Name: Morrison and Entrada

- 2) Injection Intervals:

Morrison - 8415-9140' perforated
Entrada - 9200-9400' perforated

- 3) The original purpose for drilling this well is to dispose of produced water.
- 4) There are 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 8118-8315'.

MIDDLE MESA SWD #1

- VI. There are no wells penetrating the proposed depth interval within the area of review.
- VII. 1) The proposed average injection rate will depend on Fruitland Coal water production in neighboring wells. The estimated maximum is 24,000 BPD.
- 2) The system will be closed.
- 3) The estimated maximum surface injection pressure is 4937 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 nonproductive of oil and gas. The distance to the nearest well penetrating the proposed zones is just under 10 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 has an estimated depth of 8315-9140' from GL (6642' elev) having a thickness of 825'. The Entrada interval has an estimated depth of 9200-9400' from GL (6642' elev) having a thickness of 200'.
- The only overlying fresh water aquifer is the Ojo Alamo having an estimated base depth of 2583' from the GL. 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 1,000 lbs of 20/40 sand per net foot of formation interval. Proppant concentration will be from 1/2 to 2 lbs/gallon. The fracturing fluid will be a 40 lb/gallon linear gel.
- X. Logs or test data will be supplied when available.
- XI. Currently there are no available analysis of water wells in this area. The nearest water well is greater than 1.8 miles away.
- XII. An examination of geologic and engineering data indicates no evidence of open faults or any hydraulic 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.
- XIII. Proof of Notice:

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

Northwest Pipeline Corp.
P.O. Box 8900
Salt Lake City, Utah 84108-0900
Attn: E.C. England

Oil Conservation Commission
1000 Rio Brazos Rd.
Aztec, New Mexico 87410
Attn: Ernie Bush

Bureau of Land Management
1235 La Plata Highway
Farmington, NM 87401

MERIDIAN OIL

July 18, 1988

Farmington Daily Times
Post Office Box 450
Farmington, New Mexico 87401

Re: Legal Notice

Gentlemen:

Enclosed is a legal notice for publication one time in the Farmington Daily Times. Please send two proofs of publication with our statement.

Thank you.

Sincerely yours,



R. E. Fraley
Regional Production Engineer

CJS:pd

encs.

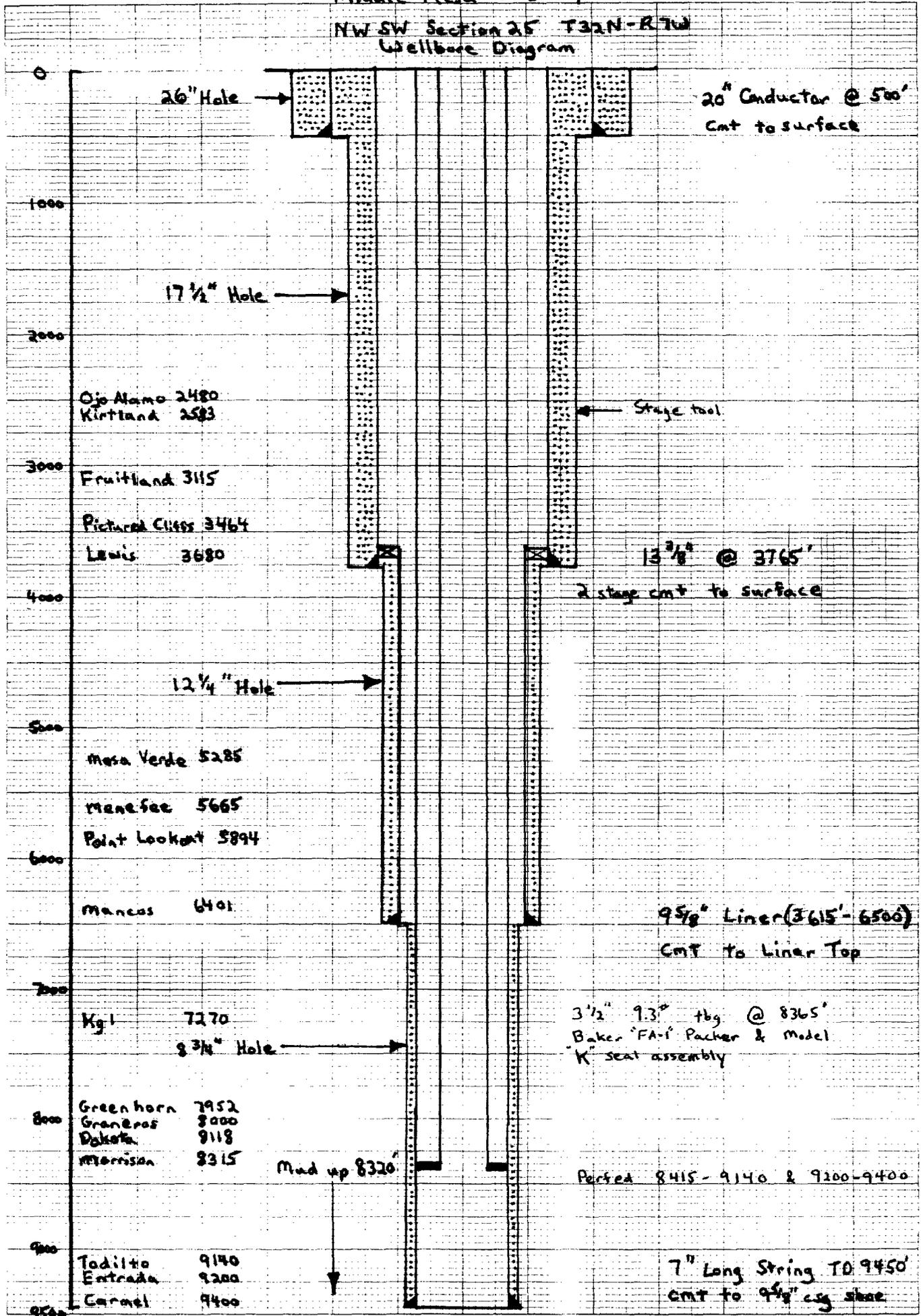
xc: David Catanach
Oil Conservation Division

Legal Notice for Publication in Farmington Daily Times

Public Notice is hereby given that Southland Royalty Company, Post Office Box 4289, Farmington, New Mexico, has applied for administrative approval to drill the Middle Mesa Salt Water Disposal Well #1, at a location 1555' FSL and 1210' FWL of Section 25, T-32-N, R-7-W, 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 8415' to 9140' and 9200' to 9400' at a maximum rate of 24,000 bbls./day, with a maximum injection surface pressure of 4937 psi. Interested parties must file objections or request for a hearing with the New Mexico Oil Conservation Division, Post Office Box 2088, Santa Fe, New Mexico 87504, within fifteen days of the date of publication.

Middle Mesa SWD #1

NW SW Section 25 T32N-R7W
Wellbore Diagram



OIL CONSERVATION DIVISION

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

P. O. BOX 2088
SANTA FE, NEW MEXICO 37501

Form C-102
Revised 10-1-78

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

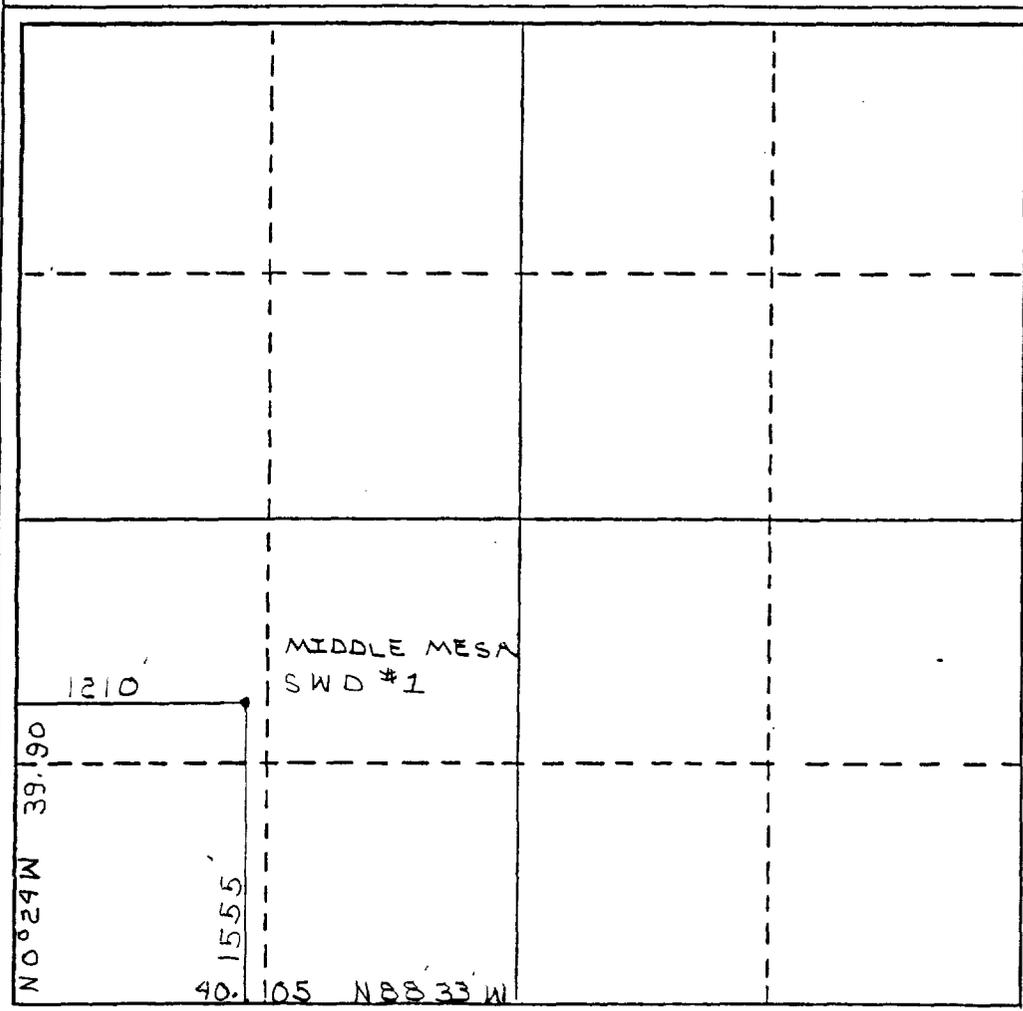
Operator Southland Royalty Co.		Lease Middle Mesa SWD NM-2996			Well No. 1
Unit Letter L	Section 25	Township T32N	Range R7W	County San Juan	
Actual Footage Location of Well: 1555 feet from the South line and 1210 feet from the West line					
Ground Level Elev. 6642	Producing Formation SWD		Pool	Dedicated Acreage: 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.

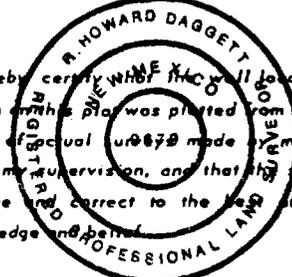
Name _____

Position _____

Company _____

Date _____

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

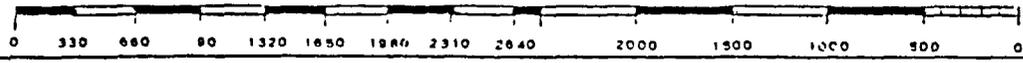


Registered Professional Land Surveyor

Date Surveyed **June 3, 1988**

Registered Land Surveyor
R. Howard Daggett

Certificate No. **9679**



MERIDIAN OIL

AUG - 9 1988

July 13, 1988

Mr. William LeMay
New Mexico Oil Conservation Division
Post Office Box 2088
Santa Fe, New Mexico 87501

Dear Mr. LeMay:

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

Sincerely yours,



R. E. Fraley
Regional Production Engineer

CJS:oh
Attachment

Northwest Pipeline Corp. Waiver
hereby waives objection to Southland Royalty Company's Middle Mesa SWD #1 as proposed above.



Date: Aug 16, 1988

cc: Bureau of Land Management
Northwest Pipeline Corporation
Oil Conservation Commission - Aztec



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION
AZTEC DISTRICT OFFICE

STATE OF NEW MEXICO
AZTEC, NEW MEXICO 87410
(505) 334-6178

OIL CONSERVATION DIVISION
BOX 2088
SANTA FE, NEW MEXICO 87501

DATE 8-11-88

RE: Proposed HC _____
Proposed DHC _____
Proposed HSL _____
Proposed SWD X _____
Proposed WFX _____
Proposed PHX _____

Gentlemen:

I have examined the application dated 8-5-88

for the MERIDIAN OIL INC. MIDDLE MESA SWD #1 L-25432N-7W
Operator Lease and Well No. Unit, S-T-R

and my recommendations are as follows:

Approve

Yours truly,

E. Bush