KELLAHIN AND KELLAHIN

ATTORNEYS AT LAW

EL PATIO BUILDING

117 NORTH GUADALUPE

POST OFFICE BOX 2265

SANTA FE, NEW MEXICO 87504-2265

TELEPHONE (505) 982-4285 TELEFAX (505) 982-2047

JASON KELLAHIN (RETIRED 1991)

*NEW MEXICO BOARD OF LEGAL SPECIALIZATION RECOGNIZED SPECIALIST IN THE AREA OF NATURAL RESOURCES-OIL AND GAS LAW

W THOMAS KELLAHIN*

December 14, 1993

Mr. William J. LeMay
Oil Conservation Division
State Land Office Building
310 Old Santa Fe Trail, 2nd Floor
Santa Fe. New Mexico 87501

HAND DELIVERED

Esc 1089/

Re: Application of Southland Royalty Company for Approval of a Waterflood Project for its State "DS" Leasehold and to Qualify Said Project for the Recovered Oil Tax Rate Pursuant to the "New Mexico Enhanced Oil Recovery Act," Lea County, New Mexico

Dear Mr. LeMay:

On behalf of Southland Royalty Company, please find enclosed our referenced application which we request be set for hearing on the next available Examiner's docket now scheduled for January 6, 1994.

By copy of this letter and application, sent certified mail, we are notifying all interested parties within a 1/2 mile radius of the subject injection well of their right to appear at the hearing and participate in this case, including the right to present evidence either in support of or in opposition to the application and that failure to appear at the hearing may preclude them from any involvement in this case at a later date.

Mr. William J. LeMay December 14, 1993 Page Two

Pursuant to the Division's Memorandum 2-90, all parties are hereby informed that if they appear in this case, then they are requested to file a Pre-Hearing Statement with the Division not later than 4:00 PM on Friday, December 31, 1993, with a copy delivered to the undersigned.

Also enclosed is our proposed advertisement of this case for the NMOCD docket.

very realy yours

W. Thomas Kellahin

WTK/mg Enclosure

cc: Southland Royalty Company and

By Certified Mail - Return Receipt

All Parties Listed on Form C-108

PROPOSED ADVERTISEMENT

CASE SQ Application of Southland Royalty Company for approval of a waterflood project and to qualify said project for the recovered oil tax rate pursuant to the Enhanced Oil Recovery Act, Lea County, New Mexico. Applicant seeks approval of its State "DS" Leasehold Waterflood Project by injection of water into the San Andres formation, Spencer-San Andres Pool, in a new project area consisting of 280 acres, more or less and being SW/4, W/2SE/4 and SE/4SE/4 of Section 24, T17S, R36E. Applicant further seeks to qualify this project for the recovered oil tax rate pursuant to the "New Mexico Enhanced Oil Recovery Act" (Law 1992, Chapter 38, Sections 1 through 5). Said project is located approximately 6 miles west-northwest from Humble City, New Mexico.

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

IN THE MATTER OF THE APPLICATION OF SOUTHLAND ROYALTY COMPANY FOR APPROVAL OF A WATERFLOOD PROJECT WITHIN ITS STATE "DS" LEASE AND TO QUALIFY SAID PROJECT FOR THE RECOVERED OIL TAX RATE PURSUANT TO THE "NEW MEXICO ENHANCED OIL RECOVERY ACT,"
LEA COUNTY, NEW MEXICO

CASE NO /089/

APPLICATION

Comes now SOUTHLAND ROYALTY COMPANY, by its attorneys, Kellahin & Kellahin, and pursuant to the New Mexico "Enhanced Oil Recovery Act" and Division Rule 701 applies to the New Mexico Oil Conservation Division for authority to institute a waterflood project within its State "DS" Lease by the injection of water into the San Andres formation of the Spencer San Andres Pool, Lea County, New Mexico and to qualify said project for the recovered oil tax rate for enhanced oil recovery and in support states:

(1) Southland Royalty Company ("Southland") is the current operator of the State "DS" Leasehold Waterflood Project, Spencer-San Andres Pool, Lea County, New Mexico ("proposed EOR Project") which is a new project consisting of SW/4, W/2SE/4 and SE/4SE/4 Section 24 of T17S, R36E, NMPM and described on Exhibit "A" attached.

Application of Meridian Oil Inc. NMOCD Page 2

- (2) Within the project area, the working interests and royalty owners have voluntarily agreed upon a waterflood plan the objective of which is to successfully recover an estimated additional 500,000 barrels of oil from the Spencer-San Andres Pool.
- (3) The remaining oil potential from the pool within the Project area will not be recovered in the absence of waterflood operations on a project basis.
- (4) To date, cumulative primary oil recovery from the Project has been 778,718 barrels.
- (5) The Project is currently producing at a rate of 20 BOPD and 215 BWPD from 1 active producer. Approximately 36,000 barrels of recoverable reserves remain under the current primary mode of operations.
- (6) The project area will be developed on a peripheral injection pattern involving one injection well and 4 producers.
- (7) Enclosed with this application is the completed Division Form C-108 with attachments for this project.
- (8) In accordance with Division Order R-9708, the following is submitted:
 - a. Operator's name and address:

Southland Royalty Company P. O. Box 51810 Midland, Texas 79710

Application of Meridian Oil Inc. NMOCD Page 3

- b. Description of the Project Area:
 - (1) Plat outlining project area:

See Exhibit "A"

(2) Description of the Project Area:

T17S, R36E, NMPM Section 24: SW/4 W/2SE/4 SE/4SE/4

(3) Total acres in Project Area:

280 acres, more or less

(4) Name of the subject Pool and formation:

San Andres formation of the Spencer-San Andres Pool

- c. Status of operations in the project area:
 - (1) unit name: N/A
 [If unitized, the name of the unit, and
 the date and number of the Division Order
 approving the unit plan of operation.]
 - (2) N/A [If an application for approval of a unit plan has been made, the date the application was filed with the Division; and

Application of Meridian Oil Inc. NMOCD Page 4

(3) if not unitized, identify each lease in the project area by lessor, lessee and legal description.

Lease: State of Mexico Oil & Gas Lease

No. L-200-NM

Lessor: State of New Mexico

Lessee: Southland Royalty Company

Description:

SW/4, W/2SE/4 & SE/4SE/4 of Section 24, T17S, R36E, NMPM,

Lea County, N.M.

- d. Method of recovery to be used:
 - (1) injected fluids: water.
 - (2) N/A [If the Division has approved the project, provide the date and number of the Division Order]; and
 - (3) November 24, 1993 [if the project has not been approved by the Division, provide the date the application for approval was filed with the Division on Form C-108]
- e. Description of the Project:

 - (2) a list of injection well: See Exhibit "B"
 - (3) Capital cost of additional facilities: \$120,000.
 - (4) Total Project Costs:

\$509,725.

Application of Meridian Oil Inc. NMOCD Page 5

(5) Estimated total value of the additional production that will be recovered as a result of this project:

An additional 500,000 barrels of oil with a current undiscounted value of \$3.8 million dollars

(6) Anticipated date of commencement of injection:

April 1, 1994

(7) the type of fluid to be injected and the anticipated volumes:

water injected at an estimated rate of 500 BWPD up to a maximum rate of 1,000 BWPD.

(8) N/A

f. Production data:

Attached are the following graphs, charts and supporting data to show the production history and production forecast of oil, gas, casinghead gas and water from the project area:

Exhibit C: structure map Exhibit D: isopach map

Exhibit E: cross section A-A' map Exhibit F: cross section B-B'map Exhibit G: production histories Exhibit H: Production forecasts Application of Meridian Oil Inc. NMOCD Page 6

Wherefore, Applicant requests that this application be set for hearing and that after said hearing, the Division enter its order approving this application.

Respectfully submitted

W. Thomas Kellahin KELLAHIN & KELLAHIN

P.O. Box 2265

Santa Fe, New Mexico 87504

(505) 982-4285

Attorneys for Applicant

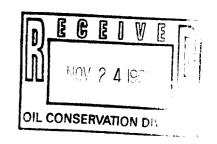
CERTIFICATION

STATE OF TEXAS)) SS. COUNTY OF MIDLAND)
I, M.P. Gaddis, having been first duly sworn, state that I am a petroleum engineer, a duly authorized representative of Meridian Oil Inc., have knowledge of the facts herein and therefore certify that the facts set forth in this Application are true and accurate to the best of my own knowledge and belief.
M. P. Gaddis
The foregoing certificate was acknowledged before me this 13th day of December, 1993, by M. P. Gaddis. Canala W Holleman Notary Public PAMELA W. HOLLEMAN
My Commission Expires: 9/3/97

SEAL

MERIDIAN OIL

November 22, 1993



Oil Conservation Division P. O. Box 2088 State Land Office Building Santa Fe, New Mexico 87504-2088

RE: Application for Authorization to Inject Southland Royalty Company State DS No. 4 Spencer San Andres Field Unit L, Section 24, T17S, R36E Lea County, New Mexico State Lease No.: L-200



Gentlemen:

Southland Royalty Company (SRC) is applying for authorization to convert the above referenced well for the purpose of secondary recovery and requests a hearing on the earliest possible docket for an initial secondary recovery project on this lease. At this time, SRC is also applying for the "recovered oil tax rate" (reduced oil severance tax rate) since this will be a new enhanced recovery project. Attached is an injection well data sheet showing the current and proposed mechanical configuration of this well. A map is also attached showing the one-half mile area of review around the well. The required information from "Form C-108" follows.

The proposed injection well will dispose of water produced from Southland Royalty leases from the San Andres in the Spencer Field. Our estimated initial injection rate will be 500 BPD. The estimated maximum rate is 1000 BPD. We anticipate initial injection pressure to be ±500 psi, and request an operating maximum pressure of 1000 psi. The closed injection facilities will be equipped with high and low level head switches and will not operate continuously. No deeper aquifers containing usable quality water are known in this area.

III Well Data

- A. 1 through 4. See two attached well data sheets; the first is the existing data; the second is the proposed recompletion data.
 - 1) The proposed well: State DS No. 4 Unit L, 1980' FSL, 660' FWL Sec. 24, T17S, R36E Lea County, New Mexico

Lease No.: L-200

2) Surface: 8 5/8", 24# @ 326' in 12-1/4" hole cement with 215 sx. TOC = Circ. to Surface

Production: 5-1/2", 14# @ 5,035' in 7-7/8" hole cement with 300 sx. TOC = 3440' by temperature survey

- 3) Injection Tubing: 2-3/8", 4.7#, internally plastic coated set @ ±4900'.
- 4) Packer: Guiberson UniV, retrievable, internally and externally plastic coated set at ±4900"
- B. 1) Injection Formation: San Andres
 - 2) Injection Interval: Perforated from: 4964' 4994'.
 - 3) The well was originally drilled for production of oil and gas
 - 4) There will be no other open intervals in this injection well
 - 5) The next possible higher oil or gas zone is the Queen located at approximately 4159'. The next possible lower oil or gas zone is a Paddock located at approximately 6600'.
- IV. This is <u>not</u> an expansion of an existing Southland Royalty project.
- V. Area of Review: See attached plat, one-half mile radius identified
- VI. Tabulation of data: Wells within area of review.

Southland Royalty Co., State DS No. 4
Unit L, Sec.24, T17S, R36E, Lea Co. NM
Spud 10/4/69, TD 5035'
8-5/8" @ 326' w/ 215 sx, circulated
5-1/2" @ 5035' w/ 300 sx, TOC @ 3440 by TS
perfed 4964-94', acidize w/ 1000 gal 15% NE acid
completed 10/26/69 for 248 BOPD + 0 BWPD + 84 MCFD

Southland Royalty Co., State DS No. 2 Unit K, Sec.24, T17S, R36E, Lea Co. NM Spud 8/4/69, TD 5100' 8-5/8" @ 323' w/ 215 sx, circulated 5-1/2" @ 5099' w/ 465 sx, TOC @ 3240' by TS perfed 4944-5008', acidize w/ 1000 gal 15% NE acid completed 8/22/69 for 216 BOPD + 0 BWPD + 130 MCFD

Southland Royalty Co., State DS No. 3 Unit J, Sec.24, T17S, R36E, Lea Co. NM Spud 9/11/69, TD 5061' 8-5/8" @ 331' w/ 225 sx, circulated 5-1/2" @ 5050' w/ 325 sx, TOC @ 3510' by TS perfed 5004-14', acidized 500 gal, squeeze w/ 50 sx perfed 4925-66', acidized w/ 500 gal completed 10/20/69 for 78 BOPD + 8 BWPD + 0 MCFD deepen to 6794', set 3-1/2" liner 4985 - 6794' w/ 175 sx. TOC @ 5050' by TS, squeeze liner top w/ 150 sx perf 6653-77, acidize w/ 1500 gal, squeeze w/ 50 sx. perf 6414-24, acidize w/ 1000 gal, squeeze w/ 50 sx perf 6558-80', acidize w/ 2500 gal, squeeze w/ 50 sx perf 5360-75', acidize w/ 500 gal, squeeze w/ 50 sx perf 4932-66', acidize w/ 500 gal, squeeze w/ 75 sx perf 6476-6680', acidize w/ 2000 gal, frac w/ 30,000 gal + 30,000 lbs completed 9/21/74 5 BO + 0 BW + 0 MCFD

Southland Royalty Co., State DS No. 1 Unit N, Sec. 24, T17S, R36E, Lea Co., NM Spud 5/19/69 TD 11,253' 13-3/8" @ 361' w/ 350 sx, circulated 8-5/8" @ 5300' w/ 460 sx, TOC calc @ 2911' (11" hole, 1.32 cu.ft/sx) spot 35 sx plug @ 11,210' Devonian spot 25 sx plug @ 9,750' Penn spot 25 sx plug @ 8,850' Abo spot 25 sx plug @ 6,200' Glorieta set CIBP @ 5,230' + 1sx cement perf 5186-90', acidize w/ 250 gal, squeeze w/ 30 sx perf 5130-42', acidize w/ 500 gal, squeeze w/ 71 sx perf 5080-90', acidize w/ 500 gal, squeeze w/ 75 sx perf 4988-5030', acidize w/ 1000 gal completed 7/21/69 for 192 BOPD + 0 BWPD + 124 MCFD squeeze perf 4988-5030' w/ 406 sx perf 4948-94', acidize w/ 500 gal, set CIBP @ 4930'.

Southland Royalty Co., State DS No. 5 Unit M, Sec.24, T17S, R36E, Lea Co. NM Spud 12/13/69, TD 5060' 8-5/8" @ 340' w/ 220 sx circulated 5-1/2" @ 5060' w/ 300 sx, TOC @ 3460' by TS perf 5006-10', acidize w/ 1000 gal completed 12/31/69 for 230 BOPD + 0 BWPD + 96 MCFD squeeze perfs 5006-10' w/ 200 sx perfed 4980-94', acidize w/ 1000 gal, squeeze w/ 50 sx perfed 4934-72', acidize w/ 2500 gal.

Southland Royalty Co., State DS No. 6 Unit O, Sec.24, T17S, R36E, Lea Co., NM Spud 12/26/69, TD 5060' 8-5/8" @ 332' w/ 215 sx, circulated 5-1/2" @ 5050' w/ 300 sx, TOC @ 3521' by TS perf 4980-88', acidize w/ 1634 gal completed 1/10/70 for 480 BOPD + 0 BWPD + 0 MCFD squeeze perfs 4940-88' w/ 200 sx perfed 4890-4956', acid w/ 500 gal

Southland Royalty Co., State SS No. 1
Unit F, Sec.24, T17S, R36E, Lea Co.,NM
Spud 8/21/69, TD 5150'
8-5/8" @ 332' w/ 225 sx, circulated
5-1/2" @ 5150' w/ 390 sx, TOC @ 3360' by TS
perfed 5112-16', acid w/ 500 gal, squeeze w/ 12 sx
perfed 5067-78', acid w/ 1000 gal, squeeze w/ 75 sx
perfed 5032-48', acid w/ 1000 gal, squeeze w/ 100 sx
perfed 4166-90', acidize w/ 2000 gal, squeeze w/ 150 sx
perfed 3928-50', acidize w/ 1000 gal, squeeze w/ 150 sx
perfed 5112-32, acidize w/ 4000 gal
completed 1/15/70 as an SWD well
Acidize w/ 1000 gal, Acidize w/ 1500 gal.

Stallworth Oil and Gas Turner State No. 2
Unit H, Sec. 23, T17S, R36E, Lea Co., NM
Spud 3/17/74, TD 5185'
8-5/8" @ 351' w/ 225 sx, TOC calc @ surface (12-1/4" hole, 1.32 cu.ft/sx)
35 sx plug @ 5185', 35 sx plug @ 4945'
35 sx plug @ 2104', 10 sx plug @ surf
P&A 4/20/74

Cotton Petroleum Co. Scharbauer State No. 1
Unit P, sec. 23, T17S, R36E, Lea Co., NM
Spud 1/13/81, TD 5140'
8-5/8" @ 365' w/ 180 sx, TOC calc @ surface (12-1/4" hole, 1.32 cu.ft/sx)
5-1/2" @ 5140' w/ 1270 sx, TOC calc @ surface (7-7/8" hole, 1.32cu.ft/sx)
perfed 5086-96', acidize w/ 750 gal, set CIBP @ 5050'
perfed 4975 - 5030', acidize w/ 750 gal, set CIBP @ 5010'
perfed 4952-60', squeeze w/ 300 sx
re-perf 4952-60', acidize w/ 750 gal
completed 5/20/81 for 10 BOPD + 16 BWPD + 4 MCFD
set CIBP @ 4980', perfed 3200 - 46', acidize w/ 500 gal
20 sx plug 3400 - 3500', set CIBP @ 3180' + 5 sx
20 sx plug 1900 - 2000', 10 sx plug @ surface

Avance Oil & Gas Co. State 25 No. 2 Unit C, sec.25, T 17S, R36E, Lea Co. NM Spud 12/1/69, TD 5068' 8-5/8' @ 372' w/ 275 sx, TOC calc @ surface (12-1/4" hole, 1.32 cu.ft/sx) 4-1/2" @ 5067' w/ 200 sx. TOC @ 3980' (7-7/8" hole, 1.32cu.ft/sx) perf 4954-5006', Acidize w/ 3000 gal cut and pull csg @ 3950',. 25 sx plug 4635-4950' 25 sx plug 3875-3950', 25 sx plug 885-960' 25 sx plug 312-372', 10 sx plug @ surf. Texas Crude, Inc., C. W. Trainer 25 State No. 1 formerly Pennzoil Company State 25 No. 1 Unit D, sec. 25, T17S, R36E, Lea Co., NM re-entered 12/1/72, TD 11,305' ran DSTs 6645-7010' 40 sx plug 6455-6600', 40 sx plug 5465'-5600' 40 sx plug 4655-4790', cut and pull 8-5/8" csg @ 1020'. 50 sx plug 950-1050', 50 sx plug 240'-340', 10 sx plug @ surface

VII. Proposed Operation:

- 1. Estimated average initial injection rate is 500 BWPD. Estimated maximum daily rate 1000 BPD.
- 2. This will be a closed system.
- 3. Estimated average injection pressure is 500 psi. Maximum estimated operating pressure is 1000 psi.
- 4. The source of the injected water is the produced water from the San Andres. Since produced water is being re-injected into the San Andres, no incompatibility is expected. See attached water analysis
- 5. Water injection will be into a zone currently productive of oil and gas.

VIII. Geological Data

The proposed zone for injection is the San Andres formation at 4900'. This Permian Age reservoir is an anticlinal structure composed of nearly 100% dolomite containing some oolites, fractures and anhydritic inclusions. The average porosity throughout the reservoir runs 6.1% though most of it comes in the form of secondary porosity (vugs and fractures). The San Andres in this area can average over 800 in gross thickness. Since an oil/water contact does exist in the reservoir, the net thickness averages approximately 70'.

There are no known underlying sources of potable water below the San Andres. The only fresh water sources located above are from an approximate depth of 100-150'.

IX. Proposed Stimulation

The proposed stimulation program is a 3000 gallon treatment of 15% NEFE HCl acid.

X. Log Data

Log section is attached with proposed interval indicated.

XI. Fresh Water Analysis

The only fresh well found within 1 mile of the proposed injection well was located in Unit D, Sec.25, T17S, R36E of Lea County, NM. A sample was taken from the well on 9/3/93 with the analysis herein attached.

XII. Hydrologic Communication

There is no known evidence of faulting or other hydrologic communication between potential fresh water aquifers and the desired injection zone.

XIII. Proof of Notice

The offset operators and surface owner were notified by certified return receipts on November 22, 1993.

Proof of Notice is attached.

XIV. Certification

Certification is on Form C-108.

If you need any additional information or if you have any questions, please contact M.P. Gaddis at 915/688-6850.

Sincerely,

M.P. Gaddis Sr. Staff Engineer

MPG/mp enclosures

xc: OCD-Hobbs Production Engineering
Hobbs Field Office Reservoir Engineering

Well File Joint Interest Land Dept. Maria Perez (6)

State DS No. 4 Unit L, Sec. 24, T17S, R36E Lea County, New Mexico Southland Royalty Company

The following Offset Operators, Surface Owners and Mineral Interest Owners within open areas, within a one-half mile radius were notified by certified return receipt on November 22, 1993:

Maralo, Inc. Five Post Oak Park Suite 1010 Houston, TX 77027

Yates Petroleum Corp. 105 South 4th Street Artesia, NM 88210

Ken McPeters P. O. Box 1860 Hobbs, NM 88240

Howell Spears P. O. Box 4246 Gulfport, MS 39501

Elbert Damon Shipp & Suzy Laverne Shipp 1104 Ave. J. West Lovington, NM 88260

Cross Timbers Oil Co. L.P. 810 Houston St., Ste. 2000 Fort Worth, TX 76102

Surface Owner

Dorothy T. Scharbauer P. O. Box 1471 Midland, Texas 79702 Marshall & Winston, Inc. P. O. Box 50880 Midland, TX 79710

Oxy USA, Inc. P. O. Box 50250 Midland, TX 79710

E. L. Latham Co. P. O. Box 1392 Hobbs, NM 88241

Roy G. Barton & Opal Barton Revocable Trust Roy G. Barton, Jr, Trustee P. O. Box 978

Alan Jochimsen 2402 Cimmaron Midland, TX 79705

Hobbs, NM 88241,

James Ronald Ewing 700 East 9th St., Apt. 11K Little Rock, AR 72202 Norma Barton P. O. Box 729 Hobbs, NM 88240

John T. Stallings P. O. Box 685 Creedmor, NC

The Moran Partnership 1000 E. Walker Drive Hobbs, NM 88241

Roy G. Barton, Jr. P. O. Box 978 Hobbs, NM 88241

Charles Doornbas, Trustee Charles F. Doornbas Revocable Trust P. O. Box 639 Bartlesville, OK 74005

The Bevridge Co. P. O. Box 993 Midland, TX 79702

<u>Newspaper</u>

Hobbs News Sun 201 N. Thorp Hobbs, NM 88241 (505) 393-2123

AFFIDAVIT OF PUBLICATION

State of New Mexico, County of Lea.

I, Kathi Bearden

General Manager

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.

one weeks.

Beginning with the issue dated

October 20 1993

and ending with the issue dated

October 20

.19⁹³

General Manager Sworn and subscribed to before

me this ______ day of

Notary Public.

My Commission expires March 15, 1997

(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.

RECEIVED

OCT 25 1993

PROD. SERV.

Hobbs Daily News-Sun P.O. Box 860 Hobbs, New Mexico 88241-0860

LEGAL NOTICE October 20, 1993

Southland Royalty Company, P.O. Box 51810, Midland Texas 79710.
Contact party. Maria Perez (915)688-6906) is making application with the Oil Conservation Division in Santa Fe, New Mexico for authority to inject salt water in the State DS No. 4 well in Unit L, 1980' FSL & 660' FWL, sec. 24, T17S, R36E, Lea County, New Mexico. The proposed injection well will inject water produced from Southland Royalty's lease from the San Andres formation in the Spencer Field into the San Andres formation 4964-94'. Estimated initial injection rate will be 500 BWPD. The estimated maximum injection rate is 1000 BWPD. Anticipated initial injection pressure to be +/-

per day and expected maximum injection pressure is 1000 pounds per square inch.

Interested parties must file objections or request for hearing with the Oil Conservation Division, P.O. Box 2088, Santa Fe, New Mexico 87501, within fifteen (15) days.

DIL CONSERVATION DIVISION

POST OFFICE BUILDING STATE LAND OFFICE BUILDING GANTA FE, NEW MEXICU \$7501 FORM C-108 Revised 7-1-81

ase 10891

APPLICATION FOR AUTHORIZATION TO INJECT

I.	Purpose: Secondary Recovery Pressure Maintenance Disposal Storage Application qualifies for administrative approval? Dyes X no				
II.	Operator: Southland Royalty Company				
	Address: P.O. Box 51810 Midland, Texas 79710				
	Contact party: Maria L. Perez, Prod. Asst. Phone: 915-688-6906				
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 yno If yes, give the Division order number authorizing the project				
٧.	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:				
	 Proposed average and maximum daily rate and volume of fluids to be injected; Whether the system is open or closed; Proposed average and maximum injection pressure; Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and 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.				
IX.	Describe the proposed stimulation program, if any.				
х.	Attach appropriate logging and test data on the well. (If well logs have been filed				

* 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.

with the Division they need not be resubmitted.)

- 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:	M. P. Gaddis	Title	Sr. Stall Engineer
Signature	: MP Gaddi	Date	: /1/22/93

^{*} If the information required under Sections VI, VITI, 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 amplicants 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.

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:
 - 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.

División 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.

INJECTION WELL DATA SHEET

SIDE 1

Southland Royalty Company	? Stat	e DS	
OPERATOR	LEASE		
4 1980' FSL, 660' FWL	24	17-s	36-E
WELL NO. FOOTAGE LOCATION			ANGE
	· _		
<u>Schematic</u>]	<u> Tubular Data</u>	
	Surface Casing		
	Size 8-5/8 "	Cemented with	215 sx.
		feet determined b	
		-	circulation circulation
	Hole size 12-1/4	4 "	
			
	Intermediate Casing		
_	Size "	Cemented with	SX.
Diagram		<u></u>	· · · · · · ·
i B	TOC	feet determined b	y
, ac	Hole size		
Δi			
g e	Long String		
Attached	Size 5-1/2 "	Cemented with	300 SX.
t A	3 1/2	feet determined b	<u> 300 </u>
A		_	temp. survey
	Hole size 7-7/8		
See	Total Depth 5035	; "	
01			
	Injection Interval		
	4964 f	feet to 4994	feet
	(perforated or	r o pen-hole, indicate	which)

INJECTION WELL DATA SHEET SIDE 2

Tub	ing size 2-3/8"	lined with	plastic coated	set in a
Gu	(brand and model) (or describe any other casing-tube	packer at ing seal).	(material) + <u>/- 4900</u>	feet
OTH	HER DATA			
1.	Name of the injection formation	San ,	Andres	
2.	Name of Field or Pool (if applicab	le) Spen	cer	
3.	Is this a new well drilled for injection	on? YE	S <u>x</u> NO	
	If no, for what purpose was the we	ell originally drilled?	oil producer	
4.	Has the well ever been perforated plugging detail (sacks of cement of No	•	•	ervals and give
5.	Give the depth to and name of an No overlying zones a			

MERIDIAN OIL

	r (San Andres)	DATE SPUD: 10/4/69 COMP: 10/26/69		
EASE: STATE	DS WELL NO4_	ELEVATION: 3,808' G.L		
OCATION:	1,980' FSL & 660' FWL; SEC. 24, T-	17-S, R-36-E		
	Lea County, New Mexico			
	لنا	المنا		
		8 5/8°, 24# @ 326'		
		CEMÉNT W/215 sx TOC: SURFACE (Circ.)		
		in 12-1/4" Hole		
		i		
		700 00 440144		
		TOC @ 3,440' by temp. surve		
	(4.14) 4.14)			
	基 基			
	超影			
	製製 -			
	 	San Andres Perfs:		
		4,964'-94'		
		13.9 14.5a		
	· · · · · · · · · · · · · · · · · · ·			
		5 1/2", 14# @ 5,035'		
	CURREN	IT CONFIGURATION Cement w/ 300 sx "C"		

JRG/DS4 08/25/93 TD: 5,035' PBTD: 5,014'

MERIDIAN OIL

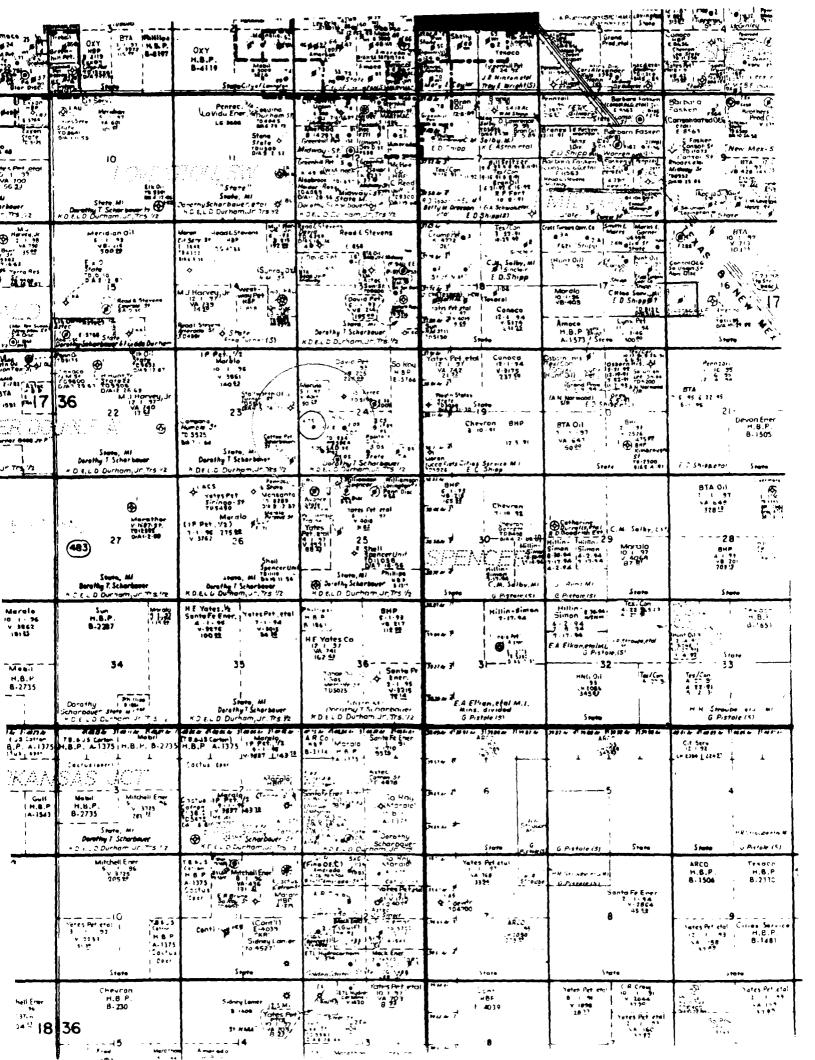
FIELD: Spencer (San Andres) DATE SPUD: 10/4/69 COMP: 10/26/69 LEASE: STATE DS WELL NO. 4 ELEVATION: 3,808' G.L LOCATION: 1,980' FSL & 660' FWL; SEC. 24, T-17-S, R-36-E Lea County, New Mexico 8 5/8", 24# @ 326' CEMENT W/ 215 ex TOC: SURFACE (Circ.) In 12-1/4" Hole 2-3/8" IPC tubing TOC @ 3,440' by temp. survey Guiberson Uni V pkr Set @ +/- 4900' > <San Andres Perfs: 4,964'-94'

> TD: 5,035' PBTD: 5,014'

PROPOSED CONFIGURATION

5 1/2", 14# @ 5,035' Cement w/ 300 ex "C"

In 7 7/8" Hole



P. O. BOX 1468 MONAHANS, TEXAS 79756 PH. 943-3234 OR 563-1040

709 W. INDIANA MIDLAND, TEXAS 79701 PHONE 683-4521

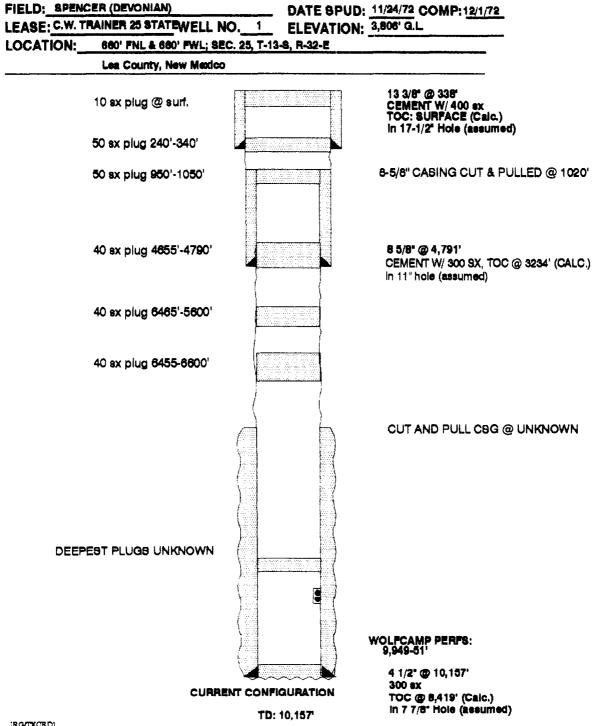
RESULT OF WATER ANALYSES

	Ł	ABORATORY NO		
TO: Ms. Karen Burns		SAMPLE RECEIVED	9-3-9	93
P. O. Box 51810, Midland, TX 7971	<u>0</u> F	RESULTS REPORTED	9-3-9)3
COMPANY <u>Meridian Oil Company</u>	LE	ASE Sta	te "DS"	
FIELD OR POOL				
SECTION BLOCK SURVEY	COUNTYL	<u>ea</u> STATE	NM	
SOURCE OF SAMPLE AND DATE TAKEN:				
NO.1 Produced water - taken from	State "DS".			
NO.2 Raw water - taken from wind	mill #1.			
NO. 3				
	 			
NO. 4	1	A 3		
REMARKS:		Andres		
CHEMIC	CAL AND PHYSICA			
	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.0121	1.0017		
pH When Sampled			_	
pH When Received	6.80	7.52		
Bicarbonate as HCO ₃	1,684	220		
Supersaturation as CaCO,		 		
Undersaturation as CaCO,	2.050	ļ		
Total Hardness as CaCO,	3,850	238		
Calcium as Ca	1,010	81		
Magnesium as Mg	322	9		
Sodium and/or Potassium	3,517	19		
Sulfate as SO,	579	54		
Chloride as Cl	6,747	31		
Iron as Fe	2.2	 		
Barrum as Ba				
Turbidity, Electric Color as Pt		+		
Total Solids, Calculated	13,858	413		
Temperature °F	17,070	413		
Carbon Dioxide, Calculated				
Dissoived Oxygen,				
Hydrogen Sulfide	954	0.0		
Resistivity, ohms/m at 77° F.	0.540	22.0		
Suspended Oil	3,310			
Filtrable Solids as mg/l				
Volume Filtered, ml				
Total Dissolved Solids @ 180°C.	13,100	396		
	esults Reported As Millig			
Additional Determinations And Remarks The undersig	ned certifie	s the above to	be true and	correct to
the best of his knowledge and be	lief.			
			···	
				
		<u></u>	//-	
				/
			7 2	

Form No 3

By Waylan C. Martin, M.A.

TEXAS CRUDE INC.



JRG/TXCRD1 09/21/93

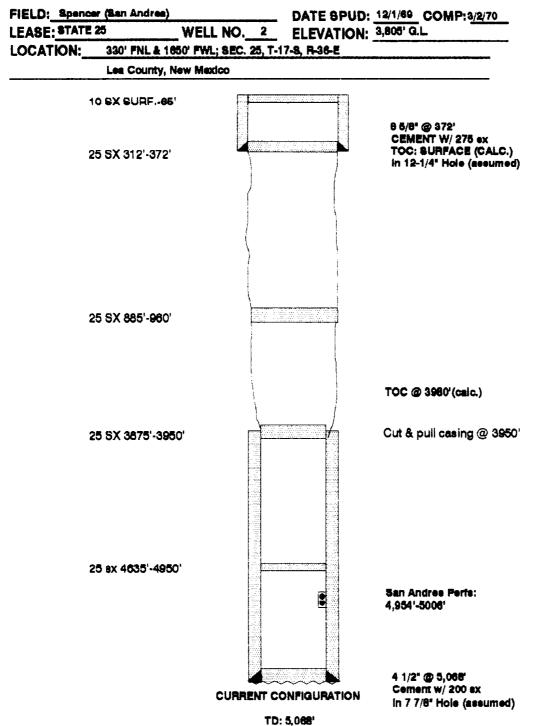
STALLWORTH OIL & GAS

FIELD: Spence LEASE: TURNE		ELL NO. 2 ELEVATION:	3/18/74 COMP:4/6/74 3,814' G.L
		'EL; SEC. 23, T-17-8, R-36-E	
	Lea County, New !	Mexico	
	0 SX SURF 65'		
			8 5/8" @ 351' CEMENT W/ 225 ex TOC: SURFACE (CIRC.) In 11" Hole
;	35 SX 1970'-2104'		
;	35 SX 3215'-3352'		
,	35 8X 4808'-4945'		
;	35 SX 5048'-5185'		
		CURRENT CONFIGURATION	in 7.7/9" Hole

TD: 5,185'

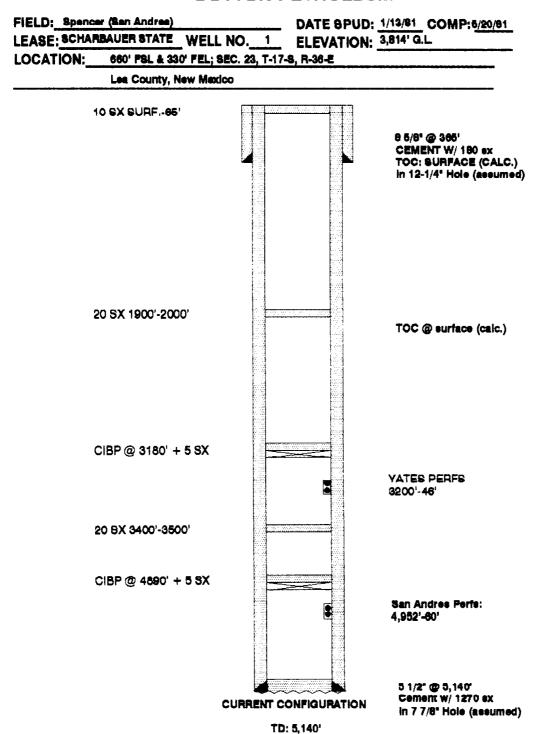
JRG/TUR#T1 09/21/93

AVANCE OIL & GAS

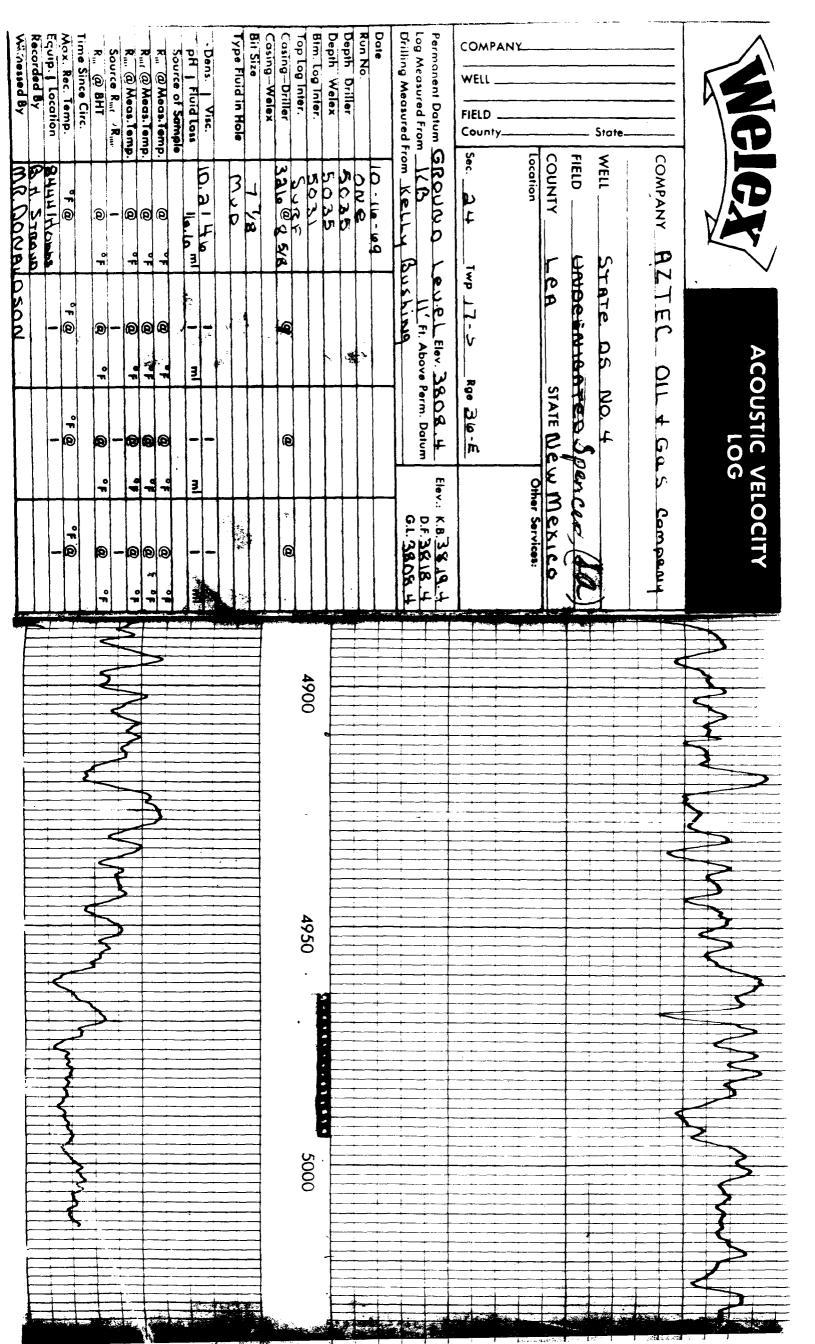


JRG/AV1 09/2L/93

COTTON PETROLEUM



JRG/SCHST1 09/ZL/93



MERIDIAN OIL

November 22, 1993

Oil Conservation Division
P. O. Box 2088
State Land Office Building
Santa Fe, New Mexico 87504-2088

RE: Application for Authorization to Inject
Southland Royalty Company
State DS No. 4
Spencer San Andres Field
Unit L, Section 24, T17S, R36E
Lea County, New Mexico
State Lease No.: L-200



Gentlemen:

Southland Royalty Company (SRC) is applying for authorization to convert the above referenced well for the purpose of secondary recovery and requests a hearing on the earliest possible docket for an initial secondary recovery project on this lease. At this time, SRC is also applying for the "recovered oil tax rate" (reduced oil severance tax rate) since this will be a new enhanced recovery project. Attached is an injection well data sheet showing the current and proposed mechanical configuration of this well. A map is also attached showing the one-half mile area of review around the well. The required information from "Form C-108" follows.

The proposed injection well will dispose of water produced from Southland Royalty leases from the San Andres in the Spencer Field. Our estimated initial injection rate will be 500 BPD. The estimated maximum rate is 1000 BPD. We anticipate initial injection pressure to be ± 500 psi, and request an operating maximum pressure of 1000 psi. The closed injection facilities will be equipped with high and low level head switches and will not operate continuously. No deeper aquifers containing usable quality water are known in this area.

III. Well Data

- A. 1 through 4. See two attached well data sheets; the first is the existing data; the second is the proposed recompletion data.
 - 1) The proposed well:
 State DS No. 4
 Unit L, 1980' FSL, 660' FWL
 Sec. 24, T17S, R36E
 Lea County, New Mexico
 Lease No.: L-200

.

2) Surface: 8 5/8", 24# @ 326' in 12-1/4" hole cement with 215 sx. TOC = Circ. to Surface

Production: 5-1/2", 14# @ 5,035' in 7-7/8" hole cement with 300 sx. TOC = 3440' by temperature survey

- 3) Injection Tubing: 2-3/8", 4.7#, internally plastic coated set @ ±4900'.
- 4) Packer: Guiberson UniV, retrievable, internally and externally plastic coated set at ±4900"
- B. 1) Injection Formation: San Andres
 - 2) Injection Interval: Perforated from: 4964' 4994'.
 - 3) The well was originally drilled for production of oil and gas
 - 4) There will be no other open intervals in this injection well
 - 5) The next possible higher oil or gas zone is the Queen located at approximately 4159'. The next possible lower oil or gas zone is a Paddock located at approximately 6600'.
- IV. This is <u>not</u> an expansion of an existing Southland Royalty project.
- V. Area of Review: See attached plat, one-half mile radius identified
- VI. Tabulation of data: Wells within area of review.

Southland Royalty Co., State DS No. 4
Unit L, Sec.24, T17S, R36E, Lea Co. NM
Spud 10/4/69, TD 5035'
8-5/8" @ 326' w/ 215 sx, circulated
5-1/2" @ 5035' w/ 300 sx, TOC @ 3440 by TS
perfed 4964-94', acidize w/ 1000 gal 15% NE acid
completed 10/26/69 for 248 BOPD + 0 BWPD + 84 MCFD

Southland Royalty Co., State DS No. 2 Unit K, Sec.24, T17S, R36E, Lea Co. NM Spud 8/4/69, TD 5100' 8-5/8" @ 323' w/ 215 sx, circulated 5-1/2" @ 5099' w/ 465 sx, TOC @ 3240' by TS perfed 4944-5008', acidize w/ 1000 gal 15% NE acid completed 8/22/69 for 216 BOPD + 0 BWPD + 130 MCFD

Southland Royalty Co., State DS No. 3 Unit J, Sec.24, T17S, R36E, Lea Co. NM Spud 9/11/69, TD 5061' 8-5/8" @ 331' w/ 225 sx, circulated 5-1/2" @ 5050' w/ 325 sx, TOC @ 3510' by TS perfed 5004-14', acidized 500 gal, squeeze w/ 50 sx perfed 4925-66', acidized w/ 500 gal completed 10/20/69 for 78 BOPD + 8 BWPD + 0 MCFD deepen to 6794', set 3-1/2" liner 4985 - 6794' w/ 175 sx. TOC @ 5050' by TS, squeeze liner top w/ 150 sx perf 6653-77, acidize w/ 1500 gal, squeeze w/ 50 sx. perf 6414-24, acidize w/ 1000 gal, squeeze w/ 50 sx perf 6558-80', acidize w/ 2500 gal, squeeze w/ 50 sx perf 5360-75', acidize w/ 500 gal, squeeze w/ 50 sx perf 4932-66', acidize w/ 500 gal, squeeze w/ 75 sx perf 6476-6680', acidize w/ 2000 gal, frac w/ 30,000 gal + 30,000 lbs completed 9/21/74 5 BO + 0 BW + 0 MCFD

Southland Royalty Co., State DS No. 1 Unit N, Sec. 24, T17S, R36E, Lea Co., NM Spud 5/19/69 TD 11,253' 13-3/8" @ 361' w/ 350 sx, circulated 8-5/8" @ 5300' w/ 460 sx, TOC calc @ 2911' (11" hole, 1.32 cu.ft/sx) spot 35 sx plug @ 11,210' Devonian spot 25 sx plug @ 9,750' Penn spot 25 sx plug @ 8,850' Abo spot 25 sx plug @ 6,200' Glorieta set CIBP @ 5,230' + 1sx cement perf 5186-90', acidize w/ 250 gal, squeeze w/ 30 sx perf 5130-42', acidize w/ 500 gal, squeeze w/ 71 sx perf 5080-90', acidize w/ 500 gal, squeeze w/ 75 sx perf 4988-5030', acidize w/ 1000 gal completed 7/21/69 for 192 BOPD + 0 BWPD + 124 MCFD squeeze perf 4988-5030' w/ 406 sx perf 4948-94', acidize w/ 500 gal, set CIBP @ 4930'.

Southland Royalty Co., State DS No. 5
Unit M, Sec.24, T17S, R36E, Lea Co. NM
Spud 12/13/69, TD 5060'
8-5/8" @ 340' w/ 220 sx circulated
5-1/2" @ 5060' w/ 300 sx, TOC @ 3460' by TS
perf 5006-10', acidize w/ 1000 gal
completed 12/31/69 for 230 BOPD + 0 BWPD + 96 MCFD
squeeze perfs 5006-10' w/ 200 sx
perfed 4980-94', acidize w/ 1000 gal, squeeze w/ 50 sx
perfed 4934-72', acidize w/ 2500 gal.

Southland Royalty Co., State DS No. 6 Unit O, Sec.24, T17S, R36E, Lea Co., NM Spud 12/26/69, TD 5060' 8-5/8" @ 332' w/ 215 sx, circulated 5-1/2" @ 5050' w/ 300 sx, TOC @ 3521' by TS perf 4980-88', acidize w/ 1634 gal completed 1/10/70 for 480 BOPD + 0 BWPD + 0 MCFD squeeze perfs 4940-88' w/ 200 sx perfed 4890-4956', acid w/ 500 gal

Southland Royalty Co., State SS No. 1
Unit F, Sec.24, T17S, R36E, Lea Co., NM
Spud 8/21/69, TD 5150'
8-5/8" @ 332' w/ 225 sx, circulated
5-1/2" @ 5150' w/ 390 sx, TOC @ 3360' by TS
perfed 5112-16', acid w/ 500 gal, squeeze w/ 12 sx
perfed 5067-78', acid w/ 1000 gal, squeeze w/ 75 sx
perfed 5032-48', acid w/ 1000 gal, squeeze w/ 100 sx
perfed 4166-90', acidize w/ 2000 gal, squeeze w/ 150 sx
perfed 3928-50', acidize w/ 1000 gal, squeeze w/ 150 sx
perfed 5112-32, acidize w/ 4000 gal
completed 1/15/70 as an SWD well
Acidize w/ 1000 gal, Acidize w/ 1500 gal.

Stallworth Oil and Gas Turner State No. 2
Unit H, Sec. 23, T17S, R36E, Lea Co., NM
Spud 3/17/74, TD 5185'
8-5/8" @ 351' w/ 225 sx, TOC calc @ surface (12-1/4" hole, 1.32 cu.ft/sx)
35 sx plug @ 5185', 35 sx plug @ 4945'
35 sx plug @ 2104', 10 sx plug @ surf
P&A 4/20/74

Cotton Petroleum Co. Scharbauer State No. 1
Unit P, sec. 23, T17S, R36E, Lea Co., NM
Spud 1/13/81, TD 5140'
8-5/8" @ 365' w/ 180 sx, TOC calc @ surface (12-1/4" hole, 1.32 cu.ft/sx)
5-1/2" @ 5140' w/ 1270 sx, TOC calc @ surface (7-7/8" hole, 1.32cu.ft/sx)
perfed 5086-96', acidize w/ 750 gal, set CIBP @ 5050'
perfed 4975 - 5030', acidize w/ 750 gal, set CIBP @ 5010'
perfed 4952-60', squeeze w/ 300 sx
re-perf 4952-60', acidize w/ 750 gal
completed 5/20/81 for 10 BOPD + 16 BWPD + 4 MCFD
set CIBP @ 4980', perfed 3200 - 46', acidize w/ 500 gal
20 sx plug 3400 - 3500', set CIBP @ 3180' + 5 sx
20 sx plug 1900 - 2000', 10 sx plug @ surface

Avance Oil & Gas Co. State 25 No. 2
Unit C, sec.25, T 17S, R36E, Lea Co. NM
Spud 12/1/69, TD 5068'
8-5/8' @ 372' w/ 275 sx, TOC calc @ surface (12-1/4" hole, 1.32 cu.ft/sx)
4-1/2" @ 5067' w/ 200 sx. TOC @ 3980' (7-7/8" hole, 1.32cu.ft/sx)
perf 4954-5006', Acidize w/ 3000 gal
cut and pull csg @ 3950', 25 sx plug 4635-4950'
25 sx plug 3875-3950', 25 sx plug 885-960'
25 sx plug 312-372', 10 sx plug @ surf.

Texas Crude, Inc., C. W. Trainer 25 State No. 1 formerly Pennzoil Company State 25 No. 1 Unit D, sec. 25, T17S, R36E, Lea Co., NM re-entered 12/1/72, TD 11,305' ran DSTs 6645-7010' 40 sx plug 6455-6600', 40 sx plug 5465'-5600' 40 sx plug 4655-4790', cut and pull 8-5/8" csg @ 1020'. 50 sx plug 950-1050', 50 sx plug 240'-340', 10 sx plug @ surface

VII. Proposed Operation:

- 1. Estimated average initial injection rate is 500 BWPD. Estimated maximum daily rate 1000 BPD.
- 2. This will be a closed system.
- 3. Estimated average injection pressure is 500 psi. Maximum estimated operating pressure is 1000 psi.
- 4. The source of the injected water is the produced water from the San Andres. Since produced water is being re-injected into the San Andres, no incompatibility is expected. See attached water analysis
- 5. Water injection will be into a zone currently productive of oil and gas.

VIII. Geological Data

The proposed zone for injection is the San Andres formation at 4900'. This Permian Age reservoir is an anticlinal structure composed of nearly 100% dolomite containing some oolites, fractures and anhydritic inclusions. The average porosity throughout the reservoir runs 6.1% though most of it comes in the form of secondary porosity (vugs and fractures). The San Andres in this area can average over 800 in gross thickness. Since an oil/water contact does exist in the reservoir, the net thickness averages approximately 70'.

There are no known underlying sources of potable water below the San Andres. The only fresh water sources located above are from an approximate depth of 100-150'.

IX. Proposed Stimulation

The proposed stimulation program is a 3000 gallon treatment of 15% NEFE HCl acid.

X. Log Data

Log section is attached with proposed interval indicated.

XI. Fresh Water Analysis

The only fresh well found within 1 mile of the proposed injection well was located in Unit D, Sec.25, T17S, R36E of Lea County, NM. A sample was taken from the well on 9/3/93 with the analysis herein attached.

XII. Hydrologic Communication

There is no known evidence of faulting or other hydrologic communication between potential fresh water aquifers and the desired injection zone.

XIII. Proof of Notice

The offset operators and surface owner were notified by certified return receipts on November 22, 1993.

Proof of Notice is attached.

XIV. Certification

Certification is on Form C-108.

If you need any additional information or if you have any questions, please contact M.P. Gaddis at 915/688-6850.

Sr. Staff Engineer

MPG/mp enclosures

XC: OCD-Hobbs

Hobbs Field Office

Well File

Land Dept.

Production Engineering

Reservoir Engineering

Joint Interest

Maria Perez (6)

State DS No. 4 Unit L, Sec. 24, T17S, R36E Lea County, New Mexico Southland Royalty Company

The following Offset Operators, Surface Owners and Mineral Interest Owners within open areas, within a one-half mile radius were notified by certified return receipt on November 22, 1993:

Maralo, Inc. Five Post Oak Park Suite 1010 Houston, TX 77027

Yates Petroleum Corp. 105 South 4th Street Artesia, NM 88210

Ken McPeters P. O. Box 1860 Hobbs, NM 88240

Howell Spears P. O. Box 4246 Gulfport, MS 39501

Elbert Damon Shipp & Suzy Laverne Shipp 1104 Ave. J. West Lovington, NM 88260

Cross Timbers Oil Co. L.P. 810 Houston St., Ste. 2000 Fort Worth, TX 76102

Surface Owner

Dorothy T. Scharbauer P. O. Box 1471 Midland, Texas 79702 Marshall & Winston, Inc. P. O. Box 50880 Midland, TX 79710

Oxy USA, Inc. P. O. Box 50250 Midland, TX 79710

E. L. Latham Co. P. O. Box 1392 Hobbs, NM 88241

Roy G. Barton & Opal Barton Revocable Trust Roy G. Barton, Jr, Trustee P. O. Box 978 Hobbs, NM 88241.

Alan Jochimsen 2402 Cimmaron Midland, TX 79705

James Ronald Ewing 700 East 9th St., Apt. 11K Little Rock, AR 72202 Norma Barton P. O. Box 729 Hobbs, NM 88240

John T. Stallings P. O. Box 685 Creedmor, NC

The Moran Partnership 1000 E. Walker Drive Hobbs, NM 88241

Roy G. Barton, Jr. P. O. Box 978 Hobbs, NM 88241

Charles Doornbas, Trustee Charles F. Doornbas Revocable Trust P. O. Box 639 Bartlesville, OK 74005

The Bevridge Co. P. O. Box 993 Midland, TX 79702

Newspaper

Hobbs News Sun 201 N. Thorp Hobbs, NM 88241 (505) 393-2123

AFFIDAVIT OF PUBLICATION

State of New Mexico, County of Lea.

I, Kathi Bearden

General Manager

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.

Beginning with the issue dated

October 20 , 19 93

and ending with the issue dated

October 20 , 19 93

General Manager

Sworn and subscribed to before

Notary Public.

My Commission expires March 15, 1997 (Seal)

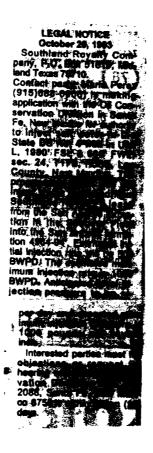
This newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Laws of 1937, and payment of fees for said publication has been made.

RECEIVED

OCT 25 1993

PROD. SERV.

Hobbs Daily News-Sun P.O. Box 860 Hobbs, New Mexico 88241-0860



OIL CONSERVATION DIVISION

POST OFFICE BUT A UNIT STATE LAND OFFICE BUILDING SANTA FE ELIM AND RECOMPOSITE FORM C-108 Revised 7-1-81

	SANTA FE, ILEW MEXICO BISOT
APPLIC.	ATION FOR AUTHORIZATION TO INJECT
I.	Purnose: Secondary Recovery Pressure Maintenance Disposal Storage Application qualifies for administrative approval? Tyes X no
II.	Operator: Southland Royalty Company
	Address: P.O. Box 51810 Midland, Texas 79710
	Contact party: Maria L. Perez, Prod. Asst. Phone: 915-688-6906
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.
ΙV.	Is this an expansion of an existing project? yes yes yno If yes, give the Division order number authorizing the project
٧.	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:
	 Proposed average and maximum daily rate and volume of fluids to be injected; Whether the system is open or closed; Proposed average and maximum injection pressure; Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and 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.
IX.	Describe the proposed stimulation program, if any.
х.	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: M. P. Gaddis Title Sr. Staff Engineer
	Signature: 11/22/93

* 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.

LII. 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 amplicants 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.

Southiand Royalty Company	' State	DS	
OPERATOR	LEASE		
4 1980' FSL, 660' FWL	24 1	.7-s	36-E
WELL NO. FOOTAGE LOCATION			NGE
Schematic	I	ubular Data	
	Surface Casing		
	Size 8-5/8 "	Cemented with	215 sx.
	TOC surface	feet determined by	
	Hole size 12-1/4	, .■	CIICUIACION
	12-1/4	:	
	Intermediate Casing		
e	Size "	Cemented with	sx.
Diagram	тос	feet determined by	,
. Louis de la company de la co	Hole size	•	
Dia		·	
	Long String		
he		Cemented with	SX.
o a c	Size $5-1/2$		<u> 300</u>
Attached	TOC 3440'	feet determined by	temp. survey
	Hole size 7-7/8		
S e e	Total Depth 5035	1	
o o			
	Injection Interval		
	4964 ^f	eet to 4994	feet
	(perforated or	open-hole, indicate	which)

INJECTION WELL DATA SHEET

SIDE 2

Tub	ing size 2-3/8 **	lined with	plastic coated	set in a
Gu.	iberson UniV or equiv.	packer at	(material) +/- 4900	feet
	(brand and model) (or describe any other casing-tubing	seal).		
OTH	HER DATA			
1.	Name of the injection formation	San	Andres	<u></u>
2.	Name of Field or Pool (if applicable)	Spen	cer	-
3.	Is this a new well drilled for injection?	YE	s <u>x</u> NO	
	If no, for what purpose was the well of	originally drilled?	oil producer	
4.	Has the well ever been perforated in plugging detail (sacks of cement or b	oridge plug(s) use	•	ervals and give
5 .	Give the depth to and name of any one No overlying zones abo			
				

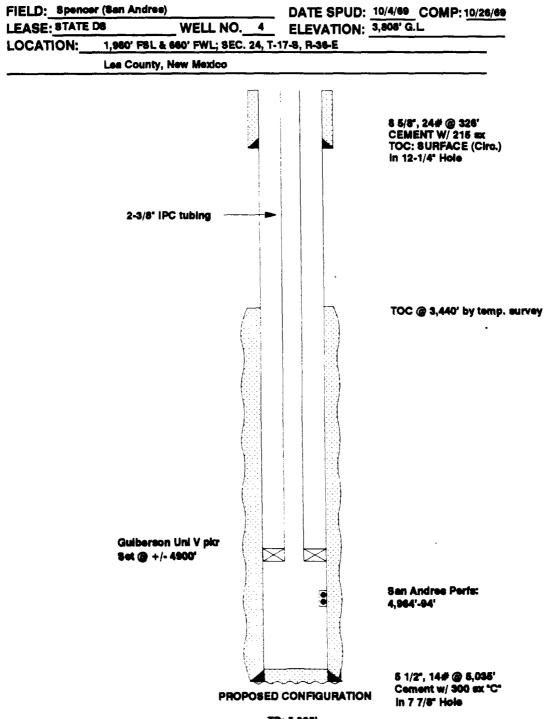
MERIDIAN OIL

3,808' G.L	ELEVATION:	6 WELL NO4_	EASE: STATE
		1,960' F8L & 660' FWL; SEC. 24, T-	
· · · · · · · · · · · · · · · · · · ·		Lee County, New Mexico	
			
8 5/6", 24# @ 326'			
CEMENT W/ 215 ex TOC: SURFACE (Circ.)	N. Control of the Con		
in 12-1/4" Hole]	
		•	
	į		
TOC @ 3,440' by temp. sur		<i>(</i> 3)	
•		(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	
•			
		/ / / / / / / / / / / / / / / / / / /	
		/ /	
		// // // // // // // // // // // // //	
		W. S.	
ì	[4]		
		展	
San Andres Perfs: 4,964'-94'			
11224 21			
5 1/2", 14# @ 5,035"			
Compatt w/ 500 ev *C*	~~~~ ~ T CONFIGURATI		

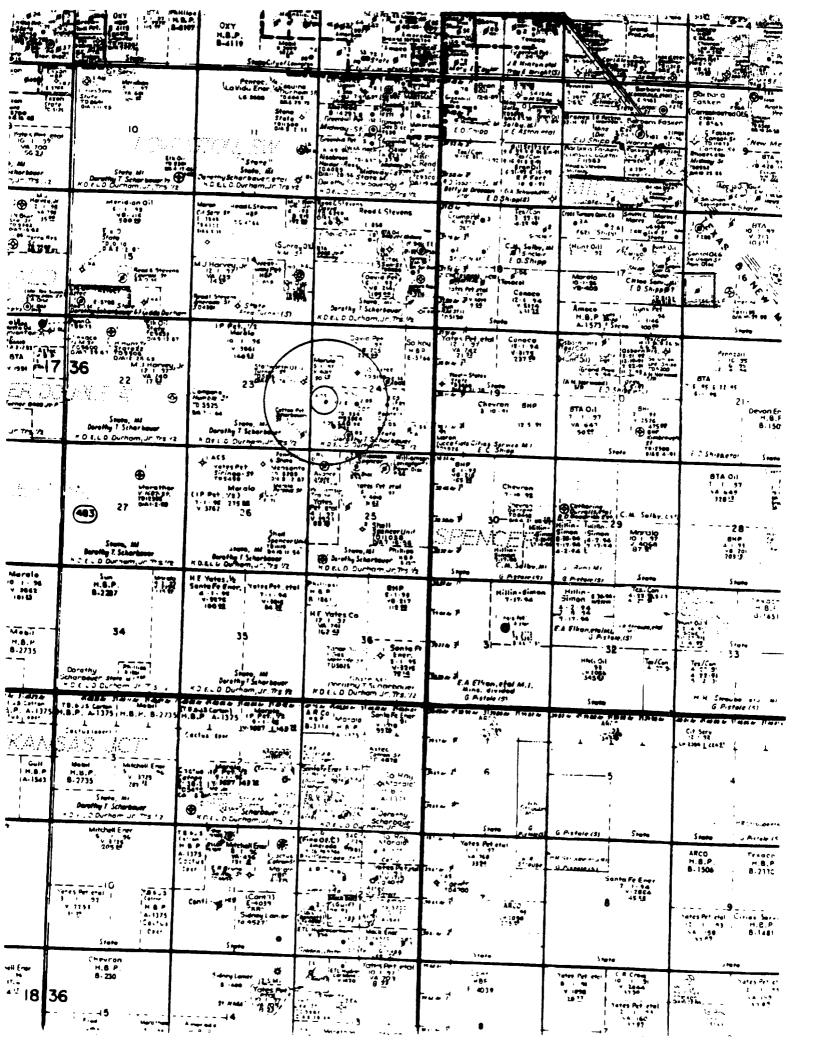
TD: 5,035' PBTD: 5,014'

JRG/D84 08/25/93

MERIDIAN OIL



JRG/D84 08/25/93 TD: 5,035' PBTD: 5,014'



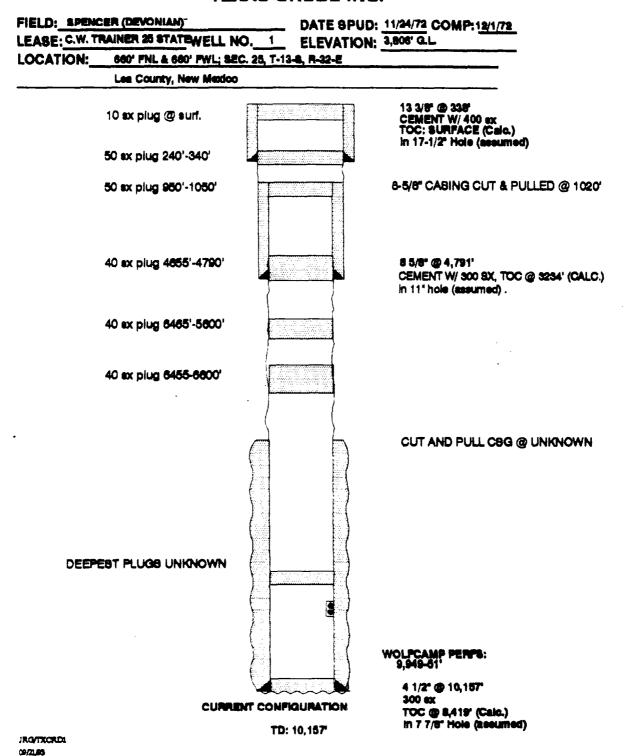
9939

RESULT OF WATER ANALYSES

W # 5		LABORATORY NO	·	9939
TO: Ms. Karen Burns		SAMPLE RECEIVE	ED	9-3-93
P. O. Box 51810, Midland, TX 7971	0	RESULTS REPOR	TED	9-3-93
COMPANY <u>Meridian Oil Company</u>		LEASE	State "DS"	
FIELD OR POOL				
SECTION BLOCK SURVEY	COUNTY	Lea	STATEN	<u>M</u>
SOURCE OF SAMPLE AND DATE TAKEN:				
NO.1 Produced water - taken from		!! 		
NO.2 Raw water - taken from winds	mill #1.			
NO. 3				
NO. 4				
	1. S			
REMARKS:		an Andres		
CHEMIC		ICAL PROPERTIES	T	
	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.0121	1.0017		
pH When Sampled				
pH When Received	6.8		02	
Bicarbonate as HCO ₃	1,684	220		
Supersaturation as CaCO,				
Undersaturation as CaCO,	2 222			
Total Hardness as CaCO,	3,850	238		
Calcium as Ca	1,010	81		
Magnesium as Mg	322	9		
Sodium and/or Potassium	3,517	19		
Sulfate as SO.	579	54	· ·	
Chloride as Cl	6,747	31		
Iron as Fe	2.2			
Barium as Ba				
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	13,858	413		
Temperature *F.	·····			
Carbon Dioxide, Calculated	- 			
Dissolved Oxygen,			<u> </u>	
Hydrogen Sulfide	954	0.0		
Resistivity, ohms/m at 77° F.	0.5	40 22.0)	
Suspended Oil				
Filtrable Solids as mg/l				
Volume Filtered, ml				
Total Dissolved Solids @ 180°C.	13,100	396		
	suits Reported As M			
Additional Determinations And Remerks The undersig	ned certif	<u>ies the above</u>	to be true	and correct to
the best of his knowledge and be	lief.			
				
				/
		<u> </u>		<u> </u>
			7001	· 1
Form No 3		1	18 3/10	

Waylan C. Martin, M.A.

TEXAS CRUDE INC.



STALLWORTH OIL & GAS

FIELD: Speno		DATE SPUD:	3/18/74 COMP:4/6/74
LEASE: TURNE		LL NO. 2 ELEVATION:	3,814' Q.L
LOCATION:_		EL; SEC. 23, T-17-8, R-26-E	
	Les County, New M	NEGOS	
,	10 9X 9URF,- 65 '		8 5/8" @ 351' CEMENT W/ 226 ex TOG: SURFACE (CIRC.) In 11" Hole
3	35 SX 1970'-2104'		
	95 8X 3215'-3352'		
	95 8X 4806'-4945'		
•	96 9X 6048'-5185'		
		CURRENT CONFIGURATION	in 7 7/8" Hole

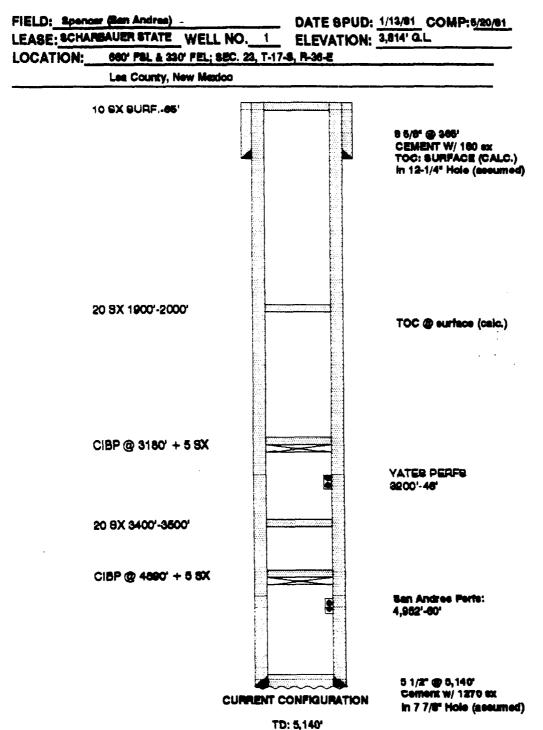
TD: 5,185'

AVANCE OIL & GAS

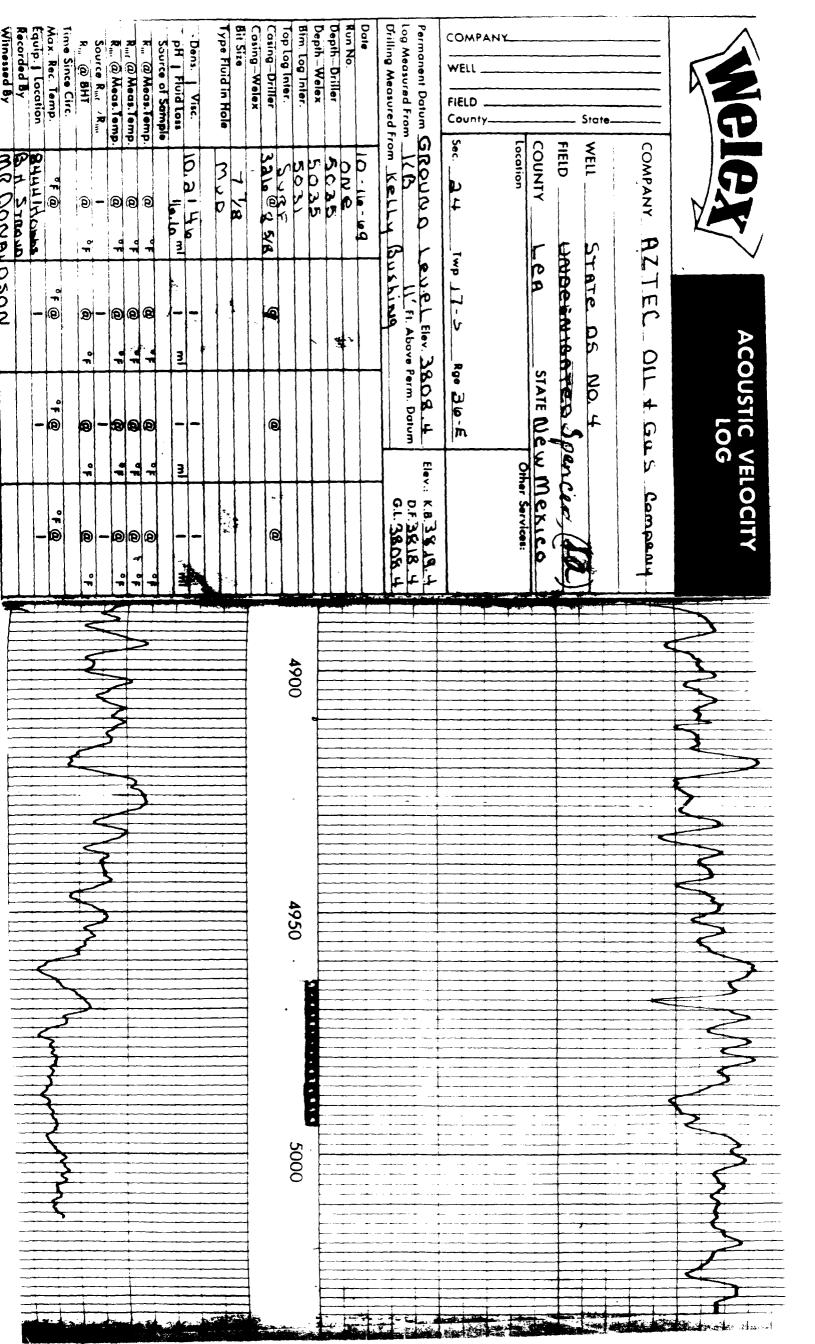
	noer (Ban Andree) -	DATE SPUD:	12/1/60 COMP:3/2/70
LEASE: STAT		ELL NO. 2 ELEVATION:	3,805' Q.L.
LOCATION:		WL; SEC. 25, T-17-8, R-36-E	
	Lea County, New I	Mexico	
	10 9X 9URF65'		
			6 5/8" @ 372'
			CEMENT W/ 276 ex
	25 8X 312'-372'		TOC: SURFACE (CALC.) In 12-1/4" Hole (assumed)
			, ,
		{	
	25 8X 885'-960'		
	## UN US US		
			•
			TOC @ 3980'(calc.)
			• • • •
	25 8X 3875'-3960'		Cut & pull casing @ 3950'
	20 0 0 00 0 -0000		
	25 ax 4635'-4960'		
	20 84 4000 4400		
			San Andree Perfe: 4,954'-5008'
			1,000
			4 1/2" @ 5,068"
		CURRENT CONFIGURATION	Comerx w/ 200 ex in 7 7/8" Hole (assumed)
		TD: 5 neer	

JRG/AV1 09/21/80

COTTON PETROLEUM



JRG/8CH9T1 09/2L63

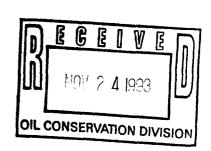


MERIDIAN OIL

November 22, 1993

Oil Conservation Division
P. O. Box 2088
State Land Office Building
Santa Fe, New Mexico 87504-2088

RE: Application for Authorization to Inject Southland Royalty Company State DS No. 4 Spencer San Andres Field Unit L, Section 24, T17S, R36E Lea County, New Mexico State Lease No.: L-200



Gentlemen:

Southland Royalty Company (SRC) is applying for authorization to convert the above referenced well for the purpose of secondary recovery and requests a hearing on the earliest possible docket for an initial secondary recovery project on this lease. At this time, SRC is also applying for the "recovered oil tax rate" (reduced oil severance tax rate) since this will be a new enhanced recovery project. Attached is an injection well data sheet showing the current and proposed mechanical configuration of this well. A map is also attached showing the one-half mile area of review around the well. The required information from "Form C-108" follows.

The proposed injection well will dispose of water produced from Southland Royalty leases from the San Andres in the Spencer Field. Our estimated initial injection rate will be 500 BPD. The estimated maximum rate is 1000 BPD. We anticipate initial injection pressure to be ±500 psi, and request an operating maximum pressure of 1000 psi. The closed injection facilities will be equipped with high and low level head switches and will not operate continuously. No deeper aquifers containing usable quality water are known in this area.

III. Well Data

- A. 1 through 4. See two attached well data sheets; the first is the existing data; the second is the proposed recompletion data.
 - 1) The proposed well:
 State DS No. 4
 Unit L, 1980' FSL, 660' FWL
 Sec. 24, T17S, R36E
 Lea County, New Mexico
 Lease No.: L-200

2) Surface: 8 5/8", 24# @ 326' in 12-1/4" hole cement with 215 sx. TOC = Circ. to Surface

Production: 5-1/2", 14# @ 5,035' in 7-7/8" hole cement with 300 sx. TOC = 3440' by temperature survey

- 3) Injection Tubing: 2-3/8", 4.7#, internally plastic coated set @ ±4900'.
- 4) Packer: Guiberson UniV, retrievable, internally and externally plastic coated set at ±4900"
- B. 1) Injection Formation: San Andres
 - 2) Injection Interval: Perforated from: 4964' 4994'.
 - 3) The well was originally drilled for production of oil and gas
 - 4) There will be no other open intervals in this injection well
 - 5) The next possible higher oil or gas zone is the Queen located at approximately 4159'. The next possible lower oil or gas zone is a Paddock located at approximately 6600'.
- IV. This is <u>not</u> an expansion of an existing Southland Royalty project.
- V. Area of Review: See attached plat, one-half mile radius identified
- VI. Tabulation of data: Wells within area of review.

Southland Royalty Co., State DS No. 4
Unit L, Sec.24, T17S, R36E, Lea Co. NM
Spud 10/4/69, TD 5035'
8-5/8" @ 326' w/ 215 sx, circulated
5-1/2" @ 5035' w/ 300 sx, TOC @ 3440 by TS
perfed 4964-94', acidize w/ 1000 gal 15% NE acid
completed 10/26/69 for 248 BOPD + 0 BWPD + 84 MCFD

Southland Royalty Co., State DS No. 2 Unit K, Sec.24, T17S, R36E, Lea Co. NM Spud 8/4/69, TD 5100' 8-5/8" @ 323' w/ 215 sx, circulated 5-1/2" @ 5099' w/ 465 sx, TOC @ 3240' by TS perfed 4944-5008', acidize w/ 1000 gal 15% NE acid completed 8/22/69 for 216 BOPD + 0 BWPD + 130 MCFD

Southland Royalty Co., State DS No. 3 Unit J, Sec.24, T17S, R36E, Lea Co. NM Spud 9/11/69, TD 5061' 8-5/8" @ 331' w/ 225 sx, circulated 5-1/2" @ 5050' w/ 325 sx, TOC @ 3510' by TS perfed 5004-14', acidized 500 gal, squeeze w/ 50 sx perfed 4925-66', acidized w/ 500 gal completed 10/20/69 for 78 BOPD + 8 BWPD + 0 MCFD deepen to 6794', set 3-1/2" liner 4985 - 6794' w/ 175 sx.

TOC @ 5050' by TS, squeeze liner top w/ 150 sx perf 6653-77, acidize w/ 1500 gal, squeeze w/ 50 sx.

perf 6414-24, acidize w/ 1000 gal, squeeze w/ 50 sx perf 6558-80', acidize w/ 2500 gal, squeeze w/ 50 sx perf 5360-75', acidize w/ 500 gal, squeeze w/ 50 sx perf 4932-66', acidize w/ 500 gal, squeeze w/ 75 sx perf 6476-6680', acidize w/ 2000 gal, frac w/ 30,000 gal + 30,000 lbs completed 9/21/74 5 BO + 0 BW + 0 MCFD

Southland Royalty Co., State DS No. 1 Unit N, Sec. 24, T17S, R36E, Lea Co., NM Spud 5/19/69 TD 11,253' 13-3/8" @ 361' w/ 350 sx, circulated 8-5/8" @ 5300' w/ 460 sx, TOC calc @ 2911' (11" hole, 1.32 cu.ft/sx) spot 35 sx plug @ 11,210' Devonian spot 25 sx plug @ 9,750' Penn spot 25 sx plug @ 8,850' Abo spot 25 sx plug @ 6,200' Glorieta set CIBP @ 5,230' + 1sx cement perf 5186-90', acidize w/ 250 gal, squeeze w/ 30 sx perf 5130-42', acidize w/ 500 gal, squeeze w/ 71 sx perf 5080-90', acidize w/ 500 gal, squeeze w/ 75 sx perf 4988-5030', acidize w/ 1000 gal completed 7/21/69 for 192 BOPD + 0 BWPD + 124 MCFD squeeze perf 4988-5030' w/ 406 sx perf 4948-94', acidize w/ 500 gal, set CIBP @ 4930'.

Southland Royalty Co., State DS No. 5
Unit M, Sec.24, T17S, R36E, Lea Co. NM
Spud 12/13/69, TD 5060'
8-5/8" @ 340' w/ 220 sx circulated
5-1/2" @ 5060' w/ 300 sx, TOC @ 3460' by TS
perf 5006-10', acidize w/ 1000 gal
completed 12/31/69 for 230 BOPD + 0 BWPD + 96 MCFD
squeeze perfs 5006-10' w/ 200 sx
perfed 4980-94', acidize w/ 1000 gal, squeeze w/ 50 sx
perfed 4934-72', acidize w/ 2500 gal.

Southland Royalty Co., State DS No. 6 Unit O, Sec.24, T17S, R36E, Lea Co., NM Spud 12/26/69, TD 5060' 8-5/8" @ 332' w/ 215 sx, circulated 5-1/2" @ 5050' w/ 300 sx, TOC @ 3521' by TS perf 4980-88', acidize w/ 1634 gal completed 1/10/70 for 480 BOPD + 0 BWPD + 0 MCFD squeeze perfs 4940-88' w/ 200 sx perfed 4890-4956', acid w/ 500 gal

Southland Royalty Co., State SS No. 1
Unit F, Sec.24, T17S, R36E, Lea Co., NM
Spud 8/21/69, TD 5150'
8-5/8" @ 332' w/ 225 sx, circulated
5-1/2" @ 5150' w/ 390 sx, TOC @ 3360' by TS
perfed 5112-16', acid w/ 500 gal, squeeze w/ 12 sx
perfed 5067-78', acid w/ 1000 gal, squeeze w/ 75 sx
perfed 5032-48', acid w/ 1000 gal, squeeze w/ 100 sx
perfed 4166-90', acidize w/ 2000 gal, squeeze w/ 150 sx
perfed 3928-50', acidize w/ 1000 gal, squeeze w/ 150 sx
perfed 5112-32, acidize w/ 4000 gal
completed 1/15/70 as an SWD well
Acidize w/ 1000 gal, Acidize w/ 1500 gal.

Stallworth Oil and Gas Turner State No. 2
Unit H, Sec. 23, T17S, R36E, Lea Co., NM
Spud 3/17/74, TD 5185'
8-5/8" @ 351' w/ 225 sx, TOC calc @ surface (12-1/4" hole, 1.32 cu.ft/sx)
35 sx plug @ 5185', 35 sx plug @ 4945'
35 sx plug @ 2104', 10 sx plug @ surf
P&A 4/20/74

Cotton Petroleum Co. Scharbauer State No. 1
Unit P, sec. 23, T17S, R36E, Lea Co., NM
Spud 1/13/81, TD 5140'
8-5/8" @ 365' w/ 180 sx, TOC calc @ surface (12-1/4" hole, 1.32 cu.ft/sx)
5-1/2" @ 5140' w/ 1270 sx, TOC calc @ surface (7-7/8" hole, 1.32cu.ft/sx)
perfed 5086-96', acidize w/ 750 gal, set CIBP @ 5050'
perfed 4975 - 5030', acidize w/ 750 gal, set CIBP @ 5010'
perfed 4952-60', squeeze w/ 300 sx
re-perf 4952-60', acidize w/ 750 gal
completed 5/20/81 for 10 BOPD + 16 BWPD + 4 MCFD
set CIBP @ 4980', perfed 3200 - 46', acidize w/ 500 gal
20 sx plug 3400 - 3500', set CIBP @ 3180' + 5 sx
20 sx plug 1900 - 2000', 10 sx plug @ surface

Avance Oil & Gas Co. State 25 No. 2
Unit C, sec.25, T 17S, R36E, Lea Co. NM
Spud 12/1/69, TD 5068'
8-5/8' @ 372' w/ 275 sx, TOC calc @ surface (12-1/4" hole, 1.32 cu.ft/sx)
4-1/2" @ 5067' w/ 200 sx. TOC @ 3980' (7-7/8" hole, 1.32cu.ft/sx)
perf 4954-5006', Acidize w/ 3000 gal
cut and pull csg @ 3950', 25 sx plug 4635-4950'
25 sx plug 3875-3950', 25 sx plug 885-960'
25 sx plug 312-372', 10 sx plug @ surf.

Texas Crude, Inc., C. W. Trainer 25 State No. 1 formerly Pennzoil Company State 25 No. 1 Unit D, sec. 25, T17S, R36E, Lea Co., NM re-entered 12/1/72, TD 11,305' ran DSTs 6645-7010' 40 sx plug 6455-6600', 40 sx plug 5465'-5600' 40 sx plug 4655-4790', čut and pull 8-5/8" csg @ 1020'. 50 sx plug 950-1050', 50 sx plug 240'-340', 10 sx plug @ surface

VII. Proposed Operation:

- 1. Estimated average initial injection rate is 500 BWPD. Estimated maximum daily rate 1000 BPD.
- 2. This will be a closed system.
- 3. Estimated average injection pressure is 500 psi. Maximum estimated operating pressure is 1000 psi.
- 4. The source of the injected water is the produced water from the San Andres. Since produced water is being re-injected into the San Andres, no incompatibility is expected. See attached water analysis
- 5. Water injection will be into a zone currently productive of oil and gas.

VIII. Geological Data

The proposed zone for injection is the San Andres formation at 4900'. This Permian Age reservoir is an anticlinal structure composed of nearly 100% dolomite containing some oolites, fractures and anhydritic inclusions. The average porosity throughout the reservoir runs 6.1% though most of it comes in the form of secondary porosity (vugs and fractures). The San Andres in this area can average over 800 in gross thickness. Since an oil/water contact does exist in the reservoir, the net thickness averages approximately 70'.

There are no known underlying sources of potable water below the San Andres. The only fresh water sources located above are from an approximate depth of 100-150'.

IX. Proposed Stimulation

The proposed stimulation program is a 3000 gallon treatment of 15% NEFE HCl acid.

X. Log Data

Log section is attached with proposed interval indicated.

XI. Fresh Water Analysis

The only fresh well found within 1 mile of the proposed injection well was located in Unit D, Sec.25, T17S, R36E of Lea County, NM. A sample was taken from the well on 9/3/93 with the analysis herein attached.

XII. Hydrologic Communication

There is no known evidence of faulting or other hydrologic communication between potential fresh water aquifers and the desired injection zone.

XIII. Proof of Notice

The offset operators and surface owner were notified by certified return receipts on November 22, 1993.

Proof of Notice is attached.

XIV. Certification

Certification is on Form C-108.

If you need any additional information or if you have any questions, please contact M.P. Gaddis at 915/688-6850.

Sincerely,

M.P. Gaddis

Sr. Staff Engineer

MPG/mp enclosures

xc: OCD-Hobbs

Hobbs Field Office

Well File

Land Dept.

Production Engineering

Reservoir Engineering

Joint Interest

Maria Perez (6)

State DS No. 4 Unit L, Sec. 24, T17S, R36E Lea County, New Mexico Southland Royalty Company

The following Offset Operators, Surface Owners and Mineral Interest Owners within open areas, within a one-half mile radius were notified by certified return receipt on November 22, 1993:

Maralo, Inc. Five Post Oak Park Suite 1010 Houston, TX 77027

Yates Petroleum Corp. 105 South 4th Street Artesia, NM 88210

Ken McPeters P. O. Box 1860 Hobbs, NM 88240

Howell Spears
P. O. Box 4246
Gulfport, MS 39501

Elbert Damon Shipp & Suzy Laverne Shipp 1104 Ave. J. West Lovington, NM 88260

Cross Timbers Oil Co. L.P. 810 Houston St., Ste. 2000 Fort Worth, TX 76102

Surface Owner

Dorothy T. Scharbauer P. O. Box 1471 Midland, Texas 79702 Marshall & Winston, Inc. P. O. Box 50880 Midland, TX 79710

Oxy USA, Inc. P. O. Box 50250 Midland, TX 79710

E. L. Latham Co. P. O. Box 1392 Hobbs, NM 88241

Roy G. Barton & Opal Barton Revocable Trust Roy G. Barton, Jr, Trustee P. O. Box 978 Hobbs, NM 88241,

Alan Jochimsen 2402 Cimmaron Midland, TX 79705

James Ronald Ewing 700 East 9th St., Apt. 11K Little Rock, AR 72202 Norma Barton P. O. Box 729 Hobbs, NM 88240

John T. Stallings P. O. Box 685 Creedmor, NC

The Moran Partnership 1000 E. Walker Drive Hobbs, NM 88241

Roy G. Barton, Jr. P. O. Box 978
Hobbs, NM 88241

Charles Doornbas, Trustee Charles F. Doornbas Revocable Trust P. O. Box 639 Bartlesville, OK 74005

The Bevridge Co. P. O. Box 993 Midland, TX 79702

Newspaper

Hobbs News Sun 201 N. Thorp Hobbs, NM 88241 (505) 393-2123

AFFIDAVIT OF PUBLICATION

State of New Mexico, County of Lea.

I, Kathi Bearden

General Manager

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.

one weeks.

Beginning with the issue dated

October 20 , 19 93

and ending with the issue dated

October 20 ,19 93

General Manager
Sworn and subscribed to before

My Commission expires March 15, 1997

Notary Public.

(Seal)

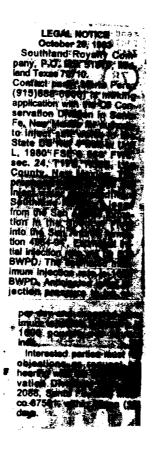
This newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Laws of 1937, and payment of fees for said publication has been made.

RECEIVED

OCT 25 1993

PROD, SERV.

Hobbs Daily News-Sun P.O. Box 860 Hobbs, New Mexico 88241-0860



of the carlier submittal.

OIL CONSERVATION DIVISION

POST OFFICE 60A 20183 STATE LAND OFFICE BUREDING SANTA FE, NEW MEXICO BOSOT FORM C-108 Revised 7-1-81

I.	Purpose: 🔟 Secondary Recovery Pressure Maintenance Disposal Storage Application qualifies for administrative approval? yes 🕱 no
II.	Operator: Southland Royalty Company
	Address: P.O. Box 51810 Midland, Texas 79710
	Contact party: Maria L. Perez, Prod. Asst. Phone: 915-688-6906
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 xno If yes, give the Division order number authorizing the project
٧.	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:
	 Proposed average and maximum daily rate and volume of fluids to be injected; Whether the system is open or closed; Proposed average and maximum injection pressure; Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and If injection is for discosal 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.).
111.	Attach appropriate geological data on the injection zone including appropriate lithologi 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.
IX.	Describe the proposed stimulation program, if any.
Х.	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.
III.	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: M. P. Gaddis Title Sr. Staff Engineer
	Signature: 11/22/93

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 Mo.; 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.

- 8. 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 amplicants 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 amplications within 15 days from the date this application was mailed to them.

Southland Royalty Compan	У	State DS	
OPERATOR 4 1980' FSL, 660' FW	LEASE L 24	17-s	36~E
WELL NO. FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE
<u>Schematic</u>		Tubular Data	
	Surface Casin Size 8-5/ TOC surf Hole size	8 Cemented w	
Diagram	Intermediate (Size TOC Hole size	Casing Cemented v feet determine	
See Attached	Size 5-1, TOC 3440 Hole size Total Depth		<u> 300 </u>
	Injection Inter		
	4964	feet to	1994 feet
	(реп	nigred of o bsertioes in	uicale WillCil)

INJECTION WELL DATA SHEET

SIDE 2

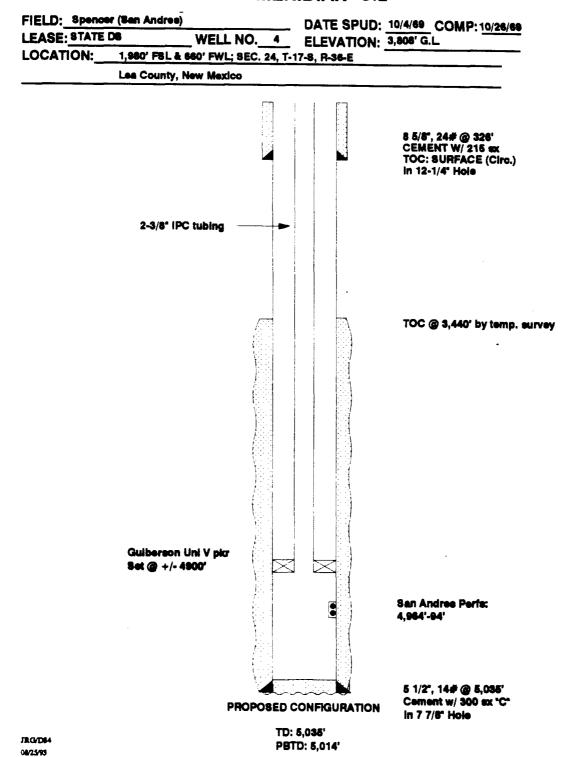
	ing size 2-3/8" iberson UniV or equiv.	lined with	plastic coated (material) +/- 4900	set in a
	(brand and model) (or describe any other casing-tubing	seal).		
OTH	HER DATA			
1.	Name of the injection formation	San	Andres	
2.	Name of Field or Pool (if applicable)	Spen	cer	
3.	Is this a new well drilled for injection?	YE YE	s <u>x</u> no	
	If no, for what purpose was the well of	originally drilled?	oil producer	
4 .	Has the well ever been perforated in plugging detail (sacks of cement or b	oridge plug(s) use		ervals and gi ve
5 .	Give the depth to and name of any one No overlying zones about	• •		

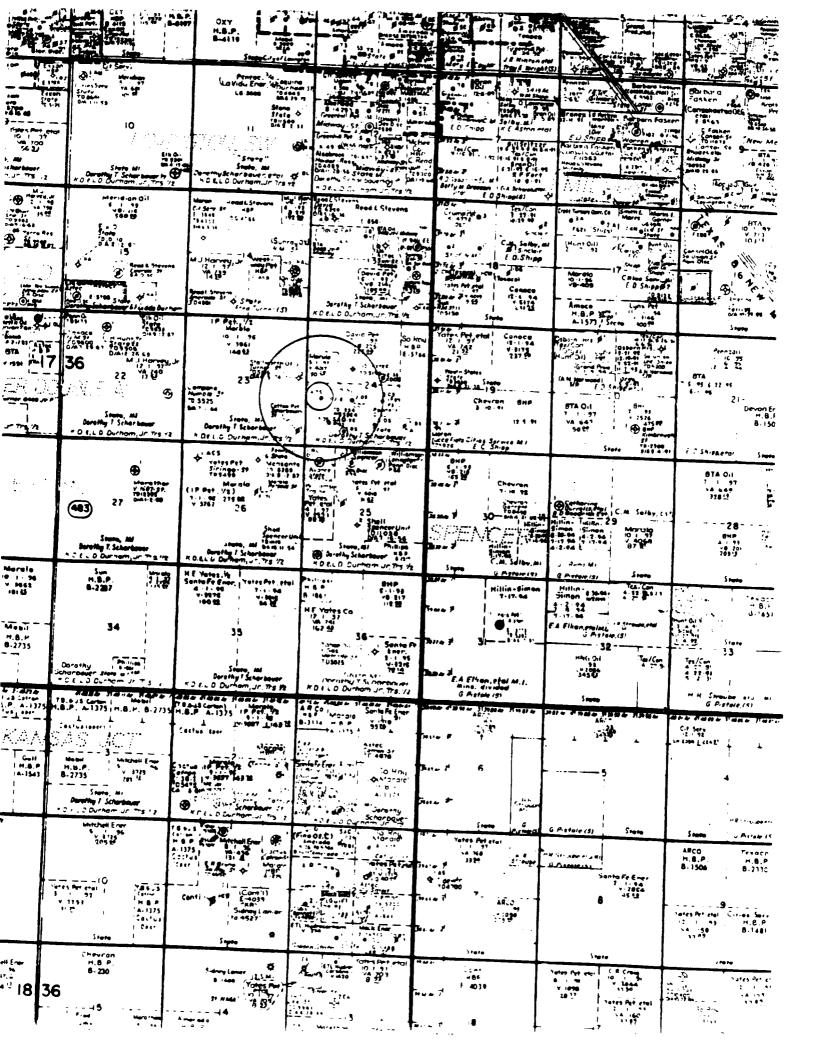
MERIDIAN OIL

FIELD: Spence LEASE: STATE		FI FVATION: 5	10/4/69 COMP: 10/26/69 3.808' G.L
	1,960' FBL & 660' FWL; SEC. 24, T-		
	Lea County, New Mexico		
	<u> </u>		
	<u></u>		
			8 5/8", 24# @ 326' CEMENT W/ 215 ex
	4	N	TOC: SURFACE (Circ.)
			In 12-1/4" Hole
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	/		TOC @ 3,440' by temp. surve
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	(多)		
			San Andree Perfs:
	(A)		4,964'- 9 4'
	k d	₽	
	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		5 1/2', 14# @ 5,035'
			Coment w/ 300 ex "C"
	CURREN	IT CONFIGURATION	Coment w/ S

ЛКG/D84 08/25/93 TD: 5,035' PBTD: 5,014'

MERIDIAN OIL



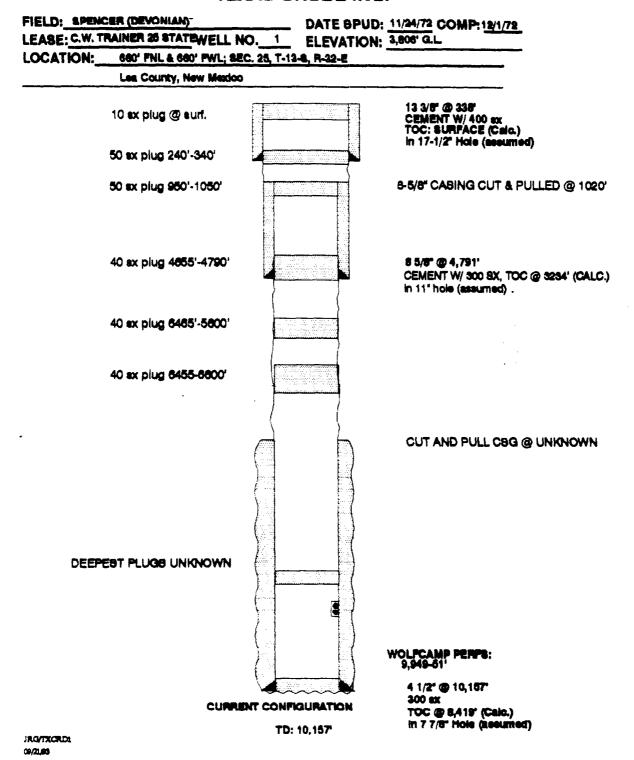


RESULT OF WATER ANALYSES

		LABORATORY NO.	9939	
TO: Ms. Karen Burns		SAMPLE RECEIVED		3
P. O. Box 51810, Midland, TX 7971	.0	RESULTS REPORTED		
		NEGOCIO NEPONIED		
COMPANY Meridian Oil Company		EASE Star	te "DS"	
FIELD OR POOL				
SECTION BLOCK SURVEY	COUNTY	Lea STATE	NM	
SOURCE OF SAMPLE AND DATE TAKEN:				
NO.1 Produced water - taken from	State "DS"	•		
NO.2 Raw water - taken from wind				
				
NO. 3				
NO. 4				·
REMARKS:	1. Sa	n Andres	 	
CHEMI	CAL AND PHYSIC	CAL PROPERTIES		
	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.0121	1.0017		
pH When Sampled				
pH When Received	6.80			
Bicarbonate as HCO ₃	1,684	220		
Supersaturation as CaCO,	·			
Undersaturation as CaCO,				
Total Hardness as CaCO,	3,850	238		
Calcium as Ca	1,010	81		
Magnesium as Mg	322	9		
Sodium and/or Potassium	3,517	19		
Sulfate as SO,	579	54	 	
Chloride as Cl	6,747	31		
Iron as Fe	2.2	1.1		
Barium as Ba				
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	13,858	413		
Temperature °F				
Carbon Dioxide, Calculated				
Dissolved Oxygen.				
Hydrogen Sulfide	954	0.0		
Resistivity, ohms/m at 77* F.	0.54	0 22.0		
Suspended Oil				
Filtrable Solids as mg/l				
Volume Filtered, mt				
Total Dissolved Solids @ 180°C.	13,100	396		
				L
	esuits Reported As Mil			
Additional Determinations And Remarks The undersige the best of his knowledge and be	ned certifi lief.	es the above to	be true and	correct to
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		(, -,	2011	
Form No 3		Vin A Z	11	· · · · · · · · · · · · · · · · · · ·

Waylan C. Martin, M.A.

TEXAS CRUDE INC.

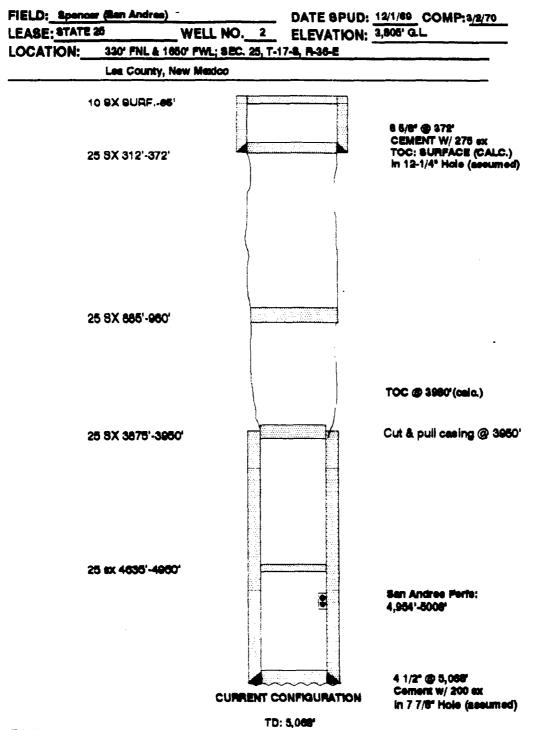


STALLWORTH OIL & GAS

	(Ben Andree)			DATE SPUD	: 3/18/74 COMP:4/6/74
EASE: TURNE OCATION:				ELEVATION	; 3,814 · Q.L
	Les County,				
		·			
,	0 9X 9URF 6	•			8 5/8" @ 351" CEMENT W/ 225 ex TOC: SURFACE (CIRC.) In 11" Hole
3	5 SX 1970'-21	04'			
3	5 8X 3215'-33	52'	\ \ \ 		
	5 9X 4806'-49				
3	6 9X 5046'- 51:	85 '			
		CI		ONFIGURATION	

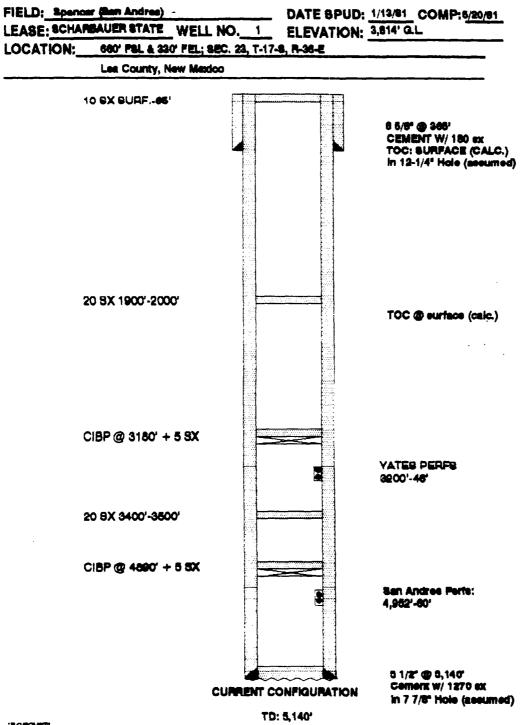
TD: 5,185'

AVANCE OIL & GAS

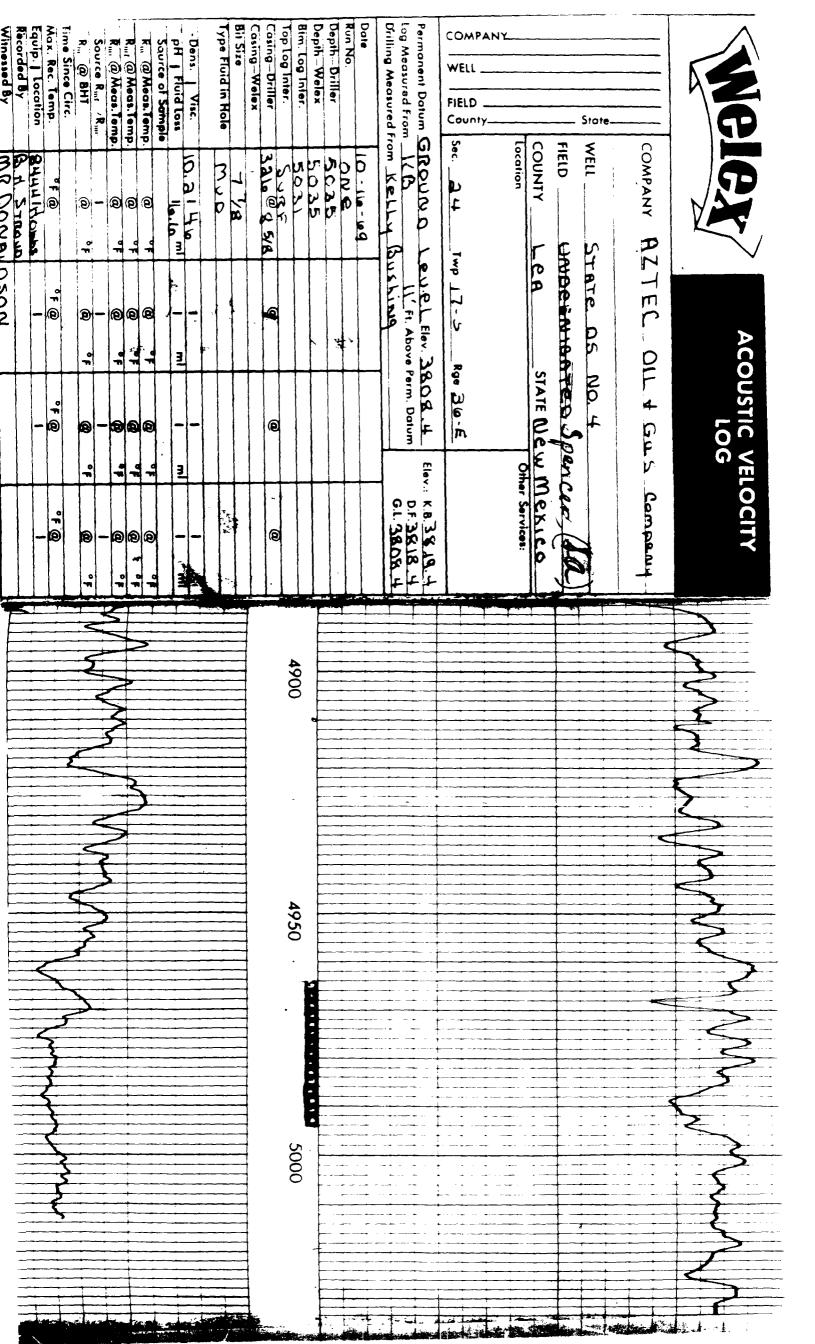


JRG/AV1 09/2L/63

COTTON PETROLEUM



JRG/8CH971 09/21/85



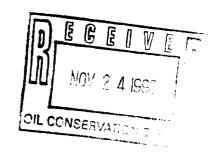
MERIDIAN OIL

November 22, 1993

Oil Conservation Division
P. O. Box 2088
State Land Office Building
Santa Fe, New Mexico 87504-2088

RE: Application for Authorization to Inject Southland Royalty Company State DS No. 4 Spencer San Andres Field Unit L., Section 24, T17S, R36E Lea County, New Mexico

State Lease No.: L-200



Gentlemen:

Southland Royalty Company (SRC) is applying for authorization to convert the above referenced well for the purpose of secondary recovery and requests a hearing on the earliest possible docket for an initial secondary recovery project on this lease. At this time, SRC is also applying for the "recovered oil tax rate" (reduced oil severance tax rate) since this will be a new enhanced recovery project. Attached is an injection well data sheet showing the current and proposed mechanical configuration of this well. A map is also attached showing the one-half mile area of review around the well. The required information from "Form C-108" follows.

Case 10891

The proposed injection well will dispose of water produced from Southland Royalty leases from the San Andres in the Spencer Field. Our estimated initial injection rate will be 500 BPD. The estimated maximum rate is 1000 BPD. We anticipate initial injection pressure to be ± 500 psi, and request an operating maximum pressure of 1000 psi. The closed injection facilities will be equipped with high and low level head switches and will not operate continuously. No deeper aquifers containing usable quality water are known in this area.

III. Well Data

- A. 1 through 4. See two attached well data sheets; the first is the existing data; the second is the proposed recompletion data.
 - 1) The proposed well:
 State DS No. 4
 Unit L, 1980' FSL, 660' FWL
 Sec. 24, T17S, R36E
 Lea County, New Mexico
 Lease No.: L-200

2) Surface: 8 5/8", 24# @ 326' in 12-1/4" hole cement with 215 sx. TOC = Circ. to Surface

Production: 5-1/2", 14# @ 5,035' in 7-7/8" hole cement with 300 sx. TOC = 3440' by temperature survey

- 3) Injection Tubing: 2-3/8", 4.7#, internally plastic coated set @ ±4900'.
- 4) Packer: Guiberson UniV, retrievable, internally and externally plastic coated set at ±4900"
- B. 1) Injection Formation: San Andres
 - 2) Injection Interval: Perforated from: 4964' 4994'.
 - 3) The well was originally drilled for production of oil and gas
 - 4) There will be no other open intervals in this injection well
 - 5) The next possible higher oil or gas zone is the Queen located at approximately 4159'. The next possible lower oil or gas zone is a Paddock located at approximately 6600'.
- IV. This is <u>not</u> an expansion of an existing Southland Royalty project.
- V. Area of Review: See attached plat, one-half mile radius identified
- VI. Tabulation of data: Wells within area of review.

Southland Royalty Co., State DS No. 4
Unit L, Sec.24, T17S, R36E, Lea Co. NM
Spud 10/4/69, TD 5035'
8-5/8" @ 326' w/ 215 sx, circulated
5-1/2" @ 5035' w/ 300 sx, TOC @ 3440 by TS
perfed 4964-94', acidize w/ 1000 gal 15% NE acid
completed 10/26/69 for 248 BOPD + 0 BWPD + 84 MCFD

Southland Royalty Co., State DS No. 2
Unit K, Sec.24, T17S, R36E, Lea Co. NM
Spud 8/4/69, TD 5100'
8-5/8" @ 323' w/ 215 sx, circulated
5-1/2" @ 5099' w/ 465 sx, TOC @ 3240' by TS
perfed 4944-5008', acidize w/ 1000 gal 15% NE acid
completed 8/22/69 for 216 BOPD + 0 BWPD + 130 MCFD

Southland Royalty Co., State DS No. 3 Unit J, Sec.24, T17S, R36E, Lea Co. NM Spud 9/11/69, TD 5061' 8-5/8" @ 331' w/ 225 sx, circulated 5-1/2" @ 5050' w/ 325 sx, TOC @ 3510' by TS perfed 5004-14', acidized 500 gal, squeeze w/ 50 sx perfed 4925-66', acidized w/ 500 gal completed 10/20/69 for 78 BOPD + 8 BWPD + 0 MCFD deepen to 6794', set 3-1/2" liner 4985 - 6794' w/ 175 sx.

TOC @ 5050' by TS, squeeze liner top w/ 150 sx perf 6653-77, acidize w/ 1500 gal, squeeze w/ 50 sx.

perf 6414-24, acidize w/ 1000 gal, squeeze w/ 50 sx perf 6558-80', acidize w/ 2500 gal, squeeze w/ 50 sx perf 5360-75', acidize w/ 500 gal, squeeze w/ 50 sx perf 4932-66', acidize w/ 500 gal, squeeze w/ 75 sx perf 6476-6680', acidize w/ 2000 gal, frac w/ 30,000 gal + 30,000 lbs completed 9/21/74 5 BO + 0 BW + 0 MCFD

Southland Royalty Co., State DS No. 1 Unit N, Sec.24, T17S, R36E, Lea Co., NM Spud 5/19/69 TD 11,253' 13-3/8" @ 361' w/ 350 sx, circulated 8-5/8" @ 5300' w/ 460 sx, TOC calc @ 2911' (11" hole, 1.32 cu.ft/sx) spot 35 sx plug @ 11,210' Devonian spot 25 sx plug @ 9,750' Penn spot 25 sx plug @ 8,850' Abo spot 25 sx plug @ 6,200' Glorieta set CIBP @ 5,230' + 1sx cement perf 5186-90', acidize w/ 250 gal, squeeze w/ 30 sx perf 5130-42', acidize w/ 500 gal, squeeze w/ 71 sx perf 5080-90', acidize w/ 500 gal, squeeze w/ 75 sx perf 4988-5030', acidize w/ 1000 gal completed 7/21/69 for 192 BOPD + 0 BWPD + 124 MCFD squeeze perf 4988-5030' w/ 406 sx perf 4948-94', acidize w/ 500 gal, set CIBP @ 4930'.

Southland Royalty Co., State DS No. 5
Unit M, Sec.24, T17S, R36E, Lea Co. NM
Spud 12/13/69, TD 5060'
8-5/8" @ 340' w/ 220 sx circulated
5-1/2" @ 5060' w/ 300 sx, TOC @ 3460' by TS
perf 5006-10', acidize w/ 1000 gal
completed 12/31/69 for 230 BOPD + 0 BWPD + 96 MCFD
squeeze perfs 5006-10' w/ 200 sx
perfed 4980-94', acidize w/ 1000 gal, squeeze w/ 50 sx
perfed 4934-72', acidize w/ 2500 gal.

Southland Royalty Co., State DS No. 6 Unit O, Sec.24, T17S, R36E, Lea Co., NM Spud 12/26/69, TD 5060' 8-5/8" @ 332' w/ 215 sx, circulated 5-1/2" @ 5050' w/ 300 sx, TOC @ 3521' by TS perf 4980-88', acidize w/ 1634 gal completed 1/10/70 for 480 BOPD + 0 BWPD + 0 MCFD squeeze perfs 4940-88' w/ 200 sx perfed 4890-4956', acid w/ 500 gal

Southland Royalty Co., State SS No. 1
Unit F, Sec.24, T17S, R36E, Lea Co., NM
Spud 8/21/69, TD 5150'
8-5/8" @ 332' w/ 225 sx, circulated
5-1/2" @ 5150' w/ 390 sx, TOC @ 3360' by TS
perfed 5112-16', acid w/ 500 gal, squeeze w/ 12 sx
perfed 5067-78', acid w/ 1000 gal, squeeze w/ 75 sx
perfed 5032-48', acid w/ 1000 gal, squeeze w/ 100 sx
perfed 4166-90', acidize w/ 2000 gal, squeeze w/ 150 sx
perfed 3928-50', acidize w/ 1000 gal, squeeze w/ 150 sx
perfed 5112-32, acidize w/ 4000 gal
completed 1/15/70 as an SWD well
Acidize w/ 1000 gal, Acidize w/ 1500 gal.

Stallworth Oil and Gas Turner State No. 2
Unit H, Sec. 23, T17S, R36E, Lea Co., NM
Spud 3/17/74, TD 5185'
8-5/8" @ 351' w/ 225 sx, TOC calc @ surface (12-1/4" hole, 1.32 cu.ft/sx)
35 sx plug @ 5185', 35 sx plug @ 4945'
35 sx plug @ 2104', 10 sx plug @ surf
P&A 4/20/74

Cotton Petroleum Co. Scharbauer State No. 1
Unit P, sec. 23, T17S, R36E, Lea Co., NM
Spud 1/13/81, TD 5140'
8-5/8" @ 365' w/ 180 sx, TOC calc @ surface (12-1/4" hole, 1.32 cu.ft/sx)
5-1/2" @ 5140' w/ 1270 sx, TOC calc @ surface (7-7/8" hole, 1.32cu.ft/sx)
perfed 5086-96', acidize w/ 750 gal, set CIBP @ 5050'
perfed 4975 - 5030', acidize w/ 750 gal, set CIBP @ 5010'
perfed 4952-60', squeeze w/ 300 sx
re-perf 4952-60', acidize w/ 750 gal
completed 5/20/81 for 10 BOPD + 16 BWPD + 4 MCFD
set CIBP @ 4980', perfed 3200 - 46', acidize w/ 500 gal
20 sx plug 3400 - 3500', set CIBP @ 3180' + 5 sx
20 sx plug 1900 - 2000', 10 sx plug @ surface

Avance Oil & Gas Co. State 25 No. 2
Unit C, sec. 25, T 17S, R36E, Lea Co. NM
Spud 12/1/69, TD 5068'
8-5/8' @ 372' w/ 275 sx, TOC calc @ surface (12-1/4" hole, 1.32 cu.ft/sx)
4-1/2" @ 5067' w/ 200 sx. TOC @ 3980' (7-7/8" hole, 1.32cu.ft/sx)
perf 4954-5006', Acidize w/ 3000 gal
cut and pull csg @ 3950', 25 sx plug 4635-4950'
25 sx plug 3875-3950', 25 sx plug 885-960'
25 sx plug 312-372', 10 sx plug @ surf.

Texas Crude, Inc., C. W. Trainer 25 State No. 1 formerly Pennzoil Company State 25 No. 1 Unit D, sec. 25, T17S, R36E, Lea Co., NM re-entered 12/1/72, TD 11,305' ran DSTs 6645-7010' 40 sx plug 6455-6600', 40 sx plug 5465'-5600' 40 sx plug 4655-4790', cut and pull 8-5/8" csg @ 1020'. 50 sx plug 950-1050', 50 sx plug 240'-340', 10 sx plug @ surface

VII. Proposed Operation:

- 1. Estimated average initial injection rate is 500 BWPD. Estimated maximum daily rate 1000 BPD.
- 2. This will be a closed system.
- 3. Estimated average injection pressure is 500 psi. Maximum estimated operating pressure is 1000 psi.
- 4. The source of the injected water is the produced water from the San Andres. Since produced water is being re-injected into the San Andres, no incompatibility is expected. See attached water analysis
- 5. Water injection will be into a zone currently productive of oil and gas.

VIII. Geological Data

The proposed zone for injection is the San Andres formation at 4900'. This Permian Age reservoir is an anticlinal structure composed of nearly 100% dolomite containing some oolites, fractures and anhydritic inclusions. The average porosity throughout the reservoir runs 6.1% though most of it comes in the form of secondary porosity (vugs and fractures). The San Andres in this area can average over 800 in gross thickness. Since an oil/water contact does exist in the reservoir, the net thickness averages approximately 70'.

There are no known underlying sources of potable water below the San Andres. The only fresh water sources located above are from an approximate depth of 100-150'.

IX. Proposed Stimulation

The proposed stimulation program is a 3000 gallon treatment of 15% NEFE HCl acid.

X. Log Data

Log section is attached with proposed interval indicated.

XI. Fresh Water Analysis

The only fresh well found within 1 mile of the proposed injection well was located in Unit D, Sec.25, T17S, R36E of Lea County, NM. A sample was taken from the well on 9/3/93 with the analysis herein attached.

XII. Hydrologic Communication

There is no known evidence of faulting or other hydrologic communication between potential fresh water aquifers and the desired injection zone.

XIII. Proof of Notice

The offset operators and surface owner were notified by certified return receipts on November 22, 1993.

Proof of Notice is attached.

XIV. Certification

Certification is on Form C-108.

If you need any additional information or if you have any questions, please contact M.P. Gaddis at 915/688-6850.

Sincerely,

M.P. Gaddis Sr Staff Engineer

MPG/mp enclosures

xc:

OCD-Hobbs

Hobbs Field Office

Well File Land Dept.

Production Engineering Reservoir Engineering

Joint Interest

Joint Interest

State DS No. 4 Unit L, Sec. 24, T17S, R36E Lea County, New Mexico Southland Royalty Company

The following Offset Operators, Surface Owners and Mineral Interest Owners within open areas, within a one-half mile radius were notified by certified return receipt on November 22, 1993:

Maralo, Inc. Five Post Oak Park Suite 1010 Houston, TX 77027

Yates Petroleum Corp. 105 South 4th Street Artesia, NM 88210

Ken McPeters P. O. Box 1860 Hobbs, NM 88240

Howell Spears
P. O. Box 4246
Guifport, MS 39501

Elbert Damon Shipp & Suzy Laverne Shipp 1104 Ave. J. West Lovington, NM 88260

Cross Timbers Oil Co. L.P. 810 Houston St., Ste. 2000 Fort Worth, TX 76102

Surface Owner

Dorothy T. Scharbauer P. O. Box 1471 Midland, Texas 79702 Marshall & Winston, Inc. P. O. Box 50880 Midland, TX 79710

Oxy USA, Inc. P. O. Box 50250 Midland, TX 79710

E. L. Latham Co. P. O. Box 1392 Hobbs, NM 88241

Roy G. Barton & Opal Barton Revocable Trust Roy G. Barton, Jr, Trustee P. O. Box 978 Hobbs, NM 88241,

Alan Jochimsen 2402 Cimmaron Midland, TX 79705

James Ronald Ewing 700 East 9th St., Apt. 11K Little Rock, AR 72202 Norma Barton P. O. Box 729 Hobbs, NM 88240

John T. Stallings P. O. Box 685 Creedmor, NC

The Moran Partnership 1000 E. Walker Drive Hobbs, NM 88241

Roy G. Barton, Jr. P. O. Box 978 Hobbs, NM 88241

Charles Doornbas, Trustee Charles F. Doornbas Revocable Trust P. O. Box 639 Bartlesville, OK 74005

The Bevridge Co. P. O. Box 993 Midland, TX 79702

Newspaper

Hobbs News Sun 201 N. Thorp Hobbs, NM 88241 (505) 393-2123 RECEIVED

State of New Mexico, County of Lea.

OCT 25 1993

I, Kathi Bearden

PROD. SERV.

General Manager

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.

One weeks.

Beginning with the issue dated

October 20 , 19 93 and ending with the issue dated

October 20

193

General Manager
Sworn and subscribed to before

me this 21 day of 1993

Mixing Public.

My Commission expires March 15, 1997

(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.

Hobbs Daily News-Sun P.O. Box 860 Hobbs, New Mexico 88241-0860

Contact party: 1 (915)688-6908 application w servation Di to inject L. 1980" FSIX Southland R from the San tion in the Sp into the San tion 4964-94'. Es tial injection rate. BWPD. The imum injection; rate BWPD. Anticipated jection pressure 1000 pound interested a objection vation Divi

Well and the second second

OIL CONSERVATION DIVISION

EN PLANCE BURNE TOPE SHIP SHIP BURNE BLATE FOCKS DURING WWW. STARRA FORH C-108 Revised 7-1-31

ī.	Purpose: Secondary Recovery Pressure Maintenance Disposal Storage Application qualifies for administrative approval? Tyes XIno
II.	Application qualifies for administrative approval?yesX_no Operator:Southland Royalty Company
• •	Address: P.O. Box 51810 Midland, Texas 79710
	Contact party: Maria L. Perez, Prod. Asst. Phone: 915-688-6906
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
٧.	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:
	 Proposed average and maximum daily rate and volume of fluids to be injected; Whother the system is open or closed; Proposed average and maximum injection pressure; Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and 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.< td=""><td>Attach appropriate geological data on the injection zone including appropriate lithological 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.</td></viii.<>	Attach appropriate geological data on the injection zone including appropriate lithological 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.
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 bilief. Name: M. P. Gaddis Title Sr. Staff Engineer
	Signature: 1/22/93

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 Yo.; Idention 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 snown 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.

Southland Royalty Compan	Y	State DS		
OPERATOR	LEASE			
4 1980' FSL, 660' FW		<u> 17-s</u>	36-E	
WELL NO. FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE	
<u>Schematic</u>		<u>Tubular Data</u>		
	Surface Casino	_		
	Size 8-5/8	" Cemented w	rith 215	SX.
	TOC surfa	ace feet determine	ned by circu	lation
	Hole size	.2-1/4"		
				
	Intermediate C			
5	Size	" Cemented w	rith	SX.
ra	TOC	feet determi	ned by	
Diagram	Hole size			
ī				
eq	Long String			
ch	Size 5-1/	2 " Cemented w	vith 300	SX.
Attached	TOC 3440			<u>su</u> rvey
	Hole size 7	7-7/8"		<u></u>
S e e	Total Depth	5035'		
42	Injection Inter	/al		
	4964	feet to	1994	feet
	(perfo	rated or open-hole, in	dicate which)	

INJECTION WELL DATA SHEET

SIDE 2

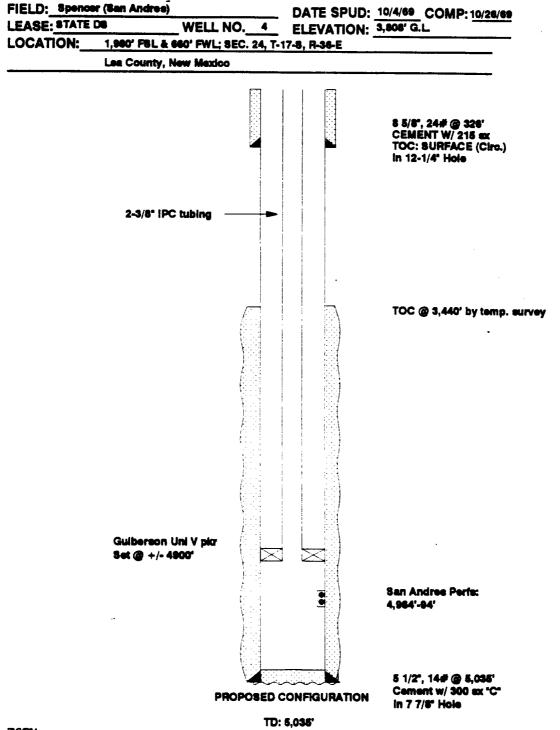
Tub	ing size 2-3/8 "	lined with	plastic coated (material)	set in a
Gu	iberson UniV or equiv.	packer at	+/- 4900	feet
	(brand and model) (or describe any other casing-tubing			-
<u>OT</u>	HER DATA			
1.	Name of the injection formation	San	Andres	
2.	Name of Field or Pool (if applicable)	Spen	cer	
3.	Is this a new well drilled for injection	? YE	S <u>x</u> NO	
	If no, for what purpose was the well	originally drilled?	oil producer	
4.	Has the well ever been perforated in plugging detail (sacks of cement or No	bridge plug(s) use		ervals and give
	· · ·			
5 .	Give the depth to and name of any No overlying zones ab			

MERIDIAN OIL

FIELD: Spence	or (Sen Andres)			DATE SPUD: 1	0/4/68_ COMP: 10/26/69
LEASE: STATE			04	ELEVATION: 3	
LOCATION:_	1,980' PSL &	660' FWL; 8	EC. 24, T-	17-8, R-36-E	
	Lee County,	New Mexico			
			(F)	F	
					8 5/8", 24# @ 326' CEMENT W/ 215 ex
				<u> </u>	TOC: SURFACE (Circ.) in 12-1/4" Hole
					HI 18-1/4 (1844
			Ì		
					•
			<u> </u>		TOC @ 3,440' by temp. survey
					•
			\		•
			抽		
					Sen Andres Perfs: 4,964'-94'
					4001 21
			龍劃		
					5 1/2", 14# @ 5,035"
			CURREN	IT CONFIGURATION	Cement w/ 300 ex °C° in 7 7/8° Hole
					HI ((/W TIVIN

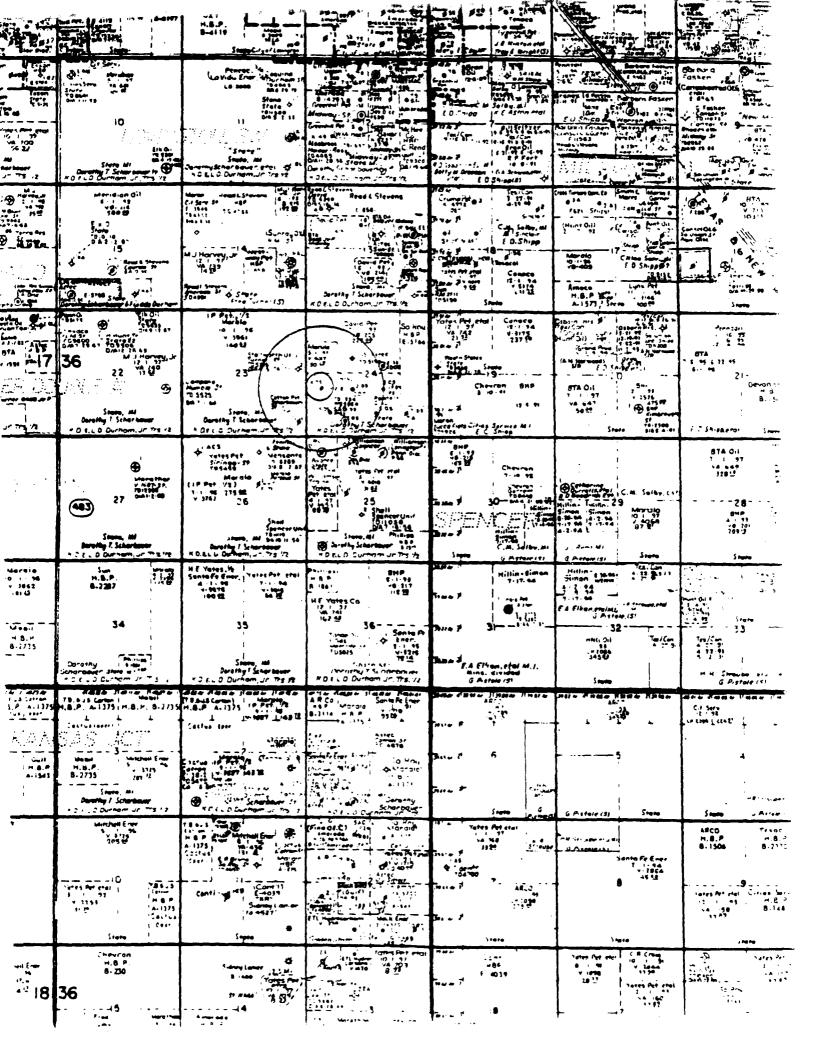
ЛКО/D84 06/25/99 TD: 5,035' PBTD: 5,014'

MERIDIAN OIL



JBQ/DB4 04/25/93

PBTD: 5,014'



P. O. BOX 1466 MONAHANS, TEXAS 79756 PH. 943-3234 OR 563-1040

709 W. INDIANA MIDLAND, TEXAS 79701 PHONE 683-4521

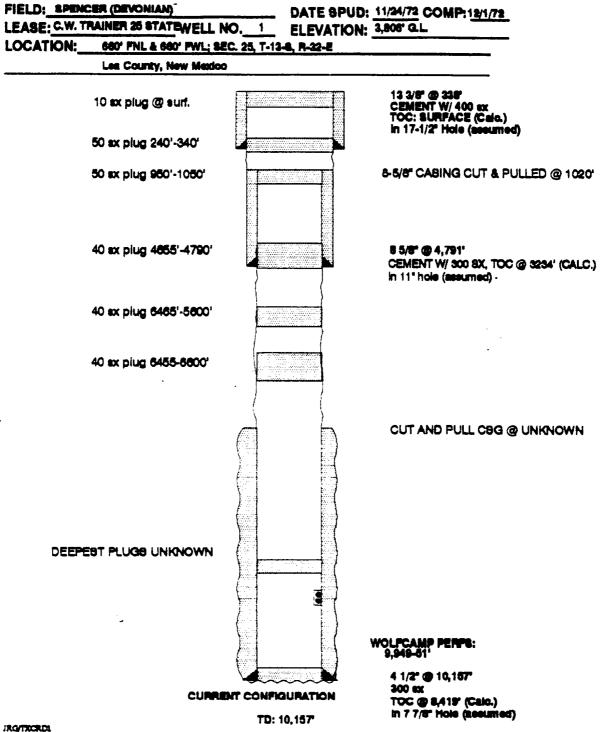
RESULT OF WATER ANALYSES

		LABORATORY NO			
TO: Ms. Karen Burns		SAMPLE RECEIVED 9-3-93			
P. O. Box 51810, Midland, TX 7971	0	RESULTS REPORTED	9-3-9)3	
COMPANY Meridian Oil Company	l	EASE Sta	te "DS"		
FIELD OR POOL					
SECTION BLOCK SURVEY	COUNTY	Lea STATE	NM		
SOURCE OF SAMPLE AND DATE TAKEN:					
NO. 1 Produced water - taken from	State "DS"	•			
NO. 2 Raw water - taken from wind		·			
	<u> </u>			 -	
NO. 3					
NO. 4					
REMARKS:	1. Sa	n Andres			
بالمساور والمراجع والمتافقة والمساوي والمتافقة والمتافة والمتافقة والمتافقة والمتافقة والمتافقة والمتافقة والمتافقة	CAL AND PHYSIC	AL PROPERTIES			
	NO. 1	NO. 2	NO. 3	NO. 4	
Specific Gravity at 80° F.	1.0121	1.0017			
pH When Sampled					
pH When Received	6.80	7,52			
Bicarbonate as HCO,	1,684	220			
Supersaturation as CaCO,					
Undersaturation as CaCO ₃					
Total Hardness as CaCO,	3,850	238			
Calcium as Ca	1,010	81			
Magnesium as Mg	322	9			
Sodium and/or Potassium	3,517	19			
Suifate as SO,	579	54			
Chloride as CI	6,747	31			
iron as Fe	2.2	1.1			
Barrum as Ba					
Turbidity, Electric					
Color as Pt			_		
Total Solids, Calculated	13,858	413			
Temperature 1F.					
Carbon Dioxide, Calculated					
Dissaived Oxygen,					
Hydrogen Sulfide	954	0.0			
Resistivity, onmarm at 77° F.	0.54				
Suspended Oil	<u></u>				
Filtraple Solids as mg/l					
Volume Fritered, mi	-				
Total Dissolved Solids @ 180°C.	13,100	396			
Re	suits Reported As Mill	igrams Per Liter			
Additional Determinations And Remarks The undersig	ned certifi	es the above to	be true and	correct to	
the best of his knowledge and be	lief.				
			/ /		
			//	/	
		()	3011		
التناك الكالات المتعارض والمراب والمتعارض والمتعارض والمتعارض والمتعارض والمتعارض والمتعارض والمتعارض والمتعارض					

Form No. 3

Waylan C. Martin, M.A.

TEXAS CRUDE INC.



IRG/TXCRE

STALLWORTH OIL & GAS

FIELD: Spencer (Sen Andres) DATE SPUD: 3/18/74 COMP:4/8/74 WELL NO. 2 ELEVATION: 3,814' Q.L. LEASE: TURNER STATE LOCATION: 2310' FNL & 230' FEL; SEC. 23, T-17-8, R-36-E Lea County, New Mexico 10 9X 9URF.- 65' 8 5/8" (\$351" CEMENT W/ 225 ex TOC: SURFACE (CIRC.) In 11" Hole 35 SX 1970'-2104' 35 SX 3215'-3352' 35 BX 4806'-4945' 35 6X 5046'-5185' CURRENT CONFIGURATION in 7 7/6" Hole

TD: 5,185'

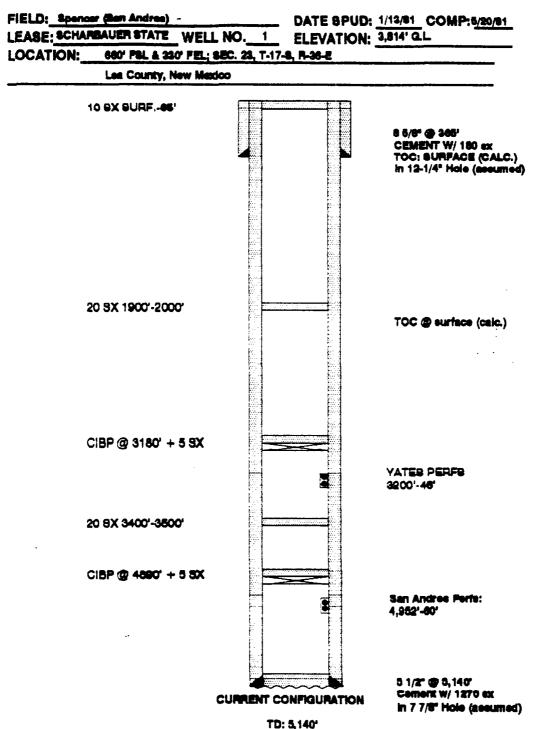
JRG/TURST1 09/21/03

AVANCE OIL & GAS

FIELD: Spencer (Sen Andree)	DATE SPUD:	12/1/69 COMP:3/2/70
LEASE: STATE 25 WE	LL NO. 2 ELEVATION:	3,806' Q.L
LOCATION: 320' FNL & 1650' F	WL; SEC. 25, T-17-8, R-36-E	
Lee County, New I	fedco	
10 9X 9URF,-65'		8 5/8° @ 272° CEMENT W/ 275 ex
25 SX 312'-372'		TOC: SURFACE (CALC.) in 12-1/4" Hole (assumed)
25 SX 885'-960'		•
		TOC @ 1980'(calc.)
		100 0 0000 (000)
25 3X 3875'-3950'		Cut & pull casing @ 3950'
25 ex 4635'-4960'		
•	8	San Andree Perfe: 4,954'-5006'
		4 1/2° (0) 5 (140)
	CURRENT CONFIGURATION	4 1/2" @ 5,000" Cemerx w/ 200 ex
	TR: 5 AGE	in 7 7/8" Hole (assumed)

JRQ/AV1 09/21/85

COTTON PETROLEUM



JRG/SCHETI 09/ZLSS



Type Fluid in Hole Type F	COMPANY AZTEC OIL + Gus Company WELL STATE DS NO. 4 FIELD LANDESMIDATED Spences FIELD LANDESMIDATED SPENCE COUNTY Lea STATE New Mexico COUNTY Lea STATE New Mexico FIELD LANDESMIDATED SPENCES FIELD LANDESMIDATED SPENCES FIELD LANDESMIDATED SPENCES FIELD LANDESMIDATED SPENCES Other Services: COMPANY AZTE DS NO. 4 FIELD LANDESMIDATED SPENCES FIELD LANDESMIDATED SPENCES Other Services: COMPANY AZTE DS NO. 4 FIELD LANDESMIDATED SPENCES Other Services: COMPANY AZTE DS NO. 4 FIELD LOS NO. 4 FIELD L	ACOUSTIC VELOCITY
	4900 4950 5000	

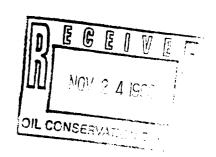
MERIDIAN OIL

November 22, 1993

Oil Conservation Division
P. O. Box 2088
State Land Office Building
Santa Fe, New Mexico 87504-2088

RE: Application for Authorization to Inject Southland Royalty Company State DS No. 4 Spencer San Andres Field Unit L, Section 24, T17S, R36E Lea County, New Mexico

State Lease No.: L-200



Case 10891

Gentlemen:

Southland Royalty Company (SRC) is applying for authorization to convert the above referenced well for the purpose of secondary recovery and requests a hearing on the earliest possible docket for an initial secondary recovery project on this lease. At this time, SRC is also applying for the "recovered oil tax rate" (reduced oil severance tax rate) since this will be a new enhanced recovery project. Attached is an injection well data sheet showing the current and proposed mechanical configuration of this well. A map is also attached showing the one-half mile area of review around the well. The required information from "Form C-108" follows.

The proposed injection well will dispose of water produced from Southland Royalty leases from the San Andres in the Spencer Field. Our estimated initial injection rate will be 500 BPD. The estimated maximum rate is 1000 BPD. We anticipate initial injection pressure to be ± 500 psi, and request an operating maximum pressure of 1000 psi. The closed injection facilities will be equipped with high and low level head switches and will not operate continuously. No deeper aquifers containing usable quality water are known in this area.

III. Well Data

- A. 1 through 4. See two attached well data sheets; the first is the existing data; the second is the proposed recompletion data.
 - 1) The proposed well:
 State DS No. 4
 Unit L, 1980' FSL, 660' FWL
 Sec. 24, T17S, R36E
 Lea County, New Mexico
 Lease No.: L-200

s:\erv\public\mpgpub\StDS4com.doc\pmp¹

2) Surface: 8 5/8", 24# @ 326' in 12-1/4" hole cement with 215 sx. TOC = Circ. to Surface

Production: 5-1/2", 14# @ 5,035' in 7-7/8" hole cement with 300 sx. TOC = 3440' by temperature survey

- 3) Injection Tubing: 2-3/8", 4.7#, internally plastic coated set @ ±4900'.
- 4) Packer: Guiberson UniV, retrievable, internally and externally plastic coated set at ±4900"
- B. 1) Injection Formation: San Andres
 - 2) Injection Interval: Perforated from: 4964' 4994'.
 - 3) The well was originally drilled for production of oil and gas
 - 4) There will be no other open intervals in this injection well
 - 5) The next possible higher oil or gas zone is the Queen located at approximately 4159'. The next possible lower oil or gas zone is a Paddock located at approximately 6600'.
- IV. This is not an expansion of an existing Southland Royalty project.
- V. Area of Review: See attached plat, one-half mile radius identified
- VI. Tabulation of data: Wells within area of review.

Southland Royalty Co., State DS No. 4
Unit L, Sec.24, T17S, R36E, Lea Co. NM
Spud 10/4/69, TD 5035'
8-5/8" @ 326' w/ 215 sx, circulated
5-1/2" @ 5035' w/ 300 sx, TOC @ 3440 by TS
perfed 4964-94', acidize w/ 1000 gal 15% NE acid
completed 10/26/69 for 248 BOPD + 0 BWPD + 84 MCFD

Southland Royalty Co., State DS No. 2 Unit K, Sec.24, T17S, R36E, Lea Co. NM Spud 8/4/69, TD 5100' 8-5/8" @ 323' w/ 215 sx, circulated 5-1/2" @ 5099' w/ 465 sx, TOC @ 3240' by TS perfed 4944-5008', acidize w/ 1000 gal 15% NE acid completed 8/22/69 for 216 BOPD + 0 BWPD + 130 MCFD

Southland Royalty Co., State DS No. 3 Unit J, Sec.24, T17S, R36E, Lea Co. NM Spud 9/11/69, TD 5061' 8-5/8" @ 331' w/ 225 sx, circulated 5-1/2" @ 5050' w/ 325 sx, TOC @ 3510' by TS perfed 5004-14', acidized 500 gal, squeeze w/ 50 sx perfed 4925-66', acidized w/ 500 gal completed 10/20/69 for 78 BOPD + 8 BWPD + 0 MCFD deepen to 6794', set 3-1/2" liner 4985 - 6794' w/ 175 sx.

TOC @ 5050' by TS, squeeze liner top w/ 150 sx perf 6653-77, acidize w/ 1500 gal, squeeze w/ 50 sx.

perf 6414-24, acidize w/ 1000 gal, squeeze w/ 50 sx perf 6558-80', acidize w/ 2500 gal, squeeze w/ 50 sx perf 5360-75', acidize w/ 500 gal, squeeze w/ 50 sx perf 4932-66', acidize w/ 500 gal, squeeze w/ 75 sx perf 6476-6680', acidize w/ 2000 gal, frac w/ 30,000 gal + 30,000 lbs completed 9/21/74 5 BO + 0 BW + 0 MCFD

Southland Royalty Co., State DS No. 1 Unit N, Sec.24, T17S, R36E, Lea Co., NM Spud 5/19/69 TD 11,253' 13-3/8" @ 361' w/ 350 sx, circulated 8-5/8" @ 5300' w/ 460 sx, TOC calc @ 2911' (11" hole, 1.32 cu.ft/sx) spot 35 sx plug @ 11,210' Devonian spot 25 sx plug @ 9,750' Penn spot 25 sx plug @ 8,850' Abo spot 25 sx plug @ 6,200' Glorieta set CIBP @ 5,230' + 1sx cement perf 5186-90', acidize w/ 250 gal, squeeze w/ 30 sx perf 5130-42', acidize w/ 500 gal, squeeze w/ 71 sx perf 5080-90', acidize w/ 500 gal, squeeze w/ 75 sx perf 4988-5030', acidize w/ 1000 gal completed 7/21/69 for 192 BOPD + 0 BWPD + 124 MCFD squeeze perf 4988-5030' w/ 406 sx perf 4948-94', acidize w/ 500 gal, set CIBP @ 4930'.

Southland Royalty Co., State DS No. 5
Unit M, Sec.24, T17S, R36E, Lea Co. NM
Spud 12/13/69, TD 5060'
8-5/8" @ 340' w/ 220 sx circulated
5-1/2" @ 5060' w/ 300 sx, TOC @ 3460' by TS
perf 5006-10', acidize w/ 1000 gal
completed 12/31/69 for 230 BOPD + 0 BWPD + 96 MCFD
squeeze perfs 5006-10' w/ 200 sx
perfed 4980-94', acidize w/ 1000 gal, squeeze w/ 50 sx
perfed 4934-72', acidize w/ 2500 gal.

Southland Royalty Co., State DS No. 6 Unit O, Sec.24, T17S, R36E, Lea Co., NM Spud 12/26/69, TD 5060' 8-5/8" @ 332' w/ 215 sx, circulated 5-1/2" @ 5050' w/ 300 sx, TOC @ 3521' by TS perf 4980-88', acidize w/ 1634 gal completed 1/10/70 for 480 BOPD + 0 BWPD + 0 MCFD squeeze perfs 4940-88' w/ 200 sx perfed 4890-4956', acid w/ 500 gal

Southland Royalty Co., State SS No. 1
Unit F, Sec.24, T17S, R36E, Lea Co., NM
Spud 8/21/69, TD 5150'
8-5/8" @ 332' w/ 225 sx, circulated
5-1/2" @ 5150' w/ 390 sx, TOC @ 3360' by TS
perfed 5112-16', acid w/ 500 gal, squeeze w/ 12 sx
perfed 5067-78', acid w/ 1000 gal, squeeze w/ 75 sx
perfed 5032-48', acid w/ 1000 gal, squeeze w/ 100 sx
perfed 4166-90', acidize w/ 2000 gal, squeeze w/ 150 sx
perfed 3928-50', acidize w/ 1000 gal, squeeze w/ 150 sx
perfed 5112-32, acidize w/ 4000 gal
completed 1/15/70 as an SWD well
Acidize w/ 1000 gal, Acidize w/ 1500 gal.

Stallworth Oil and Gas Turner State No. 2
Unit H, Sec. 23, T17S, R36E, Lea Co., NM
Spud 3/17/74, TD 5185'
8-5/8" @ 351' w/ 225 sx, TOC calc @ surface (12-1/4" hole, 1.32 cu.ft/sx)
35 sx plug @ 5185', 35 sx plug @ 4945'
35 sx plug @ 2104', 10 sx plug @ surf
P&A 4/20/74

Cotton Petroleum Co. Scharbauer State No. 1
Unit P, sec. 23, T17S, R36E, Lea Co., NM
Spud 1/13/81, TD 5140'
8-5/8" @ 365' w/ 180 sx, TOC calc @ surface (12-1/4" hole, 1.32 cu.ft/sx)
5-1/2" @ 5140' w/ 1270 sx, TOC calc @ surface (7-7/8" hole, 1.32cu.ft/sx)
perfed 5086-96', acidize w/ 750 gal, set CIBP @ 5050'
perfed 4975 - 5030', acidize w/ 750 gal, set CIBP @ 5010'
perfed 4952-60', squeeze w/ 300 sx
re-perf 4952-60', acidize w/ 750 gal
completed 5/20/81 for 10 BOPD + 16 BWPD + 4 MCFD
set CIBP @ 4980', perfed 3200 - 46', acidize w/ 500 gal
20 sx plug 3400 - 3500', set CIBP @ 3180' + 5 sx
20 sx plug 1900 - 2000', 10 sx plug @ surface

Avance Oil & Gas Co. State 25 No. 2
Unit C, sec. 25, T 17S, R36E, Lea Co. NM
Spud 12/1/69, TD 5068'
8-5/8' @ 372' w/ 275 sx, TOC calc @ surface (12-1/4" hole, 1.32 cu.ft/sx)
4-1/2" @ 5067' w/ 200 sx. TOC @ 3980' (7-7/8" hole, 1.32cu.ft/sx)
perf 4954-5006', Acidize w/ 3000 gal
cut and pull csg @ 3950', 25 sx plug 4635-4950'
25 sx plug 3875-3950', 25 sx plug 885-960'
25 sx plug 312-372', 10 sx plug @ surf.

Texas Crude, Inc., C. W. Trainer 25 State No. 1 formerly Pennzoil Company State 25 No. 1 Unit D, sec. 25, T17S, R36E, Lea Co., NM re-entered 12/1/72, TD 11,305' ran DSTs 6645-7010' 40 sx plug 6455-6600', 40 sx plug 5465'-5600' 40 sx plug 4655-4790', cut and pull 8-5/8" csg @ 1020'. 50 sx plug 950-1050', 50 sx plug 240'-340', 10 sx plug @ surface

VII. Proposed Operation:

- 1. Estimated average initial injection rate is 500 BWPD. Estimated maximum daily rate 1000 BPD.
- 2. This will be a closed system.
- 3. Estimated average injection pressure is 500 psi. Maximum estimated operating pressure is 1000 psi.
- 4. The source of the injected water is the produced water from the San Andres. Since produced water is being re-injected into the San Andres, no incompatibility is expected. See attached water analysis
- 5. Water injection will be into a zone currently productive of oil and gas.

VIII. Geological Data

The proposed zone for injection is the San Andres formation at 4900'. This Permian Age reservoir is an anticlinal structure composed of nearly 100% dolomite containing some oolites, fractures and anhydritic inclusions. The average porosity throughout the reservoir runs 6.1% though most of it comes in the form of secondary porosity (vugs and fractures). The San Andres in this area can average over 800 in gross thickness. Since an oil/water contact does exist in the reservoir, the net thickness averages approximately 70'.

There are no known underlying sources of potable water below the San Andres. The only fresh water sources located above are from an approximate depth of 100-150'.

IX. Proposed Stimulation

The proposed stimulation program is a 3000 gallon treatment of 15% NEFE HCl acid.

X. Log Data

Log section is attached with proposed interval indicated.

XI. Fresh Water Analysis

The only fresh well found within 1 mile of the proposed injection well was located in Unit D, Sec.25, T17S, R36E of Lea County, NM. A sample was taken from the well on 9/3/93 with the analysis herein attached.

XII. Hydrologic Communication

There is no known evidence of faulting or other hydrologic communication between potential fresh water aquifers and the desired injection zone.

XIII. Proof of Notice

The offset operators and surface owner were notified by certified return receipts on November 22, 1993.

Proof of Notice is attached.

XIV. Certification

Certification is on Form C-108.

If you need any additional information or if you have any questions, please contact M.P. Gaddis at 915/688-6850.

Sincerely,

M.P. Gaddis

Sr. Staff Engineer

MPG/mp enclosures

xc: OCD-Hobbs

Hobbs Field Office

Well File

Land Dept.

Production Engineering

Reservoir Engineering

Joint Interest

Maria Perez (6)

State DS No. 4 Unit L, Sec. 24, T17S, R36E Lea County, New Mexico Southland Royalty Company

The following Offset Operators, Surface Owners and Mineral Interest Owners within open areas, within a one-half mile radius were notified by certified return receipt on November 22, 1993:

Maralo, Inc. Five Post Oak Park Suite 1010 Houston, TX 77027

Yates Petroleum Corp. 105 South 4th Street Artesia, NM 88210

Ken McPeters P. O. Box 1860 Hobbs, NM 88240

Howell Spears
P. O. Box 4246
Gulfport, MS 39501

Elbert Damon Shipp & Suzy Laverne Shipp 1104 Ave. J. West Lovington, NM 88260

Cross Timbers Oil Co. L.P. 810 Houston St., Ste. 2000 Fort Worth, TX 76102

Surface Owner

Dorothy T. Scharbauer P. O. Box 1471 Midland, Texas 79702 Marshall & Winston, Inc. P. O. Box 50880 Midland, TX 79710

Oxy USA, Inc. P. O. Box 50250 Midland, TX 79710

E. L. Latham Co. P. O. Box 1392 Hobbs, NM 88241

Roy G. Barton & Opal Barton Revocable Trust Roy G. Barton, Jr, Trustee P. O. Box 978 Hobbs, NM 88241,

Alan Jochimsen 2402 Cimmaron Midland, TX 79705

James Ronald Ewing 700 East 9th St., Apt. 11K Little Rock, AR 72202 Norma Barton P. O. Box 729 Hobbs, NM 88240

John T. Stallings P. O. Box 685 Creedmor, NC

The Moran Partnership 1000 E. Walker Drive Hobbs, NM 88241

Roy G. Barton, Jr. P. O. Box 978 Hobbs, NM 88241

Charles Doombas, Trustee Charles F. Doombas Revocable Trust P. O. Box 639 Bartlesville, OK 74005

The Bevridge Co. P. O. Box 993 Midland, TX 79702

Newspaper

Hobbs News Sun 201 N. Thorp Hobbs, NM 88241 (505) 393-2123 State of New Mexico, County of Lea.

OCT 25 1993

I, Kathi Bearden

PROD, SERV.

General Manager

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.

one	weeks.						
Beginning with the issue dated							
October 20	1993						
and ending with the issue							
October 20	1993						
Wari n							
Juni had	Mer						
General Manage	r						
Sworn and subscribed to	o before						

My Commission expires March 15, 1997 (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.

Hobbs Daily News-Sun
P.O. Box 860
Hobbs, New Mexico 88241-0860

Southland Royalty C pany, P.O. Box 5181 and Texas 79710. Contact party: M (915)688-69061 servation DN to inject sa L. 1980" FSE County New niect water Southland R from the San tion in the Sinto the San A tion 4964-94', Es tial injection rate BWPD, The imum injection ection press munt in objection vation Divisit

CIL CONSERVATION DIVISION

POST GLOCE BUX 25 43 STATE LAND GLOCE BUILDING BANTA FE, NEW ME RICU BYOCT FORM C-108 Revised 7-1-31

I.	Purpose: Asecondary Recovery Pressure Maintenance Disposal Storage Application qualifies for administrative approval? Syes X no
II.	Operator:Southland Royalty Company
	Address: P.O. Box 51810 Midland, Texas 79710
	Contact party: Maria L. Perez, Prod. Asst. Phone: 915-688-6906
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?
٧.	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:
	 Proposed overage and maximum daily rate and volume of fluids to be injected; Whether the system is open or closed; Proposed average and maximum injection pressure; Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and If injection is for discosal 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 processed injection zone as well as any such source 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 correcto the best of my knowledge and belief. Name: M. P. Gaddis Title Sr. Staff Engineer
	Signature: MPSaddi Pate: 1/122/93

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 amplicants 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.

INJECTION WELL DATA SHEET

SIDE 1

Southland Royalty Company	7	State	e DS		
OPERATOR	LEAS	Ε			
4 1980' FSL, 660' FWI			L7-S	36-E	
WELL NO. FOOTAGE LOCATION	SECTION	TO	WNSHIP	RANGE	
<u>Schematic</u>	Surface Cas		ubular Data		
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02					
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	(pe	rforated or	o pen-hole, indi	cate which)	

1964

INJECTION WELL DATA SHEET

SIDE 2

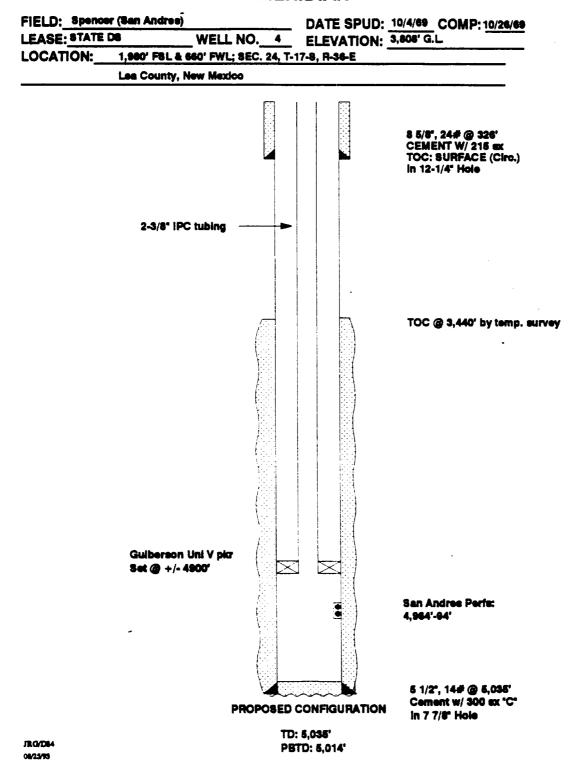
Tub	ing size 2-3/8 "	lined with	plastic coated (material)	set in a
Gu	iberson UniV or equiv.	packer at	+/- 4900	feet
	(brand and model) (or describe any other casing-tubing	_		
<u>OT</u>	HER DATA			
1.	Name of the injection formation	San	Andres	
2.	Name of Field or Pool (if applicable)	Spen	cer	-
3.	Is this a new well drilled for injection?	YEYE	s x NO	
	If no, for what purpose was the well of	originally drilled?	oil producer	
4.	Has the well ever been perforated in plugging detail (sacks of cement or b			ervals and give
5 .	Give the depth to and name of any o			

MERIDIAN OIL

FIELD: Spence	er (San Andres)		DATE SPUD:	10/4/69 COMP: 10/26/69
EASE: STATE	DS WE		ELEVATION:	
OCATION:_	1,900' FBL & 660' F		17-8, R-36-E	
	Lee County, New M	exico		
			<u> </u>	
				8 5/8", 24# @ 326' CEMENT W/ 215 ex
				TOC: SURFACE (Circ.) in 12-1/4" Hole
				•
				
				TOC @ 3,440' by temp. survey
				•
		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		
		1		San Andree Perfs:
			3	4,964'-94'
				A 4100 A 8 8 8 5 5 5 5 5 5
				5 1/2", 14# @ 5,035" Cement w/ 300 ex "C"
		CURRE	NT CONFIGURATION	in 7 7/8" Hole
		TC): 5,035 '	

PBTD: 5,014'

MERIDIAN OIL



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709 W. INDIANA MIDLAND, TEXAS 79701 PHONE 683-4521

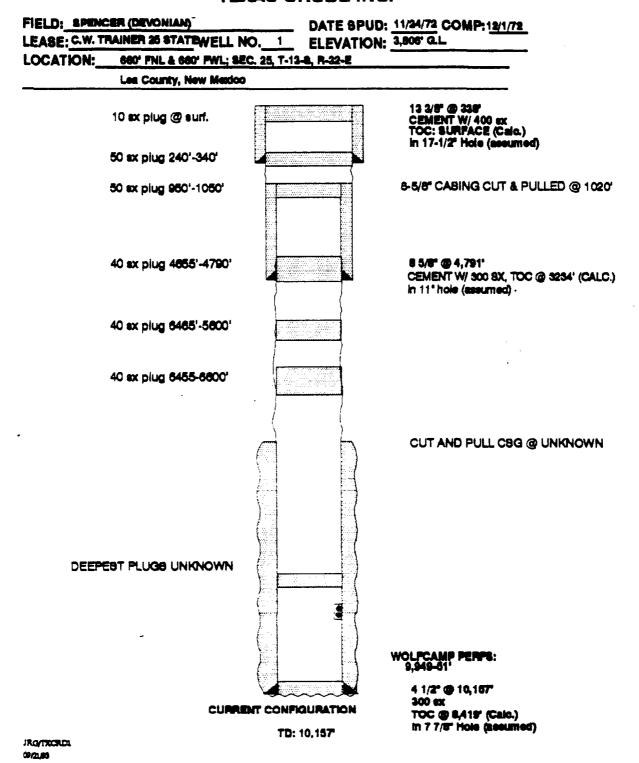
RESULT OF WATER ANALYSES

		LABORATORY NO	9939	
TO: Ms. Karen Burns		SAMPLE RECEIVED 9-3-93		3
P. O. Box 51810, Midland, TX 7971	0	RESULTS REPORTED	0 0 0	
COMPANY Meridian Oil Company		EASE Sta	te "DS"	_
FIELD OR POOL				
SECTION BLOCK SURVEY	COUNTY	Leastate	NM	
SOURCE OF SAMPLE AND DATE TAKEN:				
NO.1 Produced water - taken from	State "DS"	•		
NO.2 Raw water - taken from wind		··		
NO. 3		 		
NO. 4				
REMARKS:	1. San	n Andres		
CHEMIC	CAL AND PHYSIC	AL PROPERTIES		
	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.0121	1.0017		
pH When Sampled	THE			
pH When Received	6,80		· 	
Bicarbonate as HCO,	1,684	220		
Supersaturation as CaCO,				
Undersaturation as CaCO ₃				
Total Hardness as CaCO,	3,850	238		
Calcium as Ca	1,010	81		
Magnesium as Mg	322	9		
Sodium and/or Potassium	3,517	19		
Suifate as SO,	579			
Chloride as Cl	6,747	31		
Iron as Fe	2.2	 		
Barrum as Ba				
Turbidity, Electric				
Color as Pt	10.050	410		
Total Solids, Calculated	13,858	413		
Temperature 'F				
Carbon Dioxide. Calculated				
Dissolved Oxygen.	05/	0.0		
Hydrogen Suffide	954 0,54	0.0		
Resistivity, onms/m at 77° F.	0.541	22.0		
Suspended Oil Filtrapie Solids as mg/l		+		
Volume Filtered, mi				
Total Dissolved Solids @ 180°C.	13,100	396		
Total Dissolved Solids & 100 C.	13,100	170		
				
C. Re	suits Reported As Mill	igrama Per Liter		
Additional Determinations And Remerks The undersig			he true and	correct to
the best of his knowledge and be		co che doore co	oc cide and	COLLECTIO
			 	
				······································
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			77	7
		(-, -,	3011	
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Form No. 3

Waylan C. Martin, M.A.

TEXAS CRUDE INC.



STALLWORTH OIL & GAS

FIELD: Spence	r (Ban Andree)	DATE	8PUD: 3/18/74 COM	4/6/74
LOCATION	ASTON TO SECURE	LL NO. 2 ELEV	ATION: 3,814, CT	
LOOA! ION	Lea County, New M			
1	0 9X 9URF,- 65'			
			9 5/8" @ 361' CEMENT W/2 TOC: SURIFAC	25 ex
3	5 SX 1970'-2104'			
3	5 SX 3215'-3352'			
3	5 8X 4606'-4945'			
3	5 9X 5048'-5185'			

TD: 5,185'

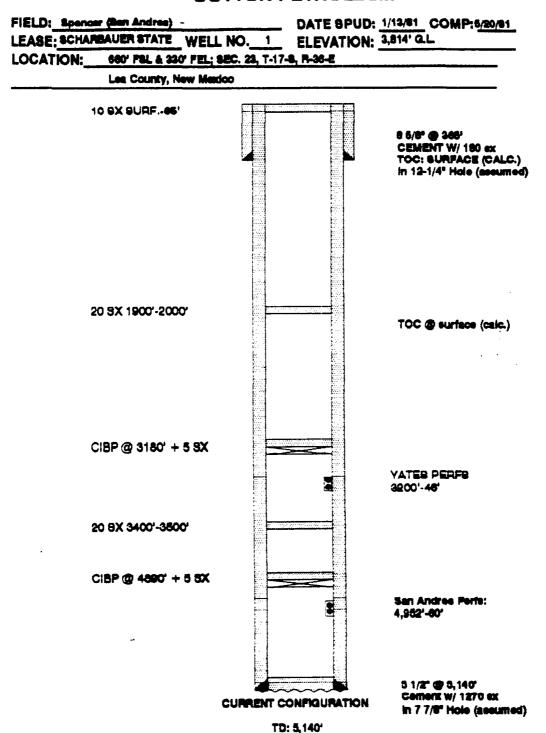
JRO/TURETI 09/21/65

AVANCE OIL & GAS

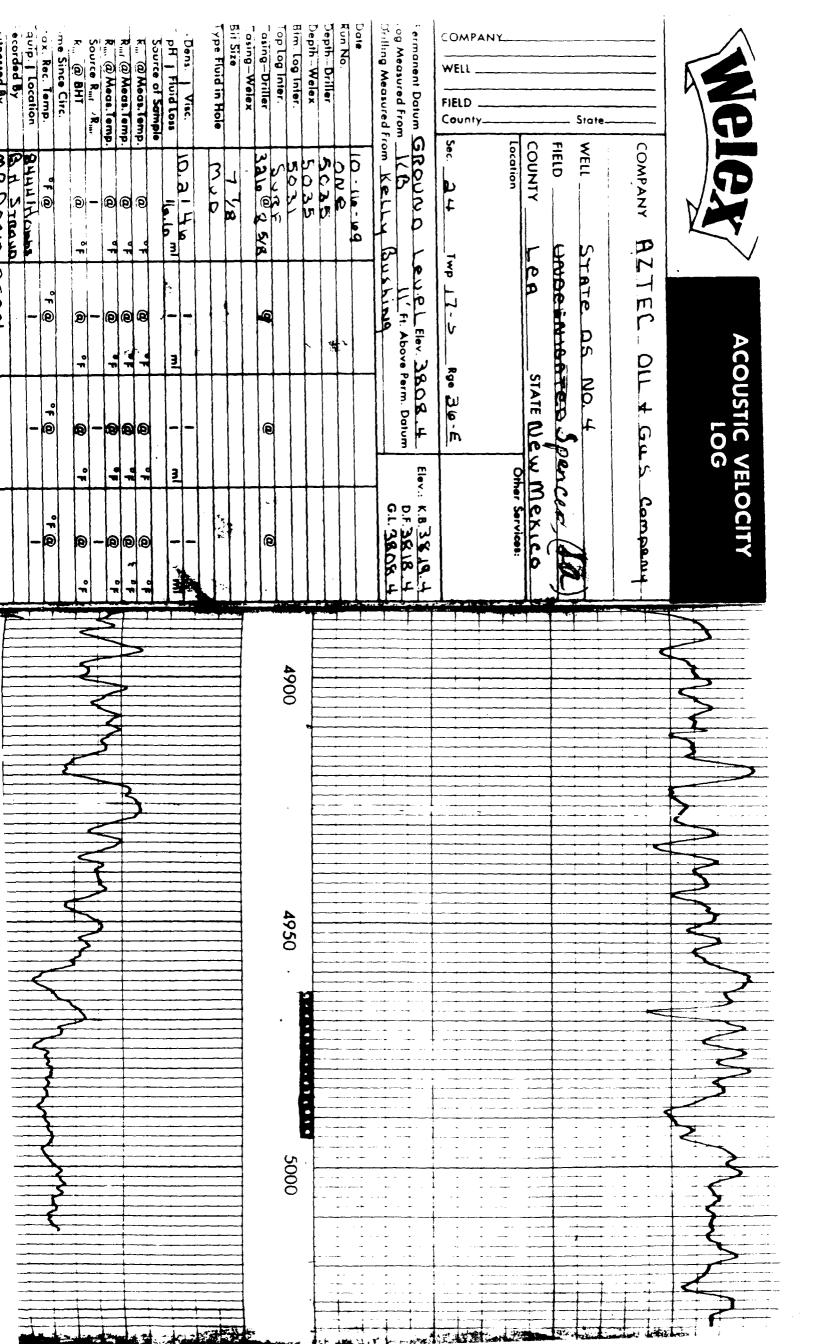
FIELD: Spencer (Be	n Andree) "	DATE SPUD:	DATE SPUD: 12/1/69 COMP:3/2/70		
LEASE: STATE 26	WE	ELL NO. 2 ELEVATION:			
LOCATION: 330	" FNL & 1650" F	WL; SEC. 25, T-17-8, R-36-E			
Ler	County, New I	fedco			
10 9 X	9URF,- es '		8 5/8" @ 372" CEMENT W/ 275 ex		
25 9X	312'-372'		TOC: SURFACE (CALC.) in 12-1/4" Hale (seeumed)		
25 SX	885'- 96 0'				
			TOC @ 3980'(calc.)		
25 3 X	3875'-3950'		Cut & pull casing @ 3950'		
25 e x 4		8	Sen Andree Peris: 4,954'-5006'		
		CURRENT CONFIGURATION	4 1/2" @ 5,086" Cement w/ 200 ex in 7 7/8" Hole (securned)		
		TD: 5 000	*** * * * ****************************		

JROJAVI 09/2L/93

COTTON PETROLEUM



JRG/8CH911 09/2L89



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

IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION DIVISION FOR THE PURPOSE OF CONSIDERING:

CASE NO. 10891 ORDER NO. R-10054

APPLICATION OF SOUTHLAND ROYALTY COMPANY FOR A WATERFLOOD PROJECT AND QUALIFICATION FOR THE RECOVERED OIL TAX ČREDIT PURSUANT TO THE NEW MEXICO OIL RECOVERY ACT, LEA COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on January 6, 1994, at Santa Fe, New Mexico, before Examiner Michael E. Stogner.

NOW, on this <u>26th</u> day of January, 1994 the Division Director, having considered the testimony, the record and the recommendations of the Examiner, and being fully advised in the premises,

FINDS THAT:

- (1) Due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.
- (2) The applicant, Southland Royalty Company ("Southland"), seeks authority to institute a pilot waterflood project on its State "DS" leasehold comprising the SW/4, W/2 SE/4 and SE/4 SE/4 of Section 24, Township 17 South, Range 36 East, NMPM, Lea County, New Mexico, by the re-injection of produced water into the Spencer-San Andres Pool through the perforated interval from approximately 4694 feet to 4994 feet in its existing State "DS" Well No. 4 located 1980 feet from the South line and 660 feet from the West line (Unit L) of said Section 24.
- (3) The evidence presented indicates that only one well, the State "DS" Well No. 2 located in Unit "K", is presently producing from the Spencer-San Andres Pool within the State "DS" Lease. Monthly production from this well currently averages between 20 to 25 barrels of oil per day. Under the definition in Division General Rule 701.G(1) for a waterflood project, producing wells in the surrounding area shall have

reached an advanced state of depletion and are considered to be classified as "stripper wells" or wells with an average rate of production of 10 barrels of oil per day or less. While this one well is not considered to be a "stripper well" it can be considered a well that has reached an advanced state of depletion. Division records and data submitted by Southland subsequent to the hearing show only five other wells to have produced from the Spencer-San Andres Pool within Southland's State "DS" Lease. Said records on these five wells demonstrates that prior to abandonment production declined on each well to the point to be considered a "stripper well".

- (4) The applicant testified that cumulative primary oil recovery from the six State "DS" Lease wells has been 778,718 barrels and that under the present mode of operations only 36,000 barrels remain as primary recoverable reserves.
- (5) Southland is proposing to initiate a peripheral injection pattern utilizing this one injection well and four producing wells, with the projected total cost for the project expected to be approximately \$510,000.00.
- (6) At the hearing, the applicant demonstrated that an estimated 500,000 barrels of oil from the Spencer-San Andres Pool could be obtained by institution of the proposed pilot waterflood project, resulting in the recovery of additional oil which would not otherwise be recovered.
- (7) The operator should take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape into other formations or onto the surface from injection, production or plugged and abandoned wells.
- (8) Injection should be accomplished through 2 3/8-inch internally plastic-coated tubing installed in a packer set approximately 100 feet above the uppermost perforated interval; the casing-tubing annulus should be filled with an inert fluid; and a pressure gauge or approved leak-detection device should be attached to the annulus in order to determine leaks in the casing, tubing or packer.
- (9) Prior to commencing injection operations, the casing of the subject well should be pressure-tested throughout the interval, from the surface down to the proposed packer-setting depth, to assure integrity of such casing.
- (10) The injection well or injection pressurization system should be so equipped as to limit injection pressure at the wellhead to no more than 990 psi.

- (11) The Director of the Division should be authorized to administratively approve an increase in the injection pressure upon a proper showing by the operator that such higher pressure will not result in migration of the injected waters from the San Andres formation.
- (12) The operator should give advance notification to the supervisor of the Hobbs District Office of the Division of the date and time of the installation of injection equipment and of the mechanical integrity pressure-test in order that the same may be witnessed.
- (13) No offset operator or interested party appeared at the hearing in opposition to this application.
- (14) The proposed waterflood project is in the best interest of conservation and will serve to prevent waste and protect correlative rights, therefore this application should be approved and the project should be governed by the provisions of Rule Nos. 701 through 708 of the Oil Conservation Division Rules and Regulations.
- (15) The applicant further requests that the subject waterflood project be approved by the Division as a qualified "Enhanced Oil Recovery Project" pursuant to the "Enhanced Oil Recovery Act" (Laws 1992, Chapter 38, Sections 1 through 5).
- (16) The evidence presented indicates that the subject waterflood project meets all the criteria for approval.
- (17) The approved "project area", to be designated the State "DS" Lease Waterflood Project, should initially comprise that area described in Finding Paragraph No. (2), above.
- (18) To be eligible for the EOR credit, prior to commencing injection operations, the operator must request from the Division a Certificate of Qualification, which certificate will specify the proposed project area as described above.
- (19) At such time as a positive production response occurs and within five years from the date of the Certificate of Qualification, the applicant must apply to the Division for certification of positive production response, which application shall identify the area actually benefitting from enhanced recovery operations, and identifying the specific wells which the operator believes are eligible for the credit. The Division may review the application administratively or set it for hearing. Based upon evidence presented, the Division will certify to The Department of Taxation and Revenue those lands and wells which are eligible for the credit.

(20) The injection authority granted herein for the proposed injection well should terminate one year after the date of this order if the operator has not commenced injection operation into the subject well by that date, provided however, the Division, upon written request by the operator, may grant an extension thereof for good cause shown.

IT IS THEREFORE ORDERED THAT:

(1) The applicant, Southland Royalty Company ("Southland"), is hereby authorized to institute a one well waterflood pilot project on its State "DS" leasehold, underlying the following described lands, by the re-injection of produced San Andres formation water into the Spencer-San Andres Pool through the perforated interval from approximately 4694 feet to 4994 feet in its existing State "DS" Well No. 4 located 1980 feet from the South line and 660 feet from the West line (Unit L) of said Section 24, Township 17 South, Range 36 East, NMPM, Lea County, New Mexico:

STATE "DS" LEASE WATERFLOOD PROJECT AREA

LEA COUNTY, NEW MEXICO

TOWNSHIP 17 SOUTH, RANGE 36 EAST, NMPM, Section 24: SW/4, W/2 SE/4 and SE/4 SE/4

(2) Injection into said well shall be accomplished through 2 3/8-inch internally plastic-lined tubing installed in a packer set at approximately 100 feet above the uppermost perforated interval.

<u>PROVIDED HOWEVER THAT</u>, the casing-tubing annulus in said well shall be filled with an inert fluid; and a pressure gauge shall be attached to the annulus or the annulus shall be equipped with an approved leak-detection device in order to determine leakage in the casing, tubing or packer.

PROVIDED FURTHER THAT, prior to commencing injection operations, the casing in the subject well shall be pressure-tested to assure the integrity of such casing in a manner that is satisfactory to the supervisor of the Division's Hobbs District Office.

(3) The injection well or system shall be equipped with a pressure-limiting switch or other acceptable device which will limit the wellhead pressure on the injection well to no more than 990 psi.

- (4) The Director of the Division may authorize an increase in injection pressure upon a proper showing by the operator of said well that such higher pressure will not result in migration of the injected fluid from the San Andres formation.
- (5) The operator shall notify the supervisor of the Hobbs District Office of the Division in advance of the date and time of the installation of injection equipment and of the mechanical integrity pressure-test in order that the same may be witnessed.
- (6) The operator shall immediately notify the supervisor of the Division's Hobbs District Office of the failure of the tubing, casing or packer, in said well or the leakage of water from or around said well and shall take such steps as may be timely and necessary to correct such failure or leakage.
- (7) The subject waterflood project is hereby designated the State "DS" Lease Waterflood Project and shall be governed by the provisions of Rules 701 through 708 of the Division Rules and Regulations.
- (8) Monthly progress reports of the waterflood project herein authorized shall be submitted to the Division in accordance with Rules 706 and 1115 of the Division Rules and Regulations.

FURTHERMORE:

- (9) The subject waterflood project is hereby approved as an "Enhanced Oil Recovery Project" pursuant to the "Enhanced Oil Recovery Act" (Laws 1992, Chapter 38, Sections 1 through 5).
- (10) The approved "project area" shall initially comprise that area described in Decretory Paragraph No. (1) above.
- (11) To be eligible for the EOR credit, prior to commencing injection operations, the operator must request from the Division a Certificate of Qualification, which certificate will specify the proposed project area as described above.
- (12) At such time as a positive production response occurs and within five years from the date of the Certificate of Qualification, the applicant must apply to the Division for certification of positive production response, which application shall identify the area actually benefitting from enhanced recovery operations, and identifying the specific wells

which the operator believes are eligible for the credit. The Division may review the application administratively or set it for hearing. Based upon evidence presented, the Division will certify to The Department of Taxation and Revenue those lands and wells which are eligible for the credit.

- (13) The injection authority granted herein for the proposed injection well shall terminate one year after the date of this order if the operator has not commenced injection operation into the subject well by that date, provided however, the Division, upon written request by the operator, may grant an extension thereof for good cause shown.
- (14) Jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

WILLIAM J. LEMAY

STATE OF NEW MEXICO

OIL CONSERVATION DIVISION

Director