

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

January 25, 1990

GARREY CARRUTHERS
GOVERNORPOST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800Meridian Oil Inc.
21 Desta Drive
Midland, Texas 79705

Attention: Mr. Robert L. Bradshaw

Dear Mr. Bradshaw:

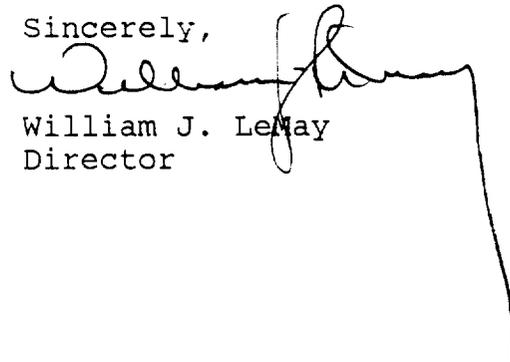
Reference is made to your request dated January 4, 1990, to increase the surface injection pressure on the West Corbin Federal SWD Well No. 4. This request is based upon a step rate test recently conducted on this well. The results of the test have been reviewed by my staff and we feel that the subject test may not be accurate due to the fact that the test was commenced at a pressure that exceeds the currently authorized injection pressure of 1000 psi. It is our understanding however, that Meridian is in the process of filing a salt water disposal well application for the West Corbin Federal Well No. 3, which, if approved, will replace the subject well. It is also our understanding that this process should take approximately two months. We have concluded that injection into the subject well at the requested pressure of 1435 psi for a temporary period of two months should not pose a threat to any underground sources of drinking water.

You are therefore authorized to increase the surface injection pressure on the following well, provided that this authority shall expire two months from the date of this order, and provided further that in order to obtain permanent approval for said pressure increase, a new test will have to be conducted on the subject well.

<u>WELL & LOCATION</u>	<u>MAXIMUM SURFACE INJECTION PRESSURE</u>
West Corbin Federal Well No. 4 Unit H, Section 18, T-18 South, Range 33 East, NMPM, Lea County, New Mexico	1435 PSIG

The Division Director may rescind this injection pressure increase if it becomes apparent that the injected water is not being confined to the injection zone or is endangering any fresh water aquifers.

Sincerely,

A handwritten signature in cursive script, appearing to read "William J. LeMay". The signature is written in black ink and extends to the right, ending in a long, thin vertical line that curves slightly at the bottom.

William J. LeMay
Director

xc: OCD-Hobbs
File-SWD-205
T. Gallegos
D. Catanach

MERIDIAN OIL

Oil Conservation Division
APR 4 1990
8 54

April 2, 1990

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

Re: Southland Royalty Company
West Corbin Federal #4
Unit H, Sec. 18, T18S, R33E
Lea County, New Mexico

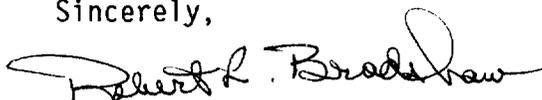
Dear Mr. Catanach:

Mr. William J. LeMay's letter dated January 25, 1990, authorized the use of the referenced disposal well for two (2) months from the date of the letter at a maximum surface pressure of 1435 psig. During that time, we planned to complete the permitting process to convert our West Corbin Federal #3 to a disposal well. After further evaluation, this process was discontinued and we began evaluating other wells in the area for conversion to disposal well service. The temporary authorization for the West Corbin Federal #4 has expired and the well is shut-in, thus, causing us to haul water to an authorized disposal site at a cost of about \$1,000 per day.

Our production engineering staff working with the OCD - Hobbs staff designed and conducted a step rate test on the West Corbin Federal #4 with OCD - Hobbs personnel present. The break point on this test is about 1325 psig. We are herewith requesting authorization to begin using this well at a maximum surface pressure of 1300 psig on an on-going basis. A copy of the step rate test is attached for your use.

We plan to submit the application to convert another area well to disposal well service as soon as our evaluation is complete. In the meantime, any assistance you can provide to quickly expedite this request to reauthorize the use of the West Corbin Federal #4 at a maximum surface pressure of 1300 psig will be greatly appreciated. If you need any other data, please contact me at (915) 686-5678.

Sincerely,



Robert L. Bradshaw
Sr. Staff Env./Reg. Specialist

RLB:gs

cc: Well File
J. E. Kramer
R. L. Pryer

WEST CORBIN #4
STEP RATE INJECTION TEST

<u>RATE</u> (BPM)	<u>TIME</u> (MIN)	<u>VOLUME</u> (BBLs)	<u>RECORDED</u> <u>SURFACE PRESSURE</u> (PSI)	<u>FRICITION</u> <u>@ RATE</u> (PSI)	<u>NET</u> <u>SURFACE PRESSURE</u> (PSI)
.5	15	7.5	1000	~	1000
1.0	15	15.0	1090	~	1090
1.5	15	22.5	1257	89	1168
2.0	15	30.0	1360	151	1209
3.0	15	45.0	1620	312	1308
4.0	15	60.0	1870	528	1342
5.0	10	50.0	2124	775	1349
6.0	10	60.0	2450	1088	1362
7.0	10	70.0	2840	1480	1360

PRE-JOB SITP = 665 psi

INJECTION FLUID : 9.5# BRINE

15IP = 1310 psi

5" = 1290 psi

10" = 1280 psi

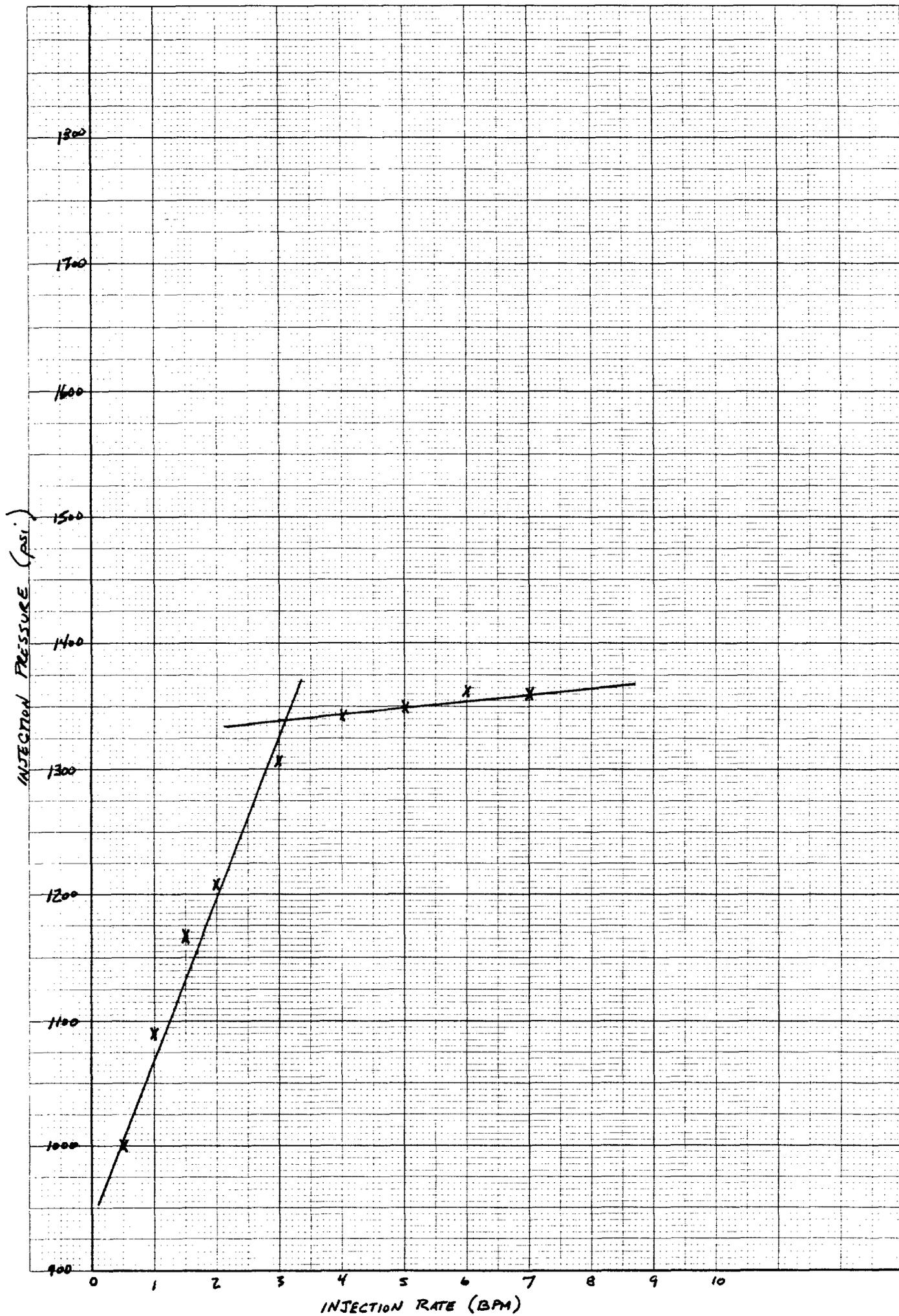
15" = 1273 psi

CALCULATED FRACTURE GRADIENT :

$$FG = (P_{SURF} + HP \text{ AT BREAKDOWN}) / \text{DEPTH}$$

$$FG = [1310 + (9.5)(.052)(5100)] / 5100$$

$$FG = .75 \text{ PSI/ft}$$



WEST CORBIN #4
STEP RATE INJECTION TEST

Page _____
 Date _____
 By _____

<u>RATE</u> (BPM)	<u>TIME</u> (MIN)	<u>VOLUME</u> (BOGGS)	<u>RECORDED</u> <u>SURFACE PRESSURE</u> (PSI)	<u>FRICTION</u> <u>@ RATE</u> (PSI)	<u>NET</u> <u>SURFACE PRESS.</u> (PSI)
.5	15	7.5	1000	~	1000
1.0	15	15.0	1090	~	1090
1.5	15	22.5	1257	89	1168
2.0	15	30.0	1360	151	1209
3.0	15	45.0	1620	312	1308
4.0	15	60.0	1870	528	1342
5.0	10	50.0	2124	775	1349
6.0	10	60.0	2450	1088	1362
7.0	10	70.0	2840	1480	1360

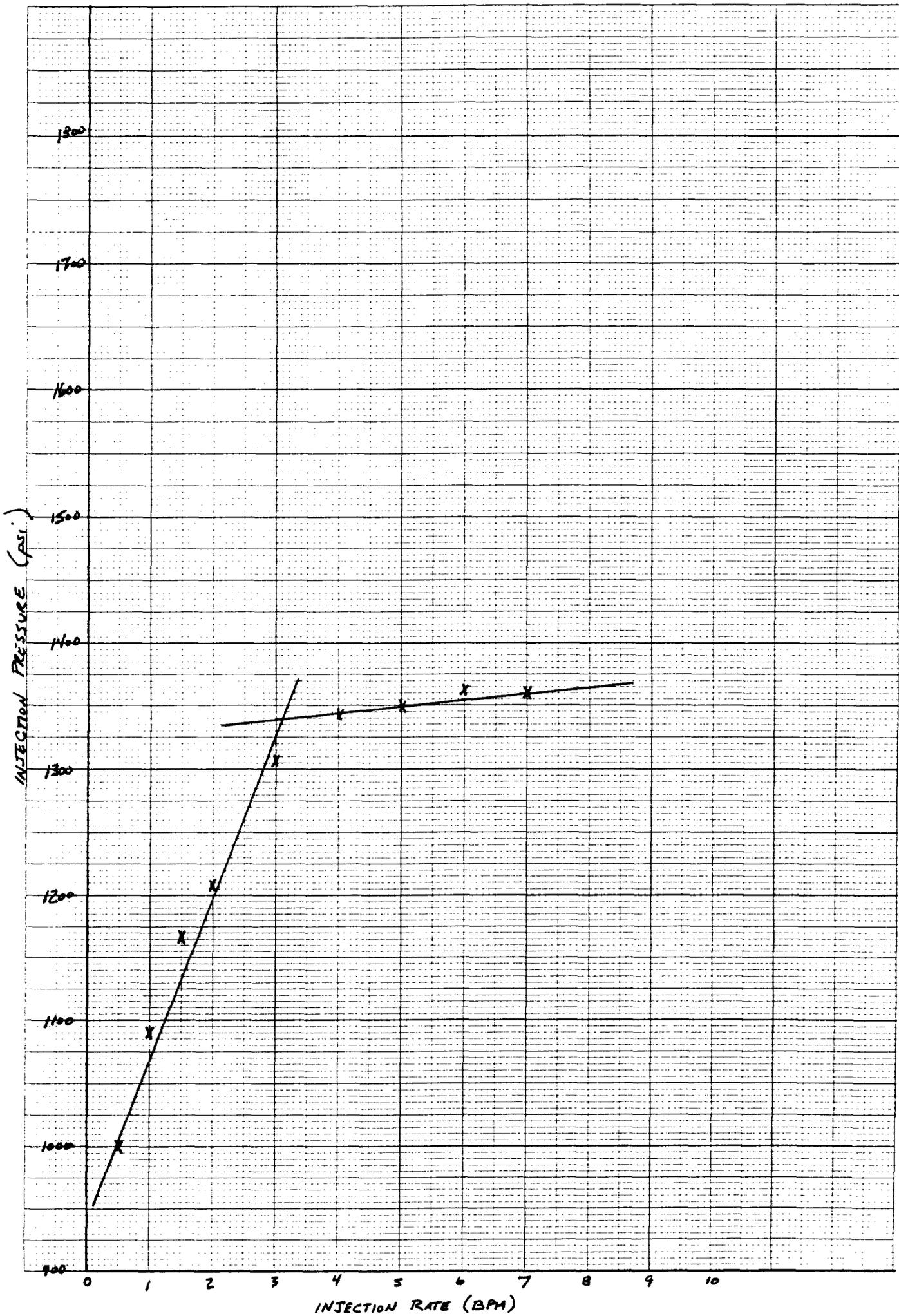
PRE-JOB SITP = 665 psi
 INJECTION FLUID = 9.5# BRINE
 15IP = 1310 psi
 5" = 1290 psi
 10" = 1280 psi
 15" = 1273 psi

CALCULATED FRACTURE GRADIENT :

$$FG = (P_{SURF} + HP \text{ AT BREAKDOWN}) / \text{DEPTH}$$

$$FG = [1310 + (9.5)(.052)(5100)] / 5100$$

$$FG = .75 \text{ PSI/FT}$$





RECEIVED
ENERGY AND MINERALS DEPARTMENT
APR 10 1990

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

April 5, 1990

GARREY CARRUTHERS
GOVERNOR

POST OFFICE BOX 1980
HOBBS, NEW MEXICO 88240
(505) 393-6161

OIL CONSERVATION DIVISION
P.O. BOX 2088
SANTA FE, NEW MEXICO 87504-2088

RE: APPLICATION FOR PRESSURE LIMIT INCREASE FOR DISPOSAL & INJECTION WELLS

Gentlemen:

I have examined the step rate test for the:

Southland Royalty Company	West Corbin Federal (SWD)	#4-H,	18-18-33
Operator	Lease & Well No.	Unit	S-T-R

and my recommendations are as follows:

OK

Very truly yours

Jerry Sexton
Supervisor, District I

/bp



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

GARREY CARRUTHERS
GOVERNOR

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

April 11, 1990

Meridian Oil, Inc.
21 Desta Drive
Midland, TX 79705

Attention: Robert L. Bradshaw

RE: *Injection Pressure Increase
West Corbin Federal Well No. 4
Lea County, New Mexico*

Dear Mr. Bradshaw:

Reference is made to your request dated April 2, 1990, to increase the surface injection pressure on the West Corbin Federal Well No. 4. This request is based on a step rate test conducted on the well on March 20, 1990. The results of the test have been reviewed by my staff and we feel an increase in injection pressure on the well is justified at this time.

You are therefore authorized to increase the surface injection pressure on the following well.

WELL AND LOCATION

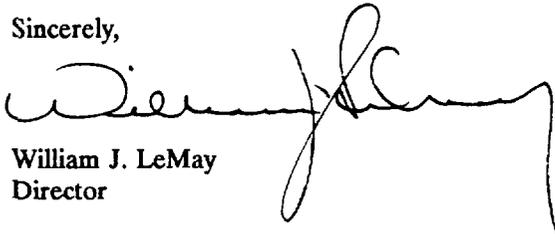
MAXIMUM INJECTION
SURFACE PRESSURE

West Corbin Federal Well No. 4
Unit H, Section 18, T-18 South,
R-33 East, NMPM, Lea County.

1290 PSIG

The Division Director may rescind this injection pressure increase if it becomes apparent that the injected water is not being confined to the injection zone or is endangering any fresh water aquifers.

Sincerely,


William J. LeMay
Director

cc: Oil Conservation Division - Hobbs
File: SWD-205
T. Gallegos
D. Catanach