

Jason Kellahin
W. Thomas Kellahin
Karen Aubrey

KELLAHIN and KELLAHIN
Attorneys at Law
El Patio - 117 North Guadalupe
Post Office Box 2265
Santa Fe, New Mexico 87504-2265

Telephone 982-4285
Area Code 505

July 2, 1984

RECEIVED

JUL 3 1984

OIL CONSERVATION DIVISION

Mr. Joe D. Ramey
Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501

"Hand Delivered"

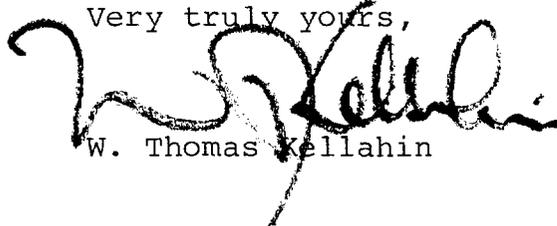
Re: Phillips Oil Company

Case 8279

Dear Mr. Ramey:

Please set the enclosed application for hearing
on July 25, 1984.

Very truly yours,



W. Thomas Kellahin

WTK:ca
Enc.

cc: George Terry, Esq.
Phillips Petroleum Company
4001 Penbrook
Odessa, TX 79762

MERIT ENERGY COMPANY

12222 Merit Drive, Suite 1500
Dallas, Texas 75251
(214) 701-8377
(214) 960-1252 Fax

OIL CONSERVATION DIVISION
RECEIVED

1996 APR 13 AM 8 52

April 1, 1996

Oil Conservation Division
Energy, Minerals & Natural Resources
2040 South Pacheco
Santa Fe, New Mexico 87505
Attn: David Katanach

RE: Lease: Ranger
Well: 6
Pool: SWD; Penn

Mr. Katanach:

As per our phone conversation last week regarding the above captioned well, please be advised of the following: The well is currently a salt water disposal well with perms at 10228'-10346'. We wish to amend the injection permit by adding additional perforations at 9164' - 10124'. Currently, there is no active production from this interval.

I have attached copies of our workover procedure as well as the current wellbore schematic for your review and information. Also attached is a copy of the publication to amend the permit. If you approve of this procedure, please notify Bonnie at the Hobbs District Office. We are trying to expedite this process so if there is anything else required, please contact me at (214) 701-8377. Thank you for your cooperation.

Sincerely,



Vanessa Russell
Sr. Production Administrator

MAP 15
SALT - NO CHANGES

SHERYL CARROLL

Submit 3 Copies
to Appropriate
District Office

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-103
Revised 1-1-89

OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

DISTRICT I
P.O. Box 1980, Hobbs, NM 88240

DISTRICT II
P.O. Drawer DD, Artesia, NM 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

WELL API NO.
30-025-01849

5. Indicate Type of Lease
STATE FEE

6. State Oil & Gas Lease No.
E-1027

SUNDRY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A
DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT"
(FORM C-101) FOR SUCH PROPOSALS.)

7. Lease Name or Unit Agreement Name

Ranger

1. Type of Well:
OIL WELL GAS WELL OTHER SWD

8. Well No.
6

2. Name of Operator
Merit Energy Company

3. Address of Operator
12222 Merit Drive, Suite 1500, Dallas, Texas 75251

9. Pool name or Wildcat
SWD; Penn

4. Well Location
Unit Letter N : 660 Feet From The South Line and 1978 Feet From The West Line

Section 23 Township 12S Range 34E NMPM Lea County

10. Elevation (Show whether DF, RKB, RT, GR, etc.)
4147' GR

11. Check Appropriate Box to Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK <input type="checkbox"/>	PLUG AND ABANDON <input type="checkbox"/>	REMEDIAL WORK <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	COMMENCE DRILLING OPNS. <input type="checkbox"/>	PLUG AND ABANDONMENT <input type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>		CASING TEST AND CEMENT JOB <input type="checkbox"/>	
OTHER: <u>Add perfs</u> <input checked="" type="checkbox"/>		OTHER: _____ <input type="checkbox"/>	

12. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 1103.

See attached workover procedure.

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

SIGNATURE Vanessa Russell TITLE Sr. Production Administrator DATE 3-15-96

TYPE OR PRINT NAME Vanessa Russell TELEPHONE NO. 214-701-837

(This space for State Use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

LEASE & WELL NO. RANGER UNIT NO. 6 (SWD)
 FIELD NAME RANGER LAKE
 LOCATION 660' FSL & 1978' FWL OF SEC 23 - 12S - 34E

FORMER NAME RANGER LAKE UNIT 2-6
 COUNTY & STATE LEA, NEW MEXICO
 API NO. _____

K.B. ELEV. 4159'
 D.F. ELEV. 4157'
 GROUND LEVEL 4147'
 CORR. 12'

SURFACE CASING

SIZE 13 3/8" WEIGHT 27#, 48# DEPTH 356'
 GRADE _____ SX. CMT. 375 sx
 CIRC

INTERM. CASING

SIZE 8 5/8" WEIGHT 32#, 34# DEPTH 4226'
 GRADE _____ SX. CMT. 691 sx
 CIRC

HOLE 17 1/2"
 SIZE

TUBING 2 3/8"
 SIZE

WELL HISTORY

DATE COMPLETED: APR-59

- Apr-59 PERF 10228-10346
ACIDIZE W/ 1000 GAL 15%
- Sep-62 ACIDIZED W/ 2000 GAL 15%
- Jan-75 SET CIBP @ 10200'
PERF 9940-9945, 9954-9960
ACIDIZED W/ 1000 GAL 15%
- Sep-84 SQZD 9940-9960 W/ 25 SX
DO CIBP @ 10200' & CO TO 10358'
ACIDIZED W/ +/- 7500 GAL 28% NEFE
COVERTED TO SWD WELL

PERFORATIONS

9940-45, 9954-60
 (22 HOLES) SQZD

BAKER MODEL "D" PERMANENT PKR

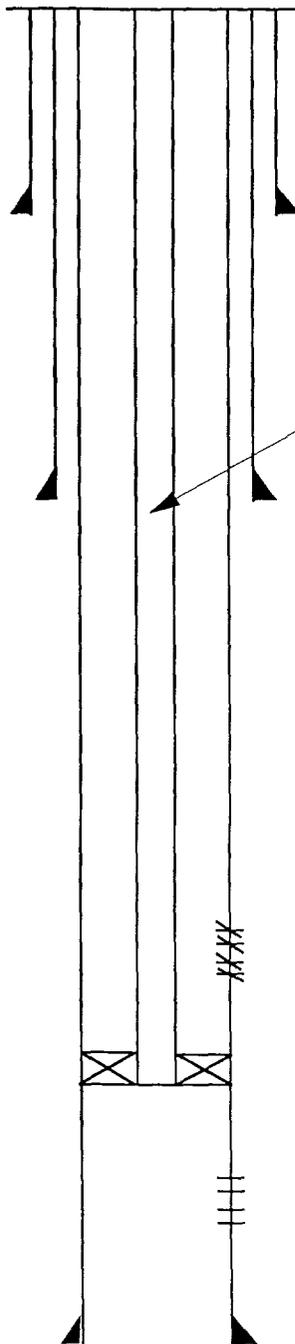
2-3/8", 4.7# , J55 8RD EUE TBG FROM 10128 TO 3200
 2-3/8", 4.7# , N80 8RD EUE TBG FROM 3200 TO SURFACE

PACKER @ 10128'

10228-10346 Penn

PRODUCTION STRING

SIZE 5 1/2" WEIGHT 15#, 20# DEPTH 10369'
 GRADE J-55 SX. CMT. 560 sx TOC @ 500'
 N-80
 HOLE 7 7/8" PBTD @ 10358' TD @ 10369'



Affidavit of Publication

STATE OF NEW MEXICO)
) ss.
COUNTY OF LEA)

Joyce Clemens being first duly sworn on oath deposes and says that he is Adv. Director of THE LOVINGTON DAILY LEADER, a daily newspaper of general paid circulation published in the English language at Lovington, Lea County, New Mexico; that said newspaper has been so published in such county continuously and uninterruptedly for a period in excess of Twenty-six (26) consecutive weeks next prior to the first publication of the notice hereto attached as hereinafter shown; and that said newspaper is in all things duly qualified to publish legal notices within the meaning of Chapter 167 of the 1937 Session Laws of the State of New Mexico.

That the notice which is hereto attached, entitled

Legal Notice

Notice Of Application For Oil and Gas Disposal Well Permit

~~and xxxxxxxx~~ ~~xxxxxx~~

~~County, New Mexico~~

was published in a regular and entire issue of THE LOVINGTON DAILY LEADER and not in any supplement thereof, ~~xxxxxx~~

for one (1) day

consecutive weeks, beginning with the issue of

March 22, 1996

and ending with the issue of

March 22, 1996

And that the cost of publishing said notice is the sum of \$ 15.71

which sum has been (Paid) (Assessed) as Court Costs

Joyce Clemens

Subscribed and sworn to before me this 22nd

day of March, 1996

Jean Senior

Notary Public, Lea County, New Mexico

My Commission Expires Sept. 28, 1998

LEGAL NOTICE NOTICE OF APPLICATION FOR OIL AND GAS DISPOSAL WELL PERMIT

Merit Energy Company, 12222 Merit Drive, Suite 1500, Dallas, Texas 75251, has requested to the Oil Conservation Division to amend an injection permit by adding perforations to dispose of produced salt-water by injection into the Ranger #6, located 660' FSL & 1978' FWL of Section 23, T-12-S, R-34-E, Lea County, New Mexico. Salt-water will be injected into the Wolfcamp formation at 9164'-10124' along with the current Penn formation at 10228'-10346' at maximum rates of 1200 BWPD at 3000 psi. The Merit contact is Vanessa Russell at (214) 701-8377. Interested parties must file objections or requests for hearing with the Oil Conservation Division, 2040 South Pacheco, Santa Fe, New Mexico 87505 within 15 days of this notice. Published in the Lovington Daily Leader March 22, 1996.



NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

April 2, 1996

Merit Energy Company
12222 Merit Drive, Suite 1500
Dallas, Texas 75251

Attn: Ms. Vanessa Russell

Re: Application to Amend Salt Water Disposal Interval; Ranger Well No.6 SWD

Dear Ms. Russell:

Reference is made to your recent request to amend the injection interval in the subject salt water disposal well. Prior to approval, a few items must be addressed.

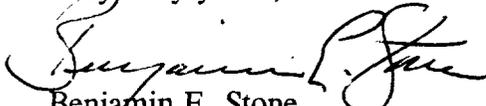
The original permit, authorized by Division Order R-7620 on August 7, 1984, specifies the Pennsylvanian as the authorized disposal formation. As your request to add perforations extends upward into the Wolfcamp, public notice must be published in a newspaper in the subject county. Additionally, all offset operators and leaseholders whose leases fall within the one-half mile radius 'area of review', must be notified in writing.

Further, as the original order is some 10 years old, if any changes have occurred in the area of review, additional information must be submitted. This would include a new map indicating the one-half mile area of review, of sufficient scale so as to easily identify all wells within the area of review. Also, for those wellbores which penetrate the zones of interest, and are new (since the original permit), a tabulation of construction data indicating pipe depths, hole sizes, cement volumes and tops, and current status of the well(s) should be included.

Please note that even if no wells have been drilled, no AOR information is needed but, the notification described above will still be required. Once the public notice is published, there will be a 15 day suspense from the date of publication.

As soon as this information is received, I will expedite the continued processing of your request.

Very truly yours,


Benjamin E. Stone
P.E. Specialist

/BES

cc: file

MERIT ENERGY COMPANY

12222 Merit Drive, Suite 1500
Dallas, Texas 75251
(214) 701-8377
(214) 960-1252 Fax

March 19, 1996

Oil Conservation Division
Energy, Minerals & Natural Resources
2040 South Pacheco
Santa Fe, New Mexico 87505
Attn: David Katanach

RE: Lease: Ranger
Well: 6
Pool: SWD; Penn

*R-7620
8/7/84
NEED PUBLICATION
+ NEW AOR*

Mr. Katanach:

As per our phone conversation today regarding the above captioned well, please be advised of the following: The well is currently a salt water disposal well with perfs at 10228'-10346'. We wish to add additional perforations at 9164' - 10124'. Currently, there is no active production from this interval.

I have attached copies of our workover procedure as well as the current wellbore schematic for your review and information. If you approve of this procedure, please notify Bonnie at the Hobbs District Office. If you should require additional data, please contact me at (214) 701-8377. Thank you for your cooperation.

Sincerely,

Vanessa Russell

Vanessa Russell
Sr. Production Administrator

*137
144
544*

WORKOVER PROCEDURE

Well/Lease:	<u>Ranger Lake Unit #6</u>	Date	<u>2/14/96</u>
Objective:	<u>Add Perfs to Wolfcamp / Penn Disposal</u>	AFE	<u>Drilled 4/59</u>
TD	<u>10,369</u>	PBD	<u>10,358</u>
		KB	<u>12'</u>
		Engr	<u>Joel Talley</u>

TD 10,369 **PBD** 10,358 **KB** 12' **Engr** Joel Talley

Casing Size(s):	<u>13-3/8", 47#</u>	Set @ <u>356'</u>	TOC @ <u>Surf</u>
	<u>8-5/8", 32#&34#</u>	Set @ <u>4226'</u>	TOC @ <u>Surf</u>
	<u>5-1/2", 15.5&20#</u>	Set @ <u>10369'</u>	TOC @ <u>500'</u>
	_____	Set @ _____	TOC @ _____

Tubing Size / Connection: 2-3/8" PC Tbg

Perfs: Penn 10,228'-10,346'

Misc: Model 'D' Pkr @ 10128'

Misc: Perfs 9940'-9960' Sqzd

Misc: Proposed new Perfs 9164'-10124' (177 holes) - see perf sheet

1. MIRUPU. Bleed well down and kill as necessary. NUBOP & release seal assembly. POH w/ Tbg.
2. RIH w/ GR/CCL and correlate to Schlumberger GR/Neutron log dated 4/9/59. Perf Wolfcamp / Penn selectively 9164'-10,124' with 4" Csg w/ 1 SPF (exact holes on perf sheet).
3. RIH w/ injection packer and PC Tbg. Set Pkr @ +/- 9110' circ Pkr fluid and perform MIT on CSG. NDBOP & NUWHD. Pump into perfs to determine injectivity. If necessary, acidize with 6000 gals 15% NEFE.
4. Return well to disposal and report rates and pressures until well stabilizes.

Approved: 
 Joel Talley

 Russell Whited

WRU #6

LEASE & WELL NO. RANGER UNIT NO. 6 (SWD)
 FIELD NAME RANGER LAKE
 LOCATION 660' FSL & 1978' FWL OF SEC 23 - 12S - 34E

FORMER NAME RANGER LAKE UNIT 2-6
 COUNTY & STATE LEA, NEW MEXICO
 API NO. _____

K.B. ELEV. 4159'
 D.F. ELEV. 4157'
 GROUND LEVEL 4147'
 CORR. 12'

SURFACE CASING

SIZE 13 3/8" WEIGHT 27#, 48# DEPTH 356'
 GRADE _____ SX. CMT. 375 sx
 CIRC

INTERM. CASING

SIZE 8 5/8" WEIGHT 32#, 34# DEPTH 4226'
 GRADE _____ SX. CMT. 691 sx
 CIRC

WELL HISTORY

DATE COMPLETED: APR-59

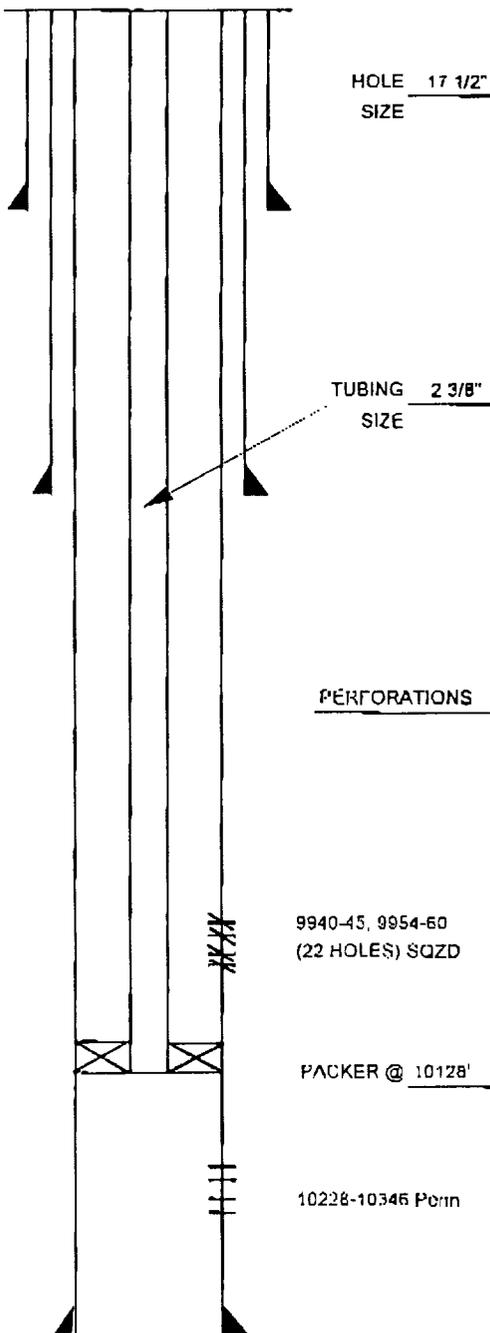
- Apr-59 PERF 10228-10346
ACIDIZE W/ 1000 GAL 15%
- Sep-62 ACIDIZED W/ 2000 GAL 15%
- Jan-75 SET CIBP @ 10200'
PERF 9940-9945, 9954-9960
ACIDIZED W/ 1000 GAL 15%
- Sep-84 SQZD 9940-9960 W/ 25 SX
DO CIBP @ 10200' & CO TO 10358'
ACIDIZED W/ +/- 7500 GAL 28% NEFE
COVERTED TO SWD WELL

BAKER MODEL "D" PERMANENT PKR

2-3/8", 4.7#, J55 8RD EUE TBG FROM 10128 TO 3200
 2-3/8", 4.7#, N80 8RD EUE TBG FROM 3200 TO SURFACE

PRODUCTION STRING

SIZE 5 1/2" WEIGHT 15#, 20# DEPTH 10369'
 GRADE J-55 SX CMT. 660 sx TOC @ 500'
 N-80
 HOLE 7 7/8" PBTD @ 10358' TD @ 10369'



PERFORATIONS

PACKER @ 10128'

10228-10346 Perm



NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

RECEIVED

April 12, 1996

APR 24 1996

Merit Energy Company
12222 Merit Drive, Suite 1500
Dallas, Texas 75251

OIL CON. DIV.
DIST. 2

Attn: Ms. Vanessa Russell

Re: Amendment to Injection Interval - Ranger Well No.6 SWD; Division Order R-7620.

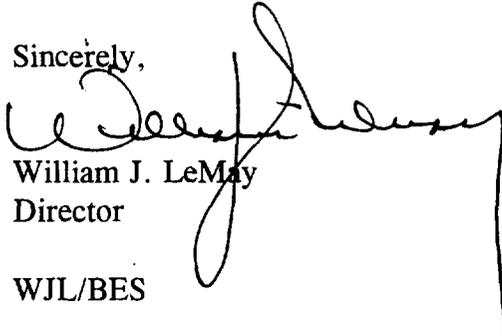
Dear Ms. Russell:

Reference is made to your recent request to amend the injection interval in the subject salt water disposal well.

My staff has reviewed your request and as all provisions of Rule 701.B of the Division Rules and Regulations have been met, you are hereby authorized to extend the permitted injection interval to depths from approximately 9164 feet to 10346 feet. Injection pressure shall be limited to a maximum of 1833 psig.

Further, this amendment is hereby made a part of Division Order R-7620, and all other provisions of such order, not inconsistent herewith, shall remain in full force and effect.

Sincerely,


William J. LeMay
Director

WJL/BES

cc: Case File No.8279
Oil Conservation Division - Hobbs

Jason Kellahin
W. Thomas Kellahin
Karen Aubrey

KELLAHIN and KELLAHIN
Attorneys at Law
El Patio - 117 North Guadalupe
Post Office Box 2265
Santa Fe, New Mexico 87504-2265

Telephone 982-4285
Area Code 505

July 11, 1984

Case 8-279

Mr. Joe D. Ramey
Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501

"Hand Delivered"

Re: Phillips Oil Company
Ranger #6 SWD Well
Ranger Lake-Penn Pool

RECEIVED

JUL 11 1984

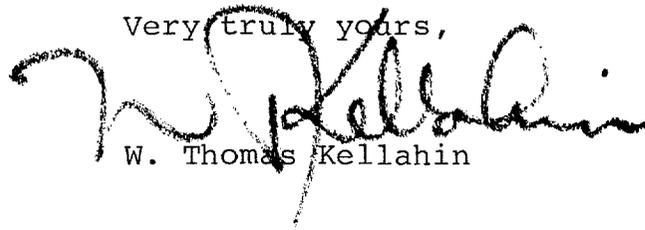
Dear Mr. Ramey:

OIL CONSERVATION DIVISION

By letter dated July 2, 1984, I filed on behalf of Phillips Oil Company an application for approval of a saltwater disposal well which is set for hearing on July 25, 1984.

Please find enclosed the original and one copy of the completed form C-108 with attachments.

Very truly yours,



W. Thomas Kellahin

WTK:ca
Enc.

cc: Mr. Jerry T. Sexton w/enc.
NMOCD District Supervisor
P. O. Box 1980
Hobbs, New Mexico 88240

"Certified Mail"

George Terry, Esq.
Phillips Oil Company
4001 Penbrook
Odessa, Texas 79762

Mr. T. Harold McLemore
Phillips Oil Company
4001 Penbrook
Odessa, Texas 79762

Jason Kellahin
W. Thomas Kellahin
Karen Aubrey

KELLAHIN and KELLAHIN
Attorneys at Law
El Patio - 117 North Guadalupe
Post Office Box 2265
Santa Fe, New Mexico 87504-2265

Telephone 982-4285
Area Code 505

July 30, 1984

RECEIVED

JUL 30 1984

Mr. Michael Stogner
Examiner
Oil Conservation Division
Post Office Box 2088
Santa Fe, New Mexico 87501

OIL CONSERVATION DIVISION

Re: Case No. 8279
Application of Phillips Oil Company for Salt
Water Disposal, Lea County, New Mexico

Dear Mr. Stogner:

Enclosed please find a proposed Order for your consideration in connection with the above application. Testimony on the application was presented on July 25, 1984.

If I may provide additional information to you, please don't hesitate to call me.

Sincerely,


Karen Aubrey

KA:mh

Enclosure

cc: Mr. John Upchurch
Mr. T. Harold McLemore

**STATE OF NEW MEXICO
DEPARTMENT OF ENERGY AND MINERALS
OIL CONSERVATION DIVISION**

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

CASE NO. 8279

ORDER NO. _____

APPLICATION OF PHILLIPS
OIL COMPANY FOR SALT WATER
DISPOSAL, LEA COUNTY,
NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:00 o'clock A.M. on July 25, 1984, at Santa Fe, New Mexico, before Examiner Michael Stogner.

NOW, on this _____ day of _____, 1984, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, Phillips Oil Company, is the owner and operator of the Ranger Well No. 6 located 660 feet from the South line and 1,978 feet from the West line of Section 23, Township 12 South, Range 34 East, NMPM, Lea County, New Mexico.

(3) That the applicant proposes to utilize said well to dispose of produced salt water into the Ranger Lake Penn formation, with injection into the perforated interval from approximately 10,228 feet to 10,346 feet.

(4) That the injection should be accomplished through 2 3/8-inch plastic lined tubing installed in a packer set at approximately 10,050 feet; that the casing-tubing annulus should be filled with an inert fluid; and that a pressure gauge or approved leak detection device should be attached to the annulus in order to determine leakage in the casing, tubing, or packer.

(5) That the injection well or system should 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 2,050 psi.

(6) That 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 injection interval.

(7) That the operator should notify the supervisor of the Hobbs district office of the Division of the date and time of the installation of disposal equipment so that the same may be inspected.

(8) That 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 to other formations or onto the surface.

(9) That approval of the subject application will prevent the drilling of unnecessary wells and otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

(1) That the applicant, Phillips Oil Company, is hereby authorized to utilize its Ranger Well No. 6, located 660 feet from the South line and 1,978 feet from the West line of Section 23, Township 12 South, Range 34 East, NMPM, Lea County, New Mexico, to dispose of produced salt water into the Ranger Lake Penn formation, injection to be accomplished through 2 3/8-inch tubing installed in a packer set

at approximately 10,050 feet, with injection into the perforated interval from approximately 10,228 feet to 10,346 feet;

PROVIDED HOWEVER, that the tubing shall be plastic-lined; that the casing-tubing annulus shall be filled with an inert fluid, and that 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.

(2) That 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 2,050 psi.

(3) That 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 injection interval.

(4) That the operator shall notify the supervisor of the Hobbs district office of the Division of the date and time of the installation of disposal equipment so that the same may be inspected.

(5) That 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.

(6) That the applicant shall conduct disposal operations and submit monthly reports in accordance with Rules 702, 703, 704, 705, 706, 708 and 1120 of the Division Rules and Regulations.

(7) That jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

- 4 -

Case No. 8279

Order No. _____

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

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

JOE D. RAMEY,
Director

S E A L



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

January 7, 1988
 JAN 11 1988
 RECEIVED

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:

Phillips Petroleum Co.	Ranger SWD #6-N	23-12-34
Operator	Lease & Well No.	Unit S-T-R

and my recommendations are as follows:

OK [Signature]

Very truly yours

Jerry Sexton

Jerry Sexton
 Supervisor, District I

/bp



PHILLIPS PETROLEUM COMPANY

ODESSA, TEXAS 79762
4001 PENBROOK

December 30, 1987

EXPLORATION AND PRODUCTION GROUP
Permian Basin Region

Request for Increase in Surface
Injection Pressure
Ranger SWD Well No. 6 (State
Lease E-1027)
Ranger Lake (Bough) Pool
Lea County, New Mexico

Department of Energy and Minerals
Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501

Attn: Mr. William J. Lemay,
Division Director

Gentlemen:

Phillips Petroleum Company respectfully requests administrative approval to increase the surface injection pressure from 2050 psi to 3480 psi for the captioned well in Ranger Lake Pool. This pressure increase is necessary to dispose of produced water from Phillips' Ranger Lease (State Lease Nos. E-1027, E-906, E-9718).

An injection step rate test was performed on October 7, 1987, which indicates that the formation fracture pressure is greater than 3530 psig (surface). Enclosed are a well bore diagram of the subject well, tabulations of data from the step rate test, the Engineering Discussion of the test results, and a fracture correlation curve (rate versus pressure) of the step rate test.

Phillips Petroleum Company operates all offsetting proration units as well as all wells within one half mile of the captioned well. The mechanical integrity of each such well is sufficient to withstand the increase surface injection pressure at the Ranger SWD Well No. 6. A plat of the area of review is enclosed.

Your early consideration and approval is appreciated. Please direct any questions to me or to Mr. John Currie at (915) 367-1342.

Very truly yours,

L. M. Sanders, Supervisor
Regulation and Proration
(915) 367-1488

LMS/JCC/sdb
REG/PRO7.1/ranger swd6

Enclosures

cc: N.M.O.C.D.
P. O. Box 1980
Hobbs, New Mexico

Commission of Public Lands
P. O. Box 1148
Santa Fe, New Mexico

Phillips Petroleum Company
Ranger SWD Well No. 6
Unit N, Section 23, 12S, 34E
Lea County, New Mexico

APPLICATION FOR INCREASED INJECTION PRESSURE LIMITATION

Engineering Discussion

A step rate injection test was performed on the subject well October 7, 1987 by John West Engineering, test data enclosed. As shown on the enclosed well bore diagram, all tubing and down hole equipment was installed at the time of the test. Pressure data came from a surface pressure meter and a bottom hole Amerada bomb. Injection rates were calculated from the flow totalizer. Five equal step lengths of 30 minutes each were run.

The enclosed plot of surface and bottom hole pressure versus rate indicates that parting pressure was not reached during the test. The highest bottom hole pressure measured was 7492 psi at 10346 ft., yielding a formation fracture pressure gradient greater than 0.72 psi/ft. Limiting the bottom hole pressure to less than 7492 psi will prevent fracturing the formation and will maintain the integrity of the strata confining the injected fluid.

The bottom hole injection pressure of 7492 psi corresponds to a measured surface injection pressure of 3530 psi. Thus, limiting the maximum surface injection pressure to 3480 psi will maintain the integrity of the confining strata. The mechanical integrity of the subject injection well is such that surface injection pressures of this magnitude can be sustained. All other wells within one half mile radius have been properly plugged and will not allow the injected fluid to travel out of the injection zone. Phillips Petroleum Company request permission to inject water into the Ranger SWD Well No. 6 at surface pressure which do not exceed 3480 psi.

REG/PRO7.1/ranger swd6.1

Enclosures

PHILLIPS PETROLEUM COMPANY--PERMIAN BASIN REGION

RKB @ 4159'
 CHF @ _____'
 GL @ 4147'

Area North
 Subarea Lovinston

Date: 12/23/87

Lease & Well No. Ranser SMD Well No. 6
 Legal Description 660' FSL & 1978' FWL, Sec. 23, T-12-S, R-34-E,
 Lea County, New Mexico

Field Ranser Lake (Bough)

Status Injecting

Tbs, 2-3/8" 4.7# J-55 Gr. & 2-3/8" 4.7# N-80 Gr. @ 10128'

Pkr, Baker Model D @ 10128'

R-7620

13-3/8" OD @ 358'
 27# to 48#
 TOC @ surface

8-5/8" OD @ 4226'
 32-34# K-55 Gr.
 11" hole
 TOC @ surface

Perforations:
 10228'-10346'

PTD 10352'

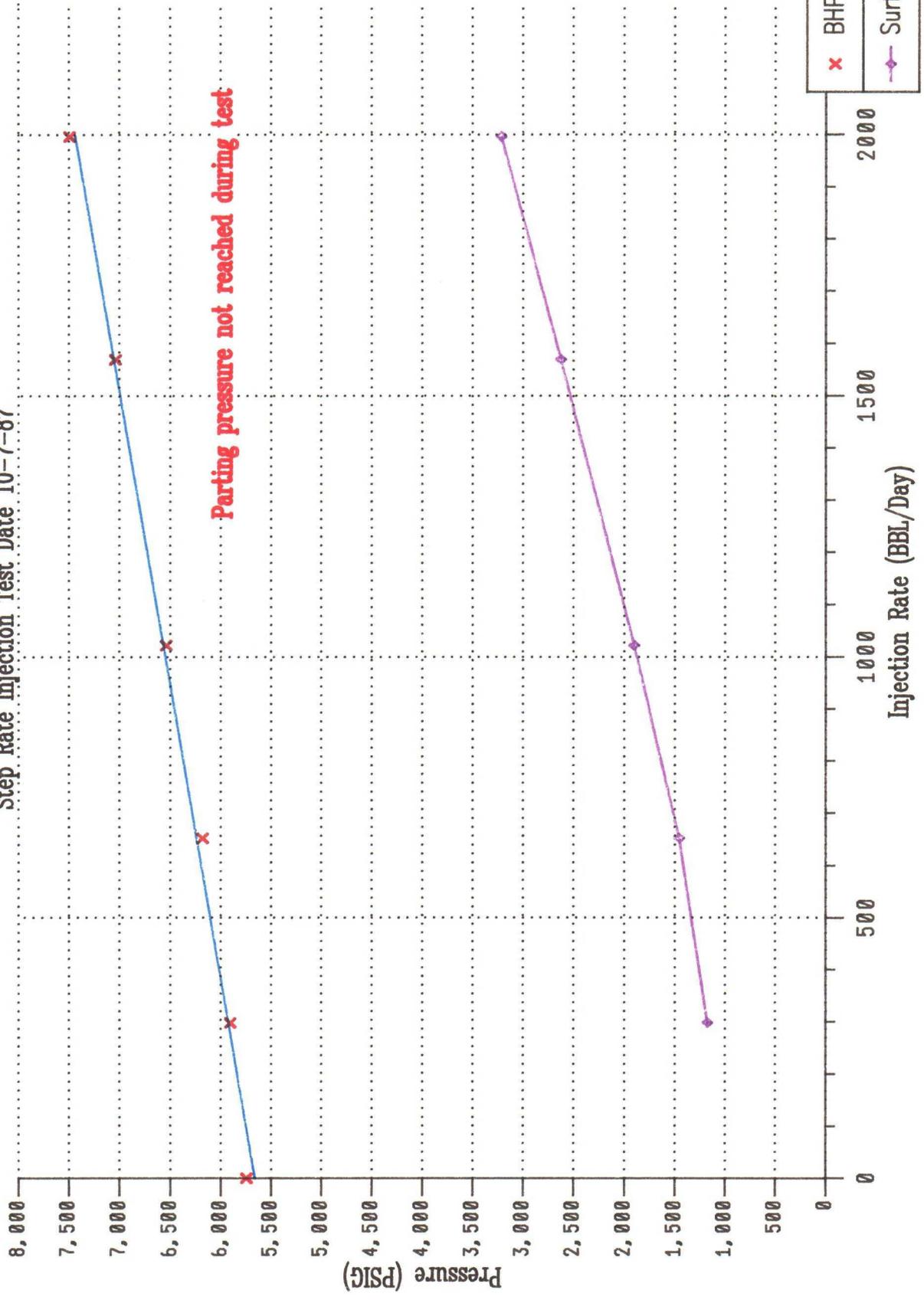
5-1/2" OD @ 10,369' TOC @ 500'

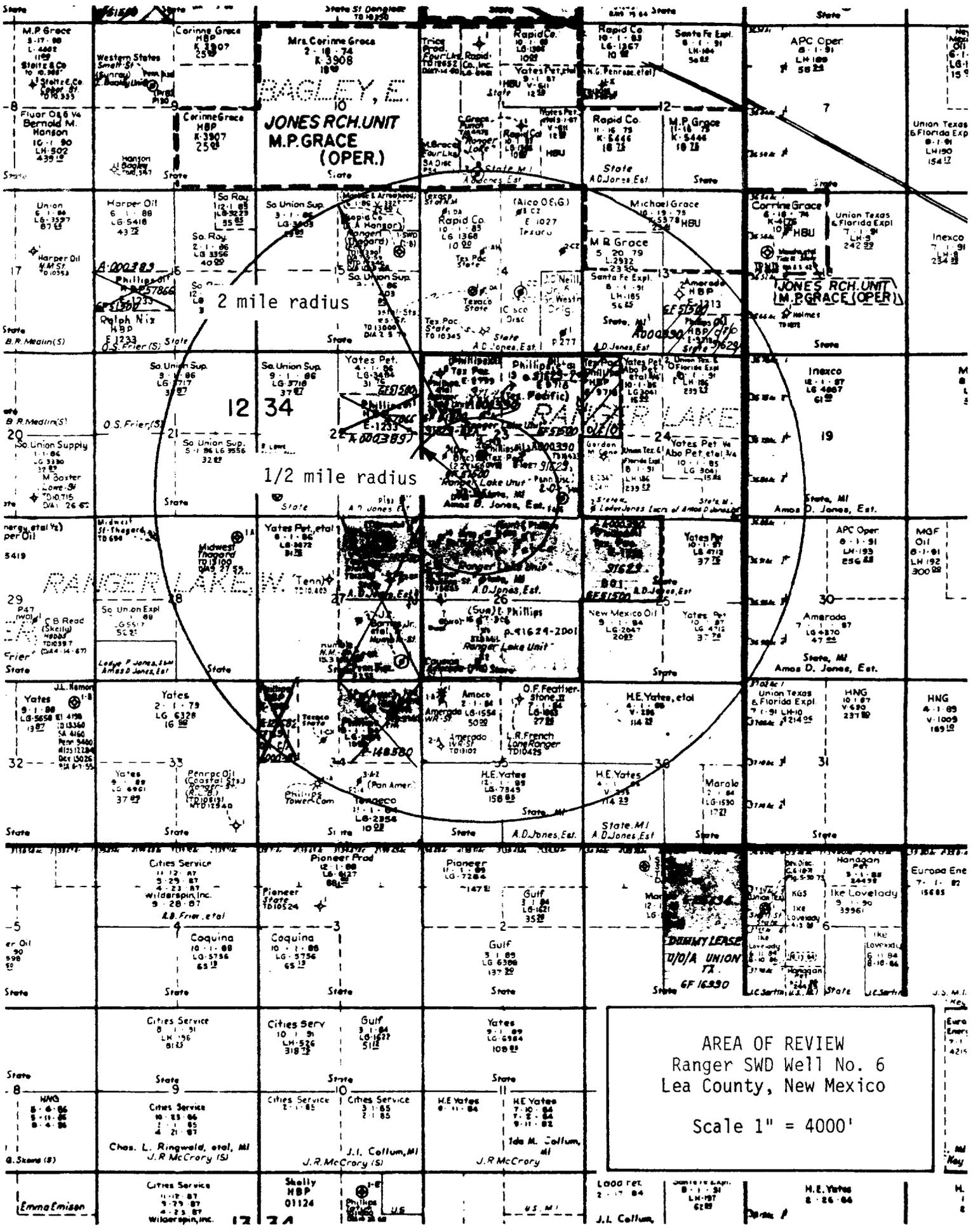
TD @ 10,369' 15# J-55 to 20# N-80
 7-7/8" hole

Checked By:

Resv. Engr.: J. C. Currie *JCC*

Phillips Petroleum Company
 Ranger SWD Well No. 6
 Step Rate Injection Test Date 10-7-87





AREA OF REVIEW
 Ranger SWD Well No. 6
 Lea County, New Mexico
 Scale 1" = 4000'

Emma Emison
 Cities Service
 Shelly HBP
 J.L. Collum, MI
 J.R. McCrory (S)
 J.L. Collum, MI
 J.R. McCrory
 H.E. Yates
 J.L. Collum, MI
 H.E. Yates
 J.L. Collum, MI

Phillips Petroleum company
 Ranger SWD No. 6
 Bottom Hole Pressure Step-Rate Test.
 Tabulation of times and pressures.

TEST CONDUCTED BY:
 JOHN WEST ENGINEERING CO.

TEST DATE: OCTOBER 7, 1987
 TEST DEPTH: 10.346 Feet
 ELEMENT NO: 34912 (0-8000 PSI)
 OPERATOR: W.S.

<u>DATE</u>	<u>TIME</u>	<u>CUM HRS./MIN.</u>	<u>PSIG @ 10.346 FEET</u>
10-7-87	8:20 A.M.		5750 gauge reached 10,346'
	8:40 A.M.	00 Hrs. 00 Min.	5746 Started Test.
		00 02	5786
		00 04	5806
		00 06	5819
		00 08	5827
	8:50 A.M.	00 10	5835
		00 12	5843
		00 14	5855
		00 16	5863
		00 18	5871
	9:00 A.M.	00 20	5879
		00 22	
		00 24	5895
		00 26	5899
		00 28	5903
	9:10 A.M.	00 30	5907 End Rate I
		00 32	5972
		00 34	6000
		00 36	6020
		00 38	6040
	9:20 A.M.	00 40	6056
		00 42	6072
		00 44	6084
		00 46	6096
		00 48	6112
	9:30 A.M.	00 50	6125
		00 52	6137
		00 54	6149
		00 56	6161
		00 58	6173
	9:40 A.M.	01 00	6181 End Rate II
	9:42 A.M.	01 02	6261
		01 04	6289
		01 06	6313
		01 08	6333
		01 10	6353
		01 12	6382
		01 14	6406
		01 16	6426
		01 18	6446
	10:00 A.M.	01 20	6466
		01 22	6486
		01 24	6502
		01 26	6518
		01 28	6530
	10:10 A.M.	01 30	6542 End Rate III
	10:12 A.M.	01 32	6647
		01 34	6687
		01 36	6723
		01 38	6755
	10:20 A.M.	01 40	6779
		01 42	6819
		01 44	6855
		01 46	6892
		01 48	6919
	10:30 A.M.	01 50	6940
		01 52	6964

Continued on attached sheet.

Phillips Petroleum Company
 Ranger SWD No. 6
 Bottom Hole Pressure Step-Rate Test.
 Tabulation of times and pressures.

Test Conducted by:
 JOHN WEST ENGINEERING CO.

TEST DATE: OCTOBER 7, 1987
 TEST DEPTH: 10,346 Feet
 ELEMENT NO: 34912 (0-8000 PSI)
 OPERATOR: W.S.

<u>DATE</u>	<u>TIME</u>	<u>CUM HRS./MIN.</u>	<u>PSIG @ 10,346 FEET</u>
10-7-87	10:34 A.M.	01 Hrs. 54 Min.	6988
		01 56	7004
		01 58	7024
		02 00	7040 End Rate IV
	10:42 A.M.	02 02	7135
		02 04	7175
		02 06	7202
		02 08	7230
		02 10	7250
		02 12	7278
		02 14	7302
		02 16	7325
		02 18	7349
		11:00 A.M.	02 20
	02 22		7401
	02 24		7425
	02 26		7448
	02 28		7472
	11:10 A.M.	02 30	7492 End Rate V
	10-7-87	12:24 P.M.	03 44

JOHN WEST ENGINEERING CO.
Step Rate Injection Test

Well Name Ranger SWD Well No. 6
CO. Name Phillips Petroleum Co.

Date October 7, 1987

Remarks	Time	Tbg. Press.	Rate BWP.D.	Total	B. H. P	Tbg. Press.	Rate GPM	HEAD LOSS
10-7-87	8:40 AM	1073		0				
	8:45	1150	345.60	1.2				
	8:50	1145	288.00	2.2				
	8:55	1145	316.80	3.3				
	9:00	1145	259.20	4.2				
	9:05	1160	288.00	5.2				
Rate I	9:10	1180	288.00	6.2	5907	1171.27	8.40	8.73
	9:15	1330	691.20	8.6				
	9:20	1365	662.40	10.9				
	9:25	1420	662.40	13.2				
	9:30	1440	633.60	15.4				
	9:35	1480	633.60	17.6				
Rate II	9:40	1490	633.60	19.8	6181	1452.44	18.48	37.56
	9:45	1735	1036.80	23.4				
	9:50	1800	1036.80	27.0				
	9:55	1845	1036.80	30.6				
	10:00	1880	1008.00	34.1				
	10:05	1950	1008.00	37.6				
Rate III	10:10	1985	1008.00	41.1	6542	1896.33	29.40	88.67
	10:15	2470	1584.00	46.6				
	10:20	2550	1612.80	52.2				
	10:25	2630	1555.20	57.6				
	10:30	2685	1584.00	63.1				
Rate IV	10:35	2745	1555.20	73.8	7040	2610.35 2553.95	44.52	191.05
	10:45	3255	2044.80	80.9				
	10:50	3290	1987.20	87.8				
	10:55	3335	1987.20	94.7				
	11:00	3375	1958.40	101.5				
	11:05	3485	1987.20	108.4				
Rate V	11:10	3530	2016.00	115.4	7492	3210.35	58.60	319.65
			Started 6th Rate And Line Broke.					

Bottom Hole Pressures to use for plotting step-rate

TEST DATE: OCTOBER 7, 1987
 TEST DEPTH: 10,346 Feet

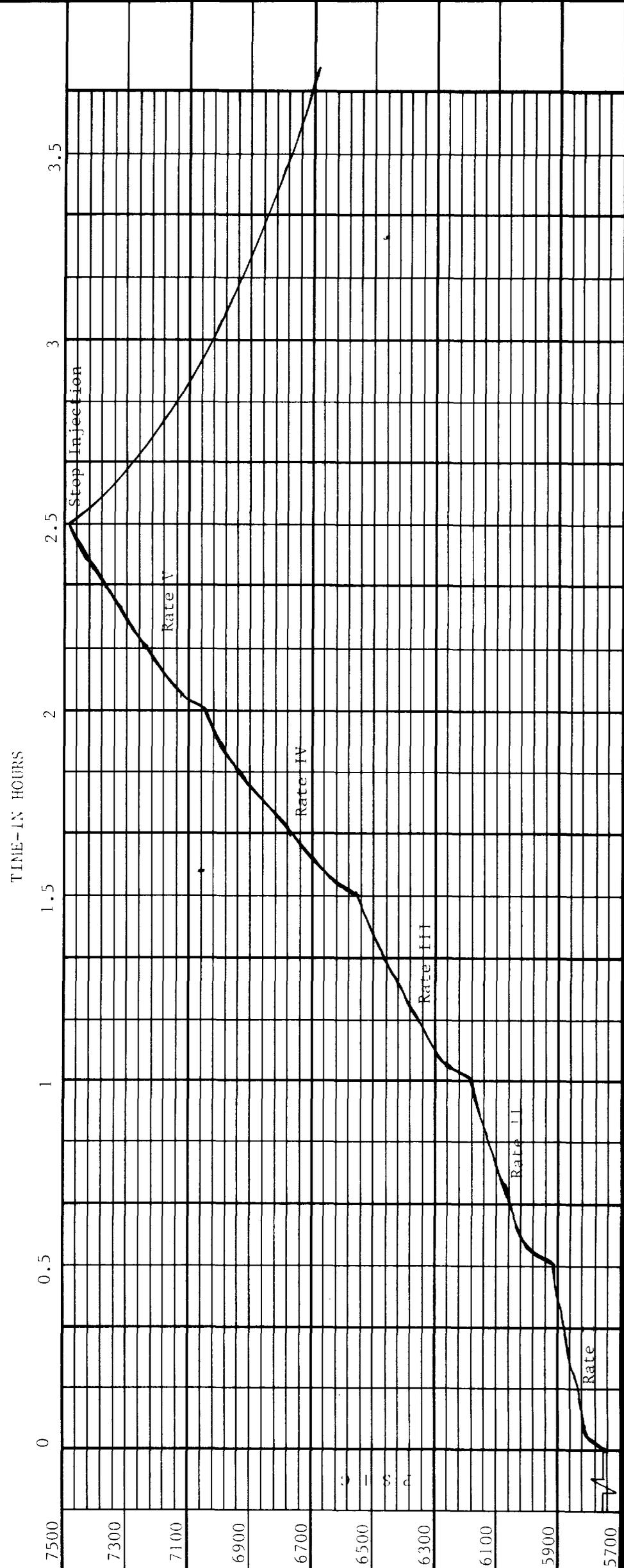
PHILLIPS PETROLEUM COMPANY

Element No.: 34912
 Range: 0-8000 PSI
 Clock No.: B-18007
 Range: 0-12 Hour

Ranger SWD Well No. 6

Step-rate Injection Test

Note: See tabulation of Pressure and Time on attached sheet.





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

January 27, 1988

Phillips Petroleum Company
4001 Penbrook
Odessa, TX 79762

Attention: L. M. Sanders

RE: Injection Pressure Increase
Ranger SWD Well No. 6
Lea County, New Mexico

Dear Sir:

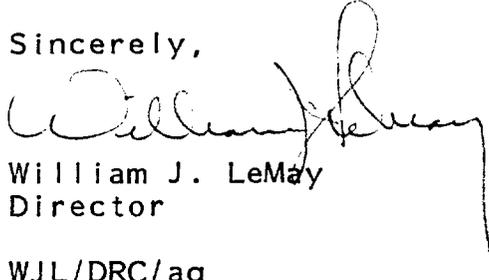
Reference is made to your request dated December 30, 1987, to increase the surface injection pressure on the Ranger SWD Well No. 6. This request is based on a step rate test conducted on the well on December 17, 1987. The results of the test have been reviewed by my staff and we feel an increase in injection pressure on the well is justified at this time.

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

<u>WELL & LOCATION</u>	<u>MAXIMUM INJECTION SURFACE PRESSURE</u>
Ranger SWD Well No. 6 660 FSL & 1978 FWL (Unit N) Section 23, T-12 South, R-34 East, NMPM, Lea County, New Mexico	3480 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

WJL/DRC/ag

xc: OCD - Hobbs
D. McDonald
D. Catanach
Case File - 8279