

C-108

RECEIVED

JUN 23 1986

Reservoir Manager

Mobil Producing Texas & New Mexico Inc.

June 16, 1986

P.O. BOX 633
MIDLAND, TEXAS 79702

MIDLAND DIVISION

Oil Conservation Division (2)
Post Office Box 2088
Santa Fe, New Mexico 87501

7.01
WATER DISPOSAL WELL
MOBIL PRODUCING TX & NM, INC.
GOVERNMENT "D" LEASE
WELL NO. 4
FENTON, N.W. DELAWARE FIELD
EDDY COUNTY, NEW MEXICO

Gentlemen:

Mobil Producing TX & NM, Inc. (MPTM), respectfully requests authority to dispose of produced water into the Delaware formation in the subject well.

Conversion of this well to a water disposal well is necessary to economically dispose of lease and offlease water.

The supporting information for this application is organized in accordance with Form C-108.

If any further information is needed concerning this application, please call C.A. Moore at (915) 688-1772.

Yours very truly,

C.A. Moore

for G. E. Tate
Env. & Reg. Manager

CAMoore/dwc

Attachments

cc: Offset Operators & Surface Owner (w/attach)
New Mexico State Land Office
County Clerk, Carlsbad, New Mexico
District Director OCD - Artesia

BEFORE EXAMINER CATANACH	
OR CONSERVATION DIVISION	
MOBIL	PERMIT NO. <u>1</u>
CASE NO.	<u>8793</u>

A:M612970E.CAM

APPLICATION FOR AUTHORIZATION TO INJECT

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

II. Operator: Mobil Producing Texas & New Mexico, Inc.

Address: P. O. Box 633, Midland, TX 79702

Contact party: G. E. Tate Phone: (915) 688-1772

III. Well data: Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary.

IV. Is this an expansion of an existing project? ☐ yes ☒ no
If yes, give the Division order number authorizing the project _____.

V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.

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:

1. Proposed average and maximum daily rate and volume of fluids to be injected;
2. Whether the system is open or closed;
3. Proposed average and maximum injection pressure;
4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and
5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).

VIII. Attach appropriate geological data on the injection zone including appropriate lithologic detail, geological name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such source known to be immediately underlying the injection interval.

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 belief.

Name: G. E. Tate

Title: Env. & Reg. Mgr.

Signature: C.A. Moore for G.E. Tate

Date: June 16, 1986

* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be duplicated and resubmitted. Please show the date and circumstance of the earlier submittal.

III. WELL DATA

A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:

- (1) Lease name; Well No.; location by Section, Township, and Range; and footage location within the section.
- (2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.
- (3) A description of the tubing to be used including its size, lining material, and setting depth.
- (4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

Division District offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.

- (1) The name of the injection formation and, if applicable, the field or pool name.
- (2) The injection interval and whether it is perforated or open-hole.
- (3) State if the well was drilled for injection or, if not, the original purpose of the well.
- (4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.
- (5) Give the depth to and name of the next higher and next lower oil or gas zone in the area of the well, if any.

XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

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

- (1) The name, address, phone number, and contact party for the applicant;
- (2) the intended purpose of the injection well; with the exact location of single wells or the section, township, and range location of multiple wells;
- (3) the formation name and depth with expected maximum injection rates and pressures; and
- (4) a notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, P. O. Box 2088, Santa Fe, New Mexico 87501 within 15 days.

NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

by this applicat
00 Side

Mobil Producing Texas & New Mexico Inc.

INDEX OF ATTACHMENTS
ORGANIZED IN ACCORDANCE WITH FORM C-108
PROPOSED WATER DISPOSAL WELL NO. 4
GOVERNMENT "D" LEASE
EDDY COUNTY, NEW MEXICO

P.O. BOX 633
MIDLAND, TEXAS 79702

MIDLAND DIVISION

III. Well Data

A. See well sketch also

1. Government "D" No. 4, Sec. 1, T-21-S, R-27-E
2. 20" csg @ 40' cemented with redimix to surface 26" hole

13-3/8" csg @ 665' cmt w/700sx circulated 17-1/2" hole

8-5/8" csg @ 2437' cmt w/2200sx circulated 11" hole

5-1/2" csg @ 5712' cmt w/835sx TOC @ 2200 (calc)
7-7/8" hole
3. 2-7/8" N-80 steel tbg pvc lined 2.14" ID set @ 3800'
4. Baker AD-1 tension pkr 5-1/2" set @ 3800'

B.

1. Delaware; Fenton NW Field
2. 3849'- 56'; 3869'- 80'; 3898'- 3934'; 3964'- 4022';
perf 4 jspf
3. Well originally drilled as a Bone Spring producer
4. See sketch
5. Next higher zone - Delaware, oil 2800'- 3200'
Next lower zone - Bone Spring, oil 5500'- 5650'

V. Map attached

VI. C-105's and 9-330's are attached

VII.

1. Avg. rate: 1000 BWPD, max rate: 2000 BWPD
2. Closed system

3. Avg. inj. pressure: 500#, max inj. press.: 770#
4. Sources include Delaware water and offlease Bone Spring water from the Burton Flat Lease. See attached letters and water analyses on compatibility.
5. Attached chemical analysis of disposal zone formation water

VIII. Attached geological data

IX. Proposed stimulation

1. Pump 3000 gals 10% NEFE HCL down 2-7/8" tbg.
2. Pump 500 lbs blocking agent (50% 100 mesh rock salt + 50% para formaldehyde)
3. Pump 3000 gals HCL
4. Pump 800 lbs blocking agent
5. Pump 3000 gals HCL
6. Pump 800 lbs blocking agent
7. Pump 2000 gals HCL
8. Pump 1100 gals 2% KCL wtr flush

X. Logs have been previously filed

XI. Attached chemical analysis of fresh water

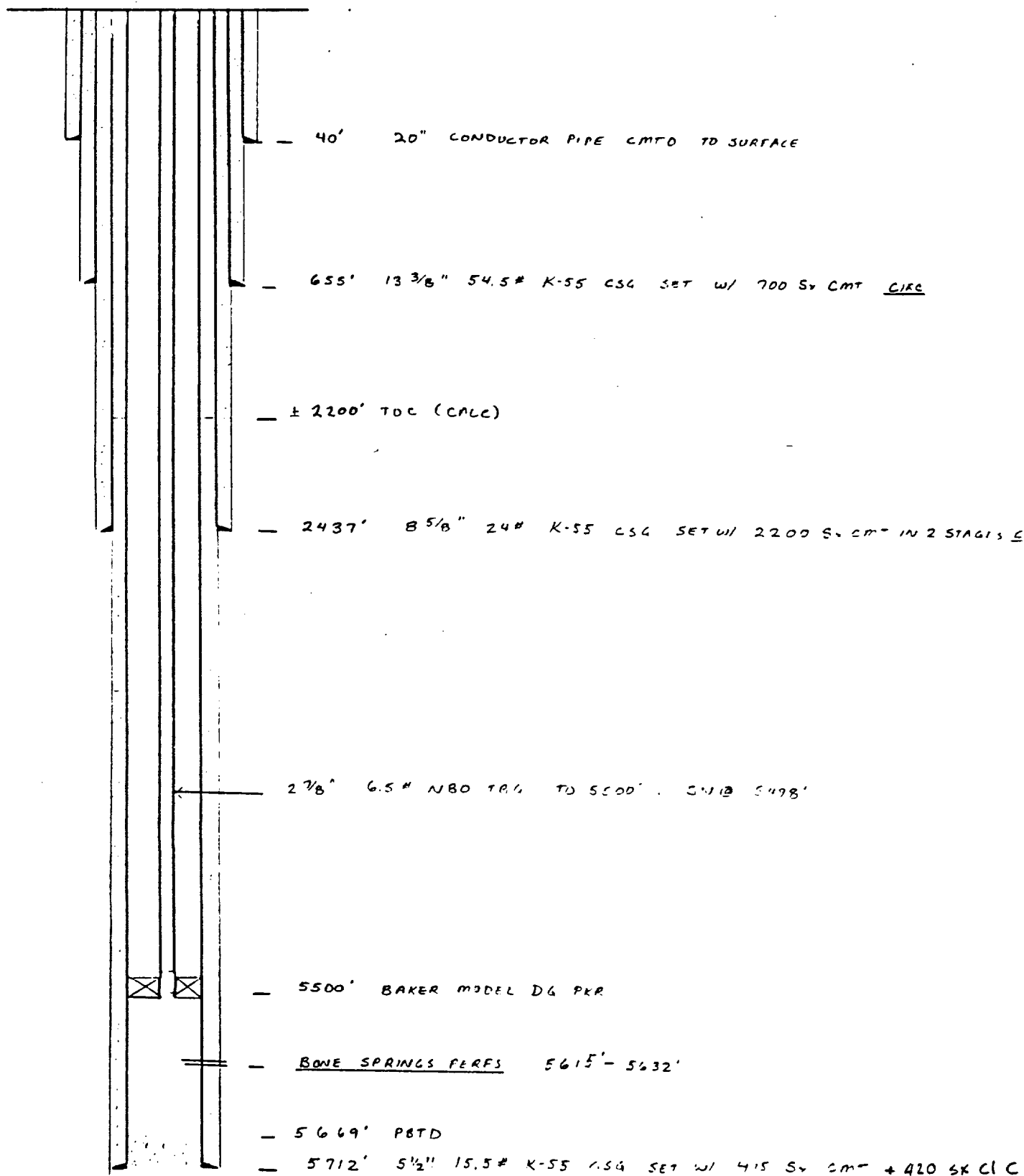
XII. Attached affirmative statement

XIII. Attached proof of notice

ION

T-21-S R-27-E
EDDY CO., N.M.

SIGNED M. E. VASICEK

G.L. 3196
D.F.
K.B. 3205
ZEROPresent

5712 TD

5-84

WELL NO. 1

LEASE

GOVERNMENT U

FIELD EAST AVA CO.

ON

T-21-S

R-27-E

EDDY CO., N.M.

SIGNED

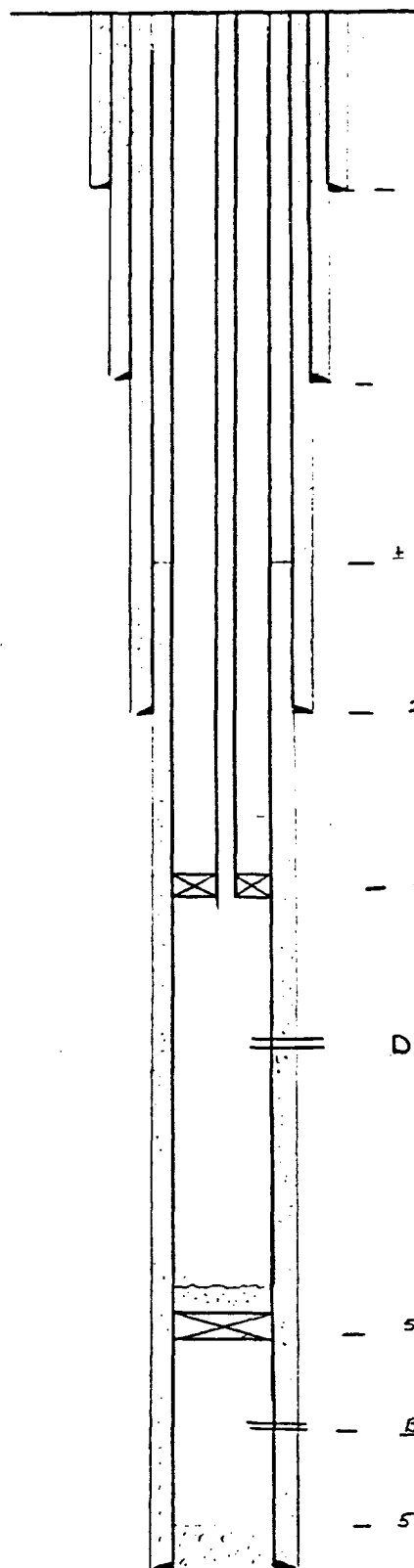
M. E. VASICEK

G.L. 3196

D.F.

K.B. 3205

ZERO

Proposed

- 40' 20" CONDUCTOR PIPE CAPPED TO SURFACE

- 655' 13 3/8" 54.5# K-55 C.S.G. SET W/ 700 SX CMT C.I.P.

- ± 2200' TDC (CALC)

- 2437' 8 5/8" 24# K-55 C.S.G. SET W/ 2200 SX CMT IN 2 STAGES C.I.P.

- 3800' 5 1/2" tension pkr & 2 7/8" plastic lined pipe.

Delaware perms: 3849'-3856', 3869'-3880', 3898'-3934', 3964'-4022'

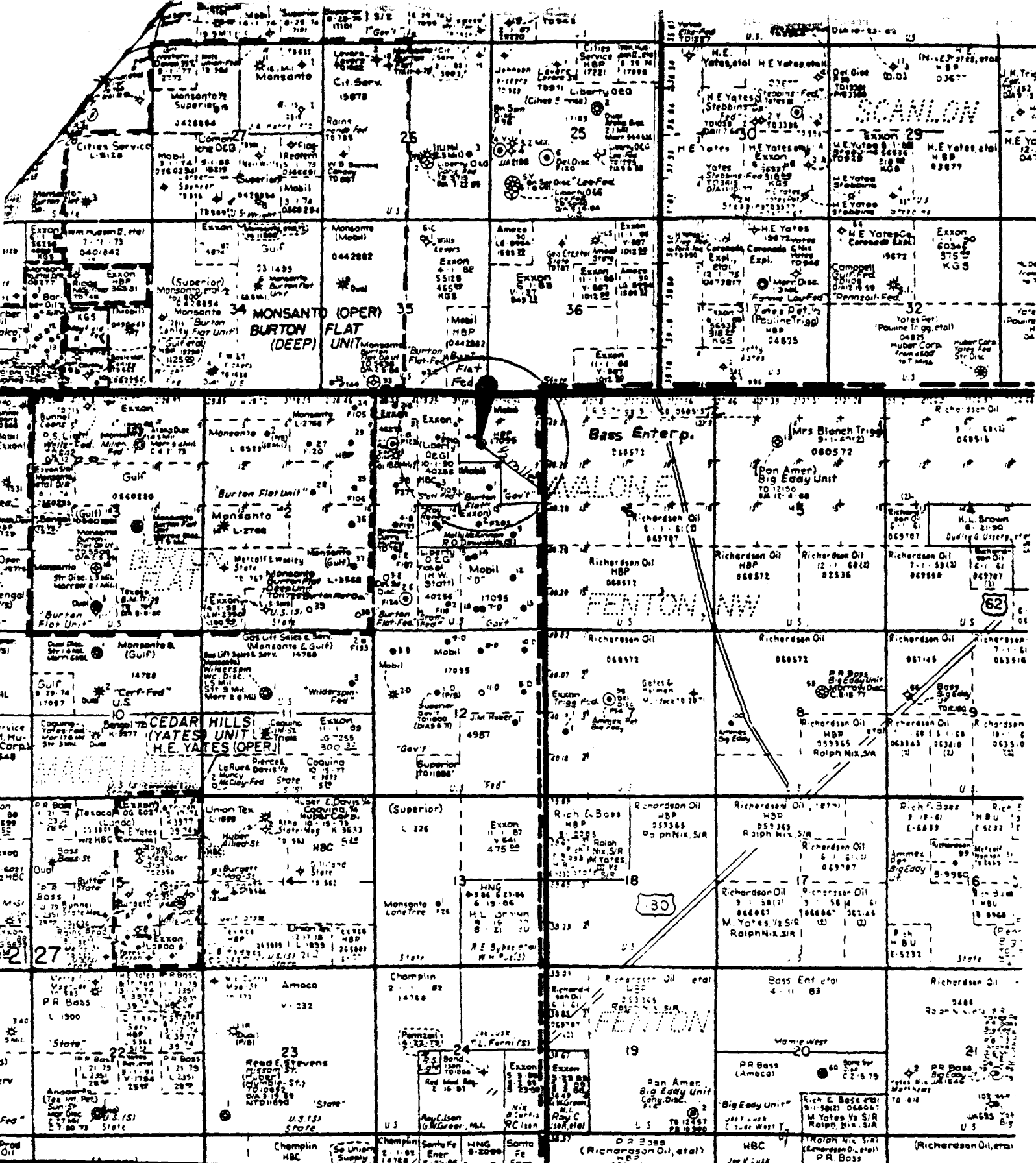
- 5590' CIBD capped w/ 35' cmt

- BONE SPRINGS PERFS 5615'-5632'

- 5669' PBTD

- 5712' 5 1/2" 15.5# K-55 C.S.G. SET W/ 415 SX CMT Pacesetter Lite
420 SX CMT CLASS C

5712 TD



**Mobil Producing
Texas & New Mexico Inc.
Midland Division**

GOVERNMENT "D" LEASE
FENTON, DELAWARE, N.W. FIELD
EDDY COUNTY, NEW MEXICO

EDDY COUNTY, NEW MEXICO

SCALE: 1" = 4,000 Ft.

REG. NO. F28641

MOBIL PRODUCING TEXAS & NEW MEXICO, INC.
 GOVERNMENT "D" LEASE
 PROPOSED WATER DISPOSAL WELL
 WELL NO. 4
 T-21-S, R-27-E
 EDDY COUNTY, NEW MEXICO

<u>OPERATOR</u> <u>LEASE</u>	<u>WELL</u> <u>NO.</u>	<u>LOCATION</u>	<u>WELL</u> <u>TYPE</u>	<u>DATE</u> <u>DRILLED</u>	<u>DEPTH</u>	<u>COMPLETION</u> <u>INTERVAL</u>
OPERATOR- MOBIL PRODUCING TX. & N.M., INC.						
Burton Flat	1	2950' FNL; 1700' FEL, Sec. 1 T-21-S, R-27-E	P	7-24-85	5722'	Bone Spring 5604-5622'
"	2	3300' FSL; 1980' FEL Sec. 1 T-21-S, R-27-E	P	11-29-84	5745'	Bone Spring 5552-5574'
OPERATOR- EXXON CORP.						
Stott Federal	2	1980' FWL; 1392' FNL Sec. 1 T-21-S, R-27-E	P	6-17-84	5670'	Bone Spring 5537-5560'
"	3	1980' FWL; 2912' FNL Sec. 1 T-21-S, R-27-E	P	7-13-84	5630'	Bone Spring 5488-5516'

NEW MEXICO
MINERALS DEPARTMENTRECEIVED BY
OIL CONSERVATION DIVISIONOCT 16 1985
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

5a. Indicate Type of Lease

State ☐Fee ☒

5. State Oil & Gas Lease No.

7. Unit Agreement Name

6. Farm or Lease Name

Burton Flats

9. Well No.

12

10. Field and Pool, or Wildcat
Avalon-Bone Spring, East

12. County

Eddy

1a. TYPE OF WELL

OIL WELL ☒GAS WELL ☐DRY ☐

OTHER

b. TYPE OF COMPLETION

NEW WELL ☒WORK OVER ☐DEEPEN ☐PLUG BACK ☐DIFF. RESV. ☐

OTHER

c. Name of Operator

The Superior Oil Company (Mobil Producing Tx. & N.M., Inc.)

d. Address of Operator

Nine Greenway Plaza, Suite 2700, Houston, Texas 77046

e. Location of Well

WIT LETTER J LOCATED 2950 FEET FROM THE N LINE AND 1700

E LINE OF SEC. 1 TWP. 21S RGE. 27E NWPM

5. Date Spudded 7-24-85 16. Date T.D. Reached 8-7-85 17. Date Compl. (Ready to Prod.) 9-26-85 18. Elevations (DF, RKB, RT, GR, etc.) KB 3204 GL - 3190 19. Elev. Casinghead 3190

20. Total Depth 5722 21. Plug Back T.D. 5680 22. If Multiple Compl., How Many 23. Intervals Drilled By Rotary Tools X Cable Tools

4. Producing Interval(s), of this completion - Top, Bottom, Name

5604-5622 Bone Springs

25. Was Directional Survey Made
NO

5. Type Electric and Other Logs Run

CNL-LDT-GR-CAL, DLL-RXO-GR, Sonic

27. Was Well Cored
NO

B. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT LB./FT.	DEPTH SET	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
13 3/8	54.5#	665	17 1/2	650 x CLC (858 CF)	Circ
8 5/8	24#	2552	12 1/2	1500 x CLC (1980 CF)	Circ
5 1/2	15.5#	5722	7 7/8	800 x lite (1448 CF) + 450 x CLC (594 CF)	Circ

C. LINER RECORD

SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN	SIZE	DEPTH SET	PACKER SET
					2 7/8	SN @ 5620	TAC @ 5557

1. Perforation Record (Interval, size and number)

perf w/4 JSPF 5604-5622 (73 holes)

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL	AMOUNT AND KIND MATERIAL USED
5604-5622	Spot 200 gal 15% DI NeFe HCL SWF w/4200 gal YF-4 + 10878 gal 2% KCL w/YF-4 fluid w/4200 gal CO2 w/24000# 20/40 Brady Sd.

3. PRODUCTION

Date First Production 9-26-85		Production Method (Flowing, gas lift, pumping - Size and type pump) 1½ x 2 x 24 Pump					Well Status (Prod. or Shut-in) Producing	
Date of Test 10-1-85	Hours Tested 24	Choke Size	Prod'n. For Test Period →	Oil - Bbl. 10	Gas - MCF 125	Water - Bbl. 6	Gas - Oil Ratio 12500	
Flow Tubing Press.	Casing Pressure	Calculated 24- Hour Rate →	Oil - Bbl.	Gas - MCF	Water - Bbl.	Oil Gravity - API (Corr.) 43.5 @ 60		

4. Disposition of Gas (Sold, used for fuel, vented, etc.)

Sold

Test Witnessed By

T. J. Auld

5. List of Attachments

C-104, Inclination Survey, Logs

6. I hereby certify that the information shown on both sides of this form is true and complete to the best of my knowledge and belief.

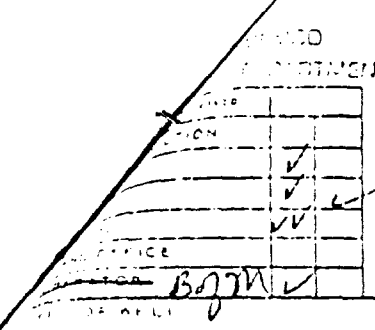
OIL CONSERVATION RECEIVED BY

P. O. BOX 2138

SANTA FE, NEW MEXICO

JAN 31 1985

WELL COMPLETION OR RECOMPLETION REPORT AND LOG
ARTESIA, OFFICE



TYPE OF COMPLETION
OIL WELL ☒ GAS WELL ☐ DRY ☐ OTHER ☐
NEW WELL ☒ WORK OVER ☐ DEEPEN ☐ PLUG BACK ☐ DIFF. RESVR. ☐ OTHER ☐

Name of Operator
Mobil Producing TX. & N.M. Inc.
Address of Operator
Nine Greenway Plaza, Suite 2700, Houston, Texas 77046
Location of Well

IT LETTER 0 LOCATED 3300 FEET FROM THE South LINE AND 1980 FEET FROM East
LINE OF SEC. 1 TWP. 21S RGE. 27E NMPM

1. Date Spudded 11-29-84 16. Date T.D. Reached 12-27-84 17. Date Compl. (Ready to Prod.) 1-23-85 18. Elevations (DF, RKB, RT, GR, etc.) 3178' GR 19. Elev. Casinghead
2. Total Depth 5745' 21. Plug Back T.D. 5700' 22. If Multiple Compl., How Many 23. Intervals Drilled By Rotary Tools Yes Cable Tools

24. Producing Intervals, of this completion - Top, Bottom, Name 5552'-5574' Bone Spring 25. Was Directional Survey Made No
26. Type Electric and Other Logs Run LDT-GR-Caliper, DLL-MSFL-GR-Caliper, Sidewall Cores 27. Was Well Cored No

8. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT LB./FT.	DEPTH SET	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
13-3/8"	54.5	630'	17-1/2"	675 sx Class C Lite	None
8-5/8"	24	2539'	11"	1700 sx Class C	None
5-1/2"	15.5	5708'	7-7/8"	525 sx Class C Lite	None
				and 500 Class C Neat	

9. LINER RECORD 30. TUBING RECORD

SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN	SIZE	DEPTH SET	PACKER SET
					2-7/8"	5578'	5406'

11. Perforation Record (Interval, size and number) 5552-5574' (45 holes w/3-1/8" gun)

DEPTH INTERVAL	AMOUNT AND KIND MATERIAL USED
4 sq holes @ 5680	Press to 2000 PSI-No break dc
5552-5574'	56 Bbls 7 1/2% HCL w/additives.
	750 SCF/bbl nitrogen, 10,400
	gals gel, 5600 gals CO2, 24,0

12. PRODUCTION 20-40 sd, 8000# 12-20 sd, 100# silica flo
13. Date First Production 1-19-85 Production Method (Flowing, gas lift, pumping - Size and type pump) Flowing Well Status (Prod. or Shut-in) SI
14. Date of Test 1-26-85 Hours Tested 24 Choke Size 21/64" Prod'n. For Test Period 202 Oil - Bbl. 380 Gas - MCF 2 Water - Bbl. 1881 Gas - Oil Ratio
15. Flowing Tubing Press. 320 Casing Pressure 0 Calculated 24-Hour Rate Oil - Bbl. Gas - MCF Water - Bbl. Oil Gravity - API (Corr.) 44.0°

16. Disposition of Gas (Sold, used for fuel, vented, etc.) SI - Negotiating for sales contracts. 17. Test Witnessed By Jim Fletcher

18. List of Attachments Logs and Inclination Survey
19. I hereby certify that the information shown on both sides of this form is true and complete to the best of my knowledge and belief.

SIGNED G.E. Tate G.E. Tate TITLE Regulatory Manager DATE 1-28-85

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE

(See other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R355.6.

AUG 01 1984

WELL COMPLETION OR RECOMPLETION REPORT AND LOG*

1. TYPE OF WELL: OIL WELL ☒ GAS WELL ☐ DRY ☐ Other ARTESIA, CEECE
2. TYPE OF COMPLETION: NEW WELL ☒ WORK OVER ☐ DEEP-EN ☐ PLUG BACK ☐ DIFF. RESVR. ☐ Other _____

3. NAME OF OPERATOR
Exxon Corporation

4. ADDRESS OF OPERATOR
P. O. Box 1600, Midland, TX 79702

5. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)*

At surface 1980' FWL & 1392.3' FNL of Sec. 1 (SE/NW)

At top prod. interval reported below

At total depth

14. PERMIT NO. DATE ISSUED
4-13-84

12. COUNTY OR PARISH Eddy 13. STATE New Mexico

15. DATE SPUDDED 6-17-84 16. DATE T.D. REACHED 7-10-84 17. DATE COMPL. (Ready to prod.) 7-21-84 18. ELEVATIONS (DF, RKB, RT, GR, ETC.)* 3197' GR 19. ELEV. CASINGHEAD

20. TOTAL DEPTH, MD & TVD 5670' 21. PLUG, BACK T.D., MD & TVD 22. IF MULTIPLE COMPL., HOW MANY* 23. INTERVALS DRILLED BY 0-5670' ROTARY TOOLS CABLE TOOLS

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)* 5537 - 5560' Bone Spring 25. WAS DIRECTIONAL SURVEY MADE No

26. TYPE ELECTRIC AND OTHER LOGS RUN FDC-CNL; DLL-MSFL; Sidewall Cores 27. WAS WELL COBED No

28. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
13-3/8"	48#	575'	17-1/2"	600 sx ClC	
8-5/8"	24#	2495'	11"	2000 sx Pacesetter Lite;	400 sx ClC
				700 sx ClC Neat	
5-1/2"	14. 15.5#	5661'	7-7/8"	1215 sx ClC	

29. LINER RECORD					30. TUBING RECORD		
SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
					2-7/8"	5300'	5300'

31. PERFORATION RECORD (Interval, size and number)

Perf 5537 - 5560 w/ 96 shots

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
5537 - 5560	2500 gals 15% HCl
	20,000 gals YFCO ₂ , 28,700#
	20-40 mesh sand

33. PRODUCTION

DATE FIRST PRODUCTION		PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump)				WELL STATUS (Producing or shut-in)	
7-19-84		Flowing				Producing	
DATE OF TEST	HOURS TESTED	CHUCK SIZE	PROD'N. FOR TEST PERIOD	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO
7-25-84	24	20/64"	→	210	235	4	1117
FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)	
215		→				45	

34. DISPOSITION OF GAS (Solid, used for fuel, vented, etc.) Flared TEST WITNESSED BY

35. LIST OF ATTACHMENTS

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED [Signature] TITLE Unit Head DATE 7-30-84

*(See Instructions and Spaces for Additional Data on Reverse Side)

**UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY**

SUBMIT IN DUPLICATE*

(See other instructions on reverse side)

Form approved,
Budget Bureau No. 42-R330.5.

WELL COMPLETION OR RECOMPLETION REPORT AND LOG *

1a. TYPE OF WELL: OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> DRY <input type="checkbox"/> Other <input type="checkbox"/>				<div style="border: 2px solid black; padding: 5px; display: inline-block;"> RECEIVED BY SEP 24 1984 O. C. D. ARTESIA OFFICE </div>	
b. TYPE OF COMPLETION: NEW WELL <input checked="" type="checkbox"/> WORK OVER <input type="checkbox"/> DEEPEN <input type="checkbox"/> PLUG BACK <input type="checkbox"/> DIFF. RESER. <input type="checkbox"/>					
2. NAME OF OPERATOR Exxon Corporation					
3. ADDRESS OF OPERATOR P. O. Box 1600, Midland, TX 79702					
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)* At surface 1980' FWL and 2912.3' FNL of Sec. 1 (NE/SW) At top prod. interval reported below At total depth					
14. PERMIT NO.				DATE ISSUED 4-13-84	
15. DATE SPUDDED 7-13-84				16. DATE T.D. REACHED 8-17-84	
17. DATE COMPL. (Ready to prod.) 8-29-84				18. ELEVATIONS (DF, RKB, RT, GR, ETC.)* KB-3196; GL-3184	
19. ELEV. CASINGHEAD		20. TOTAL DEPTH, MD & TVD 5630			
21. PLUG. BACK T.D., MD & TVD		22. IF MULTIPLE COMPL., HOW MANY*		23. INTERVALS DRILLED BY 10 - 5630	
24. PRODUCING INTERVAL(S), OF THIS COMPLETION--TOP, BOTTOM, NAME (MD AND TVD)* 5488 - 5516 Bone Spring					25. WAS DIRECTIONAL SURVEY MADE No
26. TYPE ELECTRIC AND OTHER LOGS RUN MLL-DLL-GR; FDC-CNL; SWC					27. WAS WELL CORED No
28. CASING RECORD (Report all strings set in well)					
CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
13-3/8"	68#	604'	17-1/2"	300 sx PSL, 300 sx C1C	
8-5/8"	24#	2594'	11"	3000 sx PSL, 2700 sx C1C	
5-1/2"	14, 15.5#	5625'	7-7/8"	1170 sx TLW, 250 sx C1C	
29. LINER RECORD					
SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	
30. TUBING RECORD					
SIZE	DEPTH SET (MD)	PACKER SET (MD)			
2-7/8"	5400	5400			
31. PERFORATION RECORD (Interval, size and number)					
5488 - 5516' w/ 88 shots					
32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.					
DEPTH INTERVAL (MD)			AMOUNT AND KIND OF MATERIAL USED		
5488 - 5516			2500 gals. 15% NeHCl		
			20,000 gals. YFCO ₂ frac fl.		
			33,000# 20-40 sand		
33. PRODUCTION					
DATE FIRST PRODUCTION 8-29-84		PRODUCTION METHOD (Flowing, gas lift, pumping--size and type of pump) Flowing			WELL STATUS (Producing or shut-in) Producing
DATE OF TEST 9-1-84	HOURS TESTED 24	CHOKE SIZE 12/64"	PROD'N FOR TEST PERIOD →	OIL--BBL. 109	GAS--MCF. 287
WATER--BBL. 0		GAS-OIL RATIO 2630			
FLOW. TUBING PRESS. 640	CASING PRESSURE	CALCULATED 24-HOUR RATE →	OIL--BBL.	GAS--MCF.	WATER--BBL.
OIL GRAVITY-API (CORR.) 42.6			ACCEPTED FOR RECORD		
34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.) Flared					TEST WITNESSED BY
35. LIST OF ATTACHMENTS					
SEP 21 1984					
36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records					
SIGNED		TITLE		DATE	
		Unit Manager		9-19-84	

*(See Instructions and Spaces for Additional Data on Reverse Side)

VII. 4. It is our intention to dispose of 3300 BWPD from the Delaware zone, which is produced from the Government D Lease. Offlease water from our Burton Flat Lease will also be disposed off in the amount of only 20 BWPD of Bone Spring water.

In an attempt to comply with your request for a water analysis of this offlease water, we sent a water sample to Core Laboratories, Inc. They were unable to get a very ^{successful} analysis due to the turbid condition of the Bone Spring water. It is however, safe to say that the Bone Springs water is ⁱⁿ incompatible with the Delaware water because of the scaling tendency when the two are mixed. We have every intention, however, of treating this water with chemicals to prevent scaling and ask that you take into consideration the very small amount of Bone Spring water being disposed of, amounting to only 1% of total water injected.

Attached are also analyses of the Government D Lease water and our neighboring Federal E-#1 well which produces Bone Spring water. Perhaps this Bone Spring water analysis will serve to tell you what you need to know.

CORE LABORATORIES, INC.
SPECIAL SERVICES



May 27, 1986

Jack Hamner
Mobil Producing Texas & New Mexico
P. O. Box 633
Midland, Texas 79702

Reference File Number: C86090

Dear Mr. Hamner,

Enclosed you will find the compatibility study on the Delaware and Bone Springs waters. Please note that only one concentration was completed. This is due to the turbidities causing the spectrophotometer to read out of range. The Bone Springs water is very turbid with a high iron content. When mixed with the Delaware, iron sulfide precipitates out. Both waters have a tendency to scale and the Delaware has corrosive characteristics which will complicate their compatibility.

The turbidity calculated values are much lower than the actual values. Time appears to worsen this situation. In conclusion, the two waters are incompatible.

We trust this information is useful and appreciate the opportunity to have been of service.

Sincerely yours,
CORE LABORATORIES, INC.

A handwritten signature in dark ink, appearing to read "Donna Bartlett". The signature is fluid and cursive, with a large, stylized initial "D".

Donna Bartlett
Group Leader

DB:lt

CORE LABORATORIES, Inc.
2001 COMMERCE DRIVE
MIDLAND, TEXAS
(915) 694-7761

Company: Mobil Producing TX & NM
File No: C86090

Date Received: 5-21-86
Date Reported: 5-26-86
Report To: Jack Hamner

Compatibility

Mixtures	Turbidities					
	10 min.		1 hr.		24 hrs.	
	Actual	Calc	Actual	Calc	Actual	Calc
75 Delaware						
25 Bone Springs	156.5	118.4	160.9	113.2	175.7	105.5

CORE LABORATORIES, Inc.

2001 COMMERCE DRIVE
POST OFFICE BOX 4337
MIDLAND, TEXAS 79704
(915) 684-7781

API WATER ANALYSIS REPORT FORM

Company Mobil Producing Texas & New Mexico		Sample No. 86E32		Date Sampled	
Field		Legal Description		County or Parish	
Lease or Unit Government "D"		Well		Depth	
Type of Water (Produced, Supply, etc.)		Sampling Point Battery #3		Water, B / D	
				Sampled By	

DISSOLVED SOLIDS

CATIONS	mg/l	me/l
Sodium, Na (calc.)	49,350	2,146.7
Calcium, Ca	4,430	221.1
Magnesium, Mg	1,270	104.4
Barium, Ba		

ANIONS

Chloride, Cl	85,140	2,400.9
Sulfate, SO ₄	3,130	65.2
Carbonate, CO ₃	0	0.0
Bicarbonate, HCO ₃	371	6.1

Total Dissolved Solids (calc.)
143,690

Iron, Fe (total) 2.3
Sulfide, as H₂S 17

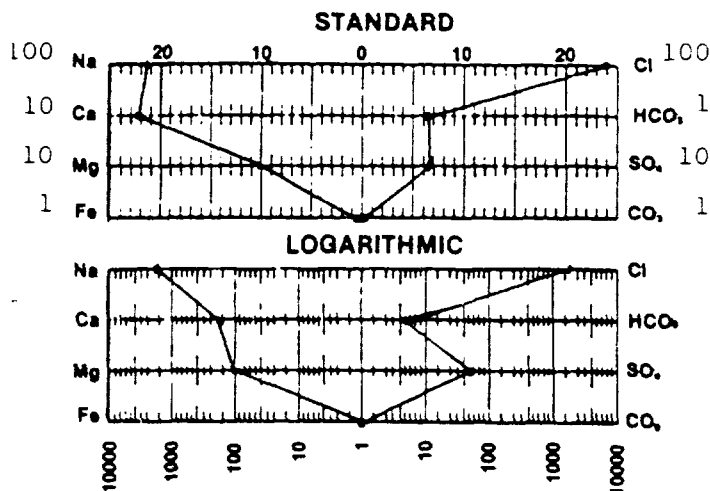
REMARKS & RECOMMENDATIONS:

File No: C86090

OTHER PROPERTIES

pH	8.75
Specific Gravity, 60/60 F.	1.1012
Resistivity (ohm-meters) 77 °F.	0.054
Total Hardness, CaCO ₃	17,600
Total Alkalinity, CaCO ₃	304
Supersaturation, CaCO ₃	

WATER PATTERNS—me/l



SCALING TENDENCY: (STIFF-DAVIS, CALCULATED)

Calcium Carbonate @ 77 °F = -6.34, indicating Corrosion
Calcium Sulfate Solubility @ 80 °F = 62.3me/l, indicating scaling

Copies — Jack Hamner

Received 5-21-86
Reported 5-26-86

CORE LABORATORIES, Inc.

2001 COMMERCE DRIVE
POST OFFICE BOX 4337
MIDLAND, TEXAS 79704
(915) 684-7781

API WATER ANALYSIS REPORT FORM

Company Mobil Producing Texas & New Mexico		Sample No. 86E33		Date Sampled	
Field		Legal Description		County or Parish	
Lease or Unit Federal		Well E-1		Depth	
		Formation Bone Springs		Water, B / D	
Type of Water (Produced, Supply, etc.)		Sampling Point		Sampled By	

OTHER PROPERTIES

DISSOLVED SOLIDS

CATIONS	mg/l	me/l
Sodium, Na (calc.)	33,130	1,441.2
Calcium, Ca	5,060	252.5
Magnesium, Mg	762	62.7
Barium, Ba		

pH	6.95
Specific Gravity, 60/60 F.	1.0673
Resistivity (ohm-meters) 77°F.	0.074
Total Hardness, CaCO ₃	17,040
Total Alkalinity, CaCO ₃	240
Supersaturation, CaCO ₃	

ANIONS

Chloride, Cl	61,370	1,730.6
Sulfate, SO ₄	1,010	21.0
Carbonate, CO ₃	0	0.0
Bicarbonate, HCO ₃	293	4.8

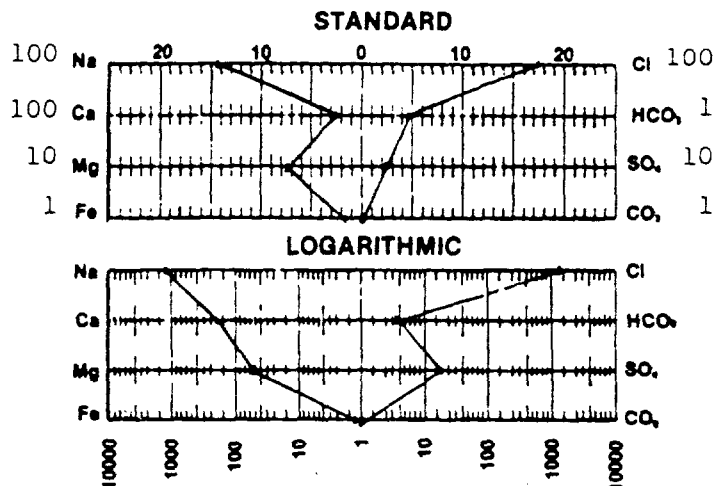
Total Dissolved Solids (calc.)
101,630

Iron, Fe (total) 45
Sulfide, as H₂S 0

REMARKS & RECOMMENDATIONS:

File No: C86090

WATER PATTERNS—me/l



SCALING TENDENCY: (STIFF-DAVIS, CALCULATED)

Calcium Carbonate @ 77°F = .332, indicating scaling

Calcium Sulfate Solubility @ 80 °F = 40.2 me/l, indicating non-scaling

Copies — Jack Hamner

Received 5-21-86
Reported 5-26-86

CORE LABORATORIES, Inc.

2001 COMMERCE DRIVE
POST OFFICE BOX 4337
MIDLAND, TEXAS 79704
(915) 684-7781

API WATER ANALYSIS REPORT FORM

Company Mobil Producing Texas and New Mexico			Sample No. 85L20		Date Sampled 12-21-85	
Field		Legal Description			Country or Parish Lea	
State N. Mexico		Lease or Unit Gov't D		Well 3		Depth
Formation Delaware		Water, B / D		Type of Water (Produced, Supply, etc.)		
Sampling Point		Sampled By				

OTHER PROPERTIES

DISSOLVED SOLIDS

CATIONS	mg/l	me/l
Sodium, Na (calc.)	47,420	2,062.9
Calcium, Ca	4,580	228.5
Magnesium, Mg	1,250	102.8
Barium, Ba		

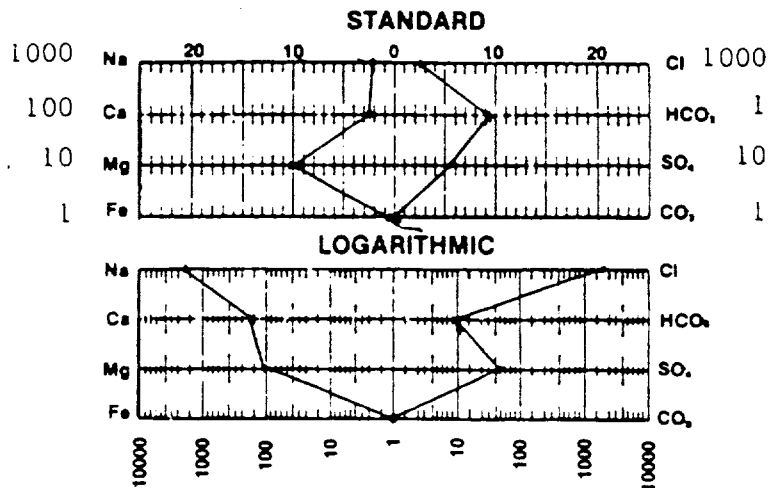
pH	7.65
Specific Gravity, 60/60 F.	1.1054
Resistivity (ohm-meters) 77 °F.	0.055
Total Hardness, CaCO ₃	17,940
Total Alkalinity, CaCO ₃	456
Supersaturation, CaCO ₃	

ANIONS	mg/l	me/l
Chloride, Cl	82,710	2,332.4
Sulfate, SO ₄	2,530	52.7
Carbonate, CO ₃	0	0.0
Bicarbonate, HCO ₃	556	9.1

Total Dissolved Solids (calc.)	139,050
Iron, Fe (total)	23
Sulfide, as H ₂ S	150

REMARKS & RECOMMENDATIONS:

WATER PATTERNS—me/l



SCALING TENDENCY: (STIFF-DAVIS, CALCULATED)

Calcium Carbonate @ °F = , indicating
Calcium Sulfate Solubility @ °F = me/l, indicating

Copies — Jack Hamner

Received 12-25-85
Reported 12-30-85

VIII. The injection zone is in the Guadalupian age Delaware sands. The sands are light gray, very fine grained, subangular to sub-round, moderate to well sorted with thin argillareous laminations. The degree of induration varies from friable sands to consolidated, calcareous-cemented sandstone. Four separate injection zones in the Delaware sands are included in the plan: 3840'-3856', 3869'-3880', 3898'-3934' and 3964'-4022'.

3249

The Rustler formation is the primary source of drinking water for this area. The base of the fresh water is \pm 400 ft. A second underground aquifer which contains low salinity water in this area, is the Capitan Reef. The base of the low salinity water in this unit is \pm 2450 ft. No fresh water aquifer underlies the injection zone.

UNICHEM INTERNATIONAL
707 NORTH LEECH P.O.BOX 1499
HOBBS, NEW MEXICO 88240

COMPANY : MOBIL PRODUCING TX & NM
DATE : 04/18/86
FIELD, LEASE & WELL : AVALON BONE SPRINGS
SAMPLING POINT : SPEARS FRESH WATER WELL BURTON FLAT LEASE
DATE SAMPLED : 04/15/86

SPECIFIC GRAVITY = 1.001
TOTAL DISSOLVED SOLIDS = 3844
PH = 7.52

		ME/L	MG/L
CATIONS			
CALCIUM	(CA)+2	26.4	529.
MAGNESIUM	(MG)+2	14.4	175.
SODIUM	(NA), CALC.	19.7	430.

		ME/L	MG/L
ANIONS			
BICARBONATE	(HCO3)-1	1.8	109.
CARBONATE	(CO3)-2	0	0
HYDROXIDE	(OH)-1	0	0
SULFATE	(SO4)-2	48.7	2100
CHLORIDES	(CL)-1	14	500

DISSOLVED GASES		
CARBON DIOXIDE	(CO2)	NOT RUN
HYDROGEN SULFIDE	(H2S)	NOT RUN
OXYGEN	(O2)	NOT RUN

IRON(TOTAL)	(FE)	.4
BARIUM	(BA)+2	0
MANGANESE	(MN)	NOT RUN

IONIC STRENGTH (MOLAL) = .102

SCALING INDEX	TEMP
	30C
	86F
CARBONATE INDEX	.508
CALCIUM CARBONATE SCALING	LIKELY
CALCIUM SULFATE INDEX	4.56
CALCIUM SULFATE SCALING	LIKELY

XII. MPTM has examined the available geological and engineering data and finds no evidence of open faults or any other hydrological connection between the Delaware zone and any underground source of drinking water.

Mobil Producing Texas & New Mexico Inc.

MOBIL PRODUCING TX & NM, INC.
GOVERNMENT "D" LEASE
WELL NO. 4
EDDY COUNTY, NEW MEXICO

P.O. BOX 633
MIDLAND, TEXAS 79702

MIDLAND DIVISION

This application was sent to the Surface Owner of the land on which these wells are located and to each lease operator within one-half mile radius of the well location.

OFFSET OPERATORS

Exxon Company, U.S.A.
Box 2180
Houston, Texas 77001

Bass Enterprises Production Co.
Box 2760
Midland, Texas 79701

SURFACE OWNER

United States Department of the Interior
Bureau of Land Management
Carlsbad Resource Area
Post Office Box 1778
Carlsbad, New Mexico 88220

Mobil Producing Texas & New Mexico Inc.

May 12, 1986

P.O. BOX 633
MIDLAND, TEXAS 79702

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

United States Department of the Interior
Bureau of Land Management
Carlsbad Resource Area
P.O. Box 1778
Carlsbad, New Mexico 88220

7.01
NOTICE OF APPLICATION FOR
WATER DISPOSAL WELL
MOBIL PRODUCING TX & NM, INC.
GOVERNMENT "D" LEASE
WELL NO. 4
DELAWARE, NW FENTON FIELD
EDDY COUNTY, NEW MEXICO

Gentlemen:

Mobil Producing TX & NM, Inc. (MPTM), has made application to the Oil Conservation Division of New Mexico for authority to dispose of produced water into a reservoir not productive of oil or gas in the above captioned well.

A copy of this application is furnished to you for your information.

Yours very truly,

C.A. Moore

for G. E. Tate
Env. & Reg. Manager

CAMoore/dwc

Attachments

cc: Oil Conservation Division (w/attach)

A:M612970B.CAM

PS Form 3811, July 1983 4-7-84b

SENDER: Complete items 1, 2, 3 and 4.	
Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. <u>The return receipt fee will provide you the name of the person delivered to and the date of delivery.</u> For additional fees the following services are available. Consult postmaster for fees and check box(es) for service(s) requested.	
1. <input type="checkbox"/> Show to whom, date and address of delivery.	
2. <input type="checkbox"/> Restricted Delivery.	
3. Article Addressed to: United States Dept. of Interior Bureau of Land Management Carlsbad Resource Area Box 1778 Carlsbad, N.M. 88220	
4. Type of Service: <input type="checkbox"/> Registered <input type="checkbox"/> Certified <input type="checkbox"/> Express Mail	Article Number <input type="checkbox"/> Insured <input type="checkbox"/> COD P547380787
Always obtain signature of addressee or agent and DATE DELIVERED.	
5. Signature - Addressee X Rhonda Melendez	
6. Signature - Agent X	
7. Date of Delivery 5-14-86	
8. Addressee's Address (ONLY if requested and fee paid)	

DOMESTIC RETURN RECEIPT

Mobil Producing Texas & New Mexico Inc.

May 12, 1986

P.O. BOX 533
MIDLAND, TEXAS 79702

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Bass Enterprises Production Co.
Box 2760
Midland, Texas 79701

7.01
NOTICE OF APPLICATION FOR
WATER DISPOSAL WELL
MOBIL PRODUCING TX & NM, INC.
GOVERNMENT "D" LEASE
WELL NO. 4
DELAWARE, NW FENTON FIELD
EDDY COUNTY, NEW MEXICO

Gentlemen:

Mobil Producing TX & NM, Inc. (MPTM), has made application to the Oil Conservation Division of New Mexico for authority to dispose of produced water into a reservoir not productive of oil or gas in the above captioned wells.

A copy of this application is furnished to you for your information.

Yours very truly,

C. G. Moore

for G. E. Tate
Env. & Reg. Manager

CAMoore/dwc

Attachments

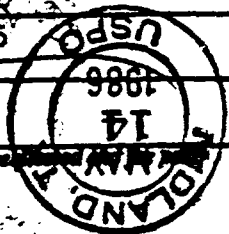
cc: Oil Conservation Division (w/attach)

A:M612970B.CAM

PS Form 3811, July 1983 447-845

SENDER: Complete items 1, 2, 3 and 4. Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. <u>The return receipt fee will provide you the name of the person delivered to and the date of delivery.</u> For additional fees the following services are available. Consult postmaster for fees and check box(es) for service(s) requested.	
1. <input type="checkbox"/> Show to whom, date and address of delivery.	
2. <input type="checkbox"/> Restricted Delivery.	
3. Article Addressed to: Bass Enterprises Production Co. Box 2760 Midland, TX. 79701.	
4. Type of Service: <input type="checkbox"/> Registered <input type="checkbox"/> Certified <input type="checkbox"/> Express Mail	Article Number PA 7380780
Always obtain signature of addressee or agent and DATE DELIVERED.	
5. Signature - Addressee X	
6. Signature - Agent X <i>[Signature]</i>	
7. Date of Delivery 5-14-86	
8. Addressee's Address (ONLY if restricted delivery) MIDLAND, TX 79701	

DOMESTIC RETURN RECEIPT



Mobil Producing Texas & New Mexico Inc.

May 12, 1986

P.O. BOX 533
MIDLAND TEXAS 79702

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Exxon company U.S.A.
Box 2180
Houston, Texas 77001

7.01
NOTICE OF APPLICATION FOR
WATER DISPOSAL WELL
MOBIL PRODUCING TX & NM, INC.
GOVERNMENT "D" LEASE
WELL NO. 4
DELAWARE, NW FENTON FIELD
EDDY COUNTY, NEW MEXICO

Gentlemen:

Mobil Producing TX & NM, Inc. (MPTM), has made application to the Oil Conservation Division of New Mexico for authority to dispose of produced water into a reservoir not productive of oil or gas in the above captioned well.

A copy of this application is furnished to you for your information.

Yours very truly,

C. A. Moore

for G. E. Tate
Env. & Reg. Manager

CAMoore/dwc

Attachments

cc: Oil Conservation Division (w/attach)

A:M612970B.CAM

PS Form 3811, July 1983 447-845

● SENDER: Complete items 1, 2, 3 and 4.

Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for service(s) requested.

1. ☐ Show to whom, date and address of delivery.
2. ☐ Restricted Delivery.

3. Article Addressed to:

Exxon Company, U.S.A.
P.O. Box 2180
Houston, TX 77001

4. Type of Service:

- | | |
|---------------------------------------|----------------------------------|
| <input type="checkbox"/> Registered | <input type="checkbox"/> Insured |
| <input type="checkbox"/> Certified | <input type="checkbox"/> COD |
| <input type="checkbox"/> Express Mail | |

Article Number

MA2
P547 380 779

Always obtain signature of addressee or agent and
DATE DELIVERED.

5. Signature - Addressee

X

6. Signature - Agent

X

J. Huelling

7. Date of Delivery

MAY 15 1986

8. Addressee's Address (ONLY if requested and fee paid)

DOMESTIC RETURN RECEIPT

Mobil Producing Texas & New Mexico Inc.

May 12, 1986

P.O. BOX 633
MIDLAND, TEXAS 79702

Carlsbad Current Argus
Post Office Box 1629
Carlsbad, New Mexico 88220

7.01
NOTICE OF APPLICATION FOR
WATER DISPOSAL WELL
MOBIL PRODUCING TX & NM, INC.
GOVERNMENT "D" LEASE
WELL NO. 4
FENTON, N. W. DELAWARE FIELD
EDDY COUNTY, NEW MEXICO

Gentlemen:

Mobil Producing TX & NM, Inc., is making application to the Oil Conservation Division of New Mexico for authority to inject produced water into a reservoir not productive of oil or gas through the subject well.

The Oil Conservation Division requires that a public notice of the attached information be published in the county in which the wells are located. Please publish the attached notice as soon as possible and return the completed affidavit and copy of the printed notice in the enclosed stamped envelope. Send the invoice to the attention of Mr. G. E. Tate.

Yours very truly,

C. A. Moore

for G. E. Tate
Env. & Reg. Manager

CAMoore/dwc

Attachments -

cc: Oil Conservation Division -
District 2 (w/attach)

bcc: Regulatory Files

A:M612970F.CAM

APPLICATION FOR AUTHORIZATION TO INJECT

1. Mobil Producing Tx. & N. M. Inc, P.O. Box 633, Midland, Texas
79702

Attention: Ann Moore, (915) 688-1772

will apply for permission to inject produced water

into the following well/wells for the purpose of: Disposal

2. Well Name and Number: Government "D" #4

Location: 1554' FNL; 1980' FEL

Section: 1, T-21-S, R-27-E

County: Eddy

3. Formation Name: Delaware

Injection Interval: 3849' to 4022'

Maximum Injection Rate: 2000 BWPD

Maximum Pressure: 770 PSI

4. Interested parties, who can show that they are adversely affected by this application, must file objections or requests for hearing with the Energy and Minerals Department, Oil Conservation Division, P.O. Box 2088, Santa Fe, New Mexico 87501 within 15 days after this publication.

Mobil Producing Texas & New Mexico Inc.

May 12, 1986

P.O. BOX 633
MIDLAND, TEXAS 79702

County Clerk
Ruth A. King
Post Office Box 850
Carlsbad, New Mexico 88221

7.01
NOTICE OF APPLICATION FOR
WATER DISPOSAL WELL
MOBIL PRODUCING TX & NM, INC.
GOVERNMENT "D" LEASE
WELL NO. 4
FENTON, N.W. DELAWARE FIELD
EDDY COUNTY, NEW MEXICO

Dear Ms. King:

Mobil Producing TX & NM, Inc. (MPTM), has made application to the Oil Conservation Division of New Mexico for authority to inject produced water into a reservoir not productive of oil or gas in the above captioned well.

The Oil Conservation Division requires that the enclosed application be sent to you for public information notice in the county in which the well is located. Please post the attached application as you desire. It is not necessary to record this information.

Yours very truly,

C.A. Moore

for G. E. Tate
Env. & Reg. Manager

CAMoore/dwc

Attachments

cc: Oil Conservation Division
District 2 (w/attach)

A:M612970G.CAM