Gulf Oil Exploration and Production Company

J. M. Thacker
GENERAL MANAGER PRODUCTION
SOUTHWEST DISTRICT

P. O. Drawer 1150
Midland, TX 79702

May 14, 1982

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

Attention: Mr. Joe D. Ramey

Re: Revised Application for Authorization to Inject into Lea "ZD" State Well No. 1, Lea County, New Mexico.

Gentlemen:

In our letter to the Oil Conservation Division Director, dated January 13, 1982, Gulf Oil Corporation requested a hearing de novo to Case 7412, Order R-6859, Application for Authorization to Inject into Lea "ZD" State Well No. 1, Lea County, New Mexico. Further, we requested that the matter not be set on the calendar until further consultation with you had been made.

Now, after consultation with you, and based upon your recommendation, Gulf Oil Corporation is submitting for administrative approval this revised application for authorization to inject into our Lea "ZD" State Well No. 1. This well is located in Unit M of Section 30, T-18-S, R-35-E, NPPM, Air-Strip Field, Lea County, New Mexico (see attachments).

We now respectfully request authority to dispose of the produced water from our Lea "YH" State Lease by injection into the subject well over a new proposed open hole interval of 3475' to 7452'. This interval will include the Yates, Seven Rivers, Queen, Grayburg, San Andres and Delaware Formations. Also, approval is requested for injection to be through 2-3/8" IPC tubing set on packer in the 8-5/8" intermediate casing string, set at 3475', at a rate and surface pressure not to exceed 700 BWPD and 25 psi (see attachments).

We would appreciate your favorable consideration of this request.

Yours very truly,

for F. H. Martin
Technical Manager

AWB/da
Attachments

cc: New Mexico Oil Conservation Division
P.O. Box 1980
Hobbs, New Mexico 88240

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION
POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501

MAY 17 1982

Form C-108
Revised 7-1-81

APPLICATION FOR AUTHORIZATION TO INJECT

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

II. Operator: Gulf Oil Corporation

Address: P.O. Box 1150 Midland, Texas 79702

Contact party: C. F. Kalteyer Phone: (915) 685-4750

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: C. F. Kalteyer Title Chief Proration Engineer

Signature: C. F. Kalteyer Date: May 4, 1982

* 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. _____

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate Division district office.

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.

Gulf Oil Corporation
Application for Authorization
To Inject into Lea "ZD" State
Well No. 1
Lea County, New Mexico

Index

EXHIBIT 1 - Location Plat
(Ref: Item V of C-108)

EXHIBIT 2 - Tabular Summary of Wells in the Area of Review
(Ref: Item VI of C-108)

EXHIBIT 3A - Schematics of P&A Wells in the Area of Review
thru 3D (Ref: Item VI of C-108)

EXHIBIT 4 - Well Data Sheet and Tabular Summary on Proposed Injection Well
(Ref: Item III of C-108)

EXHIBIT 5 - Data on Proposed Operation
(Ref: Item VII of C-108)

EXHIBIT 6A - Water Analysis of Injection Fluid
(Ref: Item VII of C-108)

EXHIBIT 6B - Compatibility Study of the Injection Fluid with Receiving Formation Fluid
(Ref: Item VII of C-108)

EXHIBIT 7 - Chemical Analysis of Fresh Water within One-Mile Radius of Proposed Injection Well
(Ref: Item XI of C-108)

EXHIBIT 8 - Proof of Notice
(Ref: Item XIII of C-108)

EXHIBIT 9A - Geological Data - Injection Zones
(Ref: Item VIII of C-108)

EXHIBIT 9B - Geological Data - Fresh Water Aquifers
(Ref: Item VIII of C-108)

EXHIBIT 10 - Well Log of Lea "ZD" State Well No. 1
(Ref: Item X of C-108)

EXHIBIT 11 - Affirmative Statement
(Ref: Item XII of C-108)

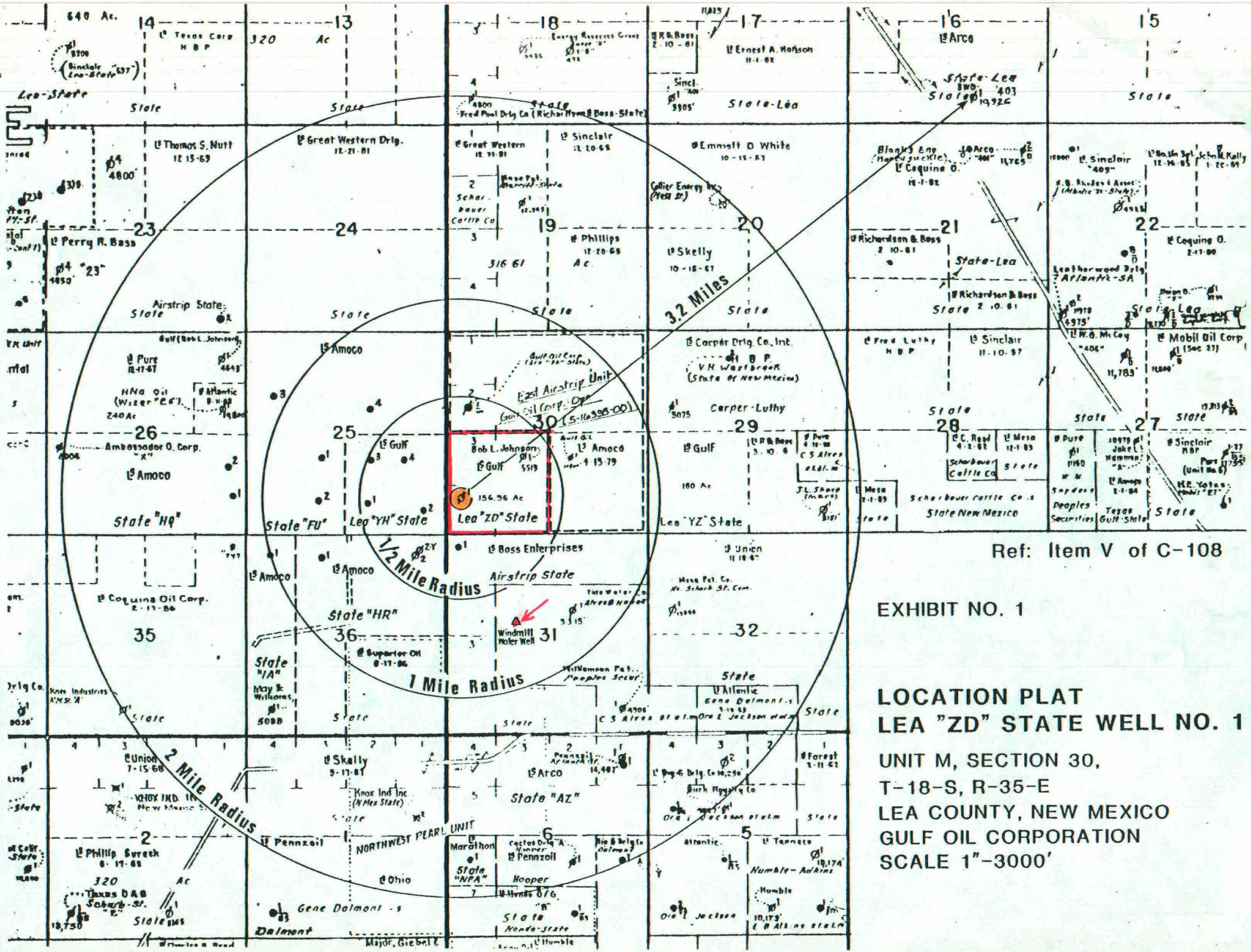


EXHIBIT NO. 1

LOCATION PLAT
LEA "ZD" STATE WELL NO. 1

UNIT M, SECTION 30,
T-18-S, R-35-E
LEA COUNTY, NEW MEXICO
GULF OIL CORPORATION
SCALE 1"-3000'

Tabular Summary
Wells Within One-Half Mile of
Gulf Oil Corporation Lea "ZD" State
Well No. 1

Lea "YH" State #1

760' FSL & 1980' FEL, Sec. 25, T-18-S, R-34-E
Total Depth: 10,770'
Completed: 3-26-79
Perforated: 9329-92'

Csg:	11 3/4" @ 288' w/450 sx cmt	TOC: Surface
	8 5/8" @ 3897' w/1050 sx cmt	TOC: Surface
	5 1/2" @ 10,770' w/700 sx cmt	TOC: 7800' TS

Lea "YH" State #2

660' FSL & 660' FEL, Sec. 25, T-18-S, R-34-E
Total Depth: 10,400'
Completed: 10-15-79
Perforated: 9292-9350'

Csg:	11 3/4" @ 290' w/300 sx cmt	TOC: Surface
	8 5/8" @ 3420' w/850 sx cmt	TOC: Surface
	5 1/2" @ 10,400' w/650 sx cmt	TOC: 7410' TS

Lea "YH" State #3

1980' FSL & 1980' FEL, Sec. 25, T-18-S, R-34-E
Total Depth: 10,800'
Completed: 1-12-80
Perforated: 9334-9410'

Csg:	11 3/4" @ 300' w/250 sx cmt	TOC: Surface
	8 5/8" @ 3475' w/1100 sx cmt	TOC: Surface
	5 1/2" @ 10,800' w/ 700 sx cmt	TOC: 7150' TS

EXHIBIT 2

Corporation	Lea "YH" State #4	1980' FSL & 990' FEL, Sec. 25, T-18-S, R-34-E Total Depth: 10,834' Completed: 5-3-80 Perforated: 9368-96' Csg: 11 3/4" @ 300' w/500 sx cmt — TOC: Surface 8 5/8" @ 3480' w/900 sx cmt — TOC: Surface 5 1/2" @ 10,834' w/700 sx cmt — TOC: 7610' TS
	Lea "30" State #1	1980' FNL & 660' FWL, Sec. 30, T-18-S, R-35-E Total Depth: 10,800' Completed: 5-31-79 Perforated: 10,479-504', 10,176-202', 9046-9238' & 8780-8862' P & A: 5-20-80 Csg: 11 3/4" @ 300' w/450 sx cmt — TOC: Surface 8 5/8" @ 3980' w/1100 sx cmt — TOC: Surface 5 1/2" @ 10,800' w/800 sx cmt — Cut and Pulled From 7275'
hnson	Sinclair-State #1	1980' FWL & 1980' FSL, Sec. 30, T-18-S, R-35-E Total Depth: 5515' Completed: P & A 5-20-57 Csg: 13 3/8" @ 250' w/80 sx cmt — TOC: Surface 8 5/8" @ 1881' w/80 sx cmt — Pulled 5 1/2" @ 4721' w/90 sx cmt — Pulled
rprises Production Co.	Airstrip State #1	330' FNL & 330' FEL, Sec. 31, T-18-S, R-34-E Total Depth: 10,820' Completed: 7-11-80 Perforated: 9230-9385' Csg: 13 3/8" @ 453' w/400 sx cmt — TOC: Surface 9 5/8" @ 3880' w/1700 sx cmt — TOC: Surface 7" @ 10,820' w/525 sx cmt — TOC: 5600' by Bass Calc.

EXHIBIT 2

State "HR" #2

330' FNL & 660' FEL, Sec. 36, T-18-S, R-34-E
Total Depth: 1613'
Completed: P & A 5-24-80

Csg: 13 3/8" @ 302' w/350 sx cmt TOC: 34' Calc.

State "HR" #2-Y

380' FNL & 660' FEL, Sec. 36, T-18-S, R-34-E
Total Depth: 11,670'
Completed: 6-11-81
Perforated: 11,299-570', 10,584-608', 10,248-290', 10,020-40' & 9295-9303'
T & A: 7-25-81

Csg: 13 3/8" @ 300' w/400 sx cmt TOC: Surface
9 5/8" @ 4000' w/1750 sx cmt TOC: Surface
5 1/2" @ 11,670' w/1300 sx cmt TOC: 1825' TS

EXHIBIT 2

Ref: Item VI of C-108

BOB L. JOHNSON
SINCLAIR-STATE WELL NO. 1
1980' FWL AND 1980' FSL
UNIT K, SECTION 30, T-18-S, R-35-E
LEA COUNTY, NEW MEXICO
P&A 5-20-57

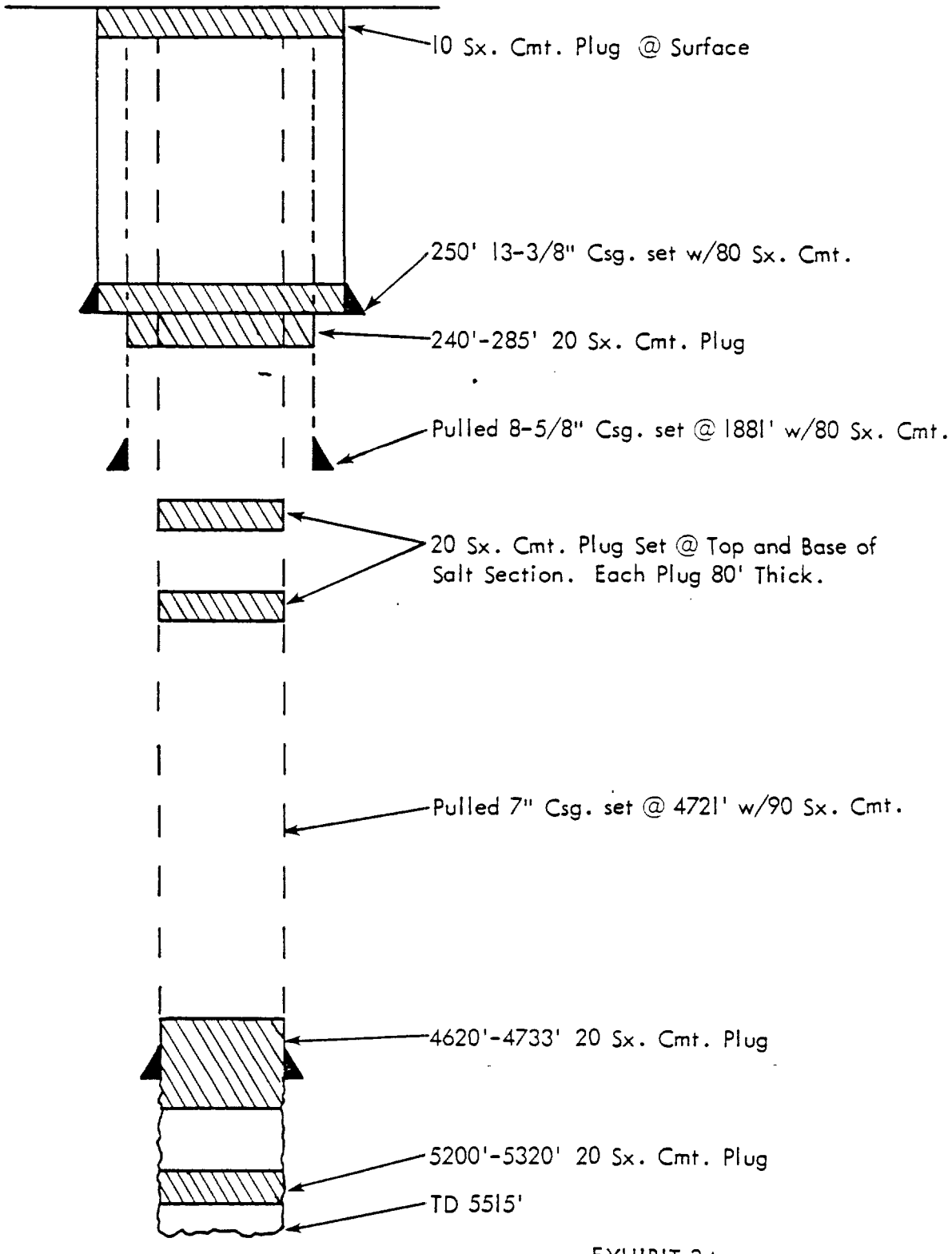


EXHIBIT 3A

Ref: Item VI of C-108

AMOCO PRODUCTION COMPANY
STATE "HR" WELL NO. 2
330' FNL AND 660' FEL
UNIT A, SECTION 36, T-18-S, R-34-E
LEA COUNTY, NEW MEXICO
P&A 5-24-80

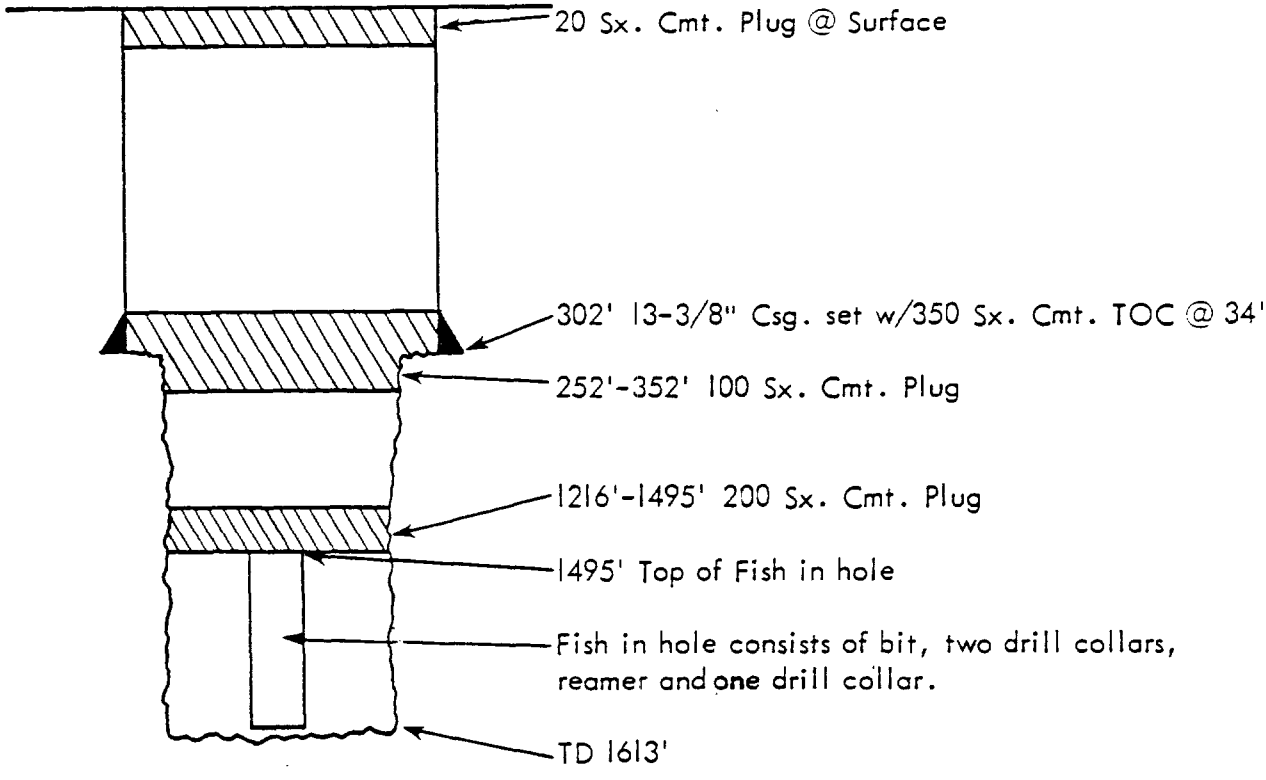


EXHIBIT 3B

AMOCO PRODUCTION COMPANY
STATE "HR" WELL NO. 2-Y
380' FNL AND 660' FEL
UNIT A, SECTION 36, T-18-S, R-34-E
LEA COUNTY, NEW MEXICO
T&A 7-25-81

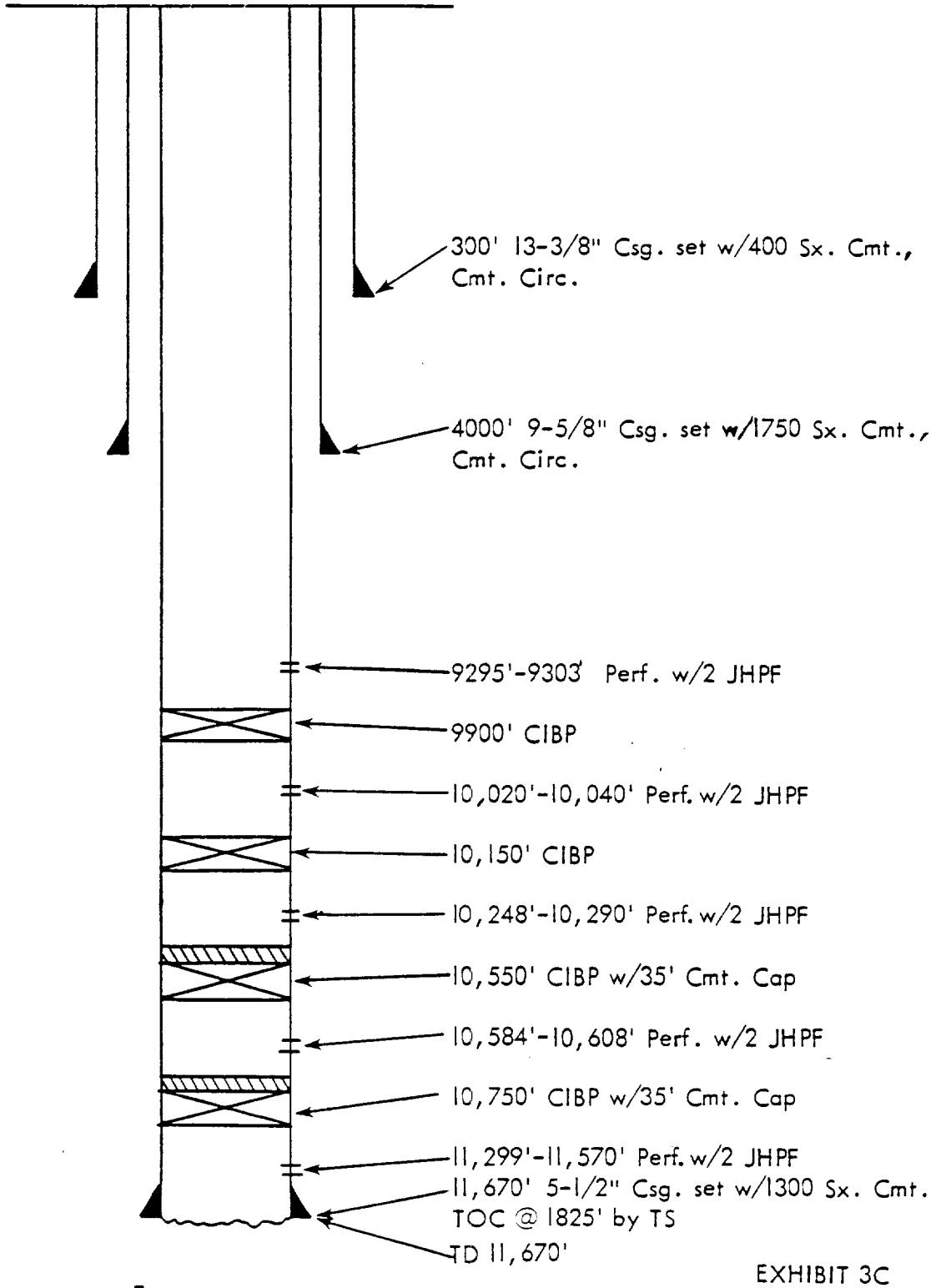


EXHIBIT 3C

Ref: Item VI of C-108

GULF OIL CORPORATION
LEA "30" STATE WELL NO. 1
1980' FNL AND 660' FWL
UNIT E, SECTION 30, T-18-S, R-35-E
LEA COUNTY, NEW MEXICO
P&A 5-20-80

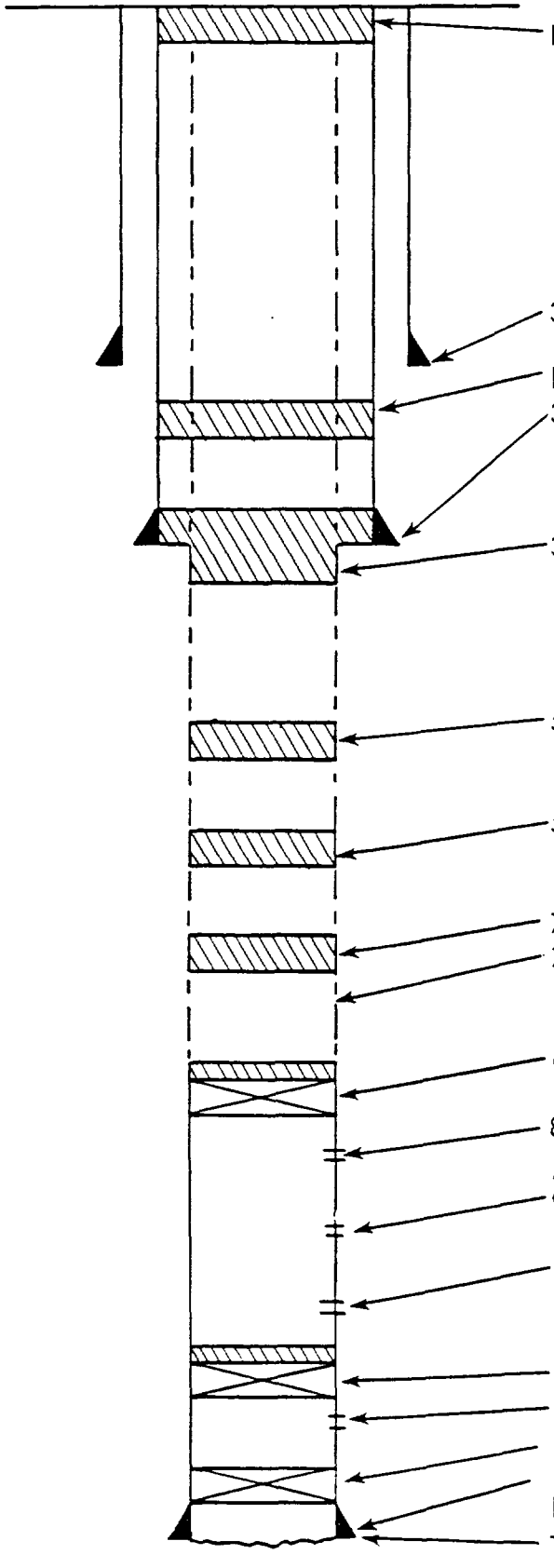


EXHIBIT 3D

Diagrammatic Sketch Showing

PRESENT & PROPOSED INSTALLATION

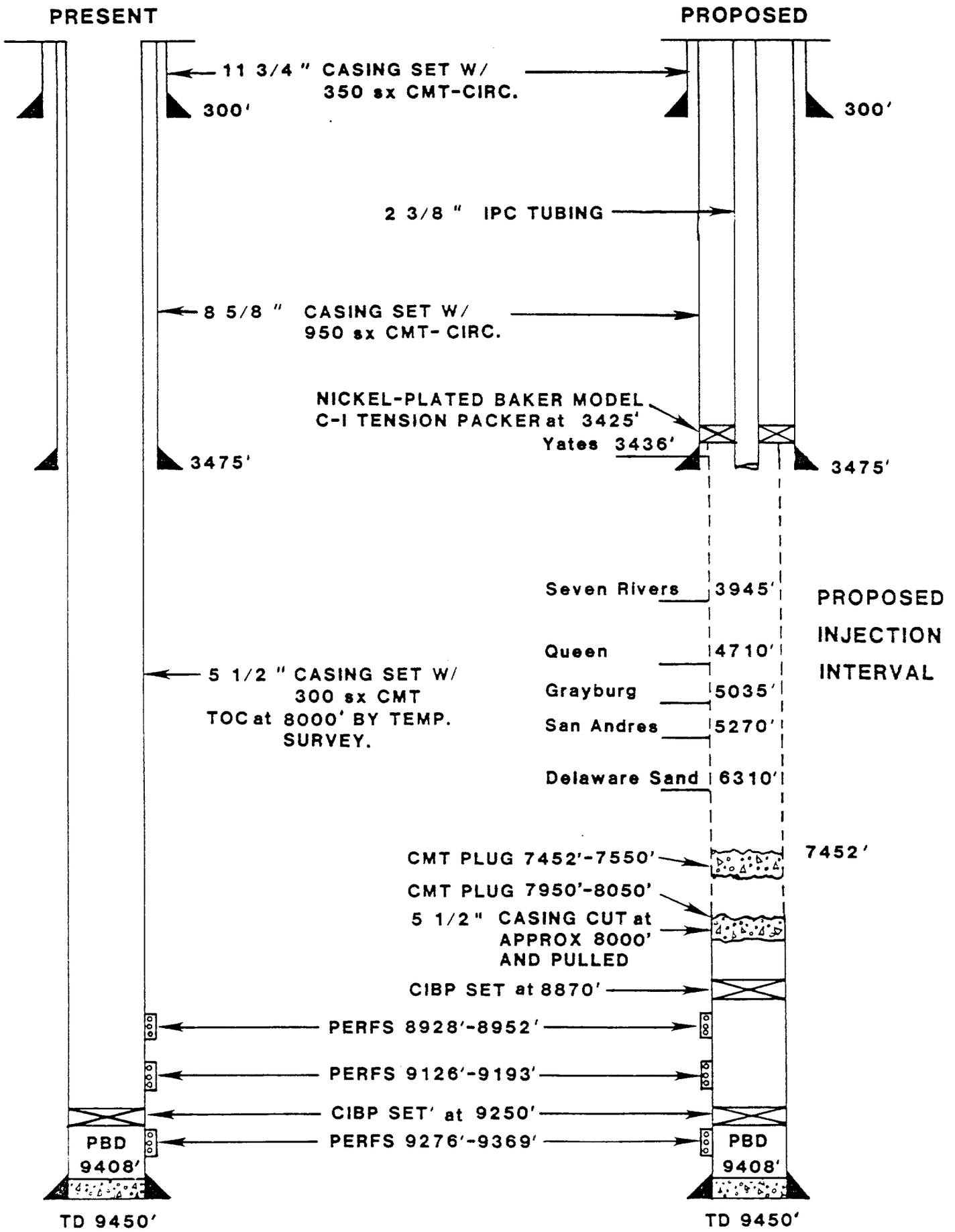
LEA "ZD" STATE WELL NO. 1 SWD

UNIT M, SEC. 30, T-18-S, R-35-E

LEA COUNTY, NEW MEXICO

GULF OIL CORPORATION

EXHIBIT 4



Tabular Summary
Injection Well Data Sheet
Gulf Oil Corporation
Lea "ZD" State Well No. 1

A (1) Gulf Oil Corporation
Lea "ZD" State Lease
Lea "ZD" State Well No. 1
Unit M, Section 30, Township 18 South, Range 35 East
990' FSL & 330' FWL of Section

A (2) Casing Strings:

1) 11 3/4" casing set at 300' with 350 sacks cement, circulated.
2) 8 5/8" casing set at 3475' with 950 sacks cement, circulated.
3) 5 1/2" casing presently set at 9450' with 250 sacks cement (top of cement at 8000' by temperature survey), will be cut at approximately 8000' and pulled. A CIBP will be set at 8870' prior to pulling the casing and two cement plugs from approximately 7950-8050' and 7452-7550' will be set after the casing is pulled.

A (3) Tubing:
2 3/8" internally plastic coated tubing set at 3425'.

A (4) Packer:
A nickel-plated Baker Model C-1 tension packer (or equivalent) set at 3425'.

B (1) Injection formations:
Comprised of Yates, Seven Rivers, Queen, Grayburg, San Andres and Delaware.

B (2) Injection interval:
The open hole interval from 3475' to 7452'.

B (3) The well was originally drilled as a producer in June 18, 1981.

B (4) The well was first perforated from 9276-9369'. A CIBP was set at 9250' on June 25, 1981 and new perforations shot from 9126-9193'. On July 16, 1981 another set of perforations were shot from 8928-8952'. A CIBP will be set above these perforations at approximately 8870' prior to cutting and pulling the 5 1/2" casing string. Then once the casing string has been cut and pulled from 8000' two cement plugs will be set from approximately 7950-8050' and 7452-7550'.

EXHIBIT 4

Ref: Item VII of C-108

Data on Proposed Operation
of Gulf Oil Corporation's
Lea "ZD" State Well No. 1

1. Proposed average and maximum daily rate and volume of fluids to be injected:

   Average daily rate of 375 BWPD
   Maximum daily rate of 700 BWPD.

2. System is open utilizing normal oilfield stock tanks, etc.

3. The maximum surface injection pressure will be limited to 25 PSI.

4. The source of injection fluids will be from Gulf Oil Corporation's adjacent Lea "YH" State Lease. An analysis of the injection water is attached as Exhibit 6A.

5. The zone of disposal is not productive of oil and gas within one mile of the proposed injection well. Since the disposal formations are not open at the present time in the proposed injection well, water analysis and compatibilities of formation water and injection fluid must be inferred from existing nearby wells producing from the proposed disposal zone (See Exhibit 6B). The nearest offset injection well (injecting into the same basic interval as our proposed disposal zone) is Arco's Sinclair-Vacuum SWD #1, Section 16, T-18-S, R-35-E, Lea County, and it does not indicate any incompatibilities between injected fluids and formation waters (See Exhibit 1).

EXHIBIT 5

WATER ANALYSIS REPORT

Ref: Item VII of C-108

COMPANY Gulf Oil Exploration & Prod. Co. ADDRESS Hobbs, NM DATE: 10/30/81

SOURCE YH State Battery DATE SAMPLED 10/30/81 ANALYSIS NO.

Analysis	Mg/L		*Meq/L	
1. pH	5.4			
2. H_2S (Qualitative)	Pos.			
3. Specific Gravity	1.125			
4. Dissolved Solids	167,705			
5. Suspended Solids	-0-			
6. Phenolphthalein Alkalinity ($CaCO_3$)	-0-			
7. Methyl Orange Alkalinity ($CaCO_3$)	250			
8. Bicarbonate (HCO_3)	HCO_3 305	÷61	5	HCO_3
9. Chlorides (Cl)	Cl 102,178	÷35.5	2878	Cl
10. Sulfates (SO_4)	SO_4 1500	÷48	31	SO_4
11. Calcium (Ca)	Ca 6800	÷20	340	Ca
12. Magnesium (Mg)	Mg 2430	÷12.2	199	Mg
13. Total Hardness ($CaCO_3$)	14,000			
14. Total Iron (Fe)	-			
15. Barium (Qualitative)				
16. Strontium				

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

*		*
340	Ca ← HCO_3	5
199	Mg → SO_4	31
2375	Na → Cl	2878

Saturation Values Distilled Water 20°C

$CaCO_3$	13 Mg/L
$CaSO_4 \cdot 2H_2O$	2,090 Mg/L
$MgCO_3$	103 Mg/L

Compound	Equiv. Wt.	X Meq/L	= Mg/L
$Ca(HCO_3)_2$	81.04	5	405
$CaSO_4$	68.07	31	2110
$CaCl_2$	55.50	304	16,872
$Mg(HCO_3)_2$	73.17	-0-	-0-
$MgSO_4$	60.19	-0-	-0-
$MgCl_2$	47.62	199	9476
$NaHCO_3$	84.00	-0-	-0-
Na_2SO_4	71.03	-0-	-0-
NaCl	58.46	2375	138,842

REMARKS cc: Mr. R. Worley

M. Hill, G. Knorr

Respectfully submitted
TRETOLITE COMPANY
Ron Matthews

EXHIBIT 6A

Ref: Item VII of C-108

WOLF PETRO LAB, INC.

DIAL 915/366-9701
DIAL 915/366-7171

2411 WEST 42ND STREET

P. O. BOX 643
ODESSA, TEXAS
79760

LABORATORY REPORT

Charge Gulf
Test No. WPL-81-866
Date of Run 11/11/81
Date Received 11/7/81

A Sample of Produced Waters from Stated Leases
Secured from
At Secured by Gulf Oil
Purpose Compatability Study Time Date 11/4/81
Sampling Conditions:

SPECIAL ANALYSIS AND TESTS

	Mixing Percentages of Source Waters	Transmission/Dwell Readings at 0hr	1hr	2hr	4hr	6hr	8hr
4	33.3% Lea "YH" Lease in Gulf West Pearl Queen	88	90	88	94	98	98
5	50.0% Lea "YH" Lease in Gulf West Pearl Queen	94	96	97	96	98	98
6	66.7% Lea "YH" Lease in Gulf West Pearl Queen	91	95	95	94	98	97
8	33.3% Lea "YH" Lease in Texaco Central Vacuun Unit	84	85	82	82	84	82
9	50.0% Lea "YH" Lease in Texaco Central Vacuum Unit	86	85	83	83	84	86
10	66.7% Lea "YH" Lease in Texaco Central Vacuum Unit	91	90	89	89	91	92

For the test period of 8 hours these waters are compatible.

ADDITIONAL DATA AND REMARKS

Run by: D. Hodgson Checked by: D. Hodgson Approved: D. Hodgson

COPIES

EXHIBIT 6B

Chemical Analysis of Fresh Water Within One-Mile of Gulf Oil Corporation Lea "ZD" State Well No. 1

The only known fresh water source within one-mile of the proposed injection well is a Windmill Water Well located in Unit F, Section 31, T-18-S, R-35-E (See Exhibit 1). A Water Analysis Report containing the following information is attached.

	Date Spld.	Chloride	Total Dissolved Solids
A Windmill Water Well in Section 31, T-18-S, R-35-E.	10-29-81	543	1072

EXHIBIT 7

WATER ANALYSIS REPORT

COMPANY Gulf Oil Exploration & Prod. ADDRESS Hobbs, NM DATE: 10/30/81

SOURCE Windmill Waterwell in Sec. 31-T18S-R35E DATE SAMPLED 10/29/81 ANALYSIS NO.

Analysis	Mg/L		*Meq/L	
1. pH	7.8			
2. H_2S (Qualitative)	Neg.			
3. Specific Gravity	1.000			
4. Dissolved Solids	1072			
5. Suspended Solids	-0-			
6. Phenolphthalein Alkalinity ($CaCO_3$)	-0-			
7. Methyl Orange Alkalinity ($CaCO_3$)	150			
8. Bicarbonate (HCO_3)	183	HCO_3 ÷61	3	HCO_3
9. Chlorides (Cl)	543	Cl ÷35.5	15	Cl
10. Sulfates (SO_4)	50	SO_4 ÷48	1	SO_4
11. Calcium (Ca)	200	Ca ÷20	10	Ca
12. Magnesium (Mg)	121	Mg ÷12.2		Mg
13. Total Hardness ($CaCO_3$)	1000			
14. Total Iron (Fe)				
15. Barium (Qualitative)				
16. Strontium				

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

10	Ca ← HCO_3	3
9	Mg → SO_4	1
0	Na → Cl	15

Saturation Values Distilled Water 20°C

$CaCO_3$	13 Mg/L
$CaSO_4 \cdot 2H_2O$	2,090 Mg/L
$MgCO_3$	103 Mg/L

Compound	Equiv. Wt.	X Meq/L =	Mg/L
$Ca(HCO_3)_2$	81.04	3	243
$CaSO_4$	68.07	1	68
$CaCl_2$	55.50	6	333
$Mg(HCO_3)_2$	73.17	-0-	-0-
$MgSO_4$	60.19	-0-	-0-
$MgCl_2$	47.62	9	428
$NaHCO_3$	84.00	-0-	-0-
Na_2SO_4	71.03	0-	-0
NaCl	58.46	-0-	-0-

REMARKS cc: Mr. R. Worley

M Hill, G. Knorr

Respectfully submitted
TRETOLITE COMPANY
Ron Matthews

EXHIBIT 7

Gulf Oil Exploration and Production Company

J. M. Thacker
GENERAL MANAGER PRODUCTION
SOUTHWEST DISTRICT

P. O. Drawer 1150
Midland, TX 79702

May 4, 1982

Surface Owner and
Offset Operators

Re: Revised Application for Authorization to Inject into Lea "ZD" State Well No. 1, Lea County, New Mexico.

Gentlemen:

With reference to our letter dated November 2, 1981, Gulf Oil Corporation is furnishing a revised application for authorization to inject into our Lea "ZD" State Well No. 1 so that you may be apprised of the changes being made.

Gulf Oil Corporation is now requesting authority to dispose of produced water from our Lea "YH" State Lease by injection into this well over a new proposed open hole interval of 3475' to 7452'. This interval will include the Yates, Seven Rivers, Queen, Grayburg, San Andres and Delaware formations.

Also, approval for injection through 2-3/8" IPC tubing in the 8-5/8" intermediate casing string, set at 3475', at a rate and surface pressure not to exceed 700 BWPD and 25 psi, is being requested.

Should there be any objections to this revised application resulting from these changes, they should be filed in writing with the Oil Conservation Division, P.O. Box 2088, Santa Fe, New Mexico 87501 within 15 days.

Yours very truly,

for E. J. Kalteyer
F. H. Martin
Technical Manager

AWB/da
Attachments

EXHIBIT 8

SURFACE OWNER

Commissioner of Public Lands
P.O. Box 1148
Santa Fe, New Mexico 87501

Attn: Mr. Ray Graham

LEASEHOLD OPERATORS WITHIN ONE-HALF MILE

Amoco Production Company
P.O. Box 3092
Houston, Texas 77001

Attn: Mr. Jim C. Allen

Bass Enterprises Production Company
P.O. Box 2760
Midland, Texas 79702

Attn: Mr. Jim E. Pullig

EXHIBIT 8

PS Form 3811, Aug. 1978

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

● SENDER: Complete items 1, 2, and 3.
Add your address in the "RETURN TO" space on reverse.

1. The following service is requested (check one).
- [X] Show to whom and date delivered. ____¢
- [ ] Show to whom, date, and address of delivery. ____¢
- [ ] RESTRICTED DELIVERY
  Show to whom and date delivered. ____¢
- [ ] RESTRICTED DELIVERY.
  Show to whom, date, and address of delivery. $____
  (CONSULT POSTMASTER FOR FEES)

2. ARTICLE ADDRESSED TO:
Commissioner of Public Lands

3. ARTICLE DESCRIPTION:

REGISTERED NO.	CERTIFIED NO.	INSURED NO.
	26476	

(Always obtain signature of addressee or agent)

I have received the article described above.
SIGNATURE [ ] Addressee [X] Authorized agent
Jeby Catanach

4. DATE OF DELIVERY
POSTMARK
SANTA FE N. MEX. MAY 7 1982

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE: CLERK'S INITIALS

☆ GPO: 1978-272-382

PS Form 3811, Aug. 1978

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- [ ] Show to whom, date, and address of delivery. ____¢
- [ ] RESTRICTED DELIVERY
  Show to whom and date delivered. ____¢
- [ ] RESTRICTED DELIVERY.
  Show to whom, date, and address of delivery. $____
  (CONSULT POSTMASTER FOR FEES)

2. ARTICLE ADDRESSED TO:
Bass Enterprises Prod Co

3. ARTICLE DESCRIPTION:

REGISTERED NO.	CERTIFIED NO.	INSURED NO.
	26474	

(Always obtain signature of addressee or agent)

I have received the article described above.
SIGNATURE [ ] Addressee [ ] Authorized agent
Charles D. Vosta

4. DATE OF DELIVERY
POSTMARK

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE: CLERK'S INITIALS

☆ GPO: 1978-272-382

PS Form 3811, Aug. 1978

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Add your address in the "RETURN TO" space on reverse.

1. The following service is requested (check one).
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- [ ] Show to whom, date, and address of delivery. ____¢
- [ ] RESTRICTED DELIVERY
  Show to whom and date delivered. ____¢
- [ ] RESTRICTED DELIVERY.
  Show to whom, date, and address of delivery. $____
  (CONSULT POSTMASTER FOR FEES)

2. ARTICLE ADDRESSED TO:
DC
Union Prod Co

3. ARTICLE DESCRIPTION:

REGISTERED NO.	CERTIFIED NO.	INSURED NO.
	26475	

(Always obtain signature of addressee or agent)

I have received the article described above.
SIGNATURE [ ] Addressee [ ] Authorized agent
Mary J Baker

4. DATE OF DELIVERY
MAY 07 1982
POSTMARK
HOUSTON, TX GP MAY 7 1982 USPO

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE: CLERK'S INITIALS

☆ GPO: 1978-272-382

EXHIBIT 8

AFFIDAVIT OF PUBLICATION

State of New Mexico,

County of Lea.

I, Robert L. Summers

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 in a supplement thereof for a period

of one weeks.

Beginning with the issue dated May 3, 1982

and ending with the issue dated May 3, 1982

Robert L. Summers
Publisher.

Sworn and subscribed to before me this 3rd day of May, 1982

Lynette Naegele
Notary Public.

My Commission expires March 29, 1986
(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.

LEGAL NOTICE
May 3, 1982
STATE OF NEW MEXICO
ENERGY AND MINERALS
DEPARTMENT
OIL CONSERVATION
DIVISION
SANTA FE, NEW MEXICO

Gulf Oil Corporation hereby gives public notice that it has applied to the Oil Conservation Division of New Mexico for authority to dispose of produced water into the Yates, Seven Rivers, Queen, Grayburg, San Andres, and Delaware formations in the open hole interval from 3475' to 7452' in its Lea "ZD" State Well No. 1 located in Unit M of Section 30, T-18-S, R-35-E. The maximum expected injection rate is 700 BPD at a maximum expected injection pressure of 25 psi.

Any objections or requests for hearing by interested parties must be filed in writing with the Oil Conservation Division, P.O. Box 2088, Santa Fe, New Mexico 87501 within 15 days of this publication. For further information please contact Gulf Oil Corporation, Proration Unit, P.O. Box 1150, Midland, Texas 79702, (951)-685-4746.

EXHIBIT 8

Geological Data
Injection Zones
for
Gulf Oil Corporation's
Lea "ZD" State Well No. 1

Yates - 3435-3945' (510')

The top 45' of this formation is sand with good porosity. It is followed by 60' of dolomite with 30' showing good porosity. The rest of the formation consists of 10' to 50' Anhydrite stringers with scattered 5' to 20' sandy dolomite sections with low porosity.

Seven Rivers - 3945-4710' (765')

This formation is predominately dolomite with thin, five to ten foot zones of sandy dolomite in the lower half.

Queen - 4710-5035' (325')

This formation is composed of top and basal sandstone members separated by a dolomite section. The top member, the Knight sandstone, is a porous and permeable section approximately 70' thick while the basal member, the Penrose sandstone, is a porous and permeable section 37' thick.

Grayburg - 5035-5270' (235')

This formation is dolomite with two sand lenses showing porosity and permeability. The sand lenses are 35' and 20' thick.

San Andres - 5270-6310' (1040')

The San Andres formation is a dolomite with porous and permeable zones five to twenty feet thick.

Delaware Sand - 6310-7645' (355')

This formation is composed of fine-grained sandstone with thin layers of black shale and argillaceous limestone. The main porosity and permeability zone in this sandstone is from 6376-88'.

Proposed stimulation of these injection zones will be acidization with 20% HCL acid (and fracturization only if necessary) to initially achieve injection rates and pressures as approved by the OCD.

Exhitbi 9A

Geological Data
Fresh Water Aquifers
in area of
Gulf Oil Corporation's
Lea "ZD" State Well No. 1

The Lea "ZD" State Well No. 1 is located three miles north of the Mescalero Ridge which is the boundary between aquifers of different geologic ages.

South of the Mescalero Ridge are the Chinle and Santa Rosa (Triassic Age) aquifers. To the north, in the vicinity of the Lea "ZD" State Well No. 1, are the Ogallala (Tertiary Age) and occasional Quaternary channel and depression - filled aquifers. The more important aquifer is the Tertiary-Age Ogallala formation.

The Ogallala is a semi-consolidated fine-grained calcareous sand capped with a thick layer of caliche. It contains some clay, silt, and gravel. The base of this sand and the top of the Red-beds is at 200 feet by gamma-ray log measurement.

The Red-beds are un-differentiated Permian or Triassic Age and are composed of red shale and red silty sandstone. No wells are known to be bottomed in the Red-beds, but could probably yield very small quantities of high sulfate water (Ground-Water Report 6, U.S.G.S., 1961). The shale portions of the Red-beds retard the interchange of water between the evaporite-bearing rocks of the Permian and the overlying sandstone aquifers.

EXHIBIT 9B

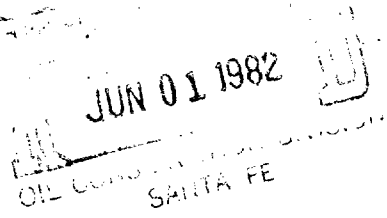
Gulf Oil Corporation
Lea "ZD" State Well No. 1
Unit M, Section 30, T-18-S, R-35-E
Lea County, New Mexico

Affirmative Statement

Gulf Oil Corporation has examined available geological and engineering data and finds no evidence of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water.

EXHIBIT 11

OIL CONSERVATION DIVISION
DISTRICT I



OIL CONSERVATION DIVISION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

DATE May 26, 1982

RE: Proposed MC
Proposed DHC
Proposed NSL
Proposed NSP
Proposed SWD X
Proposed WFX
Proposed PMX

Gentlemen:

I have examined the application for the:

Gulf Oil Corp. Lea "ZD" State No. 1-M 30-18-35
Operator Lease and Well No. Unit, S - T - R

and my recommendations are as follows:

O.K.----J.S.

Yours very truly,

/mc