TYPICAL
INJECTION WELL DATA SHEETS

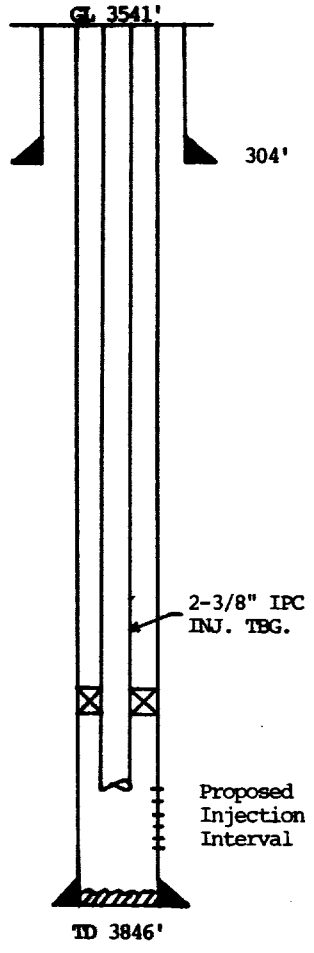
EUNICE MONUMENT SOUTH UNIT
LEA COUNTY, NEW MEXICO

EXHIBIT NO. 32
Case No. 8397
November 7, 1984

INJECTION WELL DATA SHEET
PROPOSED WELLBORE CONFIGURATION
FOR INJECTION IN A
"Typical"
Two String - Cased Hole Well

Gulf Oil Corporation — Eunice Monument South Unit

Schematic



Tabular Data

Surface Casing set at 304'

Size 8 5/8" Cemented with 300 sx.

TOC surface feet determined by circ

Hole size 12 1/4"

Intermediate Casing

Size _____" Cemented with _____ sx.

TOC _____ feet determined by _____

Hole size _____

Long string set at 3846'

Size 5 1/4" Cemented with 750 sx.

TOC 1140 feet determined by TS

Hole size 6 3/4"

Total depth 3846'

Injection interval

3750 feet to 3837 feet

(perforated or ~~open hole, indicate which~~)

Tubing size 2 3/8" lined with IPC (material) set in a

Nickel Plated Baker Model AD-1 Tension (brand and model) packer at 3700 feet

(or describe any other casing-tubing seal).

Other Data

1. Name of the injection formation Grayburg

2. Name of Field or Pool (if applicable) Eunice Monument

3. Is this a new well drilled for injection? ☐ Yes ☒ No

   If no, for what purpose was the well originally drilled? Oil Production

4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) No

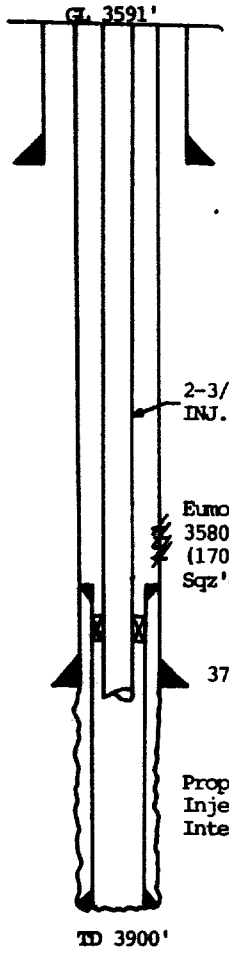
5. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area.

   2600' to top of Eumont for overlying zone

INJECTION WELL DATA SHEET
PROPOSED WELLBORE CONFIGURATION
FOR INJECTION IN A
"Typical"
Two String - Open Hole Well

Gulf Oil Corporation — Eunice Monument South Unit

Schematic



Tabular Data

Surface Casing

Size _____" Cemented with _____ sx.

TOC _____ feet determined by _____

Hole size _____

Intermediate Casing set at 1723'

Size 9 5/8" Cemented with 500 sx.

TOC surface feet determined by calc

Hole size 12 1/4"

Long string set at 3760'

Size 7" Cemented with 500 sx.

TOC 248 feet determined by calc

Hole size 8 3/4"

Total depth 3900'

Injection interval

3760 feet to 3900 feet

(perforated ~~or open hole~~)

A 5½" liner will be cemented in the open hole with the top of the liner set approximately 100' above the casing shoe.

Tubing size 2 3/8" lined with IPC (material) set in a

Nickel Plated Baker Model AD-1 Tension (brand and model) packer at 3710 feet

(or describe any other casing-tubing seal).

Other Data

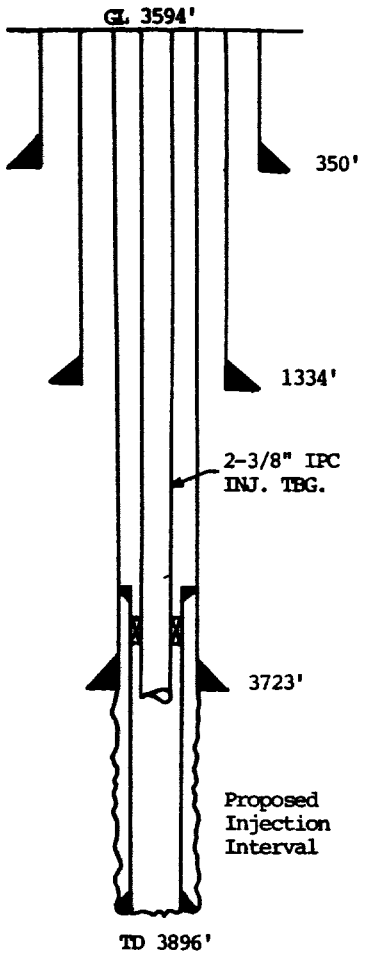
1. Name of the injection formation Grayburg
2. Name of Field or Pool (if applicable) Eunice Monument
3. Is this a new well drilled for injection? ☐ Yes ☒ No

   If no, for what purpose was the well originally drilled? Oil Production
4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) Eumont: 3580-3610' w/3 JHPF & 3610-3630' w/4 JHPF, Sqz'd w/74 sxs.
5. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. 2600' to top of Eumont for overlying zone

INJECTION WELL DATA SHEET
PROPOSED WELLBORE CONFIGURATION
FOR INJECTION IN A
"Typical"
Three String - Open Hole Well

Gulf Oil Corporation — Eunice Monument South Unit

Schematic



Tabular Data

Surface Casing set at 350'

Size 10 3/4" Cemented with 225 sx.

TOC surface feet determined by circ

Hole size 13 3/4"

Intermediate Casing set at 1334'

Size 7 5/8" Cemented with 350 sx.

TOC surface feet determined by calc

Hole size 9 7/8"

Long string set at 3723'

Size 5 1/2" Cemented with 325 sx.

TOC surface feet determined by calc

Hole size 6 3/4"

Total depth 3896

Injection interval

3723 feet to 3896 feet

(perforated ~~or open hole, indicate which~~)

A 4½" liner will be cemented in the open hole with the top of the liner set approximately 100' above the casing shoe.

Tubing size 2 3/8" lined with IPC (material) set in a

Nickel Plated Baker Model AD-1 Tension (brand and model) packer at 3673 feet

(or describe any other casing-tubing seal).

Other Data

1. Name of the injection formation Grayburg

2. Name of Field or Pool (if applicable) Eunice Monument

3. Is this a new well drilled for injection? ☐ Yes ☒ No

   If no, for what purpose was the well originally drilled? Oil Production

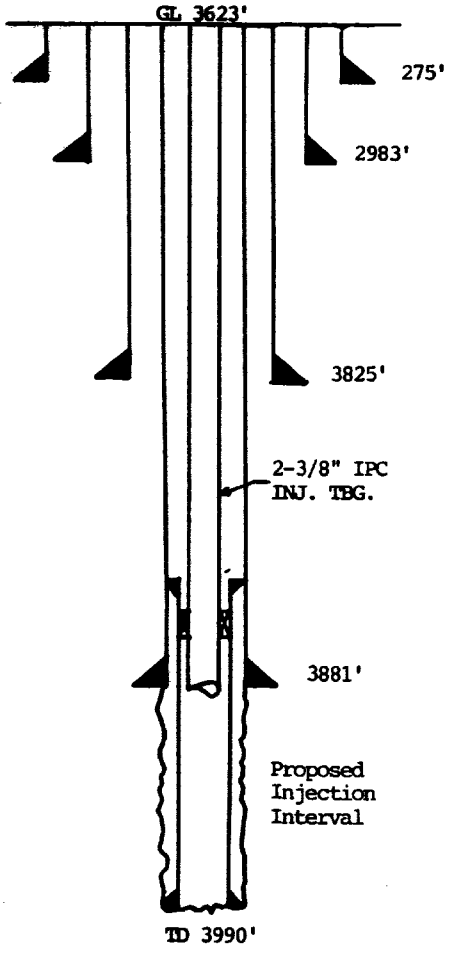
4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) No

5. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. 2600' to top of Eumont for overlying zone

INJECTION WELL DATA SHEET
PROPOSED WELLBORE CONFIGURATION
FOR INJECTION IN A
"Typical"
Four String - Open Hole Well

Gulf Oil Corporation — Eunice Monument South Unit

Schematic



Tabular Data

Surface Casing set at 275'

Size 12 1/2" Cemented with 150 sx.

TOC 275 feet determined by calc

Hole size 17 1/4"

Intermediate Casing set at 2983'

Size 9 5/8" Cemented with 400 sx.

TOC 1634 feet determined by calc

Hole size 12 1/4"

Intermediate Casing set at 3825'

Size 7" Cemented with 50 sx.

TOC 3474 feet determined by calc

Hole size 8 3/4"

Long string set at 3881'

Size 5 1/2" Cemented with 25 sx.

TOC 3565 feet determined by calc

Hole size 6 3/4"

Total depth 3990'

Injection interval

3881' feet to 3990' feet

(perforated or open-hole, indicate which) ~~XXXXXXXXXXXXXXXXXXXXXXXXXXXX~~

A 4½" liner will be cemented in the open hole with the top of the liner set approximately 100' above the casing shoe.

Tubing size 2 3/8" lined with IPC (material) set in a

Nickel Plated Baker Model AD-1 Tension (brand and model) packer at 3830 feet

(or describe any other casing-tubing seal).

Other Data

1. Name of the injection formation Grayburg

2. Name of Field or Pool (if applicable) Eunice Monument

3. Is this a new well drilled for injection? /7 Yes /X No

   If no, for what purpose was the well originally drilled? Oil Production

4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) Perf to repair csg at 3000'. Sqz'd w/400 sxs and circ between 7" and 9 5/8" csg.

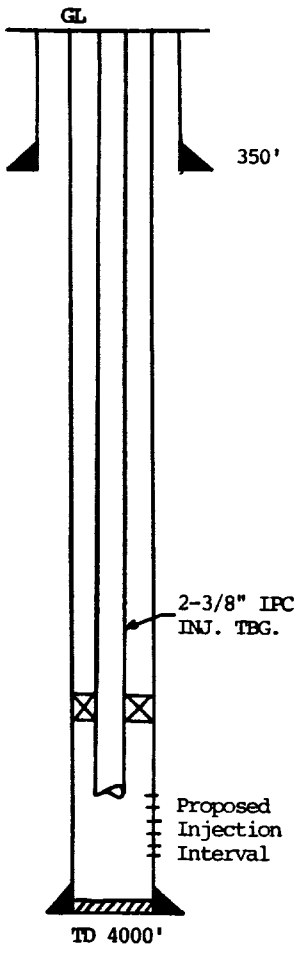
5. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area.

   2600' to top of Eumont for overlying zone

INJECTION WELL DATA SHEET
PROPOSED WELLBORE CONFIGURATION
FOR INJECTION IN A
"Typical"
New Drill Injection Well

Gulf Oil Corporation — Eunice Monument South Unit

Schematic



Tabular Data

Surface Casing set at 350'

Size 8 5/8" Cemented with 400 sx.

TOC surface feet determined by circ

Hole size 12 1/4"

Intermediate Casing

Size _____" Cemented with _____ sx.

TOC _____ feet determined by _____

Hole size _____

Long string set at TD

Size 5 1/2" Cemented with 600 sx.

TOC surface feet determined by TS

Hole size 7 7/8"

Total depth 4000'

Injection interval

approx. 3700 feet to approx. 3900 feet

(perforated ~~or open hole, indicate which~~ XXXXXXXXXXXXXXXXXXXXXXXXXXX)

Tubing size 2 3/8" lined with IPC (material) set in a

Nickel Plated Baker Model AD-1 Tension (brand and model) packer at within 100' of the top most perforation.

(or describe any other casing-tubing seal).

Other Data

1. Name of the injection formation Grayburg
2. Name of Field or Pool (if applicable) Eunice Monument
3. Is this a new well drilled for injection? [X] Yes [ ] No

   If no, for what purpose was the well originally drilled? _____
4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) No
5. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. 2600' to top of Eumont for overlying zone

Ref: Item VII of C-108

Data on Proposed Operation of Eunice Monument South Unit

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

   Average daily rate of 400 BWPD
   Maximum daily rate of 500 BWPD

2. System is closed.

3. Proposed average and maximum injection pressures:

   Average injection pressure of 350 psi
   Maximum injection pressure of 740 psi *

4. The source of injection fluids will be from the San Andres formation initially, then produced water from Unit wells will be used as the primary source of water when the Unit becomes fully developed.

5. The make-up water from the San Andres formation to be used as injection fluid is compatible with the produced water from the Unit wells (See attached water analysis).

* Until a fracture gradient is determined, maximum injection pressure will be based on a .2 psi/foot gradient.

EXHIBIT NO. 33a
Case No. 8397
November 7, 1984

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

Martin Water Laboratories, Inc.

709 W INDIANA
MIDLAND TEXAS 79701
PHONE 683-4521

RESULT OF WATER ANALYSES

LABORATORY NO. 284226
SAMPLE RECEIVED 2-15-84
RESULTS REPORTED 2-20-84

TO: Mr. Stan Chapman
P.O. Box 670, Hobbs, NM

COMPANY Gulf Oil Exploration & Production Company LEASE

FIELD OR POOL

SECTION BLOCK SURVEY COUNTY STATE

SOURCE OF SAMPLE AND DATE TAKEN:

NO. 1 Make-up water.

NO. 2 Produced water.

NO. 3

NO. 4

REMARKS:

CHEMICAL AND PHYSICAL PROPERTIES	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.0465	1.0051		
pH When Sampled				
pH When Received	6.80	7.22		
Bicarbonate as HCO_3	964	1,830		
Supersaturation as $CaCO_3$	75	120		
Undersaturation as $CaCO_3$	---	---		
Total Hardness as $CaCO_3$	5,400	800		
Calcium as Ca	1,400	144		
Magnesium as Mg	462	107		
Sodium and/or Potassium	23,244	2,308		
Sulfate as SO_4	3,432	300		
Chloride as Cl	36,575	2,841		
Iron as Fe	0.27	7.5		
Barium as Ba				
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	66,077	7,530		
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen, Winkler				
Hydrogen Sulfide	600	325		
Resistivity, ohms/m at 77° F.	0.126	0.935		
Suspended Oil				
Filtrable Solids as mg/l				
Volume Filtered, ml				
Calcium Carbonate Scaling Tendency	NONE	NONE		
Calcium Sulfate Scaling Tendency	NONE	NONE		

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks We see no evidence in the above results that would indicate any incompatibility when mixing these two waters in any proportion. Please contact us if we can be of any additional assistance in this regard.

EXHIBIT NO. 33b
Case No. 8397
November 7, 1984

Form No. 3

By
Waylan C. Martin, M.A.

Ref: Item IX of C-108

Proposed Stimulation Program
For
Typical Injection Well
Eunice Monument South Unit
Lea County, New Mexico

It is proposed to selectively perforate the interval from approximately -100' to -300' subsea and then open this interval by acidizing with approximatley 3,000 gallons of 15% HCL Acid.

EXHIBIT NO. 33 c
Case No. 8397
November 7, 1984

Geological Data
Injection Zones
in the
Proposed Eunice Monument South Unit

Penrose - Approx. depth 3,400'-3,800*, approx. 170 gross feet.

The Penrose is the lower portion of the Queen formation and overlies the Grayburg. The Penrose is composed of alternating layers of hard dolomite and sand lenses. The Penrose is productive of oil and/or gas, depending on structural position.

Grayburg - Approx. depth 3,500'-3,900*, approx. 490 gross feet.

The Grayburg is a massive dolomite with thin stringers of sand interspersed within it. The majority of oil production comes from intercrystalline porosity in the dolomite.

The range in depths to the top of the Grayburg is due to an asymmetrical anticlinal structure running NW to SE through the Eunice-Monument Pool. The structure dips steeply along the western and southern flanks and therefore the Grayburg top runs deeper, approximately 3,700'-3,900'. Along the axis and the gently dipping eastern flank of the anticline the Grayburg depths run at approximately 3,500-3,700 feet.

San Andres - Approx. depth 4,100'-4,500*, approx. 1,130 gross feet.

The San Andres is a massive dolomite with intercrystalline porosity, which lies directly below the Grayburg. The contact between the Grayburg and the San Andres is gradational and there is no clear marker for the top of the San Andres which can be traced across the field. The San Andres contributes very little if any oil production to the field and serves primarily as a source for injection make-up water and as a zone for salt water disposal.

There are no known faults cutting through the San Andres and Grayburg which would act as a conduit for gas, oil or injection water to seep into fresh water horizons above the injection zones in the Grayburg and San Andres.

* Depth depends upon structural position of the well.

EXHIBIT NO. 34a
Case No. 8397
November 7, 1984

PROPOSED WIC WELLS
WITH NO AVAILABLE WELL LOGS

EUNICE MONUMENT SOUTH UNIT
LEA COUNTY, NEW MEXICO

EXHIBIT NO. 35
Case No. 8397
November 7, 1984

EUNICE MONUMENT SOUTH UNIT

PROPOSED WIC WELLS
WITH NO AVAILABLE WELL LOGS

NEW WELL NO.	TRACT NO.	OPERATOR	LEASE NAME	OLD WELL NO.
108	10	AMOCO	GILLULLY "A" FED BTY #2	3
110	77	AMERADA	STATE "W"	4
116	29	GULF	SUNSHINE	3
120	10	AMOCO	GILLULLY "A" FED BTY #2	6
122	12	EXXON	L.C. FOPEANO	3
126	29	GULF	SUNSHINE	1
132	63	FIELDS	TURNER STATE	2
136	37	EXXON	AGGIES STATE	8
138	53	SHELL	STATE "K"	1
152	63	FIELDS	TURNER STATE	1
158	67	TEXACO	N.M. AGGIES "H" STATE (NCT-I)	5
162	59	ARCO	STATE "M"	1
172	67	TEXACO	N.M. AGGIES "H" STATE (NCT-I)	2
176	70	SHELL	STATE "J"	2
179	44	ARCO	STATE "L"	5
181	7	CONOCO	MEYER "B-4"	18
183	18	GULF	BELL RAMSAY "(NCT-A)"	10
187	51	GULF	HEASLEY STATE	5
191	45	ARCO	STATE "L" BTY #2	4
193	34	GULF	H.T. ORCUTT "(NCT-C)"	4
195	34	GULF	H.T. ORCUTT "(NCT-C)"	1
199	36	GULF	H.T. ORCUTT "(NCT-B)"	2
201	7	CONOCO	MEYER "B-4"	12
209	7	CONOCO	MEYER "B-4"	13
215	35	GULF	H.T. ORCUTT "(NCT-A)'	5
219	55	TRUCKER'S	SHELL STATE "G"	L-6
221	52	SHELL	STATE "F"	1
223	35	GULF	H.T. ORCUTT "(NCT-A)'	4
227	28	ARCO	STATE "H"	2
229	7	CONOCO	MEYER "B-4"	6
233	48	ME-TEX	WALLACE STATE	3
241	18	GULF	BELL RAMSAY "(NCT-A)'	6
243	69	KOCH	STATE "A"	1
249	16	GULF	R.R. BELL "(NCT-D)"	1
253	17	GULF	R.R. BELL "(NCT-B)"	1
257	43	ARCO	STATE "C"	2
259	7	CONOCO	MEYER "B-4"	1
261	7	CONOCO	MEYER "B-4"	11
263	80B	SUN	J.A. AKENS	2
265	80A	SUN	J.A. AKENS	5

EUNICE MONUMENT SOUTH UNIT

PROPOSED WIC WELLS
WITH NO AVAILABLE WELL LOGS

NEW WELL NO.	TRACT NO.	OPERATOR	LEASE NAME	OLD WELL NO.
267	42	HARTMAN	STATE "G"	2
271	101	AMOCO	M.D. MCQUATTERS	2
273	21	GULF	R.R. BELL "(NCT-E)"	1
279	87	ARCO	E.C. ADKINS	4
281	20	GULF	BELL RAMSAY "(NCT-A)" BTY #2	4
289	82	ARCO	HOUSTON	1
291	83	ARCO	H.L. HOUSTON "MA"	2
295	8	CONOCO	MEYER "B-8"	1
297	38	GETTY	STATE "A"	2
307	72	TWO STATES	STATE "B"	1
314	25	CONOCO	STATE "D" COM	1
316	90	EXXON	J.D. KNOX	1
324	49	ARCO	STATE "B"	1
326	1	CONOCO	MEYER "A-1"	2
332	85	GULF	M. CAMPBELL	1
336	1	CONOCO	MEYER"A-1"	4
340	9	CONOCO	MEYER "B-9"	3
342	87	ARCO	E.C. ADKINS	6
352	4	CONOCO	LOCKHART "B"	7
354	100	GULF	FRONA LECK	1
356	3	CONOCO	LOCKHART "B-14"	2
358	26	CONOCO	STATE "D"	6
360	22	GULF	R.R. BELL "(NCT-C)"	1
362	30	GETTY	SKELLY "B" STATE	4
366	97	GETTY	O.L. COLEMAN	2
368	95	GETTY	O.L. COLEMAN "A"	1
372	5	CONOCO	MEYER "B-18"	3
376	1	CONOCO	MEYER "A-1"	8
378	1	CONOCO	MEYER "A-1"	10
382	30	GETTY	SKELLY "B" STATE	6
388	26	CONOCO	STATE "D"	5
398	26	CONOCO	STATE "D"	11
400	13	GULF	J.F. JANDA "(NCT-C)"	1
402	23	GETTY	STATE "D"	1
410	1	CONOCO	MEYER "A-1"	14
412	2	CONOCO	LOCKHART "A-18"	6
416	2	CONOCO	LOCKHART "A-18"	1
422	41	CITIES	STATE "C"	4
426	13	GULF	J.F. JANDA "(NCT-C)"	3
428	26	CONOCO	STATE "D"	12

EUNICE MONUMENT SOUTH UNIT

PROPOSED WIC WELLS
WITH NO AVAILABLE WELL LOGS

NEW WELL NO.	TRACT NO.	OPERATOR	LEASE NAME	OLD WELL NO.
430	99	GULF	H.C. COLLINS	5
438	14	GULF	A. RAMSAY "(NCT-C)"	7
440	14	GULF	A. RAMSAY "(NCT-C)"	2
444	24	GETTY	STATE "G"	1
454	14	GULF	A. RAMSAY "(NCT-C)"	12
456	14	GULF	A. RAMSAY "(NCT-C)"	3

Ref: Item VIII of C-108

Geological Data
Fresh Water Aquifers
in the Area of the
Proposed Eunice Monument South Unit
Lea County, New Mexico

The proposed Eunice Monument South Unit is located approximately 3/4 of a mile southwest of the Mescalero Ridge on the Eunice Plain.

The fresh water zones within the proposed Eunice Monument South Unit boundaries are the Quaternary alluvium, Pliocene Ogallala, and the Triassic Chinle and Santa Rosa formations.

The Quaternary aquifers are in recent sediments and are very localized in extent. They are made up of dune sands and sands filling channels or depressions in the underlying Ogallala. The sands are unconsolidated to semiconsolidated, fine to medium grained sands. They are found at the surface to a depth of approximately 100 feet.

The Pliocene Ogallala aquifer underlies the Quaternary alluvium and is present across the entire area but is not a major water source. The Ogallala is a calcareous unconsolidated sand containing some silt, clay and gravel. The Ogallala is found at approximately 60-125 feet.

The Triassic Chinle and Santa Rosa aquifers are the principal fresh water bearing zones in this area. They are both fine to medium grained sandstones interbedded with red clays and silt stones. At the northern end of the proposed unit, the Chinle is at a depth of approximately 50 feet and the Santa Rosa is at about 675 feet. At the southern end of the unit the Chinle is at approximately 200 feet and the Santa Rosa is at about 1000 feet.

Below the Santa Rosa are un-differentiated Permian and Triassic red beds. These "red beds" consist of red shales and red silty sandstones, and are not known to produce fresh water.

At the base of the Santa Rosa and/or the un-differentiated Permian and Triassic "red beds" is the Permian Rustler. At the top of the Rustler is an impermeable anhydrite bed, approximately 60-70 feet thick which provides an excellent barrier against contamination from brine waters in the Permian oil producing formations. The Rustler anhydrite is at approximately 1000 feet at the northern end of the unit and approximately 1400 feet at the southern end of the unit. There are no known fresh water horizons below the Rustler anhydrite.

For the protection of all fresh water zones within the unit boundary, cement will be circulated to surface around casing on all new injection wells and producing wells converted to injection wells.

Reference - Ground Water Report 6, USGS, 1961.

EXHIBIT NO. 36
Case No. 8397
November 7, 1984

Chemical Analysis of Fresh Water Within The Proposed Eunice Monument South Unit Lea County, New Mexico

See attached water analysis results.

Sample No. 1 - Unit A Section 16, T-21-S, R-36-E
Livestock Water Source
Ogallala Formation
State Engineer's Well No. CP 00505

Sample No. 2 - Unit D Section 10, T-21-S, R-36-E
Domestic and Commercial Sale Source
Triassic Chinle Formation
State Engineer's Well No. CP 00147

Sample No. 3 - Unit K Section 36, T-20-S, R-36-E
Livestock Water Source
(Not on file with State Engineer's office)

Sample No. 4 - Unit O Section 17, T-21-S, R-36-E
Livestock Water Source
Ogallala Formation
(Not on file with State Engineers Office)

EXHIBIT NO. 37
Case No. 8397
November 7, 1984

Ref: Item XI of C-108

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

Martin Water Laboratories, Inc.

709 W INDIANA
MIDLAND TEXAS 79701
PHONE 683-4521

RESULT OF WATER ANALYSES

LABORATORY NO. 284225

TO: Mr. Stan Chapman
P.O. Box 670, Hobbs, NM

SAMPLE RECEIVED 2-15-84
RESULTS REPORTED 2-20-84

COMPANY Gulf Oil Exploration & Production LEASE
FIELD OR POOL Company
SECTION BLOCK SURVEY COUNTY STATE
SOURCE OF SAMPLE AND DATE TAKEN:

NO. 1 Fresh water (sample #1).
NO. 2 Fresh water (sample #2).
NO. 3 Fresh water (sample #3).
NO. 4

REMARKS:

CHEMICAL AND PHYSICAL PROPERTIES	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.0047	1.0020	1.0022	
pH When Sampled				
pH When Received	7.56	8.20	8.27	
Bicarbonate as HCO_3	212	494	476	
Supersaturation as $CaCO_3$				
Undersaturation as $CaCO_3$				
Total Hardness as $CaCO_3$	1,680	75	68	
Calcium as Ca	376	16	15	
Magnesium as Mg	180	8	7	
Sodium and/or Potassium	744	289	413	
Sulfate as SO_4	1,492	186	300	
Chloride as Cl	1,115	60	138	
Iron as Fe	0.31	1.3	1.3	
Barium as Ba				
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	4,119	1,065	1,391	
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen, Winkler				
Hydrogen Sulfide	0.0	0.0	0.0	
Resistivity, ohms/m at 77° F.	1.60	8.10	5.50	
Suspended Oil				
Filtrable Solids as mg/l				
Volume Filtered, ml				
Carbonate, as CO_3	0	12	42	

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks Please contact us if we can be of any assistance in interpretation of the above results.

Form No. 3

By Waylan C. Martin, M.A.

UNICHEM INTERNATIONAL

601 NORTH LEECH P.O BOX1499

HOBBS, NEW MEXICO 88240

COMPANY : GULF OIL
DATE : 9-28-84
FIELD,LEASE&WELL SECTION 17-T21S-R36E, UNIT O
SAMPLING POINT: WELLHEAD-FRESH WATER SAMPLE
DATE SAMPLED : 9-27-84

SPECIFIC GRAVITY = 1
TOTAL DISSOLVED SOLIDS = 1055
PH = 7.21

		ME/L	MG/L
CATIONS			
CALCIUM	(CA)+2	4.4	88.1
MAGNESIUM	(MG)+2	3.8	46.1
SODIUM	(NA).CALC.	7.2	167.
ANIONS			
BICARBONATE	(HCO3)-1	4.6	280
CARBONATE	(CO3)-2	0	0
HYDROXIDE	(OH)-1	0	0
SULFATE	(SO4)-2	5.8	282.
CHLORIDES	(CL)-1	5	190
DISSOLVED GASES			
CARBON DIOXIDE	(CO2)	NOT RUN	
HYDROGEN SULFIDE	(H2S)	NOT RUN	
OXYGEN	(O2)	NOT RUN	
IRON(TOTAL)	(FE)		1.4
BARIUM	(BA)+2	0	.4
MANGANESE	(MN)	NOT RUN	

IONIC STRENGTH (MOLAL) = .023

Proposed Eunice Monument South Unit
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 NO. 38
Case No. 8397
November 7, 1984

Gulf Oil Exploration and Production Company

WESTERN DIVISION

L. A. Turner
General Manager
U. S. Production Operations

P. O. Drawer 1150
Midland, TX 79702

September 24, 1984

EXHIBIT NO. 39
Case No. 8397
November 7, 1984

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

Attention: Mr. R. L. Stamets, Acting Director

Gentlemen:

Re: Applications for Commissioners' Hearing for
Eunice Monument South Unit,
Lea County, New Mexico

Gulf Oil Corporation respectfully requests that our attached applications concerning the proposed Eunice Monument South Unit, Lea County, New Mexico, be set for the earliest scheduled Commissioners' Hearing in November, 1984. The attached applications, each for separate docketing, are for Statutory Unitization, Authority to Institute a Waterflood Project, and the Extension of the Vertical Limits of the Eunice-Monument Oil Pool for the proposed Eunice Monument South Unit.

The proposed Eunice Monument South Unit area consists of 14,189.84 acres, more or less, comprising approximately 357 40-acre units divided into 101 individual tracts. The proposed vertical interval to be unitized shall include the formations from a lower limit defined by the base of the San Andres formation, to an upper limit defined by the top of the Grayburg formation or a -100 foot subsea datum, whichever is higher.

The purpose for forming the Eunice Monument South Unit is to provide for secondary recovery operations to substantially increase the ultimate recovery of oil and gas. Gulf projects that, as a result of unitized management, operation and further development of the "Unitized Interval" within the "Unit Area", the ultimate production will increase by approximately 64.2 million barrels of oil over a 30 year flood life.

To establish an effective and manageable waterflood project, the contraction of the vertical limits of the Eumont Gas Pool and the upward extension of the vertical limits of the Eunice-Monument Oil Pool under the proposed Unit Area is needed. This will allow for a more controllable waterflood of the entire oil column within the

Unitized Interval, thereby preventing waste and protecting correlative rights.

Submitted and attached to the enclosed applications are copies of the Unit Agreement and Unit Operating Agreement , various plats of the Unit Area, a table detailing ownership of oil and gas interests, percentages and participations in the Unit, a well log showing the vertical limits of the Unitized Interval, the OCD Form C-108, wellbore configurations of proposed injection wells, geologic data, fresh water source data, and schematic diagrams and other pertinent well data on all wells within the Unit boundary and one-half mile outside the Unit boundary.

The working interest owners, operators, and surface land owners within the Unit Area, as well as offset operators, the Commissioner of Public Lands of the State of New Mexico, and the District Director of the Bureau of Land Management are being notified of this request by a copy of this letter, a Unit Area plat, and each of the applications without their attachments.

Your consideration and granting of the attached applications for a Commissioners' Hearing in November, 1984, regarding the proposed Eunice Monument South Unit, will be greatly appreciated. If you should need additional information or have any questions concerning this, please contact Mr. D. T. Berlin at (915) 687-7339 or Mr. A. W. Bohling at (915) 687-7336.

Yours very truly,

L. A. TURNER

AWB:ac

Enclosures

cc: Enclosed List
W. Thomas Kellahin
P. O. Box 2265
Santa Fe, New Mexico 87501

STATE AND FEDERAL AGENCIES

United States Department of the Interior
Bureau of Land Management
Roswell District Office
P. O. Box 1397
Roswell, New Mexico 88201

Attention: Mr. Roy Stovall

State of New Mexico
Commissioner of Public Lands
P. O. Box 1148
Santa Fe, New Mexico 87504

Attention: Mr. Jim Baca

State of New Mexico
Department of Energy and Minerals
Oil Conservation Division
District 1
P. O. Box 1980
Hobbs, New Mexico 88240

Attention: Mr. Jerry Sexton

WORKING INTEREST OWNERS

Amerada Hess
P. O. Box 2040
Tulsa, Oklahoma 74102
Attn: Mr. J. C. Hefley, Mgr.
Joint Venture-U.S., Onshore

Amoco Production Company (USA)
P. O. Box 3092
Houston, Texas 77253
Attn: Mr. Bruce A. Landis, Jr.

Apollo Oil Company
P. O. Box 1737
Hobbs, New Mexico 88240
Attn: Mr. Alan Ralston

ARCO Oil and Gas Company
P. O. Box 1610
Midland, Texas 79702
Attn: Mr. C. R. Leggott

Mr. Kenneth R. Boss
East Star Route
Box 9-B
Lovington, New Mexico 88260

Brady Production Company
P. O. Box 9128
Midland, Texas 79708

Mrs. Ethel T. Dennis
c/o Crane Oil Company
P. O. Box 1764
Midland, Texas 79702

Earl R. Bruno
P. O. Box 5458
Midland, Texas 79704

Mr. John Catron
Catron Working Interest Accts.
Catron, Catron and Sawtell
P. O. Box 788
Santa Fe, New Mexico 87501

Chevron U.S.A., Inc.
P. O. Box 1660
Midland, Texas 79702
Attn: Mr. W. A. Goudeau

Cities Service Company
P. O. Box 1919
Midland, Texas 79702
Attn: Mr. K. D. Van Horn

Conoco, Inc.
P. O. Box 460
Hobbs, New Mexico 88240
Attn: Mr. Mark K. Mosely

Estate of Herman R. Crile, Sr.
c/o Mr. Bernard Johnston
P. O. Box 880
Roswell, New Mexico 88201

Mr. Thomas W. Ellison
2502 Cimmaron
Midland, Texas 79705

Exxon Company, U.S.A.
P. O. Box 1700
Midland, Texas 79702
Attn: Mr. R. R. Hickman

Bert Fields, Jr.
11835 Preston Road
Dallas, Texas 75230
Attn: Mr. Jerry H. Doughman

First National Bank
105 North Main
Wichita, Kansas 67202
Attn: Mr. Steven Woods, Trust Dept.
U/W of Mr. E. Perdew

Getty Oil Company
P. O. Box 1231
Midland, Texas 79702
Attn: Mr. Raymond H. Elchr

Mr. Doyle Hartman
P. O. Box 10426
Midland, Texas 79702

Mr. Kenneth Headley
P. O. Box 569
Tijeras, New Mexico 87509

John H. Hendrix Corporation
525 Midland Tower
Midland, Texas 79701
Attn: Mr. John H. Hendrix

E. R. Hudson, Agent for the
Charles H. Moore, et al. Interest
1440 Interfirst Tower
801 Cherry Street
Fort Worth, Texas 76102

ILLEGIBLE

William A. and Edward R. Hudson
1440 Interfirst Tower
801 Cherry Street
Fort Worth, Texas 76102
Attn: Mr. Edward R. Hudson

Mr. Michael Klein
One First City Center
Suite 505
Midland, Texas 79701

Ms. Suzanne H. Klein
1980 South Post Oak
Suite 1075
Houston, Texas 77056

Koch Exploration Company
P. O. Box 2256
Wichita, Kansas 67201
Attn: Mr. Jim Whisnand

George H. Landreth
206 Bluff Crest
San Antonio, Texas 78216

W. A. Landreth
908 The Texas Building
Fort Worth, Texas 76102

ME-TEX Companies
P. O. Box 2070
Hobbs, New Mexico 88240
Attn: Mr. Burton Veteto

Mr. Carl R. Pfluger
Box S
Eden, Texas 76837

RepublicBank Dallas
Oil & Gas Trust Dept.
Jeanne Fields Shelby, et al, Agency
No. 9891-00
P. O. Box 241
Dallas, Texas 75221
Attn: Mr. Jim B. Brown
Vice President

S & S Engineering
P. O. Box 6923
Midland, Texas 79708

Shell Oil Company
P. O. Box 991
Houston, Texas 77001
Attn: Mr. B. G. Ratterree

Sun Exploration and Production Co.
Campbell Center II
P. O. Box 2880
Dallas, Texas 75221
Attn: Mr. J. W. Thornton

Fred Turner, Jr., Trust
P. O. Box 910
Midland, Texas 79702
Attn: Mr. Ray Floyd

Two States Oil Company
Suite 1401
Mercantile Commerce Bldg.
Dallas, Texas 75201
Attn: Mr. Walter Crane

Mr. Bruce Wilbanks
P. O. Box 763
Midland, Texas 79702

The Wiser Oil Company
P. O. Box 192
Sistersville, W. VA. 26175
Attn: Mr. Charles P. LaRue

ILLEGIBLE

SURFACE LAND OWNERS

Climax Chemical Co.
Box 1595
Hobbs, New Mexico 88240

O. L. Coleman Estate
c/o Emma Liston Archer Trust
211 W. 6th St.
Hale Center, Texas 79041

Delbert D. Cooper
Box 421
Eunice, New Mexico 88231

Tommie Lou Cooper & Sons
834 Gold
Hobbs, New Mexico 88240

Millard Deck Estate
c/o Kirkwood & Darby
Continental Nat'l Bank Bldg.
Fort Worth, Texas 76102

El Paso Natural Gas Co
P.O. Box 1492
El Paso, Texas 79978

A. C. Hooper Estate
c/o Mrs. Aubrey F. Houston/Adm.
712 N. Houston St.
Sulphur Springs, Texas 75482

E.L. Houston
712 N. Houston
Sulphur Springs, Texas 75482

Tot Kennan
Box 202
Eunice, New Mexico 88231

Dallas McCasland, Inc.
c/o W. J. McCasland
P.O. Box 156
Eunice, New Mexico 88231

Phillips Petroleum Co.
4001 Pennbrook St.
Room 206
Odessa, Texas 79762

Mary Vern Ramson
28890 Lilac Rd.; Space 148
Valley Center, California 92082

Arco Pipeline Co.
Arco Bldg.
Independence, Kansas 67301

Eunice City Hall
1106 Avenue J
Eunice, New Mexico 88231

ILLEGIBLE

OFFSET OPERATORS

Adobe Oil & Gas Corp.
1100 Western United Life Bldg.
Midland, Texas 79701

Anadarko Production Co.
P. O. Box 2497
Midland, Texas 79702

Lewis B. Burleson, Inc.
P. O. Box 2479
Midland, Texas 79702

Campbell & Hedrick
P. O. Box 401
Midland, Texas 79701

El Paso Natural Gas Co.
P. O. Box 1492
El Paso, Texas 79978

Elliott Oil Co.
P. O. Box 2159
Abilene, Texas 79604

J. L. Evans
P. O. Box 1125
Eunice, New Mexico 88231

Hanson Operating Co.
P. O. Box 1515
Roswell, New Mexico 88202

Ernie L. Hegwer Co.
P. O. Box 24
Hobbs, New Mexico 88240

John H. Hendrix Corp.
525 Midland Tower
Midland, Texas 79701

Carbon Energy, Inc.
P. O. Box 129
Hobbs, New Mexico 88240

Millard Deck Estate
c/o Kirkwood & Darby
Continental Nat'l Bank Bldg.
Fort Worth, Texas 76102

McInnis, John W. & Hugh N. Wood
P. O. Box 763
Hobbs, New Mexico 88240

Kern Co.
3005 N. Big Spring
Midland, Texas 79705

MKA Oil Properties
One First City Center
Suite 505
Midland, Texas 79701

Marathon Oil Co.
P. O. Box 552
Midland, Texas 79702

Petro Lewis Corp.
P. O. Box 2250
Denver, Colorado 80201

Phillips Petroleum Co.
4001 Penbrook
Odessa, Texas 79762

Superior Oil Co.
204 W. Illinois
Midland, Texas 79702

Tenneco Oil Co.
P. O. Box 2511
Houston, Texas 77001

Trio Oil Co.
c/o Oil Reports
P. O. Box 763
Hobbs, New Mexico 88240

Warrior, Inc.
125 Midland Tower
Midland, Texas 79701

Zia Energy, Inc.
P. O. Box 603
Hobbs, New Mexico 88240

Sohio Petroleum Co.
P. O. Box 3000
Midland, Texas 79702

Yarbrough Oil Co.
P. O. Box 1001
Eunice, New Mexico 88231