RELEASE 6-21-93

MEWBOURNE OIL COMPANY
P.O. BOX 5270
HOBBS, NEW MEXICO 88241

(505) 393-5905

June 1, 1993

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
NO. 369 421 351

State of New Mexico
Oil Conservation Commission
P.O. Box 2088
Santa Fe, New Mexico 87504

Attention: Mr. David Catanach

RE: Application for Authorization
to Inject - Federal "V" #3
1980' FNL & 660' FWL
Unit E, Sec. 8, T20S, R28E
Eddy County, New Mexico

Gentlemen:

Enclosed please find the following documents which are submitted in support of our application to convert the subject well to water injection. The original copy of OCD Form C-108 and all appropriate attachments. If you have any questions, please feel free to contact me or Kelly Ryan at (505) 393-5905. Thank you for your cooperation.

Very truly yours,

MEWBOURNE OIL COMPANY

Robert G. Jones

Robert Jones
Engineer

RJ/mj
Enclosures Copy To: OCD - Artesia

MEWBOURNE OIL COMPANY
P.O. BOX 5270
HOBBS, NEW MEXICO 88241

(505) 393-5905

June 1, 1993

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
NO. P 369 421 339

Donna Neel
P.O. Box 179
Artesia, New Mexico 88211
(505) 746-3524

Dear Ms. Neel:

Please run the enclosed notice in you paper for one day and invoice us for the advertisement at the above address. Please return your sworn affidavit along with a copy of the clipping of the published notices in the envelope provided.

Your prompt attention in regard to this matter is greatly appreciated.

Very truly yours,

MEWBOURNE OIL COMPANY

Robert Jones
Engineer

Attachments

RJ/mj

MEWBOURNE OIL COMPANY
P.O. BOX 5270
HOBBS, NEW MEXICO 88241

(505) 393-5905

June 1, 1993

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
NO. P 369 421 350

Bureau of Land Management
P.O. Box 1778
Carlsbad, New Mexico 88220

RE: Application for Authorization
to Inject - Federal "V" #3
1980' FNL & 660' FWL
Unit E, Sec. 8, T20S, R28E
Eddy County, New Mexico

Gentlemen:

Enclosed please find the following documents which are submitted in support of our application to convert the subject well to water injection. A copy of OCD Form C-108 and all appropriate attachments. If you have any questions, please feel free to contact me or Kelly Ryan at (505) 393-5905. Thank you for your cooperation.

Very truly yours,

MEWBOURNE OIL COMPANY

Robert G. Jones

Robert Jones
Engineer

RJ/mj
Enclosures Copy To: OCD - Artesia

MEWBOURNE OIL COMPANY
P.O. BOX 5270
HOBBS, NEW MEXICO 88241

(505) 393-5905

June 1, 1993

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
NO. P 369 421 352

Robert Boling
Robert Boling Exploration
305 S. 5th Street
Artesia, New Mexico 88210

Attention: Robert Boling

RE: Application for Authorization
to Inject Federal "V" #3
1980' FNL & 660' FWL
Unit E Section 8, T20S, R28E
Eddy County, New Mexico

Dear Mr. Boling:

Attached is Mewbourne Oil Companys application requesting approval to inject water in the Federal "V" #3 located at the above captioned location. Any objections to the application should be filed with the Oil Conservation Division, P.O. Box 2088, Santa Fe, New Mexico 87504-2088 within fifteen days.

If you have any questions regarding this application, please contact me or Kelly Ryan at (505) 393-5905.

Very truly yours,

MEWBOURNE OIL COMPANY

Robert A. Jones
Engineer

RJ/mj
Attachments

MEWBOURNE OIL COMPANY
P.O. BOX 5270
HOBBS, NEW MEXICO 88241

(505) 393-5905

June 1, 1993

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
NO. P 369 421 353

Robert Elliott
OXY USA Inc.
P.O. Box 50250
Midland, Texas 79710

Attention: Robert Elliott

RE: Application for Authorization
to Inject Federal "V" #3
1980' FNL & 660' FWL
Unit E Section 8, T20S, R28E
Eddy County, New Mexico

Dear Mr. Elliott:

Attached is Mewbourne Oil Companys application requesting approval to inject water in the Federal "V" #3 located at the above captioned location. Any objections to the application should be filed with the Oil Conservation Division, P.O. Box 2088, Santa Fe, New Mexico 87504-2088 within fifteen days.

If you have any questions regarding this application, please contact me or Kelly Ryan at (505) 393-5905.

Very truly yours,

MEWBOURNE OIL COMPANY

Robert A. Jones
Engineer

RJ/mj
Attachments

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

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

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: Melbourne Oil Company

Address: P.O. Box 5270 Hobbs New Mexico 88241

Contact party: Kelly Ryan / Robert Jones Phone: 505-393-5905

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: Robert A. Jones Title Engineer

Signature: Robert A. Jones Date: 6/7/93

* 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.

Form 3160-5
(June 1990)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals

5. Lease Designation and Serial No.: NM-83584

6. If Indian, Allottee or Tribe Name:

SUBMIT IN TRIPLICATE

7. If Unit or CA, Agreement Designation: Unit E

1. Type of Well: ☐ Oil Well ☐ Gas Well ☒ Other Injection

8. Well Name and No.: Federal "V" #3

2. Name of Operator: Mewbourne Oil Company

9. API Well No.: 30-015-26867

3. Address and Telephone No.: P.O. Box 5270 Hobbs, New Mexico 88241 (505) 393-5905

10. Field and Pool, or Exploratory Area: Undes., Bone Spring (Oil)

4. Location of Well (Footage, Sec., T., R., M., or Survey Description): 1980' FNL & 660' FWL

11. County or Parish, State: Eddy County, New Mexico

12. CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION	
☒ Notice of Intent	☐ Abandonment	☐ Change of Plans
☐ Subsequent Report	☐ Recompletion	☐ New Construction
☐ Final Abandonment Notice	☐ Plugging Back	☐ Non-Routine Fracturing
	☐ Casing Repair	☐ Water Shut-Off
	☐ Altering Casing	☐ Conversion to Injection
	☐ Other _____	☐ Dispose Water

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

1. Request approval to change well status to injection from temporarily abandon. Upon approval of OCD.
2. TIH w/2-3/8" tubing and packer. Set packer @ 2650'.
3. See attached application for authorization to inject for operation details.

14. I hereby certify that the foregoing is true and correct

Signed Robert G. Jones Title Engineer Date June 1, 1993

(This space for Federal or State office use)

Approved by _____ Title _____ Date _____
Conditions of approval, if any:

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

*See Instruction on Reverse Side

ILLEGIBLE

ILLEGIBLE

([illegible]) ROBERT E. BOLIN[illegible]
LAMA[illegible] FEDERAL #1
SEC 8, T20S, R28E
UNIT LETTER I, 1980 FSL & 660 FEL

YATES OIL WELL, TOTAL DEPTH 500', P & A
DOES NOT PENETRATE PROPOSED INJECTION ZONE

([illegible]) OXY USA, INC.
GOVERNMENT AO COM #1
SEC 8, T20S, R28E
UNIT LETTER A, 660 FNL & 1980 FEL

MORROW GAS WELL, SPUDDED 1/27/82

13-3/8", 48#, CSG @415', CEMENTED W/420 SX.
9-5/8", 32# & 36#, SET @3000', CEMENTED W/1425 SX
5-1/2", 17# & 20#, SET @11205' CEMENTED W/900 SX
TOC 8700'

COMPLETION:
PERFORATE MORROW 10870-10886, 10898-10926, 11027-11071, 80 HOLES
ACIDIZE W/1700 GALS. ACID
FRAC W/42000# SAND

([illegible]) CALIFORNIA COMPANY
T.M. RIFE #1
SEC 8, T20S, R28E
UNIT LETTER [illegible], 2310 FSL & 1128 FEL

WELL TYPE UNKNOWN

THERE IS A DISCREPANCY IN THE OCD OFFICE ON THE LOCATION OF THIS WELL. THE AREA MAP INDICATES THE WELL IS LOCATED IN UNIT LETTER [illegible], WHILE OCD RECORDS INDICATE THE WELL IS IN UNIT LETTER [illegible].

HOWEVER, T.D. IS [illegible]', WHICH DOES NOT PENETRATE THE PROPOSED INJECTION ZONE.

ILLEGIBLE

VII. DATA ON PROPOSED INJECTION OPERATION
FEDERAL "V" #3
SEC 8, T20S, R28E

(1) PROPOSED MAXIMUM INJECTION IS 100 BWPD.

(2) THE SYSTEM WILL ACT AS A CLOSED SYSTEM.

(3) THE INJECTION PRESSURE WILL BE HELD TO A MAXIMUM OF ~~1000 PSI~~ 548 AVERAGE PRESSURES SHOULD BE APPROXIMATELY 100 PSI.

(4) THE SOURCE OF THE INJECTION WATER WILL BE PRODUCED WATER FROM THE FEDERAL "V" #2. THE WELL IS PRODUCING OUT OF THE BONE SPRINGS FORMATION. A COPY OF THE WATER ANALYSIS IS ATTACHED.

(5) THE DISPOSAL ZONE WILL BE A DELAWARE SAND IN THE FEDERAL "V" #3. A COPY OF THE FORMATION WATER ANALYSIS IS ATTACHED, ALONG WITH A COMPATIBILITY STUDY BETWEEN THE INJECTION WATER & FORMATION WATER.

INJECTION WELL DATA SHEET

Mewbourne Oil Company — Federal "V"

OPERATOR		LEASE		
3	1980' FNL & 660' FWL	8	20S	R28E
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE

Schematic

See Attached Schematic

Tabular Data

Surface Casing

Size 8-5/8" Cemented with 315 sx.

TOC surface feet determined by returns

Hole size 12-1/4"

Intermediate Casing

Size _____" Cemented with _____ sx.

TOC _____ feet determined by _____

Hole size _____

Long string

Size 5-1/2" Cemented with 1025 sx.

TOC 590 feet determined by CBL 01/28/92

Hole size 7-7/8"

Total depth 4523'

Injection interval

2738 feet to 2772 feet

(perforated or open-hole, indicate which)

Perforated

Tubing size 2-3/8" lined with Phillips-Drisco polypipe (material) set in a

Otis RB tension packer (brand and model) packer at 2650 feet

(or describe any other casing-tubing seal).

Other Data

1. Name of the injection formation Delaware Sand

2. Name of Field or Pool (if applicable) Old Millman Ranch

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)

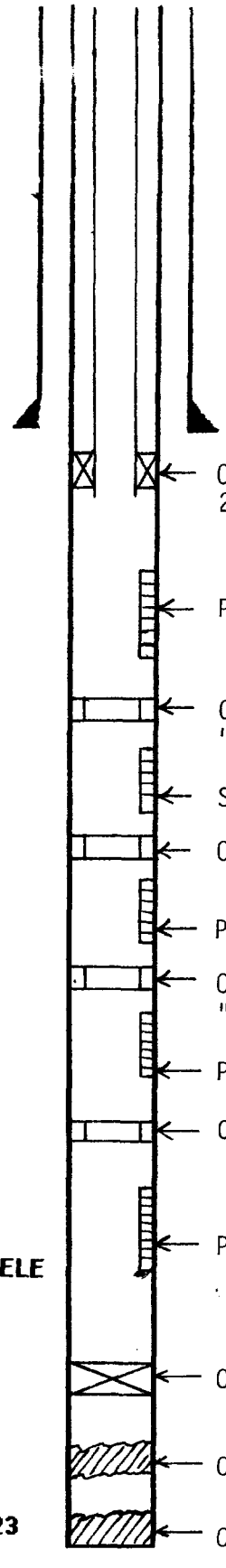
See Attached Schematic

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

Overlying - San Andres @ 1725', not productive

Underlying - Additional Delaware Sand @ 2941, not productive

FEDERAL V #3
SEC 8 20S-25E
CASING DIAGRAM
12-2-91



SET 8 5/8" CSG @ 439

CMT W/ 315 SX PREM. PLUS
+ 1/4# FLOCELE + 2% CaCl2.

Otis RB tension packer @ 2650'
2650' 2-3/8" J-55 4.7# EUE 8rd tubing

Perforations 2738'-2772' 28 holes

Cmt. retainer set @ 2784' w/650 sx. Class "C" PBTD @ 2782' TOC @ 590'

Squeeze holes 2792'-2793' 2 holes

Cmt. retainer set @ 3070' w/200 sx. Class "C"

Perforations 3090'-3118' 24 holes

Cmt. retainer set @ 3156' Cmt. w/200 sx. Class "C"

Perforations 3180'-3206' 27 holes

Cmt. retainer @ 3230' Cmt. w/200 sx. Class "C"

RAN 5 1/2" CSG

112 17# K-55 LT&C 4523'

CMT W/ 525 SX LITE
+ 5# GILSONITE + 1/4 PPS FLOCELE
+ 5# SALT
TAILED IN W/ 500 SX CLS "H"
+ 5# SSA-1 + 4/10% HALAD 322
+ 1% CFR-3

Perforations 3244'-3274' 31 holes

Casing shoe @ 4523'

Cement plug @ 5564'

PBTD @ 4523
TD @ 6340'

Cement plug @ 6340'

VIII. GEOLOGIC DATA ON INJECTION ZONE & WATER WELL
FEDERAL "V" #3
SEC 8, T20S, R28E

(1) THE ZONE BEING CONSIDERED FOR WATER INJECTION AT OLD MILLMAN RANCH IS THE DELAWARE MOUNTAIN GROUP. THESE SANDS WERE ENCOUNTERED AT DEPTHS FROM 2730'-4330' IN THE MEWBOURNE OIL COMPANY FEDERAL "V" #3. THIS GROUP IS IN THE GUADALUPE SERIES OF THE PERMIAN SYSTEM. THE ZONE IS A SEQUENCE OF WELL CONSOLIDATED SANDSTONE, SILTSTONE, AND SHALE STRATA CEMENTED WITH CALCAREOUS MATERIAL. AN 8% POROSITY CUT-OFF IS USED TO DETERMINE NET PAY AS POROSITY LESS THAN THIS IS CONSIDERED IMPERMEABLE AT THE EXISTING AND PROPOSED PRESSURE WITH CORRESPONDING RESERVOIR FLUID REGIMES. THE OVERLYING AND BASAL SEQUENCE BOUNDARIES ARE IMPERMEABLE CARBONATE DEPOSITS DEFINING THE PERMEABLE LIMITS OF THE RESERVOIR. ALL FLUIDS SHOULD REMAIN IN THE RESERVOIR.

(2) BASED ON COMMUNICATIONS WITH THE NEW MEXICO STATE ENGINEERS OFFICE IN ROSWELL (KEN FRESQUEZ). THERE IS ONE WATER WELL LOCATED WITH-IN ONE MILE OF THE FEDERAL "V" #3. THIS WELL HAS A DEPTH OF 125' AND IS LOCATED IN THE SW, SW, NE, NW, SE OF SECTION 8, T20S, R28E. THE SOURCE STRATA TAPPED BY THIS WELL IS THE RUSTLER FORMATION. THE OTHER POSSIBLE OVERLYING FORMATIONS ARE THE TRIASSIC RED BEDS AND ALLUVIUM. HOWEVER, THERE ARE NO RECORDS TO INDICATE THE PRESENCE OF THESE STRATA. THERE ARE NO KNOWN FRESH WATER STRATA BASAL THE DELAWARE.

IX. STIMULATION PROGRAM
FEDERAL "V" #3
SEC 8, T20S, R28E

THE FEDERAL "V" #3 ALREADY HAS AN EXISTING FRACTURE STIMULATION. IT IS ASSUMED THAT THE WELL WILL BE TREATED WITH ACID AT LEAST ONCE DURING THE LIFE OF INJECTION.

X. LOGGING & TEST DATA
FEDERAL "V" #3
SEC 8, T20S, R28E

ALL LOGGING TEST DATA FOR THE EXISTING WELLBORES ALREADY EXISTS ON FILE WITH THE STATE OF NEW MEXICO OIL CONSERVATION DIVISION (OCD) AND WILL NOT BE RESUBMITTED WITH THIS APPLICATION.

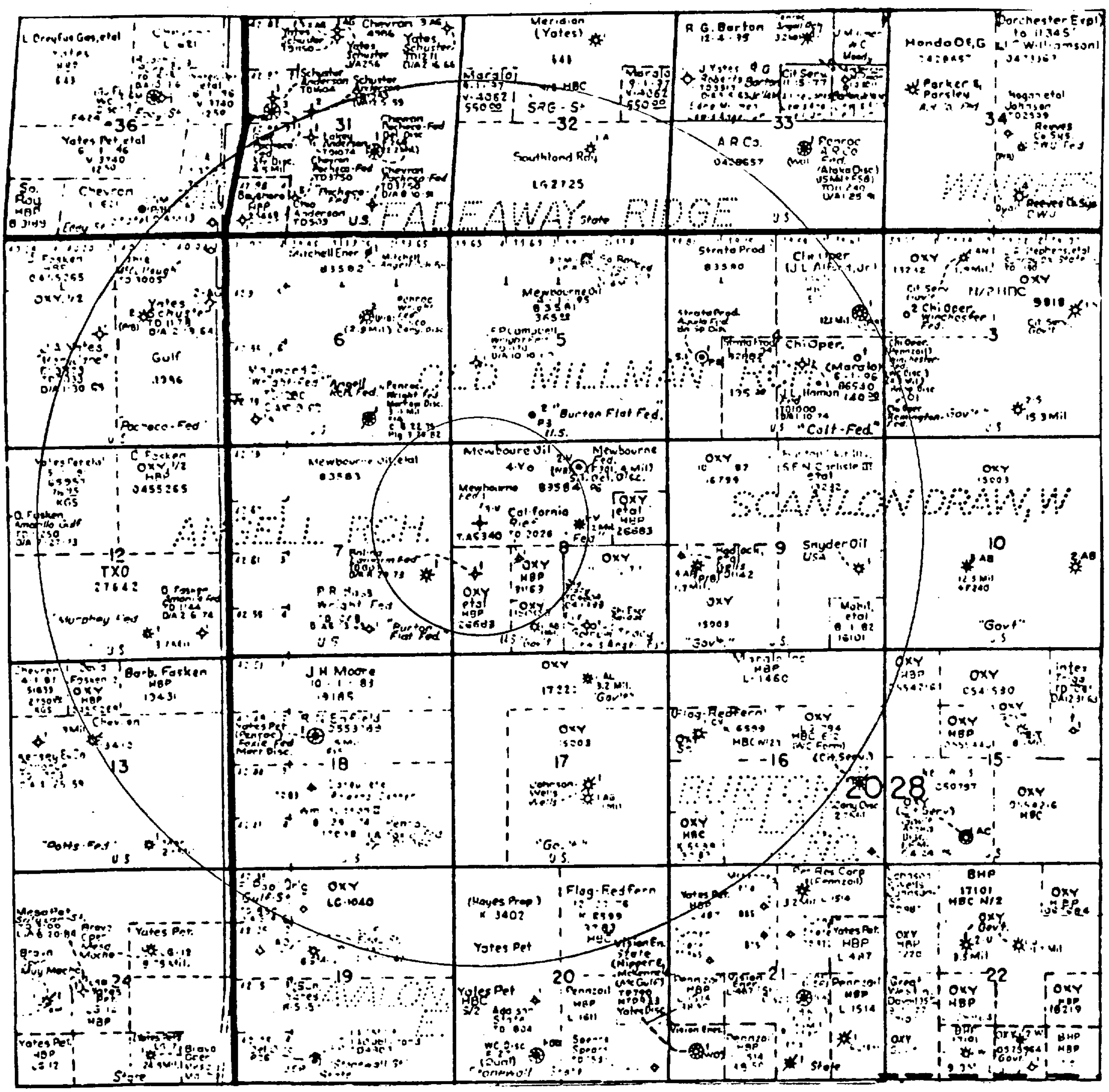
XI. CHEMICAL ANALYSIS (FRESH WATER)
FEDERAL "V" #3
SEC 8, T20S, R28E

THERE IS ONLY ONE WATER WELL LOCATED WITH-IN ONE MILE OF THE PROPOSED INJECTION WELL. IT IS LOCATED IN SEC 8, T20S, R28E, SW,SW,NE,NW,SE, AND PRODUCES OUT OF THE RUSTLER FORMATION AT 125'. NO CONTAMINATION OF THIS WATER SHOULD OCCUR AS ALL EXISTING WELLBORES WHICH PENETRATE THE DELAWARE IN THE PROPOSED AREA HAVE SURFACE CASING CEMENTED TO SURFACE AT A MINIMUM OF 415'. AN ANALYSIS OF THIS WATER IS ATTACHED.

XII. AFFIRMATIVE STATEMENT
FEDERAL "V" #3
SEC 8, T20S, R28E

AFTER REVIEWING THE GEOLOGY OF THE DELAWARE SAND STRATA WITHIN A 2-MILE RADIUS AROUND THE FEDERAL "V" #3, NO EVIDENCE APPEARS OF FRACTURES OR ANY HYDROLOGIC CONNECTION BETWEEN THE DELAWARE SAND AND ANY OVERLYING OR UNDERLYING STRATA.

MAP OF AREA OF REVIEW & 2-MILE RADIUS
FEDERAL "V" #2
SEC 8 T20S R29E



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

INJECTION FLUID

TO: Mewbourne Oil Company
P.O. Box 5270, Hobbs, NM 88241

LABORATORY NO. 991239
SAMPLE RECEIVED 9-26-91
RESULTS REPORTED 10-2-91

COMPANY Mewbourne Oil Company LEASE Federal V-2

FIELD OR POOL

SECTION ___ BLOCK ___ SURVEY ___ COUNTY Eddy STATE NM

SOURCE OF SAMPLE AND DATE TAKEN:

NO. 1 Produced water - taken from Federal V-2.

NO. 2

NO. 3

NO. 4

REMARKS:

CHEMICAL AND PHYSICAL PROPERTIES	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.1333			
pH When Sampled				
pH When Received	7.29			
Bicarbonate as HCO_3	1,129			
Supersaturation as $CaCO_3$	95			
Undersaturation as $CaCO_3$	--			
Total Hardness as $CaCO_3$	8,150			
Calcium as Ca	2,400			
Magnesium as Mg	522			
Sodium and/or Potassium	79,413			
Sulfate as SO_4	592			
Chloride as Cl	127,124			
Iron as Fe	21.2			
Barium as Ba				
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	211,180			
Temperature °F.				
Carbon Dioxide, Calculated	124			
Dissolved Oxygen.				
Hydrogen Sulfide	0.0			
Resistivity, ohms/m at 77° F. - Measured	0.054			
Suspended Oil				
Filtrable Solids as mg/l				
Volume Filtered, ml				
Calcium Carbonate Scaling Tendency	None			
Calcium Sulfate Scaling Tendency	None			

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks We are not familiar with the location of this well or the zone being produced. However, if we can be of any additional assistance in regard to the objective herein, please contact us.

Form No. 3

By Waylan C. Martin, M.A.

cc: Mr. David Overton, Midland
HydroChek Chemicals, Midland

Dickey
Analytical Laboratory, Inc.

P.O. Box 2163
Midland, Texas 79702
915 - 687-2240

INJECTION WELL - FORMATION WATER

Mewbourne Oil Company
Federal V #3
Sec.8-T20S-R28E
Eddy County, New Mexico

Date of Analysis: May 8, 1992
Date submitted: May 7, 1992
Formation: Delaware
Depth: 2,600'
Reference Number: D1-13103

A P I W A T E R A N A L Y S I S

DISSOLVED SOLIDS CATIONS	mg/l	me/l
Sodium, Na	43410	1887
Calcium, Ca	6617	330
Magnesium, Mg	1701	140
ANIONS		
Chloride, Cl	80940	2283
Sulfate, SO4	2921	61
Carbonate, CO3	366	12
Bicarbonate, HCO3	122	2
Total Dissolved Solids	136077	
Specific Gravity	1.092	
Iron (total), mg/l	22	
pH	7.5	
Hardness as CaCO3, mg/l	23526	
Resistivity (ohm-meters @ 72'F)	0.11	
Sulfate as H2S	PRESENT	

R.S. Dickey
Dickey Analytical Laboratory, Inc.

WATER COMPATIBILITY CALCULATIONS

FIELD NAME:Eddy Co.,New Mexico

WATER A :Federal V-2
SAMPLE NO:991239

WATER B :Federal V-3
SAMPLE NO:D1-13103

ION(mg/L)	100%A	90%A	75%A	50%A	25%A	10%A	100%B
Na	79413	75813	70412	61412	52411	47010	43410
Ca	2400	2822	3454	4509	5563	6195	6617
Mg	522	640	817	1112	1406	1583	1701
Ba	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sr	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cl	127124	122506	115578	104032	92486	85558	80940
SO4	592	825	1174	1757	2339	2688	2921
CO3	0.0	36.6	91.5	183.0	274.5	329.4	366.0
HCO3	1129.0	1028.3	877.3	625.5	373.8	222.7	122.0
TDS	211180	203670	192404	173629	154853	143587	136077
pH	7.30	7.30	7.30	7.40	7.40	7.50	7.50
SG	1.133	1.129	1.123	1.112	1.102	1.096	1.092
I(molar)	3.71	3.60	3.44	3.17	2.90	2.74	2.63

WATER INJECTION SYSTEM

CALCIUM CARBONATE SCALING CALCULATIONS

	[---------Upstream of Pump----------						][-----Downstream of Pump---------					
%A	TF	Psia	XCO2	pHc	SI	PTB	Is	TF	Psia	pHd	SId	PTB	I
100	80	15			*****	*******		80	100	7.29	*****	*******	
90	80	15	0	****	1.63	592	****	80	100	7.31	1.63	592	***
75	80	15	0	****	1.63	539.9	****	80	100	7.33	1.63	539.9	***
50	80	15	0	****	1.61	451	****	80	100	7.38	1.61	451	***
25	80	15	0	****	1.57	361	****	80	100	7.44	1.57	361	***
10	80	15	0	****	1.52	306.6	****	80	100	7.47	1.52	306.6	***
0	80	15	0	****	1.48	270.4	****	80	100	7.5	1.48	270.4	***

SULFATE SCALE CALCULATIONS

			[------CaSO4------]		[-----BaSO4-----]		[-----SrSO4-----]	
%A	TF	Psia	SR	PTB	SR	PTB	SR	PTB
100	80	100	.1	-1328.9	0	-.3	*****	*******
90	80	100	.2	-1123.6	0	-.2	*****	*******
75	80	100	.3	-830.4	0	-.1	*****	*******
50	80	100	.6	-373.8	0	-.1	*****	*******
25	80	100	1.1	49.7	0	-.1	*****	*******
10	80	100	1.3	289	0	-.1	*****	*******
0	80	100	1.6	445.2	0	0	*****	*******

NOTE: Values of SI & PTB for CaCO3, and SR & PTB for CaSO4 and BaSO4 are calculated at 14.7 psia.

WATER COMPATIBILITY CALCULATIONS

FIELD NAME:Eddy Co.,New Mexico

WATER A :Federal V-2
SAMPLE NO:991239

WATER B :Federal V-3
SAMPLE NO:D1-13103

ION(mg/L)	100%A	90%A	75%A	50%A	25%A	10%A	100%B
Na	79413	75813	70412	61412	52411	47010	43410
Ca	2400	2822	3454	4509	5563	6195	6617
Mg	522	640	817	1112	1406	1583	1701
Ba	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sr	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cl	127124	122506	115578	104032	92486	85558	80940
SO4	592	825	1174	1757	2339	2688	2921
CO3	0.0	36.6	91.5	183.0	274.5	329.4	366.0
HCO3	1129.0	1028.3	877.3	625.5	373.8	222.7	122.0
TDS	211180	203670	192404	173629	154853	143587	136077
pH	7.30	7.30	7.30	7.40	7.40	7.50	7.50
SG	1.133	1.129	1.123	1.112	1.102	1.096	1.092
I(molar)	3.71	3.60	3.44	3.17	2.90	2.74	2.63

WATER INJECTION SYSTEM

CALCIUM CARBONATE SCALING CALCULATIONS

	[---------Upstream of Pump----------						][-----Downstream of Pump---------				
%A	TF	Psia	XCO2	pHc	SI	PTB	Is	TF	Psia	pHd	SId	PTB
100	100	15	0	****	*****	*******	****	100	100	7.29	*****	*********
90	100	15	0	****	1.9	600.8	****	100	100	7.31	1.9	600.8 **
75	100	15	0	****	1.89	547.1	****	100	100	7.33	1.89	547.1 **
50	100	15	0	****	1.85	456.5	****	100	100	7.38	1.85	456.5 **
25	100	15	0	****	1.8	365.6	****	100	100	7.44	1.8	365.6 **
10	100	15	0	****	1.75	310.8	****	100	100	7.47	1.75	310.8 **
0	100	15	0	****	1.72	274.4	****	100	100	7.5	1.72	274.4 **

SULFATE SCALE CALCULATIONS

			[------CaSO4------]		[-----BaSO4-----]		[-----SrSO4-----]	
%A	TF	Psia	SR	PTB	SR	PTB	SR	PTB
100	100	100	.1	-1328.2	0	-.4	*****	*******
90	100	100	.2	-1122.6	0	-.3	*****	*******
75	100	100	.3	-829.2	0	-.2	*****	*******
50	100	100	.6	-373.3	0	-.1	0	-75.6
25	100	100	1.1	48.3	0	-.1	0	-58.7
10	100	100	1.3	285.9	0	-.1	0	-51.5
0	100	100	1.6	440.6	0	-.1	0	-47.5

NOTE: Values of SI & PTB for CaCO3, and SR & PTB for CaSO4 and BaSO4 are calculated at 14.7 psia.

WATER COMPATIBILITY CALCULATIONS

FIELD NAME:Eddy Co.,New Mexico

WATER A :Federal V-2
SAMPLE NO:991239

WATER B :Federal V-3
SAMPLE NO:D1-13103

ION(mg/L)	100%A	90%A	75%A	50%A	25%A	10%A	100%B
Na	79413	75813	70412	61412	52411	47010	43410
Ca	2400	2822	3454	4509	5563	6195	6617
Mg	522	640	817	1112	1406	1583	1701
Ba	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sr	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cl	127124	122506	115578	104032	92486	85558	80940
SO4	592	825	1174	1757	2339	2688	2921
CO3	0.0	36.6	91.5	183.0	274.5	329.4	366.0
HCO3	1129.0	1028.3	877.3	625.5	373.8	222.7	122.0
TDS	211180	203670	192404	173629	154853	143587	136077
pH	7.30	7.30	7.30	7.40	7.40	7.50	7.50
SG	1.133	1.129	1.123	1.112	1.102	1.096	1.092
I(molar)	3.71	3.60	3.44	3.17	2.90	2.74	2.63

WATER INJECTION SYSTEM

CALCIUM CARBONATE SCALING CALCULATIONS

	[---------Upstream of Pump----------]						[-----Downstream of Pump----------]					
%A	TF	Psia	XCO2	pHc	SI	PTB	Is	TF	Psia	pHd	SId	PTB	Is
100	120	15	0	****	*****	*******	****	120	100	7.29	*****	**********	
90	120	15	0	****	2.23	606.2	****	120	100	7.31	2.23	606.2	*****
75	120	15	0	****	2.21	551.6	****	120	100	7.33	2.21	551.6	*****
50	120	15	0	****	2.15	460.2	****	120	100	7.38	2.15	460.2	*****
25	120	15	0	****	2.08	368.6	****	120	100	7.44	2.08	368.6	*****
10	120	15	0	****	2.03	313.6	****	120	100	7.47	2.03	313.6	*****
0	120	15	0	****	2	277	****	120	100	7.5	2	277	*****

SULFATE SCALE CALCULATIONS

			[------CaSO4------]		[-----BaSO4-----]		[-----SrSO4-----]	
%A	TF	Psia	SR	PTB	SR	PTB	SR	PTB
100	120	100	.1	-1329.3	0	-.5	*****	*******
90	120	100	.2	-1120.7	0	-.3	*****	*******
75	120	100	.3	-823.7	0	-.2	*****	*******
50	120	100	.7	-364.2	0	-.1	0	-72.1
25	120	100	1.1	58.1	0	-.1	0	-55.9
10	120	100	1.4	295	0	-.1	0	-49.1
0	120	100	1.6	448.3	0	-.1	0	-45.3

NOTE: Values of SI & PTB for CaCO3, and SR & PTB for CaSO4 and BaSO4 are calculated at 14.7 psia.

WATER COMPATIBILITY CALCULATIONS

FIELD NAME:Eddy Co.,New Mexico

WATER A :Federal V-2
SAMPLE NO:991239

WATER B :Federal V-3
SAMPLE NO:D1-13103

ION(mg/L)	100%A	90%A	75%A	50%A	25%A	10%A	100%B
Na	79413	75813	70412	61412	52411	47010	43410
Ca	2400	2822	3454	4509	5563	6195	6617
Mg	522	640	817	1112	1406	1583	1701
Ba	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sr	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cl	127124	122506	115578	104032	92486	85558	80940
SO4	592	825	1174	1757	2339	2688	2921
CO3	0.0	36.6	91.5	183.0	274.5	329.4	366.0
HCO3	1129.0	1028.3	877.3	625.5	373.8	222.7	122.0
TDS	211180	203670	192404	173629	154853	143587	136077
pH	7.30	7.30	7.30	7.40	7.40	7.50	7.50
SG	1.133	1.129	1.123	1.112	1.102	1.096	1.092
I(molar)	3.71	3.60	3.44	3.17	2.90	2.74	2.63

WATER INJECTION SYSTEM

CALCIUM CARBONATE SCALING CALCULATIONS

	[---------Upstream of Pump----------]						[-----Downstream of Pump---------			
%A	TF	Psia	XCO2	pHc	SI	PTB	Is	TF	Psia	pHd	SId	PTB
100	140	15	0	****	*****	*******	****	140	100	7.29	*****	*********
90	140	15	0	****	2.64	609.1	****	140	100	7.31	2.64	609.1 **
75	140	15	0	****	2.59	554.1	****	140	100	7.33	2.59	554.1 **
50	140	15	0	****	2.48	462.2	****	140	100	7.38	2.48	462.2 **
25	140	15	0	****	2.41	370.4	****	140	100	7.44	2.41	370.4 **
10	140	15	0	****	2.36	315.3	****	140	100	7.47	2.36	315.3 **
0	140	15	0	****	2.33	278.6	****	140	100	7.5	2.33	278.6 **

SULFATE SCALE CALCULATIONS

			[------CaSO4------]		[-----BaSO4-----]		[-----SrSO4-----]	
%A	TF	Psia	SR	PTB	SR	PTB	SR	PTB
100	140	100	.1	-1339.3	0	-.6	*****	*******
90	140	100	.2	-1129.3	0	-.4	*****	*******
75	140	100	.3	-830.3	0	-.3	*****	*******
50	140	100	.7	-367.6	0	-.2	0	-68.7
25	140	100	1.1	56.7	0	-.1	0	-53.2
10	140	100	1.4	294.3	0	-.1	0	-46.7
0	140	100	1.6	447.7	0	-.1	0	-43.1

NOTE: Values of SI & PTB for CaCO3, and SR & PTB for CaSO4 and BaSO4 are calculated at 14.7 psia.

WATER COMPATIBILITY CALCULATIONS

FIELD NAME:Eddy Co.,New Mexico

WATER A :Federal V-2
SAMPLE NO:991239

WATER B :Federal V-3
SAMPLE NO:D1-13103

ION(mg/L)	100%A	90%A	75%A	50%A	25%A	10%A	100%B
Na	79413	75813	70412	61412	52411	47010	43410
Ca	2400	2822	3454	4509	5563	6195	6617
Mg	522	640	817	1112	1406	1583	1701
Ba	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sr	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cl	127124	122506	115578	104032	92486	85558	80940
SO4	592	825	1174	1757	2339	2688	2921
CO3	0.0	36.6	91.5	183.0	274.5	329.4	366.0
HCO3	1129.0	1028.3	877.3	625.5	373.8	222.7	122.0
TDS	211180	203670	192404	173629	154853	143587	136077
pH	7.30	7.30	7.30	7.40	7.40	7.50	7.50
SG	1.133	1.129	1.123	1.112	1.102	1.096	1.092
I(molar)	3.71	3.60	3.44	3.17	2.90	2.74	2.63

WATER INJECTION SYSTEM

CALCIUM CARBONATE SCALING CALCULATIONS

	[---------Upstream of Pump----------]						[-----Downstream of Pump---------				
%A	TF	Psia	XCO2	pHc	SI	PTB	Is	TF	Psia	pHd	SId	PTB
100	160	15	0	****	*****	*******	****	160	100	7.29	*****	**********
90	160	15	0	****	3.08	610.3	****	160	100	7.31	3.08	610.3 ***
75	160	15	0	****	3.02	555.2	****	160	100	7.33	3.02	555.2 ***
50	160	15	0	****	2.9	463.2	****	160	100	7.38	2.9	463.2 ***
25	160	15	0	****	2.81	371.3	****	160	100	7.44	2.81	371.3 ***
10	160	15	0	****	2.74	316.2	****	160	100	7.47	2.74	316.2 ***
0	160	15	0	****	2.71	279.4	****	160	100	7.5	2.71	279.4 ***

SULFATE SCALE CALCULATIONS

			[------CaSO4------]		[-----BaSO4-----]		[-----SrSO4-----]	
%A	TF	Psia	SR	PTB	SR	PTB	SR	PTB
100	160	100	.1	-1350.3	0	-.8	*****	*******
90	160	100	.2	-1139	0	-.5	*****	*******
75	160	100	.3	-838.2	0	-.4	*****	*******
50	160	100	.6	-372.4	0	-.2	0	-65.3
25	160	100	1.1	54.2	0	-.2	0	-50.6
10	160	100	1.4	292.7	0	-.2	0	-44.4
0	160	100	1.6	446.2	0	-.1	0	-41

NOTE: Values of SI & PTB for CaCO3, and SR & PTB for CaSO4 and BaSO4 are calculated at 14.7 psia.

Laboratory Services
1331 Tasker Drive
Hobbs, New Mexico 88240
(505) 397-3713

WATER ANALYSIS

FRESH WATER

COMPANY Mewbourne Oil Co.

SAMPLE Angel Ranch Water Well Location: S 8 T 20S R 28E
SW, SW, NE, NW, SE, Rustler Formation Depth 125 FT.

SAMPLED BY Mewbourne

DATE TAKEN 5/230/93

REMARKS

Nitrate	4.5	
Barium as Ba	30	
Carbonate alkalinity PPM	0	
Bicarbonate alkilinity PPM	172	
pH At Lab	7.37	
Specific Gravity @ 60 F	1.005	
Magnesium as Mg	754	
Total Hardness as CaCO3	1,300	
Clorides as CL	60	
Sulfate as SO4	1,100	
Iron as Fe	0.55	
Potassium	0.30	
Hydrogen Sulfide	0	
Conductivity MMHOES	4,908	@23.9C
Total Disolved Solids	2,454	
Carbonate as CO3 G/L	0.69	
Calcium as CA	546	

Results reported as Parts Per Million Unless Stated.

Langelier Saturation Index + 0.37

Analysis By Rolland Perry
Date: 5/23/93

MEWBOURNE OIL COMPANY
APPLICATION FOR AUTHORIZATION TO INJECT
FEDERAL "V" NO. 3
LEA COUNTY, NEW MEXICO

CERTIFICATE OF SERVICE

I, Robert Jones, Engineer, Mewbourne Oil Company, Operator of the Federal "V" #3, have on this 1st day of June 1993, mailed or caused to be mailed, postage prepaid a copy of the C-108, Application for Authorization to Inject to the following persons at the address shown:

LAND OWNER

Bureau of Land Management
P.O. Box 1778
Carlsbad, New Mexico 88221-1778

OFFSET OPERATORS

Robert E. Boling
Robert E. Boling Exploration
305 S. 5th Street
Artesia, New Mexico 88210

Robert Elliott
OXY USA Inc.
P.O. Box 50250
Midland, Texas 79710

Robert A. Jones
Engineer

Subscribed in my presence and duly sworn to before me on this 1st day of June, 1993.

Mary Jo Selman
Notary Public in and for
Lea County, New Mexico

LEGAL NOTICE

NOTICE OF APPLICATION FOR

FLUID INJECTION WELL

PERMIT

MEWBOURNE OIL COMPANY

P. O. BOX 5270

HOBBS, NEW MEXICO 88240

has applied to the State of New Mexico, Oil Conservation Division, Santa Fe, New Mexico, for a permit to inject fluid into a formation that is not productive of oil or gas. The application proposes to inject produced Bone Spring water in the Delaware formation in the Federal "V" #3. The proposed injection well is located in Section 8, T20S, R28E, 11 miles North of Carlsbad in the Old Millman Ranch Field, Eddy County, New Mexico. Fluid will be injected into strata in the subsurface depth interval 2738 feet to 2772 feet.

A request for further information concerning any aspect of the application should be submitted in writing within 15 days of publication to the State of New Mexico, Oil Conservation Division, P.O. Box 2088, Santa Fe, New Mexico 87504. Telephone (505) 827-5807