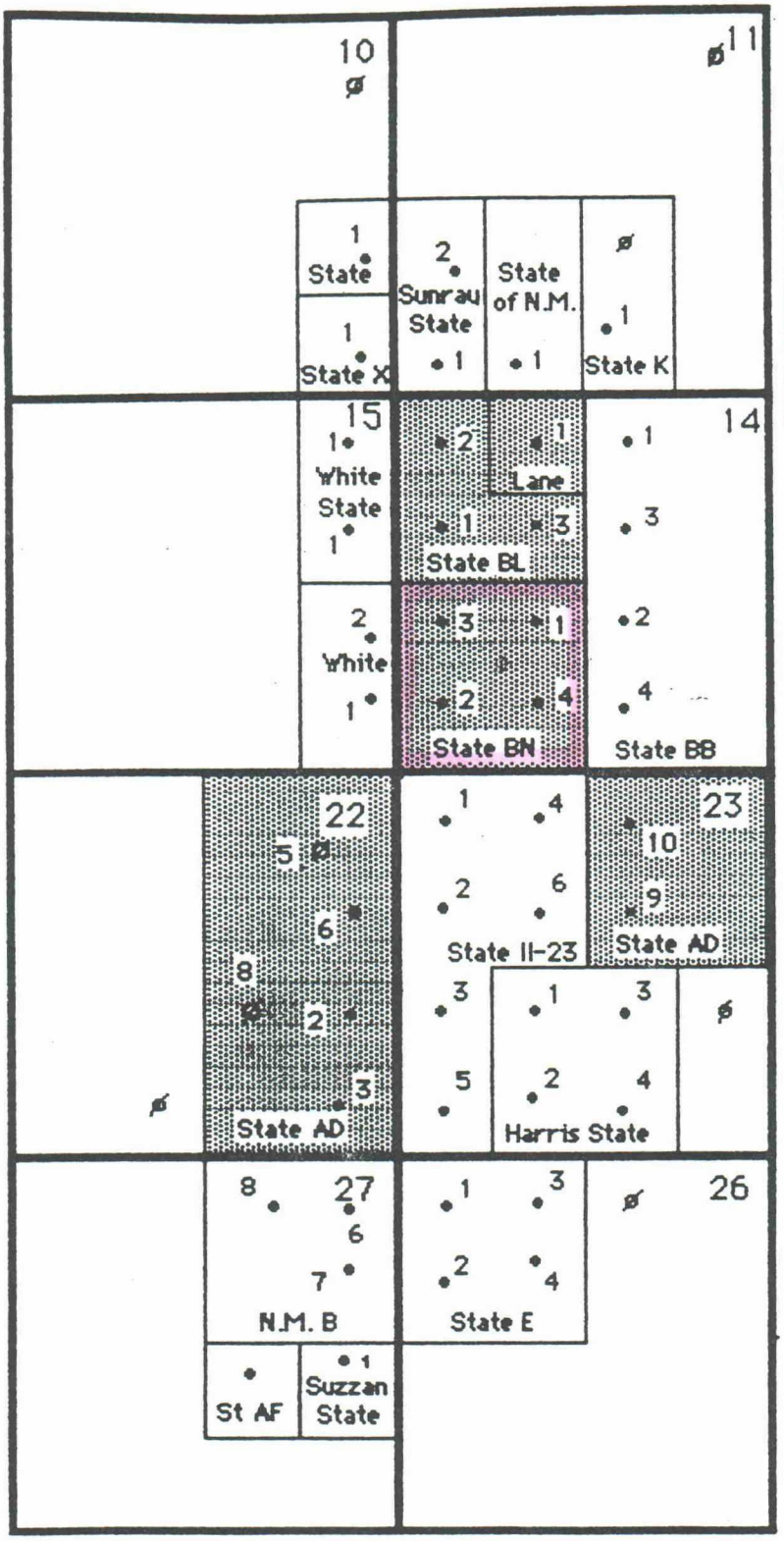
Exhibits 1 through 8
Complete set

Mescalero San Andres Field - Attachment 1



BEFORE EXAMINER STOGNER
Oil Conservation Division
OXY Exhibit No. 1
Case No. 10140

Mescalero San Andres Field
Lea County, New Mexico
▨ - OXY USA Leases
Scale - 2" = 1 Mile

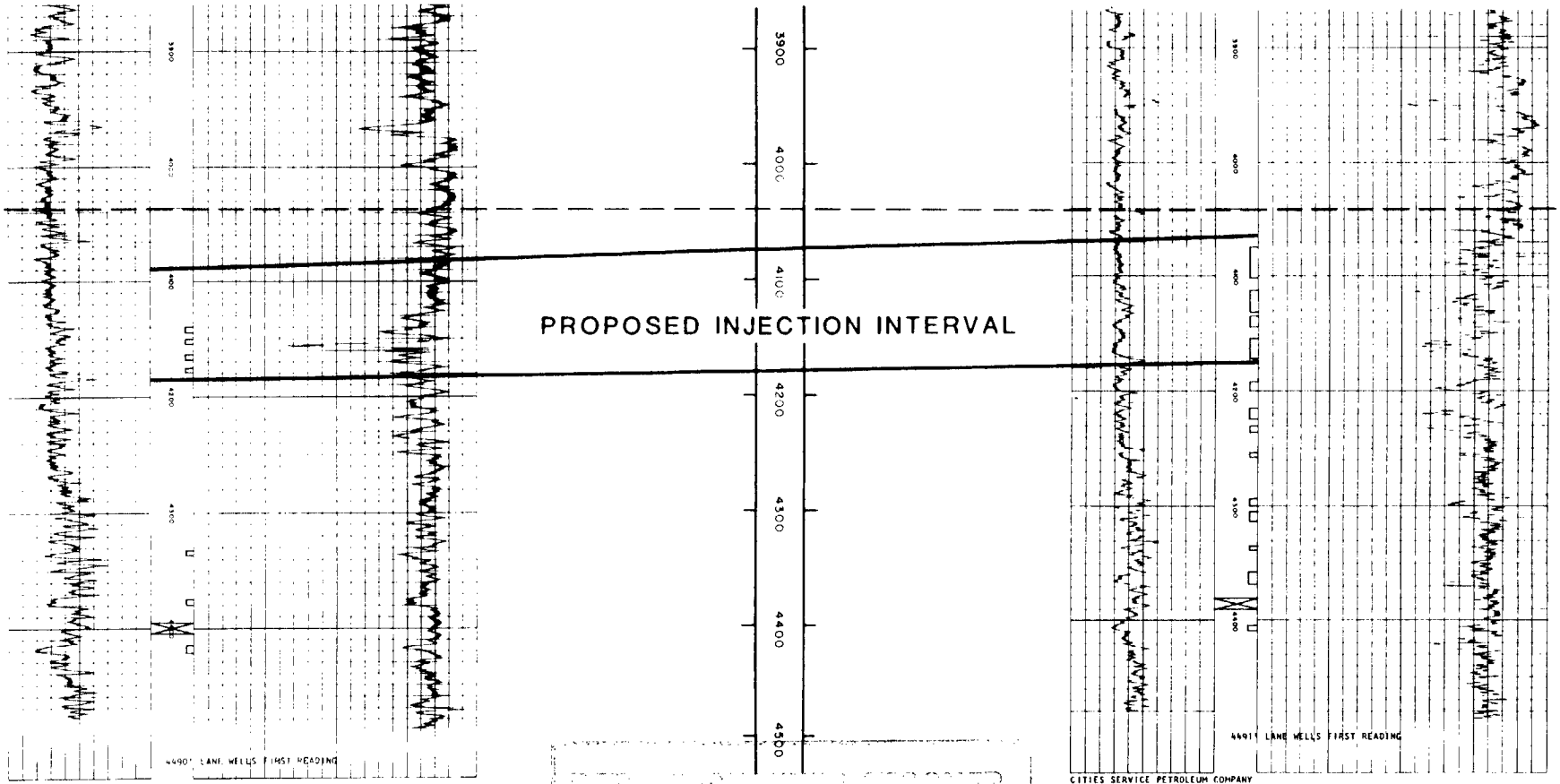
NE

SW

CITIES SERVICE PETROLEUM CO.
STATE BN #1
LANE WELLS ACOUSTILOG 3-17-63

STATE BN #5

CITIES SERVICE PETROLEUM CO.
STATE BN #2
LANE WELLS ACOUSTILOG 9-13-63



CUMULATIVE PRODUCTION:
189,880 BBLS OIL
180,103 MCF
86,375 BBLS WATER

LATEST WELL TEST:
5-30-90 PMPD. 10 BOPD
8 MCFD
2 BWPD

CUMULATIVE PRODUCTION:
236,124 BBLS OIL
434,799 MCF
119,907 BBLS WATER

LATEST WELL TEST:
5-29-90 PMPD. 16 BOPD
50 MCFD
65 BWPD

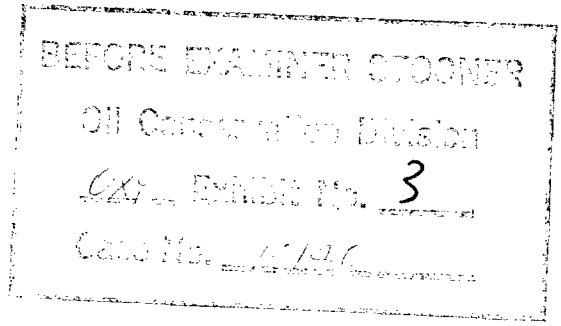
MESCALERO SAN ANDRES FIELD
PROPOSED WATERFLOOD PILOT
SECTION 14, T-10-S, R-32-E
LEA COUNTY, NEW MEXICO

OCT., 1990

Reservoir Parameters and Recovery Predictions
Mescalero San Andres Field

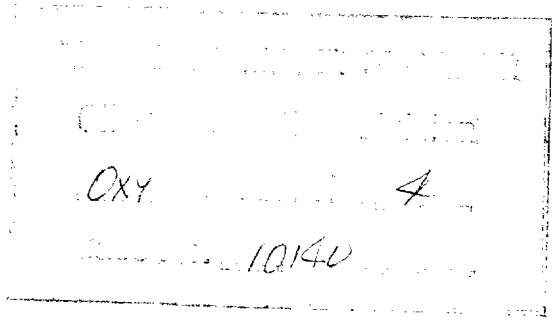
Depth	4100'
Area	1800 ac
Porosity	9.3%
Permeability	4.2 md
Water saturation	27%
Original pressure	1330 psig
Original oil viscosity	5.2 cp
Oil gravity	16.0 oAPI

Original oil-in-place	50,355,000 bbls	
Cumulative production	6,356,000 bbls	12.6% OOIP
Predicted secondary recovery	6,043,000 bbls	12.0% OOIP



Latest Well Tests
State BN Lease - OXY USA Inc.
Mescalero San Andres Field

State BN #1	5/30/90	10 BOPD	8 MCFD	2 BWPD
State BN #2	5/29/90	16 BOPD	50 MCFD	65 BWPD
State BN #3	5/31/90	2 BOPD	6 MCFD	1 BWPD
State BN #4	6/01/90	3 BOPD	6 MCFD	8 BWPD



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

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

RECEIVED
SEP 25 1990
OIL CONSERVATION DIVISION

FORM C-108
Revised 7-1-81

APPLICATION FOR AUTHORIZATION TO INJECT

I. Purpose: [X] Secondary Recovery [ ] Pressure Maintenance [ ] Disposal [ ] Storage
Application qualifies for administrative approval? [ ] yes [X] no

II. Operator: OXY USA Inc.

Address: P. O. Box 50250, Midland, TX 79710

Contact party: Richard E. Foppiano Phone: 915/685-5913

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 [X] 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: Richard E. Foppiano Title Regulatory Affairs Advisor

Signature: Richard E. Foppiano Date: 9-19-90

* 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

cc: Richard E. Foppiano
OXY USA, Inc.
Post Office Box 50250
Midland, Texas 79710

Oil Conservation Division
District Office
Post Office Box 1980
Hobbs, New Mexico 88240

Certified mail return receipt
Notice List attached to C-108

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.

OXY USA Inc./State "BN"#5
Mescalero San Andres Waterflood Pilot Project
NOTICE LIST

1. Operators offsetting Section 14-T10S-R32E, Lea County, NM, including those within 1/2 mile of the well location:

OXY USA Inc.

Tipperary Corporation
P. O. Box 3179
Midland, Texas 79702

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

Yates Petroleum Corp.
105 South 4th
Artesia, New Mexico 88210

Penroc Oil Corp.
P. O. Box 5970
Hobbs, New Mexico 88240

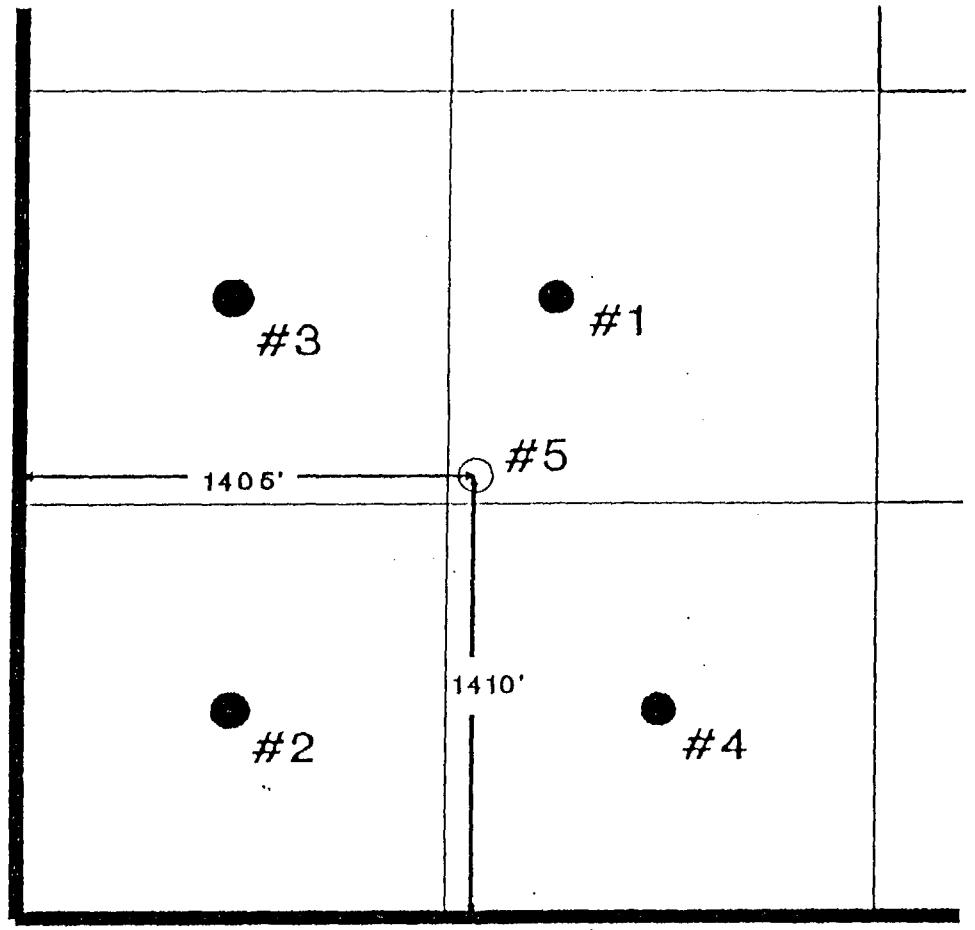
2. Surface owner of the land on which this well is located:

Oil and Gas Division
State Land Office
P. O. Box 1148
Santa Fe, New Mexico 87504-1148

Mescalero San Andres Field

OXY USA Inc./State "BN" Lease

Southwest Quarter of 14-T10S-R32E



Submit to Appropriate
District Office
State Lease - 4 copies
Fee Lease - 3 copies

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

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

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

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

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

Form C-102
Revised 1-1-89

WELL LOCATION AND ACREAGE DEDICATION PLAT

All Distances must be from the outer boundaries of the section

Operator	Lease	Well No.
OXY USA, INC	STATE BN	5

Unit Letter	Section	Township	Range	County
K	14	10 SOUTH	32 EAST NMPM	LEA

Actual Footage Location of Well:
1410 feet from the south line and 1405 feet from the west line

Ground level Elev.	Producing Formation	Pool	Dedicated Acreage:
4331.3'			Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.

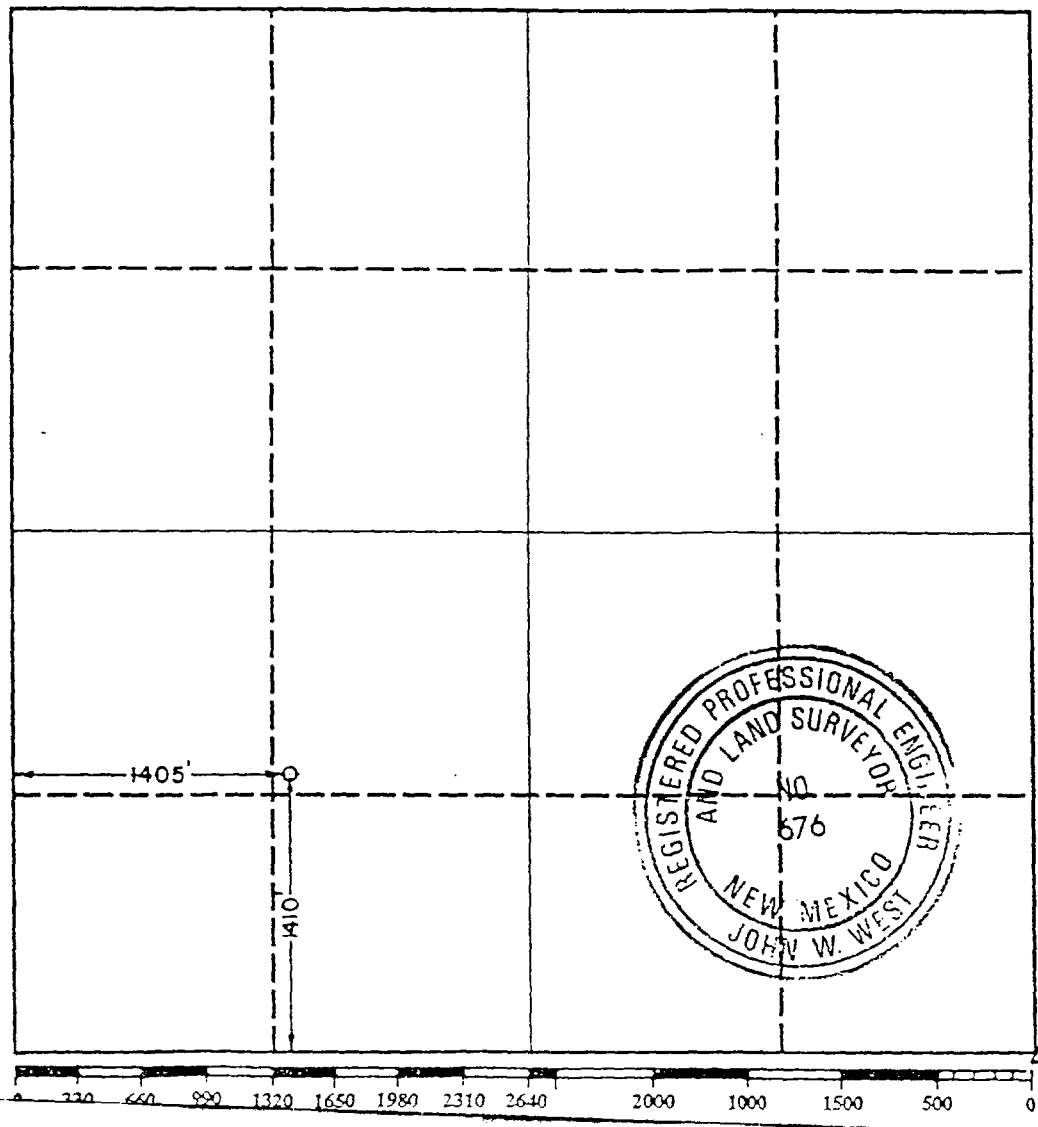
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

3. If more than one lease of different ownership is dedicated to the well, have the interest of all owners been consolidated by communitization, unitization, force-pooling, etc.?

☐ Yes ☐ No If answer is "yes" type of consolidation _____

If answer is "no" list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary. _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interest, has been approved by the Division.



OPERATOR CERTIFICATION

I hereby certify that the information contained herein in true and complete to the best of my knowledge and belief.

Signature

Printed Name

Position

Company

Date

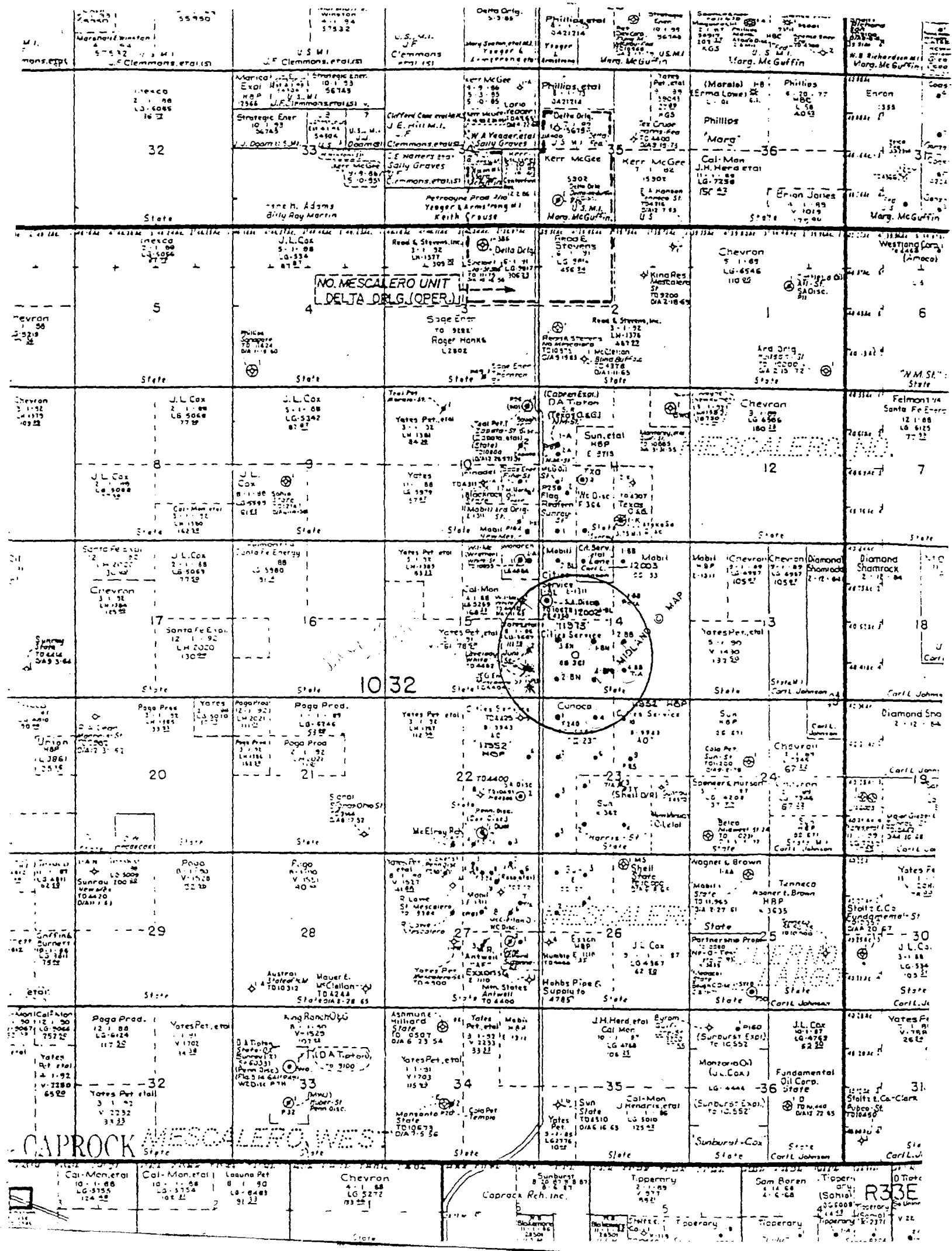
SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervison, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed
July 14, 1990

Signature & Seal of
Professional Surveyor

Certificate No. JOHN W. WEST, 676
RONALD J. EIDSON, 3239


NO. MESCALERO UNIT
(DELTA DRLG.(OPER.))
MIDLAND
CAPROCK MESCALERO
Caprock Rch. Inc.
R33E

OXY USA Inc./State "BN" #5
Mescalero San Andres Waterflood Pilot Project
Form C-108 Attachments

II. A. Well data (The following reflects our current plans for the proposed injection well.)

1. Well Name: State BN #5
   Located 1410' FSL, 1405' FWL, Section 14, T-10S, R-32E, Lea County, NM.
2. Casing/Cementing plans: 8-5/8" 24# casing set at 400' in a 12-1/4" hole cemented with 350 sacks (designed to circulate).
   5-1/2" 15.5# casing set at 4500' in a 7-7/8" hole cemented with 350 sx (designed to reach 3000').
3. 2-3/8" plastic-lined tubing will be set at 4050'.
4. Guiberson Unipacker VI will be set at 4050'.

B.

1. Name of Injection Formation: San Andres, Mescalero Field.
2. Injection Interval: 4100-4200', perforated.
3. The State BN #5 well will be drilled for injection.
4. There will be no other perforated intervals.
5. There are no known oil reservoirs overlying the San Andres in Mescalero Field. The Permo Penn, the only known underlying oil reservoir, is found at an approximate depth of 8500' (4150' below sea level).

E

VI. Wells within 1/2 mile of proposed injection well

1. C.H. Juni White #1 Type: P&A
Location: 965' FSL, 330' FEL, Sec 15, T-10S, R-32E, Lea Co
Date drilled: 3/4/64 Depth: 4452'
Construction: 8-5/8" casing at 1490' cemented with 575 sx
5-1/2" casing at 4452' cemented with 350 sx
Bridge plug at 4340'
Completion: San Andres perforations 4138-4157', 7 shots

2. C.H. Juni White #2 Type: P&A
Location: 1650' FSL, 330' FEL, Sec 15, T-10S, R-32E, Lea Co
Date drilled: 8/18/64 Depth: 4409'
Construction: 9-5/8" 36# casing at 252' cement circulated
5-1/2" 14# casing at 4409' cemented with 150 sx, top of cement at 3100'
Bridge plug at 4350'
Completion: San Andres perforations 4140-4162', 32 shots

3. OXY USA Inc State AD #10 Type: temp. abandoned
Location: 660' FNL, 2310' FEL, Sec 23, T-10S, R-32E, Lea Co
Date drilled: 7/27/65 Depth: 4350'
Construction: 7-5/8" 24# casing at 1694', cement circulated
4-1/2" 9.5# casing at 4348' cemented with 250 sx, top of cement at 3160' (survey)
Bridge plug at 4274'
Completion: San Andres perforations 4130-4218', 8 shots

4. OXY USA Inc State BL #1 Type: temp. abandoned
Location: 300' FWL, 2006' FNL, Sec 14, T-10S, R-32E, Lea Co
Date drilled: 8/11/62 Depth: 10631'
Construction: 13-3/8" 48# casing at 396', cement circulated
8-5/8" 32 & 24# casing at 3443', cement circulated
5-1/2" 17# casing at 8865' cemented with 300 sx, top of cement at 3000' (survey)
Bridge plug at 8175'
Completion: Cement squeezed San Andres perforations 4324-4330', 24 shots

5. OXY USA Inc State BL #3 Type: producer
Location: 1980' FNL, 1980' FWL, Sec 14, T-10S, R-32E, Lea Co
Date drilled: 8/29/64 Depth: 4496'
Construction: 8-5/8" 24# casing at 389', cement circulated
4-1/2" 9.5# casing at 4495' cemented with 250 sx, top of cement at 3230' (calculated)
Completion: San Andres perforations 4076-4161', 12 shots

6. OXY USA Inc State BN #1 Type: producer
Location: 1980' FSL, 1650' FWL, Sec 14, T-10S, R-32E, Lea Co
Date drilled: 4/8/63 Depth: 4465'
Construction: 8-5/8" 24# casing at 370', cement circulated
5-1/2" 14# casing at 4496' cemented with 350 sx, top of cement at 3170' (survey)
Completion: San Andres perforations 4415-4421, 24 shots

7. OXY USA Inc State BN #2 Type: producer
Location: 660' FSL, 660' FWL, Sec 14, T-10S, R-32E, Lea Co
Date drilled: 9/25/63 Depth: 4500'
Construction: 8-5/8" 24# casing at 384', cement circulated
4-1/2" 9.5# casing at 4498' cemented with 350 sx, top of cement at 3147' (calculated)
Completion: San Andres perforations 4074-4368, 360 shots

8. OXY USA Inc State BN #3 Type: producer
Location: 1980' FSL, 660' FWL, Sec 14, T-10S, R-32E, Lea Co
Date drilled: 7/24/64 Depth: 4500'
Construction: 8-5/8" 24# casing at 393', cement circulated
4-1/2" 9.5# casing at 4486' cemented with 400 sx, top of cement at 2840' (survey)
Completion: San Andres perforations 4069-4156', 55 shots

9. OXY USA Inc State BN #4 Type: producer
Location: 660' FSL, 1980' FWL, Sec 14, T-10S, R-32E, Lea Co
Date drilled: 12/24/64 Depth: 4531'
Construction: 7-5/8" 24# casing at 1685', cement circulated
4-1/2" 9.5# casing at 4531' cemented with 250 sx, top of cement at 3230' (survey)
Completion: San Andres perforations 4382-4441', 16 shots

10. Penroc Oil Corp State II-23 #1 Type: producer
Location: 660' FNL, 660' FWL, Sec 23, T-10S, R-32E, Lea Co
Date drilled: 2/5/64 Depth: 4401'
Contruction: 7-5/8" 24# casing at 390', cement circulated
4-1/2" 9.5# casing at 4401' cemented with 385 sx, top of cement at 2700' (survey)
Completion: San Andres perforations 4077-4174', 10 shots

11. Penroc Oil Corp State II-23 #2 Type: producer
Location: 1980' FNL, 660' FWL, Sec 23, T-10S, R-32E, Lea Co
Date drilled: 2/5/64/64 Depth: 4319'
Construction: 7-5/8" 24# casing at 1577', cement circulated
4-1/2" 9.5# casing at 4319', cemented with 200 sx, top of cement at 2800' (survey)
Completion: San Andres perforations 4080-4165', 8 shots

12. Tipperary Petroleum Co State BB #2 Type: producer
Location: 1980' FSL, 2310' FEL, Sec 14, T-10S, R-32E, Lea Co
Date drilled: 12/8/65 Depth: 4425'
Construction: 8-5/8" 29# casing at 1605', cement circulated
4-1/2" 9.5# casing at 4425', cemented with 200 sx, top of cement at 3200'
Completion: San Andres perforations 4101-4396', 32 shots

13. Tipperary Petroleum Co State BB #3 Type: temp. abandoned
Location: 1980' FNL, 2310' FEL, Sec 14, T-10S, R-32E, Lea Co
Date drilled: 1/31/66 Depth:

Construction: 8-5/8" 29# casing at 1585', cement circulated
4-1/2" 9.5# casing at 4485', cemented with 300 sx

Completion: San Andres perforations 4111-4453', 90 shots

VII. Proposed operations

1. Average injection rate: 250 BWPD
   Maximum injection rate: 400 BWPD
2. The injection system will be a closed system.
3. Average injection pressure: 200 psi
   Maximum injection pressure: 900 psi
4. The injection water will be collected from wells producing from the San Andres, the proposed injection zone.

VIII. The proposed injection zone is the San Andres formation. In the Mescalero Field, the San Andres is a fractured dolomite. The top of the San Andres is found at an approximate depth of 3420' (930' above sea level). The San Andres is 1400' thick and typically includes 50' of net pay. The local underground source of drinking water is the Ogallala formation and it's base is at a depth of 150'.

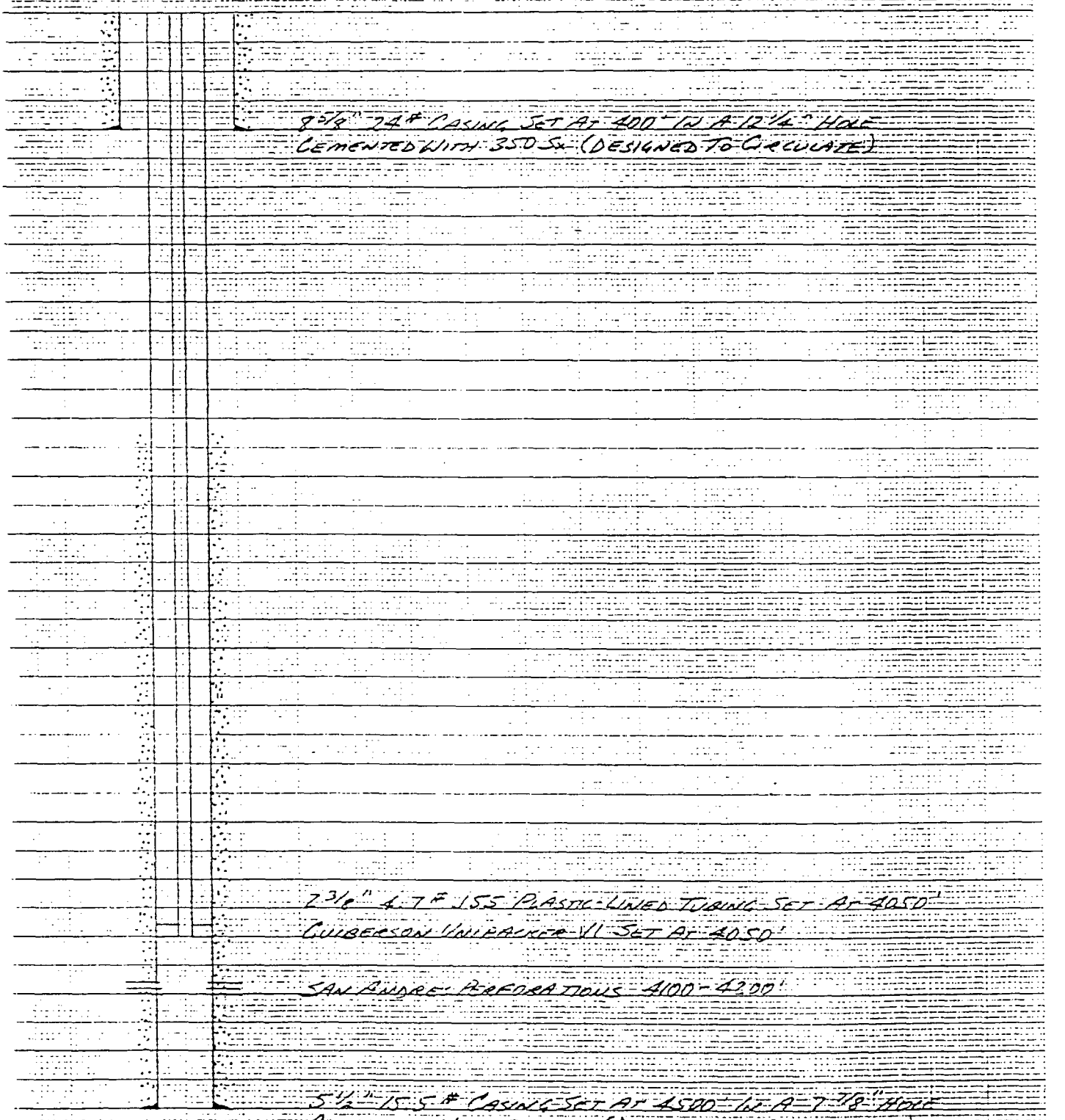
IX. Proposed stimulation program:
The State BN #5 will be stimulated with 2000 gal 15% HCl with additives. The well will be evaluated for additional stimulation pending the results of the initial treatment.

X. Logs and test data:
The planned injection well, the proposed State BN #5, has not yet been drilled. The logging program will include GR/CNL/LDT, CYBIL (sonic fracture locator), GR/DLL/MSFL, and GR/CCL/CBL.

XI. Fresh water analyses are attached.

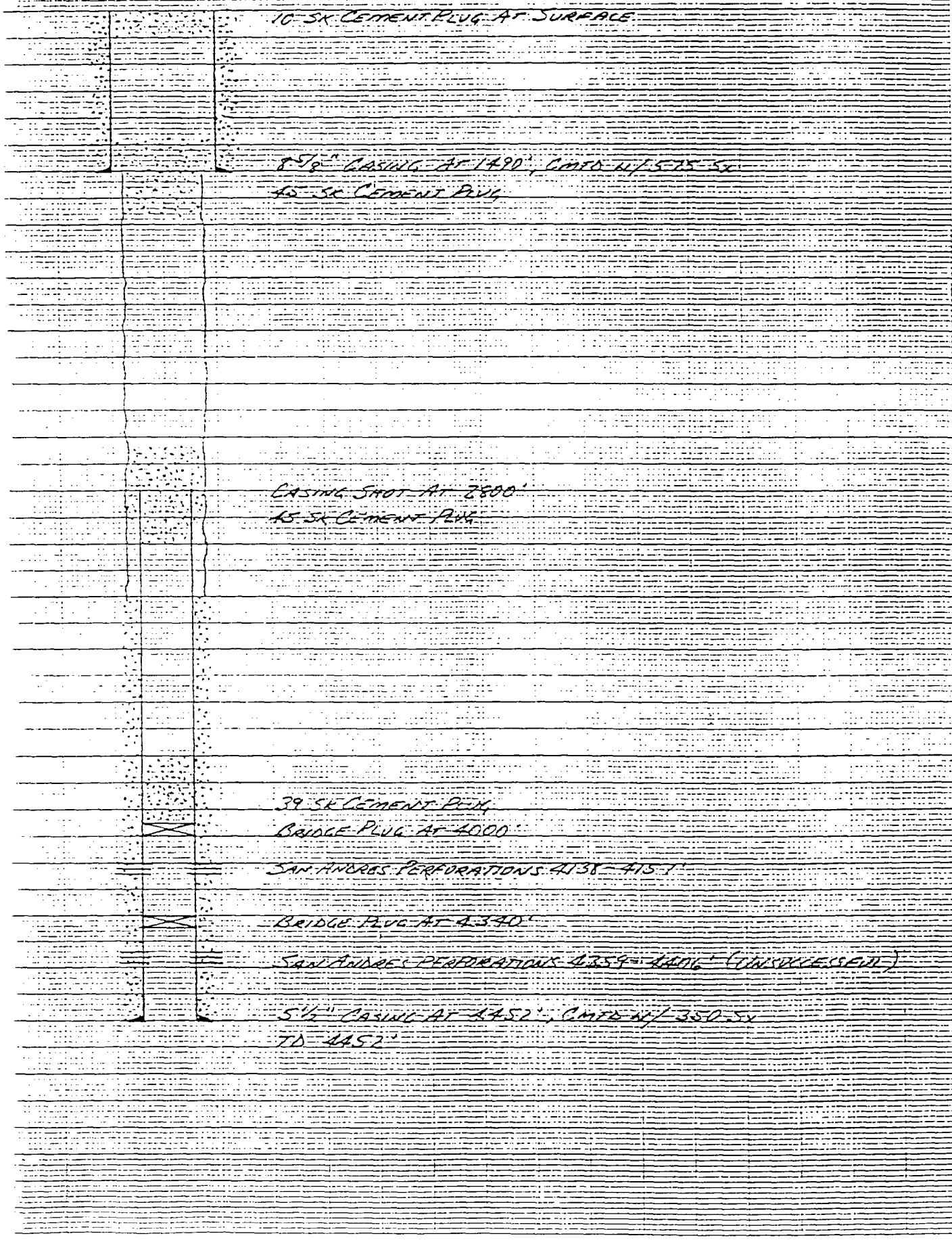
(PROPOSED) OXY USA STATE BN #5

1410' FSL, 1405' FWL, SEC. 14, T-10S, R-32E

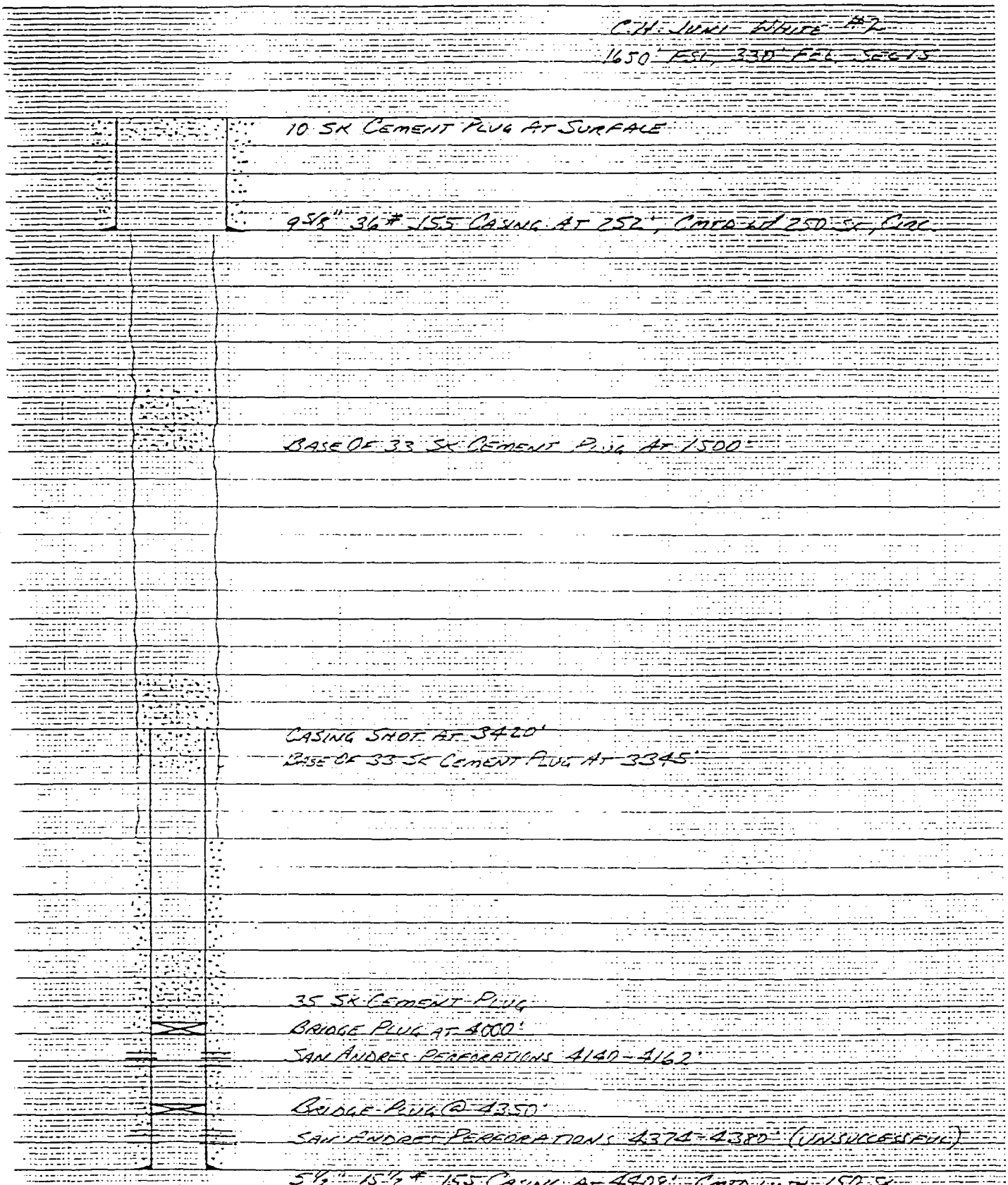


C.H. Jones White #1

965' FSL, 330' FEL, Sec 15



C.H. JUNI WHITE #2
1650 FSL, 330 FEL SEC 15



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. 9907

TO: Mr. Ed Pittinger
P. O. Box 50250, Midland, TX

SAMPLE RECEIVED 9-4-90
RESULTS REPORTED 9-7-90

COMPANY Oxy U.S.A. LEASE As Listed

FIELD OR POOL

SECTION ___ BLOCK ___ SURVEY ___ COUNTY Lea STATE NM

SOURCE OF SAMPLE AND DATE TAKEN:

NO. 1 Raw water-taken from water well West of State "AD" #2 Battery @ 10:00 a.m.

NO. 2 Raw water-taken from water well West of State "AD" #2 Battery @ 11:30 a.m.

NO. 3 Raw water-taken from windmill West of State "BL" Battery @ 10:15 a.m.

NO. 4 Raw water-taken from windmill North of State "BN" Battery @ 10:30 a.m.

REMARKS: 1 & 2 0.4 mi. W. of State "BN". 3 & 4 0.7 mile. Samples taken 8-29-90.

CHEMICAL AND PHYSICAL PROPERTIES	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.0020	1.0025	1.0026	1.0014
pH When Sampled				
pH When Received	7.08	7.45	7.17	7.44
Bicarbonate as HCO_3	112	112	117	62
Supersaturation as $CaCO_3$				
Undersaturation as $CaCO_3$				
Total Hardness as $CaCO_3$	400	410	495	300
Calcium as Ca	136	139	182	101
Magnesium as Mg	15	15	9	12
Sodium and/or Potassium	134	143	129	8
Sulfate as SO_4	295	297	297	176
Chloride as Cl	207	227	263	60
Iron as Fe	0.20	0.20	0.40	0.40
Barium as Ba				
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	899	935	998	418
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen,				
Hydrogen Sulfide	0.0	0.0	0.0	0.0
Resistivity, ohms/m at 77° F.	7.57	7.10	6.60	16.90
Suspended Oil				
Filtrable Solids as mg/l				
Volume Filtered, ml				
Nitrate, as N	3.2	2.6	11.3	1.2

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks

Form No. 3

By ___

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. 9907 (Page 2)

TO: Mr. Ed Pittinger
P. O. Box 50250, Midland, TX

SAMPLE RECEIVED 9-4-90

RESULTS REPORTED 9-7-90

COMPANY Oxy U.S.A. LEASE As Listed

FIELD OR POOL

SECTION ___ BLOCK ___ SURVEY ___ COUNTY Lea STATE NM

SOURCE OF SAMPLE AND DATE TAKEN:

NO. 1 Raw water-taken from windmill North of State "BN" Battery @ 11:00 a.m.

NO. 2

NO. 3

NO. 4

REMARKS: 0.7 mile. Sample taken 8-29-90.

CHEMICAL AND PHYSICAL PROPERTIES	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.0013			
pH When Sampled				
pH When Received	7.50			
Bicarbonate as HCO_3	59			
Supersaturation as $CaCO_3$				
Undersaturation as $CaCO_3$				
Total Hardness as $CaCO_3$	290			
Calcium as Ca	102			
Magnesium as Mg	8			
Sodium and/or Potassium	11			
Sulfate as SO_4	176			
Chloride as Cl	60			
Iron as Fe	0.40			
Barium as Ba				
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	416			
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen,				
Hydrogen Sulfide	0.0			
Resistivity, ohms/m at 77° F.	17.05			
Suspended Oil				
Filtrable Solids as mg/l				
Volume Filtered, ml				
Nitrate, as N	1.2			

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks The undersigned certifies the above to be true and correct to the best of his knowledge and belief.

Form No. 3

By W. Reagan White

W. Reagan White, B.S.

McCORMACK SILURIAN
Allowable 187 GOR Limit 2,000
No Test Required
Casinghead Gas Limit 374 MCF
USA INC.
McComack
11 A 32-21-37 M

McCORMACK SILURIAN, SOUTH
Allowable 187 GOR Limit 2,000
No Test Required
Casinghead Gas Limit 374 MCF
PETROLEUM INC.
State 5 D 22-22-37 7A

McDONALD DEVONIAN
Allowable 600 GOR Limit 2,000
No Test Required
Casinghead Gas Limit 1200 MCF
CO., HARVEY E.
ald Unit
2 D 3-14-36 M

McDONALD UPPER PENNSYLVANIAN
Allowable 320 GOR Limit 2,000
No Test Required
Casinghead Gas Limit 640 MCF
J. M. CORP.
lin 1 A 4-14-36 M

McDONALD PENNSYLVANIAN, WEST
Allowable 320 GOR Limit 2,000
Casinghead Gas Limit 640 MCF
S, HARVEY E. CO.
ardson Fee
(6) 3 D 5-14-36 M 2000

MEDICINE ROCK DEVONIAN
(80 Acre Spacing)
Allowable 490 No GOR Limit
No Gas Test Required
Casinghead Gas Limit 980 MCF
CO, INC.
o-Stone
(16) 1 G 22-15-38 M

MESA QUEEN ASSOCIATED
ing Oil - 40 Gas - 160
Allowable 80 GOR Limit 5,000
Gas Allowable MCFD
- 400 Gas - 1600
SA OPERATING CO.
17 State Com.
1 E 7-16-37 MCW AF 1.00

erflood Project)
ELL, RUSSELL
44
ous Allowable Formula:
25 X 80 = 2000
Queen Unit
3 A 16-16-32
7 F "
13 I 17-16-32
14 L 16-16-32
15 K 16-16-32
17 M 17-16-32
2 B 16-16-32 Input
6 E " "
9 N " "
11 K 17-16-32 "
18 N " "
20 P " "
25 N 16-16-32 "

WESTALL, RAY
Mesa Queen 7 State
" 1 P 7-16-32 MCW AF 1.00

MESCALERO CISCO, NORTH
Top Allowable 230 GOR Limit 4,500
Top Casinghead Gas Limit 1035 MCF
BISON PETROLEUM CORP.
State 11(5) 1 L 11-10-32 M 3111

MESCALERO ESCARPE BONE SPRING
Top Allowable 230 GOR Limit 2,000
Top Casinghead Gas Limit 460 MCF
BISON PETROLEUM CORP.
Cavineas 10 Federal
" (31) 2 O 10-18-33 M 2516

CHEVRON USA INC.
Cockburn G Federal
/" (26) 1 L 10-18-33 M 462
Lea XA State
" (50) 1 L 7-18-34 M 2160
" (28) 2 M " *207 1571
Acreage factor .900
*Acreage Factor Limits
" (39) 3 K 7-18-34 M 1128
" (12) 4 N " M 1083

ECHO PRODUCTION, INC.
Texaco 14 Federal
" (190) 1 C 14-18-33 M 421

MARATHON OIL CO.
State R-744-15
" (22) 1 I 15-18-33 M 1364

MERIDIAN OIL INC.
Cavineas Federal
" (91) 1 K 11-18-33 M 714
" (25) 2 N " M 1120
" (122) 3 M 11-18-33 M 1122
" (86) 4 F 11-18-33 M 558
" (235) 5Y P 10-18-33 N230 779
" (57) 6 C 11-18-33 M 719

ORYX ENERGY COMPANY
Mescalero Ridge Federal
" (142) 1 B 13-18-33 M 1655
" (15) 3 A " M 6467
Mescalero Ridge B Federal
" (4) 1 C 13-18-33 M TSTM
" (4) 2 D 13-18-33 M TSTM
Mescalero Ridge C Federal
" (26) 1 D 18-18-34 *207 423
Acreage factor .900
*Acreage Factor Limits
Mescalero Ridge D Federal
" (41) 1 B 14-18-33 M 3512

OXY USA INC.
Federal AB
" (35) 1 H 11-18-33 M 1714
" (23) 2 I " M 1956
" (101) 3 J 11-18-33 M 1960
" (16) 4 P " M 1937
" (55) 5 G 11-18-33 M 1963
" (18) 6 B 11-18-33 M 1944
" (35) 7 O 11-18-33 M 1942
State DW(44) 1 J 12-18-33 M 1522
" (30) 2 K " M 2166

MESCALERO ESCARPE BONE SPRING CONT'D
OXY USA INC. CONT'D
State DW(73) 6 I 12-18-33 M 1602
" (45) 8 O " M 1622
" (34) 9 L " M 1088
" (60) 10 N " M 1600
" (10) 11 M 12-18-33 M 1000

TEXACO INC.
M.T.Keohane Federal
" (204) 3 D 14-18-33 M 898

YATES, HARVEY E. COMPANY
Cal-Mon 15 State
" (124) 1 B 15-18-33 M 903
" (126) 2 C 15-18-33 M 714
Cavineas 10 Federal
" (263) 1 I 10-18-33 N230 1084
" (232) 3 H 10-18-33 N230 1086
/" 4 A 10-18-33 PA
Cavineas 11 Federal
" (259) 1 L 11-18-33 N230 1189
" (246) 2 E " N230 796
" (62) 3 D 11-18-33 M 855
Corbin 15 Federal
" (44) 1 E 15-18-33 M 932
Sheldon 15 Federal
" (56) 1 A 15-18-33 M 1125

MESCALERO PERMO PENN
Top Allowable 230 GOR Limit 2,000
No Test Required
Top Casinghead Gas Limit 460 MCF
OXY USA INC.
State AD 11 O 22-10-32 M

TIPPERARY PETROLEUM CO.
N.M. B 2 A 27-10-32 M

MESCALERO SAN ANDRES
Top Allowable 80 GOR Limit 2,000
No Test Required
Top Casinghead Gas Limit 160 MCF
BOBCO INTERNATIONAL INC.
New Mexico E State
" 1 D 26-10-32 M
/" 2 E " No C-115
/" 3 C " "
/" 4 F " "
/" 5 D 26-10-32 No C-115

HEADINGTON OIL CO.
Harris State
" 1 K 23-10-32 M
" 2 N 23-10-32 M
" 3Y J " M
" 4 O " M

KERR-McGEE CORP.
Sunray St.
" 1 M 11-10-32 M
" 2 L " M

MILFORD OIL CO.
State 1 I 10-10-32 M
Suzanne State
" 1 I 27-10-32 M

MONARCH CORPORATION
White A State
" 2 A 15-10-32 M

OXY USA INC.
Lane 1 C 14-10-32 M
State AD 3 P 22-10-32 M
" 9 G 23-10-32 M
" 10 B " M
State BL 1 E 14-10-32 M
" 2 D " M
" 3 F " M
State BN 1 K 14-10-32 M
" 2 M " M
" 3 L " M
" 4 N " M

PENROC OIL CORP.
State 11-23
" 1 D 23-10-32 M
" 2 E " M
" 3 L 23-10-32 M
" 4 C " M
" 5 M 23-10-32 M
" 6 F " M

TIPPERARY PETROLEUM CO.
N.M. B 4 G 27-10-32 M
" 6 A " M
" 7 H 27-10-32 M
" 8 B " M
New Mexico X
" 1 P 10-10-32 M
State BB 1 B 14-10-32 M
" 2 J " M
" 3 G 14-10-32 M
" 4 O " M

TIPTON, DWIGHT A.
N.M. A State
" 1 E 11-10-32 M
" 2 E " M

TXO PRODUCTION CORP.
N.M. St. 1 N 11-10-32 M

MIDWAY ABO
Top Allowable 230 GOR Limit 2,000
No Test Required
Top Casinghead Gas Limit 460 MCF
BTA OIL PRODUCERS
Midway 8408 JV-P
" 1 G 13-17-36 N230
" 3 I 13-17-36 M
" 4 D 13-17-36 M
Midway B, 8408 JV-P
" 1 F 13-17-36 M

COLUMBUS ENERGY CORP.
Shipp A 1 G 17-17-37 M
" 3 D " M
So.Un.St. 1 D 16-17-37 M

CRUMP PETROLEUM CORP.
New Mexico DE State
" 1 F 18-17-37 M

LOVELADY, IKE INC.
Haas State 1 P 9-17-37 M

McNEELY, LUTHER
Lea KN St. 1 A 17-17-37 M
" 2 B " M

PENROC OIL CORP.
Lov. 16 St. 1 C 16-17-37 M

14. Wic-Mc Oil Corp. White State #1 Type: D+A

Location: 1972' FNL, 660' FEL, Sec 15, R-10S, T-32E, Lea Co

Date Drilled: 1/23/63 Depth: 4473'

Construction: 8 5/8" 24# Casing At 360', Cement Circulated

4 1/2" 9.5# Casing At 4471', Cemented With

200 Sx

Completion: Unsuccessful San Andres Test

15. JFG Enterprises Mescalero PU State #1 Type: D+A

Location: 330' FSL, 330' FEL, Sec 15, R-10S, T-32E, Lea Co

Date Drilled: 5/4/83 Depth: 4404'

Construction: 8 5/8" 23# Casing At 1595', Cement Circulated

4 1/2" 11.6# Casing At 4300', Cemented With

200 Sx

Completion: San Andres Perforations 4074-4204

Unsuccessful Test

BEFORE EXAMINER STOGNER

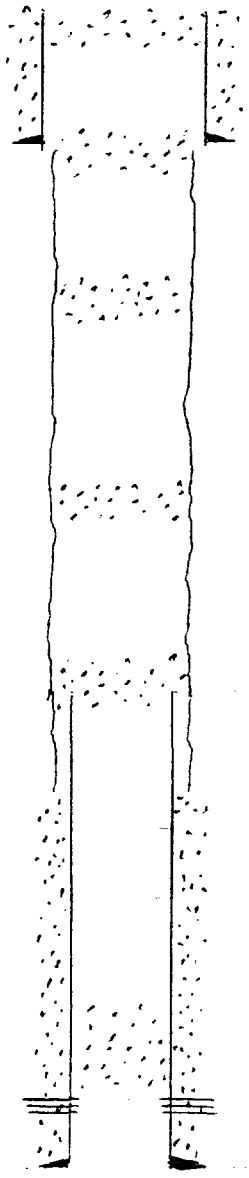
OIL CONSERVATION DIVISION

CXY EXHIBIT NO. 6

CASE NO. 10140

1

WIL-MC OIL CORP
WHITE STATE #1
1972' FNL, 660' FEL, SEC 15



10 SK CEMENT PLUG AT SURFACE

8 5/8" 24# J55 CASING AT 360'; CMTD W/225 SX, CIRC
25 SK CEMENT PLUG AT 370'

25 SK CEMENT PLUG AT 1600'

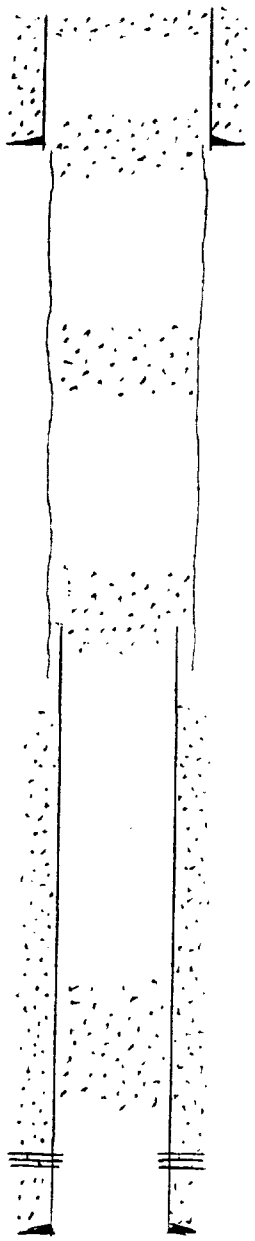
25 SK CEMENT PLUG AT 2150'

25 SK CEMENT PLUG AT 3498'
CASING SHOT AT 3498'

25 SK CEMENT PLUG AT 4200'

SAN ANDRES PERFORATIONS
4 1/2" 9.5# J55 CASING AT 4471', CMTD W/200 SX
TD 4473'

JFG ENTERPRISES
MESCALERO PU STATE #1
330' FSL, 330' FEL, SEC 15



5 SK CEMENT PLUG AT SURFACE

8 5/8" 23# CASING AT 1595', CMTD W/ 800 SX, CIRC

60 SK CEMENT PLUG 1600-1430'

50 SK CEMENT PLUG AT 2300'

30 SK CEMENT PLUG AT 2650-2510'
CASING SHOT AT 2650'

60 SK CEMENT PLUG 4177-3927'

SAN ANDRES PERFORATIONS 4074-4204

4 1/2" 11.6# J55 CASING AT 4300', CMTD W/ 200 SX
TD 4404'

MEMORANDUM

OCCIDENTAL OIL AND GAS

October 24, 1990

TO: Charles Oney

FROM: Ed Pittinger EP

SUBJECT: Mescalero San Andres Water Compatibilities

In preparation for a waterflood pilot in the Mescalero field, operations requested that water compatibilities be performed on the produced water and proposed fresh make-up water. Samples were taken from each source and mixed at three ratios: 20:80, 50:50 and 80:20. Analyses were run on each individual water prior to mixing and observations and analyses were made on the different mixes. Copies of these reports from Dickey Labs are attached.

As can be seen on the mixed water analysis that some slight precipitation occurred in the 50:50 and 80:20 mixtures after 24 hour agitation. Filtration shows that precipitation also occurred in the 20:80 mixture.

Computer scaling tendencies were run on the two waters using the individual analyses. The results, attached, show that the waters will have a tendency to form calcium carbonate scale when mixed at ratios higher than 25:75 produced to fresh. This is shown graphically by the measured Ca being lower than the theoretical Ca calculations. However, the lab results show scale formation at 20:80 ratio. It would therefore be safe to say these waters will form scale at nearly any ratio.

Another concern regarding the proposed waterflood is the bacteria and corrosion results of high oxygen concentrations in the fresh water. Oxygen measurements were not taken when the samples were collected. However, the fresh water in this area is known to have upwards of 6 ppm of oxygen from the formation. It is recommended that definite design and treating criteria be followed during the installation of this project.

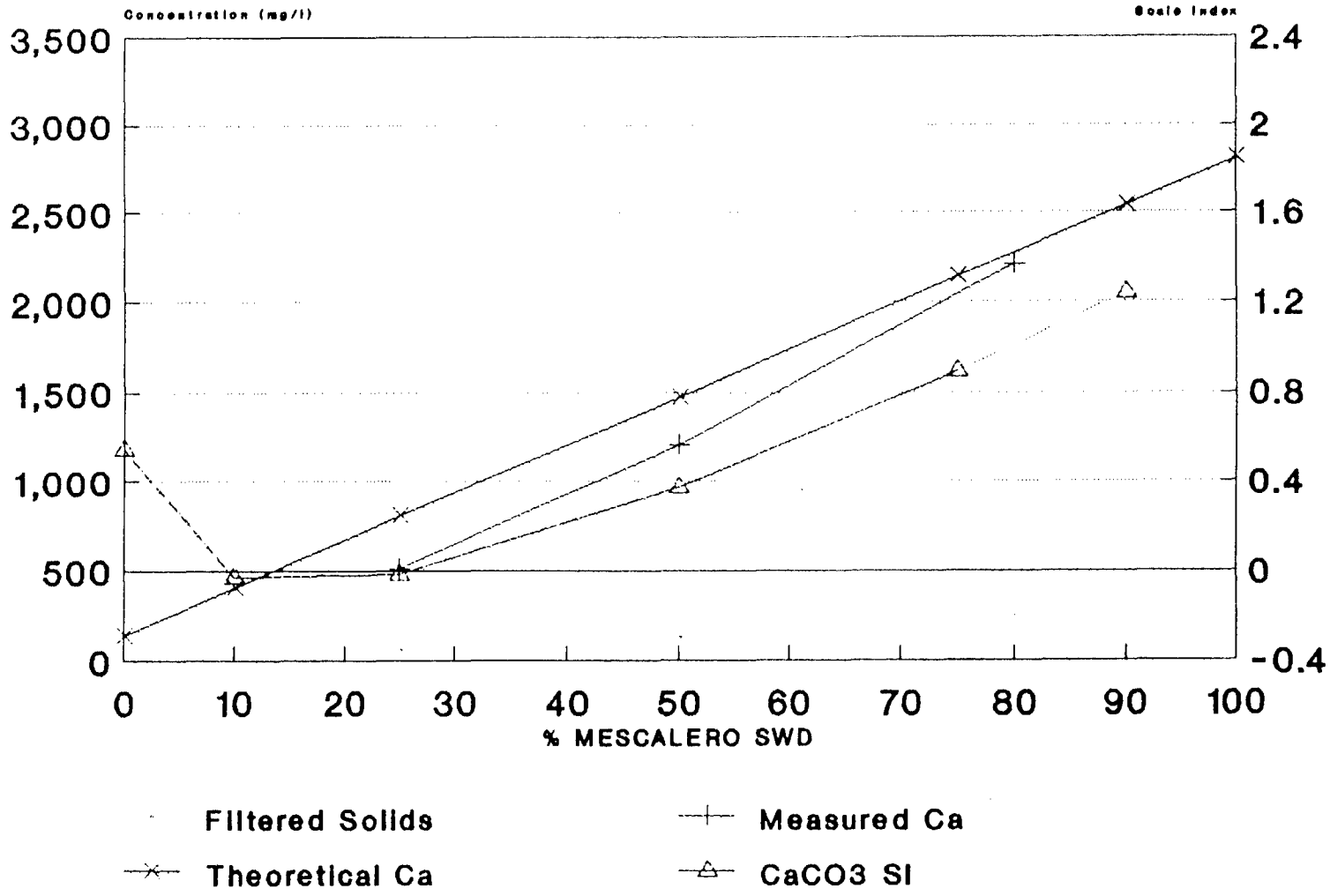
A large percentage of the injection water will be fresh so a separate fresh water tank will need to be installed. This will allow for the necessary time needed to scavenge the oxygen before mixing with the produced for injection. A gas blanket system will be necessary for both the fresh water tank and suction or mix tank. This will eliminate the introduction of oxygen back into the water. A chemical injection point will need to be incorporated into the fresh water well surface equipment for the oxygen scavenger.

In addition, since the produced water will need to be treated with a scale inhibitor, an injection point will be needed on the production side. Depending on the arrangement of the facilities, this point may be at the water dump of a FWKO or the inlet to a produced water tank. These determinations may be made when further information is known about the system.

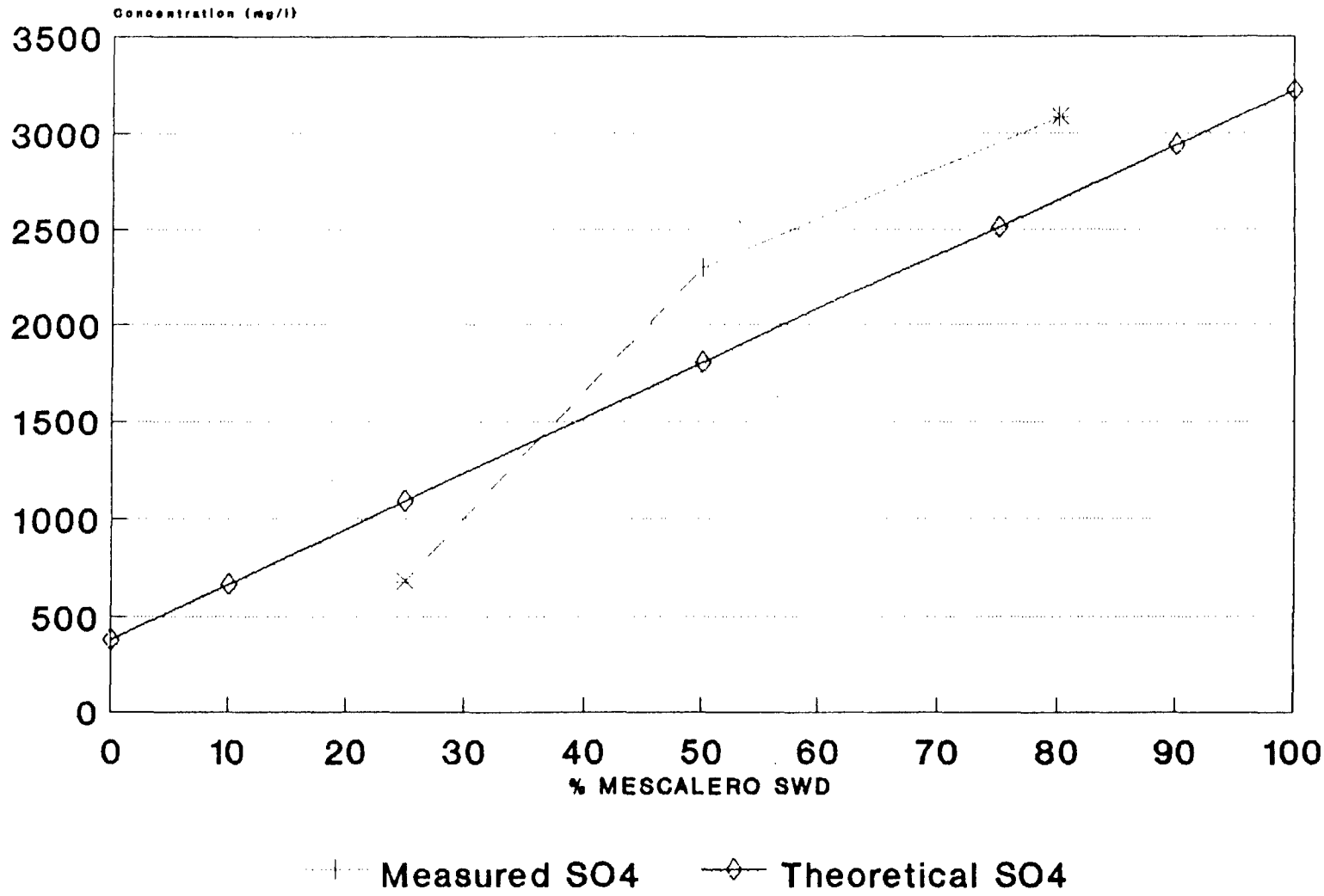
As the planning stages continue on this project, further work will be done to selection inhibitors and scavengers for treatment of the waters.

ejp
mesclro

MESCALERO WATER COMPATIBILITY



MESCALERO WATER COMPATIBILITY



Dickey
Analytical Laboratory, Inc.

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

OXY U.S.A., INC.
MESCALERO SWD

OCTOBER 15, 1990
REFERENCE NUMBER: 10351

DISSOLVED SOLIDS		
CATIONS	MG/L	ME/L
SODIUM, Na (calc.)	92857	4037
CALCIUM, Ca	2807	140
MAGNESIUM, Mg	1458	120
ANIONS		
CHLORIDE, Cl	149810	4225
SULFATE, SO4	3220	67
CARBONATE, CO3	0	0
BICARBONATE, HCO3	342	6
TOTAL DISSOLVED SOLIDS (calc.)	250494	
IRON, (DISSOLVED)	<1	
SULFIDE, as H2S	PRESENT	
OTHER PROPERTIES		
pH	7.4	
SPECIFIC GRAVITY, 60/60 F.	1.172	
RESISTIVITY (ohm-meters) 75 F.	.042	
HARDNESS, mg/L CACO3	13013	

R.S. DICKEY
DICKEY ANALYTICAL LABORATORY, INC.

Dickey
Analytical Laboratory, Inc.

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

OXY U.S.A., INC.
WINDMILL NORTH OF STATE BL

OCTOBER 15, 1990
REFERENCE NUMBER: 10352

DISSOLVED SOLIDS		
CATIONS	MG/L	ME/L
SODIUM, Na (calc.)	254	11
CALCIUM, Ca	136	7
MAGNESIUM, Mg	24	2
ANIONS		
CHLORIDE, Cl	245	7
SULFATE, SO4	380	8
CARBONATE, CO3	0	0
BICARBONATE, HCO3	305	5

TOTAL DISSOLVED SOLIDS (calc.)	1345
IRON, (DISSOLVED)	<1
SULFIDE, as H2S	NONE DETECTED

OTHER PROPERTIES

pH	7.5
SPECIFIC GRAVITY, 60/60 F.	1.015
RESISTIVITY (ohm-meters) 75 F.	5.4
HARDNESS, mg/L CACO3	441

R.S. DICKEY
DICKEY ANALYTICAL LABORATORY, INC.

Dickey
Analytical Laboratory, Inc.

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

OCTOBER 15, 1990
REFERENCE NUMBER: 10351 AND 10352

COMPATABILITY TEST OF MESCALERO SWD:WINDMILL NORTH OF STATE BL

MESCALERO:WINDMILL RATIOS	INITIAL MIXTURE TURBIDITY	INITIAL MIXTURE PRECIPITATION	AFTER 24 hr AGITATION TURBIDITY	AFTER 24 hr AGITATION PRECIPITATION
20:80	N/D	N/D	N/D	N/D
50:50	N/D	N/D	N/D	SLIGHT
80:20	N/D	N/D	N/D	SLIGHT

MESCALERO:WINDMILL RATIOS	FILTERED SOLIDS	FILTRATE ANALYSIS CALCIUM	SULFATE	IRON
20:80	58 mg/l	509 mg/l	680 mg/l	<1 mg/l
50:50	132 mg/l	1203 mg/l	2300 mg/l	<1 mg/l
80:20	248 mg/l	2206 mg/l	3080 mg/l	<1 mg/l

R.S. DICKEY
DICKEY ANALYTICAL LABORATORY, INC.

WATER COMPATIBILITY CALCULATIONS

FIELD NAME:Mescalero

WATER A :SWD
SAMPLE NO:1

WATER B :Windmill
SAMPLE NO:1

ION(mg/L)	100%A	90%A	75%A	50%A	25%A	10%A	100%B
Na	92857	83597	69706	46556	23405	9514	254
Ca	2807	2540	2139	1472	804	403	136
Mg	1458	1315	1100	741	383	167	24
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	149810	134854	112419	75028	37636	15202	245
SO4	3220	2936	2510	1800	1090	664	380
CO3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HCO3	342.0	338.3	332.8	323.5	314.3	308.7	305.0
TDS	250494	225579	188207	125919	63632	26259	1344
pH	7.40	7.40	7.40	7.40	7.50	7.50	7.50
SG	1.172	1.156	1.133	1.094	1.054	1.031	1.015
I(molar)	4.47	4.03	3.36	2.25	1.14	0.47	0.03

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	70	15			*****	*******		70	15	*****	*****	**********	
90	70	15			*****	*******		70	15	*****	*****	**********	
75	70	15	0	****	.89	163.8	****	70	15	7.42	.89	163.8	*****
50	70	15	0	****	.37	99.9	****	70	15	7.45	.37	99.9	*****
25	70	15	0	****	-.02	-5.1	****	70	15	7.47	-.02	-5.1	*****
10	70	15	0	****	-.03	-7.2	****	70	15	7.49	-.03	-7.2	*****
0	70	15	0	****	.54	64.8	****	70	15	7.5	.54	64.8	*****

SULFATE SCALE CALCULATIONS

			[---CaSO4---]		[---BaSO4---]		[---SrSO4---]	
%A	TF	Psia	SR	PTB	SR	PTB	SR	PTB
100	70	15	.9	-145.1	*****	*******	*****	*******
90	70	15	.7	-433	*****	*******	*****	*******
75	70	15	.5	-821.3	*****	*******	*****	*******
50	70	15	.2	-1286.5	*****	*******	*****	*******
25	70	15	.1	-1383	*****	*******	*****	*******
10	70	15	.1	-1104.5	*****	*******	*****	*******
0	70	15	.1	-453.3 .	*****	*******	*****	*******

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

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

IN THE MATTER OF THE APPLICATION
OF OXY USA, INC. FOR A
WATERFLOOD PROJECT,
LEA COUNTY, NEW MEXICO CASE NO. 10140

CERTIFICATE OF MAILING

AND

COMPLIANCE WITH ORDER R-8054

In Accordance with Division Rule 1207 (Order R-8054) I hereby certify that on October 10, 1990 I caused to be mailed by certified mail return-receipt requested notice of this hearing and a copy of the Application for the above referenced case along with the cover letter, at least twenty days prior to the hearing set for October 31, 1990, to the parties shown in the Application as evidenced by the attached copies of return receipt cards.

W. Thomas Kellahin

SUBSCRIBED AND SWORN to before me this 29 day of October, 1990.

Notary Public

My Commission Expires:
7-6-91

OXY 8
10140

SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.
Put your address in the "RETURN TO" Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.
1. ☐ Show to whom delivered, date, and addressee's address. *(Extra charge)* 2. ☐ Restricted Delivery *(Extra charge)*

3. Article Addressed to:
Tipperary Corp.
P.O. Box 3179
Midland, TX 79702

Re:OXY BN #5 Waterflood
(WTK)

4. Article Number
P 438 025 439

Type of Service:
☐ Registered ☐ Insured
XX Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature — Addressee
X

6. Signature — Agent
X J. Braun

7. Date of Delivery
10/16

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

PS Form 3811, Apr. 1989 ★U.S.G.P.O. 1989-238-815 DOMESTIC RETURN RECEIPT

SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.
Put your address in the "RETURN TO" Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.
1. ☐ Show to whom delivered, date, and addressee's address. *(Extra charge)* 2. ☐ Restricted Delivery *(Extra charge)*

3. Article Addressed to:
Mobil Producing Texas & NM, Inc.
P.O. Box 633
Midland, TX 79702

Re:OXY State BN #5 Waterflood
(WTK)

4. Article Number
P 438 025 440

Type of Service:
☐ Registered ☐ Insured
XX Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature — Addressee
X

6. Signature — Agent
X James Boggs

7. Date of Delivery
OCT 15 1990

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

PS Form 3811, Apr. 1989 ★U.S.G.P.O. 1989-238-815 DOMESTIC RETURN RECEIPT

SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.
Put your address in the "RETURN TO" Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.
1. ☐ Show to whom delivered, date, and addressee's address. *(Extra charge)* 2. ☐ Restricted Delivery *(Extra charge)*

3. Article Addressed to:
Yates Petroleum Corp.
105 South 4th
Artesia, NM 88210

Re: OXY State BN #5 Waterflood
(WTK)
RECEIVED OCT 15 1990

4. Article Number
P 438 025 441

Type of Service:
☐ Registered ☐ Insured
XX Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature — Addressee
X

6. Signature — Agent
X Mike Bund

7. Date of Delivery
10-12-90

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

PS Form 3811, Apr. 1989 ★U.S.G.P.O. 1989-238-815 DOMESTIC RETURN RECEIPT

SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.
Put your address in the "RETURN TO" Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.
1. ☐ Show to whom delivered, date, and addressee's address. *(Extra charge)* 2. ☐ Restricted Delivery *(Extra charge)*

3. Article Addressed to:
Penrock Oil Corp.
P.O. Box 5970
Hobbs, NM 88240

Re: OXY State BN #5 Waterflood (WTK)

4. Article Number
P 438 025 442

Type of Service:
☐ Registered ☐ Insured
XX ☐ Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature – Addressee
X

6. Signature – Agent
X Bill R. Kincaid

7. Date of Delivery
10-15-90

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

RECEIVED OCT 16 1990

PS Form 3811, Apr. 1989 ★U.S.G.P.O. 1989-238-815 DOMESTIC RETURN RECEIPT

SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.
Put your address in the "RETURN TO" Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.
1. ☐ Show to whom delivered, date, and addressee's address. *(Extra charge)* 2. ☐ Restricted Delivery *(Extra charge)*

3. Article Addressed to:
Oil and Gas Division
State Land Office
P.O. Box 1148
Santa Fe, NM 87504-1148

Re: OXY State BN #5 Waterflood (WTK)

RECEIVED OCT 15 1990

4. Article Number
P 438 025 443

Type of Service:
☐ Registered ☐ Insured
XX ☐ Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature – Addressee
X Mike L.

6. Signature – Agent
X

7. Date of Delivery

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

OCT 17 1990

PS Form 3811, Apr. 1989 ★U.S.G.P.O. 1989-238-815 DOMESTIC RETURN RECEIPT

NEW MEXICO OIL CONSERVATION COMMISSION

Santa Fe, New Mexico

(Form C-104, Revised 7/1/57)

REQUEST FOR (OIL) - (GAS) ALLOWABLE

New Well / Recompletion

This form is to be submitted by the operator before an original allowable will be assigned to any completed Oil or Gas well. Form C-104 is to be submitted in QUADRUPLICATE to the proper District Office to which Form C-101 was sent. The allowable will be assigned effective 7:00 A.M. on date of completion or recompletion, provided this form is filed during calendar month of completion or recompletion. The completion date shall be that date in the case of an oil well when new oil is delivered into the tank. Gas must be reported on 15.025 psia at 60° Fahrenheit.

Hobbs, New Mexico (Place) 10-29-64 (Date)

WE ARE HEREBY REQUESTING AN ALLOWABLE FOR A WELL KNOWN AS:

Continental Oil Company (Company or Operator) State [illegible]-23 (Lease), Well No. 4, Unit Ltr. E, NE ¼ NW ¼,

Sec. 23, T. 10-S, R. 32-E, NMPM., Mescalero San Andres Pool

Unit Letter

Please indicate location:

D	C	B	A
E	F	G	H
L	K	J	I
M	N	O	P

660' FNL & 1980' FWL (Footage)

Elevation 4325 GR. Total Depth 4425 PBTD -

Date Spudded 10-14-64 Date Drilling Completed 10-26-64

Name of Producing Formation San Andres

Producing Interval 4109' - 4213'

Perforations 4111, 4127, 4147, 4155, 4168, 4182, 4189 & 4211 W/1 JSPF

Open Hole None Depth Casing Shoe 4425' Depth Tubing 4111'

OIL WELL TEST -

Natural Prod. Test: bbls.oil, bbls water in hrs, min. Size

Test After Acid or Fracture Treatment (after recovery of volume of oil equal to volume of load oil used): 81 bbls.oil, 0 bbls water in 10 hrs, 0 min. Size -

GAS WELL TEST -

Natural Prod. Test: MCF/Day; Hours Flowed Choke Size

Method of Testing (pitot, back pressure, etc.):

Test After Acid or Fracture Treatment: MCF/Day; Hours Flowed

Choke Size Method of Testing:

Acid or Fracture Treatment (Give amounts of materials used, such as acid, water, oil, and sand): Acidized w/5000 gals ISTNE acid using ten ball sealers

Casing Press. PKR Tubing Press. Date first new oil run to tanks 10-29-64

Oil Transporter Permian Corporation (truck)

Gas Transporter Vented temporarily until transporter can be obtained.

Remarks

Size	Feet	Sax
7 5/8	3514	500
4 1/2	4425	310'
2 3/8	4211	

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

Approved [illegible], 19

OIL CONSERVATION COMMISSION

By:

Title Engineer District I

Continental Oil Company (Company or Operator)

By: Robert Foulkes III (Signature)

Title Staff Supervisor

Send Communications regarding well to:

Name Continental Oil Company

Address Box 460, Hobbs, New Mexico

NMOCC (5)

ILLEGIBLE

NEW MEXICO OIL CONSERVATION COMMISSION

Socony Mobil Oil Co., Inc. (Company) — #4 (Well No.) — State "BB" (Lease) — 14-10-32 (S-T-R)

Location: 990 fr. S — 2310 fr. E

County: Lea

Field: Mescalero

Spud: 2/2/66 — Comp.: 2/17/66

Total Depth: 4500 — P.B.: 4460 — Top Pay: 4137

Pmpd 67 BO + 18 BW in 24 hrs. — Press: T.

Cor. 270 — Gr. 16

CSG. RECORD

Size	Depth	Sax
8-5/8	1613	600
4½	4500	300

Perf @ 4137, 41, 56, 60, 62, 75, 77, 78, 87, 89, 93, 4336, 43, 52, 55, 83, 4406, 08, 11, 13, 50, 59' w/1 SPI

AC (4335-4459') 1500 gals.

AC (4137-93') 1500 gals.

Treatments

FORMATION RECORD

Elev.

Log tops	
Anhy	1595
Yates	2225
Qbr.	3225
SA	3458

T. — T. — Gr.

Form — ARTESIA ...

ILLEGIBLE