STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE NEW MEXICO 87504

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: Meridian Oil, Inc.
Address: P.O. Box 51810, Midland, TX 79710-1810
Contact Party: Donna Williams Phone: 915-688-6943

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/1 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 text data on the well. (If well logs have been filed with the Division they need not be submitted.)

* 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: Chet A. Babin, P.E. Title: Reservoir Engineer

Signature: _____ Date: Dec 7, 1994

If the information required under Section 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

BEFORE THE
OIL CONSERVATION DIVISION
Case No. 11207/11208 Exhibit No. 10
Submitted By:
MERIDIAN OIL, INC.
Hearing Date: February 16, 1995

III. **Proposed Injection Well Data**

Items 3A and 3B for each injection well are provided in tabular and schematic form on the following pages. Note that there are two schematics for the three existing wells illustrating the "current" wellbore configuration and the "proposed" wellbore configuration.

INJECTION WELL DATA SHEET

Meridian Oil Inc.	State "16"			
OPERATOR	LEASE			
4	548' FSL & 760' FWL	16	T18S	R33E
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE

Lea County, NM
COUNTY, STATE

Schematic

see attached drawings

Tubular Data

Surface Casing
Size 13 3/8 Cemented with 375
TOC surface feet determined by circulation
Hole size 17 1/2

Intermediate Casing
Size 8 5/8" Cemented with 1475 sx
TOC surface feet determined by circulation
Hole size 12¼"

Long String
Size 5½" Cemented with 846/1172
TOC surface feet determined by circulation
Hole size 7 7/8"
Total Depth 11,460'

Injection Interval

5,190 feet to 5,250 feet
Perforated with 2 JSPF

EXHIBIT "A"

INJECTION WELL DATA SHEET

Tubing size 2 3/8" lined with plastic coated (material) set in a Guiberson G-6 (brand and model) packer at 5,160' feet
(or describe any other casing-tubing seal).

OTHER DATA

1. Name of the injection formation Delaware

2. Name of Field or Pool (if applicable) Current: West Corbin Delaware
Proposed: East Corbin Delaware Unit

3. Is this a new well drilled for injection? _____ YES X NO

If no, for what purpose was the well originally drilled? Wolfcamp oil

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).

11,388' - 11,406', 11,188' - 11,238' and 10,886' - 10,902' with CIBP set @ 10,850' capped with 35' of cement.
9,870' - 9,876', 9,890' - 9,904', 9,908' - 9,918' and 9,936' - 9,946' with CIBP set @ 9,840'.
9,010' - 9,028', 9,034' - 9,044' and 9,090' - 9,100' with CIBP set @ 8,980'.
7,326' - 7,334' and 7,345' - 7,353' with CIBP set @ 7,240'.
See wellbore sketches of current and proposed configuration of well.

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

Yates-Seven Rivers-Queen at an approximate producing zone depth of 4,300 feet.
First Bone Spring carbonate at an approximate top of 6,900 feet.

EXHIBIT "A"

FIELD: WEST CORBIN

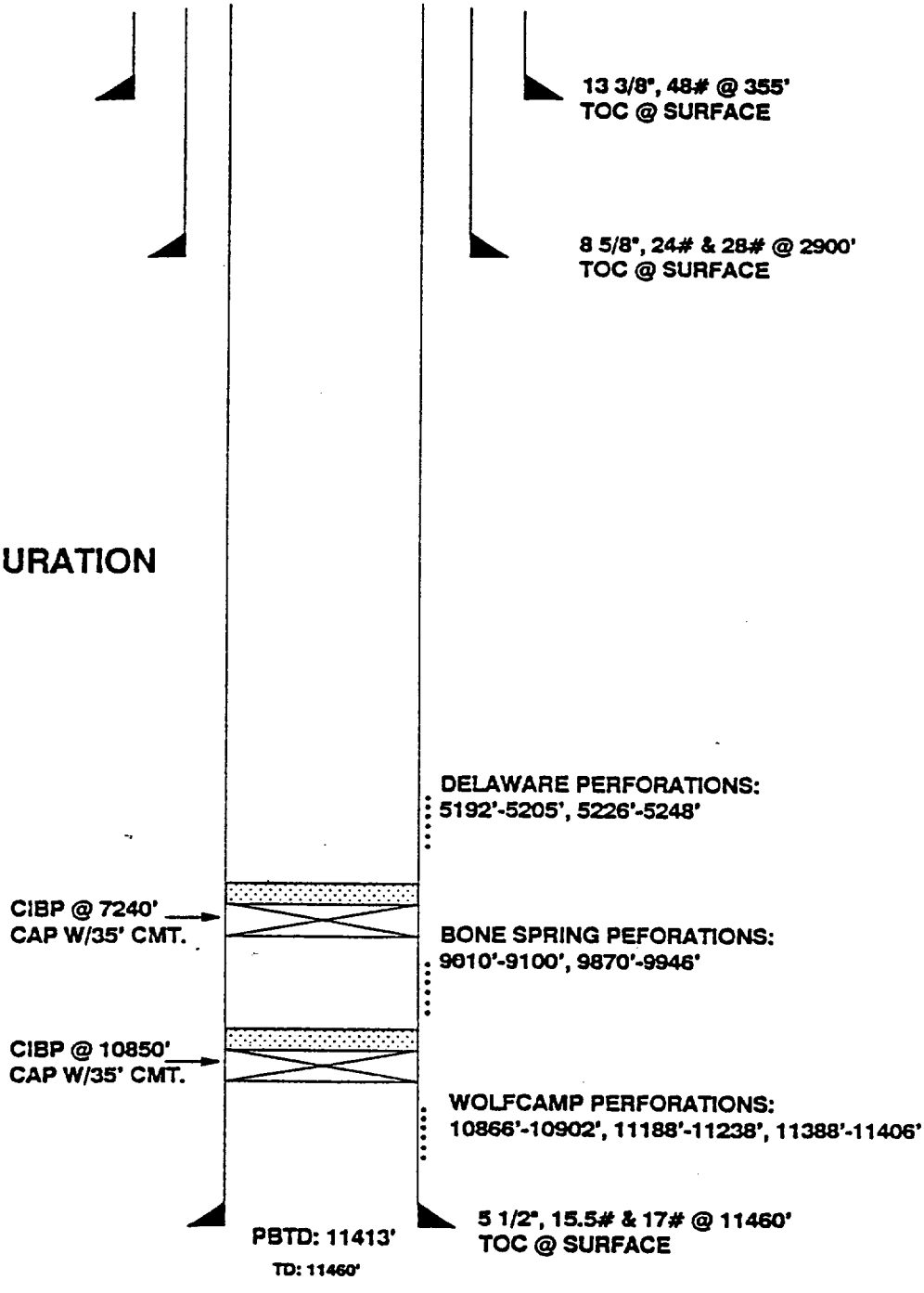
LEASE: STATE 16 WELL NO. 4

LOCATION: 548' FSL & 760' FWL, SEC. 16, T18S, R33E
LEA COUNTY, NEW MEXICO

DATE SPUD: 10/05/89 COMP: 10/07/89

ELEVATION: 3864' K.B./3851' G.L.

PRESENT CONFIGURATION



STAT16#4.DRW

EXHIBIT "A"

FIELD: WEST CORBIN

DATE SPUD: 10/05/89 COMP: 10/07/89

LEASE: STATE 16 WELL NO. 4

ELEVATION: 3864' K.B./3851' G.L.

LOCATION: 548' FSL & 760' FWL, SEC. 16, T18S, R33E

LEA COUNTY, NEW MEXICO

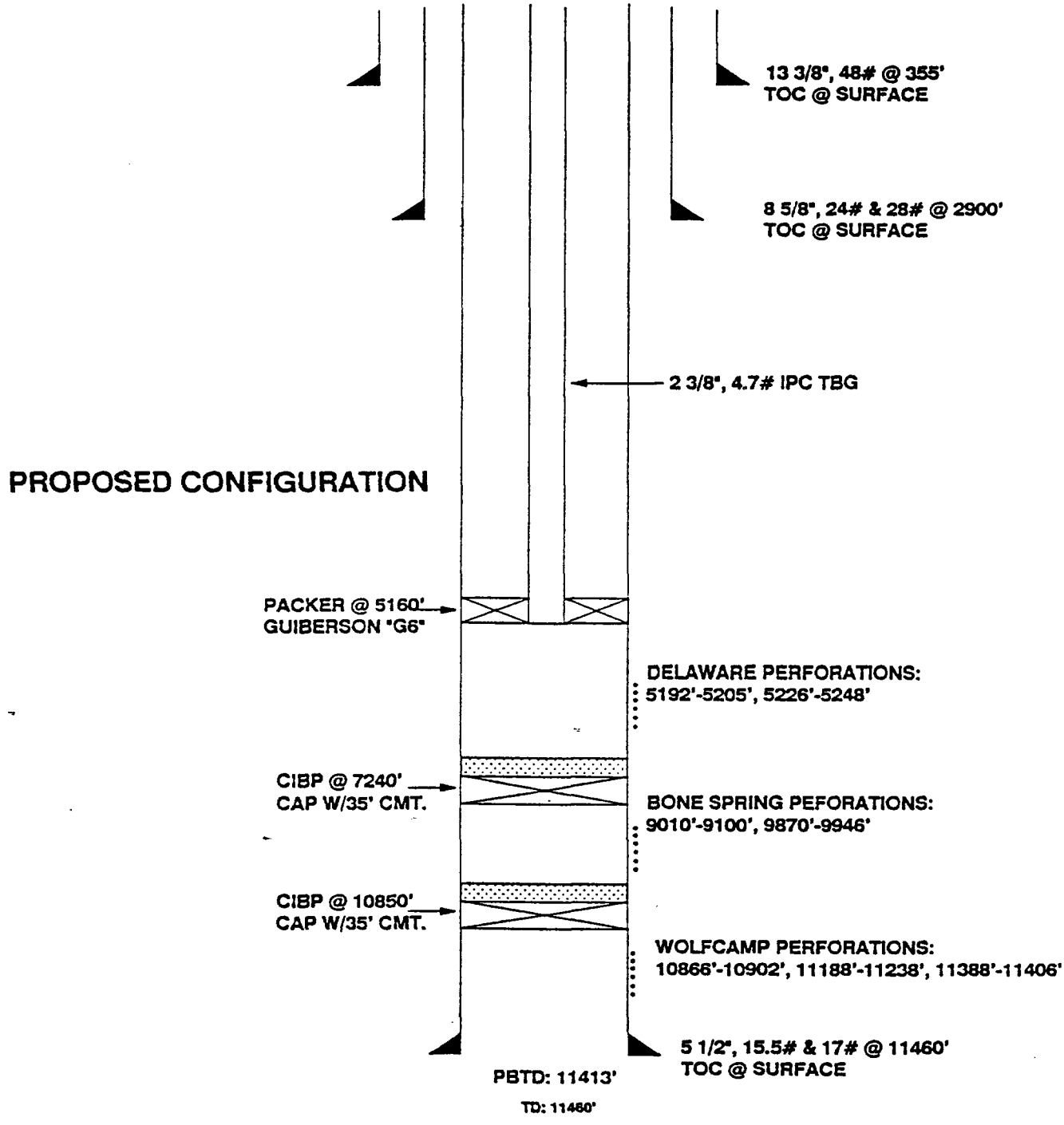


EXHIBIT "A"

ST16#4.DRW

INJECTION WELL DATA SHEET

Meridian Oil Inc.		State "16"		
OPERATOR		LEASE		
8	660' FSL & 460' FEL	16	T18S	R33E
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE

Lea County, NM
COUNTY, STATE

Schematic

see attached drawings

Tubular Data

Surface Casing

Size 8 5/8" Cemented with 405

TOC surface feet determined circulation

Hole size 12 1/4 by

Intermediate Casing

Size - Cemented with -

TOC - feet determined -

Hole size - by

Long String

Size 5½" Cemented with 1536 sx

TOC surface feet determined circulation

Hole size 7 7/8" by

Total Depth 5,500'

Injection Interval

5,200 feet to 5,262 feet

Perforated with 2 JSPF

EXHIBIT "B"

INJECTION WELL DATA SHEET

Tubing size 2 3/8" lined with plastic coated (material) set in a Guiberson G-6 (brand and model) packer at 5175' feet
(or describe any other casing-tubing seal).

OTHER DATA

1. Name of the injection formation Delaware

2. Name of Field or Pool (if applicable) Current: West Corbin Delaware
Proposed: East Corbin Delaware Unit

3. Is this a new well drilled for injection? _____ YES __X__ NO

If no, for what purpose was the well originally drilled? Delaware oil

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).

Well has not been perforated in any other zones. See wellbore schematics for the current and proposed configuration of well.

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

Yates-Seven Rivers-Queen at an approximate producing zone depth of 4,300 feet.
First Bone Spring carbonate at an approximate top of 6,900 feet.

FIELD: WEST CORBIN

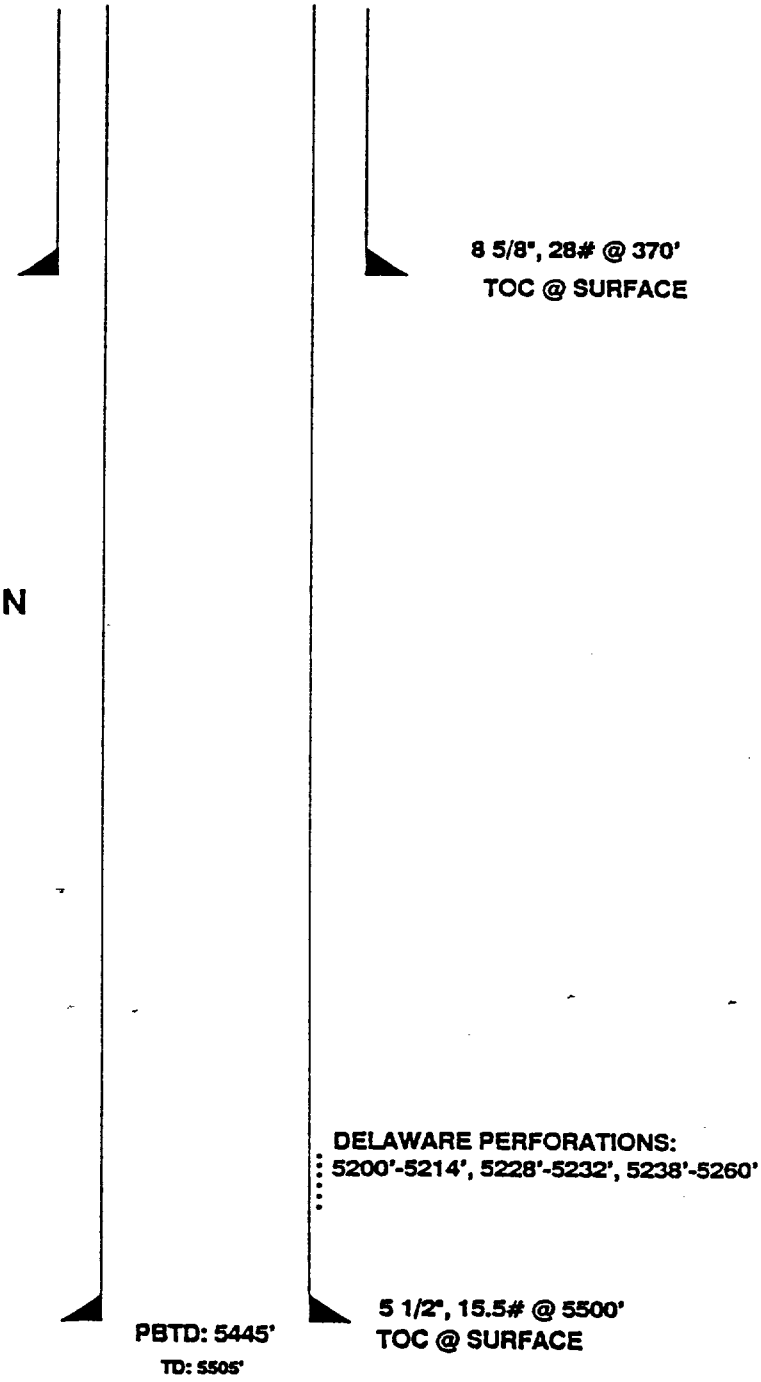
DATE SPUD: 02/23/91 COMP: 03/19/91

LEASE: STATE 16 WELL NO. 8

ELEVATION: 3882' K.B./3866' G.L.

LOCATION: 460' FEL & 660' FSL, SEC. 16, T18S, R33E

LEA COUNTY, NEW MEXICO



PRESENT CONFIGURATION

STAT16#8.DRW

EXHIBIT "B"

FIELD: WEST CORBIN

LEASE: STATE 16 WELL NO. 8

LOCATION: 460' FEL & 660' FSL, SEC. 16, T18S, R33E
LEA COUNTY, NEW MEXICO

DATE SPUD: 02/23/91 COMP: 03/19/91

ELEVATION: 3882' K.B./3866' G.L.

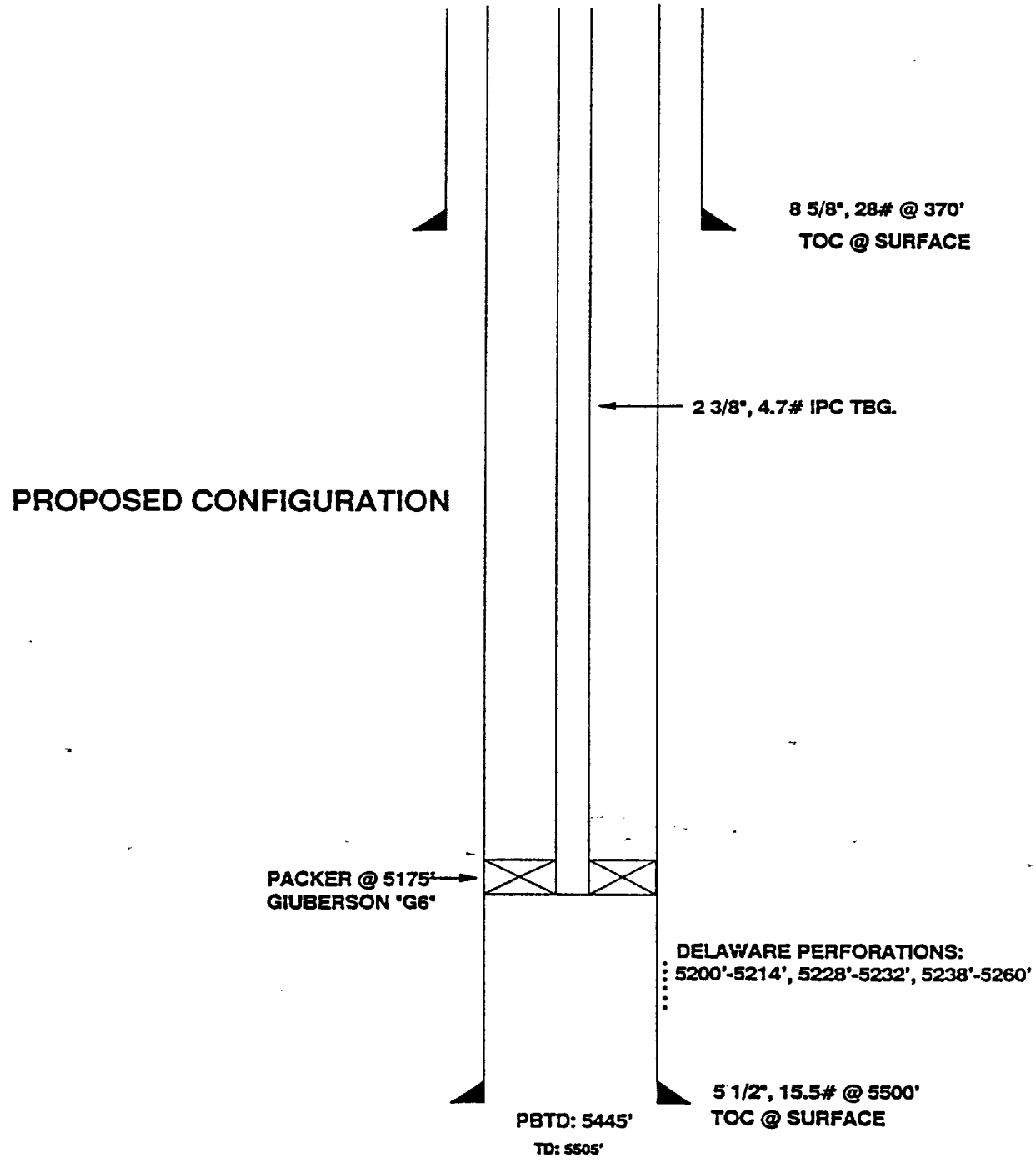


EXHIBIT "B"

Page 4 of 4

ST16#8.DRW

INJECTION WELL DATA SHEET

Southland Royalty Company		Federal "21"		
OPERATOR		LEASE		
4	779' FNL & 1943' FWL	21	T18S	R33E
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE

Lea County, NM
COUNTY, STATE

Schematic

see attached drawings

Tubular Data

Surface Casing

Size 8 5/8" Cemented with 200 sx
TOC surface feet determined circulation
Hole size 12 1/4 by

Intermediate Casing

Size - Cemented with -
TOC - feet determined -
Hole size - by

Long String

Size 5½" Cemented with 900 sx
TOC surface feet determined circulation
Hole size 7 7/8" by
Total Depth 5,500'

Injection Interval

5,190 feet to 5,250 feet
Perforated with 2 JSPF

EXHIBIT "C"

INJECTION WELL DATA SHEET

Tubing size 2 3/8" lined with plastic coated (material) set in a Guiberson G-6 (brand and model) packer at 5,125' feet
(or describe any other casing-tubing seal).

OTHER DATA

1. Name of the injection formation Delaware

2. Name of Field or Pool (if applicable) Current: West Corbin Delaware
Proposed: East Corbin Delaware Unit

3. Is this a new well drilled for injection? _____ YES X NO

If no, for what purpose was the well originally drilled? Delaware oil

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).

Well has not been perforated in any other zones. See wellbore schematics for the current and proposed configuration of well.

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

Yates-Seven Rivers-Queen at an approximate producing zone depth of 4,300 feet.
First Bone Spring carbonate at an approximate top of 6,900 feet.

FIELD: WEST CORBIN

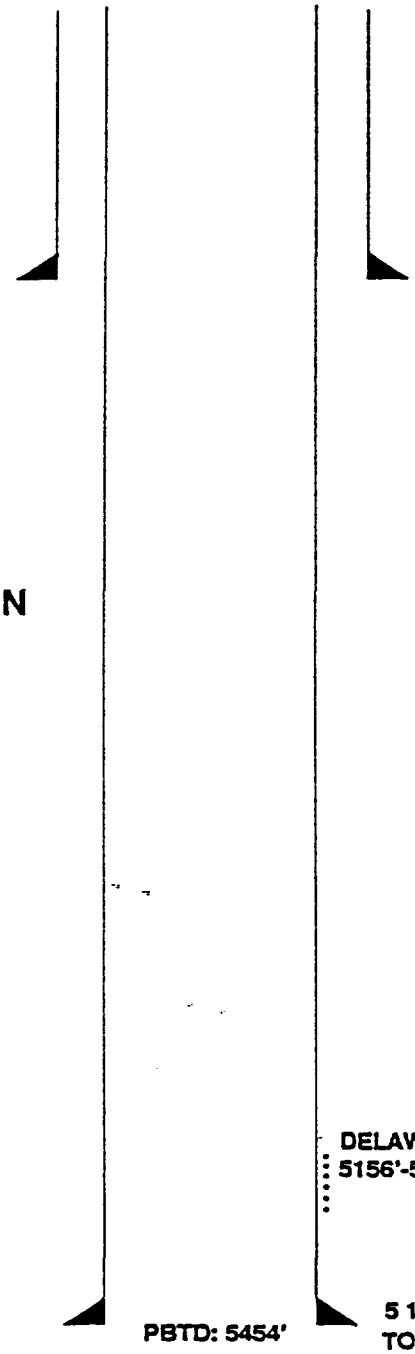
DATE SPUD: 12/01/89 COMP: 01/05/90

LEASE: FEDERAL 21 WELL NO. 4

ELEVATION: 3862' K.B./3846 G.L.

LOCATION: 779 FNL & 1943 FWL, SEC 21, T18S, R33E

LEA COUNTY, NEW MEXICO



PRESENT CONFIGURATION

EXHIBIT "C"

FED21#4.DRW

FIELD: WEST CORBIN

LEASE: FEDERAL 21 WELL NO. 4

LOCATION: 779 FNL & 1943' FWL, SEC 21, T18S, R33E
LEA COUNTY, NEW MEXICO

DATE SPUD: 12/01/89 COMP: 01/05/90

ELEVATION: 3862' K.B./3846' G.L.

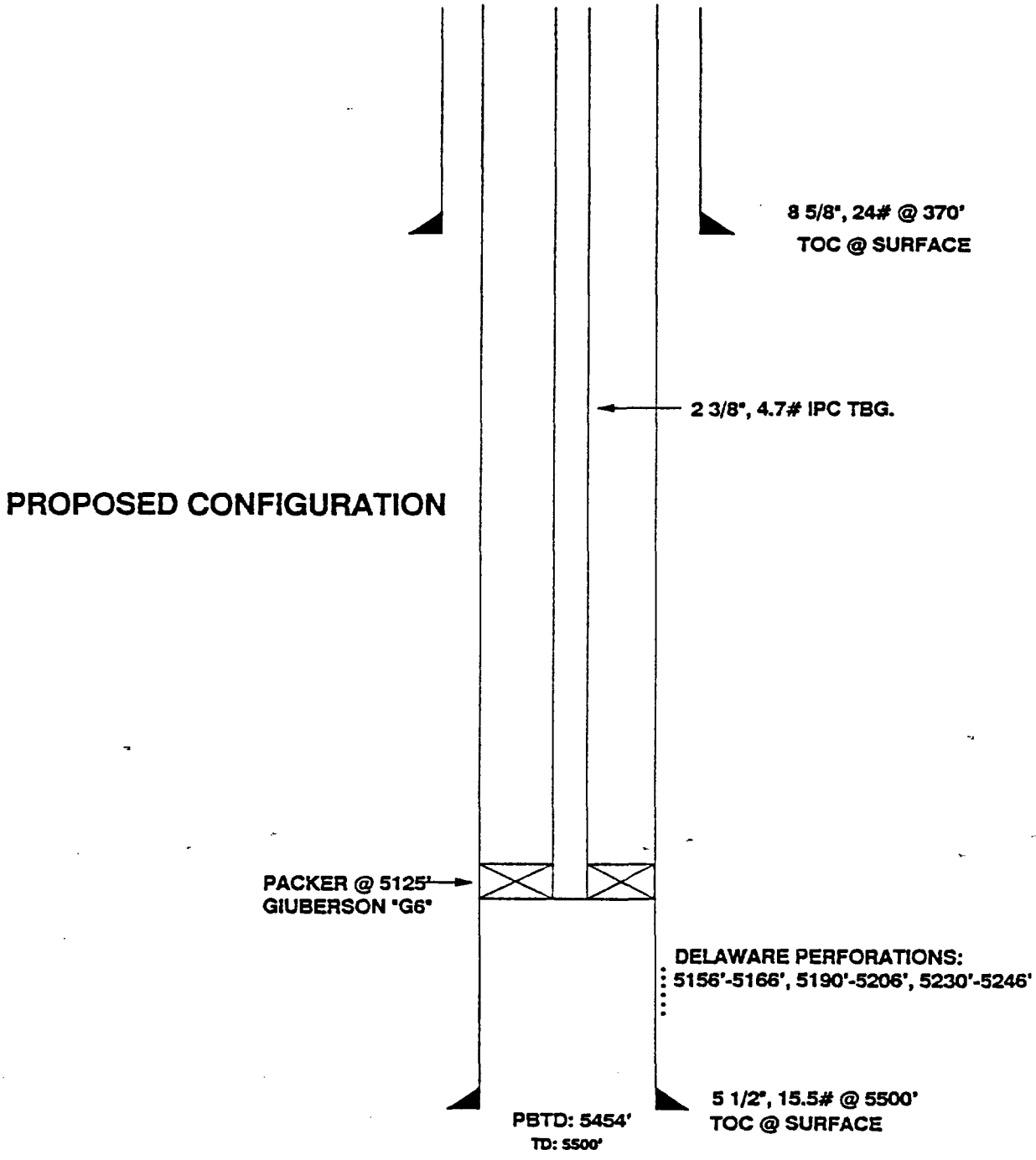


EXHIBIT "C"

P21#4.DRW

INJECTION WELL DATA SHEET

Meridian Oil Inc.		Federal "MA"		
OPERATOR		LEASE		
11	779' FNL & 1943' FWL	21	T18S	R33E
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE

Lea County, NM
COUNTY, STATE

Schematic

see attached drawings

Tubular Data

Surface Casing

Size 8 5/8" Cemented to surface
TOC surface feet determined by circulation
Hole size 12 1/4

Intermediate Casing

Size - Cemented with -
TOC - feet determined by -
Hole size -

Long String

Size 5½" Cemented to surface
TOC surface feet determined by circulation
Hole size 7 7/8"
Total Depth 5,500'

Approximate Injection Interval

5,200 feet to 5,270 feet
Perforated with 2 JSPF

EXHIBIT "D"

INJECTION WELL DATA SHEET

Tubing size 2 3/8" lined with plastic coated (material) set in a Guiberson G-6 (brand and model) packer at 5,125' feet
(or describe any other casing-tubing seal).

OTHER DATA

1. Name of the injection formation Delaware

2. Name of Field or Pool (if applicable) Current: West Corbin Delaware
Proposed: East Corbin Delaware Unit

3. Is this a new well drilled for injection? X YES _____ NO

If no, for what purpose was the well originally drilled? n/a

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).

This is a proposed drill well. See wellbore sketches of proposed configuration of well.

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

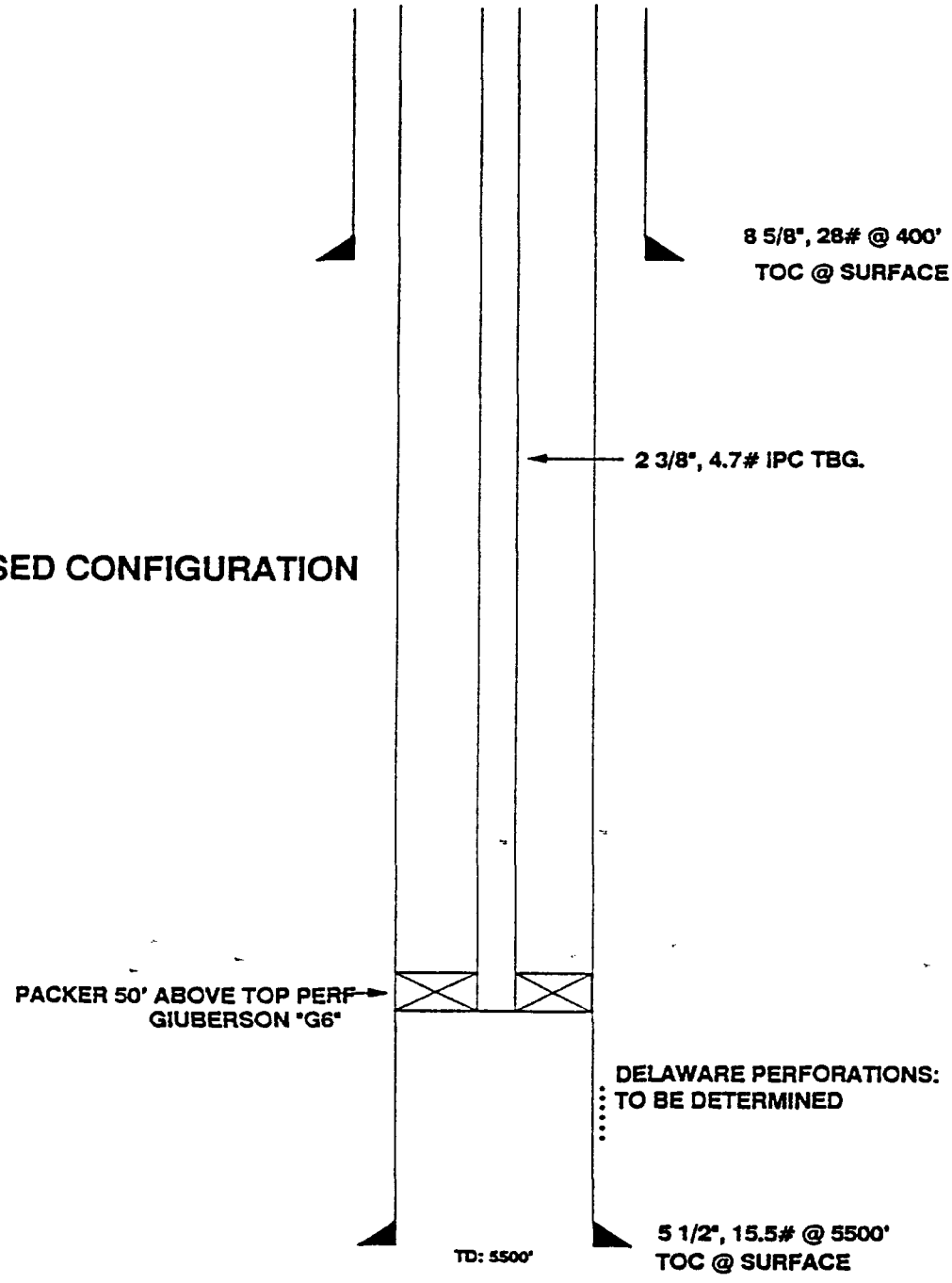
Yates-Seven Rivers-Queen at an approximate producing zone depth of 4,300 feet.
First Bone Spring carbonate at an approximate top of 6,900 feet.

FIELD: WEST CORBIN DATE SPUD: N/A COMP: N/A

LEASE: FEDERAL MA WELL NO. 11 ELEVATION: APPROX. 3855'

LOCATION: 990' FEL & 1320' FNL, SEC 21, T18S, R33E

LEA COUNTY, NEW MEXICO



PROPOSED CONFIGURATION

FEDMA#11.DRW

EXHIBIT "D"

101

IV. This is <u>not</u> an expansion of an existing Meridian Oil, Incorporated project.

V. **Area of Review**

Two maps are provided for each proposed injection well for a total of 8 maps. "Exhibit E" maps have a scaled, two-mile radius circle drawn around each proposed injection well that identifies all wells and leases within two miles. "Exhibit F" maps have a scaled, one-half mile radius circle drawn around each proposed injection well that identifies each well's area of review. The following notation was used for the four injection wells:

WELL	EXHIBIT E DESIGNATION	EXHIBIT F DESIGNATION
State "16" #4	EXHIBIT E-1	EXHIBIT F-1
State "16" #8	EXHIBIT E-2	EXHIBIT F-2
Fed. "21" #4	EXHIBIT E-3	EXHIBIT F-3
Federal MA #11	EXHIBIT E-4	EXHIBIT F-4

VI. **Data for Wells in Area of Review**

All wells of public record within the "area of review" that penetrate the proposed Delaware injection zone are tabulated on the following pages (listed in order by section number, unit letter and well number). In addition to the tabulated data, there is a wellbore schematic illustrating the details of the only well in the area of review - penetrating the injection zone - that is plugged (Exhibit G).

BTA Oil Producers, Corbin 675 LTD #1
Unit L, Section 15, T18S-R33E, Lea Co., NM.
D & A well.
Spud 10/11/67, TD = 13,500'.
13 3/8 @ 381' w/350 sx,
9 5/8 @ 5,065' w/900 sx.
50 sx cmt 13,050' - 13,200',
25 sx cmt 12,125' - 12,200',
25 sx cmt 10,125' - 10,200',
25 sx cmt 7,225' - 7,300',
25 sx cmt 5,625' - 5,700',
25 sx cmt 5,005' - 5,080',
35 sx cmt 1,550' - 1,650',
35 sx cmt 345' - 395',
10 sx cmt to surface.
Plugged 12/20/67.

Meridian Oil Inc., Percha "15" Federal COM #3
Unit L, Section 15, T18S-R33E, Lea Co., NM .
Shut-in well.
Spud 7/23/92, TD = 11,550' .
13 3/8 @ 420' w/425 sx, surface,
8 5/8 @ 2,955' w/1,250 sx, circulated,
5 1/2 @ 11,550' w/1950 sx,
TOC @ 1,300', determined by Cement Bond Log.
Perforated 11,147' - 11,376'.
Completed 8/21/92.

Meridian Oil Inc., Percha State "15" #1
Unit M, Section 15, T18S-R33E, Lea Co., NM.
Oil well.
Spud 6/13/91, TD = 5,491'.
8 5/8 @ 432' w/300 sx,
5 1/2 @ 5,491' w/1,400 sx, TOC @ surface, circulated.
Perforated 5,100' - 5,266'.
Completed 7/14/91.

Meridian Oil Inc., Percha State "15" #2Y
Unit N, Section 15, T18S-R33E, Lea Co., NM.
Oil well.
Spud 9/1/91, TD = 11,590'.
13 3/8 @ 436' w/425 sx,
8 5/8 @ 2,904' w/1350 sx,
5 1/2 @ 11,590' w/1590 sx,
TOC @ 3,245, determined by Cement Bond Log.
Perforated 10,918' - 11,434'.
Not completed.
CIBP @ 10,870'.
Perforated 9,912' - 9,940'.
Completed 12/3/91.

Meridian Oil Inc., State "16" #1
Unit J, Section 16, T18S-R33E, Lea Co., NM.
Oil well.
Spud 2/27/87, TD = 12,500'.
13 3/8 @ 372' w/350 sx, circulated,
9 5/8 @ 3,000' w/1,300 sx, circulated,
5 1/2 @ 12,500' w/2815 sx, TOC @ 2,075' determined by Temperature Survey.
Perforated 11,231' - 11,303'.
Completed 4/15/87.
OWWO
Perforated 11,036' - 11,082'.
Completed 4/26/88.

Meridian Oil Inc., State "16" #3
Unit L, Section 16, T18S-R33E, Lea Co., NM.
Shut-in well.
Spud 10/22/88, TD = 11,450'.
13 3/8 @ 358' w/350 sx, surface,
8 5/8 @ 2,900' w/1,300 sx, surface,
5 1/2 @ 11,450' w/1,460 sx, TOC @ 3,275' determined by Cement Bond Log.
Perforated 11,008' - 11,042'.
Completed 12/8/88.
OWWO
CIBP @ 10,500' w/cmt plug @ 10,465' - 10,500' w/35 sx.
Perforated 7,999' - 9,550'.
Completed 4/4/89.
OWWO
CIBP @ 7,250' w/cmt plug @ 7,215' - 7,250' w/35 sx.
Perforated 5,218' - 5,246'.
Completed 1/24/91.

Meridian Oil Inc., State "16" #4
Unit M, Section 16, T18S-R33E, Lea Co., NM.
Oil well.
Spud 10/5/89, TD = 11,460'.
13 3/8 @ 355' w/90 sx, circulated,
9 5/8 @ 2,900' w/1,225 sx, circulated,
5 1/2 @ 11,460' w/1,675 sx, circulated.
Perforated 11,388' - 11,406'.
Not completed.
CIBP @ 11,345'.
Perforated 10,886' - 11,238'.
Completed 8/3/89.
OWWO
CIBP @ 10,850' w/cmt plug @ 10,815' - 10,850' w/35 sx.
Perforated 9,870' - 9,946'.
Not completed.
CIBP @ 9,840'.
Perforated 9,010' - 9,100'.
Not completed.
CIBP @ 8,980'.
Perforated 7,326' - 7,353'.
Not completed.
CIBP @ 7,280'.
Perforated 5,192' - 5,248'.
Completed 10/7/89.

Meridian Oil Inc., State "16" #2
Unit N, Section 16, T18S-R33E, Lea Co., NM.
Oil well.
Spud 4/16/88, TD = 13,651'.
13 3/8 @ 350' w/370 sx, circulated,
9 5/8 @ 2,910' w/1,085 sx,
5 1/2 @ 13,640' w/1,940 sx, TOC @ 2,914' determined by Cement Bond Log.
Perforated 13,363' - 13,369'.
Not completed.
CIBP @ 13,300' w/cmt plug @ 13,365' - 13,300' w/35 sx.
Perforated 11,400' - 11,434'.
Completed 7/10/88.

Meridian Oil Inc., State "16" #5
Unit N, Section 16, T18S-R33E, Lea Co., NM.
Oil well.
Spud 11/29/88, TD = 5,450'.
8 5/8 @ 350' w/250 sx, circulated,
5 1/2 @ 5,450' w/1,200 sx, circulated TOC.
Perforated 5,184' - 5,544'.
Completed 1/20/89.

Meridian Oil Inc., State "16" #6
Unit O, Section 16, T18S-R33E, Lea Co., NM.
Oil well.
Spud 8/11/90, TD = 5,510'.
8 5/8 @ 461' w/325 sx, circulated,
5 1/2 @ 5,510' w/1,000 sx, circulated.
Perforated 5,097' - 5,245'.
Completed 10/28/90.

Meridian Oil Inc., State "16" #7
Unit P, Section 16, T18S-R33E, Lea Co., NM.
Oil well.
Spud 11/3/90, TD = 11,550'.
13 3/8 @ 391' w/400 sx, circulated,
8 5/8 @ 2,928' w/1,400 sx, circulated,
5 1/2 @ 11,550' w/2,120 sx, TOC @ 4,900' determined by Cement Bond Log.
Perforated 11,204' - 11,264'.
Completed 12/20/90.

Meridian Oil Inc., State "16" #8
Unit P, Section 16, T18S-R33E, Lea Co., NM.
Oil well.
Spud 2/23/91, TD = 5,505'.
8 5/8 @ 370' w/405 sx, circulated,
5 1/2 @ 5,500' w/1,530 sx, circulated.
Perforated 5,200' - 5,260'.
Completed 3/24/91.

Southland Royalty Company, Federal MA #7
Unit A, Section 21, T18S-R33E, Lea Co., NM.
Oil well.
Spud 8/21/90, TD = 5,500'.
8 5/8 @ 400' w/325 sx,
5 1/2 @ 5,495' w/2,100 sx.
Perforated 5,148' - 5,264'.
Completed 9/23/90.

Southland Royalty Company, Federal MA #4
Unit B, Section 21, T18S-R33E, Lea Co., NM.
Oil well.
Spud 5/16/89, TD = 11,511'.
13 3/8 @ 370' w/300 sx,
8 5/8 @ 2,900' w/1500 sx,
5 1/2 @ 11,511' w/2,435 sx,
TOC @ surface, circulated.
Perforated 10,948' - 11,442'.
Completed 8/3/89.

Southland Royalty Company, Federal MA #6
Unit B, Section 21, T18S-R33E, Lea Co., NM.
Oil well.
Spud 12/17/89, TD = 5,500'.
8 5/8 @ 370' w/250 sx,
5 1/2 @ 5,500' w/1,035 sx.
Perforated 5,140' - 5,252'.
Completed 1/12/90.

Southland Royalty Company, Federal "21" #4
Unit C, Section 21, T18S-R33E, Lea Co., NM.
Shut-in oil well.
Spud 12/1/89, TD = 5,500'.
8 5/8 @ 362' w/250 sx,
5 1/2 @ 5,500' w/1,150 sx,
TOC @ 1,620' determined by Cement Bond Log.
Perforated 5,156' - 5,246'.
Completed 1/5/90.

Southland Royalty Company, Federal "21" #3
Unit F, Section 21, T18S-R33E, Lea Co., NM.
Oil well.
Spud 12/31/89, TD = 11,538'.
13 3/8 @ 351' w/370 sx,
8 5/8 @ 2,903' w/1,250 sx,
5 1/2 @ 11,538' w/1,510 sx,
TOC @ 2,900' determined by Cement Bond Log.
Perforated 11,103' - 11,378'.
Completed 2/13/90.

Southland Royalty Company, Federal MA #10
Unit G, Section 21, T18S-R33E, Lea Co., NM.
Oil well.
Spud 9/7/93, TD = 11,527'.
13 3/8 @ 406' w/425 sx, surface,
8 5/8 @ 3,037' w/1,250 sx, circulated,
5 1/2 @ 11,452' w/2,225 sx,
TOC @ 3,068', determined by Temperature Survey.
Perforated 11,154' - 11,260'.
Not completed.
CIBP @ 11,100' w/cmt plug @ 11,065' - 11,100' w/35 sx.
Perforated 10,400' - 10,418'.
Not completed.
CIBP @ 10,350' w/cmt plug @ 10,315' - 10,350' w/35 sx.
Perforated 7,384' - 7,421'.
Completed 10/25/93.

Southland Royalty Company, Federal MA #8
Unit H, Section 21, T18S-R33E, Lea Co., NM.
Oil well.
Spud 1/16/92, TD = 11,540'.
13 3/8 @ 416' w/425 sx,
8 5/8 @ 2,928' w/1,350 sx,
5 1/2 @ 11,540' w/2,175 sx,
TOC @ 1,812' determined by Cement Bond Log.
Perforated 11,150' - 11,242'.
Completed 2/24/92.

Southland Royalty Company, Federal MA #2
Unit I, Section 21, T18S-R33E, Lea Co., NM.
Oil well.
Spud 4/24/67, TD = 13,461'.
13 3/8 @ 350' w/300 sx,
8 5/8 @ 4,984' w/1,100 sx,
5 1/2 @ 13,461' w/1000 sx,
TOC @ 4,850' determined by Temperature Survey.
Dual completion:
Perforated 13,218' - 13,424'.
Perforated 11,052' - 11,217'.
Completed 8/4/67.
OWWO
CIBP @ 12,850' w/cmt plug @ 12,815' - 12,850' w/35 sx.
Perforated 10,518' - 10,541'.
Completed 8/23/87.
OWWO
CIBP @ 10,450' w/cmt plug @ 10,415' - 10,450' w/35 sx.
Perforated 8,620' - 9,600'.
Completed 10/23/90.

Meridian Oil Inc., Federal MA #9
Unit J, Section 21, T18S-R33E, Lea Co., NM.
Oil well.
Spud 11/26/92, TD = 11,550'.
13 3/8 @ 405' w/425 sx, circulated,
8 5/8 @ 2,920' w/2,250 sx, circulated,
5 1/2 @ 11,550' w/2,035 sx,
TOC @ 300', determined by Cement Bond Log.
Perforated 11,139' - 11,247'.
Completed 1/13/93.

Southland Royalty Company, Federal "21" #2
Unit K, Section 21, T18S-R33E, Lea Co., NM.
Oil well.
Spud 3/24/89, TD = 11,465'.
13 3/8 @ 350' w/370 sx,
8 5/8 @ 2,900' w/1,380 sx,
5 1/2 @ 11,465' w/1,695 sx.
Perforated 11,004' - 11,202'.
Completed 5/5/89.

Southland Royalty Company, Aztec "22" Federal #2
Unit D, Section 22, T18S-R33E, Lea Co., NM.
Oil well.
Spud 7/2/91, TD = 11,430'.
13 3/8 @ 450' w/475 sx,
8 5/8 @ 2,900' w/1,250 sx,
5 1/2 @ 11,430' w/1,540 sx,
TOC EOT ± 2,900'.
Perforated 11,252' - 11,304'.
Completed 8/12/91.

Southland Royalty Company, Aztec "22" Federal #3
Unit D, Section 22, T18S-R33E, Lea Co., NM.
Oil well.
Spud 3/13/93, TD = 5,500'.
8 5/8 @ 420' w/300 sx,
5 1/2 @ 5,500' w/1,600 sx,
TOC @ surface, circulated.
Perforated 5,194' - 5,250'.
Completed 4/16/93.

FIELD: WEST CORBIN

DATE SPUD: 10/11/67 PLUG: 12/20/67

LEASE: CORBIN 675 LTD WELL NO. 1

ELEVATION: 3884' G.L.

LOCATION: 1980 FSL & 660 FWL, SEC 15, T18S, R33E

LEA COUNTY, NEW MEXICO

CONFIGURATION

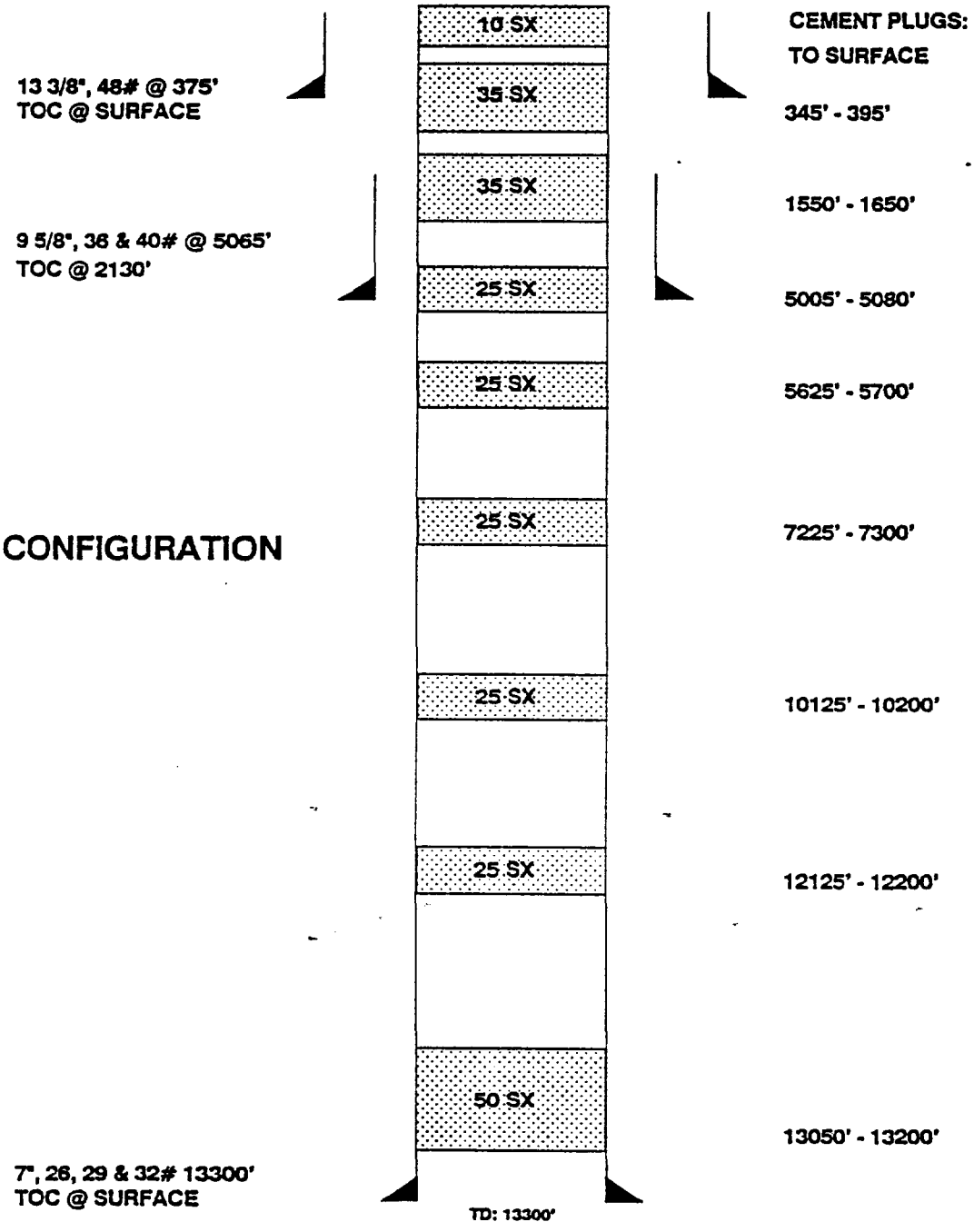


EXHIBIT "G"

Page 1 of 1

8TA#1.ORW

VII. **Proposed Operation**

1) The proposed, average daily injection rate is 1800 BOPD/well. The proposed, maximum injection rate is 3,000 BOPD/well.
2) The system will be closed.
3) The proposed, average injection pressure is 500 psi. The proposed, maximum pressure is 1,050 psi.
4) The source of the injection fluid is produced water from the Delaware, Wolfcamp and Bone Spring formations. The receiving formation will be the Delaware. A water analysis showing compatibility between the produced water and the receiving formation is attached (see Exhibit "H"). The produced fluid sample was taken from the West Corbin Tank Batteries; water samples were taken from the State "16" #4 and the Federal MA #7.

VIII. **Geological Data on the Injection Zone**

Lithological Description:
The proposed East Corbin (Delaware) Unit produces oil and gas from a series of fine to very fine-grained arkosic sandstones of the middle Permian age Delaware Group.

Geological Name:
The proposed zone for injection is the Delaware formation.

Thickness:

Federal "21" #4:	90'
State "16" #4:	56'
State "16" #8:	60'
Federal "MA" #11:	80' (approximate)

Depth:
The top of the producing zone is as follows:

Federal "21" #4:	5,156'
State "16" #4:	5,192'
State "16" #8:	5,200'
Federal "MA" #11:	5,200' (approximate)

Fresh Water Sources:
In the immediate area of the subject wellbores, fresh water has been encountered in aquifers above 250 feet. These aquifers are found in the Pliocene age Ogallala and Pleistocene age alluvial sediments and consist for the most part of alternating calcareous silt, fine sand and clay. In the wellbores listed above, these aquifers are present to a depth of 250' and are protected by 13-3/8" surface casing set to depths from 340' to 430'. In addition, 5-1/2" production casing has been run to bottom in all three well bores. There are no sources of fresh water underlying the proposed injection intervals.

IX. **Proposed Stimulation Program**
The proposed stimulation program is a 3,000 gallon treatment of 15% N_eF_e HCl acid.

X. **Injection Well Logging and Test Data**
Log sections are attached with the proposed interval indicated (Exhibit"I").

XI. **Fresh Water Analysis**
There are no fresh water wells within one mile of any of the proposed injection wells. The closest water wells are in sections 14 and 27 as shown on Exhibit "J".

XII. **Hydrologic Communication**
An examination of seismic data and available subsurface information indicates there is no evidence of open faults on any other hydrologic connection between the injection zones and any underground source of drinking water.

XIII. **Proof of Notice**
Proof of notice is attached (Exhibit "K").

XIV. **Certification**
Certification is on form C-108.

If any further data are required or need clarification, please contact Chet A. Babin at (915) 688-6964. We appreciate your assistance in helping us initiate this project.

Chet A. Babin, P. E.
Reservoir Engineer
Texas License #77279

Martin Water Laboratories, Inc.
WATER CONSULTANTS SINCE 1953
BACTERIAL AND CHEMICAL ANALYSES

P. O. BOX 1468
MONAHANS, TEXAS 79756
(915) 943-3234 or 563-1040

709 W. INDIANA
MIDLAND, TEXAS 79701
(915) 683-4521

November 23, 1994

Mr. Chet Babin
Meridian Oil Company
P.O. Box 51810
Midland, TX 79710

Subject: Recommendations relative to laboratory #1194144 (11-21-94), West Corbin Unit.

Dear Mr. Babin:

The objective herein is to provide an evaluation of the compatibility between the waters represented in these analyses in regard to injecting a mixture of Delaware, Bone Springs, and Wolfcamp into the Delaware.

It is noted that we did find a significant amount of oxygen in the water at the injection pumps, but it is obvious that this would be due to air contamination and not representative of a natural condition in this water. The air contamination would create some incompatibility as a result of soluble iron in the other waters. Of course, there was some minor iron oxide in the water at the injection pumps. However, if the air contamination is prevented, then there would be no incompatibility identified as a result of any combination of these waters. This is to say that there would be neither scaling potential nor precipitation as a result of mixing the waters.

In general, we find no evidence to suggest there would be any compatibility problem as a result of injecting the mixture of Delaware, Bone Springs, and Wolfcamp into the Delaware.

In addition to the above discussion of compatibility, the results indicate satisfactory injection quality in the present injection water. The total amount of suspended matter and the fact that the suspended material showed microscopically to be essentially all very fine material would be indicative of this satisfactory injectability.

Yours very truly,

Waylan C. Martin

WCM/mo

EXHIBIT "H"

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. 1194144 (Corrected Copy)
SAMPLE RECEIVED 11-21-94
RESULTS REPORTED 11-23-94 (11-29-94)

TO: Mr. Chet Babin
P.O. Box 51810, Midland, TX 79710

COMPANY Meridian Oil Company LEASE West Corbin Unit
FIELD OR POOL South Corbin
SECTION 16 & 21 BLOCK ____ SURVEY T-18S &R-33E COUNTY Lea STATE NM
SOURCE OF SAMPLE AND DATE TAKEN:
NO. 1 Produced water - taken from State "16" #4. 11-21-94
NO. 2 Produced water - taken from Federal "MA" #7. 11-21-94
NO. 3 Mixed water - taken from injection pump discharge. 11-21-94
NO. 4
REMARKS: 1. & 2. Delaware 3. Delaware, Bone Springs, & Wolfcamp

CHEMICAL AND PHYSICAL PROPERTIES	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.1703	1.1708	1.1432	
pH When Sampled			7.2	
pH When Received	5.56	5.92	6.38	
Bicarbonate as HCO_3	161	181	327	
Supersaturation as $CaCO_3$	8	4	4	
Undersaturation as $CaCO_3$	--	--	--	
Total Hardness as $CaCO_3$	65,500	69,500	34,500	
Calcium as Ca	18,800	20,600	10,400	
Magnesium as Mg	4,495	4,374	2,066	
Sodium and/or Potassium	72,466	72,430	73,194	
Sulfate as SO_4	576	480	1,044	
Chloride as Cl	157,662	160,503	136,356	
Iron as Fe	1.5	3.6	1.8	
Barium as Ba			0	
Turbidity, Electric			51	
Color as Pt			48	
Total Solids, Calculated	254,160	258,568	223,387	
Temperature °F.			70	
Carbon Dioxide, Calculated	660	380	36	
Dissolved Oxygen,			1.8	
Hydrogen Sulfide	0.0	0.0	0.0	
Resistivity, ohms/m at 77° F.	0.050	0.050	0.053	
Suspended Oil			10	
Filtrable Solids as mg/l			20.5	
Volume Filtered, ml			400	
Total Dissolved Solids @ 180°F.	247,244	246,296	212,252	

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks: Letter of recommendation attached.

Form No. 3

By Waylan C. Martin, M.A.

EXHIBIT "H"

MOI State "16" #4

Perfs: 5192' - 5248'
IPP: 168 BOPD
353 BWPD
85 MCFGPD

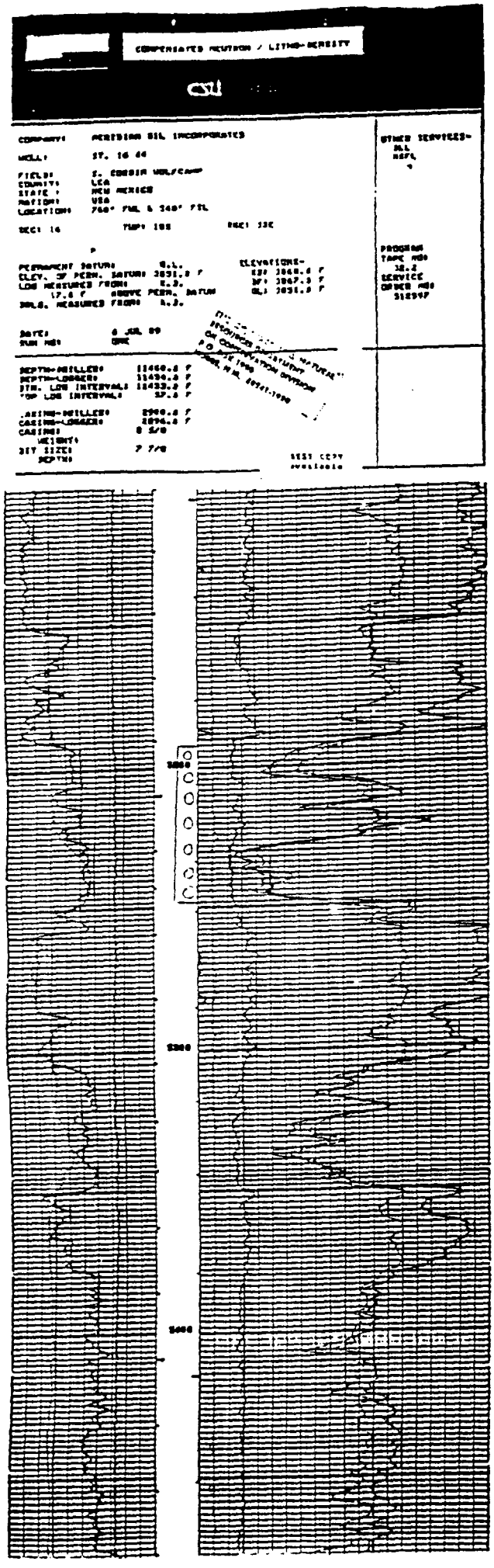
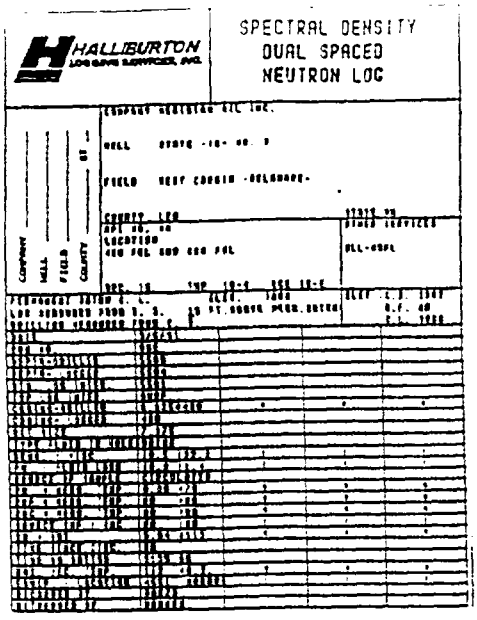


EXHIBIT "I"
Page 1 of 3



MOI State "16" #8

Perfs: 5200' - 5260'
IPP: 200 BOPD
115 BWPD
100 MCFGPD

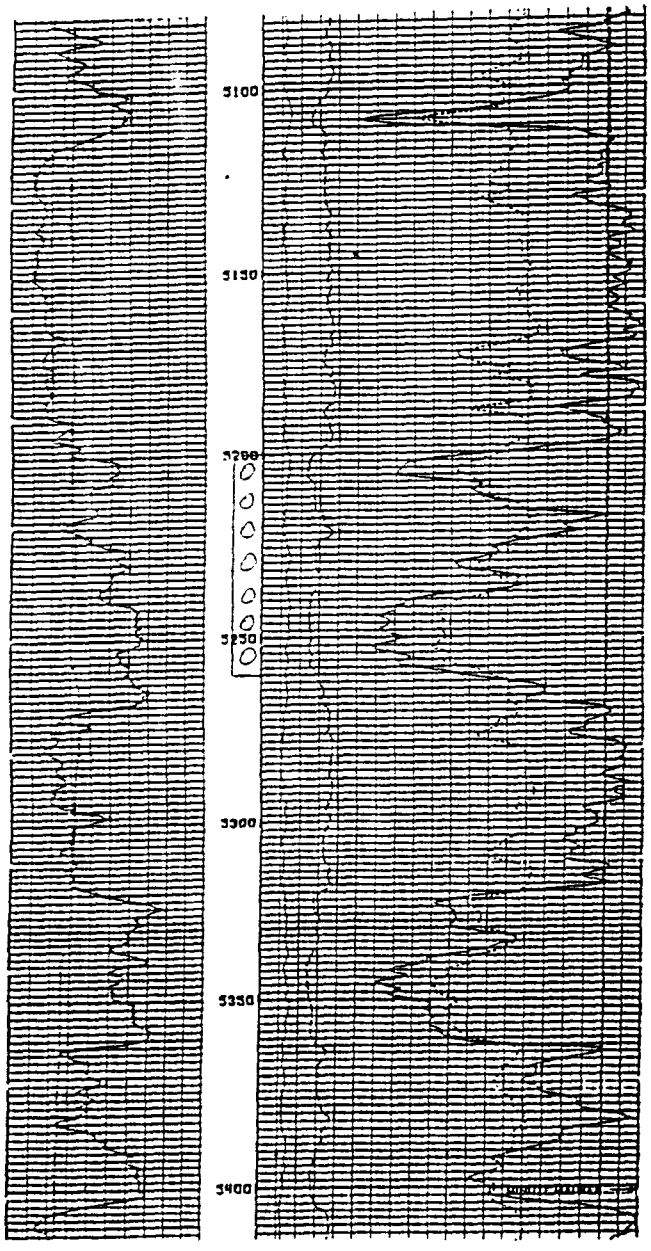
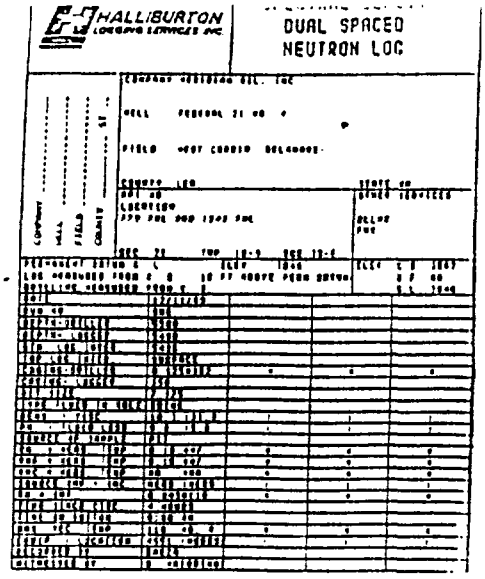


EXHIBIT "I"
Page 2 of 3



MOI Federal "21" #4

Perfs: 5156' - 5246'
IPP: 36 BOPD
210 BWPD
30 MCFGPD

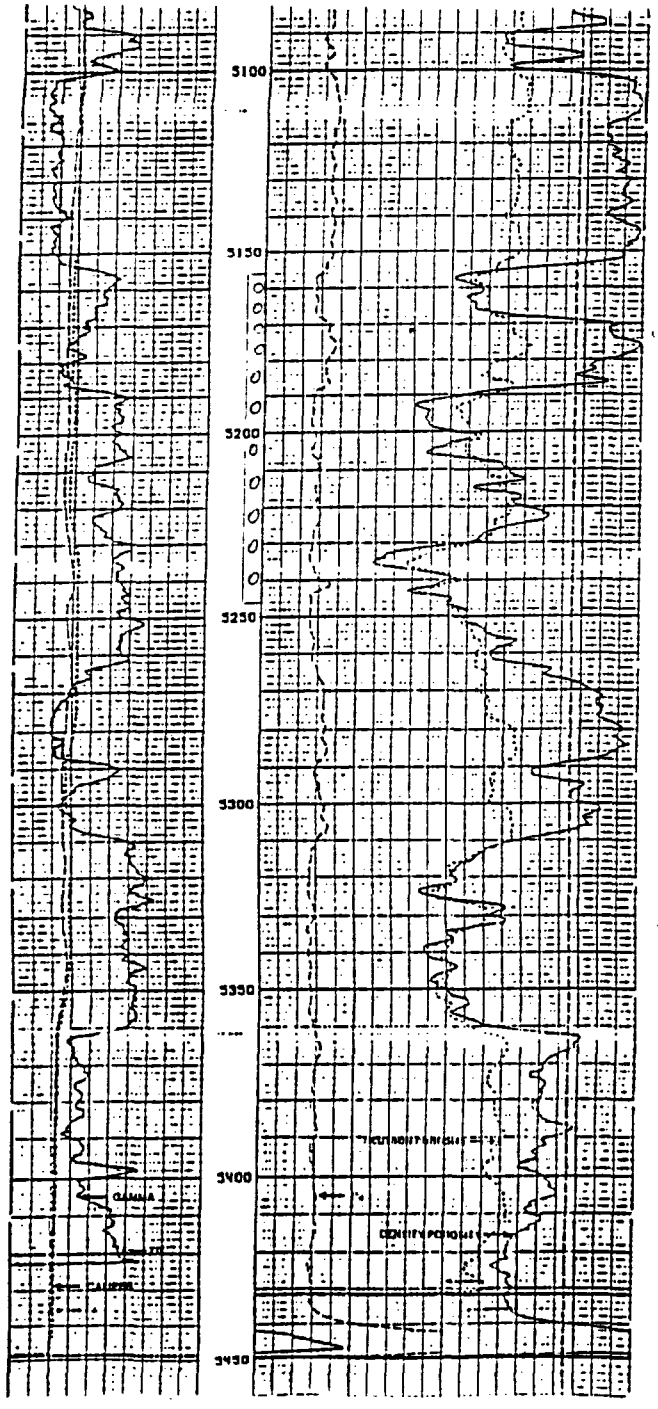
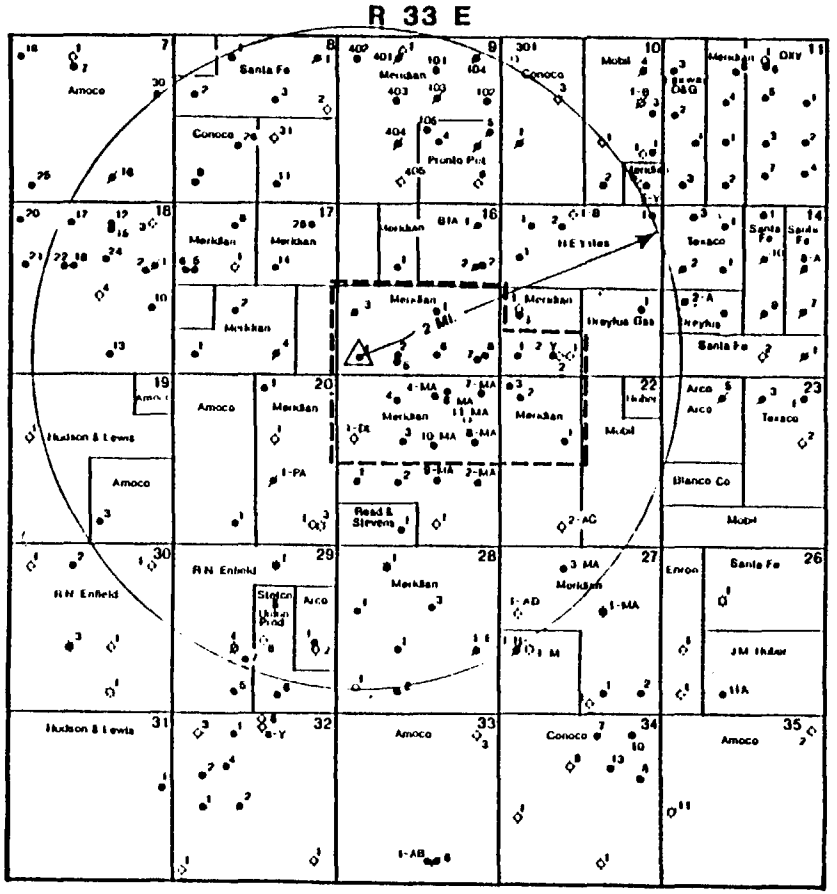


EXHIBIT "I"
Page 3 of 3



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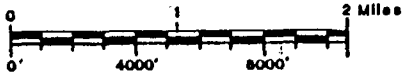


MOI
△ *State "16" #4*
PROPOSED INJECTOR

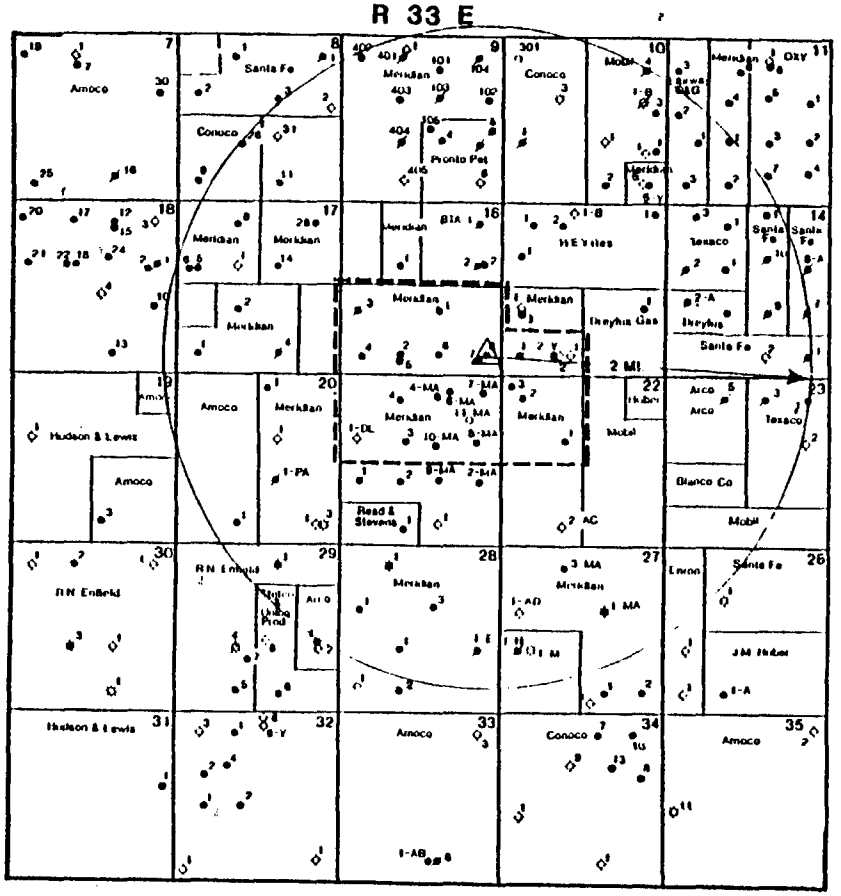
------ PROPOSED WATERFLOOD UNIT BOUNDARY

Federal Acreage = 480 Acres
State Acreage = 400 Acres
Total Acreage = 880 Acres

MERIDIAN OIL

E. CORBIN DELAWARE UNIT
CORBIN DELAWARE W. FIELD
LEA COUNTY, NEW MEXICO

Chad Dalton	2-84			BM-4240



SCALE
1" = 4000'

0 1 2 Miles
0' 4000' 8000'

MOI
△ State "16" #8
PROPOSED INJECTOR

------ PROPOSED WATERFLOOD UNIT BOUNDARY

Federal Acreage = 480 Acres
State Acreage = 400 Acres
Total Acreage = 880 Acres

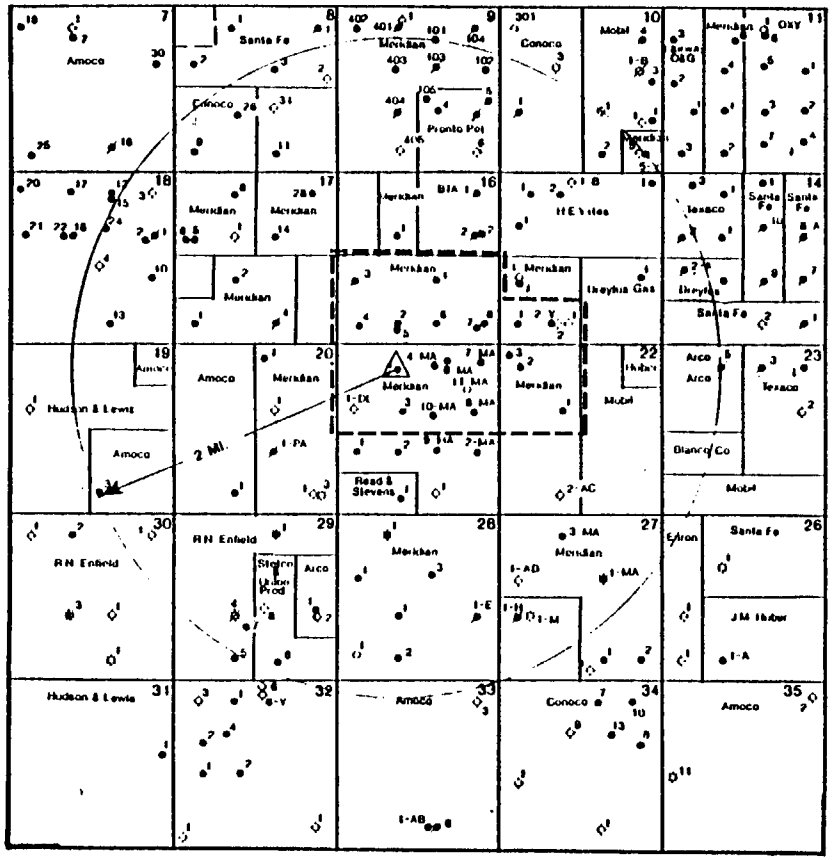
MERIDIAN OIL

E. CORBIN DELAWARE UNIT
CORBIN DELAWARE W. FIELD
LEA COUNTY, NEW MEXICO

Chief Basin	5-94		BM-4240

R 33 E

T 18 S



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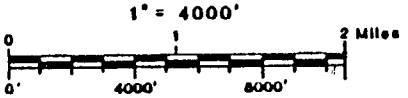


SRC
△ *Fed "21" #4*
PROPOSED INJECTOR

------ PROPOSED WATERFLOOD UNIT BOUNDARY

Federal Acreage = 480 Acres
State Acreage = 400 Acres
Total Acreage = 880 Acres

MERIDIAN OIL

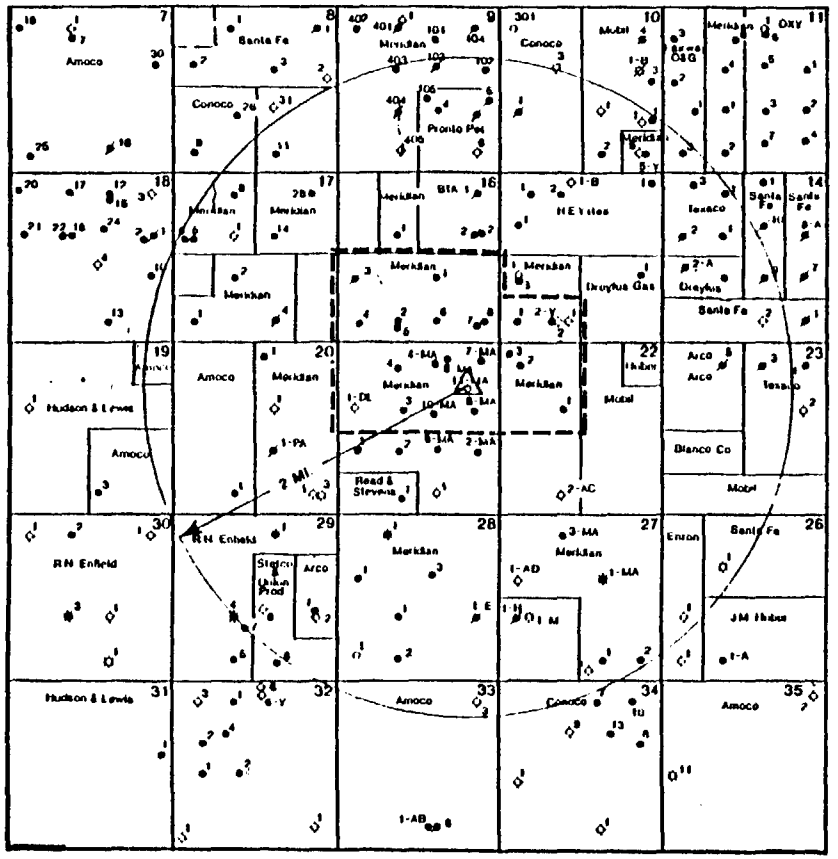
E. CORBIN DELAWARE UNIT
CORBIN DELAWARE W. FIELD
LEA COUNTY, NEW MEXICO

DRAWN BY: Chad Blain	DATE: 2-88	REVISED BY:	DATE:
APPROVED:	DATE:		

BM-4240

R 33 E

T 18 S



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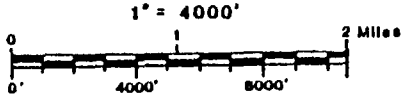


MOI

△ *FED "MA" #11*

PROPOSED INJECTOR

------ PROPOSED WATERFLOOD UNIT BOUNDARY

Federal Acreage = 480 Acres

State Acreage = 400 Acres

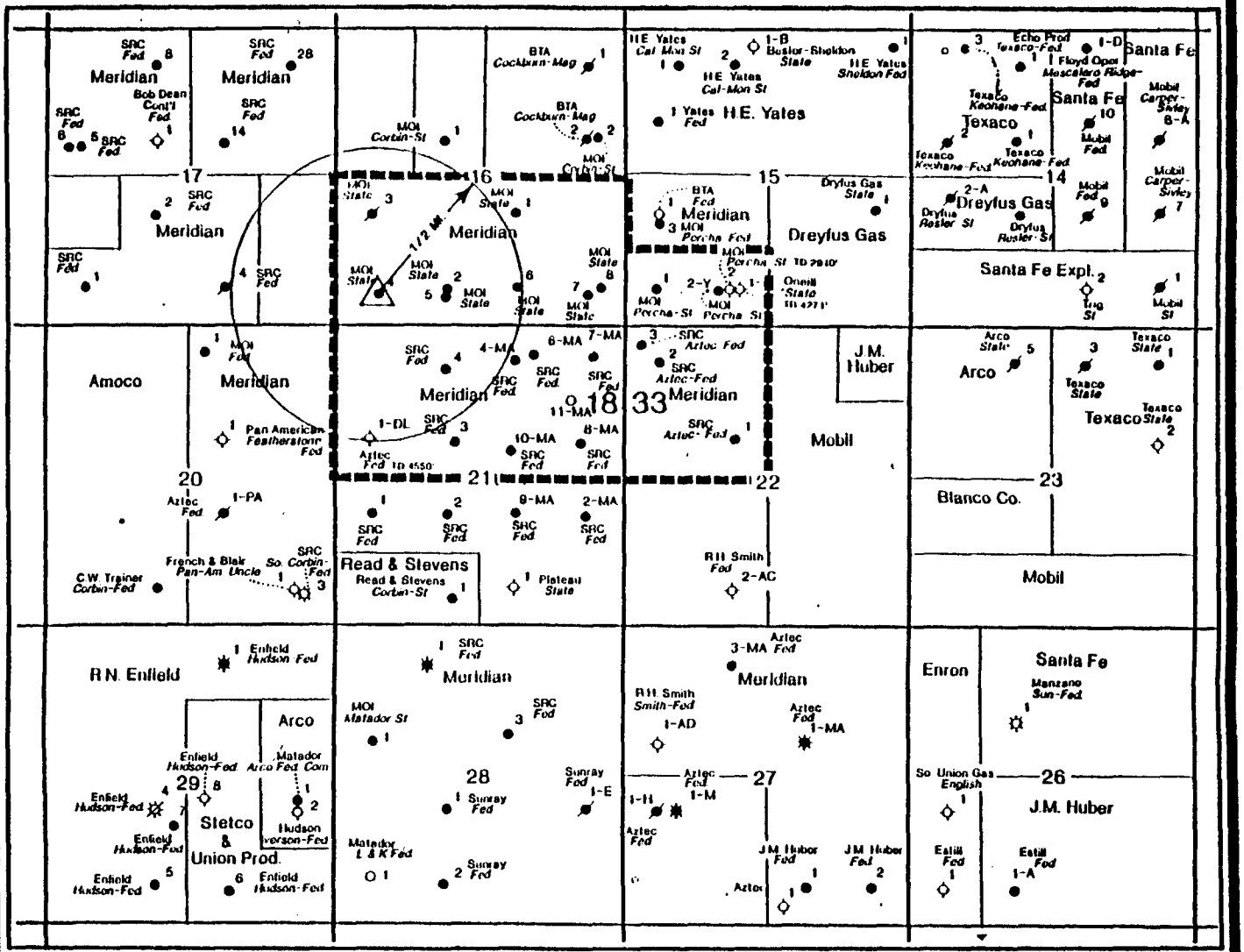
Total Acreage = 880 Acres

MERIDIAN OIL

E. CORBIN DELAWARE UNIT
CORBIN DELAWARE W. FIELD
LEA COUNTY, NEW MEXICO

Chief Basin				BM-4240

Township 18 South, Range 33 East



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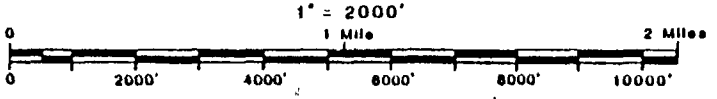


△ MOI *State "16" #4*

PROPOSED INJECTOR

▬▬▬ PROPOSED WATERFLOOD UNIT BOUNDARY

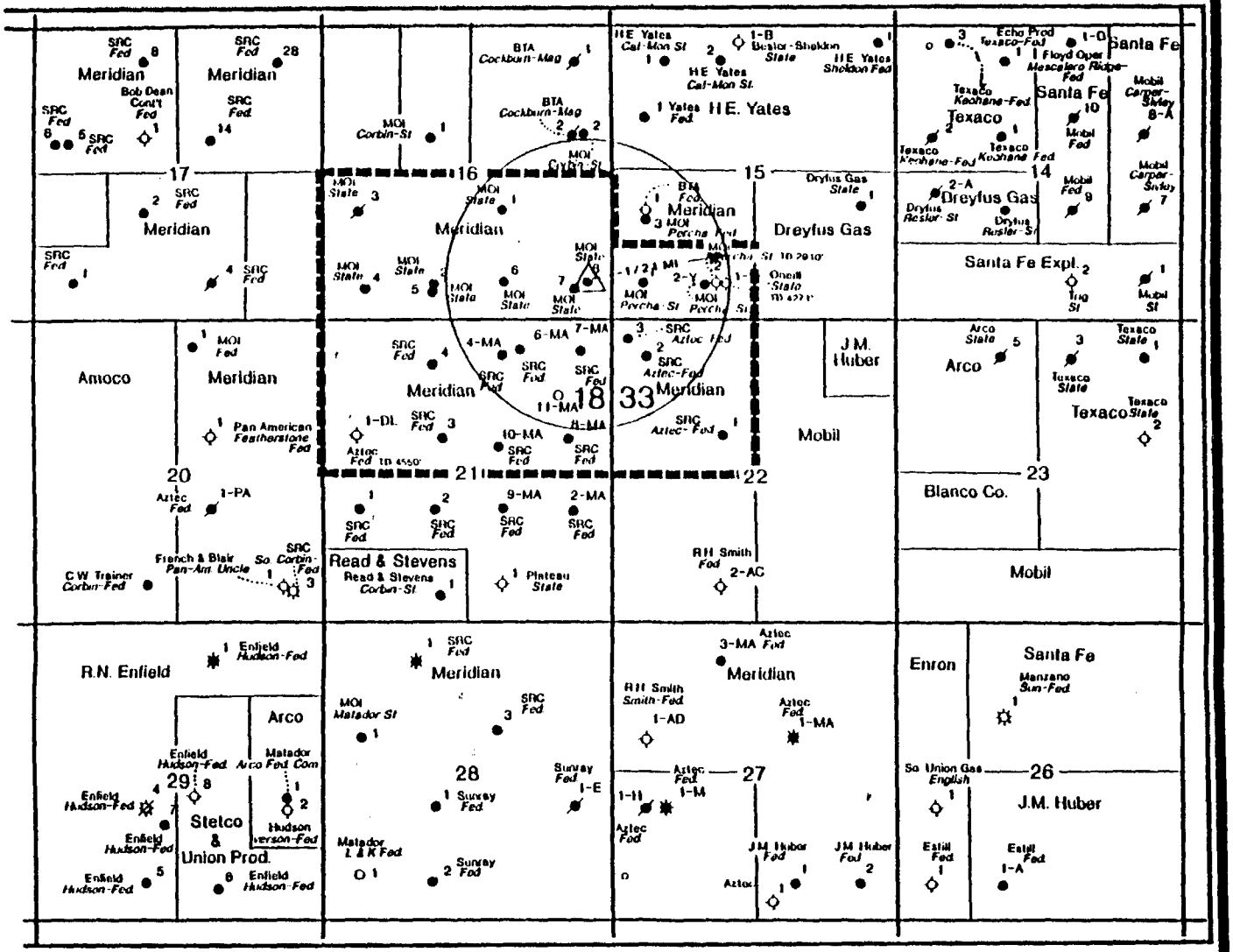
Federal Acreage = 480 Acres
State Acreage = 400 Acres
Total Acreage = 880 Acres

MERIDIAN OIL

E. CORBIN DELAWARE UNIT
CORBIN DELAWARE W. FIELD
LEA COUNTY, NEW MEXICO

A. SZANTO	8-84	Dist. Engr.	8784	BM-4240

Township 18 South, Range 33 East



SCALE
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0 1 Mile 2 Miles

0 2000' 4000' 6000' 8000' 10000'

△ MOI *State "16" #8*

PROPOSED INJECTOR

▬▬ PROPOSED WATERFLOOD UNIT BOUNDARY

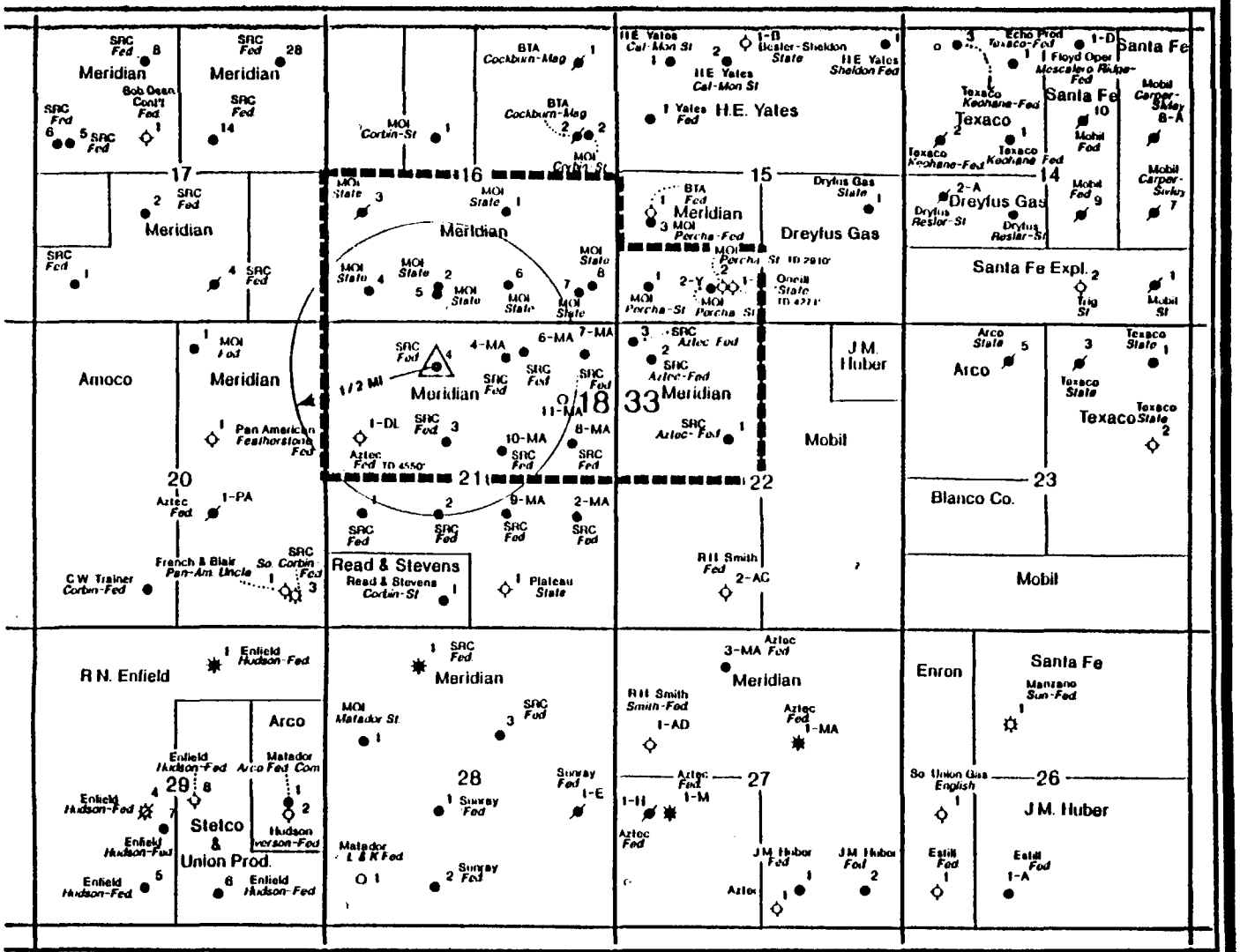
Federal Acreage = 480 Acres
State Acreage = 400 Acres
Total Acreage = 880 Acres

MERIDIAN OIL

E. CORBIN DELAWARE UNIT
CORBIN DELAWARE W. FIELD
LEA COUNTY, NEW MEXICO

K. B. ANTAY	8-94	Chad Bohn	8/94	BM-4240

Township 18 South, Range 33 East



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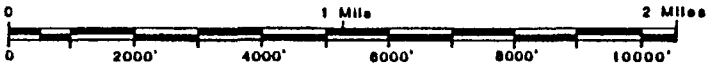


SRC
Fed "21" #4

PROPOSED INJECTOR

PROPOSED WATERFLOOD UNIT BOUNDARY

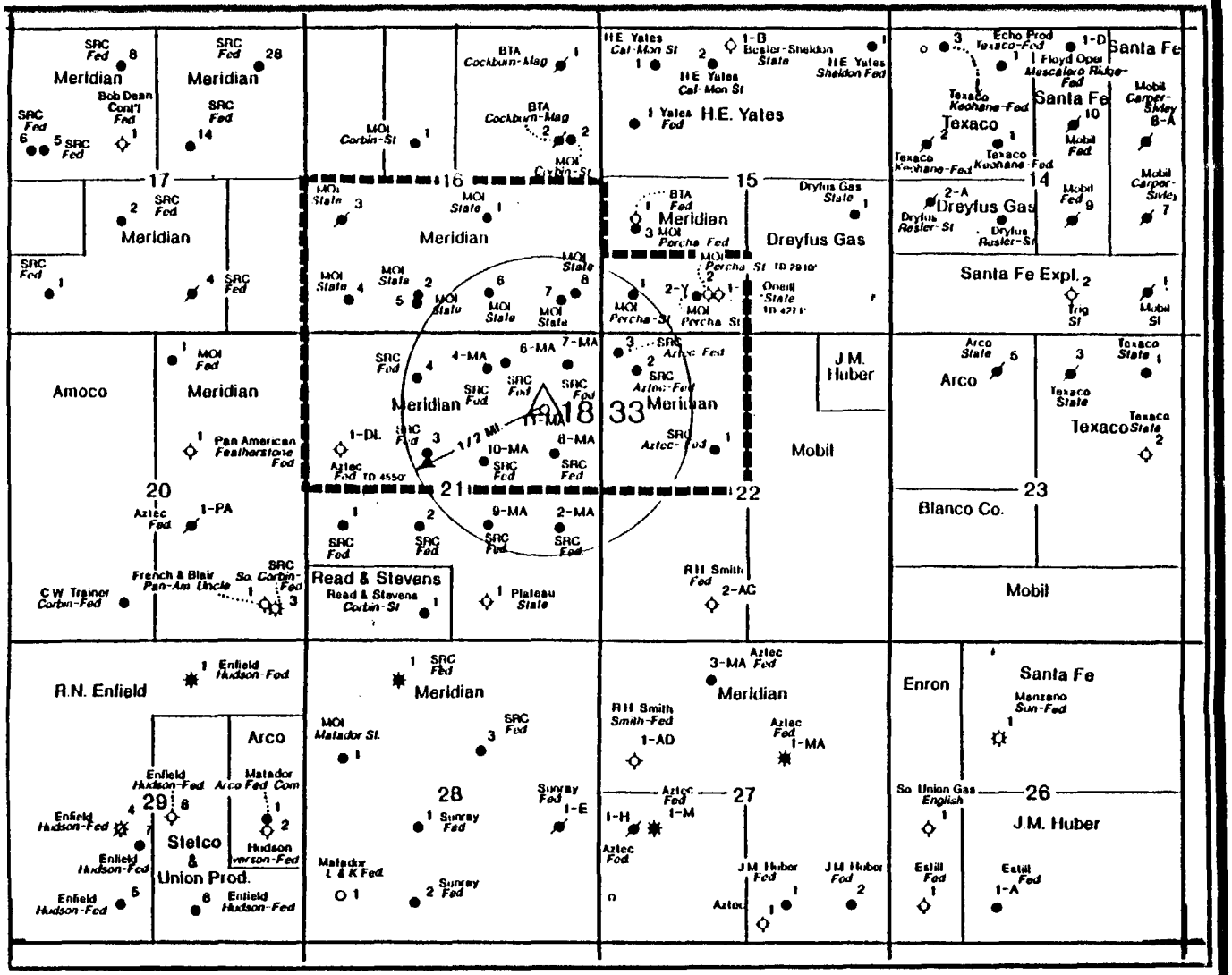
Federal Acreage = 480 Acres
State Acreage = 400 Acres
Total Acreage = 880 Acres

MERIDIAN OIL

E. CORBIN DELAWARE UNIT
CORBIN DELAWARE W. FIELD
LEA COUNTY, NEW MEXICO

	8-84	Chief Eng.	8/84	BM-4240

Township 18 South, Range 33 East



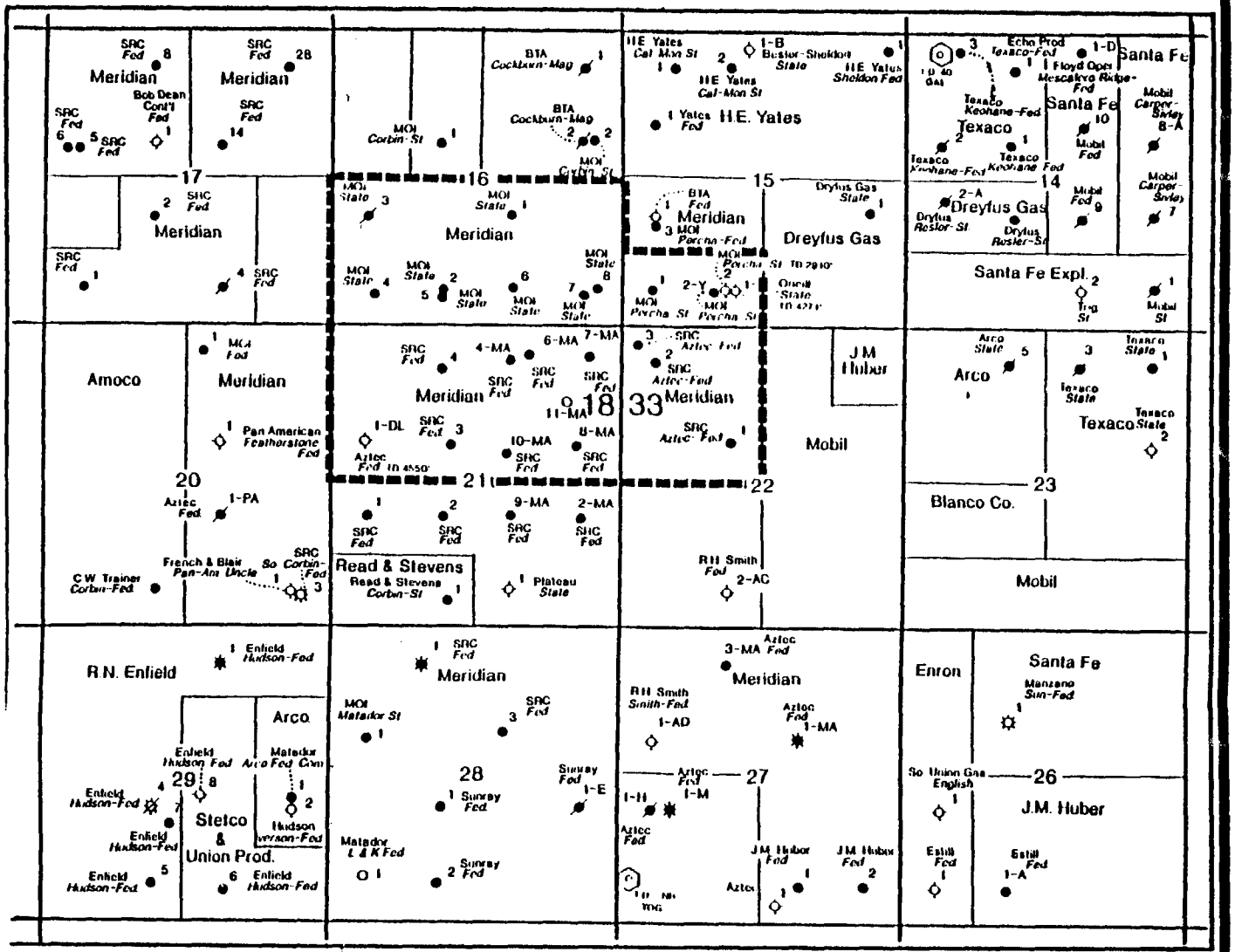
SCALE
1" = 2000'
0 1 Mile 2 Miles
0 2000' 4000' 6000' 8000' 10000'

MOI
△ FED "MA" #11
PROPOSED INJECTOR

PROPOSED WATERFLOOD UNIT BOUNDARY

Federal Acreage = 480 Acres
State Acreage = 400 Acres
Total Acreage = 880 Acres

Township 18 South, Range 33 East



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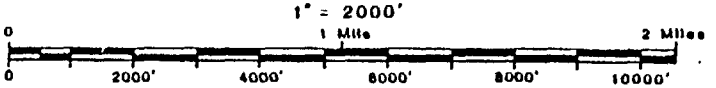

⬡ *NEAREST WATERWELLS TO E.C.D.U.* — QAL = QUATERNARY Alluvium; TOG = TERTIARY Ogallala

PROPOSED WATERFLOOD UNIT BOUNDARY

Federal Acreage = 480 Acres
State Acreage = 400 Acres
Total Acreage = 880 Acres

MERIDIAN OIL

E. CORBIN DELAWARE UNIT
CORBIN DELAWARE W. FIELD
LEA COUNTY, NEW MEXICO

A. SZANTO	8-94	Cad Basin	BM-4240