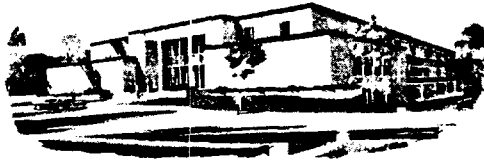


# State of New Mexico



W.R. HUMPHRIES  
COMMISSIONER



## Commissioner of Public Lands

P.O. BOX 1148  
SANTA FE, NEW MEXICO 87504-1148

October 25, 1990

J. W. Dixon  
Mobil Exploration & Producing U.S. Inc.,  
P.O. Box 633  
Midland, TX 79702

Re: Request to Surface Commingle  
South Shoe Bar Field  
Lea County, New Mexico

Dear Ms. Dixon:

Reference is made to your application dated October 5, 1990 wherein you have requested our approval to surface commingle production from the Devonian and Pennsylvania (currently commingled by OCD Order #PLC-75) and the Wolfcamp formation in the Livingston Deep State Lease, Lovington Deep Amoco State Lease, and Yates State Lease.

Since ownership is common throughout and there will be no loss of revenue to the State of New Mexico's Beneficiaries from your proposed operation, the Commissioner of Public Lands this date approves your request. This request is given with the understanding that the Commissioner reserves the right to amend or withdraw his approval should this operation prove unprofitable to the State at any time in the future.

Per our conversation, please provide this office with a plat delineating the wells, leases and flowlines.

If you have any questions please call Clyde Langdale at (505) 827-5791.

Sincerely,

W. R. HUMPHRIES  
COMMISSIONER OF PUBLIC LANDS

By: *Floyd O. Prando*  
Floyd O. Prando, Director  
Oil, Gas & Minerals Division

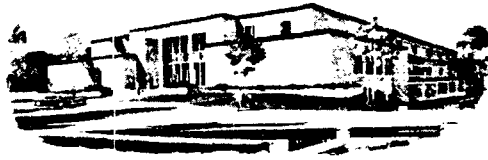
WRH/FOP/CL/dm

OCD - David Catanach

# State of New Mexico



W.R. HUMPHRIES  
COMMISSIONER



## Commissioner of Public Lands

P.O. BOX 1148  
SANTA FE, NEW MEXICO 87504-1148

October 18, 1990

J. W. Dixon  
Mobil Exploration and Producing U.S. Inc.,  
P.O. Box 633  
Midland, TX 79702

Re: Request to Surface Commingle  
South Shoe Bar Field  
Lea County, New Mexico

Dear Ms. Dixon:

We received a copy of your letter dated October 5, 1990 with the subject request. We have enclosed copies of the State Land Office Rules 1.053, 1.054, and 1.055 that address commingling.

Your request can be processed as soon as we receive this information.

Sincerely,

A handwritten signature in cursive script, reading "Clyde R. Langdale".

Clyde R. Langdale, Petroleum Engineer Specialist  
Oil, Gas & Minerals Division

CRL/dm

Enclosure

cc: David Catavach, OCD

# Mobil Exploration & Producing U.S. Inc.

October 5, 1990

80 OCT 12 AM 9 21

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

P.O. BOX 633  
MIDLAND, TEXAS 79702

MIDLAND DIVISION

Attention: Joe D. Ramey

SURFACE COMMINGLING PERMIT,  
NMOCD RULE 303(B)  
LOVINGTON DEEP STATE LEASE,  
WELLS # 1, 2, 3  
LOVINGTON DEEP AMOCO STATE LEASE,  
WELLS # 1, 2  
YATES STATE LEASE, WELL #1  
SOUTH SHOE BAR FIELD  
LEA COUNTY, NEW MEXICO

*South Shoe Bar Field*

Gentlemen:

MPTM requests authorization to surface commingle commonly owned production from the (Devonian and Pennsylvanian) currently commingled by order #PLC-75, and the Wolfcamp formation on the Livingston Deep State Lease, Lovington Deep Amoco State Lease, and Yates State Lease.

We fulfill the requirements outlined by NMOCD Rule 303(B) and provide the necessary supporting documentation for this request. The result of this surface commingling will not reduce the commercial value of the commingled product when compared to the sum of the individual products.

1. Form C-101 w/plat
2. Commingling Order No. 75
3. Computations showing value of the commingled production
4. Site Facility Schematic Flow Diagram
5. Plat showing Lovington Deep, South Shoebar Field
6. Equipment Inventory Lovington Deep State Central Tank Battery

State of New Mexico  
Surface Commingling Permit  
October 5, 1990  
Page 2

Your earliest consideration of this request would be appreciated. Should you have any further questions, please contact J. W. Dixon at (915) 688-2452.

Yours very truly,

Mobil Exploration & Producing U.S.Inc.  
As Agent for  
Mobil Producing Texas & NM Inc.

*for Judy Dixon*  
G. N. Myler  
Environmental, Regulatory and  
Loss Prevention Supervisor

JWD/spb  
Attachments

cc: Director, Hobbs District

Submit to Appropriate  
District Office  
State Lease - 6 copies  
Fee Lease - 5 copies

State of New Mexico  
Energy, Minerals and Natural Resources Department

Form C-101  
Revised 1-1-89

OIL CONSERVATION DIVISION

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

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

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

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

API NO. (assigned by OCD on New Wells)

30-025-30226

5. Indicate Type of Lease

STATE ☒

FEE ☐

6. State Oil & Gas Lease No.

LG-3362

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. Type of Work:

Recomplete

DRILL ☐

RE-ENTER ☒

DEEPEN ☐

PLUG BACK ☐

b. Type of Well:

OIL  
WELL ☒

GAS  
WELL ☐

OTHER ☐

SINGLE  
ZONE ☒

MULTIPLE  
ZONE ☐

7. Lease Name or Unit Agreement Name

Lovington Deep State

2. Name of Operator

Mobil Producing Tx. & N.M. Inc.

8. Well No.

3

3. Address of Operator

c/o Mobil Exploration & Producing U.S. Inc.  
P. O. Box 633, Midland, Texas 79702

9. Pool name or Wildcat

South Shoe Bar

4. Well Location

Unit Letter G : 1874 Feet From The North Line and 1980 Feet From The East Line

Section 1 Township 17S Range 35E NMPM Lea County

10. Proposed Depth

11,000

11. Formation

Wolfcamp

12. Rotary or C.T.

Rotary

13. Elevations (Show whether DF, RT, GR, etc.)

3931'

14. Kind & Status Plug. Bond

Active Blanket

15. Drilling Contractor

Unknown

16. Approx. Date Work will start

ASAP

17.

PROPOSED CASING AND CEMENT PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	SACKS OF CEMENT	EST. TOP
N/A	13-3/8	54.5#	478'	N/A	Surface
N/A	8-5/8	32#	5200'	N/A	Surface
N/A	5-1/2	15.5#, 17#	4890-1100	1250	4890

This well is presently completed in the South Shoe Bar-Upper Pennsylvanian Pool, permission is requested to plugback or recomplete in the South Shoe Bar - Wolfcamp.

- MIRU workover unit. Unseat pump, POOH w/rods & pump. NU BOP, test.
- RIH w/hydroset CIBP on tbq, set CIBP @  $\pm 10,650'$ . Cap w/35' (4 sxs) cmt. Penn abandoned.
- POOH w/tbg.
- MIRU wireline company. Perforate Wolfcamp 10,248-10,436' - 2 SPF (152 holes).
- Swab tbq until well begins to flow. Put well into test. Prepare to acidize Wolfcamp w/5000 gal 15% DI NEFE HCL acid + 150.1.1 sp gr RCBS.
- Rel packer, POOH w/pkr & tubing.
- RIH with fiberglass rods.
- Put well on rod pump

(WELLBORE SKETCH ATTACHED)

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: IF PROPOSAL IS TO DEEPEN OR PLUG BACK, GIVE DATA ON PRESENT PRODUCTIVE ZONE AND PROPOSED NEW PRODUCTIVE ZONE. GIVE BLOWOUT PREVENTER PROGRAM, IF ANY.

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

SIGNATURE

*Judy Dixon*

Regulatory Technician

9/25/90

TYPE OR PRINT NAME

Judy Dixon

TITLE

Mobil Producing Texas & New Mexico Inc.  
acting by and through its agent  
Mobil Exploration & Producing U.S. Inc.

TELEPHONE NO. (915) 688-2452

(This space for State Use)

APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_

CONDITIONS OF APPROVAL, IF ANY:

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

State of New Mexico  
Energy, Minerals and Natural Resources Department

Form C-102  
Revised 1-1-89

OIL CONSERVATION DIVISION

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

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

All Distances must be from the outer boundaries of the section

Operator Mobil Producing Tx. & N. M. Inc.			Lease Lovington Deep State		Well No. 3
Unit Letter G	Section 1	Township 17-S	Range 34-E	County Lea	

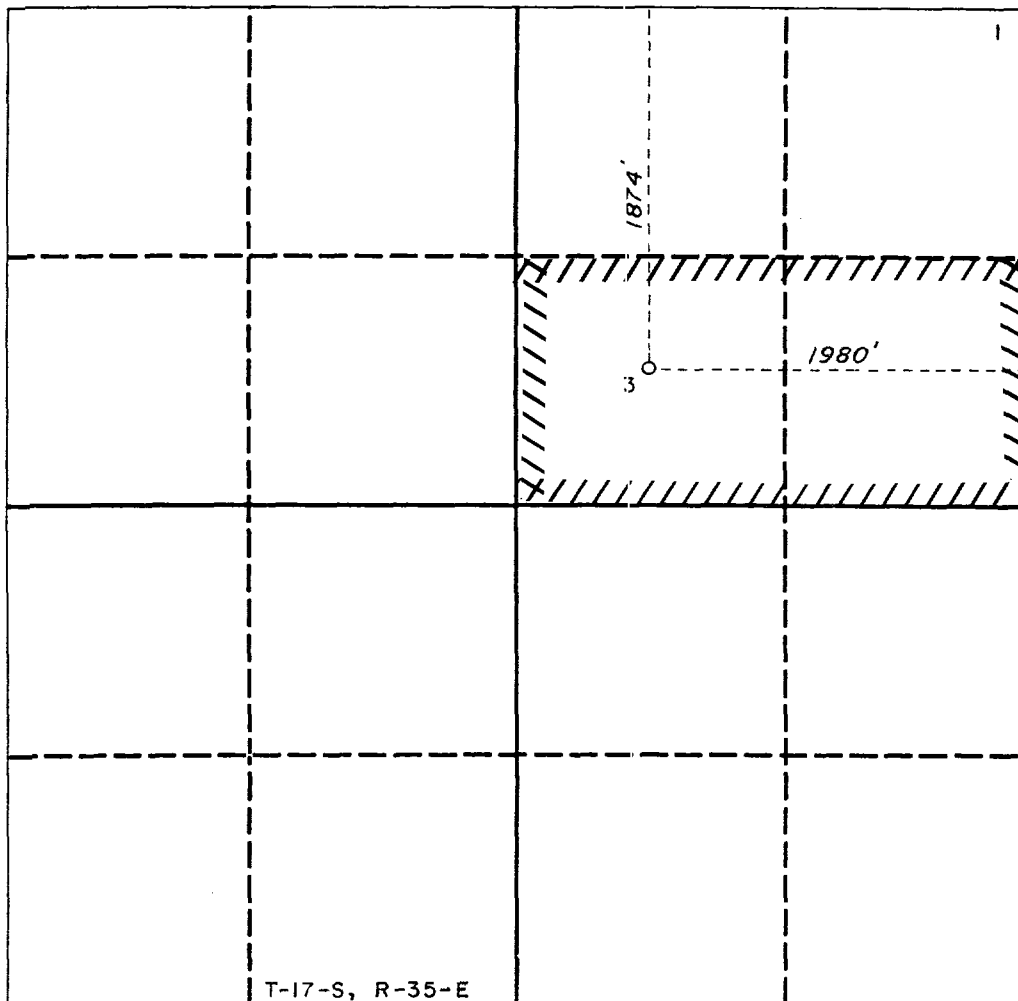
Actual Footage Location of Well:

1874 feet from the North line and		1980 feet from the East line	
Ground level Elev. 3931'	Producing Formation Wolfcamp	Pool South Shoe Bar	Dedicated Acreage: 80 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 is true and complete to the best of my knowledge and belief.

Signature

Judy Dixon

Printed Name

Position  
Environmental & Regulatory

Company  
Mobil Producing Texas & New Mexico Inc.  
acting by and through its agent  
Mobil Exploration & Producing U.S. Inc.  
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 supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed

Signature & Seal of  
Professional Surveyor

Certificate No.

0 330 660 990 1320 1650 1980 2310 2640 2000 1500 1000 500 0



STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

PRODUCTION GEOLOGY

OIL CONSERVATION DIVISION

MAR 29 1988

GARREY CARRUTHERS  
GOVERNOR

AMENDED COMMINGLING ORDER NO. 75

POST OFFICE BOX 2088  
STATE LAND OFFICE BUILDING  
SANTA FE, NEW MEXICO 87504  
(505) 827-5800

Mobil Exploration and Production Company  
P.O. Box 633  
Midland, TX 79702

Attention: G. M. Sullivan

The above-named company is hereby authorized to commingle South Shoe Bar Devonian and Undesignated Penn Pool production from the following leases:

Lovington Deep State Lease  
Section 1, Township 17 South, Range 35 East

Lovington Deep Amoco State Lease  
Section 6, Township 17 South, Range 36 East

Lovington Deep Yates State Lease  
SE/4 Section 36, Township 16 South, Range 36 East

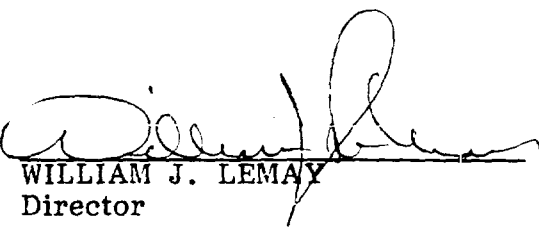
All in Lea County, New Mexico

Production shall be allocated to each lease by well tests. (If this method or the subtraction method is to be authorized, all commingled production must be of identical ownership: working interest, royalty interest and overriding royalty interest.)

NOTE: This installation shall be installed and operated in accordance with the applicable provisions of Rule 309-B of the Division Rules and Regulations of the Division "Manual for the Installation and Operation of Commingling Facilities." It is the responsibility of the producer to notify the transporter of this commingling authority.

REMARKS: This amended order authorizes the operator to allocate production by well tests. The previous order required the metering of the Penn Pool production due to the capability of the well to make top allowable.

Done at Santa Fe, New Mexico, on this 10th day of February 1988.

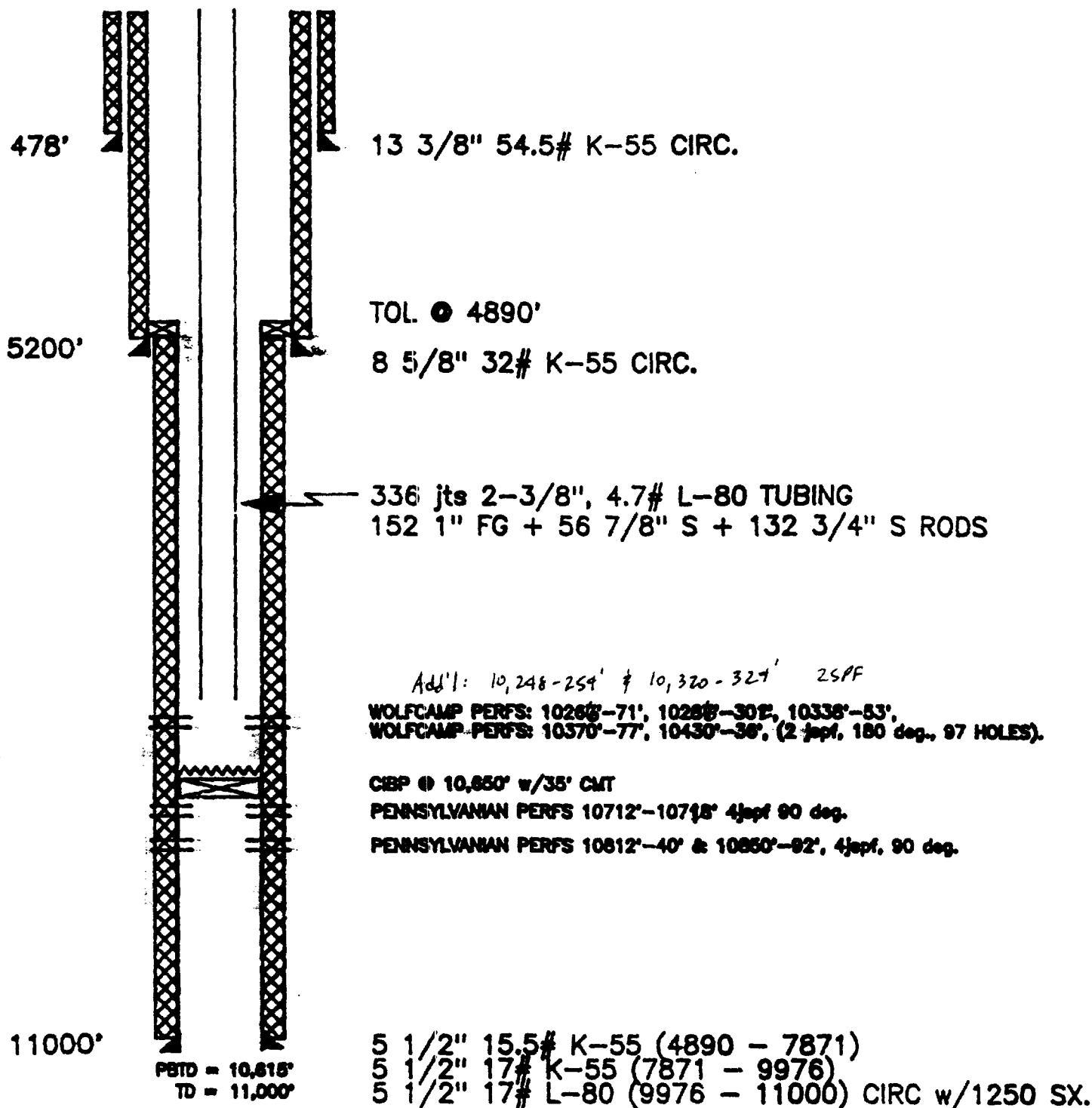
  
WILLIAM J. LEMAY  
Director

WJL/DRC/ag  
xc: OCD-Hobbs  
State Land Office Building, P. Martinez

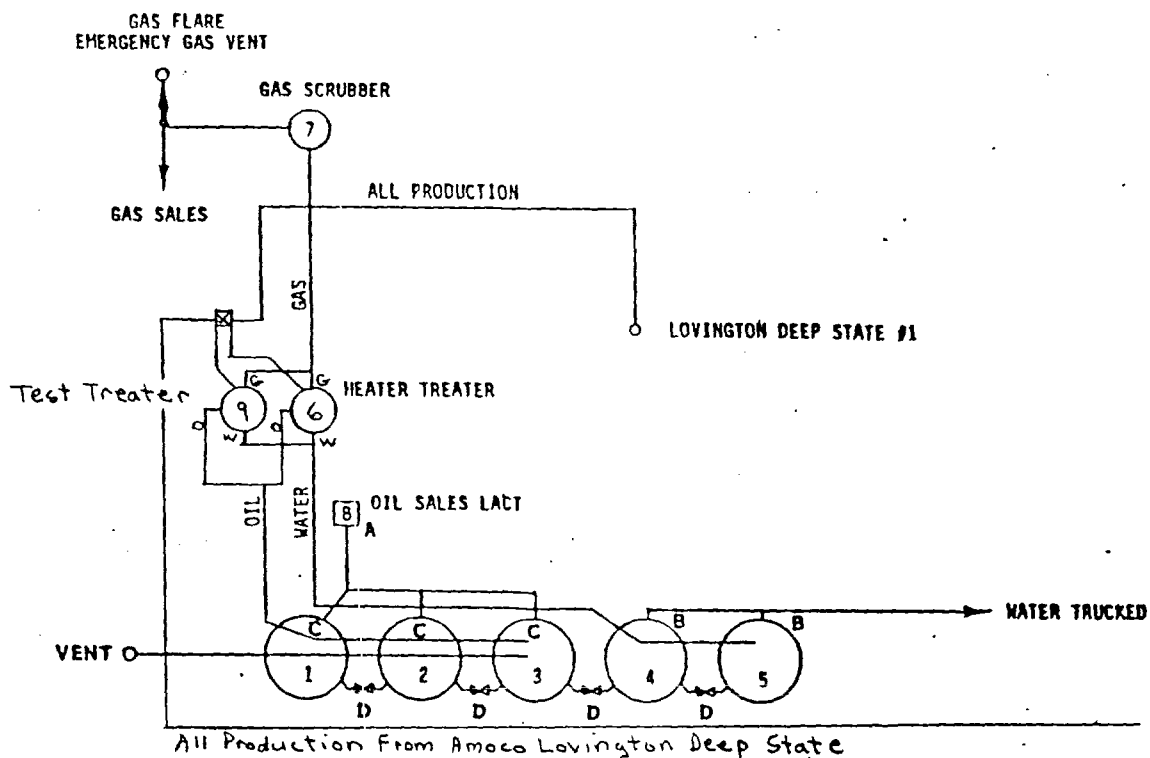
LOVINGTON DEEP STATE #3  
SOUTH SHOE BAR / WOLFCAMP  
LEA COUNTY, NEW MEXICO

GL = 3931'  
DF = N.A.  
KB = 3948'  
1874'FNL - 1980'FEL  
G - SECTION 1  
T17S - R35E

PROPOSED WELLBORE SKETCH







SITE SECURITY PLAN #1 LOCATED AT

A-SALES (SALES MODE OPEN, PRODUCING MODE SEALED CLOSED)

B-DRAIN (NORMALLY SEALED CLOSED)

C-FILL

D-EQUALIZER

PIPING - OPEN SYSTEM

⊗ - VALVE

○ - TANK

**Mobil Producing**  
**Texas & New Mexico Inc.**  
**MIDLAND DIVISION MIDLAND, TEXAS**

SITE FACILITY SCHEMATIC FLOW DIAGRAM

LOVINGTON DEEP STATE #1

WILDCAT DEVONIAN

LEA COUNTY, NEW MEXICO

DRAWN A.L.W.	SCALE NONE	DWG. NO.
CHECKED	DATE 5/11/73	

R35 E

R36 E

T16 S

T17 S

Sec 36

Sec 31

#3

1-175-35'E

See Facility Diagram

Lovington Deep State #1

Sec 1

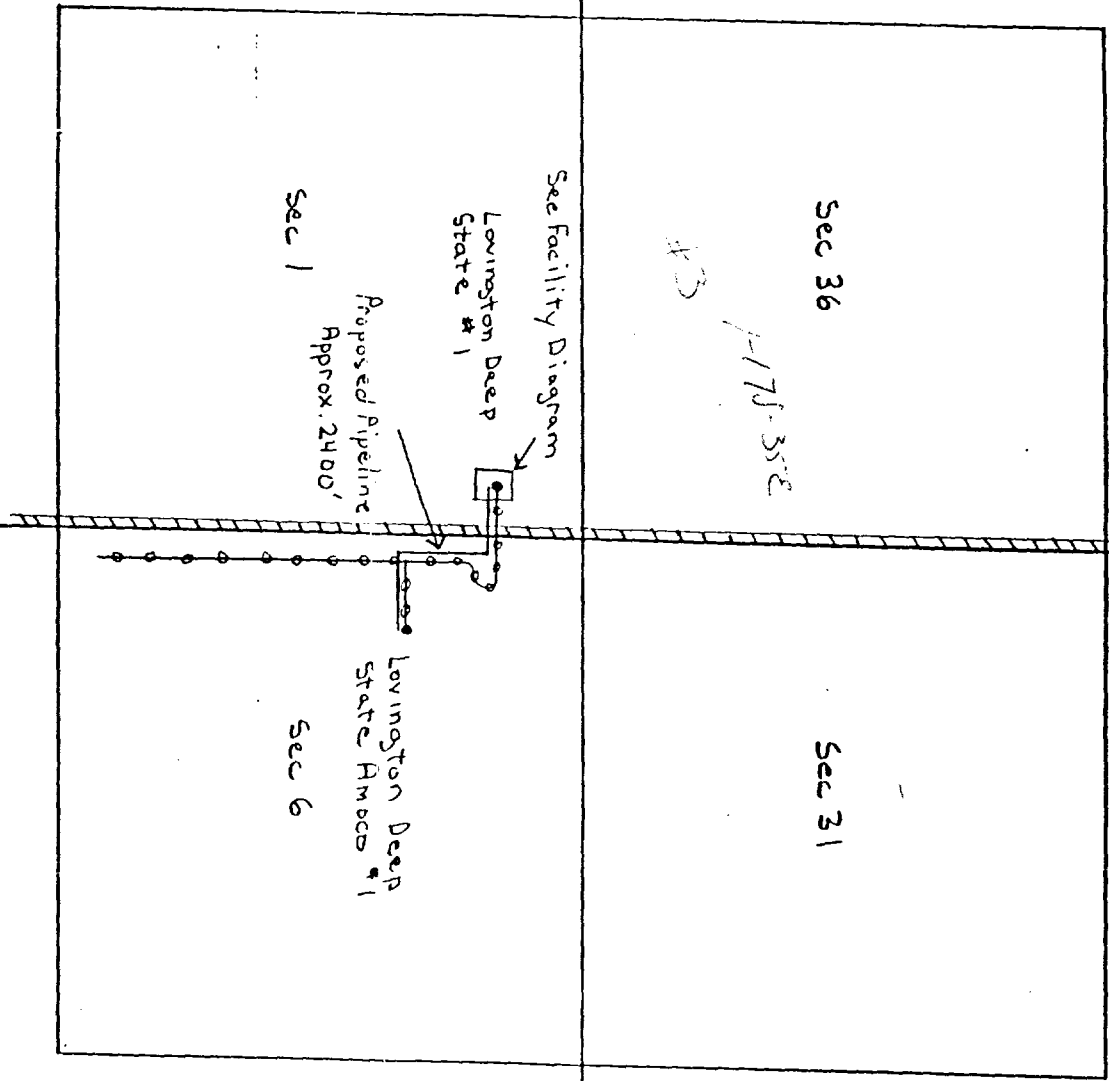
Proposed Pipeline  
Approx. 2400'

Lovington Deep State Amoco #1

Sec 6

Lovington Deep State #1  
823' FNL & 581' FEL  
Lovington Deep State Amoco #1  
1980' FNL & 660' FWL

==== Pipeline  
--- Existing Roads  
--- Proposed Pipeline  
(Approx. 2400')



Mobil Producing  
Texas & New Mexico Inc.

Lovington Deep  
South Shoobar Field

DRAWN	SCALE	DWG. NO.
CHECKED	DATE	
APP.	CERT.	

MOBIL PRODUCING TX & NM INC.  
SOUTH SHOE BAR (DEVONIAN, PENNSYLVANIAN, WOLFCAMP)  
LEA COUNTY, NM

These computations show the value of the commingled production will be the same as the sum of the values of the Devonian and Montoya formations.

<u>Formation</u>	<u>API Gravity @ 60°</u>	<u>Volume of Production BBL/Day</u>
Devonian	52.4	32
Pennsylvanian	45.6	120
Wolfcamp	41.0	estimated 50
		<u>202</u>

The value of New Mexico crude greater than 40 gravity, per MPTM price bulletin dated Sept. 1990, is \$28/BBL.

Expected Gravity of Commingled Product

Devonian	Gravity x 16% of Product = 8.0
Pennsylvanian	Gravity x 59% of Product = 27.0
Wolfcamp	Gravity x 25% of Product = 10.0
	<u>45.0 Gravity</u>

Expected Commercial Value of Commingled Product

202 bbl/day x \$28/BBL of NM Crude 40 Gravity = \$5656/Day

Commercial Value of Separate Products

Devonian 32/BBL/Day x \$28/BBL = 896/Day  
Pennsylvanian 120/Day x \$28/BBL = 3360/Day  
Wolfcamp 50 BBL/Day x \$28/BBL = 1400/Day

\$ 5656/Day

EQUIPMENT INVENTORY  
LOVINGTON DEEP CENTRAL  
TANK BATTERY  
SOUTH SHOE BAR FLD.  
LEA COUNTY, NEW MEXICO

1. Stock tank, crude oil storage, 500 bbl., 15.6' dia x 16' high, cone roofed, flat bottom, welded steel.
2. Ditto
3. Ditto
4. Stock tank, produced water storage, 500 bbl., 15.6 dia. x 16' high, cone roofed, flat bottom, welded steel.
5. Ditto
6. Heater treater, 250m BTU/hr, 3 phase separator, 4' dia. x 27 1/2' high.
7. Gas scrubber separator, 36" dia x 10' high, 125# WP.
8. LACT unit.
9. Test Treater.