

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 that reads "Clyde R. Langdale".

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

CRL/dm

Enclosure

cc: David Catawach, OCD

Mobil Exploration & Producing U.S. Inc.

October 5, 1990

90 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 Deep

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
 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

API NO. (assigned by OCD on New Wells) 30-025-30226
5. Indicate Type of Lease STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>
6. State Oil & Gas Lease No. LG-3362

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. Type of Work: Recomplete DRILL <input type="checkbox"/> RE-ENTER <input checked="" type="checkbox"/> DEEPEN <input type="checkbox"/> PLUG BACK <input type="checkbox"/>		7. Lease Name or Unit Agreement Name Lovington Deep State
b. Type of Well: OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input type="checkbox"/> SINGLE ZONE <input checked="" type="checkbox"/> MULTIPLE ZONE <input type="checkbox"/>		
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 <u>G</u> : 1874 Feet From The <u>North</u> Line and 1980 Feet From The <u>East</u> Line Section <u>1</u> Township <u>17S</u> Range <u>35E</u> NMPM <u>Lea</u> 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 tbg, set CIBP @ ±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 tbg 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
 TITLE Regulatory Technician
 TYPE OR PRINT NAME Judy Dixon 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:

OIL CONSERVATION DIVISION

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

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

All Distances must be from the outer boundaries of the section

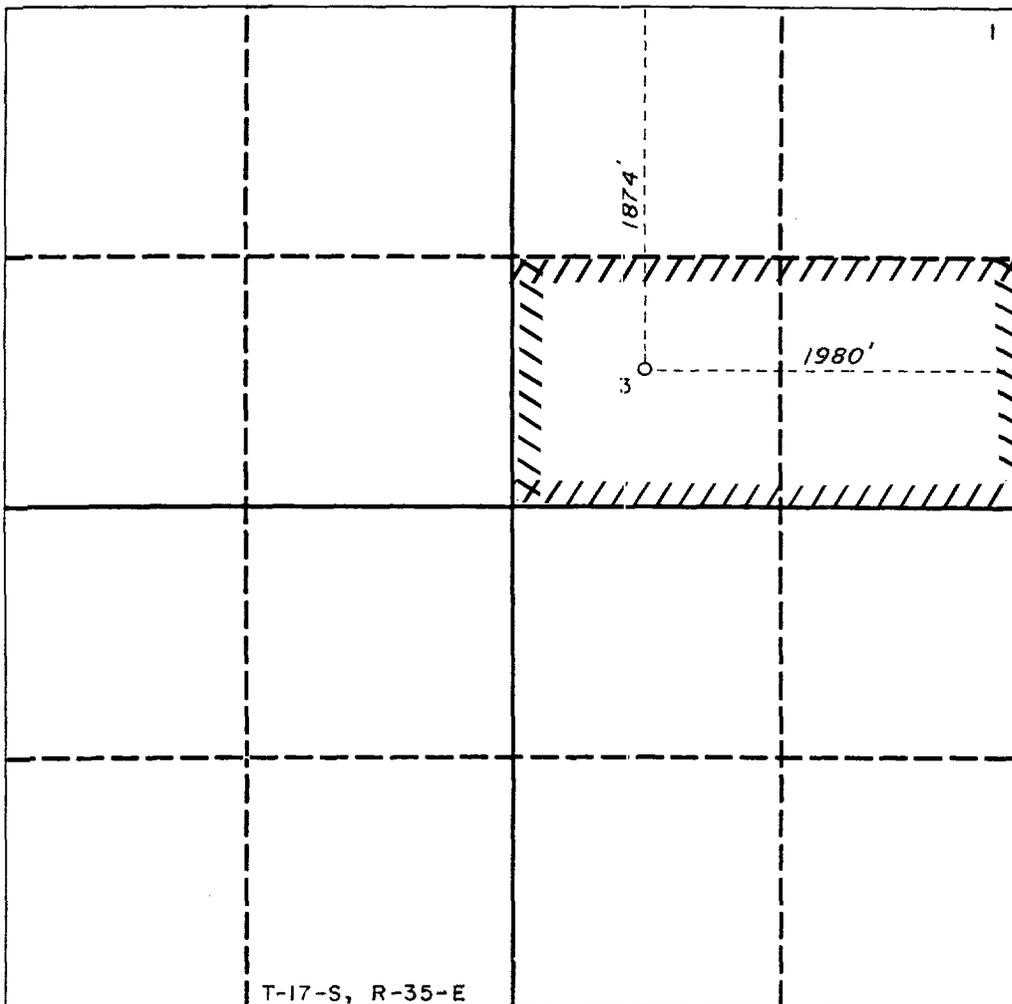
Operator Mobil Producing Tx. & N. M. Inc.		Lease Lovington Deep State		Well No. 3
Unit Letter G	Section 1	Township 17-S	Range 34-E	County Lea

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
-----------------------------	---------------------------------	------------------------	--------------------------------

- Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.
- If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
- 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: Judy Dixon

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. _____





U-FFK U.S.-30

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

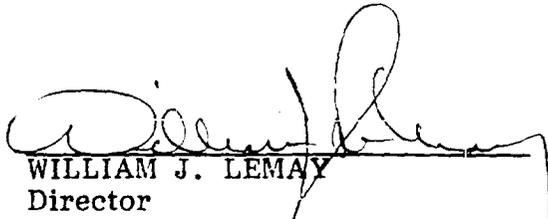
All in Lea County, New Mexico

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.

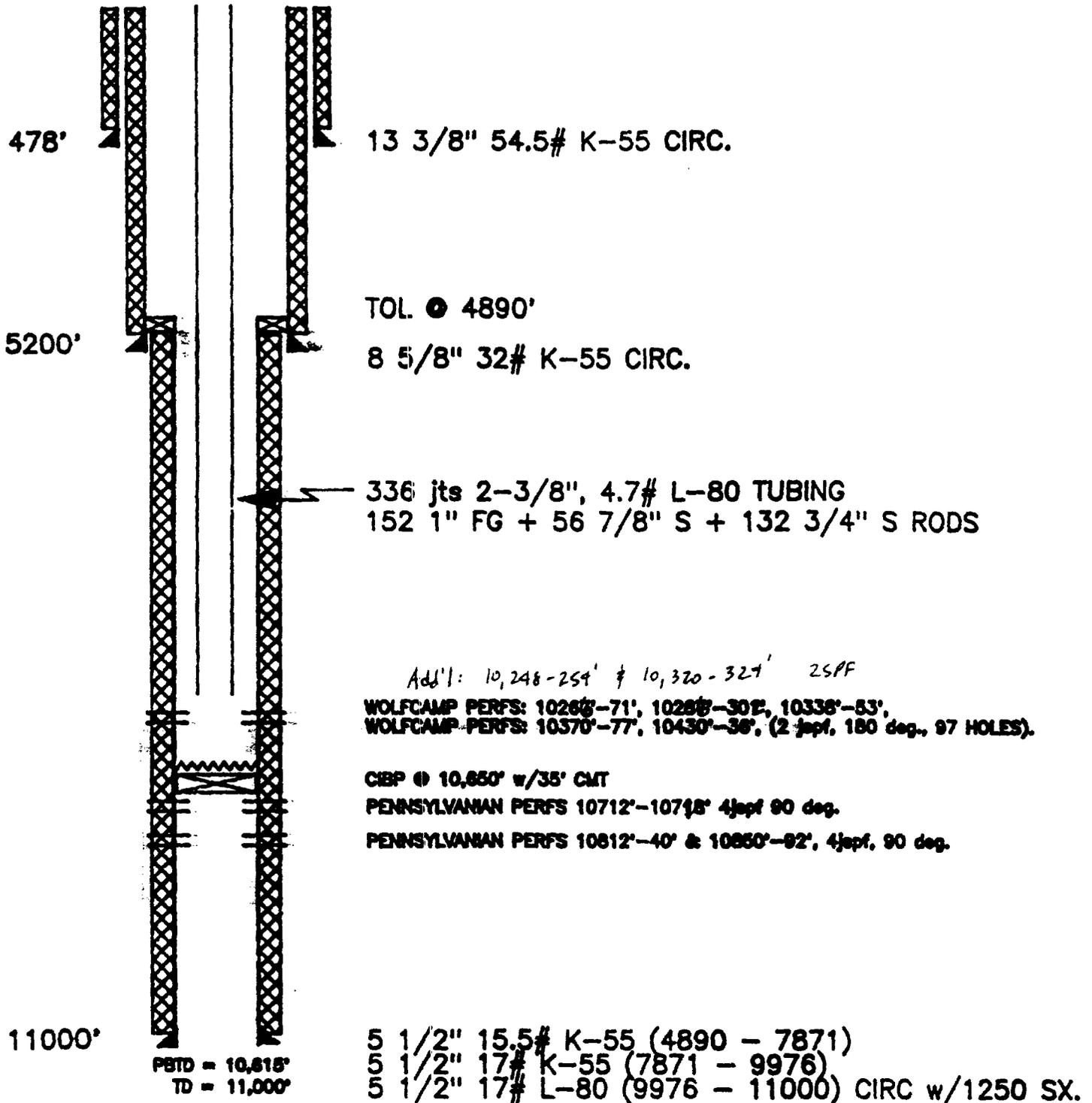

WILLIAM J. LEMAY
Director

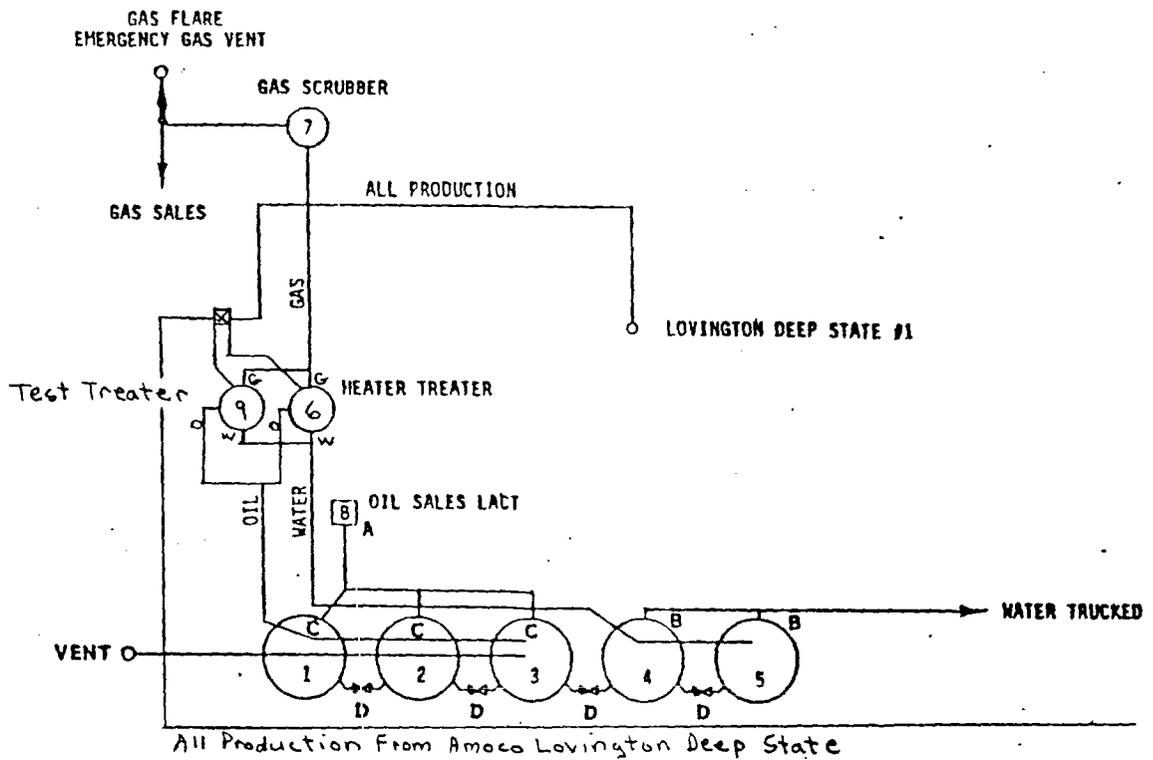
WJL/DRC/ag
xc: OCD-Hobbs
State Land Office Building; P. Martinez

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.N.	SCALE NONE	DWG. NO.
CHECKED	DATE 5/11/52	

R 35 E

R 36 E

T 16 S

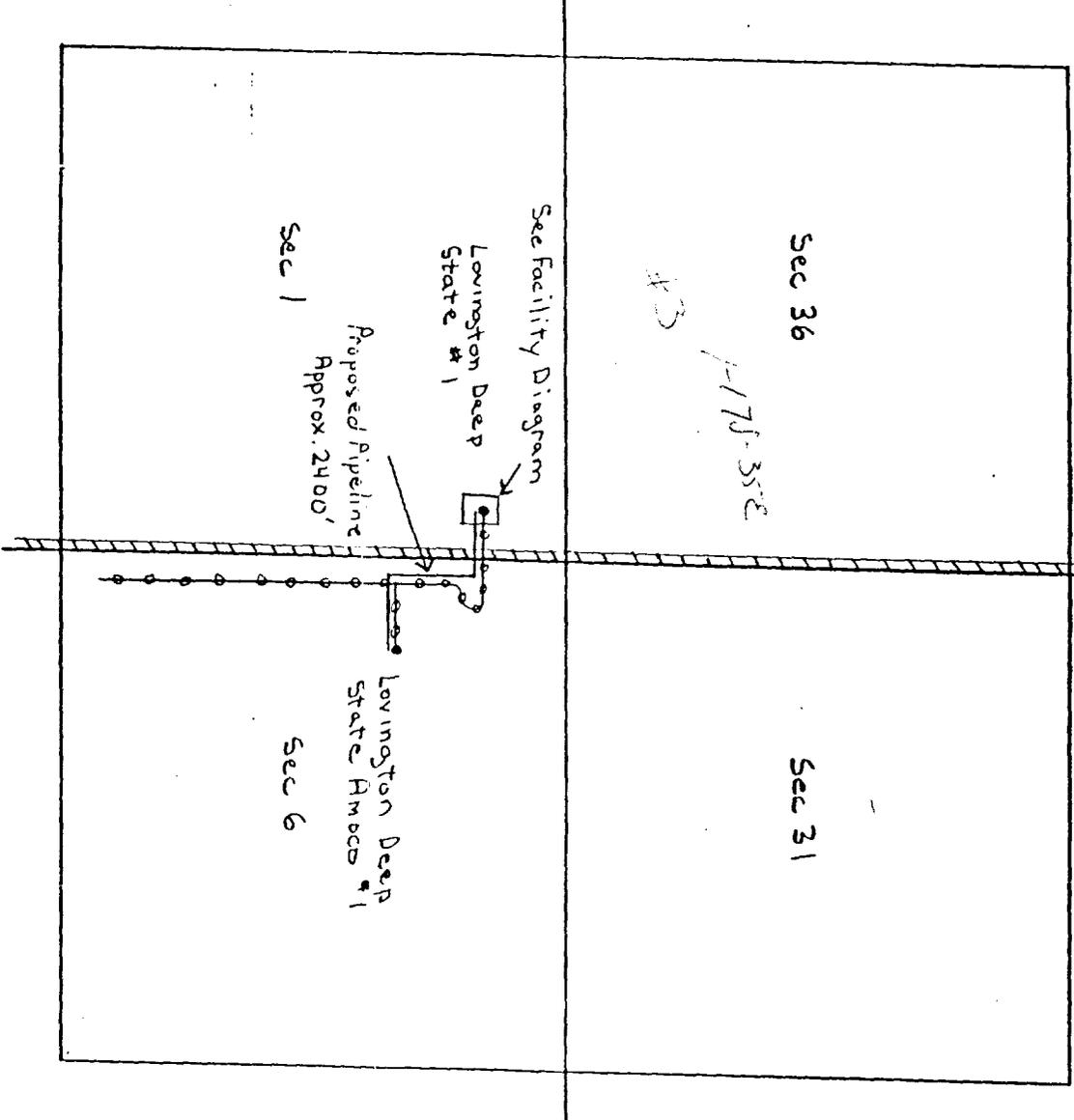
Sec 36

Sec 31

T 17 S

Sec 1

Sec 6



Lovington Deep State # 1
 823' FWL # 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
CHECKED	DATE
APP.	CERT.
DWG. NO.	

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.