



STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 S. PACHECO
SANTA FE, NEW MEXICO 87505
(505) 827-7131

June 30, 1997

Mobil Exploration & Producing U. S. Inc.
c/o Permits West, Inc.
37 Verano Loop
Santa Fe, New Mexico 87505
Attention: Brain Wood

Administrative Order DD-177(H)
High Angle/Horizontal

Dear Mr. Wood:

Reference is made to your application dated June 15, 1997 on behalf of the operator Mobil Producing Texas & New Mexico Inc. ("Mobil") for authorization to institute high angle/horizontal directionally drilling in the Vacuum-Abo Pool within its Mobil North Vacuum Abo Pressure Maintenance Project Area in Lea County, New Mexico.

The Division Director Finds That:

- (1) The application of Mobil as Unit operator of the North Vacuum-Abo Unit (approved by Division Order No. R-4412, dated October 10, 1972) has been duly filed under the provisions of Rule 111.D and E of the General Rules and Regulations of the New Mexico Oil Conservation Division ("Division"), revised by Division Order No. R-10388, issued by the Oil Conservation Commission in Case 11,274 on June 13, 1995;
- (2) By Division Order No. R-4430, as amended, Mobil was authorized to institute its Mobil North Vacuum Abo Pressure Maintenance Project comprising the following described area in Lea County, New Mexico, by the injection of gas and water into the North Vacuum-Abo Pool:

TOWNSHIP 17 SOUTH, RANGE 34 EAST, NMPM

Section 2:	SW/4
Section 3:	SE/4
Section 10:	E/2
Section 11:	S/2
Section 12:	NE/4 and S/2
Section 13:	N/2 and SW/4
Section 14:	All
Section 15:	E/2
Section 22:	E/2
Sections 23 and 24:	All
Section 25:	N/2 NE/4 and NW/4
Section 26:	All

Section 27: E/2

TOWNSHIP 17 SOUTH, RANGE 35 EAST, NMPM

Section 19: W/2 NW/4.

- (3) Said Order No. R-4430, as amended, further provides for additional producing wells and injection wells at orthodox and unorthodox locations within the boundaries of the North Vacuum-Abo Unit Area as may be necessary to complete an efficient production and injection pattern, provided said wells are drilled no closer than 460 feet to the outer boundary of said Pressure Maintenance Project nor closer than 10 feet to any quarter-quarter section or subdivision inner boundary (see Rule 10);
- (4) The North Vacuum-Abo Pool is subject to the "*Special Rules and Regulations for the North Vacuum-Abo (Oil) Pool*", as promulgated by Division Order No. R-2421, as amended, which provides for 80-acre oil spacing and proration units, or drilling units, and requires that wells be located within a 200 foot radius of the center of a governmental quarter-quarter section or lot, provided that the first well on the 80-acre unit is located in either the NW/4 or SE/4 of a governmental quarter section;
- (5) Mobil is seeking to commence high angle/horizontal directional drilling in the North Vacuum-Abo Pool within its Mobil North Vacuum Abo Pressure Maintenance Project Area, as described above in order to further enhance oil recovery from this existing secondary recovery project;
- (6) The "project area", pursuant to Division General Rule 111.A(7), for said high angle/horizontal drilling should coincide with that area described above as the Mobil North Vacuum Abo Pressure Maintenance Project Area;
- (7) It is Mobil's intent at this time to recomplete:
 - (a) its North Vacuum Abo-Unit Well No. 244 (API No. 30-025-28603), located within a standard 80-acre oil spacing and proration unit for the North Vacuum-Abo Pool comprising the W/2 SE/4 of said Section 23 at a standard oil well location 589 feet from the South line and 1859 feet from the East line (Unit O) of said Section 23, by milling a window in the 5-1/2 inch production casing string at an approximate depth of 8,370 feet, kick-off in a northwesterly direction, and drill a high-angle hole a lateral distance of approximately 1400 feet through the Abo formation; and,
 - (b) its North Vacuum Abo-Unit Well No. 278 (API No. 30-025-29235), located within a standard 80-acre oil

spacing and proration unit comprising the S/2 SW/4 of said Section 23 at a standard oil well location 500 feet from the South line and 650 feet from the West line (Unit M) of said Section 23, by milling a window in the 5-1/2 inch production casing string at an approximate depth of 8,445 feet, kick-off in a southwesterly direction, and drill a high-angle hole a lateral distance of approximately 1700 feet through the Abo formation;

- (8) The applicable drilling window or "producing area", pursuant to Division General Rule 111.A(8), for said wellbores should include that area within the above-described Mobil North Vacuum Abo Pressure Maintenance Project and coinciding high angle/horizontal directional drilling project area that is no closer than 460 feet to its outer boundary; and,
- (9) It appears the applicant has satisfied all of the appropriate requirements prescribed in said Rule 111.D and E, the subject application should be approved and the well should be governed by the provisions contained within this order and all other applicable provisions of Division General Rule 111.

IT IS THEREFORE ORDERED THAT:

(1) Mobil Producing Texas & New Mexico Inc. ("Mobil"), as Unit operator of the North Vacuum-Abo Unit (approved by Division Order No. R-4412, dated October 10, 1972), is hereby authorized to initiate a high angle/horizontal directional drilling project within the North Vacuum-Abo Pool in Lea County, New Mexico, by recompleting its:

(a) North Vacuum Abo-Unit Well No. 244 (API No. 30-025-28603), located at a standard oil well location 589 feet from the South line and 1859 feet from the East line (Unit O) of said Section 23, by milling a window in the 5-1/2 inch production casing string at an approximate depth of 8,370 feet, kick-off in a northwesterly direction, and drill a high-angle hole a lateral distance of approximately 1400 feet through the Abo formation; and,

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PROVIDED HOWEVER THAT prior to commencing directional drilling operations in said wellbores, the applicant shall establish the location of the kick-off point by means of a directional survey

acceptable to the Division.

PROVIDED FURTHER THAT during or upon completion of said directional drilling operations, the applicant shall conduct an accurate wellbore survey from the kick-off point to total depth in each wellbore in order that the subsurface bottomhole location, as well as the wellbore's true depth and course, may be determined.

(2) The applicant shall notify the supervisor of the Hobbs District office of the Division of the date and time said wellbore surveys are to be conducted so that they may be witnessed. The applicant shall further provide a copy of said wellbore surveys to the Santa Fe and Hobbs offices of the Division upon completion.

(3) The "project area", pursuant to Division General Rule 111.A(7), for said high angle/horizontal drilling should coincide with the Mobil North Vacuum Abo Pressure Maintenance Project (approved by Division Order No. R-4430, as amended) comprising the following described area in Lea County, New Mexico:

TOWNSHIP 17 SOUTH, RANGE 34 EAST, NMPM

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TOWNSHIP 17 SOUTH, RANGE 35 EAST, NMPM

Section 19:	W/2 NW/4.
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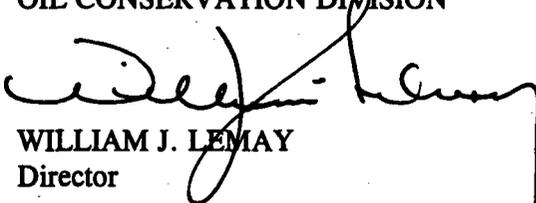
(5) The operator shall comply with all requirements and conditions set forth in Division General Rule 111.E(2) and any applicable requirements in 111.D and F, and Order Nos. R-2421, as amended, and R-4430, as amended.

(6) Form C-105 shall be filed in accordance with Division Rule 1105 and the operator shall indicate thereon true vertical depth (TVD) in addition to measured depths (MVD).

(7) Jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION


WILLIAM J. LEMAY
Director

SEAL

cc: Oil Conservation Division - Hobbs
New Mexico State Land Office - Santa Fe

DD-Mobil

Rec: 6-15-97
Susp: NA
Released: 6-30-97

June 30, 1997

Mobil Exploration & Producing U. S. Inc.
c/o Permits West, Inc.
37 Verano Loop
Santa Fe, New Mexico 87505

Attention: Brain Wood

177
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(1) Mobile Producing Texas & New Mexico Inc. ("Mobile"), as Unit operator of the North Vacuum-Abo Unit (approved by Division Order No. R-4412, dated October 10, 1972), is hereby authorized to initiate a high angle/horizontal directional drilling project within the North Vacuum-Abo Pool in Lea County, New Mexico, by recompleting its:

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Section 19:	W/2 NW/4.
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DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

WILLIAM J. LEMAY
Director

S E A L

cc: Oil Conservation Division - Hobbs
New Mexico State Land Office - Santa Fe

Mobil Exploration & Producing U.S. Inc.

P.O. BOX 633
MIDLAND, TEXAS 79702-0633

June 11, 1997

State of New Mexico
Energy and Minerals Department
Oil Conservation Division
2040 South Pacheco
Santa Fe, New Mexico 87505

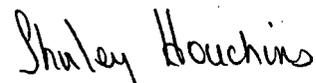
Dear Mr. Stogner:

Mobil is currently accelerating a "horizontal program" in our North Vacuum Abo Unit. The program includes two producers and four injection wells. We would appreciate your assistance in obtaining approval to spud the two well producers by June 30, 1997.

Attached for your information is a copy of the C-101, C-102, a map with the two horizontals depicted, a cross-section, , proposed wellbore sketch and well profile data. The two well producers are located in the interior of the unit and do not require offset operator approval.

Call me at (915) 688-2585 if you have further questions.

Sincerely,



Shirley Houchins
Environmental & Regulatory
Technician

cc: NMOCD, P.O. Box 1980, Hobbs, NM 88240
Attachments

DATE: _____

ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -

ADMINISTRATIVE APPLICATION COVERSHEET

THIS COVERSHEET IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS

Application Acronyms:

[NSP-Non-Standard Proration Unit] [NSL-Non-Standard Location]
[DD-Directional Drilling] [SD-Simultaneous Dedication]
[DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]
[PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]
[WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]
[SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]
[EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

[1] **TYPE OF APPLICATION - Check Those Which Apply for [A]**

[A] Location - Spacing Unit - Directional Drilling

NSL NSP DD SD

Check One Only for [B] or [C]

[B] Commingling - Storage - Measurement

DHC CTB PLC PC OLS OLM

[C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery

WFX PMX SWD IPI EOR PPR

[2] **NOTIFICATION REQUIRED TO: - Check Those Which Apply, or Does Not Apply**

[A] Working, Royalty or Overriding Royalty Interest Owners

[B] Offset Operators, Leaseholders or Surface Owner

[C] Application is One Which Requires Published Legal Notice

[D] Notification and/or Concurrent Approval by BLM or SLO

U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office

[E] For all of the above, Proof of Notification or Publication is Attached, and/or,

[F] Waivers are Attached

[3] **INFORMATION / DATA SUBMITTED IS COMPLETE - Statement of Understanding**

I hereby certify that I, or personnel under my supervision, have read and complied with all applicable Rules and Regulations of the Oil Conservation Division. Further, I assert that the attached application for administrative approval is accurate and complete to the best of my knowledge and where applicable, verify that all interest (WI, RI, ORRI) is common. I further verify that all applicable API Numbers are included. I understand that any omission of data, information or notification is cause to have the application package returned with no action taken.

Note: Statement must be completed by an individual with supervisory capacity.

BRIAN WOOD

Print or Type Name

Brian Wood

Signature

Consultant

Title

6-15-97

Date

District I
PO Box 1980, Hobbs, NM 88241-1980
District II
PO Drawer DD, Artesia, NM 88211-0719
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
PO Box 2088, Santa Fe, NM 87504-2088

OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, NM 87504-2088

Instructions on back
Submit to Appropriate District Office
State Lease - 6 Copies
Fee Lease - 5 Copies

AMENDED REPORT

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

¹ Operator name and Address MOBIL PRODUCING TX & NM INC.* *MOBIL EXPLORATION & PRODUCING US INC. AS AGENT FOR MPTM P.O. BOX 633, MIDLAND, TX 79702		² OGRID Number ³ API Number 30-0 30-025-28603
⁴ Property Code 8055	⁵ Property Name NORTH VACUUM ABO	⁶ Well Number 244

⁷ Surface Location

UL or lot no.	Section	Township	Range	Lot. Idn	Feet from the	North/South Line	Feet from the	East/West line	County
0	23	17-S	34-E		589'	SOUTH	1859'	EAST	LEA

⁸ Proposed Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot. Idn	Feet from the	North/South Line	Feet from the	East/West line	County
J	23	17-S	34-E		1637'	SOUTH	2688'	WEST	LEA

⁹ Proposed Pool 1

¹⁰ Proposed Pool 2

¹¹ Work Type Code P	¹² Well Type Code O	¹³ Cable/Rotary ROTARY	¹⁴ Lease Type Code S	¹⁵ Ground Level Elevation 4000'
¹⁶ Multiple NO	¹⁷ Proposed Depth 8528'	¹⁸ Formations Abo	¹⁹ Contractor	²⁰ Spud Date 06-30-97

²¹ Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
17 1/2"	13 3/8"	48# H40	400'	CIRCULATED	SURFACE
12 1/2"	8 5/8"	28# S80	5000'	CIRCULATED	SURFACE
7 7/8"	5 1/2"	15.5# K55	4800-7300'	CIRCULATED	SURFACE
EXISTING	WELLBORE	17# N80	7300-TD	CIRCULATED	SURFACE

²² Describe the proposed program. If this application is to DEEPEN or PLUG BACK give the data on the present productive zone and proposed new productive zone. Describe the blowout prevention program, if any. Use additional sheets if necessary

SEE ATTACHMENT

²³ I hereby certify that the information given above is true and complete to the best of my knowledge and belief.

Signature: *Shirley Houchins*

Printed name: **SHIRLEY HOUCHINS**

Title: **ENVIRONMENTAL & REGULATORY TECHNICIAN**

Date: **06-12-97**

Phone: **(915) 688-2585**

OIL CONSERVATION DIVISION

Approved by:

Title:

Approval Date:

Expiration Date:

Conditions of Approval:

Attached

District I
PO Box 1980, Hobbs, NM 88241-1980
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1000 Rio Brazos Rd., Aztec, NM 87410
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OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

Instructions on back
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-025-28603		Pool Code	Pool Name NORTH VACUUM Abo
Property Code 8055	Property Name NORTH VACUUM Abo		Well Number 244
OGRID No.	Operator Name MOBIL PRODUCING TX & NM INC.* *MOBIL EXPLORATION & PRODUCING US INC. AS AGENT FOR MPTM		Elevation 4000'

¹⁰ Surface Location

UI or lot no.	Section	Township	Range	Lot. Idn	Feet from the	North/South Line	Feet from the	East/West line	County
0	23	17-S	34-E		589'	SOUTH	1859'	EAST	LEA

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot. Idn	Feet from the	North/South Line	Feet from the	East/West line	County
J	23	17-S	34-E		1637'	SOUTH	2688'	WEST	LEA

¹² Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

	<p>¹⁷ OPERATOR CERTIFICATION</p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.</p> <p><i>Shirley Houchins</i> Signature</p> <p>SHIRLEY HOUCHINS Printed Name</p> <p>ENV. & REG. TECHNICIAN Title</p> <p>06-12-97 Date</p>

NW

SE

NVAU 245

245

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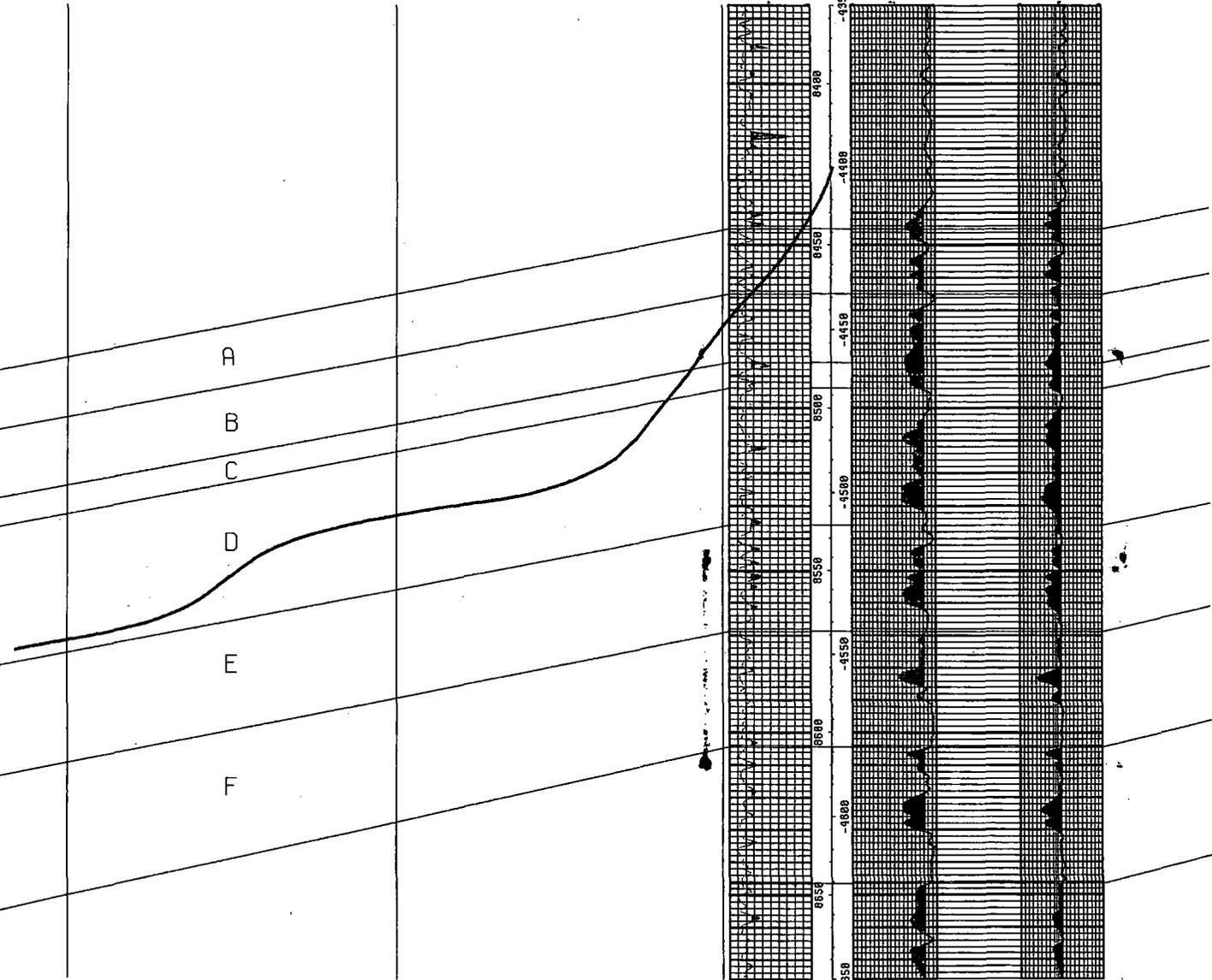
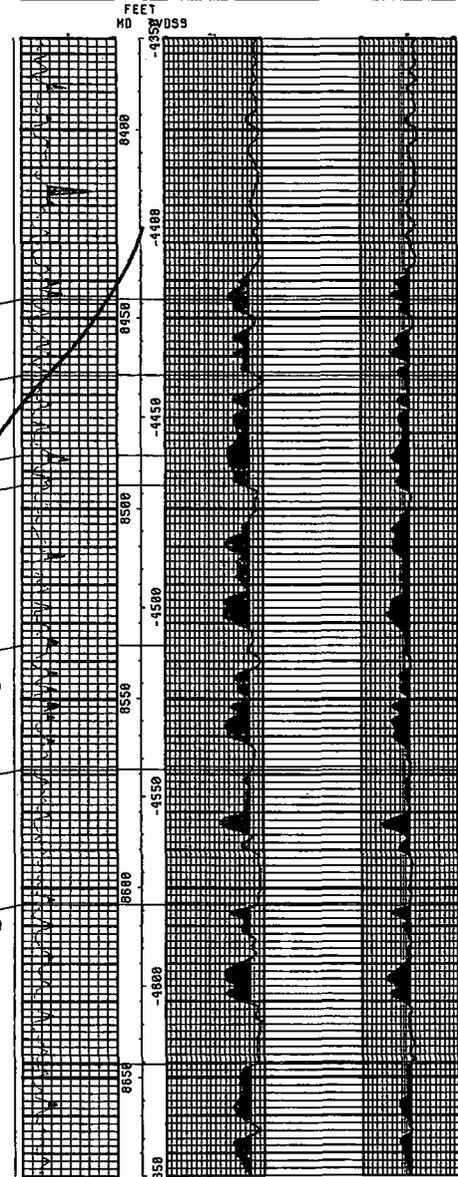
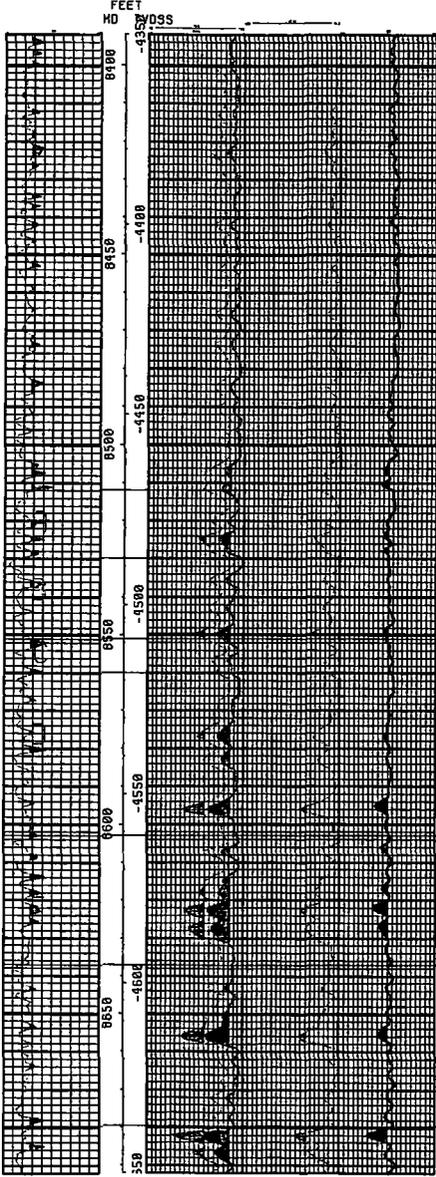
A3

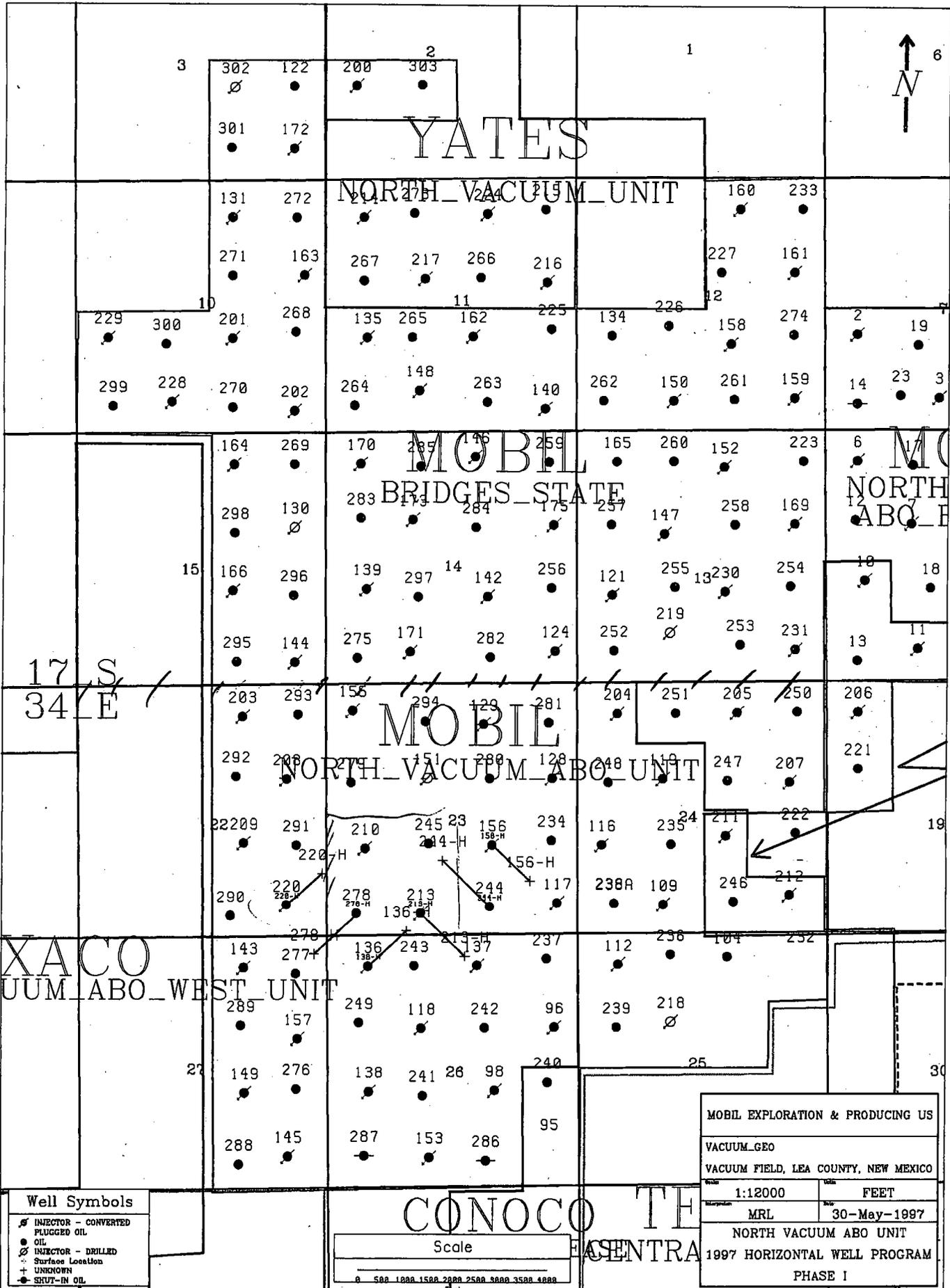
NVAU 244

244

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B1





Well Symbols

- ⊗ INJECTOR - CONVERTED PLUGGED OIL
- OIL
- ⊗ INJECTOR - DRILLED
- Surface Location
- + UNKNOWN
- SHUT-IN OIL

Scale

0 500 1000 1500 2000 2500 3000 3500 4000 Feet

MOBIL EXPLORATION & PRODUCING US

VACUUM_GEO

VACUUM FIELD, LEA COUNTY, NEW MEXICO

Scale 1:12000 FEET

MRL 30-May-1987

NORTH VACUUM ABO UNIT

1997 HORIZONTAL WELL PROGRAM

PHASE I

CONOCO THE CENTRA

**NVAU #244
Lea County, New Mexico**

I. GENERAL DRILLING SUMMARY

A. Objective

The objective of this project is to mill a window in the 5-1/2" casing from 8366' to 8375' and drill an open hole lateral in the Abo formation with a vertical section of 1380 ft.

B. Procedure

1. Prepare location and dig workover pit.
2. Bleed well down. MIRU pulling unit and required H₂S equipment.
3. ND wellhead. NU BOP (double ram w/ stripper head). POH w/ production/injection equipment. Set CIBP and whipstock at 8425 and mill window from 8366 to 8375 ft.
4. Drill curve and lateral to a vertical section of 1380 ft. Drilling operations complete.

Note: Whipstock and CIBP will be retrieved after lateral section is stimulated.

North Vacuum Abo Unit #244 Proposed

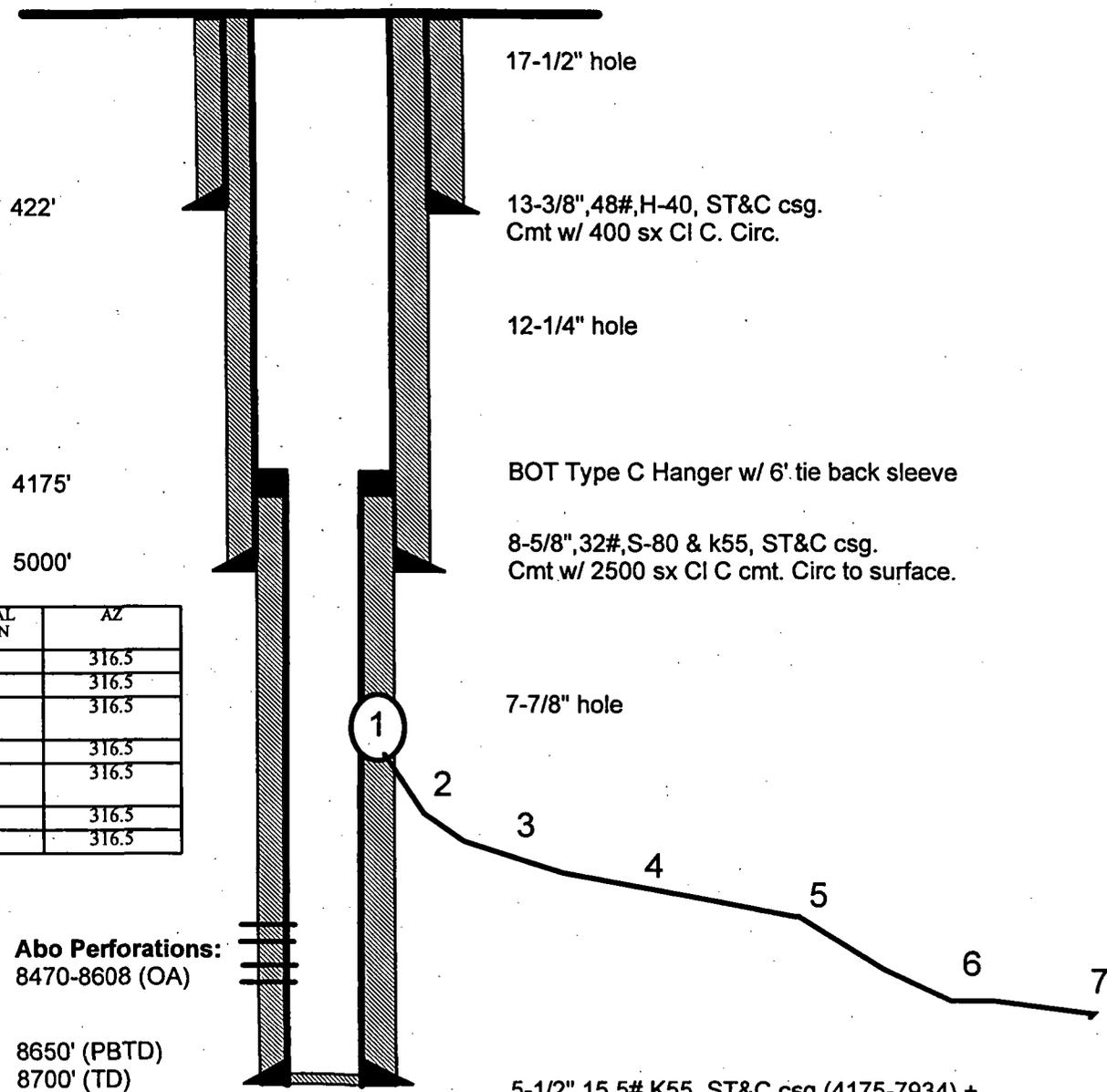
589' FSL & 1859' FEL
Sec 23, T17S - R34E
Lea County, New Mexico

GL = 4028'
DF = 4045'
KB = 17' AGL
Drilled date = 4/84

Lateral	1A1
Radius (ft)	110
Az (deg)	316.5
Build Rate (deg/100)	52.0
EOL TVD (ft)	8572
KOP (ft)	8375
Vert. Displ. (ft)	1380
Window top (ft)	8366
Window btm (ft)	8375

~~9821~~
 8375

 1446



POINT NUMBER	MEASURED DEPTH	TVD	VERTICAL SECTION	AZ
1	8375	8375	0	316.5
2	8540	8485	102	316.5
3	8760	8502	321	316.5
4	8899	8512	460	316.5
5	8909	8513	470	316.5
6	9360	8542	920	316.5
7	9821	8572	1380	316.5

Abo Perforations:
8470-8608 (OA)

8650' (PBTD)
8700' (TD)

5-1/2", 15.5#, K55, ST&C csg (4175-7934) +
5-1/2", 17#, K55, ST&C csg (7934-8700).
Cmt w/ 1000 sx CI H. Cmt to TOL.

**WELL PLANNING
REPORT**

MOBIL E&P SERVICES, INC.

NVAU #244

**N/A
10-Jun-97**

**SPERRY-SUN DRILLING SERVICES
WELL PROFILE DATA**

**MOBIL E&P SERVICES, INC.
NVAU #244**

N/A
10-Jun-97

MEASURED DEPTH	ANGLE DEG	DIRECTION DEG	VERTICAL DEPTH	LATITUDE (Ft)	DEPARTURE (Ft)	VERTICAL SECTION	DOG LEG	TOOL FACE
8375.00	0.000	0.000	8375.00	0.00	0.00	0.00		
8380.00	2.600	316.499	8380.00	0.08 N	0.08 W	0.11		
8390.00	7.800	316.499	8389.95	0.74 N	0.70 W	1.02		
8400.00	13.000	316.499	8399.79	2.05 N	1.94 W	2.82		
8410.00	18.200	316.499	8409.41	4.00 N	3.79 W	5.51		
8420.00	23.400	316.499	8418.76	6.57 N	6.24 W	9.06		
8430.00	28.600	316.499	8427.74	9.75 N	9.25 W	13.44		
8440.00	33.800	316.499	8436.30	13.51 N	12.82 W	18.62		
8450.00	39.000	316.499	8444.34	17.81 N	16.90 W	24.56		
8460.00	44.200	316.499	8451.82	22.63 N	21.47 W	31.19		
8470.00	49.400	316.499	8458.66	27.91 N	26.49 W	38.48		
8480.00	54.600	316.499	8464.81	33.63 N	31.91 W	46.36		
8490.00	59.800	316.499	8470.23	39.72 N	37.69 W	54.76		
8500.00	65.000	316.499	8474.86	46.15 N	43.79 W	63.62		
8510.00	70.200	316.499	8478.67	52.85 N	50.15 W	72.86		
8520.00	75.400	316.499	8481.63	59.78 N	56.73 W	82.41		
8530.00	80.600	316.499	8483.70	66.87 N	63.46 W	92.19		
8539.75	85.668	316.499	8484.87	73.89 N	70.12 W	101.86	52.000	316.499
8540.00	85.668	316.499	8484.89	74.07 N	70.29 W	102.11		
8550.00	85.668	316.499	8485.64	81.30 N	77.16 W	112.09		
8560.00	85.668	316.499	8486.40	88.54 N	84.02 W	122.06		
8570.00	85.668	316.499	8487.15	95.77 N	90.88 W	132.03		
8580.00	85.668	316.499	8487.91	103.00 N	97.75 W	142.00		
8590.00	85.668	316.499	8488.67	110.23 N	104.61 W	151.97		
8600.00	85.668	316.499	8489.42	117.47 N	111.48 W	161.94		
8610.00	85.668	316.499	8490.18	124.70 N	118.34 W	171.91		
8620.00	85.668	316.499	8490.93	131.93 N	125.20 W	181.89		
8630.00	85.668	316.499	8491.69	139.17 N	132.07 W	191.86		
8640.00	85.668	316.499	8492.44	146.40 N	138.93 W	201.83		
8650.00	85.668	316.499	8493.20	153.63 N	145.80 W	211.80		
8660.00	85.668	316.499	8493.95	160.87 N	152.66 W	221.77		
8670.00	85.668	316.499	8494.71	168.10 N	159.52 W	231.74		
8680.00	85.668	316.499	8495.46	175.33 N	166.39 W	241.71		
8690.00	85.668	316.499	8496.22	182.56 N	173.25 W	251.69		
8700.00	85.668	316.499	8496.97	189.80 N	180.12 W	261.66		
8710.00	85.668	316.499	8497.73	197.03 N	186.98 W	271.63		
8720.00	85.668	316.499	8498.49	204.26 N	193.84 W	281.60		
8730.00	85.668	316.499	8499.24	211.50 N	200.71 W	291.57		
8740.00	85.668	316.499	8500.00	218.73 N	207.57 W	301.54		
8750.00	85.668	316.499	8500.75	225.96 N	214.44 W	311.51		
8760.00	85.668	316.499	8501.51	233.19 N	221.30 W	321.49		
8770.00	85.668	316.499	8502.26	240.43 N	228.16 W	331.46		
8780.00	85.668	316.499	8503.02	247.66 N	235.03 W	341.43		
8790.00	85.668	316.499	8503.77	254.89 N	241.89 W	351.40		
8800.00	85.668	316.499	8504.53	262.13 N	248.76 W	361.37		

**SPERRY-SUN DRILLING SERVICES
WELL PROFILE DATA**

**MOBIL E&P SERVICES, INC.
NVAU #244**

**N/A
10-Jun-97**

MEASURED DEPTH	ANGLE DEG	DIRECTION DEG	VERTICAL DEPTH	LATITUDE (Ft)	DEPARTURE (Ft)	VERTICAL SECTION	DOG LEG	TOOL FACE
8810.00	85.668	316.499	8505.28	269.36 N	255.62 W	371.34		
8820.00	85.668	316.499	8506.04	276.59 N	262.48 W	381.31		
8830.00	85.668	316.499	8506.79	283.83 N	269.35 W	391.29		
8840.00	85.668	316.499	8507.55	291.06 N	276.21 W	401.26		
8850.00	85.668	316.499	8508.31	298.29 N	283.08 W	411.23		
8860.00	85.668	316.499	8509.06	305.52 N	289.94 W	421.20		
8870.00	85.668	316.499	8509.82	312.76 N	296.80 W	431.17		
8880.00	85.668	316.499	8510.57	319.99 N	303.67 W	441.14		
8890.00	85.668	316.499	8511.33	327.22 N	310.53 W	451.12		
8898.91	85.668	316.499	8512.00	333.67 N	316.65 W	460.00	0.000	0.000
8898.91	85.668	316.499	8512.00	333.67 N	316.65 W	460.00	0.000	0.000
8900.00	85.733	316.499	8512.08	334.46 N	317.40 W	461.09		
8909.04	86.275	316.501	8512.71	340.99 N	323.60 W	470.10	6.000	0.168
8910.00	86.275	316.501	8512.77	341.69 N	324.26 W	471.06		
8920.00	86.275	316.501	8513.42	348.93 N	331.13 W	481.04		
8930.00	86.275	316.501	8514.07	356.17 N	338.00 W	491.02		
8940.00	86.275	316.501	8514.72	363.41 N	344.87 W	501.00		
8950.00	86.275	316.501	8515.37	370.65 N	351.74 W	510.98		
8960.00	86.275	316.501	8516.02	377.88 N	358.61 W	520.96		
8970.00	86.275	316.501	8516.67	385.12 N	365.48 W	530.94		
8980.00	86.275	316.501	8517.32	392.36 N	372.34 W	540.91		
8990.00	86.275	316.501	8517.97	399.60 N	379.21 W	550.89		
9000.00	86.275	316.501	8518.62	406.84 N	386.08 W	560.87		
9010.00	86.275	316.501	8519.27	414.08 N	392.95 W	570.85		
9020.00	86.275	316.501	8519.92	421.32 N	399.82 W	580.83		
9030.00	86.275	316.501	8520.57	428.55 N	406.69 W	590.81		
9040.00	86.275	316.501	8521.22	435.79 N	413.56 W	600.79		
9050.00	86.275	316.501	8521.87	443.03 N	420.43 W	610.77		
9060.00	86.275	316.501	8522.52	450.27 N	427.30 W	620.75		
9070.00	86.275	316.501	8523.17	457.51 N	434.16 W	630.72		
9080.00	86.275	316.501	8523.82	464.75 N	441.03 W	640.70		
9090.00	86.275	316.501	8524.47	471.99 N	447.90 W	650.68		
9100.00	86.275	316.501	8525.12	479.22 N	454.77 W	660.66		
9110.00	86.275	316.501	8525.77	486.46 N	461.64 W	670.64		
9120.00	86.275	316.501	8526.42	493.70 N	468.51 W	680.62		
9130.00	86.275	316.501	8527.07	500.94 N	475.38 W	690.60		
9140.00	86.275	316.501	8527.72	508.18 N	482.25 W	700.58		
9150.00	86.275	316.501	8528.36	515.42 N	489.12 W	710.56		
9160.00	86.275	316.501	8529.01	522.66 N	495.98 W	720.53		
9170.00	86.275	316.501	8529.66	529.89 N	502.85 W	730.51		
9180.00	86.275	316.501	8530.31	537.13 N	509.72 W	740.49		
9190.00	86.275	316.501	8530.96	544.37 N	516.59 W	750.47		
9200.00	86.275	316.501	8531.61	551.61 N	523.46 W	760.45		
9210.00	86.275	316.501	8532.26	558.85 N	530.33 W	770.43		
9220.00	86.275	316.501	8532.91	566.09 N	537.20 W	780.41		

**SPERRY-SUN DRILLING SERVICES
WELL PROFILE DATA**

**MOBIL E&P SERVICES, INC.
NVAU #244**

**N/A
10-Jun-97**

MEASURED DEPTH	ANGLE DEG	DIRECTION DEG	VERTICAL DEPTH	LATITUDE (Ft)	DEPARTURE (Ft)	VERTICAL SECTION	DOG LEG	TOOL FACE
9230.00	86.275	316.501	8533.56	573.33 N	544.07 W	790.39		
9240.00	86.275	316.501	8534.21	580.56 N	550.94 W	800.37		
9250.00	86.275	316.501	8534.86	587.80 N	557.80 W	810.34		
9260.00	86.275	316.501	8535.51	595.04 N	564.67 W	820.32		
9270.00	86.275	316.501	8536.16	602.28 N	571.54 W	830.30		
9280.00	86.275	316.501	8536.81	609.52 N	578.41 W	840.28		
9290.00	86.275	316.501	8537.46	616.76 N	585.28 W	850.26		
9300.00	86.275	316.501	8538.11	624.00 N	592.15 W	860.24		
9310.00	86.275	316.501	8538.76	631.23 N	599.02 W	870.22		
9320.00	86.275	316.501	8539.41	638.47 N	605.89 W	880.20		
9330.00	86.275	316.501	8540.06	645.71 N	612.76 W	890.18		
9340.00	86.275	316.501	8540.71	652.95 N	619.62 W	900.15		
9350.00	86.275	316.501	8541.36	660.19 N	626.49 W	910.13		
9359.89	86.275	316.501	8542.00	667.35 N	633.29 W	920.01	0.000	0.000
9360.00	86.269	316.500	8542.01	667.43 N	633.36 W	920.11		
9360.01	86.269	316.500	8542.01	667.43 N	633.37 W	920.12	6.000	187.411
9370.00	86.269	316.500	8542.66	674.66 N	640.23 W	930.09		
9380.00	86.269	316.500	8543.31	681.90 N	647.10 W	940.07		
9390.00	86.269	316.500	8543.96	689.14 N	653.97 W	950.05		
9400.00	86.269	316.500	8544.61	696.38 N	660.84 W	960.03		
9410.00	86.269	316.500	8545.26	703.62 N	667.71 W	970.01		
9420.00	86.269	316.500	8545.91	710.86 N	674.58 W	979.98		
9430.00	86.269	316.500	8546.56	718.09 N	681.44 W	989.96		
9440.00	86.269	316.500	8547.21	725.33 N	688.31 W	999.94		
9450.00	86.269	316.500	8547.86	732.57 N	695.18 W	1009.92		
9460.00	86.269	316.500	8548.51	739.81 N	702.05 W	1019.90		
9470.00	86.269	316.500	8549.17	747.05 N	708.92 W	1029.88		
9480.00	86.269	316.500	8549.82	754.29 N	715.79 W	1039.86		
9490.00	86.269	316.500	8550.47	761.53 N	722.66 W	1049.84		
9500.00	86.269	316.500	8551.12	768.76 N	729.53 W	1059.81		
9510.00	86.269	316.500	8551.77	776.00 N	736.40 W	1069.79		
9520.00	86.269	316.500	8552.42	783.24 N	743.27 W	1079.77		
9530.00	86.269	316.500	8553.07	790.48 N	750.13 W	1089.75		
9540.00	86.269	316.500	8553.72	797.72 N	757.00 W	1099.73		
9550.00	86.269	316.500	8554.37	804.96 N	763.87 W	1109.71		
9560.00	86.269	316.500	8555.02	812.19 N	770.74 W	1119.69		
9570.00	86.269	316.500	8555.67	819.43 N	777.61 W	1129.67		
9580.00	86.269	316.500	8556.32	826.67 N	784.48 W	1139.65		
9590.00	86.269	316.500	8556.98	833.91 N	791.35 W	1149.62		
9600.00	86.269	316.500	8557.63	841.15 N	798.22 W	1159.60		
9610.00	86.269	316.500	8558.28	848.39 N	805.09 W	1169.58		
9620.00	86.269	316.500	8558.93	855.62 N	811.95 W	1179.56		
9630.00	86.269	316.500	8559.58	862.86 N	818.82 W	1189.54		
9640.00	86.269	316.500	8560.23	870.10 N	825.69 W	1199.52		
9650.00	86.269	316.500	8560.88	877.34 N	832.56 W	1209.50		

**SPERRY-SUN DRILLING SERVICES
WELL PROFILE DATA**

**MOBIL E&P SERVICES, INC.
NVAU #244**

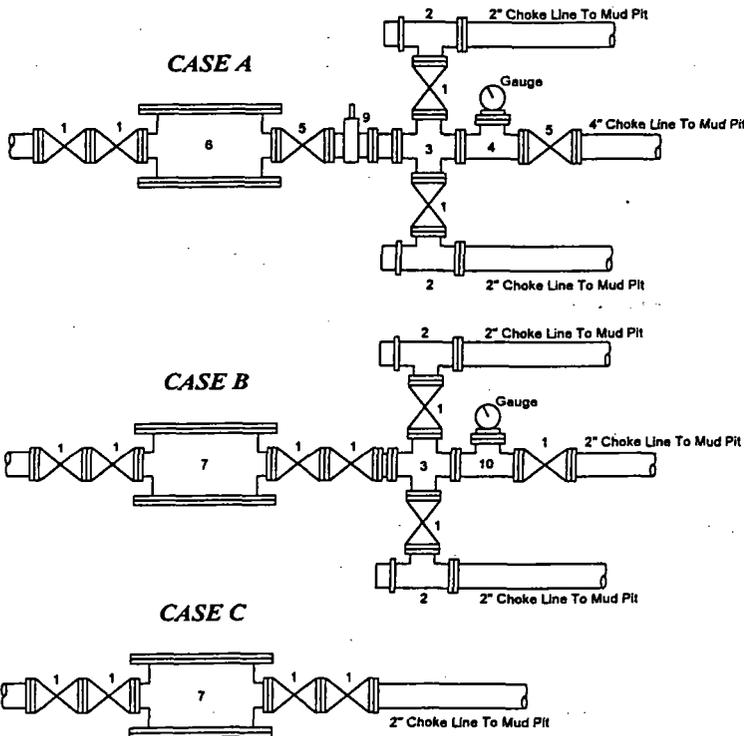
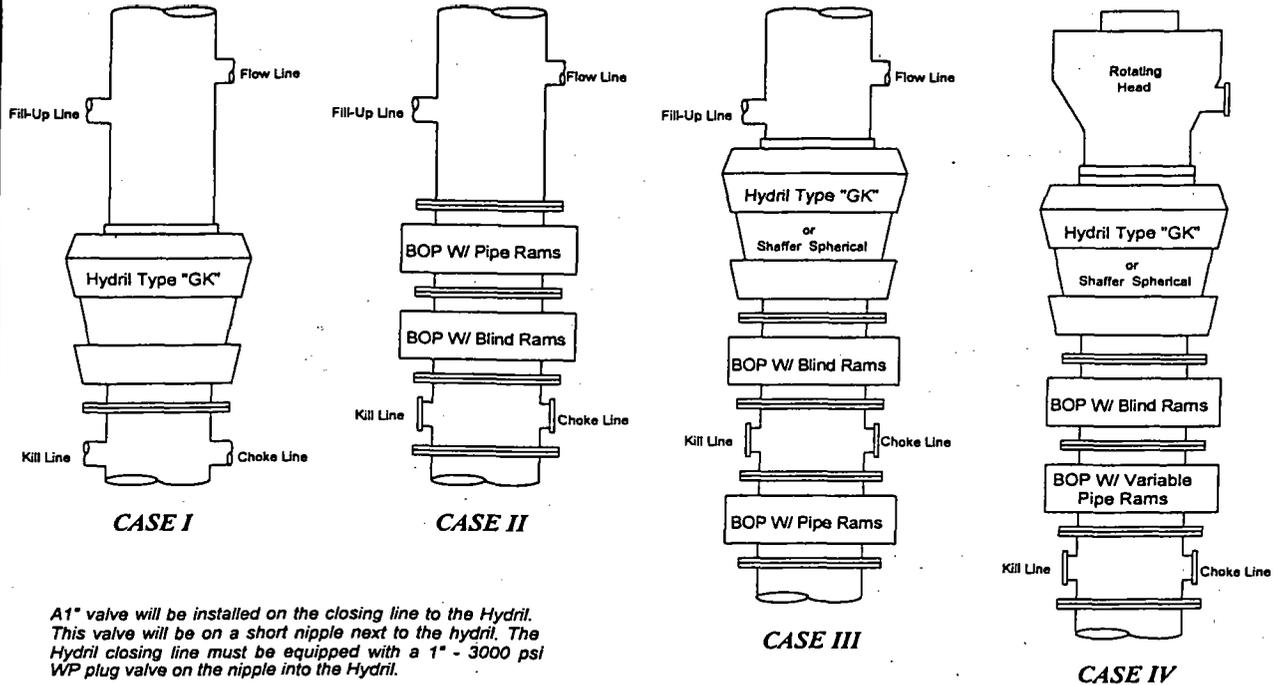
**N/A
10-Jun-97**

MEASURED DEPTH	ANGLE DEG	DIRECTION DEG	VERTICAL DEPTH	LATITUDE (Ft)	DEPARTURE (Ft)	VERTICAL SECTION	DOG LEG	TOOL FACE
9660.00	86.269	316.500	8561.53	884.58 N	839.43 W	1219.48		
9670.00	86.269	316.500	8562.18	891.82 N	846.30 W	1229.45		
9680.00	86.269	316.500	8562.83	899.05 N	853.17 W	1239.43		
9690.00	86.269	316.500	8563.48	906.29 N	860.04 W	1249.41		
9700.00	86.269	316.500	8564.13	913.53 N	866.91 W	1259.39		
9710.00	86.269	316.500	8564.78	920.77 N	873.78 W	1269.37		
9720.00	86.269	316.500	8565.44	928.01 N	880.64 W	1279.35		
9730.00	86.269	316.500	8566.09	935.25 N	887.51 W	1289.33		
9740.00	86.269	316.500	8566.74	942.48 N	894.38 W	1299.31		
9750.00	86.269	316.500	8567.39	949.72 N	901.25 W	1309.29		
9760.00	86.269	316.500	8568.04	956.96 N	908.12 W	1319.26		
9770.00	86.269	316.500	8568.69	964.20 N	914.99 W	1329.24		
9780.00	86.269	316.500	8569.34	971.44 N	921.86 W	1339.22		
9790.00	86.269	316.500	8569.99	978.68 N	928.73 W	1349.20		
9800.00	86.269	316.500	8570.64	985.92 N	935.60 W	1359.18		
9810.00	86.269	316.500	8571.29	993.15 N	942.46 W	1369.16		
9820.00	86.269	316.500	8571.94	1000.39 N	949.33 W	1379.14		
9820.87	86.269	316.500	8572.00	1001.02 N	949.93 W	1380.00	0.000	0.000

**The Dogleg Severity is in Degrees per 100.00 Feet
Vertical Section was calculated along an Azimuth of 316.500° (True)**

**Based upon Minimum Curvature type calculations. At a Measured Depth of 9820.87 Feet,
the Bottom Hole Displacement is 1380.00 Feet, in the Direction of 316.500° (True)**

SCHEDULE B
MINIMUM BLOWOUT PREVENTER REQUIREMENTS



BOP SIZE	BOP CASE	WORKING PRESSURE	CHOKE CASE
11	II	3000	C

Bradenhead furnished by Mobil will be:
Mfr: National
Size: 11" - 3000 Type: SOMO

Legend

1. 2" flanged all steel valve must be either Cameron "F", Halliburton Low Torque or Shaffer Flo-Seal.
2. 2" flanged adjustable chokes, min. 1" full opening & equipped with hard trim.
3. 4" x 2" flanged steel cross.
4. 4" flanged steel tee.
5. 4" flanged all steel valve (Type as in no. 1).
6. Drilling Spool with 2" x 4" flanged outlet.
7. Drilling Spool with 2" x 2" flanged outlet.
8. 2" x 2" flanged steel cross.
9. 4" pressure operated gate valve.
10. 2" flanged steel tee.

Notes

Choke manifold may be located in any convenient position. Use all steel fittings throughout. Make 90° turns with bull plugged tees only. No field welding will be permitted on any of the components of the choke manifold and related equipment upstream of the chokes. The choke spool and all lines and fittings must be at least equivalent to the test pressure of the preventers required. Independent closing control unit with clearly marked controls to be located on derrick floor near driller's position.

District I
PO Box 1980, Hobbs, NM 88241-1980
District II
PO Drawer DD, Artesia, NM 88211-0719
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
PO Box 2088, Santa Fe, NM 87504-2088

OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, NM 87504-2088

AMENDED REPORT

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

¹ Operator name and Address MOBIL PRODUCING TX & NM INC.* *MOBIL EXPLORATION & PRODUCING US INC. AS AGENT FOR MPTM P.O. BOX 633, MIDLAND, TX 79702		² OGRID Number ³ API Number 30-0 30-025-28603
⁴ Property Code 8055	⁵ Property Name NORTH VACUUM ABO	⁶ Well Number 244

⁷ Surface Location									
UL or lot no.	Section	Township	Range	Lot. Idn	Feet from the	North/South Line	Feet from the	East/West line	County
0	23	17-S	34-E		589'	SOUTH	1859'	EAST	LEA

⁸ Proposed Bottom Hole Location If Different From Surface									
UL or lot no.	Section	Township	Range	Lot. Idn	Feet from the	North/South Line	Feet from the	East/West line	County
J	23	17-S	34-E		1637'	SOUTH	2688'	WEST	LEA

⁹ Proposed Pool 1	¹⁰ Proposed Pool 2
------------------------------	-------------------------------

¹¹ Work Type Code P	¹² Well Type Code O	¹³ Cable/Rotary ROTARY	¹⁴ Lease Type Code S	¹⁵ Ground Level Elevation 4000'
¹⁶ Multiple NO	¹⁷ Proposed Depth 8528'	¹⁸ Formations Abo	¹⁹ Contractor	²⁰ Spud Date 06-30-97

²¹ Proposed Casing and Cement Program					
Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
17 1/2"	13 3/8"	48# H40	400'	CIRCULATED	SURFACE
12 1/2"	8 5/8"	28# S80	5000'	CIRCULATED	SURFACE
7 7/8"	5 1/2"	15.5# K55	4800-7300'	CIRCULATED	SURFACE
EXISTING	WELLBORE	17# N80	7300-TD	CIRCULATED	SURFACE

²² Describe the proposed program. If this application is to DEEPEN or PLUG BACK give the data on the present productive zone and proposed new productive zone. Describe the blowout prevention program, if any. Use additional sheets if necessary

SEE ATTACHMENT

²³ I hereby certify that the information given above is true and complete to the best of my knowledge and belief. Signature: <i>Shirley Houchins</i>	OIL CONSERVATION DIVISION	
	Approved by:	
Printed name: SHIRLEY HOUCHINS	Title:	
Title: ENVIRONMENTAL & REGULATORY TECHNICIAN	Approval Date:	Expiration Date:
Date: 06-12-97	Phone: (915) 688-2585	Conditions of Approval: Attached <input type="checkbox"/>

District I
PO Box 1980, Hobbs, NM 88241-1980
District II
PO Drawer DD, Artesia, NM 88211-0719
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
PO Box 2088, Santa Fe, NM 87504-2088

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

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-025-28603		Pool Code	Pool Name NORTH VACUUM Abo	
Property Code 8055	Property Name NORTH VACUUM Abo			Well Number 244
OGRID No.	Operator Name MOBIL PRODUCING TX & NM INC.* *MOBIL EXPLORATION & PRODUCING US INC. AS AGENT FOR MPTM			Elevation 4000'

¹⁰ Surface Location

UI or lot no.	Section	Township	Range	Lot. Idn	Feet from the	North/South Line	Feet from the	East/West line	County
0	23	17-S	34-E		589'	SOUTH	1859'	EAST	LEA

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot. Idn	Feet from the	North/South Line	Feet from the	East/West line	County
J	23	17-S	34-E		1637'	SOUTH	2688'	WEST	LEA

¹² Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

<p>BHL 1637' FSL 2688' FWL</p> <p>#244</p> <p>589'</p> <p>1859'</p>	<p>¹⁷ OPERATOR CERTIFICATION</p> <p><i>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.</i></p> <p style="text-align: right;"><u>Shirley Houchins</u> Signature</p> <p style="text-align: right;">SHIRLEY HOUCHINS Printed Name</p> <p style="text-align: right;">ENV. & REG. TECHNICIAN Title</p> <p style="text-align: right;">06-12-97 Date</p>
	<p>¹⁸ SURVEYOR CERTIFICATION</p> <p><i>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 belief.</i></p> <p>_____ Date of Survey</p> <p>_____ Signature and Seal of Professional Surveyer:</p>
	<p>_____ Certificate Number</p>

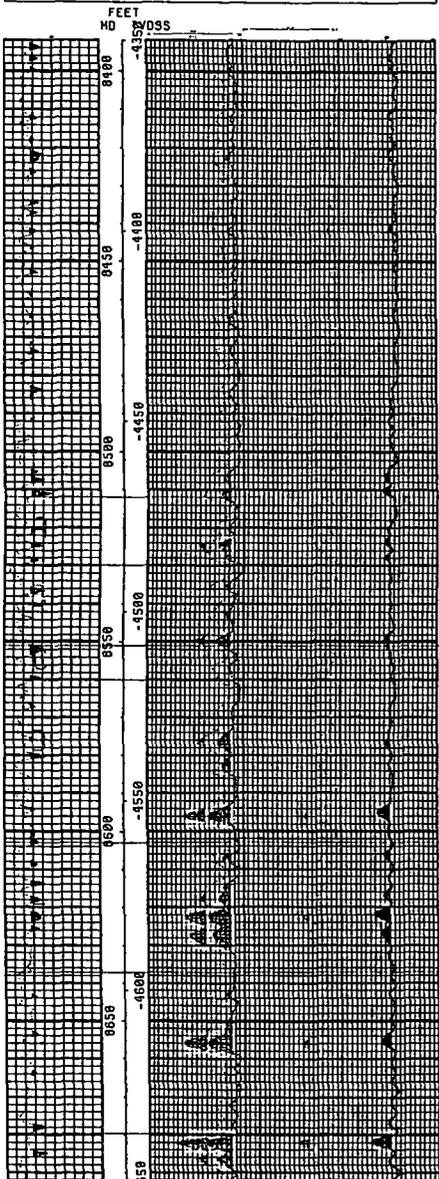
NW

NVAU 245

245



A3

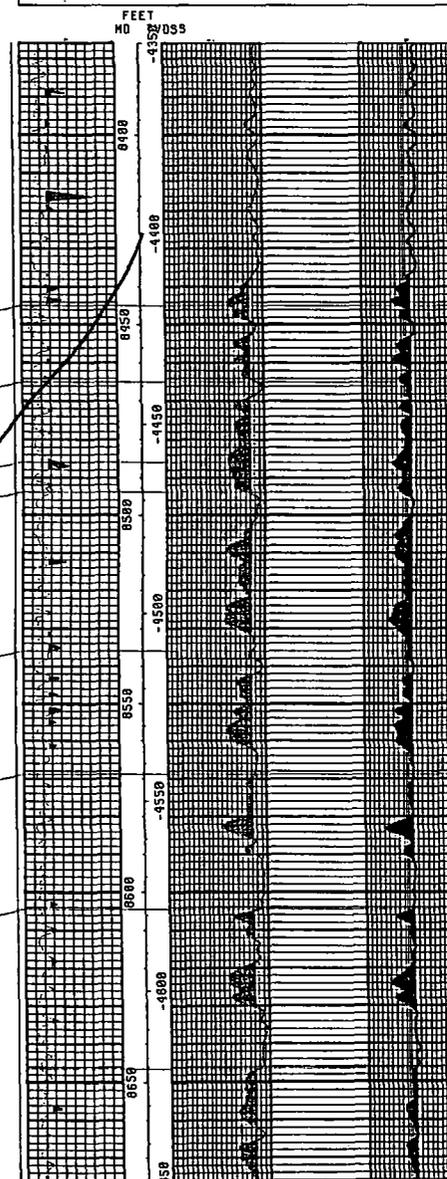


NVAU 244

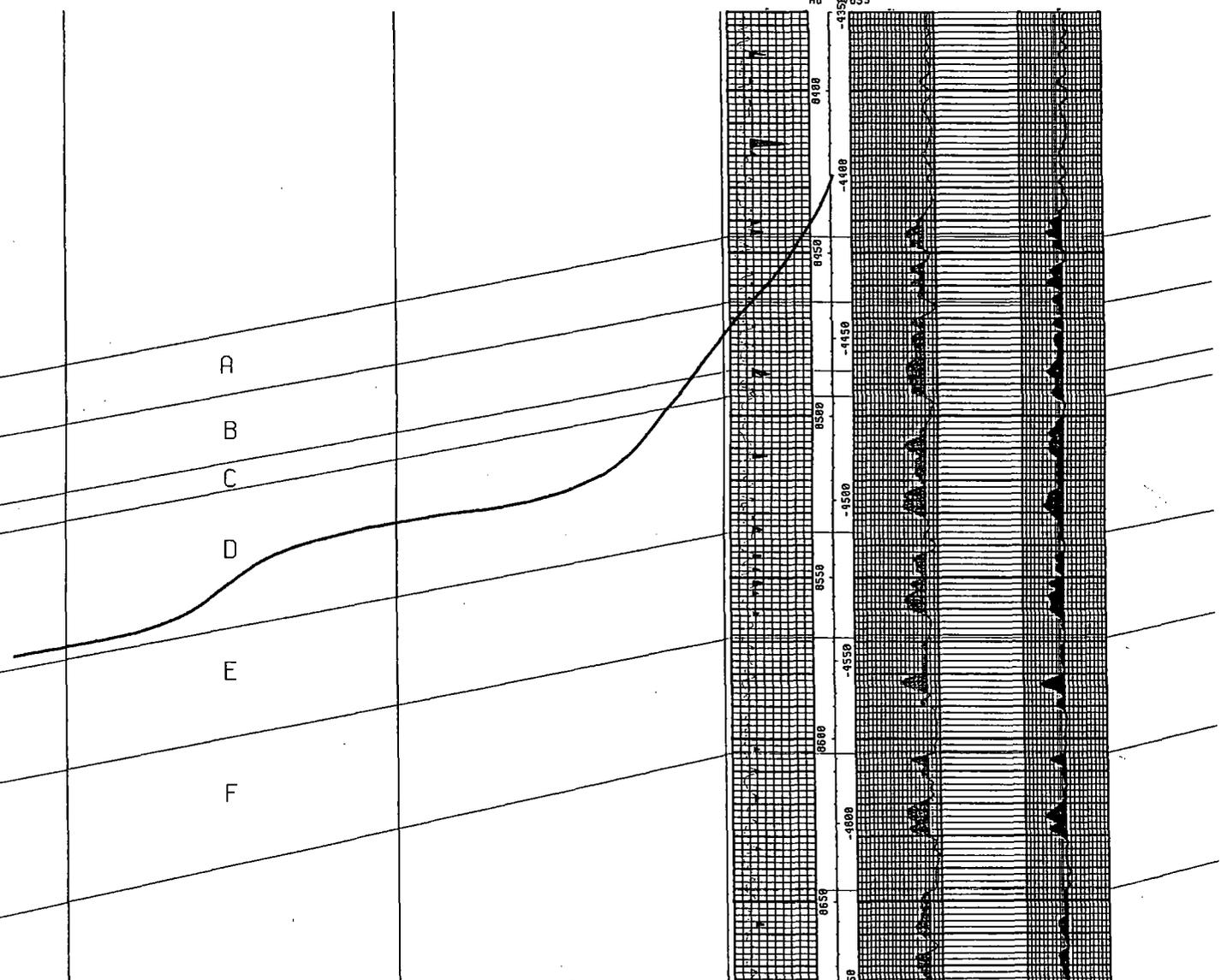
244

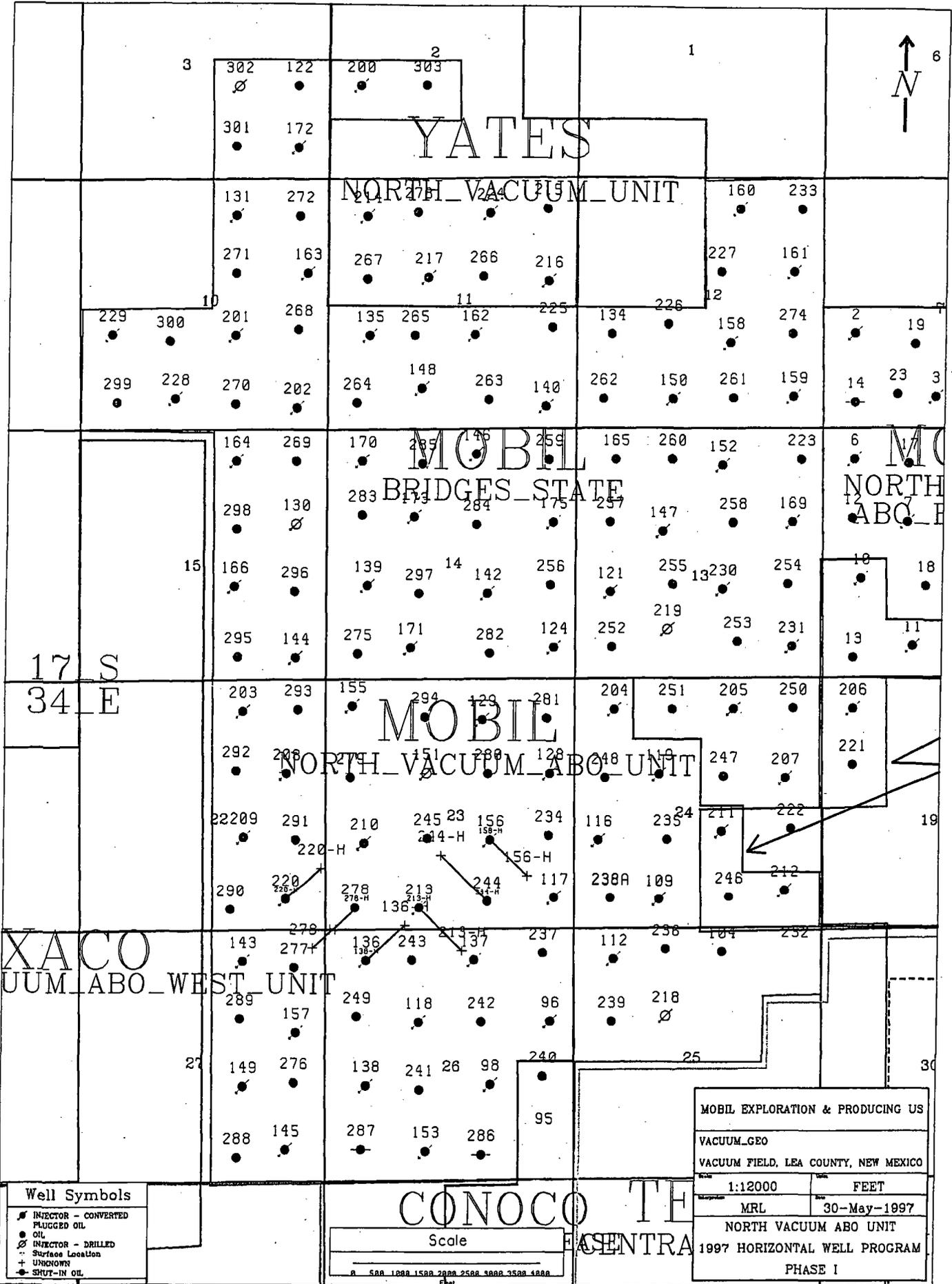
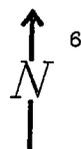


B1



SE





Well Symbols	
●	INJECTOR - CONVERTED PLUGGED OIL
○	OIL
○	INJECTOR - DRILLED
+	Surface Location
+	UNKNOWN
●	SHUT-IN OIL

Scale	
0	500 1000 1500 2000 2500 3000 3500 4000

MOBIL EXPLORATION & PRODUCING US	
VACUUM_GEO	
VACUUM FIELD, LEA COUNTY, NEW MEXICO	
Scale	1:12000
Units	FEET
Effective Date	MRL 30-May-1997
NORTH VACUUM ABO UNIT	
1997 HORIZONTAL WELL PROGRAM	
PHASE I	

**NVAU #244
Lea County, New Mexico**

I. GENERAL DRILLING SUMMARY

A. Objective

The objective of this project is to mill a window in the 5-1/2" casing from 8366' to 8375' and drill an open hole lateral in the Abo formation with a vertical section of 1380 ft.

B. Procedure

1. Prepare location and dig workover pit.
2. Bleed well down. MIRU pulling unit and required H₂S equipment.
3. ND wellhead. NU BOP (double ram w/ stripper head). POH w/ production/injection equipment. Set CIBP and whipstock at 8425 and mill window from 8366 to 8375 ft.
4. Drill curve and lateral to a vertical section of 1380 ft. Drilling operations complete.

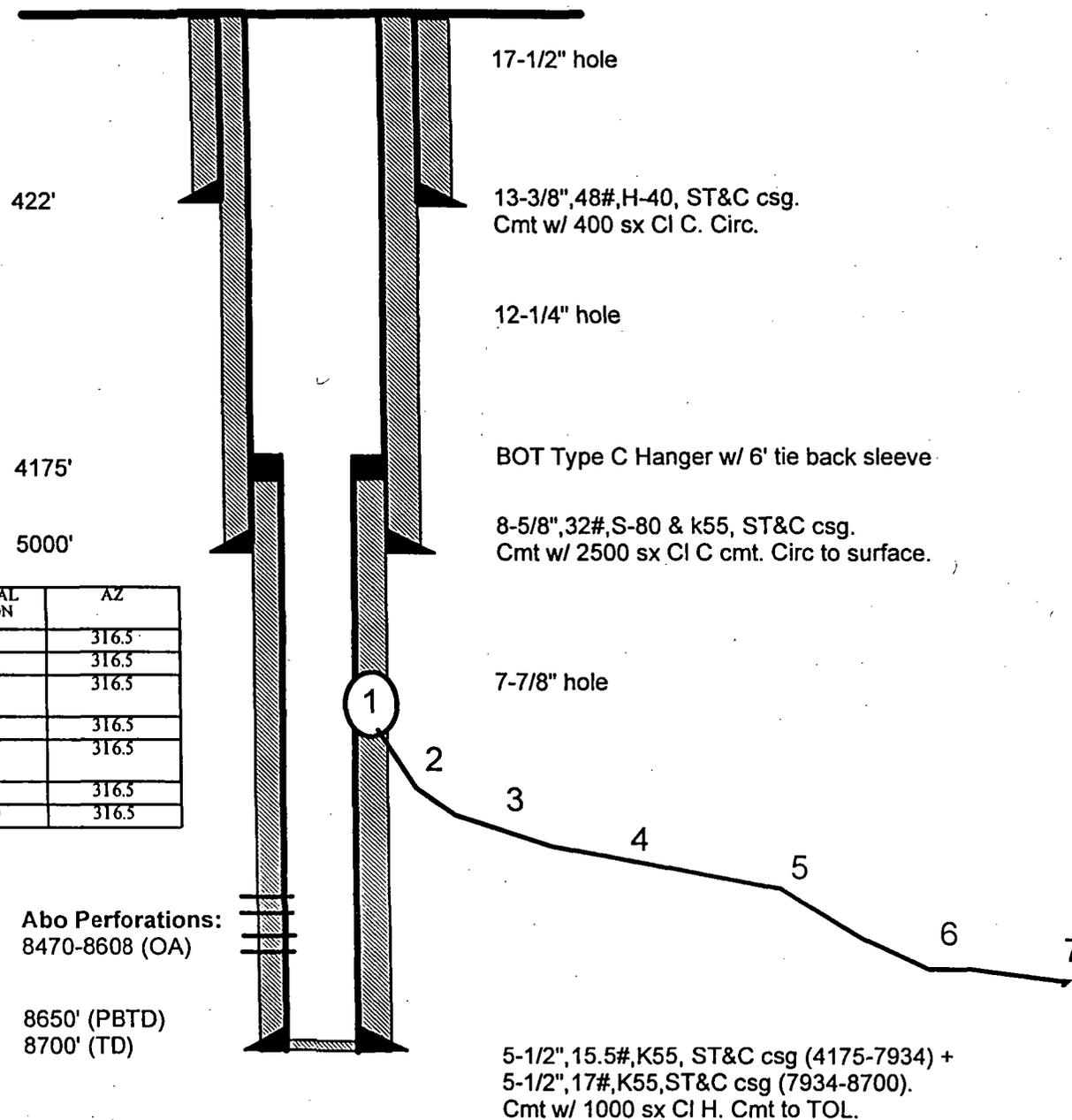
Note: Whipstock and CIBP will be retrieved after lateral section is stimulated.

North Vacuum Abo Unit #244 Proposed

589' FSL & 1859' FEL
Sec 23, T17S - R34E
Lea County, New Mexico

GL = 4028'
DF = 4045'
KB = 17' AGL
Drilled date = 4/84

Lateral	1A1
Radius (ft)	110
Az (deg)	316.5
Build Rate (deg/100)	52.0
EOL TVD (ft)	8572
KOP (ft)	8375
Vert. Displ. (ft)	1380
Window top (ft)	8366
Window btm (ft)	8375



POINT NUMBER	MEASURED DEPTH	TVD	VERTICAL SECTION	AZ
1	8375	8375	0	316.5
2	8540	8485	102	316.5
3	8760	8502	321	316.5
4	8899	8512	460	316.5
5	8909	8513	470	316.5
6	9360	8542	920	316.5
7	9821	8572	1380	316.5

**WELL PLANNING
REPORT**

MOBIL E&P SERVICES, INC.

NVAU #244

**N/A
10-Jun-97**

**SPERRY-SUN DRILLING SERVICES
WELL PROFILE DATA**

**MOBIL E&P SERVICES, INC.
NVAU #244**

N/A
10-Jun-97

MEASURED DEPTH	ANGLE DEG	DIRECTION DEG	VERTICAL DEPTH	LATITUDE (Ft)	DEPARTURE (Ft)	VERTICAL SECTION	DOG LEG	TOOL FACE
8375.00	0.000	0.000	8375.00	0.00	0.00	0.00		
8380.00	2.600	316.499	8380.00	0.08 N	0.08 W	0.11		
8390.00	7.800	316.499	8389.95	0.74 N	0.70 W	1.02		
8400.00	13.000	316.499	8399.79	2.05 N	1.94 W	2.82		
8410.00	18.200	316.499	8409.41	4.00 N	3.79 W	5.51		
8420.00	23.400	316.499	8418.76	6.57 N	6.24 W	9.06		
8430.00	28.600	316.499	8427.74	9.75 N	9.25 W	13.44		
8440.00	33.800	316.499	8436.30	13.51 N	12.82 W	18.62		
8450.00	39.000	316.499	8444.34	17.81 N	16.90 W	24.56		
8460.00	44.200	316.499	8451.82	22.63 N	21.47 W	31.19		
8470.00	49.400	316.499	8458.66	27.91 N	26.49 W	38.48		
8480.00	54.600	316.499	8464.81	33.63 N	31.91 W	46.36		
8490.00	59.800	316.499	8470.23	39.72 N	37.69 W	54.76		
8500.00	65.000	316.499	8474.86	46.15 N	43.79 W	63.62		
8510.00	70.200	316.499	8478.67	52.85 N	50.15 W	72.86		
8520.00	75.400	316.499	8481.63	59.78 N	56.73 W	82.41		
8530.00	80.600	316.499	8483.70	66.87 N	63.46 W	92.19		
8539.75	85.668	316.499	8484.87	73.89 N	70.12 W	101.86	52.000	316.499
8540.00	85.668	316.499	8484.89	74.07 N	70.29 W	102.11		
8550.00	85.668	316.499	8485.64	81.30 N	77.16 W	112.09		
8560.00	85.668	316.499	8486.40	88.54 N	84.02 W	122.06		
8570.00	85.668	316.499	8487.15	95.77 N	90.88 W	132.03		
8580.00	85.668	316.499	8487.91	103.00 N	97.75 W	142.00		
8590.00	85.668	316.499	8488.67	110.23 N	104.61 W	151.97		
8600.00	85.668	316.499	8489.42	117.47 N	111.48 W	161.94		
8610.00	85.668	316.499	8490.18	124.70 N	118.34 W	171.91		
8620.00	85.668	316.499	8490.93	131.93 N	125.20 W	181.89		
8630.00	85.668	316.499	8491.69	139.17 N	132.07 W	191.86		
8640.00	85.668	316.499	8492.44	146.40 N	138.93 W	201.83		
8650.00	85.668	316.499	8493.20	153.63 N	145.80 W	211.80		
8660.00	85.668	316.499	8493.95	160.87 N	152.66 W	221.77		
8670.00	85.668	316.499	8494.71	168.10 N	159.52 W	231.74		
8680.00	85.668	316.499	8495.46	175.33 N	166.39 W	241.71		
8690.00	85.668	316.499	8496.22	182.56 N	173.25 W	251.69		
8700.00	85.668	316.499	8496.97	189.80 N	180.12 W	261.66		
8710.00	85.668	316.499	8497.73	197.03 N	186.98 W	271.63		
8720.00	85.668	316.499	8498.49	204.26 N	193.84 W	281.60		
8730.00	85.668	316.499	8499.24	211.50 N	200.71 W	291.57		
8740.00	85.668	316.499	8500.00	218.73 N	207.57 W	301.54		
8750.00	85.668	316.499	8500.75	225.96 N	214.44 W	311.51		
8760.00	85.668	316.499	8501.51	233.19 N	221.30 W	321.49		
8770.00	85.668	316.499	8502.26	240.43 N	228.16 W	331.46		
8780.00	85.668	316.499	8503.02	247.66 N	235.03 W	341.43		
8790.00	85.668	316.499	8503.77	254.89 N	241.89 W	351.40		
8800.00	85.668	316.499	8504.53	262.13 N	248.76 W	361.37		

**SPERRY-SUN DRILLING SERVICES
WELL PROFILE DATA**

**MOBIL E&P SERVICES, INC.
NVAU #244**

N/A
10-Jun-97

MEASURED DEPTH	ANGLE DEG	DIRECTION DEG	VERTICAL DEPTH	LATITUDE (FL)	DEPARTURE (FL)	VERTICAL SECTION	DOG LEG	TOOL FACE
8810.00	85.668	316.499	8505.28	269.36 N	255.62 W	371.34		
8820.00	85.668	316.499	8506.04	276.59 N	262.48 W	381.31		
8830.00	85.668	316.499	8506.79	283.83 N	269.35 W	391.29		
8840.00	85.668	316.499	8507.55	291.06 N	276.21 W	401.26		
8850.00	85.668	316.499	8508.31	298.29 N	283.08 W	411.23		
8860.00	85.668	316.499	8509.06	305.52 N	289.94 W	421.20		
8870.00	85.668	316.499	8509.82	312.76 N	296.80 W	431.17		
8880.00	85.668	316.499	8510.57	319.99 N	303.67 W	441.14		
8890.00	85.668	316.499	8511.33	327.22 N	310.53 W	451.12		
8898.91	85.668	316.499	8512.00	333.67 N	316.65 W	460.00	0.000	0.000
8898.91	85.668	316.499	8512.00	333.67 N	316.65 W	460.00	0.000	0.000
8900.00	85.733	316.499	8512.08	334.46 N	317.40 W	461.09		
8909.04	86.275	316.501	8512.71	340.99 N	323.60 W	470.10	6.000	0.168
8910.00	86.275	316.501	8512.77	341.69 N	324.26 W	471.06		
8920.00	86.275	316.501	8513.42	348.93 N	331.13 W	481.04		
8930.00	86.275	316.501	8514.07	356.17 N	338.00 W	491.02		
8940.00	86.275	316.501	8514.72	363.41 N	344.87 W	501.00		
8950.00	86.275	316.501	8515.37	370.65 N	351.74 W	510.98		
8960.00	86.275	316.501	8516.02	377.88 N	358.61 W	520.96		
8970.00	86.275	316.501	8516.67	385.12 N	365.48 W	530.94		
8980.00	86.275	316.501	8517.32	392.36 N	372.34 W	540.91		
8990.00	86.275	316.501	8517.97	399.60 N	379.21 W	550.89		
9000.00	86.275	316.501	8518.62	406.84 N	386.08 W	560.87		
9010.00	86.275	316.501	8519.27	414.08 N	392.95 W	570.85		
9020.00	86.275	316.501	8519.92	421.32 N	399.82 W	580.83		
9030.00	86.275	316.501	8520.57	428.55 N	406.69 W	590.81		
9040.00	86.275	316.501	8521.22	435.79 N	413.56 W	600.79		
9050.00	86.275	316.501	8521.87	443.03 N	420.43 W	610.77		
9060.00	86.275	316.501	8522.52	450.27 N	427.30 W	620.75		
9070.00	86.275	316.501	8523.17	457.51 N	434.16 W	630.72		
9080.00	86.275	316.501	8523.82	464.75 N	441.03 W	640.70		
9090.00	86.275	316.501	8524.47	471.99 N	447.90 W	650.68		
9100.00	86.275	316.501	8525.12	479.22 N	454.77 W	660.66		
9110.00	86.275	316.501	8525.77	486.46 N	461.64 W	670.64		
9120.00	86.275	316.501	8526.42	493.70 N	468.51 W	680.62		
9130.00	86.275	316.501	8527.07	500.94 N	475.38 W	690.60		
9140.00	86.275	316.501	8527.72	508.18 N	482.25 W	700.58		
9150.00	86.275	316.501	8528.36	515.42 N	489.12 W	710.56		
9160.00	86.275	316.501	8529.01	522.66 N	495.98 W	720.53		
9170.00	86.275	316.501	8529.66	529.89 N	502.85 W	730.51		
9180.00	86.275	316.501	8530.31	537.13 N	509.72 W	740.49		
9190.00	86.275	316.501	8530.96	544.37 N	516.59 W	750.47		
9200.00	86.275	316.501	8531.61	551.61 N	523.46 W	760.45		
9210.00	86.275	316.501	8532.26	558.85 N	530.33 W	770.43		
9220.00	86.275	316.501	8532.91	566.09 N	537.20 W	780.41		

SPERRY-SUN DRILLING SERVICES WELL PROFILE DATA

MOBIL E&P SERVICES, INC.
NVAU #244

N/A
10-Jun-97

MEASURED DEPTH	ANGLE DEG	DIRECTION DEG	VERTICAL DEPTH	LATITUDE (FL)	DEPARTURE (FL)	VERTICAL SECTION	DOG LEG	TOOL FACE
9230.00	86.275	316.501	8533.56	573.33 N	544.07 W	790.39		
9240.00	86.275	316.501	8534.21	580.56 N	550.94 W	800.37		
9250.00	86.275	316.501	8534.86	587.80 N	557.80 W	810.34		
9260.00	86.275	316.501	8535.51	595.04 N	564.67 W	820.32		
9270.00	86.275	316.501	8536.16	602.28 N	571.54 W	830.30		
9280.00	86.275	316.501	8536.81	609.52 N	578.41 W	840.28		
9290.00	86.275	316.501	8537.46	616.76 N	585.28 W	850.26		
9300.00	86.275	316.501	8538.11	624.00 N	592.15 W	860.24		
9310.00	86.275	316.501	8538.76	631.23 N	599.02 W	870.22		
9320.00	86.275	316.501	8539.41	638.47 N	605.89 W	880.20		
9330.00	86.275	316.501	8540.06	645.71 N	612.76 W	890.18		
9340.00	86.275	316.501	8540.71	652.95 N	619.62 W	900.15		
9350.00	86.275	316.501	8541.36	660.19 N	626.49 W	910.13		
9359.89	86.275	316.501	8542.00	667.35 N	633.29 W	920.01	0.000	0.000
9360.00	86.269	316.500	8542.01	667.43 N	633.36 W	920.11		
9360.01	86.269	316.500	8542.01	667.43 N	633.37 W	920.12	6.000	187.411
9370.00	86.269	316.500	8542.66	674.66 N	640.23 W	930.09		
9380.00	86.269	316.500	8543.31	681.90 N	647.10 W	940.07		
9390.00	86.269	316.500	8543.96	689.14 N	653.97 W	950.05		
9400.00	86.269	316.500	8544.61	696.38 N	660.84 W	960.03		
9410.00	86.269	316.500	8545.26	703.62 N	667.71 W	970.01		
9420.00	86.269	316.500	8545.91	710.86 N	674.58 W	979.98		
9430.00	86.269	316.500	8546.56	718.09 N	681.44 W	989.96		
9440.00	86.269	316.500	8547.21	725.33 N	688.31 W	999.94		
9450.00	86.269	316.500	8547.86	732.57 N	695.18 W	1009.92		
9460.00	86.269	316.500	8548.51	739.81 N	702.05 W	1019.90		
9470.00	86.269	316.500	8549.17	747.05 N	708.92 W	1029.88		
9480.00	86.269	316.500	8549.82	754.29 N	715.79 W	1039.86		
9490.00	86.269	316.500	8550.47	761.53 N	722.66 W	1049.84		
9500.00	86.269	316.500	8551.12	768.76 N	729.53 W	1059.81		
9510.00	86.269	316.500	8551.77	776.00 N	736.40 W	1069.79		
9520.00	86.269	316.500	8552.42	783.24 N	743.27 W	1079.77		
9530.00	86.269	316.500	8553.07	790.48 N	750.13 W	1089.75		
9540.00	86.269	316.500	8553.72	797.72 N	757.00 W	1099.73		
9550.00	86.269	316.500	8554.37	804.96 N	763.87 W	1109.71		
9560.00	86.269	316.500	8555.02	812.19 N	770.74 W	1119.69		
9570.00	86.269	316.500	8555.67	819.43 N	777.61 W	1129.67		
9580.00	86.269	316.500	8556.32	826.67 N	784.48 W	1139.65		
9590.00	86.269	316.500	8556.98	833.91 N	791.35 W	1149.62		
9600.00	86.269	316.500	8557.63	841.15 N	798.22 W	1159.60		
9610.00	86.269	316.500	8558.28	848.39 N	805.09 W	1169.58		
9620.00	86.269	316.500	8558.93	855.62 N	811.95 W	1179.56		
9630.00	86.269	316.500	8559.58	862.86 N	818.82 W	1189.54		
9640.00	86.269	316.500	8560.23	870.10 N	825.69 W	1199.52		
9650.00	86.269	316.500	8560.88	877.34 N	832.56 W	1209.50		

**SPERRY-SUN DRILLING SERVICES
WELL PROFILE DATA**

**MOBIL E&P SERVICES, INC.
NVAU #244**

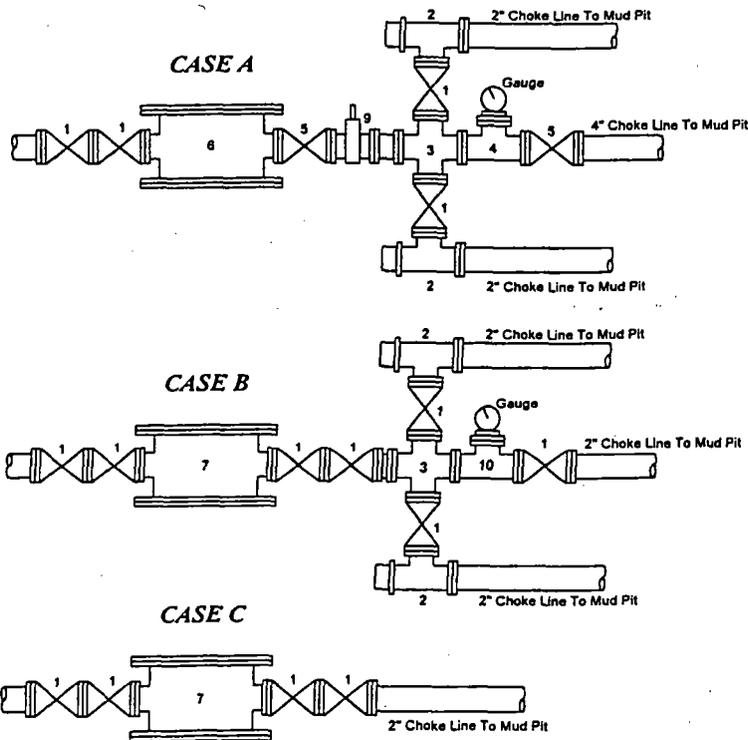
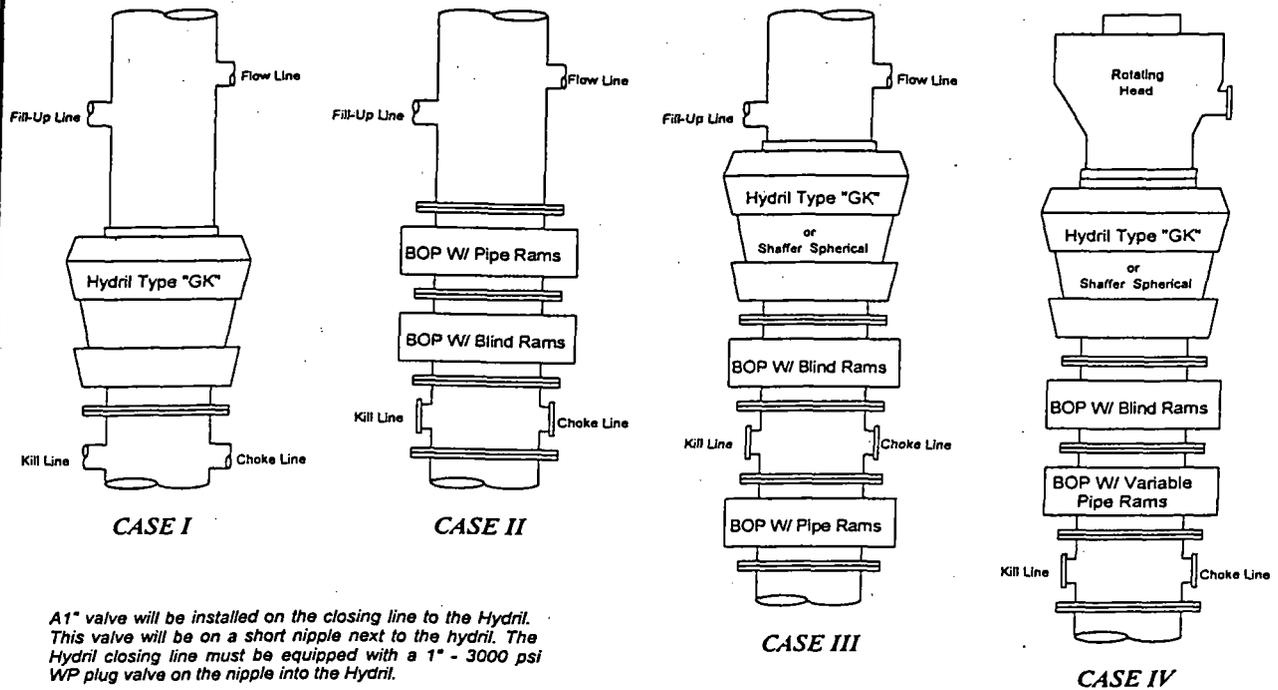
N/A
10-Jun-97

MEASURED DEPTH	ANGLE DEG	DIRECTION DEG	VERTICAL DEPTH	LATITUDE (Ft)	DEPARTURE (Ft)	VERTICAL SECTION	DOG LEG	TOOL FACE
9660.00	86.269	316.500	8561.53	884.58 N	839.43 W	1219.48		
9670.00	86.269	316.500	8562.18	891.82 N	846.30 W	1229.45		
9680.00	86.269	316.500	8562.83	899.05 N	853.17 W	1239.43		
9690.00	86.269	316.500	8563.48	906.29 N	860.04 W	1249.41		
9700.00	86.269	316.500	8564.13	913.53 N	866.91 W	1259.39		
9710.00	86.269	316.500	8564.78	920.77 N	873.78 W	1269.37		
9720.00	86.269	316.500	8565.44	928.01 N	880.64 W	1279.35		
9730.00	86.269	316.500	8566.09	935.25 N	887.51 W	1289.33		
9740.00	86.269	316.500	8566.74	942.48 N	894.38 W	1299.31		
9750.00	86.269	316.500	8567.39	949.72 N	901.25 W	1309.29		
9760.00	86.269	316.500	8568.04	956.96 N	908.12 W	1319.26		
9770.00	86.269	316.500	8568.69	964.20 N	914.99 W	1329.24		
9780.00	86.269	316.500	8569.34	971.44 N	921.86 W	1339.22		
9790.00	86.269	316.500	8569.99	978.68 N	928.73 W	1349.20		
9800.00	86.269	316.500	8570.64	985.92 N	935.60 W	1359.18		
9810.00	86.269	316.500	8571.29	993.15 N	942.46 W	1369.16		
9820.00	86.269	316.500	8571.94	1000.39 N	949.33 W	1379.14		
9820.87	86.269	316.500	8572.00	1001.02 N	949.93 W	1380.00	0.000	0.000

**The Dogleg Severity is in Degrees per 100.00 Feet
Vertical Section was calculated along an Azimuth of 316.500° (True)**

**Based upon Minimum Curvature type calculations. At a Measured Depth of 9820.87 Feet,
the Bottom Hole Displacement is 1380.00 Feet, in the Direction of 316.500° (True)**

SCHEDULE B
MINIMUM BLOWOUT PREVENTER REQUIREMENTS



BOP SIZE	BOP CASE	WORKING PRESSURE	CHOKE CASE
11	II	3000	C

Bradenhead furnished by Mobil will be:
Mfr: National
Size: 11" - 3000 Type: SOWD

Legend

1. 2" flanged all steel valve must be either Cameron "F", Halliburton Low Torque or Shaffer Flo-Seal.
2. 2" flanged adjustable chokes, min. 1" full opening & equipped with hard trim.
3. 4" x 2" flanged steel cross.
4. 4" flanged steel tee.
6. 4" flanged all steel valve (Type as in no. 1).
7. Drilling Spool with 2" x 4" flanged outlet.
8. 2" x 2" flanged steel cross.
9. 4" pressure operated gate valve.
10. 2" flanged steel tee.

Notes

Choke manifold may be located in any convenient position. Use all steel fittings throughout. Make 90° turns with bull plugged tees only. No field welding will be permitted on any of the components of the choke manifold and related equipment upstream of the chokes. The choke spool and all lines and fittings must be at least equivalent to the test pressure of the preventers required. Independent closing control unit with clearly marked controls to be located on derrick floor near driller's position.

DATE	APPROVED	REVISIONS	LOGS	TIME
------	----------	-----------	------	------

ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -

ADMINISTRATIVE APPLICATION COVERSHEET

THIS COVERSHEET IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS

Application Acronyms:

- [NSP-Non-Standard Proration Unit] [NSL-Non-Standard Location]
- [DD-Directional Drilling] [SD-Simultaneous Dedication]
- [DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]
- [PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]
- [WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]
- [SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]
- [EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

[1] TYPE OF APPLICATION - Check Those Which Apply for [A]

- [A] Location - Spacing Unit - Directional Drilling
 NSL NSP DD SD

Check One Only for [B] or [C]

- [B] Commingling - Storage - Measurement
 DHC CTB PLC PC OLS OLM

- [C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery
 WFX PMX SWD IPI EOR PPR

[2] NOTIFICATION REQUIRED TO: - Check Those Which Apply, or Does Not Apply

- [A] Working, Royalty or Overriding Royalty Interest Owners
- [B] Offset Operators, Leaseholders or Surface Owner
- [C] Application is One Which Requires Published Legal Notice
- [D] Notification and/or Concurrent Approval by BLM or SLO
U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office
- [E] For all of the above, Proof of Notification or Publication is Attached, and/or,
- [F] Waivers are Attached

[3] INFORMATION / DATA SUBMITTED IS COMPLETE - Statement of Understanding

I hereby certify that I, or personnel under my supervision, have read and complied with all applicable Rules and Regulations of the Oil Conservation Division. Further, I assert that the attached application for administrative approval is accurate and complete to the best of my knowledge and where applicable, verify that all interest (WI, RI, ORRI) is common. I further verify that all applicable API Numbers are included. I understand that any omission of data, information or notification is cause to have the application package returned with no action taken.

Note: Statement must be completed by an individual with supervisory capacity.

BRIAN WOOD
 Print or Type Name

Brian Wood
 Signature

Consultant
 Title

6-15-97
 Date

District I
PO Box 1980, Hobbs, NM 88241-1980
District II
PO Drawer DD, Artesia, NM 88211-0719
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
PO Box 2088, Santa Fe, NM 87504-2088

OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, NM 87504-2088

Instructions on back
Submit to Appropriate District Office
State Lease - 6 Copies
Fee Lease - 5 Copies

AMENDED REPORT

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

¹ Operator name and Address MOBIL PRODUCING TX & NM INC.* *MOBIL EXPLORATION & PRODUCING US INC. AS AGENT FOR MPTM P.O. BOX 633, MIDLAND, TX 79702		² OGRID Number B-1520-1
		³ API Number 30-0 25-24748
⁴ Property Code 8055	⁵ Property Name NORTH VACUUM ABO	⁶ Well Number 278

⁷ Surface Location									
UL or lot no.	Section	Township	Range	Lot. Idn	Feet from the	North/South Line	Feet from the	East/West line	County
M	23	17-S	34-E		500'	SOUTH	561'	EAST	LEA

⁸ Proposed Bottom Hole Location If Different From Surface									
UL or lot no.	Section	Township	Range	Lot. Idn	Feet from the	North/South Line	Feet from the	East/West line	County
	27	17-S	34-E		685'	NORTH	561	EAST	LEA
⁹ Proposed Pool 1					¹⁰ Proposed Pool 2				

¹¹ Work Type Code P-DIVIATION	¹² Well Type Code 0	¹³ Cable/Rotary ROTARY	¹⁴ Lease Type Code S	¹⁵ Ground Level Elevation 4029'
¹⁶ Multiple NO	¹⁷ Proposed Depth 8599'	¹⁸ Formations ABO	¹⁹ Contractor	²⁰ Spud Date 06-30-97

²¹ Proposed Casing and Cement Program					
Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
17 1/2"	13 3/8"	48# H-40	400'	500 SXS	SURFACE
12 1/4"	8 5/8"	28, 32 & 17#	5500'	2970 SXS	CIRC / SURFACE
7 7/8"	5 1/2" LINER	15.5# K-55	TD 8800'	1220 SXS	CIRC / SURFACE
	ORIGINAL	CASING	UNDISTURBED		

²² Describe the proposed program. If this application is to DEEPEN or PLUG BACK give the data on the present productive zone and proposed new productive zone. Describe the blowout prevention program, if any. Use additional sheets if necessary

SEE ATTACHMENT

²³ I hereby certify that the information given above is true and complete to the best of my knowledge and belief.		OIL CONSERVATION DIVISION	
Signature: <i>Shirley Houchins</i>			
Printed name: SHIRLEY HOUCHINS		Approved by:	
Title: ENVIRONMENTAL & REGULATORY TECHNICIAN		Title:	
Date: 06-12-97		Approval Date:	Expiration Date:
Phone: (915) 688-2585		Conditions of Approval: Attached <input type="checkbox"/>	

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AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-025-24748		Pool Code	Pool Name NORTH VACUUM Abo
Property Code 8055	Property Name NORTH VACUUM Abo		Well Number 278
OGRID No. B-1520-1	Operator Name MOBIL PRODUCING TX & NM INC. *MOBIL EXPLORATION & PRODUCING US INC. AS AGENT FOR MPTM		Elevation 4029'

¹⁰ Surface Location

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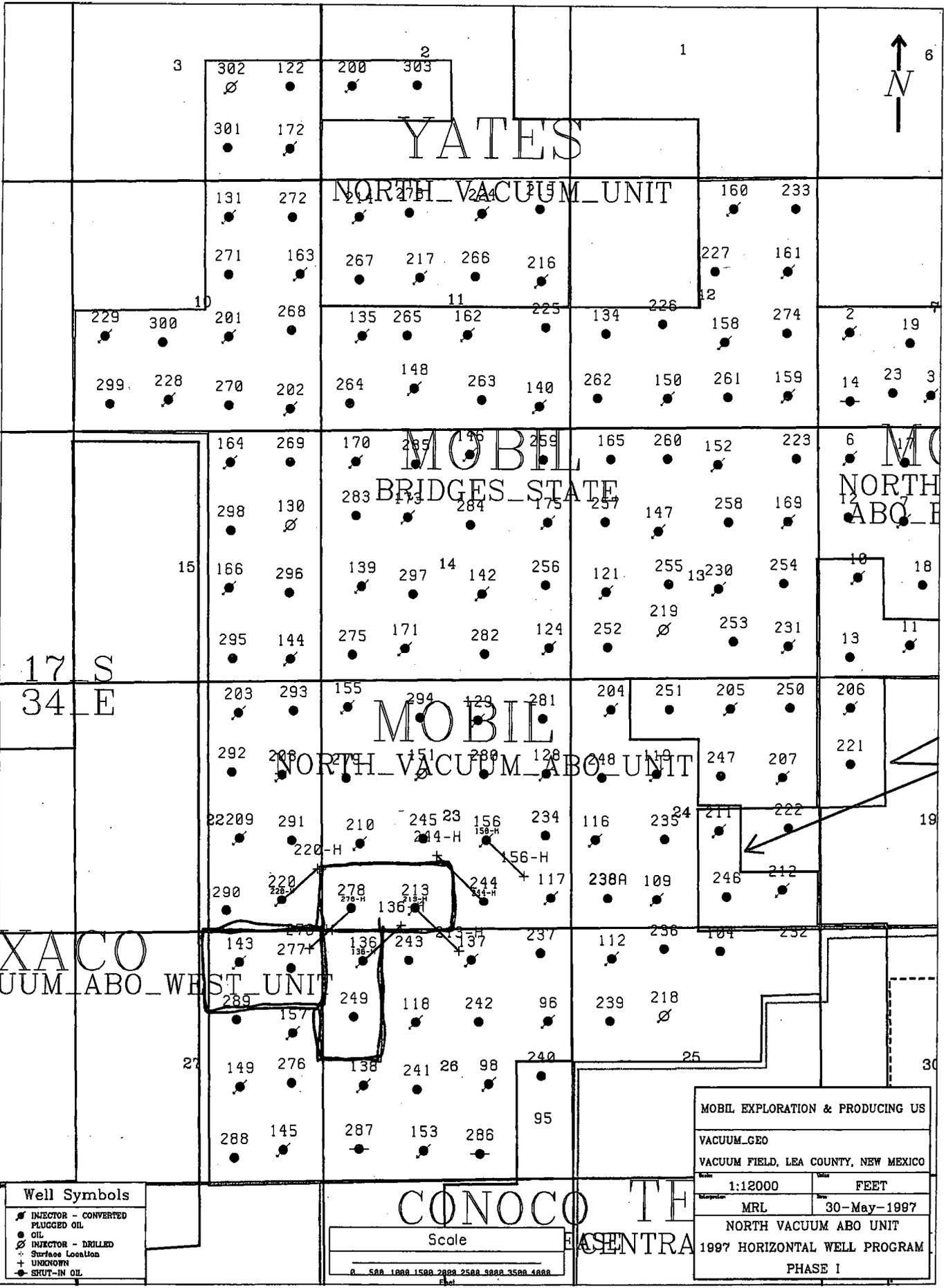
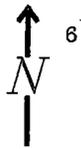
¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot. Idn	Feet from the	North/South Line	Feet from the	East/West line	County
	27	17-S	34-E		685'	NORTH	561	EAST	LEA

¹² Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON--STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

<p>Sec. 27</p> <p>BHL X 685' FNL 561' FEL</p>	<p>¹⁷ OPERATOR CERTIFICATION</p> <p><i>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.</i></p> <p><u>Shirley Houchins</u> Signature</p> <p>SHIRLEY HOUCHINS Printed Name</p> <p>ENV. & REG. TECHNICIAN Title</p> <p>06-12-97 Date</p>
	<p>¹⁸ SURVEYOR CERTIFICATION</p> <p><i>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 belief.</i></p> <p>_____ Date of Survey</p> <p>_____ Signature and Seal of Professional Surveyor:</p> <p>_____ Certificate Number</p>



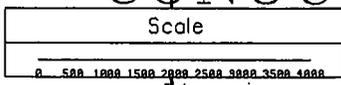
17 S
34 E

XACO
UUM ABO WEST UNIT

MOBIL
NORTH VACUUM ABO UNIT

CONOCO THE
CENTRA

Well Symbols	
●	INJECTOR - CONVERTED PLUGGED OIL
●	OIL
⊙	INJECTOR - DRILLED
+	Surface Location
+	UNKNOWN
●	SHUT-IN OIL



MOBIL EXPLORATION & PRODUCING US	
VACUUM_GEO	
VACUUM FIELD, LEA COUNTY, NEW MEXICO	
Scale	1:12000 FEET
Revision	MRL 30-May-1997
NORTH VACUUM ABO UNIT	
1997 HORIZONTAL WELL PROGRAM	
PHASE I	

SW

NVAU 277

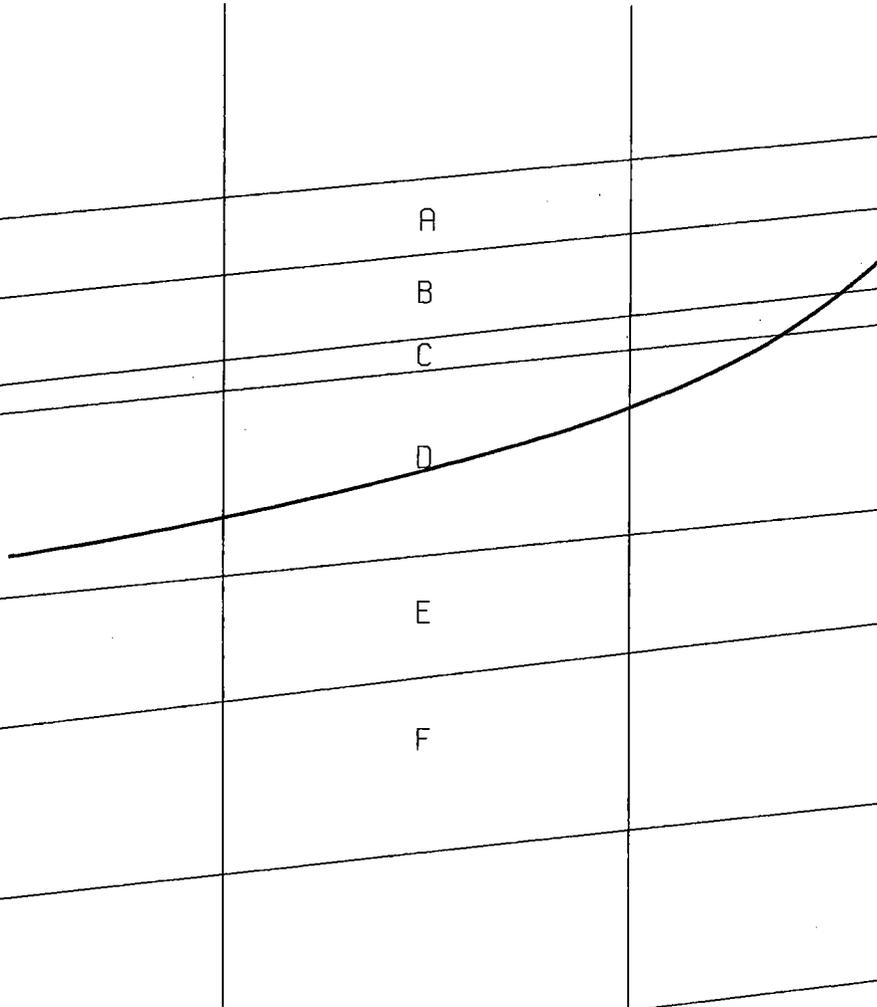
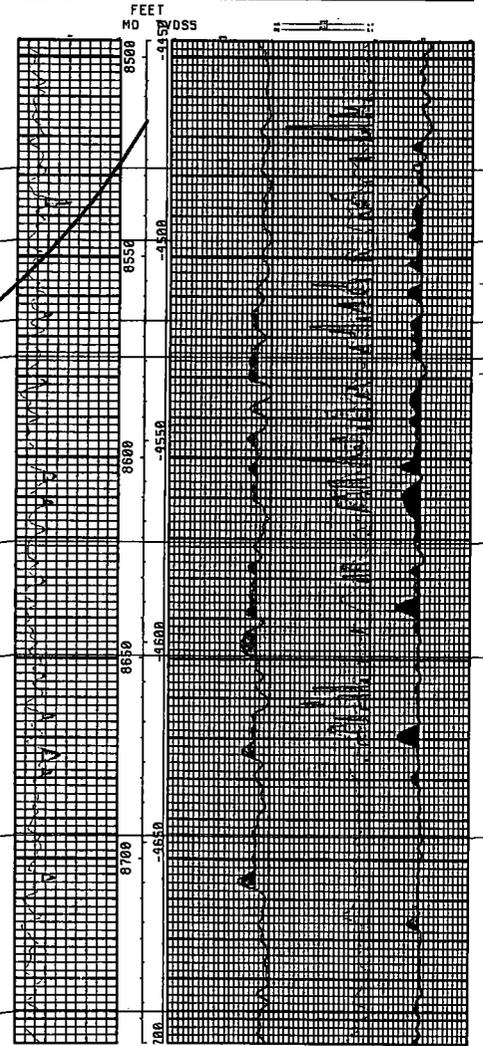
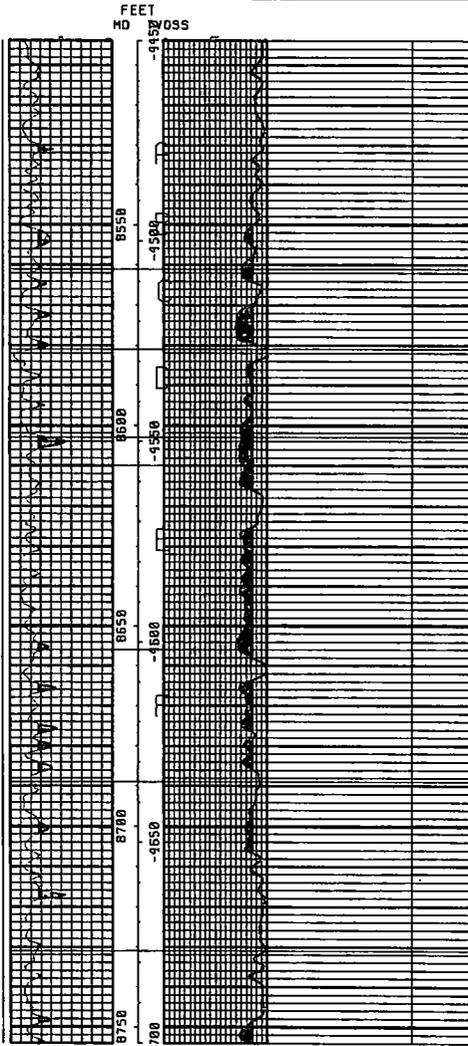
277



NE

NVAU 278

278

1609

1000

2000

**NVAU #278
Lea County, New Mexico**

I. GENERAL DRILLING SUMMARY

A. Objective

The objective of this project is to mill a window in the 5-1/2" casing from 8441' to 8450' and drill an open hole lateral in the Abo formation with a vertical section of 1250 ft.

B. Procedure

1. Prepare location and dig workover pit.
2. Bleed well down. MIRU pulling unit and required H₂S equipment.
3. ND wellhead. NU BOP (double ram w/ stripper head). POH w/ production/injection equipment. Set CIBP and whipstock at 8508 and mill window from 8441 to 8450 ft.
4. Drill curve and lateral to a vertical section of 1250 ft. Drilling operations complete.

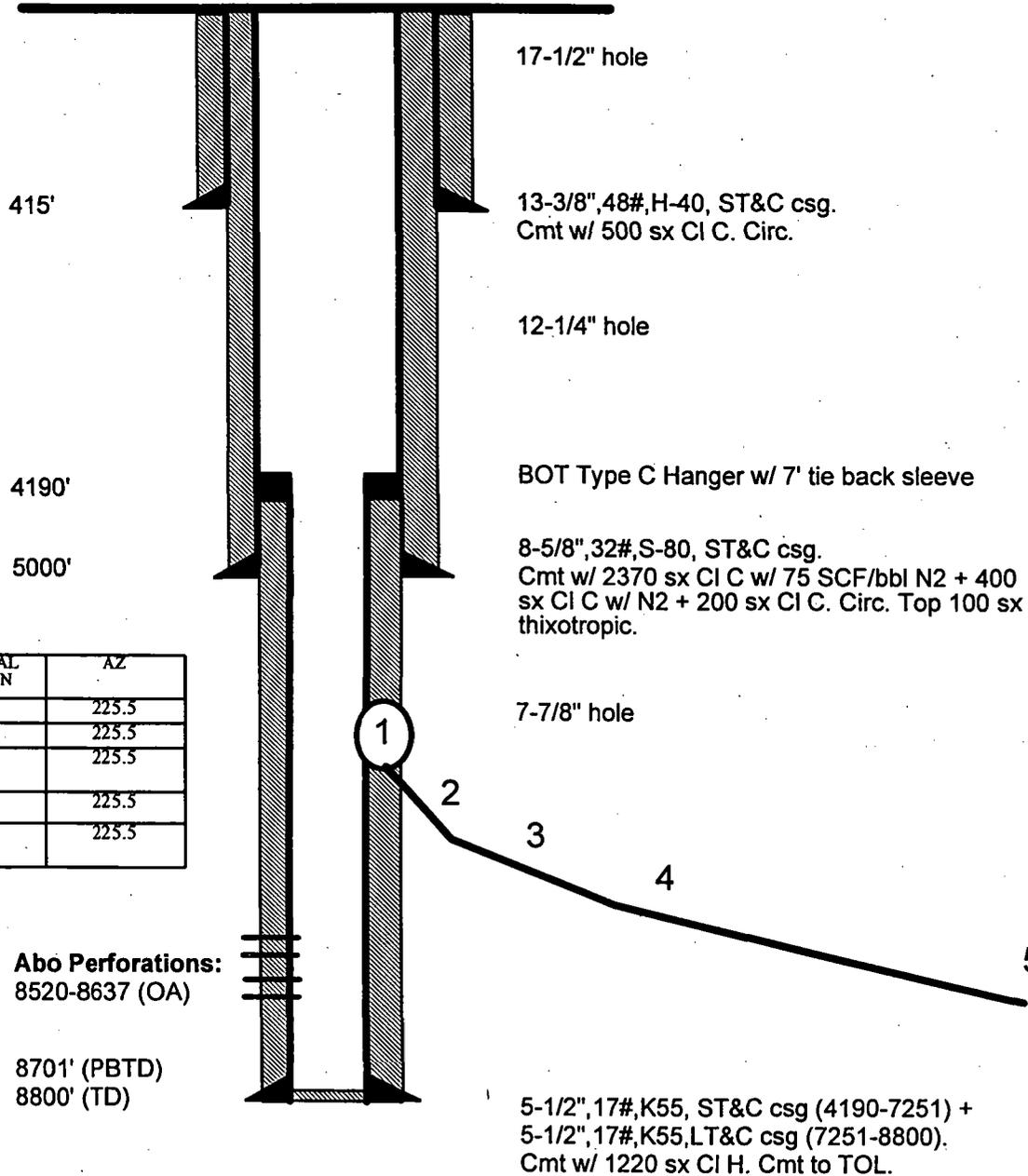
Note: Whipstock and CIBP will be retrieved after lateral section is stimulated.

North Vacuum Abo Unit #278 Proposed

500' FSL & 650' FWL
Sec 23, T17S - R34E
Lea County, New Mexico

GL = 4029'
DF = 4046'
KB = 16.5' AGL
Drilled date = 7/85

Lateral	1A1
Radius (ft)	98
Az (deg)	225.5
Build Rate (deg/100)	58.5
EOL TVD (ft)	8634
KOP (ft)	8450
Vert. Displ. (ft)	1250
Window top (ft)	8441
Window btm (ft)	8450



POINT NUMBER	MEASURED DEPTH	TVD	VERTICAL SECTION	AZ
1	8450	8450	0	225.5
2	8591	8547	85	225.5
3	8971	8597	462	225.5
4	8997	8599	488	225.5
5	9760	8634	1250	225.5

**WELL PLANNING
REPORT**

MOBIL E&P SERVICES, INC.

NVAU #278

**N/A
10-Jun-97**

**SPERRY-SUN DRILLING SERVICES
WELL PROFILE DATA**

**MOBIL E&P SERVICES, INC.
NVAU #278**

N/A
10-Jun-97

MEASURED DEPTH	ANGLE DEG	DIRECTION DEG	VERTICAL DEPTH	LATITUDE (Ft)	DEPARTURE (Ft)	VERTICAL SECTION	DOG LEG	TOOL FACE
8450.00	0.000	0.000	8450.00	0.00	0.00	0.00		
8475.00	14.625	225.500	8474.73	2.22 S	2.26 W	3.17		
8500.00	29.250	225.500	8497.86	8.75 S	8.91 W	12.49		
8525.00	43.875	225.500	8517.88	19.16 S	19.50 W	27.34		
8550.00	58.500	225.500	8533.51	32.78 S	33.36 W	46.77		
8575.00	73.125	225.500	8543.72	48.72 S	49.58 W	69.51		
8590.89	82.420	225.500	8547.09	59.59 S	60.64 W	85.02	58.500	225.500
8600.00	82.420	225.500	8548.29	65.92 S	67.08 W	94.05		
8625.00	82.420	225.500	8551.59	83.29 S	84.76 W	118.84		
8650.00	82.420	225.500	8554.88	100.66 S	102.43 W	143.62		
8675.00	82.420	225.500	8558.18	118.03 S	120.11 W	168.40		
8700.00	82.420	225.500	8561.48	135.40 S	137.79 W	193.18		
8725.00	82.420	225.500	8564.78	152.77 S	155.46 W	217.96		
8750.00	82.420	225.500	8568.07	170.14 S	173.14 W	242.74		
8775.00	82.420	225.500	8571.37	187.51 S	190.81 W	267.52		
8800.00	82.420	225.500	8574.67	204.88 S	208.49 W	292.31		
8825.00	82.420	225.500	8577.97	222.25 S	226.16 W	317.09		
8850.00	82.420	225.500	8581.26	239.62 S	243.84 W	341.87		
8875.00	82.420	225.500	8584.56	256.99 S	261.51 W	366.65		
8900.00	82.420	225.500	8587.86	274.36 S	279.19 W	391.43		
8925.00	82.420	225.500	8591.16	291.73 S	296.86 W	416.21		
8950.00	82.420	225.500	8594.46	309.10 S	314.54 W	441.00		
8971.40	82.420	225.500	8597.28	323.97 S	329.67 W	462.21	0.000	0.000
8975.00	84.525	225.500	8597.69	326.47 S	332.22 W	465.78		
8979.23	87.000	225.500	8598.00	329.43 S	335.23 W	470.00	58.500	0.000
8997.31	87.362	225.500	8598.89	342.09 S	348.11 W	488.06	2.000	0.000
9000.00	87.362	225.500	8599.01	343.97 S	350.03 W	490.75		
9025.00	87.362	225.500	8600.16	361.47 S	367.84 W	515.72		
9050.00	87.362	225.500	8601.31	378.98 S	385.65 W	540.70		
9075.00	87.362	225.500	8602.47	396.48 S	403.46 W	565.67		
9100.00	87.362	225.500	8603.62	413.99 S	421.28 W	590.64		
9125.00	87.362	225.500	8604.77	431.49 S	439.09 W	615.62		
9150.00	87.362	225.500	8605.92	448.99 S	456.90 W	640.59		
9175.00	87.362	225.500	8607.07	466.50 S	474.71 W	665.56		
9200.00	87.362	225.500	8608.22	484.00 S	492.53 W	690.54		
9225.00	87.362	225.500	8609.37	501.51 S	510.34 W	715.51		
9250.00	87.362	225.500	8610.52	519.01 S	528.15 W	740.48		
9275.00	87.362	225.500	8611.67	536.52 S	545.96 W	765.46		
9300.00	87.362	225.500	8612.82	554.02 S	563.78 W	790.43		
9325.00	87.362	225.500	8613.97	571.52 S	581.59 W	815.40		
9350.00	87.362	225.500	8615.12	589.03 S	599.40 W	840.38		
9375.00	87.362	225.500	8616.27	606.53 S	617.21 W	865.35		
9400.00	87.362	225.500	8617.43	624.04 S	635.03 W	890.32		
9425.00	87.362	225.500	8618.58	641.54 S	652.84 W	915.30		
9450.00	87.362	225.500	8619.73	659.04 S	670.65 W	940.27		

**SPERRY-SUN DRILLING SERVICES
WELL PROFILE DATA**

**MOBIL E&P SERVICES, INC.
NVAU #278**

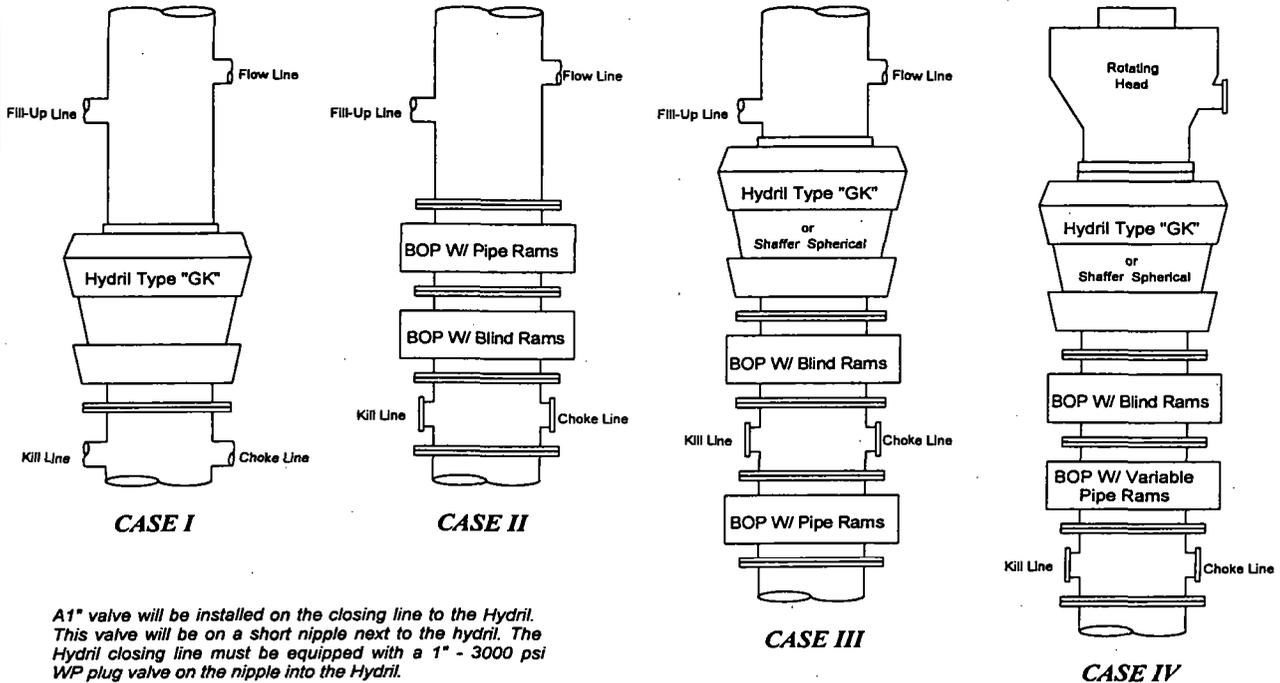
**N/A
10-Jun-97**

MEASURED DEPTH	ANGLE DEG	DIRECTION DEG	VERTICAL DEPTH	LATITUDE (Ft)	DEPARTURE (Ft)	VERTICAL SECTION	DOG LEG	TOOL FACE
9475.00	87.362	225.500	8620.88	676.55 S	688.46 W	965.25		
9500.00	87.362	225.500	8622.03	694.05 S	706.27 W	990.22		
9525.00	87.362	225.500	8623.18	711.56 S	724.09 W	1015.19		
9550.00	87.362	225.500	8624.33	729.06 S	741.90 W	1040.17		
9575.00	87.362	225.500	8625.48	746.56 S	759.71 W	1065.14		
9600.00	87.362	225.500	8626.63	764.07 S	777.52 W	1090.11		
9625.00	87.362	225.500	8627.78	781.57 S	795.34 W	1115.09		
9650.00	87.362	225.500	8628.93	799.08 S	813.15 W	1140.06		
9675.00	87.362	225.500	8630.08	816.58 S	830.96 W	1165.03		
9700.00	87.362	225.500	8631.24	834.09 S	848.77 W	1190.01		
9725.00	87.362	225.500	8632.39	851.59 S	866.59 W	1214.98		
9750.00	87.362	225.500	8633.54	869.09 S	884.40 W	1239.95		
9760.06	87.362	225.500	8634.00	876.14 S	891.57 W	1250.00	0.000	0.000

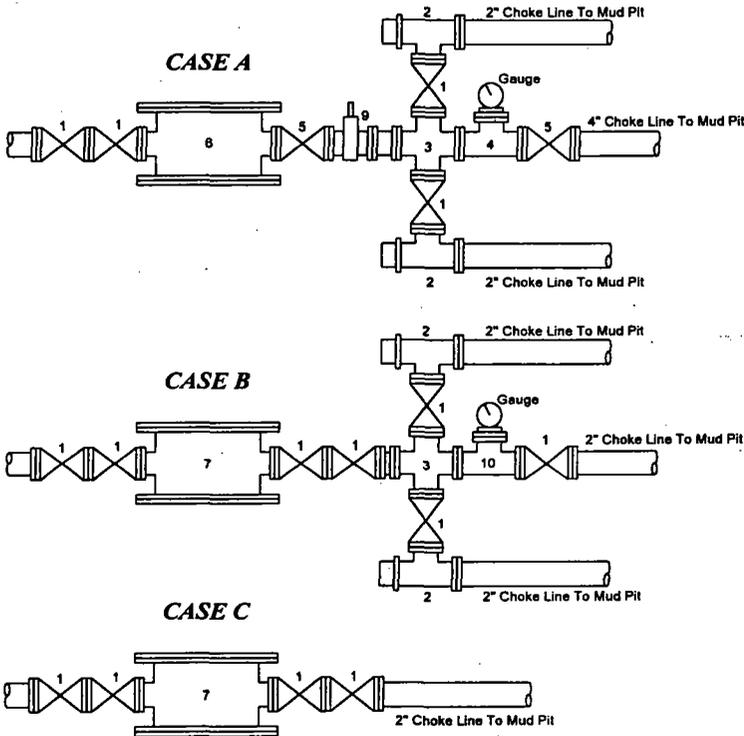
**The Dogleg Severity is in Degrees per 100.00 Feet
Vertical Section was calculated along an Azimuth of 225.500° (True)**

**Based upon Minimum Curvature type calculations. At a Measured Depth of 9760.06 Feet,
the Bottom Hole Displacement is 1250.00 Feet, in the Direction of 225.500° (True)**

SCHEDULE B
MINIMUM BLOWOUT PREVENTER REQUIREMENTS



A1" valve will be installed on the closing line to the Hydril. This valve will be on a short nipple next to the hydril. The Hydril closing line must be equipped with a 1" - 3000 psi WP plug valve on the nipple into the Hydril.



BOP SIZE	BOP CASE	WORKING PRESSURE	CHOKE CASE
11	II	3000	C

Bradenhead furnished by Mobil will be:
Mfr: National
Size: 11" - 3000 Type: SOMO

Legend

1. 2" flanged all steel valve must be either Cameron "F", Halliburton Low Torque or Shaffer Flo-Seal.
2. 2" flanged adjustable chokes, min. 1" full opening & equipped with hard trim.
3. 4" x 2" flanged steel cross.
4. 4" flanged steel tee.
5. 4" flanged all steel valve (Type as in no. 1).
6. Drilling Spool with 2" x 4" flanged outlet.
7. Drilling Spool with 2" x 2" flanged outlet.
8. 2" x 2" flanged steel cross.
9. 4" pressure operated gate valve.
10. 2" flanged steel tee.

Notes

Choke manifold may be located in any convenient position. Use all steel fittings throughout. Make 90° turns with bull plugged tees only. No field welding will be permitted on any of the components of the choke manifold and related equipment upstream of the chokes. The choke spool and all lines and fittings must be at least equivalent to the test pressure of the preventers required. Independent closing control unit with clearly marked controls to be located on derrick floor near driller's position.

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SEE ATTACHMENT

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Signature: *Shirley Houchins*

Printed name: SHIRLEY HOUCHINS

Title: ENVIRONMENTAL & REGULATORY TECHNICIAN

Date: 06-12-97

Phone: (915) 688-2585

OIL CONSERVATION DIVISION

Approved by:

Title:

Approval Date:

Expiration Date:

Conditions of Approval:

Attached

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State of New Mexico
 Energy, Minerals and Natural Resources Department

Form C-102
 Revised February 10, 1994
 Instructions on back
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P.O. Box 2088
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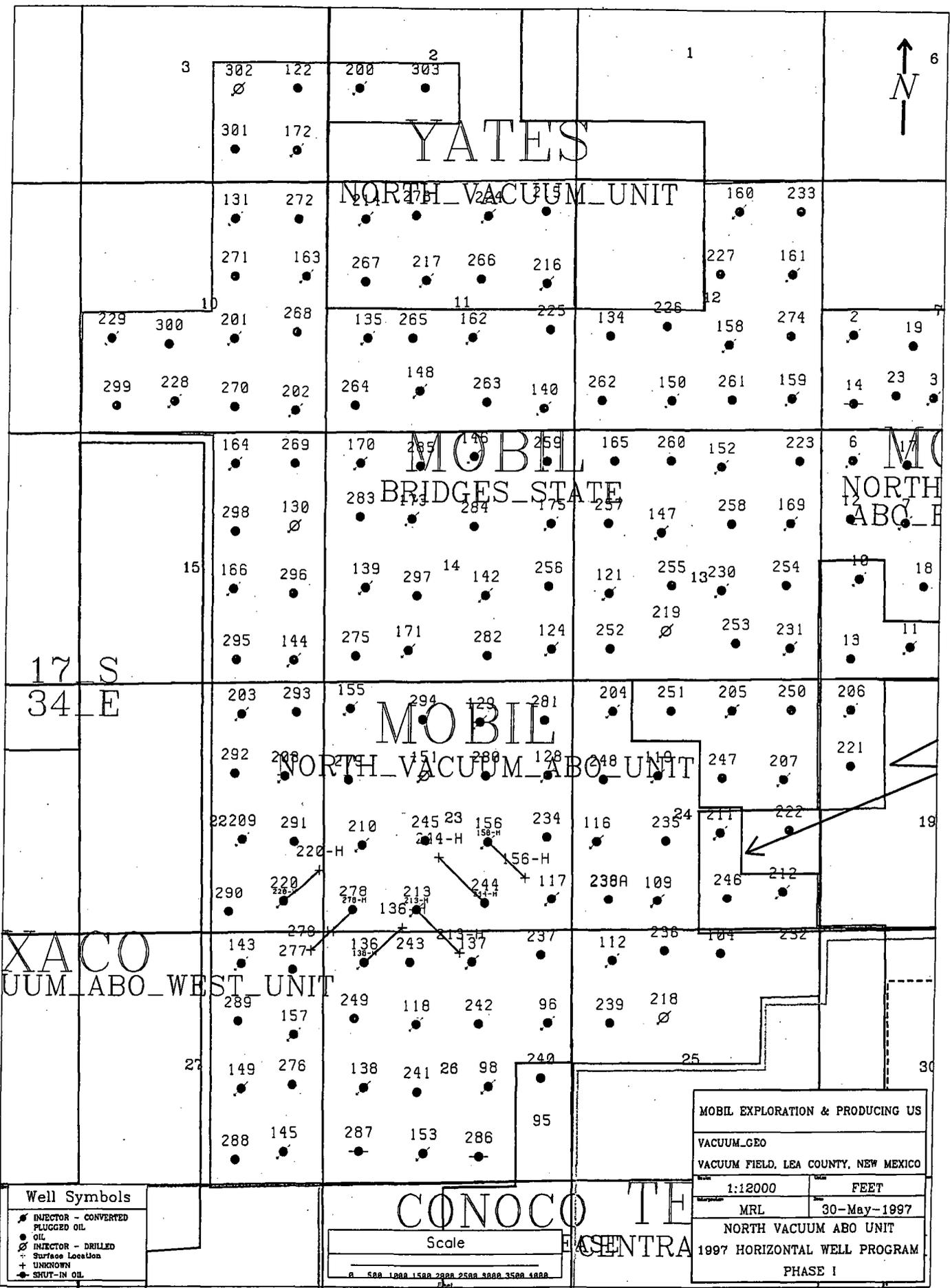
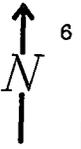
UL or lot no.	Section	Township	Range	Lot. Idn	Feet from the	North/South Line	Feet from the	East/West line	County
	27	17-S	34-E		685'	NORTH	561	EAST	LEA

¹² Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
-------------------------------	-------------------------------	----------------------------------	-------------------------

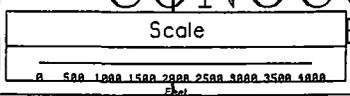
NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

				¹⁷ OPERATOR CERTIFICATION <i>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.</i> <u>Shirley Houchins</u> Signature SHIRLEY HOUCHINS Printed Name ENV. & REG. TECHNICIAN Title 06-12-97 Date
	Sec. 23		1185 1211	
				¹⁸ SURVEYOR CERTIFICATION <i>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 belief.</i> Date of Survey Signature and Seal of Professional Surveyor: Certificate Number
Sec. 27			1700	

Diagram showing well location #278 with dimensions: 650' (horizontal distance from Sec. 23 boundary), 500' (vertical distance from Sec. 23 boundary), and 685' (distance from Sec. 27 boundary). Handwritten notes include 'BHL X', '685' FNL', '561' FEL', and a calculation: 650 + 561 = 1211.



Well Symbols	
●	INJECTOR - CONVERTED PLUGGED OIL
○	OIL
⊙	INJECTOR - DRILLED
+	Surface Location
+	UNKNOWN
●	SHUT-IN OIL



MOBIL EXPLORATION & PRODUCING US	
VACUUM_GEO	
VACUUM FIELD, LEA COUNTY, NEW MEXICO	
Scale	1:12000
Units	FEET
Effective Date	MRL 30-May-1997
NORTH VACUUM ABO UNIT	
1997 HORIZONTAL WELL PROGRAM	
PHASE I	

CONOCO THE CENTRAL

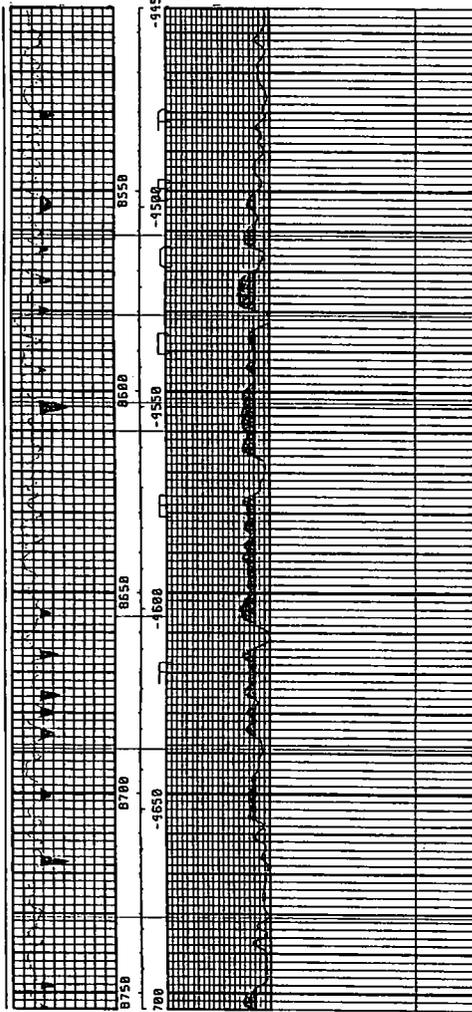
SW

NVAU 277

277



FEEET
MD
ROSS



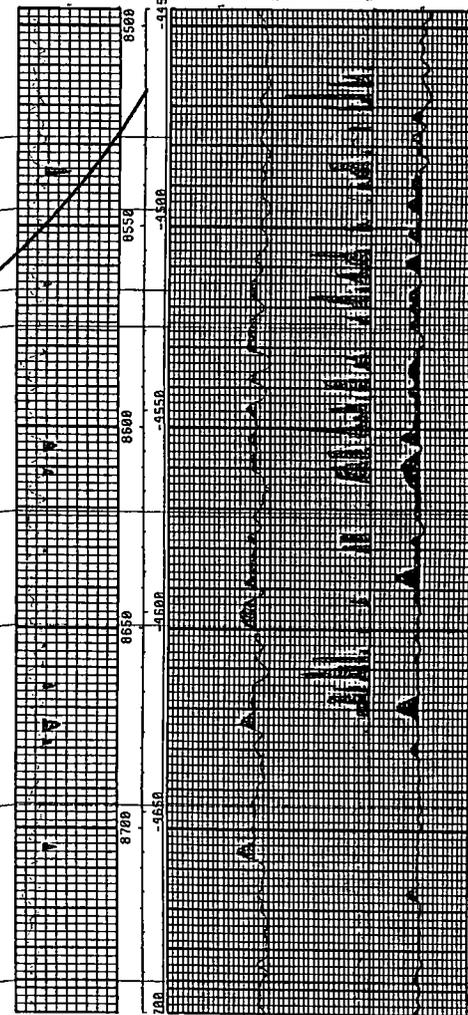
A
B
C
D
E
F

NVAU 278

278



FEEET
MD
ROSS



NVAU #278
Lea County, New Mexico

I. GENERAL DRILLING SUMMARY

A. Objective

The objective of this project is to mill a window in the 5-1/2" casing from 8441' to 8450' and drill an open hole lateral in the Abo formation with a vertical section of 1250 ft.

B. Procedure

1. Prepare location and dig workover pit.
2. Bleed well down. MIRU pulling unit and required H₂S equipment.
3. ND wellhead. NU BOP (double ram w/ stripper head). POH w/ production/injection equipment. Set CIBP and whipstock at 8508 and mill window from 8441 to 8450 ft.
4. Drill curve and lateral to a vertical section of 1250 ft. Drilling operations complete.

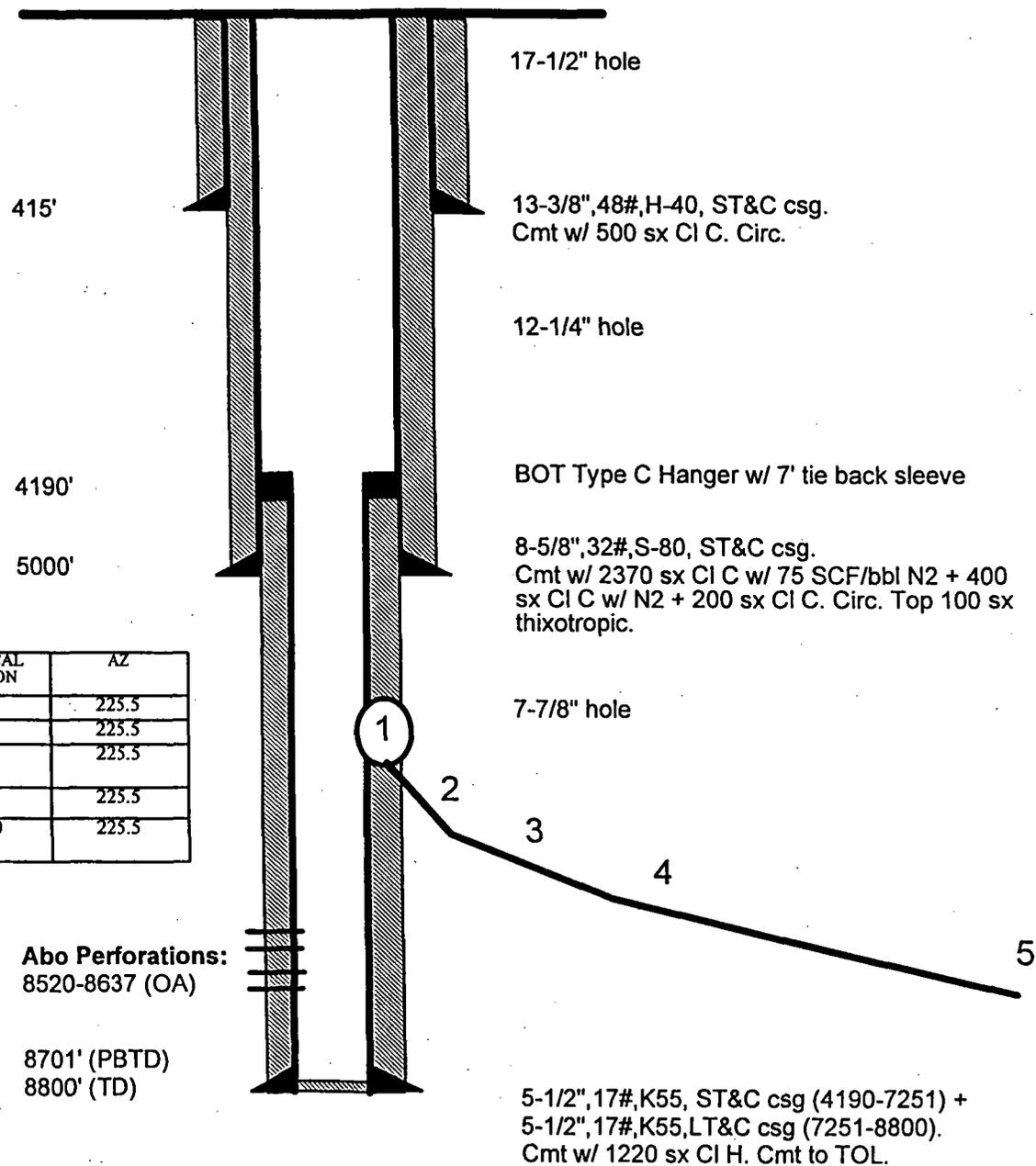
Note: Whipstock and CIBP will be retrieved after lateral section is stimulated.

North Vacuum Abo Unit #278 Proposed

500' FSL & 650' FWL
Sec 23, T17S - R34E
Lea County, New Mexico

GL = 4029'
DF = 4046'
KB = 16.5' AGL
Drilled date = 7/85

Lateral	1A1
Radius (ft)	98
Az (deg)	225.5
Build Rate (deg/100)	58.5
EOL TVD (ft)	8634
KOP (ft)	8450
Vert. Displ. (ft)	1250
Window top (ft)	8441
Window btm (ft)	8450



POINT NUMBER	MEASURED DEPTH	TVD	VERTICAL SECTION	AZ
1	8450	8450	0	225.5
2	8591	8547	85	225.5
3	8971	8597	462	225.5
4	8997	8599	488	225.5
5	9760	8634	1250	225.5

**WELL PLANNING
REPORT**

MOBIL E&P SERVICES, INC.

NVAU #278

**N/A
10-Jun-97**

**SPERRY-SUN DRILLING SERVICES
WELL PROFILE DATA**

**MOBIL E&P SERVICES, INC.
NVAU #278**

N/A
10-Jun-97

MEASURED DEPTH	ANGLE DEG	DIRECTION DEG	VERTICAL DEPTH	LATITUDE (FL)	DEPARTURE (FL)	VERTICAL SECTION	DOG LEG	TOOL FACE
8450.00	0.000	0.000	8450.00	0.00	0.00	0.00		
8475.00	14.625	225.500	8474.73	2.22 S	2.26 W	3.17		
8500.00	29.250	225.500	8497.86	8.75 S	8.91 W	12.49		
8525.00	43.875	225.500	8517.88	19.16 S	19.50 W	27.34		
8550.00	58.500	225.500	8533.51	32.78 S	33.36 W	46.77		
8575.00	73.125	225.500	8543.72	48.72 S	49.58 W	69.51		
8590.89	82.420	225.500	8547.09	59.59 S	60.64 W	85.02	58.500	225.500
8600.00	82.420	225.500	8548.29	65.92 S	67.08 W	94.05		
8625.00	82.420	225.500	8551.59	83.29 S	84.76 W	118.84		
8650.00	82.420	225.500	8554.88	100.66 S	102.43 W	143.62		
8675.00	82.420	225.500	8558.18	118.03 S	120.11 W	168.40		
8700.00	82.420	225.500	8561.48	135.40 S	137.79 W	193.18		
8725.00	82.420	225.500	8564.78	152.77 S	155.46 W	217.96		
8750.00	82.420	225.500	8568.07	170.14 S	173.14 W	242.74		
8775.00	82.420	225.500	8571.37	187.51 S	190.81 W	267.52		
8800.00	82.420	225.500	8574.67	204.88 S	208.49 W	292.31		
8825.00	82.420	225.500	8577.97	222.25 S	226.16 W	317.09		
8850.00	82.420	225.500	8581.26	239.62 S	243.84 W	341.87		
8875.00	82.420	225.500	8584.56	256.99 S	261.51 W	366.65		
8900.00	82.420	225.500	8587.86	274.36 S	279.19 W	391.43		
8925.00	82.420	225.500	8591.16	291.73 S	296.86 W	416.21		
8950.00	82.420	225.500	8594.46	309.10 S	314.54 W	441.00		
8971.40	82.420	225.500	8597.28	323.97 S	329.67 W	462.21	0.000	0.000
8975.00	84.525	225.500	8597.69	326.47 S	332.22 W	465.78		
8979.23	87.000	225.500	8598.00	329.43 S	335.23 W	470.00	58.500	0.000
8997.31	87.362	225.500	8598.89	342.09 S	348.11 W	488.06	2.000	0.000
9000.00	87.362	225.500	8599.01	343.97 S	350.03 W	490.75		
9025.00	87.362	225.500	8600.16	361.47 S	367.84 W	515.72		
9050.00	87.362	225.500	8601.31	378.98 S	385.65 W	540.70		
9075.00	87.362	225.500	8602.47	396.48 S	403.46 W	565.67		
9100.00	87.362	225.500	8603.62	413.99 S	421.28 W	590.64		
9125.00	87.362	225.500	8604.77	431.49 S	439.09 W	615.62		
9150.00	87.362	225.500	8605.92	448.99 S	456.90 W	640.59		
9175.00	87.362	225.500	8607.07	466.50 S	474.71 W	665.56		
9200.00	87.362	225.500	8608.22	484.00 S	492.53 W	690.54		
9225.00	87.362	225.500	8609.37	501.51 S	510.34 W	715.51		
9250.00	87.362	225.500	8610.52	519.01 S	528.15 W	740.48		
9275.00	87.362	225.500	8611.67	536.52 S	545.96 W	765.46		
9300.00	87.362	225.500	8612.82	554.02 S	563.78 W	790.43		
9325.00	87.362	225.500	8613.97	571.52 S	581.59 W	815.40		
9350.00	87.362	225.500	8615.12	589.03 S	599.40 W	840.38		
9375.00	87.362	225.500	8616.27	606.53 S	617.21 W	865.35		
9400.00	87.362	225.500	8617.43	624.04 S	635.03 W	890.32		
9425.00	87.362	225.500	8618.58	641.54 S	652.84 W	915.30		
9450.00	87.362	225.500	8619.73	659.04 S	670.65 W	940.27		

**SPERRY-SUN DRILLING SERVICES
WELL PROFILE DATA**

**MOBIL E&P SERVICES, INC.
NVAU #278**

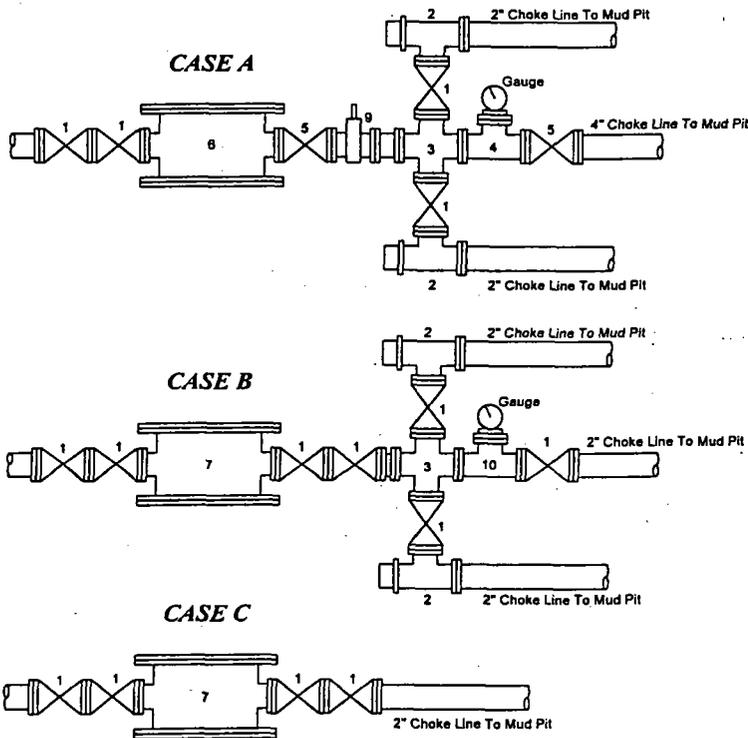
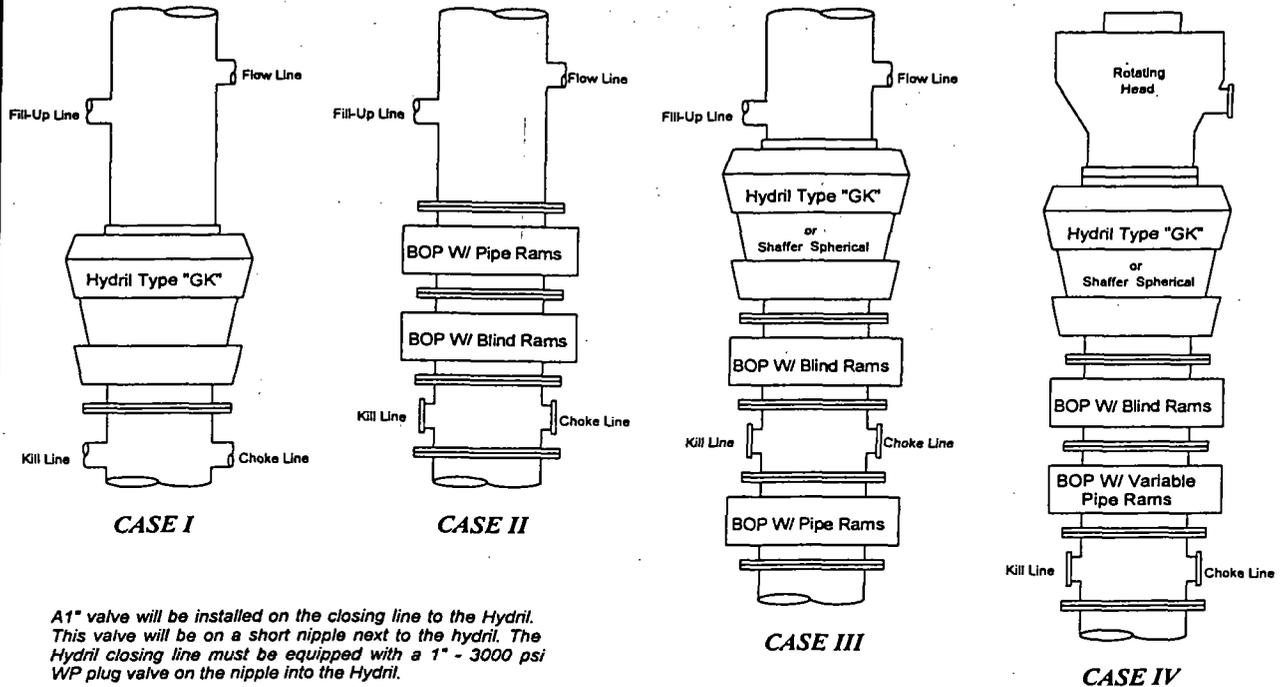
**N/A
10-Jun-97**

MEASURED DEPTH	ANGLE DEG	DIRECTION DEG	VERTICAL DEPTH	LATITUDE (Ft.)	DEPARTURE (Ft.)	VERTICAL SECTION	DOG LEG	TOOL FACE
9475.00	87.362	225.500	8620.88	676.55 S	688.46 W	965.25		
9500.00	87.362	225.500	8622.03	694.05 S	706.27 W	990.22		
9525.00	87.362	225.500	8623.18	711.56 S	724.09 W	1015.19		
9550.00	87.362	225.500	8624.33	729.06 S	741.90 W	1040.17		
9575.00	87.362	225.500	8625.48	746.56 S	759.71 W	1065.14		
9600.00	87.362	225.500	8626.63	764.07 S	777.52 W	1090.11		
9625.00	87.362	225.500	8627.78	781.57 S	795.34 W	1115.09		
9650.00	87.362	225.500	8628.93	799.08 S	813.15 W	1140.06		
9675.00	87.362	225.500	8630.08	816.58 S	830.96 W	1165.03		
9700.00	87.362	225.500	8631.24	834.09 S	848.77 W	1190.01		
9725.00	87.362	225.500	8632.39	851.59 S	866.59 W	1214.98		
9750.00	87.362	225.500	8633.54	869.09 S	884.40 W	1239.95		
9760.06	87.362	225.500	8634.00	876.14 S	891.57 W	1250.00	0.000	0.000

**The Dogleg Severity is in Degrees per 100.00 Feet
Vertical Section was calculated along an Azimuth of 225.500° (True)**

**Based upon Minimum Curvature type calculations. At a Measured Depth of 9760.06 Feet,
the Bottom Hole Displacement is 1250.00 Feet, in the Direction of 225.500° (True)**

SCHEDULE B
MINIMUM BLOWOUT PREVENTER REQUIREMENTS



BOP SIZE	BOP CASE	WORKING PRESSURE	CHOKE CASE
11	II	3000	C

Bradenhead furnished by Mobil will be:
Mfr: National
Size: 11" - 3000 Type: SOMO

Legend

1. 2" flanged all steel valve must be either Cameron "F", Halliburton Low Torque or Shaffer Flo-Seal.
2. 2" flanged adjustable chokes, min. 1" full opening & equipped with hard trim.
3. 4" x 2" flanged steel cross.
4. 4" flanged steel tee.
5. 4" flanged all steel valve (Type as in no. 1).
6. Drilling Spool with 2" x 4" flanged outlet.
7. Drilling Spool with 2" x 2" flanged outlet.
8. 2" x 2" flanged steel cross.
9. 4" pressure operated gate valve.
10. 2" flanged steel tee.

Notes

Choke manifold may be located in any convenient position. Use all steel fittings throughout. Make 90° turns with bull plugged tees only. No field welding will be permitted on any of the components of the choke manifold and related equipment upstream of the chokes. The choke spool and all lines and fittings must be at least equivalent to the test pressure of the preventers required. Independent closing control unit with clearly marked controls to be located on derrick floor near driller's position.

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF NEW MEXICO FOR
THE PURPOSE OF CONSIDERING:

CASE NO. 4831
Order No. R-4430

APPLICATION OF MOBIL OIL
CORPORATION FOR A PRESSURE
MAINTENANCE PROJECT, LEA
COUNTY, NEW MEXICO.

*also see
R-4430-A*

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on September 27, 1972, at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this 27th day of October, 1972, the Commission, a quorum being present, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, Mobil Oil Corporation, seeks authority to institute a pressure maintenance project in the North Vacuum-Abo Pool in its North Vacuum-Abo Unit Area, Lea County, New Mexico, by the injection of gas and water into the Abo formation through 34 wells located in Sections 3, 10, 11, 12, 13, 14, 15, 22, 23, 24, 25, 26, and 27, Township 17 South, Range 34 East, NMPM, Lea County, New Mexico.

(3) That the applicant further seeks the designation of the project area and the promulgation of special rules and regulations governing said project including a provision for administrative approval for unorthodox locations for injection wells and producing wells.

(4) That initially the project area should comprise only the following-described area:

LEA COUNTY, NEW MEXICO
TOWNSHIP 17 SOUTH, RANGE 34 EAST, NMPM

Section 2: SW/4
Section 3: SE/4
Section 10: E/2
Section 11: S/2
Section 12: NE/4 and S/2
Section 13: N/2 and SW/4
Section 14: All
Section 15: E/2
Section 22: E/2
Sections 23 and 24: All
Section 25: NW/4 and N/2 NE/4
Section 26: All
Section 27: E/2

TOWNSHIP 17 SOUTH, RANGE 35 EAST, NMPM
Section 19: W/2 NW/4

(5) That a pressure maintenance project, designated the Mobil North Vacuum-Abo Pressure Maintenance Project, comprising the above-described area is in the interest of conservation and should result in greater ultimate recovery of oil, thereby preventing waste.

(6) That an administrative procedure should be established whereby said project area may be expanded for good cause shown and whereby additional injection wells and producing wells at orthodox and unorthodox locations in the project area may be approved without the necessity of notice and hearing.

(7) That special rules and regulations for the operation of the Mobil North Vacuum-Abo Pressure Maintenance Project should be promulgated and, for operational convenience, such rules should provide certain flexibility in authorizing the production of the project allowable from any well or wells in the project area in any proportion, provided that no well in the project area which directly or diagonally offsets a well on another lease producing from the same common source of supply should be allowed to produce in excess of top unit allowable for the North Vacuum-Abo Pool until such time as the well has experienced a substantial response to water injection. When such a response has occurred, the well should be permitted to produce up to two times top unit allowable for the North Vacuum-Abo Pool. Production of such well at a higher rate should be authorized only after notice and hearing.

IT IS THEREFORE ORDERED:

(1) That the applicant, Mobil Oil Corporation, is hereby authorized to institute a pressure maintenance project in the

Case No. 4831
Order No. R-4430

North Vacuum-Abo Pool in its North Vacuum-Abo Unit Area, Lea County, New Mexico, to be designated the Mobil North Vacuum Abo Pressure Maintenance Project, by the injection of gas and water into the Abo formation, through the following-described wells:

LEA COUNTY, NEW MEXICO
TOWNSHIP 17 SOUTH, RANGE 34 EAST, NMPM

<u>OPERATOR</u>	<u>LEASE</u>	<u>WELL NO.</u>	<u>SECTION</u>	<u>LOCATION</u>
Mobil	Bridges State	172	3	P
Mobil	" "	166	10	H
Shell	State "VH"	1	10	P
Mobil	Bridges State	130 (a dual completion)	15	H
Mobil	" "	144	15	P
Mobil	State "J"	9	22	H
Shell	Location	to be drilled	22	P
Mobil	Bridges State	157	27	H
Mobil	" "	145	27	P
Mobil	" "	148	11	N
Mobil	" "	173	14	F
Mobil	" "	171	14	N
Mobil	" "	151 (a dual completion)	23	F
Mobil	State "KK"	1	23	N
Mobil	Bridges State	118	26	F
Mobil	" "	153	26	N
Mobil	" "	140	11	P
Mobil	" "	125 (a dual completion)	14	H
Mobil	" "	124 (a dual completion)	14	P
Mobil	" "	128	23	H
Mobil	" "	117 (a dual completion)	23	P
Mobil	" "	96	26	H
Mobil	" "	95 (a dual completion)	26	P
Mobil	" "	150	12	N
Mobil	" "	147 (a dual completion)	13	F
Mobil	" "	120 (a dual completion)	13	N
Mobil	" "	119 (a triple completion)	24	F
Mobil	" "	109 (a triple completion)	24	N
Mobil	" "	108 (a triple completion)	25	F
Mobil	" "	161	12	H
Mobil	" "	159	12	P
Mobil	" "	169	13	H
Pennzoil	Mobil State	1	24	H
Shell	State "C"	2	24	P

(2) That Special Rules and Regulations governing the operation of the Mobil North Vacuum-Abo Pressure Maintenance Project, Lea County, New Mexico, are hereby promulgated as follows:

SPECIAL RULES AND REGULATIONS
FOR THE
MOBIL NORTH VACUUM-ABO PRESSURE MAINTENANCE PROJECT

RULE 1. The project area of the Mobil North Vacuum-Abo Pressure Maintenance Project, hereinafter referred to as the Project, shall comprise the area described as follows:

LEA COUNTY, NEW MEXICO
TOWNSHIP 17 SOUTH, RANGE 34 EAST, NMPM
Section 2: SW/4
Section 3: SE/4
Section 10: E/2
Section 11: S/2
Section 12: NE/4 and S/2
Section 13: N/2 and SW/4
Section 14: All
Section 15: E/2
Section 22: E/2
Sections 23 and 24: All
Section 25: NW/4 and N/2 NE/4
Section 26: All
Section 27: E/2

TOWNSHIP 17 SOUTH, RANGE 35 EAST, NMPM
Section 19: W/2 NW/4

RULE 2. The allowable for the Project shall be the sum of the allowables of the several wells within the project area, including those wells which are shut-in, curtailed, or used as injection wells. Allowables for all wells shall be determined in a manner hereinafter prescribed.

RULE 3. Allowables for injection wells may be transferred to producing wells within the project area, as may the allowables for producing wells which, in the interest of more efficient operation of the Project, are shut-in or curtailed because of high gas-oil ratio or are shut-in for any of the following reasons: pressure regulation, control of pattern or sweep efficiencies, or to observe changes in pressures or changes in characteristics of reservoir liquids or progress of sweep.

RULE 4. The allowable assigned to any well which is shut-in or which is curtailed in accordance with the provisions of Rule 3 which allowable is to be transferred to any well or wells in the project area for production, shall in no event be greater than its ability to produce during the test prescribed by Rule 6,

below, or greater than the current top unit allowable for the pool during the month of transfer, whichever is less.

RULE 5. The allowable assigned to any injection well on an 80-acre proration unit shall be top unit allowable for the North Vacuum-Abo Pool.

RULE 6. The allowable assigned to any well which is shut-in or curtailed in accordance with Rule 3, shall be determined by a 24-hour test at a stabilized rate of production, which shall be the final 24-hour period of a 72-hour test throughout which the well should be produced in the same manner and at a constant rate. The daily tolerance limitation set forth in Commission Rule 502 I (a) and the limiting gas-oil ratio (2,000 to 1) for the pool shall be waived during such tests. The project operator shall notify all operators offsetting the well, as well as the Commission, of the exact time such tests are to be conducted. Tests may be witnessed by representatives of the offsetting operators and the Commission, if they so desire.

RULE 7. The basic allowable assigned to each producing well in the Project shall be equal to the well's ability to produce or to top unit allowable for the pool, whichever is less. Wells capable of producing more than top unit allowable may also receive transfer allowable, provided however, that no producing well in the project area which directly or diagonally offsets a well on another lease producing from the same common source of supply shall receive an allowable or produce in excess of two times top unit allowable for the pool. Each producing well shall be subject to the limiting gas-oil ratio (2,000 to 1) for the pool.

RULE 8. Each month the project operator shall submit to the Commission a Pressure Maintenance Project Operator's Report, on a form prescribed by the Commission, outlining thereon the data required, and requesting allowables for each of the several wells in the Project as well as the total project allowable based upon the pool's depth bracket allowable and the market demand percentage factor in effect. The aforesaid Pressure Maintenance Project Operator's Report shall be filed in lieu of Form C-120 for the Project.

RULE 9. The Commission shall, upon review of the report and after any adjustments deemed necessary, calculate the allowable for each well in the Project for the next succeeding month in accordance with these rules. The sum of the allowables so calculated shall be assigned to the Project and may be produced from the wells in the Project in any proportion except that no well in the Project which directly or diagonally offsets a well on another lease producing from the same common source of supply shall produce in excess of two times top unit allowable for the pool.

RULE 10. The Secretary-Director of the Commission is hereby authorized to approve such additional producing wells and injection wells at orthodox and unorthodox locations within the boundaries of the North Vacuum-Abo Unit Area as may be necessary to complete an efficient production and injection pattern, provided said wells are drilled no closer than 660 feet to the outer boundary of said unit nor closer than 10 feet to any quarter-quarter section or subdivision inner boundary. To obtain such approval, the project operator shall file proper application with the Commission, which application, if it seeks authorization to convert additional wells to injection or to drill additional production or injection wells shall include the following:

(1) A plat showing the location of proposed well, all wells within the project area, and offset operators, locating wells which offset the project area.

(2) A schematic drawing of the proposed well which fully describes the casing, tubing, perforated interval, and depth.

(3) A letter stating that all offset operators to the proposed well have been furnished a complete copy of the application and the date of notification.

The Secretary-Director may approve the proposed well if, within 20 days after receiving the application, no objection to the proposal is received. The Secretary-Director may grant immediate approval, provided waivers of objection are received from all offset operators.

Expansion of the project area may be approved by the Secretary-Director of the Commission administratively when good cause is shown therefor.

(4) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

BRUCE KING, Chairman

ALEX J. ARMIJO, Member

S E A L

dr/

A. L. PORTER, Jr., Member & Secretary

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

APPLICATION OF MOBIL OIL
CORPORATION FOR A PRESSURE
MAINTENANCE PROJECT, LEA
COUNTY, NEW MEXICO.

CASE NO. 4831
Order No. R-4430-A

NUNC PRO TUNC

BY THE COMMISSION:

It appearing to the Commission that due to clerical error Order No. R-4430, dated October 27, 1972, does not correctly state the intended order of the Commission,

IT IS THEREFORE ORDERED:

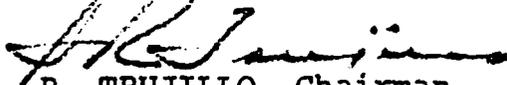
(1) That Rule 10 on Page 6 of Order No. R-4430 should read in its entirety as follows:

"RULE 10. The Secretary-Director of the Commission is hereby authorized to approve such additional producing wells and injection wells at orthodox and unorthodox locations within the boundaries of the North Vacuum-Abo Unit Area as may be necessary to complete an efficient production and injection pattern, provided said wells are drilled no closer than 460 feet to the outer boundary of said unit nor closer than 10 feet to any quarter-quarter section or subdivision inner boundary. To obtain such approval, the project operator shall file proper application with the Commission, which application, if it seeks authorization to convert additional wells to injection or to drill additional production or injection wells shall include the following:"

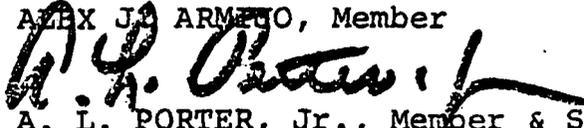
(2) That this order shall be effective nunc pro tunc as of October 27, 1972.

DONE at Santa Fe, New Mexico, this 30th day of November, 1973.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION


I. R. TRUJILLO, Chairman

ALBX JO ARMEJO, Member


A. L. PORTER, Jr., Member & Secretary

S E A L

dr/

(SHUGART YATES-SEVEN RIVERS, QUEEN-GRAYBURG
(GULF LITTLEFIELD SHUGART WATERFLOOD)
POOL - Cont'd.)

NOW, on this 16th day of November, 1972, the Commission, a quorum being present, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, Gulf Oil Corporation, seeks authority to institute a waterflood project on its Littlefield "AB" Federal Lease, Shugart Yates-Seven Rivers, Queen-Grayburg Pool, by the injection of water into the Queen formation through three injection wells in Section 22, Township 18 South, Range 31 East, NMPM, Eddy County, New Mexico.

(3) That the wells in the project area are in an advanced state of depletion and should properly be classified as "stripper" wells.

(4) That the proposed waterflood project should result in the recovery of otherwise unrecoverable oil, thereby preventing waste.

(5) That the subject application should be approved and the project should be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations.

IT IS THEREFORE ORDERED:

(1) That the applicant, Gulf Oil Corporation, is hereby authorized to institute a waterflood project in the Shugart Yates-Seven Rivers, Queen-Grayburg Pool by the injection of water into the Queen formation through the following-described wells in Section 22, Township 18 South, Range 31 East, NMPM, Eddy County, New Mexico:

Federal "AB" Littlefield Well 9, Unit H
Federal "AB" Littlefield Well 10, Unit B
Federal "AB" Littlefield Well 14, Unit O

(2) That injection in each of the aforesaid wells shall be through internally plastic-coated tubing set in a packer located as near as is practicable to the uppermost perforation; that the casing-tubing annulus of each injection well shall be loaded with an inert fluid and equipped with a pressure gauge at the surface.

(3) That the subject waterflood project is hereby designated the Gulf Littlefield Shugart Waterflood Project and shall be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations.

(4) That monthly progress reports of the waterflood project herein authorized shall be submitted to the Commission in accordance with Rules 704 and 1120 of the Commission Rules and Regulations.

(5) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year herein-above designated.

NORTH VACUUM-ABO POOL
(Mobil Pressure Maintenance Project)
Lea County, New Mexico

Order No. R-4430, Authorizing Mobil Oil Corporation to Institute a Pressure Maintenance Project in the North Vacuum-Abo Pool, Lea County, New Mexico, October 27, 1972, as Corrected by Order No. R-4430-A, October 27, 1972.

Application of Mobil Oil Corporation for a Pressure Maintenance Project, Lea County, New Mexico.

CASE NO. 4831
Order No. R-4430

ORDER OF THE COMMISSION

BY THE COMMISSION: This cause came on for hearing at 9 a.m. on September 27, 1972, at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this 27th day of October, 1972, the Commission, a quorum being present, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, Mobil Oil Corporation, seeks authority to institute a pressure maintenance project in the North Vacuum-Abo Pool in its North Vacuum-Abo Unit Area, Lea County, New Mexico, by the injection of gas and water into the Abo formation through 34 wells located in Sections 3, 10, 11, 12, 13, 14, 15, 22, 23, 24, 25, 26, and 27, Township 17 South, Range 34 East, NMPM, Lea County, New Mexico.

(3) That the applicant further seeks the designation of the project area and the promulgation of special rules and regulations governing said project including a provision for administrative approval for unorthodox locations for injection wells and producing wells.

(4) That initially the project area should comprise only the following-described area:

LEA COUNTY, NEW MEXICO
TOWNSHIP 17 SOUTH, RANGE 34 EAST, NMPM
Section 2: SW/4
Section 3: SE/4
Section 10: E/2
Section 11: S/2
Section 12: NE/4 and S/2
Section 13: N/2 and SW/4
Section 14: All
Section 15: E/2
Section 22: E/2
Sections 23 and 24: All
Section 25: NW/4 and N/2 NE/4
Section 26: All
Section 27: E/2

TOWNSHIP 17 SOUTH, RANGE 35 EAST, NMPM
Section 19: W/2 NW/4

(NORTH VACUUM-ABO (MOBIL PRESSURE MAINTENANCE PROJECT) POOL - Cont'd.)

(5) That a pressure maintenance project, designated the Mobil North Vacuum-Abo Pressure Maintenance Project, comprising the above-described area is in the interest of conservation and should result in greater ultimate recovery of oil, thereby preventing waste.

(6) That an administrative procedure should be established whereby said project area may be expanded for good cause shown and whereby additional injection wells and producing wells at orthodox and unorthodox locations in the project area may be approved without the necessity of notice and hearing.

(7) That special rules and regulations for the operation of the Mobil North Vacuum-Abo Pressure Maintenance Project should be promulgated and, for operational convenience, such rules should provide certain flexibility in authorizing the production of the project allowable from any well or wells in the project area in any proportion, provided that no well in the project area which directly or diagonally offsets a well on another lease producing from the same common source of supply should be allowed to produce in excess of top unit allowable for the North Vacuum-Abo Pool until such time as the well has experienced a substantial response to water injection. When such a response has occurred, the well should be permitted to produce up to two times top unit allowable for the North Vacuum-Abo Pool. Production of such well at a higher rate should be authorized only after notice and hearing.

IT IS THEREFORE ORDERED:

(1) That the applicant, Mobil Oil Corporation, is hereby authorized to institute a pressure maintenance project in the North Vacuum-Abo Pool in its North Vacuum-Abo Unit Area, Lea County, New Mexico, to be designated the Mobil North Vacuum Abo Pressure Maintenance Project, by the injection of gas and water into the Abo formation, through the following-described wells:

LEA COUNTY, NEW MEXICO
TOWNSHIP 17 SOUTH, RANGE 34 EAST, NMPM

OPERATOR	LEASE	WELL NO.	SECTION	LOCATION
Mobil	Bridges State	172	3	P
Mobil	" "	166	10	H
Shell	State "VH"	1	10	P
Mobil	Bridges State	130 (a dual completion)	15	H
Mobil	" "	144	15	P
Mobil	State "J"	9	22	H
Shell	Location	to be drilled	22	P
Mobil	Bridges State	157	27	H
Mobil	" "	145	27	P
Mobil	Bridges State	148	11	N
Mobil	" "	173	14	F
Mobil	" "	171	14	N
Mobil	" "	151 (a dual completion)	23	F
Mobil	State "KK"	1	23	N
Mobil	Bridges State	118	26	F
Mobil	" "	153	26	N
Mobil	" "	140	11	P
Mobil	" "	125 (a dual completion)	14	H
Mobil	" "	124 (a dual completion)	14	P
Mobil	" "	128	23	H
Mobil	" "	117 (a dual completion)	23	P
Mobil	" "	96	26	H
Mobil	" "	95 (a dual completion)	26	P

Mobil	" "	150	12	N
Mobil	" "	147 (a dual completion)	13	F
Mobil	" "	120 (a dual completion)	13	N
Mobil	" "	119 (a triple completion)	24	F
Mobil	" "	109 (a triple completion)	24	N
Mobil	" "	108 (a triple completion)	24	F
Mobil	" "	161	12	H
Mobil	" "	159	12	P
Mobil	" "	169	13	H
Pennzoil	Mobil State	1	24	H
Shell	State "C"	2	24	P

(2) That Sepcial Rules and Regulations governing the operation of the Mobil North Vacuum-Abo Pressure Maintenance Project, Lea County, New Mexico, are hereby promulgated as follows:

SPECIAL RULES AND REGULATIONS
FOR THE
MOBIL NORTH VACUUM-ABO
PRESSURE MAINTENANCE PROJECT

RULE 1. The project area of the Mobil North Vacuum-Abo Pressure Maintenance Project, hereinafter referred to as the Project, shall comprise the area described as follows:

LEA COUNTY, NEW MEXICO	
TOWNSHIP 17 SOUTH, RANGE 34 EAST, NMPM	Section 2: SE/4
	Section 3: SE/4
	Section 10: E/2
	Section 11: S/2
	Section 12: NE/4 and S/2
	Section 13: N/2 and SW/4
	Section 14: All
	Section 15: E/2
	Section 22: E/2
	Sections 23 and 24: All
	Section 25: NW/4 and N/2 NE/4
	Section 26: All
	Section 27: E/2
TOWNSHIP 17 SOUTH, RANGE 35 EAST, MNPM	Section 19: W/2 NW/4

RULE 2. The allowable for the Project shall be the sum of the allowables of the several wells within the project area, including those wells which are shut-in, curtailed, or used as injection wells. Allowables for all wells shall be determined in a manner hereinafter prescribed.

RULE 3. Allowables for injection wells may be transferred to producing wells within the project area, as may the allowables for producing wells which, in the interest of more efficient operation of the Project, are shut-in or curtailed because of high gas-oil ratio or are shut-in for any of the following reasons: pressure regulation, control of pattern or sweep efficiencies, or to observe changes in pressures or changes in characteristics of reservoir liquids or progress of sweep.

RULE 4. The allowable assigned to any well which is shut-in or which is curtailed in accordance with the provisions of Rule 3 which allowable is to be transferred to any well or wells in the project area for production, shall in no event be greater than its ability to produce during the test prescribed by Rule 6, below, or greater than the current top unit allowable for the pool during the month of transfer, whichever is less.

(NORTH VACUUM-ABO (MOBIL PRESSURE MAINTENANCE PROJECT) POOL - Cont'd.)

RULE 5. The allowable assigned to any injection well on an 80-acre proration unit shall be top unit allowable for the North Vacuum-Abo Pool.

RULE 6. The allowable assigned to any well which is shut-in or curtailed in accordance with Rule 3, shall be determined by a 24-hour test at a stabilized rate of production, which shall be the final 24-hour period of a 72-hour test throughout which the well should be produced in the same manner and at a constant rate. The daily tolerance limitation set forth in Commission Rule 502 I (a) and the limiting gas-oil ratio (2000 to 1) for the pool shall be waived during such tests. The project operator shall notify all operators offsetting the well, as well as the Commission, of the exact time such tests are to be conducted. Tests may be witnessed by representatives of the offsetting operators and the Commission, if they so desire.

RULE 7. The basic allowable assigned to each producing well in the Project shall be equal to the well's ability to produce or to top unit allowable for the pool, whichever is less. Wells capable of producing more than top unit allowable may also receive transfer allowable, provided however, that no producing well in the project area which directly or diagonally offsets a well on another lease producing from the same common source of supply shall receive an allowable or produce in excess of two times top unit allowable for the pool. Each producing well shall be subject to the limiting gas-oil ratio (2000 to 1) for the pool.

RULE 8. Each month the project operator shall submit to the Commission a Pressure Maintenance Project Operator's Report, on a form prescribed by the Commission, outlining thereon the data required, and requesting allowables for each of the several wells in the Project as well as the total project allowable based upon the pool's depth bracket allowable and the market demand percentage factor in effect. The aforesaid Pressure Maintenance Project Operator's Report shall be filed in lieu of Form C-120 for the Project.

RULE 9. The Commission shall, upon review of the report and after any adjustments deemed necessary, calculate the allowable for each well in the Project for the next succeeding month in accordance with these rules. The sum of the allowables so calculated shall be assigned to the Project and may be produced from the wells in the Project in any proportion except that no well in the Project which directly or diagonally offsets a well on another lease producing from the same common source of supply shall produce in excess of two times top unit allowable for the pool.

RULE 10. (As Corrected by Order No. R-4430-A, October 27, 1972.) The Secretary-Director of the Commission is hereby authorized to approve such additional producing wells and injection wells at orthodox and unorthodox locations within the boundaries of the North Vacuum-Abo Unit Area as may be necessary to complete an efficient production and injection pattern, provided said wells are drilled no closer than 460 feet to the outer boundary of said unit nor closer than 10 feet to any quarter-quarter section or subdivision inner boundary. To obtain such approval, the project operator shall file proper application with the Commission, which application, if it seeks authorization to convert additional wells to injection or to drill additional production or injection wells shall include the following:

(1) A plat showing the location of proposed well, all wells within the project area, and offset operators, locating wells which offset the project area.

(2) A schematic drawing of the proposed well which fully describes the casing, tubing, perforated interval, and depth.

(3) A letter stating that all offset operators to the proposed well have been furnished a complete copy of the application and the date of notification.

The Secretary-Director may approve the proposed well if, within 20 days after receiving the application, no objection to the proposal is received. The Secretary-Director may grant immediate approval, provided waivers of objection are received from all offset operators.

Expansion of the project area may be approved by the Secretary-Director of the Commission administratively when good cause is shown therefor.

(4) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

DRINKARD POOL
(Downes Lease Waterflood)
Lea County, New Mexico

Order No. R-4445, Authorizing The Wiser Oil Company to Institute a Waterflood Project on its Downes Lease, Drinkard Pool, Lea County, New Mexico, December 1, 1972.

Application of the Wiser Oil Company for a Waterflood Project, Lea County, New Mexico.

CASE NO 4868
Order No. R-4445

ORDER OF THE COMMISSION

BY THE COMMISSION: This cause came on for hearing at 9 a.m. on November 29, 1972, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this 1st day of December, 1972, the Commission, a quorum being present, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.

**NORTH VACUUM-ABO UNIT
Lea County, New Mexico**

Order No. R-4412, Approving the North Vacuum-Abo Unit Agreement, Lea County, New Mexico, October 10, 1972.

Application of Mobil Oil Corporation for Approval of the North Vacuum-Abo Unit Agreement, Lea County, New Mexico.

CASE NO. 4830
Order No. R-4412

ORDER OF THE COMMISSION

BY THE COMMISSION: This cause came on for hearing at 9 o'clock a.m. on September 27, 1972, at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this 10th day of October, 1972, the Commission, a quorum being present, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, Mobil Oil Corporation, seeks approval of the North Vacuum-Abo Unit Agreement covering 5,835.30 acres, more or less, of State lands described as follows:

- LEA COUNTY, NEW MEXICO
- TOWNSHIP 17 SOUTH, RANGE 34 EAST, NMPM
- Section 2: SW/4 - 10
- Section 3: SE/4
- Section 10: E/2 + 160
- Section 11: S/2 and N/2 NE/4 44
- Section 12: NE/4 and S/2
- Section 13: NE/4 and W/2
- Section 14: All
- Section 15: E/2
- Section 22: E/2
- Section 23: All
- Section 24: All
- Section 25: N/2 NE/4 and NW/4
- Section 26: All
- Section 27: E/2

- TOWNSHIP 17 SOUTH, RANGE 35 EAST, NMPM
- Section 19: W/2 NW/4

(3) That approval of the proposed unit agreement should promote the prevention of waste and the protection of correlative rights within the unit area.

IT IS THEREFORE ORDERED:

(1) That the North Vacuum-Abo Unit Agreement is hereby approved.

(2) That the plan contained in said unit agreement for the development and operation of the unit area is hereby approved in principle as a proper conservation measure; provided however, that notwithstanding any of the provisions contained in said unit agreement, this approval shall not be considered as waiving or relinquishing, in any manner, any right, duty, or obligation which is now, or may hereafter be, vested in the Commission to supervise and control operations for the exploration and development of any lands committed to the unit and production of oil or gas therefrom.

(3) That the unit operator shall file with the Commission an executed original or executed counterpart of the unit agreement within 30 days after the effective date thereof; that in the event of subsequent joinder by any party or expansion or contraction of the unit area, the unit operator shall file with the Commission within 30 days thereafter counterparts of the unit agreement reflecting the subscription of those interests having joined or ratified.

(4) That this order shall become effective upon the approval of said unit agreement by the Commissioner of Public Lands for the State of New Mexico; that this order shall terminate ipso facto upon the termination of said unit agreement; and that the last unit operator shall notify the Commission immediately in writing of such termination.

(5) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

**VACUUM GRAYBURG-SAN ANDRES UNIT
Lea County, New Mexico**

Order No. R-4433, Approving the Vacuum Grayburg-San Andres Unit Agreement, Lea County, New Mexico, November 8, 1972, as Amended by Order No. R-4433-A, November 8, 1972.

Application of Texaco Inc. for Approval of the Vacuum Grayburg San Andres Unit Agreement, Lea County, New Mexico.

CASE NO. 4851
Order No. R-4433

ORDER OF THE COMMISSION

BY THE COMMISSION: This cause came on for hearing at 9 o'clock a.m. on November 1, 1972, at Santa Fe, New Mexico, before Examiner Elvis A. Utz.