



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

TONEY ANAYA
GOVERNOR

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-5800

August 14, 1984

Administrative Order No. DHC-483

Lobo Production Company
P.O. Box 2364
Farmington, NM 87499

Attention: R. E. Lauritsen, Partner

Re: Libra # 1
Unit C, Sec. 16, T-32N,
R-13W, Basin Dakota and
Undesignated Gallup Pools,
San Juan County, New Mexico

Gentlemen:

Reference is made to your recent application for an exception to Rule 303-A of the Division Rules and Regulations to permit the subject well to commingle the production from both pools in the wellbore.

It appearing that the subject well qualifies for approval for such exception pursuant to the provisions of Rule 303-C, and that reservoir damage or waste will not result from such downhole commingling, and correlative rights will not be violated thereby, you are hereby authorized to commingle the production as described above.

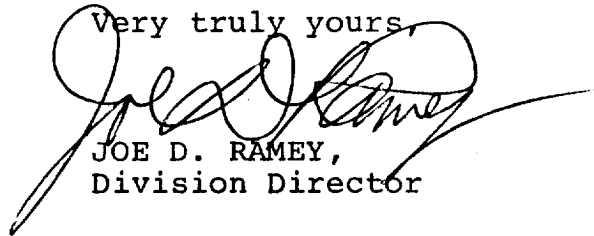
In accordance with the provisions of Rule 303.C.4., total commingled oil production from the subject well shall not exceed 20 barrels per day, and total water production from the well shall not exceed 40 barrels per day. The maximum amount of gas which may be produced daily from the well shall be determined by allowables established by the Oil Conservation Division proration schedule for these pools.

Assignment of allowable to the well and allocation of production from the well shall be on the following basis:

Basin Dakota Pool:	Oil 0 %, Gas 74 %
Undesignated Gallup Pool:	Oil 100 %, Gas 26 %

Pursuant to Rule 303-C 5, the commingled authority granted by this order may be rescinded by the Division Director if, in his opinion, conservation is not being best served by such commingling.

Very truly yours,

A handwritten signature in dark ink, appearing to read "Joe D. Ramey", is written over the typed name and title. The signature is fluid and cursive, with a large initial "J" and "R".

JOE D. RAMEY,
Division Director



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION
AZTEC DISTRICT OFFICE

1000 RIO BRAZOS ROAD
AZTEC, NEW MEXICO 87410
(505) 334-6178

OIL CONSERVATION DIVISION
BOX 2088
SANTA FE, NEW MEXICO 87501

DATE July 25, 1984

RE: Proposed MC _____
Proposed DHC α _____
Proposed NSL _____
Proposed SWD _____
Proposed WFX _____
Proposed PMX _____

Gentlemen:

I have examined the application dated July 24, 1984
for the Lobo Production Libra #1 C-16-32N-13W
Operator Lease and Well No. Unit, S-T-R

and my recommendations are as follows:

Approve

Yours truly,

Frank D. [Signature]

LOBO PRODUCTION
R.E. Lauritsen & Gary Roberts
P.O. BOX 2364
FARMINGTON, NEW MEXICO 87499
TELEPHONE: (505) 327-0331

July 19, 1984

Mr. Joe Ramey
Oil Conservation Division
Post Office Box 2088
Santa Fe, New Mexico 87501

RE: Administrative Approval
Down Hole Commingling
LG 6557
C, Sec 16, T32N, R13W
#1 Libra
San Juan County, New Mexico

Dear Mr. Ramey:

Lobo Production is hereby requesting down hole commingling of the Gallup and Dakota in the above referenced well. Data from tests and reports are being submitted with this letter. Because of the similarity of the logs and test on the #1 Libra and the #1 Scorpio, it is believed that the data from one well will be applicable to the other well.

The interest owners (Royalty, Overriding Royalty, and working interest) is the same for both the Gallup and Dakota formations.

Enclosed you will find bottom hole pressure test data from the #1 Scorpio. Bottom hole pressures were as follows:

GALLUP 4000'	1386 PSI
DAKOTA 4530'	928 PSI

The pressures fall within the 50% limitation and qualifies for commingling on that basis.

Northwest Energy is preparing deliverability studies on both the Gallup and Dakota zones. It is felt that the deliverability analysis would be the best data for the allocation of production from each zone.

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JUL 24 1984
OIL CON. DIV.
DIST. 3

The Dakota has made only dry gas during production tests and it is recommended that all oil production be allocated to the Gallup.

Surrounding mineral owners were notified by certified letter of the request for commingling. Production tests have indicated that it is not economically feasible to drill single zone wells in this area as the reserves from a single zone are not sufficient to "pay out" a well in a reasonable amount of time. Also both zones appear to be gas producers only with very little if any fluids.

If you need additional information or have any questions in regard to the data submitted, please feel free to contact me. Thank you for your consideration of this matter.

Respectfully submitted,


R.E. Lauritsen
Partner

REL:ab

Enclosure

LOBO PRODUCTION
R.E. Lauritsen & Gary Roberts
P.O. BOX 2364
FARMINGTON, NEW MEXICO 87499
TELEPHONE: (505) 327-0331

July 20, 1984

#1 LIBRA

C, Sec 16, T32N, R13W

San Juan County, New Mexico

Rule 303 C.2 Down Hole Commingling.

(a) Operator:

Lobo Production (505) 327-0331
P.O. Box 2364
Farmington, NM 87499

(b) Lease:

LG 6557
Libra #1
C, Sec 16, T32N, R13W
San Juan County, New Mexico
Wildcat Gallup - Basin Dakota

(c) Plat:

Attached

(d) Productivity Test:

C-116 and A.O.F. tests attached

(e) Production history:

No Production History-Recently completed wells. GOR test on Gallup - 0.43 BO - 47.1 MCF. Results of the AOF test of the Dakota zone showed 135 MCFGPD from the Dakota. A 24 hour Orifice test of the commingled Gallup-Dakota showed the well flowing 403 MCFGPD after 3 hours with a flow rate of 219 MCFGPD after 24 hours.

Narrative of Production History:

Jan. 26: Set plug at 3550' perforated Dakota 3444-3546'

Jan. 27: Acidized and fraced with 41,600 #10/20 sd ATP 3250 ISIP 1050

Feb. 21: Run AOF Test (AOF 135 MCFGPD)
Unable to obtain bottom hole pressure because of blockage in tubing.

Feb. 22: Perforated Gallup 2522-2924'
 0.1 foam frac sanded off-unable to frac
 March 1: Fracced Gallup with water foam
 and 75,000 #20/40 Sd ATP 3800 ISIP 1250
 March 19: Hooked-up pump jack and began
 pumping. Well would not pump-gas locking
 March 24: GOR test 0.43 BO - 47.1 MCF
 May 10: Removed pump jack and pulled bridge
 plug between Gallup and Dakota
 The well has been flowed intermittantly
 since May 10, without making any measurable
 oil. The load oil from the attempted Gallup
 frac has not been recovered to date.

(f) Bottom Hole Pressures:

Unable to obtain bottom hole pressures due
 to blockage in the tubing (See tefteller
 report)

Bottom Hole Pressure in the Scorpio #1:

Gallup 3800'	1298 PSI
Dakota 4530'	928 PSI

(g) Fluid Characteristics:

The well is producing dry gas from both
 the Gallup and Dakota zones.

(h) Values of Production:

Test: Gallup - GOR 47.1 MCF
 Dakota - AOF 135 MCF
 Gp-Kd Commingled-220 MCF after 24 hours
 The tests indicate that the commingled stream
 will be higher than could be produced if each
 zone were produced separately.

(i) Allocation of Production:


	<u>Test</u>	<u>%</u>
Dakota	135 MCF	74%
Gallup	47 MCF	26%
TOTAL	182 MCF	100%

100% of the oil allocated to the Gallup as the
 Dakota produced no oil during production tests.

- (j) All adjacent land owners and operators were notified by certified mail on July 20, 1984 of Lobo Production's intention to commingle Gallup and Dakota zones.

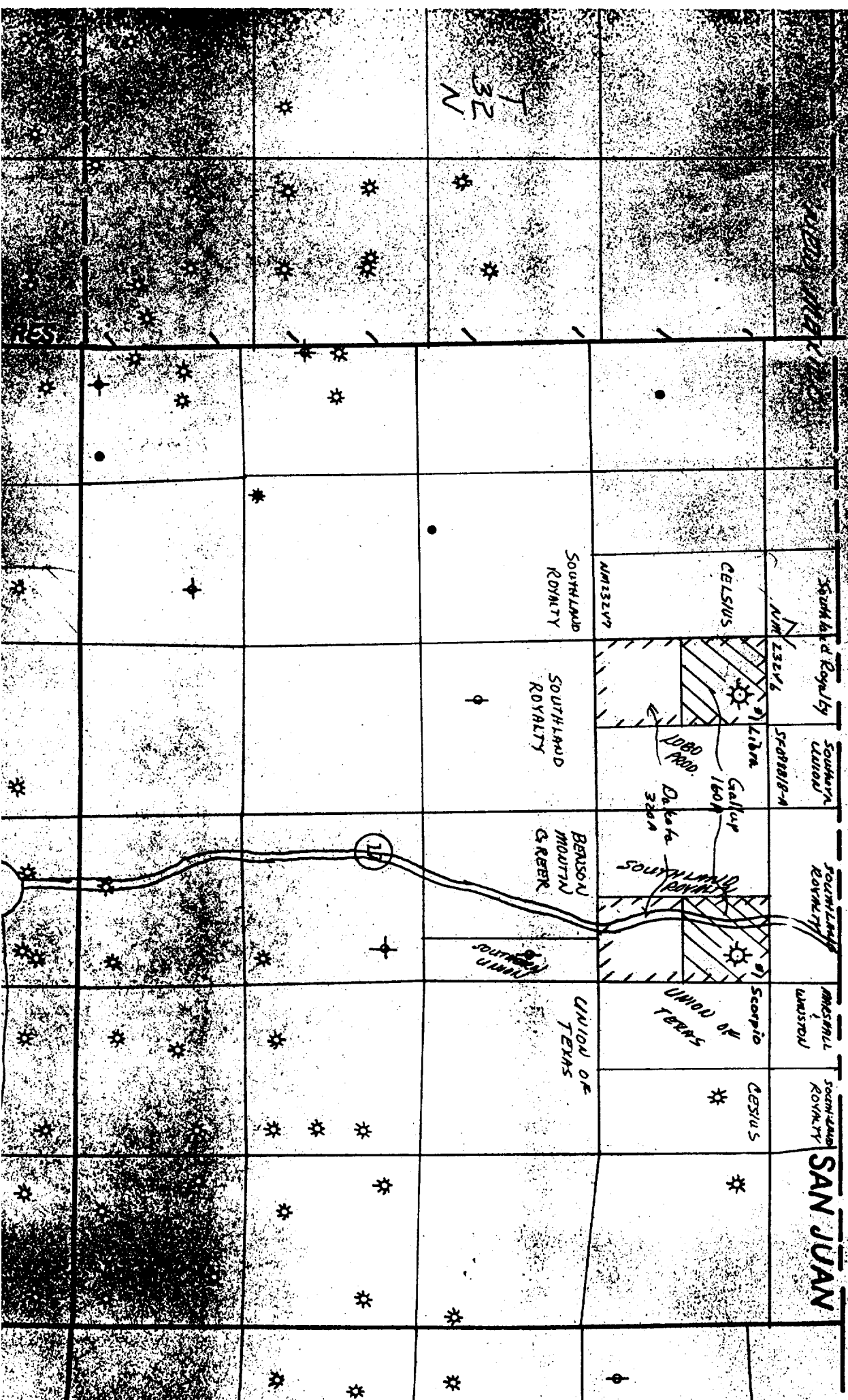
COMMENTS: Bottom hole pressures were not obtained because of a blockage in the tubing during an attempt to run a bottom hole pressure survey. The well was cased with 3 1/2" casing as it was the original intent to drill a Gallup only well. Due to the lack of hydrocarbon shows in the Gallup it was decided to deepen the well to the Dakota. Production tests indicate that the well would not be economic if only one zone were produced.

Prepared by:

A handwritten signature in cursive script, appearing to read "R.E. Lauritsen", written over a horizontal line.

R.E. Lauritsen

FIGURE



GAS-OIL RATIO TESTS

Operator		Pool		County													
LOBO PRODUCTION		Wildcat Gallup - Basin Dakota		San Juan													
Address P.O. Box 2364 Farmington, NM 87499				Completion <input checked="" type="checkbox"/> Special <input type="checkbox"/>													
LEASE NAME	WELL NO.	LOCATION				DATE OF TEST	TYPE OF TEST - (X)	SCHEDULED <input type="checkbox"/>	CHOKE SIZE	TBG. PRESS.	DAILY ALLOW-ABLE	LENGTH OF TEST HOURS	PROD. DURING TEST				GAS - OIL RATIO CU.FT/BBL
		U	S	T	R								WATER BBL'S	GRV. OIL BBL'S	GAS M.C.F.		
#1 Libra	1	C	16	32N	13W	6/29/84	F	1/2	-	-	24	0-	n/a	0-	288.7	n/a	

No well will be assigned an allowable greater than the amount of oil produced on the official test.

During gas-oil ratio test, each well shall be produced at a rate not exceeding the top unit allowable for the pool in which well is located by more than 25 percent. Operator is encouraged to take advantage of this 25 percent tolerance in order that well can be assigned increased allowables when authorized by the Division.

Gas volumes must be reported in MCF measured at a pressure base of 15.025 psia and a temperature of 60° F. Specific gravity base will be 0.60.

Report casing pressure in lieu of tubing pressure for any well producing through casing.

Mail original and one copy of this report to the district office of the New Mexico Oil Conservation Division in accordance with Rule 301 and appropriate pool rules.

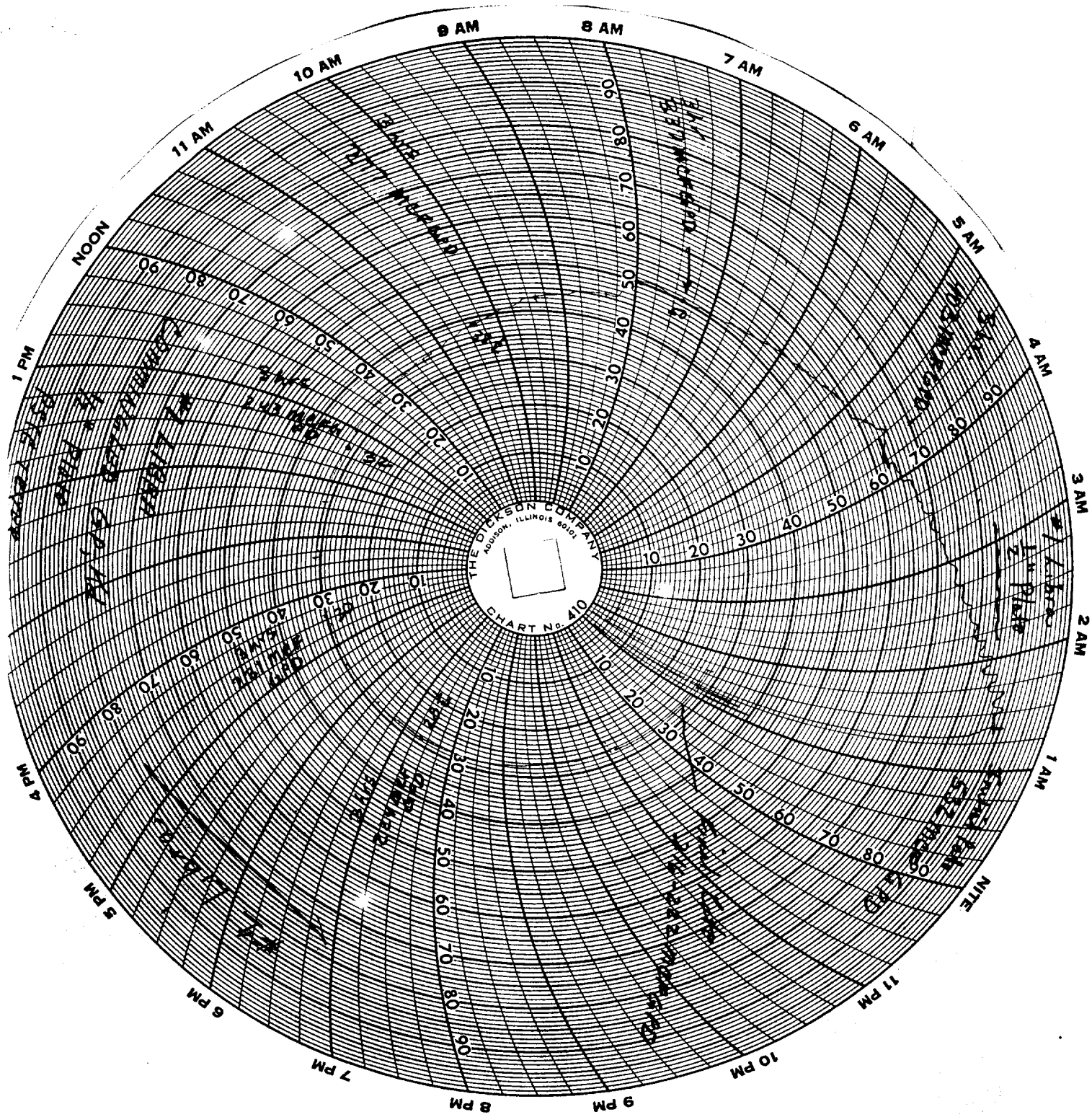
I hereby certify that the above information is true and complete to the best of my knowledge and belief.

(Signature)

Partner-Operator

(Title)

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JUL 24 1984
CON. DIV.
DIST. 3



#1 Libna

Start GOR 6/28/84 - 4'4 1/2"

End GOR 6/29/84 - 4'4 1/2"

4 1/2" plate

NEW MEXICO OIL CONSERVATION COMMISSION
MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR

Form C-122
Revised 9-1-65

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OIL CON. DIV.
 JUL 24 1984

Type Test <input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special				Test Date 2-21-84	
Company Lobo Production				Connection	
Pool				Formation Dakota	
Completion Date		Total Depth 3585		Plug Back TD 3552	
Elevation		Farm or Lease Name Libra			
Csg. Size 3 1/2	Wt.	d	Set At 3552	Perforations: From 3444 To 3546	
Tbg. Size 1 1/4	Wt.	d	Set At 3424	Perforations: From To	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single				Packer Set At None	
Producing Thru Tubing		Reservoir Temp. °F		Mean Annual Temp. °F	
Baro. Press. - P_a		State New Mexico			
L	H	G_g	% CO₂	% N₂	% H₂S
Prover				Meter Run 6"x3/4"	Taps

FLOW DATA							TUBING DATA		CASING DATA		Duration of Flow
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. hw	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.	Temp. °F	
SI	8 days						573		573		
1.	2 X 3/4						3		91		3 hours
2.											
3.											
4.											
5.											

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor Fg	Super Compress. Factor, Fpv	Rate of Flow Q, Mcfd
1							
2							
3							
4							
5							

NO.	P _t	Temp. °R	T _f	Z	Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl.
1.					A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.
2.					Specific Gravity Separator Gas _____ X X X X X X X X
3.					Specific Gravity Flowing Fluid _____ X X X X X
4.					Critical Pressure _____ P.S.I.A. _____ P.S.I.A.
5.					Critical Temperature _____ R _____ R

NO.	P _t ²	P _w	P _w ²	P _e ² - P _w ²	(1) $\frac{P_e^2}{P_e^2 - P_w^2} =$	(2) $\left[\frac{P_e^2}{P_e^2 - P_w^2} \right]^n =$
1		103	10609	331616	1.0320	1.0239
2						
3						
4						
5						

$AOF = Q \left[\frac{P_e^2}{P_e^2 - P_w^2} \right]^n = 135$

Absolute Open Flow 135 Mcfd @ 15.025 Angle of Slope Θ 53.13 Slope, n .75

Remarks: _____

Approved By Commission:	Conducted By: TEFTELLER, INC.	Calculated By: NEIL TEFTELLER	Checked By:
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TEFTELLER, INC.
RESERVOIR ENGINEERING DATA
Midland, Texas

Well : LIBRA NO. 1

Page 1 of 3

Field : BASIN DAKOTA

File 2-15220-AOF

CHRONOLOGICAL PRESSURE AND PRODUCTION DATA

1984 Date	Status of Well	Time	Elapsed Time Hrs.Min.	Daily Rate Gas MCF/D	Wellhead Pressure Tbg Csg
2-21	Arrived on location, shut-in,				
"	shut-in since 2-13-84 @				
"	10:00	07:00	189 00		573 573
"	Run static gradient traverse				
"	to 600' due to obstruction				
"	Open to test thru 3/4"x6"				
"	x2" positive choke	08:45	190 45		573 573
"	Dry gas	08:45	0 00		
"	"	09:00	0 15	192	6 151
"	"	09:15	0 30	107	2 101
"	light mist to surface	09:30	0 45	120	2.5 101
"	"	09:45	1 00	143	3.5 100
"	"	10:15	1 30	143	3.5 95
"	"	10:45	2 00	143	3.5 94
"	Mist stopped	11:15	2 30	143	3.5 92
"	Dry gas	11:45	3 00	132	3.0 91
"	Shut well in	11:45			



MIDLAND, TEXAS

Page 1 of 2

File 2-15616-P&FL

COMPANY LOBO PRODUCTION COMPANY LEASE LIBRA WELL NO. 1
 FIELD BASIN COUNTY SAN JUAN STATE NEW MEXICO
 FORMATION GALLUP-DAKOTA TEST DATE JUNE 20, 1984 TIME _____

FLUID LEVEL REPORT

WELL DATA

Elevation 6131 GL feet Datum _____ feet subsea Total Depth 3550 PBTD feet
3444-3546 Dakota
 Perforations 2522-2924 Gallup feet Test Depth 3500 feet Packer No feet
 Tubing Size 1 1/4 in. to 3430 feet Tubing Pressure _____ psig
 Casing Size 3 1/2 in. to 3550 feet Casing Pressure 318 psig
 Oil Level _____ feet Water Level _____ feet Average Tubing Joint 31.0 feet est.
 Well Makes _____ % Oil, _____ % Water Atmospheric Temperature _____ °F
 Status of Well Shut-in 8 days Operator Richard Baird Unit No. P-14

PRESSURE DATA

	Feet	Gradient Psig/Ft.	Psi
Casing Pressure			318
GAS			
Average Tubing Joints <u>31.0</u> ft. Joints to Fluid <u>84</u> Feet to Fluid.	2646	0.009	29
OIL			
Fluid Column Length <u>854</u> ft. % Oil _____ Oil Column Length.	854	0.325	278
WATER			
Fluid Column Length _____ Ft. % Water _____ Water Column Length.			

PRESSURE AT TEST DEPTH

3500 625

Calculated subsurface pressure at datum depth of _____ feet subsea is _____ psig
 Last Test Date _____ Pressure Last Test _____ psig BHP Change _____ psi

Remarks: _____

Company LOBO PRODUCTION COMPANY Lease LIBRA Well No. 1
 Field BASIN DAKOTA County SAN JUAN State NEW MEXICO
 Formation DAKOTA Test Date FEBRUARY 21, 1984

