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.

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 fracced 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 imtermittantly 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:

	Test	%
Dakota	135 MCF	74%
Gallup	47 MCF	26%
TOTAL	182 MCF	100%

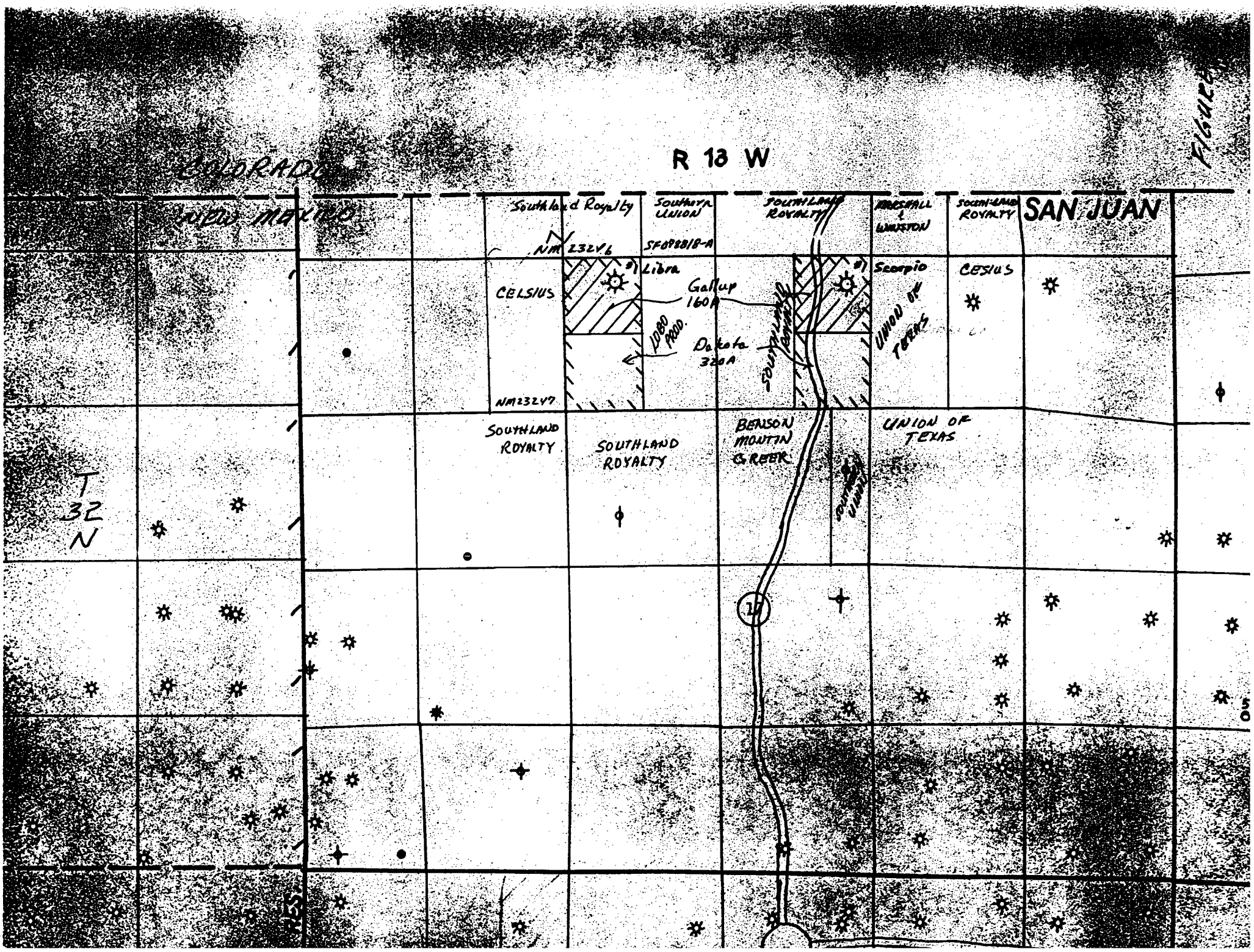
100% of the oil allocated to the Gallup as the Dakota produced no oil during production tests.

(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:

R.E. Lauritsen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SAN JUAN
Southland Royalty
Southern Union
SOUTHLAND ROYALTY
MARSHALL & WINSTON
SOUTHLAND ROYALTY
NM 23247
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CELSIUS
Libra
Gallup 160A
1080 FNDC.
Dakota 320A
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STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

SANTA FE, NEW MEXICO 87501

Form C-116
Revised 10-1-78

GAS-OIL RATIO TESTS

Operator	Pool	County
LOBO PRODUCTION	Commingled Wildcat Gallup - Basin Dakota	San Juan

Address	TYPE OF TEST - (X)			
P.O. Box 2364 Farmington, NM 87499	Scheduled ☐	Completion ☒	Special ☐	

LEASE NAME	WELL NO.	LOCATION U	S	T	R	DATE OF TEST	STATUS	CHOKE SIZE	TBG. PRESS.	DAILY ALLOWABLE	LENGTH OF TEST HOURS	PROD. DURING TEST WATER BBLS.	GRAV. OIL	OIL BBLS.	GAS M.C.F.	GAS - OIL RATIO CU.FT/BBL
#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.

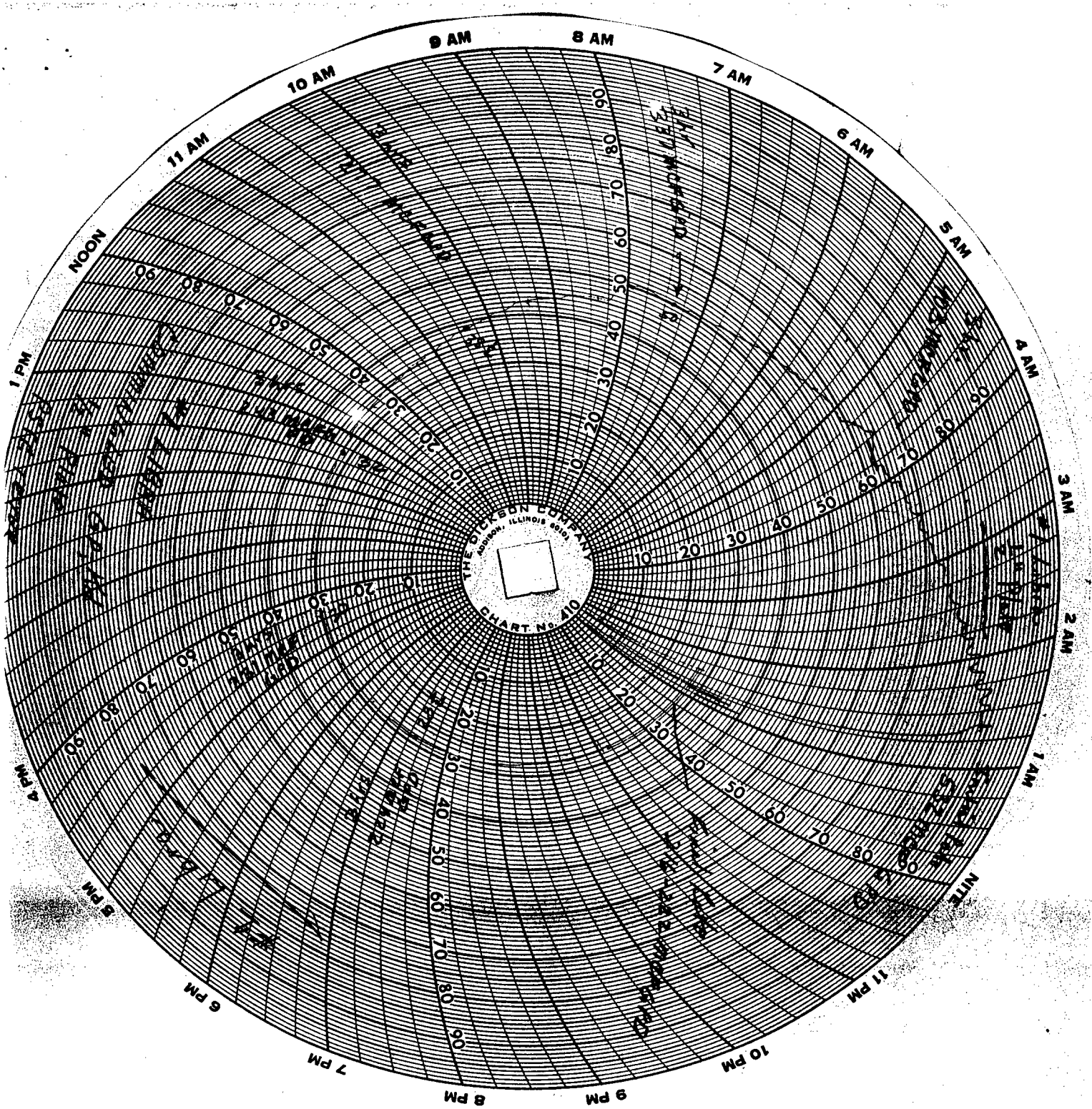
Mail original and one copy of this report to the district office of the New Mexico Oil Conservation Division in accordance with Rule 301 and appropriate pool rules.

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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THE DICKSON COMPANY
ADDISON, ILLINOIS 60101
CHART No. A10

NEW MEXICO OIL CONSERVATION COMMSSION

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Form C-122
Revised 9-1-65

Type Test: [X] Initial [ ] Annual [ ] Special				Test Date: 2-21-84	
Company: Lobo Production		Connection:			
Pool:		Formation: Dakota			Unit:
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		Well No.: 1
Tbg. Size: 1 1/4 / Wt. / d / Set At: 3424			Perforations: From To		Unit / Sec. / Twp. / Rge.
Type Well – Single – Bradenhead – G.G. or G.O. Multiple: Single			Packer Set At: None		County: San Juan
Producing Thru: Tubing	Reservoir Temp. °F: @	Mean Annual Temp. °F	Baro. Press. – P_a		State: New Mexico

L	H	Gg	% CO_2	% N_2	% H_2S	Prover	Meter Run	Taps
							6"x3/4"	

	FLOW DATA				TUBING DATA		CASING DATA		
NO.	Prover Line Size X Orifice Size	Press. p.s.i.g.	Diff. h_w	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.	Temp. °F	Duration of Flow
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.		Orifice well tester volume					132
3.							
4.							
5.							

NO.	P_t	Temp. °R	T_r	Z
1.				
2.				
3.				
4.				
5.				

Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl.
A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.
Specific Gravity Separator Gas _____ XXXXXXXXX
Specific Gravity Flowing Fluid XXXXX _____
Critical Pressure _____ P.S.I.A. _____ P.S.I.A.
Critical Temperature _____ R _____ R

P_c 585 P_c^2 342225

NO	P_t^2	P_w	P_w^2	$P_c^2 - P_w^2$
1		103	10609	331616
2				
3				
4				
5				

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.0320$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 1.0239$

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

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

Remarks:

Approved By Commission:	Conducted By:	Calculated By:	Checked By:
	TEFTELLER, INC.	NEIL TEFTELLER	

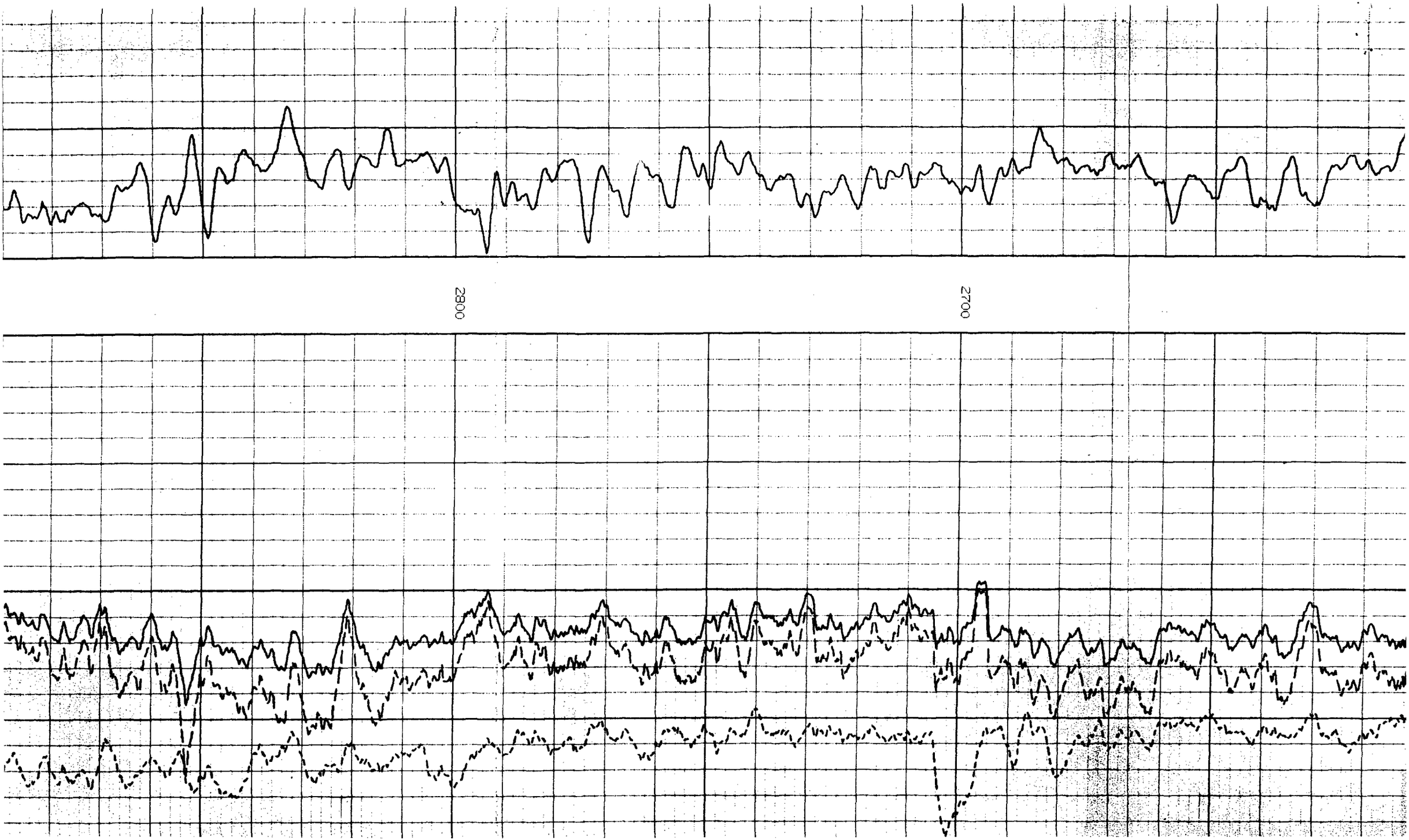
TEFTELLER, INC.
RESERVOIR ENGINEERING DATA
Midland, Texas

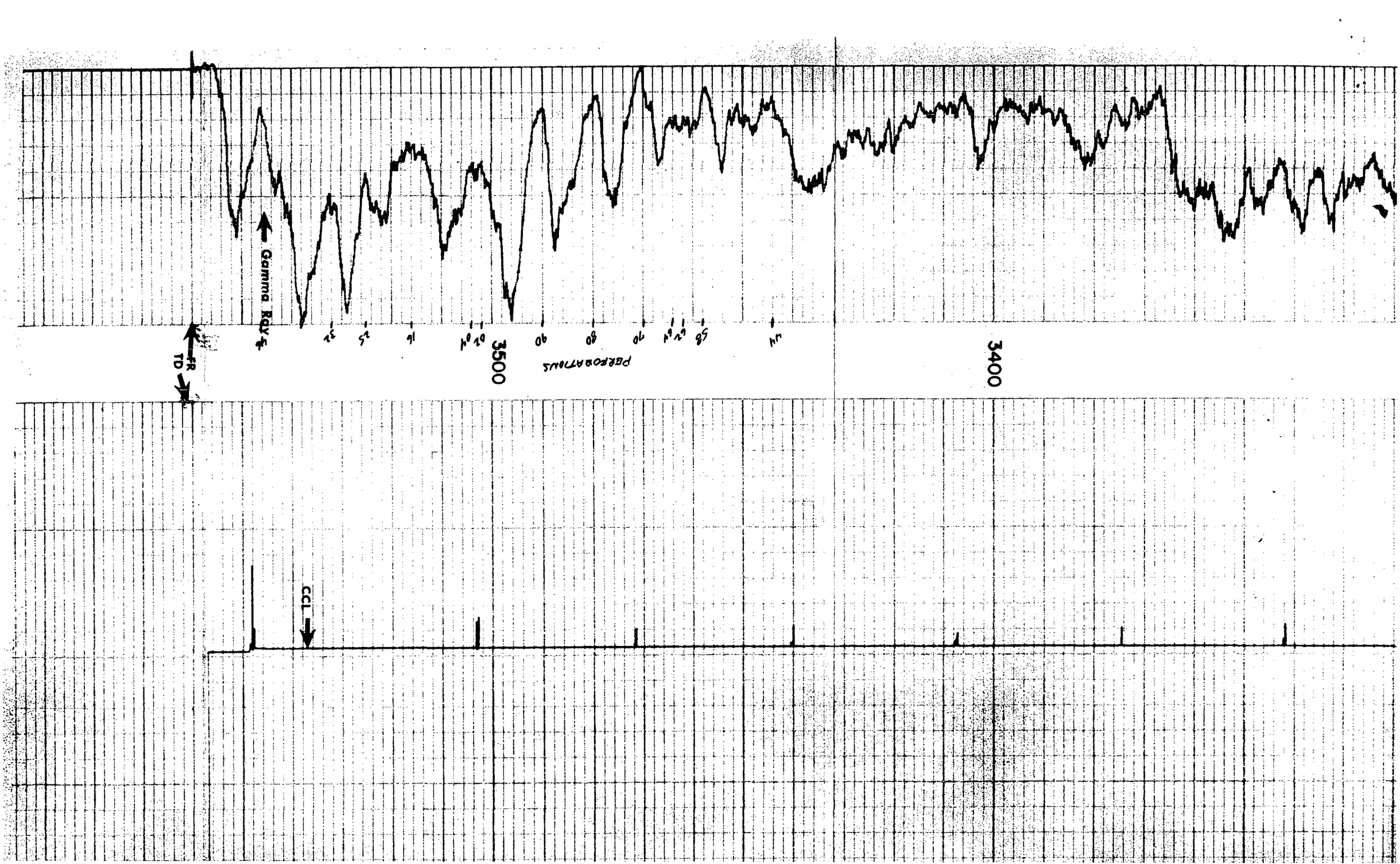
Well : LIBRA NO. 1 Page 1 of 3

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					


2800
2700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LEFTELLER, INC.
reservoir engineering data
MIDLAND, TEXAS

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
Perforations 3444-3546 Dakota, 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 31.0 ft. Joints to Fluid 84 Feet to Fluid.	2646	0.009	29
OIL			
Fluid Column Length 854 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:

TEFTELLER, INC.
reservoir engineering data
MIDLAND, TEXAS

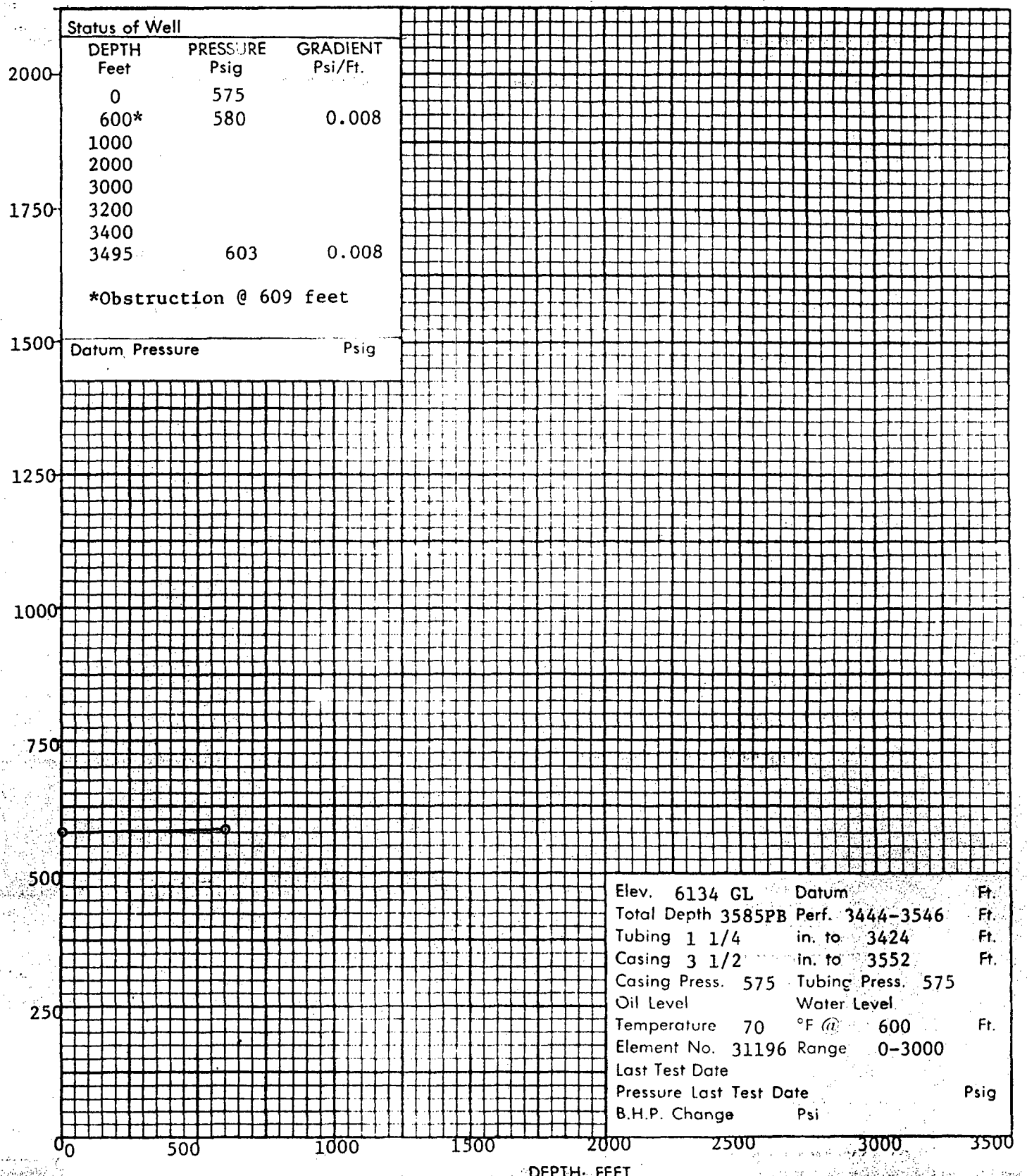
Company LOBO PRODUCTION COMPANY Lease LIBRA Well No. 1
Field BASIN DAKOTA County SAN JUAN State NEW MEXIC
Formation DAKOTA Test Date FEBRUARY 21, 1984

Status of Well

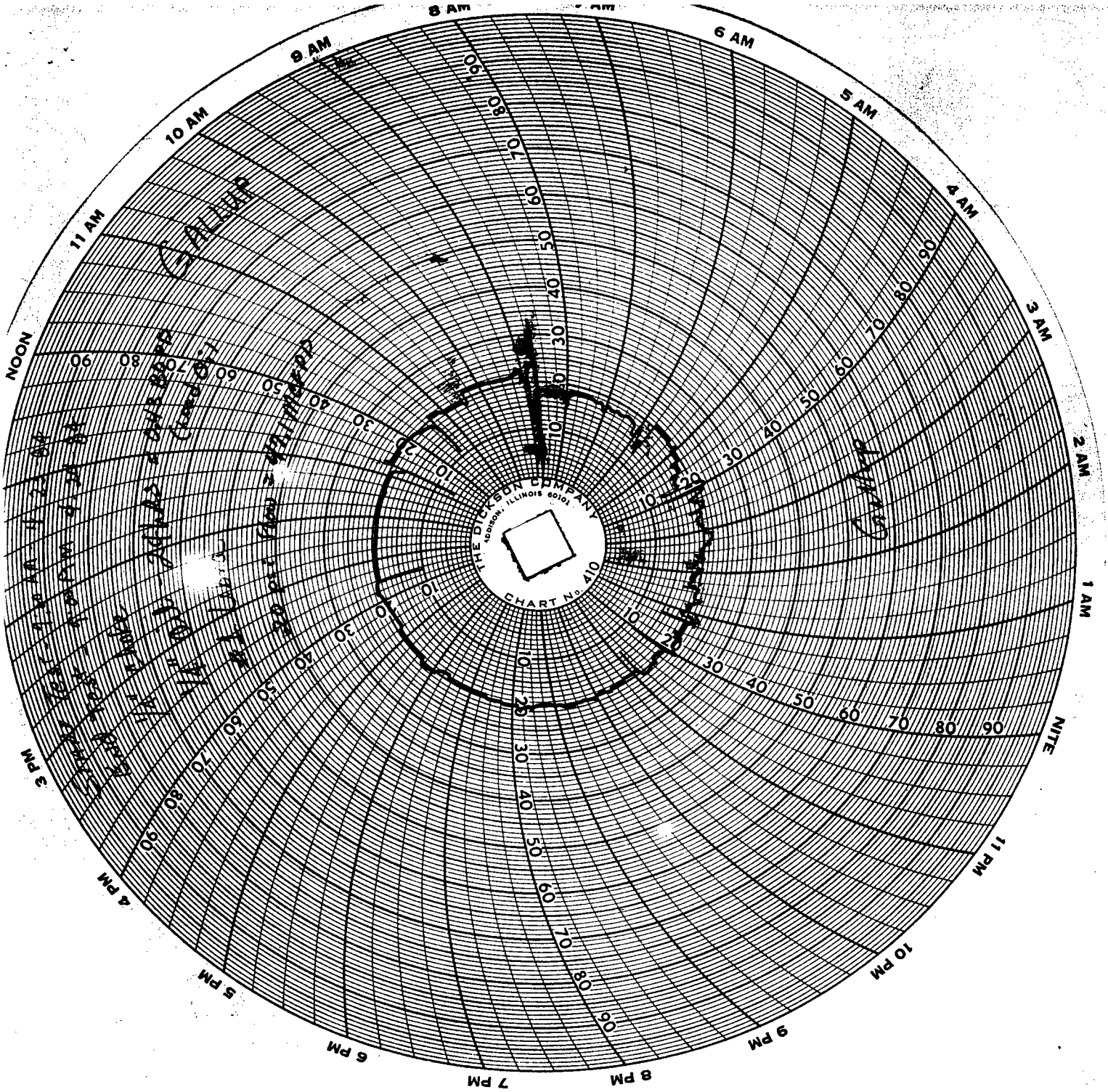
DEPTH Feet	PRESSURE Psig	GRADIENT Psi/Ft.
0	575	
600*	580	0.008
1000		
2000		
3000		
3200		
3400		
3495	603	0.008

*Obstruction @ 609 feet

Datum Pressure Psig



Elev.	6134 GL	Datum	Ft.
Total Depth	3585PB	Perf. 3444-3546	Ft.
Tubing	1 1/4	in. to 3424	Ft.
Casing	3 1/2	in. to 3552	Ft.
Casing Press.	575	Tubing Press. 575	
Oil Level		Water Level	
Temperature	70	°F @ 600	Ft.
Element No.	31196	Range 0-3000	
Last Test Date			
Pressure Last Test Date			Psig
B.H.P. Change		Psi	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ADDISON, ILLINOIS 60101
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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 X
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 T. Chavez