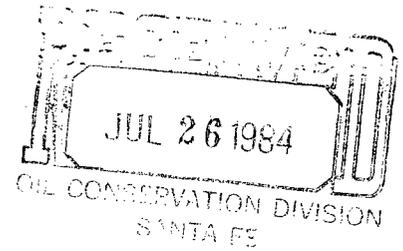


LOBO PRODUCTION
R.E. Lauritsen & Gary Roberts
P.O. BOX 2364
FARMINGTON, NEW MEXICO 87499
TELEPHONE: (505) 327-0331

July 20, 1984



Mr. Joe Ramey
Oil Conservation Division
P.O. Box 2088
Santa Fe, New Mexico 87501

RE: Administrative Approval
Down Hole Commingling
SF 078818-A
A, Sec 15, T32N, R13W
#1 Scorpio
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.

The interest owners (Royalty, Overriding Royalty, and working interest) are 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 SCORPIO

A, Sec 15, T32N, R13W
San Juan County, New Mexico

Rule 303 C.2 Down Hole Commingling.

(a) Operator:

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

(b) Lease:

USA SF 078818-A
#1 Scorpio
A, Sec 15, T32N, R13W
San Juan County, New Mexico
Wildcat Gallup-Basin Dakota

(c) Plat:

Attached-Plat of acreage and offset leases

(d) Productivity Tests:

C-116 attached for Gallup and Dakota zones

(e) Production History:

No production history as it is a new completion. No decline curves because production history not available.

(f) Bottom Hole Pressures:

Bottom hole pressures as follows:

#1 Scorpio

Graneros-Dakota	4530'	928 PSI
Gallup-Mancos	4000'	1386 PSI
	3800'	1298 PSI (Mid Perfs)

(Per Tefteller, Inc., reports attached)

- (g) Specific gravities of the oils are as follows:

The well has produced dry gas only from both zones. Very little if any liquid hydrocarbons are expected.

- (h) If either zone makes fluid, commingling will eliminate problems in pumping the well. The ultimate recoverable reserves should not be diminished by commingling. Back pressure at the surface should be from 50-100 PSI during production which will keep bottom hole pressure well below formation pressures allowing hydrocarbon entry from both zones.

- (i) Allocation of Production:

	<u>AOE TEST</u>	<u>%</u>
Gallup	265 MCF	36.60
Dakota	<u>459 MCF</u>	<u>63.40</u>
TOTALS	724 MCF	100%

Northwest Energy will be purchasing the gas and will be preparing deliverability analysis which could be used for an allocation formula.

- (j) Offset Operators:

All offset operators including the BLM were notified by certified letter on July 20, 1984 of Lobo Production's intention to commingled the Gallup and Dakota zones.

Prepared by:


R.E. Lauritsen

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

Form C-177
Revised 9-1-

Type Test <input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special				Test Date			
Company LABO PRODUCTION				Connection			
Pool WILDCAT GALLUP				Formation GALLUP		Unit	
Completion Date		Total Depth		Plug Back TD 4406		Elevation	
Farm or Lease Name SCORPIO				Well No. 1			
Csq. Size 5/2	Wi.	d	Set At	Perforations: From To		Well No.	
Thq. Size 1 1/4	Wi.	d	Set At	Perforations: From 2530 To 4381		Unit Sec. Twp. Rge. 15 32 13	
Type Well - Single - Bradenhead - G.C. or G.O. Multiple				Packer Set At 4406		County SAN JUAN	
Producing Thru		Reservoir Temp. °F		Mean Annual Temp. °F		Baro. Press. - P ₀ 12.0	
State NEW MEXICO		L		H		G ₀	
Prover 6" Pos. CHOKG		% CO ₂		% N ₂		% H ₂ S	
Meter Run		Taps					

FLOW DATA							TUBING DATA		CASING DATA		Duration of Flow
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
1.	2" X 3/4"						660	60	658	100	3 HR.
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, F _{pv}	Rate of Flow Q, Mcfd
1.	*						260
2.							
3.							
4.							
5.							

NO.	P ₁	Temp. °R	T ₁	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

P ₁ 672	P _c ² 451584			(1) $\frac{P_c^2}{P_1^2 - P_w^2} = 1.0286$	(2) $\left[\frac{P_c^2}{P_1^2 - P_w^2} \right]^n = 1.0214$
NO.	P ₁ ²	P _w	P ₁ ²	P ₁ ² - P _w ²	
1.		112	12544	439040	
2.					
3.					
4.					
5.					

Absolute Open Flow 265	Mcfd @ 15.025	Angle of Slope @ 53.13	Slope, n .75
Remarks: * ORIFICE WELL TESTER RATE			
Approved by Commission:	Conducted By:	Calculated By:	Checked By:

This form is not to
be used for reporting
packer leakage tests
in Southeast New Mexico

NORTHWEST NEW MEXICO PACKER-LEAKAGE TEST

Operator LOBO PRODUCTION Lease SCORPIO Well No. 1
 Section 15 Twp. 32 Rgc. 13 County SAN JUAN

NAME OF RESERVOIR OR POOL	TYPE OF PROD. (Oil or Gas)	METHOD OF PROD. (Flow or Art. Lift)	PROD. MEDIUM (Tbg. or Csg.)
WILDCAT GALLUP	GAS	Flow	TBG,
BASIN DAKOTA	GAS	Flow	TBG

PRE-FLOW SHUT-IN PRESSURE DATA

Hour, date shut-in	Length of time shut-in	SI press. psig	Stabilized? (Yes or No)
7-1-84	9 DAYS	635	YES
7-1-84	9 DAYS	813	YES

FLOW TEST NO. 1

TIME (hour, date)	LAPSED TIME SINCE*	PRESSURE		PROD. ZONE TEMP.	REMARKS
		Upper Completion	Lower Completion		
10:00	7-10-84				Zone producing (Upper or Lower): <u>LOWER</u>
10:15	15 min	647	74		
10:30	30 "	647	49		
10:45	45 "	647	43		
11:00	1 HR.	646	37		
12:00	2 HRS.	644	26		
1:00	3 HRS.	644	21		

Production rate during test

BOPD based on _____ Bbls. in _____ Hours. _____ Grav. _____ GOR _____

MCFPD; Tested thru (Orifice or Meter): _____

MID-TEST SHUT-IN PRESSURE DATA

Hour, date shut-in	Length of time shut-in	SI press. psig	Stabilized? (Yes or No)
7-1-84		660	YES
7-10-84		774	YES

FLOW TEST NO. 2

Commenced at (hour, date) **		PRESSURE		Zone producing (Upper or Lower):	
TIME (hour, date)	LAPSED TIME SINCE **	Upper Completion	Lower Completion	PROD. ZONE TEMP.	REMARKS
9:15 7-14-84				UPPER	
9:30	15 min	120	774		
9:45	30 min	86	775		
10:00	45 min	67	776		
10:15	1 hr.	52	778		
11:15	2 hrs.	20	779		
12:15	3 hrs.	11	779		

Production rate during test

BOPD based on _____ Bbls. in _____ Hours. _____ Grav. _____ GOR _____
 MCFPD: Tested thru (Orifice or Meter): _____

Remarks: _____

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

Approved _____ 19 _____
 New Mexico Oil Conservation Division

Operator _____

By _____

Title _____

Date _____

NORTHWEST NEW MEXICO PACKER LEAKAGE TEST INSTRUCTIONS

A packer leakage test shall be commenced on each multiply completed well within 15 days after actual completion of the well, and annually thereafter as prescribed by the authorizing the multiple completion. Such tests shall also be commenced on all dual completions within seven days following recompletion and/or chemical or fracturing, and whenever remedial work has been done on a well during which the casing or the tubing have been disturbed. Tests shall also be taken at any time that completion is suspected or when requested by the Division.

At least 72 hours prior to the commencement of any packer leakage test, the operator shall notify the Division in writing of the exact time the test is to be commenced. Offset tests shall also be so notified.

A packer leakage test shall commence when both zones of the dual completion are shut-in for pressure stabilization. Both zones shall remain shut-in until the well-head pressures in each has stabilized, provided however, that they need not remain shut-in more than seven days.

Flow Test No. 1, one zone of the dual completion shall be produced at the normal production while the other zone remains shut-in. Such test shall be continued for 24 hours in the case of a gas well and for 24 hours in the case of an oil well. Note: if, on any day of a packer leakage test, a gas well is being flowed to the atmosphere due to the lack of a valve connection the flow period shall be three hours.

Following completion of Flow Test No. 1, the well shall again be shut-in, in accordance with Paragraph 3 above.

Flow Test No. 2 shall be conducted even though no leak was indicated during Flow Test No. 1. Procedure for Flow Test No. 2 is to be the same as for Flow Test No. 1 except

that the previously produced zone shall remain shut-in while the zone which was previously shut-in is produced.

7. Pressures for gas-zone tests must be measured on each zone with a deadweight pressure gauge at time intervals as follows: 3 hours tests: immediately prior to the beginning of each flow-period, at fifteen-minute intervals during the first hour thereof, and at hourly intervals thereafter, including one pressure measurement immediately prior to the conclusion of each flow period. 7-day tests: immediately prior to the beginning of each flow period, at least one time during each flow period (at approximately the midway point) and immediately prior to the conclusion of each flow period. Other pressures may be taken as desired, or may be requested on wells which have previously shown questionable test data.

24-hour oil zone tests: all pressures, throughout the entire test, shall be continuously measured and recorded with recording pressure gauges the accuracy of which must be checked at least twice, once at the beginning and once at the end of each test, with a deadweight pressure gauge. If a well is a gas-oil or an oil-gas dual completion, the recording gauge shall be required on the oil zone only, with deadweight pressures as required above being taken on the gas zone.

8. The results of the above-described tests shall be filed in triplicate within 15 days after completion of the test. Tests shall be filed with the Aztec District Office of the New Mexico Oil Conservation Division on Northwest New Mexico Packer Leakage Test Form Revised 10-01-78 with all deadweight pressures indicated thereon as well as the flowing temperatures (gas zones only) and gravity and GOR (oil zones only).

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

Form L-1000
 Revised 9-1-65

Type Test <input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special			Test Date 7-10-84		
Company LOBO PRODUCTION			Connection		
Pool BASIN DAKOTA			Formation DAKOTA		
Completion Date		Total Depth		Plug Back TD 4628	Elevation
Farm or Lease Name SCORPIO			Well No. 1		
Csg. Size 5 1/2"	Wt.	d	Set At	Perforations: From 4625 To 4445	
Tub. Size 2 3/8"	Wt.	d	Set At 4438	Perforations: From To	
Type Well - Single - Broadhead - G.G. or G.O. Multiple DUAL G.G.				Packer Set At 4406	
Producing Thru TB9			Reservoir Temp. °F 8	Mean Annual Temp. °F	Baro. Press. - P ₀ 12.0
L			H	G ₀ .650 EST.	% CO ₂
				% N ₂	% H ₂ S
				Prover 6" POS.	Meter Run CHOKO NIPPLE
					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	9 DA						813		PKR		
1.							21				
2.											
3.											
4.											
5.											

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor Fl	Gravity Factor Fg	Super Compress. Factor, Fpv	Rate of Flow Q, Mcfd
1	11.00		33	1.000	1.240	1.000	450
2.							
3.							
4.							
5.							

NO.	P ₁	Temp. °R	T ₁	Z	Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl.
1.					A.P.J. 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 ₁ ²	P _w	P _w ²	P _c ² - P _w ²	(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.0268$	(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.0200$
1			17776	1.62849		
2						
3						
4						
5						

Absolute Open Flow 459 Mcfd @ 15.025 Angle of Slope θ _____ Slope, n .75

Remarks: _____

Approved By Commission:	Conducted By: RICHARD HOUSH	Calculated By: NEIL TEETELER	Checked By:
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TEPPELLER, INC.
RESERVOIR ENGINEERING DATA
Midland, Texas

Page 1 of
File

INDIVIDUAL WELL DATA SHEET

Company LOBO PRODUCTION Lease SCORPIO Well No. 1

Field BRAIN DAKOTA County SAN JUAN State NEW MEXICO

Location DAKO Test Date 7-10-84

Completion Date Feet
Subsurface Datum Feet Subsea
Total Depth 4628 PRTD Feet
Perforations 4445 - 4625 Feet
Casing Size 2 3/4 Inches to 4438 Feet
Tubing Size 5 1/2 Inches to 4628 Feet
Wellbore Diameter 4406 Feet
Bottom Hole Choke NONE Feet
Minimum Safe Test Depth 4400 Feet
Completion Method NONE

Casing Pressure 647 Psig
Tubing Pressure 813 Psig
Oil Level NONE Feet
Water Level NONE Feet
Temperature 151 OF at 4400 Feet
Atmospheric Temperature 80 OF
Amerada Element Number 44537
Element Range 0-3000 Psi
Operator RICHARD Unit No. P-219

Well Status SHUT IN 9 DAYS (7-1-84)

DEPTH FEET	DEFL. INCHES	TEMP. OF	DEFL. CORR. LBS/INCH	PRESSURE PSIG	CORR. PRESSURE PSIG	DIFF. PSI	DIFF. FEET	GRADIENT PSI PER FOOT
0	535			813				
2000	568			863		50	2000	0.025
4000	601			913		50	2000	0.025
4200	605			920		5	2000	0.025
4400	608.5			925		5	2000	0.025
4530	MID-PERFS			928		3	130	0.025

Pressure: Psig at Subsurface Datum Depth: Feet

Test Date: Last Pressure: @ Feet/Change: Psig

Remarks: DUAL COMPLETION - (GALLUP/DAKOTA)

Company Logo Production Lease Scorpio Well No. 1 Element No. 44537 Range 0-3000
 Field BASIN DAKOTA County SAR SWAY State NEW MEXICO Clock 4788 Rotation 3 UR
 Formation DAKOTA Elevation Datum P. I. Depth 4400 Unit No. 0215 Operator

CHRONOLOGICAL PRESSURE AND PRODUCTION DATA

Date	Status of Well	Time	Elapsed Time	Tank No.	Tank Gauge	Interval	Daily Rate	Wellhead Pressure	BHP
			Hrs. Min.		Ft. In.	In. Bbls.	Oil B/D Gas MCF/D	Tbq Csg	Ext: Psig
7/10/64	A.O.L. Shut in 8 DWS	08:15						Dakota Gauge	
	Run Static GUAGE								
	TAUWELSE @ 4400'	09:00							
	OPEN WELL TO FLOW								
	Turn 3/4" x 6" x 2" Curved Tool	10:00							
	locate 3 1/2" A.O.I. & Packoff Test	10:00	0 00						
	*	10:15	0 15						
		10:30	0 30				832	49	647
		10:45	0 45				750	43	647
		11:00	1 00				668	37	646
		11:30	1 30				587	31	645
		12:00	2 00				518	26	644
		13:00	3 00				450	21	644
	Shut well in	13:00	3 50						

Bbls/Inch Tank Size Separator Pressure psig at of Water Production B/D
 Remarks: DRY GAS TURN OUT TEST

TEFTELLER, INC.
RESERVOIR ENGINEERING DATA
Midland, Texas

Well : SCORPIO NO. 1

Page 1 of 3

Field :

File 2-15547-BU

CHRONOLOGICAL PRESSURE AND PRODUCTION DATA

1984 Date	Status of Well	Time	Elapsed Time		Wellhead Pressure		BHP @ 4500'
			Hrs.	Min.	Tbg	Csg	Psig
6-9	Arrived on location						
"	flowing	21:45			*	TSTM	
"	Tagged bottom 4554'						
"	Tandem instruments @						
"	4500'	22:30					58
"	"	23:00					58
"	Shut-in for build up	23:00	0	00			
"	"	23:06	0	06			83
"	"	23:12	0	12			99
"	"	23:18	0	18			118
"	"	23:24	0	24			136
"	"	23:30	0	30			155
"	"	23:36	0	36			172
"	"	23:42	0	42			188
"	"	23:48	0	48			203
"	"	23:54	0	54			217
6-10	"	00:00	1	00			231
"	"	00:15	1	15			265
"	"	00:30	1	30			296
"	"	00:45	1	45			322
"	"	01:00	2	00			343
"	"	01:30	2	30			386
"	"	02:00	3	00			424
"	"	03:00	4	00			484
"	"	04:00	5	00			527
"	"	05:00	6	00			572
"	"	06:00	7	00			610
"	"	07:00	8	00			642
"	"	08:00	9	00			676
"	"	09:00	10	00			705
"	"	10:00	11	00			727
"	"	11:00	12	00			748
"	"	12:00	13	00			763
"	"	13:00	14	00			773
"	"	14:00	15	00			777
"	**	14:30	15	30			787

*No tubing in well

**Pressure bled off on blowout preventer allowing 10' tubing sub to slip up to upset and collar on bottom of sub.

TEFTELLER, INC.
RESERVOIR ENGINEERING DATA
Midland, Texas

Well : SCORPIO NO. 1

Page 2 of 3

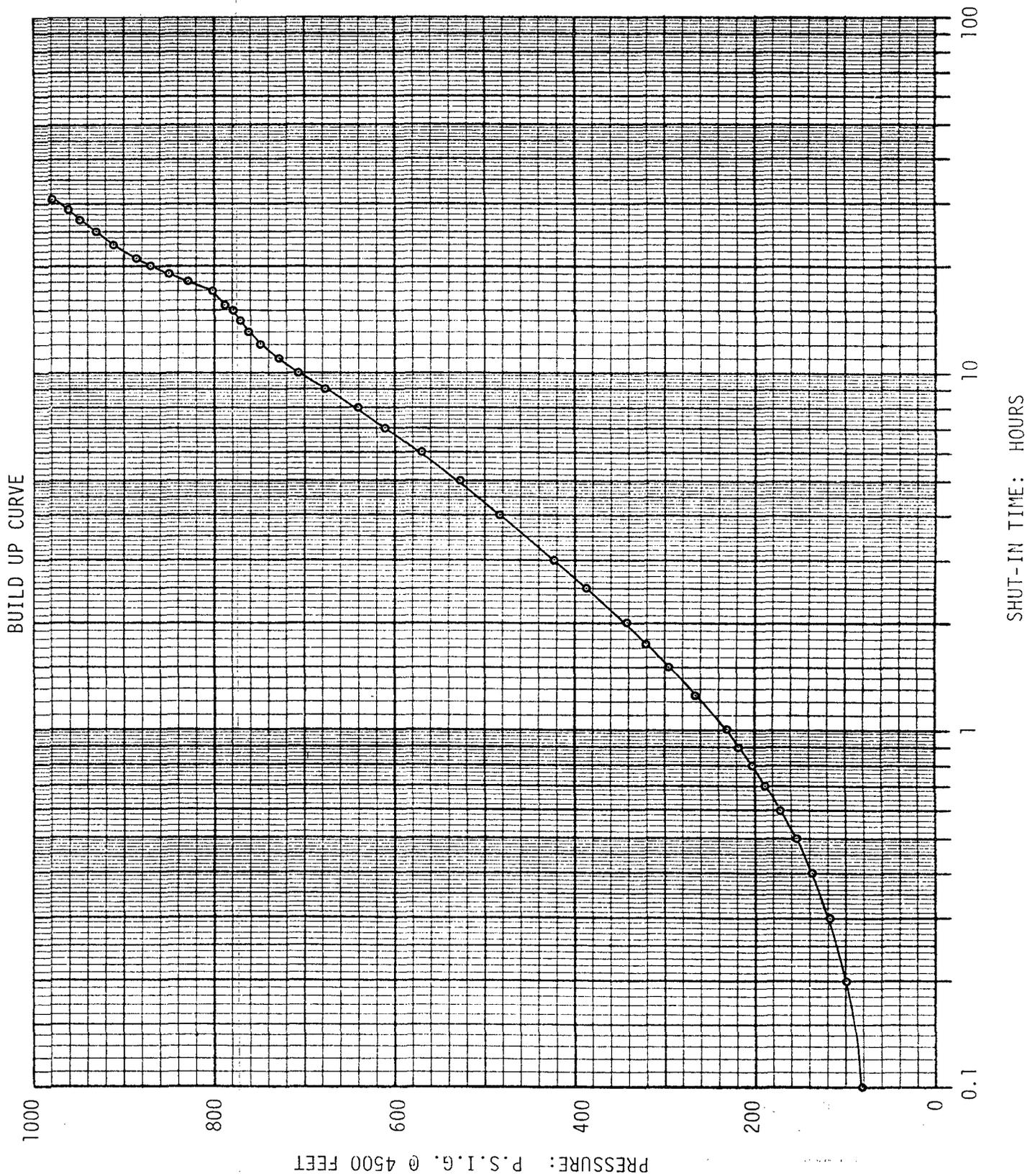
Field :

File 2-15547-BU

CHRONOLOGICAL PRESSURE AND PRODUCTION DATA

1984 Date	Status of Well	Time	Elapsed Time		Wellhead Pressure		BHP @
			Hrs.	Min.	Tbg	Csg	4500' Psig
6-10	Continued shut-in	16:00	17	00			802
"	"	17:00	18	00			829
"	"	18:00	19	00			851
"	"	19:00	20	00			870
"	"	20:00	21	00			885
"	"	22:00	23	00			911
6-11	"	00:00	25	00			932
"	"	02:00	27	00			949
"	"	04:00	29	00			963
"	Pulled instruments	05:45	30	45		856	978

Company LOBO PRODUCTION COMPANY Formation _____
 Well SCORPIO NO. 1 County SAN JUAN
 Field _____ State NEW MEXICO





EFTELLER, INC.

reservoir engineering data
MIDLAND, TEXAS

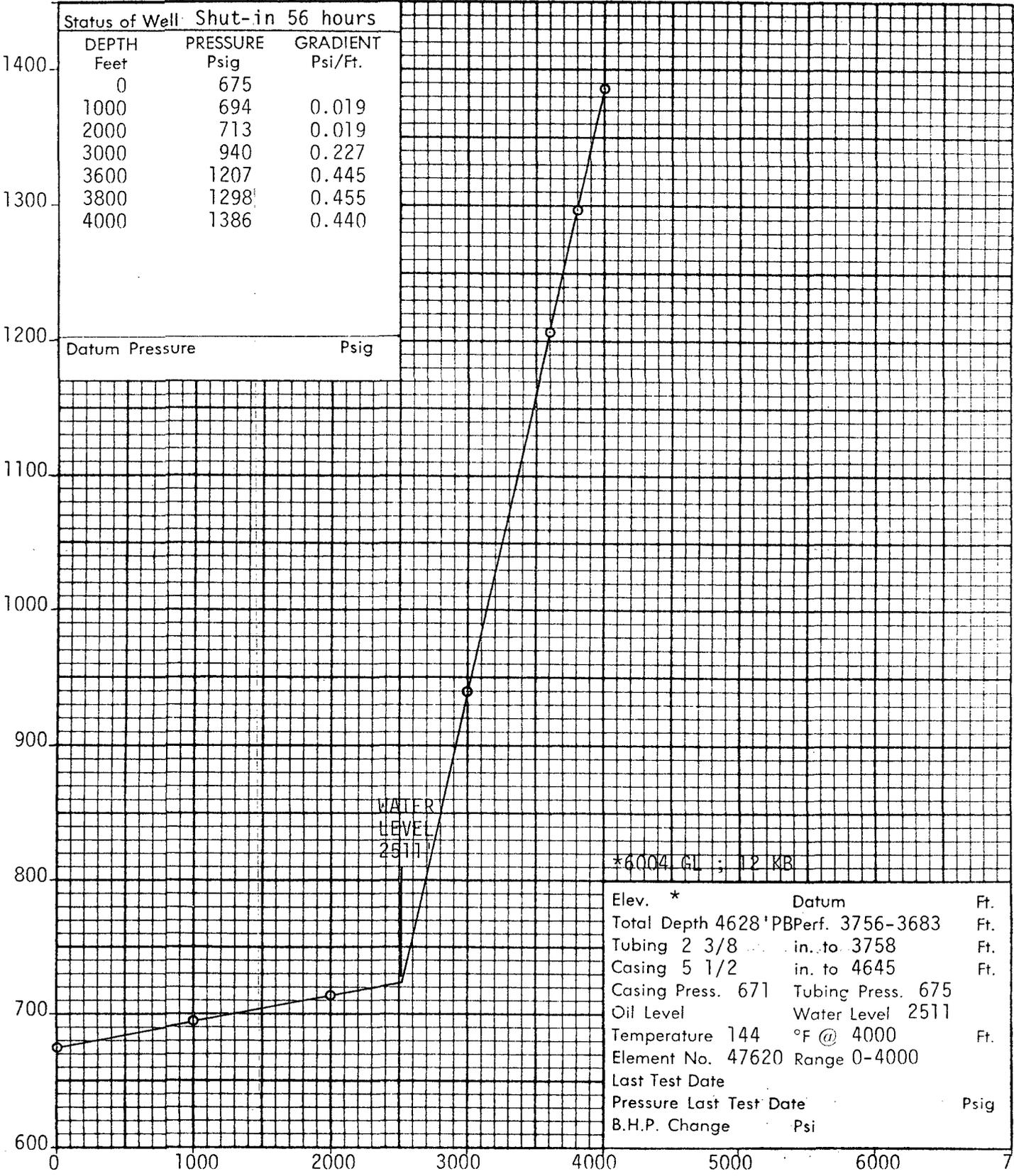
Page 2 of 2
File 2-15616-P&FL

Company LOBO PRODUCTION COMPANY Lease SCORPIO Well No. 1
Field CO. MINGUEU GALLUP MANCOS County SAN JUAN State NEW MEXICO
Formation CO. MINGUEU GALLUP MANCOS Test Date JUNE 20, 1984

Status of Well Shut-in 56 hours

DEPTH Feet	PRESSURE Psig	GRADIENT Psi/Ft.
0	675	
1000	694	0.019
2000	713	0.019
3000	940	0.227
3600	1207	0.445
3800	1298	0.455
4000	1386	0.440

PRESSURE POUNDS PER SQUARE INCH GAUGE



WATER LEVEL
2511'

*4004 GL ; 12 KB

Elev. *	Datum	Ft.
Total Depth 4628'	PB Perf. 3756-3683	Ft.
Tubing 2 3/8	in. to 3758	Ft.
Casing 5 1/2	in. to 4645	Ft.
Casing Press. 671	Tubing Press. 675	
Oil Level	Water Level 2511	
Temperature 144	°F @ 4000	Ft.
Element No. 47620	Range 0-4000	
Last Test Date		
Pressure Last Test Date		Psig
B.H.P. Change	Psi	

DEPTH: FEET



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 a _____
Proposed NSL _____
Proposed SWD _____
Proposed WFX _____
Proposed PMX _____

Gentlemen:

I have examined the application dated July 25, 1984
for the Lobo Production Scorpio #1 A-15-32N-13W
Operator Lease and Well No. Unit, S-T-R

and my recommendations are as follows:

Approve

Yours truly,

Frank D. Gray

RECEIVED
JUL 27 1984
OIL CONSERVATION DIVISION
SANTA FE