

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test 4POINT ☒ Initial ☐ Annual ☐ Special						Test Date 2 28 86			
Company TEXACO USA				Connection TO AIR					
Pool DRINKARD				Formation ABO				Unit	
Completion Date 2 25 86		Total Depth 7650		Plug Back TD 7270		Elevation		Farm or Lease Name LR KERSHAW	
Coq. Size 5.5	Wt. 15.5	d 4.892	Set At 7650	Perforations: From 7079 To 7087		Well No. 12			
Thq. Size 2.375	Wt. 4.7	d 1.995	Set At 6985	Perforations: From OPEN To ENDED		Unit Sec. Twp. Rge. 13 20S 37E			
Type Well - Single - Brdenhead - G.G. or G.O. Multiple SINGLE						Packer Set At 6975		County LEA	
Producing Thru TUBING		Reservoir Temp. °F 140 @ 7083		Mean Annual Temp. °F 60		Baro. Press. - P _a 13.2		State NEW MEXICO	
L 7083	H 7083	G _g 0.650	% CO ₂ 0.53	% N ₂ 2.00	% H ₂ S 0	Prover 0	Meter Run 4.026	Taps FLG	

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	
SI							1966	62			72HR
1.	4.026	1.625	145	10	70	1876	62				60MIN
2.	4.026	1.625	300	23	74	1751	62				60MIN
3.	4.026	1.625	400	29	70	1590	62				60MIN
4.	4.026	1.625	410	44	70	1410	62				60MIN
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	12.79	39.77	158.2	0.9905	1.2399	1.0415	634
2	12.79	84.87	313.2	0.9868	1.2399	1.0287	1366
3	12.79	109.47	413.2	0.9905	1.2399	1.0384	1786
4	12.79	136.46	423.2	0.9905	1.2399	1.0393	2228
5							

NO.	R _t	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	A.P.I. Gravity of Liquid Hydrocarbons	Specific Gravity Separator Gas	Specific Gravity Flowing Fluid	Critical Pressure	Critical Temperature
1	0.24	530	1.44	0.972	50.117	65.8	0.650	XXXXXX	669	368
2	0.47	534	1.45	0.945				XXXXXX		
3	0.62	530	1.44	0.927						
4	0.63	530	1.44	0.926						
5										

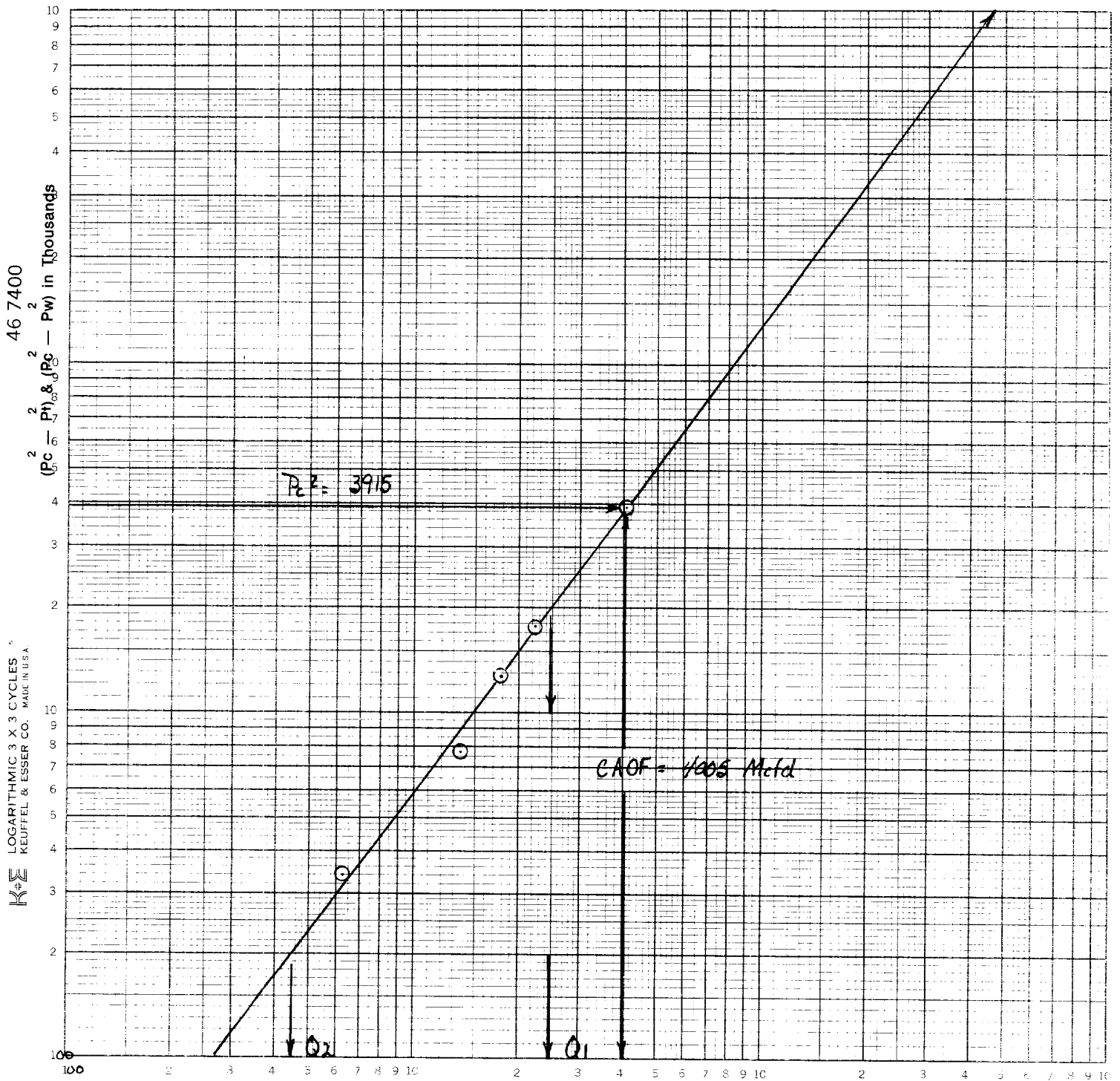
P _c 1978.7 P _c ² 3915					(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 2.1815$		(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.7976$	
NO.	P _t ²	P _w	P _w ²	P _c ² - P _w ²	$AOF = Q \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 4005$			
1		1891	3575	340				
2		1773	3145	770				
3		1621	2629	1286				
4		1456	2120	1795				
5								

Absolute Open Flow 4005 Mcfd @ 15.025		Angle of Slope @ 53.1		Slope, n 0.752	
Remarks:					

Approved By Division 	Conducted By: MATT LEE	Calculated By: RICHARD TOWNLEY	Checked By:
--------------------------	---------------------------	-----------------------------------	-------------

BENNETT & CATHEY PRODUCTION TESTING BACK PRESSURE CURV

Operator Texaco USA Lease LR Kershaw Well No. 12
 County Lea Field Drinkard Location 13 20S 37E
 Date of Test 2-28-86 Slope "n" 0.752 Angle of Slope 53.1
 Calc. Abs. Potential 4005 MCF/D



$$\frac{\Delta \bar{P}_1^2}{\Delta \bar{P}_2^2} = \frac{P_c^2 - P_w^2}{P_c^2 - P_w^2} = \frac{2000}{200}$$

$$Q_1 = \underline{2497}$$

$$Q_2 = \underline{442}$$

Q in MCF/Day

$$\text{LOG } Q_1 = \underline{3.3974}$$

$$\text{LOG } Q_2 = \underline{2.6454}$$

$$n = \underline{0.752}$$

LEASE : LR KERSHAW
WELL : 12
S/T/R : 13 20S 37E
COUNTY: LEA
STATE : NEW MEXICO

INITIAL
DATE: 2/28/86

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

COMPANY: TEXACO USA CONNECTION: TO AIR
FIELD: DRINKARD POOL: RESERVOIR: ABD
COMPLETED 2 25 86 TD = 7650. PSD = 7270. ELEV = 0.
CSG SIZE = 5.5000 WT = 15.50 SET AT 7650. PERF: 7079.- 7087.
TBG SIZE = 2.3750 WT = 4.70 SET AT 6985. PERF: 0.- 0.
TYPE COMPLETION: SINGLE PACKER SET AT: 6975.
PRODUCING THROUGH: TUBING BARD.PRESS = 13.20 PSIA
RESERVOIR TEMP., F =140. @ 7083. FT. MEAN GROUND TEMP., F = 60.

L	H	G	% CO2	% N2	% H2S	PROVER	M-RUN	TAPS
7083.	7083.	0.650	0.53	2.00	0.	0.	4.0	FLANGE

NO.	LINE SIZE	ORI. SIZE	FLOW PSIG	HW IN.	FLOW TEMP	TBG. PSIG	TBG. TEMP	CSG. PSIG	CSG. TEMP	FLOW HRS.	
SI						1966.	62.			76.0	
1	4.03 X	1.625	145.	10.0	70.	1876.	62.	0.	0.	1.0	10.5/64
2	4.03 X	1.625	300.	23.0	74.	1751.	62.	0.	0.	1.0	13.5/64
3	4.03 X	1.625	400.	29.0	70.	1590.	62.	0.	0.	1.0	17/64
4	4.03 X	1.625	410.	44.0	70.	1410.	62.	0.	0.	1.0	18/64

NO.	COEFFICIENT (24 - HOUR)	SOFT. (HWPM)	PRESS. PM	T-FACTR F(T)	G-FACTR F(G)	SC-FACTR F(PV)	FLOW MCFD
1	12.79	39.77	158.2	0.9905	1.2399	1.0145	634.
2	12.79	84.87	313.2	0.9868	1.2399	1.0287	1366.
3	12.79	109.47	413.2	0.9905	1.2399	1.0384	1786.
4	12.79	136.46	423.2	0.9905	1.2399	1.0393	2228.

NO.	P(R)	TEMP. R	T(R)	Z			
					GAS LIQ RATIO, MCF/BBL	50.117	
1	0.24	530.	1.44	0.972	API G OF HYDROCARBONS	47.566	
2	0.47	534.	1.45	0.945	SP G SEPARATOR GAS	65.8	
3	0.62	530.	1.44	0.927	SP G FLOWING FLUID	0.650	XXXXX
4	0.63	530.	1.44	0.926	CRITICAL PRES., PSIA	669.	0.703
					CRITICAL TEMP., R	368.	666.
							384.

NO.	PW	PW*PW	PC*PC-PW*PW		
1	1891.	3575.	340.	PC =	1978.7
2	1773.	3145.	770.	PC*PC =	3915.
3	1621.	2629.	1286.	PC*PC/(PC*PC-PW*PW)=	2.1815
4	1456.	2120.	1795.	(PC*PC/(PC*PC-PW*PW))*N =	1.7976
				ADF (MCF/DAY)=	4005.

UNIT :
LEASE : LR KERSHAW
WELL : 12
S/T/R : 13 20S 37E
COUNTY: LEA
STATE : NEW MEXICO

TYPE TEST: 4 POINT
: INITIAL
TEST DATE: 2/28/86

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

PAGE 2

CALC WH OPEN FLOW= 4005. MCFD @ 15.025, SLOPE ANGLE= 53.1, N= 0.752

APPROVED BY
COMMISSION: CONDUCTED BY: CALCULATED BY: CHECKED BY:

I, _____, BEING FIRST DULY SWORN ON OATH, STATE THAT
I AM FAMILIAR WITH FACTS AND FIGURES SET FORTH IN THIS REPORT,
AND THAT THE REPORT IS TRUE AND CORRECT.

SIGNATURE AND TITLE OF AFFIANT

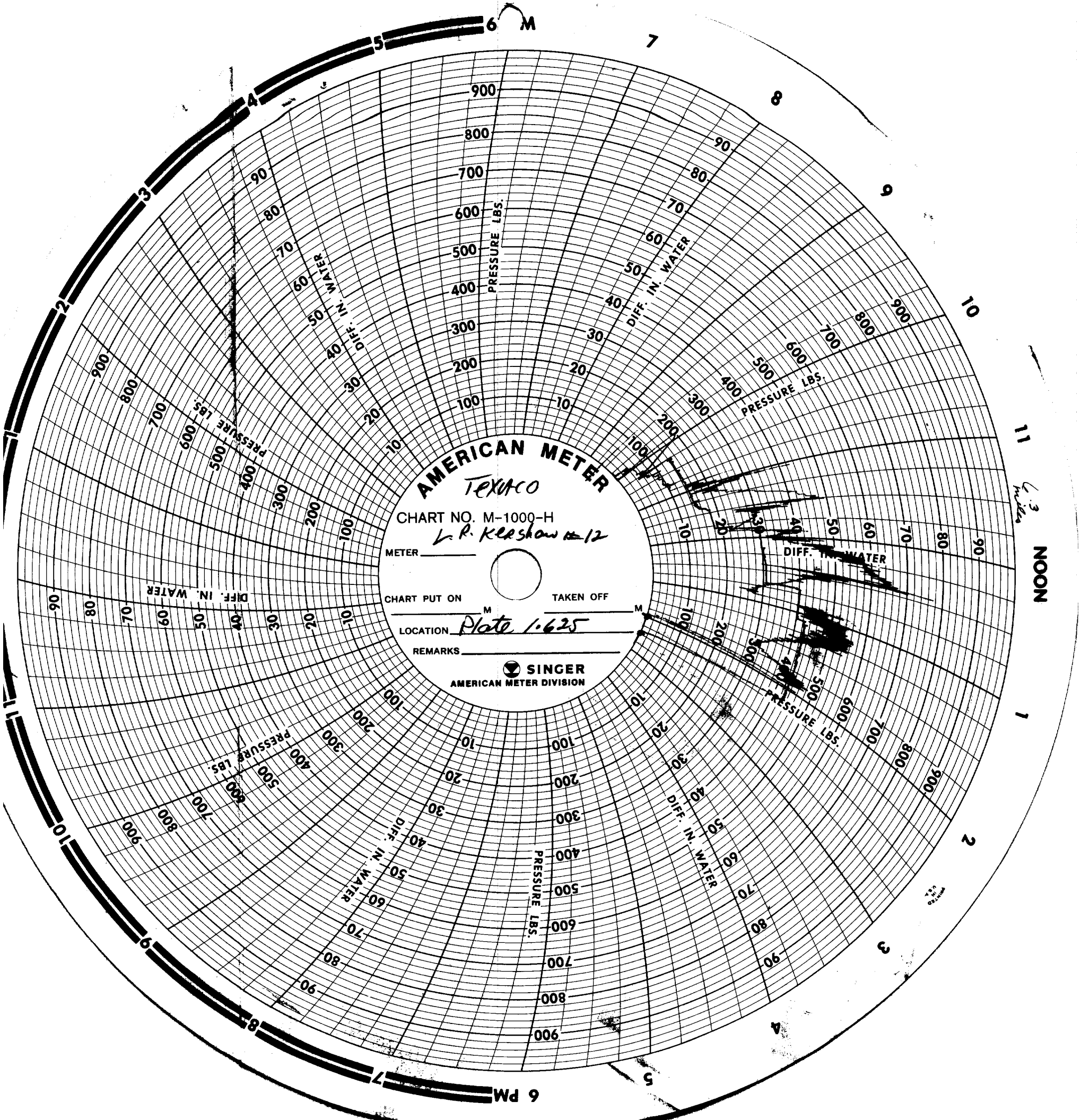
COMPANY

SUBSCRIBED AND SWORN TO BEFORE ME THIS _____ DAY OF _____, 19____

MY COMMISSION EXPIRES _____

NOTARY PUBLIC

RECEIVED
JUN 2 1986
HOBBS C.D.
HOBBS OFFICE



AMERICAN METER
TEXACO

CHART NO. M-1000-H
L. R. Keeshaw #12

METER _____

CHART PUT ON _____

TAKEN OFF _____

LOCATION Plate 1.625

REMARKS _____

SINGER
AMERICAN METER DIVISION

RECEIVED
JUN 2 1986
O.C.D.
RECEIVED OFFICE
JUN 2 1986