

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

Form C-122
Revised 9-1-65

HOURS OFFICE O.C.C.

Type Test ☒ Initial ☐ Annual ☐ Special FEB 8 11 32 AM '67 1-27-67											
Company Shell Oil Company (Western Division)						Connection El Paso Natural Gas Company					
Pool Blinebry (Gas)						Formation Blinebry					
Completion Date Reclassified 12-1-66			Total Depth 6612'			Plug Back TD 6395'			Elevation 3411' DF		
Farm or Lease Name Turner						Well No. 5					
Csg. Size 5 1/2"	Wt. 15.5#	d 4.976	Set At 6450'	Perforations: From 6024' To 6339'				Unit Sec. Twp. Rge. I 22 21 37			
Tbg. Size 2 3/8"	Wt. 4.7#	d 1.995	Set At 5914'	Perforations: From 5712' To 5870'				County Lea			
Type Well - Single - Bradenhead - G.G. or G.O. Multiple G. G. Dual						Packer Set At 5914'			State New Mexico		
Producing Thru Tbg.		Reservoir Temp. °F 98 @ 5712		Mean Annual Temp. °F 60°		Baro. Press. - P _a 13.2			Meter Run 4'		
L 5791	H 5791	Gg .686	% CO ₂ 0	% N ₂ 0	% H ₂ S 0	Prover		Taps 4' flge.			

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							1170	60	Packer		72 hrs.
1.	4	x	1.000	600	5.76	79	1038	64			24 hrs.
2.	4	x	1.000	594	12.96	80	880	60			24 hrs.
3.	4	x	1.000	618	20.25	75	914	67			24 hrs.
4.	4	x	1.000	642	31.36	83	826	69			24 hrs.
5.											

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor F _g	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd
1	4.753	59.43	613.2	.9822	1.207	1.063	356.0
2	4.753	88.71	607.2	.9813	1.207	1.062	530.3
3	4.753	113.1	631.2	.9859	1.207	1.067	682.6
4	4.753	143.3	655.2	.9786	1.207	1.066	857.6
5							

NO.	P _t	Temp. °R	T _f	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	.92	539	1.40	.835	91 Mcf/bbl.	46.9 Deg.	.686	.721	669 P.S.I.A.	385 R
2	.91	540	1.40	.886						
3	.94	535	1.39	.873						
4	.98	543	1.41	.880						
5										

P _c 1123.2	P _c ² 1400.0	$(1) \frac{P_c^2}{P_c^2 - P_w^2} = 2.054$		$(2) \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 2.054$	
NO.	P _t ²	P _w	P _w ²	P _c ² - P _w ²	AOF = Q
1	1105.0		1107.3	292.7	$\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.752$
2	797.8		803.1	596.9	
3	859.7		868.5	531.5	
4	704.3		716.4	681.6	
5					

Absolute Oper. Flow 1.762 Mcfd @ 15.025	Angle of Slope ϕ 45.0	Slope, n 1.000
Remarks:		
Approved By Commission: _____ Conducted By: A. L. Ellerd Calculated By: A. L. Ellerd Checked By: _____		

WORKSHEET FOR CALCULATION OF STA. COLUMN WELLHEAD PRESSURE (P_c)

Fr 122D
Ado. J 9-1-65

COMPANY Shill Oil Company LEASE T-101-66 WELL NO. 5 DATE 1-27-67

LOCATION: Unit I Sec 160 T 11 S 37 E Range 37 E

L 5791 H 5791 L/H 1.00 G 721 % CO₂ 0 % N₂ 0 % H₂S 0

d 1.995 Fr 0.18231 GH 4175 P_{CT} 668 T_{CT} 398

LINE	1st Trial	2nd Trial	3rd Trial	1st Trial	2nd Trial	3rd Trial	Rate	1st Trial	2nd Trial	3rd Trial	Rate
1 Q _m	356.0	530.3	530.3	682.6	682.6	682.6	857.6	857.6	857.6	857.6	
2 T _w (W.H. °R)	527	527	527	527	527	527	527	527	527	527	
3 T _s (B.H. °R)	558	558	558	558	558	558	558	558	558	558	
4 T = $(\frac{T_w + T_s}{2})$	542.5	542.5	542.5	542.5	542.5	542.5	542.5	542.5	542.5	542.5	
5 Z (Est.)	1.769	1.768	1.798	.800	.794	.792	.809	.809	.809	.809	
6 TZ	417.2	416.7	432.9	434.0	430.7	429.7	438.9	438.9	438.9	438.9	
7 GH/TZ	10.007	10.019	9.644	9.620	9.694	9.716	9.512	9.512	9.512	9.512	
8 e ^s (Table XIV)	1.455	1.456	1.436	1.434	1.438	1.440	1.429	1.429	1.429	1.429	
9 1-e ^s (Table XIV)	.313	.313	.304	.303	.305	.306	.300	.300	.300	.300	
10 P _t	1051.2	1051.2	893.2	893.2	927.2	927.2	839.2	839.2	839.2	839.2	
11 P _t ² /1000	1105.0	1105.0	797.8	797.8	859.7	859.7	704.3	704.3	704.3	704.3	
12 F _r (Table XV)	0.18231	0.18231	0.18231	0.18231	0.18231	0.18231	0.18231	0.18231	0.18231	0.18231	
13 F _c = F _r TZ	7.606	7.597	7.892	7.912	7.852	7.834	8.002	8.002	8.002	8.002	
14 F _c Q _m	2.708	2.705	4.195	4.196	5.360	5.347	6.863	6.863	6.863	6.863	
15 L/H (F _c Q _m) ²	7.333	7.317	17.514	17.606	23.730	28.590	47.101	47.101	47.101	47.101	
16 F _w = L/H (F _c Q _m) ² (1-e ^s)	2.295	2.290	5.324	5.335	8.763	8.749	14.130	14.130	14.130	14.130	
17 P _w ² = P _t ² + F _w	1107.3	1107.3	803.1	803.1	868.5	868.4	718.4	718.4	718.4	718.4	
18 P _s ² = e ^s P _w ²	1611.1	1612.2	1153.3	1151.6	1248.9	1250.5	1026.6	1026.6	1026.6	1026.6	
19 P _s	1269.3	1269.7	1073.9	1073.1	1117.5	1119.3	1013.2	1013.2	1013.2	1013.2	
20 P = $(\frac{P_t + P_s}{2})$	1160.3	1160.5	983.6	983.2	1022.4	1022.8	926.2	926.2	926.2	926.2	
21 P _r = (P/P _{CT})	1.74	1.74	1.47	1.47	1.53	1.53	1.39	1.39	1.39	1.39	
22 T _r = (T/T _{CT})	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	
23 Z (Table XI)	1.768	1.768	.800	.800	.792	.792	.809	.809	.809	.809	

**GAS WELL
BACK PRESSURE CURVE**

County LEA Field BLINEBRY GAS

Operator SHELL OIL COMPANY

Lease TURNER

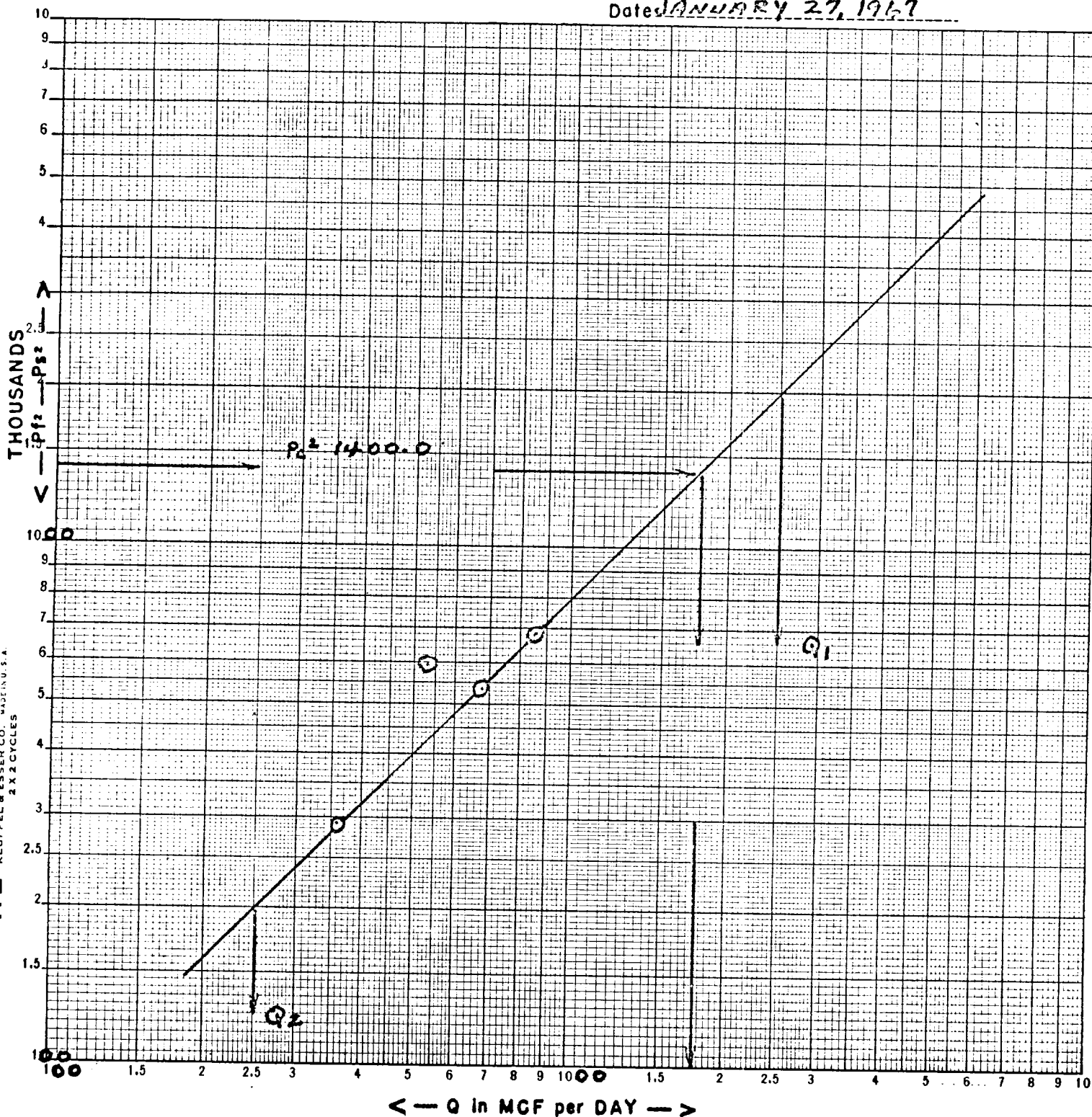
Well No. 5

Volume 1,762

MCF/24 hr.

Dated JANUARY 27, 1967

LOGARITHMIC 359-110
KEUFFEL & ESSER CO. MADE IN U.S.A.
2 X 2 CYCLES



$$Q_1 = 2500 \text{ MCFD}; \log Q_1 = 3.397940$$

$$Q_2 = 250 \text{ MCFD}; \log Q_2 = 2.397940$$

$$h = 1.000000$$