

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

Form C-122
Revised 9-1-65

Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 10-8-73					
Company Atlantic Richfield Company				Connection El Paso Natural Gas Company							
Pool Jalmat				Formation Yates - seven rivers		Unit					
Completion Date 4-4-73		Total Depth 3486		Plug Back TD 3477		Elevation 3389 RF					
Csg. Size 4 1/2		Wt. 10.5		Set At 3486		Perforations: From 3112 To 3454					
Tbg. Size 2 3/8		Wt. 4.7		Set At 3050		Perforations: From open To end					
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single						Packer Set At 3062					
Producing Thru Tbg.		Reservoir Temp. °F 86 @ 3112 (Assumed)		Mean Annual Temp. °F 60°		Baro. Press. - P _a 13.2					
L		H		Gg		Prover					
3050		3050		.675		4"					
				% CO ₂		% H ₂ S					
				% N ₂		Flg.					
FLOW 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							270				72 hr.
1.	4 x	1.250		14	2.25	64	196				1 hr.
2.	4 x	1.250		14	8.41	73	159				1 hr.
3.	4 x	1.250		14	12.96	76	133				1 hr.
4.	4 x	1.250		15	22.09	76	92				1 hr.
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.	7.469	7.823	27.2	.9962	1.217	Nil	71				
2.	7.469	15.12	27.2	.9877	1.217	Nil	136				
3.	7.469	18.78	27.2	.9850	1.217	Nil	168				
4.	7.469	24.96	28.2	.9850	1.217	Nil	223				
5.											
NO.	P _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.					Dry	None	.675	XXXXXX	669	382	
2.								XXXXXX			
3.											
4.											
5.											
$P_c = 283.2$ $P_c^2 = 80.2$											
NO.	P _t ²	P _w	P _w ²	P _c ² - P _w ²	(1) $\frac{P_c^2}{P_c^2 - P_w^2} =$	(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n =$					
1.			43.8	36.4	1.171	1.171					
2.			29.9	50.3							
3.			21.7	58.5							
4.			11.7	68.5							
5.											
$ACF = Q \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 261$											
Absolute Open Flow				261	Mcfd @ 15.025	Angle of Slope θ	45	Slope, n	1.000		
Remarks: No fluid produced through out test.											
Approved By Commission:			Conducted By: Randy Kiker		Calculated By: J. B. Murray		Checked By: L. C. Hudry				

L. C. Hudry

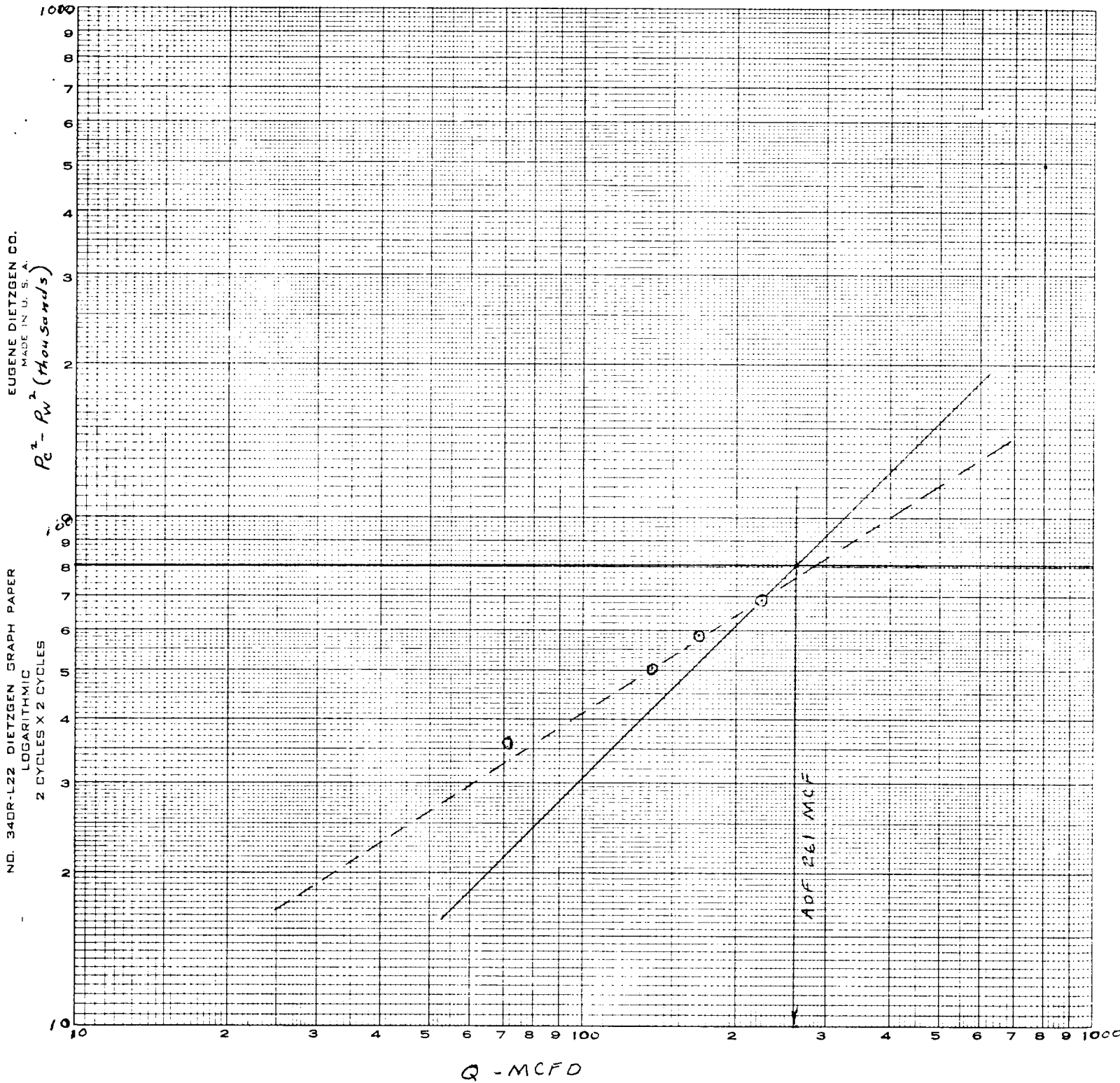
ATLANTIC RICHFIELD

W.B. GUTHRIE #2

I-34-23-36

LEA COUNTY, N.M.

10-8-73



WORKSHEET FOR CALCULATION OF ST. C COLUMN WELLHEAD PRESSURE (P_w)

COMPANY Atlantic Richfield LEASE W.R. Guthrie WELL NO. 2 DATE 10-8-72

LOCATION: Unit I Section 34 Township 23 S Range 36 E

L 3050 H 3050 L/H 1.000 G 0.675 % CO₂ _____ % N₂ _____ % H₂S _____

d 1.995 F_r 0.018231 GH 2059 P_{CT} 66.9 T_{CT} 382

TABLE IX B X

LINE	1	2	1	2	1	2	1	2	1	2
1 Q _m	0.070	0.070	0.136	0.136	0.168	0.168	0.223	0.223	0.223	0.223
2 T _w (W.H. °R)	534	534	534	534	534	534	534	534	534	534
3 T _s (B.H. °R)	546	546	546	546	546	546	546	546	546	546
4 T = ($\frac{T_w + T_s}{2}$)	540	540	540	540	540	540	540	540	540	540
5 Z (Est.)	0.961	0.960	0.967	0.966	0.971	0.970	0.973	0.973	0.973	0.973
6 T _Z	519	518	522	522	524	524	525	525	525	525
7 GH/TZ	3.968	3.972	3.943	3.947	3.927	3.931	3.919	3.919	3.919	3.919
8 e ³ (Table XIV)	1.160	1.161	1.159	1.160	1.159	1.159	1.158	1.158	1.158	1.158
9 1-e ³ (Table XIV)	0.138	0.138	0.137	0.138	0.137	0.137	0.137	0.137	0.137	0.137
10 P _r	209.2	209.2	172.2	172.2	146.2	146.2	105.2	105.2	105.2	105.2
11 P _r ² /1000	43.8	43.8	29.7	29.7	21.4	21.4	11.1	11.1	11.1	11.1
12 F _r (Table XV)	0.018231	0.018231	0.018231	0.018231	0.018231	0.018231	0.018231	0.018231	0.018231	0.018231
13 F _c = F _r TZ	9.461	9.451	9.520	9.510	9.559	9.549	9.579	9.579	9.579	9.579
14 F _c Q _m	0.66	0.66	1.29	1.29	1.61	1.60	2.14	2.14	2.14	2.14
15 L/H (F _c Q _m) ²	0.439	0.438	1.676	1.672	2.579	2.574	4.563	4.563	4.563	4.563
16 F _w = L/H (F _c Q _m) ² (1-e ³)	0.061	0.061	0.230	0.230	0.353	0.353	0.624	0.624	0.624	0.624
17 P _w ² = P _t ² + F _w	43.8	43.8	29.9	29.9	21.7	21.7	11.7	11.7	11.7	11.7
18 P _s ² = e ³ P _w ²	50.9	50.9	34.6	34.7	25.2	25.2	13.5	13.5	13.5	13.5
19 P _s	225.5	225.5	186.7	186.1	158.7	158.7	116.4	116.4	116.4	116.4
20 P = ($\frac{P_t + P_s}{2}$)	217.4	217.4	179.2	179.2	152.4	152.4	110.8	110.8	110.8	110.8
21 P _r = (P/P _{ct})	0.32	0.32	0.27	0.27	0.23	0.23	0.17	0.17	0.17	0.17
22 T _r = (T/T _{ct})	1.41	1.41	1.41	1.41	1.41	1.41	1.41	1.41	1.41	1.41
23 Z (Table XI)	0.960	0.960	0.966	0.966	0.970	0.970	0.973	0.973	0.973	0.973