

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test ☒ Initial ☐ Annual ☐ Special				Test Date 4-20-88		MAY 27 '88	
Company MCKAY OIL CORPORATION				Connection Air			
Pool West Pecos Slope Abo				Formation Abo Sand		Unit O. C. D. -- ARTESIA, OFFICE	
Completion Date 4-20-88		Total Depth 3375;		Plug Back TD 3100'		Elevation 4177 GL	
Ceq. Size 4-1/2"		WI. 10.5#		Set At 4.090		Well No. #3	
Perforations: From 2839 To 2861							
Thq. Size 2-3/8"		WI. 4.7		Set At 1.995		Unit Sec. Twp. Rge. 12 6S 22E	
Perforations: From -- To --							
Type Well - Single - Dradhead - G.G. or G.O. Multiple Single				Packer Set At --		County Chaves	
Producing Thru Tubing		Reservoir Temp. °F 90 • 2850		Mean Annual Temp. °F 60		State N.M.	
Baro. Press. - P _a 13.2							
L 2850		H 2850		G _g 0.622		% CO ₂ 0.00	
				% N ₂ 4.969		% H ₂ S 0.00	
				Prover 2.00		Meter Run --	
						Tape --	

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							940		942		SI 72 HRS.
1.	2.00		.250	147	--	60	808		888	60	60 MIN.
2.	2.00		.375	71	--	60	742		838	60	60 MIN.
3.	2.00		.375	158	--	60	635		700	60	60 MIN.
4.	2.00		.500	113	--	60	416		495	60	60 MIN.
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.	1.087	--	160.2	1.000	1.268	1.013	224
2.	2.378	--	84.2	1.000	1.268	1.007	256
3.	2.378	--	171.2	1.000	1.268	1.014	523
4.	4.279	--	126.2	1.000	1.268	1.010	693
5.							

NO.	R _i	Temp. °R	T _i	Z	Gas Liquid Hydrocarbon Ratio	Mcf/bbl.
1.	.24	520	1.48	.974	0	
2.	.13	520	1.48	.986		
3.	.26	520	1.48	.972		
4.	.19	520	1.48	.980		
5.						

A.P.I. Gravity of Liquid Hydrocarbons -- Specific Gravity Separator Gas 0.622 Specific Gravity Flowing Fluid XXXXX Critical Pressure 662 P.S.I.A. Critical Temperature 351 R					Mcl/bbl. Deg. P.S.I.A. R	
--	--	--	--	--	-----------------------------------	--

NO.	P _i ²	P _w	P _w ²	P _i ² - P _w ²	(1) $\frac{P_c^2}{P_i^2 - P_w^2} = 4.8558$	(2) $\left[\frac{P_c^2}{P_i^2 - P_w^2} \right]^n = 3.8511$
1		901.2	812.2	100.2		
2		851.2	724.5	187.9		
3		713.2	508.7	403.7		
4		508.2	258.3	654.1		
5						

AOF = Q $\left[\frac{P_c^2}{P_i^2 - P_w^2} \right]^n = 985.9$

Post ID-2
10-14-88
comp & BK

Absolute Open Flow 986 Mcfd @ 15.025		Angle of Slope 49.53		Slope, n 0.853	
--------------------------------------	--	----------------------	--	----------------	--

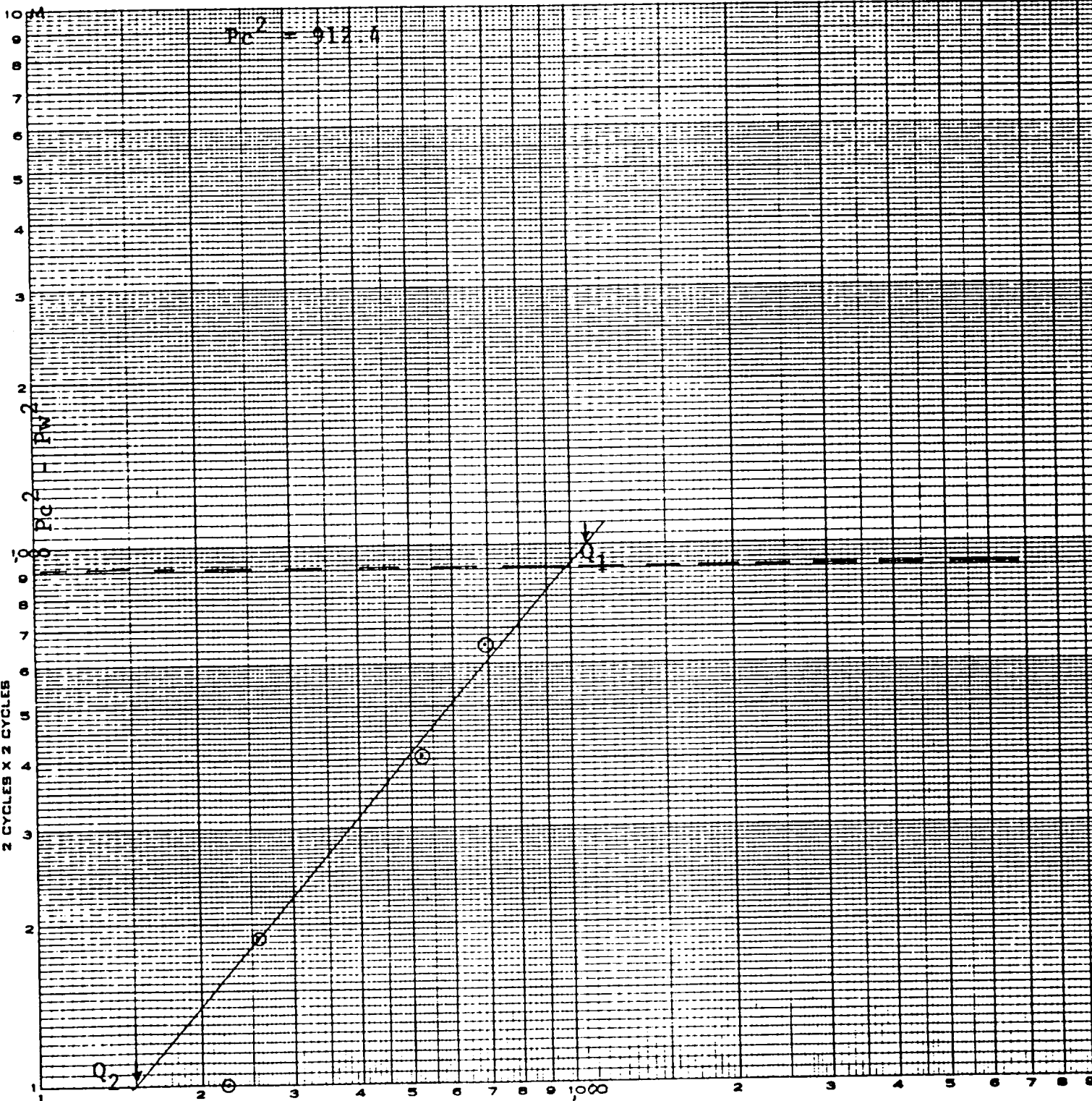
Remarks: Well produced estimated 3 bbls. water during test.

Approved By Division	Conducted By: D. Kelton	Calculated By: C. Sanders	Checked By: P. Stewart
----------------------	----------------------------	------------------------------	---------------------------

MCKAY OIL CORPORATION
 L L & E Federal #3
 Sec. 12, T6S, R22E
 4-20-88

DIETZGEN CORPORATION
 MADE IN U.S.A.

NO. 340-L22 DIETZGEN GRAPH PAPER
 LOGARITHMIC
 2 CYCLES X 2 CYCLES



$$\begin{aligned}
 Q, \text{ MCFPD} \\
 Q_1 &= 1070; \log = 3.02938 \\
 Q_2 &= 150; \log = 2.17609 \\
 &\quad 0.85329 \\
 n &= 0.853 \\
 AOF &= 986
 \end{aligned}$$