

MULTIPOINT AND ONE POINT PRESSURE TEST FOR GAS WELL

RECEIVED JUN 15 1987

491 FILE

Type Test ☒ Initial ☐ Annual ☐ Special		Test Date 06-04-87	
Company MCKAY OIL CORPORATION		Connection AIR	
Pool West Pecos Slope		Formation O. C. D. ABO ARTESIA OFFICE	
Completion Date 06-04-87	Total Depth 3500	Plug Back TD 3430	Elevation 4155KB
Farmer Lease Name Middle Fork Federal		Well No. #4	
Coq. Size 4-1/2	Wt. 10.5	d 4.052	Set At 3500
Perforations: From 2997	To 3183.5		
Thq. Size 2-3/8	Wt. 4.7	d 1.995	Set At 2970
Perforations: From	To		
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single		Packer Set At	
Producing Thru Tubing		Baro. Press. - P ₀ 13.2	
State N.M.		County Chaves	
L 3090.25	H 3090.25	G ₀ 0.628	% CO ₂ 0.215
% N ₂ 5.487	% H ₂ S 0	Prover 2.00	Meier 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
SI							927		930		SI 72 HRS.
1.	2.000		.375	94	--	65	906	68	911	68	60 MIN
2.	2.000		.625	90	--	42	862	65	870	65	60 MIN
3.	2.000		.875	66	--	33	806	55	820	55	60 MIN
4.	2.000		1.000	72	--	32	730	51	752	51	60 MIN
5.											

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor F _t	Gravity Factor F _g	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mc/d
1	2.378	--	107.2	.9952	1.262	1.009	323
2	6.473	--	103.2	1.0178	1.262	1.010	867
3	13.000	--	79.2	1.0270	1.262	1.008	1345
4	17.090	--	35.2	1.0231	1.262	1.009	1906
5							

NO.	P ₁	Temp. °R	T ₁	Z	Gas Liquid Hydrocarbon Ratio	Mcf/bbl.
1	0.16	525	1.50	.983		
2	0.16	502	1.43	.981		
3	0.12	493	1.40	.984		
4	0.13	492	1.40	.982		
5						

NO.	P ₁ ²	P _w	P _w ²	P _c ² - P _w ²
1	924.2	854.1	35.5	
2	883.2	780.0	109.6	
3	833.2	694.2	195.4	
4	765.2	585.5	304.1	
5				

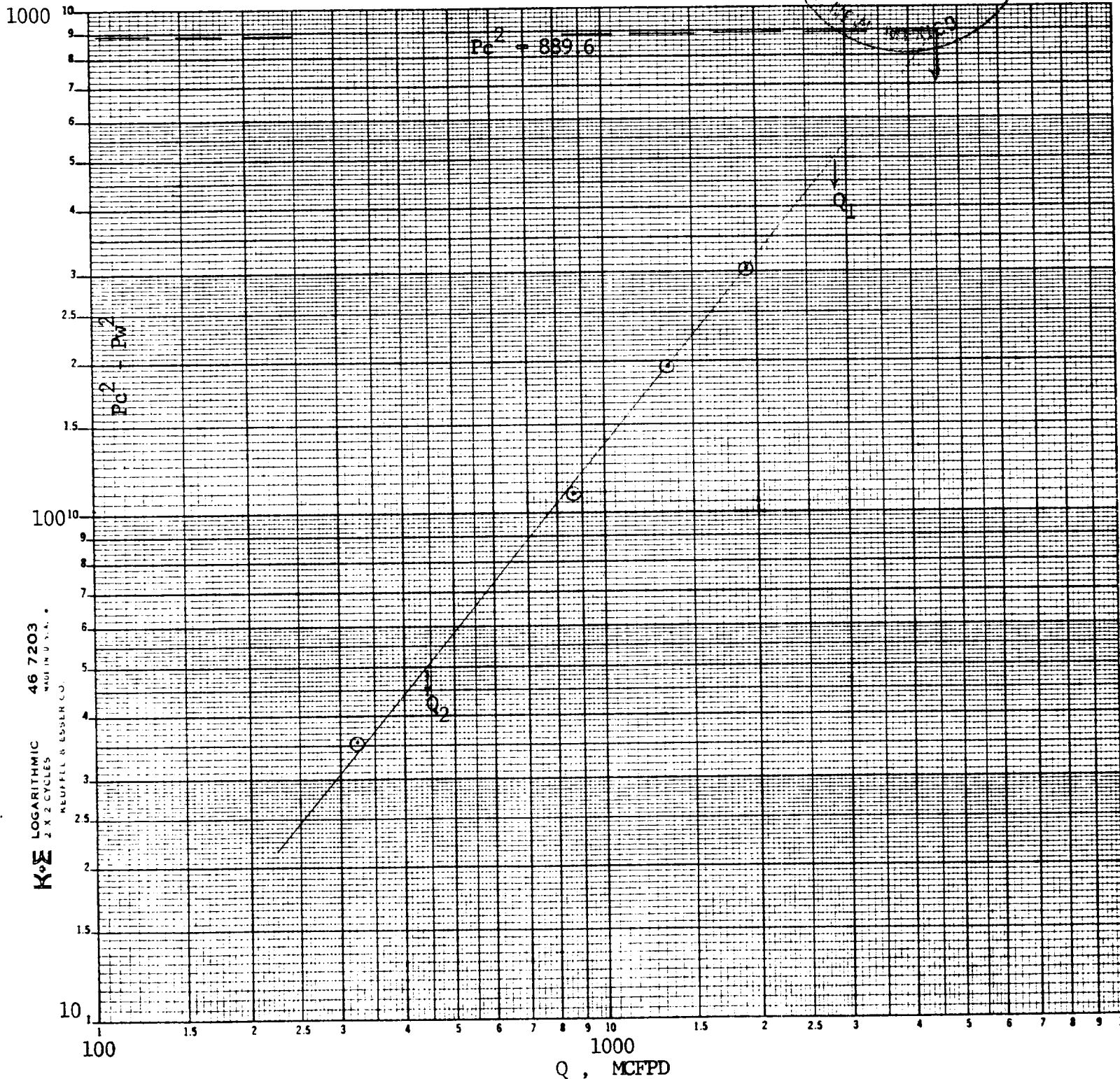
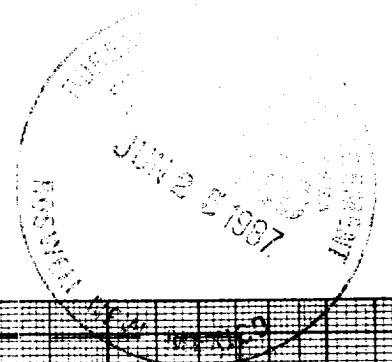
P_c 943.2 P_c² 889.6
 (1) $\frac{P_c^2}{P_c^2 - P_w^2} = 2.925$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 2.385$
 AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 4547$

Absolute Open Flow	4547	Mcf/d @ 15.025	Angle of Slope @	51.013	Slope, n	0.81
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Remarks: No fluid produced during test.

Approved By Division	Conducted By: R. Snyder	Calculated By: C. Sanders	Checked By: P. Stewart
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MCKAY OIL CORPORATION
 Middle Fork Federal #4
 SEC. 8, T6S, R23E
 06-04-87



$$Q_1 = 2850; \log = 3.45484$$

$$Q_2 = 442; \log = 2.64542$$

$$n = 0.80942$$

$$n = 0.81$$

$$AOF = 4547 \text{ MCFPD}$$

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PRECISION SERVICE INC.

Flow Measurement Engineers

Analysis Results Summary

Casper, WY 82601

 Run No. 615-1
 Date Run 06/15/87
 Date Sampled 06/04/87
Analysis For: McKAY OIL CORPORATIONLease: MIDDLEFORK FEDERAL #4Location CHINA DRAWPurpose WELL TESTSampling Temp. 36 °F

Volume/day

Pressure on Bomb 55Producer McKAY OIL CORP.County CHAVES State NEW MEXICOSampled By K.ESLINGER

Atmos Temp. °F

Formation

PSIG; Line Pressure 68.2 PSIA PSIG

Gas Component

Analysis

Press. Base: 14.73

Mol. %	Liq. %	GPM Per MCF
Carbon Dioxide CO ₂	.136	
Oxygen O ₂		
Nitrogen N ₂	4.967	
Hydrogen Sulfide H ₂ S		
Methane C ₁	90.602	15.357
Ethane C ₂	2.288	.612
Propane C ₃	.908	.250
Iso-Butane IC ₄	.163	.053
Nor-Butane NC ₄	.398	.125
Iso-Pentane IC ₅	.094	.034
Nor-Pentane NC ₅	.172	.062
Hexanes plus	.272	.125
Hexanes C ₆		
Heptanes		
Heptanes Plus C ₇ +		
Total	100.000	16.620
Pentane + G.P.M.		.222
Propane + GPM		.651
26-lb Gasoline		.349

 BTU Dry 1027
 BTU Wet 1009
 Calc. Specific Gravity .618

@ Std. Press. 14.696

 BTU Dry 1024
 BTU Wet 1007

Calc. Vap. Press. #/Sq.In.

Reid Vap. Press. #/Sq.In.

 Z Factor .9979
 N Value 1.3051
 Ave Mol Wt 17.8653
 Ave Cu Ft/Gal
Run by JEFFREY A. PROPPCalculated By JEFFREY A. PROPPEthane + GPM 1.263

Remarks:

Distribution: