

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test ☒ Initial ☐ Annual ☐ Special		Test Date 8-11-87	
Company MCKAY OIL CORPORATION		Correction Air	
Pool West Pecos Slope		Formation O. C. D. ARTESIA, OFFICE	
Completion Date 8-11-87	Total Depth 4200'	Plug Back TD 4074'	Elevation 4356 GL
Cas. Size 4-1/2"	Wt. 11.6#	Set At 4.000	Set At 4169'
Perforations: From 2763 To 2897	Well No. #9		
Thg. Size 2-3/8"	Wt. 4.7#	Set At 1.995	Set At 2728'
Perforations: From -- To --	Unit Sec. Twp. Rye. C 9 6S 22E		
Type Well - Single - Bradenhead - G.C. or G.O. Multiple Single		Packer Set At --	
Producing Thru Tubing		State New Mexico	
Reservoir Temp. °F 90	Mean Annual Temp. °F 60	Baro. Press. - P _a 13.2	
L 2830	H 2830	G _g 0.629	% CO ₂ 0.075
% N ₂ 5.081	% H ₂ S 0.00	Prover 2.00	Meter Run --
Taps --			
FLOW DATA			
NO.	Prover Line Size	X	Orifice Size
SI			
1.	2.000	.250	119
2.	2.000	.250	370
3.	2.000	.375	168
4.	2.000	.500	146
5.			
TUBING DATA			
NO.	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.
SI			
1.	815	86	785
2.	790	86	718
3.	721	72	690
4.	695	72	544
5.	580	60	
CASING DATA			
NO.	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.
SI			
1.	820	86	790
2.	790	86	718
3.	721	72	690
4.	695	72	544
5.	580	60	
RATE OF FLOW CALCULATIONS			
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m
1.	1.0870	--	132.2
2.	1.0870	--	383.2
3.	2.3780	--	181.2
4.	4.2790	--	159.2
5.			
NO.	Flow Temp. Factor Ft.	Gravity Factor F _g	Super Compress. Factor F _{sp}
1.	.9759	1.261	1.009
2.	.9887	1.261	1.029
3.	.9887	1.261	1.014
4.	1.0000	1.261	1.013
5.			
NO.	R ₁	Temp. °R	T ₁
1.	0.20	546	1.56
2.	0.58	532	1.52
3.	0.27	532	1.52
4.	0.24	520	1.48
5.			
Gas Liquid Hydrocarbon Ratio 0 Mcf/bbl.			
A.P.I. Gravity of Liquid Hydrocarbons 0 Deg.			
Specific Gravity Separator Gas 0.629			
Specific Gravity Flowing Fluid X X X X X			
Critical Pressure 662 P.S.I.A.			
Critical Temperature 351 R			
Rate of Flow O. Mcd			
1.	178		
2.	534		
3.	545		
4.	870		
5.			
$P_c = 833.2 \quad P_c^2 = 694.2$			
NO.	P ₁ ²	P _w	P _c ²
1.	803.2	645.1	49.1
2.	734.2	539.0	155.2
3.	708.2	501.5	192.7
4.	593.2	351.9	342.3
5.			
$(1) \frac{P_c^2}{P_c^2 - P_w^2} = 14.14 \quad (2) \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 8.969$			
$AOF = 0 \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1,597$			
Absolute Open Flow 1597		Mcd @ 15.025	Angle of Slope @ 50.37
Slope, n 0.8282			
Remarks: No water produced during test.			
Approved By Division		Conducted By: D. Kelton	Calculated By: C. Sanders
		Checked By: P. Stewart	

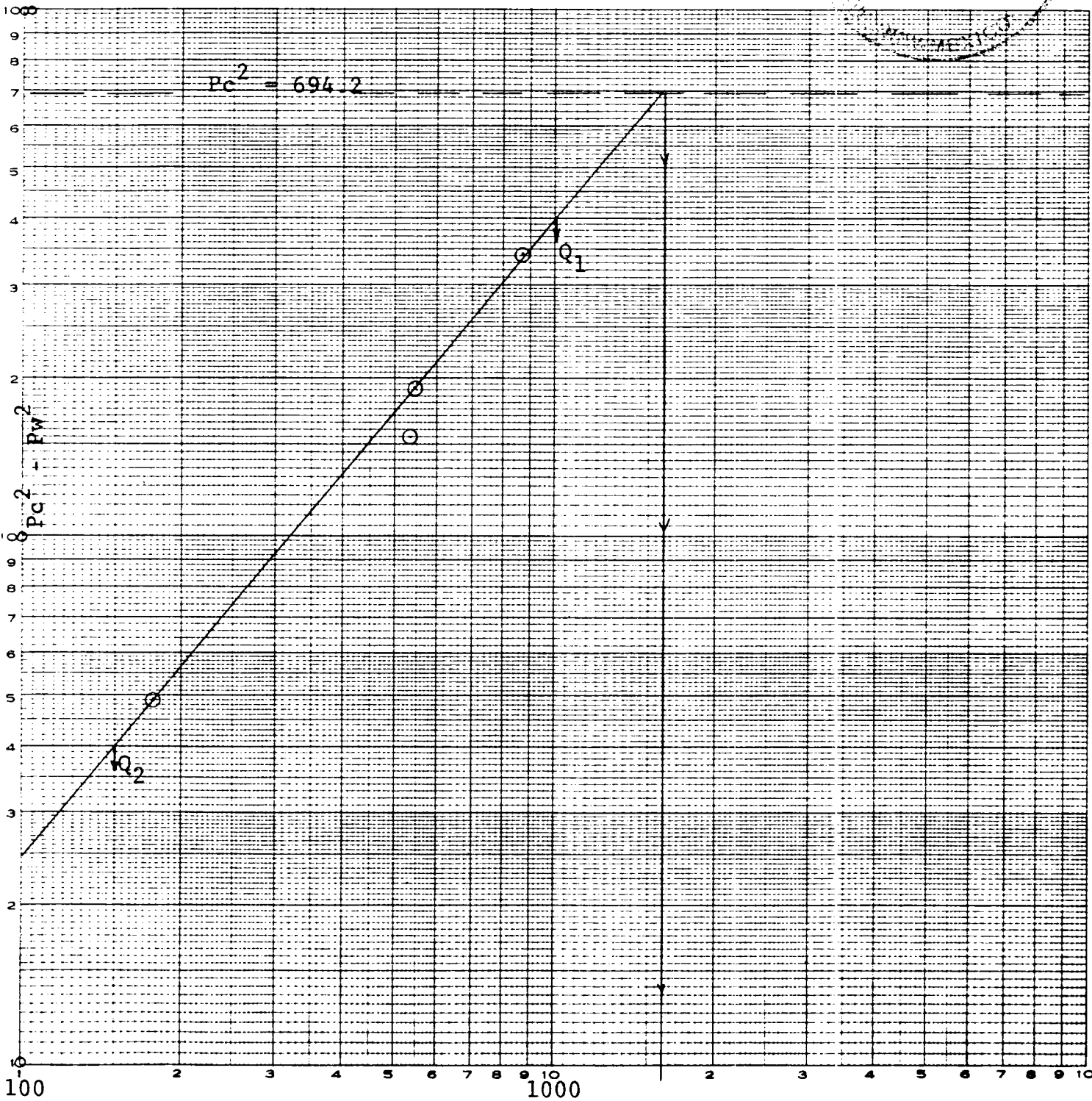
MCKAY OIL CORPORATION
Lookout Federal #9

Sec. 9, T6S, R22E
08-11-87



DIETZGEN CORPORATION
MADE IN U.S.A.

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



Q , MCF Per Day

$Q_1 = 1010$; $\log = 3.00432$

$Q_2 = 150$; $\log = 2.17609$

$n = 0.82823$

$n = 0.8282$

AOF = 1597

"Let your Interest in Measurement be our Concern"



PRECISION SERVICE INC.
Flow Measurement Engineers
Analysis Results Summary
Casper, WY 82601

Run No. 013-4
Date Run 08/13/87
Date Sampled 08/11/87

Analysis For: McKAY OIL CORPORATION

Lease: LOOKOUT FEDERAL #9

Location CHINA DRAW

Purpose WELL TEST

Sampling Temp. 66 °F

Volume/day

Pressure on Bomb 160

Producer McKAY OIL CORP.

County CHAVES State NEW MEXICO

Sampled By C. SPERLING

Atmos Temp. °F

Formation ABO

PSIG: Line Pressure 173.2 PSIA PSIG

Gas Component

Analysis

Press. Base: 14.73

Mol. %

Liq. %

GPM
Per MCF

Carbon Dioxide CO₂

.075

Oxygen O₂

5.081

Nitrogen N₂

Hydrogen Sulfide H₂S

Methane C₁

89.024

Ethane C₂

3.140

Propane C₃

1.370

Iso-Butane IC₄

.210

Nor-Butane NC₄

.559

Iso-Pentane IC₅

.130

Nor-Pentane NC₅

.195

Hexanes plus

.216

Hexanes C₆

Heptanes

Heptanes Plus C₇+

Total

100.000

16.769

Pentane + G.P.M.

.218

Propane + GPM

.840

26-lb Gasoline

.333

BTU Dry

1044

BTU Wet

1026

Calc. Specific Gravity

.629

@ Std. Press. 14.696

BTU Dry

1041

BTU Wet

1023

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

Reid Vap. Press. #/Sq. In.

Z Factor

.9978

N Value

1.3030

Ave Mol Wt

18.1847

Ave Cu Ft/Gal

Run by JEFFREY A. PROPP

Calculated By JEFFREY A. PROPP

Ethane + GPM

1.680

Remarks:

Distribution:

AUG 27 1987

NEW MEXICO