

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 11-12-69			
Company ROBERT W. ENFIELD				Connection NONE					
Pool UNDESIGNATED				Formation PENROSE QUEEN				Unit 40	
Completion Date 5-3-1963		Total Depth 4349'		Plug Back TD -		Elevation 3752'DF		Farm or Lease Name HUDSON FEDERAL	
Chg. Size 1 1/2"	Wt. 9.5	d 4.090	Set At 4330'	Perforations: OPEN HOLE From 4330' To 4349'		Well No. No. 1			
Tng. Size -	Wt. -	d -	Set At -	Perforations: From - To -		Unit Sec. Twp. Rge. 0 30 18 33			
Type Well - Single - Bradenhead - G.G. or G.O. Multiple SINGLE						Packer Set At NONE		County LEA	
Producing Thru CASING		Reservoir Temp. °F 92 @ 4330'		Mean Annual Temp. °F 60		Baro. Press. - P _a 13.2		State NEW MEXICO	
L 4340'	H -	G _g 0.896	% CO ₂ 0.00	% N ₂ 55.62	% H ₂ S 0.00	Prover X	Meter 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. WT p.s.i.g.	Temp. °F	Press. p.s.i.g.		Temp. °F
SI							1429	75	-	-	6 YEARS
1.	2	15/64	1/2	210	-	45	745	-	-	-	1.0
2.	2	13/64	1/2	180	-	43	845	-	-	-	1.0
3.	2	12/64	1/2	152	-	38	989	-	-	-	1.0
4.	2	10/64	1/2	102	-	34	1111	-	-	-	1.0
5.	2	23/64	1/2	225	-	40	375	-	-	-	

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	4.279	-	223.2	1.015	1.056	1.023	1047.2
2	4.279	-	193.2	1.017	1.056	1.020	905.6
3	4.279	-	165.2	1.022	1.056	1.017	776.0
4	4.279	-	115.2	1.026	1.056	-	534.1
5	4.279	-	238.2	1.020	1.056	1.027	1127.5

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio DRY GAS Mcf/bbl.	A.P.I. Gravity of Liquid Hydrocarbons - Deg.	Specific Gravity Separator Gas 0.896	Specific Gravity Flowing Fluid XXXXX	Critical Pressure 601 P.S.I.A.	Critical Temperature 356 R
1	0.37	505	1.42	0.955						
2	0.32	503	1.41	0.961						
3	0.27	498	1.40	0.966						
4	0.19	494	1.39	-						
5	0.40	500	1.40	0.909						

NO.	P _r ²	P _w * ²	P _w ²	P _r ² - P _w ²
1	-	807.2	805.0	1977.9
2	-	1004.2	1008.4	1774.5
3	-	1171.2	1371.7	1411.2
4	-	1314.2	1727.1	1055.8
5				

(1) $\frac{P_r^2}{P_r^2 - P_w^2} = 1.972$

AOF = Q $\left[\frac{P_r^2}{P_r^2 - P_w^2} \right]^n = 1413$

(2) $\left[\frac{P_r^2}{P_r^2 - P_w^2} \right]^n = 1.821$

Absolute Open Flow 1390 Mcfd @ 15.025	Angle of Slope @ 48° 38'	Slope, n 0.881
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Remarks: * SHP @ (-578) 4340' USED FOR PRESSURE CALCULATIONS

Approved By Commission: <i>[Signature]</i>	Conducted By: JOE A. COLEMAN	Calculated By: <i>[Signature]</i>	Checked By: JOE A. COLEMAN
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COLEMAN PETROLEUM ENGINEERING COMPANY

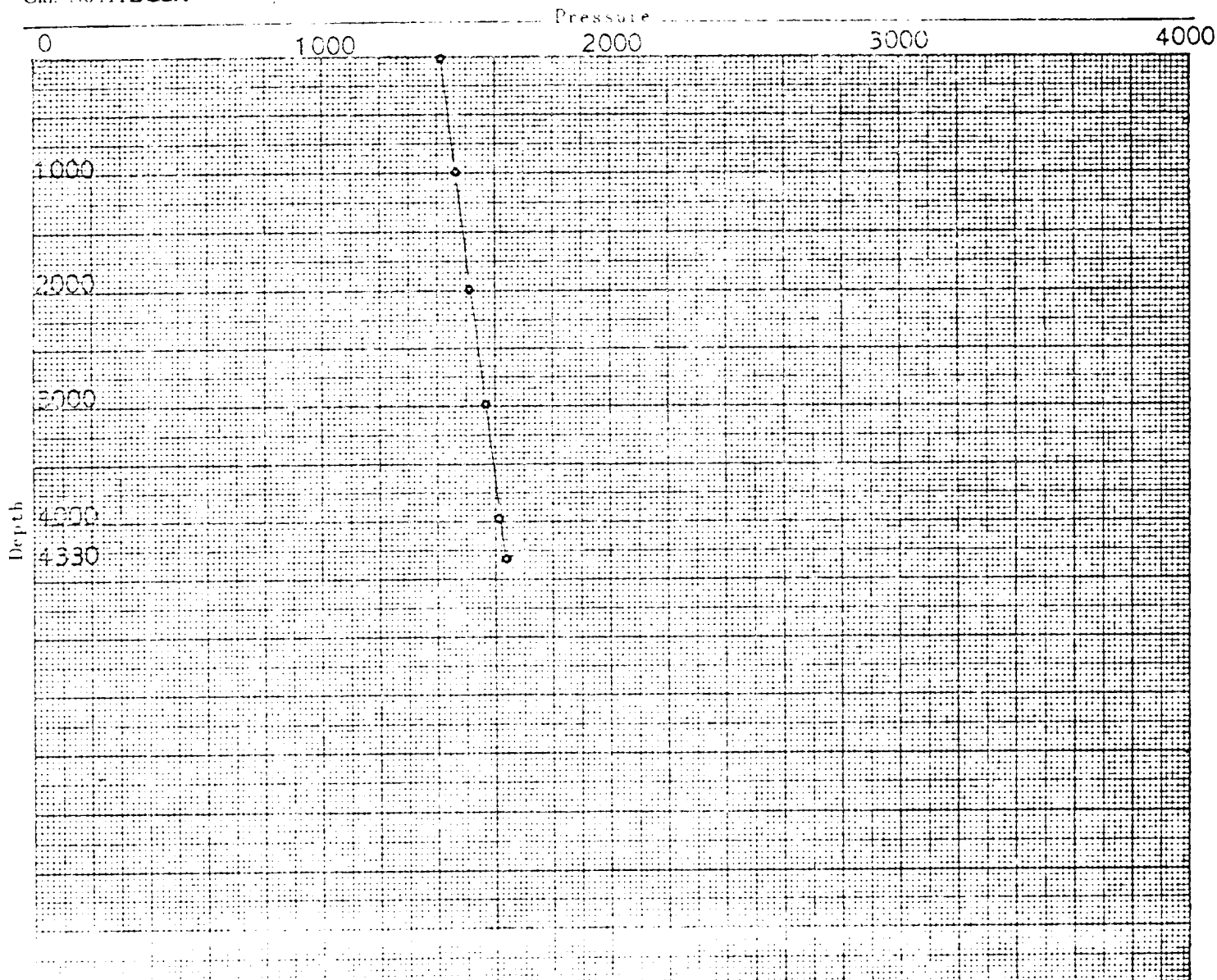
PHONE EXPRESS 3-3813
611 GRIMES
P. O. BOX 1829
HOBBS, NEW MEXICO

BOTTOM HOLE PRESSURE RECORD

OPERATOR ROBERT N. ENFIELD
FIELD UNDESIGNATED FORMATION PENROSE GAS
LEASE HUDSON FEDERAL WELL No. 1
COUNTY LEA STATE NEW MEXICO
DATE 11-12-69 TIME 11:00 AM
Status SHUT IN Test depth 4330'
Time S. 16 YEARS Last test date INITIAL
Tub Pres 1429 DWT BHP last test -
Gas Pres - BHP change -
Elev. 3752' DF Fluid top NONE
Datum (-578')** Water top NONE
Temp. 92° F Run by WEAVER
Cal. No A4566N Chart No 1

Depth	Pressure	Gradient
0	1429	-
1000	1475	.046
2000	1525	.050
3000	1575	.050
4000	1625	.050
4330	1654	.088
4340(-578)	1655* **	(.088)

* EXTRAPOLATED PRESSURE
** MID POINT OF CASING PERFORATIONS



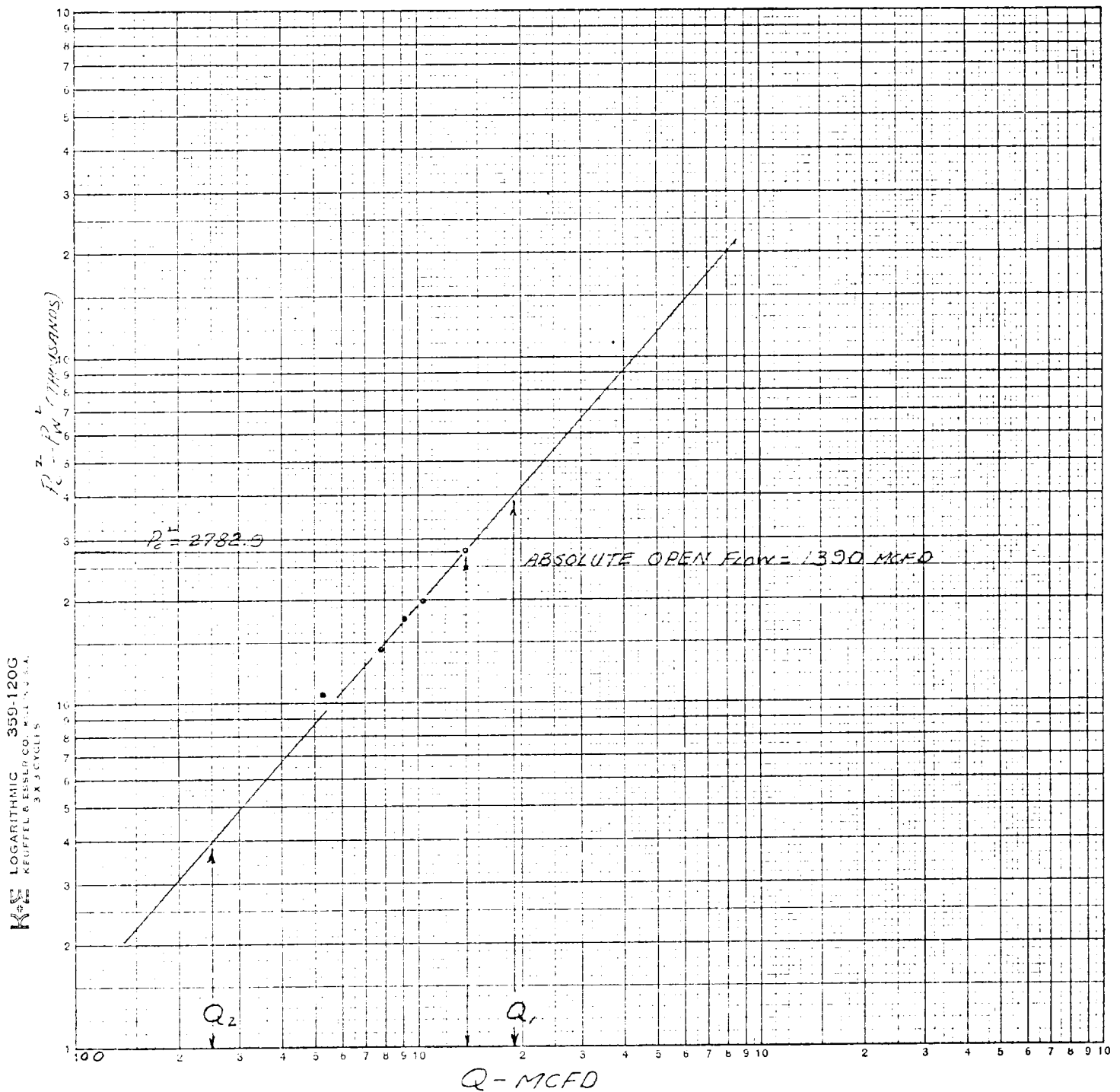
COMPANY ROSE N. ENFIELD

WELL HUDSON FEDERAL, No. 1

LOCATION UNIT 0 SEC. 30 18 S 33 E

COUNTY LEA COUNTY NEW MEXICO

DATE NOVEMBER 12, 1969



$$Q_1 = 1900 \text{ MCFD}, \text{ LOG } Q_1 = 3.27875$$

$$Q_2 = 250 \text{ MCFD}, \text{ LOG } Q_2 = 2.39794$$

$$n = 0.88081 = 0.881$$