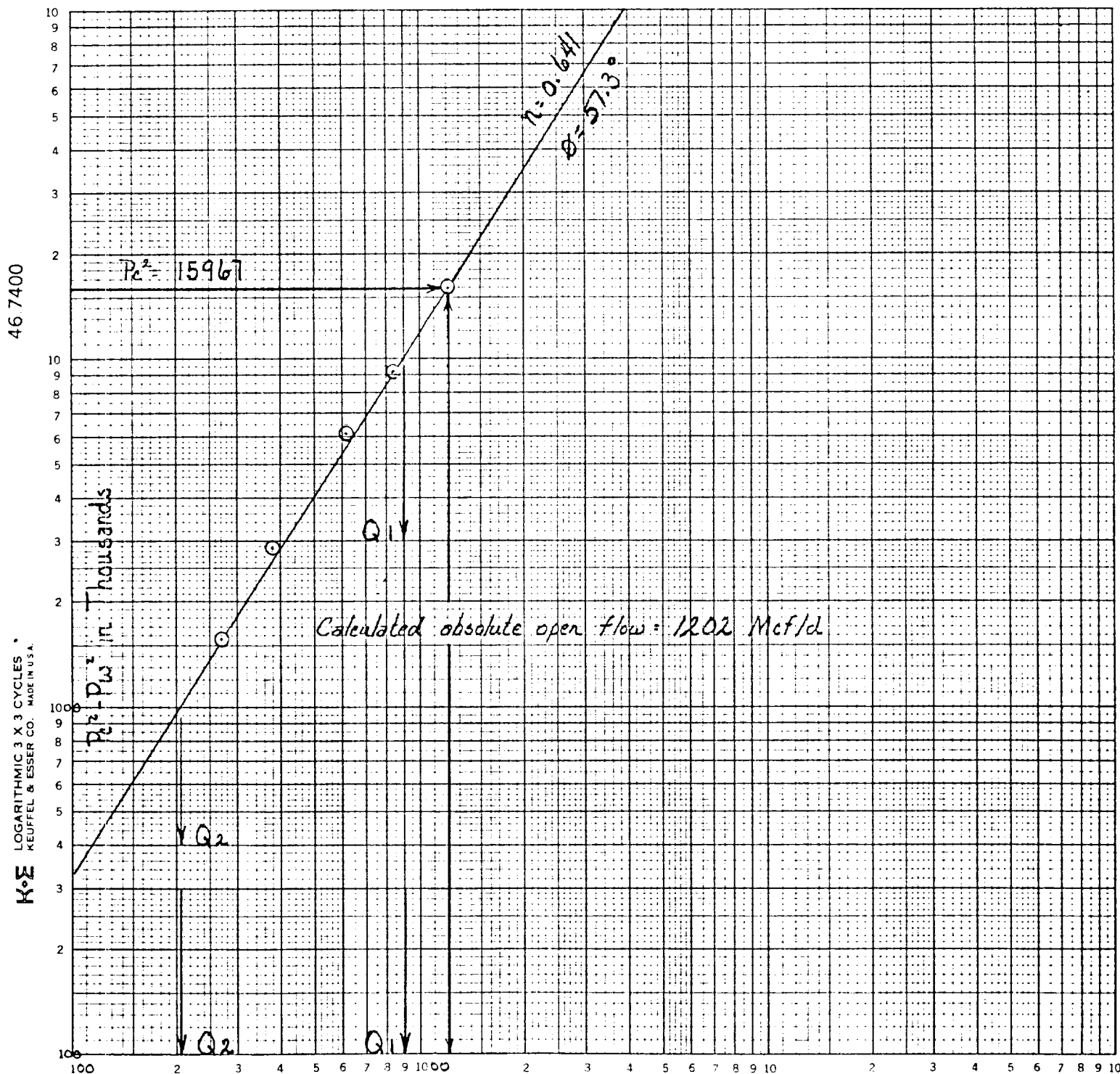


Santa Fe Energy
Hargis #1
Sec 24 Twp 22S Rge 27E
Eddy County
4-1-87



$$\frac{\Delta P_1}{\Delta P_2} = \frac{P_e^2 - P_w^2}{P_e^2 - P_w^2}$$

$$\frac{\Delta P_1}{\Delta P_2} = \frac{P_e^2 - P_w^2}{P_e^2 - P_w^2}$$

$$Q_1 = 900$$

$$Q_2 = 205.7$$

$Q, \text{Mcf/d}$

$$\log Q_1 = 2.9542$$

$$\log Q_2 = 2.3132$$

$$n = 0.6410$$



LTR



Job separation sheet

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

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Form C-122
Revised 10-1-78

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test 4POINT ☒ Initial ☐ Annual ☐ Special		Date 4-1-87	
Company SANTA FE ENERGY		Connection TO AIR NEW WELL	
Pool SOUTH CARLSBAD		Formation MORROW	
Completion Date 3-25-87	Total Depth 12296	Plug Back TD 12169	Elevation
Farmer or Lease Name HARGIS			Well No. 1
Ceq. Size 4.500	Wt. 13.5	d 3.920	Set At 12296
Perforations: From 11676 To 11910		Well No.	
Thq. Size 2.375	Wt. 4.7	d 1.995	Set At 11602
Perforations: From OPEN To ENDED		Unit Soc. Twp. Rge. #6 24 22S 27E	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple SINGLE		Packer Set At 11572	
Producing Thru TUBING		State NEW MEXICO	
Reservoir Temp. °F 196# 11793	Mean Annual Temp. °F 60	Baro. Press. - P _a 13.2	County EDDY
L 11793	H 11793	G _g 0.5789	% CO ₂ 1.108
% H ₂ 0.364	% H ₂ S 0	Prover 0	Meter Run 3.068
Taps FLG			

FLOW DATA						TUBING DATA		BHP 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							3940	64	5028	196	160.5HR
1.	3.068	1.000		405	4.5	95	3753	65	4795	196	60MIN
2.	3.068	1.000		408	8.5	80	3580	67	4587	196	60MIN
3.	3.068	1.000		420	21.5	80	3210	69	4019	196	60MIN
4.	3.068	1.000		425	40.0	83	2570	70	3368	196	60MIN
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 _{sp}	Rate of Flow Q, Mcfd
1	4.789	43.38	418.2	0.9680	1.3143	1.0259	271
2	4.789	59.83	421.2	0.9813	1.3143	1.0292	380
3	4.789	96.51	433.2	0.9813	1.3143	1.0300	614
4	4.789	132.39	438.2	0.9786	1.3143	1.0297	840
5							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	Mcf/bbl.
1	0.62	555	1.59	0.950	A.P.I. Gravity of Liquid Hydrocarbons	0
2	0.62	540	1.55	0.944	Specific Gravity Separator Gas	0.5789
3	0.64	540	1.55	0.943	Specific Gravity Flowing Fluid	XXXXXX
4	0.65	543	1.56	0.943	Critical Pressure	678
5					Critical Temperature	349

NO.	P _i	P _w	P _w ²	P _i ² - P _w ²	(1) $\frac{P_i^2}{P_i^2 - P_w^2} = 1.7502$	(2) $\left[\frac{P_i^2}{P_i^2 - P_w^2} \right]^n = 1.4316$
1		3796	14410	1557		
2		3619	13100	2867		
3		3144	9887	6080		
4		2616	6844	9123		
5						

Absolute Open Flow 1202 Mcfd @ 15.025 Angle of Slope 57.3 Slope, n 0.641

Remarks: BOTTOM HOLE PRESSURES FROM AMARADA INST.

Approved By Division	Conducted By: BENNETT & CATHEY	Calculated By: RICHARD TOWNLEY	Checked By:
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