

DEC 12 1994

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION

P. O. BOX 20811
SANTA FE, NEW MEXICO 87501Form C-122
Revised 10-1-78

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test ☒ Initial ☐ Annual ☐ Special		Test Date 11-23-94	
Company BARBARA FASKEN		Connection PIPELINE(EL PASO)	
Pool ATOKA-MORROW		Unit 1	
Completion Date 9-1-94		Total Length 9075	Plug Back TD 9030
Elevation 3286 g1		Farm or Lease Name HIGGINS TRUST	
Ceq. Size 4.5	Wt. 13.5	d 3.920	Set At 9075
Perforations: From 8882 To 8890		Well No. #1	
Tbg. Size 2.375	Wt. 4.7	d 1.995	Set At 8731
Perforations: From To		Unit Sec. Twp. Rge. 1 18S 26E	
Type Well - Single - Brodenhead - G.G. or G.O. Multiple SINGLE (GAS)		Packer Set At 8731	County EDDY
Producing Thru Tbg. (gas)		Reservoir Temp. °F 148° 8886	Mean Annual Temp. °F 60
Date. Press. - P _g 13.2		State NEW MEXICO	
L 8886	H 8886	G _g 0.613	% CO ₂ 0.351
% N ₂ 0.129	% H ₂ S 0	Prover 0	Meter Run 3.0
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	Duration of Flow
SI											
1.	3 0	x	1.875	6.55	2.0	94	2715	50	3628	148	72.0
2.	3.0	x	1.875	6.60	3.0	74	2500	50	3396	148	1.0
3.	3 0	x	1.875	6.60	3.9	72	2310	50	3141	148	1.0
4.	3 0	x	1.875	6.60	5.3	74	1904	50	2914	148	1.0
5.									2455	148	1.0

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 _{sp}	Rate of Flow Q, Mcfd
1	76.5	13.10	6.55	0.9688	1.277	1.030	1032
2	76.5	19.80	6.60	0.9868	1.277	1.038	1572
3	76.5	25.74	6.60	0.9887	1.277	1.038	2044
4	76.5	34.98	6.60	0.9868	1.277	1.038	2778
5							

NO.	P _h	Temp. °R	T _g	Z	Gas Liquid Hydrocarbon Ratio	Mcf/bbl.
1	0.64	554	1.53	0.942	A.P.I. Gravity of Liquid Hydrocarbons	Deq.
2	0.65	534	1.48	0.929	Specific Gravity Separator Gas	0.613
3	0.65	532	1.47	0.928	Specific Gravity Flowing Fluid	X X X X X
4	0.65	534	1.48	0.929	Critical Pressure	671
5					Critical Temperature	362

NO.	P _i	P _w	P _i ²	P _w ²
1	3641.2	13.26 x 10 ⁶		
1		3409.2	11.62	1.64
2		3154.2	9.95	3.31
3		2927.2	8.57	4.69
4		2468.2	6.09	7.17
5				

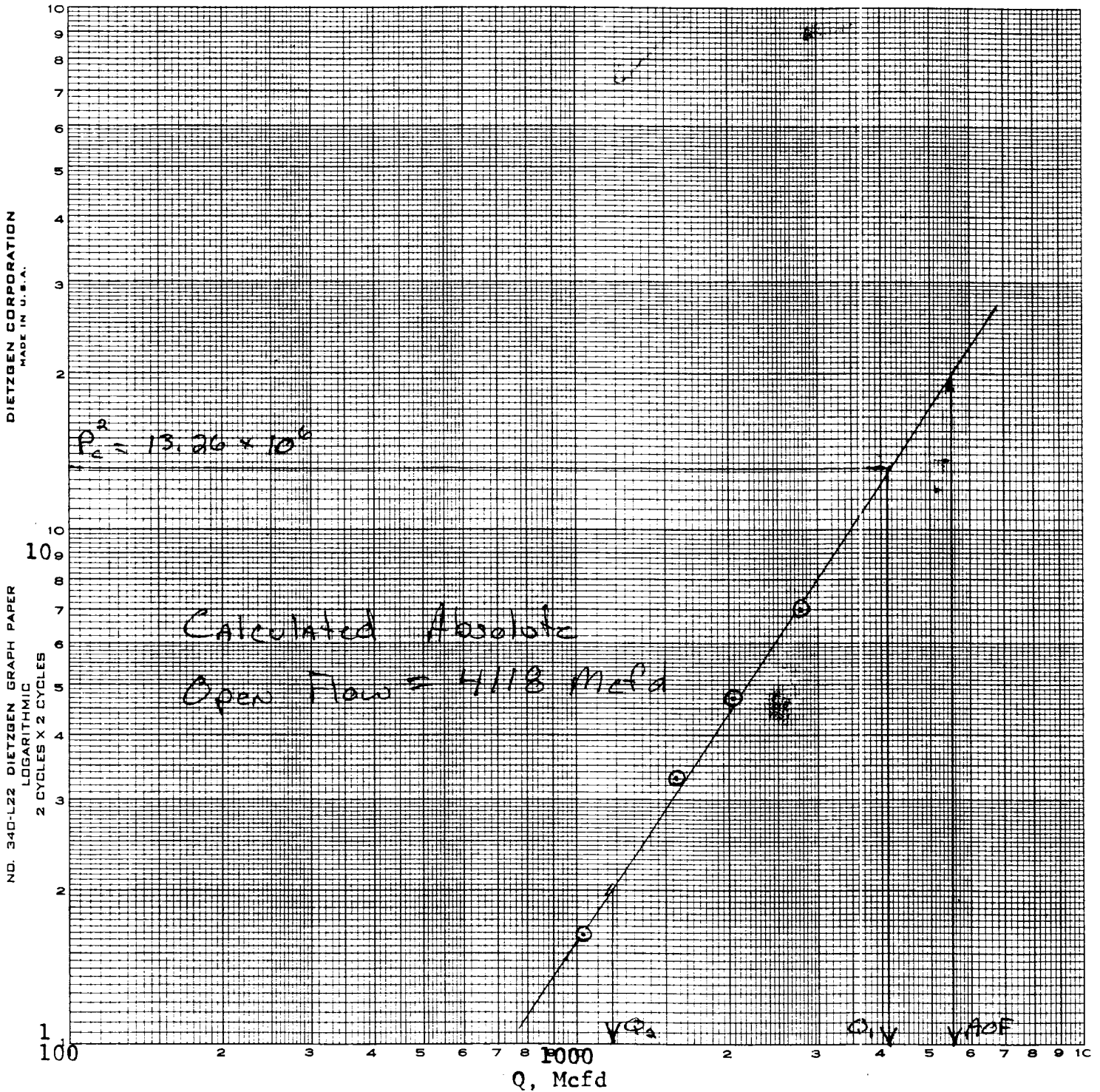
(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 2.827$		(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 2.006$	
AOI = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 4,118$			

Absolute Open Flow	4118	Mcf/d @ 15.025	Angle of Slope θ	Slope, n	0.670
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Remarks:	L10 chart used 1000lb press spring 100 diff
	choke sizes: 1st rate 7.5/64 2nd 11/64 3rd 15/64 4th 17/64

Approved By Division	Conducted By:	Calculated By:	Checked By:
	KELTIC SERVICES	JIM SMITH	

COMPANY : BARBARA FAS N
 WELL : HIGGINS TRUST #1
 LOCATION : S1-T18s-R26e
 COUNTY : EDDY
 DATE : 11-23-1994



$$\Delta P_1 = 20$$

$$Q_1 = 5530$$

$$\log Q_1 = 3.743$$

$$\Delta P_2 = 2$$

$$Q_2 = 1185$$

$$\log Q_2 = 3.073$$

$$n = 0.670$$

COMPANY: BARBARA FASKEN
CLIENT: MIKE DAVIS
GAUGE NUMBER: 29353
WELL NAME: HIGGINS TRUST
WELL NUMBER: #1
TEST NUMBER: 1
LOCATION: S1-T186-R24E, EDDY, N.M.
TEST OPERATOR: KELTIC SERVICES
COMMENTS: 4 qt. W/ BOMBS HUNG @ MID-PERF
= 8886 ft.

PAGE START DATE: 11/23/94

GAUGE S/N: 29353

DATA FILE: 6

DATA POINT	REAL TIME	DELTA TIME HRS	DEFLECTION IN	PRESSURE PSIG	COMMENTS
1	10: 0: 0	0.000	1.2091	3628.19	START 4pt. TES
2	10: 0:50	0.014	1.1781	3595.06	
3	10: 2:14	0.037	1.1810	3543.55	
4	10: 4:19	0.072	1.1653	3496.25	
5	10: 6:11	0.103	1.1549	3464.92	
6	10: 8:30	0.142	1.1471	3441.43	
7	10: 9:57	0.166	1.1439	3431.79	
8	10:11:29	0.191	1.1370	3411.00	
9	10:13:38	0.227	1.1308	3392.33	
10	10:17:23	0.290	1.1246	3373.65	
11	10:21:39	0.361	1.1221	3366.12	
12	10:25:39	0.427	1.1210	3362.81	
13	10:38:47	0.646	1.1229	3368.53	
14	10:46:48	0.780	1.1263	3378.77	
15	10:55:59	0.933	1.1303	3390.82	
16	11: 1:17	1.021	1.1322	3396.54	
17	11: 2:40	1.044	1.1322	3396.54	END FIRST RATE
18	11: 3:35	1.060	1.1222	3366.42	
19	11: 4:31	1.075	1.1100	3329.67	
20	11: 6:10	1.103	1.0946	3283.28	
21	11: 8:19	1.139	1.0819	3245.02	
22	11:11: 1	1.184	1.0758	3226.64	
23	11:13:40	1.228	1.0723	3216.10	
24	11:16:50	1.281	1.0679	3202.85	
25	11:21: 0	1.350	1.0562	3167.60	
26	11:24:50	1.414	1.0482	3143.50	
27	11:30:51	1.514	1.0462	3137.48	
28	11:35:53	1.598	1.0492	3146.51	
29	11:39:58	1.666	1.0541	3161.27	
30	11:43:45	1.729	1.0563	3167.90	
31	11:47:19	1.789	1.0521	3155.25	
32	11:52:14	1.871	1.0469	3139.59	
33	11:57:41	1.961	1.0444	3132.05	
34	12: 2: 2	2.034	1.0461	3137.18	END SECOND RATE
35	12: 5:28	2.091	1.0475	3141.39	
36	12: 6:50	2.114	1.0318	3094.10	
37	12: 8:10	2.136	1.0180	3052.52	
38	12: 9:19	2.155	1.0083	3023.30	
39	12:10:38	2.177	0.9965	2987.76	
40	12:13: 1	2.217	0.9819	2943.77	
41	12:15:12	2.253	0.9752	2923.59	
42	12:18:49	2.314	0.9666	2897.68	
43	12:22:50	2.381	0.9621	2884.13	
44	12:27:11	2.453	0.9575	2870.27	
45	12:33:31	2.559	0.9602	2878.40	
46	12:37: 7	2.619	0.9644	2891.05	
47	12:40:56	2.682	0.9688	2904.31	
48	12:44:33	2.742	0.9718	2913.35	
49	12:49:16	2.821	0.9702	2908.53	
50	12:55:20	2.922	0.9679	2907.62	

PAGE START DATE: 11/23/94

GAUGE S/N: 29353

DATA FILE: 6

DATA POINT	REAL TIME	DELTA TIME HRS	DEFLECTION IN	PRESSURE PSIG	COMMENTS
51	13: 0: 4	3.001	0.9719	2913.65	
52	13: 2:59	3.050	0.9719	2913.65	END THIRD RATE
53	13: 5: 3	3.084	0.9534	2857.92	
54	13: 7: 4	3.118	0.9383	2812.43	
55	13: 9:45	3.162	0.9220	2763.32	
56	13:12:12	3.203	0.9104	2728.38	
57	13:14:12	3.237	0.9028	2705.48	
58	13:16:52	3.281	0.8911	2670.23	
59	13:20: 8	3.336	0.8718	2612.09	
60	13:24: 5	3.401	0.8518	2551.84	
61	13:27:59	3.466	0.8382	2510.86	
62	13:32:30	3.542	0.8269	2476.82	
63	13:37:35	3.626	0.8210	2459.05	
64	13:43:16	3.721	0.8241	2468.39	
65	13:47:44	3.796	0.8267	2476.22	
66	13:51:27	3.857	0.8235	2466.58	
67	13:56:26	3.941	0.8203	2456.94	
68	14: 2:21	4.039	0.8196	2454.83	
69	14: 5:15	4.087	0.8197	2455.13	END FOURTH RATE

Plot starting date: 11/23/94
Time: 10: 0: 0
Gauge S/N 28353

Company: BARBARA FASSEN
Client: MIKE DAVIS
Well name: HIGGINS TRUST
Well #: #1
Test #: 1

Location: SI-7185-R28E, EDDY, N.M.
Operator: KELTIC SERVICES
Comments: 4 pt. w/ BOMBS HUNG @ MID-PERF
- 8886 ft.

