

TEFTELLER, INC.
RESERVOIR ENGINEERING DATA
Midland, Texas

Well : DECKER NO. 5

Page 1 of 6

Field: AZTEC PICTURED CLIFFS

File 2-9197-0FP & BU

CHRONOLOGICAL PRESSURE AND PRODUCTION DATA

1978 Date	Status of Well	Time	Elapsed Time Hrs. Min.	Wellhead Pressure Casing	BHP @ 3230' Psig
11-29	Well shut-in	02:00			
"	Inst. @ 3230'	02:30		1053	1150
"	"	04:30		1053	1150
"	Open Rate #1 1/8" plate	04:35	0 00		
"	"	04:50	0 15	1032	1134
"	"	05:05	0 30	1030	1127
"	"	05:20	0 45	1028	1122
"	"	05:35	1 00	1025	1118
"	"	05:50	1 15	1024	1115
"	"	06:05	1 30	1023	1112
"	"	06:20	1 45	1018	1110
"	"	06:35	2 00	1015	1109
"	Shut-in	06:35	0 00		
"	"	08:35	2 00	1036	1137
"	Open Rate #2				
"	7/32" plate	08:35	0 00		
"	"	08:50	0 15	988	1084
"	"	09:05	0 30	967	1060
"	"	09:20	0 45	949	1043
"	"	09:35	1 00	938	1029
"	"	09:50	1 15	926	1018
"	"	10:05	1 30	914	1006
"	"	10:20	1 45	907	999
"	"	10:35	2 00	894	991
"	Shut-in	10:35	0 00		
"	"	12:35	2 00	999	1099
"	Open Rate #3 1/4" plate	12:35	0 00		
"	"	12:50	0 15	929	1035
"	"	13:05	0 30	903	997
"	"	13:20	0 45	885	974
"	"	13:35	1 00	866	956
"	"	13:50	1 15	855	943
"	"	14:05	1 30	845	931
"	"	14:20	1 45	839	916
"	"	14:35	2 00	828	911
"	Shut-in	14:35	0 00		
"	"	16:35	2 00	965	1068
"	Open Rate #4				
"	5/16" plate	16:35	0 00		
"	"	16:50	0 15	826	932
"	"	17:05	0 30	793	881



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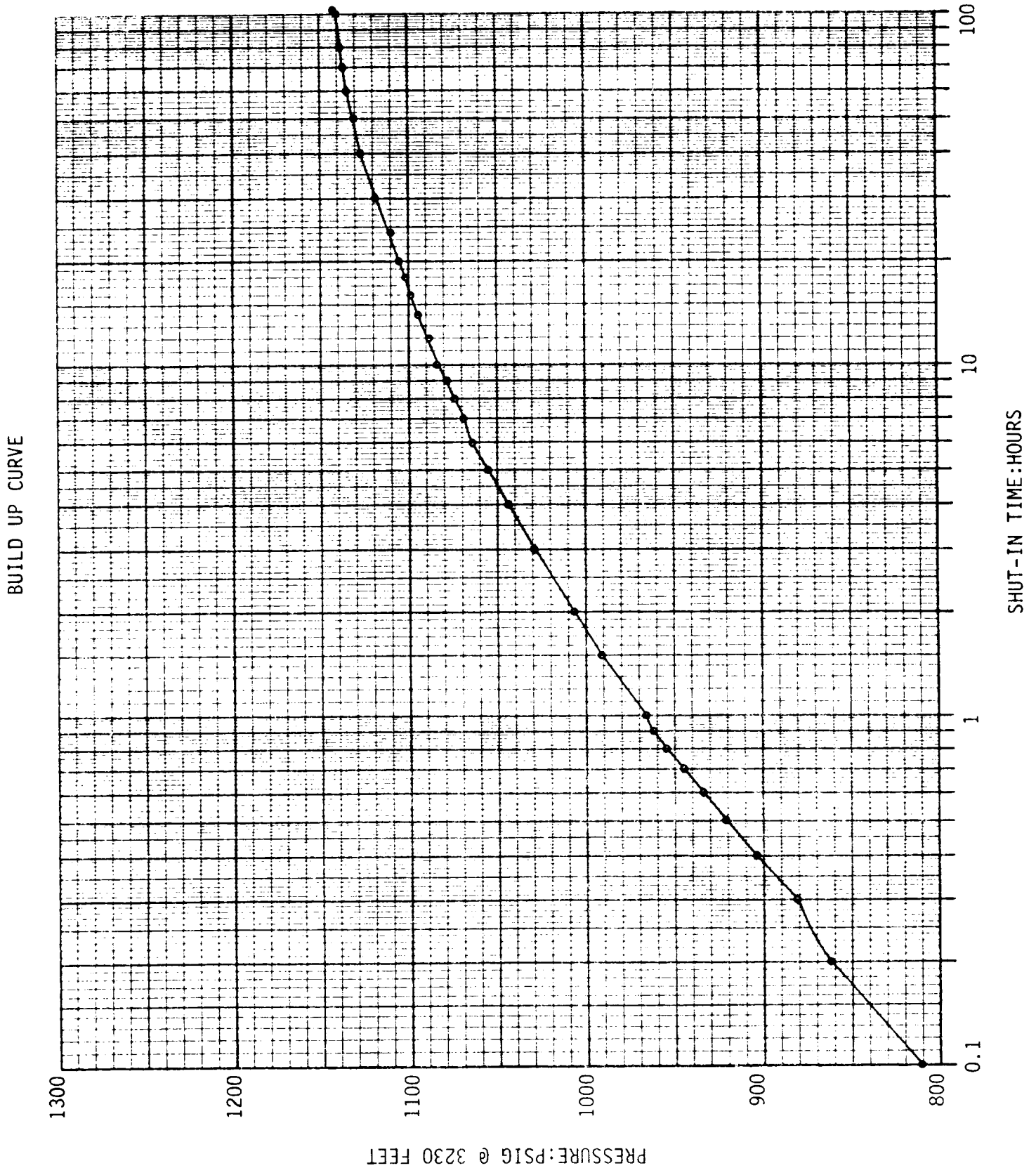
CHRONOLOGICAL PRESSURE AND PRODUCTION DATA

1978 Date	Status of Well	Time	Elapsed Time Hrs. Min.	Wellhead Pressure Casing	BHP @ 3230' Psig
11-29	Cont'd. flowing	17:20	0 45	759	847
"	"	17:35	1 00	733	815
"	"	17:50	1 15	713	793
"	"	18:05	1 30	700	773
"	"	18:20	1 45	685	760
"	"	18:35	2 00	673	744
"	Shut-in for build up	18:35	0 00		
"	"	18:41	0 06		811
"	"	18:47	0 12		862
"	"	18:53	0 18		881
"	"	18:59	0 24		903
"	"	19:05	0 30		921
"	"	19:11	0 36		933
"	"	19:17	0 42		944
"	"	19:23	0 48		954
"	"	19:29	0 54		962
"	"	19:35	1 00		966
"	"	20:05	1 30		991
"	"	20:35	2 00		1007
"	"	21:35	3 00		1029
"	"	22:35	4 00		1044
"	"	23:35	5 00		1055
11-30	"	00:35	6 00		1063
"	"	01:35	7 00		1069
"	"	02:35	8 00		1074
"	"	03:35	9 00		1078
"	"	04:35	10 00		1083
"	"	06:35	12 00		1088
"	"	08:35	14 00		1094
"	"	10:35	16 00		1099
"	"	12:35	18 00		1102
"	"	14:35	20 00		1105
"	"	18:35	24 00		1110
12-1	"	00:35	30 00		1118
"	"	10:35	40 00		1127
"	"	20:35	50 00		1131
12-2	"	06:35	60 00		1134
"	"	16:35	70 00		1136
12-3	"	02:35	80 00		1138
"	"	22:35	100 00		1141
12-4	Gradient Traverse	10:35	112 00	1032	1143



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Company GREAT WESTERN DRILLING COMPANY Formation PICTURED CLIFFS
Well DECKER NO. 5 County SAN JUAN
Field AZTEC PICTURED CLIFFS State NEW MEXICO





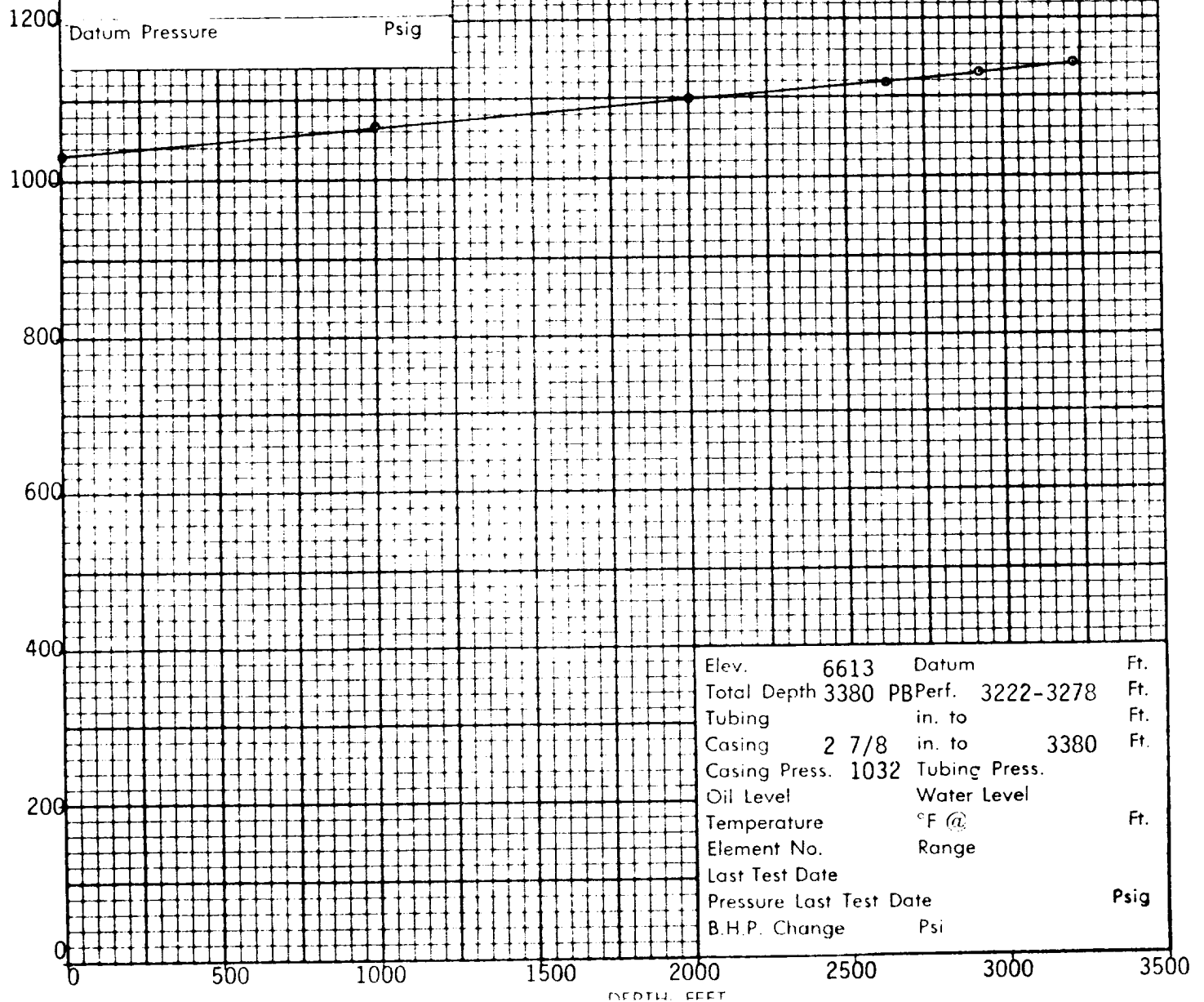
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Company GREAT WESTERN DRILLING COMPANY Lease DECKER Well No. 5
Field AZTEC PICTURED CLIFFS County SAN JUAN State NEW MEXICO
Formation PICTURED CLIFFS Test Date DECEMBER 4, 1978

Status of Well Shut-in 112 hrs.

DEPTH Feet	PRESSURE Psig	GRADIENT Psi/Ft
0	1032	
1000	1066	0.034
2000	1099	0.033
2630	1119	0.032
2930	1131	0.040
3230	1143	0.040

Datum Pressure _____ Psig



Elev.	6613	Datum		Ft.
Total Depth	3380	Perf.	3222-3278	Ft.
Tubing		in. to		Ft.
Casing	2 7/8	in. to	3380	Ft.
Casing Press.	1032	Tubing Press.		
Oil Level		Water Level		
Temperature	°F @			Ft.
Element No.	Range			
Last Test Date				
Pressure Last Test Date				Psig
B.H.P. Change	Psi			

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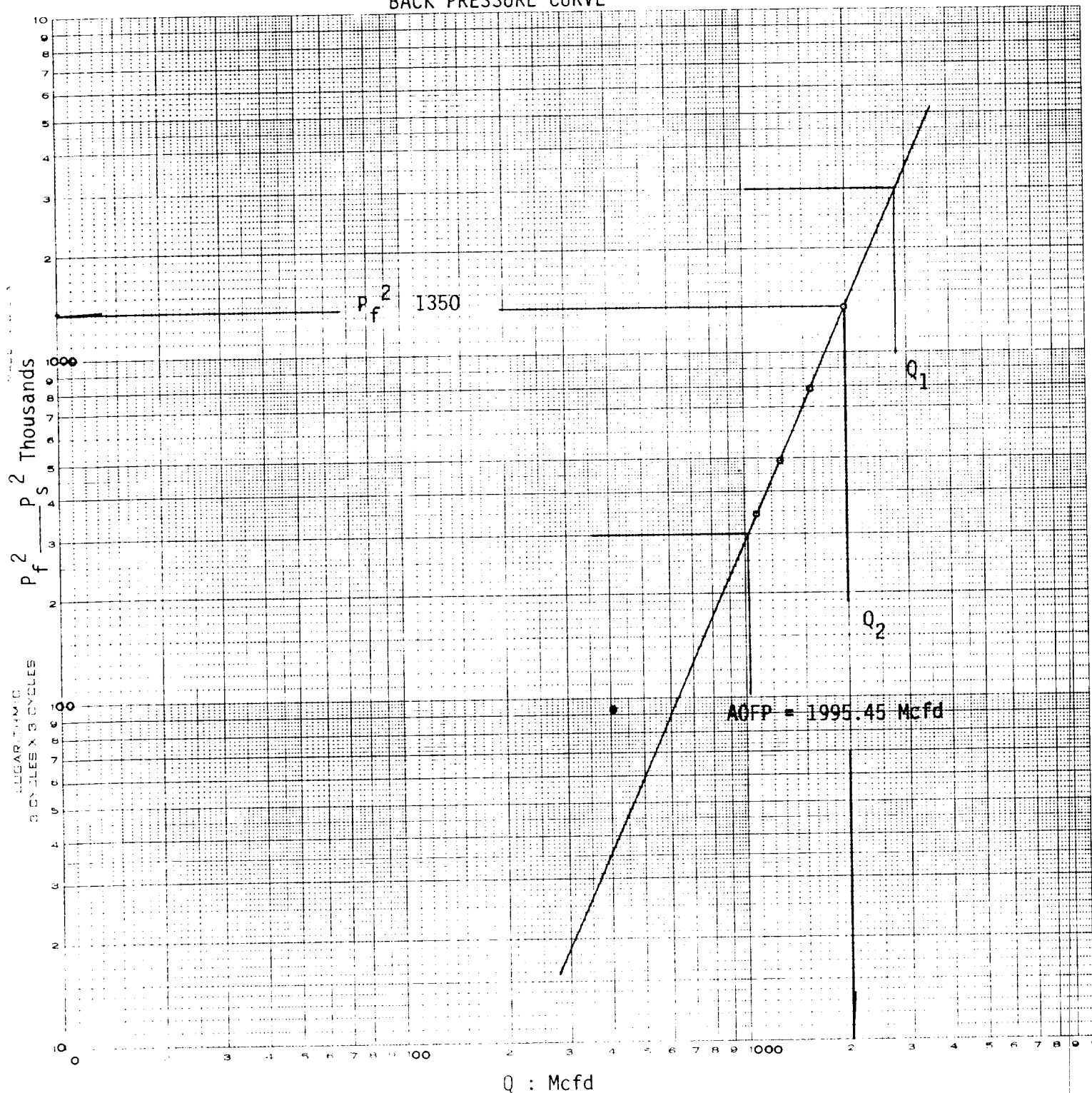
File 2-9197-OFP & BU

GAS PRODUCTION DATA

Date of Test	11-29-78	11-29-78	11-29-78	11-29-78
Rate No.	1	2	3	4
Choke Size (Inch)	1/8	7/32	1/4	5/16
Stabilization Period (Hours)	2	2	2	2
Flow Time Used for Calculations (Hours)	Final	Final	Final	Final
Size Line (Inch)	2	2	2	2
Size Orifice (Inch)	1/8	7/32	1/4	5/16
Flowing Temperature ($^{\circ}$ F)	26	40	40	46
Gas Gravity (Estimated)	0.650	0.650	0.650	0.650
Temperature Base ($^{\circ}$ F)	60	60	60	60
Pressure Base (Psia)	15.025	15.025	15.025	15.025
Coefficient (MCF/D)	0.2648	0.8393	1.087	1.672
Static Pressure (P_m)	1027	906	840	685
Supercompressibility Factor (F_{pv})	1.163	1.126	1.116	1.088
Flowing Temperature Factor (F_{tf})	1.034	1.020	1.020	1.014
Specific Gravity Factor (F_g)	1.240	1.240	1.240	1.240
GAS VOLUME (MCF/D)	406	1083	1289	1567
P_f	1162	1162	1162	1162
P_s	1121	1003	925	756
P_f^2 (Thousands)	1350	1350	1350	1350
P_s^2 (Thousands)	1257	1006	856	572
$P_f^2 - P_s^2$ (Thousands)	93	344	494	778

Company : Great Western Drilling Company
 Well : Decker No. 5
 Field : Aztec Pictured Cliffs
 County : San Juan
 State : New Mexico
 Date : November 29, 1978

BACK PRESSURE CURVE



$$Q_1 = 2800; \text{Log} = 6.44716$$

$$Q_2 = 1020; \text{Log} = 6.00860$$

$$n = 0.43856$$

$$\theta = 66.32^\circ$$