

TEFTELLER, INC.
RESERVOIR ENGINEERING DATA
Midland, Texas

Well : DECKER NO. 8

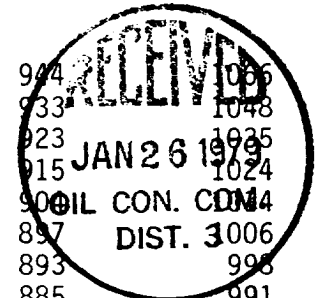
Page 1 of 7

Field : AZTEC PICTURED CLIFFS

File 2-9176-OFP & BU

CHRONOLOGICAL PRESSURE AND PRODUCTION DATA

1978 Date	Status of Well	Time	Elapsed Time Hrs. Min.	Daily Rate Gas MCF/D	Wellhead Pressure Casing	BHP @ 3273' Psig
11-29	Well shut-in					
"	Inst. @ 3273'	02:00			1028	1128
"	Open Rate #1					
"	1/8" plate	04:30	0 00			
"	"	04:45	0 15		1023	1122
"	"	05:00	0 30		1013	1120
"	"	05:15	0 45		1008	1118
"	"	05:30	1 00		1007	1117
"	"	05:45	1 15		1007	1115
"	"	06:00	1 30		1005	1114
"	"	06:15	1 45		1005	1113
"	"	06:30	2 00	402	1005	1113
"	Shut-in	06:30	0 00			
"	"	08:30	2 00		1014	1123
"	Open Rate #2					
"	7/32" plate	08:30	0 00			
"	"	08:45	0 15		989	1105
"	"	09:00	0 30		985	1097
"	"	09:15	0 45		979	1091
"	"	09:30	1 00		975	1086
"	"	09:45	1 15		973	1083
"	"	10:00	1 30		966	1080
"	"	10:15	1 45		964	1078
"	"	10:30	2 00	1170	959	1075
"	Shut-in	10:30	0 00			
"	"	12:30	2 00		996	1109
"	Open Rate #3					
"	5/16" plate	12:30	0 00			
"	"	12:45	0 15		944	1066
"	"	13:00	0 30		933	1048
"	"	13:15	0 45		923	1035
"	"	13:30	1 00		915	1024
"	"	13:45	1 15		904	1014
"	"	14:00	1 30		897	1006
"	"	14:15	1 45		893	998
"	"	14:30	2 00	1918	885	991
"	Shut-in	14:30	0 00			
"	"	16:30	2 00		992	1081
"	Open Rate #4					
"	7/16" plate	16:30	0 00			
"	"	16:45	0 15		845	971



TEFTELLER, INC.
RESERVOIR ENGINEERING DATA
Midland, Texas

Well : DECKER NO. 8

Page 2 of 7

Field : AZTEC PICTURED CLIFFS

File 2-9176-OFP & BU

CHRONOLOGICAL PRESSURE AND PRODUCTION DATA

1978 Date	Status of Well	Time	Elapsed Time Hrs. Min.	Daily Rate Gas MCF/D	Wellhead Pressure Casing	BHP @ 3273' Psig
11-29	Cont'd. flowing	17:00	0 30		808	930
"	"	17:15	0 45		784	898
"	"	17:30	1 00		764	875
"	"	17:45	1 15		745	842
"	"	18:00	1 30		729	836
"	"	18:15	1 45		715	819
"	"	18:30	2 00	3347	700	807
"	Shut-in for					
"	build up	18:30	0 00			
"	"	18:36	0 06			890
"	"	18:42	0 12			921
"	"	18:48	0 18			942
"	"	18:54	0 24			954
"	"	19:00	0 30			968
"	"	19:06	0 36			978
"	"	19:12	0 42			985
"	"	19:18	0 48			992
"	"	19:24	0 54			998
"	"	19:30	1 00			1003
"	"	20:00	1 30			1021
"	"	20:30	2 00			1032
"	"	21:30	3 00			1048
"	"	22:30	4 00			1056
"	"	23:30	5 00			1063
11-30	"	00:30	6 00			1068
"	"	01:30	7 00			1072
"	"	02:30	8 00			1076
"	"	03:30	9 00			1079
"	"	04:30	10 00			1082
"	"	06:30	12 00			1086
"	"	08:30	14 00			1090
"	"	10:30	16 00			1093
"	"	12:30	18 00			1095
"	"	14:30	20 00			1097
"	"	16:30	22 00			1099
"	"	18:30	24 00			1101
"	"	22:30	28 00			1104
12-1	"	02:30	32 00			1106
"	"	06:30	36 00			1108
"	"	10:30	40 00			1109
"	"	20:30	50 00			1112

TEFTELLER, INC.
RESERVOIR ENGINEERING DATA
Midland, Texas

Well : DECKER NO. 8

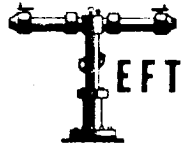
Page 3 of 7

Field : AZTEC PICTURED CLIFFS

File 2-9176-OFP & BU

CHRONOLOGICAL PRESSURE AND PRODUCTION DATA

1978 Date	Status of Well	Time	Elapsed Time Hrs. Min.	Daily Rate Gas MCF/D	Wellhead Pressure Casing	BHP @ 3273' Psig
12-2	Cont'd. shut-in	06:30	60 00			1114
"	"	16:30	70 00			1116
12-3	"	02:30	80 00			1118
"	"	22:30	100 00			1119
12-4	"	11:30	113 00			1120
"	Gradient Traverse	12:30	114 00		1024	1120



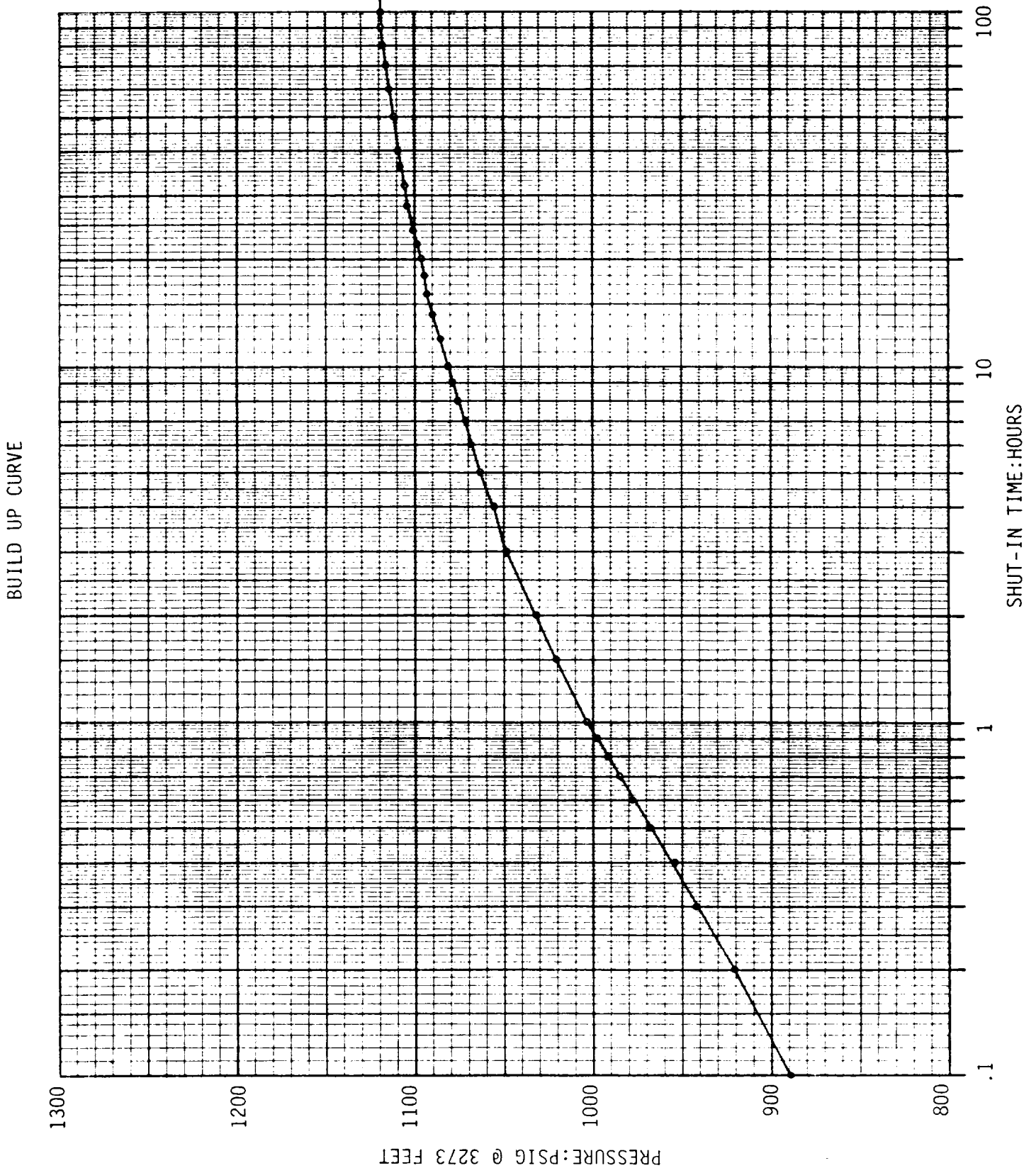
EFTTELLER, INC.

reservoir engineering data

MIDLAND, TEXAS

Page 4 of 7
File 2-9176-0FP & BU

Company	GREAT WESTERN DRILLING COMPANY	Formation	PICTURED CLIFFS
Well	DECKER NO. 8	County	SAN JUAN
Field	AZTEC PICTURED CLIFFS	State	NEW MEXICO





Company GREAT WESTERN DRILLING COMPANY Lease DECKER Well No. 8
Field AZTEC PICTURED CLIFFS County SAN JUAN State NEW MEXICO
Formation ICTURED CLIFFS Test Date DECEMBER 4, 1978

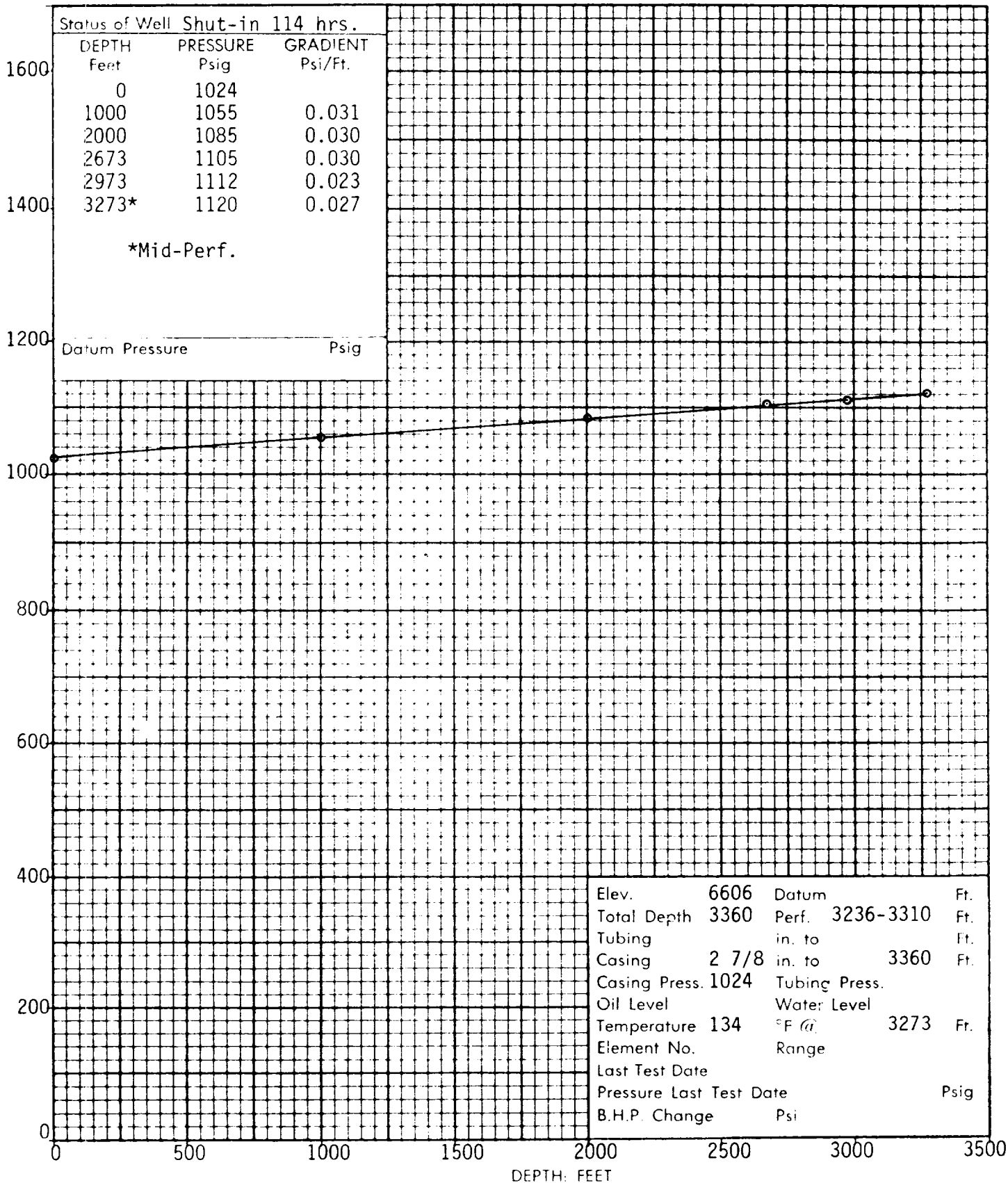
Status of Well Shut-in 114 hrs.

DEPTH Feet	PRESSURE Psig	GRADIENT Psi/Ft.
0	1024	
1000	1055	0.031
2000	1085	0.030
2673	1105	0.030
2973	1112	0.023
3273*	1120	0.027

*Mid-Perf.

Datum Pressure Psig

PRESSURE POUNDS PER SQUARE INCH GAUGE



Elev.	6606	Datum		Ft.
Total Depth	3360	Perf.	3236-3310	Ft.
Tubing		in. to		Ft.
Casing	2 7/8	in. to	3360	Ft.
Casing Press.	1024	Tubing Press.		
Oil Level		Water Level		
Temperature	134	°F @	3273	Ft.
Element No.		Range		
Last Test Date				
Pressure Last Test Date				Psig
B.H.P. Change		Psi		

TEFTELLER, INC.
RESERVOIR ENGINEERING DATA
Midland, Texas

Well : DECKER NO. 8

Page 6 of 7

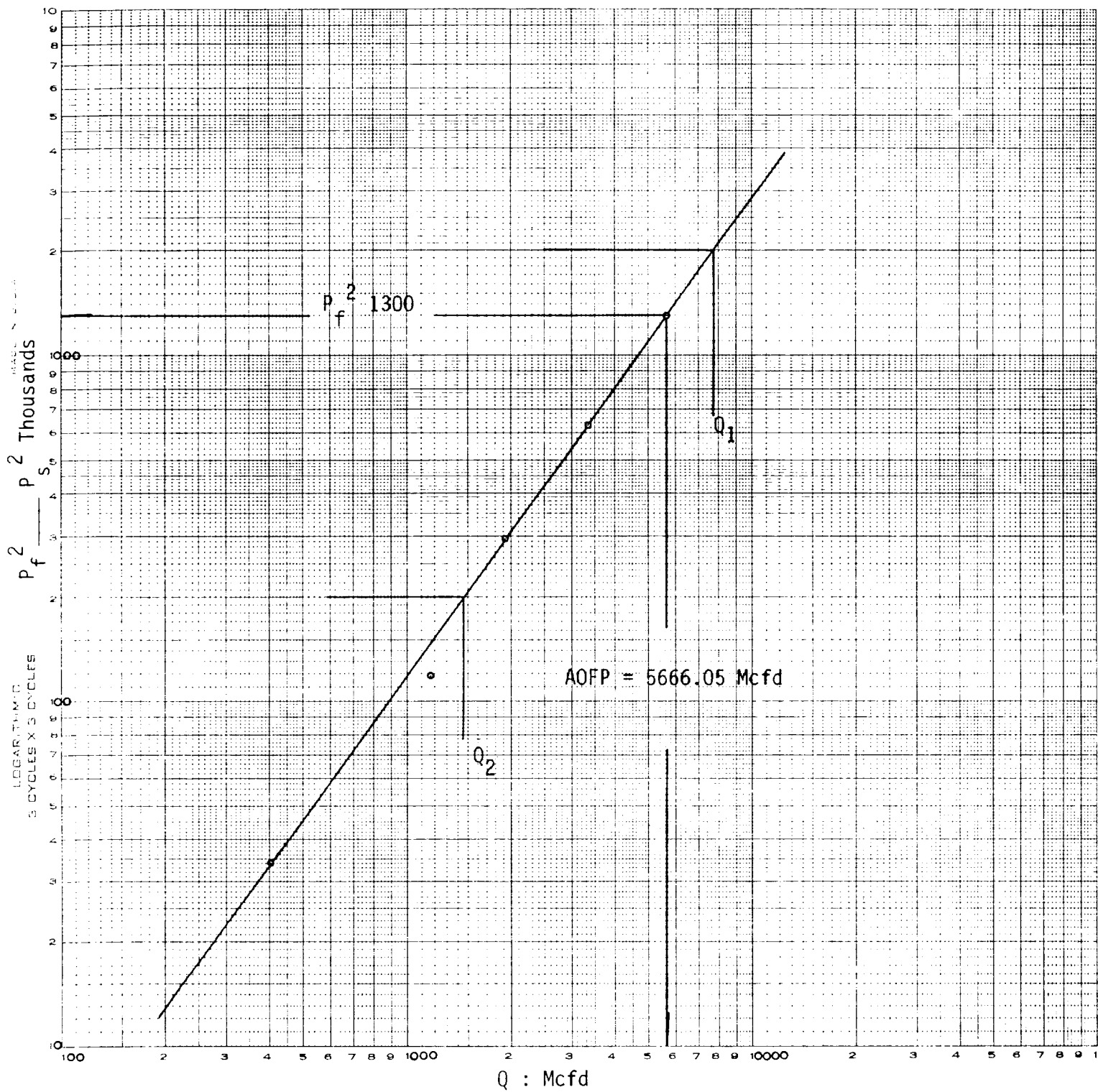
Field : AZTEC PICTURED CLIFFS

File 2-9176-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	5/16	7/16
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	5/16	7/16
Flowing Temperature ($^{\circ}\text{F}$)	26	40	41	45
Gas Gravity (Estimated)	0.650	0.650	0.650	0.650
Temperature Base ($^{\circ}\text{F}$)	60	60	60	60
Pressure Base (Psia)	15.025	15.025	15.025	15.025
Coefficient (MCF/D)	0.2648	0.8393	1.672	3.408
Static Pressure (P_m)	1017	971	897	712
Supercompressibility Factor (F_{pv})	1.163	1.135	1.121	1.096
Flowing Temperature Factor (F_{tf})	1.034	1.020	1.019	1.105
Specific Gravity Factor (F_g)	1.240	1.240	1.240	1.240
GAS VOLUME (MCF/D)	402	1170	1918	3347
P_f	1140	1140	1140	1140
P_s	1125	1087	1003	819
P_f^2 (Thousands)	1300	1300	1300	1300
P_s^2 (Thousands)	1266	1182	1006	671
$P_f^2 - P_s^2$ (Thousands)	34	118	294	629

Company : Great Western Drilling Company
 Well : Decker No. 8
 Field : Aztec Pictured Cliffs
 County : San Juan
 State : New Mexico
 Date : November 29, 1978



$$Q_1 = 7700; \text{Log} = 6.88649$$

$$Q_2 = 1450; \text{Log} = 6.16137$$

$$n = 0.72512$$

$$\theta = 54.0533^\circ$$