

TEFTELLER, INC.
RESERVOIR ENGINEERING DATA
Midland, Texas

Well : DECKER NO. 4

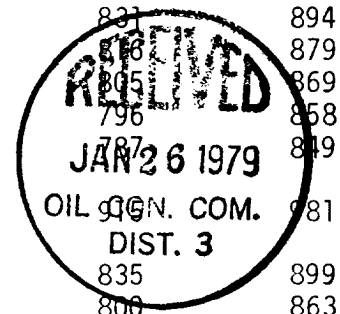
Page 1 of 7

Field : AZTEC PICTURED CLIFFS

File 2-9095-AOF&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 @ 2660' Psig
11-29	Shut-in inst. @ 2660'	04:45			1005	1078
"	Rate #1, 1/8" Plate	04:45	0 00			
"	"	05:00	0 15		985	1057
"	"	05:15	0 30		978	1049
"	"	05:30	0 45		972	1042
"	"	05:45	1 00		967	1036
"	"	06:00	1 15		962	1032
"	"	06:15	1 30		958	1028
"	"	06:30	1 45		955	1025
"	"	06:45	2 00	376	952	1021
"	Shut-in	06:45	0 00			
"	"	08:45	2 00		985	1057
"	Rate #2, 3/16" Plate	08:45	0 00			
"	"	09:00	0 15		941	1008
"	"	09:15	0 30		921	989
"	"	09:30	0 45		907	975
"	"	09:45	1 00		896	963
"	"	10:00	1 15		887	953
"	"	10:15	1 30		878	943
"	"	10:30	1 45		872	936
"	"	10:45	2 00	761	868	928
"	Shut-in	10:45	0 00			
"	"	12:45	2 00		951	1020
"	Rate #3, 7/32" Plate	12:45	0 00			
"	"	13:00	0 15		886	956
"	"	13:15	0 30		860	928
"	"	13:30	0 45		842	907
"	"	13:45	1 00		831	894
"	"	14:00	1 15		816	879
"	"	14:15	1 30		805	869
"	"	14:30	1 45		796	858
"	"	14:45	2 00	952	787	849
"	Shut-in	14:45	0 00			
"	"	16:45	2 00			
"	Rate #4, 1/4" Plate	16:45	0 00			
"	"	17:00	0 15		835	899
"	"	17:15	0 30		800	863



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Page 2 of 7

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CHRONOLOGICAL PRESSURE AND PRODUCTION DATA

1978 Date	Status of Well	Time	Elapsed Time Hrs. Min.	Daily Rate Gas MCF/D	Wellhead Pressure Casing	BHP @ 2660' KB Psig
11-29	Cont'd Flowing (1/4" plate)	17:30	0 45		777	838
"	"	17:45	1 00		757	817
"	"	18:00	1 15		741	801
"	"	18:15	1 30		727	788
"	"	18:30	1 45		717	776
"	"	18:45	2 00	1097	705	765
"	Shut-in for build up	18:45	0 00			
"	"	18:51	0 06			806
"	"	18:57	0 12			830
"	"	19:03	0 18			849
"	"	19:09	0 24			863
"	"	19:15	0 30			873
"	"	19:21	0 36			881
"	"	19:27	0 42			889
"	"	19:33	0 48			897
"	"	19:39	0 54			903
"	"	19:45	1 00			909
"	"	20:15	1 30			927
"	"	20:45	2 00			940
"	"	21:45	3 00			959
"	"	22:45	4 00			971
"	"	23:45	5 00			979
11-30	"	00:45	6 00			987
"	"	01:45	7 00			993
"	"	02:45	8 00			999
"	"	03:45	9 00			1003
"	"	04:45	10 00			1007
"	"	06:45	12 00			1012
"	"	08:45	14 00			1017
"	"	10:45	16 00			1021
"	"	14:45	20 00			1027
"	"	18:45	24 00			1031
12-1	"	00:45	30 00			1036
"	"	10:45	40 00			1044
"	"	20:45	50 00			1049
12-2	"	06:45	60 00			1054
"	"	16:45	70 00			1058
12-3	"	02:45	80 00			1061
"	"	12:45	90 00			1064

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Page 3 of 7

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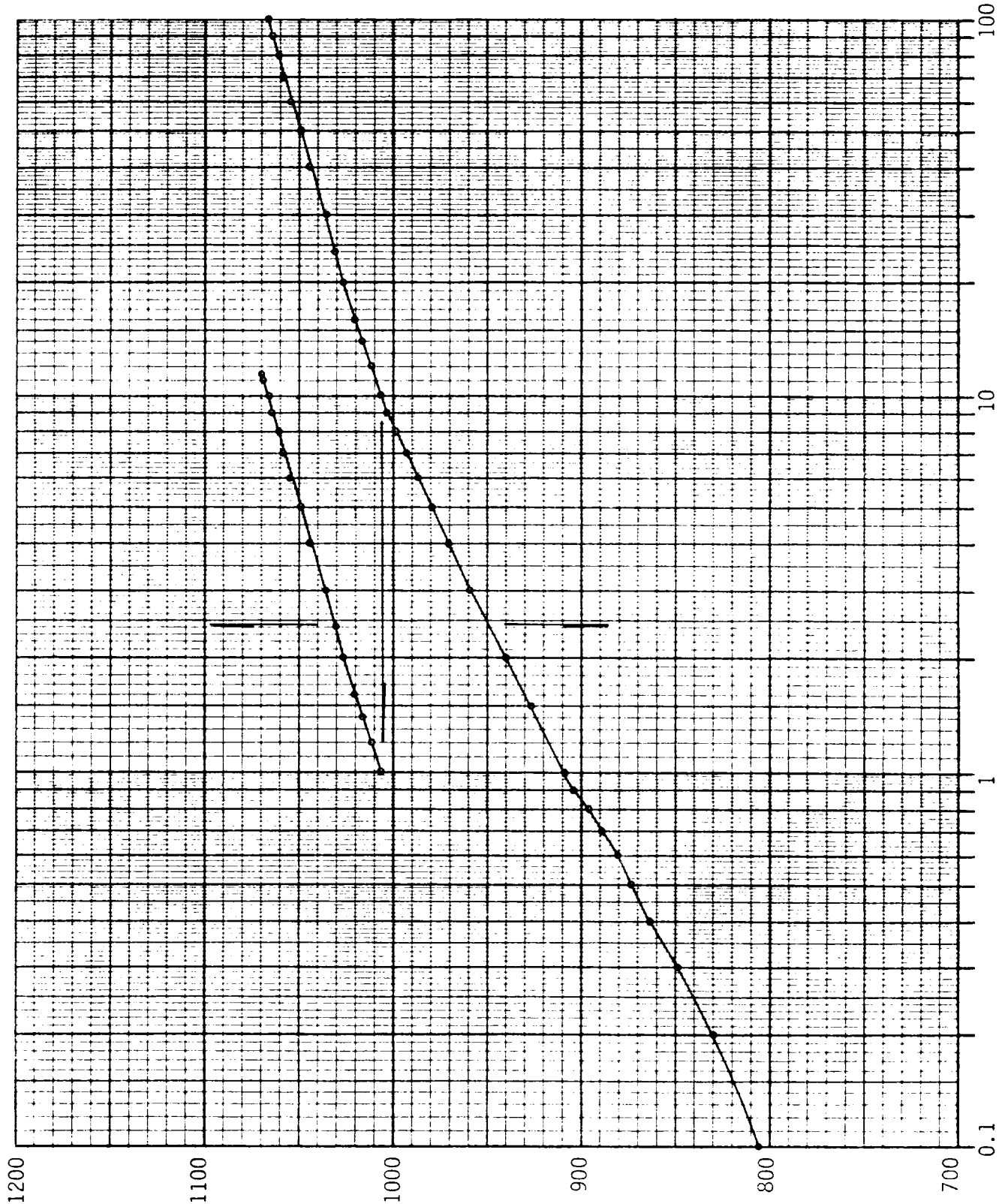
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CHRONOLOGICAL PRESSURE AND PRODUCTION DATA

1978 Date	Status of Well	Time	Elapsed Time Hrs. Min.	Daily Rate Gas MCF/D	Wellhead Pressure Casing	BHP @ 2660' KB Psig
12-3	Cont'd Shut-in	22:45	100 00			1066
12-4	"	08:45	110 00			1069
"	"	12:45	114 00			1070
"	Gradient Traverse	13:45	115 00		992	1070

Company	GREAT WESTERN DRILLING COMPANY	Formation	PICTURED CLIFFS
Well	DECKER NO. 4	County	SAN JUAN
Field	AZTEC PICTURED CLIFFS	State	NEW MEXICO

BUILD UP CURVE



SHUT-IN TIME: HOURS

PRESSURE : PSIG @ 2660 FEET



reservoir engineering data
MIDLAND, TEXAS

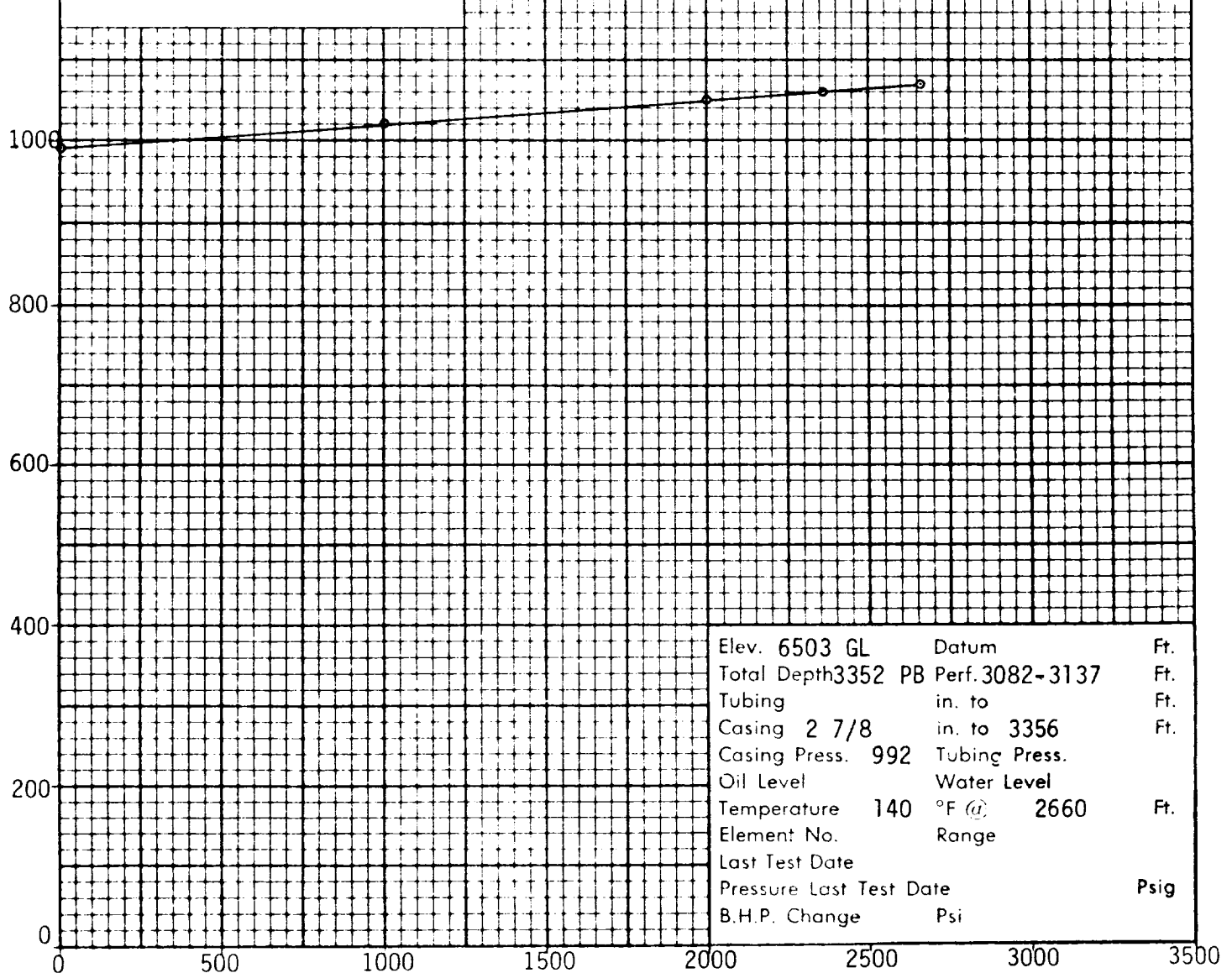
Page 5 of 7
File 2-9095-AOF&BU

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

Status of Well Shut-in 115 hours

DEPTH Feet	PRESSURE Psig	GRADIENT Psi/Ft.
0	992	
1000	1021	0.029
2000	1050	0.029
2360	1061	0.031
2660	1070	0.030
3010 Mid-Perf	1081	0.030

Datum Pressure Psig



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Page 6 of 7

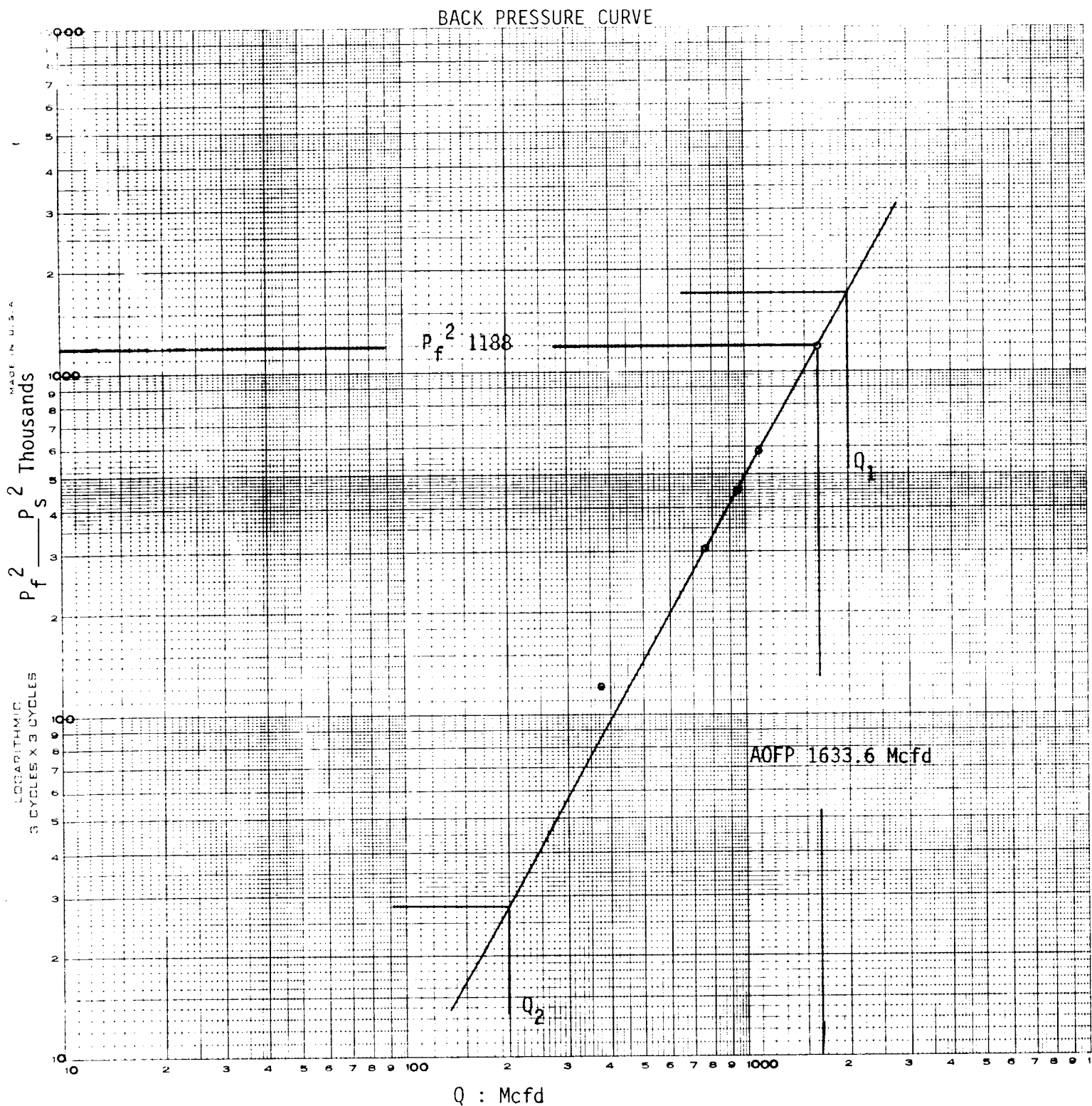
Field : AZTEC PICTURED CLIFFS

File 2-9095 AOF & 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	3/16	7/32	1/4
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	3/16	7/32	1/4
Flowing Temperature ($^{\circ}\text{F}$)	27	34	32	31
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	0.6082	0.8393	1.087
Static Pressure (P_m) (Psia)	964	880	799	717
Supercompressibility Factor (F_{pv})	1.151	1.116	1.114	1.103
Flowing Temperature Factor (F_{tf})	1.033	1.026	1.028	1.029
Specific Gravity Factor (F_g)	1.240	1.240	1.240	1.240
GAS VOLUME (MCF/D)	376	761	952	1097
P_f	1090	1090	1090	1090
P_s	1033	940	861	777
P_f^2 (Thousands)	1188	1188	1188	1188
P_s^2 (Thousands)	1067	884	741	604
$P_f^2 - P_s^2$ (Thousands)	121	304	447	584

Company : Great Western Drilling Company
 Well : Decker No. 4
 Field : Aztec Pictured Cliffs
 County : San Juan
 State : New Mexico
 Date : November 29, 1978



$$Q_1 = 2000; \text{Log } Q_1 = 6.0402$$

$$Q_2 = 200; \text{Log } Q_2 = 5.8814$$

$$n = 0.5601$$

$$\theta = 60.75^\circ$$