

Computer inventoried

Well Name:

Company :

Location - Sec:

County:

Date:

DRILL-STEM TEST DATA

API #15-075-20567

DANIAL MORGAN #1-18 13

AMOCO PROD CO

DRL

13

Twp: 21S

HAMILTON

State: KS

09/04/95

TIGHT HOLE

CONFIDENTIAL

Rge: 39W

ORIGINAL

RELEASED

MAR 16 1998

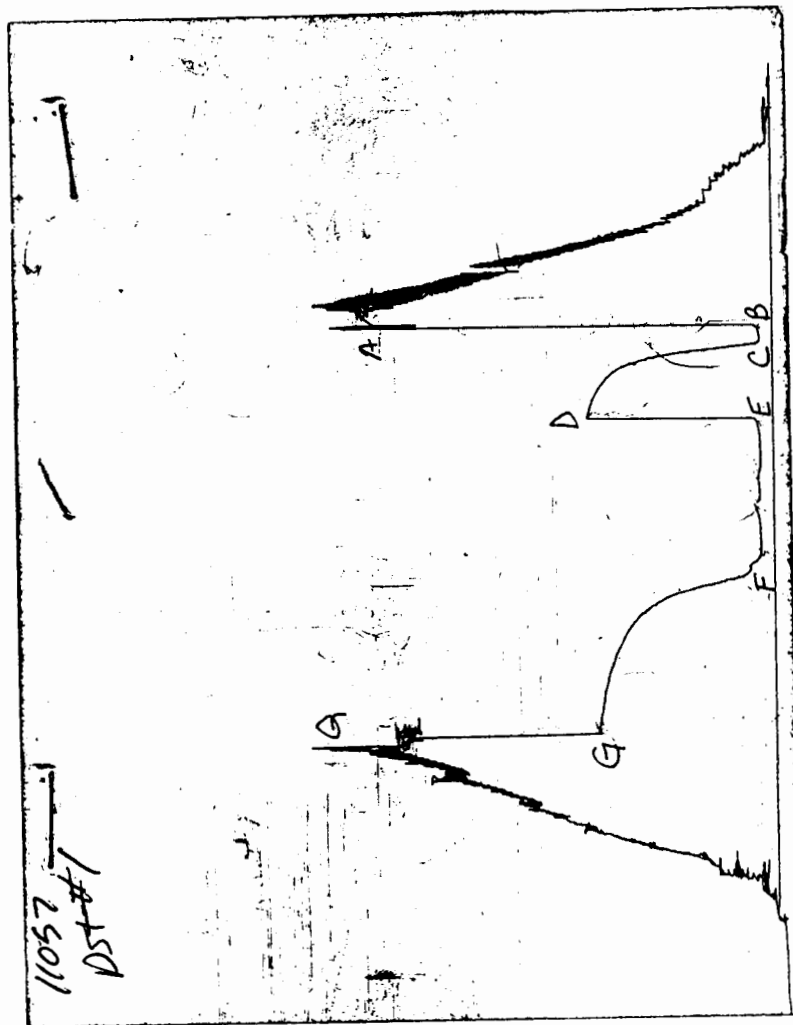
FROM CONFIDENTIAL

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SEP 13

CONFIDENTIAL

CHART PAGE



This is an actual photograph of recorder chart

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 8020 Danial Morgan 1-13 DST# 1 Amoco Prod. Co.

DATE: 09/04/95

TIME: 04:39:11

	Time	Pressure PSIg	delta P PSIg	Temp. DEG F	(T+dT)/dT	P^2/10^6
***** Initial Hydro.	150.00	2433.1	0.0	128.04		
***** Start Flow 1	0.00	21.6	0.0	127.90		
	2.00	23.7	2.0	127.62		
	4.00	23.8	2.2	127.37		
	6.00	25.6	3.9	127.21		
	8.00	26.8	5.1	127.10		
***** End Flow 1	10.00	27.5	5.9	127.03		
***** Start Shutin 1	0.00	27.5	0.0	127.03	0.0000	0.001
	2.00	40.5	13.0	127.02	6.0000	0.002
	4.00	94.1	66.6	127.06	3.5000	0.009
	6.00	209.1	181.6	127.14	2.6667	0.044
	8.00	372.5	344.9	127.24	2.2500	0.139
	10.00	524.1	496.6	127.35	2.0000	0.275
	12.00	644.5	617.0	127.47	1.8333	0.415
	14.00	735.1	707.6	127.57	1.7143	0.540
	16.00	804.2	776.7	127.70	1.6250	0.647
	18.00	857.1	829.6	127.80	1.5556	0.735
	20.00	898.0	870.5	127.91	1.5000	0.806
	22.00	930.8	903.2	127.98	1.4545	0.866
	24.00	956.8	929.2	128.06	1.4167	0.915
	26.00	978.8	951.2	128.15	1.3846	0.958
	28.00	996.9	969.4	128.22	1.3571	0.994
	30.00	1012.5	985.0	128.28	1.3333	1.025
	32.00	1025.8	998.3	128.36	1.3125	1.052
	34.00	1037.5	1010.0	128.42	1.2941	1.076
	36.00	1047.7	1020.2	128.48	1.2778	1.098
	38.00	1056.9	1029.4	128.55	1.2632	1.117
	40.00	1065.0	1037.5	128.63	1.2500	1.134
	42.00	1072.5	1045.0	128.69	1.2381	1.150
	44.00	1079.3	1051.8	128.76	1.2273	1.165
	46.00	1085.3	1057.8	128.82	1.2174	1.178
	48.00	1091.1	1063.5	128.90	1.2083	1.190
	50.00	1096.2	1068.7	128.98	1.2000	1.202
	52.00	1101.1	1073.6	129.09	1.1923	1.212
	54.00	1105.5	1078.0	129.20	1.1852	1.222
	56.00	1109.6	1082.1	129.39	1.1786	1.231
	58.00	1113.5	1086.0	129.37	1.1724	1.240
***** End Shut-in 1	60.00	1116.1	1088.5	129.39	1.1667	1.246
***** Start Flow 2	0.00	33.1	0.0	129.39		
	2.00	37.2	4.1	129.26		
	4.00	39.9	6.9	129.05		
	6.00	36.8	3.7	128.88		
	8.00	37.8	4.7	128.81		
	10.00	40.4	7.3	128.80		
	12.00	37.8	4.8	128.83		
	14.00	53.7	20.6	128.91		
	16.00	57.8	24.8	129.09		
	18.00	51.4	18.3	129.27		
	20.00	57.3	24.3	129.38		
	22.00	42.1	9.1	129.39		
	24.00	47.4	14.4	129.39		

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 8020 Danial Morgan 1-13 DST# 1 Amoco Prod. Co.

DATE: 09/04/95

TIME: 04:39:11

Time	Pressure PSIg	delta P PSIg	Temp. DEG F	(T+dT)/dT	P^2/10^6
26.00	44.1	11.0	129.40		
28.00	50.9	17.8	129.40		
30.00	44.6	11.6	129.40		
32.00	56.9	23.8	129.41		
34.00	52.4	19.3	129.40		
36.00	59.9	26.9	129.41		
38.00	72.6	39.5	129.41		
40.00	85.7	52.6	129.43		
42.00	63.9	30.9	129.44		
44.00	91.4	58.3	129.52		
46.00	127.2	94.2	129.68		
48.00	49.1	16.0	129.85		
50.00	58.6	25.5	129.93		
52.00	50.4	17.4	129.96		
54.00	58.0	24.9	129.98		
56.00	56.2	23.2	130.04		
58.00	60.3	27.3	130.11		
60.00	66.4	33.3	130.22		
62.00	90.7	57.7	130.32		
64.00	118.8	85.8	130.37		
66.00	144.7	111.6	130.44		
68.00	81.2	48.2	130.49		
70.00	67.1	34.1	130.52		
72.00	53.8	20.7	130.54		
74.00	54.5	21.5	130.55		
76.00	55.0	22.0	130.60		
78.00	55.3	22.2	130.67		
80.00	55.7	22.7	130.73		
82.00	56.2	23.2	130.76		
84.00	60.8	27.7	130.78		
86.00	57.3	24.3	130.80		
88.00	57.8	24.8	130.82		
90.00	58.2	25.1	130.85		
92.00	59.1	26.0	130.87		
94.00	59.7	26.6	130.93		
96.00	60.1	27.0	130.97		
98.00	63.0	30.0	131.02		
100.00	66.7	33.7	131.07		
102.00	72.3	39.2	131.09		
104.00	81.2	48.2	131.13		
106.00	100.5	67.4	131.15		
108.00	120.7	87.6	131.19		
110.00	154.1	121.0	131.22		
112.00	173.8	140.7	131.26		
114.00	108.2	75.1	131.29		
***** End Flow 2					
***** Start Shutin 2					
0.00	108.2	0.0	131.29	0.0000	0.012
2.00	141.9	33.7	131.33	63.0000	0.020
4.00	180.1	71.9	131.36	32.0000	0.032
6.00	224.2	116.1	131.39	21.6667	0.050
8.00	287.5	179.4	131.43	16.5000	0.083
10.00	357.8	249.6	131.48	13.4000	0.128

 ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 8020 Danial Morgan 1-13 DST# 1 Amoco Prod. Co.

DATE: 09/04/95

 TIME: 04:39:11

Time	Pressure PSig	delta P PSig	Temp. DEG F	(T+dT)/dT	P ² /10 ⁶
12.00	429.3	321.1	131.55	11.3333	0.184
14.00	496.1	387.9	131.59	9.8571	0.246
16.00	556.2	448.0	131.66	8.7500	0.309
18.00	608.6	500.4	131.70	7.8889	0.370
20.00	653.5	545.3	131.75	7.2000	0.427
22.00	692.1	584.0	131.79	6.6364	0.479
24.00	725.0	616.9	131.84	6.1667	0.526
26.00	753.7	645.6	131.87	5.7692	0.568
28.00	778.3	670.2	131.91	5.4286	0.606
30.00	799.9	691.7	131.95	5.1333	0.640
32.00	818.8	710.6	131.99	4.8750	0.670
34.00	835.6	727.4	132.03	4.6471	0.698
36.00	850.8	742.6	132.06	4.4444	0.724
38.00	864.4	756.2	132.09	4.2632	0.747
40.00	876.8	768.6	132.13	4.1000	0.769
42.00	888.1	779.9	132.15	3.9524	0.789
44.00	898.4	790.3	132.17	3.8182	0.807
46.00	908.2	800.0	132.21	3.6957	0.825
48.00	917.2	809.0	132.23	3.5833	0.841
50.00	925.5	817.4	132.26	3.4800	0.857
52.00	933.4	825.3	132.28	3.3846	0.871
54.00	940.7	832.6	132.31	3.2963	0.885
56.00	947.7	839.5	132.34	3.2143	0.898
58.00	954.3	846.1	132.36	3.1379	0.911
60.00	960.6	852.5	132.38	3.0667	0.923
62.00	966.4	858.2	132.40	3.0000	0.934
64.00	972.1	864.0	132.43	2.9375	0.945
66.00	977.5	869.3	132.45	2.8788	0.956
68.00	982.6	874.4	132.47	2.8235	0.966
70.00	987.7	879.5	132.50	2.7714	0.975
72.00	992.4	884.2	132.53	2.7222	0.985
74.00	996.9	888.7	132.56	2.6757	0.994
76.00	1001.3	893.1	132.57	2.6316	1.003
78.00	1005.4	897.2	132.60	2.5897	1.011
80.00	1009.5	901.3	132.62	2.5500	1.019
82.00	1013.4	905.2	132.66	2.5122	1.027
84.00	1017.0	908.9	132.66	2.4762	1.034
86.00	1020.7	912.5	132.68	2.4419	1.042
88.00	1024.2	916.0	132.69	2.4091	1.049
90.00	1027.6	919.4	132.70	2.3778	1.056
92.00	1031.0	922.8	132.73	2.3478	1.063
94.00	1034.1	925.9	132.74	2.3191	1.069
96.00	1037.2	929.0	132.78	2.2917	1.076
98.00	1040.0	931.9	132.80	2.2653	1.082
100.00	1043.0	934.8	132.83	2.2400	1.088
102.00	1045.8	937.6	132.85	2.2157	1.094
104.00	1048.6	940.4	132.87	2.1923	1.100
106.00	1051.2	943.0	132.90	2.1698	1.105
108.00	1053.8	945.6	132.91	2.1481	1.110
110.00	1056.3	948.1	132.92	2.1273	1.116
112.00	1058.7	950.6	132.95	2.1071	1.121

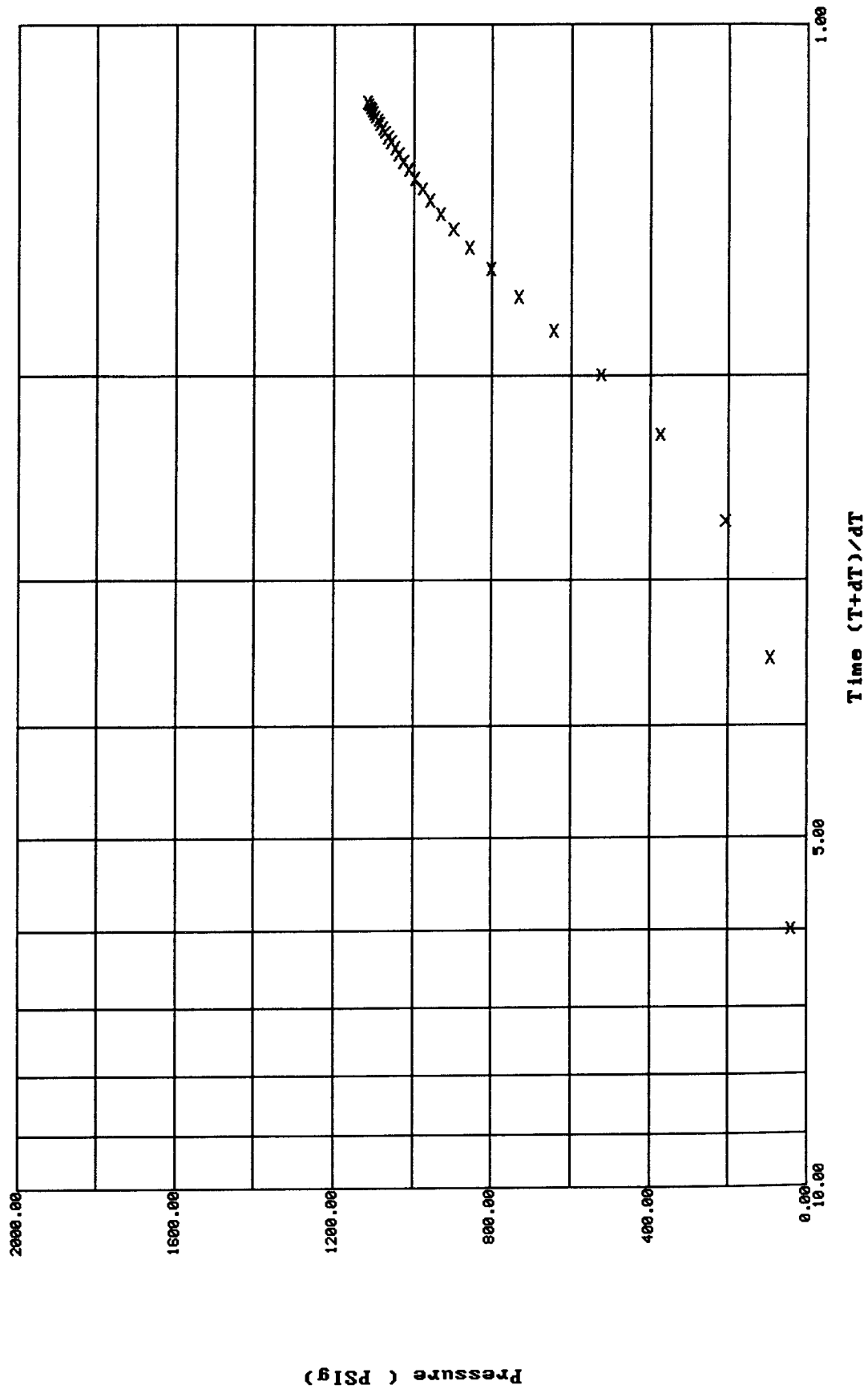
 ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 8020 Danial Morgan 1-13 DST# 1 Amoco Prod. Co.

DATE: 09/04/95 TIME: 04:39:11

	Time	Pressure PSig	delta P PSig	Temp. DEG F	(T+dT)/dT	P^2/10^6
	114.00	1061.1	952.9	132.97	2.0877	1.126
	116.00	1063.4	955.3	132.98	2.0690	1.131
	118.00	1065.5	957.4	133.00	2.0508	1.135
	120.00	1067.8	959.6	133.02	2.0333	1.140
***** End Shut-in 2	122.00	1069.9	961.7	133.05	2.0164	1.145
***** Final Hydro.	464.00	2368.6	0.0	133.17		

Horner Plot: shut-in #1 8020 Daniel Morgan 1-13 DST# 1 Amoco Prod. Co.



CONFIDENTIAL

TRILOBITE TESTING L.L.C.

ORIGINAL

OPERATOR : Amoco Prod Co
 WELL NAME: Daniel Morgan 1-13
 LOCATION : 13-21S-39W, Hamilton Cty
 INTERVAL : 4935.00 To 5023.00 ft

DATE 6-4-95
 KB 3406.39 ft TICKET NO: 8020 DST #1
 GR 3395.39 ft FORMATION: Morrow
 TD 5023.00 ft TEST TYPE: CONV.

RECORDER DATA

Mins	Field	1	2	3	4	TIME DATA-----
10 Rec.	11057	11057	2341			PF Fr. 0658 to 0708 hr
60 Range(Psi)	4500.0	4500.0	4995.0	0.0	0.0	IS Fr. 0708 to 0808 hr
120 Clock(hrs)	7452	7452				SF Fr. 0808 to 1008 hr
120 Depth(ft)	5018.0	5018.0	4936.0	0.0	0.0	FS Fr. 1008 to 1208 hr

	Field	1	2	3	4	
Init Hydro	2355.0	2362.0	2433.0	0.0	0.0	T STARTED 0500 hr
First Flow	78.0	80.0	22.0	0.0	0.0	T ON BOTM 0655 hr
Final Flow	67.0	73.0	28.0	0.0	0.0	T OPEN 0658 hr
In Shut-in	1102.0	1099.0	1116.0	0.0	0.0	T PULLED 1208 hr
Init Flow	78.0	70.0	33.0	0.0	0.0	T OUT 1430 hr
Final Flow	78.0	70.0	108.0	0.0	0.0	
Fl Shut-in	1045.0	1050.0	1070.0	0.0	0.0	TOOL DATA-----
Final Hydro	2298.0	2256.0	2369.0	0.0	0.0	Tool Wt. 5000.00 lbs
Inside/Outside	0	0	I			Wt Set On Packer 26000.00 lbs
						Wt Pulled Loose 108000.00 lbs
						Initial Str Wt 88000.00 lbs
						Unseated Str Wt 88000.00 lbs
						Bot Choke 0.75 in
						Hole Size 7.88 in
						D Col. ID 0.00 in
						D. Pipe ID 3.80 in
						D.C. Length 725.00 ft
						D.P. Length 4187.00 ft

RECOVERY

Tot Fluid 70.00 ft of 70.00 ft in DC and 0.00 ft in DP
 70.00 ft of Drilling Mud trace water few oil specks
 0.00 ft of
 0.00 ft of
 0.00 ft of
 0.00 ft of
 0.00 ft of
 0.00 ft of

RW .98 @ 75 F

SALINITY 5900.00 P.P.M. A.P.I. Gravity 0.00

BLOW DESCRIPTION

Initial Blow -
 Surface blow .125", died in 5 min

Initial Shutin -
 No return blow

Final Blow -
 Bubble to open tool, no blow

Final Shutin -

SAMPLES:
 SENT TO:

Test Successful: Y

MUD DATA-----
 Mud Type Chemical
 Weight 9.20 lb/cf
 Vis. 55.00 S/L
 W.L. 8.60 in3
 F.C. 0.00 in
 Mud Drop N
 Amt. of fill 0.00 ft
 Btm. H. Temp. 133.00 F
 Hole Condition good
 % Porosity 0.00
 Packer Size 6.75 in
 No. of Packers 2
 Cushion Amt. 0.00
 Cushion Type
 Reversed Out N
 Tool Chased N
 Tester Shane McBride
 Co. Rep. Chuck Schmaltz
 Contr. Cheyenne
 Rig # 3
 Unit #
 Pump T.

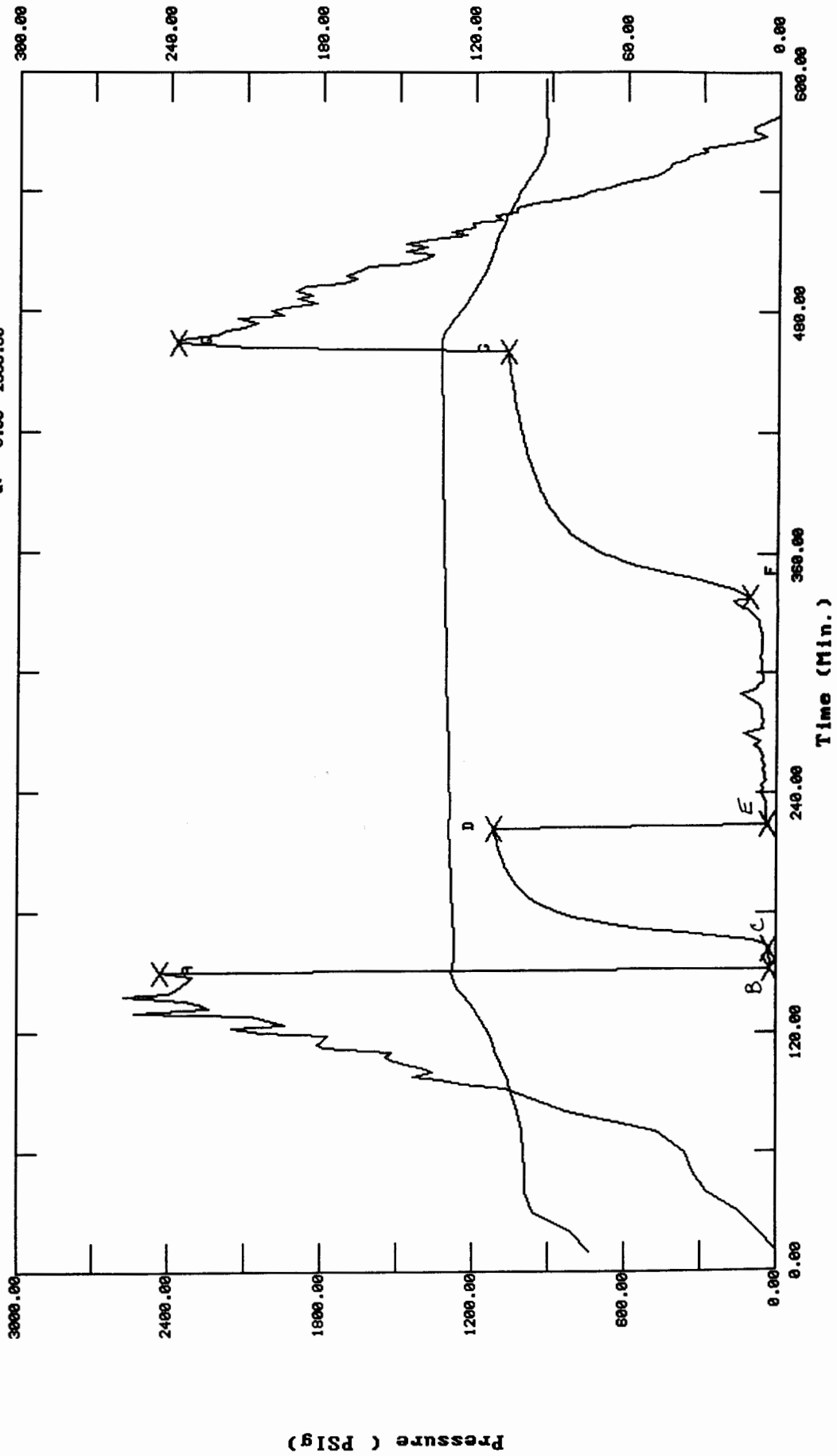
TEST HISTORY

8020 Danial Morgan 1-13 DST# 1 Amoco Prod. Co.

Flag Points

t (Min.) PK PSig

A:	0.00	2433.06
B:	0.00	21.64
C:	10.00	27.52
D:	60.00	1116.06
E:	0.00	33.86
F:	114.00	108.17
G:	122.00	1069.90
Q:	0.00	2368.60



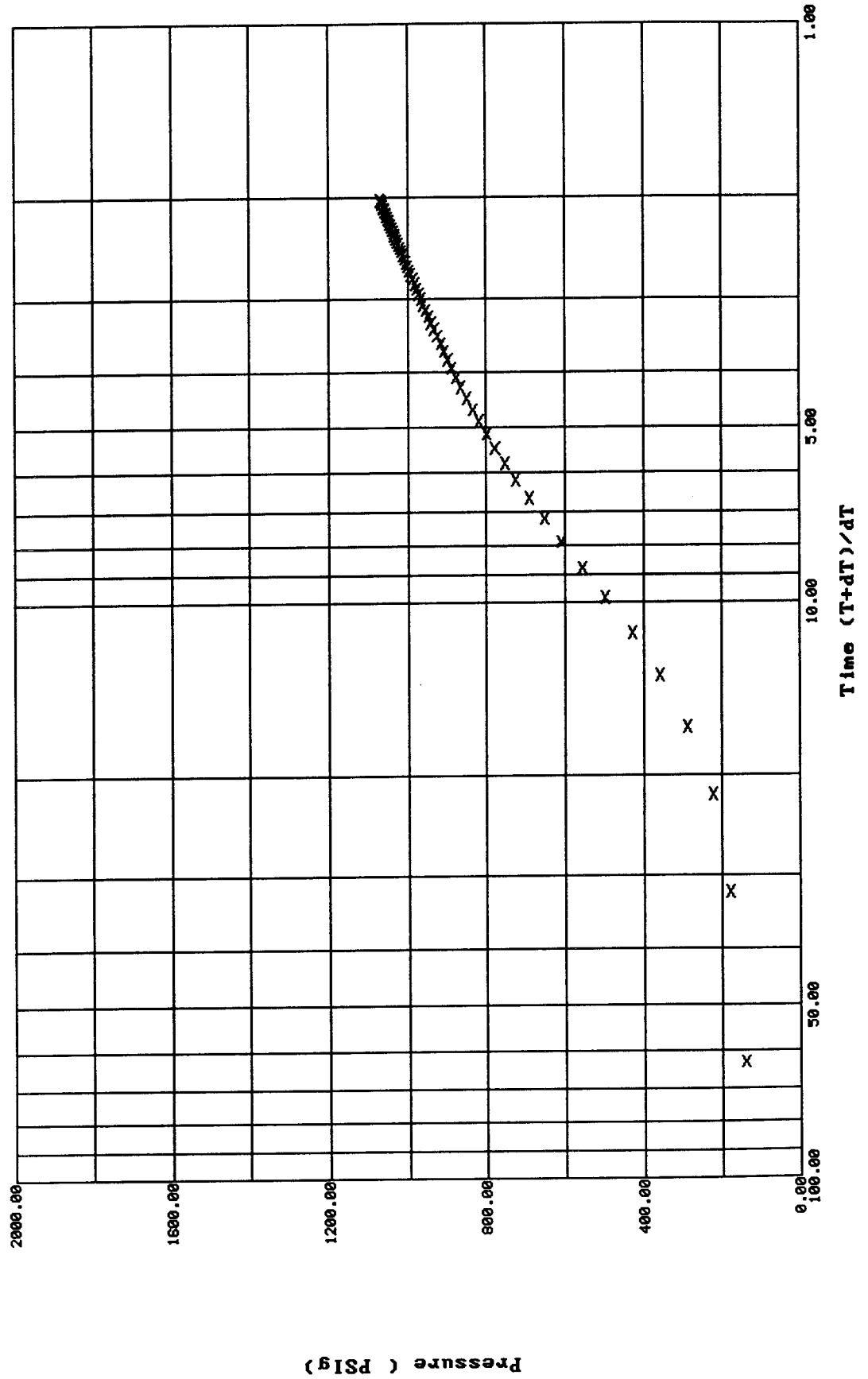
Temperature (DEG F)

Pressure (PSig)

Time (Min.)

52611

Horner Plot: shut-in #2 8828 Danial Morgan 1-13 DST# 1 Amoco Prod. Co.



*** TOOL DIAGRAM *** CONV.

WELL NAME: Daniel Morgan 1-13

LOCATION : 13-21S-39W, Hamilton Cty

TICKET No. 8020 D.S.T. No. 1 DATE 6-4-95

TOTAL TOOL TO BOTTOM OF TOP PACKERS 28

INTERVAL TOOL

BOTTOM PACKERS AND ANCHOR 88

TOTAL TOOL 116

DRILL COLLAR ANCHOR IN INTERVAL 725

D.C. ANCHOR STND.Stands0 Single 0 Total 0

D.P. ANCHOR STND.Stands 1 Single 0 Total 63

TOTAL ASSEMBLY 63

D.C. ABOVE TOOLS.Stands12 Single 0 Total 725

D.P. ABOVE TOOLS.Stands67 Single Total 4187

TOTAL DRILL COLLARS DRILL PIPE & TOOLS .. 5030

TOTAL DEPTH 5023

TOTAL DRILL PIPE ABOVE K.B. 7

REMARKS:

P.O. SUB

C.O. SUB double pin 4912

S.I. TOOL 5' 4913

H.M.V. 5' 4918

JARS 5' 4923

SAFETY JOINT 2' 4928

PACKER top 4930

PACKER bottom 4935

DEPTH 4935

STUBB 1'-perf 4936

ANCHOR

5'-PERF 4936

5'-PERF 4941

5'-PERF 4946

T.C.

DEPTH

1' PERF 4951

3'-PERF 4952

63'-DRILL PIPE 4955

BULLNOSE

T.D. 5'-PERF 5018