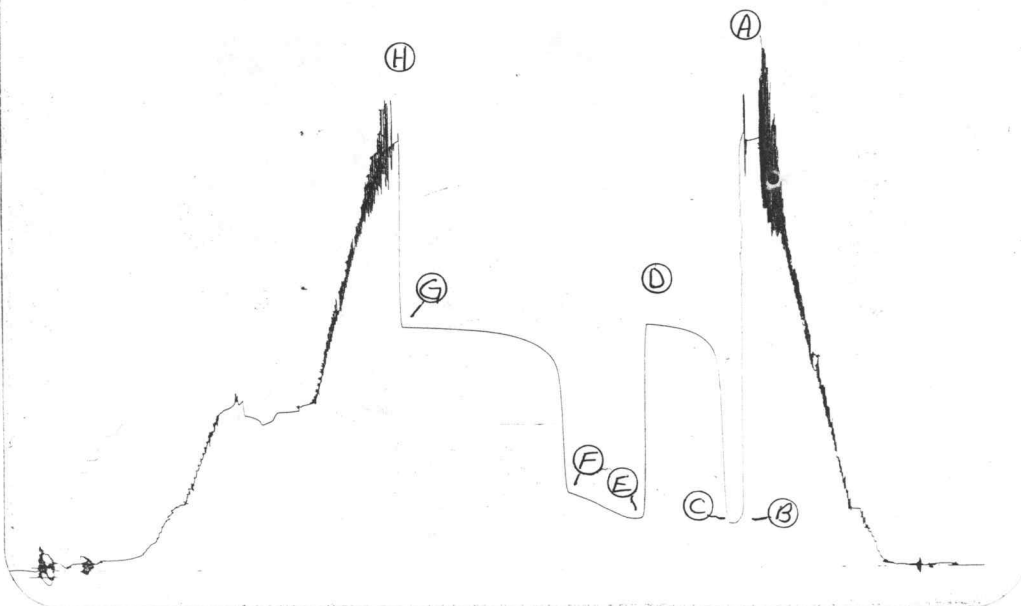


1562
DST #1
TOP

Ticket # 19739

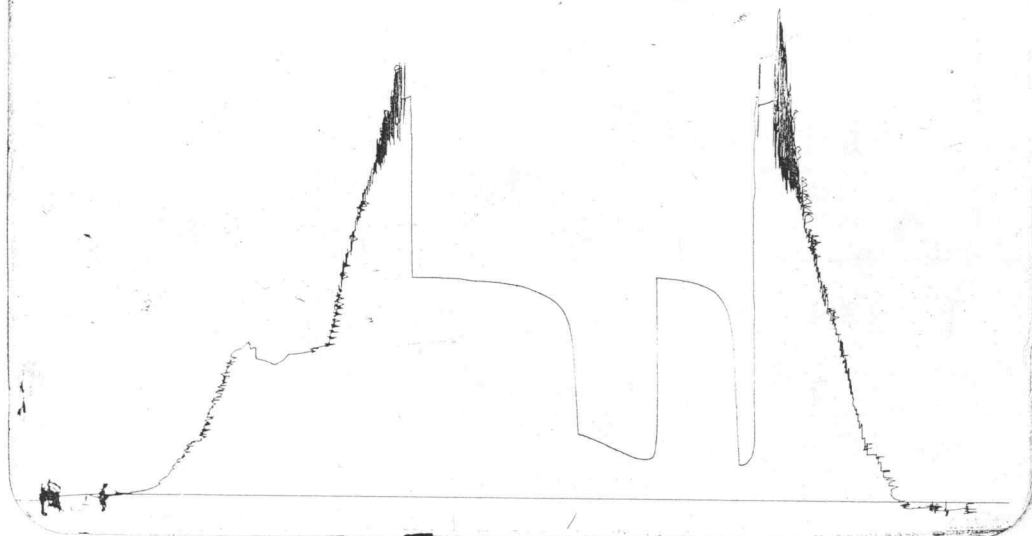
I



2605,
DST #
Bottom

Ticket # 19739

O



DST REPORT

GENERAL INFORMATION

DATE	: 3-24-95	TICKET	: 19739
CUSTOMER	: HELMERICH & PAYNE, INC.	LEASE	: GROTH
WELL	: #A-1	TEST:	1
ELEVATION	: 2975 KB	GEOLOGIST	: BRAD RINE
SECTION	: 32	FORMATION	: KANSAS CITY "B"
RANGE	: 33W	TOWNSHIP	: 29S
COUNTY	: HASKELL	STATE	: KS
GAUGE SN#	: ELEC 01157	RANGE	: 12
		CLOCK	: 12

WELL INFORMATION

PERFORATION INTERVAL FROM:	4598.00 ft	TO:	4635.00 ft	TVD:	4635.0 ft
DEPTH OF SELECTIVE ZONE:				TEST TYPE:	OIL
DEPTH OF RECORDERS:	4600.0 ft		4620.0 ft		
TEMPERATURE:	126.0				
DRILL COLLAR LENGTH:	600.0 ft	I.D.:		2.250 in	
WEIGHT PIPE LENGTH :	0.0 ft	I.D.:		0.000 in	
DRILL PIPE LENGTH :	3967.0 ft	I.D.:		3.800 in	
TEST TOOL LENGTH :	31.0 ft	TOOL SIZE :		5.500 in	
ANCHOR LENGTH :	37.0 ft	ANCHOR SIZE:		5.500 in	
SURFACE CHOKE SIZE :	0.750 in	BOTTOM CHOKE SIZE:		0.750 in	
MAIN HOLE SIZE :	7.875 in	TOOL JOINT SIZE :		4.5 X.H.	
PACKER DEPTH:	4593.0 ft	SIZE:		6.630 in	
PACKER DEPTH:	4598.0 ft	SIZE:		6.630 in	
PACKER DEPTH:	0.0 ft	SIZE:		0.000 in	
PACKER DEPTH:	0.0 ft	SIZE:		0.000 in	

MUD INFORMATION

DRILLING CON. :	CHEYENNE RIG #7	VISCOSITY :	46.00 cp
MUD TYPE :	CHEMICAL POLY	WATER LOSS:	8.800 cc
WEIGHT :	8.800 ppg		
CHLORIDES :	600 ppm	SERIAL NUMBER:	401
JARS-MAKE :	W.T.C.	REVERSED OUT?:	YES
DID WELL FLOW?:	YES		

COMMENTS

Comment

INITIAL FLOW: STRONG BLOW, OFF BOTTOM OF BUCKET IN
3 MINUTES.
GAS TO SURFACE 2 MINUTES INTO INITIAL SHUT-IN.

DST REPORT (CONTINUED)

COMMENTS (CONTINUED)

Comment

SEE GAS FLOW REPORT FOR MEASUREMENTS.

FLUID RECOVERY

Feet of Fluid	% Oil	% Gas	% Water	% Mud	Comments
1491.0	100.0	0.0	0.0	0.0	FREE GASSY OIL
0.0	0.0	0.0	0.0	0.0	34 GRAV. CORRECTED TO 70
200.0	1.0	2.0	50.0	47.0	SL OIL, GAS C/MUDDY WATER
0.0	0.0	0.0	0.0	0.0	CHLORIDES - 36,000 ppm
0.0	0.0	0.0	0.0	0.0	RW 0.2 @ 80 DEG. F.

RATE INFORMATION

OIL VOLUME: 17.2796 STB
 GAS VOLUME: 0.1104 SCF
 MUD VOLUME: 0.4622 STB
 WATER VOLUME: 0.4917 STB
 TOTAL FLUID : 18.2336 STB

TOTAL FLOW TIME: 70.0000 min.
 AVERAGE OIL RATE: 355.6521 STB/D
 AVERAGE WATER RATE: 19.4385 STB/D

FIELD TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 2221.00

Description	Duration	p1	p End
INITIAL FLOW	15.00	240.00	250.00
INITIAL SHUT-IN	60.00		1262.00
FINAL FLOW	60.00	260.00	400.00
FINAL SHUT-IN	120.00		1252.00

FINAL HYDROSTATIC PRESSURE: 2191.00

DST REPORT (CONTINUED)

OFFICE TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 2214.00

Description	Duration	p1	p End
INITIAL FLOW	12.00	296.40	225.30
INITIAL SHUT-IN	60.00		1251.70
FINAL FLOW	58.00	626.70	402.70
FINAL SHUT-IN	120.00		1242.60

FINAL HYDROSTATIC PRESSURE: 2142.00

GAS FLOW REPORT

GENERAL INFORMATION

DATE : 3-24-95	TICKET : 19739
CUSTOMER : HELMERICH & PAYNE, INC.	LEASE : GROTH
WELL : #A-1 TEST: 1	GEOLOGIST: BRAD RINE
ELEVATION: 2975 KB	FORMATION: KANSAS CITY "B"
SECTION : 32	TOWNSHIP : 29S
RANGE : 33W COUNTY: HASKELL	STATE : KS
GAUGE SN#: ELEC 01157 RANGE :	CLOCK : 12

PRE FLOW

Time Guage (min)	Tester Type	Orifice Size	Pressure	Flow Desc.
---------------------	----------------	-----------------	----------	------------

SECOND FLOW

Time Guage (min)	Tester Type	Orifice Size	Pressure	Flow Desc.
10 MIN	MERLA	0.250	2.5 PSIG	14300 SCF/D
20 MIN	MERLA	0.250	1.5 PSIG	11020 SCF/D
30 MIN	MERLA	0.250	8" WATER	4760 SCF/D
40 MIN	MERLA	0.250	6" WATER	4120 SCF/D
50 MIN	MERLA	0.250	17" WATER	6930 SCF/D
60 MIN	MERLA	0.250	17" WATER	6930 SCF/D

PRESSURE TRANSIENT REPORT

GENERAL INFORMATION

DATE : 3-24-95	TICKET : 19739
CUSTOMER : HELMERICH & PAYNE, INC.	LEASE : GROTH
WELL : #A-1 TEST: 1	GEOLOGIST: BRAD RINE
ELEVATION: 2975 KB	FORMATION: KANSAS CITY "B"
SECTION : 32	TOWNSHIP : 29S
RANGE : 33W COUNTY: HASKELL	STATE : KS
GAUGE SN#: ELEC 01157 RANGE :	CLOCK : 12

INITIAL FLOW

Time (min)	Pressure	Delta P
0.00	296.40	296.40
2.00	219.00	-77.40
4.00	207.50	-11.50
6.00	194.40	-13.10
8.00	202.70	8.30
10.00	214.40	11.70
12.00	225.30	10.90

INITIAL SHUT IN

Time (min)	Pressure	Delta P	Horner T
2.00	461.30	461.30	0.00
4.00	890.70	429.40	0.00
6.00	1037.20	146.50	0.00
8.00	1097.80	60.60	0.00
10.00	1132.60	34.80	0.00
12.00	1156.00	23.40	0.00
14.00	1172.50	16.50	0.00
16.00	1185.30	12.80	0.00
18.00	1195.10	9.80	0.00
20.00	1203.30	8.20	0.00
22.00	1219.70	16.40	0.00
24.00	1214.90	-4.80	0.00
26.00	1219.80	4.90	0.00
28.00	1224.00	4.20	0.00
30.00	1227.00	3.00	0.00
32.00	1230.70	3.70	0.00
34.00	1233.00	2.30	0.00
36.00	1235.60	2.60	0.00
38.00	1237.90	2.30	0.00

PRESSURE TRANSIENT REPORT (CONTINUED)

INITIAL SHUT IN (CONTINUED)

Time (min)	Pressure	Delta P	Horner T
40.00	1239.40	1.50	0.00
42.00	1241.60	2.20	0.00
44.00	1243.10	1.50	0.00
46.00	1244.60	1.50	0.00
48.00	1245.70	1.10	0.00
50.00	1246.80	1.10	0.00
52.00	1248.00	1.20	0.00
54.00	1248.70	0.70	0.00
56.00	1249.80	1.10	0.00
58.00	1250.90	1.10	0.00
60.00	1251.70	0.80	0.00

FINAL FLOW

Time (min)	Pressure	Delta P
0.00	626.70	626.70
2.00	237.20	-389.50
4.00	219.80	-17.40
6.00	233.40	13.60
8.00	245.50	12.10
10.00	247.20	1.70
12.00	252.40	5.20
14.00	260.60	8.20
16.00	266.50	5.90
18.00	276.60	10.10
20.00	283.70	7.10
22.00	293.40	9.70
24.00	298.10	4.70
26.00	306.30	8.20
28.00	313.70	7.40
30.00	320.80	7.10
32.00	325.20	4.40
34.00	334.90	9.70
36.00	344.60	9.70
38.00	353.60	9.00
40.00	355.70	2.10
42.00	362.40	6.70
44.00	370.30	7.90
46.00	372.90	2.60
48.00	378.40	5.50
50.00	381.70	3.30
52.00	388.10	6.40

PRESSURE TRANSIENT REPORT (CONTINUED)

FINAL FLOW (CONTINUED)

Time (min)	Pressure	Delta P
54.00	392.60	4.50
56.00	398.60	6.00
58.00	402.70	4.10

FINAL SHUT IN

Time (min)	Pressure	Delta P	Horner T
2.00	714.00	714.00	0.00
4.00	946.40	232.40	0.00
6.00	1025.50	79.10	0.00
8.00	1066.30	40.80	0.00
10.00	1093.00	26.70	0.00
12.00	1112.10	19.10	0.00
14.00	1126.60	14.50	0.00
16.00	1138.80	12.20	0.00
18.00	1148.70	9.90	0.00
20.00	1157.20	8.50	0.00
22.00	1164.10	6.90	0.00
24.00	1170.60	6.50	0.00
26.00	1176.40	5.80	0.00
28.00	1181.80	5.40	0.00
30.00	1186.40	4.60	0.00
32.00	1189.80	3.40	0.00
34.00	1194.10	4.30	0.00
36.00	1197.20	3.10	0.00
38.00	1200.70	3.50	0.00
40.00	1203.40	2.70	0.00
42.00	1206.10	2.70	0.00
44.00	1208.40	2.30	0.00
46.00	1210.70	2.30	0.00
48.00	1212.70	2.00	0.00
50.00	1214.60	1.90	0.00
52.00	1216.60	2.00	0.00
54.00	1218.10	1.50	0.00
56.00	1219.70	1.60	0.00
58.00	1221.20	1.50	0.00
60.00	1222.40	1.20	0.00
62.00	1223.60	1.20	0.00
64.00	1224.70	1.10	0.00
66.00	1225.90	1.20	0.00
68.00	1227.00	1.10	0.00
70.00	1226.10	-0.90	0.00

PRESSURE TRANSIENT REPORT (CONTINUED)

FINAL SHUT IN (CONTINUED)

Time (min)	Pressure	Delta P	Horner T
72.00	1227.10	1.00	0.00
74.00	1228.30	1.20	0.00
76.00	1229.40	1.10	0.00
78.00	1230.60	1.20	0.00
80.00	1231.80	1.20	0.00
82.00	1232.50	0.70	0.00
84.00	1233.30	0.80	0.00
86.00	1234.10	0.80	0.00
88.00	1234.80	0.70	0.00
90.00	1235.60	0.80	0.00
92.00	1236.40	0.80	0.00
94.00	1236.40	0.00	0.00
96.00	1237.20	0.80	0.00
98.00	1237.90	0.70	0.00
100.00	1238.30	0.40	0.00
102.00	1239.10	0.80	0.00
104.00	1239.50	0.40	0.00
106.00	1239.90	0.40	0.00
108.00	1240.30	0.40	0.00
110.00	1240.70	0.40	0.00
112.00	1241.00	0.30	0.00
114.00	1241.40	0.40	0.00
116.00	1241.80	0.40	0.00
118.00	1242.20	0.40	0.00
120.00	1242.60	0.40	0.00

FLUID SAMPLE REPORT

GENERAL INFORMATION

DATE	: 3-24-95	TICKET	: 19739
CUSTOMER	: HELMERICH & PAYNE, INC.	LEASE	: GROTH
WELL	: #A-1	TEST:	1
ELEVATION:	2975 KB	GEOLOGIST:	BRAD RINE
SECTION	: 32	FORMATION:	KANSAS CITY "B"
RANGE	: 33W	TOWNSHIP	: 29S
COUNTY:	HASKELL	STATE	: KS
GAUGE SN#:	ELEC 01157	RANGE	:
		CLOCK	: 12

SAMPLE INFORMATION

PRESSURE IN SAMPLER:	450.00 PSIG	BHT:	126.0 DEG F
TOTAL VOLUME OF SAMPLER:	3150.00 cc		
TOTAL VOLUME OF SAMPLE:	500.00 cc		
OIL:	500.00 cc		
WATER:	0.00 cc		
MUD:	0.00 cc		
GAS:	2650.00 cc		
OTHER:	0.00 cc		

RESISTIVITY

DRILLING MUD:	CHLORIDE CONTENT:	0.00 ppm
MUD PIT SAMPLE:	CHLORIDE CONTENT:	0.00 ppm
GAS/OIL RATIO:	GRAVITY:	
WHERE WAS SAMPLE DRAINED:		
REMARKS:		

Company: Helmerich & Payne
 Well: Groth A-1, DST #1
 Field: --

03-24-1995

[INPUT PARAMETERS]
 (Build-Up Analysis)

Well Type - OIL

Reservoir Pressure	psia	P	1274
Reservoir Temperature	Deg F	T	120
Final Shut-in Pressure	psia	Psi	1243
Final Flowing Pressure	psia	Pwf	403
Gas Flow Rate	mcf	Qg	7
Oil Flow Rate	STB/D	Qo	204
Sand Thickness	feet	hnet	15
Wellbore Radius	feet	rw	0.3250
Formation Porosity	%	POR	18
Extrapolated Pressure	psia	P*	1274
Extrapolated Press @ 1hr	psia	Plhr	1222
Semi-Log Slope	psi/cycle	M	-151.918
Production Time	hrs	tp	1.20
Shut-in Time	hrs	tsi	2.00

Uo (cp)	5.9874E+00	Bo (RB/STB)	1.0508E+00
Co (1/psi)	4.3909E-06	Ct (1/psi)	7.3451E-06

[TYPE CURVE MATCH POINTS]

dP	789.120	Pd	6.065
dt	0.263	tD/Cd	20.771
	Cde2S 1E +4		

[CALCULATED RESULTS]

(Semi-Log) Analysis

Pressure Method

Transmissibility	md-ft/cp	kh/u	229.433
Flow Capacity	md-ft	kh	1373.703
Permeability	md	k	91.580
Skin Damage	total	S	+0.66
Pressure Drop due to Skin	psia	dP	+87.72
Flow Efficiency	%	FE	+89.93
Drainage Radius	feet	rd	139

Type Curve (Log-Log) Analysis

Transmissibility	md-ft/cp	kh/u	232.631
Flow Capacity	md-ft	kh	1392.849
Permeability	md	k	92.857
Skin Damage	total	S	+1.65
Pressure Drop due to Skin	psia	dP	+214.34
Flow Efficiency	%	FE	+75.40

D.R.S.

Company: Helmerich & Payne
Well: Groth A-1
DST No: 1

03-24-1995

This analysis has been made on the basis of the liquid recovery and equations applicable to liquid recovery tests, the Horner extrapolation method and comparative log/log analysis.

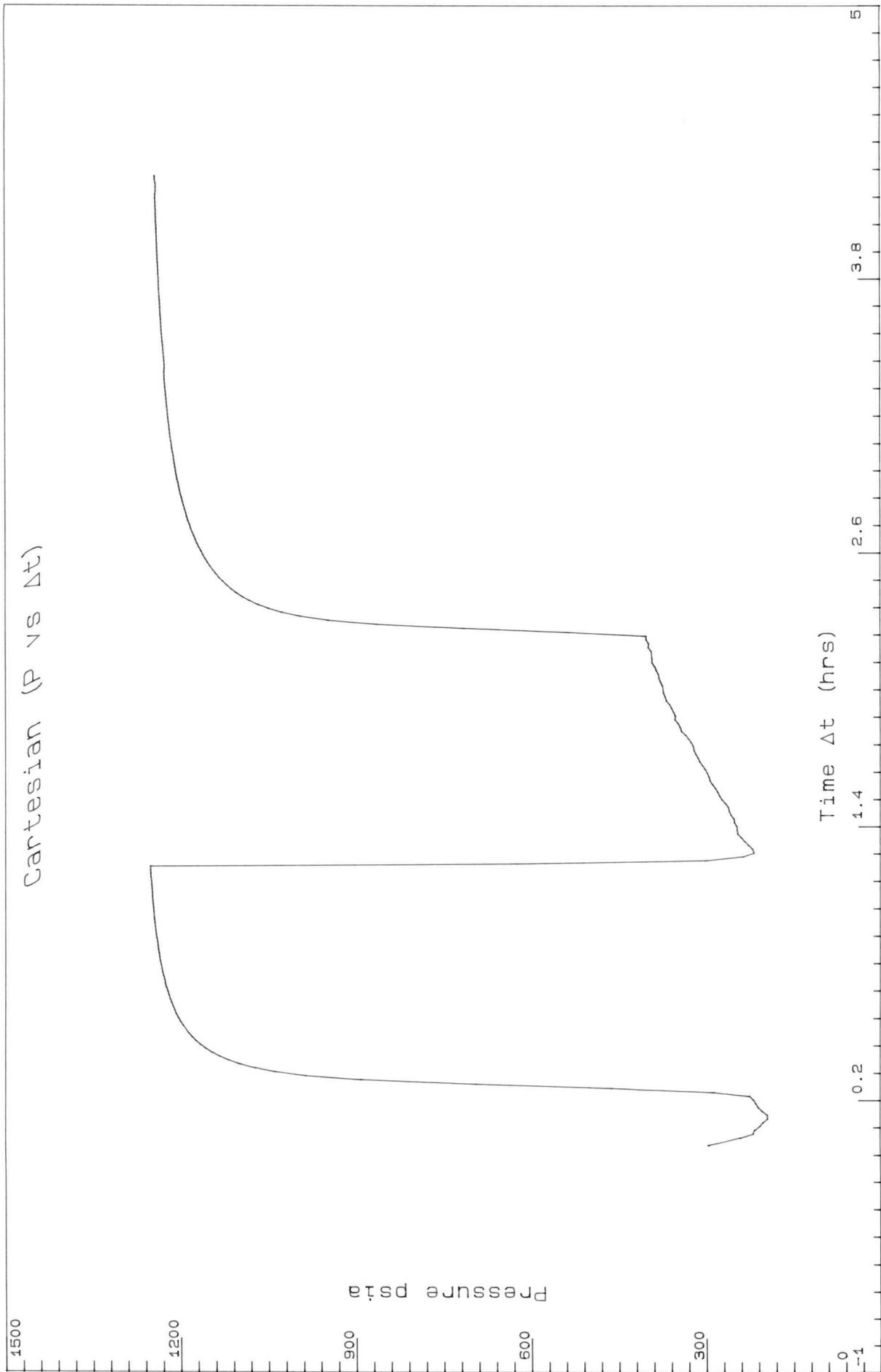
The semi-log plots indicate a maximum initial reservoir pressure of 1279 psi and a maximum final reservoir pressure of 1274 psi which is equivalent to a subsurface pressure gradient of 0.277 psi/ft at gauge depth. The difference between the extrapolated initial and final reservoir pressures (5 psi) is insignificant.

The Average Production Rate which was used in this analysis has been calculated from analysis of the flow pressure curves using a liquid gradient for the recovered oil of 0.372 psi/ft.

For purposes of this analysis a Pay Thickness of 15 feet and an Average Porosity of 18% has been used.

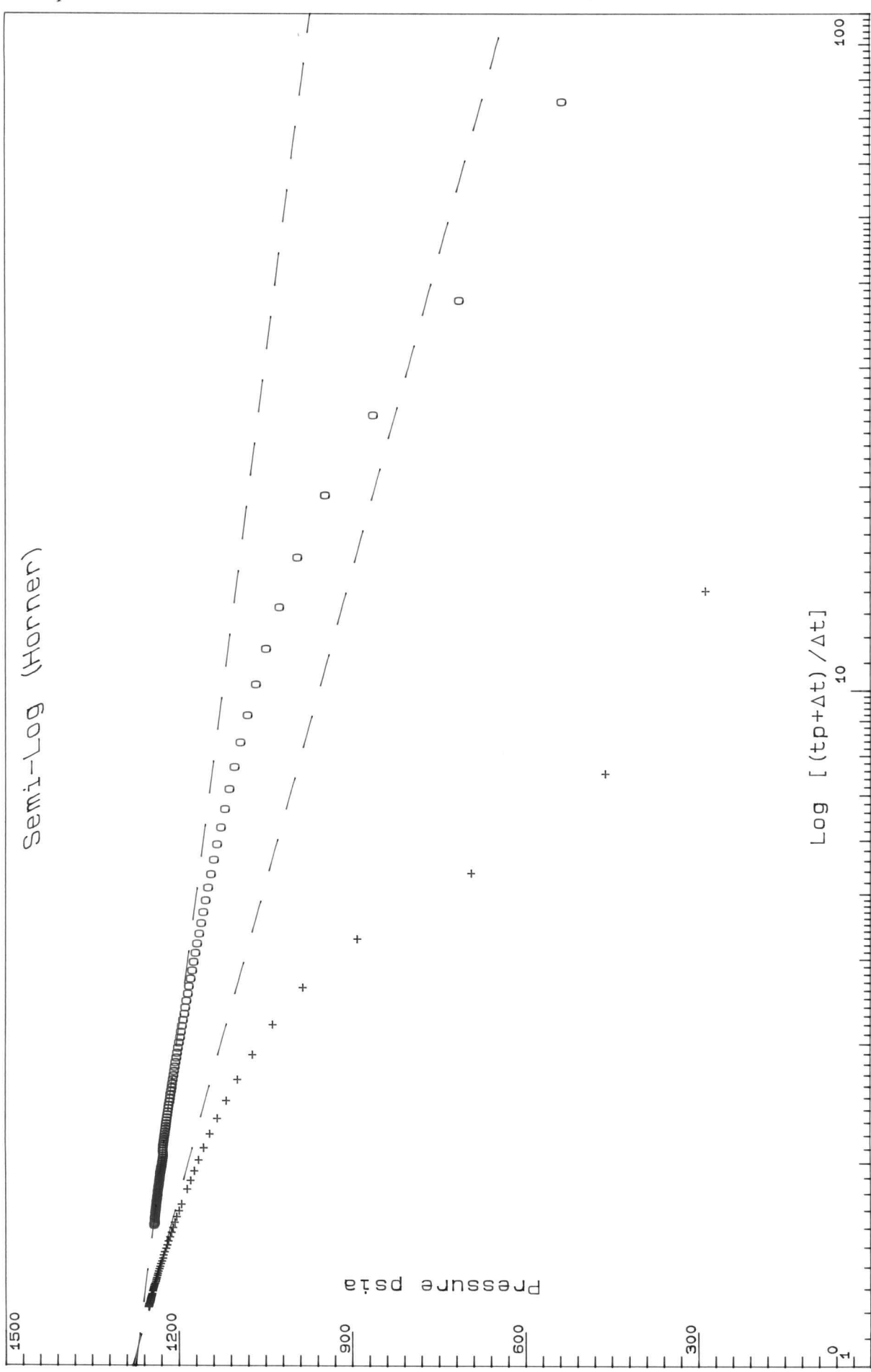
The calculated Skin Factors indicate no significant well-bore damage was present at the time of this formation test.

The evaluation criteria used in the drillstem test analysis system indicate this is a good mechanical test and the results obtained in this analysis should be reliable within reasonable limits relative to the assumptions which have been made.



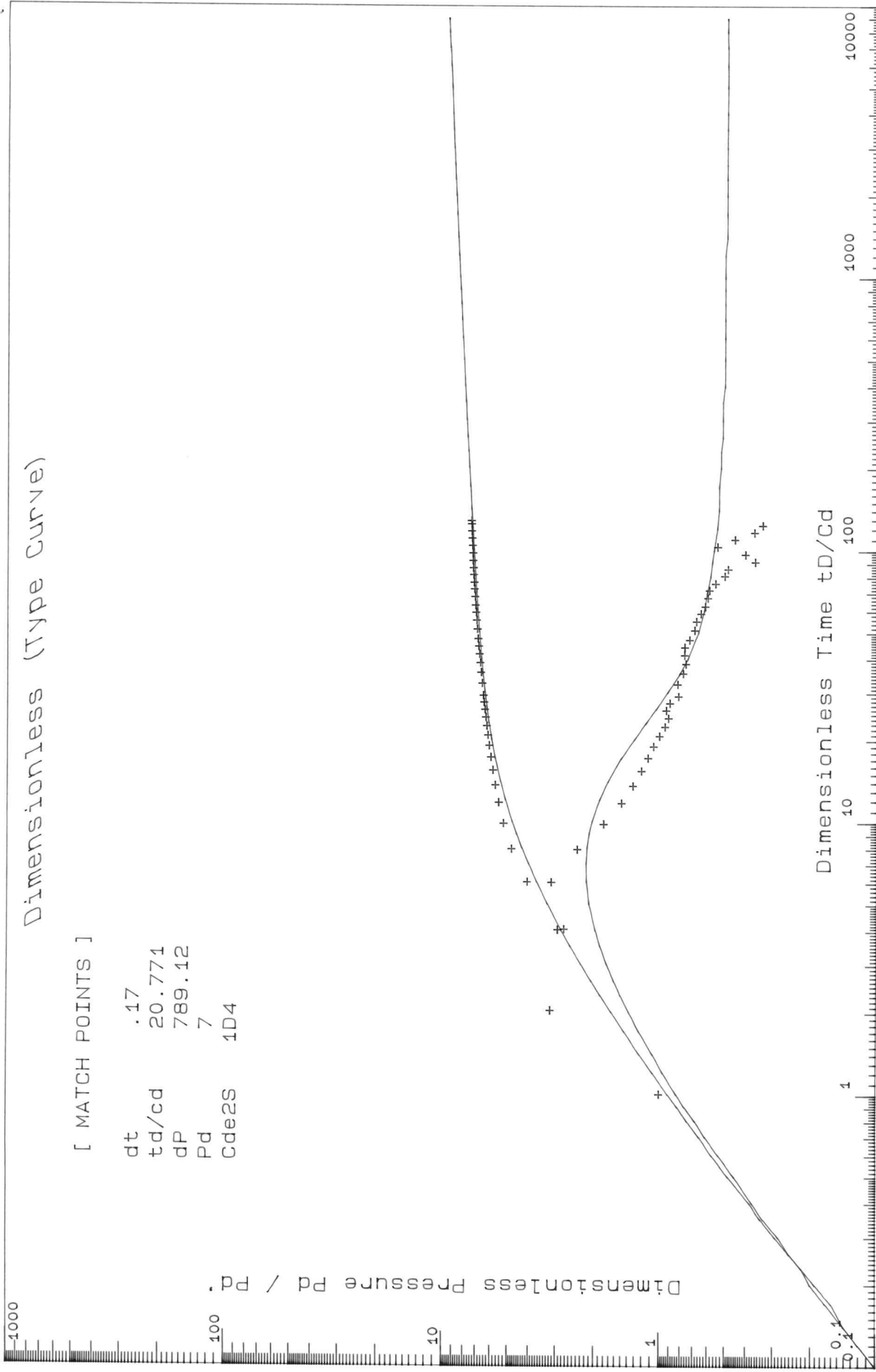
Company: Helmerich & Payne
Well: Groth A-1, DST #1
Field: --

Date: 03-24-1995



Company: Helmerich & Payne
 Well: Groth A-1, DST #1
 Field: --
 Date: 03-24-1995

P* #1 = 1279 psi
 M1 = -323.498 psi/cycle
 P* #2 = 1274 psi
 M = -151.918 psi/cycle



Dimensionless (Type Curve)

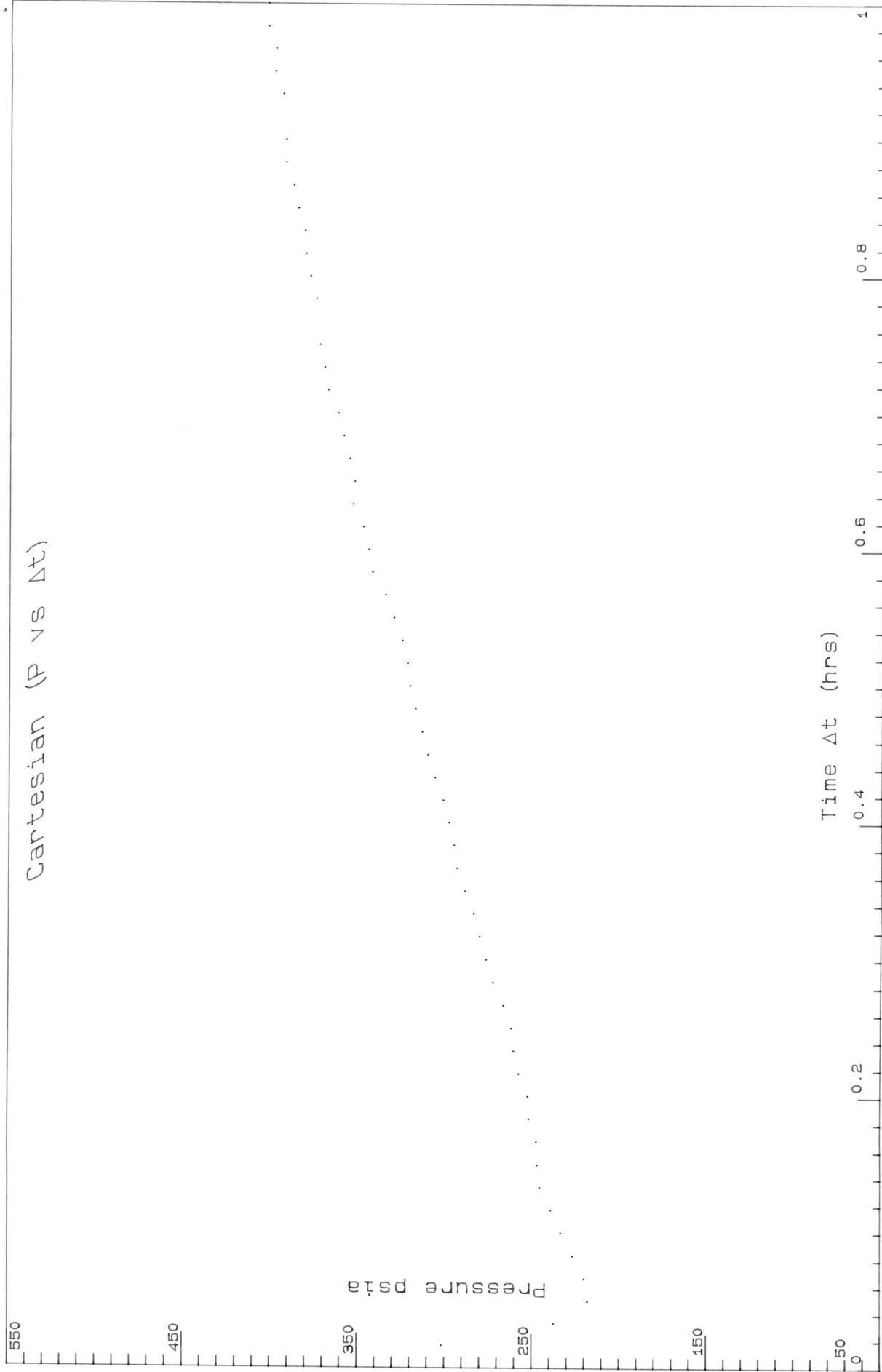
[MATCH POINTS]

dt	.17
td/cd	20.771
dP	789.12
Pd	7
Cde2S	1D4

Shut-in #2:

Company: Helmerich & Payne
Well: Groth A-1, DST #1
Field: --

Date: 03-24-1995



Flow #2:
M = 222.593 psi/cycle

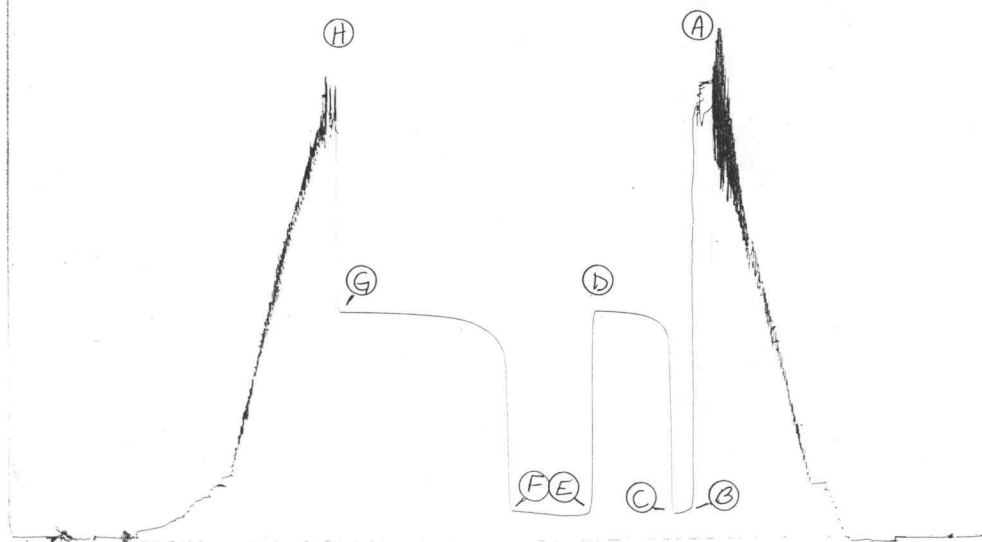
Company: Helmerich & Payne
Well: Groth A-1, DST #1
Field: --

Date: 03-24-1995

1562
DST #2
TOP

Ticket # 19740

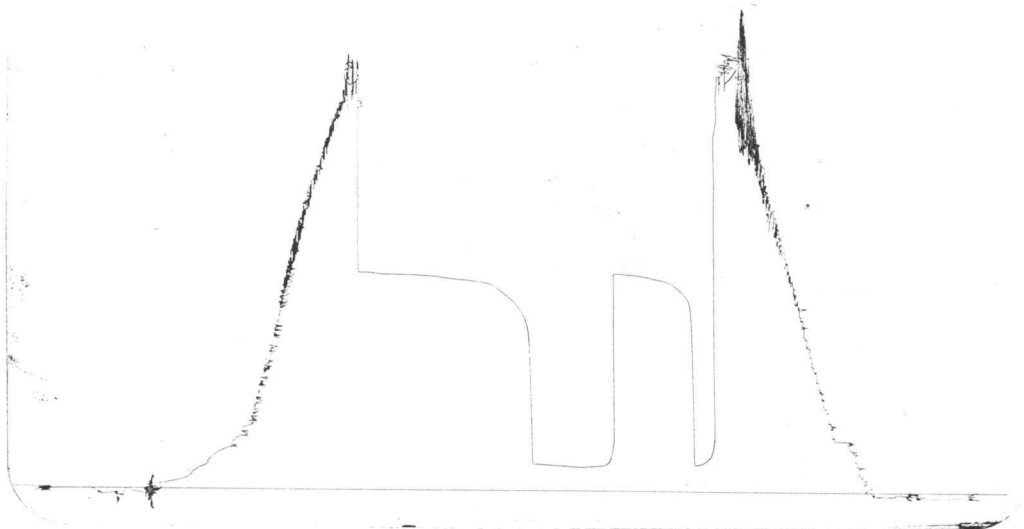
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2606
DST #2
Bottom

Ticket # 19740

O



DST REPORT

GENERAL INFORMATION

DATE	: 3-25-95	TICKET	: 19740
CUSTOMER	: HELMERICH & PAYNE, INC.	LEASE	: GROTH
WELL	: #A-1	TEST: 2	GEOLOGIST: BRAD RINE
ELEVATION	: 2975 KB	FORMATION	: KANSAS CITY "B"
SECTION	: 32	TOWNSHIP	: 29S
RANGE	: 33W	COUNTY: HASKELL	STATE : KS
GAUGE SN#	: ELEC 01157	RANGE :	CLOCK : 12

WELL INFORMATION

PERFORATION INTERVAL FROM:	4651.00 ft	TO:	4684.00 ft	TVD:	4684.0 ft
DEPTH OF SELECTIVE ZONE:	TEST TYPE: OIL				
DEPTH OF RECORDERS:	4660.0 ft	4670.0 ft			
TEMPERATURE:	127.0				
DRILL COLLAR LENGTH:	600.0 ft	I.D.:	2.250 in		
WEIGHT PIPE LENGTH :	0.0 ft	I.D.:	0.000 in		
DRILL PIPE LENGTH :	4020.0 ft	I.D.:	3.800 in		
TEST TOOL LENGTH :	31.0 ft	TOOL SIZE :	5.500 in		
ANCHOR LENGTH :	33.0 ft	ANCHOR SIZE:	5.500 in		
SURFACE CHOKE SIZE :	0.750 in	BOTTOM CHOKE SIZE:	0.750 in		
MAIN HOLE SIZE :	7.875 in	TOOL JOINT SIZE :	4.5 X.H.		
PACKER DEPTH:	4646.0 ft	SIZE:	6.630 in		
PACKER DEPTH:	4651.0 ft	SIZE:	6.630 in		
PACKER DEPTH:	0.0 ft	SIZE:	0.000 in		
PACKER DEPTH:	0.0 ft	SIZE:	0.000 in		

MUD INFORMATION

DRILLING CON. :	CHEYENNE RIG #7	VISCOSITY :	56.00 cp
MUD TYPE :	CHEMICAL POLY	WATER LOSS:	10.000 cc
WEIGHT :	8.800 ppg	SERIAL NUMBER:	401
CHLORIDES :	1280 ppm	REVERSED OUT?:	NO
JARS-MAKE :	W.T.C.		
DID WELL FLOW?:	YES		

COMMENTS

Comment

INITIAL FLOW: STRONG BLOW, OFF BOTTOM OF BUCKET IN
1 MINUTE, GAS TO SURFACE IN 6 MINUTES.
SEE GAS FLOW REPORT FOR GAS MEASUREMENTS.

DST REPORT (CONTINUED)

FLUID RECOVERY

Feet of Fluid	% Oil	% Gas	% Water	% Mud	Comments
400.0	45.0	25.0	0.0	30.0	OIL AND GAS CUT MUD
0.0	0.0	0.0	0.0	0.0	CHLORIDES - 1400 ppm

RATE INFORMATION

OIL VOLUME:	0.8851	STB		
GAS VOLUME:	2.7612	SCF	TOTAL FLOW TIME:	75.0000 min.
MUD VOLUME:	0.5901	STB	AVERAGE OIL RATE:	28.3247 STB/D
WATER VOLUME:	0.0000	STB	AVERAGE WATER RATE:	0.0000 STB/D
TOTAL FLUID :	1.4752	STB		

FIELD TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 2330.00

Description	Duration	p1	p End
INITIAL FLOW	15.00	140.00	140.00
INITIAL SHUT-IN	60.00		1173.00
FINAL FLOW	60.00	140.00	180.00
FINAL SHUT-IN	120.00		1179.00

FINAL HYDROSTATIC PRESSURE: 2211.00

OFFICE TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 2204.60

Description	Duration	p1	p End
INITIAL FLOW	15.00	161.00	121.20
INITIAL SHUT-IN	59.00		1170.50
FINAL FLOW	59.00	156.10	141.90
FINAL SHUT-IN	128.00		1162.10

FINAL HYDROSTATIC PRESSURE: 2097.20

GAS FLOW REPORT

GENERAL INFORMATION

DATE : 3-25-95	TICKET : 19740
CUSTOMER : HELMERICH & PAYNE, INC.	LEASE : GROTH
WELL : #A-1 TEST: 2	GEOLOGIST: BRAD RINE
ELEVATION: 2975 KB	FORMATION: KANSAS CITY "B"
SECTION : 32	TOWNSHIP : 29S
RANGE : 33W COUNTY: HASKELL	STATE : KS
GAUGE SN#: ELEC 01157 RANGE :	CLOCK : 12

PRE FLOW

Time Guage (min)	Tester Type	Orifice Size	Pressure	Flow Desc.
15 MIN	MERLA	0.500	10 PSIG	116000 SCF/D

SECOND FLOW

Time Guage (min)	Tester Type	Orifice Size	Pressure	Flow Desc.
10 MIN	MERLA	0.500	16 PSIG	153000 SCF/D
20 MIN	MERLA	0.500	18 PSIG	166000 SCF/D
30 MIN	MERLA	0.500	16 PSIG	153000 SCF/D
40 MIN	MERLA	0.500	16 PSIG	153000 SCF/D
50 MIN	MERLA	0.500	15 PSIG	147000 SCF/D
60 MIN	MERLA	0.500	15 PSIG	147000 SCF/D

PRESSURE TRANSIENT REPORT

GENERAL INFORMATION

DATE : 3-25-95	TICKET : 19740
CUSTOMER : HELMERICH & PAYNE, INC.	LEASE : GROTH
WELL : #A-1 TEST: 2	GEOLOGIST: BRAD RINE
ELEVATION: 2975 KB	FORMATION: KANSAS CITY "B"
SECTION : 32	TOWNSHIP : 29S
RANGE : 33W COUNTY: HASKELL	STATE : KS
GAUGE SN#: ELEC 01157 RANGE :	CLOCK : 12

INITIAL FLOW

Time (min)	Pressure	Delta P
0.00	161.00	161.00
2.00	112.40	-48.60
4.00	117.20	4.80
6.00	118.00	0.80
8.00	114.70	-3.30
10.00	111.20	-3.50
12.00	117.70	6.50
14.00	115.40	-2.30
15.00	121.20	5.80

INITIAL SHUT IN

Time (min)	Pressure	Delta P	Horner T
2.00	1060.10	1060.10	8.50
4.00	1078.50	18.40	4.75
6.00	1101.20	22.70	3.50
8.00	1116.20	15.00	2.88
10.00	1127.00	10.80	2.50
12.00	1135.10	8.10	2.25
14.00	1141.30	6.20	2.07
16.00	1146.10	4.80	1.94
18.00	1150.10	4.00	1.83
20.00	1153.50	3.40	1.75
22.00	1155.70	2.20	1.68
24.00	1157.90	2.20	1.63
26.00	1159.70	1.80	1.58
28.00	1161.20	1.50	1.54
30.00	1162.30	1.10	1.50
32.00	1163.30	1.00	1.47
34.00	1164.50	1.20	1.44

PRESSURE TRANSIENT REPORT (CONTINUED)

INITIAL SHUT IN (CONTINUED)

Time (min)	Pressure	Delta P	Horner T
36.00	1165.60	1.10	1.42
38.00	1165.90	0.30	1.39
40.00	1166.60	0.70	1.38
42.00	1167.40	0.80	1.36
44.00	1167.70	0.30	1.34
46.00	1168.00	0.30	1.33
48.00	1168.40	0.40	1.31
50.00	1168.70	0.30	1.30
52.00	1169.50	0.80	1.29
54.00	1169.80	0.30	1.28
56.00	1170.20	0.40	1.27
58.00	1170.10	-0.10	1.26
60.00	1170.50	0.40	1.25

FINAL FLOW

Time (min)	Pressure	Delta P
0.00	156.10	156.10
2.00	112.30	-43.80
4.00	102.80	-9.50
6.00	108.20	5.40
8.00	108.90	0.70
10.00	110.70	1.80
12.00	111.70	1.00
14.00	112.20	0.50
16.00	109.50	-2.70
18.00	113.60	4.10
20.00	115.40	1.80
22.00	116.50	1.10
24.00	120.10	3.60
26.00	125.20	5.10
28.00	124.60	-0.60
30.00	125.80	1.20
32.00	129.00	3.20
34.00	132.10	3.10
36.00	131.40	-0.70
38.00	128.70	-2.70
40.00	130.70	2.00
42.00	135.60	4.90
44.00	134.90	-0.70
46.00	136.00	1.10
48.00	133.70	-2.30

PRESSURE TRANSIENT REPORT (CONTINUED)

FINAL FLOW (CONTINUED)

Time (min)	Pressure	Delta P
50.00	137.50	3.80
52.00	138.20	0.70
54.00	137.40	-0.80
56.00	140.40	3.00
58.00	140.00	-0.40
60.00	141.90	1.90

FINAL SHUT IN

Time (min)	Pressure	Delta P	Horner T
2.00	825.40	825.40	31.00
4.00	972.70	147.30	16.00
6.00	1004.50	31.80	11.00
8.00	1027.70	23.20	8.50
10.00	1045.40	17.70	7.00
12.00	1059.50	14.10	6.00
14.00	1071.40	11.90	5.29
16.00	1081.40	10.00	4.75
18.00	1089.60	8.20	4.33
20.00	1096.70	7.10	4.00
22.00	1102.60	5.90	3.73
24.00	1107.80	5.20	3.50
26.00	1112.70	4.90	3.31
28.00	1116.40	3.70	3.14
30.00	1120.50	4.10	3.00
32.00	1123.50	3.00	2.88
34.00	1126.40	2.90	2.76
36.00	1129.00	2.60	2.67
38.00	1131.30	2.30	2.58
40.00	1133.50	2.20	2.50
42.00	1135.40	1.90	2.43
44.00	1136.80	1.40	2.36
46.00	1138.70	1.90	2.30
48.00	1140.20	1.50	2.25
50.00	1141.20	1.00	2.20
52.00	1142.70	1.50	2.15
54.00	1143.80	1.10	2.11
56.00	1144.90	1.10	2.07
58.00	1146.00	1.10	2.03
60.00	1146.70	0.70	2.00
62.00	1147.80	1.10	1.97
64.00	1148.50	0.70	1.94

PRESSURE TRANSIENT REPORT (CONTINUED)

FINAL SHUT IN (CONTINUED)

Time (min)	Pressure	Delta P	Horner T
66.00	1149.20	0.70	1.91
68.00	1150.00	0.80	1.88
70.00	1150.60	0.60	1.86
72.00	1151.40	0.80	1.83
74.00	1151.70	0.30	1.81
76.00	1152.80	1.10	1.79
78.00	1153.10	0.30	1.77
80.00	1153.90	0.80	1.75
82.00	1154.50	0.60	1.73
84.00	1154.90	0.40	1.71
86.00	1155.20	0.30	1.70
88.00	1155.90	0.70	1.68
90.00	1156.30	0.40	1.67
92.00	1156.60	0.30	1.65
94.00	1157.30	0.70	1.64
96.00	1157.60	0.30	1.63
98.00	1157.90	0.30	1.61
100.00	1158.30	0.40	1.60
102.00	1158.60	0.30	1.59
104.00	1158.90	0.30	1.58
106.00	1159.20	0.30	1.57
108.00	1159.60	0.40	1.56
110.00	1159.90	0.30	1.55
112.00	1160.20	0.30	1.54
114.00	1160.50	0.30	1.53
116.00	1160.90	0.40	1.52
118.00	1161.20	0.30	1.51
120.00	1161.10	-0.10	1.50
122.00	1161.40	0.30	1.49
124.00	1161.80	0.40	1.48
126.00	1161.70	-0.10	1.48
127.00	1162.10	0.40	1.47

FLUID SAMPLE REPORT

GENERAL INFORMATION

DATE	: 3-25-95	TICKET	: 19740
CUSTOMER	: HELMERICH & PAYNE, INC.	LEASE	: GROTH
WELL	: #A-1	TEST:	2
ELEVATION:	2975 KB	GEOLOGIST:	BRAD RINE
SECTION	: 32	FORMATION:	KANSAS CITY "B"
RANGE	: 33W	TOWNSHIP	: 29S
COUNTY:	HASKELL	STATE	: KS
GAUGE SN#:	ELEC 01157	RANGE	:
		CLOCK	: 12

SAMPLE INFORMATION

PRESSURE IN SAMPLER:	190.00 PSIG	BHT:	127.0 DEG F
TOTAL VOLUME OF SAMPLER:	3150.00 cc		
TOTAL VOLUME OF SAMPLE:	500.00 cc		
OIL:	500.00 cc		
WATER:	0.00 cc		
MUD:	0.00 cc		
GAS:	0.00 cc		
OTHER:	0.00 cc		

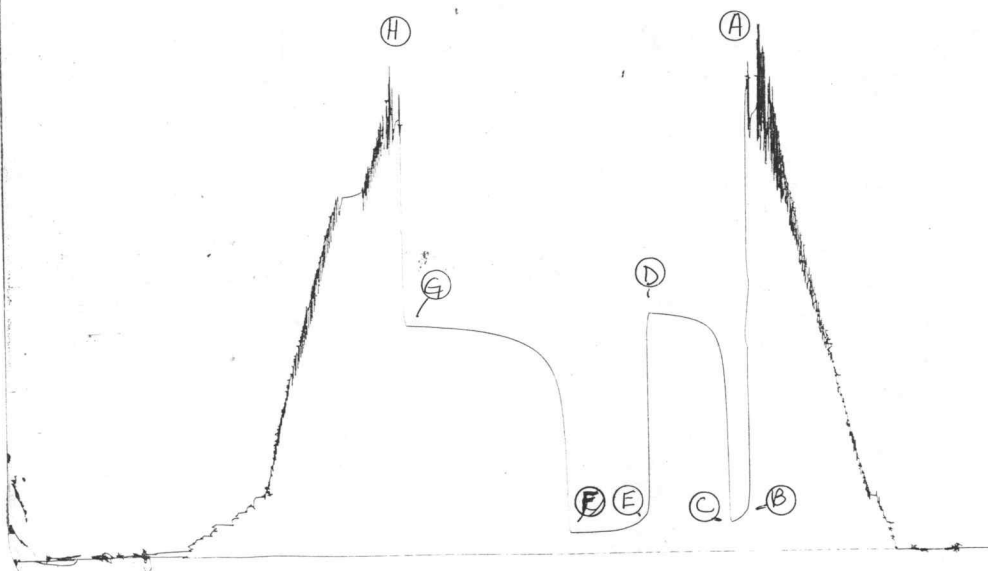
RESISTIVITY

DRILLING MUD:	CHLORIDE CONTENT:	0.00 ppm
MUD PIT SAMPLE: 0.4 @ 64 DEG. F.	CHLORIDE CONTENT:	1280.00 ppm
GAS/OIL RATIO:	GRAVITY:	37 @ 70 DEG. F.
WHERE WAS SAMPLE DRAINED: WELL SITE		
REMARKS:		

1562
D5+ #3
Top

Ticket # 19741

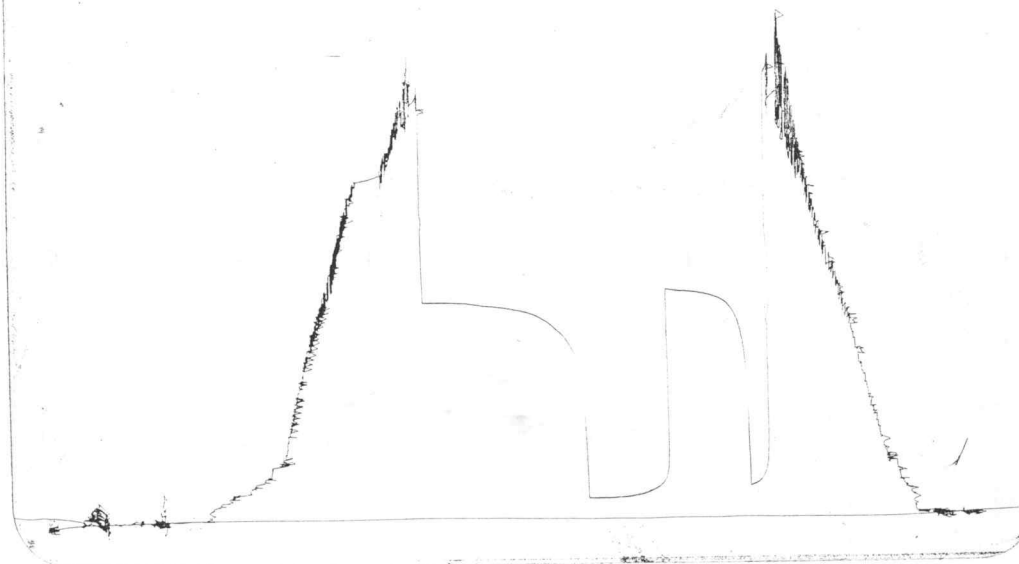
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2603
D5+ #3
Bottom

Ticket # 19741

O



DST REPORT

GENERAL INFORMATION

DATE : 3-26-95
CUSTOMER : HELMERICH & PAYNE, INC.
WELL : #A-1 TEST: 3
ELEVATION: 2975 KB
SECTION : 32
RANGE : 33W COUNTY: HASKELL
GAUGE SN#: ELEC 01157 RANGE :

TICKET : 19741
LEASE : GROTH
GEOLOGIST: BRAD RINE
FORMATION: MARMATON "C"
TOWNSHIP : 29S
STATE : KS
CLOCK : 12

WELL INFORMATION

PERFORATION INTERVAL FROM: 4795.00 ft TO: 4812.00 ft TVD: 4812.0 ft
DEPTH OF SELECTIVE ZONE: TEST TYPE: OIL
DEPTH OF RECORDERS: 4797.0 ft 4803.0 ft
TEMPERATURE: 129.0

DRILL COLLAR LENGTH:	600.0 ft	I.D.:	2.250 in
WEIGHT PIPE LENGTH :	0.0 ft	I.D.:	0.000 in
DRILL PIPE LENGTH :	4164.0 ft	I.D.:	3.800 in
TEST TOOL LENGTH :	31.0 ft	TOOL SIZE :	5.500 in
ANCHOR LENGTH :	17.0 ft	ANCHOR SIZE:	5.500 in
SURFACE CHOKE SIZE :	0.750 in	BOTTOM CHOKE SIZE:	0.750 in
MAIN HOLE SIZE :	7.875 in	TOOL JOINT SIZE :	4.5 X.H.
PACKER DEPTH:	4790.0 ft	SIZE:	6.630 in
PACKER DEPTH:	4795.0 ft	SIZE:	6.630 in
PACKER DEPTH:	0.0 ft	SIZE:	0.000 in
PACKER DEPTH:	0.0 ft	SIZE:	0.000 in

MUD INFORMATION

DRILLING CON. : CHEYENNE RIG #7
MUD TYPE : CHEMICAL POLY
WEIGHT : 8.900 ppg
CHLORIDES : 2300 ppm
JARS-MAKE : W.T.C.
DID WELL FLOW?: YES

VISCOSITY : 45.00 cp
WATER LOSS: 8.800 cc

SERIAL NUMBER: 401
REVERSED OUT?: NO

COMMENTS

Comment

INITIAL FLOW: STRONG BLOW, OFF BOTTOM OF BUCKET
IMMEDIATELY, GAS TO SURFACE IN 3 MINUTES.
SEE GAS FLOW REPORT FOR GAS MEASUREMENTS.

DST REPORT (CONTINUED)

FLUID RECOVERY

Feet of Fluid	% Oil	% Gas	% Water	% Mud	Comments
140.0	100.0	0.0	0.0	0.0	CLEAN GASSY OIL
45.0	30.0	5.0	0.0	65.0	OIL AND GAS CUT MUD
0.0	0.0	0.0	0.0	0.0	CHLORIDES - 2500 ppm

RATE INFORMATION

OIL VOLUME:	0.7548	STB	TOTAL FLOW TIME:	74.0000	min.
GAS VOLUME:	0.0621	SCF	AVERAGE OIL RATE:	17.4876	STB/D
MUD VOLUME:	0.1438	STB	AVERAGE WATER RATE:	0.0000	STB/D
WATER VOLUME:	0.0000	STB			
TOTAL FLUID :	0.8987	STB			

FIELD TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 2330.00

Description	Duration	p1	p End
INITIAL FLOW	15.00	150.00	150.00
INITIAL SHUT-IN	60.00		1243.00
FINAL FLOW	60.00	110.00	110.00
FINAL SHUT-IN	120.00		1183.00

FINAL HYDROSTATIC PRESSURE: 2231.00

OFFICE TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 2331.90

Description	Duration	p1	p End
INITIAL FLOW	15.00	321.50	134.10
INITIAL SHUT-IN	59.00		1235.70
FINAL FLOW	59.00	240.10	103.30
FINAL SHUT-IN	120.00		1179.30

FINAL HYDROSTATIC PRESSURE: 2146.70

GAS FLOW REPORT

GENERAL INFORMATION

DATE : 3-26-95	TICKET : 19741
CUSTOMER : HELMERICH & PAYNE, INC.	LEASE : GROTH
WELL : #A-1 TEST: 3	GEOLOGIST: BRAD RINE
ELEVATION: 2975 KB	FORMATION: MARMATON "C"
SECTION : 32	TOWNSHIP : 29S
RANGE : 33W COUNTY: HASKELL	STATE : KS
GAUGE SN#: ELEC 01157 RANGE :	CLOCK : 12

PRE FLOW

Time Guage (min)	Tester Type	Orifice Size	Pressure	Flow Desc.
13 MIN	MERLA	0.500	30 PSIG	231000 SCF/D

SECOND FLOW

Time Guage (min)	Tester Type	Orifice Size	Pressure	Flow Desc.
10 MIN	MERLA	0.500	40 PSIG	285000 SCF/D
20 MIN	MERLA	0.500	34 PSIG	253000 SCF/D
30 MIN	MERLA	0.500	28 PSIG	222000 SCF/D
40 MIN	MERLA	0.500	22 PSIG	189000 SCF/D
50 MIN	MERLA	0.500	20 PSIG	177000 SCF/D
60 MIN	MERLA	0.500	18 PSIG	166000 SCF/D

PRESSURE TRANSIENT REPORT

GENERAL INFORMATION

DATE : 3-26-95	TICKET : 19741
CUSTOMER : HELMERICH & PAYNE, INC.	LEASE : GROTH
WELL : #A-1 TEST: 3	GEOLOGIST: BRAD RINE
ELEVATION: 2975 KB	FORMATION: MARMATON "C"
SECTION : 32	TOWNSHIP : 29S
RANGE : 33W COUNTY: HASKELL	STATE : KS
GAUGE SN#: ELEC 01157 RANGE :	CLOCK : 12

INITIAL FLOW

Time (min)	Pressure	Delta P
0.00	321.50	321.50
2.00	179.90	-141.60
4.00	165.50	-14.40
6.00	150.30	-15.20
8.00	142.60	-7.70
10.00	138.90	-3.70
12.00	135.80	-3.10
14.00	133.90	-1.90
15.00	134.10	0.20

INITIAL SHUT IN

Time (min)	Pressure	Delta P	Horner T
2.00	908.10	908.10	8.50
4.00	1042.30	134.20	4.75
6.00	1097.20	54.90	3.50
8.00	1128.70	31.50	2.88
10.00	1151.30	22.60	2.50
12.00	1167.90	16.60	2.25
14.00	1180.10	12.20	2.07
16.00	1188.60	8.50	1.94
18.00	1195.10	6.50	1.83
20.00	1200.20	5.10	1.75
22.00	1204.50	4.30	1.68
24.00	1208.10	3.60	1.63
26.00	1211.40	3.30	1.58
28.00	1214.30	2.90	1.54
30.00	1216.80	2.50	1.50
32.00	1219.00	2.20	1.47
34.00	1221.10	2.10	1.44

PRESSURE TRANSIENT REPORT (CONTINUED)

INITIAL SHUT IN (CONTINUED)

Time (min)	Pressure	Delta P	Horner T
36.00	1222.90	1.80	1.42
38.00	1224.30	1.40	1.39
40.00	1225.80	1.50	1.38
42.00	1227.20	1.40	1.36
44.00	1228.70	1.50	1.34
46.00	1229.70	1.00	1.33
48.00	1230.80	1.10	1.31
50.00	1231.80	1.00	1.30
52.00	1232.50	0.70	1.29
54.00	1233.60	1.10	1.28
56.00	1234.20	0.60	1.27
58.00	1234.90	0.70	1.26
59.00	1235.70	0.80	1.25

FINAL FLOW

Time (min)	Pressure	Delta P
0.00	240.10	240.10
2.00	162.80	-77.30
4.00	149.40	-13.40
6.00	138.50	-10.90
8.00	129.80	-8.70
10.00	124.50	-5.30
12.00	121.00	-3.50
14.00	117.40	-3.60
16.00	113.30	-4.10
18.00	111.70	-1.60
20.00	107.70	-4.00
22.00	107.10	-0.60
24.00	105.60	-1.50
26.00	104.80	-0.80
28.00	104.40	-0.40
30.00	104.20	-0.20
32.00	106.00	1.80
34.00	105.40	-0.60
36.00	104.00	-1.40
38.00	104.10	0.10
40.00	103.10	-1.00
42.00	102.00	-1.10
44.00	102.10	0.10
46.00	102.20	0.10
48.00	102.20	0.00

PRESSURE TRANSIENT REPORT (CONTINUED)

FINAL FLOW (CONTINUED)

Time (min)	Pressure	Delta P
50.00	102.60	0.40
52.00	102.60	0.00
54.00	102.60	0.00
56.00	103.70	1.10
58.00	103.70	0.00
59.00	103.30	-0.40

FINAL SHUT IN

Time (min)	Pressure	Delta P	Horner T
2.00	542.80	542.80	30.50
4.00	768.70	225.90	15.75
6.00	856.00	87.30	10.83
8.00	907.30	51.30	8.38
10.00	942.80	35.50	6.90
12.00	971.20	28.40	5.92
14.00	994.40	23.20	5.21
16.00	1013.80	19.40	4.69
18.00	1029.70	15.90	4.28
20.00	1043.40	13.70	3.95
22.00	1055.50	12.10	3.68
24.00	1065.80	10.30	3.46
26.00	1074.60	8.80	3.27
28.00	1082.70	8.10	3.11
30.00	1090.00	7.30	2.97
32.00	1096.20	6.20	2.84
34.00	1102.00	5.80	2.74
36.00	1107.40	5.40	2.64
38.00	1112.10	4.70	2.55
40.00	1116.40	4.30	2.48
42.00	1120.40	4.00	2.40
44.00	1124.30	3.90	2.34
46.00	1127.90	3.60	2.28
48.00	1131.10	3.20	2.23
50.00	1134.30	3.20	2.18
52.00	1137.10	2.80	2.13
54.00	1140.00	2.90	2.09
56.00	1142.40	2.40	2.05
58.00	1144.90	2.50	2.02
60.00	1146.60	1.70	1.98
62.00	1149.20	2.60	1.95
64.00	1151.30	2.10	1.92

PRESSURE TRANSIENT REPORT (CONTINUED)

FINAL SHUT IN (CONTINUED)

Time (min)	Pressure	Delta P	Horner T
66.00	1153.10	1.80	1.89
68.00	1154.80	1.70	1.87
70.00	1156.60	1.80	1.84
72.00	1158.00	1.40	1.82
74.00	1159.40	1.40	1.80
76.00	1160.80	1.40	1.78
78.00	1162.20	1.40	1.76
80.00	1163.60	1.40	1.74
82.00	1164.70	1.10	1.72
84.00	1166.10	1.40	1.70
86.00	1167.10	1.00	1.69
88.00	1168.20	1.10	1.67
90.00	1169.20	1.00	1.66
92.00	1169.80	0.60	1.64
94.00	1170.97	1.17	1.63
96.00	1171.60	0.63	1.61
98.00	1172.60	1.00	1.60
100.00	1173.30	0.70	1.59
102.00	1174.00	0.70	1.58
104.00	1174.70	0.70	1.57
106.00	1175.30	0.60	1.56
108.00	1176.00	0.70	1.55
110.00	1176.70	0.70	1.54
112.00	1177.40	0.70	1.53
114.00	1178.00	0.60	1.52
116.00	1178.40	0.40	1.51
118.00	1179.00	0.60	1.50
120.00	1179.30	0.30	1.49

FLUID SAMPLE REPORT

GENERAL INFORMATION

DATE	: 3-26-95	TICKET	: 19741
CUSTOMER	: HELMERICH & PAYNE, INC.	LEASE	: GROTH
WELL	: #A-1	TEST:	3
ELEVATION	: 2975 KB	GEOLOGIST	: BRAD RINE
SECTION	: 32	FORMATION	: MARMATON "C"
RANGE	: 33W	TOWNSHIP	: 29S
COUNTY	: HASKELL	STATE	: KS
GAUGE SN#	: ELEC 01157	RANGE	:
		CLOCK	: 12

SAMPLE INFORMATION

PRESSURE IN SAMPLER:	110.00 PSIG	BHT:	129.0 DEG F
TOTAL VOLUME OF SAMPLER:	3150.00 cc		
TOTAL VOLUME OF SAMPLE:	1000.00 cc		
OIL:	1000.00 cc		
WATER:	0.00 cc		
MUD:	0.00 cc		
GAS:	0.00 cc		
OTHER:	0.00 cc		

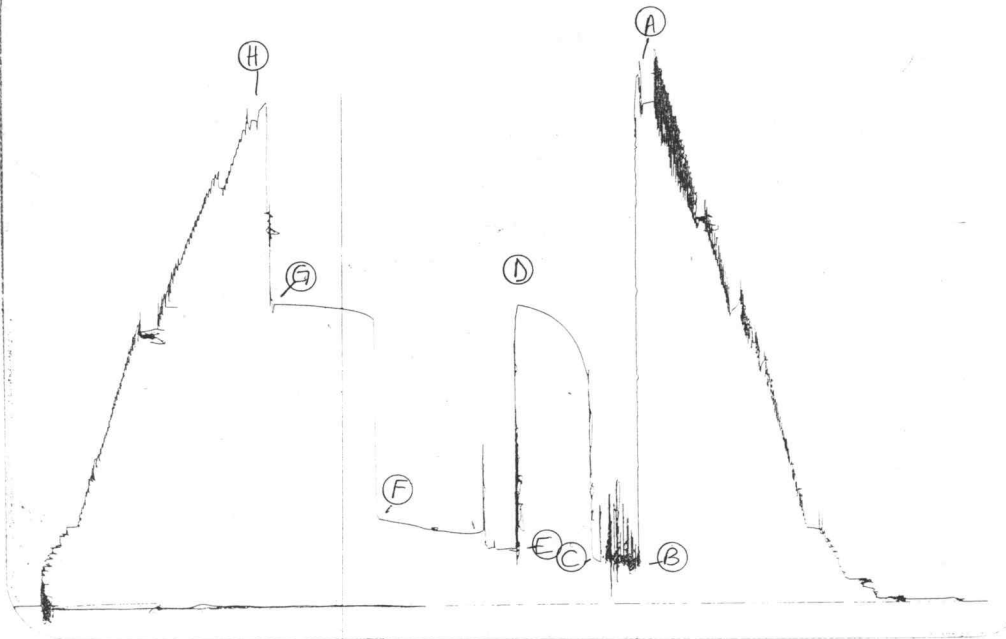
RESISTIVITY

DRILLING MUD:	CHLORIDE CONTENT:	0.00 ppm
MUD PIT SAMPLE: 0.27 @ 72 DEG. F.	CHLORIDE CONTENT:	2300.00 ppm
GAS/OIL RATIO:	GRAVITY:	37 @ 70 DEG. F.
WHERE WAS SAMPLE DRAINED: WELL SITE		
REMARKS:		

1562
D5+ #4
Top

Ticket # 19742

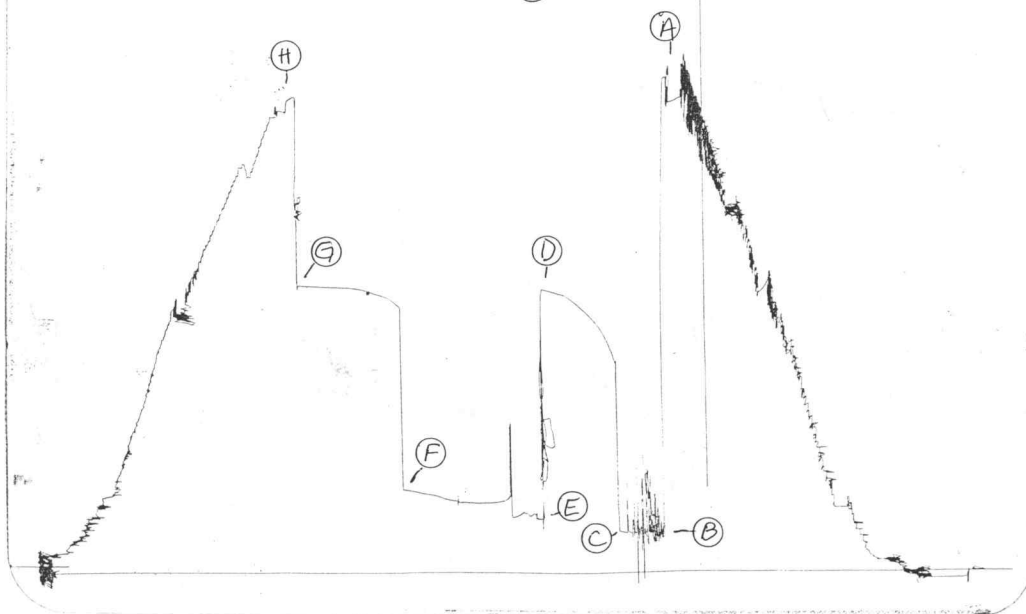
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2603
D5+ #4
Bottom

Ticket # 19742

O



DST REPORT

GENERAL INFORMATION

DATE	: 3-28-95	TICKET	: 19742
CUSTOMER	: HELMERICH & PAYNE, INC.	LEASE	: GROTH
WELL	: #A-1	TEST: 4	GEOLOGIST: BRAD RINE
ELEVATION	: 2975 KB	FORMATION	: MORROW SAND
SECTION	: 32	TOWNSHIP	: 29S
RANGE	: 33W	COUNTY: HASKELL	STATE : KS
GAUGE SN#	: ELEC 01157	RANGE :	CLOCK : 12

WELL INFORMATION

PERFORATION INTERVAL FROM:	5226.00 ft	TO:	5400.00 ft	TVD:	5400.0 ft
DEPTH OF SELECTIVE ZONE:				TEST TYPE:	OIL
DEPTH OF RECORDERS:	5232.0 ft		5380.0 ft		
TEMPERATURE:	131.0				
DRILL COLLAR LENGTH:	600.0 ft	I.D.:	2.250 in		
WEIGHT PIPE LENGTH :	0.0 ft	I.D.:	0.000 in		
DRILL PIPE LENGTH :	4595.0 ft	I.D.:	3.800 in		
TEST TOOL LENGTH :	31.0 ft	TOOL SIZE :	5.500 in		
ANCHOR LENGTH :	174.0 ft	ANCHOR SIZE:	5.500 in		
SURFACE CHOKE SIZE :	0.750 in	BOTTOM CHOKE SIZE:	0.750 in		
MAIN HOLE SIZE :	7.875 in	TOOL JOINT SIZE :	4.5 X.H.		
PACKER DEPTH:	5221.0 ft	SIZE:	6.630 in		
PACKER DEPTH:	5226.0 ft	SIZE:	6.630 in		
PACKER DEPTH:	0.0 ft	SIZE:	0.000 in		
PACKER DEPTH:	0.0 ft	SIZE:	0.000 in		

MUD INFORMATION

DRILLING CON. :	CHEYENNE RIG #7	VISCOSITY :	58.00 cp
MUD TYPE :	CHEMICAL POLY	WATER LOSS:	8.800 cc
WEIGHT :	9.000 ppg		
CHLORIDES :	2400 ppm	SERIAL NUMBER:	401
JARS-MAKE :	W.T.C.	REVERSED OUT?:	NO
DID WELL FLOW?:	NO		

COMMENTS

Comment

INITIAL FLOW: WEAK TO FAIR BLOW, 3-1/2 INCHES IN
BOTTOM OF BUCKET.
FINAL FLOW: FAIR BLOW DECREASING TO WEAK, 1/2 INCH

DST REPORT (CONTINUED)

COMMENTS (CONTINUED)

Comment

IN BOTTOM OF BUCKET.

FLUID RECOVERY

Feet of Fluid	% Oil	% Gas	% Water	% Mud	Comments
345.0	0.0	0.0	30.0	70.0	WATERY MUD
0.0	0.0	0.0	0.0	0.0	CHLORIDES - 31,000 ppm

RATE INFORMATION

OIL VOLUME:	0.0000	STB	TOTAL FLOW TIME:	91.0000	min.
GAS VOLUME:	0.0000	SCF	AVERAGE OIL RATE:	0.0000	STB/D
MUD VOLUME:	1.1876	STB	AVERAGE WATER RATE:	26.8462	STB/D
WATER VOLUME:	0.5090	STB			
TOTAL FLUID :	1.6965	STB			

FIELD TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 2677.00

Description	Duration	p1	p End
INITIAL FLOW	30.00	179.00	211.00
INITIAL SHUT-IN	60.00		1525.00
FINAL FLOW	60.00	296.00	455.00
FINAL SHUT-IN	120.00		1535.00

FINAL HYDROSTATIC PRESSURE: 2550.00

DST REPORT (CONTINUED)

OFFICE TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 2584.00

Description	Duration	p1	p End
INITIAL FLOW	31.00	71.30	126.10
INITIAL SHUT-IN	58.00		1451.80
FINAL FLOW	60.00	690.50	291.10
FINAL SHUT-IN	120.00		1457.90

FINAL HYDROSTATIC PRESSURE: 2525.00

GAS FLOW REPORT

GENERAL INFORMATION

DATE : 3-28-95	TICKET : 19742
CUSTOMER : HELMERICH & PAYNE, INC.	LEASE : GROTH
WELL : #A-1 TEST: 4	GEOLOGIST: BRAD RINE
ELEVATION: 2975 KB	FORMATION: MORROW SAND
SECTION : 32	TOWNSHIP : 29S
RANGE : 33W COUNTY: HASKELL	STATE : KS
GAUGE SN#: ELEC 01157 RANGE :	CLOCK : 12

PRE FLOW

Time Guage (min)	Tester Type	Orifice Size	Pressure	Flow Desc.
15 MIN	MERLA	0.500	10 PSIG	116000 SCF/D

SECOND FLOW

Time Guage (min)	Tester Type	Orifice Size	Pressure	Flow Desc.
10 MIN	MERLA	0.500	16 PSIG	153000 SCF/D
20 MIN	MERLA	0.500	18 PSIG	166000 SCF/D
30 MIN	MERLA	0.500	16 PSIG	153000 SCF/D
40 MIN	MERLA	0.500	16 PSIG	153000 SCF/D
50 MIN	MERLA	0.500	15 PSIG	147000 SCF/D
60 MIN	MERLA	0.500	15 PSIG	147000 SCF/D

PRESSURE TRANSIENT REPORT

GENERAL INFORMATION

DATE : 3-28-95	TICKET : 19742
CUSTOMER : HELMERICH & PAYNE, INC.	LEASE : GROTH
WELL : #A-1 TEST: 4	GEOLOGIST: BRAD RINE
ELEVATION: 2975 KB	FORMATION: MORROW SAND
SECTION : 32	TOWNSHIP : 29S
RANGE : 33W COUNTY: HASKELL	STATE : KS
GAUGE SN#: ELEC 01157 RANGE :	CLOCK : 12

INITIAL FLOW

Time (min)	Pressure	Delta P
0.00	71.30	71.30
2.00	241.70	170.40
4.00	91.40	-150.30
6.00	70.80	-20.60
8.00	86.00	15.20
10.00	76.90	-9.10
12.00	86.90	10.00
14.00	88.20	1.30
16.00	88.60	0.40
18.00	98.10	9.50
20.00	97.80	-0.30
22.00	109.70	11.90
24.00	110.10	0.40
26.00	112.50	2.40
28.00	118.60	6.10
30.00	124.40	5.80
31.00	126.10	1.70

INITIAL SHUT IN

Time (min)	Pressure	Delta P	Horner T
2.00	147.10	147.10	0.00
4.00	1087.30	940.20	0.00
6.00	1133.50	46.20	0.00
8.00	1174.40	40.90	0.00
10.00	1210.00	35.60	0.00
12.00	1240.60	30.60	0.00
14.00	1267.40	26.80	0.00
16.00	1290.10	22.70	0.00
18.00	1310.10	20.00	0.00

PRESSURE TRANSIENT REPORT (CONTINUED)

INITIAL SHUT IN (CONTINUED)

Time (min)	Pressure	Delta P	Horner T
20.00	1327.10	17.00	0.00
22.00	1342.10	15.00	0.00
24.00	1356.00	13.90	0.00
26.00	1368.00	12.00	0.00
28.00	1378.90	10.90	0.00
30.00	1388.50	9.60	0.00
32.00	1397.10	8.60	0.00
34.00	1404.50	7.40	0.00
36.00	1411.50	7.00	0.00
38.00	1417.40	5.90	0.00
40.00	1422.90	5.50	0.00
42.00	1427.70	4.80	0.00
44.00	1432.50	4.80	0.00
46.00	1436.40	3.90	0.00
48.00	1440.10	3.70	0.00
50.00	1442.90	2.80	0.00
52.00	1445.40	2.50	0.00
54.00	1447.90	2.50	0.00
56.00	1450.00	2.10	0.00
58.00	1451.80	1.80	0.00

FINAL FLOW

Time (min)	Pressure	Delta P
0.00	690.50	690.50
2.00	179.90	-510.60
4.00	184.10	4.20
6.00	180.60	-3.50
8.00	182.00	1.40
10.00	181.60	-0.40
12.00	182.70	1.10
14.00	182.60	-0.10
16.00	181.80	-0.80
18.00	179.30	-2.50
20.00	182.00	2.70
22.00	182.30	0.30
24.00	673.60	491.30
26.00	265.50	-408.10
28.00	267.90	2.40
30.00	269.60	1.70
32.00	271.40	1.80
34.00	273.40	2.00

PRESSURE TRANSIENT REPORT (CONTINUED)

FINAL FLOW (CONTINUED)

Time (min)	Pressure	Delta P
36.00	275.10	1.70
38.00	276.80	1.70
40.00	278.20	1.40
42.00	280.00	1.80
44.00	282.30	2.30
46.00	284.10	1.80
48.00	284.80	0.70
50.00	287.40	2.60
52.00	291.20	3.80
54.00	293.10	1.90
56.00	284.60	-8.50
58.00	286.50	1.90
60.00	291.10	4.60

FINAL SHUT IN

Time (min)	Pressure	Delta P	Horner T
2.00	294.50	294.50	0.00
4.00	304.00	9.50	0.00
6.00	306.60	2.60	0.00
8.00	308.90	2.30	0.00
10.00	310.70	1.80	0.00
12.00	325.10	14.40	0.00
14.00	328.50	3.40	0.00
16.00	330.50	2.00	0.00
18.00	333.00	2.50	0.00
20.00	335.20	2.20	0.00
22.00	337.50	2.30	0.00
24.00	339.70	2.20	0.00
26.00	341.90	2.20	0.00
28.00	344.20	2.30	0.00
30.00	346.80	2.60	0.00
32.00	348.70	1.90	0.00
34.00	351.70	3.00	0.00
36.00	354.30	2.60	0.00
38.00	356.50	2.20	0.00
40.00	359.20	2.70	0.00
42.00	361.80	2.60	0.00
44.00	364.00	2.20	0.00
46.00	1412.70	1048.70	0.00
48.00	1417.20	4.50	0.00
50.00	1420.10	2.90	0.00

PRESSURE TRANSIENT REPORT (CONTINUED)

FINAL SHUT IN (CONTINUED)

Time (min)	Pressure	Delta P	Horner T
52.00	1423.50	3.40	0.00
54.00	1426.10	2.60	0.00
56.00	1428.70	2.60	0.00
58.00	1431.00	2.30	0.00
60.00	1433.20	2.20	0.00
62.00	1435.10	1.90	0.00
64.00	1437.40	2.30	0.00
66.00	1439.30	1.90	0.00
68.00	1440.80	1.50	0.00
70.00	1442.30	1.50	0.00
72.00	1443.80	1.50	0.00
74.00	1445.30	1.50	0.00
76.00	1446.80	1.50	0.00
78.00	1447.90	1.10	0.00
80.00	1449.40	1.50	0.00
82.00	1450.60	1.20	0.00
84.00	1451.70	1.10	0.00
86.00	1452.80	1.10	0.00
88.00	1454.00	1.20	0.00
90.00	1455.10	1.10	0.00
92.00	1456.20	1.10	0.00
94.00	1456.90	0.70	0.00
96.00	1457.70	0.80	0.00
98.00	1458.40	0.70	0.00
100.00	1459.20	0.80	0.00
102.00	1459.50	0.30	0.00
104.00	1460.70	1.20	0.00
106.00	1461.00	0.30	0.00
108.00	1461.80	0.80	0.00
110.00	1462.20	0.40	0.00
112.00	1462.90	0.70	0.00
114.00	1463.30	0.40	0.00
116.00	1463.60	0.30	0.00
118.00	1464.00	0.40	0.00
120.00	1457.90	-6.10	0.00

FLUID SAMPLE REPORT

GENERAL INFORMATION

DATE	: 3-28-95	TICKET	: 19742
CUSTOMER	: HELMERICH & PAYNE, INC.	LEASE	: GROTH
WELL	: #A-1	TEST: 4	GEOLOGIST: BRAD RINE
ELEVATION	: 2975 KB	FORMATION	: MORROW SAND
SECTION	: 32	TOWNSHIP	: 29S
RANGE	: 33W	COUNTY: HASKELL	STATE : KS
GAUGE SN#	: ELEC 01157	RANGE :	CLOCK : 12

SAMPLE INFORMATION

PRESSURE IN SAMPLER:	400.00 PSIG	BHT:	131.0 DEG F
TOTAL VOLUME OF SAMPLER:	3150.00 cc		
TOTAL VOLUME OF SAMPLE:	2700.00 cc		
OIL:	0.00 cc		
WATER:	0.00 cc		
MUD:	2700.00 cc		
GAS:	0.00 cc		
OTHER:	0.00 cc		

RESISTIVITY

DRILLING MUD: 0.04 @ 70 DEG. F.	CHLORIDE CONTENT: 31000.00 ppm
MUD PIT SAMPLE:	CHLORIDE CONTENT: 2400.00 ppm
GAS/OIL RATIO:	GRAVITY: 37 @ 70 DEG. F.
WHERE WAS SAMPLE DRAINED: WELL SITE	
REMARKS:	

Total Test

