

15-055-21487

31-25s-34w

WELL NAME: Brown #1-31
OPERATOR: Helmerich & Payne Inc
LOCATION: Sec 31 Rge 25S Twp 34W
Finney County Kansas
DATE: 04/11/96

TRILOBITE TESTING L.L.C.

OPERATOR : Helmerich & Payne Inc.

DATE 4-10-96

WELL NAME: Brown #1-31

KB 3003.00 ft

TICKET NO: 9163

DST #1

LOCATION : 31-25S-34W, Finney Cty KS

GR 2991.00 ft

FORMATION: Morrow

INTERVAL : 4971.00 To 4996.00 ft

TD 4996.00 ft

TEST TYPE: CONVENTIONAL

RECORDER DATA

Mins		Field	1	2	3	4	TIME DATA-----
PF	0	Rec.	13339	13339	2342		PF Fr. 1820 to 1825 hr
SI	0	Range(Psi)	4025.0	4025.0	4995.0	0.0	0.0 IS Fr. to hr
SF	0	Clock(hrs)	AK-1	AK-1	Alpin		SF Fr. to hr
FS	0	Depth(ft)	4991.0	4991.0	4974.0	0.0	0.0 FS Fr. to hr

	Field	1	2	3	4	
A. Init Hydro	0.0	2316.0	2325.0	0.0	0.0	T STARTED 1505 hr
B. First Flow	0.0	0.0	0.0	0.0	0.0	T ON BOTM 1818 hr
B1. Final Flow	0.0	0.0	0.0	0.0	0.0	T OPEN 1820 hr
C. In Shut-in	0.0	0.0	0.0	0.0	0.0	T PULLED 1830 hr
D. Init Flow	0.0	0.0	0.0	0.0	0.0	T OUT 2200 hr
E. Final Flow	0.0	0.0	0.0	0.0	0.0	
F. Fl Shut-in	0.0	0.0	0.0	0.0	0.0	
G. Final Hydro	0.0	2310.0	2324.0	0.0	0.0	TOOL DATA-----
Inside/Outside	0	0	I			Tool Wt. 1800.00 lbs

RECOVERY

Tot Fluid 700.00 ft of 670.00 ft in DC and 30.00 ft in DP
 335.00 ft of Gassy oil cut mud - 5% gas, 3% oil, 92% mud
 185.00 ft of Gas cut mud - 10% gas, trc oil, 90% mud
 180.00 ft of Heavy gas cut mud - 25% gas, trc oil, 75% mud

Initial Str Wt 90000.00 lbs
 Unseated Str Wt 90000.00 lbs
 Bot Choke 0.75 in
 Hole Size 7.88 in
 D Col. ID 2.25 in
 D. Pipe ID 3.80 in
 D.C. Length 670.00 ft
 D.P. Length 4302.00 ft

RW 3.0 @ 70 deg.

SALINITY 2000.00 P.P.M. A.P.I. Gravity 0.00

BLOW DESCRIPTION

*Packer failed @ initial open tried to reset with no help

TOH W/TOOL

SAMPLES:

SENT TO:

MUD DATA-----
 Mud Type Chem/Poly
 Weight 5.60 lb/c
 Vis. 57.00 S/L
 W.L. 8.80 in3
 F.C. 0.00 in
 Mud Drop Y 50.0 ft
 Amt. of fill 0.00 ft
 Btm. H. Temp. 119.00 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 Rod Steinbrink
 Co. Rep. Brad Rine
 Contr. Cheyenne Drlg.
 Rig # 1
 Unit #
 Pump T.

Test Successful: N

CALCULATED RECOVERY ANALYSIS

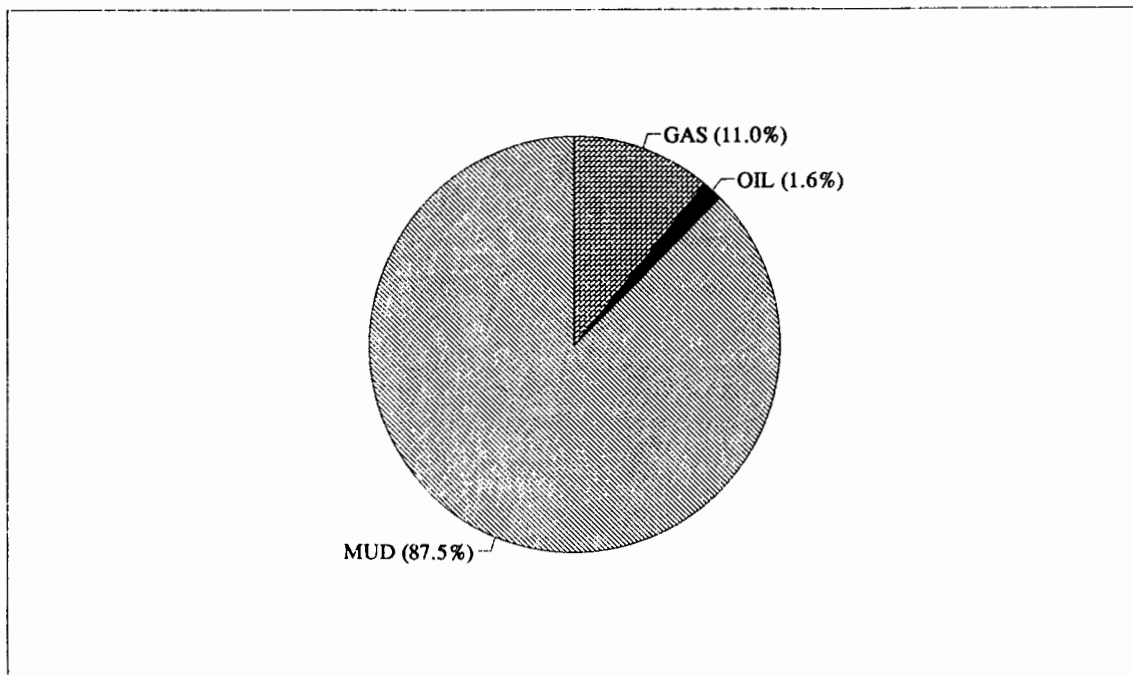
DST # 1

TICKET 9163

SAMPLE #	TOTAL FEET	GAS		OIL		WATER		MUD	
		%	FEET	%	FEET	%	FEET	%	FEET
DRL PIPE 1	30	5	1.5	3	0.9	0	0	92	27.6
2			0		0	0	0		0
3			0		0	0	0		0
4			0		0	0	0		0
5			0		0	0	0		0
6			0		0	0	0		0
WGT PIPE 1			0		0	0	0		0
2			0		0	0	0		0
3			0		0	0	0		0
4			0		0	0	0		0
COLLARS 1	305	5	15.25	3	9.15	0	0	92	280.6
2	185	10	18.5		0	0	0	90	166.5
3	180	25	45		0	0	0	75	135
4			0		0	0	0		0
5			0		0	0	0		0
TOTAL	700		80.25		10.05		0		609.7

HRS OPE BBL/DAY

BBL OIL= 0.057542 * 0.167 8.26944
 BBL WATER= 0 * 0
 BBL MUD= 3.238941
 BBL GAS = 0.406418



TEST HISTORY

9163 DST #1 Brown #1-31 Helmrich & Payne

Flag Points

t (Min.) P (PSig)

R: 0.00 2325.88

Q: 0.00 2324.88

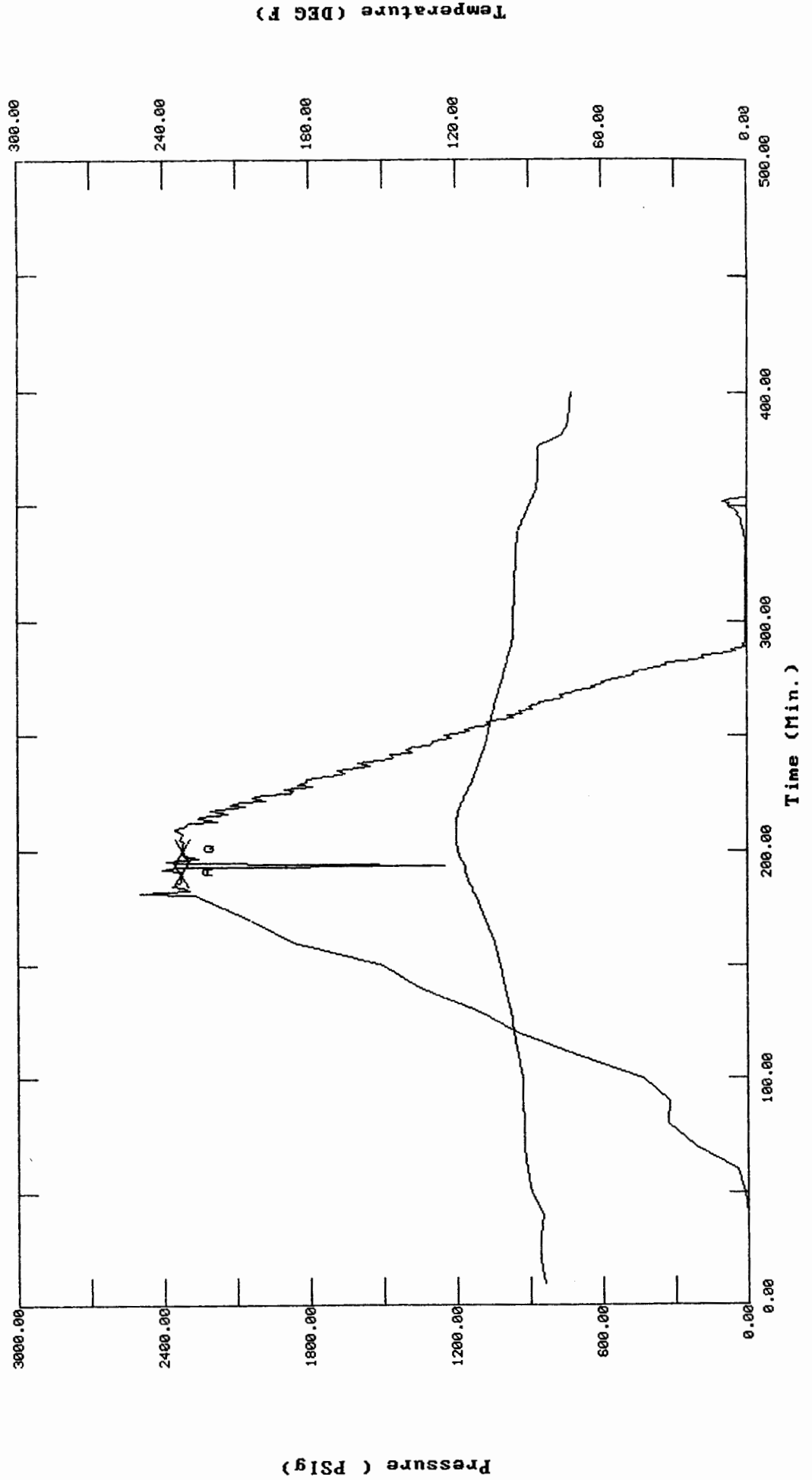
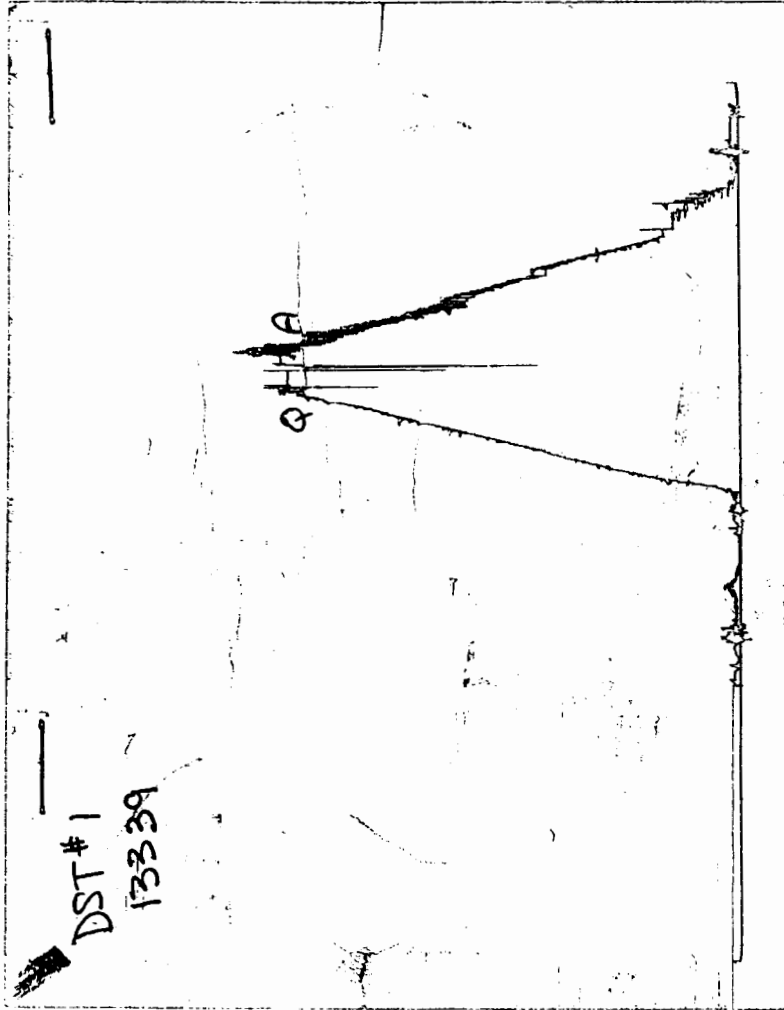


CHART PAGE



This is a photocopy of the actual AK-1 recorder chart

 ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 9163 DST #1 Brown #1-31 Helmrich & Payne

DATE: 04/10/96 TIME: 15:05:30

	Time	Pressure PSig	delta P PSig	Temp. DEG F	(T+dT)/dT	P ² /10 ⁶
***** Initial Hydro.	190.00	2325.9	0.0	115.96		
***** Start Flow 1	0.00	2324.9	0.0	119.25		
***** End Flow 1	1.00	2323.2	-1.7	119.43		
***** End Shut-in 1	202.00	2323.2	0.0	119.43	0.0050	5.397
***** Final Hydro.	201.00	2323.2	0.0	119.43		

*** TOOL DIAGRAM *** CONVENTIONAL

WELL NAME: Brown #1-31
 LOCATION : 31-25S-34W, Finney Cty KS
 TICKET No. 9163 D.S.T. No. 1 DATE 4-10-96
 TOTAL TOOL TO BOTTOM OF TOP PACKERS 30
 INTERVAL TOOL
 BOTTOM PACKERS AND ANCHOR 25
 TOTAL TOOL 55
 DRILL COLLAR ANCHOR IN INTERVAL
 D.C. ANCHOR STND.Stands Single Total
 D.P. ANCHOR STND.Stands Single Total
 TOTAL ASSEMBLY 55
 D.C. ABOVE TOOLS.Stands11 Single Total 670
 D.P. ABOVE TOOLS.Stands69 Single Total 4302
 TOTAL DRILL COLLARS DRILL PIPE & TOOLS .. 5027
 TOTAL DEPTH 4996
 TOTAL DRILL PIPE ABOVE K.B. 31

REMARKS:

FLUID SAMPLER DATA

PIT MUD ANALYSIS -
 Chlorides 1800 ppm, Viscosity 57,
 Mud Wt 8.8, Filtrate 5.6, LCM 2#/bbl
 PIPE RECOVERY -
 Bottom -
 Resist 3.0 ohms @ 70 F, Chlorides 2000 ppm

P.O. SUB 1' above 120' DC	4821
C.O. SUB 1'	4941
S.I. TOOL 5'	4947
Sampler 3'	4950
HMV 5'	4955
JARS 5'	4960
SAFETY JOINT 2'	4962
PACKER 5'	4966
PACKER 5'	4971
DEPTH STUBB 1'	4972
ANCHOR Alp. Recorder 5'	4974
5'	4977
5'	4982
5'	4987
4'	4991
T.C. DEPTH	
AK-1 recorder	4991
BULLNOSE 5'	
T.D.	4996

TRILOBITE TESTING L.L.C.

P.O. Box 362 • Hays, Kansas 67601

Test Ticket

N^o 9163

Well Name & No.	<u>Brown #1-31</u>	Test No.	<u>1</u>	Date	<u>4-10-96</u>		
Company	<u>Helmrich & Payne, Inc.</u>	Zone Tested	<u>Morrow</u>				
Address	<u>P.O. Box 558 Garden City, KS. 67846</u>	Elevation	<u>3003</u>	KB	<u>2991</u> GL		
Co. Rep / Geo.	<u>Brad Rine</u>	Cont.	<u>Cheyenne #1</u>	Est. Ft. of Pay	<u> </u> Por. <u> </u> %		
Location: Sec.	<u>31</u>	Twp.	<u>25^s</u>	Rge.	<u>34^w</u> Co. <u>Finney</u> State <u>KS</u>		
No. of Copies	<u> </u>	Distribution Sheet (Y, N)	<u> </u>	Turnkey (Y, N)	<u> </u>	Evaluation (Y, N)	<u> </u>

Interval Tested	<u>4971 - 4996</u>	Initial Str Wt./Lbs.	<u>90,000</u>	Unseated Str Wt./Lbs.	<u>90,000</u>
Anchor Length	<u>25'</u>	Wt. Set Lbs.	<u>30-40,000</u>	Wt. Pulled Loose/Lbs.	<u>110,000</u>
Top Packer Depth	<u>4966</u>	Hole Size — 7 7/8"	<u> </u>	Rubber Size — 6 3/4"	<u> </u>
Bottom Packer Depth	<u>4971</u>	Wt. Pipe I.D. — 2.7 Ft. Run	<u> </u>		
Total Depth	<u>4996</u>	Drill Collar — 2.25 Ft. Run	<u>4 1/2" xH</u>	<u>670'</u>	
Mud Wt. <u>8.8</u> LCM <u>2*</u> Vis. <u>57</u> WL <u>5.6</u>		Drill Pipe Size	<u>4 1/2" xH</u>	Ft. Run	<u>4302'</u>
Blow Description	<u>Packer failed @ initial open tried to reset - no help.</u> <u>TOH w/Tool</u>				

Recovery — Total Feet	<u>700'</u>	Ft. in DC	<u>670'</u>	Ft. in WP	<u> </u>	Ft. in DP	<u>30'</u>
Rec. <u>335'</u>	Feet Of <u>GOCM</u>	<u>5</u> %gas	<u>3</u> %oil	<u> </u> %water	<u>92</u> %mud		
Rec. <u> </u>	Feet Of <u> </u>	<u> </u> %gas	<u> </u> %oil	<u> </u> %water	<u> </u> %mud		
Rec. <u>185'</u>	Feet Of <u>GCM</u>	<u>10</u> %gas	<u>trc.</u> %oil	<u> </u> %water	<u>90</u> %mud		
Rec. <u> </u>	Feet Of <u> </u>	<u> </u> %gas	<u> </u> %oil	<u> </u> %water	<u> </u> %mud		
Rec. <u>180'</u>	Feet Of <u>HGCM</u>	<u>25</u> %gas	<u>trc.</u> %oil	<u> </u> %water	<u>75</u> %mud		

BHT 119° °F Gravity °API D@ °F Corrected Gravity °API
RW 3.0 @ 70° °F Chlorides 2,000 ppm Recovery Chlorides 1,800 ppm System

(A) Initial Hydrostatic Mud	<u>2325</u>	PSI	Recorder No.	<u>2342</u>	T-Started	<u>1505</u>
(B) First Initial Flow Pressure	<u> </u>	PSI	@ (depth)	<u>4974</u>	T-Open	<u>1820</u>
(C) First Final Flow Pressure	<u> </u>	PSI	Recorder No.	<u>13339</u>	T-Pulled	<u>1830</u>
(D) Initial Shut-in Pressure	<u> </u>	PSI	@ (depth)	<u>4991</u>	T-Out	<u>2200</u>
(E) Second Initial Flow Pressure	<u> </u>	PSI	Recorder No.	<u> </u>		
(F) Second Final Flow Pressure	<u> </u>	PSI	@ (depth)	<u> </u>		
(G) Final Shut-in Pressure	<u> </u>	PSI	Initial Opening	<u> </u>	Test	<u>Misrun 400</u>
(H) Final Hydrostatic Mud	<u>2324</u>	PSI	Initial Shut-in	<u> </u>	Jars	<u>X</u> <u>200</u>

Final Flow Safety Joint X 50
Final Shut-in Straddle

TRILOBITE TESTING L.L.C. SHALL NOT BE LIABLE FOR DAMAGE OF ANY KIND OF THE PROPERTY OR PERSONNEL OF THE ONE FOR WHOM A TEST IS MADE, OR FOR ANY LOSS SUFFERED OR SUSTAINED, DIRECTLY OR INDIRECTLY, THROUGH THE USE OF ITS EQUIPMENT, OR ITS STATEMENTS OR OPINION CONCERNING THE RESULTS OF ANY TEST. TOOLS LOST OR DAMAGED IN THE HOLE SHALL BE PAID FOR AT COST BY THE PARTY FOR WHOM THE TEST IS MADE.

Approved By Brad Rine

Our Representative Rod Steinbrink

Circ. Sub	<u>X</u>	<u>N/C</u>
Sampler	<u>X</u>	<u>n/c</u>
Extra Packer	<u> </u>	<u> </u>
Elect. Rec.	<u>X</u>	<u>150</u>
Other	<u> </u>	<u> </u>
TOTAL PRICE \$	<u>800</u>	

4
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TRILOBITE TESTING L.L.C.

P.O. Box 362 - Hays, Kansas 67601

FLUID SAMPLER DATA

Ticket No. 9163 Date 10-4-96
Company Name Helmrich & Payne Cont. Cheyenne #1
Lease Brown #1-31 Test No. 1 Morrow
County Finney KS. Sec. 31 Twp. 25^S Rng. 34^W

SAMPLER RECOVERY

Gas _____ ML
Oil _____ ML
Mud _____ ML
Water _____ ML
Other _____ ML
Pressure _____ PSI
Total _____ ML

PIT MUD ANALYSIS

Chlorides 1,800 ppm.
Resistivity _____ ohms @ _____ F
Viscosity 57
Mud Weight 8.8
Filtrate 5.6
Other LCM 2*/bbl.

SAMPLER ANALYSIS

Resistivity _____ ohms @ _____ F
Chlorides _____ ppm.
Gravity _____ corrected @ 60 F

PIPE RECOVERY

TOP
Resistivity _____ ohms @ _____ F
Chlorides _____ ppm.
MIDDLE
Resistivity _____ ohms @ _____ F
Chlorides _____ ppm.
BOTTOM
Resistivity 3.0 ohms @ 70° F
Chlorides 2,000 ppm.

TRILOBITE TESTING L.L.C.

OPERATOR : Helmerich & Payne Inc.

DATE 4-11-96

WELL NAME: Brown #1-31

KB 3003.00 ft

TICKET NO: 9164

DST #2

LOCATION : 31-25S-34W, Finney Cty KS

GR 2991.00 ft

FORMATION: Morrow

INTERVAL : 4888.00 To 4996.00 ft

TD 4996.00 ft

TEST TYPE: CONVENTIONAL

RECORDER DATA

Mins	Field	1	2	3	4	TIME DATA-----
PF 30 Rec.	13339	13339	2342			PF Fr. 0103 to 0133 hr
SI 60 Range(Psi)	4025.0	4025.0	4995.0	0.0	0.0	IS Fr. 0133 to 0233 hr
SF 60 Clock(hrs)	AK-1	AK-1	Alpin			SF Fr. 0233 to 0333 hr
FS 150 Depth(ft)	4991.0	4991.0	4893.0	0.0	0.0	FS Fr. 0333 to 0603 hr

	Field	1	2	3	4	
A. Init Hydro	2433.0	2426.0	2361.0	0.0	0.0	T STARTED 2200 hr
B. First Flow	353.0	366.0	299.0	0.0	0.0	T ON BOTM 0100 hr
B1. Final Flow	353.0	370.0	324.0	0.0	0.0	T OPEN 0103 hr
C. In Shut-in	415.0	426.0	397.0	0.0	0.0	T PULLED 0603 hr
D. Init Flow	384.0	393.0	355.0	0.0	0.0	T OUT 1000 hr
E. Final Flow	405.0	393.0	362.0	0.0	0.0	
F. Fl Shut-in	405.0	397.0	374.0	0.0	0.0	TOOL DATA-----
G. Final Hydro	2303.0	2307.0	1986.0	0.0	0.0	Tool Wt. 1800.00 lbs
Inside/Outside	0	0	I			Wt Set On Packer 30000.00 lbs
						Wt Pulled Loose 120000.00 lbs
						Initial Str Wt 90000.00 lbs
						Unseated Str Wt 100000.00 lbs
						Bot Choke 0.75 in
						Hole Size 7.88 in
						D Col. ID 2.25 in
						D. Pipe ID 3.80 in
						D.C. Length 670.00 ft
						D.P. Length 4209.00 ft

RECOVERY

Tot Fluid 870.00 ft of 670.00 ft in DC and 200.00 ft in DP
 80.00 ft of Gassy oil cut mud - 20% gas, 60% oil, 20% mud
 120.00 ft of Gassy mud cut oil - 40% gas, 35% oil, 25% mud
 300.00 ft of Gassy mud cut oil - 40% gas, 30% oil, 30% mud
 370.00 ft of Gassy mud cut oil - 10% gas, 60% oil, 30% mud

RW 3.0@ 70 F

SALINITY 2000.00 P.P.M. A.P.I. Gravity 0.00

BLOW DESCRIPTION

Initial Flow -
 Fair to strong blow off bottom in
 1 min. stayed steady throughout

Initial Shutin -
 Bled off blow, surface return built to
 8"

Final Flow -
 Fair return built to bottom in 4 min

Final Shutin -
 Bled off blow, surface return built to
 3"

SAMPLES:
 SENT TO:

MUD DATA-----

Mud Type	Chem/Ploy
Weight	8.80 lb/c
Vis.	57.00 S/L
W.L.	5.60 in ³
F.C.	0.00 in
Mud Drop N	
Amt. of fill	0.00 ft
Btm. H. Temp.	125.00 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	Rod Steinbrink
Co. Rep.	Brad Rine
Contr.	Cheyenne Drlg.
Rig #	1
Unit #	
Pump T.	

Test Successful: Y

CALCULATED RECOVERY ANALYSIS

DST # 2

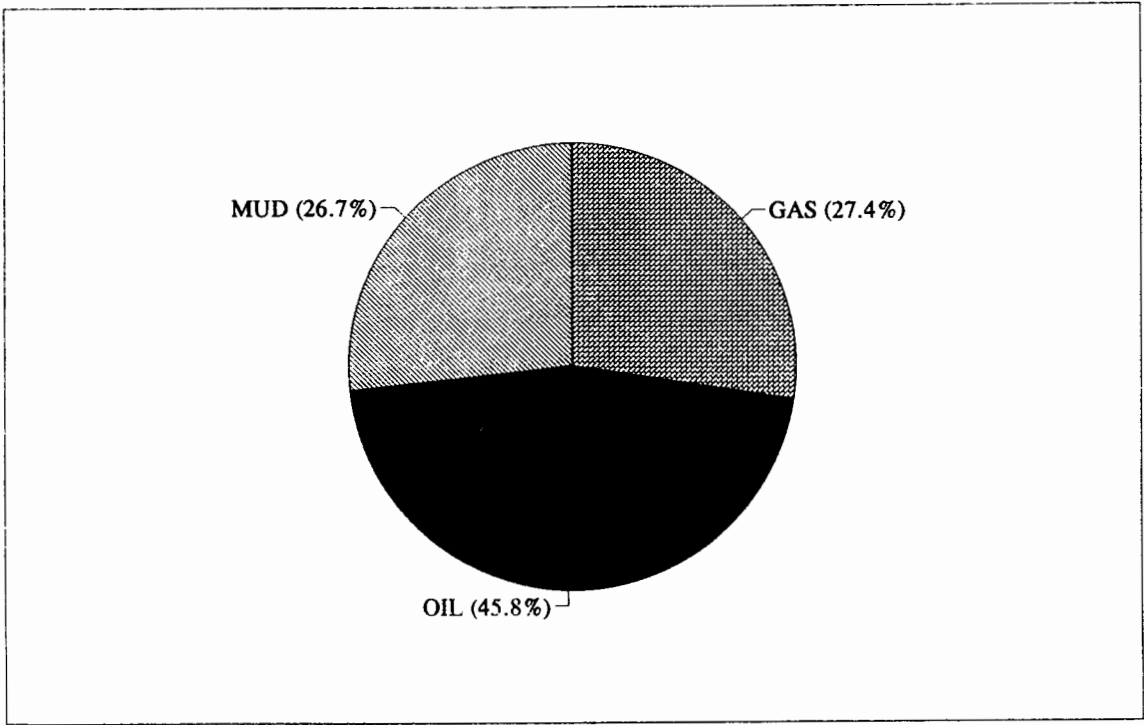
TICKET 9164

SAMPLE #	TOTAL FEET	GAS		OIL		WATER		MUD	
		%	FEET	%	FEET	%	FEET	%	FEET
DRL PIPE	1	80	20	16	60	48	0	20	16
	2	120	40	48	35	42	0	25	30
	3			0		0	0		0
	4			0		0	0		0
	5			0		0	0		0
	6			0		0	0		0
WGT PIPE	1			0		0	0		0
	2			0		0	0		0
	3			0		0	0		0
	4			0		0	0		0
COLLARS	1	300	40	120	30	90	0	30	90
	2	370	10	37	60	222	0	30	111
	3			0		0	0		0
	4			0		0	0		0
	5			0		0	0		0
TOTAL	870		221		402		0		247

HRS OPE BBL/DAY

BBL OIL= 2.80548 *
 BBL WATER= 0 *
 BBL MUD= 1.63701
 BBL GAS = 1.67781

1.5 44.8877
 0



TEST HISTORY

9164 DST #2 Brown #1-31 Helmrich & Payne

Flag Points

t(Min.) P(PSig)

- R: 0.00 2361.22
- B: 0.00 298.86
- C: 35.00 323.95
- D: 69.00 397.47
- E: 0.00 354.59
- F: 62.00 362.06
- G: 134.00 373.55
- Q: 0.00 1986.06

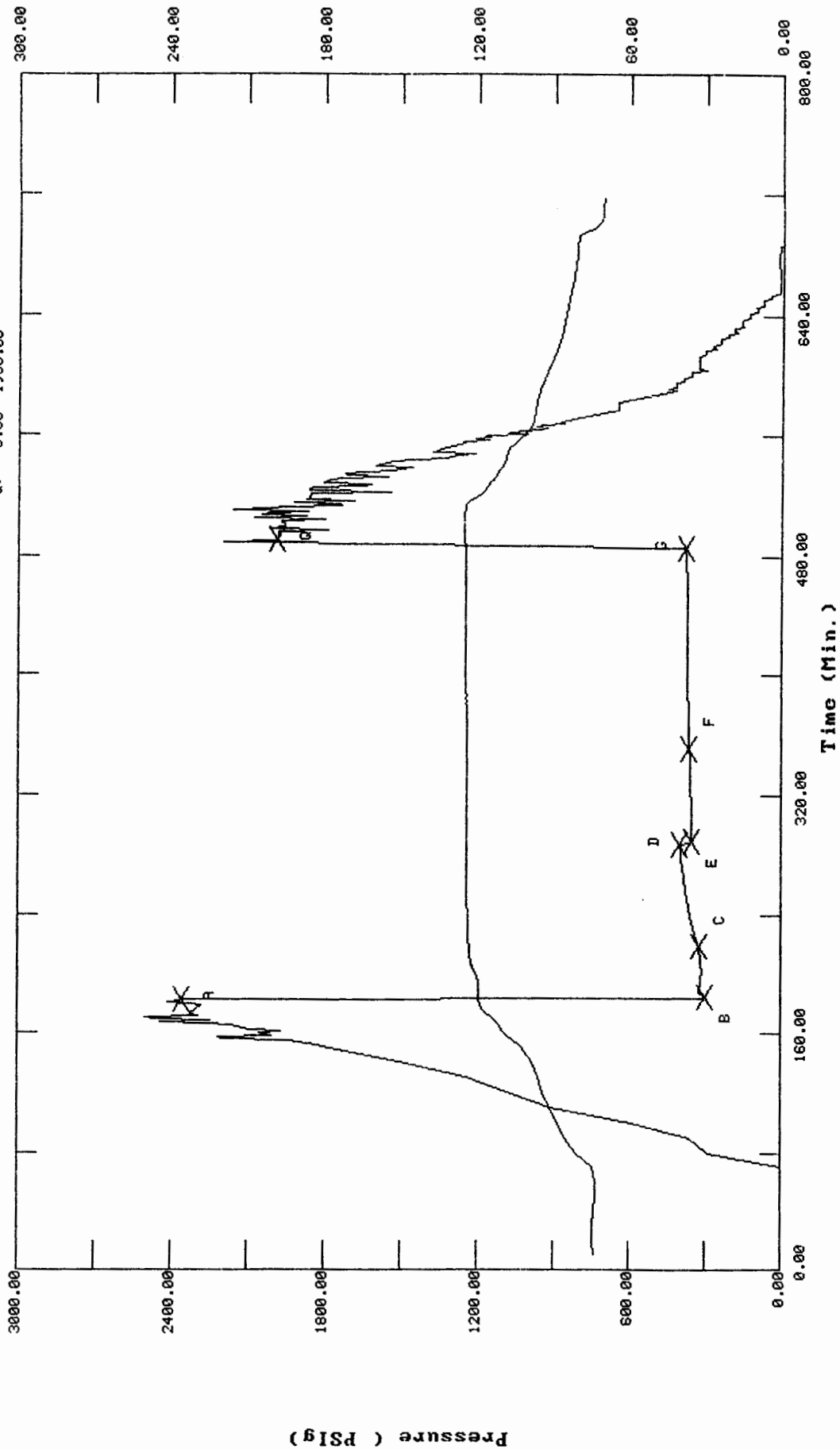
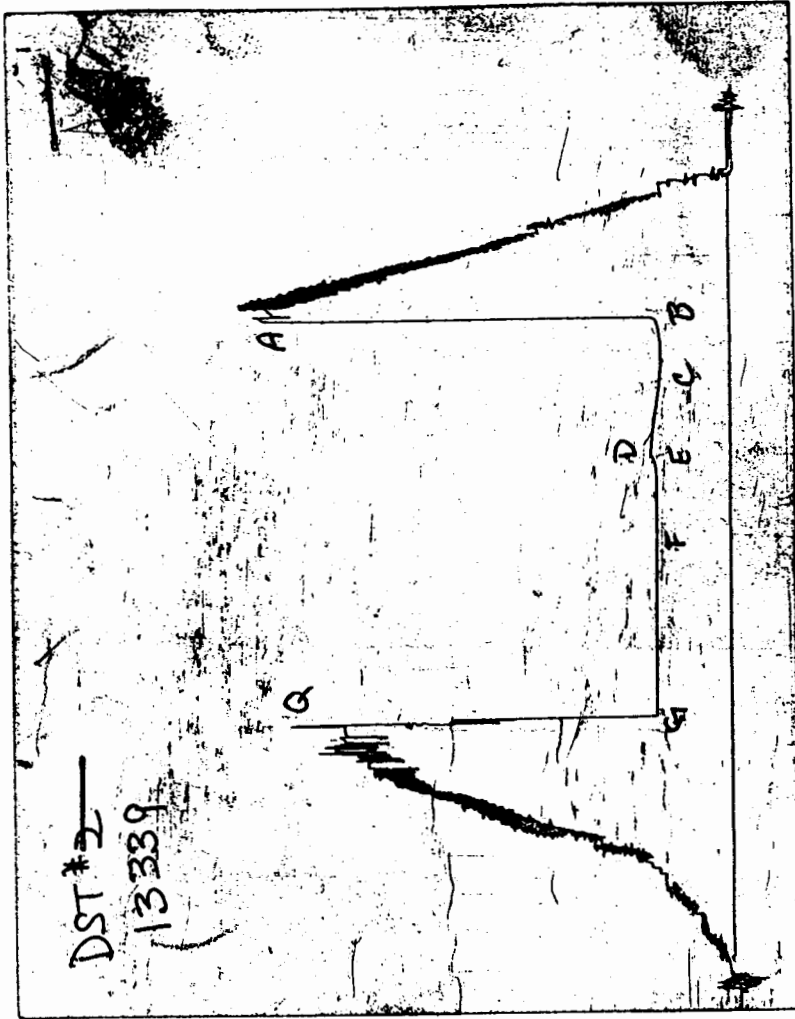


CHART PAGE



This is a photocopy of the actual AK-1 recorder chart

 ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 9164 DST #2 Brown #1-31 Helmrich & Payne

DATE: 04/10/96 TIME: 21:58:47

	Time	Pressure PSig	delta P PSig	P Temp. DEG F	(T+dT)/dT	P ² /10 ⁶
***** Initial Hydro.	182.00	2361.2	0.0	119.27		
***** Start Flow 1	0.00	298.9	0.0	119.39		
	1.00	305.2	6.4	119.42		
	2.00	316.4	17.5	119.42		
	3.00	320.3	21.5	119.41		
	4.00	323.0	24.2	119.40		
	5.00	321.1	22.2	119.40		
	6.00	318.2	19.4	119.39		
	7.00	315.6	16.8	119.39		
	8.00	315.5	16.6	119.38		
	9.00	316.7	17.9	119.38		
	10.00	317.2	18.4	119.40		
	11.00	316.7	17.9	119.48		
	12.00	315.9	17.0	119.66		
	13.00	314.6	15.7	119.90		
	14.00	313.4	14.5	120.17		
	15.00	312.2	13.3	120.45		
	16.00	311.6	12.8	120.73		
	17.00	311.7	12.8	121.00		
	18.00	312.1	13.3	121.24		
	19.00	312.7	13.8	121.47		
	20.00	313.3	14.4	121.68		
	21.00	313.5	14.6	121.88		
	22.00	314.0	15.1	122.06		
	23.00	314.3	15.4	122.23		
	24.00	314.8	15.9	122.37		
	25.00	315.1	16.2	122.50		
	26.00	315.9	17.0	122.61		
	27.00	316.7	17.9	122.71		
	28.00	317.7	18.9	122.80		
	29.00	318.6	19.7	122.88		
	30.00	319.5	20.6	122.94		
	31.00	320.3	21.5	122.99		
	32.00	321.0	22.2	123.05		
	33.00	322.0	23.2	123.10		
	34.00	323.0	24.2	123.13		
***** End Flow 1	35.00	324.0	25.1	123.17		
***** Start Shutin 1	0.00	324.0	0.0	123.17	0.0000	0.105
	1.00	326.6	2.7	123.21	36.0000	0.107
	2.00	328.7	4.7	123.24	18.5000	0.108
	3.00	330.8	6.8	123.27	12.6667	0.109
	4.00	332.6	8.6	123.31	9.7500	0.111
	5.00	334.4	10.5	123.33	8.0000	0.112
	6.00	336.2	12.3	123.35	6.8333	0.113
	7.00	337.9	13.9	123.38	6.0000	0.114
	8.00	339.6	15.6	123.41	5.3750	0.115
	9.00	341.2	17.2	123.44	4.8889	0.116
	10.00	342.7	18.7	123.47	4.5000	0.117
	11.00	344.3	20.3	123.49	4.1818	0.119
	12.00	345.8	21.8	123.52	3.9167	0.120
	13.00	347.1	23.2	123.54	3.6923	0.120

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 9164 DST #2 Brown #1-31 Helmrich & Payne

DATE: 04/10/96

TIME: 21:58:47

Time	Pressure PSIg	delta P PSIg	Temp. DEG F	(T+dT)/dT	P ² /10 ⁶
14.00	348.5	24.5	123.58	3.5000	0.121
15.00	349.9	25.9	123.61	3.3333	0.122
16.00	351.1	27.2	123.64	3.1875	0.123
17.00	352.5	28.5	123.67	3.0588	0.124
18.00	353.8	29.9	123.70	2.9444	0.125
19.00	355.2	31.2	123.72	2.8421	0.126
20.00	356.4	32.5	123.74	2.7500	0.127
21.00	357.7	33.7	123.76	2.6667	0.128
22.00	358.9	34.9	123.78	2.5909	0.129
23.00	360.0	36.0	123.80	2.5217	0.130
24.00	361.2	37.3	123.81	2.4583	0.130
25.00	362.4	38.4	123.82	2.4000	0.131
26.00	363.5	39.5	123.83	2.3462	0.132
27.00	364.7	40.7	123.85	2.2963	0.133
28.00	365.6	41.6	123.86	2.2500	0.134
29.00	366.9	43.0	123.87	2.2069	0.135
30.00	368.2	44.2	123.88	2.1667	0.136
31.00	368.9	44.9	123.88	2.1290	0.136
32.00	369.9	45.9	123.89	2.0938	0.137
33.00	370.8	46.8	123.90	2.0606	0.137
34.00	371.8	47.8	123.90	2.0294	0.138
35.00	373.2	49.3	123.91	2.0000	0.139
36.00	373.9	49.9	123.91	1.9722	0.140
37.00	374.7	50.8	123.92	1.9459	0.140
38.00	375.7	51.7	123.93	1.9211	0.141
39.00	376.6	52.6	123.93	1.8974	0.142
40.00	377.5	53.5	123.93	1.8750	0.143
41.00	378.3	54.4	123.93	1.8537	0.143
42.00	379.3	55.4	123.94	1.8333	0.144
43.00	380.1	56.1	123.95	1.8140	0.144
44.00	381.0	57.1	123.96	1.7955	0.145
45.00	381.8	57.8	123.96	1.7778	0.146
46.00	382.6	58.7	123.97	1.7609	0.146
47.00	383.3	59.3	123.98	1.7447	0.147
48.00	384.0	60.1	123.99	1.7292	0.147
49.00	384.9	60.9	124.00	1.7143	0.148
50.00	385.6	61.7	123.99	1.7000	0.149
51.00	386.4	62.4	124.01	1.6863	0.149
52.00	387.2	63.2	124.01	1.6731	0.150
53.00	388.1	64.1	124.01	1.6604	0.151
54.00	388.6	64.6	124.03	1.6481	0.151
55.00	389.3	65.4	124.03	1.6364	0.152
56.00	390.2	66.2	124.03	1.6250	0.152
57.00	391.2	67.2	124.04	1.6140	0.153
58.00	392.0	68.1	124.04	1.6034	0.154
59.00	392.7	68.7	124.05	1.5932	0.154
60.00	393.3	69.3	124.06	1.5833	0.155
61.00	393.9	69.9	124.06	1.5738	0.155
62.00	394.3	70.3	124.07	1.5645	0.155
63.00	394.9	70.9	124.08	1.5556	0.156
64.00	395.5	71.6	124.08	1.5469	0.156

 ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 9164 DST #2 Brown #1-31 Helmrich & Payne

DATE: 04/10/96

TIME: 21:58:47

	Time	Pressure PSig	delta P PSig	Temp. DEG F	(T+dT)/dT	P ² /10 ⁶
	65.00	396.0	72.1	124.08	1.5385	0.157
	66.00	396.7	72.8	124.09	1.5303	0.157
	67.00	397.4	73.4	124.10	1.5224	0.158
	68.00	398.1	74.1	124.10	1.5147	0.158
***** End Shut-in 1	69.00	397.5	73.5	124.10	1.5072	0.158
***** Start Flow 2	0.00	354.6	0.0	124.11		
	1.00	353.2	-1.4	124.11		
	2.00	353.0	-1.6	124.11		
	3.00	352.9	-1.7	124.11		
	4.00	352.9	-1.7	124.11		
	5.00	352.8	-1.8	124.10		
	6.00	352.8	-1.8	124.11		
	7.00	352.6	-2.0	124.11		
	8.00	352.6	-2.0	124.11		
	9.00	352.9	-1.7	124.11		
	10.00	352.9	-1.7	124.11		
	11.00	352.8	-1.8	124.11		
	12.00	352.8	-1.8	124.12		
	13.00	352.7	-1.9	124.12		
	14.00	352.7	-1.9	124.12		
	15.00	352.7	-1.9	124.12		
	16.00	352.8	-1.8	124.12		
	17.00	352.8	-1.8	124.13		
	18.00	352.8	-1.8	124.13		
	19.00	352.9	-1.7	124.13		
	20.00	353.1	-1.5	124.14		
	21.00	353.2	-1.3	124.14		
	22.00	353.4	-1.2	124.14		
	23.00	353.6	-1.0	124.14		
	24.00	353.8	-0.8	124.15		
	25.00	354.0	-0.6	124.15		
	26.00	354.3	-0.3	124.17		
	27.00	354.4	-0.2	124.16		
	28.00	354.8	0.2	124.17		
	29.00	354.9	0.3	124.17		
	30.00	355.1	0.5	124.17		
	31.00	355.3	0.8	124.18		
	32.00	355.6	1.0	124.19		
	33.00	355.8	1.3	124.19		
	34.00	356.2	1.6	124.20		
	35.00	356.3	1.8	124.20		
	36.00	356.5	1.9	124.21		
	37.00	356.6	2.0	124.22		
	38.00	356.9	2.3	124.21		
	39.00	357.0	2.4	124.22		
	40.00	357.3	2.7	124.23		
	41.00	357.5	2.9	124.23		
	42.00	357.8	3.2	124.24		
	43.00	357.9	3.3	124.24		
	44.00	358.2	3.6	124.24		
	45.00	358.4	3.8	124.25		

 ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 9164 DST #2 Brown #1-31 Helmrich & Payne

DATE: 04/10/96

TIME: 21:58:47

	Time	Pressure PSig	delta P PSig	Temp. DEG F	(T+dT)/dT	P^2/10^6
	46.00	358.6	4.0	124.25		
	47.00	358.9	4.3	124.26		
	48.00	359.2	4.6	124.26		
	49.00	359.3	4.7	124.27		
	50.00	359.5	5.0	124.27		
	51.00	359.7	5.1	124.27		
	52.00	359.9	5.3	124.28		
	53.00	360.1	5.5	124.28		
	54.00	360.3	5.7	124.28		
	55.00	360.5	5.9	124.29		
	56.00	360.6	6.0	124.29		
	57.00	360.9	6.3	124.30		
	58.00	360.9	6.3	124.31		
	59.00	361.0	6.5	124.31		
	60.00	361.2	6.6	124.31		
	61.00	361.6	7.0	124.31		
*****	End Flow 2	62.00	362.1	7.5	124.31	
*****	Start Shutin 2	0.00	362.1	0.0	124.31	0.0000
	1.00	362.3	0.3	124.32	98.0000	0.131
	2.00	362.5	0.4	124.32	49.5000	0.131
	3.00	362.7	0.7	124.33	33.3333	0.132
	4.00	363.0	0.9	124.32	25.2500	0.132
	5.00	363.1	1.0	124.33	20.4000	0.132
	6.00	363.3	1.3	124.34	17.1667	0.132
	7.00	363.4	1.3	124.34	14.8571	0.132
	8.00	363.5	1.4	124.35	13.1250	0.132
	9.00	363.7	1.6	124.35	11.7778	0.132
	10.00	363.8	1.8	124.35	10.7000	0.132
	11.00	364.1	2.0	124.36	9.8182	0.133
	12.00	364.2	2.2	124.36	9.0833	0.133
	13.00	364.4	2.4	124.37	8.4615	0.133
	14.00	364.5	2.4	124.37	7.9286	0.133
	15.00	364.7	2.6	124.37	7.4667	0.133
	16.00	364.8	2.8	124.38	7.0625	0.133
	17.00	365.0	2.9	124.38	6.7059	0.133
	18.00	365.2	3.1	124.39	6.3889	0.133
	19.00	365.3	3.3	124.39	6.1053	0.133
	20.00	365.6	3.5	124.38	5.8500	0.134
	21.00	365.8	3.8	124.39	5.6190	0.134
	22.00	366.0	3.9	124.40	5.4091	0.134
	23.00	366.2	4.1	124.40	5.2174	0.134
	24.00	366.3	4.2	124.40	5.0417	0.134
	25.00	366.3	4.3	124.40	4.8800	0.134
	26.00	366.4	4.4	124.40	4.7308	0.134
	27.00	366.5	4.4	124.42	4.5926	0.134
	28.00	366.7	4.6	124.41	4.4643	0.134
	29.00	366.8	4.7	124.43	4.3448	0.135
	30.00	366.8	4.8	124.43	4.2333	0.135
	31.00	367.0	5.0	124.43	4.1290	0.135
	32.00	367.1	5.0	124.47	4.0312	0.135
	33.00	367.3	5.2	124.43	3.9394	0.135

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 9164 DST #2 Brown #1-31 Helmrich & Payne

DATE: 04/10/96

TIME: 21:58:47

Time	Pressure PSig	delta P PSig	Temp. DEG F	(T+dT)/dT	P ² /10 ⁶
34.00	367.4	5.4	124.42	3.8529	0.135
35.00	367.6	5.5	124.42	3.7714	0.135
36.00	367.7	5.6	124.43	3.6944	0.135
37.00	367.8	5.8	124.44	3.6216	0.135
38.00	367.8	5.7	124.45	3.5526	0.135
39.00	368.0	6.0	124.45	3.4872	0.135
40.00	368.2	6.2	124.46	3.4250	0.136
41.00	368.3	6.3	124.45	3.3659	0.136
42.00	368.3	6.3	124.46	3.3095	0.136
43.00	368.4	6.3	124.46	3.2558	0.136
44.00	368.5	6.5	124.46	3.2045	0.136
45.00	368.5	6.5	124.47	3.1556	0.136
46.00	368.7	6.7	124.47	3.1087	0.136
47.00	368.7	6.7	124.47	3.0638	0.136
48.00	368.7	6.7	124.48	3.0208	0.136
49.00	368.8	6.8	124.48	2.9796	0.136
50.00	368.8	6.8	124.49	2.9400	0.136
51.00	368.9	6.9	124.49	2.9020	0.136
52.00	368.9	6.9	124.50	2.8654	0.136
53.00	368.9	6.9	124.50	2.8302	0.136
54.00	368.9	6.9	124.50	2.7963	0.136
55.00	368.9	6.9	124.50	2.7636	0.136
56.00	369.1	7.0	124.51	2.7321	0.136
57.00	369.1	7.0	124.51	2.7018	0.136
58.00	369.3	7.2	124.52	2.6724	0.136
59.00	369.4	7.3	124.52	2.6441	0.136
60.00	369.5	7.5	124.52	2.6167	0.137
61.00	369.6	7.6	124.52	2.5902	0.137
62.00	369.7	7.6	124.53	2.5645	0.137
63.00	369.8	7.7	124.54	2.5397	0.137
64.00	369.9	7.9	124.53	2.5156	0.137
65.00	370.0	7.9	124.54	2.4923	0.137
66.00	370.0	7.9	124.54	2.4697	0.137
67.00	370.2	8.1	124.54	2.4478	0.137
68.00	370.3	8.2	124.54	2.4265	0.137
69.00	370.3	8.2	124.54	2.4058	0.137
70.00	370.3	8.3	124.55	2.3857	0.137
71.00	370.3	8.3	124.56	2.3662	0.137
72.00	370.4	8.4	124.56	2.3472	0.137
73.00	370.4	8.4	124.56	2.3288	0.137
74.00	370.4	8.4	124.56	2.3108	0.137
75.00	370.5	8.5	124.57	2.2933	0.137
76.00	370.6	8.6	124.57	2.2763	0.137
77.00	370.7	8.6	124.57	2.2597	0.137
78.00	370.8	8.7	124.58	2.2436	0.137
79.00	370.9	8.8	124.58	2.2278	0.138
80.00	371.2	9.1	124.59	2.2125	0.138
81.00	371.2	9.1	124.59	2.1975	0.138
82.00	371.1	9.0	124.59	2.1829	0.138
83.00	371.1	9.0	124.60	2.1687	0.138
84.00	371.3	9.3	124.60	2.1548	0.138

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 9164 DST #2 Brown #1-31 Helmrich & Payne

DATE: 04/10/96

TIME: 21:58:47

Time	Pressure PSig	delta P PSig	Temp. DEG F	(T+dT)/dT	P^2/10^6
85.00	371.3	9.3	124.60	2.1412	0.138
86.00	371.3	9.2	124.61	2.1279	0.138
87.00	371.3	9.2	124.61	2.1149	0.138
88.00	371.4	9.3	124.61	2.1023	0.138
89.00	371.5	9.4	124.61	2.0899	0.138
90.00	371.6	9.5	124.62	2.0778	0.138
91.00	371.7	9.6	124.62	2.0659	0.138
92.00	371.7	9.6	124.62	2.0543	0.138
93.00	371.8	9.7	124.63	2.0430	0.138
94.00	371.8	9.7	124.63	2.0319	0.138
95.00	371.8	9.7	124.64	2.0211	0.138
96.00	371.7	9.6	124.64	2.0104	0.138
97.00	371.8	9.8	124.64	2.0000	0.138
98.00	371.9	9.9	124.64	1.9898	0.138
99.00	371.9	9.9	124.65	1.9798	0.138
100.00	372.0	10	124.65	1.9700	0.138
101.00	372.0	10	124.65	1.9604	0.138
102.00	372.0	10	124.65	1.9510	0.138
103.00	372.1	10.0	124.66	1.9417	0.138
104.00	372.1	10.1	124.67	1.9327	0.138
105.00	372.2	10.2	124.67	1.9238	0.139
106.00	372.4	10.4	124.67	1.9151	0.139
107.00	372.4	10.4	124.67	1.9065	0.139
108.00	372.5	10.5	124.68	1.8981	0.139
109.00	372.5	10.5	124.68	1.8899	0.139
110.00	372.5	10.5	124.69	1.8818	0.139
111.00	372.5	10.5	124.69	1.8739	0.139
112.00	372.8	10.7	124.69	1.8661	0.139
113.00	372.8	10.7	124.70	1.8584	0.139
114.00	372.7	10.6	124.70	1.8509	0.139
115.00	372.7	10.6	124.70	1.8435	0.139
116.00	372.9	10.8	124.71	1.8362	0.139
117.00	372.9	10.9	124.71	1.8291	0.139
118.00	372.9	10.9	124.72	1.8220	0.139
119.00	373.2	11.2	124.71	1.8151	0.139
120.00	373.4	11.4	124.72	1.8083	0.139
121.00	373.4	11.4	124.72	1.8017	0.139
122.00	373.4	11.3	124.72	1.7951	0.139
123.00	373.5	11.5	124.73	1.7886	0.140
124.00	373.5	11.5	124.73	1.7823	0.140
125.00	373.6	11.6	124.75	1.7760	0.140
126.00	373.6	11.6	124.74	1.7698	0.140
127.00	373.7	11.7	124.75	1.7638	0.140
128.00	373.8	11.7	124.75	1.7578	0.140
129.00	373.9	11.8	124.76	1.7519	0.140
130.00	374.0	11.9	124.76	1.7462	0.140
131.00	374.3	12.2	124.77	1.7405	0.140
132.00	374.3	12.2	124.77	1.7348	0.140
133.00	374.4	12.3	124.78	1.7293	0.140
134.00	373.6	11.5	124.78	1.7239	0.140

***** End Shut-in 2

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 9164 DST #2 Brown #1-31 Helmrich & Payne

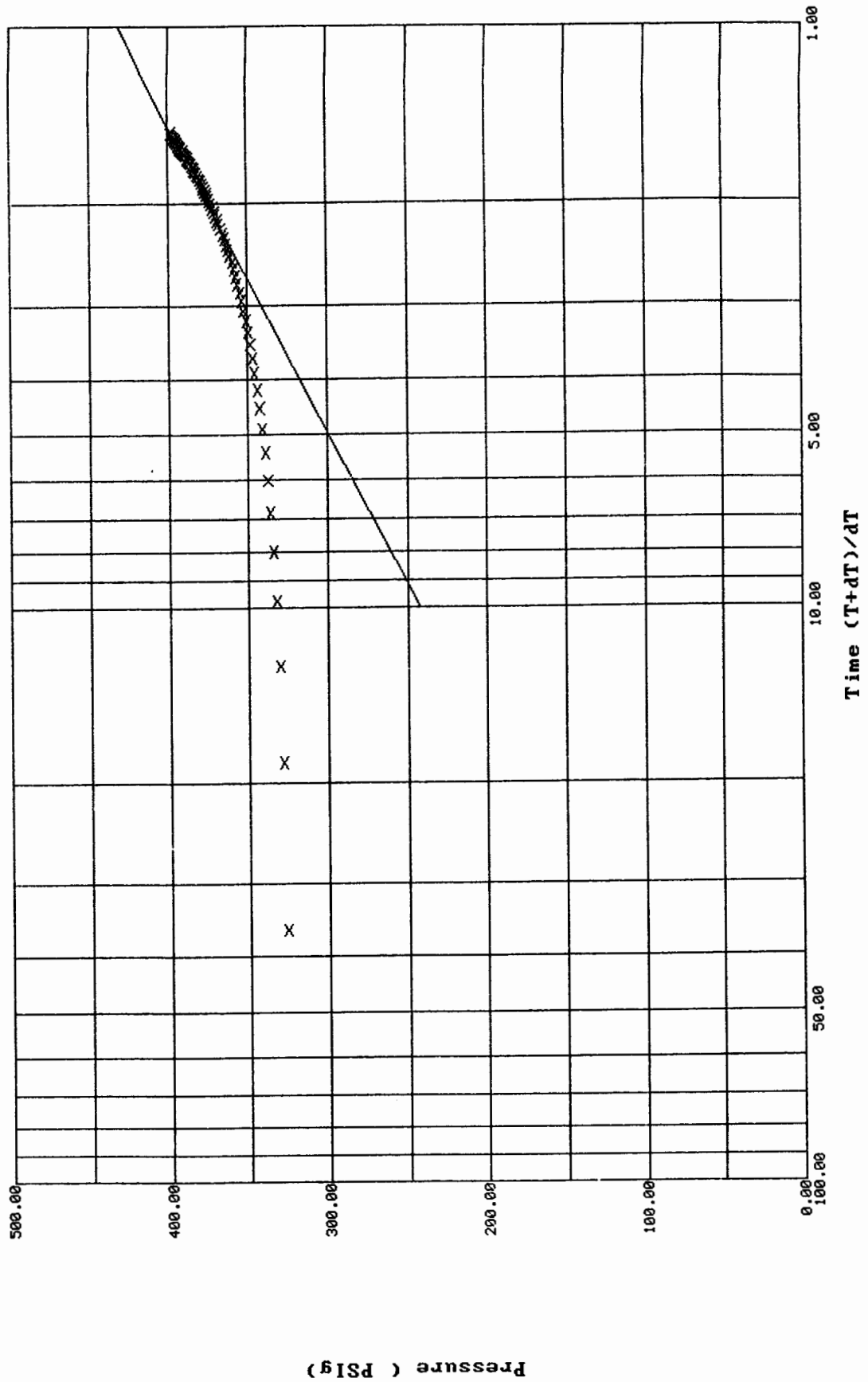
DATE: 04/10/96 TIME: 21:58:47

 Time Pressure delta P Temp. (T+dT)/dT P^2/10^6
 PSig PSig DEG F
***** Final Hydro. 491.00 1986.1 0.0 125.29

Horner Plot: shut-in #1

9164 DST #2 Brown #1-31 Helmrich & Payne

Slope: 189.7101 PSig/cycle
Ext. Pressure: 431.7752 PSig

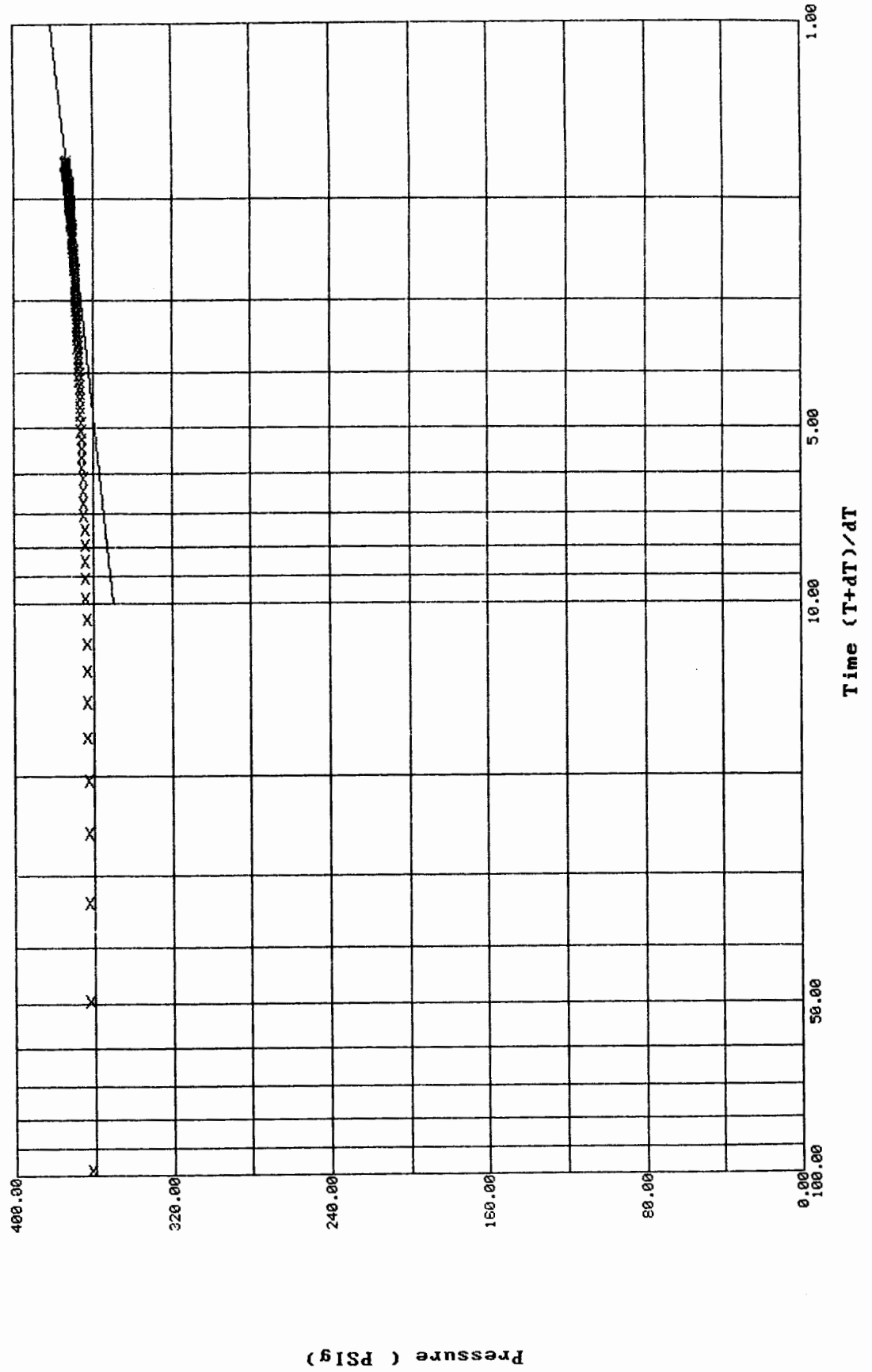


Horner Plot: shut-in #2

9164 DST #2 Brown #1-31 Helmrich & Payne

Slope: 31.3194 PSig/cycle

Ext. Pressure: 381.3344 PSig



*** TOOL DIAGRAM *** CONVENTIONAL

WELL NAME: Brown #1-31
 LOCATION : 31-25S-34W, Finney Cty KS
 TICKET No. 9164 D.S.T. No. 2 DATE 4-11-96
 TOTAL TOOL TO BOTTOM OF TOP PACKERS 30
 INTERVAL TOOL
 BOTTOM PACKERS AND ANCHOR 15
 TOTAL TOOL 45
 DRILL COLLAR ANCHOR IN INTERVAL
 .C. ANCHOR STND.Stands Single Total
 .P. ANCHOR STND.Stands 1 Single 1 Total 93
 TOTAL ASSEMBLY 138
 .C. ABOVE TOOLS.Stands11 Single Total 670
 .P. ABOVE TOOLS.Stands69 Single 1 Total 4205
 TOTAL DRILL COLLARS DRILL PIPE & TOOLS .. 5013
 TOTAL DEPTH 4996
 TOTAL DRILL PIPE ABOVE K.B. 17

REMARKS:
 FLUID SAMPLER DATA
 SAMPLER RECOVERY -
 Gas 1500 ml, Oil 2000 ml, Mud 500 ml,
 Pressure 250 PSI, Total 4000 ml
 SAMPLER ANALYSIS -
 Resist 3.0 ohms @ 70 F; Chlorides 2000 ppm
 BIT MUD ANALYSIS -
 Chlorides 1800 ppm, Viscosity 57,
 Mud Wt 8.8, Filtrate 5.6, LCM 2#/bbl
 PIPE RECOVERY -
 Bottom -
 Resist 3.0 ohms @ 70 F, Chlorides 2000 ppm

P.O. SUB 1' Above 120' DC	4738
C.O. SUB 1'	4858
S.I. TOOL 5'	4864
Sampler 3'	4867
HMV 5'	4872
JARS 5'	4877
SAFETY JOINT 2'	4879
PACKER 5'	4883
PACKER 5'	4888
DEPTH STUBB 1'	4889
ANCHOR Alp. Recorder	4893
5'	4894
2'	4896
1'	4897
93' DP	4990
T.C. DEPTH	
1'	4991
AK-1 recorder	4991
BULLNOSE 5'	
T.D.	4996

TRILOBITE TESTING L.L.C.

P.O. Box 362 • Hays, Kansas 67601

Test Ticket

N^o 9164

Well Name & No.	<u>Brown #1-31</u>	Test No.	<u>2</u>	Date	<u>4-11-96</u>
Company	<u>Helmrich & Payne, Inc.</u>	Zone Tested	<u>Morrow</u>		
Address	<u>P.O. Box 558 Garden City, KS 67846</u>	Elevation	<u>3003</u>	KB	<u>2991</u> GL
Co. Rep / Geo.	<u>Brad Rine</u>	Cont.	<u>Cheyenne #1</u>	Est. Ft. of Pay	<u> </u> Por. <u> </u> %
Location: Sec.	<u>31</u>	Twp.	<u>25^s</u>	Rge.	<u>34^w</u> Co. <u>Finney</u> State <u>KS</u>
No. of Copies	<u>3</u>	Distribution Sheet (Y, N)	<u>Y</u>	Turnkey (Y, N)	<u>N</u> Evaluation (Y, N) <u> </u>

Interval Tested	<u>4888 - 4996</u>	Initial Str Wt./Lbs.	<u>90,000</u>	Unseated Str Wt./Lbs.	<u>100,000</u>
Anchor Length	<u>108'</u>	Wt. Set Lbs.	<u>30,000</u>	Wt. Pulled Loose/Lbs.	<u>120,000</u>
Top Packer Depth	<u>4883</u>	Hole Size — 7 7/8"	<u> </u>	Rubber Size — 6 3/4"	<u> </u>
Bottom Packer Depth	<u>4888</u>	Wt. Pipe I.D. — 2.7 Ft. Run	<u> </u>		
Total Depth	<u>4996</u>	Drill Collar — 2.25 Ft. Run	<u>4 1/2" XH</u>	<u>670'</u>	
Mud Wt. <u>8.8</u> LCM <u>2#</u> Vis. <u>57</u> WL <u>5.6</u>		Drill Pipe Size	<u>4 1/2" XH</u>	Ft. Run	<u>4209'</u>

Blow Description IF: Fair to strong blow off bttm in 1 min.
ISI: Bled off blow - surface return built to 8"
FF: Fair return built to bttm in 4 mins.
FST: Bled off blow - surface return built to 3"

Recovery — Total Feet	Ft. in DC	Ft. in WP	Ft. in DP
Rec. <u>80'</u> Feet Of <u>GOCM</u>	<u>20</u>	<u>60</u>	<u>20</u>
Rec. <u>120'</u> Feet Of <u>G MCO</u>	<u>40</u>	<u>35</u>	<u>25</u>
Rec. <u>300'</u> Feet Of <u>G MCO</u>	<u>40</u>	<u>30</u>	<u>30</u>
Rec. <u>370'</u> Feet Of <u>G MCO</u>	<u>10</u>	<u>60</u>	<u>30</u>
Rec. <u> </u> Feet Of <u> </u>	<u> </u>	<u> </u>	<u> </u>

BHT 125° °F Gravity °API D@ °F Corrected Gravity °API
 RW 3.0 @ 70° °F Chlorides 2,000 ppm Recovery Chlorides 1,800 ppm System

(A) Initial Hydrostatic Mud	<u>2361</u> <u>2433</u> PSI	Recorder No.	<u>2342</u>	T-Started	<u>2200</u>
(B) First Initial Flow Pressure	<u>298</u> <u>353</u> PSI	@ (depth)	<u>4893</u>	T-Open	<u>0103</u>
(C) First Final Flow Pressure	<u>323</u> <u>353</u> PSI	Recorder No.	<u>13339</u>	T-Pulled	<u>0603</u>
(D) Initial Shut-in Pressure	<u>397</u> <u>415</u> PSI	@ (depth)	<u> </u>	T-Out	<u>1000</u>
(E) Second Initial Flow Pressure	<u>354</u> <u>384</u> PSI	Recorder No.	<u> </u>		
(F) Second Final Flow Pressure	<u>362</u> <u>405</u> PSI	@ (depth)	<u> </u>		
(G) Final Shut-in Pressure	<u>373</u> <u>405</u> PSI	Initial Opening	<u>30</u>	Test	<u>600</u>
(H) Final Hydrostatic Mud	<u>2198</u> <u>2303</u> PSI	Initial Shut-in	<u>60</u>	Jars	<u>X</u> <u>200</u>
Alp. Elec.	<u>AK-1 Mech</u>	Final Flow	<u>60</u>	Safety Joint	<u>X</u> <u>50</u>
		Final Shut-in	<u>150</u>	Straddle	<u> </u>

TRILOBITE TESTING L.L.C. SHALL NOT BE LIABLE FOR DAMAGE OF ANY KIND OF THE PROPERTY OR PERSONNEL OF THE ONE FOR WHOM A TEST IS MADE, OR FOR ANY LOSS SUFFERED OR SUSTAINED, DIRECTLY OR INDIRECTLY, THROUGH THE USE OF ITS EQUIPMENT, OR ITS STATEMENTS OR OPINION CONCERNING THE RESULTS OF ANY TEST. TOOLS LOST OR DAMAGED IN THE HOLE SHALL BE PAID FOR AT COST BY THE PARTY FOR WHOM THE TEST IS MADE.

Approved By Brad Rine
 Our Representative Rod Steinbrink

Circ. Sub X NIC
 Sampler X 200
 Extra Packer
 Elect. Rec. X 150
 Other
 TOTAL PRICE \$ 1200

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TRILOBITE TESTING L.L.C.

P.O. Box 362 - Hays, Kansas 67601

FLUID SAMPLER DATA

Ticket No. 9164 Date 10-5-96
Company Name Helmrich & Payne Cont Cheyenne #1
Lease Brown #1-31 Test No. 2 Morrow
County Finney KS. Sec. 31 Twp. 25^S Rng. 34^W

SAMPLER RECOVERY

Gas 1500 ML
Oil 2,000 ML
Mud 500 ML
Water _____ ML
Other _____ ML
Pressure 250[#] PSI
Total 4,000 ML

PIT MUD ANALYSIS

Chlorides 1,800 ppm.
Resistivity _____ ohms @ _____ F
Viscosity 57
Mud Weight 8.8
Filtrate 5.6
Other LCM 2[#]/bbl.

SAMPLER ANALYSIS

Resistivity 3.0 ohms @ 70° F
Chlorides 2,000 ppm.
Gravity _____ corrected @ 60 F

PIPE RECOVERY

TOP
Resistivity _____ ohms @ _____ F
Chlorides _____ ppm.

MIDDLE
Resistivity _____ ohms @ _____ F
Chlorides _____ ppm.

BOTTOM
Resistivity 3.0 ohms @ 70° F
Chlorides 2,000 ppm.

Well name Bloom

DST # 1

Recorder # 13339

A	2316	
B		
C		
D		
E		
F		
G	2310	
H		
I		
J		

Well name Bloom

DST # 2

Recorder # 13339

A	2426	
B	366	
C	370	
D	426	
E	393	
F	393	
G	397	
H	2307	
I		
J		