FORM MUST BE TYPED

SIDE ONE

ORIGINAL

STATE CORPORATION COMMISSION OF KANSAS
OIL & GAS CONSERVATION DIVISION
WELL COMPLETION FORM
ACO-1 WELL HISTORY
DESCRIPTION OF WELL AND LEASE

API NO. 15- 033-209150000

County Comanche

NE - NE - NE - Sec. 4 Twp. 33 Rge. 19 E/W

443 Feet from S/N (circle one) Line of Section

330 Feet from E/W (circle one) Line of Section

Footages Calculated from Nearest Outside Section Corner:
552' NE, SE, NW or SW (circle one)

Lease Name HERD Well # 1-4

Field Name Wildcat

Producing Formation Upper Miss. & Lower Marmaton

Elevation: Ground 1921 KB 1934

Total Depth 6236 PBTD 5367

Amount of Surface Pipe Set and Cemented at 679 Feet

Multiple Stage Cementing Collar Used? ____ Yes X No

If yes, show depth set ____ Feet

If Alternate II completion, cement circulated from 679

feet depth to surface w/ 225 sx cmt.

Drilling Fluid Management Plan ALT 1 JJ 6-12-97
(Data must be collected from the Reserve Pit)

Chloride content 7800 ppm Fluid volume 420 bbls

Dewatering method used settling water & hauling

Location of fluid disposal if hauled offsite:

Operator Name Dillco Fluid Service

Lease Name Regier #1 Permit# / License No 6652

NE Quarter Sec. 17 Twp. 33 S Rng. 27 E/W

County Meade Docket No. CD9824

Operator: License # 6528

Name: R.J.Patrick Operating Company

Address P O Box 1157

City/State/Zip Liberal, KS 67905

Purchaser: Pending

Operator Contact Person: R. J. Patrick

Phone (316) 624-8483

Contractor: Name: Duke Drilling Co., Inc.

License: 5929

Wellsite Geologist: Bob Posey

Designate Type of Completion
X New Well ____ Re-Entry ____ Workover

____ Oil ____ SWD ____ SIOW ____ Temp. Abd.
X Gas ____ ENHR XXX SIGW
____ Dry ____ Other (Core, WSW, Expl., Cathodic, etc)

If Workover/Re-Entry: old well info as follows:

Operator: ____

Well Name: ____

Comp. Date ____ Old Total Depth ____

____ Deepening ____ Re-perf. ____ Conv. to Inj/SWD
____ Plug Back ____ PBTD
____ Commingled Docket No. ____
____ Dual Completion Docket No. ____
____ Other (SWD or Inj?) Docket No. ____

12/07/96 Spud Date
12/23/96 Date Reached TD
01/03/97 Completion Date

RECEIVED
STATE CORPORATION COMMISSION
1-9-97
CONSERVATION DIVISION
WICHITA, KANSAS

INSTRUCTIONS: An original and two copies of this form shall be filed with the Kansas Corporation Commission, 200 Colorado Derby Building, Wichita, Kansas 67202, within 120 days of the spud date, recompletion, workover or conversion of a well. Rule 82-3-130, 82-3-106 and 82-3-107 apply. Information on side two of this form will be held confidential for a period of 12 months if requested in writing and submitted with the form (see rule 82-3-107 for confidentiality in excess of 12 months). One copy of all wireline logs and geologist well report shall be attached with this form. ALL CEMENTING TICKETS MUST BE ATTACHED. Submit CP-4 form with all plugged wells. Submit CP-111 form with all temporarily abandoned wells.

All requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Signature R J Patrick

Title R.J.Patrick:Owner Date 01/06/97

Subscribed and sworn to before me this 8th day of JANUARY, 19 97.

Notary Public Jayn Berry JAYN BERRY

Date Commission Expires 4-4-2000

STATE NOTARY PUBLIC KANSAS
JAYN BERRY
NOTARY PUBLIC
STATE OF KANSAS
My Appt. Expires: 4-4-2000

K.C.C. OFFICE USE ONLY
F ____ Letter of Confidentiality Attached
C JJ Wireline Log Received
C ____ Geologist Report Received

Distribution
✓ KCC ____ SWD/Rep ____ NGPA
____ KGS ____ Plug ____ Other (Specify)

Form ACO-1 (7-91)

SIDE TWO

Operator Name R. J. Patrick Operating Co. Lease Name Herd Well # 1-4

Sec. 4 Twp. 33 Rge. 19 ☐ East ☒ West County Comanche

INSTRUCTIONS: Show important tops and base of formations penetrated. Detail all cores. Report all drill stem tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface during test. Attach extra sheet if more space is needed. Attach copy of log.

*Copy of logs & DST reports are included.

Drill Stem Tests Taken (Attach Additional Sheets.) ☒ Yes ☐ No

Samples Sent to Geological Survey ☒ Yes ☐ No

Cores Taken ☐ Yes ☒ No

Electric Log Run (Submit Copy.) ☒ Yes ☐ No

List All E.Logs Run:
Comp. SSD, Comp.Neutron, Micro Duel Induction, Cement Bond Log Geological Report Drilling Time and sample log

☒ Log Formation (Top), Depth and Datums ☐ Sample

Name	Top	Datum
Toronto	4198	-2264
Lansing	4366	-2432
Marmaton	4904	-2968
Cherokee	5020	-3086
Mississippi	5110	-3176
Kinderhook	5486	-3552
Viola	5489	-3915
Simpson	6046	-4112
Arbuckle	6158	-4224

CASING RECORD ☐ New ☒ Used

Report all strings set-conductor, surface, intermediate, production, etc.

Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs./Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives
Conductor	30"	20" new	-	45'	grout	6	-
Surface	12¼	8 5/8" new	24	679	Pozmix	225	3%cc
Production	7 7/8	4½ used	10.5	5396	Pozmix	250	18% salt 0.5% HALAD-322

ADDITIONAL CEMENTING/SQUEEZE RECORD

Purpose:	Depth Top	Depth Bottom	Type of Cement	#Sacks Used	Type and Percent Additives
___ Perforate					
___ Protect Casing					
___ Plug Back TD					
___ Plug Off Zone					

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record (Amount and Kind of Material Used)	Depth
2	5176 to 5188	750 gal. FE	5176
2	5012 to 5020	500 gal. FE	5012

TUBING RECORD	Size	Set At	Packer At	Liner Run
	2 3/8	4980	none	none ☐ Yes ☐ No

Date of First, Resumed Production, SWD or Inj.	Producing Method ☒ Flowing ☐ Pumping ☐ Gas Lift ☐ Other (Explain)
01/07/97	

Estimated Production Per 24 Hours	Oil	Bbls.	Gas	Mcf	Water	Bbls.	Gas-Oil Ratio	Gravity
	0		1990		0		--	--

Disposition of Gas:
☐ Vented ☒ Sold ☐ Used on Lease
(If vented, submit ACO-18.)
will be sold

METHOD OF COMPLETION
☐ Open Hole ☐ Perf. ☐ Dually Comp. ☒ Commingled
☐ Other (Specify) _____

Production Interval
5176 to 5188 and
5012 to 5020

R. J. PATRICK OPERATING COMPANY
MAILING ADDRESS P.O. BOX 1157
326 NORTH LINCOLN
LIBERAL, KANSAS 67905-1157

316-624-8483

ORIGINAL

RE: Herd #1-4
Comanche County, Kansas
Supplement to ACO-1

15-033-20915-0000

DST#1 Lansing 4420 to 4470
Recovered 3400' of salt water

DST#2 Marmaton 4990 to 5026
Recovered 25' of drilling mud.
Has stabilized flow of 202 MCFD

DST#3 Mississippi 5130 to 5190
Recovered 25' of drilling mud.
Has stabilized flow of 436 MCFD

DST#4 Mississippi 5200 to 5321
Recovered 25' of drilling mud.
Gas to surface in 15 minutes of second opening TSTM

DST#5 Viola 5862 to 5896
Recovered 30' of drilling mud.
215' of gas in pipe. No gas to surface.

DST#6 Arbuckle 6186 to 6236
Recovered 4040' of salt water.

TRILOBITE TESTING L.L.C.

OPERATOR : R.J Patrick Operating Co DATE 12-13-96
WELL NAME: Herd #1 KB 1934.00 ft TICKET NO: 9668 DST #1
LOCATION : 04-33s-19w Comanche KS GR 1921.00 ft FORMATION: Upper Lansing KC
INTERVAL : 4420.00 To 4478.00 ft TD 4478.00 ft TEST TYPE: CONV

RECORDER DATA

Mins		Field	1	2	3	4
PF 30	Rec.	24174	24174	2357		
SI 60	Range(Psi)	3050.0	3050.0	4995.0	0.0	0.0
SF 30	Clock(hrs)	12	12	elec.		
FS 60	Depth(ft)	4423.0	4423.0	4445.0	0.0	0.0

TIME DATA----------
PF Fr. 1821 to 1851 hr
IS Fr. 1851 to 1951 hr
SF Fr. 1951 to 2021 hr
FS Fr. 2021 to 2121 hr

	Field	1	2	3	4
A. Init Hydro	2127.0	2125.0	2149.0	0.0	0.0
B. First Flow	918.0	929.0	919.0	0.0	0.0
B1. Final Flow	1507.0	1506.0	1581.0	0.0	0.0
C. In Shut-in	1635.0	1614.0	1658.0	0.0	0.0
D. Init Flow	1590.0	1589.0	1599.0	0.0	0.0
E. Final Flow	1635.0	1617.0	1659.0	0.0	0.0
F. Fl Shut-in	1635.0	1624.0	1662.0	0.0	0.0
G. Final Hydro	2120.0	2114.0	2089.0	0.0	0.0
Inside/Outside	I	I	I		

T STARTED 1615 hr
T ON BOTM 1819 hr
T OPEN 1821 hr
T PULLED 2121 hr
T OUT 2335 hr

RECOVERY
Tot Fluid 3400.00 ft of 213.00 ft in DC and 3187.00 ft in DP
0.00 ft of
40.00 ft of gas in pipe
0.00 ft of
3400.00 ft of salt water
0.00 ft of
0.00 ft of
0.00 ft of
0.00 ft of
SALINITY 88000.00 P.P.M. A.P.I. Gravity 0.00

TOOL DATA----------

Tool Wt.	3200.00 lbs
Wt Set On Packer	20000.00 lbs
Wt Pulled Loose	95000.00 lbs
Initial Str Wt	70000.00 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	213.00 ft
D.P. Length	4191.00 ft
H.W. I.D	2.70 in

BLOW DESCRIPTION
Initial Flow -
Strong blow - built to bottom of bucket in 30 seconds.

Initial Shut-in -
Weak 1/4" blow - building to 3/4"

Final Flow -
Strong blow - built to bottom of bucket in 2 min. - then decreasing to 12" at end of flow

Final Shut-in -
Weak 1" blow
SAMPLES:
SENT TO:

MUD DATA----------

Mud Type	Chem
Weight	9.00 lb/c
Vis.	48.00 S/L
W.L.	9.60 in3
F.C.	0.00 in
Mud Drop N	
Amt. of fill	0.00 ft
Btm. H. Temp.	120.00 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	Paul Simpson
Co. Rep.	Bob Posey
Contr.	Duke
Rig #	7
Unit #	
Pump T.	

Test Successful: Y

*** TOOL DIAGRAM *** CONV

NAME: Herd #1

TION : 04-33s-19w Comanche KS

ET No. 9668 D.S.T. No. 1 DATE 12-13-96

L TOOL TO BOTTOM OF TOP PACKERS 28

RVAL TOOL .....

OM PACKERS AND ANCHOR 28

L TOOL 56

L COLLAR ANCHOR IN INTERVAL .....

ANCHOR STND.Stands Single 1 Total 30

ANCHOR STND.Stands Single Total

L ASSEMBLY 86

ABOVE TOOLS.Stands3 Single 1 Total 213

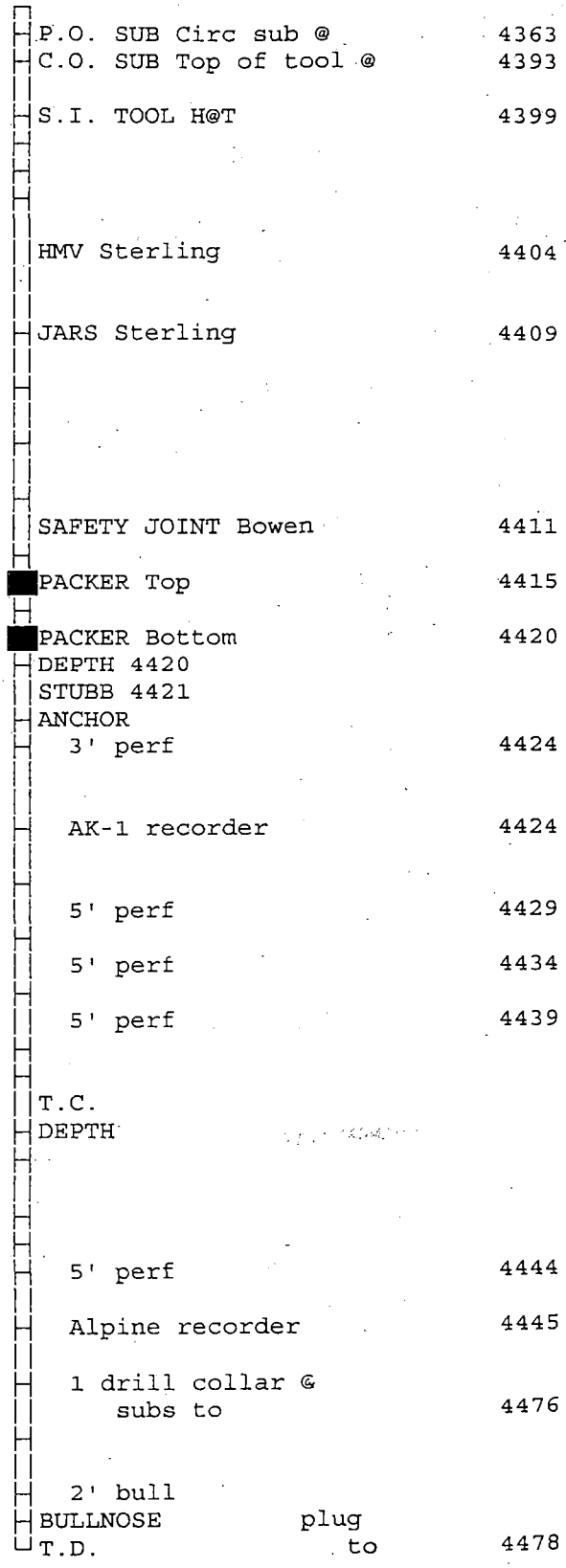
ABOVE TOOLS.Stands68 Single Total 4191

L DRILL COLLARS DRILL PIPE & TOOLS .. 4490

L DEPTH 4478

L DRILL PIPE ABOVE K.B. 12

RKS:



ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 9668 R.J. Patrick Company Herd #1 DST #1

DATE: 12/13/96 TIME: 16:17:33

	Time	Pressure PSIg	delta P PSIg	Temp. DEG F	(T+dT)/dT	P^2/10^6
****** Initial Hydro.	123.00	2148.8	0.0	100.44		
****** Start Flow 1	0.00	918.5	0.0	101.48		
	1.00	939.4	20.9	101.70		
	2.00	967.7	49.2	102.01		
	3.00	998.2	79.7	102.60		
	4.00	1032.1	113.6	103.44		
	5.00	1067.2	148.7	104.46		
	6.00	1102.0	183.6	105.57		
	7.00	1135.7	217.2	106.71		
	8.00	1169.8	251.3	107.84		
	9.00	1202.3	283.8	108.91		
	10.00	1234.7	316.2	109.89		
	11.00	1265.1	346.6	110.79		
	12.00	1294.7	376.2	111.62		
	13.00	1323.0	404.5	112.37		
	14.00	1347.1	428.6	113.04		
	15.00	1372.3	453.8	113.66		
	16.00	1395.7	477.2	114.20		
	17.00	1417.5	499.0	114.68		
	18.00	1438.5	520.0	115.09		
	19.00	1457.4	538.9	115.48		
	20.00	1475.0	556.5	115.83		
	21.00	1491.7	573.2	116.14		
	22.00	1507.0	588.5	116.41		
	23.00	1520.9	602.4	116.66		
	24.00	1533.6	615.1	116.88		
	25.00	1544.4	625.9	117.09		
	26.00	1555.3	636.8	117.28		
	27.00	1564.7	646.2	117.46		
	28.00	1573.5	655.0	117.61		
****** End Flow 1	29.00	1580.9	662.4	117.76		
****** Start Shutin 1	0.00	1580.9	0.0	117.76	0.0000	2.499
	1.00	1624.1	43.2	117.89	30.0000	2.638
	2.00	1627.8	46.9	118.03	15.5000	2.650
	3.00	1630.5	49.6	118.15	10.6667	2.658
	4.00	1632.6	51.7	118.28	8.2500	2.665
	5.00	1634.4	53.5	118.38	6.8000	2.671
	6.00	1636.0	55.1	118.48	5.8333	2.676
	7.00	1637.5	56.7	118.58	5.1429	2.681
	8.00	1638.8	57.9	118.69	4.6250	2.686
	9.00	1639.9	59.0	118.76	4.2222	2.689
	10.00	1640.9	60.1	118.86	3.9000	2.693
	11.00	1641.9	61.0	118.95	3.6364	2.696
	12.00	1642.8	61.9	119.03	3.4167	2.699
	13.00	1643.6	62.8	119.13	3.2308	2.702
	14.00	1644.5	63.6	119.23	3.0714	2.704
	15.00	1645.2	64.4	119.32	2.9333	2.707
	16.00	1645.9	65.0	119.42	2.8125	2.709
	17.00	1646.6	65.7	119.52	2.7059	2.711
	18.00	1647.2	66.3	119.64	2.6111	2.713
	19.00	1647.7	66.8	119.74	2.5263	2.715

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

T: 9668 R.J. Patrick Company Herd #1 DST #1

E: 12/13/96 TIME: 16:17:33

	Time	Pressure PSIg	delta P PSIg	Temp. DEG F	(T+dT)/dT	P^2/10^6
	20.00	1648.2	67.4	119.86	2.4500	2.717
	21.00	1648.8	67.9	119.98	2.3810	2.718
	22.00	1649.3	68.4	120.09	2.3182	2.720
	23.00	1649.7	68.8	120.21	2.2609	2.721
	24.00	1650.1	69.2	120.32	2.2083	2.723
	25.00	1650.6	69.7	120.44	2.1600	2.724
	26.00	1651.0	70.2	120.55	2.1154	2.726
	27.00	1651.4	70.5	120.67	2.0741	2.727
	28.00	1651.7	70.8	120.68	2.0357	2.728
	29.00	1652.0	71.2	120.74	2.0000	2.729
	30.00	1652.4	71.5	120.80	1.9667	2.730
	31.00	1652.7	71.8	120.85	1.9355	2.731
	32.00	1653.0	72.2	120.90	1.9062	2.733
	33.00	1653.4	72.5	120.92	1.8788	2.734
	34.00	1653.6	72.8	120.93	1.8529	2.734
	35.00	1653.9	73.0	120.92	1.8286	2.735
	36.00	1654.1	73.3	120.92	1.8056	2.736
	37.00	1654.4	73.5	120.91	1.7838	2.737
	38.00	1654.5	73.7	120.89	1.7632	2.738
	39.00	1654.8	73.9	120.86	1.7436	2.738
	40.00	1655.0	74.2	120.84	1.7250	2.739
	41.00	1655.2	74.4	120.79	1.7073	2.740
	42.00	1655.5	74.6	120.74	1.6905	2.741
	43.00	1655.6	74.8	120.68	1.6744	2.741
	44.00	1655.9	75.0	120.69	1.6591	2.742
	45.00	1656.1	75.2	120.68	1.6444	2.743
	46.00	1656.2	75.4	120.67	1.6304	2.743
	47.00	1656.3	75.5	120.65	1.6170	2.743
	48.00	1656.6	75.7	120.60	1.6042	2.744
	49.00	1656.7	75.9	120.57	1.5918	2.745
	50.00	1656.9	76.0	120.54	1.5800	2.745
	51.00	1657.0	76.1	120.52	1.5686	2.746
	52.00	1657.2	76.4	120.50	1.5577	2.746
	53.00	1657.3	76.5	120.47	1.5472	2.747
	54.00	1657.4	76.5	120.45	1.5370	2.747
	55.00	1657.5	76.6	120.43	1.5273	2.747
	56.00	1657.6	76.8	120.41	1.5179	2.748
	57.00	1657.8	77.0	120.39	1.5088	2.748
	58.00	1657.9	77.0	120.36	1.5000	2.749
** End Shut-in 1	59.00	1658.1	77.2	120.35	1.4915	2.749
** Start Flow 2	0.00	1599.6	0.0	120.32		
	1.00	1607.5	8.0	120.28		
	2.00	1614.5	14.9	120.25		
	3.00	1620.9	21.3	120.18		
	4.00	1625.7	26.1	120.08		
	5.00	1630.2	30.6	119.97		
	6.00	1633.9	34.3	119.88		
	7.00	1637.0	37.4	119.75		
	8.00	1639.9	40.3	119.63		
	9.00	1642.5	42.9	119.52		
	10.00	1644.6	45.0	119.40		

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 9668 R.J. Patrick Company Herd #1 DST #1

DATE: 12/13/96 TIME: 16:17:33

	Time	Pressure PSIg	delta P PSIg	Temp. DEG F	(T+dT)/dT	P^2/10^6
	11.00	1646.4	46.8	119.34		
	12.00	1648.0	48.4	119.28		
	13.00	1649.3	49.7	119.25		
	14.00	1650.4	50.9	119.25		
	15.00	1651.4	51.8	119.28		
	16.00	1652.2	52.6	119.32		
	17.00	1652.9	53.4	119.41		
	18.00	1653.6	54.0	119.50		
	19.00	1654.2	54.6	119.60		
	20.00	1654.8	55.2	119.71		
	21.00	1655.2	55.6	119.83		
	22.00	1655.6	56.1	119.92		
	23.00	1656.0	56.4	120.06		
	24.00	1656.4	56.8	120.18		
	25.00	1656.7	57.2	120.29		
	26.00	1656.9	57.3	120.40		
	27.00	1657.2	57.7	120.53		
	28.00	1657.5	57.9	120.67		
	29.00	1658.4	58.8	120.69		
****** End Flow 2	30.00	1658.9	59.3	120.83		
****** Start Shutin 2	0.00	1658.9	0.0	120.83	0.0000	2.752
	1.00	1659.1	0.2	120.93	60.0000	2.753
	2.00	1659.2	0.3	121.04	30.5000	2.753
	3.00	1659.3	0.4	121.13	20.6667	2.753
	4.00	1659.5	0.6	121.22	15.7500	2.754
	5.00	1659.6	0.7	121.29	12.8000	2.754
	6.00	1659.7	0.8	121.36	10.8333	2.754
	7.00	1659.7	0.8	121.42	9.4286	2.755
	8.00	1659.9	1.0	121.47	8.3750	2.755
	9.00	1660.1	1.2	121.49	7.5556	2.756
	10.00	1660.2	1.3	121.53	6.9000	2.756
	11.00	1660.3	1.4	121.54	6.3636	2.757
	12.00	1660.4	1.5	121.55	5.9167	2.757
	13.00	1660.4	1.5	121.55	5.5385	2.757
	14.00	1660.4	1.5	121.56	5.2143	2.757
	15.00	1660.6	1.7	121.57	4.9333	2.758
	16.00	1660.6	1.7	121.57	4.6875	2.758
	17.00	1660.7	1.8	121.58	4.4706	2.758
	18.00	1660.8	1.8	121.57	4.2778	2.758
	19.00	1660.8	1.9	121.57	4.1053	2.758
	20.00	1661.1	2.1	121.55	3.9500	2.759
	21.00	1661.0	2.1	121.53	3.8095	2.759
	22.00	1661.0	2.1	121.51	3.6818	2.759
	23.00	1661.1	2.2	121.48	3.5652	2.759
	24.00	1661.1	2.2	121.45	3.4583	2.759
	25.00	1661.2	2.3	121.43	3.3600	2.760
	26.00	1661.3	2.4	121.38	3.2692	2.760
	27.00	1661.3	2.4	121.35	3.1852	2.760
	28.00	1661.3	2.4	121.31	3.1071	2.760
	29.00	1661.4	2.5	121.30	3.0345	2.760
	30.00	1661.5	2.6	121.26	2.9667	2.761

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

T: 9668 R.J. Patrick Company Herd #1 DST #1

E: 12/13/96 TIME: 16:17:33

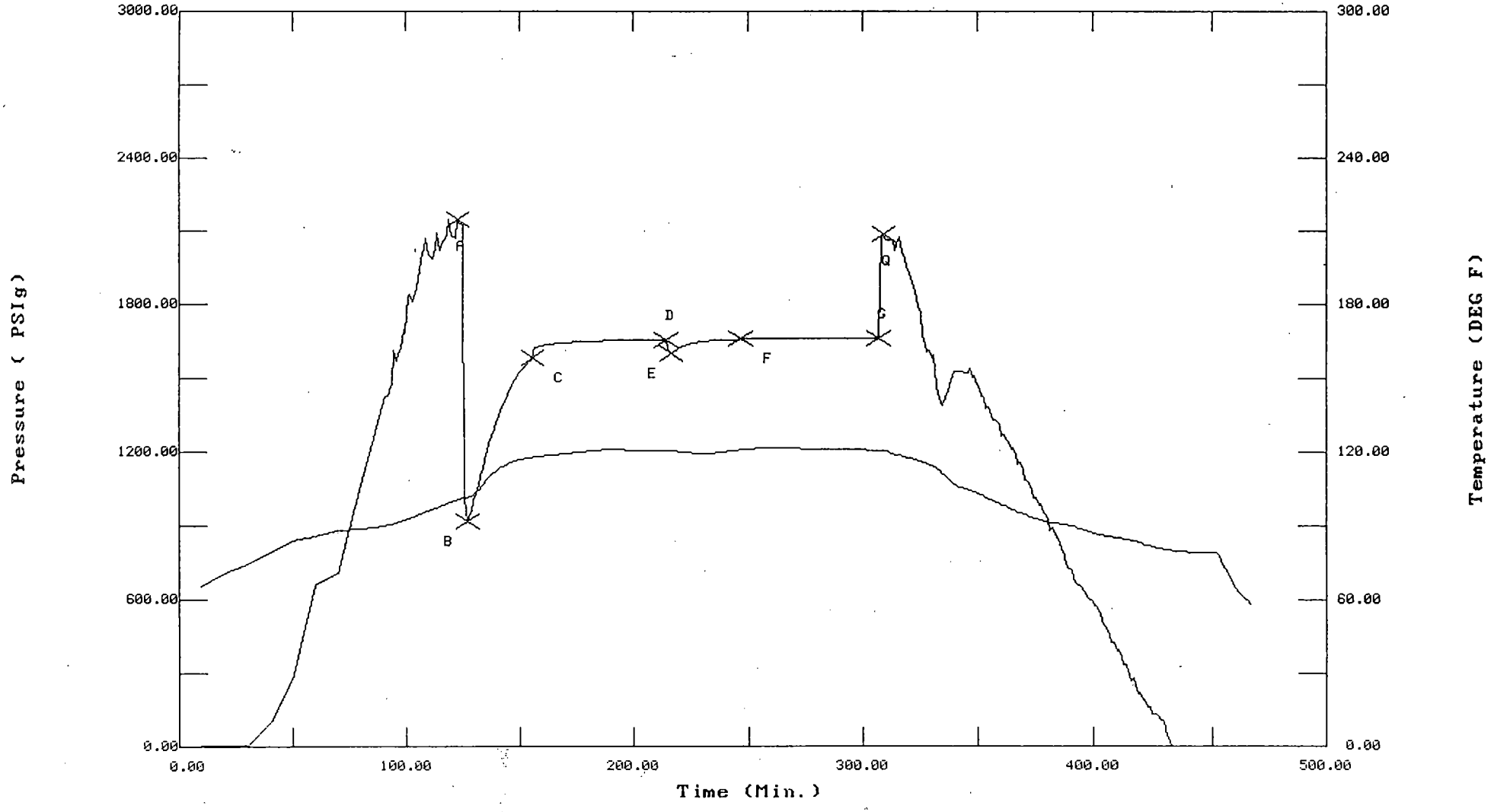
	Time	Pressure PSIg	delta P PSIg	Temp. DEG F	(T+dT)/dT	P^2/10^6
	31.00	1661.6	2.7	121.23	2.9032	2.761
	32.00	1661.6	2.7	121.22	2.8438	2.761
	33.00	1661.6	2.7	121.19	2.7879	2.761
	34.00	1661.7	2.8	121.16	2.7353	2.761
	35.00	1661.8	2.9	121.13	2.6857	2.762
	36.00	1661.8	2.9	121.10	2.6389	2.762
	37.00	1661.8	2.9	121.08	2.5946	2.762
	38.00	1661.9	3.0	121.04	2.5526	2.762
	39.00	1661.9	3.0	121.03	2.5128	2.762
	40.00	1661.9	3.0	121.01	2.4750	2.762
	41.00	1662.0	3.1	121.00	2.4390	2.762
	42.00	1662.0	3.1	120.97	2.4048	2.762
	43.00	1662.1	3.2	120.96	2.3721	2.762
	44.00	1662.1	3.2	120.95	2.3409	2.762
	45.00	1662.1	3.2	120.93	2.3111	2.762
	46.00	1662.1	3.2	120.93	2.2826	2.763
	47.00	1662.1	3.2	120.91	2.2553	2.763
	48.00	1662.2	3.3	120.90	2.2292	2.763
	49.00	1662.3	3.4	120.89	2.2041	2.763
	50.00	1662.3	3.4	120.87	2.1800	2.763
	51.00	1662.3	3.4	120.86	2.1569	2.763
	52.00	1662.3	3.4	120.85	2.1346	2.763
	53.00	1662.2	3.3	120.84	2.1132	2.763
	54.00	1662.2	3.3	120.82	2.0926	2.763
	55.00	1662.3	3.4	120.81	2.0727	2.763
	56.00	1662.3	3.4	120.81	2.0536	2.763
	57.00	1662.4	3.5	120.80	2.0351	2.764
	58.00	1662.3	3.4	120.78	2.0172	2.763
	59.00	1662.5	3.6	120.77	2.0000	2.764
** End Shut-in 2	60.00	1662.5	3.6	120.75	1.9833	2.764
** Final Hydro.	309.00	2089.0	0.0	120.68		

TEST HISTORY

9668 R.J. Patrick Company Herd #1 DST #1

Flag Points

	t(Min.)	P(PSIg)
A:	0.00	2148.80
B:	0.00	918.50
C:	29.00	1580.86
D:	59.00	1658.07
E:	0.00	1599.57
F:	30.00	1658.91
G:	60.00	1662.52
Q:	0.00	2088.96



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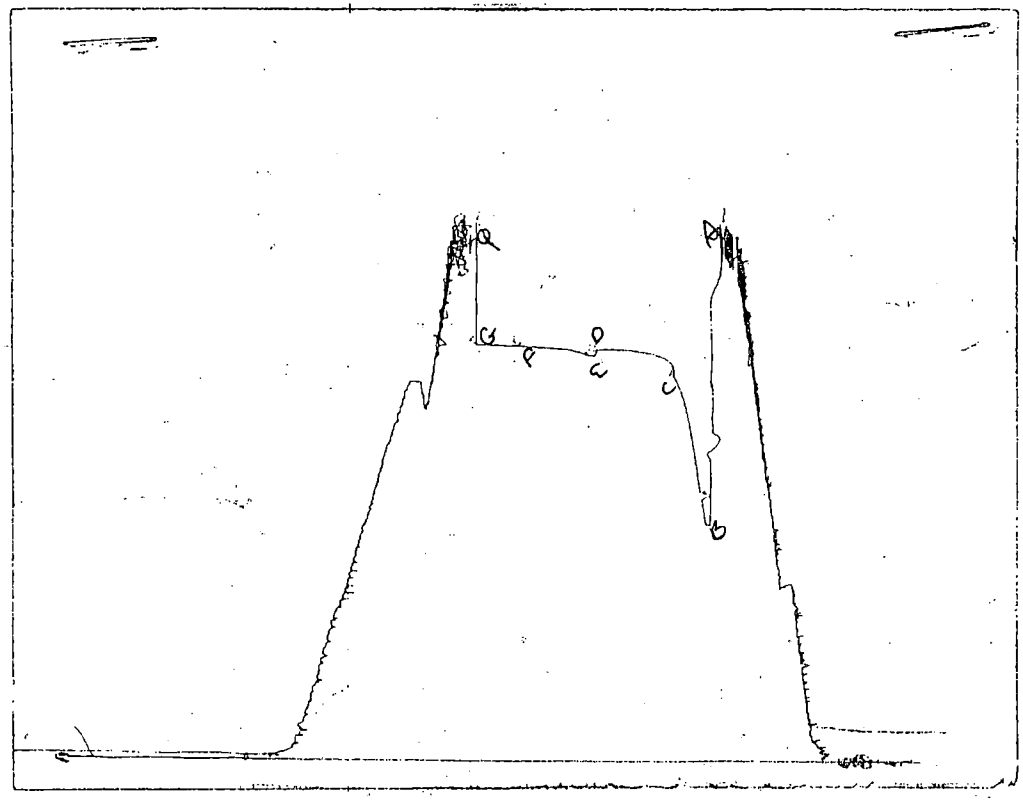


This is a photocopy of the actual AK-1 recorder chart

TRILOBITE TESTING L.L.C.

OPERATOR : R.J. Patrick Oper. Co. DATE 12-15-96
WELL NAME: Herd #1 KB 1934.00 ft TICKET NO: 9476 DST #2
LOCATION : 4-33s-19w Comanche KS GR 1921.00 ft FORMATION: Marmaton
INTERVAL : 4990.00 To 5026.00 ft TD 5026.00 ft TEST TYPE: CONV.

RECORDER DATA

Mins		Field	1	2	3	4
PF 30	Rec.	13788	13788	3024		
SI 60	Range(Psi)	4650.0	4650.0	4995.0	0.0	0.0
SF 60	Clock(hrs)	12 HR	12 HR	Elec.		
FS 90	Depth(ft)	5023.0	5023.0	4996.0	0.0	0.0

TIME DATA----------
PF Fr. 1835 to 1905 hr
IS Fr. 1905 to 2005 hr
SF Fr. 2005 to 2105 hr
FS Fr. 2105 to 2235 hr

	Field	1	2	3	4
A. Init Hydro	2414.0	2495.0	2365.0	0.0	0.0
B. First Flow	81.0	79.0	99.0	0.0	0.0
B1. Final Flow	72.0	79.0	64.0	0.0	0.0
C. In Shut-in	1848.0	1859.0	1851.0	0.0	0.0
D. Init Flow	60.0	72.0	61.0	0.0	0.0
E. Final Flow	56.0	64.0	48.0	0.0	0.0
F. Fl Shut-in	1843.0	1851.0	1850.0	0.0	0.0
G. Final Hydro	2356.0	2437.0	2352.0	0.0	0.0
Inside/Outside	O	O	I	T	

T STARTED 1610 hr
T ON BOTM 1830 hr
T OPEN 1835 hr
T PULLED 2236 hr
T OUT 0100 hr

RECOVERY
Tot Fluid 25.00 ft of 25.00 ft in DC and 0.00 ft in DP
25.00 ft of Heavy Drilling Mud
0.00 ft of
0.00 ft of
0.00 ft of
0.00 ft of
0.00 ft of
0.00 ft of EST. FT. OF PAY----------8
SALINITY 6000.00 P.P.M. A.P.I. Gravity 0.00

TOOL DATA----------

Tool Wt.	2100.00 lbs
Wt Set On Packer	20000.00 lbs
Wt Pulled Loose	84000.00 lbs
Initial Str Wt	74000.00 lbs
Unseated Str Wt	75000.00 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	245.00 ft
D.P. Length	4748.00 ft
H.W. I.D	2.70 in

BLOW DESCRIPTION
Initial Flow:
Strong blow bottom of bucket in 5 to 10 sec. Gas to Surface in 5 mins. (see gas volume report)

Initial Shut In:
Strong blow

Final Flow:
Strong Blow (see gas volume report)

Final Shut In:
Strong Blow

SAMPLES: Gas sample
SENT TO:T.M. / Liberal Ks

MUD DATA----------

Mud Type	Chemical
Weight	9.10 lb/c
Vis.	51.00 S/L
W.L.	8.20 in3
F.C.	0.20 in
Mud Drop	N
Amt. of fill	0.00 ft
Btm. H. Temp.	109.00 F
Hole Condition	good
% Porosity	10.00
Packer Size	6.75 in
No. of Packers	2
Cushion Amt.	0.00 N
Cushion Type	None
Reversed Out	N
Tool Chased	N
Tester	Gary Pevoteaux
Co. Rep.	Kendall Posey
Contr.	Duke Drlg.
Rig #	7
Unit #	
Pump T.	LCM 4#/bl

Test Successful: Y

*** TOOL DIAGRAM *** CONV.

NAME: Herd #1

TION : 4-33s-19w Comanche KS

ET No. 9476 D.S.T. No. 2 DATE 12-15-96

L TOOL TO BOTTOM OF TOP PACKERS 26

RVAL TOOL .....

OM PACKERS AND ANCHOR 36

L TOOL 62

L COLLAR ANCHOR IN INTERVAL .....

ANCHOR STND.Stands Single Total

ANCHOR STND.Stands Single Total

L ASSEMBLY 62

ABOVE TOOLS.Stands4 Single Total 245

ABOVE TOOLS.Stands76 Single 1 Total 4748

L DRILL COLLARS DRILL PIPE & TOOLS .. 5055

L DEPTH 5026

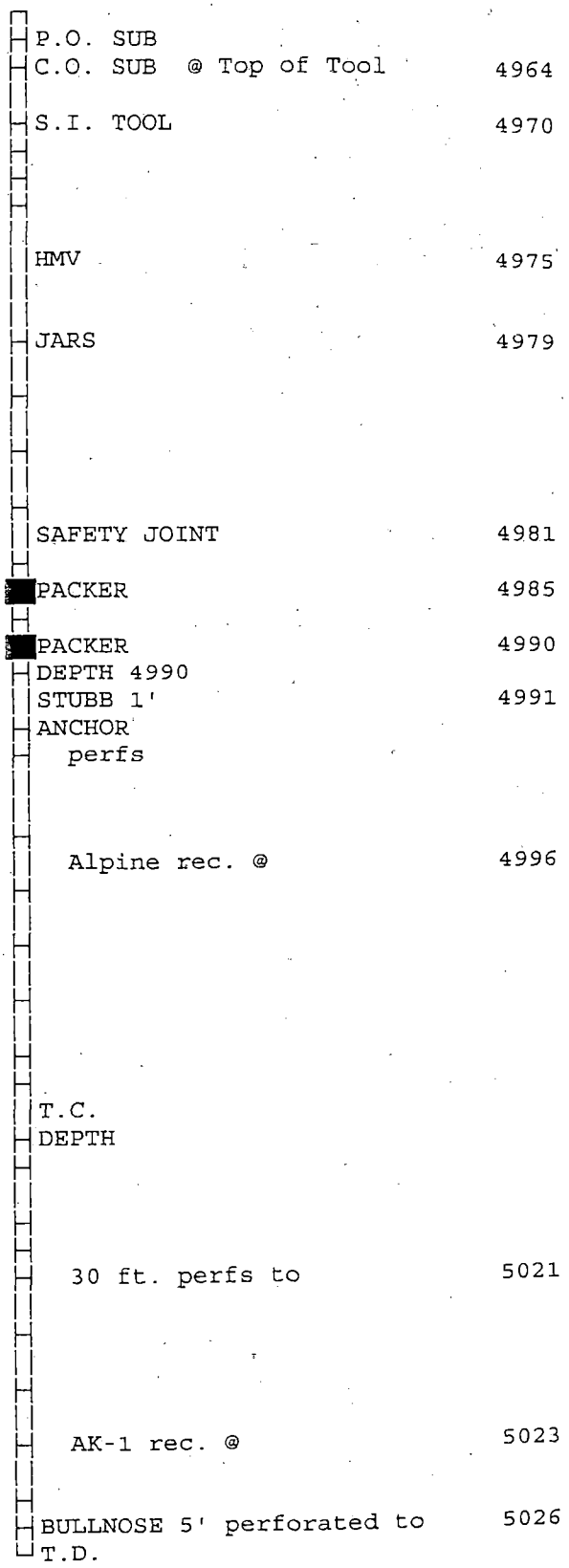
L DRILL PIPE ABOVE K.B. 29

RKS:

FLUID SAMPLER DATA
(not run)

---------- Cubic ft.

ER----------
ER----------
SSURE---------- PSI
----------N/A ohms @
degrees F
ORIDES----------N/A ppm



GAS RECOVERY

COMPANY: R.J. Patrick Oper. Co. DATE: 12-15-96
WELL NAME: Herd #1 KB Elev: 1934.00 ft TICKET #9476 DST #2
WELL LOCATION: 4-33s-19w Comanche KS GR Elev: 1921.00 ft FORMATION: Marmaton
INTERVAL Fr.: 4990.00 To 5026.00 T.D.: 5026.00 ft TEST TYPE: CONV.

GAS RECOVERY MEASURED WITH ADJUSTING CHOKE

***** GAS RATES FOR FLOW #1

Time (min)	Orifice (in)	Pressure (Psi)	H2O (in)	Rate (cf/d)
10	0.50	12	0	129000.0
20	0.50	14	0	141000.0
30	0.50	15	0	147000.0

***** GAS RATES FOR FLOW #2

Time (min)	Orifice (in)	Pressure (Psi)	H2O (in)	Rate (cf/d)
10	0.50	54	0	357000.0
20	0.50	88	0	532000.0
30	0.75	90	0	1220000.0
40	0.75	17	0	357000.0
50	0.75	8	0	227000.0
55	0.75	7	0	211000.0
60	0.75	6	0	202000.0

Operator.....: R.J. Patrick Oper. Co.
Well Name.....: Herd #1
DST Number.....: 2

Location.: 4-33S-19W
Test Type: Conventional
Formation: Marmaton

Recorder No...: 3024
Recorder Depth: 4996
Test Interval.: 4990-5026

RESERVOIR CALCULATIONS: Gas calculations based on shut-in #2

RESERVOIR PARAMETERS USED:

Net Pay	8.00 ft
Porosity	10.00 %
Bottom Hole Temp	109.00 F
Specific Gravity	0.737
Z factor	%7/3f %s
Compressibility	0.001217 /psi
Viscosity	0.0168 cp
Total Flowing Time	90.00 min.
Flow Rate	202000.00 bbls/d
Final Flowing Pressure	48.00 psi
Horner Slope	17.8485 *10^6 psi^2/cycle
Extrapolated Pressure	1852.58 psi
Assumed Drainage Radius	1500.00 ft
Well Bore Radius	3.94 in

RESULTS:

Effective Permeability	21.458344 md
Flow Capacity	171.6668 md.ft
Transmissibility	10218.2592 md.ft/cp
Skin Factor	-2.9768
Pressure Drop Across Skin	-48.0000 psi
Radius of Investigation	115.0504 ft
Damage Ratio	0.0422
Absolute Open Flow	202733.2604 bbls/d
Absolute Open Flow W/O Damage	202733.2604 bbls/d
Estimated Stabilized AOF	3708.5476 bbls/d

Operator.....: R.J. Patrick Oper. Co.
Well Name.....: Herd #1
DST Number.....: 2

Location.: 4-33S-19W
Test Type: Conventional
Formation: Marmaton

Recorder No...: 3024
Recorder Depth: 4996
Test Interval.: 4990-5026

RESERVOIR CALCULATIONS: Gas calculations based on shut-in #2

RESERVOIR PARAMETERS USED:

Net Pay	8.00 ft
Porosity	10.00 %
Bottom Hole Temp	109.00 F
Specific Gravity	0.737
Z factor	%7/3f %s
Compressibility	0.001217 /psi
Viscosity	0.0168 cp
Total Flowing Time	90.00 min.
Flow Rate	202000.00 bbls/d
Final Flowing Pressure	48.00 psi
Horner Slope	17.8485 *10^6 psi^2/cycle
Extrapolated Pressure	1852.58 psi
Assumed Drainage Radius	1500.00 ft
Well Bore Radius	3.94 in

RESULTS:

Effective Permeability	21.458344 md
Flow Capacity	171.6668 md.ft
Transmissibility	10218.2592 md.ft/cp
Skin Factor	-2.9768
Pressure Drop Across Skin	-48.0000 psi
Radius of Investigation	115.0504 ft
Damage Ratio	0.0422
Absolute Open Flow	202733.2604 bbls/d
Absolute Open Flow W/O Damage	202733.2604 bbls/d
Estimated Stabilized AOF	3708.5476 bbls/d

Vis - .0168
Comp - .0012173

THURMOND - McGLOTHLIN, INC
P. O. BOX 885 LIBERAL, KS 67901
(316) 626-4218

Fractional Analysis *

Date Run: 18-Dec-96

Components		Mol %	Gpm
Carbon Dioxide	CO2	0.1033	
Nitrogen	N2	2.1629	
Methane	C1	84.7647	14.3139
Ethane	C2	4.0449	1.0759
Propane	C3	3.0561	0.8375
iso-Butane	IC4	0.4219	0.1373
n-Butane	NC4	1.3748	0.4311
iso-Pentane	IC5	0.3609	0.1313
n-Pentane	NC5	0.4723	0.1701
Hexane +	C6+	3.0921	1.3244
Helium	He	0.1461	
		100.0000	

Company: R.J. PATRICK
Producer: R.J. PATRICK
Lease: HERD #1 TEST 2
Station: N/A
Pressure: N/A
Temperature: N/A
Cylinder No.: 51
Analysis By: TM-LIBERAL
Secured By: N/A
Date Sampled: 12/17/96
Date Recv'd: 12/17/96
Location:
H2S:

Gasoline Content @ 14.65 Psia & 60 F

	GPM
Propane & Heavier	3.0318
Butane & Heavier	2.1942
Pentane & Heavier	1.6259

Remarks:

Btu @ 14.65 Psia & 60 F

Dry	1250.73
Wet	1228.97

Results To:
R.J. PATRICK OPERATING
LIBERAL, KS.
FAX-316-624-1819

SPECIFIC GRAVITY
0.7365

Monmeton - 8% Penalty 10%

Min 12% Penalty 14%

* Based on GPA 2145 & 2172

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 9476 DST#2 HERD #1 R.J. PATRICK COMPANY

DATE: 12/15/96 TIME: 16:10:16

	Time	Pressure PSIg	delta P PSIg	Temp. DEG F	(T+dT)/dT	P^2/10^6
****** Initial Hydro.	136.00	2364.9	0.0	102.85		
****** Start Flow 1	0.00	99.1	0.0	104.04		
	1.00	80.6	-18.5	104.69		
	2.00	70.6	-28.5	105.34		
	3.00	65.2	-33.9	105.89		
	4.00	62.9	-36.1	106.30		
	5.00	61.4	-37.7	106.58		
	6.00	62.6	-36.5	106.75		
	7.00	60.7	-38.4	106.82		
	8.00	61.2	-37.9	106.82		
	9.00	61.0	-38.1	106.78		
	10.00	60.8	-38.3	106.70		
	11.00	60.8	-38.3	106.59		
	12.00	60.9	-38.2	106.46		
	13.00	62.1	-37.0	106.32		
	14.00	63.9	-35.2	106.14		
	15.00	64.0	-35.1	105.94		
	16.00	64.6	-34.5	105.73		
	17.00	64.7	-34.4	105.53		
	18.00	64.6	-34.5	105.33		
	19.00	64.7	-34.4	105.13		
	20.00	64.6	-34.5	104.92		
	21.00	64.9	-34.2	104.72		
	22.00	64.5	-34.6	104.54		
	23.00	63.7	-35.4	104.40		
	24.00	63.3	-35.8	104.25		
	25.00	62.9	-36.2	104.13		
	26.00	63.0	-36.1	103.97		
	27.00	63.2	-35.9	103.76		
	28.00	63.0	-36.0	103.57		
	29.00	63.2	-35.9	103.32		
	30.00	63.3	-35.8	103.04		
****** End Flow 1	31.00	64.4	-34.7	102.74		
****** Start Shutin 1	0.00	64.4	0.0	102.74	0.0000	0.004
	1.00	636.5	572.1	102.49	32.0000	0.405
	2.00	1056.3	991.9	102.53	16.5000	1.116
	3.00	1343.3	1278.9	103.18	11.3333	1.804
	4.00	1526.7	1462.3	104.31	8.7500	2.331
	5.00	1637.9	1573.5	105.64	7.2000	2.683
	6.00	1703.8	1639.4	106.81	6.1667	2.903
	7.00	1742.6	1678.2	107.71	5.4286	3.037
	8.00	1766.0	1701.6	108.32	4.8750	3.119
	9.00	1780.7	1716.3	108.64	4.4444	3.171
	10.00	1790.2	1725.8	108.75	4.1000	3.205
	11.00	1797.2	1732.8	108.71	3.8182	3.230
	12.00	1802.2	1737.8	108.60	3.5833	3.248
	13.00	1805.9	1741.5	108.43	3.3846	3.261
	14.00	1808.7	1744.3	108.24	3.2143	3.271
	15.00	1814.7	1750.3	108.07	3.0667	3.293
	16.00	1823.9	1759.6	107.90	2.9375	3.327
	17.00	1831.8	1767.4	107.77	2.8235	3.355

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING
T: 9476 DST#2 HERD #1 R.J. PATRICK COMPANY
E: 12/15/96 TIME: 16:10:16

	Time	Pressure PSIg	delta P PSIg	Temp. DEG F	(T+dT)/dT	P^2/10^6
	18.00	1831.5	1767.1	107.67	2.7222	3.354
	19.00	1834.3	1770.0	107.59	2.6316	3.365
	20.00	1835.0	1770.6	107.52	2.5500	3.367
	21.00	1837.8	1773.5	107.46	2.4762	3.378
	22.00	1842.4	1778.0	107.43	2.4091	3.394
	23.00	1844.0	1779.6	107.40	2.3478	3.400
	24.00	1839.1	1774.7	107.38	2.2917	3.382
	25.00	1841.4	1777.1	107.38	2.2400	3.391
	26.00	1841.3	1776.9	107.37	2.1923	3.390
	27.00	1838.9	1774.6	107.39	2.1481	3.382
	28.00	1843.9	1779.5	107.38	2.1071	3.400
	29.00	1846.7	1782.4	107.41	2.0690	3.410
	30.00	1848.5	1784.1	107.45	2.0333	3.417
	31.00	1843.6	1779.3	107.49	2.0000	3.399
	32.00	1841.0	1776.7	107.54	1.9688	3.389
	33.00	1846.1	1781.7	107.57	1.9394	3.408
	34.00	1847.8	1783.4	107.59	1.9118	3.414
	35.00	1850.4	1786.1	107.64	1.8857	3.424
	36.00	1845.9	1781.5	107.70	1.8611	3.407
	37.00	1846.6	1782.2	107.75	1.8378	3.410
	38.00	1851.4	1787.0	107.81	1.8158	3.428
	39.00	1842.6	1778.2	107.87	1.7949	3.395
	40.00	1844.5	1780.1	107.93	1.7750	3.402
	41.00	1847.9	1783.5	107.98	1.7561	3.415
	42.00	1844.9	1780.5	108.04	1.7381	3.404
	43.00	1848.2	1783.9	108.10	1.7209	3.416
	44.00	1851.1	1786.7	108.16	1.7045	3.427
	45.00	1851.7	1787.3	108.22	1.6889	3.429
	46.00	1851.6	1787.2	108.29	1.6739	3.428
	47.00	1850.6	1786.3	108.34	1.6596	3.425
	48.00	1850.1	1785.7	108.41	1.6458	3.423
	49.00	1851.5	1787.1	108.47	1.6327	3.428
	50.00	1851.3	1787.0	108.53	1.6200	3.427
	51.00	1848.8	1784.5	108.58	1.6078	3.418
	52.00	1852.0	1787.6	108.64	1.5962	3.430
	53.00	1851.0	1786.6	108.70	1.5849	3.426
	54.00	1849.3	1784.9	108.75	1.5741	3.420
	55.00	1849.6	1785.2	108.82	1.5636	3.421
	56.00	1852.2	1787.8	108.88	1.5536	3.431
	57.00	1853.4	1789.1	108.93	1.5439	3.435
	58.00	1849.3	1784.9	109.01	1.5345	3.420
*** End Shut-in 1	59.00	1850.6	1786.2	109.07	1.5254	3.425
*** Start Flow 2	0.00	61.1	0.0	108.19		
	1.00	48.1	-13.0	107.18		
	2.00	47.3	-13.8	106.45		
	3.00	51.3	-9.8	105.92		
	4.00	56.0	-5.1	105.51		
	5.00	60.1	-1.0	105.15		
	6.00	64.7	3.5	104.82		
	7.00	68.3	7.1	104.50		
	8.00	71.7	10.5	104.18		

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 9476 DST#2 HERD #1 R.J. PATRICK COMPANY

DATE: 12/15/96 TIME: 16:10:16

	Time	Pressure PSIg	delta P PSIg	Temp. DEG F	(T+dT)/dT	P^2/10^6
	9.00	75.8	14.7	103.88		
	10.00	79.8	18.7	103.56		
	11.00	83.6	22.5	103.27		
	12.00	87.4	26.3	102.97		
	13.00	91.4	30.3	102.67		
	14.00	95.5	34.4	102.38		
	15.00	99.8	38.7	102.10		
	16.00	104.8	43.6	101.80		
	17.00	109.8	48.6	101.53		
	18.00	114.3	53.1	101.27		
	19.00	118.4	57.2	101.02		
	20.00	123.4	62.3	100.78		
	21.00	128.3	67.2	100.54		
	22.00	132.7	71.6	100.33		
	23.00	136.0	74.8	100.11		
	24.00	141.2	80.1	99.90		
	25.00	146.6	85.5	99.70		
	26.00	151.7	90.5	99.51		
	27.00	157.1	96.0	99.32		
	28.00	162.2	101.1	99.14		
	29.00	166.5	105.3	98.97		
	30.00	170.3	109.2	98.80		
	31.00	176.2	115.1	98.64		
	32.00	158.4	97.2	98.49		
	33.00	136.8	75.7	98.33		
	34.00	119.0	57.9	98.16		
	35.00	104.6	43.5	97.99		
	36.00	92.7	31.6	97.81		
	37.00	82.9	21.8	97.64		
	38.00	74.5	13.4	97.46		
	39.00	67.9	6.8	97.30		
	40.00	62.4	1.3	97.13		
	41.00	57.8	-3.3	96.97		
	42.00	54.8	-6.3	96.80		
	43.00	58.5	-2.6	96.63		
	44.00	56.1	-5.1	96.45		
	45.00	57.0	-4.1	96.27		
	46.00	58.0	-3.1	96.07		
	47.00	55.4	-5.7	95.86		
	48.00	53.9	-7.2	95.66		
	49.00	53.2	-7.9	95.44		
	50.00	51.9	-9.3	95.20		
	51.00	51.9	-9.2	94.97		
	52.00	50.0	-11.1	94.72		
	53.00	49.8	-11.4	94.49		
	54.00	49.0	-12.2	94.25		
	55.00	49.1	-12.0	94.01		
	56.00	48.5	-12.6	93.79		
	57.00	49.3	-11.8	93.55		
****** End Flow 2	58.00	48.1	-13.0	93.33		
****** Start Shutin 2	0.00	48.1	0.0	93.33	0.0000	0.002

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING
T: 9476 DST#2 HERD #1 R.J. PATRICK COMPANY
E: 12/15/96 TIME: 16:10:16

Time	Pressure PSIg	delta P PSIg	Temp. DEG F	(T+dT)/dT	P^2/10^6
1.00	368.2	320.1	93.13	90.0000	0.136
2.00	809.7	761.6	93.44	45.5000	0.656
3.00	1137.4	1089.3	94.70	30.6667	1.294
4.00	1367.4	1319.3	96.50	23.2500	1.870
5.00	1521.5	1473.4	98.35	18.8000	2.315
6.00	1620.5	1572.4	99.98	15.8333	2.626
7.00	1682.3	1634.2	101.31	13.7143	2.830
8.00	1720.3	1672.2	102.34	12.1250	2.959
9.00	1744.1	1696.0	103.10	10.8889	3.042
10.00	1759.2	1711.1	103.67	9.9000	3.095
11.00	1769.3	1721.2	104.04	9.0909	3.130
12.00	1776.4	1728.3	104.23	8.4167	3.156
13.00	1781.6	1733.5	104.31	7.8462	3.174
14.00	1788.0	1739.9	104.28	7.3571	3.197
15.00	1805.5	1757.3	104.22	6.9333	3.260
16.00	1813.3	1765.2	104.17	6.5625	3.288
17.00	1817.4	1769.3	104.11	6.2353	3.303
18.00	1823.0	1774.9	104.04	5.9444	3.323
19.00	1820.1	1772.0	103.96	5.6842	3.313
20.00	1826.2	1778.1	103.87	5.4500	3.335
21.00	1828.9	1780.8	103.78	5.2381	3.345
22.00	1832.3	1784.2	103.69	5.0455	3.357
23.00	1831.9	1783.8	103.63	4.8696	3.356
24.00	1834.8	1786.7	103.57	4.7083	3.366
25.00	1827.2	1779.1	103.51	4.5600	3.339
26.00	1831.6	1783.5	103.46	4.4231	3.355
27.00	1830.6	1782.4	103.42	4.2963	3.351
28.00	1836.2	1788.1	103.38	4.1786	3.372
29.00	1835.7	1787.6	103.36	4.0690	3.370
30.00	1831.4	1783.2	103.35	3.9667	3.354
31.00	1837.9	1789.8	103.35	3.8710	3.378
32.00	1838.3	1790.2	103.35	3.7812	3.379
33.00	1838.4	1790.3	103.35	3.6970	3.380
34.00	1839.0	1790.9	103.36	3.6176	3.382
35.00	1841.0	1792.9	103.39	3.5429	3.389
36.00	1834.4	1786.2	103.41	3.4722	3.365
37.00	1834.7	1786.5	103.43	3.4054	3.366
38.00	1837.2	1789.1	103.45	3.3421	3.375
39.00	1835.2	1787.1	103.48	3.2821	3.368
40.00	1834.7	1786.6	103.50	3.2250	3.366
41.00	1833.1	1784.9	103.54	3.1707	3.360
42.00	1837.3	1789.2	103.58	3.1190	3.376
43.00	1838.9	1790.8	103.62	3.0698	3.382
44.00	1839.4	1791.3	103.67	3.0227	3.383
45.00	1839.1	1791.0	103.74	2.9778	3.382
46.00	1838.0	1789.9	103.81	2.9348	3.378
47.00	1841.1	1793.0	103.88	2.8936	3.390
48.00	1843.6	1795.5	103.95	2.8542	3.399
49.00	1846.2	1798.0	104.03	2.8163	3.408
50.00	1845.9	1797.8	104.11	2.7800	3.407
51.00	1841.2	1793.1	104.20	2.7451	3.390

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 9476 DST#2 HERD #1 R.J. PATRICK COMPANY

DATE: 12/15/96 TIME: 16:10:16

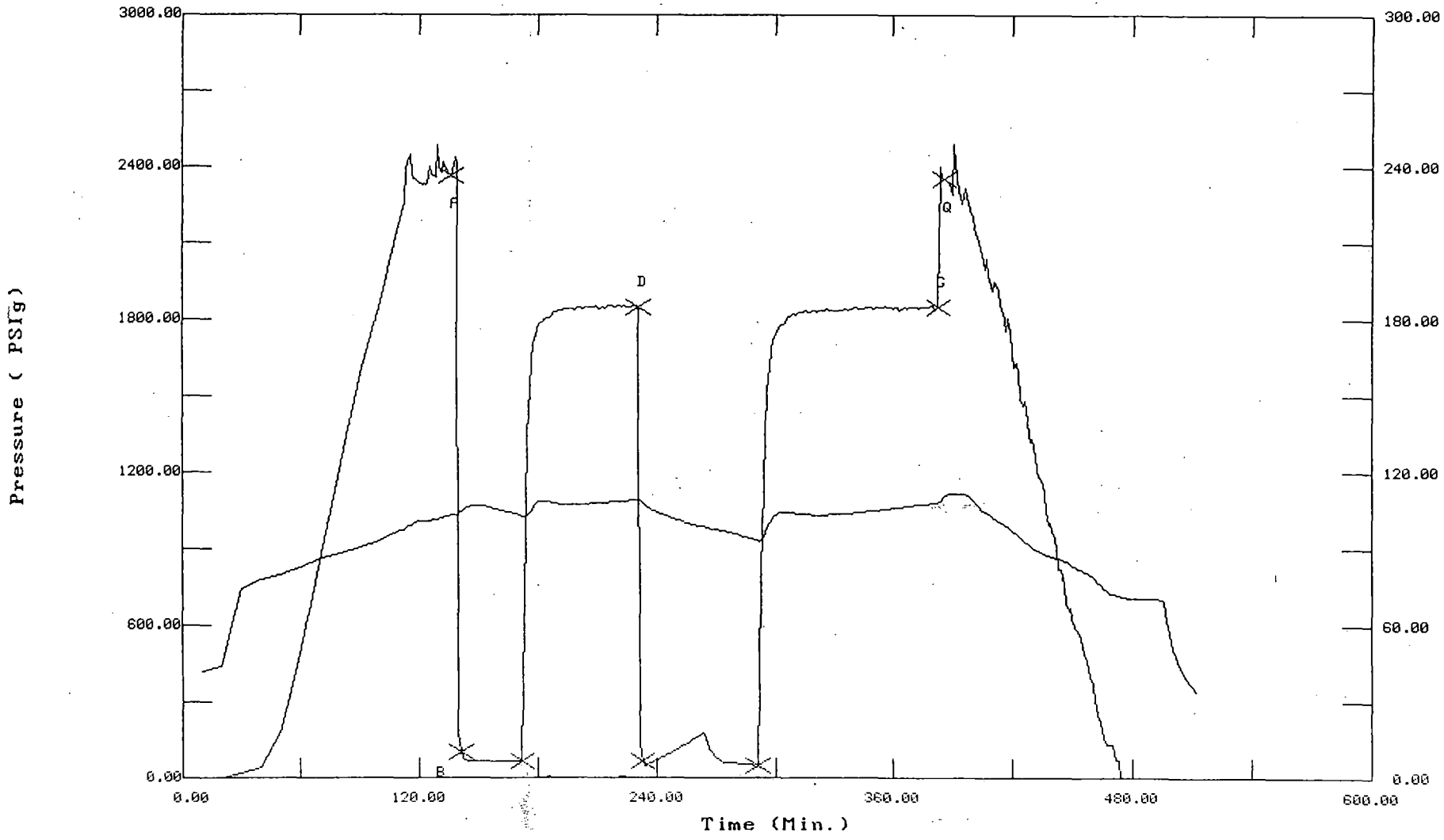
	Time	Pressure PSIg	delta P. PSIg	Temp. DEG F	(T+dT)/dT	P^2/10^6
	52.00	1840.8	1792.7	104.28	2.7115	3.389
	53.00	1843.7	1795.6	104.35	2.6792	3.399
	54.00	1844.4	1796.3	104.44	2.6481	3.402
	55.00	1846.8	1798.7	104.53	2.6182	3.411
	56.00	1845.2	1797.1	104.62	2.5893	3.405
	57.00	1845.4	1797.3	104.71	2.5614	3.405
	58.00	1846.7	1798.6	104.81	2.5345	3.410
	59.00	1844.6	1796.5	104.89	2.5085	3.403
	60.00	1840.7	1792.6	104.97	2.4833	3.388
	61.00	1847.0	1798.9	105.04	2.4590	3.411
	62.00	1848.2	1800.0	105.12	2.4355	3.416
	63.00	1846.3	1798.2	105.22	2.4127	3.409
	64.00	1848.7	1800.6	105.31	2.3906	3.418
	65.00	1851.2	1803.1	105.43	2.3692	3.427
	66.00	1846.4	1798.3	105.56	2.3485	3.409
	67.00	1845.2	1797.1	105.69	2.3284	3.405
	68.00	1845.6	1797.5	105.81	2.3088	3.406
	69.00	1844.1	1796.0	105.94	2.2899	3.401
	70.00	1847.7	1799.5	106.06	2.2714	3.414
	71.00	1847.9	1799.8	106.16	2.2535	3.415
	72.00	1838.6	1790.5	106.27	2.2361	3.381
	73.00	1841.5	1793.4	106.38	2.2192	3.391
	74.00	1845.2	1797.1	106.46	2.2027	3.405
	75.00	1850.5	1802.4	106.57	2.1867	3.424
	76.00	1845.0	1796.9	106.66	2.1711	3.404
	77.00	1848.3	1800.1	106.75	2.1558	3.416
	78.00	1845.4	1797.3	106.85	2.1410	3.406
	79.00	1847.4	1799.3	106.94	2.1266	3.413
	80.00	1845.7	1797.5	107.03	2.1125	3.406
	81.00	1845.5	1797.4	107.10	2.0988	3.406
	82.00	1844.4	1796.3	107.17	2.0854	3.402
	83.00	1847.4	1799.3	107.24	2.0723	3.413
	84.00	1847.4	1799.3	107.32	2.0595	3.413
	85.00	1848.5	1800.4	107.39	2.0471	3.417
	86.00	1846.5	1798.4	107.47	2.0349	3.410
	87.00	1849.2	1801.1	107.53	2.0230	3.420
	88.00	1851.7	1803.6	107.61	2.0114	3.429
	89.00	1851.8	1803.7	107.69	2.0000	3.429
	90.00	1841.4	1793.3	107.77	1.9889	3.391
	91.00	1844.7	1796.5	107.83	1.9780	3.403
****** End Shut-in 2	92.00	1849.8	1801.7	107.89	1.9674	3.422
****** Final Hydro.	386.00	2352.1	0.0	110.47		

TEST HISTORY

9476 DST#2 HERD #1 R.J. PATRICK COMPANY

Flag Points

	t(Min.)	P(PSIg)
A:	0.00	2364.94
B:	0.00	99.10
C:	31.00	64.37
D:	59.00	1850.62
E:	0.00	61.13
F:	58.00	48.11
G:	92.00	1849.80
Q:	0.00	2352.14



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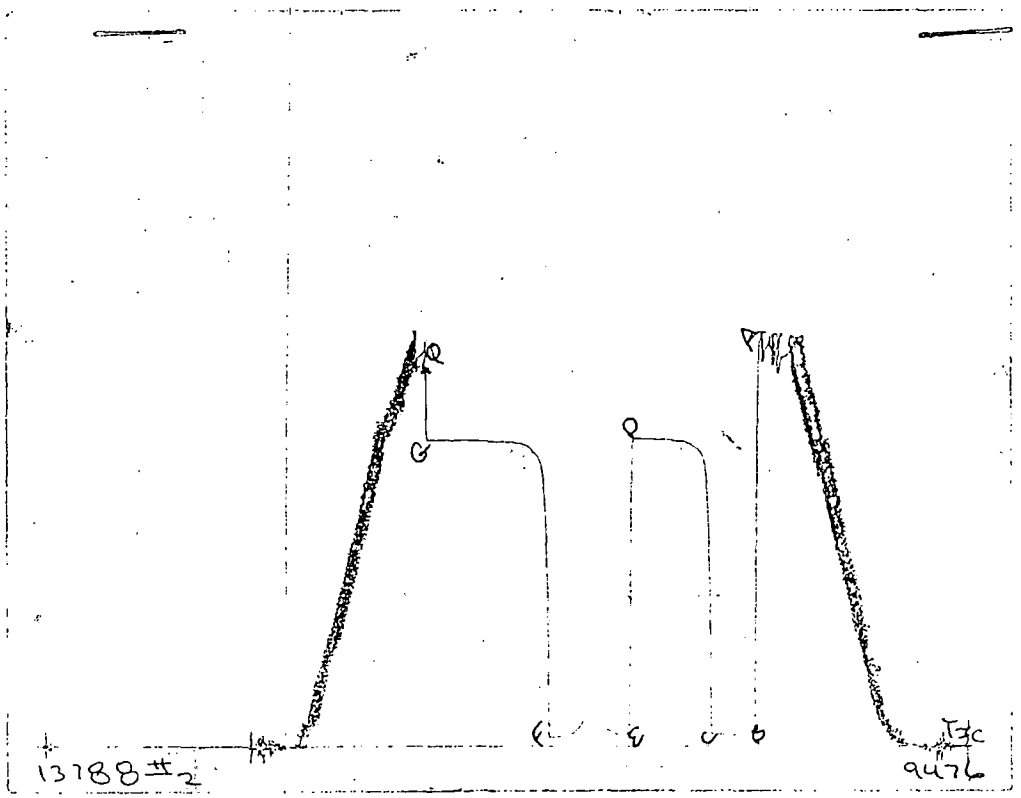


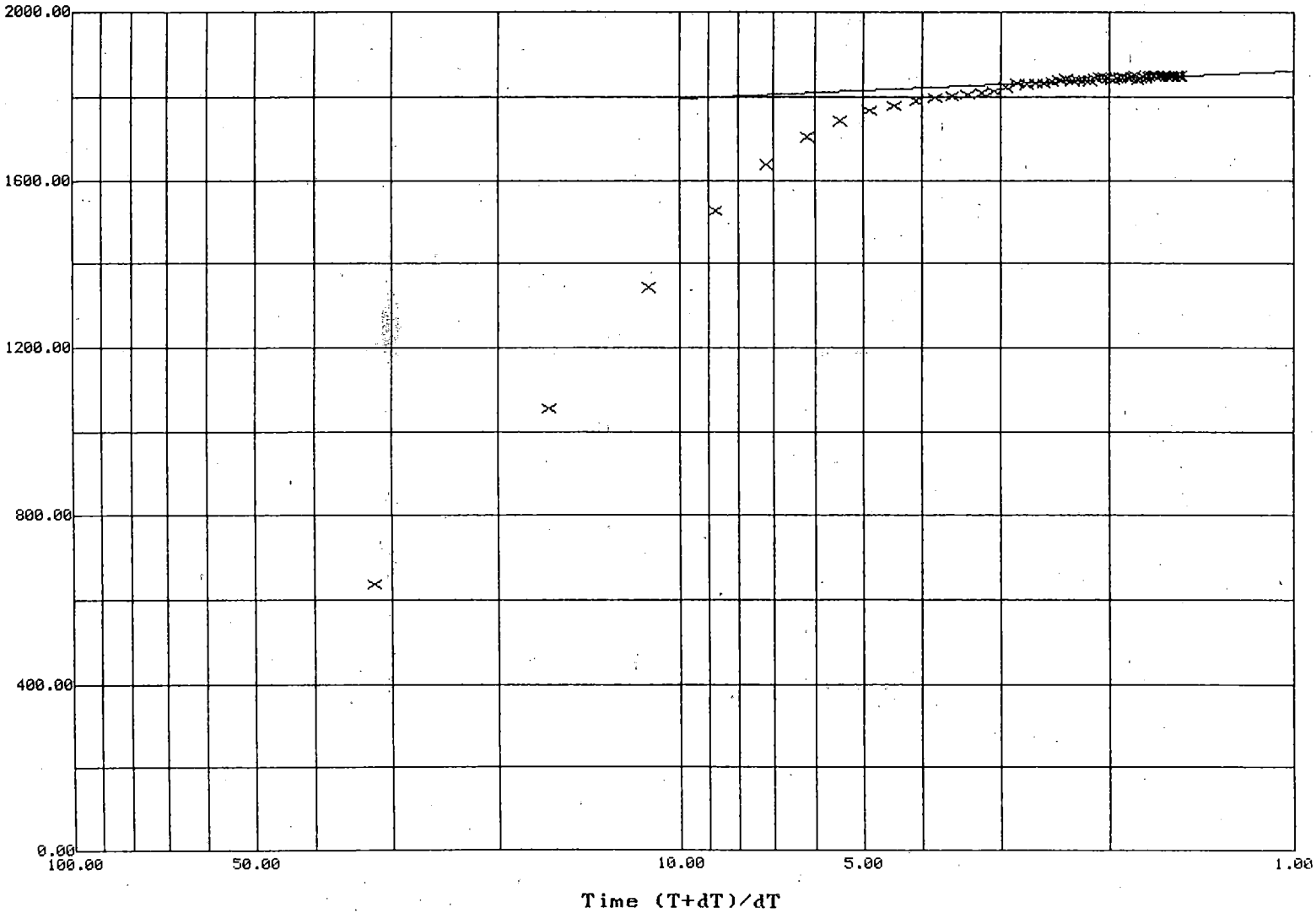
This is a photocopy of the actual AK-1 recorder chart

Horner Plot: shut-in #1

9476 DST#2 HERD #1 R.J. PATRICK COMPANY

Slope: 65.4240 PSIg/cycle

Ext. Pressure: 1863.9207 PSIg

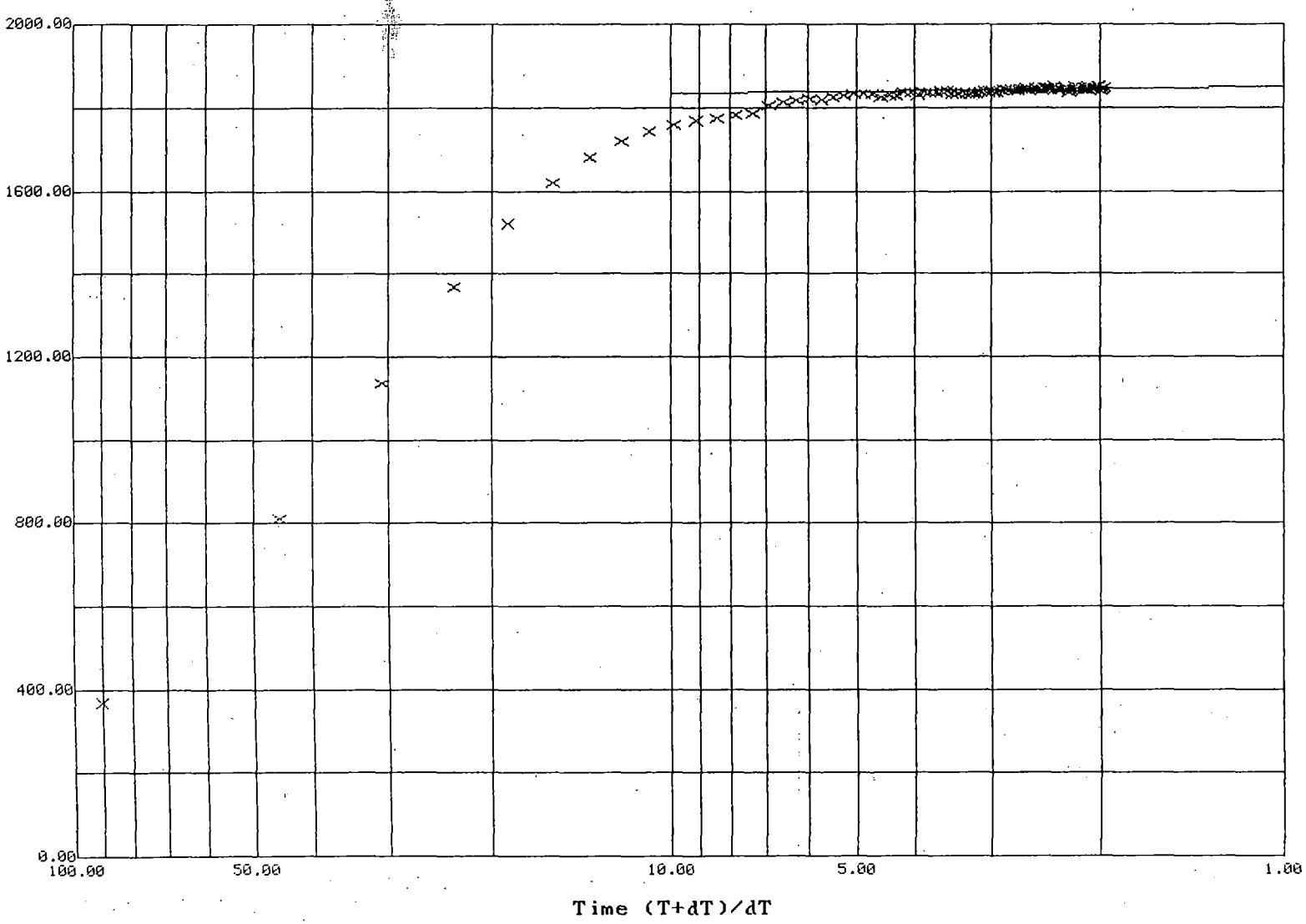


Horner Plot: shut-in #2

9476 DST#2 HERD #1 R.J. PATRICK COMPANY

Slope: 17.8485 PSIg/cycle

Ext. Pressure: 1852.5771 PSIg

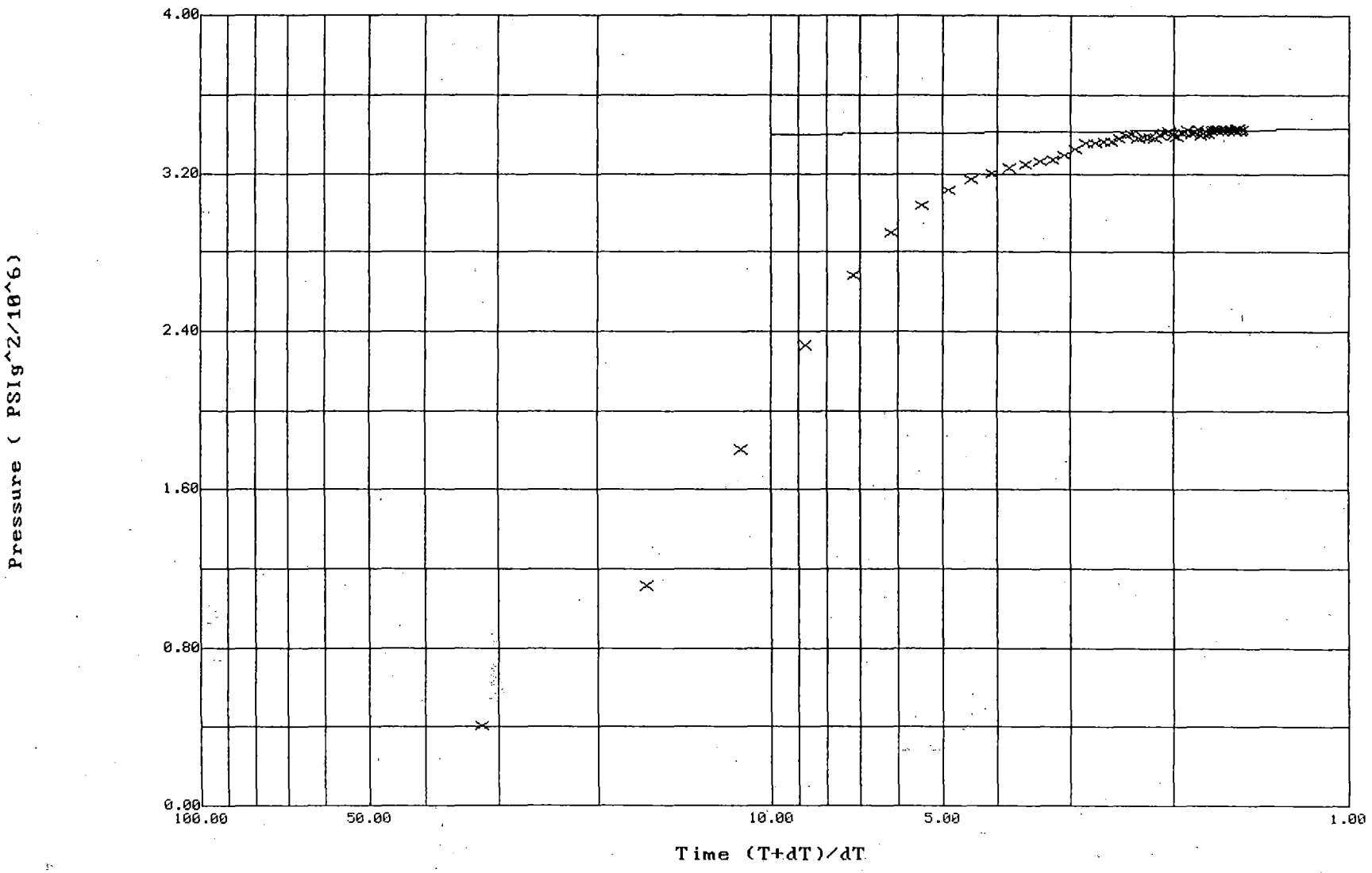


P^2 Horner Plot: shut-in #1

9476 DST#2 HERD #1 R.J. PATRICK COMPANY

Slope: 0.0364 PSIg^2/10^6/cycle

Ext. Pressure: 1852.7676 PSIg

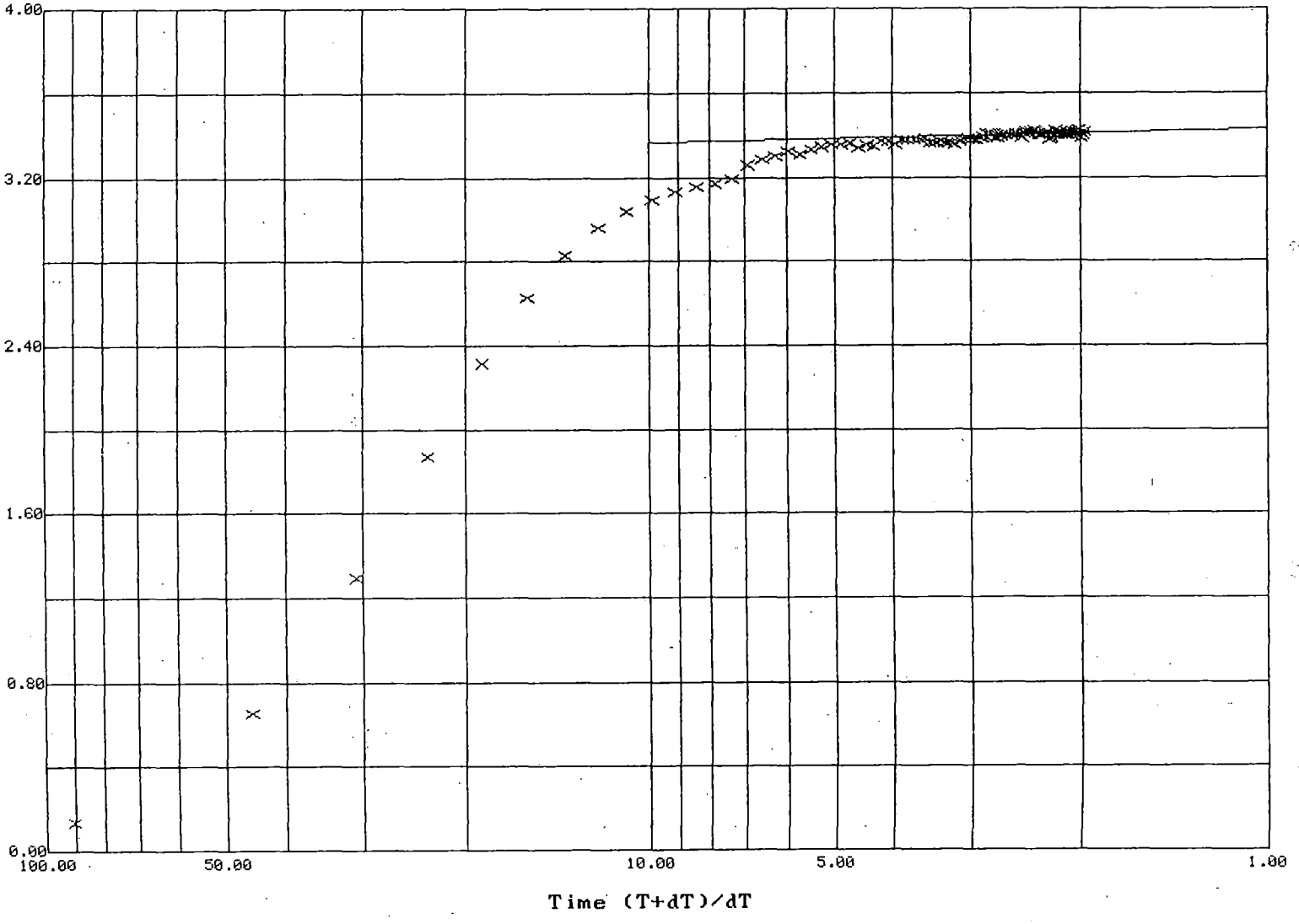


P^2 Horner Plot: shut-in #2

9476 DST#2 HERD #1 R.J. PATRICK COMPANY

Slope: 0.0659 PSIg^2/10^6/cycle

Ext. Pressure: 1852.5703 PSIg



TRILOBITE TESTING L.L.C.

OPERATOR : R.J. Patrick Oper. Co. DATE 12-16-96
WELL NAME: Herd #1 KB 1934.00 ft TICKET NO: 9477 DST #3
LOCATION : 4-33s-19w Comanche KS GR 1921.00 ft FORMATION: Mississippian
INTERVAL : 5130.00 To 5190.00 ft TD 5190.00 ft TEST TYPE: CONV.

RECORDER DATA

	Mins		Field	1	2	3	4
PF	30	Rec.	13788	13788	3024		
SI	60	Range(Psi)	4650.0	4650.0	4995.0	0.0	0.0
SF	60	Clock(hrs)	12 HR	12 HR	elec.		
FS	90	Depth(ft)	5187.0	5187.0	5160.0	0.0	0.0

TIME DATA----------
PF Fr. 2136 to 2206 hr
IS Fr. 2206 to 2306 hr
SF Fr. 2306 to 0006 hr
FS Fr. 0006 to 0136 hr

	Field	1	2	3	4
A. Init Hydro	2514.0	2582.0	2472.0	0.0	0.0
B. First Flow	151.0	126.0	182.0	0.0	0.0
B1. Final Flow	128.0	122.0	99.0	0.0	0.0
C. In Shut-in	1800.0	1791.0	1791.0	0.0	0.0
D. Init Flow	158.0	124.0	185.0	0.0	0.0
E. Final Flow	119.0	117.0	95.0	0.0	0.0
F. Fl Shut-in	1774.0	1768.0	1756.0	0.0	0.0
G. Final Hydro	2472.0	2524.0	2427.0	0.0	0.0
Inside/Outside	O	O	I	T	

T STARTED 1909 hr
T ON BOTM 2132 hr
T OPEN 2136 hr
T PULLED 0137 hr
T OUT 0400 hr

RECOVERY
Tot Fluid 25.00 ft of 25.00 ft in DC and 0.00 ft in DP
25.00 ft of Slightly gas cut mud
0.00 ft of
0.00 ft of
0.00 ft of
0.00 ft of
0.00 ft of
0.00 ft of EST. FT. OF PAY----------12'
SALINITY 6000.00 P.P.M. A.P.I. Gravity 0.00

BLOW DESCRIPTION
Initial Flow -
Strong blow - bottom of bucket in
5 min. 10 sec.

Initial Shut-in -
Strong blow

Final Flow -
Strong blow - (see gas volume report)

Final Shut-in -
Strong blow

SAMPLES: Gas sample
SENT TO:T.M. / Liberal Ks

Test Successful: Y

TOOL DATA----------

Tool Wt.	2100.00 lbs
Wt Set On Packer	20000.00 lbs
Wt Pulled Loose	86000.00 lbs
Initial Str Wt	75000.00 lbs
Unseated Str Wt	75000.00 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	216.00 ft
D.P. Length	4902.00 ft
H.W. I.D	2.70 in

MUD DATA----------

Mud Type	Chemical
Weight	9.10 lb/cf
Vis.	51.00 S/L
W.L.	8.20 in3
F.C.	0.20 in
Mud Drop	N
Amt. of fill	0.00 ft
Btm. H. Temp.	112.00 F
Hole Condition	good
% Porosity	14.00
Packer Size	6.75 in
No. of Packers	2
Cushion Amt.	0.00 N
Cushion Type	None
Reversed Out	N
Tool Chased	N
Tester	Gary Pevoteaux
Co. Rep.	Kendall Posey
Contr.	Duke Drlg.
Rig #	7
Unit #	
Pump T.	LCM 6#/bl

*** TOOL DIAGRAM *** CONV.

L NAME: Herd #1

'ATION : 4-33s-19w Comanche KS

'KET No. 9477 D.S.T. No. 3 DATE 12-16-96

'AL TOOL TO BOTTOM OF TOP PACKERS 26

'ERVAL TOOL .....

'TOM PACKERS AND ANCHOR 31

'AL TOOL 57

:LL COLLAR ANCHOR IN INTERVAL .....

:. ANCHOR STND.Stands Single 1 Total 29

?. ANCHOR STND.Stands Single Total

'AL ASSEMBLY 86

:. ABOVE TOOLS.Stands3 Single 1 Total 216

?. ABOVE TOOLS.Stands79 Single 0 Total 4902

'AL DRILL COLLARS DRILL PIPE & TOOLS .. 5204

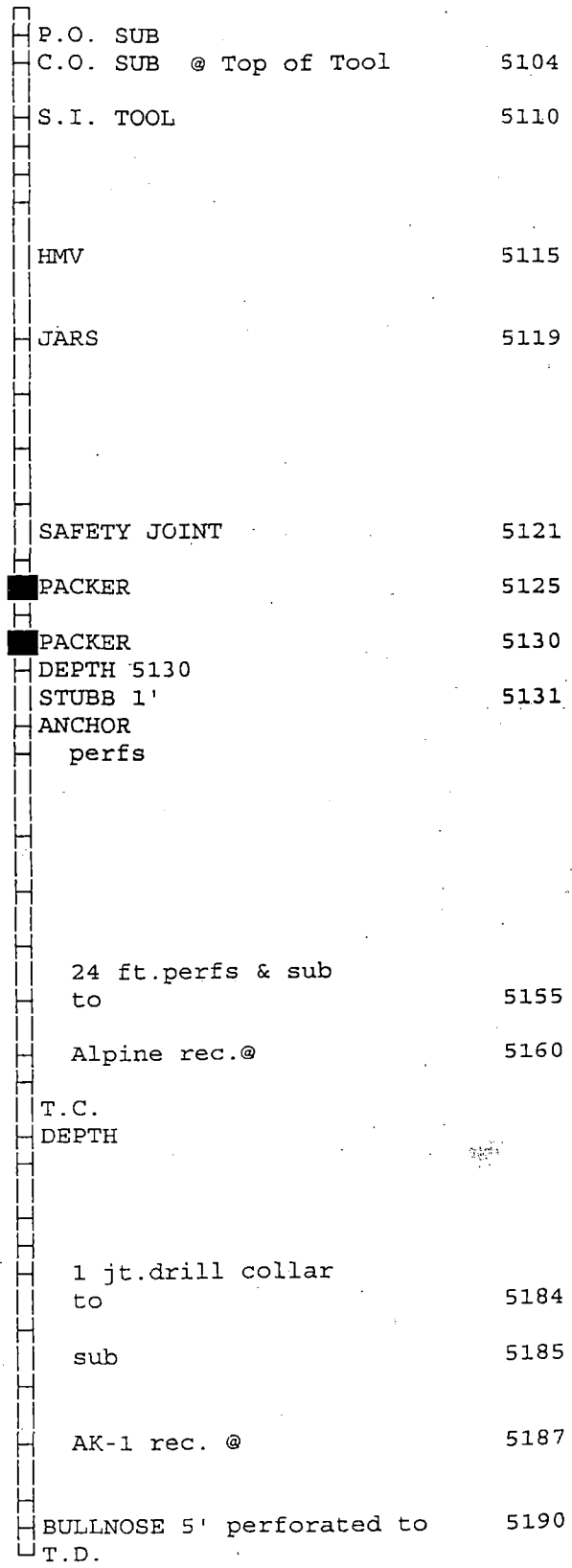
'AL DEPTH 5190

'AL DRILL PIPE ABOVE K.B. 14

MARKS:

FLUID SAMPLER DATA
(not run)

S---------- Cubic ft.
L----------
D----------
TER----------
HER----------
ESSURE---------- PSI
----------N/A ohms @
degrees F
LORIDES----------N/A ppm



GAS RECOVERY

COMPANY: R.J. Patrick Oper. Co. DATE: 12-16-96
WELL NAME: Herd #1 KB Elev: 1934.00 ft TICKET #9477 DST #3
WELL LOCATION: 4-33s-19w Comanche KS GR Elev: 1921.00 ft FORMATION: Mississippian
INTERVAL Fr.: 5130.00 To 5190.00 T.D.: 5190.00 ft TEST TYPE: CONV.

GAS RECOVERY MEASURED WITH ADJUSTING CHOKE

***** GAS RATES FOR FLOW #1

Time (min)	Orifice (in)	Pressure (Psi)	H2O (in)	Rate (cf/d)
10	0.75	16	0	344000.0
20	0.75	17	0	357000.0
30	0.75	18	0	370000.0

***** GAS RATES FOR FLOW #2

Time (min)	Orifice (in)	Pressure (Psi)	H2O (in)	Rate (cf/d)
10	0.75	28	0	497000.0
20	0.75	24	0	449000.0
30	0.75	23	0	436000.0
40	0.75	23	0	436000.0
50	0.75	23	0	436000.0
60	0.75	23	0	436000.0

Operator.....: R.J. Patrick Oper. Co.
Well Name.....: Herd #1
DST Number.....: 2

Location.: 4-33S-19W
Test Type: Conventional
Formation: Mississippian

Recorder No...: 3024
Recorder Depth: 5160
Test Interval.: 5130-5190

RESERVOIR CALCULATIONS: Gas calculations based on shut-in #2

RESERVOIR PARAMETERS USED:

Net Pay	12.00 ft
Porosity	14.00 %
Bottom Hole Temp	112.00 F
Specific Gravity	0.614
Z factor	%7/3f %s
Compressibility	0.001167 /psi
Viscosity	0.0155 cp
Total Flowing Time	90.00 min.
Flow Rate	436000.00 bbls/d
Final Flowing Pressure	95.00 psi
Horner Slope	0.6305 *10^6 psi^2/cycle
Extrapolated Pressure	1801.76 psi
Assumed Drainage Radius	1500.00 ft
Well Bore Radius	3.94 in

RESULTS:

Effective Permeability	747.188654 md
Flow Capacity	8966.2639 md.ft
Transmissibility	578468.6357 md.ft/cp
Skin Factor	1.0439
Pressure Drop Across Skin	667.2041 psi
Radius of Investigation	610.2201 ft
Damage Ratio	0.8549
Absolute Open Flow	437198.5722 bbls/d
Absolute Open Flow W/O Damage	437198.5722 bbls/d
Estimated Stabilized AOF	214336.7165 bbls/d

Vis .0155
Comp .0011665
Z .894

THURMOND-McGLOTHLIN, INC
P. O. BOX 885 LIBERAL, KS 67901
(316) 626-4218

Fractional Analysis * Date Run: 18-Dec-96

Components		Mol %	Gpm
Carbon Dioxide	CO2	0.1939	
Nitrogen	N2	1.1116	
Methane	C1	93.3116	15.7536
Ethane	C2	2.8398	0.7554
Propane	C3	0.9807	0.2688
iso-Butane	IC4	0.1649	0.0536
n-Butane	NC4	0.3342	0.1048
iso-Pentane	IC5	0.1062	0.0386
n-Pentane	NC5	0.1118	0.0403
Hexane +	C6+	0.7055	0.3022
Helium	He	0.1398	
		100.0000	

Company: R.J. PATRICK
Producer: R.J. PATRICK
Lease: HERD #1 TEST 3
Station: N/A
Pressure: N/A
Temperature: N/A
Cylinder No.: 3
Analysis By: TM-LIBERAL
Secured By: N/A
Date Sampled: 12/17/96
Date Recv'd: 12/17/96
Location:
H2S:

Gasoline Content @ 14.65 Psia & 60 F

	GPM
Propane & Heavier	0.8083
Butane & Heavier	0.5395
Pentane & Heavier	0.3811

Remarks:

Btu @ 14.65 Psia & 60 F

Dry	1076.14
Wet	1057.42

Results To:
R.J. PATRICK OPERATING
LIBERAL, KS.
FAX-316-624-1819

SPECIFIC GRAVITY
0.6138

* Based on GPA 2145 & 2172

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 9477 DST#3 HERD #1 R.J. PATRICK OPER.CO.

DATE: 12/16/96 TIME: 19:09:35

	Time	Pressure PSIg	delta P PSIg	Temp. DEG F	(T+dT)/dT	P^2/10^6
****** Initial Hydro.	142.00	2472.0	0.0	107.09		
****** Start Flow 1	0.00	181.7	0.0	107.71		
	1.00	128.9	-52.8	108.08		
	2.00	114.6	-67.1	108.46		
	3.00	106.5	-75.1	108.76		
	4.00	105.4	-76.3	108.98		
	5.00	105.3	-76.3	109.12		
	6.00	101.0	-80.6	109.25		
	7.00	100.8	-80.8	109.35		
	8.00	103.4	-78.2	109.43		
	9.00	99.8	-81.9	109.50		
	10.00	102.5	-79.2	109.57		
	11.00	99.9	-81.8	109.63		
	12.00	101.0	-80.7	109.68		
	13.00	99.7	-82.0	109.72		
	14.00	101.6	-80.0	109.77		
	15.00	100.6	-81.1	109.81		
	16.00	99.2	-82.5	109.84		
	17.00	100.3	-81.4	109.88		
	18.00	99.6	-82.1	109.92		
	19.00	100.8	-80.8	109.95		
	20.00	99.6	-82.0	109.97		
	21.00	100.0	-81.7	110.00		
****** End Flow 1	22.00	99.0	-82.7	110.01		
****** Start Shutin 1	0.00	99.0	0.0	110.01	0.0000	0.01
	1.00	201.8	102.8	110.05	23.0000	0.041
	2.00	747.2	648.2	110.07	12.0000	0.558
	3.00	1009.4	910.4	110.10	8.3333	1.019
	4.00	1207.6	1108.6	110.19	6.5000	1.458
	5.00	1360.2	1261.2	110.25	5.4000	1.850
	6.00	1473.8	1374.8	110.34	4.6667	2.172
	7.00	1556.1	1457.1	110.39	4.1429	2.421
	8.00	1614.9	1515.9	110.46	3.7500	2.608
	9.00	1656.2	1557.2	110.51	3.4444	2.743
	10.00	1685.7	1586.7	110.57	3.2000	2.842
	11.00	1705.2	1606.2	110.61	3.0000	2.908
	12.00	1718.8	1619.8	110.64	2.8333	2.954
	13.00	1729.0	1630.0	110.69	2.6923	2.989
	14.00	1736.8	1637.8	110.71	2.5714	3.017
	15.00	1742.9	1643.9	110.72	2.4667	3.038
	16.00	1747.5	1648.5	110.75	2.3750	3.054
	17.00	1751.3	1652.3	110.78	2.2941	3.067
	18.00	1754.5	1655.5	110.80	2.2222	3.078
	19.00	1757.3	1658.3	110.83	2.1579	3.088
	20.00	1759.1	1660.1	110.85	2.1000	3.094
	21.00	1760.9	1661.9	110.87	2.0476	3.101
	22.00	1762.5	1663.5	110.88	2.0000	3.106
	23.00	1763.9	1664.9	110.91	1.9565	3.111
	24.00	1765.3	1666.3	110.94	1.9167	3.116
	25.00	1766.6	1667.6	110.96	1.8800	3.121
	26.00	1767.7	1668.7	110.98	1.8462	3.125

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING
: 9477 DST#3 HERD #1 R.J. PATRICK OPER.CO.
: 12/16/96 TIME: 19:09:35

	Time	Pressure PSIg	delta P PSIg	Temp. DEG F	(T+dT)/dT	P^2/10^6
	27.00	1768.8	1669.8	111.00	1.8148	3.129
	28.00	1769.8	1670.8	111.03	1.7857	3.132
	29.00	1770.7	1671.7	111.05	1.7586	3.135
	30.00	1771.5	1672.5	111.08	1.7333	3.138
	31.00	1772.3	1673.3	111.10	1.7097	3.141
	32.00	1773.0	1674.0	111.14	1.6875	3.144
	33.00	1773.8	1674.8	111.16	1.6667	3.146
	34.00	1774.4	1675.4	111.19	1.6471	3.149
	35.00	1775.0	1676.0	111.22	1.6286	3.151
	36.00	1774.7	1675.7	111.25	1.6111	3.150
	37.00	1775.0	1676.0	111.28	1.5946	3.150
	38.00	1775.3	1676.3	111.31	1.5789	3.152
	39.00	1775.7	1676.7	111.34	1.5641	3.153
	40.00	1776.2	1677.2	111.38	1.5500	3.155
	41.00	1776.6	1677.6	111.41	1.5366	3.156
	42.00	1777.0	1678.0	111.45	1.5238	3.158
	43.00	1777.4	1678.4	111.48	1.5116	3.159
	44.00	1777.8	1678.8	111.51	1.5000	3.160
	45.00	1778.2	1679.2	111.54	1.4889	3.162
	46.00	1778.5	1679.5	111.59	1.4783	3.163
	47.00	1778.9	1679.9	111.62	1.4681	3.164
	48.00	1779.2	1680.2	111.66	1.4583	3.166
	49.00	1779.5	1680.5	111.70	1.4490	3.166
	50.00	1779.8	1680.8	111.74	1.4400	3.168
	51.00	1780.1	1681.1	111.78	1.4314	3.169
	52.00	1780.4	1681.4	111.81	1.4231	3.170
	53.00	1780.6	1681.6	111.85	1.4151	3.171
	54.00	1780.9	1681.9	111.90	1.4074	3.172
	55.00	1781.3	1682.3	111.93	1.4000	3.173
	56.00	1782.2	1683.2	111.97	1.3929	3.176
	57.00	1783.3	1684.3	112.01	1.3860	3.180
	58.00	1784.5	1685.5	112.06	1.3793	3.184
	59.00	1785.6	1686.6	112.09	1.3729	3.188
	60.00	1786.7	1687.7	112.13	1.3667	3.192
	61.00	1787.8	1688.8	112.18	1.3607	3.196
	62.00	1788.8	1689.8	112.21	1.3548	3.200
	63.00	1789.7	1690.7	112.26	1.3492	3.203
*** End Shut-in 1	64.00	1790.6	1691.6	112.30	1.3438	3.206
*** Start Flow 2	0.00	184.7	0.0	112.36		
	1.00	149.0	-35.7	112.33		
	2.00	129.4	-55.3	112.27		
	3.00	120.0	-64.7	112.21		
	4.00	111.5	-73.2	112.16		
	5.00	107.7	-77.0	112.11		
	6.00	105.7	-79.0	112.08		
	7.00	104.4	-80.3	112.05		
	8.00	102.8	-82.0	112.04		
	9.00	100.7	-84.0	112.01		
	10.00	100.1	-84.6	111.99		
	11.00	99.1	-85.6	111.98		
	12.00	98.2	-86.5	111.96		

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 9477 DST#3 HERD #1 R.J. PATRICK OPER.CO.

DATE: 12/16/96 TIME: 19:09:35

	Time	Pressure PSIg	delta P PSIg	Temp. DEG F	(T+dT)/dT	P^2/10^6
	13.00	97.4	-87.3	111.94		
	14.00	96.9	-87.9	111.91		
	15.00	96.4	-88.3	111.88		
	16.00	96.0	-88.7	111.84		
	17.00	95.4	-89.3	111.81		
	18.00	95.0	-89.7	111.77		
	19.00	94.7	-90.0	111.71		
	20.00	94.5	-90.2	111.66		
	21.00	94.4	-90.3	111.59		
	22.00	94.3	-90.4	111.53		
	23.00	94.2	-90.5	111.46		
	24.00	94.2	-90.5	111.38		
	25.00	93.7	-91.0	111.29		
	26.00	94.0	-90.7	111.22		
	27.00	94.0	-90.7	111.14		
	28.00	94.0	-90.7	111.07		
	29.00	94.0	-90.7	110.99		
	30.00	94.0	-90.8	110.91		
	31.00	93.9	-90.8	110.82		
	32.00	93.9	-90.8	110.72		
	33.00	93.9	-90.8	110.62		
	34.00	93.9	-90.8	110.50		
	35.00	94.0	-90.8	110.39		
	36.00	94.0	-90.7	110.26		
	37.00	93.9	-90.8	110.14		
	38.00	94.0	-90.8	110.02		
	39.00	94.0	-90.7	109.89		
	40.00	94.1	-90.6	109.75		
	41.00	94.1	-90.6	109.62		
	42.00	94.1	-90.6	109.47		
	43.00	94.2	-90.5	109.33		
	44.00	94.2	-90.5	109.21		
	45.00	94.2	-90.5	109.06		
	46.00	94.1	-90.6	108.92		
	47.00	94.2	-90.5	108.78		
	48.00	94.2	-90.5	108.64		
	49.00	94.4	-90.3	108.50		
	50.00	94.4	-90.4	108.36		
	51.00	94.3	-90.4	108.22		
	52.00	94.4	-90.4	108.09		
	53.00	94.4	-90.3	107.94		
	54.00	94.4	-90.3	107.81		
	55.00	94.5	-90.2	107.68		
	56.00	94.5	-90.2	107.55		
	57.00	94.6	-90.1	107.43		
****** End Flow 2	58.00	94.6	-90.1	107.29		
****** Start Shutin 2	0.00	94.6	0.0	107.29	0.0000	0.009
	1.00	415.2	320.6	107.17	81.0000	0.172
	2.00	806.5	711.9	107.09	41.0000	0.650
	3.00	1066.4	971.8	107.09	27.6667	1.137
	4.00	1246.2	1151.6	107.12	21.0000	1.553

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

T: 9477 DST#3 HERD #1 R.J. PATRICK OPER.CO.

E: 12/16/96 TIME: 19:09:35

Time	Pressure PSIg	delta P PSIg	Temp. DEG F	(T+dT)/dT	P^2/10^6
5.00	1367.4	1272.8	107.17	17.0000	1.870
6.00	1448.4	1353.8	107.20	14.3333	2.098
7.00	1503.1	1408.5	107.21	12.4286	2.259
8.00	1541.6	1447.0	107.21	11.0000	2.376
9.00	1568.7	1474.1	107.19	9.8889	2.461
10.00	1588.3	1493.7	107.16	9.0000	2.523
11.00	1603.4	1508.8	107.12	8.2727	2.571
12.00	1615.2	1520.6	107.06	7.6667	2.609
13.00	1625.1	1530.5	107.01	7.1538	2.641
14.00	1633.4	1538.8	106.95	6.7143	2.668
15.00	1640.7	1546.1	106.89	6.3333	2.692
16.00	1646.9	1552.3	106.82	6.0000	2.712
17.00	1652.3	1557.7	106.77	5.7059	2.730
18.00	1657.5	1562.8	106.72	5.4444	2.747
19.00	1662.2	1567.6	106.67	5.2105	2.763
20.00	1666.6	1572.0	106.62	5.0000	2.777
21.00	1670.7	1576.1	106.57	4.8095	2.791
22.00	1674.5	1579.9	106.54	4.6364	2.804
23.00	1678.0	1583.4	106.49	4.4783	2.816
24.00	1681.4	1586.8	106.47	4.3333	2.827
25.00	1684.5	1589.9	106.44	4.2000	2.838
26.00	1687.5	1592.9	106.41	4.0769	2.848
27.00	1690.3	1595.7	106.40	3.9630	2.857
28.00	1692.9	1598.3	106.38	3.8571	2.866
29.00	1695.4	1600.8	106.37	3.7586	2.875
30.00	1697.8	1603.2	106.36	3.6667	2.883
31.00	1700.1	1605.5	106.35	3.5806	2.890
32.00	1702.3	1607.7	106.36	3.5000	2.898
33.00	1704.3	1609.7	106.35	3.4242	2.905
34.00	1706.3	1611.7	106.35	3.3529	2.911
35.00	1708.2	1613.6	106.36	3.2857	2.918
36.00	1710.0	1615.4	106.38	3.2222	2.924
37.00	1711.7	1617.1	106.38	3.1622	2.930
38.00	1713.3	1618.7	106.39	3.1053	2.935
39.00	1714.9	1620.3	106.41	3.0513	2.941
40.00	1716.4	1621.7	106.43	3.0000	2.946
41.00	1717.8	1623.1	106.46	2.9512	2.951
42.00	1719.2	1624.5	106.48	2.9048	2.956
43.00	1720.5	1625.9	106.49	2.8605	2.960
44.00	1721.8	1627.2	106.52	2.8182	2.964
45.00	1723.0	1628.4	106.55	2.7778	2.969
46.00	1724.2	1629.6	106.58	2.7391	2.973
47.00	1725.4	1630.7	106.61	2.7021	2.977
48.00	1726.5	1631.8	106.65	2.6667	2.981
49.00	1727.5	1632.9	106.69	2.6327	2.984
50.00	1728.5	1633.9	106.72	2.6000	2.988
51.00	1729.6	1634.9	106.75	2.5686	2.991
52.00	1730.5	1635.9	106.79	2.5385	2.995
53.00	1731.4	1636.8	106.83	2.5094	2.998
54.00	1732.3	1637.7	106.87	2.4815	3.001
55.00	1733.1	1638.5	106.91	2.4545	3.004

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 9477 DST#3 HERD #1 R.J. PATRICK OPER.CO.

DATE: 12/16/96 TIME: 19:09:35

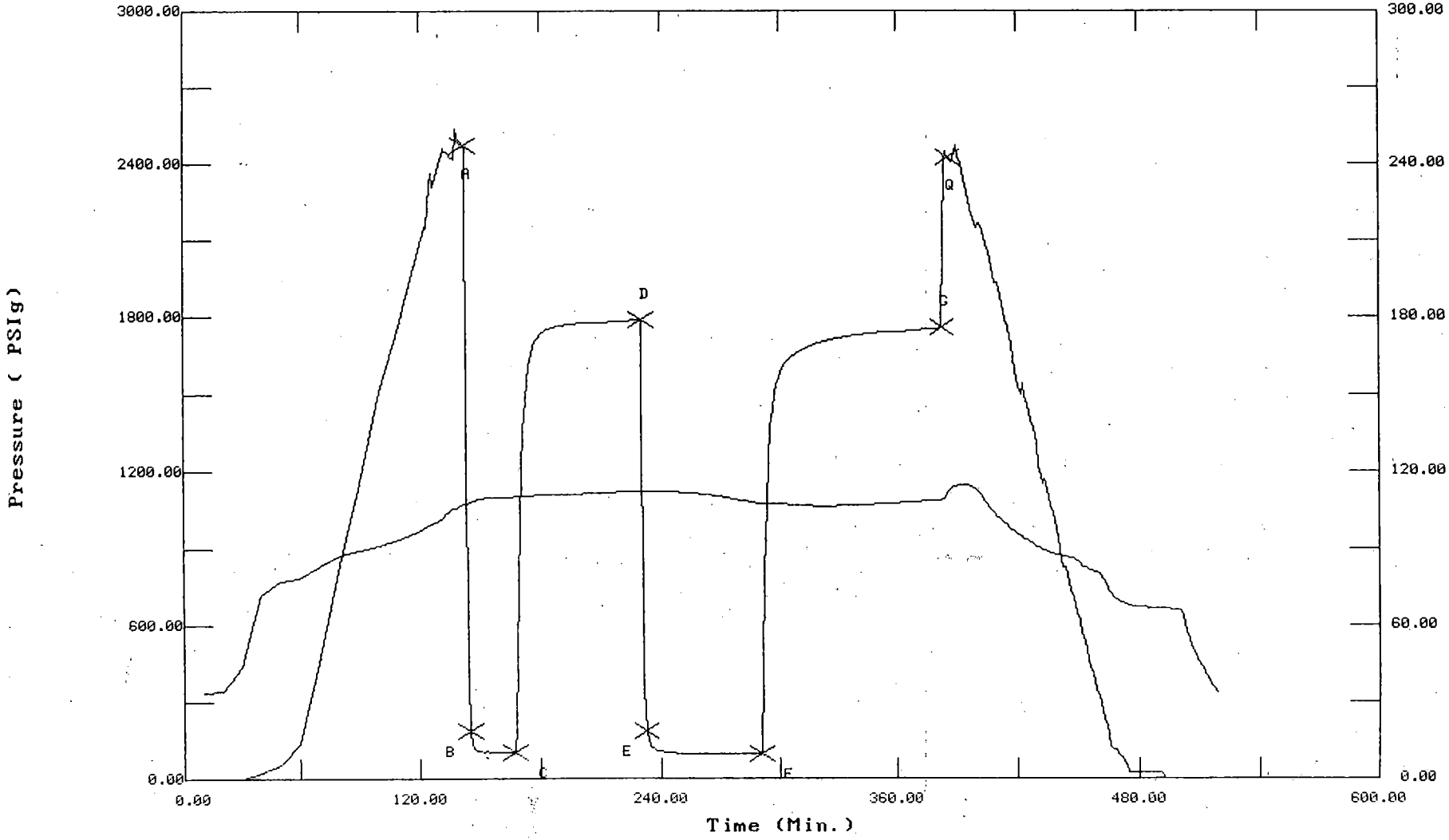
	Time	Pressure PSIg	delta P PSIg	Temp. DEG F	(T+dT)/dT	P^2/10^6
	56.00	1734.0	1639.3	106.95	2.4286	3.007
	57.00	1734.7	1640.1	106.99	2.4035	3.009
	58.00	1735.6	1641.0	107.04	2.3793	3.012
	59.00	1736.3	1641.7	107.09	2.3559	3.015
	60.00	1737.0	1642.4	107.12	2.3333	3.017
	61.00	1737.8	1643.2	107.17	2.3115	3.020
	62.00	1738.4	1643.8	107.22	2.2903	3.022
	63.00	1738.8	1644.2	107.26	2.2698	3.023
	64.00	1739.4	1644.8	107.32	2.2500	3.026
	65.00	1739.2	1644.6	107.36	2.2308	3.025
	66.00	1739.4	1644.8	107.40	2.2121	3.026
	67.00	1739.9	1645.2	107.46	2.1940	3.027
	68.00	1740.3	1645.7	107.50	2.1765	3.029
	69.00	1740.8	1646.2	107.55	2.1594	3.030
	70.00	1741.3	1646.7	107.60	2.1429	3.032
	71.00	1741.8	1647.2	107.64	2.1268	3.034
	72.00	1742.3	1647.7	107.70	2.1111	3.036
	73.00	1742.8	1648.2	107.75	2.0959	3.037
	74.00	1743.3	1648.7	107.80	2.0811	3.039
	75.00	1743.8	1649.2	107.85	2.0667	3.041
	76.00	1744.6	1649.9	107.90	2.0526	3.043
	77.00	1745.3	1650.7	107.96	2.0390	3.046
	78.00	1746.0	1651.4	108.00	2.0256	3.049
	79.00	1746.9	1652.2	108.06	2.0127	3.052
	80.00	1747.7	1653.1	108.11	2.0000	3.054
	81.00	1748.5	1653.8	108.15	1.9877	3.057
	82.00	1749.2	1654.6	108.21	1.9756	3.060
	83.00	1750.0	1655.4	108.26	1.9639	3.062
	84.00	1750.7	1656.1	108.32	1.9524	3.065
	85.00	1751.3	1656.7	108.37	1.9412	3.067
	86.00	1752.0	1657.4	108.42	1.9302	3.070
	87.00	1752.7	1658.1	108.47	1.9195	3.072
	88.00	1753.3	1658.7	108.52	1.9091	3.074
	89.00	1753.9	1659.3	108.58	1.8989	3.076
	90.00	1754.6	1659.9	108.64	1.8889	3.078
	91.00	1755.1	1660.5	108.68	1.8791	3.080
****** End Shut-in 2	92.00	1755.7	1661.0	108.73	1.8696	3.082
****** Final Hydro.	386.00	2427.4	0.0	111.50		

TEST HISTORY

9477 DST#3 HERD #1 R.J. PATRICK OPER.CO.

Flag Points

	t(Min.)	P(PSIg)
A:	0.00	2471.99
B:	0.00	181.67
C:	22.00	99.00
D:	84.00	1790.58
E:	0.00	184.72
F:	58.00	94.61
G:	92.00	1755.65
Q:	0.00	2427.41



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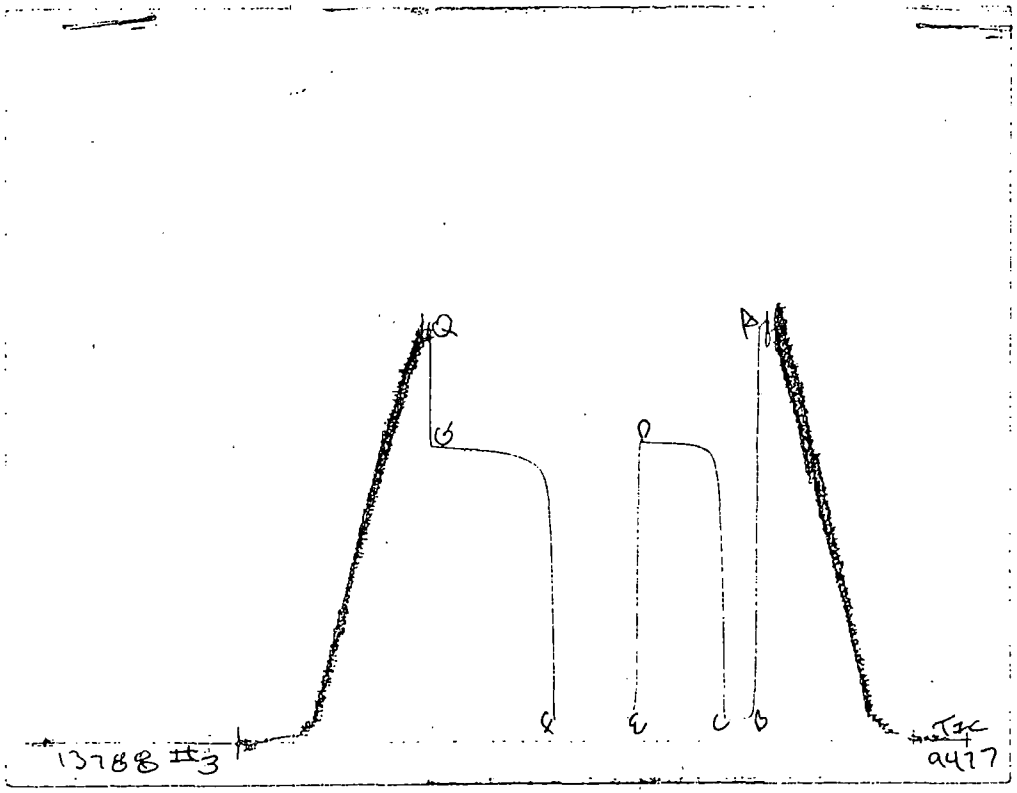


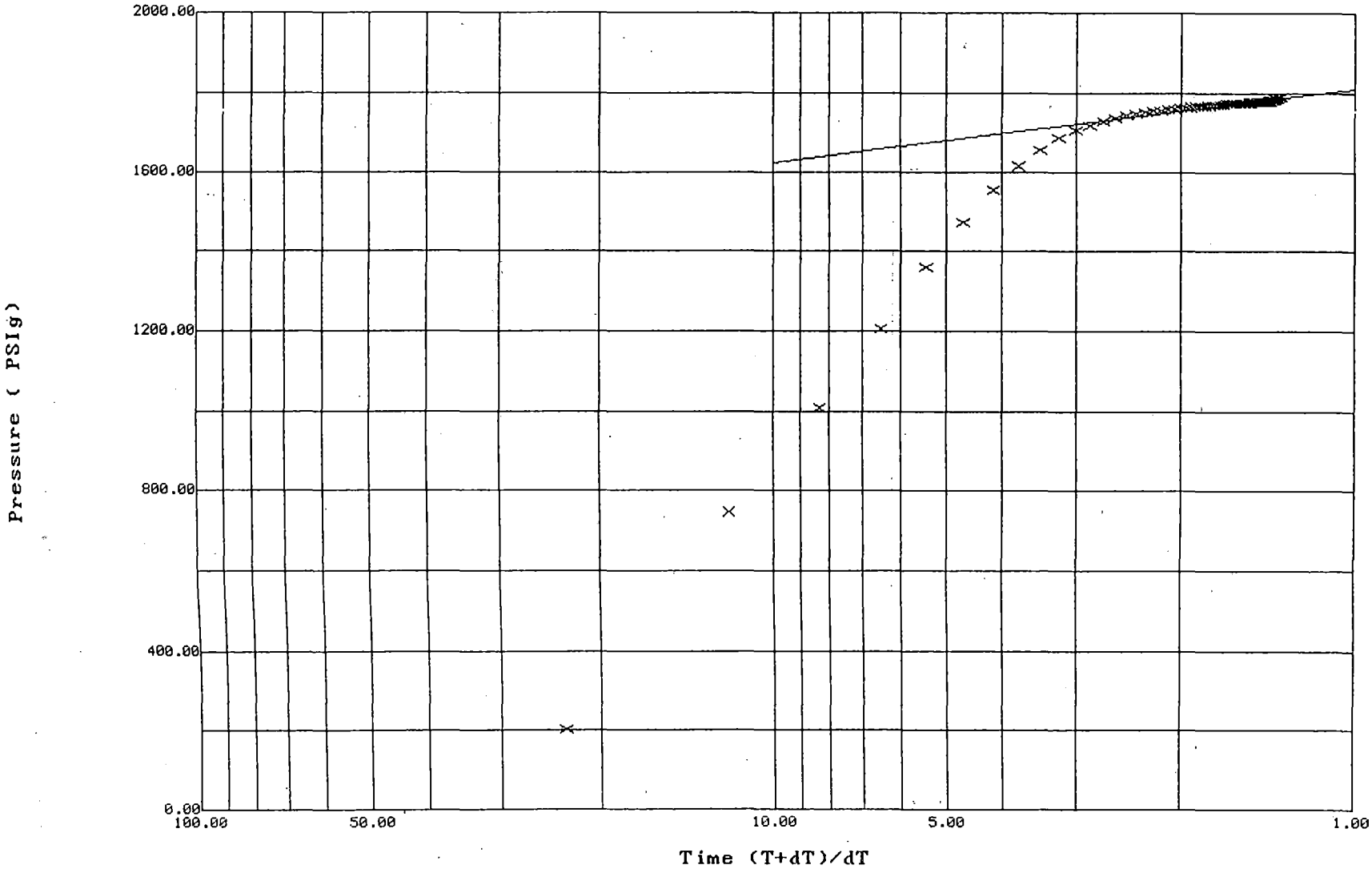
This is a photocopy of the actual AK-1 recorder chart

Horner Plot: shut-in #1

9477 DST#3 HERD #1 R.J. PATRICK OPER.CO.

Slope: 188.0854 PSIg/cycle

Ext. Pressure: 1811.0808 PSIg

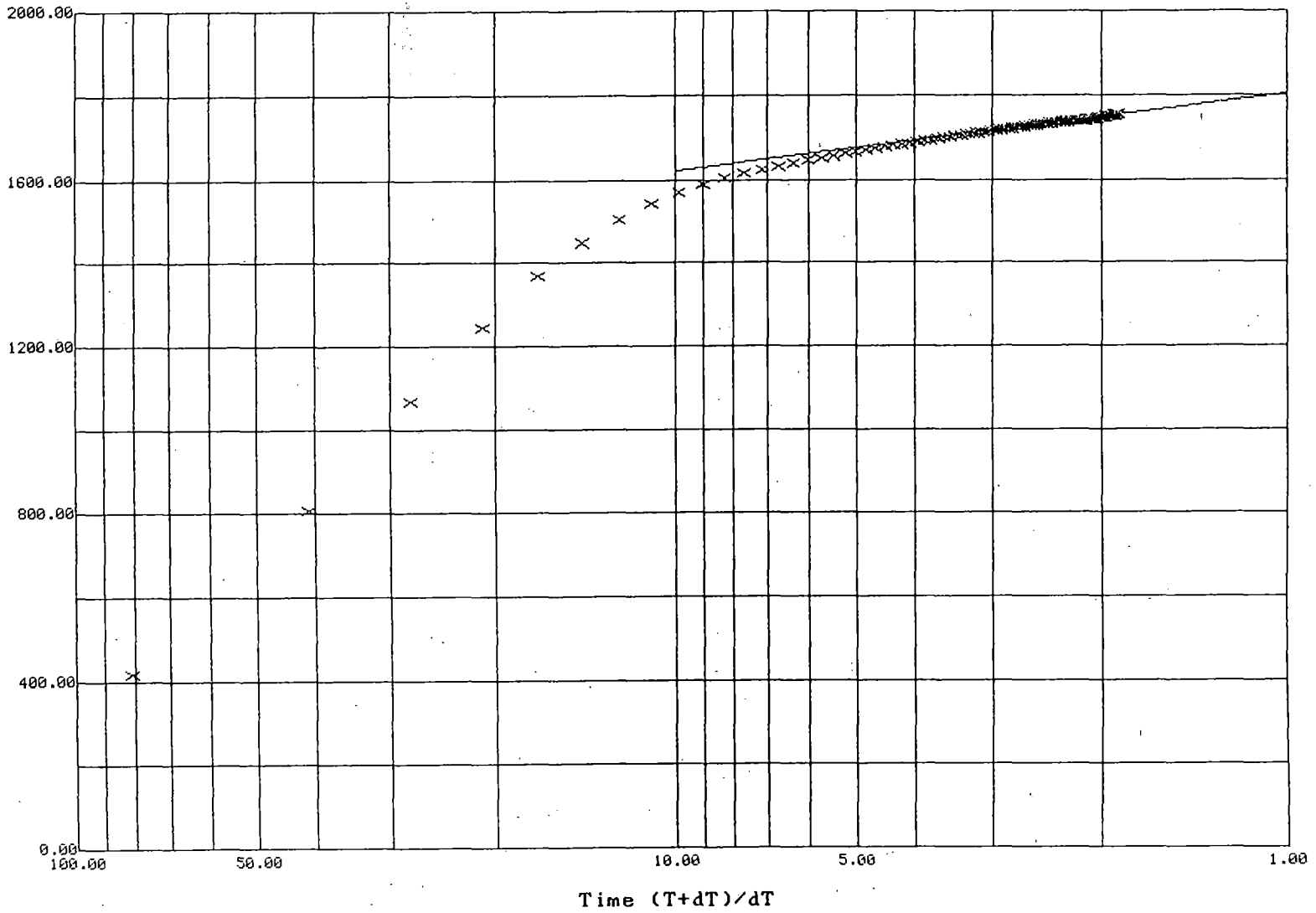


Horner Plot: shut-in #2

9477 DST#3 HERD #1 R.J. PATRICK OPER.CO.

Slope: 180.7695 PSIg/cycle

Ext. Pressure: 1802.7047 PSIg

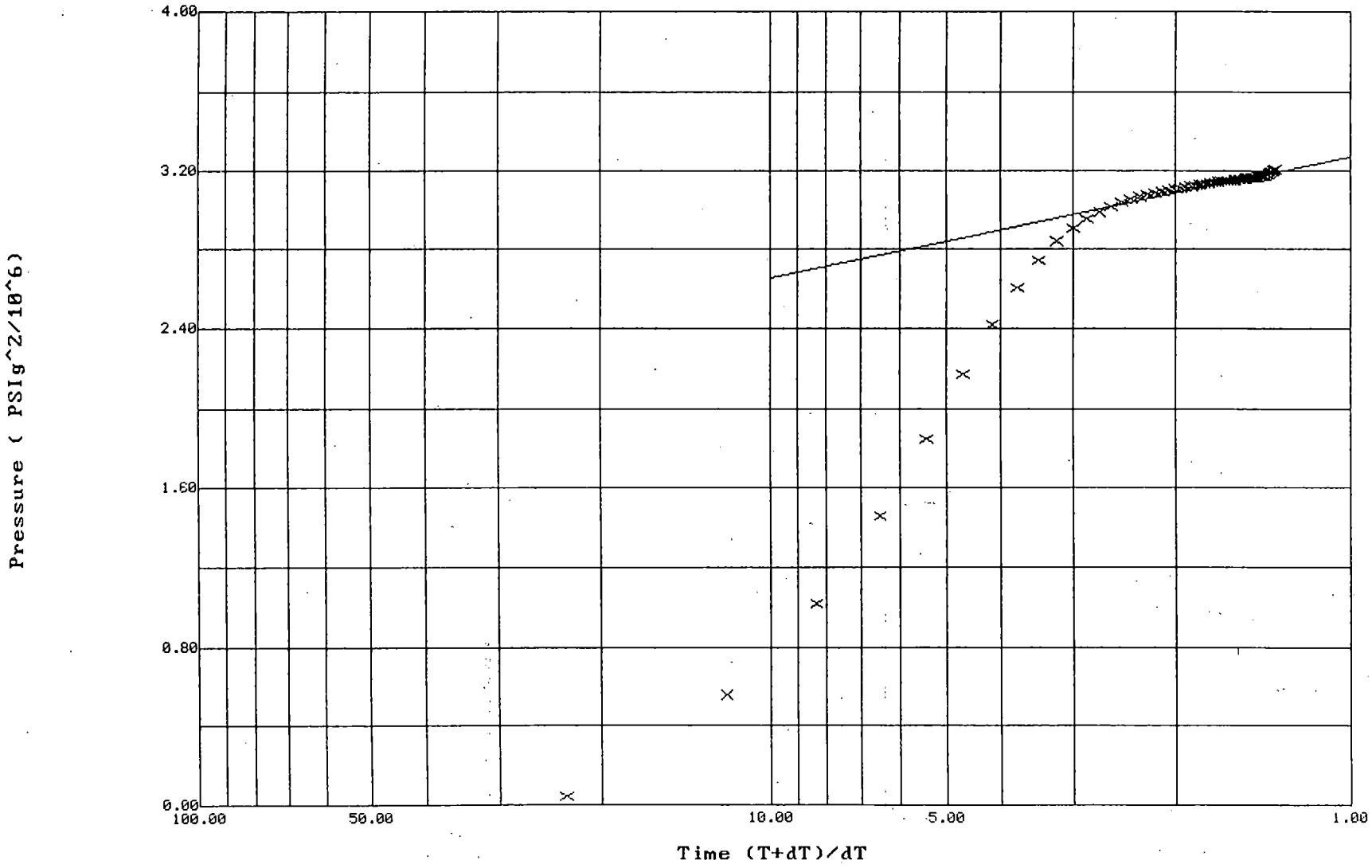


P^2 Horner Plot: shut-in #1

9477 DST#3 HERD #1 R.J. PATRICK OPER.CO.

Slope: 0.6118 PSIg^2/10^6/cycle

Ext. Pressure: 1808.4220 PSIg

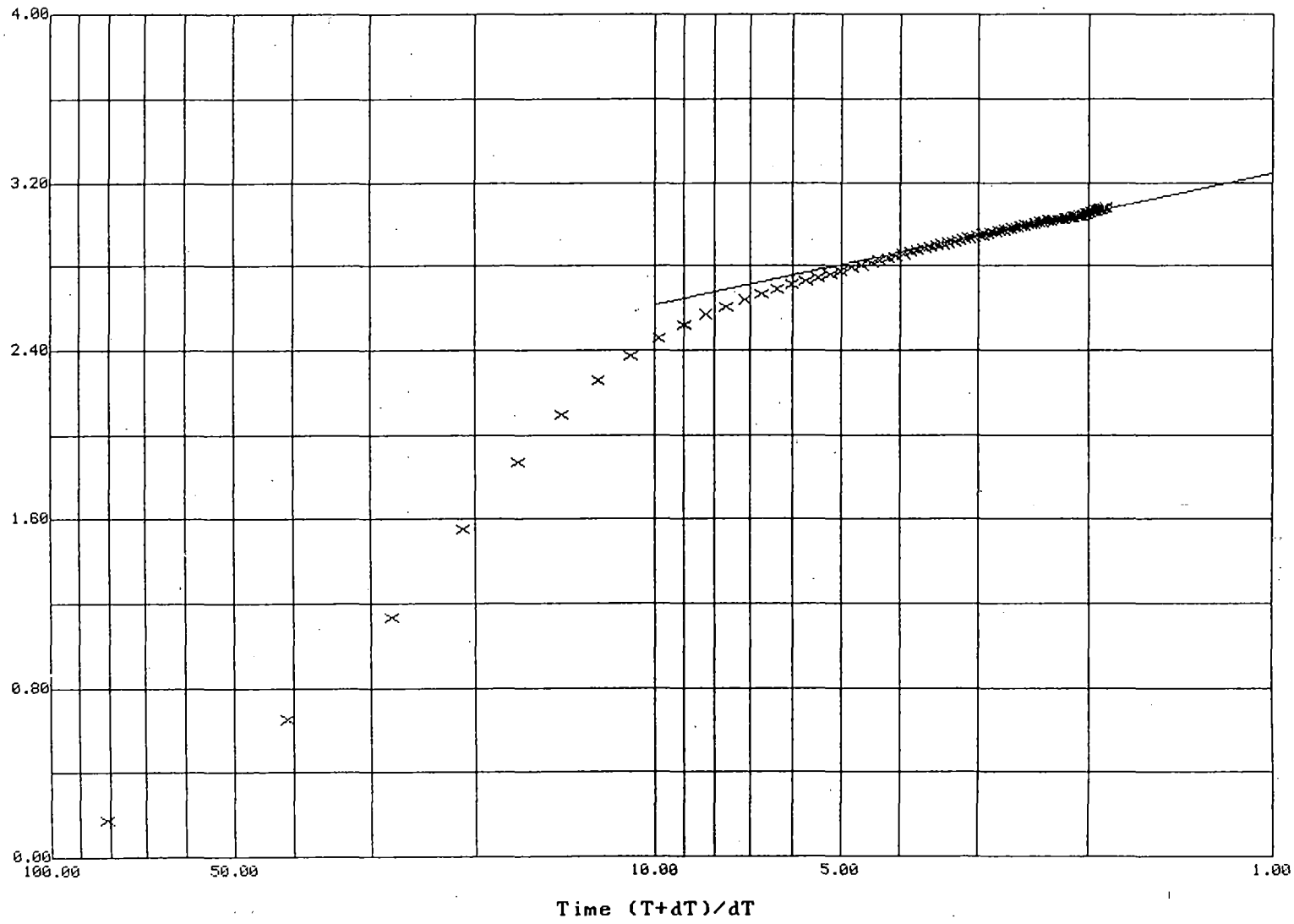


P^2 Horner Plot: shut-in #2

9477 DST#3 HERD #1 R.J. PATRICK OPER.CO.

Slope: 0.6305 PSIg^2/10^6/cycle

Ext. Pressure: 1801.7593 PSIg



TRILOBITE TESTING L.L.C.

OPERATOR : R.J. Patrick Oper. Co. DATE 12-17-96
WELL NAME: Herd #1 KB 1934.00 ft TICKET NO: 9478 DST #4
LOCATION : 4-33s-19w Comanche KS GR 1921.00 ft FORMATION: Mississippian
INTERVAL : 5200.00 To 5321.00 ft TD 5321.00 ft TEST TYPE: CONV.

RECORDER DATA

Mins		Field	1	2	3	4
PF 30	Rec.	13788	13788	3024		
SI 60	Range(Psi)	4650.0	4650.0	4995.0	0.0	0.0
SF 60	Clock(hrs)	12 HR	12 HR	Elec.		
FS 90	Depth(ft)	5318.0	5318.0	5230.0	0.0	0.0

TIME DATA----------
PF Fr. 2302 to 2332 hr
IS Fr. 2332 to 0032 hr
SF Fr. 0032 to 0132 hr
FS Fr. 0132 to 0302 hr

	Field	1	2	3	4
A. Init Hydro	2554.0	2598.0	2541.0	0.0	0.0
B. First Flow	58.0	48.0	47.0	0.0	0.0
B1. Final Flow	84.0	56.0	79.0	0.0	0.0
C. In Shut-in	846.0	824.0	849.0	0.0	0.0
D. Init Flow	91.0	64.0	79.0	0.0	0.0
E. Final Flow	91.0	64.0	86.0	0.0	0.0
F. Fl Shut-in	846.0	721.0	849.0	0.0	0.0
G. Final Hydro	2519.0	2440.0	2491.0	0.0	0.0
Inside/Outside	O	O	I	T	

T STARTED 2027 hr
T ON BOTM 2258 hr
T OPEN 2302 hr
T PULLED 0303 hr
T OUT 0535 hr

RECOVERY
Tot Fluid 25.00 ft of 25.00 ft in DC and 0.00 ft in DP
5040.00 ft of Gas in pipe.
140.00 ft of Slightly gas cut mud with oil specs
0.00 ft of
0.00 ft of
0.00 ft of
0.00 ft of
0.00 ft of
0.00 ft of EST. FT. OF PAY----------15
SALINITY 5000.00 P.P.M. A.P.I. Gravity 0.00

TOOL DATA----------

Tool Wt.	2100.00 lbs
Wt Set On Packer	24000.00 lbs
Wt Pulled Loose	86000.00 lbs
Initial Str Wt	75000.00 lbs
Unseated Str Wt	75000.00 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	153.00 ft
D.P. Length	5027.00 ft
H.W. I.D	2.70 in

BLOW DESCRIPTION
Initial Flow -
Strong blow - bottom of bucket in 1-1/2 min.

Initial Shut-in -
Fair to strong blow

Final Flow -
Strong blow - bottom of bucket in 10 sec.

Final Shut-in -
Weak to fair blow. Gas to surface 15 min. into FSIP
SAMPLES: none
SENT TO:T.M. / Liberal Ks

MUD DATA----------

Mud Type	Chemical
Weight	9.10 lb/c
Vis.	53.00 S/L
W.L.	6.80 in3
F.C.	0.20 in
Mud Drop	N
Amt. of fill	0.00 ft
Btm. H. Temp.	118.00 F
Hole Condition	good
% Porosity	10.00
Packer Size	6.75 in
No. of Packers	2
Cushion Amt.	0.00 N
Cushion Type	None
Reversed Out	N
Tool Chased	N
Tester	Gary Pevoteaux
Co. Rep.	Kendall Posey
Contr.	Duke Drlg.
Rig #	7
Unit #	
Pump T.	LCM 6#/bl

Test Successful: Y

*** TOOL DIAGRAM *** CONV.

L NAME: Herd #1

ATION : 4-33s-19w Comanche KS

KET No. 9478 D.S.T. No. 4 DATE 12-17-96

AL TOOL TO BOTTOM OF TOP PACKERS 26

ERVAL TOOL .....

TOM PACKERS AND ANCHOR 29

AL TOOL 55

LL COLLAR ANCHOR IN INTERVAL .....

. ANCHOR STND.Stands1 Single 1 Total 92

. ANCHOR STND.Stands Single Total

AL ASSEMBLY 147

. ABOVE TOOLS.Stands2 Single 1 Total 153

. ABOVE TOOLS.Stands81 Single 0 Total 5027

AL DRILL COLLARS DRILL PIPE & TOOLS .. 5327

AL DEPTH 5321

AL DRILL PIPE ABOVE K.B. 6

MARKS:

FLUID SAMPLER DATA
(not run)

S---------- Cubic ft.
L----------
D----------
TER----------
HER----------
ESSURE---------- PSI
----------N/A ohms @
degrees F
LORIDES----------N/A ppm

P.O. SUB
C.O. SUB @ Top of Tool 5174

S.I. TOOL 5180

HMV 5185

JARS 5189

SAFETY JOINT 5191

PACKER 5195

PACKER 5200

DEPTH 5200
STUBB 1' 5201
ANCHOR
perfs

22 ft.perfs & sub
to 5223

Alpine rec.@ 5230

T.C.
DEPTH

3 jts.drill collar
to 5315

sub 5316

AK-1 rec. @ 5318

BULLNOSE 5' perforated to 5321
T.D.

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 9478 DST#4 HERD #1 R.J.PATRICK OPER.CO.

DATE: 12/17/96 TIME: 20:27:51

	Time	Pressure PSIg	delta P PSIg	Temp. DEG F	(T+dT)/dT	P^2/10^6
****** Initial Hydro.	149.00	2541.0	0.0	107.45		
****** Start Flow 1	0.00	46.7	0.0	107.88		
	1.00	47.8	1.1	108.43		
	2.00	48.6	1.9	109.07		
	3.00	48.3	1.6	109.61		
	4.00	49.6	2.9	110.02		
	5.00	49.4	2.7	110.31		
	6.00	52.4	5.6	110.52		
	7.00	53.1	6.4	110.66		
	8.00	53.7	7.0	110.76		
	9.00	54.0	7.2	110.83		
	10.00	54.5	7.7	110.88		
	11.00	54.4	7.7	110.92		
	12.00	56.1	9.4	110.96		
	13.00	57.1	10.4	110.99		
	14.00	58.3	11.5	111.03		
	15.00	57.0	10.3	111.07		
	16.00	58.3	11.6	111.11		
	17.00	58.3	11.6	111.17		
	18.00	58.2	11.5	111.21		
	19.00	59.1	12.4	111.27		
	20.00	59.3	12.5	111.33		
	21.00	58.8	12.1	111.40		
	22.00	61.0	14.2	111.46		
	23.00	60.9	14.2	111.53		
	24.00	59.7	12.9	111.60		
	25.00	60.4	13.6	111.67		
	26.00	61.5	14.8	111.73		
	27.00	62.4	15.7	111.82		
	28.00	62.1	15.3	111.88		
****** End Flow 1	29.00	79.5	32.7	111.96		
****** Start Shutin 1	0.00	79.5	0.0	111.96	0.0000	0.006
	1.00	110.4	30.9	112.03	30.0000	0.012
	2.00	138.1	58.6	112.11	15.5000	0.019
	3.00	163.7	84.3	112.18	10.6667	0.027
	4.00	187.2	107.8	112.26	8.2500	0.035
	5.00	209.0	129.6	112.35	6.8000	0.044
	6.00	229.4	150.0	112.42	5.8333	0.053
	7.00	248.2	168.7	112.49	5.1429	0.062
	8.00	265.9	186.4	112.56	4.6250	0.071
	9.00	282.3	202.9	112.63	4.2222	0.080
	10.00	297.6	218.2	112.69	3.9000	0.089
	11.00	311.9	232.4	112.75	3.6364	0.097
	12.00	325.0	245.5	112.82	3.4167	0.106
	13.00	337.2	257.8	112.87	3.2308	0.114
	14.00	348.5	269.1	112.93	3.0714	0.121
	15.00	359.1	279.6	112.98	2.9333	0.129
	16.00	371.2	291.8	113.03	2.8125	0.138
	17.00	380.0	300.6	113.07	2.7059	0.144
	18.00	388.2	308.7	113.12	2.6111	0.151
	19.00	395.4	316.0	113.16	2.5263	0.156

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

EST: 9478 DST#4 HERD #1 R.J.PATRICK OPER.CO.

ATE: 12/17/96 TIME: 20:27:51

	Time	Pressure PSIg	delta P PSIg	Temp. DEG F	(T+dT)/dT	P^2/10^6
	20.00	402.2	322.7	113.22	2.4500	0.162
	21.00	408.3	328.9	113.26	2.3810	0.167
	22.00	413.9	334.4	113.30	2.3182	0.171
	23.00	419.0	339.5	113.35	2.2609	0.176
	24.00	423.6	344.1	113.38	2.2083	0.179
	25.00	427.7	348.2	113.42	2.1600	0.183
	26.00	431.4	351.9	113.45	2.1154	0.186
	27.00	434.8	355.3	113.50	2.0741	0.189
	28.00	437.6	358.1	113.55	2.0357	0.191
	29.00	439.8	360.4	113.57	2.0000	0.193
	30.00	441.9	362.5	113.61	1.9667	0.195
	31.00	443.8	364.3	113.66	1.9355	0.197
	32.00	445.3	365.9	113.70	1.9062	0.198
	33.00	446.3	366.9	113.73	1.8788	0.199
	34.00	447.1	367.7	113.77	1.8529	0.200
	35.00	448.0	368.5	113.81	1.8286	0.201
	36.00	448.8	369.3	113.85	1.8056	0.201
	37.00	449.3	369.8	113.87	1.7838	0.202
	38.00	450.2	370.7	113.91	1.7632	0.203
	39.00	450.7	371.2	113.94	1.7436	0.203
	40.00	451.0	371.5	113.97	1.7250	0.203
	41.00	451.3	371.9	114.01	1.7073	0.204
	42.00	451.2	371.7	114.05	1.6905	0.204
	43.00	451.0	371.6	114.07	1.6744	0.203
	44.00	450.7	371.2	114.11	1.6591	0.203
	45.00	450.4	370.9	114.13	1.6444	0.203
	46.00	450.0	370.6	114.17	1.6304	0.203
	47.00	449.5	370.0	114.22	1.6170	0.202
	48.00	448.6	369.1	114.25	1.6042	0.201
	49.00	447.7	368.2	114.26	1.5918	0.200
	50.00	473.6	394.2	114.31	1.5800	0.224
	51.00	531.6	452.1	114.35	1.5686	0.283
	52.00	584.3	504.8	114.37	1.5577	0.341
	53.00	632.8	553.4	114.42	1.5472	0.400
	54.00	677.7	598.2	114.46	1.5370	0.459
	55.00	717.9	638.4	114.50	1.5273	0.515
	56.00	751.9	672.5	114.54	1.5179	0.565
	57.00	787.2	707.7	114.59	1.5088	0.620
	58.00	819.2	739.7	114.62	1.5000	0.671
***** End Shut-in 1	59.00	848.6	769.2	114.68	1.4915	0.720
***** Start Flow 2	0.00	79.0	0.0	114.72		
	1.00	75.6	-3.4	114.73		
	2.00	70.7	-8.3	114.73		
	3.00	72.3	-6.7	114.74		
	4.00	74.7	-4.2	114.75		
	5.00	75.8	-3.1	114.76		
	6.00	75.6	-3.4	114.79		
	7.00	76.3	-2.6	114.82		
	8.00	77.2	-1.8	114.86		
	9.00	76.7	-2.2	114.89		
	10.00	76.6	-2.3	114.92		

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 9478 DST#4 HERD #1 R.J.PATRICK OPER.CO.

DATE: 12/17/96 TIME: 20:27:51

	Time	Pressure PSIg	delta P PSIg	Temp. DEG F	(T+dT)/dT	P^2/10^6
	11.00	76.3	-2.6	114.97		
	12.00	76.8	-2.2	115.00		
	13.00	78.3	-0.7	115.04		
	14.00	78.3	-0.6	115.07		
	15.00	79.3	0.3	115.12		
	16.00	80.9	2.0	115.16		
	17.00	77.4	-1.5	115.20		
	18.00	77.2	-1.7	115.23		
	19.00	77.7	-1.3	115.28		
	20.00	81.8	2.8	115.31		
	21.00	81.2	2.2	115.34		
	22.00	80.8	1.9	115.38		
	23.00	80.3	1.3	115.42		
	24.00	80.9	2.0	115.46		
	25.00	79.3	0.4	115.49		
	26.00	81.0	2.0	115.53		
	27.00	85.3	6.3	115.57		
	28.00	82.7	3.7	115.60		
	29.00	80.3	1.4	115.64		
	30.00	82.4	3.4	115.67		
	31.00	79.6	0.6	115.70		
	32.00	83.5	4.5	115.74		
	33.00	81.2	2.2	115.76		
	34.00	82.9	3.9	115.79		
	35.00	82.1	3.2	115.84		
	36.00	83.9	5.0	115.87		
	37.00	81.4	2.4	115.89		
	38.00	82.6	3.6	115.92		
	39.00	81.6	2.6	115.95		
	40.00	83.0	4.0	115.99		
	41.00	85.3	6.4	116.02		
	42.00	82.4	3.4	116.05		
	43.00	80.7	1.7	116.09		
	44.00	85.4	6.4	116.12		
	45.00	85.6	6.7	116.14		
	46.00	81.5	2.5	116.17		
	47.00	85.6	6.6	116.21		
	48.00	82.4	3.4	116.23		
	49.00	85.3	6.3	116.26		
	50.00	84.4	5.4	116.28		
	51.00	86.3	7.3	116.31		
	52.00	84.1	5.1	116.34		
	53.00	85.7	6.7	116.37		
	54.00	83.2	4.2	116.40		
	55.00	84.4	5.4	116.42		
	56.00	84.8	5.8	116.45		
	57.00	86.1	7.1	116.47		
****** End Flow 2	58.00	85.9	6.9	116.51		
****** Start Shutin 2	0.00	85.9	0.0	116.51	0.0000	0.007
	1.00	106.4	20.6	116.52	88.0000	0.011
	2.00	131.1	45.2	116.56	44.5000	0.017

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

ST: 9478 DST#4 HERD #1 R.J.PATRICK OPER.CO.

TE: 12/17/96 TIME: 20:27:51

Time	Pressure PSIg	delta P PSIg	Temp. DEG F	(T+dT)/dT	P^2/10^6
3.00	155.2	69.3	116.59	30.0000	0.024
4.00	179.0	93.1	116.62	22.7500	0.032
5.00	202.8	116.9	116.64	18.4000	0.041
6.00	226.4	140.6	116.67	15.5000	0.051
7.00	250.2	164.3	116.70	13.4286	0.063
8.00	274.0	188.1	116.73	11.8750	0.075
9.00	297.7	211.8	116.76	10.6667	0.089
10.00	321.2	235.4	116.80	9.7000	0.103
11.00	344.6	258.7	116.81	8.9091	0.119
12.00	367.9	282.0	116.85	8.2500	0.135
13.00	390.7	304.8	116.87	7.6923	0.153
14.00	413.5	327.6	116.90	7.2143	0.171
15.00	435.8	349.9	116.93	6.8000	0.190
16.00	457.3	371.5	116.96	6.4375	0.209
17.00	478.4	392.5	116.99	6.1176	0.229
18.00	499.0	413.1	117.02	5.8333	0.249
19.00	519.3	433.4	117.03	5.5789	0.270
20.00	539.1	453.2	117.06	5.3500	0.291
21.00	558.4	472.6	117.08	5.1429	0.312
22.00	577.4	491.5	117.11	4.9545	0.333
23.00	596.0	510.1	117.14	4.7826	0.355
24.00	613.8	528.0	117.16	4.6250	0.377
25.00	631.4	545.6	117.18	4.4800	0.399
26.00	648.4	562.5	117.20	4.3462	0.420
27.00	664.9	579.1	117.23	4.2222	0.442
28.00	681.0	595.1	117.25	4.1071	0.464
29.00	696.5	610.6	117.27	4.0000	0.485
30.00	711.6	625.7	117.28	3.9000	0.506
31.00	726.1	640.2	117.31	3.8065	0.527
32.00	740.2	654.3	117.32	3.7188	0.548
33.00	753.8	667.9	117.35	3.6364	0.568
34.00	767.1	681.2	117.37	3.5588	0.588
35.00	780.1	694.2	117.38	3.4857	0.609
36.00	792.7	706.8	117.40	3.4167	0.628
37.00	805.0	719.1	117.42	3.3514	0.648
38.00	817.3	731.4	117.44	3.2895	0.668
39.00	829.4	743.5	117.46	3.2308	0.688
40.00	841.2	755.3	117.47	3.1750	0.708
41.00	852.6	766.7	117.49	3.1220	0.727
42.00	863.8	778.0	117.51	3.0714	0.746
43.00	874.9	789.0	117.54	3.0233	0.765
44.00	885.7	799.8	117.55	2.9773	0.784
45.00	896.5	810.6	117.57	2.9333	0.804
46.00	907.1	821.2	117.58	2.8913	0.823
47.00	917.5	831.6	117.61	2.8511	0.842
48.00	927.6	841.7	117.62	2.8125	0.860
49.00	937.4	851.6	117.64	2.7755	0.879
50.00	947.3	861.5	117.66	2.7400	0.897
51.00	957.0	871.1	117.68	2.7059	0.916
52.00	966.3	880.4	117.70	2.6731	0.934
53.00	975.4	889.5	117.71	2.6415	0.951

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 9478 DST#4 HERD #1 R.J.PATRICK OPER.CO.

DATE: 12/17/96 TIME: 20:27:51

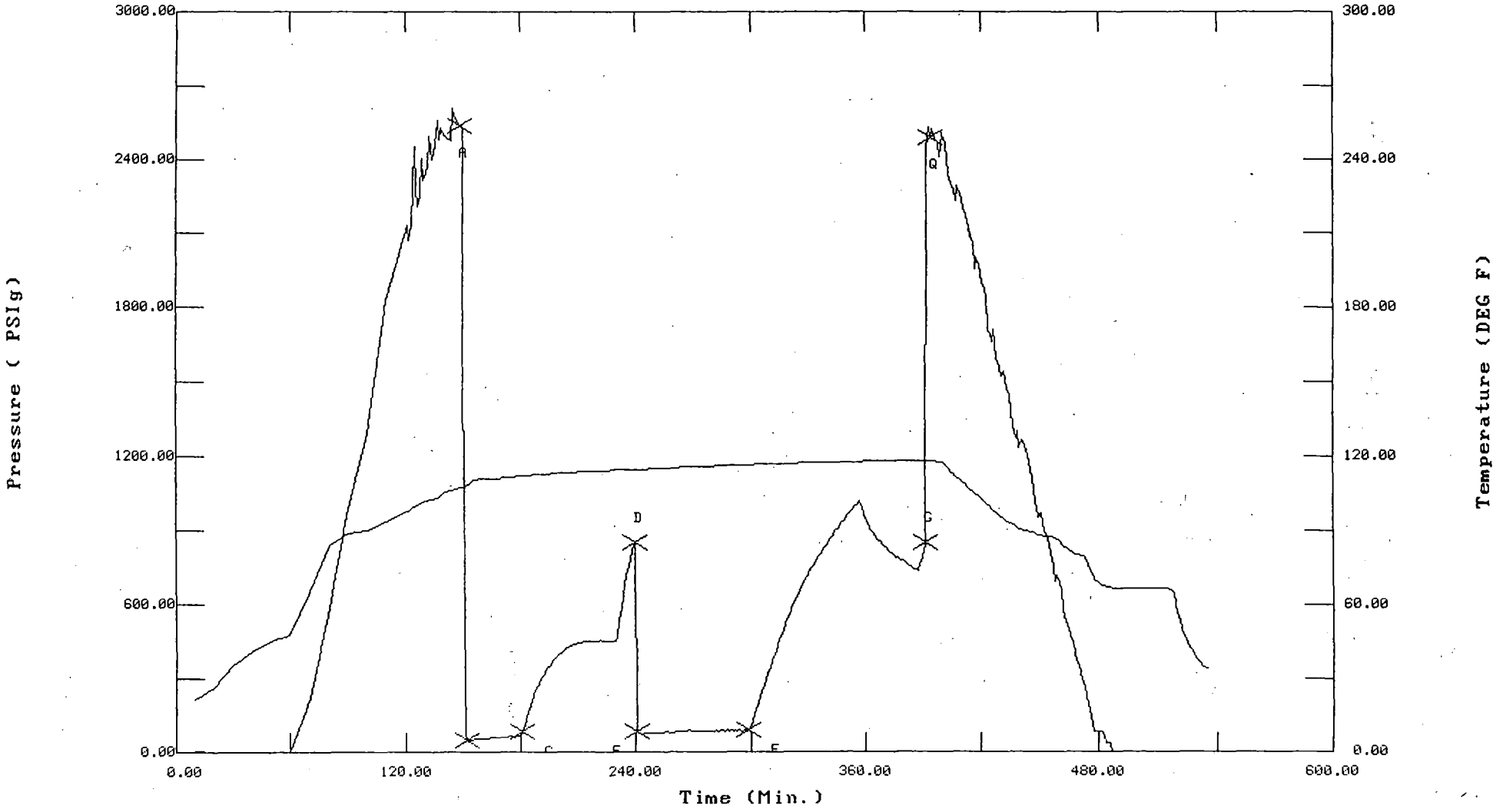
	Time	Pressure PSIg	delta P PSIg	Temp. DEG F	(T+dT)/dT	P^2/10^6
	54.00	985.2	899.3	117.74	2.6111	0.971
	55.00	994.7	908.8	117.75	2.5818	0.989
	56.00	1003.8	917.9	117.77	2.5536	1.008
	57.00	1012.5	926.6	117.78	2.5263	1.025
	58.00	1020.7	934.8	117.80	2.5000	1.042
	59.00	997.3	911.4	117.82	2.4746	0.995
	60.00	969.7	883.8	117.84	2.4500	0.940
	61.00	947.1	861.2	117.85	2.4262	0.897
	62.00	928.1	842.2	117.86	2.4032	0.861
	63.00	912.2	826.3	117.89	2.3810	0.832
	64.00	898.6	812.7	117.90	2.3594	0.807
	65.00	886.7	800.8	117.92	2.3385	0.786
	66.00	875.7	789.8	117.92	2.3182	0.767
	67.00	865.6	779.8	117.94	2.2985	0.749
	68.00	856.3	770.4	117.95	2.2794	0.733
	69.00	847.8	761.9	117.95	2.2609	0.719
	70.00	839.8	753.9	117.97	2.2429	0.705
	71.00	832.0	746.1	117.99	2.2254	0.692
	72.00	824.3	738.4	118.02	2.2083	0.679
	73.00	817.2	731.3	118.03	2.1918	0.668
	74.00	810.7	724.8	118.05	2.1757	0.657
	75.00	804.4	718.5	118.06	2.1600	0.647
	76.00	798.4	712.5	118.08	2.1447	0.637
	77.00	792.7	706.8	118.09	2.1299	0.628
	78.00	787.0	701.2	118.11	2.1154	0.619
	79.00	781.4	695.5	118.13	2.1013	0.611
	80.00	775.8	689.9	118.15	2.0875	0.602
	81.00	770.5	684.6	118.16	2.0741	0.594
	82.00	764.7	678.8	118.18	2.0610	0.585
	83.00	759.2	673.4	118.20	2.0482	0.576
	84.00	753.8	668.0	118.22	2.0357	0.568
	85.00	749.0	663.2	118.24	2.0235	0.561
	86.00	744.1	658.2	118.25	2.0116	0.554
	87.00	739.7	653.8	118.26	2.0000	0.547
	88.00	735.2	649.3	118.29	1.9886	0.540
	89.00	763.8	678.0	118.29	1.9775	0.583
	90.00	773.0	687.1	118.32	1.9667	0.597
	91.00	813.7	727.8	118.33	1.9560	0.662
****** End Shut-in 2	92.00	848.6	762.7	118.35	1.9457	0.720
****** Final Hydro.	394.00	2490.6	0.0	118.16		

TEST HISTORY

9478 DST#4 HERD #1 R.J.PATRICK OPER.CO.

Flag Points

	t(Min.)	P(PSIg)
A:	0.00	2541.04
B:	0.00	46.73
C:	29.00	79.45
D:	59.00	848.62
E:	0.00	78.97
F:	58.00	85.88
G:	92.00	848.58
Q:	0.00	2490.63



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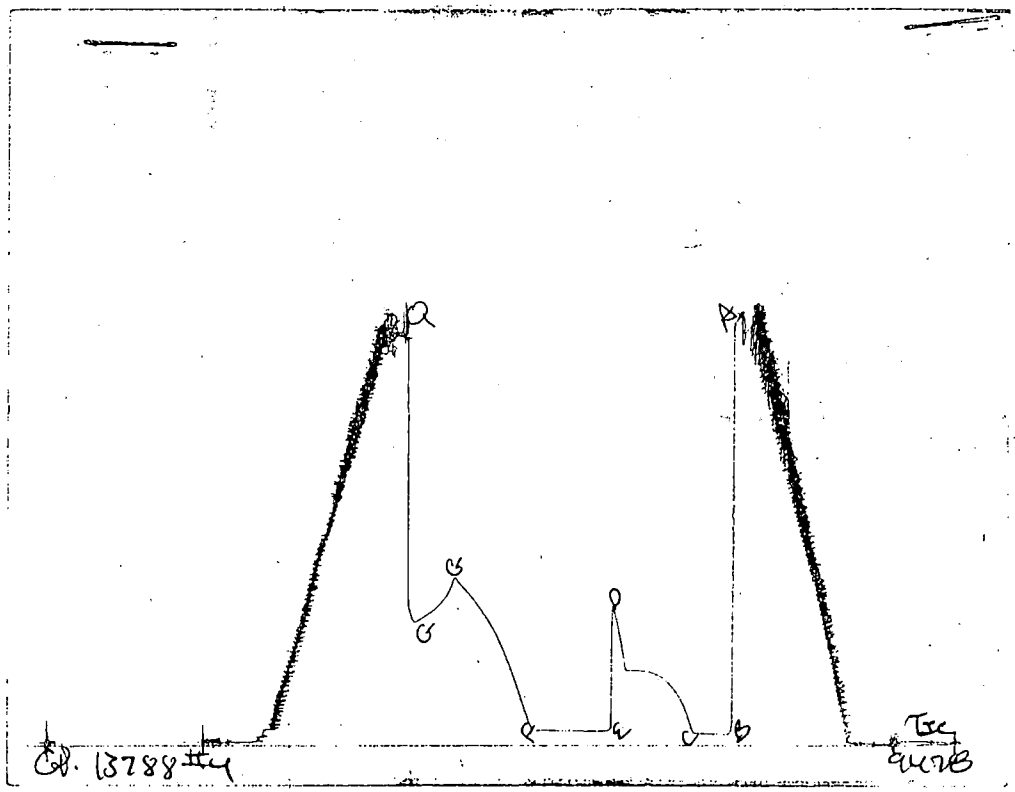


This is a photocopy of the actual AK-1 recorder chart

TRILOBITE TESTING L.L.C.

OPERATOR : R.J. Patrick Oper. Co. DATE 12-20-96
WELL NAME: Herd #1 KB 1934.00 ft TICKET NO: 9480 DST #5
LOCATION : 4-33S-19W Comanche Cty KS GR 1921.00 ft FORMATION: Viola
INTERVAL : 5862.00 To 5896.00 ft TD 5896.00 ft TEST TYPE: CONV.

RECORDER DATA

	Mins		Field	1	2	3	4
PF	30	Rec.	13788	13788	3024		
SI	60	Range(Psi)	4650.0	4650.0	4995.0	0.0	0.0
SF	60	Clock(hrs)	12 HR	12 HR	Batt.		
FS	90	Depth(ft)	5893.0	5893.0	5868.0	0.0	0.0

TIME DATA----------
PF Fr. 1227 to 1257 hr
IS Fr. 1257 to 1357 hr
SF Fr. 1357 to 1457 hr
FS Fr. 1457 to 1627 hr

	Field	1	2	3	4
A. Init Hydro	2846.0	2939.0	2866.0	0.0	0.0
B. First Flow	19.0	24.0	18.0	0.0	0.0
B1. Final Flow	19.0	26.0	24.0	0.0	0.0
C. In Shut-in	291.0	284.0	291.0	0.0	0.0
D. Init Flow	19.0	24.0	23.0	0.0	0.0
E. Final Flow	19.0	24.0	29.0	0.0	0.0
F. Fl Shut-in	851.0	858.0	873.0	0.0	0.0
G. Final Hydro	2741.0	2753.0	2746.0	0.0	0.0
Inside/Outside	O	O	I	T	

T STARTED 1019 hr
T ON BOTM 1224 hr
T OPEN 1227 hr
T PULLED 1627 hr
T OUT 1850 hr

RECOVERY
Tot Fluid 30.00 ft of 30.00 ft in DC and 0.00 ft in DP
215.00 ft of Gas in pipe.
30.00 ft of Slightly gas cut mud
0.00 ft of
0.00 ft of
0.00 ft of
0.00 ft of
0.00 ft of
0.00 ft of EST. FT. OF PAY----------5
SALINITY 4500.00 P.P.M. A.P.I. Gravity 0.00

TOOL DATA----------

Tool Wt.	2100.00 lbs
Wt Set On Packer	20000.00 lbs
Wt Pulled Loose	95000.00 lbs
Initial Str Wt	81000.00 lbs
Unseated Str Wt	82000.00 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	245.00 ft
D.P. Length	5615.00 ft

BLOW DESCRIPTION
Initial Flow
Strong blow - Bottom of bucket 10
10 secs.

Initial Shutin
Weak Blow

Final Flow -
Fair to strong blow

Final Shutin
No blow
COMMENT:

SAMPLES: none
SENT TO:T.M. / Liberal Ks

MUD DATA----------

Mud Type	Chemical
Weight	9.10 lb/c
Vis.	59.00 S/L
W.L.	7.80 in3
F.C.	0.20 in
Mud Drop N	
Amt. of fill	0.00 ft
Btm. H. Temp.	128.00 F
Hole Condition	good
% Porosity	10.00
Packer Size	6.75 in
No. of Packers	2
Cushion Amt.	0.00 N
Cushion Type	None
Reversed Out N	
Tool Chased N	
Tester	Gary Pevoteaux
Co. Rep.	Kendall Posey
Contr.	Duke Drlg.
Rig #	7
Unit #	
Pump T.	LCM 8#/bl

Test Successful: Y

*** TOOL DIAGRAM *** CONV.

NAME: Herd #1

TION : 4-33S-19W Comanche Cty KS

ET No. 9480 D.S.T. No. 5 DATE 12-20-96

L TOOL TO BOTTOM OF TOP PACKERS 26

RVAL TOOL .....

OM PACKERS AND ANCHOR 34

L TOOL 60

L COLLAR ANCHOR IN INTERVAL .....

ANCHOR STND.Stands Single Total

ANCHOR STND.Stands Single Total

L ASSEMBLY 60

ABOVE TOOLS.Stands4 Single Total 245

ABOVE TOOLS.Stands90 Single 1 Total 5615

L DRILL COLLARS DRILL PIPE & TOOLS .. 5920

L DEPTH 5896

L DRILL PIPE ABOVE K.B. 24

RKS:

FLUID SAMPLER DATA
(not run)

---------- Cubic ft.

R----------
R----------
SURE---------- PSI
----------N/A ohms @
degrees F
RIDES----------N/A ppm

P.O. SUB
C.O. SUB @ Top of Tool 5836
S.I. TOOL 5842
HMV 5847
JARS 5851
SAFETY JOINT 5853
PACKER 5857
PACKER 5862
DEPTH 5862
STUBB 1' 5863
ANCHOR
perfs
Alpine rec. @ 5868
T.C.
DEPTH
28 ft. perfs to 5891
AK-1 rec. @ 5893
BULLNOSE 5' perforated to T.D. 5896

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 9480 DST#5 HERD #1 R.J. PATRICK OPER. CO.

DATE: 12/20/96 TIME: 10:19:30

	Time	Pressure PSIg	delta P PSIg	Temp. DEG F	(T+dT)/dT	P^2/10^6
****** Initial Hydro.	122.00	2865.7	0.0	113.02		
****** Start Flow 1	0.00	17.7	0.0	113.70		
	1.00	18.3	0.6	113.79		
	2.00	18.5	0.8	113.84		
	3.00	18.8	1.1	113.87		
	4.00	20.5	2.8	113.93		
	5.00	19.8	2.1	113.98		
	6.00	22.3	4.6	114.05		
	7.00	22.2	4.5	114.16		
	8.00	20.5	2.7	114.25		
	9.00	21.1	3.4	114.37		
	10.00	22.3	4.5	114.48		
	11.00	24.2	6.5	114.61		
	12.00	23.1	5.4	114.74		
	13.00	21.9	4.2	114.87		
	14.00	23.2	5.5	115.01		
	15.00	23.6	5.9	115.15		
	16.00	22.5	4.8	115.29		
	17.00	24.1	6.4	115.44		
	18.00	22.8	5.0	115.59		
	19.00	23.2	5.5	115.73		
	20.00	22.6	4.9	115.87		
	21.00	23.8	6.1	116.02		
	22.00	26.2	8.5	116.15		
	23.00	23.3	5.6	116.29		
	24.00	24.1	6.4	116.43		
	25.00	24.1	6.3	116.56		
	26.00	23.4	5.7	116.68		
	27.00	25.8	8.1	116.82		
	28.00	23.2	5.5	116.93		
****** End Flow 1	29.00	24.3	6.6	117.05		
****** Start Shutin 1	0.00	24.3	0.0	117.05	0.0000	0.001
	1.00	27.7	3.4	117.17	30.0000	0.001
	2.00	30.9	6.5	117.29	15.5000	0.001
	3.00	34.1	9.7	117.40	10.6667	0.001
	4.00	36.5	12.2	117.52	8.2500	0.001
	5.00	38.7	14.4	117.62	6.8000	0.002
	6.00	40.9	16.5	117.73	5.8333	0.002
	7.00	42.9	18.5	117.84	5.1429	0.002
	8.00	44.8	20.5	117.93	4.6250	0.002
	9.00	46.6	22.3	118.03	4.2222	0.002
	10.00	48.4	24.0	118.13	3.9000	0.002
	11.00	50.0	25.7	118.23	3.6364	0.002
	12.00	51.5	27.2	118.33	3.4167	0.003
	13.00	52.9	28.5	118.42	3.2308	0.003
	14.00	54.3	30.0	118.51	3.0714	0.003
	15.00	55.7	31.4	118.62	2.9333	0.003
	16.00	56.9	32.6	118.70	2.8125	0.003
	17.00	58.2	33.8	118.80	2.7059	0.003
	18.00	59.3	35.0	118.88	2.6111	0.004
	19.00	60.7	36.3	118.96	2.5263	0.004

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

: 9480 DST#5 HERD #1 R.J. PATRICK OPER. CO.

: 12/20/96 TIME: 10:19:30

	Time	Pressure PSIg	delta P PSIg	Temp. DEG F	(T+dT)/dT	P^2/10^6
	20.00	62.0	37.7	119.06	2.4500	0.004
	21.00	63.1	38.8	119.15	2.3810	0.004
	22.00	64.1	39.8	119.23	2.3182	0.004
	23.00	65.2	40.9	119.31	2.2609	0.004
	24.00	66.5	42.1	119.39	2.2083	0.004
	25.00	67.7	43.4	119.48	2.1600	0.005
	26.00	69.2	44.8	119.56	2.1154	0.005
	27.00	70.5	46.1	119.63	2.0741	0.005
	28.00	71.5	47.1	119.72	2.0357	0.005
	29.00	72.5	48.2	119.79	2.0000	0.005
	30.00	73.6	49.3	119.87	1.9667	0.005
	31.00	74.4	50.0	119.95	1.9355	0.006
	32.00	75.5	51.1	120.03	1.9062	0.006
	33.00	77.0	52.6	120.11	1.8788	0.006
	34.00	78.1	53.7	120.18	1.8529	0.006
	35.00	79.4	55.0	120.25	1.8286	0.006
	36.00	82.2	57.9	120.33	1.8056	0.007
	37.00	89.6	65.2	120.40	1.7838	0.008
	38.00	96.8	72.4	120.47	1.7632	0.009
	39.00	104.2	79.9	120.54	1.7436	0.011
	40.00	111.9	87.6	120.62	1.7250	0.013
	41.00	119.7	95.3	120.69	1.7073	0.014
	42.00	127.5	103.2	120.76	1.6905	0.016
	43.00	135.7	111.4	120.84	1.6744	0.018
	44.00	144.1	119.7	120.90	1.6591	0.021
	45.00	152.7	128.3	120.96	1.6444	0.023
	46.00	161.4	137.1	121.02	1.6304	0.026
	47.00	170.3	146.0	121.09	1.6170	0.029
	48.00	179.4	155.1	121.17	1.6042	0.032
	49.00	188.6	164.3	121.23	1.5918	0.036
	50.00	198.1	173.7	121.32	1.5800	0.039
	51.00	207.7	183.4	121.39	1.5686	0.043
	52.00	217.5	193.2	121.45	1.5577	0.047
	53.00	227.5	203.2	121.51	1.5472	0.052
	54.00	237.7	213.4	121.58	1.5370	0.057
	55.00	248.1	223.8	121.65	1.5273	0.062
	56.00	258.7	234.4	121.71	1.5179	0.067
	57.00	269.4	245.1	121.78	1.5088	0.073
	58.00	280.3	256.0	121.84	1.5000	0.079
** End Shut-in 1	59.00	291.4	267.0	121.91	1.4915	0.085
** Start Flow 2	0.00	22.6	0.0	122.01		
	1.00	23.2	0.6	122.06		
	2.00	23.2	0.6	122.12		
	3.00	24.6	2.0	122.17		
	4.00	23.6	1	122.21		
	5.00	24.8	2.1	122.27		
	6.00	25.0	2.3	122.32		
	7.00	24.1	1.5	122.38		
	8.00	24.4	1.8	122.42		
	9.00	25.7	3.0	122.48		
	10.00	25.0	2.3	122.53		

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 9480 DST#5 HERD #1 R.J. PATRICK OPER. CO.

DATE: 12/20/96 TIME: 10:19:30

	Time	Pressure PSIg	delta P PSIg	Temp. DEG F	(T+dT)/dT	P^2/10^6
	11.00	25.1	2.5	122.59		
	12.00	24.6	2.0	122.65		
	13.00	25.0	2.3	122.70		
	14.00	25.3	2.7	122.76		
	15.00	25.8	3.1	122.80		
	16.00	26.4	3.7	122.85		
	17.00	26.6	4.0	122.91		
	18.00	26.1	3.4	122.95		
	19.00	25.5	2.9	123.00		
	20.00	26.9	4.3	123.04		
	21.00	27.5	4.9	123.08		
	22.00	27.6	5.0	123.15		
	23.00	26.6	4.0	123.18		
	24.00	27.6	4.9	123.24		
	25.00	26.1	3.5	123.28		
	26.00	28.0	5.3	123.31		
	27.00	26.3	3.6	123.36		
	28.00	27.3	4.7	123.41		
	29.00	28.2	5.5	123.46		
	30.00	25.7	3.1	123.49		
	31.00	27.1	4.5	123.55		
	32.00	26.3	3.7	123.60		
	33.00	26.2	3.6	123.64		
	34.00	28.2	5.6	123.68		
	35.00	26.8	4.2	123.72		
	36.00	28.2	5.6	123.77		
	37.00	26.7	4.1	123.80		
	38.00	29.3	6.7	123.85		
	39.00	27.0	4.4	123.89		
	40.00	27.5	4.9	123.93		
	41.00	27.5	4.9	123.98		
	42.00	28.2	5.6	124.02		
	43.00	27.2	4.6	124.06		
	44.00	27.6	5.0	124.10		
	45.00	28.8	6.2	124.15		
	46.00	27.4	4.8	124.18		
	47.00	28.4	5.8	124.23		
	48.00	29.3	6.6	124.27		
	49.00	28.5	5.9	124.30		
	50.00	27.4	4.8	124.33		
	51.00	27.4	4.7	124.38		
	52.00	27.8	5.1	124.43		
	53.00	27.5	4.8	124.47		
	54.00	27.9	5.2	124.50		
	55.00	29.2	6.5	124.54		
	56.00	28.9	6.3	124.59		
	57.00	28.7	6.1	124.64		
	58.00	27.8	5.2	124.67		
****** End Flow 2	59.00	28.8	6.2	124.71		
****** Start Shutin 2	0.00	28.8	0.0	124.71	0.0000	0.001
	1.00	35.0	6.2	124.75	89.0000	0.001

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING
: 9480 DST#5 HERD #1 R.J. PATRICK OPER. CO.
: 12/20/96 TIME: 10:19:30

Time	Pressure PSIg	delta P PSIg	Temp. DEG F	(T+dT)/dT	P^2/10^6
2.00	42.7	13.8	124.79	45.0000	0.002
3.00	50.3	21.4	124.85	30.3333	0.003
4.00	57.7	28.9	124.88	23.0000	0.003
5.00	65.5	36.6	124.93	18.6000	0.004
6.00	73.0	44.2	124.97	15.6667	0.005
7.00	80.5	51.7	125.01	13.5714	0.006
8.00	88.3	59.4	125.05	12.0000	0.008
9.00	96.1	67.2	125.09	10.7778	0.009
10.00	103.7	74.9	125.13	9.8000	0.011
11.00	111.6	82.8	125.16	9.0000	0.012
12.00	119.4	90.6	125.21	8.3333	0.014
13.00	127.2	98.4	125.24	7.7692	0.016
14.00	135.2	106.4	125.28	7.2857	0.018
15.00	143.1	114.3	125.32	6.8667	0.020
16.00	151.2	122.4	125.35	6.5000	0.023
17.00	159.3	130.4	125.39	6.1765	0.025
18.00	167.6	138.7	125.43	5.8889	0.028
19.00	176.1	147.2	125.47	5.6316	0.031
20.00	184.6	155.8	125.51	5.4000	0.034
21.00	193.2	164.4	125.55	5.1905	0.037
22.00	201.8	173.0	125.57	5.0000	0.041
23.00	210.6	181.8	125.61	4.8261	0.044
24.00	219.3	190.5	125.65	4.6667	0.048
25.00	228.3	199.4	125.69	4.5200	0.052
26.00	237.1	208.3	125.72	4.3846	0.056
27.00	246.1	217.3	125.75	4.2593	0.061
28.00	255.2	226.3	125.79	4.1429	0.065
29.00	264.2	235.4	125.81	4.0345	0.070
30.00	273.4	244.6	125.85	3.9333	0.075
31.00	282.6	253.8	125.88	3.8387	0.080
32.00	291.9	263.0	125.92	3.7500	0.085
33.00	301.1	272.3	125.95	3.6667	0.091
34.00	310.5	281.7	125.98	3.5882	0.096
35.00	320.0	291.2	126.00	3.5143	0.102
36.00	329.5	300.7	126.05	3.4444	0.109
37.00	339.1	310.3	126.08	3.3784	0.115
38.00	348.7	319.9	126.11	3.3158	0.122
39.00	358.3	329.4	126.14	3.2564	0.128
40.00	368.0	339.2	126.17	3.2000	0.135
41.00	377.8	348.9	126.20	3.1463	0.143
42.00	387.6	358.7	126.23	3.0952	0.150
43.00	397.4	368.5	126.28	3.0465	0.158
44.00	407.3	378.4	126.31	3.0000	0.166
45.00	417.1	388.2	126.33	2.9556	0.174
46.00	427.0	398.2	126.37	2.9130	0.182
47.00	437.0	408.2	126.39	2.8723	0.191
48.00	447.0	418.1	126.43	2.8333	0.200
49.00	457.0	428.2	126.46	2.7959	0.209
50.00	467.1	438.3	126.48	2.7600	0.218
51.00	477.2	448.4	126.52	2.7255	0.228
52.00	487.4	458.6	126.56	2.6923	0.238

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 9480 DST#5 HERD #1 R.J. PATRICK OPER. CO.

DATE: 12/20/96 TIME: 10:19:30

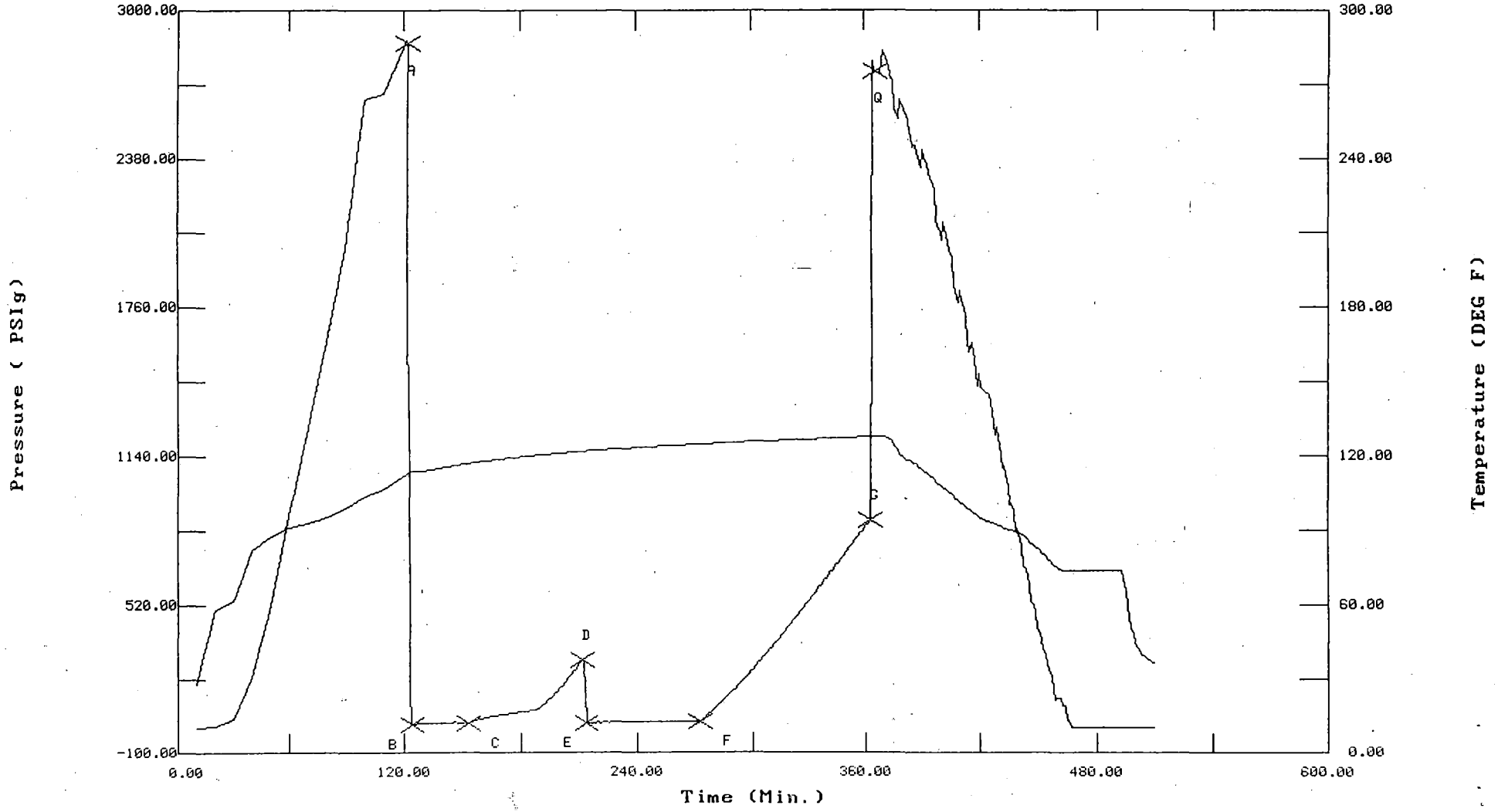
	Time	Pressure PSIg	delta P PSIg	Temp. DEG F	(T+dT)/dT	P^2/10^6
	53.00	497.6	468.8	126.58	2.6604	0.248
	54.00	507.8	479.0	126.61	2.6296	0.258
	55.00	517.8	488.9	126.65	2.6000	0.268
	56.00	528.2	499.3	126.67	2.5714	0.279
	57.00	538.5	509.7	126.70	2.5439	0.290
	58.00	548.8	520.0	126.73	2.5172	0.301
	59.00	559.2	530.3	126.76	2.4915	0.313
	60.00	569.6	540.7	126.79	2.4667	0.324
	61.00	580.0	551.1	126.83	2.4426	0.336
	62.00	590.3	561.5	126.85	2.4194	0.349
	63.00	600.8	571.9	126.88	2.3968	0.361
	64.00	611.2	582.3	126.92	2.3750	0.374
	65.00	621.5	592.7	126.95	2.3538	0.386
	66.00	631.9	603.0	126.98	2.3333	0.399
	67.00	642.2	613.3	127.01	2.3134	0.412
	68.00	652.2	623.3	127.03	2.2941	0.425
	69.00	662.5	633.6	127.06	2.2754	0.439
	70.00	672.8	643.9	127.09	2.2571	0.453
	71.00	683.1	654.2	127.12	2.2394	0.467
	72.00	693.3	664.5	127.14	2.2222	0.481
	73.00	703.6	674.8	127.17	2.2055	0.495
	74.00	713.9	685.0	127.19	2.1892	0.510
	75.00	724.0	695.2	127.23	2.1733	0.524
	76.00	734.3	705.4	127.26	2.1579	0.539
	77.00	744.5	715.7	127.29	2.1429	0.554
	78.00	754.7	725.8	127.31	2.1282	0.570
	79.00	764.8	736.0	127.34	2.1139	0.585
	80.00	775.0	746.1	127.37	2.1000	0.601
	81.00	785.1	756.3	127.40	2.0864	0.616
	82.00	795.2	766.4	127.43	2.0732	0.632
	83.00	805.2	776.4	127.45	2.0602	0.648
	84.00	815.3	786.5	127.48	2.0476	0.665
	85.00	825.4	796.6	127.50	2.0353	0.681
	86.00	835.3	806.5	127.53	2.0233	0.698
	87.00	845.1	816.2	127.55	2.0115	0.714
	88.00	854.7	825.9	127.58	2.0000	0.731
	89.00	864.1	835.2	127.62	1.9888	0.747
****** End Shut-in 2	90.00	873.2	844.3	127.64	1.9778	0.762
****** Final Hydro.	366.00	2746.0	0.0	127.68		

TEST HISTORY

9480 DST#5 HERD #1 R.J. PATRICK OPER. CO.

Flag Points

	t(Min.)	P(PSIg)
A:	0.00	2865.66
B:	0.00	17.71
C:	29.00	24.34
D:	59.00	291.36
E:	0.00	22.63
F:	59.00	28.84
G:	90.00	873.15
Q:	0.00	2746.00



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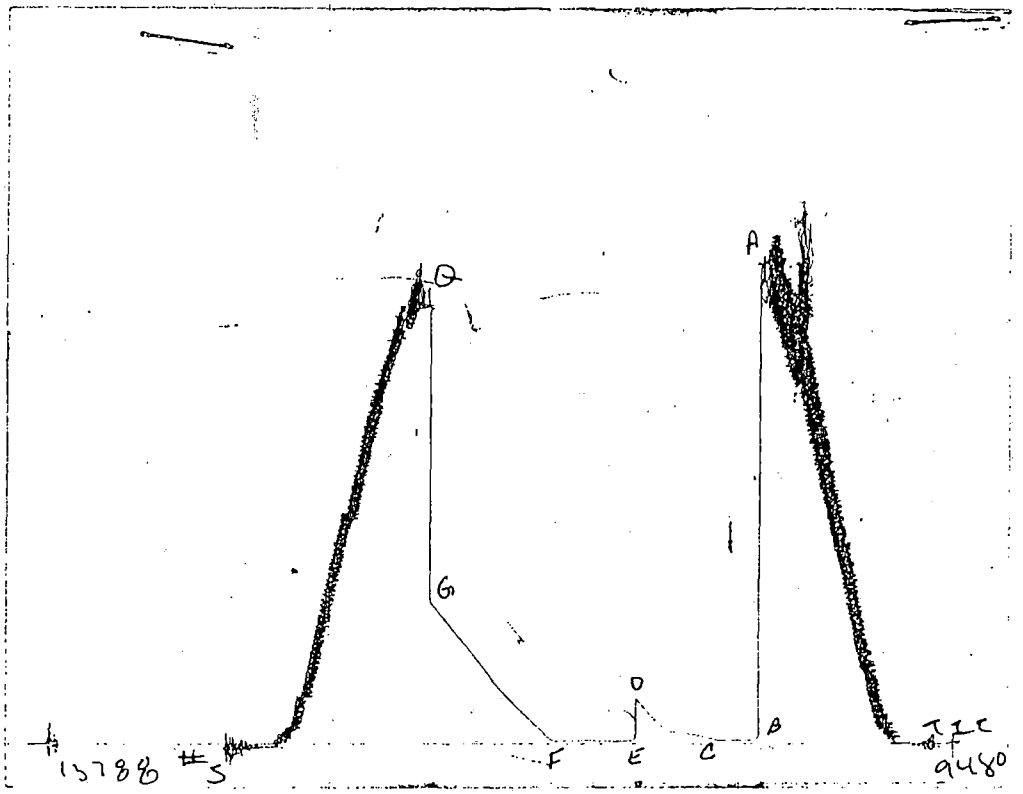


This is a photocopy of the actual AK-1 recorder chart

TRILOBITE TESTING L.L.C.

OPERATOR : R.J. Patrick Oper. Co. DATE 12-22-96
WELL NAME: Herd #1 KB 1934.00 ft TICKET NO: 9481 DST #6
LOCATION : Sec.04 Twp.33 S Rge.19W K GR 1921.00 ft FORMATION: Arbuckle
INTERVAL : 6186.00 To 6236.00 ft TD 6236.00 ft TEST TYPE: CONV.

RECORDER DATA

Mins		Field	1	2	3	4
PF 20	Rec.	13788	13788	3024		
SI 40	Range(Psi)	4650.0	4650.0	4995.0	0.0	0.0
SF 30	Clock(hrs)	12 HR	12 HR	Batt.		
FS 60	Depth(ft)	6233.0	6233.0	6198.0	0.0	0.0

TIME DATA----------
PF Fr. 2143 to 2203 hr
IS Fr. 2203 to 2243 hr
SF Fr. 2243 to 2313 hr
FS Fr. 2313 to 0013 hr

	Field	1	2	3	4
A. Init Hydro	3114.0	3088.0	3068.0	0.0	0.0
B. First Flow	394.0	388.0	440.0	0.0	0.0
B1. Final Flow	1339.0	1320.0	1311.0	0.0	0.0
C. In Shut-in	2372.0	2358.0	2354.0	0.0	0.0
D. Init Flow	1339.0	1328.0	1357.0	0.0	0.0
E. Final Flow	2135.0	2124.0	2131.0	0.0	0.0
F. Fl Shut-in	2372.0	2360.0	2355.0	0.0	0.0
G. Final Hydro	3033.0	2981.0	3016.0	0.0	0.0
Inside/Outside	O	O	I	T	

T STARTED 1929 hr
T ON BOTM 2140 hr
T OPEN 2143 hr
T PULLED 0013 hr
T OUT 0400 hr

RECOVERY
Tot Fluid 4290.00 ft of 245.00 ft in DC and 4045.00 ft in DP
250.00 ft of Slightly Gas Cut Mud
4040.00 ft of Sour Gas cut Salt Water
0.00 ft of
0.00 ft of
0.00 ft of
0.00 ft of
0.00 ft of
0.00 ft of EST. FT. OF PAY----------45
SALINITY 90000.00 P.P.M. A.P.I. Gravity 0.00

TOOL DATA----------

Tool Wt.	2100.00 lbs
Wt Set On Packer	20000.00 lbs
Wt Pulled Loose	112000.00 lbs
Initial Str Wt.	84000.00 lbs
Unseated Str Wt	107000.00 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	245.00 ft
D.P. Length	5924.00 ft

BLOW DESCRIPTION
Initial Flow:
Strong blow bottom of bucket in 80 sec

Initial Shut In:
Weak to fair blow (1-5")

Final Flow:
Strong blow. Bottom of bucket in 90 sec.

Final Shut In:

SAMPLES: none
SENT TO:T.M. / Liberal Ks

MUD DATA----------

Mud Type	Chemical
Weight	9.00 lb/c
Vis.	66.00 S/L
W.L.	7.80 in3
F.C.	0.20 in
Mud Drop	N
Amt. of fill	0.00 ft
Btm. H. Temp.	149.00 F
Hole Condition	good
% Porosity	14.00
Packer Size	6.75 in
No. of Packers	2
Cushion Amt.	0.00 N
Cushion Type	None
Reversed Out	N
Tool Chased	N
Tester	Gary Pevoteaux
Co. Rep.	Kendall Posey
Contr.	Duke Drlg.
Rig #	7
Unit #	
Pump T.	LCM 9#/bl

Test Successful: Y

*** TOOL DIAGRAM *** CONV.

LL NAME: Herd #1

CATION : Sec.04 Twp.33 S Rge.19W K

CKET No. 9481 D.S.T. No. 6 DATE 12-22-96

TAL TOOL TO BOTTOM OF TOP PACKERS 26

TERVAL TOOL .....

TTOM PACKERS AND ANCHOR 18

TAL TOOL 44

ILL COLLAR ANCHOR IN INTERVAL .....

C. ANCHOR STND.Stands Single Total

P. ANCHOR STND.Stands Single 1 Total 32

TAL ASSEMBLY 76

C. ABOVE TOOLS.Stands4 Single Total 245

P. ABOVE TOOLS.Stands95 Single 1 Total 5924

TAL DRILL COLLARS DRILL PIPE & TOOLS .. 6245

TAL DEPTH 6236

TAL DRILL PIPE ABOVE K.B. 9

MARKS:

FLUID SAMPLER DATA
(not run)

S---------- Cubic ft.
L----------
D----------
TER----------
HER----------
ESSURE---------- PSI
---------- N/A ohms @
degrees F
LORIDES---------- N/A ppm

P.O. SUB
C.O. SUB @ Top of Tool 6160

S.I. TOOL 6166

HMV 6171

JARS 6175

SAFETY JOINT 6177

PACKER 6181

PACKER 6186
DEPTH 6186
STUBB 1' 6187
ANCHOR

6'perfs & sub to 6193

Alpine rec. @ 6198

1 jt. pipe to 6225

T.C.
DEPTH

6' perfs & sub to 6231

AK-1 rec. @ 6233

BULLNOSE 5' perforated to 6236
T.D.

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 9481 DST#6 HERD #1 R.J. PATRICK OPER. CO.

DATE: 12/22/96 TIME: 19:29:47

	Time	Pressure PSIg	delta P PSIg	Temp. DEG F	(T+dT)/dT	P^2/10^6
****** Initial Hydro.	129.00	3068.2	0.0	133.30		
****** Start Flow 1	0.00	440.3	0.0	134.09		
	1.00	483.5	43.2	136.31		
	2.00	548.5	108.2	139.21		
	3.00	603.1	162.7	141.86		
	4.00	656.1	215.8	144.00		
	5.00	703.8	263.5	145.62		
	6.00	758.1	317.8	146.76		
	7.00	809.9	369.6	147.59		
	8.00	860.3	420.0	148.16		
	9.00	910.6	470.2	148.55		
	10.00	958.1	517.8	148.81		
	11.00	1004.7	564.3	148.96		
	12.00	1051.8	611.4	149.05		
	13.00	1096.6	656.3	149.09		
	14.00	1141.9	701.5	149.13		
	15.00	1185.3	744.9	149.12		
	16.00	1228.7	788.3	149.09		
	17.00	1271.0	830.7	149.05		
****** End Flow 1	18.00	1310.9	870.6	149.02		
****** Start Shutin 1	0.00	1310.9	0.0	149.02	0.0000	1.719
	1.00	2315.5	1004.5	148.95	19.0000	5.361
	2.00	2330.5	1019.6	148.96	10.0000	5.431
	3.00	2335.8	1024.8	148.99	7.0000	5.456
	4.00	2338.9	1028.0	149.02	5.5000	5.471
	5.00	2341.2	1030.3	148.99	4.6000	5.481
	6.00	2342.9	1031.9	148.93	4.0000	5.489
	7.00	2344.2	1033.3	148.83	3.5714	5.495
	8.00	2345.3	1034.4	148.68	3.2500	5.500
	9.00	2346.2	1035.3	148.52	3.0000	5.505
	10.00	2347.0	1036.1	148.35	2.8000	5.508
	11.00	2347.7	1036.8	148.18	2.6364	5.512
	12.00	2348.2	1037.3	148.01	2.5000	5.514
	13.00	2348.8	1037.9	147.85	2.3846	5.517
	14.00	2349.2	1038.3	147.70	2.2857	5.519
	15.00	2349.6	1038.7	147.55	2.2000	5.521
	16.00	2350.0	1039.1	147.40	2.1250	5.523
	17.00	2350.3	1039.4	147.27	2.0588	5.524
	18.00	2350.6	1039.7	147.13	2.0000	5.525
	19.00	2350.9	1040.0	147.00	1.9474	5.527
	20.00	2351.1	1040.2	146.89	1.9000	5.528
	21.00	2351.4	1040.4	146.77	1.8571	5.529
	22.00	2351.6	1040.7	146.67	1.8182	5.530
	23.00	2351.8	1040.9	146.57	1.7826	5.531
	24.00	2352.0	1041.1	146.48	1.7500	5.532
	25.00	2352.1	1041.2	146.38	1.7200	5.533
	26.00	2352.3	1041.4	146.30	1.6923	5.533
	27.00	2352.5	1041.5	146.22	1.6667	5.534
	28.00	2352.6	1041.7	146.14	1.6429	5.535
	29.00	2352.7	1041.8	146.08	1.6207	5.535
	30.00	2352.9	1042.0	146.01	1.6000	5.536

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

EST: 9481 DST#6 HERD #1 R.J. PATRICK OPER. CO.

ATE: 12/22/96 TIME: 19:29:47

	Time	Pressure PSIg	delta P PSIg	Temp. DEG F	(T+dT)/dT	P^2/10^6
	31.00	2353.0	1042.1	145.94	1.5806	5.537
	32.00	2353.1	1042.2	145.89	1.5625	5.537
	33.00	2353.2	1042.3	145.85	1.5455	5.537
	34.00	2353.3	1042.4	145.82	1.5294	5.538
	35.00	2353.4	1042.5	145.81	1.5143	5.538
	36.00	2353.5	1042.6	145.80	1.5000	5.539
	37.00	2353.6	1042.7	145.80	1.4865	5.539
	38.00	2353.6	1042.7	145.78	1.4737	5.540
	39.00	2353.7	1042.8	145.75	1.4615	5.540
**** End Shut-in 1	40.00	2353.8	1042.9	145.72	1.4500	5.540
**** Start Flow 2	0.00	1357.2	0.0	145.66		
	1.00	1381.8	24.5	145.74		
	2.00	1419.4	62.1	146.16		
	3.00	1456.4	99.2	146.70		
	4.00	1493.2	136.0	147.17		
	5.00	1527.9	170.7	147.51		
	6.00	1563.1	205.9	147.75		
	7.00	1597.4	240.1	147.91		
	8.00	1629.2	272.0	148.01		
	9.00	1662.1	304.9	148.07		
	10.00	1693.0	335.8	148.08		
	11.00	1723.1	365.8	148.09		
	12.00	1752.9	395.7	148.06		
	13.00	1782.1	424.9	148.04		
	14.00	1810.6	453.4	148.00		
	15.00	1838.1	480.8	147.96		
	16.00	1864.5	507.2	147.91		
	17.00	1889.8	532.6	147.89		
	18.00	1914.8	557.6	147.83		
	19.00	1938.3	581.1	147.79		
	20.00	1961.5	604.3	147.74		
	21.00	1983.7	626.5	147.69		
	22.00	2004.5	647.3	147.65		
	23.00	2024.7	667.5	147.59		
	24.00	2044.1	686.9	147.56		
	25.00	2063.5	706.3	147.52		
	26.00	2081.3	724.0	147.48		
	27.00	2098.6	741.4	147.45		
	28.00	2115.2	758.0	147.41		
**** End Flow 2	29.00	2131.2	774.0	147.37		
**** Start Shutin 2	0.00	2131.2	0.0	147.37	0.0000	4.542
	1.00	2340.0	208.8	147.33	48.0000	5.476
	2.00	2343.6	212.3	147.31	24.5000	5.492
	3.00	2345.3	214.1	147.29	16.6667	5.500
	4.00	2346.4	215.2	147.25	12.7500	5.506
	5.00	2347.3	216.1	147.17	10.4000	5.510
	6.00	2348.0	216.8	147.07	8.8333	5.513
	7.00	2348.6	217.4	146.97	7.7143	5.516
	8.00	2349.1	217.9	146.87	6.8750	5.518
	9.00	2349.5	218.3	146.76	6.2222	5.520
	10.00	2349.9	218.6	146.66	5.7000	5.522

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 9481 DST#6 HERD #1 R.J. PATRICK OPER. CO.

DATE: 12/22/96 TIME: 19:29:47

Time	Pressure PSIg	delta P PSIg	Temp. DEG F	(T+dT)/dT	P^2/10^6
11.00	2350.2	219.0	146.56	5.2727	5.523
12.00	2350.5	219.3	146.47	4.9167	5.525
13.00	2350.7	219.5	146.36	4.6154	5.526
14.00	2351.0	219.8	146.28	4.3571	5.527
15.00	2351.2	220.0	146.21	4.1333	5.528
16.00	2351.4	220.2	146.14	3.9375	5.529
17.00	2351.6	220.4	146.09	3.7647	5.530
18.00	2351.8	220.6	146.02	3.6111	5.531
19.00	2352.0	220.7	145.97	3.4737	5.532
20.00	2352.1	220.9	145.90	3.3500	5.532
21.00	2352.3	221.0	145.85	3.2381	5.533
22.00	2352.4	221.2	145.81	3.1364	5.534
23.00	2352.5	221.3	145.78	3.0435	5.534
24.00	2352.6	221.4	145.77	2.9583	5.535
25.00	2352.8	221.5	145.76	2.8800	5.535
26.00	2352.9	221.6	145.76	2.8077	5.536
27.00	2353.0	221.8	145.74	2.7407	5.537
28.00	2353.1	221.9	145.74	2.6786	5.537
29.00	2353.1	221.9	145.72	2.6207	5.537
30.00	2353.3	222.0	145.69	2.5667	5.538
31.00	2353.3	222.1	145.67	2.5161	5.538
32.00	2353.4	222.2	145.65	2.4688	5.539
33.00	2353.5	222.3	145.63	2.4242	5.539
34.00	2353.6	222.4	145.60	2.3824	5.539
35.00	2353.7	222.4	145.58	2.3429	5.540
36.00	2353.7	222.5	145.55	2.3056	5.540
37.00	2353.8	222.6	145.51	2.2703	5.540
38.00	2353.9	222.7	145.49	2.2368	5.541
39.00	2353.9	222.7	145.46	2.2051	5.541
40.00	2354.0	222.8	145.43	2.1750	5.541
41.00	2354.1	222.8	145.40	2.1463	5.542
42.00	2354.1	222.9	145.37	2.1190	5.542
43.00	2354.2	223.0	145.34	2.0930	5.542
44.00	2354.2	223.0	145.31	2.0682	5.542
45.00	2354.3	223.1	145.28	2.0444	5.543
46.00	2354.3	223.1	145.25	2.0217	5.543
47.00	2354.4	223.1	145.24	2.0000	5.543
48.00	2354.4	223.2	145.20	1.9792	5.543
49.00	2354.5	223.3	145.17	1.9592	5.544
50.00	2354.5	223.3	145.15	1.9400	5.544
51.00	2354.5	223.3	145.12	1.9216	5.544
52.00	2354.6	223.4	145.08	1.9038	5.544
53.00	2354.7	223.4	145.05	1.8868	5.544
54.00	2354.7	223.5	145.02	1.8704	5.545
55.00	2354.7	223.5	144.98	1.8545	5.545
56.00	2354.7	223.5	144.95	1.8393	5.545
57.00	2354.8	223.6	144.92	1.8246	5.545
58.00	2354.8	223.6	144.87	1.8103	5.545
59.00	2354.9	223.6	144.83	1.7966	5.545
60.00	2354.9	223.7	144.80	1.7833	5.546
61.00	2354.9	223.7	144.76	1.7705	5.546

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

EST: 9481 DST#6 HERD #1 R.J. PATRICK OPER. CO.

ATE: 12/22/96 TIME: 19:29:47

	Time	Pressure PSIg	delta P PSIg	Temp. DEG F	(T+dT)/dT	P^2/10^6
	62.00	2355.0	223.7	144.73	1.7581	5.546
**** End Shut-in 2	63.00	2355.0	223.8	144.70	1.7460	5.546
**** Final Hydro.	283.00	3015.7	0.0	144.62		

TEST HISTORY

9481 DST#6 HERD #1 R.J. PATRICK OPER. CO.

Flag Points

	t(Min.)	P(PSIg)
A:	0.00	3068.22
B:	0.00	448.34
C:	18.00	1310.93
D:	40.00	2353.81
E:	0.00	1357.23
F:	29.00	2131.22
G:	63.00	2354.99
Q:	0.00	3015.75

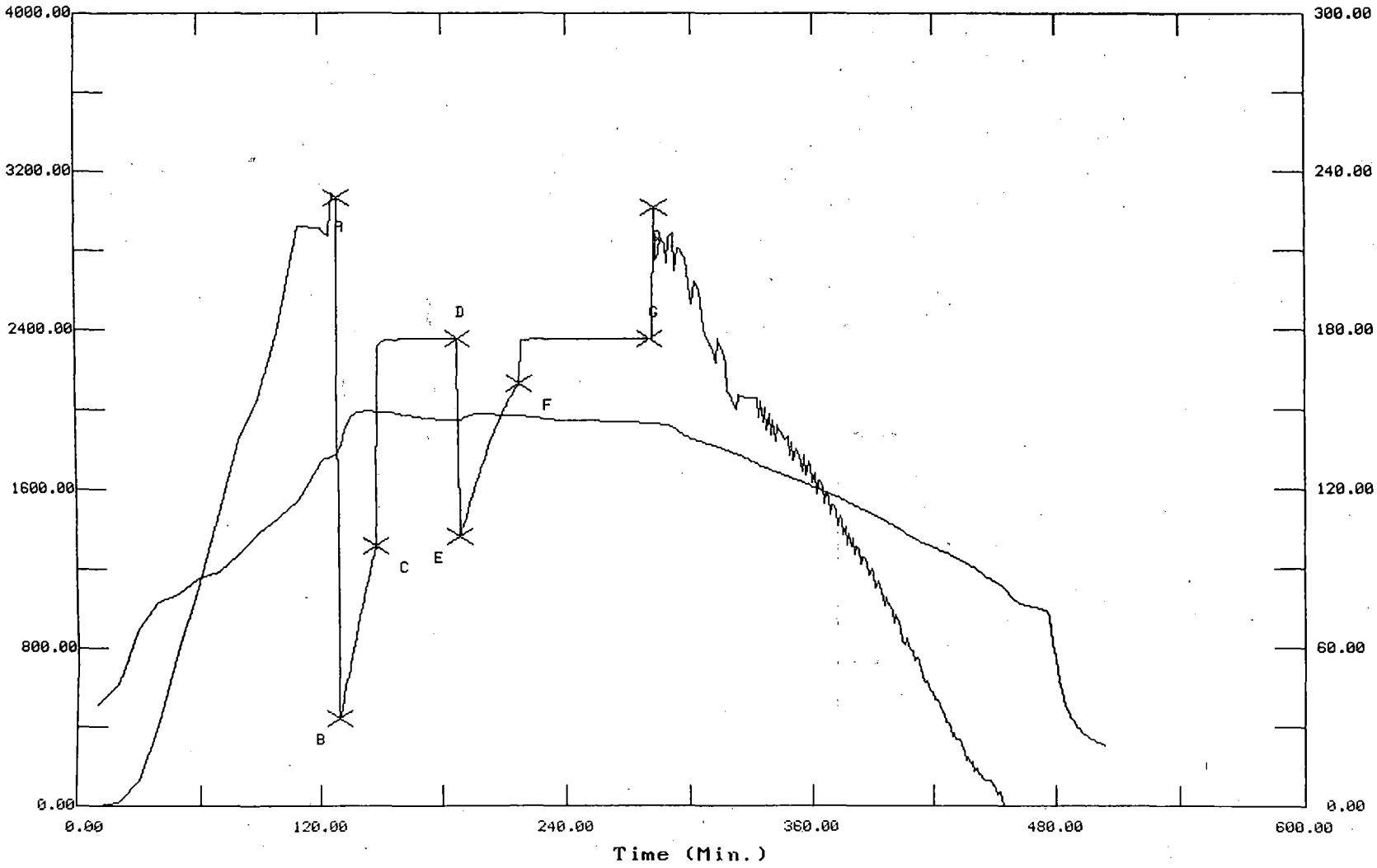
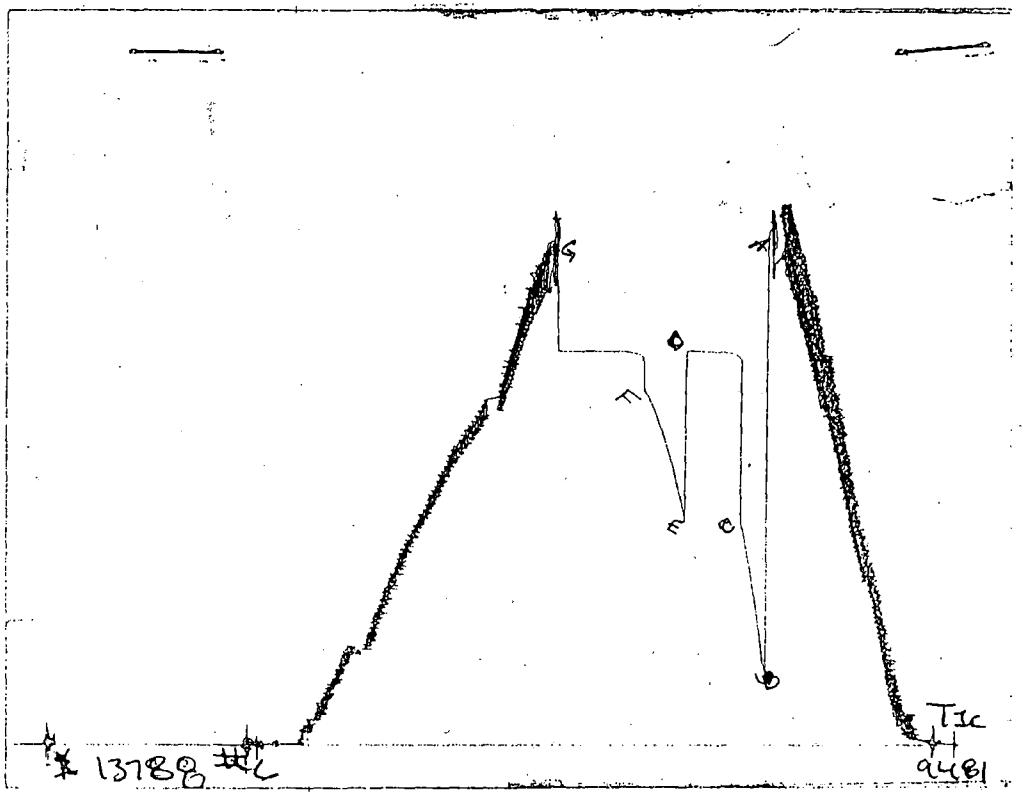


CHART PAGE



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

ORIGINAL

INVOICE

RJP Copy only

HALLIBURTON®

REMIT TO:
P.O. BOX 951046
DALLAS, TX 75395-1046
Corporate FIN 73-0271280

HALLIBURTON ENERGY SERVICES

A Division of Halliburton Company

INVOICE NO.	DATE
104771	12/08/1996

WELL LEASE NO./PROJECT	WELL/PROJECT LOCATION	STATE	OWNER
HERD 1	COMANCHE	KS	SAME

SERVICE LOCATION	CONTRACTOR	JOB PURPOSE	TICKET DATE
PRATT	DUKE DRILLING	CEMENT SURFACE CASING	12/08/1996

ACCT. NO.	CUSTOMER AGENT	VENDOR NO.	CUSTOMER P.O. NUMBER	SHIPPED VIA	FILE NO.
670572	R J PATRICK			COMPANY TRUCK	17526

RECEIVED
STATE CORPORATION COMMISSION
JAN 09 1997
CONSERVATION DIVISION
WICHITA, KANSAS

R J PATRICK OPERATING CO
P O BOX 1157
LIBERAL, KS 67905-1157

DIRECT CORRESPONDENCE TO:
1102 E. 8TH
HAYS KS 67601
913-625-3431

ORIGINAL

REFERENCE NO.	DESCRIPTION	QUANTITY	UM	UNIT PRICE	AMOUNT
PRICING AREA - MID CONTINENT					
000-117	MILEAGE CEMENTING ROUND TRIP	130	MI	2.99	388.70
		1	UNT		
000-119	MILEAGE FOR CREW	130	MI	1.60	208.00
		1	UNT		
001-016	CEMENTING CASING	674	FT	915.00	915.00
		1	UNT		
030-016	CEMENTING PLUG 5W ALUM TOP	8 5/8	IN	120.00	120.00
		1	EA		
320	CEMENT BASKET-8-5/8 X 12 1/4	1	EA	144.00	144.00
806.70060					
504-280	MIDCON-2 STANDARD CEMENT	125	SK	12.76	1,595.00
509-406	ANHYDROUS CALCIUM CHLORIDE	5	SK	40.75	203.75
507-210	FLOCELE	63	LB	1.65	103.95
504-136	CEMENT - 40/60 POZMIX STANDARD	100	SK	8.14	814.00
509-406	ANHYDROUS CALCIUM CHLORIDE	3	SK	40.75	122.25
500-207	BULK SERVICE CHARGE	253	CFT	1.35	341.55
500-306	MILEAGE CMTG MAT DEL OR RETURN	701.35	TMI	1.05	736.42

INVOICE SUBTOTAL	5,692.62
DISCOUNT-(BID)	1,309.27-
INVOICE BID AMOUNT	4,383.35
*-KANSAS STATE SALES TAX	157.75
*-PRATT COUNTY SALES TAX	32.19

RECEIVED DEC 16 1996

INVOICE TOTAL - PLEASE PAY THIS AMOUNT ==========> $4,573.29

TERMS: If Customer does not have an approved open account with Halliburton, all sums due are payable in cash at the time of performance of services or delivery of equipment, products or materials. If customer has an approved open account, invoices are payable on the twentieth day after date of invoice. Customer agrees to pay interest on any unpaid balance from the date payable until paid at the highest lawful contract rate applicable, but never to exceed 18% per annum. In the event Halliburton employs an attorney for collection of any account, Customer agrees to pay attorney fees of 20% of the unpaid account and all collection and court costs.

FORM HAL-1900-G

HALLIBURTON

HALLIBURTON ENERGY SERVICES

HAL-1906-P

(23)

CHARGE TO: R.J. PATRICK OPERATING

ADDRESS: 320 SOUTH BOSTON

CITY, STATE, ZIP CODE: TULSA, OK. 74103

CUSTOMER COPY

TICKET No. 104771 - 7

PAGE 1 OF 2

SERVICE LOCATIONS	WELL/PROJECT NO.	LEASE	COUNTY/PARISH	STATE	CITY/OFFSHORE LOCATION	DATE	OWNER
1. MEDICINE LODGE	1	HICO	COMANCHE	KS.		12-8-96	SAME

2.	TICKET TYPE: ☑ SERVICE ☐ SALES	NITROGEN JOB? ☐ YES ☑ NO	CONTRACTOR	RIG NAME/NO.	SHIPPED VIA	DELIVERED TO	ORDER NO.
			DUKE DRLG.	7	T.T.	WELL SITE	

3.	WELL TYPE	WELL CATEGORY	JOB PURPOSE	WELL PERMIT NO.	WELL LOCATION
	12	01	117	API 15-033-20175-0000	4-32S-17W

4. REFERRAL LOCATION	INVOICE INSTRUCTIONS

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING LOC	ACCT	DF	DESCRIPTION	QTY.	U/M	QTY.	U/M	UNIT PRICE	AMOUNT
000-117		1			MILEAGE ROUND TRIP TICKET 5-12-16	130	MI.			2 27	388 12
000-117		1			ADD MILEAGE ROUND TRIP	130	MI.			1 40	208 12
001-016		1			PUMP CHARGE	1	HRS.	4	H.	715 00	715 00
030-016		1			5½" PLUG SW	1	EA.			120 00	120 00
320	806-7060	1			8⅝" STEEL INT. GASKET	1	EA.			144 00	144 00

ORIGINAL

RECEIVED
STATE CORPORATION COMMISSION
JAN 10 1997
CONSERVATION DIVISION
WICHITA, KANSAS

LEGAL TERMS: Customer hereby acknowledges and agrees to the terms and conditions on the reverse side hereof which include, but are not limited to, **PAYMENT, RELEASE, INDEMNITY,** and **LIMITED WARRANTY** provisions.

MUST BE SIGNED BY CUSTOMER OR CUSTOMER'S AGENT PRIOR TO START OF WORK OR DELIVERY OF GOODS

X R J Patrick

DATE SIGNED: 12-8-96 TIME SIGNED: 24:15 ☑ A.M. ☐ P.M.

☐ I ☐ do ☐ do not require IPC (Instrument Protection). ☐ Not offered

SUB SURFACE SAFETY VALVE WAS: ☐ PULLED & RETURN ☐ PULLED ☐ RUN

TYPE LOCK	DEPTH
BEAN SIZE	SPACERS
TYPE OF EQUALIZING SUB.	CASING PRESSURE
TUBING SIZE / TUBING PRESSURE / WELL DEPTH	
TREE CONNECTION	TYPE VALVE

SURVEY	AGREE	UN-DECIDED	DIS-AGREE
OUR EQUIPMENT PERFORMED WITHOUT BREAKDOWN?			
WE UNDERSTOOD AND MET YOUR NEEDS?			
OUR SERVICE WAS PERFORMED WITHOUT DELAY?			
WE OPERATED THE EQUIPMENT AND PERFORMED JOB CALCULATIONS SATISFACTORILY?			

ARE YOU SATISFIED WITH OUR SERVICE? ☐ YES ☐ NO

☐ CUSTOMER DID NOT WISH TO RESPOND

PAGE TOTAL	1775 17
FROM CONTINUATION PAGE(S)	3716
SUB-TOTAL. APPLICABLE TAXES WILL BE ADDED ON INVOICE	5492

CUSTOMER ACCEPTANCE OF MATERIALS AND SERVICES The customer hereby acknowleges receipt of the materials and services listed on this ticket.

CUSTOMER OR CUSTOMER'S AGENT (PLEASE PRINT)	CUSTOMER OR CUSTOMER'S AGENT (SIGNATURE)	HALLIBURTON OPERATOR/ENGINEER	EMP #	HALLIBURTON APPROVAL
R.J. PATRICK	X R J Patrick	M.K. Eubank	50848	mc.

HALLIBURTON

HALLIBURTON ENERGY SERVICES

JRM 1911 R-10

TICKET CONTINUATION

CUSTOMER COPY

TICKET No. [illegible]

CUSTOMER	WELL	DATE	PAGE	OF
R J PATRICK OPERATING CO	HERD 1	12-07-96	2	2

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING LOC	ACCT	DF	DESCRIPTION	QTY.	U/M	QTY.	U/M	UNIT PRICE	AMOUNT
504-280		1			MIDCONIII CEMENT	125	SK			12 76	1595 00
509-406	890.50812	1			CALCIUM CHLORIDE BLD 3%	5	SK			40 75	203 75
507-210	890/50071	1			FLOCELE BLENDED 1/2#	63	LB			1 65	103 95
	LOADED ON TRUCK #50068/7488-FRONT										
504-136		1			40/60 POZMIX W/2% GEL	100	SK			8 14	814 00
509-406	890.50812	1			CALCIUM CHLORIDE BLD 3%	3	SK			40 75	122 25
	LOADED ON TRUCK #50068/7488-BACK										
500-207		1			SERVICE CHARGE	253	CUBIC FEET			1 35	341 55
500-306		1			MILEAGE CHARGE — TOTAL WEIGHT 21,580 — LOADED MILES 65	701.35	TON MILES			1 05	736 42

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JAN 0 0 1997
CONSERVATION DIVISION
WICHITA, KANSAS

ORIGINAL

CONTINUATION TOTAL

No. B 338339

HALLIBURTON JOB SUMMARY

HALLIBURTON DIVISION: MID CONTINENT
HALLIBURTON LOCATION: PRATT KS.
BILLED ON TICKET NO.: 10

WELL DATA

FIELD _____ SEC. 4 TWP. 33S. RNG. 19W. COUNTY COMMANCHE STATE KS.

FORMATION NAME _____ TYPE _____
FORMATION THICKNESS _____ FROM _____ TO _____
INITIAL PROD: OIL _____ BPD. WATER _____ BPD. GAS _____ MCFD
PRESENT PROD: OIL _____ BPD. WATER _____ BPD. GAS _____ MCFD
COMPLETION DATE _____ MUD TYPE _____ MUD WT. _____
PACKER TYPE _____ SET AT _____
BOTTOM HOLE TEMP. _____ PRESSURE _____
MISC. DATA _____ TOTAL DEPTH _____

	NEW USED	WEIGHT	SIZE	FROM	TO	MAXIMUM PSI ALLOWABLE
CASING		24	8 5/8	0	474	
LINER						
TUBING						
OPEN HOLE			12 1/4	KB	479	SHOTS/FT.
PERFORATIONS						
PERFORATIONS						
PERFORATIONS						

JOB DATA

CALLED OUT	ON LOCATION	JOB STARTED	JOB COMPLETED
DATE 12-7	DATE 12-7	DATE 12-7	DATE 12-7
TIME 20:00	TIME 21:30	TIME 0205	TIME 0330

TOOLS AND ACCESSORIES

TYPE AND SIZE	QTY.	MAKE
FLOAT COLLAR		
FLOAT SHOE WELDED SURFACE FLOAT EQUIP.		
GUIDE SHOE FOR CSG.		
CENTRALIZERS		
BOTTOM PLUG		
TOP PLUG	1	H.E.S.
HEAD		
PACKER		
OTHER CMT BASKET	1	H.E.S.

PERSONNEL AND SERVICE UNITS

NAME	UNIT NO. & TYPE	LOCATION

ORIGINAL

MATERIALS

TREAT. FLUID _____ DENSITY _____ LB/GAL. °API
DISPL. FLUID _____ DENSITY _____ LB/GAL. °API
PROP. TYPE _____ SIZE _____ LB. _____
PROP. TYPE _____ SIZE _____ LB. _____
ACID TYPE _____ GAL. _____ %
ACID TYPE _____ GAL. _____ %
ACID TYPE _____ GAL. _____ %
SURFACTANT TYPE _____ GAL. _____ IN _____
NE AGENT TYPE _____ GAL. _____ IN _____
FLUID LOSS ADD. TYPE _____ GAL.-LB. _____ IN _____
GELLING AGENT TYPE _____ GAL.-LB. _____ IN _____
FRIC. RED. AGENT TYPE _____ GAL.-LB. _____ IN _____
BREAKER TYPE _____ GAL.-LB. _____ IN _____
BLOCKING AGENT TYPE _____ GAL.-LB. _____
PERFPAC BALLS TYPE _____ QTY. _____
OTHER _____
OTHER _____

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WICHITA, KANSAS

DEPARTMENT CMT.
DESCRIPTION OF JOB CMT. 24# 8 5/8" SURF CSG.

JOB DONE THRU: TUBING ☐ CASING ☑ ANNULUS ☐ TBG./ANN. ☐

CUSTOMER REPRESENTATIVE X R.J. PATRICK
HALLIBURTON OPERATOR M.R. BOYARD
COPIES REQUESTED _____

CEMENT DATA

STAGE	NUMBER OF SACKS	CEMENT	BRAND	BULK SACKED	ADDITIVES	YIELD CU.FT./SK.	MIXED LBS./GAL.
	125	MIDCON II			3% C.C 1/4# FLOCELE	3.25	11.1
	100	40/60 POZ (6% GEL)			2% GEL. 3% C.C.	1.28	14.3

SUMMARY

PRESSURES IN PSI
CIRCULATING _____ DISPLACEMENT _____
BREAKDOWN _____ MAXIMUM _____
AVERAGE _____ FRACTURE GRADIENT _____
SHUT-IN: INSTANT _____ 5-MIN _____ 15-MIN. _____

HYDRAULIC HORSEPOWER
ORDERED _____ AVAILABLE _____ USED _____

AVERAGE RATES IN BPM
TREATING _____ DISPL. _____ OVERALL _____

CEMENT LEFT IN PIPE
FEET 40.5 REASON INSERT FLOAT

VOLUMES
PRESLUSH: BBL.-GAL. _____ TYPE _____
LOAD & BKDN: BBL.-GAL. _____ PAD: BBL.-GAL. _____
TREATMENT: BBL.-GAL. _____ DISPL: BBL.-GAL. 40.33
CEMENT SLURRY: BBL.-GAL. 22.35 + 22.8 = 95.15
TOTAL VOLUME: BBL.-GAL. _____

REMARKS

FIELD OFFICE

FORM 2025-R4

R.J. PATRICK ORIG. CO. LEASE HERD WELL NO. 1 JOB TYPE CMT. DATE 12-8-96

HALLIBURTON

JOB LOG HAL-2013-C

DATE	PAG
12-8-94	1

CUSTOMER	WELL NO.	LEASE	JOB TYPE	TICKET NO.
PATRICK DRLG. CO.	1	HELD	CEMENT	104771

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS T	PUMPS C	PRESSURE(PSI) TUBING	PRESSURE(PSI) CASING	DESCRIPTION OF OPERATION AND MATERIALS
	20:00							CALLED OUT
	21:50							ON LOCATION
								R.G STILL DRLG.
	22:30							TRKS ON LOCATION
								SAFETY MEETING
								SET UP EQUIP.
								ORIGINAL
								BREAK CIRC.
	0205	4	0				250 AUG.	MIXING & PUMPING CMT.
								125 SKS MIDCON II MIXED @ 11.1 #/gl.
								100 SKS 40/60 60/40 MIXED @ 14.3 #/gl.
			95.15					FINISHED MIX SHUT DOWN SHUT IN
	0225	6	0					RELEASE PLUG START DISP.
								CMT. RETURNS @ 17 BBLS of DISP.
		4	30				256	
		1½	39					
	0245						325	PLUG DOWN (CIRC. APR. 39 SKS TO PIT)
							500	PSI
							0	RELEASED & HELD
								WASH UP
								RACK UP
	0330							JOB COMP
	1345							OFF LOCATION

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FIELD OFFICE

HALLIBURTON

HALLIBURTON ENERGY SERVICES

HAL-1906-P

CHARGE TO: R J Patrick Oper

ADDRESS

CITY, STATE, ZIP CODE

CUSTOMER COPY

TICKET No. 104907 - 0

PAGE 1 OF 2

SERVICE LOCATIONS	WELL/PROJECT NO.	LEASE	COUNTY/PARISH	STATE	CITY/OFFSHORE LOCATION	DATE	OWNER
1. Pratt KS	#1	Herd	Comanche	KS		12-23-96	Same

TICKET TYPE	NITROGEN	CONTRACTOR	RIG NAME/NO.	SHIPPED VIA	DELIVERED TO	ORDER NO.
☑ SERVICE ☐ SALES	JOB? ☐ YES ☑ NO	Duke Drlg	#7	Howco	Loc	

WELL TYPE	WELL CATEGORY	JOB PURPOSE	WELL PERMIT NO.	WELL LOCATION
02	01	035		Land

REFERRAL LOCATION | INVOICE INSTRUCTIONS

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING LOC	ACCT	DF	DESCRIPTION	QTY.	U/M	QTY.	U/M	UNIT PRICE	AMOUNT
000.117	ORIGINAL	1			MILEAGE 53387# RD TP	130	mi	1	Eq	2 99	388 70
000.119		1			Crew mileage 40042# RD TP	130	mi	1	Eq	1 60	208 —
001.016		1			Pump Charge 1 Trk	5396	ft	6	hrs	1950 —	1950 —
030.016		1			Top Swiper Plug	1	Eq	4.5	in	45 —	45 —
314.163		1			Clay-Fix II	8	gal			28 —	224 —
		1			Bulk Tkt #B-22833						4577 41

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LEGAL TERMS: Customer hereby acknowledges and agrees to the terms and conditions on the reverse side hereof which include, but are not limited to, **PAYMENT, RELEASE, INDEMNITY,** and **LIMITED WARRANTY** provisions.

MUST BE SIGNED BY CUSTOMER OR CUSTOMER'S AGENT PRIOR TO START OF WORK OR DELIVERY OF GOODS

X RJ Patrick

DATE SIGNED 12-23-96 | TIME SIGNED 1430 ☐ A.M. ☐ P.M.

I ☐ do ☐ do not require IPC (Instrument Protection). ☐ Not offered

SUB SURFACE SAFETY VALVE WAS: ☐ PULLED & RETURN ☐ PULLED ☐ RUN

TYPE LOCK	DEPTH
BEAN SIZE	SPACERS
TYPE OF EQUALIZING SUB.	CASING PRESSURE
TUBING SIZE / TUBING PRESSURE / WELL DEPTH	
TREE CONNECTION	TYPE VALVE

SURVEY	AGREE	UN-DECIDED	DIS-AGREE
OUR EQUIPMENT PERFORMED WITHOUT BREAKDOWN?			
WE UNDERSTOOD AND MET YOUR NEEDS?			
OUR SERVICE WAS PERFORMED WITHOUT DELAY?			
WE OPERATED THE EQUIPMENT AND PERFORMED JOB CALCULATIONS SATISFACTORILY?			

ARE YOU SATISFIED WITH OUR SERVICE? ☐ YES ☐ NO

☐ CUSTOMER DID NOT WISH TO RESPOND

PAGE TOTAL	7393 17
FROM CONTINUATION PAGE(S)	
SUB-TOTAL APPLICABLE TAXES WILL BE ADDED ON INVOICE	

CUSTOMER ACCEPTANCE OF MATERIALS AND SERVICES The customer hereby acknowleges receipt of the materials and services listed on this ticket.

CUSTOMER OR CUSTOMER'S AGENT (PLEASE PRINT)	CUSTOMER OR CUSTOMER'S AGENT (SIGNATURE)	HALLIBURTON OPERATOR/ENGINEER	EMP #	HALLIBURTON APPROVAL
RJP	X RJ Patrick	David L Scott	B9475	D L Scott

HALLIBURTON

HALLIBURTON ENERGY SERVICES

FORM 1911 R-10

TICKET CONTINUATION

CUSTOMER COPY

TICKET No. 104907

CUSTOMER	WELL	DATE	PAGE	OF
R T Patrick Operating Co.	Herd #1	12-23-96	2	2

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING LOC	ACCT	DF	DESCRIPTION	QTY.	U/M	QTY.	U/M	UNIT PRICE	AMOUNT
504-130		1			50/50 Pozmix W/2% Gel	250	SK			7 60	1722 50
509-968	890.50158	1			Salt BH 18%	2255	LBS			15	337 50
507-210	890.50311	1			Flocele RH ¼#	56	LBS			1 25	72 80
501-775	516.00144	1			Halad-322 RH .75%	150	LBS			7 00	1050 00
		1	Loaded		on TRK # 52530 - Split						
500-207		1			SERVICE CHARGE	CUBIC FEET	286			1 35	386 10
500-306		1			MILEAGE CHARGE / TOTAL WEIGHT 23,111 / LOADED MILES 65	TON MILES	751.40			1 35	288 97

CONTINUATION TOTAL 4577.47

ORIGINAL

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CONSERVATION DIVISION
WICHITA, KANSAS

No. B 212833

HALLIBURTON

JOB LOG HAL-2013-C

DATE	PAGE NO.
12-23-96	1

CUSTOMER	WELL NO.	LEASE	JOB TYPE	TICKET NO.
RJ Patrick Oper	#1	Herd	4½ Prod String	104907

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL)(GAL)	PUMPS T	PUMPS C	PRESSURE(PSI) TUBING	PRESSURE(PSI) CASING	DESCRIPTION OF OPERATION AND MATERIALS
#1	0900							Called Out
	1300							On Loc w/Trk's Safety mtg
								Run Comp F.E.
								Csg on Bottom Drop Ball & Break Circ w/Rig
								Rig up Howco ORIGINAL
								Plug R.H. w/10sk's & MH w/5 sk's
	1714	6			✓		800	St mixing Cmt @ 14.3 ppg
	1724	0	58		✓		0	Finish mixing Cmt
	1726	6	10		✓			Close In & wash pump Line
	1726				✓			Release Top Swiper Plug
	1728	7			✓		100	St Disp w/2% Clay-Fix II
	1734	5	65		✓		300	Lifting Cmt Decrease Rate
	1743	0	85.6		✓		1200	Plug Down & psi Test Csg
	1744				✓		0	Release psi Float Held
								Good Circ During Job
								Job Complete
								Thank you
								Scotty

Plug down at 600 PM

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CONSERVATION DIVISION
WICHITA, KANSAS

CUSTOMER

HALLIBURTON

JOB SUMMARY

HALLIBURTON DIVISION: Mid Con

HALLIBURTON LOCATION: Pratt KS

BILLED ON TICKET NO. 1049107

WELL DATA

FIELD _____ SEC. 4 TWP. 33 RNG. 19 COUNTY Comanche STATE KS

FORMATION NAME _____ TYPE _____

FORMATION THICKNESS _____ FROM _____ TO _____

INITIAL PROD: OIL _____ BPD. WATER _____ BPD. GAS _____ MCFD

PRESENT PROD: OIL _____ BPD. WATER _____ BPD. GAS _____ MCFD

COMPLETION DATE _____ MUD TYPE _____ MUD WT. _____

PACKER TYPE _____ SET AT _____

BOTTOM HOLE TEMP. _____ PRESSURE _____

MISC. DATA _____ TOTAL DEPTH _____

	NEW USED	WEIGHT	SIZE	FROM	TO	MAXIMUM PSI ALLOWABLE
CASING	U	10.5	4.5	KB	5396	
LINER						
TUBING						
OPEN HOLE			7 7/8	5396	6236	SHOTS/FT.
PERFORATIONS						
PERFORATIONS						
PERFORATIONS						

JOB DATA

CALLED OUT	ON LOCATION	JOB STARTED	JOB COMPLETED
DATE 10-23	DATE 10-23	DATE 10-23	DATE 10-23
TIME 0900	TIME 1300	TIME 1714	TIME 1747

TOOLS AND ACCESSORIES

TYPE AND SIZE	QTY.	MAKE
FLOAT COLLAR		
FLOAT SHOE		
GUIDE SHOE	1	Comp
CENTRALIZERS	24	"
BOTTOM PLUG		
TOP PLUG Super	1	Howco
HEAD & manifold	1	"
PACKER Swedco's		Comp
OTHER TSV w/Fill		"

PERSONNEL AND SERVICE UNITS

NAME	UNIT NO. & TYPE	LOCATION

ORIGINAL

MATERIALS

TREAT. FLUID _____ DENSITY _____ LB/GAL. °API

DISPL. FLUID _____ DENSITY _____ LB/GAL. °API

PROP. TYPE _____ SIZE _____ LB. _____

PROP. TYPE _____ SIZE _____ LB. _____

ACID TYPE _____ GAL. _____ %

ACID TYPE _____ GAL. _____ %

ACID TYPE _____ GAL. _____ %

SURFACTANT TYPE _____ GAL. _____ IN

NE AGENT TYPE _____ GAL. _____ IN

FLUID LOSS ADD. TYPE _____ GAL.-LB. _____ IN

GELLING AGENT TYPE _____ GAL.-LB. _____ IN

FRIC. RED. AGENT TYPE _____ GAL.-LB. _____ IN

BREAKER TYPE _____ GAL.-LB. _____ IN

BLOCKING AGENT TYPE _____ GAL.-LB.

PERFPAC BALLS TYPE _____ QTY.

OTHER _____

OTHER _____

DEPARTMENT Cmt

DESCRIPTION OF JOB 4 1/2 Prod String

JOB DONE THRU: TUBING ☐ CASING ☐ ANNULUS ☐ TBG./ANN. ☐

CUSTOMER REPRESENTATIVE X _____

HALLIBURTON OPERATOR D Scott

COPIES REQUESTED _____

CEMENT DATA

STAGE	NUMBER OF SACKS	CEMENT	BRAND	BULK SACKED	ADDITIVES	YIELD CU.FT./SK.	MIXED LBS./GAL.
	250	50-50	Poz	B	2% Gel 18% Salt .75% CFR-3	1.31	14.3

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Wichita, Kansas

SUMMARY

PRESSURES IN PSI

CIRCULATING _____ DISPLACEMENT _____

BREAKDOWN _____ MAXIMUM 2,000

AVERAGE _____ FRACTURE GRADIENT _____

SHUT-IN: INSTANT _____ 5-MIN. _____ 15-MIN. _____

HYDRAULIC HORSEPOWER

ORDERED _____ AVAILABLE _____ USED _____

AVERAGE RATES IN BPM

TREATING _____ DISPL. _____ OVERALL _____

CEMENT LEFT IN PIPE

FEET 10 REASON Insert

VOLUMES

PRESLUSH: BBL.-GAL. _____ TYPE _____

LOAD & BKDN: BBL.-GAL. _____ PAD: BBL.-GAL. _____

TREATMENT: BBL.-GAL. _____ DISPL: BBL.-GAL. 85.6

CEMENT SLURRY: BBL.-GAL. 58.3

TOTAL VOLUME: BBL.-GAL. _____

REMARKS

See Job Log

CUSTOMER: Pratt Oil

LEASE: Herd

WELL NO. 1

JOB TYPE: 4 1/2 Prod String

DATE 10-23-00

FORM 2025-R4

CUSTOMER

R and W
RAT HOLE DRILLING INC.

Bus. Ph. 316-624-9466
P.O. BOX 1092
LIBERAL, KANSAS 67905-1092
ID. 48-1120187

ORIGINAL

INVOICE

NO. 7242-96

DATE 12-03-96

PAGE 1 of 1

SOLD TO:
R.J. Patrick Operating
P.O. Box 1314
Liberal, KS
67905-1314

SHIP TO:
R.J. Patrick Operating
LEASE: HERD 1-4
ORDERED BY: PAT
DRILLING CO,: DUKE 7

IDC

ITEM NO.	QUANTITY	UNIT	DESCRIPTION	TAX	UNIT PRICE	AMOUNT
		44 FT	30" CONDUCTOR HOLE		13.000	572.00
	20"	40 FT	20" STEEL PIPE		19.000	760.00
		4X4	CELLAR			70.00
			RAT & MOUSE			250.00
		4.5 YDS	6/SACK CONCRETE		100.047	450.21
		3 HRS	WELDING		40.000	120.00
		110 MI	MILEAGE,ONE WAY		2.500	275.00
	Invoice Date					~~2497.21~~
	Invoice Date					2497.21
					less	250.00
						Pay 2247.21

Thank You

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JAN 09 1997

CONSERVATION DIVISION
WICHITA, KANSAS

COMMENTS:

TOTAL ~~2497.21~~

R and W
RAT HOLE DRILLING INC.

Bus. Ph. 316-624-9466
P.O. BOX 1092
LIBERAL, KANSAS 67905-1092
ID. 48-1120187

PAID
12-24-96
#3495

INVOICE

NO. 7247-96

DATE 12-02-96

PAGE 1 of 1

SOLD TO:
R.J. Patrick Operating
P.O. Box 1314
Liberal, KS
67905-1314

SHIP TO:
R.J. Patrick Operating
LEASE: HERD 1-4