

TRILOBITE TESTING, L.L.C.

P.O. Box 362 • Hays, Kansas 67601

Drill-Stem Test Data

#1 POHORALEK

Well Name _____ Test No. 1 Date 5/10/92
Company ABERCROMBIE DRILLING INC Zone ARBuckle
Address 801 UNION CENTER WICHITA KS. 67202 Elevation 2010
Co. Rep./Geo. STEVE FRANKAMP Cont. ABER. #8 Est. Ft. of Pay 4
Location: Sec. 31 Twp. 18S Rge. 17W Co. RUSH State KS

Interval Tested	<u>3706-3767</u>	Drill Pipe Size	<u>4.5 XH</u>
Anchor Length	<u>61</u>	Wt. Pipe I.D. - 2.7 Ft. Run	<u>560</u>
Top Packer Depth	<u>3701</u>	Drill Collar - 2.25 Ft. Run	<u>9.4</u>
Bottom Packer Depth	<u>3706</u>	Mud Wt.	<u>9.4</u> lb/Gal.
Total Depth	<u>3767</u>	Viscosity	<u>44</u>
		Filtrate	<u>12</u>

Tool Open @ 10:09PM Initial Blow WEAK 1/2" BLOW BUILDING TO 5 1/2"

Final Blow WEAK 1/4" BLOW BUILDING TO BOTTOM OF BUCKET IN 34
MINUTES (1/2" BLOW BACK ON SHUTIN)

Recovery - Total Feet 250 Flush Tool? NO

Rec. <u>190</u>	Feet of	<u>GAS IN PIPE</u>
Rec. <u>140</u>	Feet of	<u>CLEAN GASSY OIL 20%GAS/80%OIL</u>
Rec. <u>50</u>	Feet of	<u>OIL CUT MUD 20%OIL/80%MUD</u>
Rec. <u>60</u>	Feet of	<u>SLIGHTLY OIL CUT MUD 10%OIL/90%MUD</u>
Rec. _____	Feet of	_____

BHT 111 °F Gravity 45 °API @ 80 °F Corrected Gravity 43 °API
RW _____ @ _____ °F Chlorides _____ ppm Recovery Chlorides _____ ppm System

(A) Initial Hydrostatic Mud 1898.6 PSI AK1 Recorder No. 13337 Range 3975

(B) First Initial Flow Pressure 31.6 PSI @ (depth) 3766 w / Clock No. 17640

(C) First Final Flow Pressure 63.2 PSI AK1 Recorder No. 22150 Range 3925

(D) Initial Shut-in Pressure 1185.7 PSI @ (depth) 3740 w / Clock No. 19960

(E) Second Initial Flow Pressure 90.9 PSI AK1 Recorder No. _____ Range _____

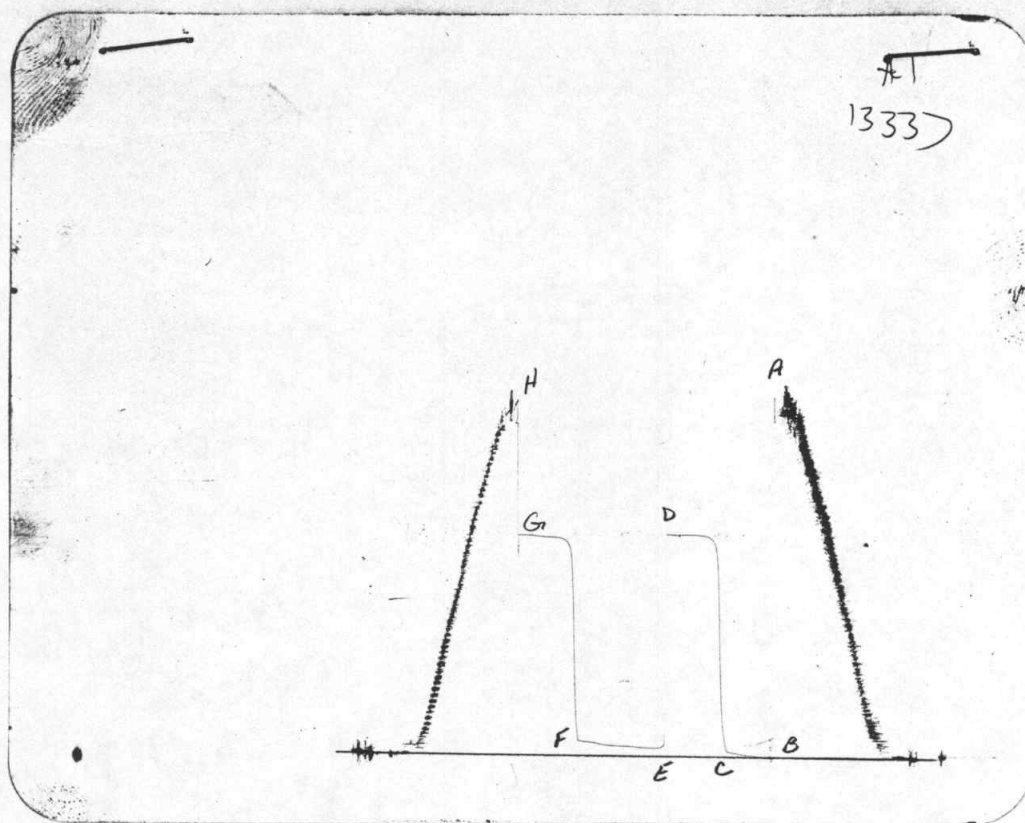
(F) Second Final Flow Pressure 117.8 PSI @ (depth) _____ w / Clock No. _____

(G) Final Shut-in Pressure 1181.8 PSI Initial Opening 30 Final Flow 60

(H) Final Hydrostatic Mud 1890.7 PSI Initial Shut-in 45 Final Shut-in 45

Our Representative PAUL SIMPSON

CHART PAGE



This is an actual photograph of recorder chart

	FIELD READING	OFFICE READING
(A) INITIAL HYDROSTATIC MUD	1892	1898.6
(B) FIRST INITIAL FLOW PRESSURE	29	31.6
(C) FIRST FINAL FLOW PRESSURE	57	63.2
(D) INITIAL CLOSED-IN PRESSURE	1187	1185.7
(E) SECOND INITIAL FLOW PRESSURE	89	90.9
(F) SECOND FINAL FLOW PRESSURE	115	117.8
(G) FINAL CLOSED-IN PRESSURE	1187	1181.8
(H) FINAL HYDROSTATIC MUD	1881	1890.7

CALCULATED RECOVERY ANALYSIS

WEIGHT PIPE

DST #

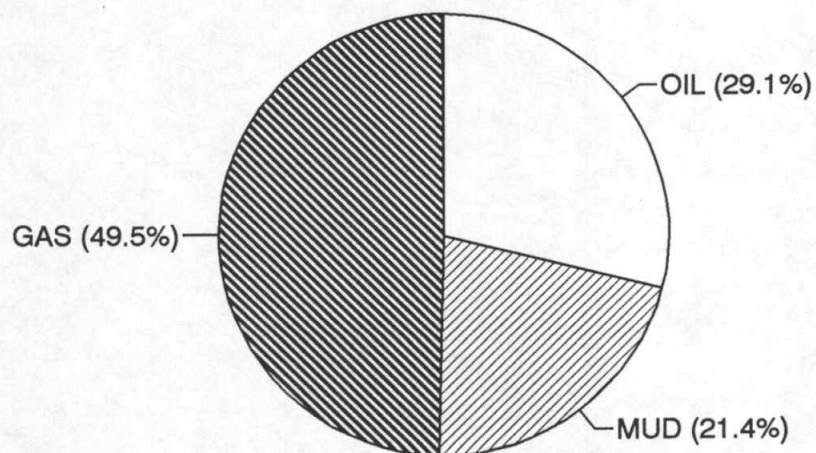
1

TICKET #

4903

SAMPLE #	TOTAL FEET	GAS %	FEET	OIL %	FEET	WATER %	FEET	MUD %	FEET
1	190	100	190		0		0		0
2	140	20	28	80	112		0		0
3	50		0	20	10		0	80	40
4	60		0	10	6		0	90	54
5			0		0		0		0
TOTAL	440	49.55	218	29.090909	128	0	0	21.364	94

			HRS OPEN	BBL/DAY
BBL OIL=	0.896	*	1.5	14.336
BBL WATER=	0	*		0
BBL MUD=	0.658			
BBL GAS=	1.526			



COMPUTER EVALUATION BY TRILOBITE TESTING, L.L.C.

ABERCROMBIE DRILLING INC

POHORALEK

DST 1

31

18S

17W

RUSH

KS

ELEVATION:	2010	KB	EST. PAY	4	FT
DATUM:	-1731		ZONE TESTED:	ARBUCKLE	
TEST INTERVAL:	3706-3767		TIME INTERVALS:	30-45-60-45	
RECORDER DEPTH:	3740		VISCOSITY:	4.329	CP
BOTTOM HOLE TEMP:	111		HOLE SIZE:	7.875	IN

CUBIC FEET OF GAS IN PIPE:	7.41			
TOTAL FEET OF RECOVERY:	250.00	CORRECTED PIPE FILLUP:	335.613	
TOTAL BARRELS OF RECOVERY:	1.75	CORR. BARRELS OF RECOVERY:	2.349	BBL
BARRELS IN DRILL PIPE:	0.00	API GRAVITY:	43	
BARRELS IN WEIGHT PIPE:	1.75	FLUID GRADIENT:	0.351	
BARRELS IN DRILL COLLARS:	0.00			
GAS OIL RATIO:	4.2366	CU.FT/BBL		
BUBBLE POINT PRESSURE:	31.738			
UNCORRECTED INITIAL PRODUCTION:			28.00	BBL
INITIAL PRODUCTION CORRECTED TO FINAL FLOW PRESSURE:			37.59	BBL/DAY
INITIAL PRODUCTION CORRECTED TO PSEUDO STEADY FLOW STATE:			22.539	

INITIAL SLOPE	36.62	PSI/CYCLE	FINAL SLOPE	25.58	PSI/CYCLE
INITIAL P*	1194	PSI	FINAL P*	1194	PSI

TRANSMISSIBILITY	238.93	(MD.-FT./CP.)
PERMEABILITY	258.56	(MD.)
INDICATED FLOW CAPACITY	1034.25	(MD.FT)
PRODUCTIVITY INDEX	0.27	(BARRELS/DAY/PSI)
DAMAGE RATIO	7.70	
RADIUS OF INVESTIGATION	152.55	(FT,)
POTENTIOMETRIC SURFACE	1038.89	(FT.)
DRAWDOWN FACTOR	0.000	(%)
THEORETICAL POTENTIAL FROM FINAL FLOW PRESSURE	289.40	
THEORETICAL POTENTIAL FROM PSEUDO STEADY FLOW STATE	173.53	

INITIAL FLOW

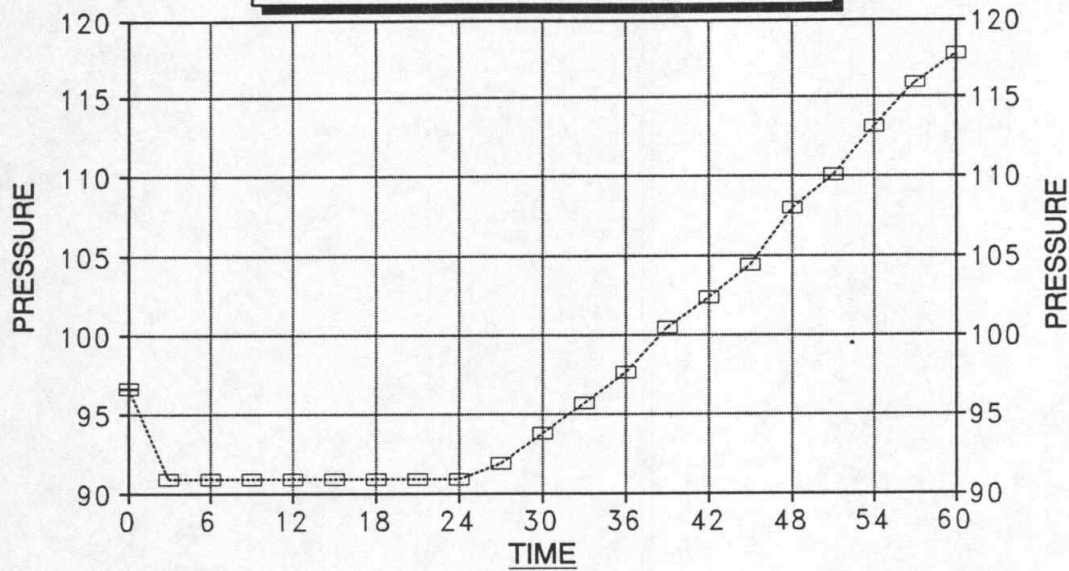
RECORDER #	22150	DST # 1
TIME(MIN)	PRESSURE	<>PRESSURE
0	31.6	31.6
3	31.6	0
6	31.6	0
9	33.5	1.9
12	37.3	3.8
15	45.1	7.8
18	48.8	3.7
21	53.6	4.8
24	57.4	3.8
27	61.3	3.9
30	63.2	1.9

FINAL FLOW

RECORDER #	22150	DST # 1
TIME(MIN)	PRESSURE	<> PRESSURE
0	96.7	96.7
3	90.9	-5.8
6	90.9	0
9	90.9	0
12	90.9	0
15	90.9	0
18	90.9	0
21	90.9	0
24	90.9	0
X 27	91.9	1
30	93.8	1.9
33	95.7	1.9
36	97.7	2
39	100.5	2.8
42	102.4	1.9
45	104.4	2
48	108	3.6
51	110.1	2.1
54	113.1	3
57	115.9	2.8
X 60	117.8	1.9

DELTA T DELTA P

FINAL FLOW - DST #1



---#1 POHORALEK

INITIAL PRODUCTION CORRECTED TO PSEUDO STEADY FLOW STATE:

22.539

#1 POHORALEK
INITIAL

DST #1
SHUTIN
30 FLOW TIME

Slope 36.62 psi/cycle
P * 1194 psi

		Pws (psi)	Log Horn T	<> PRESSURE	Horn T
	3	139.8	1.041	139.8	11
	6	763.5	0.778	623.7	6
	9	1129.3	0.637	365.8	4
	12	1167.2	0.544	37.9	4
	15	1175.1	0.477	7.9	3
	18	1179.8	0.426	4.7	3
	21	1180.8	0.385	1.0	2
	24	1181.8	0.352	1.0	2
	27	1182.8	0.325	1.0	2
X	30	1182.8	0.301	0.0	2
	33	1182.8	0.281	0.0	2
	36	1183.7	0.263	0.9	2
	39	1184.7	0.248	1.0	2
	42	1184.7	0.234	0.0	2
X	45	1185.7	0.222	1.0	2

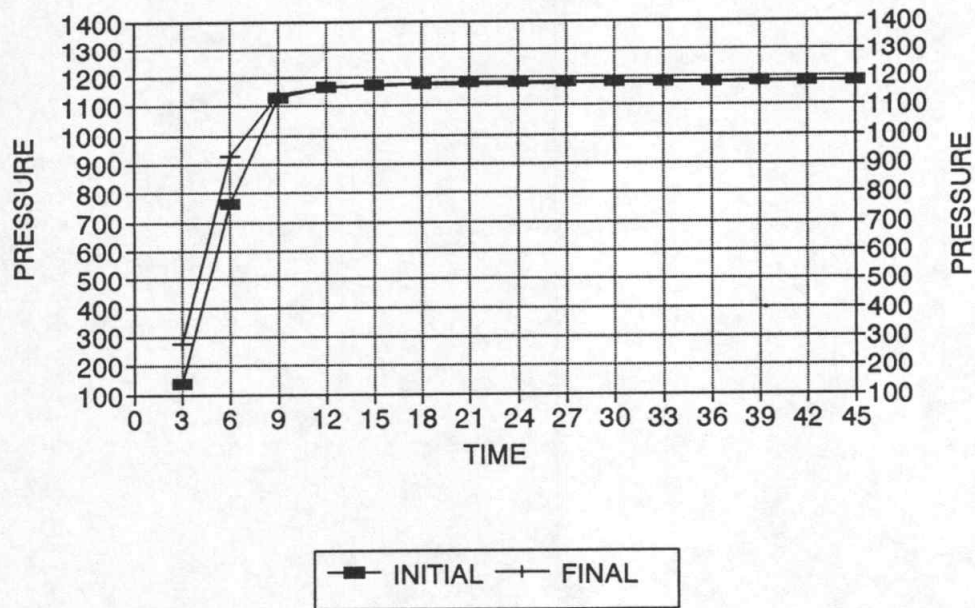
#1 POHORALEK
FINAL

DST #1
SHUTIN
90 TOTAL FLOW TIME

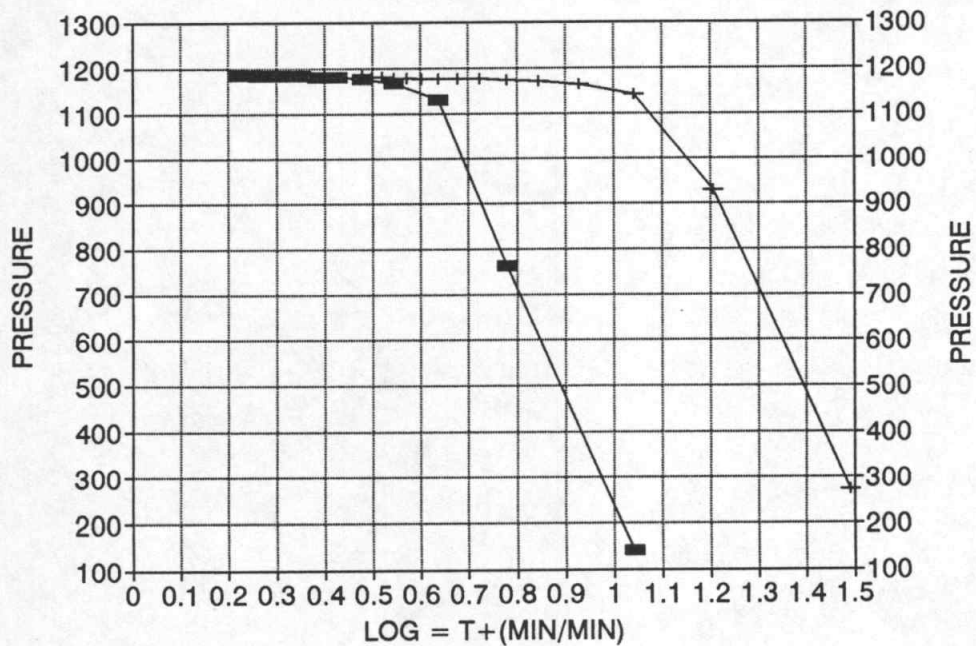
Slope 25.58 psi/cycle
P * 1,194 psi

	TIME(MIN)	Pws (psi)	Log Horn T	<> PRESSURE	Horn T
	3	275.8	1.491	275.8	31
	6	930.2	1.204	654.4	16
	9	1141.9	1.041	211.7	11
	12	1164.3	0.929	22.4	9
	15	1171.1	0.845	6.8	7
	18	1174.1	0.778	3.0	6
	21	1175.1	0.723	1.0	5
	24	1175.9	0.677	0.8	5
	27	1176.9	0.637	1.0	4
	30	1176.9	0.602	0.0	4
	33	1177.9	0.571	1.0	4
	36	1178.9	0.544	1.0	4
	39	1179.8	0.520	0.9	3
	42	1180.8	0.497	1.0	3
X	45	1181.8	0.477	1.0	3

#1 POHORALEK / DST 1 DELTA T DELTA P



HORNER PLOT



TRILOBITE TESTING L.L.C.

P.O. Box 362 • Hays, Kansas 67601

Test Ticket

No 4903

Well Name & No. <u>#1 Pohoralek</u>	Test No. <u>1</u>	Date <u>5-10-92</u>
Company <u>Abercrombie Drly Inc</u>	Zone Tested <u>Arbuckle</u>	
Address <u>801 Union Center Wichita Ks 67202</u>	Elevation <u>2010 K13</u>	
Co. Rep./Geo. <u>Steve Frankamp</u>	Cont. <u>Abercrombie #8</u>	Est. Ft. of Pay <u>4</u>
Location: Sec. <u>31</u> Twp. <u>18s</u> Rge. <u>17w</u> Co. <u>Rush</u> State <u>Ks</u>		
No. of Copies <u>2 + orig</u> Distribution Sheet <u>Yes</u> No <u>Turnkey</u> Yes <u>No</u> Evaluation <u></u>		

Interval Tested <u>3706-3767</u>	Drill Pipe Size <u>4 1/2 XH</u>
Anchor Length <u>61</u>	Top Choke — 1" Bottom Choke — 3/4"
Top Packer Depth <u>3701</u>	Hole Size — 7 7/8" Rubber Size — 6 3/4"
Bottom Packer Depth <u>3706</u>	Wt. Pipe I.D. — 2.7 Ft. Run <u>560</u>
Total Depth <u>3767</u>	Drill Collar — 2.25 Ft. Run
Mud Wt. <u>9.4</u> lb/gal.	Viscosity <u>44</u> Filtrate <u>12.0</u>
Tool Open @ <u>10:09 PM</u> Initial Blow <u>weak 1/2" blow building to 5 1/2"</u>	

Final Blow weak 1/2" blow building to bottom of bucket in 34 minutes (1/2" blow back on shut-in)

Recovery — Total Feet <u>250</u>	Feet of Gas in Pipe <u>190</u>	Flush Tool? <u></u>
Rec. <u>140</u> Feet Of <u>classy oil</u>	<u>20</u> %gas <u>80</u> %oil	%water %mud
Rec. <u>50</u> Feet Of <u>O.C.M.</u>	%gas <u>20</u> %oil	%water <u>80</u> %mud
Rec. <u>60</u> Feet Of <u>SOCM</u>	%gas <u>10</u> %oil	%water <u>90</u> %mud
Rec. <u></u> Feet Of <u></u>	%gas %oil	%water %mud
Rec. <u></u> Feet Of <u></u>	%gas %oil	%water %mud

BHT 111 °F Gravity 45 °API @ 80 °F Corrected Gravity 43 °API

RW @ °F Chlorides ppm Recovery Chlorides ppm System

(A) Initial Hydrostatic Mud <u>1892</u>	PSI AK1 Recorder No. <u>13337</u>	Range <u>3925</u>
(B) First Initial Flow Pressure <u>29</u>	PSI @ (depth) <u>3766</u>	w/Clock No. <u>17640</u>
(C) First Final Flow Pressure <u>57</u>	PSI AK1 Recorder No. <u>22150</u>	Range <u>3925</u>
(D) Initial Shut-In Pressure <u>1187</u>	PSI @ (depth) <u>3740</u>	w/Clock No. <u>19960</u>
(E) Second Initial Flow Pressure <u>89</u>	PSI AK1 Recorder No. <u></u>	Range <u></u>
(F) Second Final Flow Pressure <u>115</u>	PSI @ (depth) <u></u>	w/Clock No. <u></u>
(G) Final Shut-In Pressure <u>1187</u>	PSI Initial Opening <u>30</u>	Test <u></u>
(H) Final Hydrostatic Mud <u>1881</u>	PSI Initial Shut-In <u>45</u>	Jars <u></u>

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Final Flow <u>60</u>	Safety Joint <u></u>
Final Shut-In <u>45</u>	Straddle <u></u>
	Circ. Sub <u></u>
	Sampler <u></u>
	Extra Packer <u></u>
	Other <u></u>

Approved By Steve Frankamp

Our Representative Pat Simpson