

TRILOBITE TESTING, L.L.C.

P.O. Box 362 • Hays, Kansas 67601

Drill-Stem Test Data

Well Name SIDEBOTTOM #2-23 Test No. 1 Date 6/23/93
Company PC PETROLEUM Zone MISS
Address 9319 E HARRY #122 WICHITA KS 67202 Elevation 2495 KB
Co. Rep./Geo. ZEB STEWART Cont. EMPHASIS RIG #7 Est. Ft. of Pay 5
Location: Sec. 33 Twp. 16S Rge. 24W Co. NESS State KS

Interval Tested 4423-4500 Drill Pipe Size 4.5" XH
Anchor Length 77 Wt. Pipe I.D. - 2.7 Ft. Run _____
Top Packer Depth 4418 Drill Collar - 2.25 Ft. Run _____
Bottom Packer Depth 4423 Mud Wt. 9.5 lb/Gal.
Total Depth 4500 Viscosity 45 Filtrate 12.6

Tool Open @ 12:52 Initial Blow 1/2" BLOW BUILDING TO BOTTOM OF BUCKET IN 30 MINUTES

Final Blow WEAK SURFACE BLOW BUILDING TO 9"

Recovery - Total Feet 270 Flush Tool? NO

Rec. 210 Feet of MUD CUT OIL-50% OIL / 50% MUD
Rec. 60 Feet of SLTLY OIL CUT MUD-10% OIL / 90% MUD
Rec. _____ Feet of _____
Rec. _____ Feet of _____
Rec. _____ Feet of _____

BHT 120 °F Gravity _____ °API @ _____ °F Corrected Gravity 38 °API
RW _____ @ _____ °F Chlorides _____ ppm Recovery Chlorides _____ ppm System

(A) Initial Hydrostatic Mud 2322.5 PSI AK1 Recorder No. 22150 Range 3925

(B) First Initial Flow Pressure 88.4 PSI @ (depth) _____ w / Clock No. 31154

(C) First Final Flow Pressure 105.6 PSI AK1 Recorder No. 24174 Range 3050

(D) Initial Shut-in Pressure 1227.9 PSI @ (depth) _____ w / Clock No. 25814

(E) Second Initial Flow Pressure 135.6 PSI AK1 Recorder No. _____ Range _____

(F) Second Final Flow Pressure 154.4 PSI @ (depth) _____ w / Clock No. _____

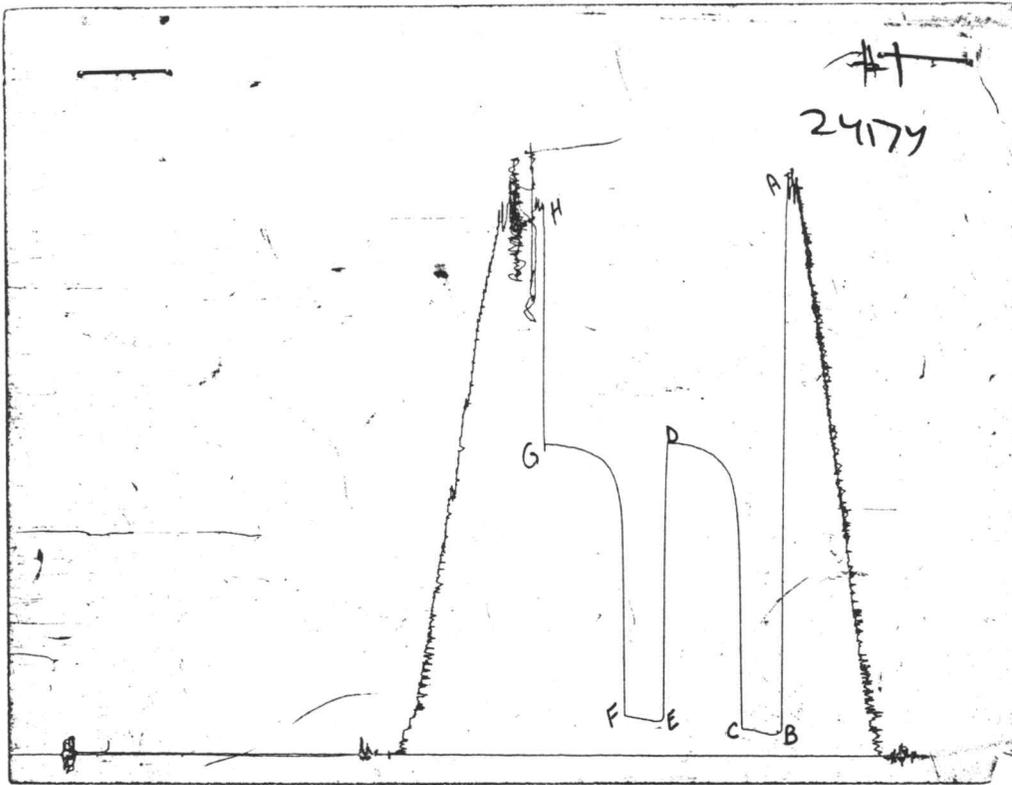
(G) Final Shut-in Pressure 1228.7 PSI Initial Opening 30 Final Flow 30

(H) Final Hydrostatic Mud 2260.4 PSI Initial Shut-in 60 Final Shut-in 60

PAUL SIMPSON

Our Representative _____

CHART PAGE

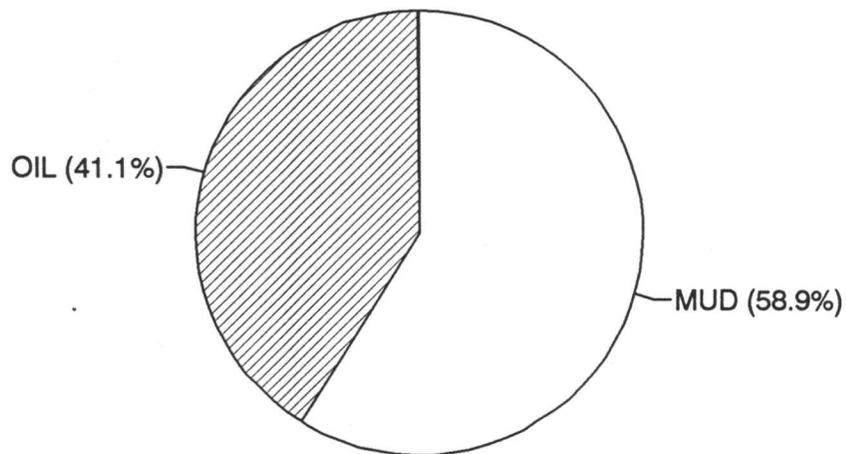


This is an actual photograph of recorder chart

	FIELD READING	OFFICE READING
(A) INITIAL HYDROSTATIC MUD	2316	2322.5
(B) FIRST INITIAL FLOW PRESSURE	74	88.4
(C) FIRST FINAL FLOW PRESSURE	97	105.6
(D) INITIAL CLOSED-IN PRESSURE	1236	1227.9
(E) SECOND INITIAL FLOW PRESSURE	127	135.6
(F) SECOND FINAL FLOW PRESSURE	149	154.4
(G) FINAL CLOSED-IN PRESSURE	1220	1228.7
(H) FINAL HYDROSTATIC MUD	2253	2260.4

CALCULATED RECOVERY ANALYSIS						DRILL	PIPE
DST #	1					TICKET	6010
SAMPLE #	TOTAL FEET	GAS %	OIL FEET	OIL %	WATER FEET	WATER %	MUD FEET
1	210	0	0	50	105	0	50
2	60	0	0	10	6	0	90
3			0		0		0
4			0		0		0
5			0		0		0
TOTAL	270	0	0	41.1	111	0	58.9

		HRS	BBL/DAY
BBL OIL=	1.57842	*	1 37.882
BBL WATER=	0	*	0
BBL MUD=	2.26098		
BBL GAS	0		



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

2 PC PETROLEUM

SIDEBOTTOM #2-23

DST 1

33

16S

24W

NESS KS

ELEVATION:	2495	KB	EST. PAY	5	FT
DATUM:	-2003		ZONE TESTED:	MISS	
TEST INTERVAL:	4423-4500		TIME INTERVALS:	30-60-30-60	
RECORDER DEPTH:	4497		VISCOSITY:	8.41	CP
BOTTOM HOLE TEMP:	120		HOLE SIZE:	7.875	IN

CUBIC FEET OF GAS IN PIPE:	0				
TOTAL FEET OF RECOVERY:	270.00		CORRECTED PIPE FILLUP:	426.519	
TOTAL BARRELS OF RECOVERY:	3.84		CORR. BARRELS OF RECOVERY:	6.058	BBL
BARRELS IN DRILL PIPE:	3.84		API GRAVITY:	38	
BARRELS IN WEIGHT PIPE:	0.00		FLUID GRADIENT:	0.362	
BARRELS IN DRILL COLLARS:	0.00				
GAS OIL RATIO:	0.10		CU.FT/BBL		
BUBBLE POINT PRESSURE:	2				
UNCORRECTED INITIAL PRODUCTION:				92.15	BBL
INITIAL PRODUCTION CORRECTED TO FINAL FLOW PRESSURE:				145.39	BBL/DAY
INITIAL PRODUCTION CORRECTED TO PSEUDO STEADY FLOW STATE:				51.352	

INITIAL SLOPE	177.36	PSI/CYCL	FINAL SLOPE	122.54	PSI/CYCLE
INITIAL P*	1265.05	PSI	FINAL P*	1265.59	PSI

TRANSMISSIBILITY	192.91	(MD.-FT./CP.)
PERMEABILITY	324.45	(MD.)
INDICATED FLOW CAPACITY	1622.25	(MD.FT)
PRODUCTIVITY INDEX	0.22	(BARREL/DAY/PSI)
DAMAGE RATIO	1.66	
RADIUS OF INVESTIGATION	139.52	(FT,)
POTENTIOMETRIC SURFACE	932.90	(FT.)
DRAWDOWN FACTOR	-0.043	(%)
THEORETICAL POTENTIAL FROM FINAL FLOW PRESSURE	241.26	
THEORETICAL POTENTIAL FROM PSEUDO STEADY FLOW STATE	85.22	

INITIAL FLOW

RECORDER 24174

DST # 1

TIME(MIN)	PRESSURE	<> PRESSURE
0	88.4	88.4
3	79.4	-9.0
6	79.4	0.0
9	83.9	4.5
12	85.4	1.5
15	89.9	4.5
18	93.6	3.7
21	97.3	3.7
24	99.6	2.3
27	101.1	1.5
30	105.6	4.5

FINAL FLOW

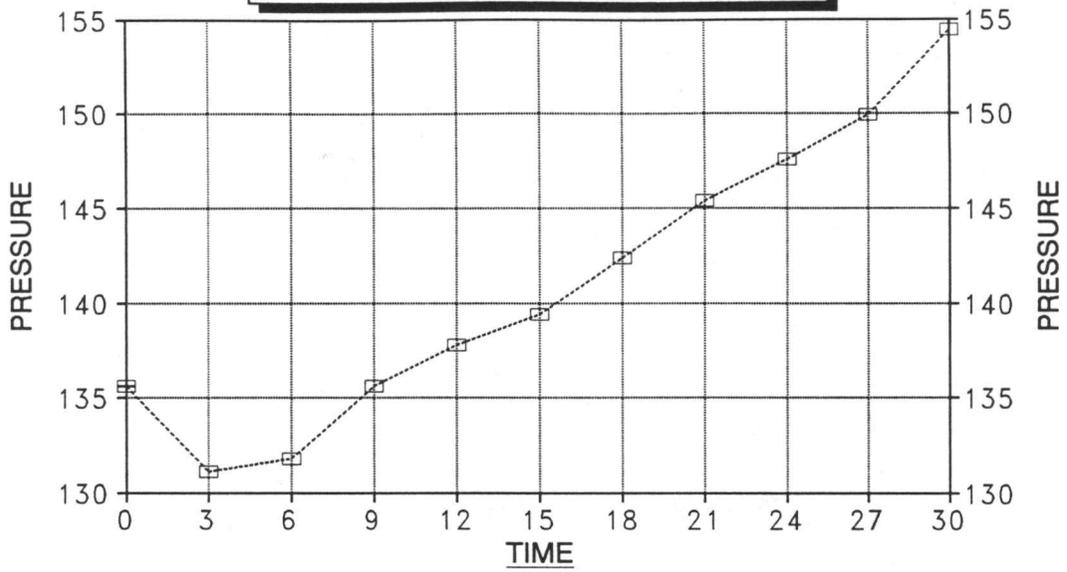
RECORDER 24174

DST # 1

TIME(MIN)	PRESSURE	<> PRESSURE
0	135.6	135.6
3	131.1	-4.5
6	131.8	0.7
9	135.6	3.8
12	137.8	2.2
15	139.4	1.6
18	142.4	3.0
21	145.4	3.0
24	147.6	2.2
27	149.9	2.3
30	154.4	4.5

DELTA T DELTA P

FINAL FLOW / DST #1



---□--- SIDEBOTTOM #2-23

INITIAL PRODUCTION CORRECTED TO PSEUDO STEADY FLOW STATE:

51.352

SIDEBOTTOM #2-23 DST #1
 INITIAL SHUTIN

30 INITIAL FLOW TIME SLOPE 177.4 PSI/CYCLE
 P* 1265.05 PSI

	TIME(MIN)	Pws (psi)	Log Horn T	<> PRESSURE	Horn T
	3	1031.7	1.041	1031.7	11
	6	1077.8	0.778	46.1	6
	9	1119.3	0.637	41.5	4
	12	1141.3	0.544	22.0	4
	15	1159.3	0.477	18.0	3
	18	1177.4	0.426	18.1	3
	21	1189.5	0.385	12.1	2
	24	1196.3	0.352	6.8	2
	27	1203.0	0.325	6.7	2
	30	1209.8	0.301	6.8	2
	33	1212.8	0.281	3.0	2
	36	1220.4	0.263	7.6	2
X	39	1221.1	0.248	0.7	2
	42	1224.2	0.234	3.1	2
	45	1225.7	0.222	1.5	2
	48	1227.9	0.211	2.2	2
	51	1227.9	0.201	0.0	2
X	54	1227.9	0.192	0.0	2

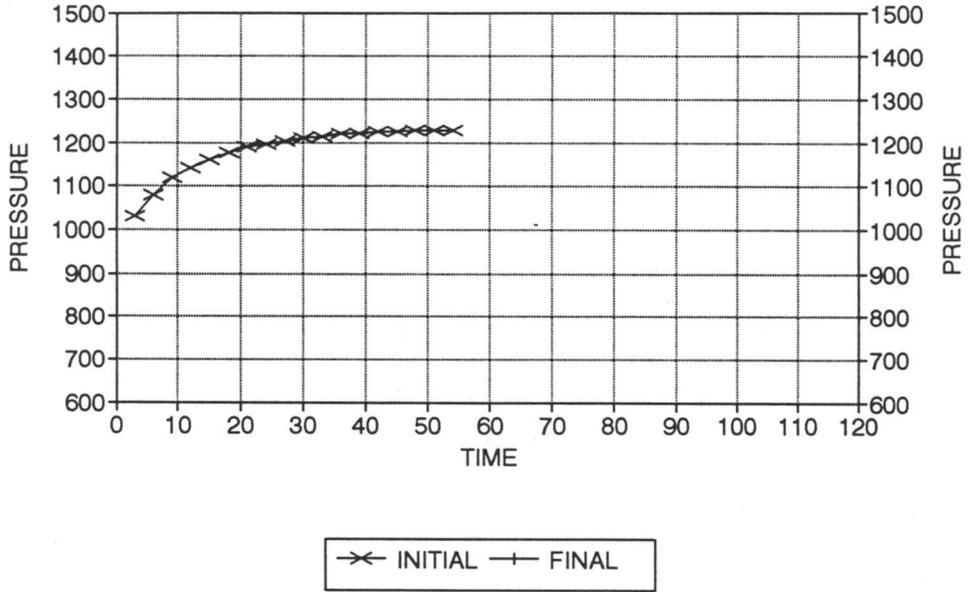
SIDEBOTTOM #2-23 DST #1
FINAL SHUTIN

60 TOTAL FLOW TIME

SLOPE 122.5 PSI/CYCLE
P* 1265.6 PSI

		Log	<>		
	Pws (psi)	Horn T	PRESSURE	Horn T	
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	3	1061.9	1.322	1061.9	21
	6	1101.2	1.041	39.3	11
	9	1132.9	0.885	31.7	8
	12	1152.5	0.778	19.6	6
	15	1167.6	0.699	15.1	5
	18	1178.9	0.637	11.3	4
	21	1186.4	0.586	7.5	4
	24	1193.2	0.544	6.8	4
	27	1201.5	0.508	8.3	3
	30	1206.8	0.477	5.3	3
	33	1209.8	0.450	3.0	3
	36	1215.9	0.426	6.1	3
	39	1217.9	0.405	2.0	3
	42	1219.6	0.385	1.7	2
	45	1221.9	0.368	2.3	2
	48	1223.4	0.352	1.5	2
X	51	1224.2	0.338	0.8	2
	54	1225.7	0.325	1.5	2
	57	1227.2	0.312	1.5	2
X	60	1228.7	0.301	1.5	2

SIDEBOTTOM #2-23 / DST #1 DELTA T DELTA P



HORNER PLOT

