

TRILOBITE TESTING, L.L.C.

P.O. Box 362 • Hays, Kansas 67601

Drill-Stem Test Data

Well Name SIGLE TRUST #1 Test No. 1 Date 7/16/94
Company RUSSELL OIL, INC. Zone LKC
Address P.O. BOX 272 RUSSELL KS 67665 Elevation 1827 GL
Co. Rep./Geo. FRANCIS WHISLER Cont. SHIELDS DRLG Est. Ft. of Pay _____
Location: Sec. 2 Twp. 10S Rge. 12W Co. OSBORNE State KS

Interval Tested <u>3043-3080</u>	Drill Pipe Size <u>4.5" FH</u>
Anchor Length <u>37</u>	Wt. Pipe I.D. - 2.7 Ft. Run <u>882</u>
Top Packer Depth <u>3038</u>	Drill Collar - 2.25 Ft. Run _____
Bottom Packer Depth <u>3043</u>	Mud Wt. <u>8.8</u> lb/Gal.
Total Depth <u>3080</u>	Viscosity <u>48</u> Filtrate _____

Tool Open @ 7:02 A.M. Initial Blow 1/2" BLOW BUILDING TO 7"

Final Blow 1" BLOW BUILDING TO BOTTOM OF BUCKET IN
41 MIN (SURFACE BLOW ON SHUT-IN)

Recovery - Total Feet 100 Flush Tool? NO

Rec. <u>200</u>	Feet of <u>GAS IN PIPE</u>
Rec. <u>100</u>	Feet of <u>MUD CUT OIL 50% OIL/50% MUD</u>
Rec. _____	Feet of _____
Rec. _____	Feet of _____
Rec. _____	Feet of _____

BHT 96 °F Gravity _____ °API @ _____ °F Corrected Gravity _____ °API
RW _____ @ _____ °F Chlorides _____ ppm Recovery Chlorides _____ ppm System

(A) Initial Hydrostatic Mud 1422.5 PSI AK1 Recorder No. 22150 Range 3925

(B) First Initial Flow Pressure 37.7 PSI @ (depth) 3049 w / Clock No. 25109

(C) First Final Flow Pressure 41.4 PSI AK1 Recorder No. 24174 Range 3050

(D) Initial Shut-in Pressure 1111.0 PSI @ (depth) 3076 w / Clock No. 23839

(E) Second Initial Flow Pressure 69.7 PSI AK1 Recorder No. _____ Range _____

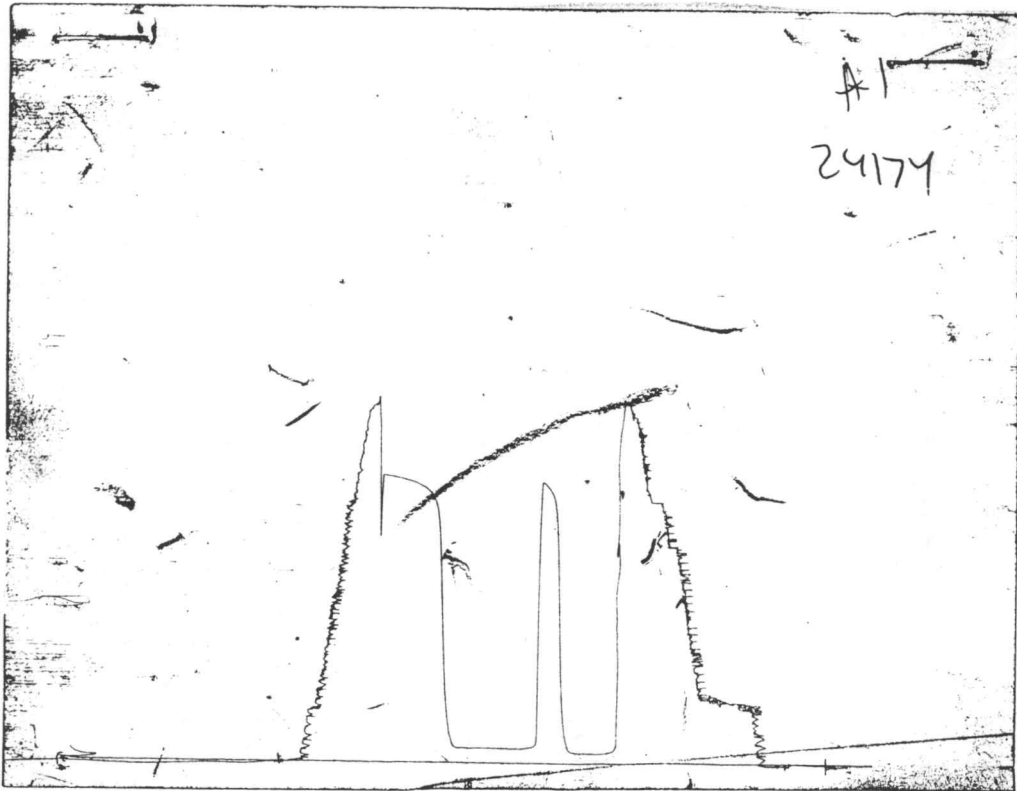
(F) Second Final Flow Pressure 64.5 PSI @ (depth) _____ w / Clock No. _____

(G) Final Shut-in Pressure 1138.2 PSI Initial Opening 30 Final Flow 60

(H) Final Hydrostatic Mud 1442.8 PSI Initial Shut-in 30 Final Shut-in 60

Our Representative PAUL SIMPSON

CHART PAGE



	FIELD READING	OFFICE READING
(A) INITIAL HYDROSTATIC MUD	1439	1422.5
(B) FIRST INITIAL FLOW PRESSURE	37	37.7
(C) FIRST FINAL FLOW PRESSURE	44	41.4
(D) INITIAL CLOSED-IN PRESSURE	1107	1111
(E) SECOND INITIAL FLOW PRESSURE	52	69.7
(F) SECOND FINAL FLOW PRESSURE	59	64.5
(G) FINAL CLOSED-IN PRESSURE	1130	1138.2
(H) FINAL HYDROSTATIC MUD	1432	1442.8

TRILOBITE TESTING, L.L.C.

P.O. Box 362 • Hays, Kansas 67601

Drill-Stem Test Data

Well Name SIGLE TRUST #1 Test No. 2 Date 7/16/94
Company RUSSELL OIL, INC. Zone LKC 'C'
Address P.O. BOX 272 RUSSELL KS 67665 Elevation 1827 GL
Co. Rep./Geo. FRANCIS WHISLER Cont. SHIELDS DRLG Est. Ft. of Pay 6
Location: Sec. 2 Twp. 10S Rge. 12W Co. OSBORNE State KS

Interval Tested	<u>3084-3095</u>	Drill Pipe Size	<u>4.5" FH</u>
Anchor Length	<u>11</u>	Wt. Pipe I.D. - 2.7 Ft. Run	<u>882</u>
Top Packer Depth	<u>3079</u>	Drill Collar - 2.25 Ft. Run	<u> </u>
Bottom Packer Depth	<u>3084</u>	Mud Wt.	<u>8.9</u> lb/Gal.
Total Depth	<u>3095</u>	Viscosity	<u>42</u>
		Filtrate	<u>8</u>

Tool Open @ 5:56 P.M. Initial Blow 1" BLOW BUILDING TO BOTTOM OF BUCKET IN
10 MIN (SURFACE BLOW ON SHUT-IN)

Final Blow 1 1/2" BLOW BUILDING TO BOTTOM OF BUCKET IN 10 MIN

Recovery - Total Feet 220 Flush Tool? NO

Rec. <u>730</u>	Feet of	<u>GAS IN PIPE</u>
Rec. <u>160</u>	Feet of	<u>GASSY OIL 5% GAS/ 95% OIL</u>
Rec. <u>60</u>	Feet of	<u>MUDDY OIL 70% OIL/ 30% MUD</u>
Rec. <u> </u>	Feet of	<u> </u>
Rec. <u> </u>	Feet of	<u> </u>

BHT 96 °F Gravity 36 °API @ 80 °F Corrected Gravity 34 °API
RW @ °F Chlorides ppm Recovery Chlorides ppm System

(A) Initial Hydrostatic Mud 1452.7 PSI AK1 Recorder No. 22150 Range 3925

(B) First Initial Flow Pressure 40.7 PSI @ (depth) 3086 w / Clock No. 25109

(C) First Final Flow Pressure 39.2 PSI AK1 Recorder No. 24174 Range 3050

(D) Initial Shut-in Pressure 1171.4 PSI @ (depth) 3091 w / Clock No. 23839

(E) Second Initial Flow Pressure 64.5 PSI AK1 Recorder No. Range

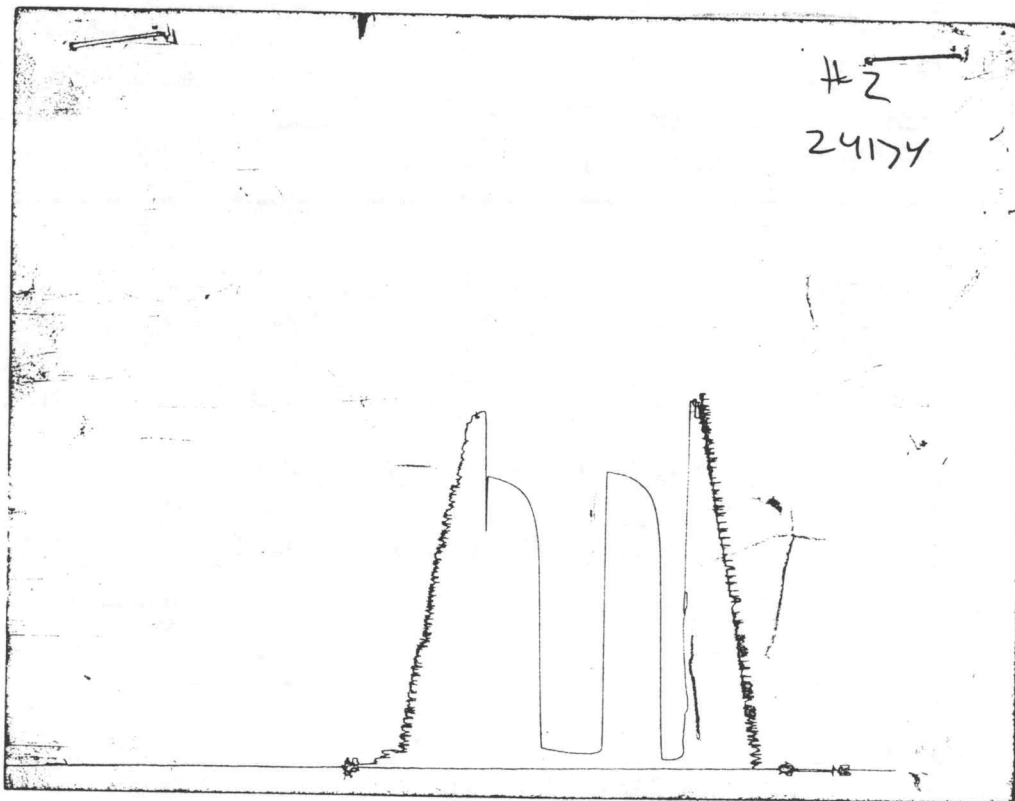
(F) Second Final Flow Pressure 77.9 PSI @ (depth) w / Clock No.

(G) Final Shut-in Pressure 1149.5 PSI Initial Opening 15 Final Flow 45

(H) Final Hydrostatic Mud 1405.1 PSI Initial Shut-in 45 Final Shut-in 45

Our Representative PAUL SIMPSON

CHART PAGE



	FIELD READING	OFFICE READING
(A) INITIAL HYDROSTATIC MUD	1446	1452.7
(B) FIRST INITIAL FLOW PRESSURE	30	40.7
(C) FIRST FINAL FLOW PRESSURE	37	39.2
(D) INITIAL CLOSED-IN PRESSURE	1168	1171.4
(E) SECOND INITIAL FLOW PRESSURE	52	64.5
(F) SECOND FINAL FLOW PRESSURE	74	77.9
(G) FINAL CLOSED-IN PRESSURE	1145	1149.5
(H) FINAL HYDROSTATIC MUD	1409	1405.1

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

RUSSELL OIL, INC.

SIGLE TRUST #1

DST 2

2 10S 12W OSBORNE KS

ELEVATION:	1827 GL KB	EST. PAY	6 FT
DATUM:	-3092	ZONE TESTED:	LKC 'C'
TEST INTERVAL:	3084-3095	TIME INTERVALS:	15-45-45-45
RECORDER DEPTH:	3091	VISCOSITY:	11.45 CP
BOTTOM HOLE TEMP:	96	HOLE SIZE:	7.875 IN

CUBIC FEET OF GAS IN PIPE:	30.84		
TOTAL FEET OF RECOVERY:	212.00	CORRECTED PIPE FILLUP:	210.541
TOTAL BARRELS OF RECOVERY:	1.48	CORR. BARRELS OF RECOVERY:	1.474 BBL
BARRELS IN DRILL PIPE:	0.00	API GRAVITY:	34
BARRELS IN WEIGHT PIPE:	1.48	FLUID GRADIENT:	0.370
BARRELS IN DRILL COLLARS:	0.00		
GAS OIL RATIO:	20.78	CU.FT/BBL	
BUBBLE POINT PRESSURE:	161		
UNCORRECTED INITIAL PRODUCTION:			35.62 BBL
INITIAL PRODUCTION CORRECTED TO FINAL FLOW PRESSURE:			35.36 BBL/DAY
INITIAL PRODUCTION CORRECTED TO PSEUDO STEADY FLOW STATE:			30.754

INITIAL SLOPE	57.84 PSI/CYCL	FINAL SLOPE	51.73 PSI/CYCLE
INITIAL P*	1184.23 PSI	FINAL P*	1168.54 PSI

TRANSMISSIBILITY	111.15 (MD.-FT./CP.)
PERMEABILITY	212.10 (MD.)
INDICATED FLOW CAPACITY	1272.62 (MD.FT)
PRODUCTIVITY INDEX	0.1256 (BARREL/DAY/PSI)
DAMAGE RATIO	3.86
RADIUS OF INVESTIGATION	112.81 (FT,)
POTENTIOMETRIC SURFACE	-381.17 (FT.)
DRAWDOWN FACTOR	1.325 (%)
THEORETICAL POTENTIAL FROM FINAL FLOW PRESSURE	136.44
THEORETICAL POTENTIAL FROM PSEUDO STEADY FLOW STATE	118.65

INITIAL FLOW

RECORDER 24174

DST # 2

TIME(MIN) PRESSURE <>PRESSURE

0	40.7	40.7
3	36.2	-4.5
6	36.2	0.0
9	37.0	0.8
12	38.2	1.2
15	39.2	1.0

FINAL FLOW

RECORDER 24174

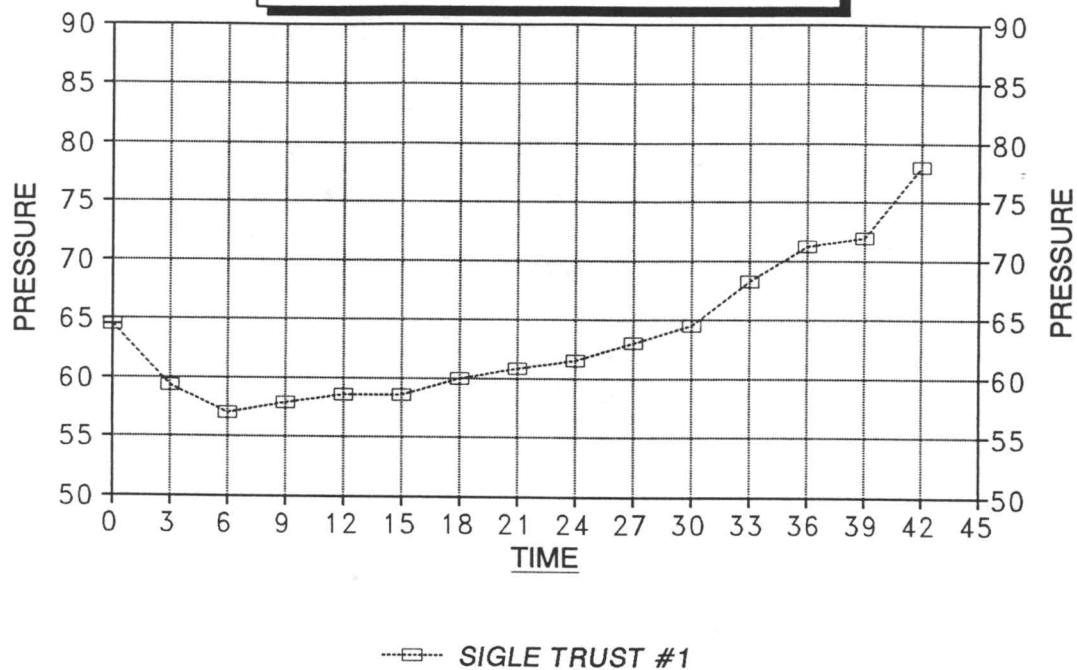
DST # 2

TIME(MIN) PRESSURE <> PRESSURE

0	64.5	64.5
3	59.3	-5.2
6	57.0	-2.3
9	57.8	0.8
12	58.5	0.7
15	58.5	0.0
18	60.0	1.5
21	60.8	0.8
24	61.5	0.7
27	63.0	1.5
30	64.5	1.5
33	68.2	3.7
36	71.2	3.0
39	71.9	0.7
42	77.9	6.0

DELTA T DELTA P

FINAL FLOW / DST #2



INITIAL PRODUCTION CORRECTED TO PSEUDO STEADY FLOW STATE:

30.754

SIGLE TRUST #1
FINAL

DST #2		-----		
SHUTIN				
60	TOTAL FLOW TIME	SLOPE	51.7	PSI/CYCLE
		P*	1168.5	PSI

		Log	<>	
	TIME(MIN)	Pws(psi)	Horn T	PRESSURE
				Horn T

	3	985.8	1.322	985.8
	6	1032.4	1.041	46.6
	9	1064.9	0.885	32.5
	12	1086.8	0.778	21.9
	15	1101.9	0.699	15.1
	18	1112.5	0.637	10.6
	21	1120.8	0.586	8.3
	24	1127.6	0.544	6.8
	27	1132.9	0.508	5.3
	30	1138.9	0.477	6.0
	33	1142.7	0.450	3.8
X	36	1146.5	0.426	3.8
	39	1148.0	0.405	1.5
	42	1148.7	0.385	0.7
X	45	1149.5	0.368	0.8

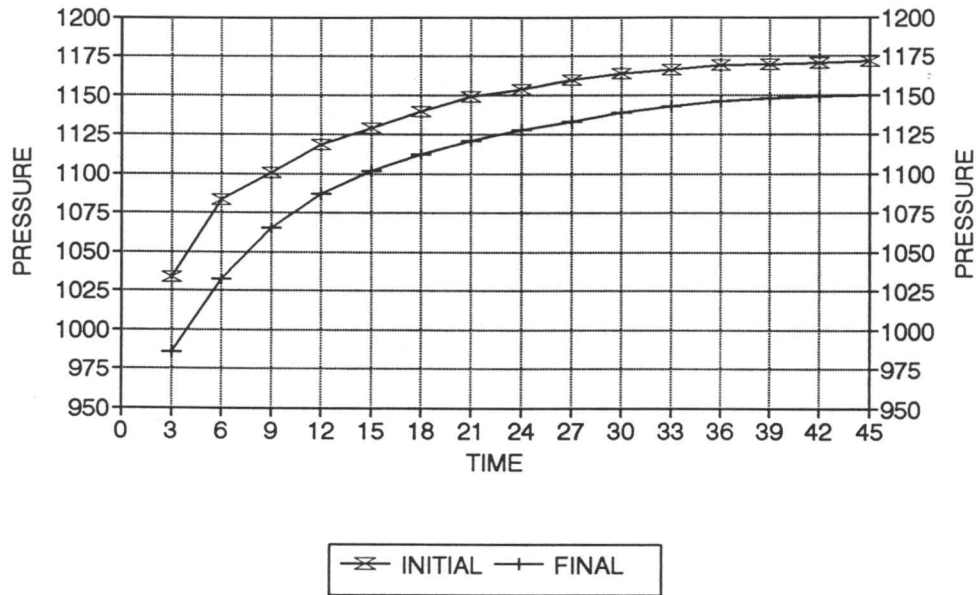
SIGLE TRUST #1
INITIAL

DST #2		-----		
SHUTIN				
30	INITIAL FLOW TIME	SLOPE	57.84	PSI/CYCLE
		P*	1184.23	PSI

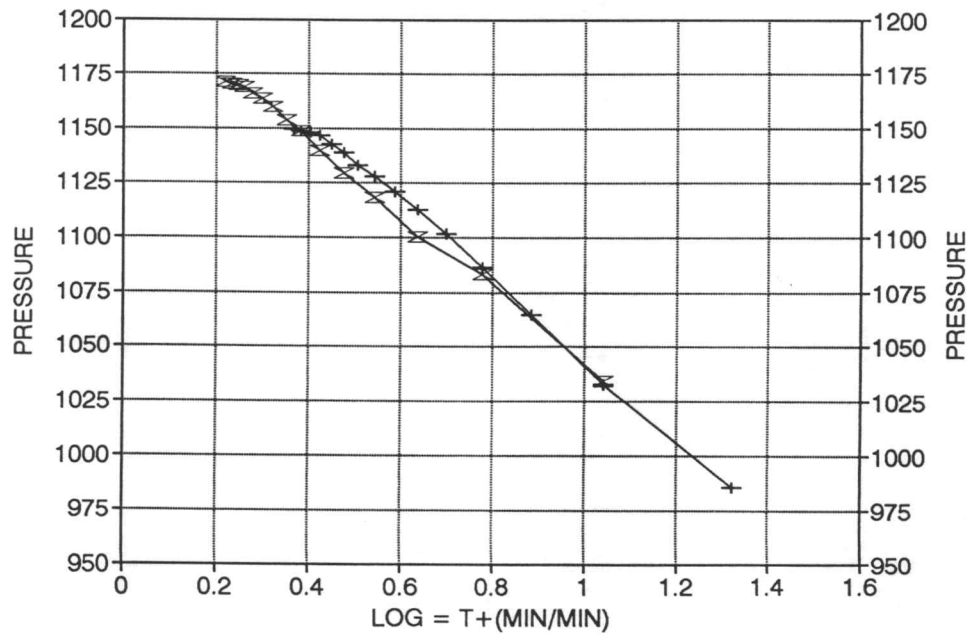
		Log	<>	
	TIME(MIN)	Pws (psi)	Horn T	PRESSURE
				Horn T

	3	1033.9	1.041	1033.9
	6	1083.1	0.778	49.2
	9	1100.4	0.637	17.3
	12	1118.5	0.544	18.1
	15	1129.1	0.477	10.6
	18	1139.7	0.426	10.6
	21	1148.7	0.385	9.0
	24	1154.0	0.352	5.3
	27	1160.0	0.325	6.0
	30	1163.8	0.301	3.8
	33	1166.1	0.281	2.3
	36	1169.1	0.263	3.0
X	39	1169.9	0.248	0.8
	42	1170.6	0.234	0.7
X	45	1171.4	0.222	0.8

SIGLE TRUST #1 DST #2 DELTA T DELTA P



HORNER PLOT



CALCULATED RECOVERY ANALYSIS

WEIGHT PIPE

DST #

2

TICKET #

7092

SAMPLE #	TOTAL FEET	GAS %	FEET	OIL %	FEET	WATER %	FEET	MUD %	FEET
1	160	5	8	95	152		0		0
2	60		0	70	42		0	30	18
3			0		0		0		0
4			0		0		0		0
5			0		0		0		0
TOTAL	220	3.636	8	88.181818	194	0	0	8.1818	18

	HRS OPEN	BBL/DAY
BBL OIL=	1.358	*
BBL WATER=	0	*
BBL MUD=	0.126	
BBL GAS=	0.056	

