TRILOBITE TESTING, L.L.C.

P.O. Box 362 • Hays, Kansas 67601

Drill-Stem Test Data

Well Name: CATHERINE COBERLY A-1 Test No. 1 Date 11/10/93

Company: RUSSELL OIL, INC. Zone KS CITY "I&J

Address: P.O. BOX 272 RUSSELL KS 67665 Elevation 2456

Co. Rep./Geo.: RANDALL KILIAN Cont. SHIELDS DRLG CO Est. Ft. of Pay 6

Location: Sec. 18 Twp. 15S Rge. 28W Co. GOVE State KS

Interval Tested: 3815-3860 Drill Pipe Size: 4.5" FH

Anchor Length: 52 Wt. Pipe I.D. - 2.7 Ft. Run: 881

Top Packer Depth: 3810 Drill Collar – 2.25 Ft. Run:

Bottom Packer Depth: 3815 Mud Wt.: 9.2 lb/Gal.

Total Depth: 3860 Viscosity: 48 Filtrate: 10

Tool Open @ 10:24 AM Initial Blow: STRONG BLOW OFF BOTTOM IN 2 MINUTES

Final Blow: BOTTOM IN 4 MINUTES 30 SECONDS

Recovery - Total Feet: 1430 Flush Tool? NO

Rec. 150 Feet of GAS IN PIPE

Rec. 20 Feet of CLEAN OIL

Rec. 310 Feet of SLTLY OIL & MUD CUT WTR-4% OIL/ 76% WTR/ 20% MUD

Rec. 310 Feet of SLTLY OIL CUT MUDDY WATER-2% OIL/ 88% WTR/ 10% MUD

Rec. 790 Feet of SALT WATER

BHT 119 °F Gravity 38 °API @ 75 °F Corrected Gravity 36.5 °API

RW 0.2 @ 65 °F Chlorides 38000 ppm Recovery Chlorides 3000 ppm System

(A) Initial Hydrostatic Mud 1796.5 PSI AK1 Recorder No. 13308 Range 4700

(B) First Initial Flow Pressure 95.4 PSI @ (depth) 3820 w / Clock No. 17652

(C) First Final Flow Pressure 497.6 PSI AK1 Recorder No. 11057 Range 4500

(D) Initial Shut-in Pressure 728.7 PSI @ (depth) 3865 w / Clock No. 27566

(E) Second Initial Flow Pressure 542.1 PSI AK1 Recorder No. Range

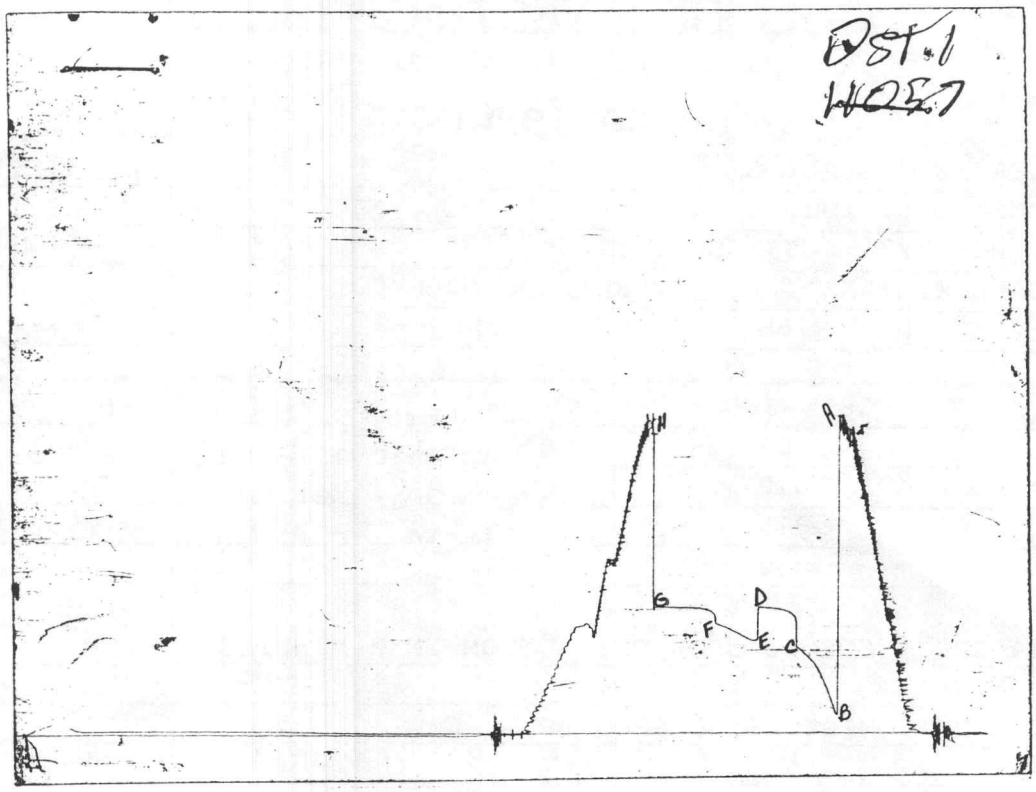
(F) Second Final Flow Pressure 649.8 PSI @ (depth) w / Clock No.

(G) Final Shut-in Pressure 728.7 PSI Initial Opening 30 Final Flow 30

(H) Final Hydrostatic Mud 1766.5 PSI Initial Shut-in 30 Final Shut-in 45

Our Representative MARK HERSKOWITZ

CHART PAGE



This is an actual photograph of recorder chart

	FIELD READING	OFFICE READING
(A) INITIAL HYDROSTATIC MUD	1791	1796.5
(B) FIRST INITIAL FLOW PRESSURE	89	95.4
(C) FIRST FINAL FLOW PRESSURE	493	497.6
(D) INITIAL CLOSED-IN PRESSURE	727	728.7
(E) SECOND INITIAL FLOW PRESSURE	537	542.1
(F) SECOND FINAL FLOW PRESSURE	637	649.8
(G) FINAL CLOSED-IN PRESSURE	727	728.7
(H) FINAL HYDROSTATIC MUD	1769	1766.5

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Drill-Stem Test Data

Well Name CATHERINE COBERLY A-1 Test No. 2 Date 11/11/93

Company RUSSELL OIL, INC. Zone KS CITY "K&L

Address P.O. BOX 272 RUSSELL KS 67665 Elevation 2456

Co. Rep./Geo. RANDALL KILIAN Cont. SHIELDS DRLG CO Est. Ft. of Pay

Location: Sec. 18 Twp. 15S Rge. 28W Co. GOVE State KS

Interval Tested 3869-3950 Drill Pipe Size 4.5" FH

Anchor Length 81 Wt. Pipe I.D. - 2.7 Ft. Run 819

Top Packer Depth 3864 Drill Collar – 2.25 Ft. Run

Bottom Packer Depth 3869 Mud Wt. 9.2 lb/Gal.

Total Depth 3950 Viscosity 54 Filtrate 10

Tool Open @ 5:01 AM Initial Blow STRONG BLOW OFF BOTTOM IN 1 MINUTE 30 SECONDS

Final Blow GOOD BLOW OFF BOTTOM IN 3 MINUTES 30 SECONDS

Recovery - Total Feet 1338 Flush Tool? NO

Rec. 90 Feet of GAS IN PIPE

Rec. 496 Feet of SLTLY OIL CUT WATERY MUD-2% OIL/ 30% WTR/ 68% MUD

Rec. 842 Feet of SALT WATER

Rec. Feet of

Rec. Feet of

BHT 122 °F Gravity °API @ °F Corrected Gravity °API

RW 0.2 @ 70 °F Chlorides 34000 ppm Recovery Chlorides 3000 ppm System

(A) Initial Hydrostatic Mud 1945.8 PSI AK1 Recorder No. 13308 Range 4700

(B) First Initial Flow Pressure 156.9 PSI @ (depth) 3871 w / Clock No. 17652

(C) First Final Flow Pressure 515.8 PSI AK1 Recorder No. 11057 Range 4500

(D) Initial Shut-in Pressure 774.7 PSI @ (depth) 3945 w / Clock No. 27566

(E) Second Initial Flow Pressure 549.2 PSI AK1 Recorder No. Range

(F) Second Final Flow Pressure 658.1 PSI @ (depth) w / Clock No.

(G) Final Shut-in Pressure 776.9 PSI Initial Opening 30 Final Flow 30

(H) Final Hydrostatic Mud 1915.8 PSI Initial Shut-in 30 Final Shut-in 30

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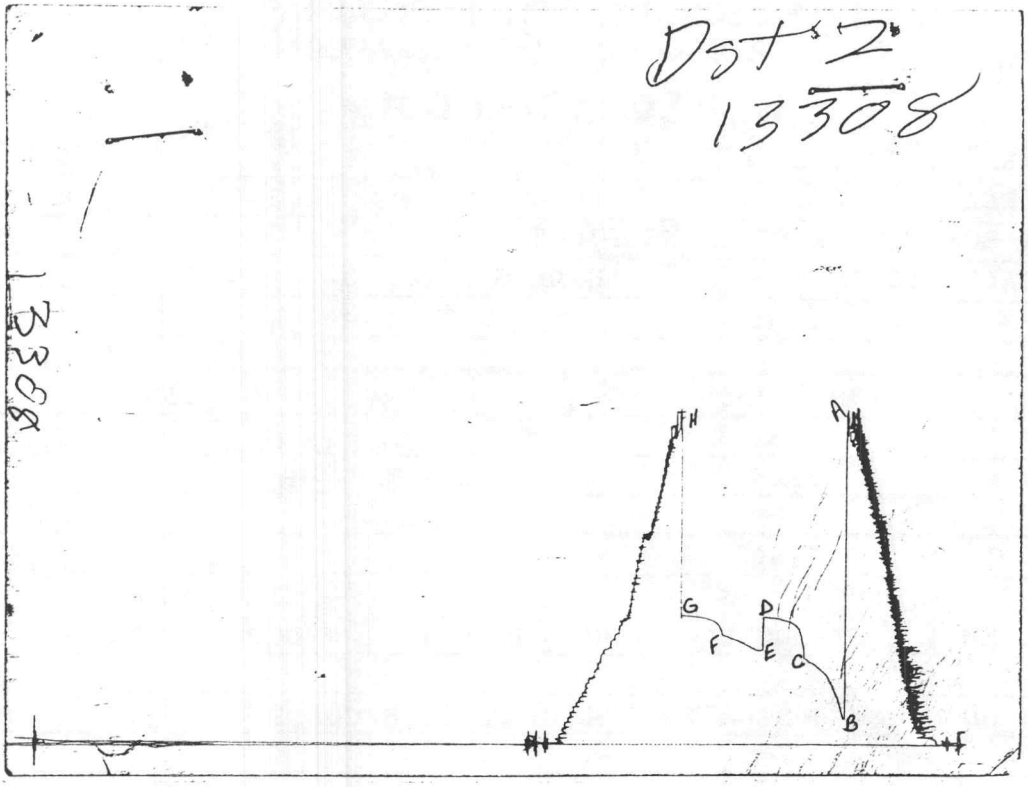
CHART PAGE



This is an actual photograph of recorder chart

	FIELD READING	OFFICE READING
(A) INITIAL HYDROSTATIC MUD	1938	1945.8
(B) FIRST INITIAL FLOW PRESSURE	145	156.9
(C) FIRST FINAL FLOW PRESSURE	513	515.8
(D) INITIAL CLOSED-IN PRESSURE	771	774.7
(E) SECOND INITIAL FLOW PRESSURE	548	549.2
(F) SECOND FINAL FLOW PRESSURE	654	658.1
(G) FINAL CLOSED-IN PRESSURE	771	776.9
(H) FINAL HYDROSTATIC MUD	1914	1915.8

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Drill-Stem Test Data

Well Name CATHERINE COBERLY A-1 Test No. 3 Date 11/12/93

Company RUSSELL OIL, INC. Zone MARMATON

Address P.O. BOX 272 RUSSELL KS 67665 Elevation 2456

Co. Rep./Geo. RANDALL KILIAN Cont. SHIELDS DRLG CO Est. Ft. of Pay

Location: Sec. 18 Twp. 15S Rge. 28W Co. GOVE State KS

Interval Tested 3994-4060 Drill Pipe Size 4.5" FH

Anchor Length 66 Wt. Pipe I.D. - 2.7 Ft. Run 881

Top Packer Depth 3989 Drill Collar – 2.25 Ft. Run

Bottom Packer Depth 3994 Mud Wt. 9.1 lb/Gal.

Total Depth 4060 Viscosity 50 Filtrate 14.4

Tool Open @ 2:24 AM Initial Blow PACKER FAILURE - NO PACKER SEAT

Final Blow NO GOOD SECOND TIME

Recovery - Total Feet 586 Flush Tool? NO

Rec. 586 Feet of MUD

Rec. Feet of

Rec. Feet of

Rec. Feet of

Rec. Feet of

BHT 118 °F Gravity °API @ °F Corrected Gravity °API

RW @ °F Chlorides ppm Recovery Chlorides 5000 ppm System

(A) Initial Hydrostatic Mud 2003.2 PSI AK1 Recorder No. 13308 Range 4700

(B) First Initial Flow Pressure 315.4 PSI @ (depth) 3996 w / Clock No. 17652

(C) First Final Flow Pressure PSI AK1 Recorder No. 11057 Range 4500

(D) Initial Shut-in Pressure PSI @ (depth) 4055 w / Clock No. 27566

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

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

(G) Final Shut-in Pressure PSI Initial Opening 2 Final Flow

(H) Final Hydrostatic Mud 1976.5 PSI Initial Shut-in Final Shut-in

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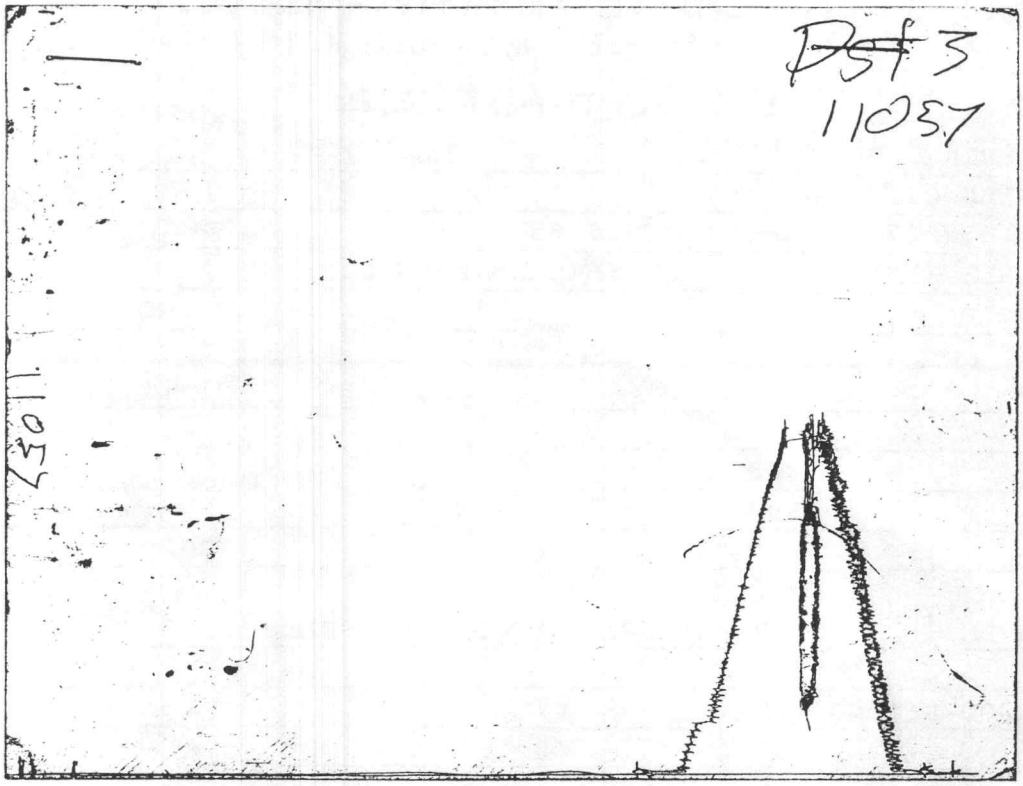
CHART PAGE



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	FIELD READING	OFFICE READING
(A) INITIAL HYDROSTATIC MUD	2009	2003.2
(B) FIRST INITIAL FLOW PRESSURE	312	315.4
(C) FIRST FINAL FLOW PRESSURE		
(D) INITIAL CLOSED-IN PRESSURE		
(E) SECOND INITIAL FLOW PRESSURE		
(F) SECOND FINAL FLOW PRESSURE		
(G) FINAL CLOSED-IN PRESSURE		
(H) FINAL HYDROSTATIC MUD	1973	1976.5

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Drill-Stem Test Data

Well Name CATHERINE COBERLY A-1 Test No. 4 Date 11/12/93

Company RUSSELL OIL, INC. Zone MARMATON

Address P.O. BOX 272 RUSSELL KS 67665 Elevation 2456

Co. Rep./Geo. RANDALL KILIAN Cont. SHIELDS DRLG CO Est. Ft. of Pay

Location: Sec. 18 Twp. 15S Rge. 28W Co. GOVE State KS

Interval Tested 3987-4060 Drill Pipe Size 4.5" FH

Anchor Length 73 Wt. Pipe I.D. - 2.7 Ft. Run 881

Top Packer Depth 3982 Drill Collar – 2.25 Ft. Run

Bottom Packer Depth 3987 Mud Wt. 9.1 lb/Gal.

Total Depth 4060 Viscosity 50 Filtrate 14.4

Tool Open @ 6:03 AM Initial Blow WEAK TO SURFACE TO 1" IN 30 MINUTES

Final Blow NO BLOW

Recovery - Total Feet 20 Flush Tool? NO

Rec. 40 Feet of GAS IN PIPE

Rec. 20 Feet of SLTLY OIL STAINED MUD

Rec. Feet of

Rec. Feet of

Rec. Feet of

BHT 120 °F Gravity °API @ °F Corrected Gravity °API

RW @ °F Chlorides ppm Recovery Chlorides 5000 ppm System

(A) Initial Hydrostatic Mud 2006.5 PSI AK1 Recorder No. 13308 Range 4700

(B) First Initial Flow Pressure 64.3 PSI @ (depth) 3990 w / Clock No. 17652

(C) First Final Flow Pressure 77.6 PSI AK1 Recorder No. 11057 Range 4500

(D) Initial Shut-in Pressure 114.3 PSI @ (depth) 4055 w / Clock No. 27566

(E) Second Initial Flow Pressure 75.4 PSI AK1 Recorder No. Range

(F) Second Final Flow Pressure 75.4 PSI @ (depth) w / Clock No.

(G) Final Shut-in Pressure 88.7 PSI Initial Opening 30 Final Flow 15

(H) Final Hydrostatic Mud 1988.7 PSI Initial Shut-in 30 Final Shut-in 15

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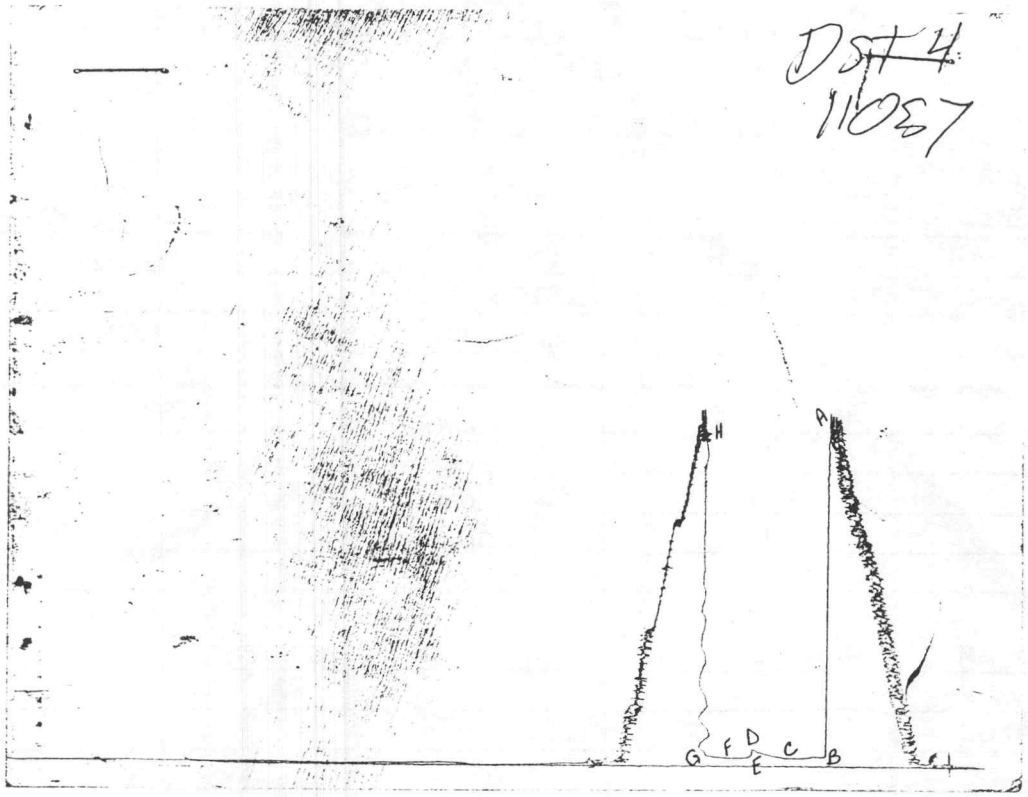
CHART PAGE



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	FIELD READING	OFFICE READING
(A) INITIAL HYDROSTATIC MUD	2009	2006.5
(B) FIRST INITIAL FLOW PRESSURE	60	64.3
(C) FIRST FINAL FLOW PRESSURE	72	77.6
(D) INITIAL CLOSED-IN PRESSURE	109	114.3
(E) SECOND INITIAL FLOW PRESSURE	72	75.4
(F) SECOND FINAL FLOW PRESSURE	72	75.4
(G) FINAL CLOSED-IN PRESSURE	85	88.7
(H) FINAL HYDROSTATIC MUD	1985	1988.7