

TRILOBITE TESTING COMPANY

P.O. Box 362 • Hays, Kansas 67601

Computer inventoried

Drill-Stem Test Data

Well Name J. A. HEFFERNAN #3 Test No. 1 Date 6/13/91
Company HALIWOOD PETROLEUM INC Zone Tested TARKIO
Address 4587 S ULSTER ST PRKSWY DENVER CO Elevation 1753 GL
Co. Rep./Geo. MR TIM MUSGROVE Cont. ALLEN #3 Est. Ft. of Pay _____
Location: Sec. 4 Twp. 15S Rge. 13W Co. RUSSELL State KS

Interval Tested 2288-2415 Drill Pipe Size 4.5 XH
Anchor Length 127 Wt. Pipe I.D. - 2.7 Ft. Run _____
Top Packer Depth 2283 Drill Collar - 2.25 Ft. Run _____
Bottom Packer Depth 2288
Total Depth 2415

Mud Wt. 8.8 lb / gal. Viscosity 39 Filtrate 9.2

Tool Open @ 10:00 AM Initial Blow VERY GOOD THROUGHOUT FLOW PERIOD

Final Blow GOOD-DECREASING TO VERY WEAK IN ONE HOUR

Recovery - Total Feet 1900 Flush Tool? NO

Rec. 1900 Feet of MUDDY WATER

Rec. _____ Feet of _____

Rec. _____ Feet of _____

Rec. _____ Feet of _____

Rec. _____ Feet of _____

BHT 92 °F Gravity _____ °API @ _____ °F Corrected Gravity _____ °API

RW 0.17 @ 85 °F Chlorides 35000 ppm Recovery Chlorides 4000 ppm System

(A) Initial Hydrostatic Mud 1132.5 PSI AK1 Recorder No. 13851 Range 4425

(B) First Initial Flow Pressure 564.2 PSI @ (depth) 2380 w/Clock No. 31154

(C) First Final Flow Pressure 721.4 PSI AK1 Recorder No. 13850 Range 4225

(D) Initial Shut-In Pressure 956.8 PSI @ (depth) 2415 w/Clock No. 27585

(E) Second Initial Flow Pressure 801.3 PSI AK1 Recorder No. _____ Range _____

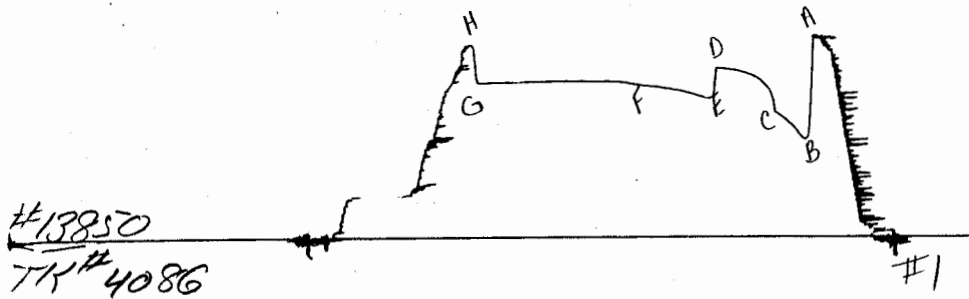
(F) Second Final Flow Pressure 864.3 PSI @ (depth) _____ w/Clock No. _____

(G) Final Shut-In Pressure 880.6 PSI Initial Opening 30 Final Flow 60

(H) Final Hydrostatic Mud 1120.4 PSI Initial Shut-In 45 Final Shut-In 120

Our Representative MR HARRY SCHMIDT

TOTAL PRICE \$ 600



POINT This is an actual photograph of recorder chart PRESSURE

	FIELD READING	OFFICE READING
(A) INITIAL HYDROSTATIC MUD	1123	1132.5
(B) FIRST INITIAL FLOW PRESSURE	554	564.2
(C) FIRST FINAL FLOW PRESSURE	718	721.4
(D) INITIAL CLOSED-IN PRESSURE	947	956.8
(E) SECOND INITIAL FLOW PRESSURE	794	801.3
(F) SECOND FINAL FLOW PRESSURE	860	864.3
(G) FINAL CLOSED-IN PRESSURE	871	880.6
(H) FINAL HYDROSTATIC MUD	1123	1120.4

Test Ticket

No 4086

Well Name & No. J. A. HEFFERNAN #3 Test No. ONE Date 6-13-91
 Company HALLWOOD PET. INC. Zone Tested MARKIO
 Address 4582 S. ULSTER ST. PARKWAY #100 DENVER 80257 Elevation 1753 G.L.
 Co. Rep./Geo. JIM MUSGROVE Cont. ALLEN #3 Est. Ft. of Pay _____
 Location: Sec. 4 Twp. 15-S Rge. 13-W Co. RUSSELL State KS
 No. of Copies 5 Distribution Sheet _____ Yes _____ No (X) Turnkey _____ Yes _____ No (X) Evaluation _____

Interval Tested 2288 to 2415 Drill Pipe Size 4 1/2" X 17.
 Anchor Length 127' Top Choke — 1" _____ Bottom Choke — 3/4" _____
 Top Packer Depth 2283 Hole Size — 7 7/8" _____ Rubber Size — 6 3/4" _____
 Bottom Packer Depth 2288 Wt. Pipe I.D. — 2.7 Ft. Run _____
 Total Depth 2415 Drill Collar — 2.25 Ft. Run _____
 Mud Wt. 8.8 lb/gal. Viscosity 39 Filtrate 9-2
 Tool Open @ 10:30 A Initial Blow VERY GOOD THROUGHOUT I.P.

Final Blow GOOD DECREASING TO VERY WEAK IN 1 1/2"

Recovery — Total Feet 1900 Feet of Gas In Pipe _____ Flush Tool? NO

Rec.	Feet Of	%gas	%oil	%water	%mud
<u>1900</u>	<u>muddy water</u>				
_____	_____				
_____	_____				
_____	_____				
_____	_____				

BHT 92° °F Gravity _____ °API @ _____ °F Corrected Gravity _____ °API

RW 0.17 @ 85 °F Chlorides 35,000 ppm Recovery Chlorides 4000 ppm System

- (A) Initial Hydrostatic Mud 1123 PSI AK1 Recorder No. 13851 Range 4425
- (B) First Initial Flow Pressure 554 PSI @ (depth) 2380 w/Clock No. 21154
- (C) First Final Flow Pressure 718 PSI AK1 Recorder No. 13850 Range 4225
- (D) Initial Shut-In Pressure 947 PSI @ (depth) 2415 w/Clock No. 22585
- (E) Second Initial Flow Pressure 794 PSI AK1 Recorder No. _____ Range _____
- (F) Second Final Flow Pressure 860 PSI @ (depth) _____ w/Clock No. _____
- (G) Final Shut-In Pressure 871 PSI Initial Opening 30 Test 550
- (H) Final Hydrostatic Mud 1123 PSI Initial Shut-In 45 Jars _____

TRILOBITE TESTING COMPANY SHALL NOT BE LIABLE FOR DAMAGE OF ANY KIND OF THE PROPERTY OR PERSONNEL OF THE ONE FOR WHOM A TEST IS MADE, OR FOR ANY LOSS SUFFERED OR SUBSTAINED, DIRECTLY OR INDIRECTLY, THROUGH THE USE OF ITS EQUIPMENT, OR ITS STATEMENTS OR OPINION CONCERNING THE RESULTS OF ANY TEST. TOOLS LOST OR DAMAGED IN THE HOLE SHALL BE PAID FOR AT COST BY THE PARTY FOR WHOM THE TEST IS MADE.

Final Flow 60 Safety Joint 50
Final Shut-In 120 Straddle _____

Approved By Jim Musgrove
Our Representative [Signature]

Circ. Sub _____
Sampler _____
Extra Packer _____
Other _____
TOTAL PRICE \$ 600.00

TRILOBITE TESTING COMPANY

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Drill-Stem Test Data

Well Name J. A. HEFFERNAN #3 Test No. 2 Date 6/14/91
Company HALLWOOD PETROLEUM INC. Zone Tested LANS-KS CITY
Address 4582 S ULSTER ST PRKSWY DENVER CO Elevation 1753 GL
Co. Rep./Geo. MR JIM MUSGROVE Cont. ALLEN #3 Est. Ft. of Pay _____
Location: Sec. 4 Twp. 15S Rge. 13W Co. RUSSELL State KS

Interval Tested 2956-2990 Drill Pipe Size 4.5 XH
Anchor Length 34 Wt. Pipe I.D. - 2.7 Ft. Run _____
Top Packer Depth 2951 Drill Collar - 2.25 Ft. Run 120
Bottom Packer Depth 2956
Total Depth 2990

Mud Wt. 9.1 lb / gal. Viscosity 43 Filtrate 10.4

Tool Open @ 11:45 PM Initial Blow WEAK TO FAIR 2" IN WATER

Final Blow SAME AS INITIAL

Recovery — Total Feet 136 Flush Tool? NO

Rec. 1 Feet of OIL

Rec. 15 Feet of OIL SPOTTED MUDDY WATER

Rec. 120 Feet of WATER

Rec. _____ Feet of _____

Rec. _____ Feet of _____

BHT 104 °F Gravity _____ °API @ _____ °F Corrected Gravity _____ °API

RW 0.23 @ 75 °F Chlorides 28000 ppm Recovery Chlorides 7000 ppm System

(A) Initial Hydrostatic Mud 1533.6 PSI AK1 Recorder No. 13851 Range 4425

(B) First Initial Flow Pressure 32.6 PSI @ (depth) 2961 w/Clock No. 31154

(C) First Final Flow Pressure 54.8 PSI AK1 Recorder No. 13850 Range 4225

(D) Initial Shut-in Pressure 837.2 PSI @ (depth) 2990 w/Clock No. 27585

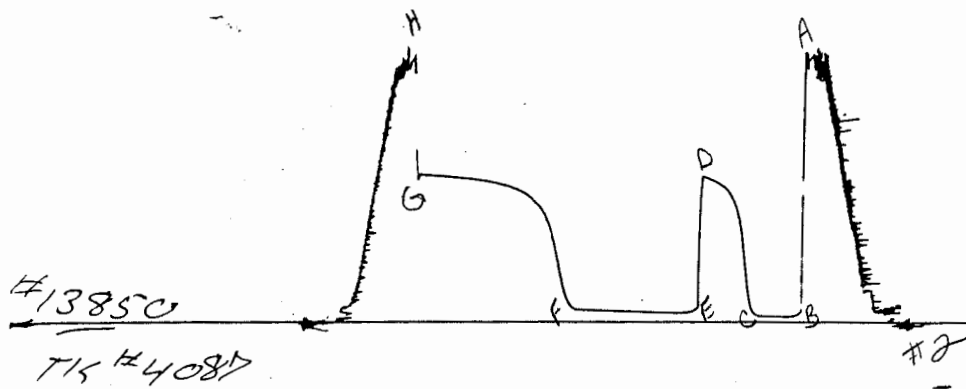
(E) Second Initial Flow Pressure 54.8 PSI AK1 Recorder No. _____ Range _____

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

(G) Final Shut-in Pressure 837.2 PSI Initial Opening 30 Final Flow 90

(H) Final Hydrostatic Mud 1529.6 PSI Initial Shut-in 45 Final Shut-in 120

Our Representative MR HARRY SCHMIDT TOTAL PRICE \$ 600



POINT

This is an actual photograph of recorder chart
PRESSURE

	FIELD READING	OFFICE READING
(A) INITIAL HYDROSTATIC MUD	1530	1533.6
(B) FIRST INITIAL FLOW PRESSURE	30	32.6
(C) FIRST FINAL FLOW PRESSURE	50	54.8
(D) INITIAL CLOSED-IN PRESSURE	827	837.2
(E) SECOND INITIAL FLOW PRESSURE	50	54.8
(F) SECOND FINAL FLOW PRESSURE	70	77.9
(G) FINAL CLOSED-IN PRESSURE	827	837.2
(H) FINAL HYDROSTATIC MUD	1530	1529.6

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Test Ticket

No. 4087

Well Name & No. J. A. HERRERMAN #3 Test No. TWO Date 6-14-91
 Company HALLWOOD PET. INC. Zone Tested ERC-C
 Address 4582 S. ULSTER ST. PARKWAY #1700 DRIVEWAY Elevation 1753 GL.
 Co. Rep./Geo. JIM MUSGROVE Cont. ALLEN #3 Est. Ft. of Pay _____
 Location: Sec. 4 Twp. 15S Rge. 13W Co. RUSSELL State KS
 No. of Copies 5 Distribution Sheet _____ Yes _____ No Turnkey _____ Yes _____ No Evaluation _____

Interval Tested 2956 TO 2990 Drill Pipe Size 4 1/2" X 17-
 Anchor Length 34' Top Choke — 1" _____ Bottom Choke — 1/4" _____
 Top Packer Depth 2951 Hole Size — 7 7/8" _____ Rubber Size — 6 3/4" _____
 Bottom Packer Depth 2956 Wt. Pipe I.D. — 2.7 Ft. Run _____
 Total Depth 2990 Drill Collar — 2.25 Ft. Run 120'
 Mud Wt. 9.1 lb/gal. Viscosity 43 Filtrate 10-4
 Tool Open @ 11:45 P Initial Blow WEAR TO PAIR 2" IN WATER

Final Blow SAME AS INITIAL

Recovery — Total Feet	Feet of Gas in Pipe	Flush Tool?
<u>136</u>		<u>NO</u>
Rec. <u>1</u> Feet Of <u>OIL</u>	%gas _____ %oil _____ %water _____ %mud _____	
Rec. <u>15</u> Feet Of <u>OIL SPOTTED M.W.</u>	%gas _____ %oil _____ %water _____ %mud _____	
Rec. <u>120</u> Feet Of <u>WATER</u>	%gas _____ %oil _____ %water _____ %mud _____	
Rec. _____ Feet Of _____	%gas _____ %oil _____ %water _____ %mud _____	
Rec. _____ Feet Of _____	%gas _____ %oil _____ %water _____ %mud _____	

BHT 104 °F Gravity _____ °API @ _____ °F Corrected Gravity _____ °API
 RW 0-23 @ 75 °F Chlorides 28,000 ppm Recovery Chlorides 7,000 ppm System

- (A) Initial Hydrostatic Mud 1530 PSI AK1 Recorder No. 13851 Range 4425
- (B) First Initial Flow Pressure 30 PSI @ (depth) 2961 w/Clock No. 31154
- (C) First Final Flow Pressure 50 PSI AK1 Recorder No. 13850 Range 4325
- (D) Initial Shut-In Pressure 827 PSI @ (depth) 2990 w/Clock No. 27585
- (E) Second Initial Flow Pressure 50 PSI AK1 Recorder No. _____ Range _____
- (F) Second Final Flow Pressure 70 PSI @ (depth) _____ w/Clock No. _____
- (G) Final Shut-In Pressure 827 PSI Initial Opening 30 Test 550⁰⁰
- (H) Final Hydrostatic Mud 1530 PSI Initial Shut-In 45 Jars _____

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Final Flow 90 Safety Joint 50⁰⁰
 Final Shut-In 120 Straddle _____
 Circ. Sub _____
 Sampler _____
 Extra Packer _____
 Other _____
 TOTAL PRICE \$ 600⁰⁰

Approved By [Signature]

Our Representative [Signature]