

TRILOBITE TESTING, L.L.C.

P.O. Box 362 • Hays, Kansas 67601

COPY

Drill-Stem Test Data

Well Name KOLLMAN #12 Test No. 1 Date 10/29/92
 Company HALLWOOD PETROLEUM INC. Zone TOPEKA
 Address P.O. BOX 378111 DENVER CO 80237-8111 Elevation 1840
 Co. Rep./Geo. JIM MUSGROVE Cont. DUKE RIG #1 Est. Ft. of Pay _____
 Location: Sec. 18 Twp. 11S Rge. 17W Co. ELLIS State KS

Interval Tested <u>2788-2810</u>	Drill Pipe Size <u>4.5" FH</u>
Anchor Length <u>22</u>	Wt. Pipe I.D. - 2.7 Ft. Run <u>631</u>
Top Packer Depth <u>2783</u>	Drill Collar - 2.25 Ft. Run _____
Bottom Packer Depth <u>2788</u>	Mud Wt. _____ lb/Gal
Total Depth <u>2810</u>	Viscosity <u>45</u> Filtrate <u>9.6</u>

Tool Open @ 10:00 PM ^{initial} Blow SLID TOOL 6' TO BOTTOM - BLOW BUILDING TO 3"
BLOW DECREASING TO NO BLOW IN 15 MINUTES
 Final Blow NO BLOW-FLUSHED TOOL-GOOD SURGE/NO HELP

Recovery - Total Feet 70 Flush Tool? YES

Rec. 70 Feet of DRILLING MUD
 Rec. _____ Feet of _____
 Rec. _____ Feet of _____
 Rec. _____ Feet of _____
 Rec. _____ Feet of _____

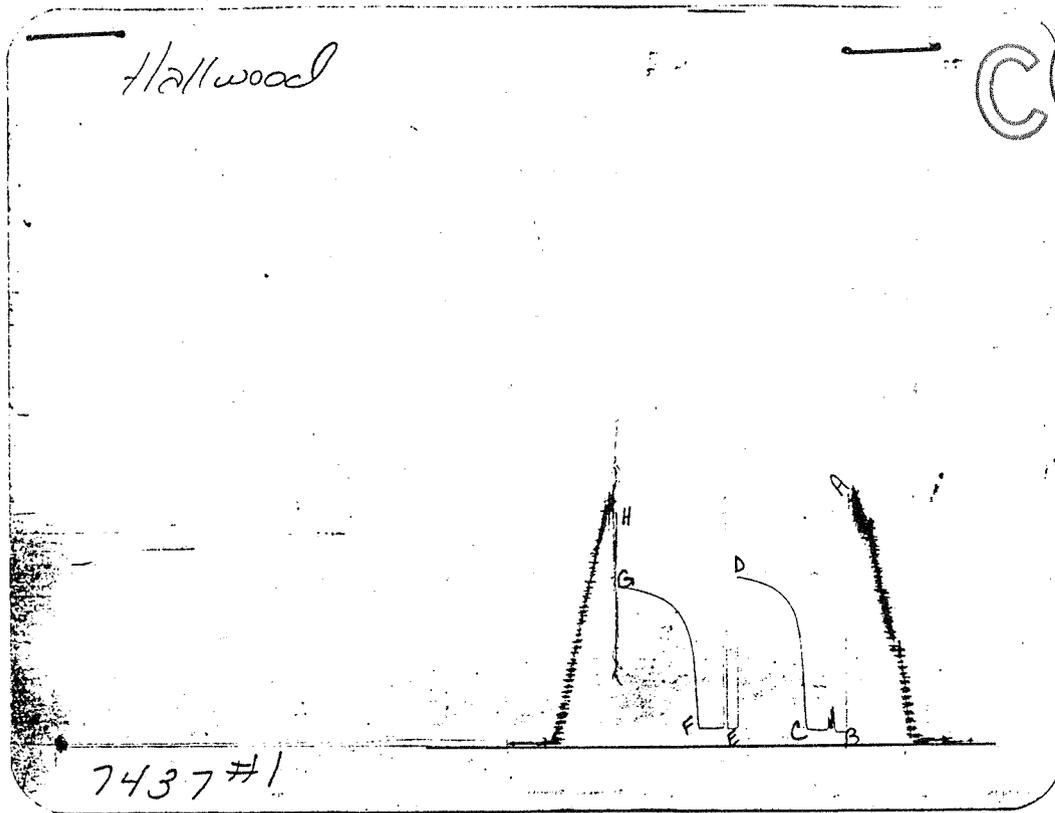
BHT 91 °F Gravity _____ °API @ _____ °F Corrected Gravity _____ °API
 RW _____ @ _____ °F Chlorides _____ ppm Recovery Chlorides 5000 ppm System

(A) Initial Hydrostatic Mud <u>1431.9</u> PSI	AK1 Recorder No. <u>13754</u>	Range <u>4000</u>
(B) First Initial Flow Pressure <u>18.6</u> PSI	@ (depth) <u>2792</u>	w / Clock No. <u>25828</u>
(C) First Final Flow Pressure <u>42.6</u> PSI	AK1 Recorder No. <u>7437</u>	Range <u>4200</u>
(D) Initial Shut-in Pressure <u>899.4</u> PSI	@ (depth) <u>2806</u>	w / Clock No. <u>27567</u>
(E) Second Initial Flow Pressure <u>53.7</u> PSI	AK1 Recorder No. _____	Range _____
(F) Second Final Flow Pressure <u>53.7</u> PSI	@ (depth) _____	w / Clock No. _____
(G) Final Shut-in Pressure <u>850.7</u> PSI	Initial Opening _____	Final Flow <u>30</u>
Final Hydrostatic Mud <u>1388.9</u> PSI	Initial Shut-in <u>450</u>	Final Shut-in <u>60</u>

Our Representative DAN BANGLE

KANSAS
 COMMISSIONER OF GEOROLOGICAL AND MINERAL INDUSTRIES
 DAN BANGLE
 29 1992
 REGISTRATION DIVISION
 WICHITA, KS

CHART PAGE



This is an actual photograph of recorder chart

	FIELD READING	OFFICE READING
(A) INITIAL HYDROSTATIC MUD	1426	1431.9
(B) FIRST INITIAL FLOW PRESSURE	19	18.6
(C) FIRST FINAL FLOW PRESSURE	39	42.6
(D) INITIAL CLOSED-IN PRESSURE	897	899.4
(E) SECOND INITIAL FLOW PRESSURE	49	53.7
(F) SECOND FINAL FLOW PRESSURE	49	53.7
(G) FINAL CLOSED-IN PRESSURE	847	850.7
(H) FINAL HYDROSTATIC MUD	1386	1388.9

TRILOBITE TESTING L.L.C.

P.O. Box 362 • Hays, Kansas 67601

COPY No. 5554

Test Ticket

Well Name & No. Kollman #12 Test No. 1 Date 10-29-92
 Company Hallwood Petro. Inc. Zone Tested Tapeka
 Address 4582 S. Uister St Parkway #1700 Denver, Colo Elevation 1840 K.B.
 Co. Rep./Geo. Jim Musgrave Cont. Duke #1 Est. Ft. of Pay _____
 Location: Sec. 18 Twp. 11 Rge. 17 Co. Ellis State Ks.
 No. of Copies _____ Distribution Sheet _____ Yes _____ No _____ Turnkey _____ Yes _____ No _____ Evaluation _____

Interval Tested 2788-2810 Drill Pipe Size 4.5 FH
 Anchor Length 22 Top Choke — 1" _____ Bottom Choke — 3/4" _____
 Top Packer Depth 2783 Hole Size — 7 7/8" _____ Rubber Size — 6 3/4" _____
 Bottom Packer Depth 2788 Wt. Pipe I.D. — 2.7 Ft. Run 631
 Total Depth 2810 Drill Collar — 2.25 Ft. Run _____
 Mud Wt. 8.7 lb/gal. Viscosity 45 Filtrate 9.6
 Tool Open @ 10:00 p.m. Initial Blow Slid Tool 6' To Bottom - blow building to 3" - blow decreasing to no blow in 15 min.
 Final Blow No blow - Flushed Tool - Good surge - no help

Recovery — Total Feet	Feet of Gas in Pipe	Flush Tool?
<u>70</u>		<input checked="" type="checkbox"/>
Rec. <u>70</u> Feet Of <u>J.M.</u>	%gas _____ %oil _____ %water _____ %mud _____	
Rec. _____ Feet Of _____	%gas _____ %oil _____ %water _____ %mud _____	
Rec. _____ Feet Of _____	%gas _____ %oil _____ %water _____ %mud _____	
Rec. _____ Feet Of _____	%gas _____ %oil _____ %water _____ %mud _____	
Rec. _____ Feet Of _____	%gas _____ %oil _____ %water _____ %mud _____	

BHT 91 °F Gravity _____ °API @ _____ °F Corrected Gravity _____ °API
 RW _____ @ _____ °F Chlorides _____ ppm Recovery Chlorides 5,000 ppm System
 (A) Initial Hydrostatic Mud 1426 PSI AK1 Recorder No. 13754 Range 4000
 (B) First Initial Flow Pressure 19 PSI @ (depth) 2792 w/Clock No. 25828
 (C) First Final Flow Pressure 39 PSI AK1 Recorder No. 7437 Range 4200
 (D) Initial Shut-in Pressure 897 PSI @ (depth) 2806 w/Clock No. 27567
 (E) Second Initial Flow Pressure 49 PSI AK1 Recorder No. _____ Range _____
 (F) Second Final Flow Pressure 49 PSI @ (depth) _____ w/Clock No. _____
 (G) Final Shut-in Pressure 847 PSI Initial Opening 30 Test _____
 (H) Final Hydrostatic Mud 1386 PSI Initial Shut-in 45 Jars _____

TRILOBITE TESTING L.L.C. 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 SUSTAINED, 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 30 Safety Joint _____
 Final Shut-in 60 Straddle _____
 Circ. Sub _____
 Sampler _____

Approved By _____
 Our Representative Dan Banoff

Extra Packer _____
 Other _____
 TOTAL PRICE \$ 550

TRILOBITE TESTING, L.L.C.

P.O. Box 362 • Hays, Kansas 67601

COPY

Drill-Stem Test Data

Well Name KOLLMAN #12 Test No. 2 Date 10/31/92
Company HALLWOOD PETROLEUM INC. Zone LKC-"E-F"
Address P.O. BOX 378111 DENVER CO 80237-8111 Elevation 1840
Co. Rep./Geo. JIM MUSGROVE Cont. DUKE RIG #1 Est. Ft. of Pay _____
Location: Sec. 18 Twp. 11S Rge. 17W Co. ELLIS State KS

Interval Tested 3098-3125 Drill Pipe Size 4.5" FH
Anchor Length 28 Wt. Pipe I.D. - 2.7 Ft. Run 631
Top Packer Depth 3093 Drill Collar - 2.25 Ft. Run _____
Bottom Packer Depth 3098 Mud Wt. 9 lb/Gal.
Total Depth 3125 Viscosity 43 Filtrate 10.4

Tool Open @ 1:00 AM Initial Blow WEAK-BUILDING TO 3" SURGING BLOW

Final Blow WEAK SURGING BLOW-BUILDING TO BOTTOM OF BUCKET IN
10 MINUTES

Recovery - Total Feet 20 Flush Tool? NO

Rec. 558 Feet of GAS IN PIPE
Rec. 20 Feet of SLTLY OIL CUT MUD-3%OIL/97%MUD
Rec. _____ Feet of _____
Rec. _____ Feet of _____
Rec. _____ Feet of _____

BHT 98 °F Gravity _____ °API @ _____ °F Corrected Gravity _____ °API
RW _____ @ _____ °F Chlorides _____ ppm Recovery Chlorides 5000 ppm System

(A) Initial Hydrostatic Mud 1672.3 PSI AK1 Recorder No. 13754 Range 4000

(B) First Initial Flow Pressure 59.8 PSI @ (depth) 3103 w / Clock No. 25828

(C) First Final Flow Pressure 59.8 PSI AK1 Recorder No. 7437 Range 4200

(D) Initial Shut-in Pressure 201.4 PSI @ (depth) 3121 w / Clock No. 27567

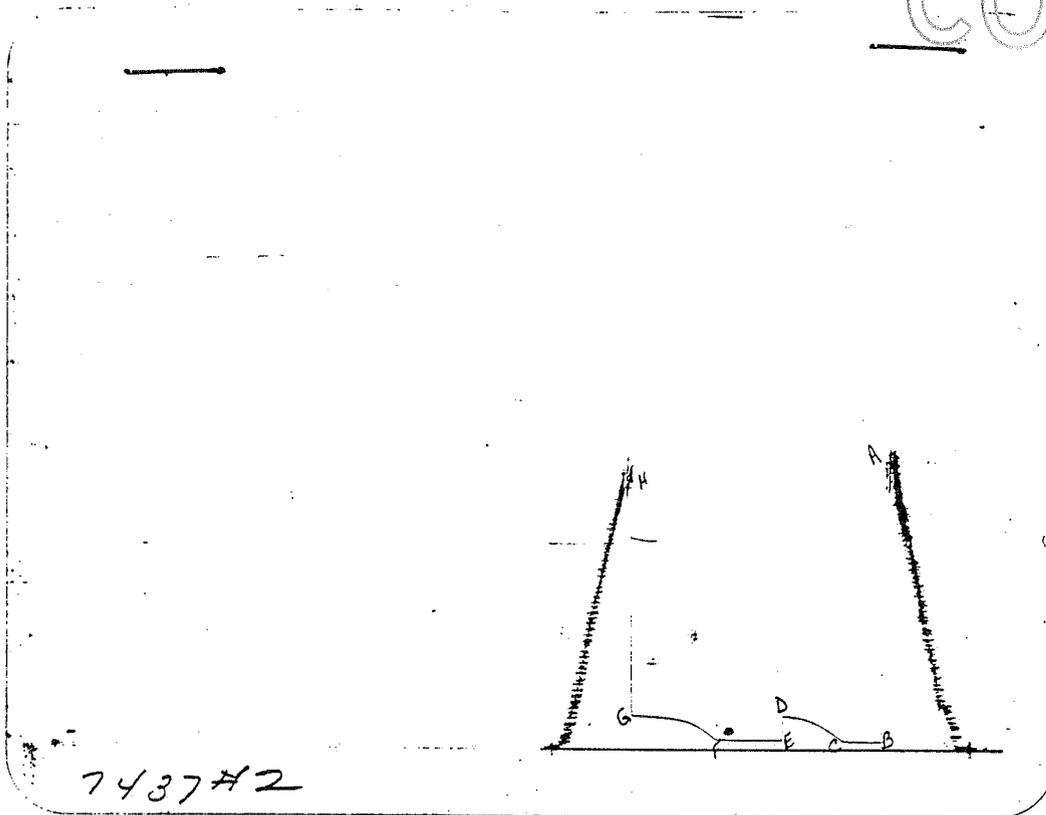
(E) Second Initial Flow Pressure 59.8 PSI AK1 Recorder No. _____ Range _____

(F) Second Final Flow Pressure 59.8 PSI @ (depth) _____ w / Clock No. _____

(G) Final Shut-in Pressure 201.4 PSI Initial Opening 30 Final Flow 45

Final Hydrostatic Mud 1579.6 PSI Initial Shut-in 45 Final Shut-in 60

Our Representative DAN BANGLE



This is an actual photograph of recorder chart

	FIELD READING	OFFICE READING
(A) INITIAL HYDROSTATIC MUD	1662	1672.3
(B) FIRST INITIAL FLOW PRESSURE	55	59.8
(C) FIRST FINAL FLOW PRESSURE	55	59.8
(D) INITIAL CLOSED-IN PRESSURE	198	201.4
(E) SECOND INITIAL FLOW PRESSURE	55	59.8
(F) SECOND FINAL FLOW PRESSURE	55	59.8
(G) FINAL CLOSED-IN PRESSURE	198	201.4
(H) FINAL HYDROSTATIC MUD	1578	1579.6

TRILOBITE TESTING L.L.C.

P.O. Box 362 • Hays, Kansas 67601

COPY
No 5555

Test Ticket

Well Name & No. Kollman #12 Test No. 2 Date 10-31-92
 Company Hallwood Petro. Inc. Zone Tested E-F b.K.C
 Address _____ Elevation 1840 K.B.
 Co. Rep./Geo. Jim Musgrove cont. Duke #1 Est. Ft. of Pay _____
 Location: Sec. 18 Twp. 11 Rge. 17 Co. Ellis State Ks.
 No. of Copies _____ Distribution Sheet _____ Yes _____ No _____ Turnkey _____ Yes _____ No _____ Evaluation _____

Interval Tested 3098-3125 Drill Pipe Size 4.5 FH
 Anchor Length 28 Top Choke — 1" _____ Bottom Choke — 3/4" _____
 Top Packer Depth 3093 Hole Size — 77/8" _____ Rubber Size — 63/4" _____
 Bottom Packer Depth 3098 Wt. Pipe I.D. — 2.7 Ft. Run 631
 Total Depth 3125 Drill Collar — 2.25 Ft. Run _____
 Mud Wt. 9 lb/gal. Viscosity 43 Filtrate 10.4
 Tool Open @ 1:00 a.m. Initial Blow Weak-building to 3" surging blow

Final Blow Weak surging blow-building to B.O.B. in 10 min.

Recovery — Total Feet	Feet of Gas in Pipe	Flush Tool?	% gas	% oil	% water	% mud
<u>20</u>	<u>558</u>		<u>3</u>			
Rec. <u>20</u> Feet Of <u>517/8 O.C.M.</u>			% gas	% oil	% water	% mud
Rec. _____ Feet Of _____			% gas	% oil	% water	% mud
Rec. _____ Feet Of _____			% gas	% oil	% water	% mud
Rec. _____ Feet Of _____			% gas	% oil	% water	% mud
Rec. _____ Feet Of _____			% gas	% oil	% water	% mud

BHT 98 °F Gravity _____ °API @ _____ °F Corrected Gravity _____ °API
 RW _____ @ _____ °F Chlorides _____ ppm Recovery Chlorides 5,000 ppm System

(A) Initial Hydrostatic Mud 1662 PSI AK1 Recorder No. 13754 Range 4000
 (B) First Initial Flow Pressure 55 PSI @ (depth) 3103 w/Clock No. 25828
 (C) First Final Flow Pressure 55 PSI AK1 Recorder No. 7497 Range 4200
 (D) Initial Shut-In Pressure 198 PSI @ (depth) 3121 w/Clock No. 27567
 (E) Second Initial Flow Pressure 55 PSI AK1 Recorder No. _____ Range _____
 (F) Second Final Flow Pressure 55 PSI @ (depth) _____ w/Clock No. _____
 (G) Final Shut-In Pressure 198 PSI Initial Opening 30 Test _____
 (H) Final Hydrostatic Mud 1528 PSI Initial Shut-In 45 Jars _____

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Final Flow 45 Safety Joint _____
 Final Shut-in 60 Straddle _____
 Circ. Sub _____
 Sampler _____

Approved By Jim Musgrove
 Our Representative Dean Banoff

Extra Packer _____
 Other _____
 TOTAL PRICE \$ 550.00

TRILOBITE TESTING, L.L.C.

P.O. Box 362 • Hays, Kansas 67601

COPY

Drill-Stem Test Data

Well Name KOLLMAN #12 Test No. 3 Date 10/31/92
Company HALLWOOD PETROLEUM INC. Zone LKC-"G"
Address P.O. BOX 378111 DENVER CO 80237-8111 Elevation 1840
Co. Rep./Geo. JIM MUSGROVE Cont. DUKE RIG #1 Est. Ft. of Pay _____
Location: Sec. 18 Twp. 11S Rge. 17W Co. ELLIS State KS

Interval Tested 3125-3145 Drill Pipe Size 4.5" FH
Anchor Length 20 Wt. Pipe I.D. - 2.7 Ft. Run 631
Top Packer Depth 3120 Drill Collar - 2.25 Ft. Run _____
Bottom Packer Depth 3125 Mud Wt. 9.1 lb/Gal
Total Depth 3145 Viscosity 47 Filtrate 10.4

Tool Open @ 11:30 AM Initial Blow STRONG-BOTTOM OF BUCKET IN 23 MINUTES

Final Blow WEAK-BUILDING TO 1"

Recovery - Total Feet 211 Flush Tool? NO

Rec. 180 Feet of GAS IN PIPE
Rec. 1 Feet of CLEAN OIL
c. 210 Feet of WATER
Rec. _____ Feet of _____
Rec. _____ Feet of _____

BHT 100 °F Gravity _____ °API @ _____ °F Corrected Gravity _____ °API
RW 0.44 @ 80 °F Chlorides 13000 ppm Recovery Chlorides 6000 ppm System

(A) Initial Hydrostatic Mud 1644.8 PSI AK1 Recorder No. 13754 Range 4000

(B) First Initial Flow Pressure 45.6 PSI @ (depth) 3129 w / Clock No. 25828

(C) First Final Flow Pressure 91.2 PSI AK1 Recorder No. 7437 Range 4200

(D) Initial Shut-in Pressure 201.4 PSI @ (depth) 3141 w / Clock No. 27567

(E) Second Initial Flow Pressure 111.3 PSI AK1 Recorder No. _____ Range _____

(F) Second Final Flow Pressure 149.8 PSI @ (depth) _____ w / Clock No. _____

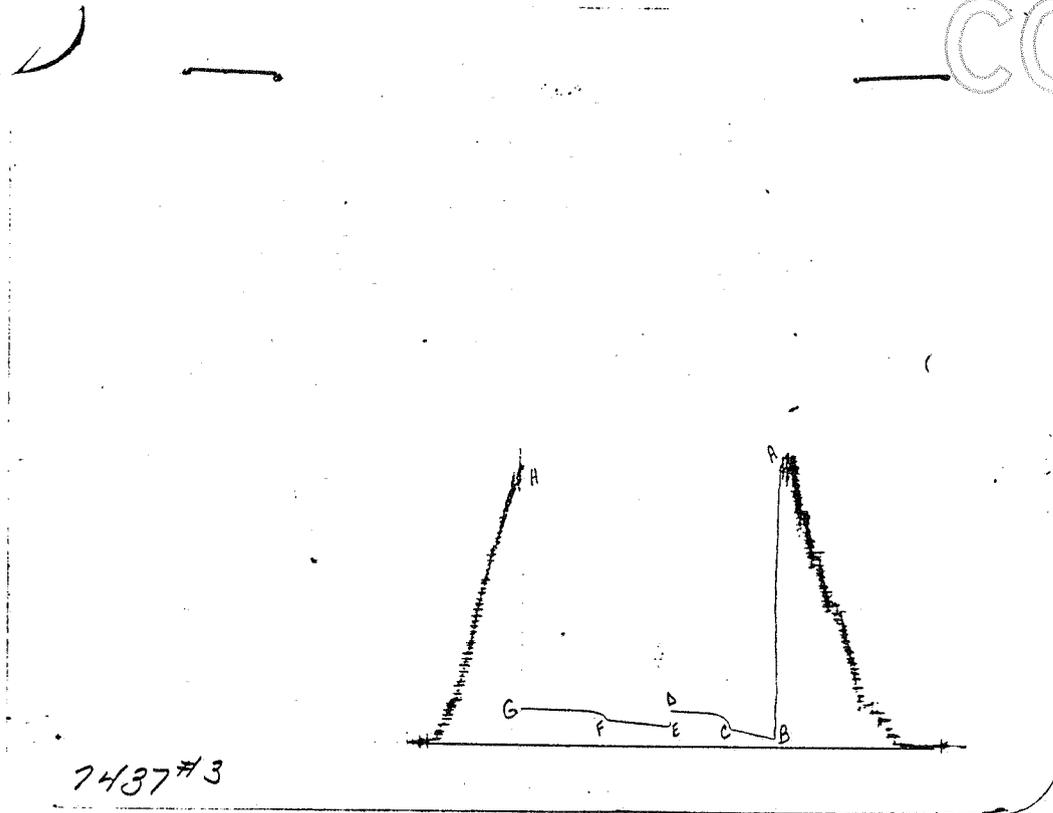
(G) Final Shut-in Pressure 201.4 PSI Initial Opening 30 Final Flow 45

(H) Final Hydrostatic Mud 1544.7 PSI Initial Shut-in 45 Final Shut-in 60

Our Representative DAN BANGLE

CHART PAGE

COPY



This is an actual photograph of recorder chart

	FIELD READING	OFFICE READING
(A) INITIAL HYDROSTATIC MUD	1630	1644.8
(B) FIRST INITIAL FLOW PRESSURE	44	45.6
(C) FIRST FINAL FLOW PRESSURE	88	91.2
(D) INITIAL CLOSED-IN PRESSURE	198	201.4
(E) SECOND INITIAL FLOW PRESSURE	110	111.3
(F) SECOND FINAL FLOW PRESSURE	143	149.8
(G) FINAL CLOSED-IN PRESSURE	198	201.4
(H) FINAL HYDROSTATIC MUD	1546	1544.7

TRILOBITE TESTING L.L.C.

P.O. Box 362 • Hays, Kansas 67601

COPY
No 5556

Test Ticket

Well Name & No. Kallman #12 Test No. 3 Date 10-31-92 Boon
 Company Hallwood Petro. Inc. Zone Tested 'G' L.K.C.
 Address _____ Elevation 1840 K.B.
 Co. Rep./Geo. Jim Musgrave Cont. Duke #1 Est. Ft. of Pay _____
 Location: Sec. 18 Twp. 11 Rge. 17 Co. Ellis State Ks.
 No. of Copies _____ Distribution Sheet _____ Yes _____ No _____ Turnkey _____ Yes _____ No _____ Evaluation _____

Interval Tested 3125-3145 Drill Pipe Size 4.5 FH
 Anchor Length 20 Top Choke — 1" _____ Bottom Choke — 3/4" _____
 Top Packer Depth 3120 Hole Size — 77/8" _____ Rubber Size — 63/4" _____
 Bottom Packer Depth 3125 Wt. Pipe I.D. — 2.7 Ft. Run 6.31
 Total Depth 3145 Drill Collar — 2.25 Ft. Run _____
 Mud Wt. 9.1 lb/gal. Viscosity 47 Filtrate 10.4
 Tool Open @ 11:30 a.m. Initial Blow Strong - B.O.B. in 23 min.

Final Blow Weak - building to 1"

Recovery — Total Feet	Feet of Gas in Pipe	Flush Tool?	% gas	% oil	% water	% mud
<u>211</u>	<u>180</u>					
Rec. <u>1</u> Feet Of <u>C.O.</u>						
Rec. <u>210</u> Feet Of <u>WTR.</u>						
Rec. _____ Feet Of _____						
Rec. _____ Feet Of _____						
Rec. _____ Feet Of _____						

BHT 100 °F Gravity _____ °API @ _____ °F Corrected Gravity _____ °API
 RW .44 @ 80 °F Chlorides 13,000 ppm Recovery Chlorides 6,000 ppm System

- (A) Initial Hydrostatic Mud 1630 PSI AK1 Recorder No. 13754 Range 4000
- (B) First Initial Flow Pressure 44 PSI @ (depth) 3129 w/Clock No. 25828
- (C) First Final Flow Pressure 88 PSI AK1 Recorder No. 7497 Range 4200
- (D) Initial Shut-In Pressure 198 PSI @ (depth) 3141 w/Clock No. 27567
- (E) Second Initial Flow Pressure 110 PSI AK1 Recorder No. _____ Range _____
- (F) Second Final Flow Pressure 143 PSI @ (depth) _____ w/Clock No. _____
- (G) Final Shut-In Pressure 198 PSI Initial Opening 30 Test _____
- (H) Final Hydrostatic Mud 1546 PSI Initial Shut-In 45 Jars _____

Final Flow 45 Safety Joint _____
 Final Shut-In 60 Straddle _____
 Circ. Sub _____
 Sampler _____
 Extra Packer _____
 Other _____

Approved By Jim Musgrave
 Our Representative Dan Ranoff

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TRILOBITE TESTING, L.L.C.

P.O. Box 362 • Hays, Kansas 67601

COPY

Drill-Stem Test Data

Well Name KOLLMAN #12 Test No. 4 Date 11/1/92
Company HALLWOOD PETROLEUM INC. Zone LKC-"H-I-J"
Address P.O. BOX 378111 DENVER CO 80237-8111 Elevation 1840
Co. Rep./Geo. JIM MUSGROVE Cont. DUKE RIG #1 Est. Ft. of Pay _____
Location: Sec. 18 Twp. 11S Rge. 17W Co. ELLIS State KS

Interval Tested 3177-3254 Drill Pipe Size 4.5" FH
Anchor Length 77 Wt. Pipe I.D. - 2.7 Ft. Run 569
Top Packer Depth 3172 Drill Collar - 2.25 Ft. Run _____
Bottom Packer Depth 3177 Mud Wt. 9.1 lb/Gal
Total Depth 3254 Viscosity 47 Filtrate 10.4

Tool Open @ 5:10 AM Initial Blow WEAK-BUILDING TO 7" FAIR BLOW

Final Blow WEAK-BUILDING TO 4" FAIR BLOW

Recovery - Total Feet 92 Flush Tool? NO

Rec. 310 Feet of GAS IN PIPE
Rec. 30 Feet of CLEAN OIL
Rec. 62 Feet of OIL CUT MUD-30%OIL/70%MUD
Rec. _____ Feet of _____
Rec. _____ Feet of _____

BHT 100 °F Gravity _____ °API @ _____ °F Corrected Gravity 32 °A
RW _____ @ _____ °F Chlorides _____ ppm Recovery Chlorides 6000 ppm System

(A) Initial Hydrostatic Mud 1760.3 PSI AK1 Recorder No. 13754 Range 4000

(B) First Initial Flow Pressure 63.7 PSI @ (depth) 3181 w / Clock No. 25828

(C) First Final Flow Pressure 81.2 PSI AK1 Recorder No. 7437 Range 4200

(D) Initial Shut-in Pressure 990.8 PSI @ (depth) 3250 w / Clock No. 27567

(E) Second Initial Flow Pressure 91.2 PSI AK1 Recorder No. _____ Range _____

(F) Second Final Flow Pressure 91.2 PSI @ (depth) _____ w / Clock No. _____

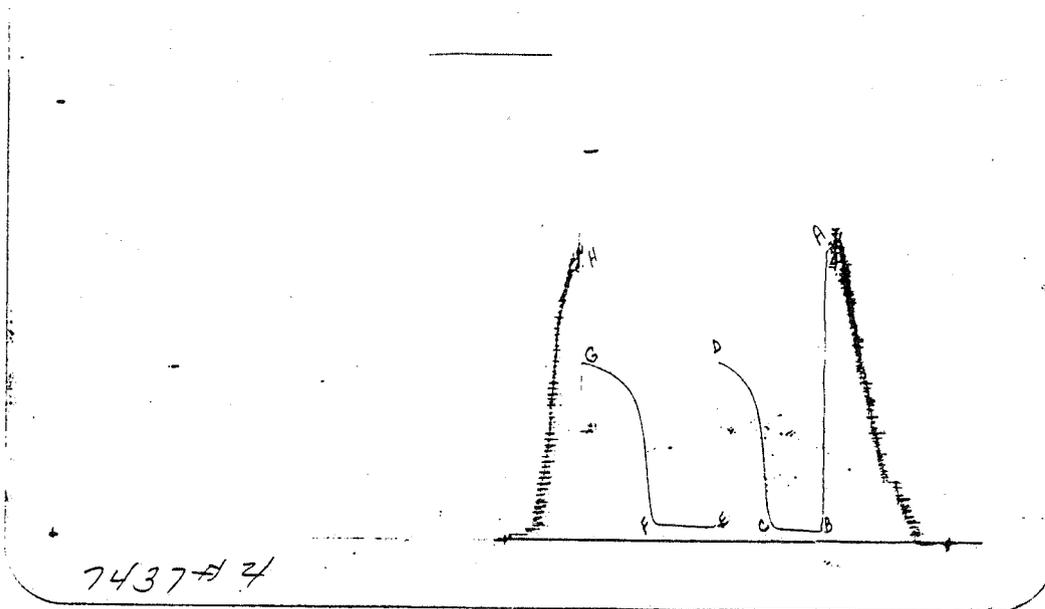
(G) Final Shut-in Pressure 990.8 PSI Initial Opening 30 Final Flow 45

(H) Final Hydrostatic Mud 1702.3 PSI Initial Shut-in 45 Final Shut-in 60

Our Representative DAN BANGLE

CHART PAGE

COPY



This is an actual photograph of recorder chart

	FIELD READING	OFFICE READING
(A) INITIAL HYDROSTATIC MUD	1756	1760.3
(B) FIRST INITIAL FLOW PRESSURE	59	63.7
(C) FIRST FINAL FLOW PRESSURE	78	81.2
(D) INITIAL CLOSED-IN PRESSURE	986	990.8
(E) SECOND INITIAL FLOW PRESSURE	88	91.2
(F) SECOND FINAL FLOW PRESSURE	88	91.2
(G) FINAL CLOSED-IN PRESSURE	986	990.8
(H) FINAL HYDROSTATIC MUD	1696	1702.3

CALCULATED RECOVERY ANALYSIS

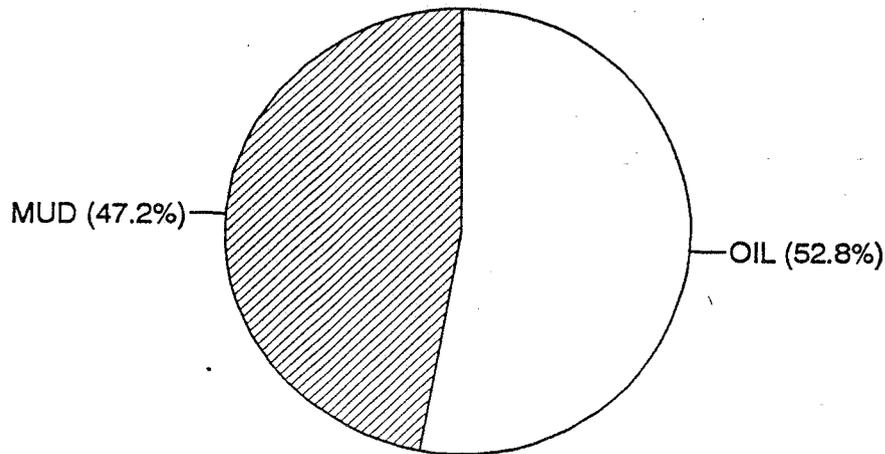
WEIGHT PIPE

DST # 4 TICKET # 5557

SAMPLE #	TOTAL FEET	GAS		OIL		WATER		MUD	
		%	FEET	%	FEET	%	FEET	%	FEET
1	30	0	0	100	30	0	0	0	0
2	62	0	0	30	18.6	0	0	70	43.4
3			0		0		0		0
4			0		0		0		0
5			0		0		0		0
TOTAL	92	0	0	52.826087	48.6	0	0	47.174	43.4

			HRS OPEN	BBL/DAY
BBL OIL=	0.3402	*	1.25	6.53184
BBL WATER=	0	*		0
BBL MUD=	0.3038			
BBL GAS=	0			

COPY



TRILOBITE TESTING L.L.C.

P.O. Box 362 • Hays, Kansas 67601

COPY

No 5557

Test Ticket

Well Name & No. Kellman #12 Test No. 4 Date 11-1-92
 Company Hallwood Petro. Inc. Zone Tested H-I-J h.K.C.
 Address _____ Elevation 1840 K.B.
 Co. Rep./Geo Jim Musgrave Cont. Duke #1 Est. Ft. of Pay 5
 Location: Sec. 18 Twp. 11 Rge. 17 Co. Ellis State Ks.
 No. of Copies _____ Distribution Sheet _____ Yes _____ No Turnkey _____ Yes _____ No _____ Evaluation _____

Interval Tested 3177 - 3254 Drill Pipe Size 4.5 F.H.
 Anchor Length 77 Top Choke — 1" _____ Bottom Choke — 3/4" _____
 Top Packer Depth 3172 Hole Size — 7 7/8" _____ Rubber Size — 6 3/4" _____
 Bottom Packer Depth 3177 Wt. Pipe I.D. — 2.7 Ft. Run 569
 Total Depth 3254 Drill Collar — 2.25 Ft. Run _____
 Mud Wt. 9.1 lb/gal. Viscosity 47 Filtrate 10.4
 Tool Open @ 5:10 a.m. Initial Blow Weak-building to 7" fair blow

Final Blow Weak-building to 4" fair blow

Recovery — Total Feet	Feet of Gas in Pipe	Flush Tool?
Rec. <u>30</u> Feet Of <u>C.O.</u>	<u>310</u>	%gas <u>100%</u> oil _____ %water _____ %mud _____
Rec. <u>62</u> Feet Of <u>O.C.M.</u>		%gas <u>30%</u> oil _____ %water <u>70%</u> %mud _____
Rec. _____ Feet Of _____		%gas _____ %oil _____ %water _____ %mud _____
Rec. _____ Feet Of _____		%gas _____ %oil _____ %water _____ %mud _____
Rec. _____ Feet Of _____		%gas _____ %oil _____ %water _____ %mud _____

BHT 100 °F Gravity _____ °API @ _____ °F Corrected Gravity 32 °API

RW _____ @ _____ °F Chlorides _____ ppm Recovery Chlorides 6,000 ppm System

(A) Initial Hydrostatic Mud 1756 PSI AK1 Recorder No. 13754 Range 4000
 (B) First Initial Flow Pressure 59 PSI @ (depth) 3181 w/Clock No. 25828
 (C) First Final Flow Pressure 78 PSI AK1 Recorder No. 7437 Range 4200
 (D) Initial Shut-In Pressure 986 PSI @ (depth) 3250 w/Clock No. 27567
 (E) Second Initial Flow Pressure 88 PSI AK1 Recorder No. _____ Range _____
 (F) Second Final Flow Pressure 88 PSI @ (depth) _____ w/Clock No. _____
 (G) Final Shut-In Pressure 986 PSI Initial Opening 30 Test _____
 (H) Final Hydrostatic Mud 1696 PSI Initial Shut-In 45 Jars _____

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Final Flow 45 Safety Joint _____
 Final Shut-In 60 Straddle _____
 Circ. Sub _____
 Sampler _____
 Extra Packer _____
 Other _____
 TOTAL PRICE \$ _____

Approved By Jim Musgrave

Our Representative Dan Banerjee

TRILOBITE TESTING, L.L.C.

P.O. Box 362 • Hays, Kansas 67601

COPY

Drill-Stem Test Data

Well Name KOLLMAN #12 Test No. 5 Date 11/1/92
Company HALLWOOD PETROLEUM INC. Zone ARBUCKLE
Address P.O. BOX 378111 DENVER CO 80237-8111 Elevation 1840
Co. Rep./Geo. JIM MUSGROVE Cont. DUKE RIG #1 Est. Ft. of Pay 4
Location: Sec. 18 Twp. 11S Rge. 17W Co. ELLIS State KS

Interval Tested 3275-3340 Drill Pipe Size 4.5" FH
Anchor Length 65 Wt. Pipe I.D. - 2.7 Ft. Run 631
Top Packer Depth 3270 Drill Collar - 2.25 Ft. Run _____
Bottom Packer Depth 3275 Mud Wt. 9.2 lb/Gal.
Total Depth 3340 Viscosity 47 Filtrate 10.8

Tool Open @ 10:17 PM ^{Initial Blow} BOTTOM OF BUCKET IN 2 MINUTES

Final Blow STRONG-BOTTOM OF BUCKET IN 2 MINUTES

Recovery - Total Feet 1785 Flush Tool? NO

Rec. <u>30</u>	Feet of	<u>GAS IN PIPE</u>
Rec. <u>585</u>	Feet of	<u>MUD & WTR CUT OIL-80%OIL/10%WTR/10%MUD</u>
<u>240</u>	Feet of	<u>WATER & GAS CUT OIL-20%GAS/60%OIL/20%WTR</u>
Rec. <u>360</u>	Feet of	<u>OIL CUT WATER-10%OIL/90%WATER</u>
Rec. <u>600</u>	Feet of	<u>WATER</u>

BHT 110 °F Gravity _____ °API @ _____ °F Corrected Gravity 34 °API
RW 0.04 @ 82 °F Chlorides 31000 ppm Recovery Chlorides 6000 ppm System

(A) Initial Hydrostatic Mud 1841.3 PSI AK1 Recorder No. 13754 Range 4000

(B) First Initial Flow Pressure 121.4 PSI @ (depth) 3279 w / Clock No. 25828

(C) First Final Flow Pressure 544.6 PSI AK1 Recorder No. 7437 Range 4200

(D) Initial Shut-in Pressure 1010.7 PSI @ (depth) 3336 w / Clock No. 27567

(E) Second Initial Flow Pressure 560.4 PSI AK1 Recorder No. _____ Range _____

(F) Second Final Flow Pressure 760.2 PSI @ (depth) _____ w / Clock No. _____

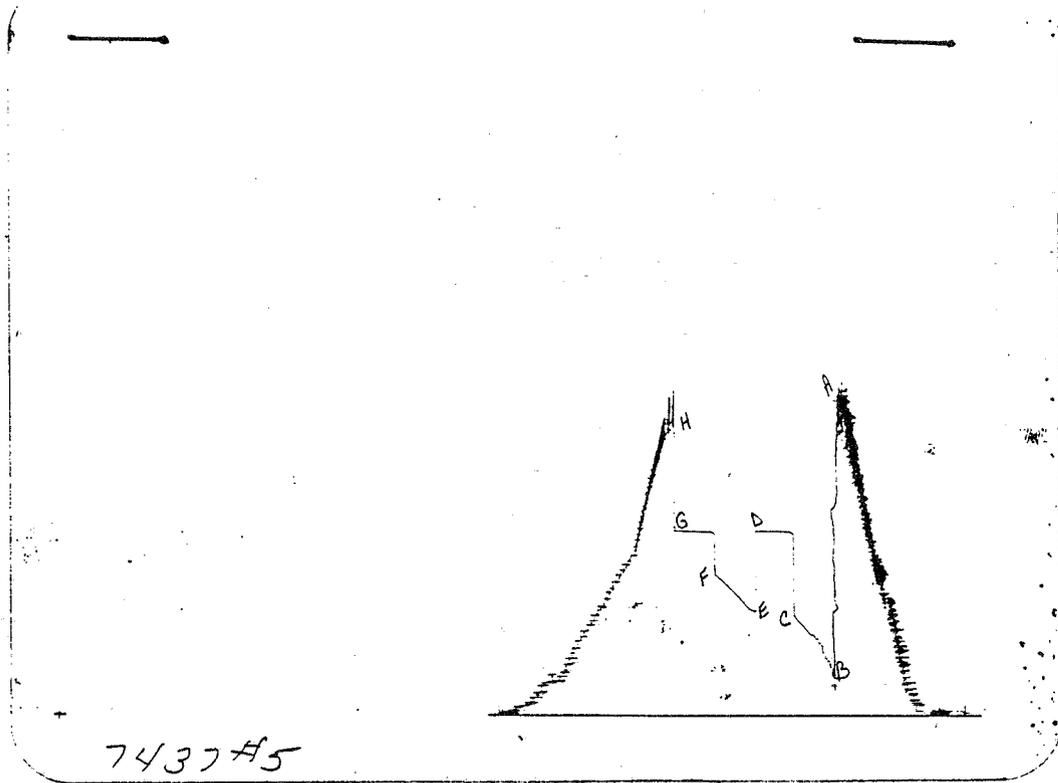
(G) Final Shut-in Pressure 1010.7 PSI Initial Opening 30 Final Flow 30

(H) Final Hydrostatic Mud 1760.4 PSI Initial Shut-in 30 Final Shut-in 30

Our Representative DAN BANGLE

CHART PAGE

COPY



This is an actual photograph of recorder chart

	FIELD READING	OFFICE READING
(A) INITIAL HYDROSTATIC MUD	1836	1841.3
(B) FIRST INITIAL FLOW PRESSURE	118	121.4
(C) FIRST FINAL FLOW PRESSURE	541	544.6
(D) INITIAL CLOSED-IN PRESSURE	1006	1010.7
(E) SECOND INITIAL FLOW PRESSURE	551	560.4
(F) SECOND FINAL FLOW PRESSURE	758	760.2
(G) FINAL CLOSED-IN PRESSURE	1006	1010.7
(H) FINAL HYDROSTATIC MUD	1756	1760.4

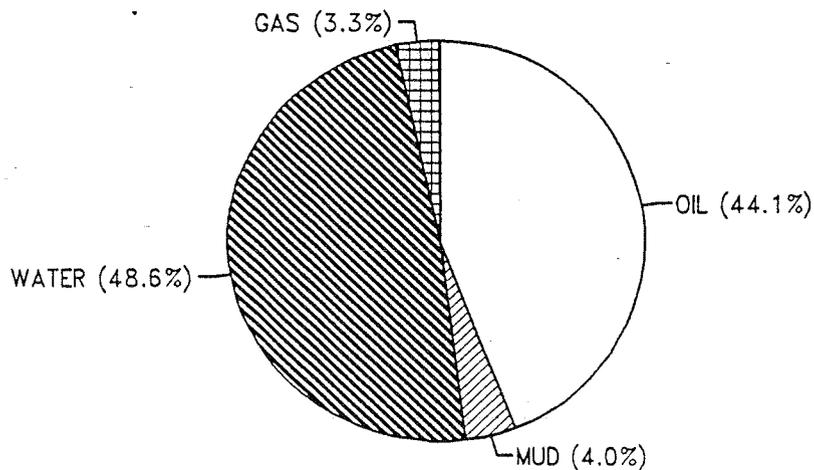
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CALCULATED RECOVERY ANALYSIS

DST # 5 TICKET # 5558

SAMPLE #	TOTAL FEET	GAS		OIL		WATER		MUD	
		%	FEET	%	FEET	%	FEET	%	FEET
DRILL 1	585	0	0	80	468	10	58.5	10	58.5
PIPE 2	240	20	48	60	144	20	48	0	0
3	329	0	0	10	32.9	90	296.1	0	0
4			0		0		0		0
5			0		0		0		0
6			0		0		0		0
WEIGHT 1	31	0	0	10	3.1	90	27.9	0	0
PIPE 2	600	0	0	0	0	100	600	0	0
3			0		0		0		0
4			0		0		0		0
DRILL 1			0		0		0		0
COLLAR 2			0		0		0		0
3			0		0		0		0
4			0		0		0		0
5			0		0		0		0
TOTAL	1785		48		648		1030.5		58.5

	HRS OPEN	BBL/DAY
BBL OIL=	9.192178 *	1 220.61227
BBL WATER=	10.120272 *	242.88653
BBL MUD=	0.83187	
BBL GAS =	0.68256	



TRILOBITE TESTING L.L.C.

P.O. Box 362 • Hays, Kansas 67601

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Test Ticket

No 5558

Well Name & No. Kallman #12 Test No. 5 Date 11-1-92
Company Hallwood Petro. Inc. Zone Tested Arbuckle
Address _____ Elevation 1840 K.B.
Co. Rep./Geo. Jim Musgrave Cont. Duke #1 Est. Ft. of Pay 4
Location: Sec. 18 Twp. 11 Rge. 17 Co. Ellis State Ks.
No. of Copies _____ Distribution Sheet _____ Yes _____ No _____ Turnkey _____ Yes _____ No _____ Evaluation _____

Interval Tested 3275 - 3340 Drill Pipe Size 4.5 FH
Anchor Length 65 Top Choke — 1" _____ Bottom Choke — 3/4" _____
Top Packer Depth 3270 Hole Size — 7 7/8" _____ Rubber Size — 6 3/4" _____
Bottom Packer Depth 3275 Wt. Pipe I.D. — 2.7 Ft. Run 631
Total Depth 3340 Drill Collar — 2.25 Ft. Run _____
Mud Wt. 9.2 lb/gal. Viscosity 47 Filtrate 10.8
Tool Open @ 10:17 p.m. Initial Blow B.O.B. in 2 min.

Final Blow Strong - B.O.B. in 2 min.

Recovery — Total Feet	Feet of Gas in Pipe	Flush Tool?
Rec. <u>585</u> Feet Of <u>M+WTCO</u> %gas <u>80</u> %oil <u>10</u> %water <u>10</u> %mud	<u>30</u>	
Rec. <u>240</u> Feet Of <u>WTC+GCO</u> %gas <u>60</u> %oil <u>20</u> %water _____ %mud	<u>20</u>	
Rec. <u>360</u> Feet Of <u>OCWTC</u> %gas <u>10</u> %oil <u>90</u> %water _____ %mud		
Rec. <u>600</u> Feet Of <u>WTC</u> %gas _____ %oil _____ %water <u>100</u> %mud		
Rec. _____ Feet Of _____ %gas _____ %oil _____ %water _____ %mud		

BHT 110 °F Gravity _____ °API @ _____ °F Corrected Gravity 94 °API
RW .04 @ 82 °F Chlorides 31,000 ppm Recovery Chlorides 6,000 ppm System

(A) Initial Hydrostatic Mud 1836 PSI AK1 Recorder No. 13754 Range 4000
(B) First Initial Flow Pressure 118 PSI @ (depth) 3279 w/Clock No. 25828
(C) First Final Flow Pressure 541 PSI AK1 Recorder No. 7437 Range 4200
(D) Initial Shut-In Pressure 1006 PSI @ (depth) 3236 w/Clock No. 27567
(E) Second Initial Flow Pressure 551 PSI AK1 Recorder No. _____ Range _____
(F) Second Final Flow Pressure 758 PSI @ (depth) _____ w/Clock No. _____
(G) Final Shut-In Pressure 1006 PSI Initial Opening 30 Test _____
(H) Final Hydrostatic Mud 1756 PSI Initial Shut-In 30 Jars _____

TRILOBITE TESTING L.L.C. 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 SUSTAINED, 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.

Approved By Jim Musgrave Final Flow 30 Safety Joint _____
Our Representative Dan Randle Final Shut-In 30 Straddle _____
Sampler _____
Extra Packer _____
Other _____

TRILOBITE TESTING, L.L.C.

P.O. Box 362 • Hays, Kansas 67601

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Drill-Stem Test Data

Name KOLLMAN #12 Test No. 6 Date 11/2/92
Company HALLWOOD PETROLEUM INC. Zone ARBUCKLE
Address P.O. BOX 378111 DENVER CO 80237-8111 Elevation 1840
Co. Rep./Geo. JIM MUSGROVE Cont. DUKE RIG #1 Est. Ft. of Pay _____
Location: Sec. 18 Twp. 11S Rge. 17W Co. ELLIS State KS

Interval Tested <u>3366-3380</u>	Drill Pipe Size <u>4.5" FH</u>
Anchor Length <u>14</u>	Wt. Pipe I.D. - 2.7 Ft. Run <u>631</u>
Top Packer Depth <u>3361</u>	Drill Collar - 2.25 Ft. Run _____
Bottom Packer Depth <u>3366</u>	Mud Wt. <u>9.4</u> lb/Gal.
Total Depth <u>3380</u>	Viscosity <u>54</u> Filtrate <u>11.2</u>

Tool Open @ 1:07 AM Initial Blow STRONG-BOTTOM OF BUCKET IN 20 SECONDS

Final Blow STRONG-BOTTOM OF BUCKET IN 1 MINUTE

Recovery - Total Feet 2380 Flush Tool? NO

Rec. <u>2380</u>	Feet of <u>WATER</u>
Rec. _____	Feet of _____

BHT 112 °F Gravity _____ °API @ _____ °F Corrected Gravity _____ °API
RW 0.37 @ 80 °F Chlorides 16000 ppm Recovery Chlorides 6500 ppm System

(A) Initial Hydrostatic Mud 1811.4 PSI AK1 Recorder No. 13754 Range 4000

(B) First Initial Flow Pressure 301.5 PSI @ (depth) 3370 w / Clock No. _____

(C) First Final Flow Pressure 891.2 PSI AK1 Recorder No. 7437 Range 4200

(D) Initial Shut-in Pressure 1044.7 PSI @ (depth) 3376 w / Clock No. _____

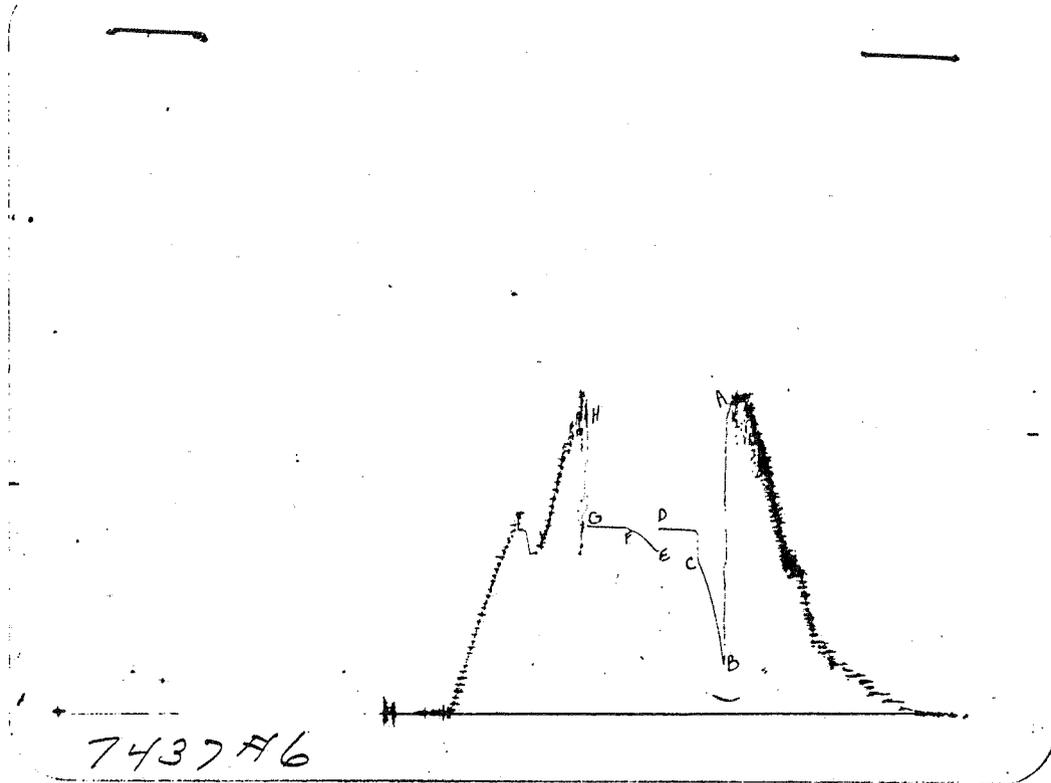
(E) Second Initial Flow Pressure 920.3 PSI AK1 Recorder No. _____ Range _____

(F) Second Final Flow Pressure 1038.9 PSI @ (depth) _____ w / Clock No. _____

(G) Final Shut-in Pressure 1048.6 PSI Initial Opening 30 Final Flow 20

(H) Final Hydrostatic Mud 1775.8 PSI Initial Shut-in 30 Final Shut-in 30

Our Representative DAN BANGLE



This is an actual photograph of recorder chart

	FIELD READING	OFFICE READING
(A) INITIAL HYDROSTATIC MUD	1806	1811.4
(B) FIRST INITIAL FLOW PRESSURE	295	301.5
(C) FIRST FINAL FLOW PRESSURE	887	891.2
(D) INITIAL CLOSED-IN PRESSURE	1046	1044.7
(E) SECOND INITIAL FLOW PRESSURE	917	920.3
(F) SECOND FINAL FLOW PRESSURE	1036	1038.9
(G) FINAL CLOSED-IN PRESSURE	1046	1048.6
(H) FINAL HYDROSTATIC MUD	1776	1775.8

TRILOBITE TESTING L.L.C.

P.O. Box 362 • Hays, Kansas 67601

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Test Ticket

№ 5559

Well Name & No. Kollman #12 Test No. 6 Date 11-2-92
 Company Hallwood Petro. Inc. Zone Tested Arbuckle
 Address _____ Elevation 1840 K.B.
 Co. Rep./Geo. Jim Musgrove Cont. Duke #1 Est. Ft. of Pay _____
 Location: Sec. 18 Twp. 11 Rge. 17 Co. Ellis State Ks.
 No. of Copies _____ Distribution Sheet _____ Yes _____ No _____ Turnkey _____ Yes _____ No _____ Evaluation _____

Interval Tested 3366-3380 Drill Pipe Size 4.5 FH
 Anchor Length 14 Top Choke — 1" _____ Bottom Choke — 3/4" _____
 Top Packer Depth 3361 Hole Size — 7 7/8" _____ Rubber Size — 6 3/4" _____
 Bottom Packer Depth 3366 Wt. Pipe I.D. — 2.7 Ft. Run 631
 Total Depth 3380 Drill Collar — 2.25 Ft. Run _____
 Mud Wt. 9.4 lb/gal. Viscosity 54 Filtrate 11.2
 Tool Open @ 1:07 a.m. Initial Blow Strong - B.O.B. in 20 Sec.

Final Blow Strong - B.O.B. in 1 min.

Recovery — Total Feet	Feet of Gas in Pipe	Flush Tool?
Rec. <u>2380</u> Feet Of <u>WTR.</u>	%gas _____ %oil _____ %water _____ %mud _____	
_____ Feet Of _____	%gas _____ %oil _____ %water _____ %mud _____	
Rec. _____ Feet Of _____	%gas _____ %oil _____ %water _____ %mud _____	
Rec. _____ Feet Of _____	%gas _____ %oil _____ %water _____ %mud _____	

BHT 112 °F Gravity _____ °API @ _____ °F Corrected Gravity _____ °API
 RW .37 @ 80 °F Chlorides 16,000 ppm Recovery Chlorides 6500 ppm System

- (A) Initial Hydrostatic Mud 1806 PSI Ak1 Recorder No. 13754 Range 4000
- (B) First Initial Flow Pressure 295 PSI @ (depth) 3370 w/Clock No. _____
- (C) First Final Flow Pressure 887 PSI Ak1 Recorder No. 7437 Range 4200
- (D) Initial Shut-In Pressure 1046 PSI @ (depth) 3376 w/Clock No. _____
- (E) Second Initial Flow Pressure 917 PSI Ak1 Recorder No. _____ Range _____
- (F) Second Final Flow Pressure 1036 PSI @ (depth) _____ w/Clock No. _____
- (G) Final Shut-In Pressure 1046 PSI Initial Opening 20 Test _____
- (H) Final Hydrostatic Mud 1776 PSI Initial Shut-In 30 Jars _____

Final Flow 20 Safety Joint _____
 Final Shut-In 30 Straddle _____
 Circ. Sub _____
 Sampler _____
 Extra Packer _____
 Other _____

Approved By [Signature]
 Our Representative [Signature]
 Printcraft Printers • Hays, KS

TOTAL PRICE \$ _____