

TRILOBITE TESTING COMPANY

P.O. Box 362 • Hays, Kansas 67601

ORIGINAL

Computer inventoried

Drill-Stem Test Data

Well Name J. LETSCH 'B' #9 Test No. 1 Date 8/10/91
Company HALLWOOD PETROLEUM INC Zone Tested TARKIO
Address 4582 S ULSTER ST PRKSWY DENVER CO Elevation 1761
Co. Rep./Geo. MR JIM MUSGROVE Cont. ALLEN #3 Est. Ft. of Pay _____
Location: Sec. 4 Twp. 15S Rge. 15W Co. RUSSELL State KS
SE SE SW

Interval Tested 2287-2390
Anchor Length 103
Top Packer Depth 2282
Bottom Packer Depth 2287
Total Depth 2390

Drill Pipe Size 4.5 XH
Wt. Pipe I.D. - 2.7 Ft. Run _____
Drill Collar - 2.25 Ft. Run _____

Mud Wt. 8.8 lb / gal. Viscosity 46 Filtrate 9.6

Tool Open @ 10:35 Initial Blow 1 1/2" BLOW BUILDING TO 11

Final Blow 1" BLOW BUILDING TO BOTTOM OF BUCKET IN 65 MINUTES

Recovery — Total Feet 90 / 400 ft Gas in Pipe Flush Tool? NO

Rec. 90 Feet of SLTLY OIL CUT MUD-2%OIL/98%MUD

Rec. _____ Feet of GOOD SHOW OF OIL IN TOOL

Rec. _____ Feet of _____

Rec. _____ Feet of _____

Rec. _____ Feet of _____

BHT 98 °F Gravity _____ °API @ _____ °F Corrected Gravity _____ °API

RW _____ @ _____ °F Chlorides _____ ppm Recovery Chlorides N/A ppm System

(A) Initial Hydrostatic Mud 1205.6 PSI Ak1 Recorder No. 13277 Range 4125

(B) First Initial Flow Pressure 76.3 PSI @ (depth) 2292 w/Clock No. 17639

(C) First Final Flow Pressure 76.3 PSI Ak1 Recorder No. 24174 Range 3350

(D) Initial Shut-In Pressure 440.5 PSI @ (depth) 2389 w/Clock No. 27501

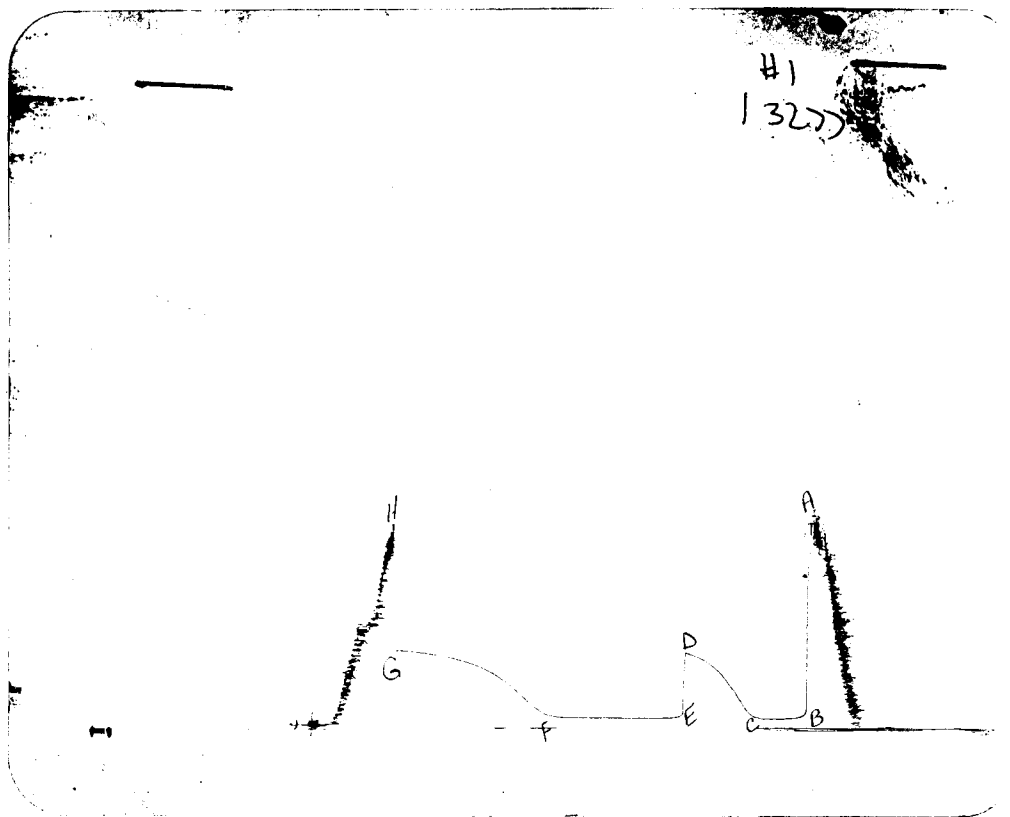
(E) Second Initial Flow Pressure 86.5 PSI Ak1 Recorder No. _____ Range _____

(F) Second Final Flow Pressure 86.5 PSI @ (depth) _____ w/Clock No. _____

(G) Final Shut-In Pressure 439.4 PSI Initial Opening 30 Final Flow 90

(H) Final Hydrostatic Mud 1140.6 PSI Initial Shut-In 60 Final Shut-In 120

Our Representative PAUL SIMPSON TOTAL PRICE \$ 600



POINT This is an actual photograph of recorder chart PRESSURE

	FIELD READING	OFFICE READING
(A) INITIAL HYDROSTATIC MUD	1196	1205.6
(B) FIRST INITIAL FLOW PRESSURE	74	76.3
(C) FIRST FINAL FLOW PRESSURE	74	76.3
(D) INITIAL CLOSED-IN PRESSURE	437	440.5
(E) SECOND INITIAL FLOW PRESSURE	83	86.5
(F) SECOND FINAL FLOW PRESSURE	83	86.5
(G) FINAL CLOSED-IN PRESSURE	437	439.4
(H) FINAL HYDROSTATIC MUD	1145	1140.6

TRILOBITE TESTING COMPANY

P.O. Box 362 • Hays, Kansas 67601

Test Ticket

No 4108

Well Name & No. <u>Letsch 'B' #9</u>	Test No. <u>1</u>	Date <u>8-10-91</u>
Company <u>Hallwood Petroleum Inc</u>	Zone Tested <u>Torkio</u>	
Address _____	Elevation <u>1761</u>	
Co. Rep./Geo. <u>Jim Musgrave</u>	Cont. <u>Allen #3</u>	Est. Ft. of Pay _____
Location: Sec. <u>4</u>	Twp. <u>15s</u>	Rge. <u>15w</u>
	Co. <u>Russell</u>	State <u>Ks</u>
No. of Copies <u>7?</u>	Distribution Sheet _____	Yes _____ No _____ Turnkey _____ Yes _____ No _____ Evaluation _____

Interval Tested 2287-2390 Drill Pipe Size 4 1/2 XH
 Anchor Length 103 Top Choke — 1" Bottom Choke — 3/4"
 Top Packer Depth 2282 Hole Size — 7 7/8" Rubber Size — 6 3/4"
 Bottom Packer Depth 2287 Wt. Pipe I.D. — 2.7 Ft. Run _____
 Total Depth 2390 Drill Collar — 2.25 Ft. Run _____
 Mud Wt. 8.8 lb/gal. Viscosity 46 Filtrate 9.6
 Tool Open @ 10:35 AM Initial Blow 1 1/2" blow building to 11"

Final Blow 1" blow building to bottom of bucket in 65 minutes

Recovery — Total Feet	Feet of Gas in Pipe	Flush Tool?
<u>90</u>	<u>400</u>	
Rec. <u>90</u> Feet Of <u>SOGM</u>	%gas <u>2</u> %oil _____ %water <u>98</u> %mud _____	
Rec. _____ Feet Of <u>good show of oil</u>	%gas _____ %oil _____ %water _____ %mud _____	
Rec. _____ Feet Of <u>in tool</u>	%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 _____ ppm System

(A) Initial Hydrostatic Mud <u>1196</u>	PSI	AK1 Recorder No. <u>13277</u>	Range <u>4125</u>
(B) First Initial Flow Pressure <u>74</u>	PSI	@ (depth) <u>2292</u>	w/Clock No. <u>17639</u>
(C) First Final Flow Pressure <u>74</u>	PSI	AK1 Recorder No. <u>24174</u>	Range <u>3350</u>
(D) Initial Shut-In Pressure <u>437</u>	PSI	@ (depth) <u>2389</u>	w/Clock No. <u>27501</u>
(E) Second Initial Flow Pressure <u>83</u>	PSI	AK1 Recorder No. _____	Range _____
(F) Second Final Flow Pressure <u>83</u>	PSI	@ (depth) _____	w/Clock No. _____
(G) Final Shut-In Pressure <u>437</u>	PSI	Initial Opening <u>30</u>	Test <u>✓</u>
(H) Final Hydrostatic Mud <u>1145</u>	PSI	Initial Shut-In <u>60</u>	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.

Approved By Jim Musgrave

Our Representative Paul Simpson

Printcraft Printers - Hays, KS

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

TRILOBITE TESTING COMPANY

P.O. Box 362 • Hays, Kansas 67601

Drill-Stem Test Data

Well Name LETSCH 'B' #9 Test No. 2 Date 8/11/91
Company HALLWOOD PETROLEUM INC Zone Tested TORONTO
Address 4582 S ULSTER ST PRKSWY DENVER CO Elevation 1761
Co. Rep./Geo. MR JIM MUSGROVE Cont. ALLEN #3 Est. Ft. of Pay 6
Location: Sec. 4 Twp. 15S Rge. 15W Co. RUSSELL State KS

Interval Tested 2854-2894
Anchor Length 40
Top Packer Depth 2849
Bottom Packer Depth 2854
Total Depth 2894

Drill Pipe Size 4.5 XH
Wt. Pipe I.D. - 2.7 Ft. Run
Drill Collar — 2.25 Ft. Run

Mud Wt. 9 lb / gal. Viscosity 47 Filtrate 10.4

Tool Open @ 7:00 PM Initial Blow WEAK SURFACE BLOW BUILDING TO 1 1/2"

Final Blow FAIR 3" BLOW BUILDING TO BOTTOM OF BUCKET IN 6 MINUTES

Recovery — Total Feet 70 Flush Tool? NO

Rec. 410 Feet of GAS IN PIPE

Rec. 40 Feet of CLEAN GASSY OIL

Rec. 30 Feet of GASSY SLTLY OIL CUT MUD-10%GAS/10%OIL/80%MUD

Rec. Feet of

Rec. Feet of

BHT 102 °F Gravity 42 °API @ 80 °F Corrected Gravity 40 °API

RW @ °F Chlorides ppm Recovery Chlorides N/A ppm System

(A) Initial Hydrostatic Mud 1516.4 PSI Ak1 Recorder No. 13277 Range 4125

(B) First Initial Flow Pressure 34.5 PSI @ (depth) 2857 w/Clock No. 17639

(C) First Final Flow Pressure 34.5 PSI AK1 Recorder No. 24174 Range 3350

(D) Initial Shut-In Pressure 701.5 PSI @ (depth) 2893 w/Clock No. 27501

(E) Second Initial Flow Pressure 50.6 PSI AK1 Recorder No. Range

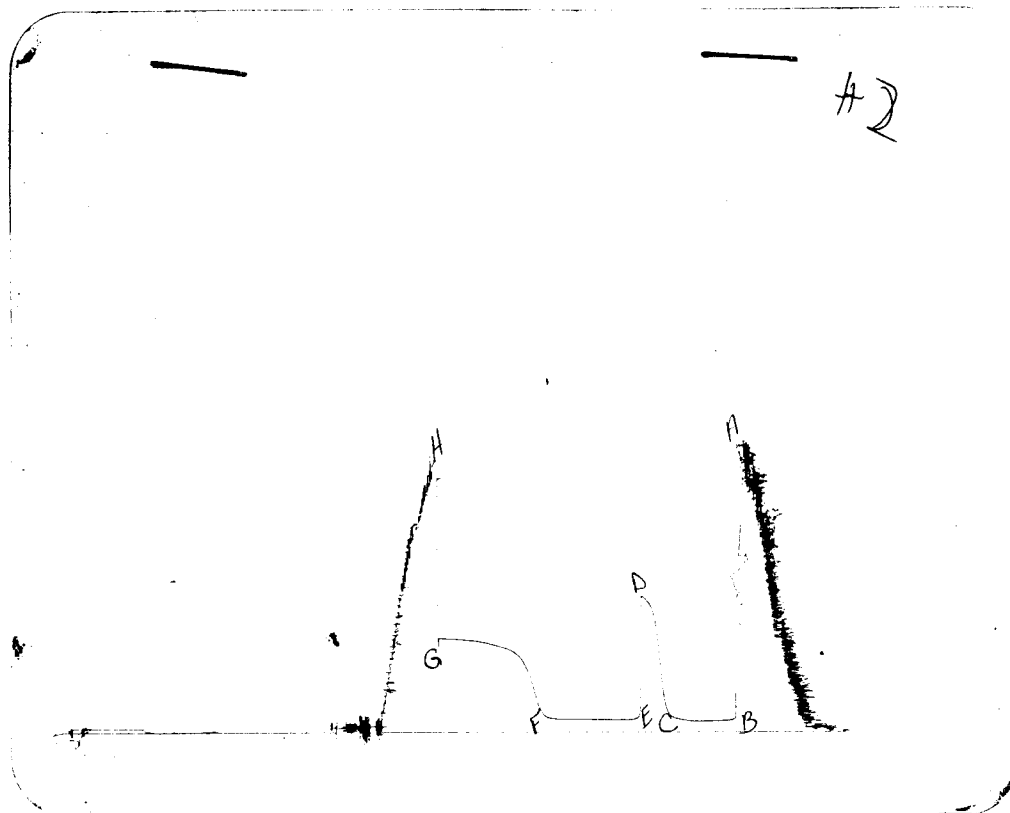
(F) Second Final Flow Pressure 62.3 PSI @ (depth) w/Clock No.

(G) Final Shut-In Pressure 480.5 PSI Initial Opening 30 Final Flow 60

(H) Final Hydrostatic Mud 1488.7 PSI Initial Shut-In 45 Final Shut-In 90

Our Representative PAUL SIMPSON

TOTAL PRICE \$ 600.00



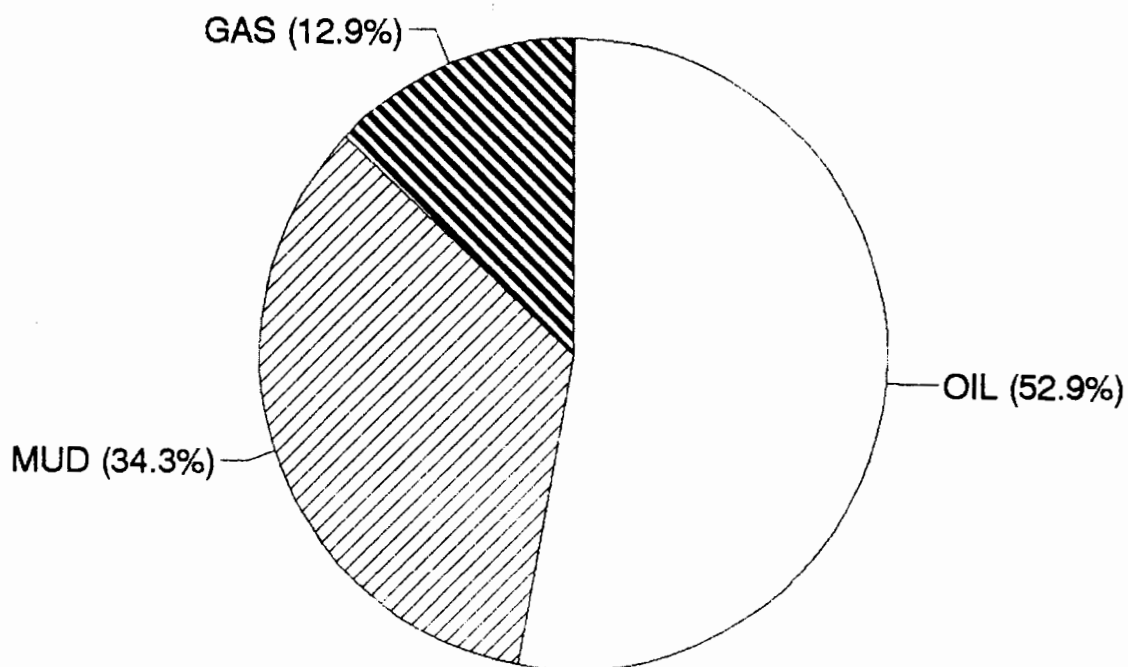
POINT

This is an actual photograph of recorder chart
PRESSURE

	FIELD READING	OFFICE READING
(A) INITIAL HYDROSTATIC MUD	1507	1516.4
(B) FIRST INITIAL FLOW PRESSURE	33	34.5
(C) FIRST FINAL FLOW PRESSURE	33	34.5
(D) INITIAL CLOSED-IN PRESSURE	695	701.5
(E) SECOND INITIAL FLOW PRESSURE	41	50.6
(F) SECOND FINAL FLOW PRESSURE	49	62.3
(G) FINAL CLOSED-IN PRESSURE	478	480.5
(H) FINAL HYDROSTATIC MUD	1481	1488.7

DST #		CALCULATED RECOVERY ANALYSIS						DRILL PIPE	
2		TICKET # 4109							
SAMPLE #	TOTAL FEET	GAS %	GAS FEET	OIL %	OIL FEET	WATER %	WATER FEET	MUD %	MUD FEET
1	40	15	6	85	34	0	0	0	0
2	30	10	3	10	3	0	0	80	24
3			0		0		0		0
4			0		0		0		0
5			0		0		0		0
TOTAL	70	12.9	9	52.8571	37	0	0	34.2857	24

HRS OPEN BBL/DAY
 BBL OIL= 0.52614 * 1.5 8.41824
 BBL WATER 0 * 0
 BBL MUD= 0.34128
 BBL GAS 0.12798



TRILOBITE TESTING COMPANY

P.O. Box 362 • Hays, Kansas 67601

Test Ticket

No 4109

Well Name & No. <u>Letsch B # 9</u>	Test No. <u>2</u>	Date <u>8-11-91</u>
Company <u>Hallwood Petroleum Inc.</u>	Zone Tested <u>Toronto</u>	
Address _____	Elevation <u>1766 KB</u>	
Co. Rep./Geo. <u>Jim Musgrave</u>	cont. <u>Allen #3</u>	Est. Ft. of Pay <u>6</u>
Location: Sec. <u>4</u>	Twp. <u>15S</u>	Rge. <u>13W</u>
co. <u>Russell</u>	State <u>Ks</u>	
No. of Copies <u>4 to Co. 3 to Philville</u>	Distribution Sheet <u>Yes</u>	No Turnkey <u>Yes</u>
	Yes <u>1</u>	No <u>1</u>
	Evaluation _____	

Interval Tested <u>2854-2894</u>	Drill Pipe Size <u>4 1/2 XH</u>
Anchor Length <u>40</u>	Top Choke — 1" _____ Bottom Choke — 3/4" _____
Top Packer Depth <u>2849</u>	Hole Size — 7 7/8" _____ Rubber Size — 6 3/4" _____
Bottom Packer Depth <u>2854</u>	Wt. Pipe I.D. — 2.7 Ft. Run _____
Total Depth <u>2894</u>	Drill Collar — 2.25 Ft. Run _____
Mud Wt. <u>9.0</u> lb/gal.	Viscosity <u>47</u> Filtrate <u>10.4</u>
Tool Open @ <u>7:00 PM</u>	Initial Blow <u>weak surface blow building to 1 1/2"</u>

Final Blow fair 3" blow building to bottom of bucket in 6 minutes

Recovery — Total Feet <u>70</u>	Feet of Gas in Pipe <u>410</u>	Flush Tool? _____
Rec. <u>40</u> Feet Of <u>clgassy oil</u>	<u>15</u> %gas <u>85</u> %oil	%water _____ %mud _____
Rec. <u>30</u> Feet Of <u>usy socm</u>	<u>10</u> %gas <u>10</u> %oil	%water <u>80</u> %mud _____
Rec. _____ Feet Of _____	%gas _____ %oil _____	%water _____ %mud _____
Rec. _____ Feet Of _____	%gas _____ %oil _____	%water _____ %mud _____
Rec. _____ Feet Of _____	%gas _____ %oil _____	%water _____ %mud _____

BHT 102 °F Gravity 42 °API @ 80 °F Corrected Gravity 40 °API

RW _____ @ _____ °F Chlorides _____ ppm Recovery Chlorides _____ ppm System

(A) Initial Hydrostatic Mud <u>1507</u>	PSI Ak1 Recorder No. <u>13277</u>	Range <u>4125</u>
(B) First Initial Flow Pressure <u>33</u>	PSI @ (depth) <u>2857</u>	w/Clock No. <u>17652</u>
(C) First Final Flow Pressure <u>33</u>	PSI AK1 Recorder No. <u>24174</u>	Range <u>3350</u>
(D) Initial Shut-In Pressure <u>695</u>	PSI @ (depth) <u>2893</u>	w/Clock No. <u>27501</u>
(E) Second Initial Flow Pressure <u>41</u>	PSI AK1 Recorder No. _____	Range _____
(F) Second Final Flow Pressure <u>49</u>	PSI @ (depth) _____	w/Clock No. _____
(G) Final Shut-In Pressure <u>478</u>	PSI Initial Opening <u>30</u>	Test _____
(H) Final Hydrostatic Mud <u>1481</u>	PSI Initial Shut-In <u>45</u>	Jars _____

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Final Flow 60 Safety Joint _____

Final Shut-In 90 Straddle _____

Circ. Sub _____

Sampler _____

Extra Packer _____

Other _____

Approved By [Signature]

Our Representative Paul Simpson

Printcraft Printers - Hays, KS

TOTAL PRICE \$ _____

TRILOBITE TESTING COMPANY

P.O. Box 362 • Hays, Kansas 67601

Drill-Stem Test Data

Well Name LETSCH 'B' #9 Test No. 3 Date 8/12/91
Company HALLWOOD PETROLEUM INC Zone Tested LKC-"C"
Address 4582 S ULSTER ST PRKSWY DENVER CO Elevation 1766 KB
Co. Rep./Geo. MR JIM MUSGROVE Cont. ALLEN #3 Est. Ft. of Pay _____
Location: Sec. 4 Twp. 15S Rge. 15W Co. RUSSELL State KS

Interval Tested 2544-2976
Anchor Length 32
Top Packer Depth 2939
Bottom Packer Depth 2944
Total Depth 2976

Drill Pipe Size 4.5 XH
Wt. Pipe I.D. - 2.7 Ft. Run _____
Drill Collar - 2.25 Ft. Run _____

Mud Wt. 9.4 lb / gal. Viscosity 49 Filtrate 11.2

Tool Open @ 8:03 AM Initial Blow STRONG BLOW-TO BOTTOM OF BUCKET IN 3 MINUTES
(1/2" BLOW BACK ON SHUTIN)

Final Blow 2" BLOW BUILDING TO BOTTOM OF BUCKET IN 9
MINUTES

Recovery — Total Feet 805 Flush Tool? NO

Rec. 110 Feet of GAS IN PIPE

Rec. 10 Feet of CLEAN GASSY OIL

Rec. 300 Feet of OIL SPECKLED MUDDY WTR-2%OIL/63%WTR/35%MUD

Rec. 495 Feet of SALT WATER

Rec. _____ Feet of _____
BHT 113 °F Gravity 37 °API @ 65 °F Corrected Gravity 36.5 °API

RW 0.142 @ 73.6 °F Chlorides 54000 ppm Recovery Chlorides 7000 ppm System

(A) Initial Hydrostatic Mud 1966.5 PSI AK1 Recorder No. 13277 Range 4125

(B) First Initial Flow Pressure 104.2 PSI @ (depth) 2947 w/Clock No. 30401

(C) First Final Flow Pressure 191.5 PSI AK1 Recorder No. 24174 Range 3350

(D) Initial Shut-In Pressure 522.6 PSI @ (depth) 2975 w/Clock No. 17657

(E) Second Initial Flow Pressure 253.3 PSI AK1 Recorder No. _____ Range _____

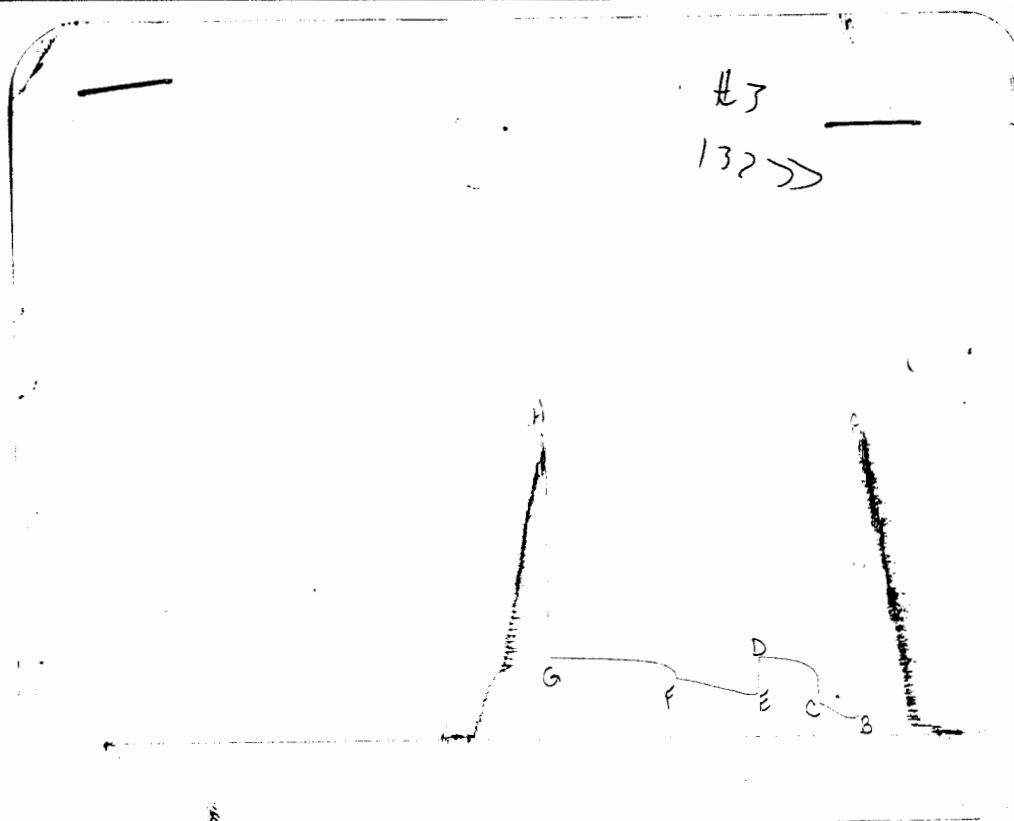
(F) Second Final Flow Pressure 370.8 PSI @ (depth) _____ w/Clock No. _____

(G) Final Shut-In Pressure 533.7 PSI Initial Opening 30 Final Flow 60

(H) Final Hydrostatic Mud 1935.4 PSI Initial Shut-In 45 Final Shut-In 90

Our Representative PAUL SIMPSON

TOTAL PRICE \$ 600.00

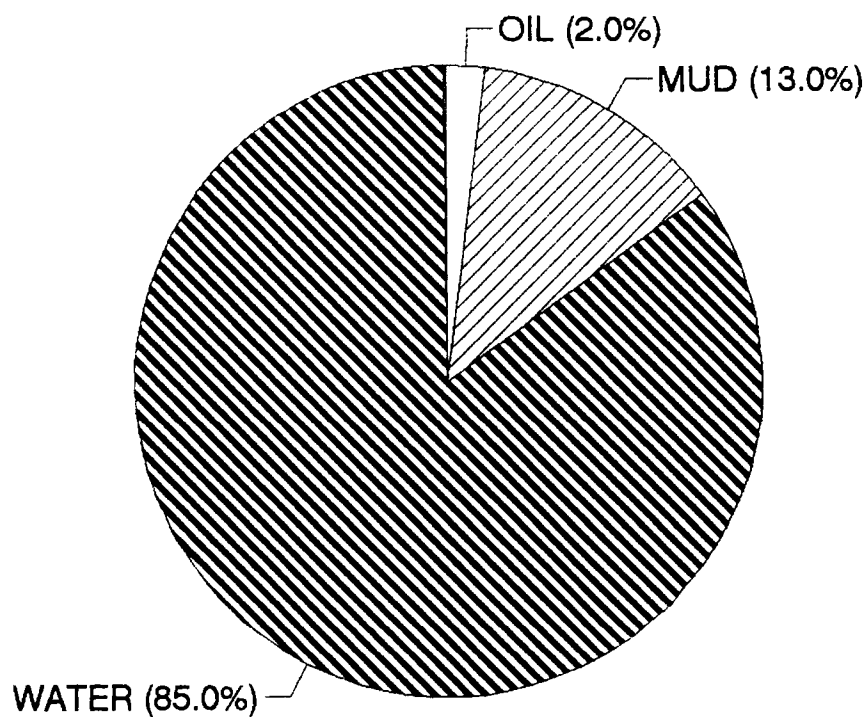


POINT This is an actual photograph of recorder chart PRESSURE

	FIELD READING	OFFICE READING
(A) INITIAL HYDROSTATIC MUD	1956	1966.5
(B) FIRST INITIAL FLOW PRESSURE	97	104.2
(C) FIRST FINAL FLOW PRESSURE	184	191.5
(D) INITIAL CLOSED-IN PRESSURE	517	522.6
(E) SECOND INITIAL FLOW PRESSURE	248	253.3
(F) SECOND FINAL FLOW PRESSURE	367	370.8
(G) FINAL CLOSED-IN PRESSURE	528	533.7
(H) FINAL HYDROSTATIC MUD	1936	1935.4

DST #		CALCULATED RECOVERY ANALYSIS					DRILL PIPE		
3		TICKET # 4110							
SAMPLE #	TOTAL FEET	GAS %	FEET	OIL %	FEET	WATER %	FEET	MUD %	FEET
1	10	0	0	100	10	0	0	0	0
2	300	0	0	2	6	63	189	35	105
3	495	0	0	0	0	100	495		0
4			0		0		0	0	0
5			0		0		0		0
TOTAL	805	0	0	1.98758	16	84.9689	684	13.0435	105

HRS OPEN BBL/DAY
 BBL OIL= 0.22752 * 1.5 3.64032
 BBL WATER 9.72648 * 155.624
 BBL MUD= 1.4931
 BBL GAS 0



TRILOBITE TESTING COMPANY

P.O. Box 362 • Hays, Kansas 67601

Test Ticket

No 4110

Well Name & No. <u>Letsch 'B' #9</u>	Test No. <u>3</u>	Date <u>8-12-91</u>
Company <u>Hallwood Petroleum Inc.</u>	Zone Tested <u>LKC - C</u>	
Address _____	Elevation <u>1766 KB</u>	
Co. Rep./Geo. <u>Jim Musgrove/Jim Nulle cont. Allen #3</u>	Est. Ft. of Pay _____	
Location: Sec. <u>4</u> Twp. <u>15s</u> Rge. <u>13w</u> Co. <u>Russell</u> State <u>Ks</u>		
No. of Copies _____ Distribution Sheet _____ Yes _____ No _____ Turnkey _____ Yes _____ No _____ Evaluation _____		

Interval Tested <u>2944-2976</u>	Drill Pipe Size <u>4 1/2" XH</u>
Anchor Length <u>32</u>	Top Choke — 1" _____ Bottom Choke — 3/4" _____
Top Packer Depth <u>2939</u>	Hole Size — 77/8" _____ Rubber Size — 6 3/4" _____
Bottom Packer Depth <u>2944</u>	Wt. Pipe I.D. — 2.7 Ft. Run _____
Total Depth <u>2976</u>	Drill Collar — 2.25 Ft. Run _____
Mud Wt. <u>9.4</u> lb/gal.	Viscosity <u>49</u> Filtrate <u>11.2</u>
Tool Open @ <u>8:03 AM</u> Initial Blow <u>strong blow - to bottom of bucket in 3 minutes (1/2" blow back on string)</u>	
Final Blow <u>2" blow building to bottom of bucket in 9 minutes</u>	

Recovery — Total Feet <u>805</u>	Feet of Gas in Pipe <u>110</u>	Flush Tool? <u>NO</u>
Rec. <u>10</u> Feet Of <u>cl oil</u>	%gas _____ %oil _____ %water _____ %mud _____	
Rec. <u>300</u> Feet Of <u>oil specked muddy water</u>	%gas <u>1</u> %oil <u>1</u> %water <u>1</u> %mud _____	
Rec. <u>495</u> Feet Of <u>salt water</u>	%gas <u>2</u> %oil <u>63</u> %water <u>35</u> %mud _____	
Rec. _____ Feet Of _____	%gas _____ %oil _____ %water _____ %mud _____	
Rec. _____ Feet Of _____	%gas _____ %oil _____ %water _____ %mud _____	

BHT <u>113</u> °F Gravity <u>37</u>	°API @ <u>65</u>	°F Corrected Gravity <u>36.5</u>	°API _____
RW <u>142</u> @ <u>736</u> °F	Chlorides <u>54,000</u> ppm Recovery	Chlorides <u>2,000</u> ppm System	
(A) Initial Hydrostatic Mud <u>1956</u>	PSI AK1 Recorder No. <u>13277</u>	Range <u>4125</u>	
(B) First Initial Flow Pressure <u>97</u>	PSI @ (depth) <u>2947</u>	w/Clock No. <u>30401</u>	
(C) First Final Flow Pressure <u>184</u>	PSI AK1 Recorder No. <u>24174</u>	Range <u>3350</u>	
(D) Initial Shut-In Pressure <u>517</u>	PSI @ (depth) <u>2925</u>	w/Clock No. <u>17652</u>	
(E) Second Initial Flow Pressure <u>248</u>	PSI AK1 Recorder No. _____	Range _____	
(F) Second Final Flow Pressure <u>367</u>	PSI @ (depth) _____	w/Clock No. _____	
(G) Final Shut-In Pressure <u>528</u>	PSI Initial Opening <u>30</u>	Test _____	
(H) Final Hydrostatic Mud <u>1936</u>	PSI Initial Shut-In <u>45</u>	Jars _____	

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	Final Shut-In <u>90</u>	Straddle _____
		Circ. Sub _____
		Sampler _____
Approved By <u>[Signature]</u>		Extra Packer _____
Our Representative <u>Paul Simpson</u>		Other _____
Printcraft Printers - Hays, KS		TOTAL PRICE \$ _____

TRILOBITE TESTING COMPANY

P.O. Box 362 • Hays, Kansas 67601

Drill-Stem Test Data

Well Name LETSCH 'B' #9 Test No. 4 Date 8/13/91
Company HALLWOOD PETROLEUM INC Zone Tested LKC-"I&J"
Address 4582 S ULSTER ST PRKSWY DENVER CO Elevation 1766 KB
Co. Rep./Geo. MR JIM MUSGROVE Cont. ALLEN #3 Est. Ft. of Pay _____
Location: Sec. 4 Twp. 15S Rge. 15W Co. RUSSELL State KS

Interval Tested 3096-3157
Anchor Length 61
Top Packer Depth 3091
Bottom Packer Depth 3096
Total Depth 3157

Drill Pipe Size 4.5 XH
Wt. Pipe I.D. - 2.7 Ft. Run _____
Drill Collar - 2.25 Ft. Run _____

Mud Wt. 9.4 lb / gal. Viscosity 54 Filtrate 10.4

Tool Open @ 8:26 Initial Blow 1/2" BLOW BUILDING TO 5"

Final Blow SURFACE BLOW BUILDING TO 5 1/2"

Recovery — Total Feet 130 Flush Tool? NO

Rec. 130 Feet of HEAVY MUD W/ OIL SPOTS-WATER CUT

Rec. _____ Feet of _____

Rec. _____ Feet of _____

Rec. _____ Feet of _____

Rec. _____ Feet of _____

BHT 113 °F Gravity _____ °API @ _____ °F Corrected Gravity _____ °API

RW _____ @ _____ °F Chlorides _____ ppm Recovery Chlorides _____ ppm System

(A) Initial Hydrostatic Mud 1698.7 PSI Ak1 Recorder No. 13277 Range 4125

(B) First Initial Flow Pressure 53.6 PSI @ (depth) 3099 w/Clock No. 30401

(C) First Final Flow Pressure 64.8 PSI AK1 Recorder No. 24174 Range 3350

(D) Initial Shut-In Pressure 881.2 PSI @ (depth) 3156 w/Clock No. 17657

(E) Second Initial Flow Pressure 80.9 PSI AK1 Recorder No. _____ Range _____

(F) Second Final Flow Pressure 86.3 PSI @ (depth) _____ w/Clock No. _____

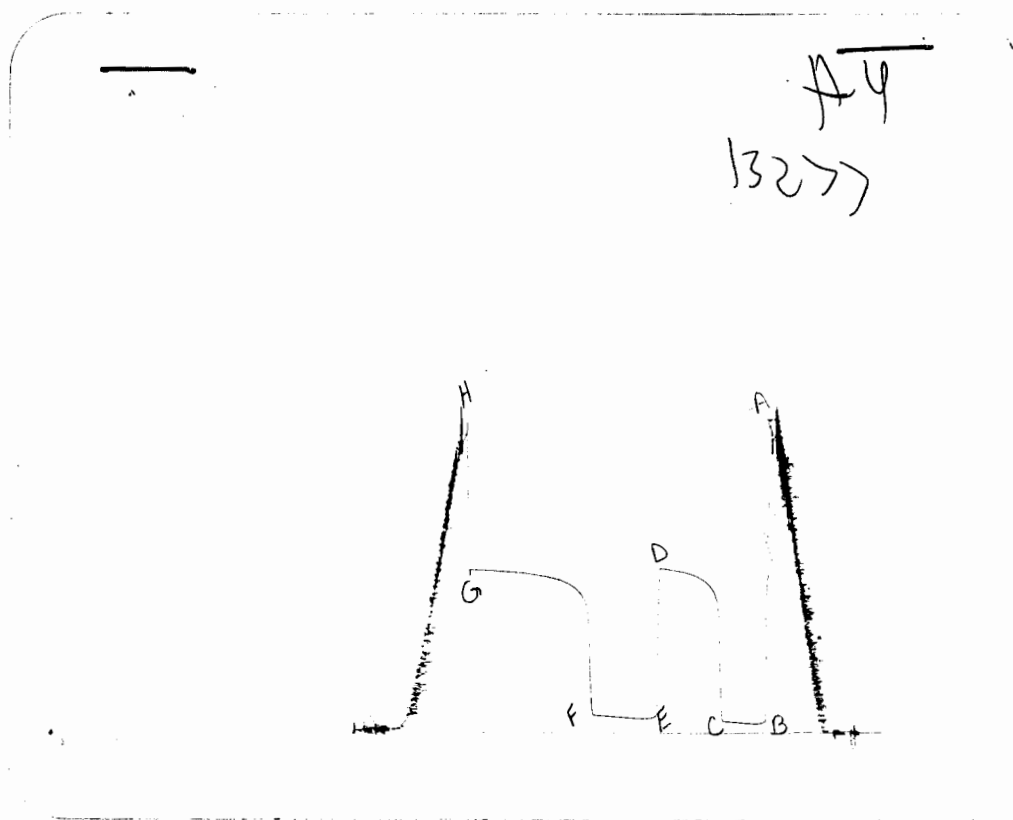
(G) Final Shut-In Pressure 867.1 PSI Initial Opening 30 Final Flow 45

(H) Final Hydrostatic Mud 1677.8 PSI Initial Shut-In 45 Final Shut-In 90

PAUL SIMPSON

Our Representative _____

TOTAL PRICE \$ 600



POINT

This is an actual photograph of recorder chart
PRESSURE

	FIELD READING	OFFICE READING
(A) INITIAL HYDROSTATIC MUD	1690	1698.7
(B) FIRST INITIAL FLOW PRESSURE	49	53.6
(C) FIRST FINAL FLOW PRESSURE	58	64.8
(D) INITIAL CLOSED-IN PRESSURE	878	881.2
(E) SECOND INITIAL FLOW PRESSURE	74	80.9
(F) SECOND FINAL FLOW PRESSURE	83	86.3
(G) FINAL CLOSED-IN PRESSURE	870	867.1
(H) FINAL HYDROSTATIC MUD	1673	1677.8

TRILOBITE TESTING COMPANY

P.O. Box 362 • Hays, Kansas 67601

Test Ticket

No. 4111

Well Name & No. <u>Letch B # 9</u>	Test No. <u>4</u>	Date <u>8-13-91</u>
Company <u>Hallwood Petroleum Inc</u>	Zone Tested <u>LKC 'IS'</u>	
Address _____	Elevation <u>1766 KB</u>	
Co. Rep./Geo. <u>Jim Musgrove</u>	Cont. <u>Alka A3</u>	Est. Ft. of Pay _____
Location: Sec. <u>4</u> Twp. <u>15S</u> Rge. <u>13W</u> Co. <u>Russell</u> State <u>KS</u>		
No. of Copies _____	Distribution Sheet _____	Yes _____ No _____ Turnkey _____ Yes _____ No _____ Evaluation _____

Interval Tested <u>3096-3157</u>	Drill Pipe Size <u>4 1/2 XH</u>
Anchor Length <u>61</u>	Top Choke — 1" _____ Bottom Choke — 3/4" _____
Top Packer Depth <u>3091</u>	Hole Size — 7 7/8" _____ Rubber Size — 6 3/4" _____
Bottom Packer Depth <u>3096</u>	Wt. Pipe I.D. — 2.7 Ft. Run _____
Total Depth <u>3157</u>	Drill Collar — 2.25 Ft. Run _____
Mud Wt. <u>9.1</u> lb/gal.	Viscosity <u>54</u> Filtrate <u>10.4</u>
Tool Open @ <u>8:26 AM</u>	Initial Blow <u>1/2" blow building to 5"</u>
Final Blow <u>Surface blow building to 5 1/2"</u>	

Recovery — Total Feet <u>130</u>	Feet of Gas in Pipe _____	Flush Tool? _____
Rec. <u>130</u> Feet Of <u>Heavy Mud w/ oil spots</u>	% gas _____ % oil _____ % water _____ % mud _____	
Rec. _____ Feet Of <u>(water cut)</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 _____	
BHT <u>113</u> °F Gravity _____ °API @ _____ °F Corrected Gravity _____ °API		
RW _____ @ _____ °F Chlorides _____ ppm Recovery _____ Chlorides _____ ppm System		

(A) Initial Hydrostatic Mud <u>1690</u> PSI	AK1 Recorder No. <u>13277</u> Range <u>4125</u>
(B) First Initial Flow Pressure <u>49</u> PSI	@ (depth) <u>3099</u> w/Clock No. <u>30401</u>
(C) First Final Flow Pressure <u>58</u> PSI	AK1 Recorder No. <u>24174</u> Range <u>3350</u>
(D) Initial Shut-In Pressure <u>878</u> PSI	@ (depth) <u>3156</u> w/Clock No. <u>12652</u>
(E) Second Initial Flow Pressure <u>74</u> PSI	AK1 Recorder No. _____ Range _____
(F) Second Final Flow Pressure <u>83</u> PSI	@ (depth) _____ w/Clock No. _____
(G) Final Shut-In Pressure <u>870</u> PSI	Initial Opening <u>30</u> Test <u>Y</u>
(H) Final Hydrostatic Mud <u>1673</u> PSI	Initial Shut-In <u>45</u> 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 <u>45</u>	Safety Joint <u>Y</u>
Final Shut-In <u>90</u>	Straddle _____
	Circ. Sub _____
	Sampler _____
	Extra Packer _____
	Other _____

Approved By [Signature]

Our Representative Paul Simpson

TRILOBITE TESTING COMPANY

P.O. Box 362 • Hays, Kansas 67601

Drill-Stem Test Data

Well Name LETSCH 'B' #9 Test No. 5 Date 8/14/91
Company HALLWOOD PETROLEUM INC Zone Tested ARBUCKLE
Address 4582 S ULSTER ST PRKSWY DENVER CO Elevation 1766 KB
Co. Rep./Geo. MR JIM MUSGROVE Cont. ALLEN #3 Est. Ft. of Pay 7
Location: Sec. 4 Twp. 15S Rge. 15W Co. RUSSELL State KS

Interval Tested 3223-3238
Anchor Length 15
Top Packer Depth 3218
Bottom Packer Depth 3223
Total Depth 3238

Drill Pipe Size 4.5 XH
Wt. Pipe I.D. - 2.7 Ft. Run
Drill Collar - 2.25 Ft. Run

Mud Wt. lb / gal. Viscosity Filtrate

Tool Open @ 2:51 AM Initial Blow 1/2" BLOW BUILDING TO BOTTOM OF BUCKET IN 3 MIN
(1" BLOW BACK ON SHUT IN)

Final Blow 1" BLOW BUILDING TO BOTTOM OF BUCKET IN 4 MINUTES
(WEAK BLOW BACK ON SHUT IN)

Recovery — Total Feet 1200 Flush Tool? NO

Rec. 960 Feet of CLEAN GASSY OIL-40%GAS/60%OIL

Rec. 60 Feet of GSY WTR & MUD CUT OIL-10%GAS/60%OIL/20%WTR/10%MUD

Rec. 60 Feet of OIL & WTR CUT MUD-10%OIL/40%WTR/50%MUD :

Rec. 60 Feet of MUDDY WTR-2%OIL/68%WTR/30%MUD

Rec. 60 Feet of SALT WATER

BHT 116 °F Gravity 39 °API @ 80 °F Corrected Gravity 37 °API

RW 0.32 @ 60 °F Chlorides 25000 ppm Recovery Chlorides 9000 ppm System

(A) Initial Hydrostatic Mud 1722.4 PSI AK1 Recorder No. 13277 Range 4125

(B) First Initial Flow Pressure 70.5 PSI @ (depth) 3228 w/Clock No. 30401

(C) First Final Flow Pressure 184.3 PSI AK1 Recorder No. 24174 Range 3350

(D) Initial Shut-In Pressure 915.6 PSI @ (depth) 3237 w/Clock No. 24174

(E) Second Initial Flow Pressure 288.9 PSI AK1 Recorder No. Range

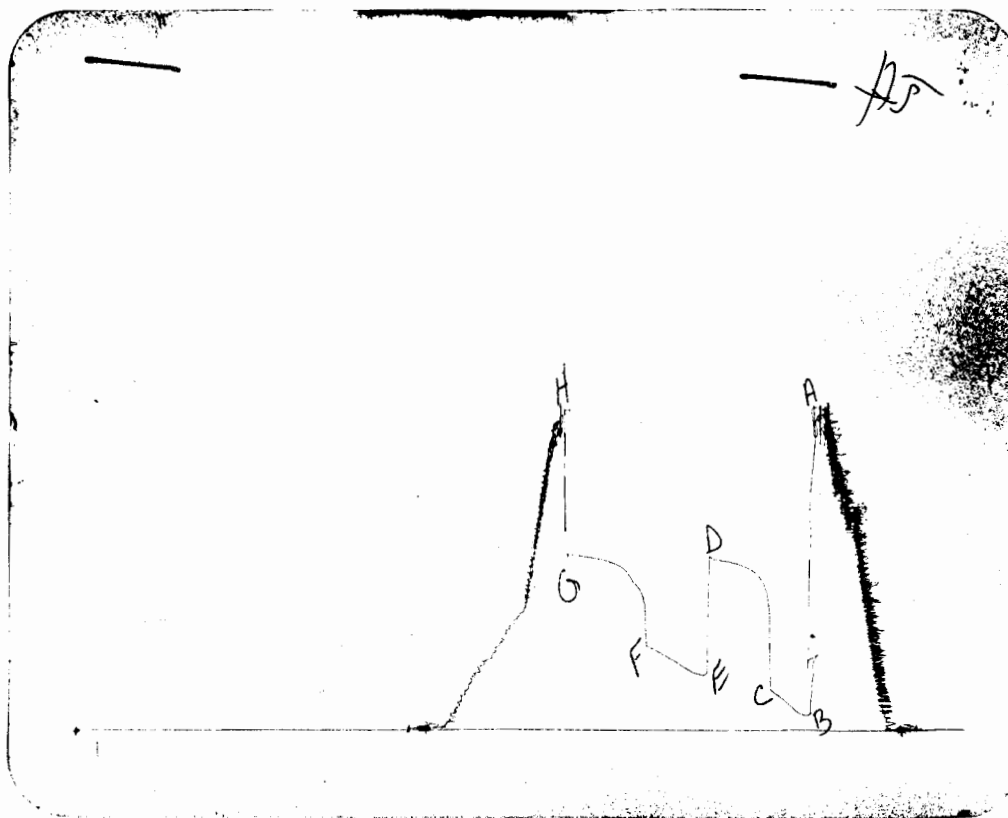
(F) Second Final Flow Pressure 415.8 PSI @ (depth) w/Clock No.

(G) Final Shut-In Pressure 915.6 PSI Initial Opening 30 Final Flow 45

(H) Final Hydrostatic Mud 1680.7 PSI Initial Shut-In 45 Final Shut-In 60

Our Representative PAUL SIMPSON

TOTAL PRICE \$ 600

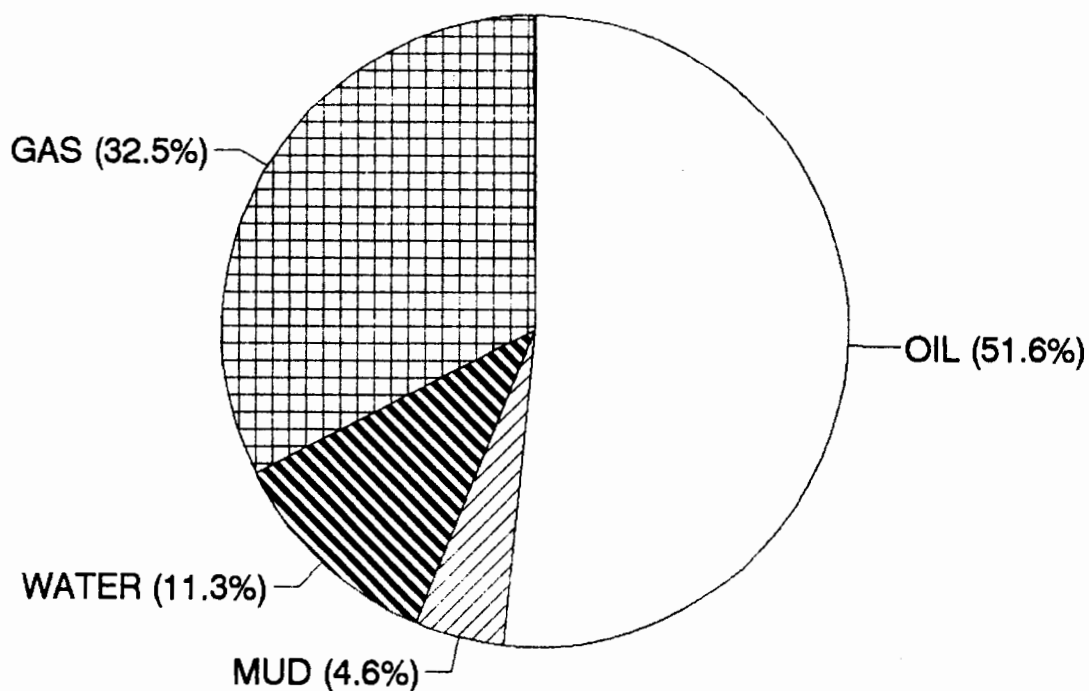


POINT This is an actual photograph of recorder chart PRESSURE

	FIELD READING	OFFICE READING
(A) INITIAL HYDROSTATIC MUD	1715	1722.4
(B) FIRST INITIAL FLOW PRESSURE	66	70.5
(C) FIRST FINAL FLOW PRESSURE	181	184.3
(D) INITIAL CLOSED-IN PRESSURE	912	915.6
(E) SECOND INITIAL FLOW PRESSURE	280	288.9
(F) SECOND FINAL FLOW PRESSURE	412	415.8
(G) FINAL CLOSED-IN PRESSURE	912	915.6
(H) FINAL HYDROSTATIC MUD	1681	1680.7

DST #		CALCULATED RECOVERY ANALYSIS						DRILL PIPE			
5		TICKET # 4112									
SAMPLE		TOTAL		GAS		OIL		WATER		MUD	
#	FEET	%	FEET	%	FEET	%	FEET	%	FEET	%	FEET
1	960	40	384	60	576	0	0	0	0	0	0
2	60	10	6	60	36	20	12	10	6	6	6
3	60	0	0	10	6	40	24	50	30	30	30
4	60	0	0	2	1.2	68	40.8	30	18	18	18
5	60	0	0	0	0	98	58.8	2	1.2	1.2	1.2
TOTAL		1200	32.5	390	51.6	619.2	11.3	135.6	4.6	55.2	55.2

HRS OPEN BBL/DAY
 BBL OIL= 8.805024 * 1.25 169.056
 BBL WATER 1.928232 * 37.0221
 BBL MUD= 0.784944
 BBL GAS 5.5458



TRILOBITE TESTING COMPANY

P.O. Box 362 • Hays, Kansas 67601

Test Ticket

No 4112

Well Name & No. <u>Leitch 'B' #9</u>	Test No. <u>5</u>	Date <u>8-14-91</u>
Company <u>Hallwood Petroleum Inc.</u>	Zone Tested <u>Arbuckle</u>	
Address _____	Elevation <u>1766 KB</u>	
Co. Rep./Geo. <u>Scott Albary</u>	Cont. <u>Allen #3</u>	Est. Ft. of Pay <u>7</u>
Location: Sec. <u>4</u>	Twp. <u>15s</u>	Rge. <u>13w</u>
	Co. <u>Russell</u>	State <u>KS</u>
No. of Copies _____	Distribution Sheet _____	Yes _____ No _____ Turnkey _____ Yes _____ No _____ Evaluation _____

Interval Tested <u>3223-3238</u>	Drill Pipe Size <u>4 1/2" X 11'</u>
Anchor Length <u>15</u>	Top Choke — 1" _____ Bottom Choke — 3/4" _____
Top Packer Depth <u>3218</u>	Hole Size — 7 7/8" _____ Rubber Size — 6 3/4" _____
Bottom Packer Depth <u>3223</u>	Wt. Pipe I.D. — 2.7 Ft. Run _____
Total Depth <u>3238</u>	Drill Collar — 2.25 Ft. Run _____

Mud Wt. _____ lb/gal.	Viscosity _____	Filtrate _____
Tool Open @ <u>2:51 AM</u>	Initial Blow <u>1 1/2" blow building to bottom of bucket in 3 minutes (1" blow back on shot in)</u>	
Final Blow <u>1" blow building to bottom of bucket in 4 minutes (weak blow back on shot in)</u>		

Recovery — Total Feet <u>1200</u>	Feet of Gas in Pipe <u>90</u>	Flush Tool? _____
Rec. <u>960</u> Feet Of <u>cl. gassy oil</u>	<u>40</u> %gas <u>60</u> %oil _____ %water _____ %mud _____	
Rec. <u>60</u> Feet Of <u>gassy W&MCO</u>	<u>10</u> %gas <u>60</u> %oil <u>20</u> %water <u>10</u> %mud _____	
Rec. <u>60</u> Feet Of <u>O&W CM</u>	_____ %gas <u>10</u> %oil <u>40</u> %water <u>50</u> %mud _____	
Rec. <u>60</u> Feet Of <u>MW</u>	_____ %gas <u>2</u> %oil <u>68</u> %water <u>30</u> %mud _____	
Rec. <u>60</u> Feet Of <u>salt water</u>	_____ %gas <u>1</u> %oil <u>98</u> %water <u>2</u> %mud _____	

BHT <u>116</u> °F Gravity <u>39</u>	°API @ <u>80</u>	°F Corrected Gravity <u>37</u>	°API _____
RW <u>.32</u> @ <u>60</u> °F	Chlorides <u>25,000</u> ppm Recovery	Chlorides <u>9,000</u> ppm System	

(A) Initial Hydrostatic Mud <u>1715</u>	PSI AK1 Recorder No. <u>13257</u>	Range <u>4125</u>
(B) First Initial Flow Pressure <u>66</u>	PSI @ (depth) <u>3228</u>	w/Clock No. <u>30401</u>
(C) First Final Flow Pressure <u>181</u>	PSI AK1 Recorder No. <u>24174</u>	Range <u>3350</u>
(D) Initial Shut-In Pressure <u>912</u>	PSI @ (depth) <u>3237</u>	w/Clock No. <u>24174</u>
(E) Second Initial Flow Pressure <u>280</u>	PSI AK1 Recorder No. _____	Range _____
(F) Second Final Flow Pressure <u>412</u>	PSI @ (depth) _____	w/Clock No. _____
(G) Final Shut-In Pressure <u>912</u>	PSI Initial Opening <u>30</u>	Test _____
(H) Final Hydrostatic Mud <u>1681</u>	PSI Initial Shut-In <u>45</u>	Jars _____

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

Approved By [Signature]

Our Representative [Signature]