TRILOBITE TESTING COMPANY

P.O. Box 362 • Hays, Kansas 67601

COPY

Drill-Stem Test Data

Well Name LETSCH "B" #8 Test No. 1 Date 4/21/91
Company HALLWOOD PETROLEUM INC Zone Tested TOPEKA
Address P.O. BOX 378111 DENVER CO Elevation 1801
Co. Rep./Geo. MR JIM MUSGROVE Cont. ALLEN DRLG #1 Est. Ft. of Pay 10
Location: Sec. 4 Twp. 15S Rge. 13W Co. RUSSELL State KS

Interval Tested 2321-2450 Drill Pipe Size 4.5 XH
Anchor Length 129 Wt. Pipe I.D. - 2.7 Ft. Run
Top Packer Depth 2316 Drill Collar — 2.25 Ft. Run
Bottom Packer Depth 2321
Total Depth 2450

Mud Wt. 8.6 lb / gal. Viscosity 47 Filtrate 8.8

Tool Open @ 6:40 PM Initial Blow STRONG BLOW-GAS TO SURFACE IN 2 MINUTES-GAUGED 1036 MCF/DAY
Final Blow STRONG-GAUGED 1348 MCF/DAY

Recovery — Total Feet 160 Flush Tool? NO

Rec. 120 Feet of GASSY MUD
Rec. 40 Feet of MUDDY WATER
Rec. Feet of
Rec. Feet of
Rec. Feet of

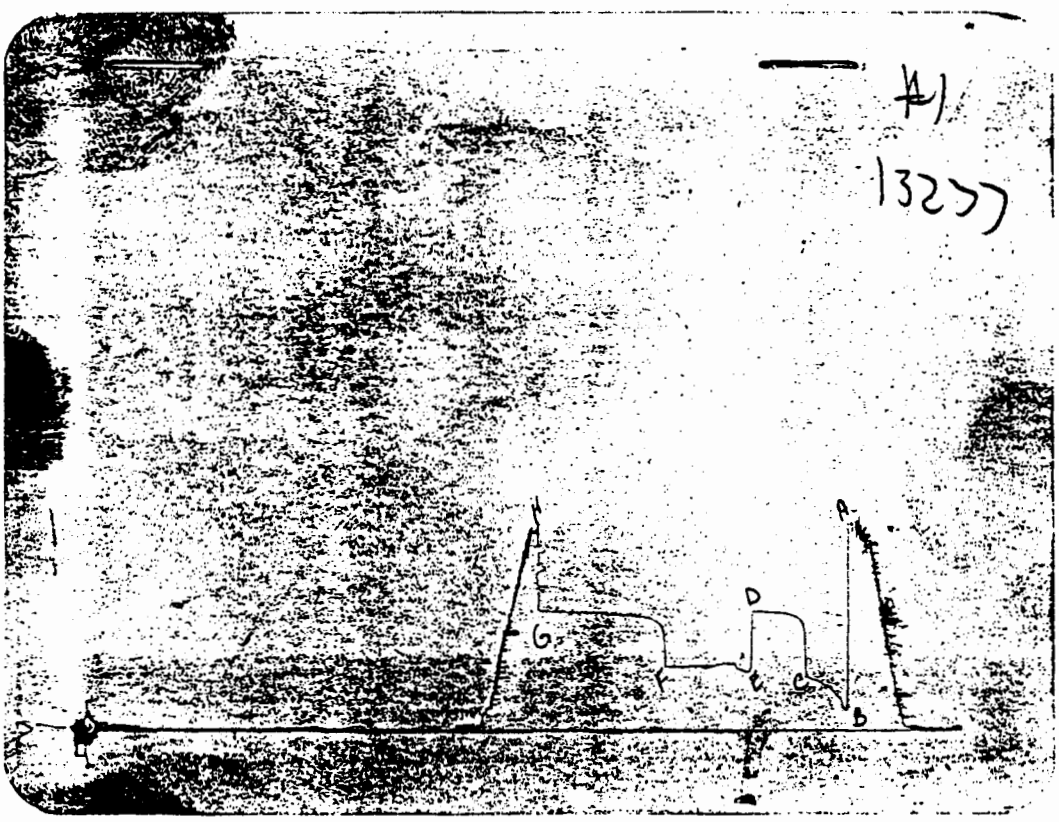
BHT 88 °F Gravity °API @ °F Corrected Gravity °API

RW 0.51 @ 58.6 °F Chlorides 15500 ppm Recovery Chlorides 7500 ppm System

(A) Initial Hydrostatic Mud 1151.2 PSI AK1 Recorder No. 13277 Range 4125
First Initial Flow Pressure 201.3 PSI @ (depth) 2325 w/Clock No. 27501
(C) First Final Flow Pressure 335.6 PSI AK1 Recorder No. 24174 Range 3350
(D) Initial Shut-In Pressure 671.2 PSI @ (depth 2449 w/Clock No. 17652
(E) Second Initial Flow Pressure 351.4 PSI AK1 Recorder No. Range
(F) Second Final Flow Pressure 390.5 PSI @ (depth) w/Clock No.
(G) Final Shut-In Pressure 669.8 PSI Initial Opening 30 Final Flow 60
(H) Final Hydrostatic Mud 1125.6 PSI Initial Shut-In 45 Final Shut-In 90

Our Representative MR PAUL SIMPSON TOTAL PRICE $ 600

RECEIVED
STATE CORPORATION COMMISSION
MAR 30 1992
CONSERVATION DIVISION
Wichita, Kansas



This is an actual photograph of recorder chart

POINT	PRESSURE FIELD READING	PRESSURE OFFICE READING
) INITIAL HYDROSTATIC MUD	1146	1151.2
) FIRST INITIAL FLOW PRESSURE	198	201.3
) FIRST FINAL FLOW PRESSURE	330	335.6
) INITIAL CLOSED-IN PRESSURE	670	671.2
) SECOND INITIAL FLOW PRESSURE	346	351.4
) SECOND FINAL FLOW PRESSURE	387	390.5
) FINAL CLOSED-IN PRESSURE	670	669.8
) FINAL HYDROSTATIC MUD	1129	1125.6

4-15-13W

TRILOBITE TESTING

P.O. Box 362 • Hays, Kansas 67601 • (913) 625-4778

GAS VOLUME REPORT

HALLWOOD PETROLEUM INC — OPERATOR

LETSCH "B" #8 — WELL NAME AND NO.

1 — DST NO.

In.	Ins. of Water PSIG	Orifice Size	MCF/D	Min.	Ins. of Water PSIG	Orifice Size	MCF/D
5	6	1.5	953	3	10	1.5	1274
10	6.5	1.5	995	10	11	1.5	1348
20	6.5	1.5	995	20	11	1.5	1348
30	7	1.5	1036	30	10.5	1.5	1325
				40	11	1.5	1348
				50	11	1.5	1348
				60	11	1.5	1348

Remarks:

GAS WILL BURN

RECEIVED
STATE CORPORATION COMMISSION
MAR 30 1987
CONSERVATION DIVISION
Wichita, Kansas

TRILOBITE TESTING COMPANY

P.O. Box 362 • Hays, Kansas 67601

№ 3715

Test Ticket

3 - Denver 1 - P-Ville - 1 - G. Bend

Well Name & No. Letsch 'B' #8 Test No. 1 Date 4-21-91

Company Hallwood Petroleum Inc Zone Tested Tarkio

Address PO Box 378111 Elevation 1801

Co. Rep./Geo. Jim Musgrove Cont. Alba #1 Est. Ft. of Pay 10

Location: Sec. 4 Twp. 15s Rge. 13w Co. Russell State Ks

No. of Copies 5 Distribution Sheet ____ Yes ____ No Turnkey ____ Yes ____ No X Evaluation

Interval Tested 2321-2450 Drill Pipe Size 4½ XH

Anchor Length 129 Top Choke — 1" ____ Bottom Choke — ¼" ____

Top Packer Depth 2316 Hole Size — 7⅞" ____ Rubber Size — 6¾" ____

Bottom Packer Depth 2321 Wt. Pipe I.D. — 2.7 Ft. Run ____

Total Depth 2450 Drill Collar — 2.25 Ft. Run 30

Mud Wt. 8.6 lb / gal. Viscosity 47 Filtrate 8.8

Tool Open @ 6:40 PM Initial Blow strong blow BTS in 2 minutes gauged 1036 MCF/D

Final Blow strong - gauged 1348 mcf/d

Recovery — Total Feet 160 Feet of Gas in Pipe ____ Flush Tool? ____

Rec. 120	Feet Of gassy Mud	%gas	%oil	%water	%mud
Rec. 40	Feet Of muddy water	%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 88 °F Gravity ____ °API @ ____ °F Corrected Gravity ____ °API

RW .51 @ 58.6 °F Chlorides 15,500 ppm Recovery Chlorides 7500 ppm System

(A) Initial Hydrostatic Mud	1146 PSI	AK1 Recorder No.	13277	Range	4125
(B) First Initial Flow Pressure	198 PSI	@ (depth)	2325	w/Clock No.	27501
(C) First Final Flow Pressure	330 PSI	AK1 Recorder No.	24174	Range	3350
(D) Initial Shut-In Pressure	670 PSI	@ (depth)	2449	w/Clock No.	17652
(E) Second Initial Flow Pressure	346 PSI	AK1 Recorder No.	____	Range	____
(F) Second Final Flow Pressure	367 PSI	@ (depth)	____	w/Clock No.	____
(G) Final Shut-In Pressure	620 PSI	Initial Opening	30	Test	X
(H) Final Hydrostatic Mud	1129 PSI	Initial Shut-In	45	Jars	____
		Final Flow	60	Safety Joint	X
		Final Shut-In	90	Straddle	____
				Circ. Sub	____
				Sampler	____
				Extra Packer	____
				Other	____
				TOTAL PRICE $	

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 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 Musgrove

Our Representative Paul Simpson

Printcraft Printers - Hays, KS

TRILOBITE TESTING COMPANY

P.O. Box 362 • Hays, Kansas 67601

COPY

Drill-Stem Test Data

Well Name LETSCH "B" #8 Test No. 2 Date 4/23/91
Company HALLWOOD PETROLEUM INC Zone Tested TORONTO
Address P.O. BOX 378111 DENVER CO Elevation 1801
Co. Rep./Geo. MR JIM MUSGROVE Cont. ALLEN DRLG #1 Est. Ft. of Pay
Location: Sec. 4 Twp. 15S Rge. 13W Co. RUSSELL State KS

Interval Tested 2893-2934 Drill Pipe Size 4.5 XH
Anchor Length 41 Wt. Pipe I.D. - 2.7 Ft. Run
Top Packer Depth 2888 Drill Collar — 2.25 Ft. Run
Bottom Packer Depth 2893
Total Depth 2934

Mud Wt. 8.8 lb / gal. Viscosity 43 Filtrate 10.4

Tool Open @ :200 AM Initial Blow WEAK 1/4" BLOW BUILDING TO 4"
GAUGED 1036 MCF/DAY
Final Blow 1 BLOW BUILDING TO BOTTOM OF BUCKET IN 30 MINUTES

Recovery — Total Feet 50 Flush Tool? NO

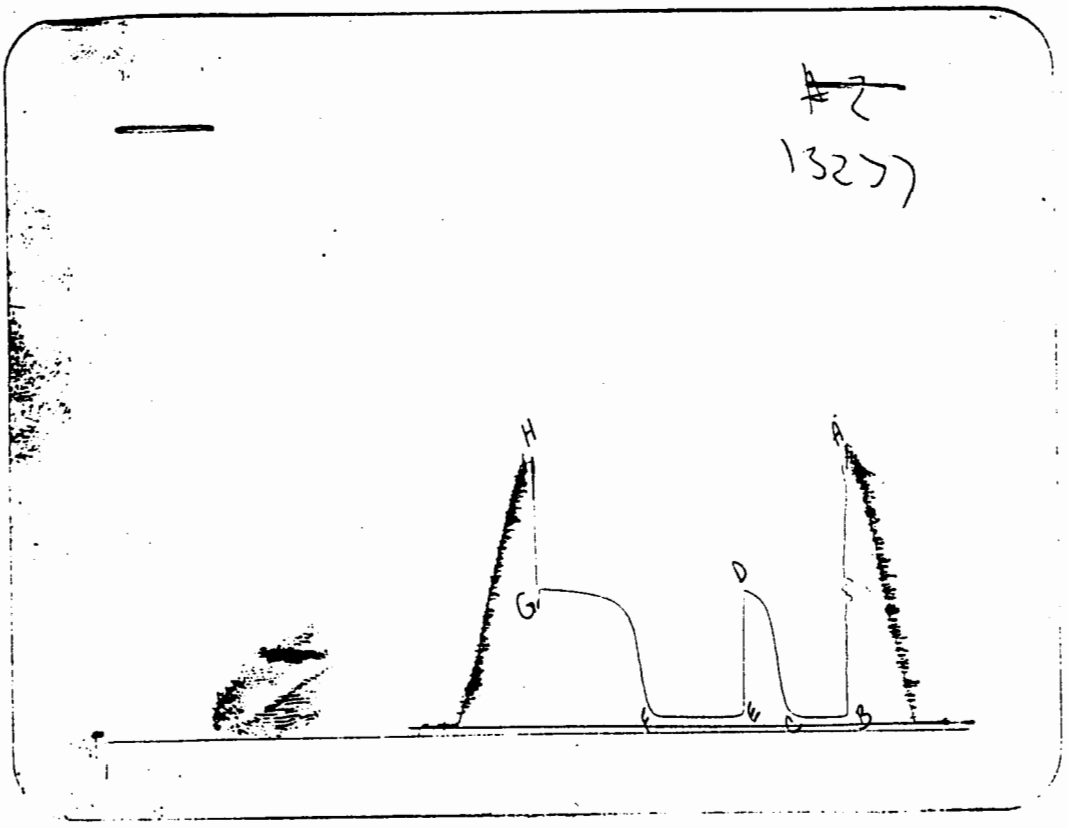
Rec. 50 Feet of HEAVY OIL CUT MUD-35%OIL/65%MUD
Rec. Feet of
Rec. Feet of
Rec. Feet of
Rec. Feet of

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

RW @ °F Chlorides ppm Recovery Chlorides ppm System

(A) Initial Hydrostatic Mud	1522.3 PSI	AK1 Recorder No.	13277	Range	4125
(B) First Initial Flow Pressure	46.2 PSI	@ (depth)	2896	w/Clock No.	25828
(C) First Final Flow Pressure	46.2 PSI	AK1 Recorder No.	24174	Range	3350
(D) Initial Shut-In Pressure	748.9 PSI	@ (depth	2933	w/Clock No.	27501
(E) Second Initial Flow Pressure	61.2 PSI	AK1 Recorder No.		Range	
(F) Second Final Flow Pressure	61.2 PSI	@ (depth)		w/Clock No.	
(G) Final Shut-In Pressure	760.9 PSI	Initial Opening	30	Final Flow	60
(H) Final Hydrostatic Mud	1450.3 PSI	Initial Shut-In	45	Final Shut-In	90

Our Representativve MR PAUL SIMPSON TOTAL PRICE $ 600



This is an actual photograph of recorder chart

POINT	PRESSURE FIELD READING	OFFICE READING
(A) INITIAL HYDROSTATIC MUD	1500	1522.3
(B) FIRST INITIAL FLOW PRESSURE	43	46.2
(C) FIRST FINAL FLOW PRESSURE	43	46.2
(D) INITIAL CLOSED-IN PRESSURE	743	748.9
(E) SECOND INITIAL FLOW PRESSURE	54	61.2
(F) SECOND FINAL FLOW PRESSURE	54	61.2
(G) FINAL CLOSED-IN PRESSURE	753	760.9
(H) FINAL HYDROSTATIC MUD	1459	1450.3

TRILOBITE TESTING COMPANY

P.O. Box 362 • Hays, Kansas 67601

COPY

Nº 3716

Test Ticket

Well Name & No. Letsch 'B' #8 Test No. 2 Date 4-23-91

Company Hallwood Petroleum Inc Zone Tested Toronto

Address _____ Elevation 1801

Co. Rep./Geo. Jim Musgrove Cont. Allen #1 Est. Ft. of Pay _____

Location: Sec. 4 Twp. 13s Rge. 13w Co. Russell State Ks

No. of Copies _____ Distribution Sheet _____ Yes _____ No Turnkey _____ Yes _____ No _____ Evaluation

Interval Tested 2893 - 2934 Drill Pipe Size 4½ XH

Anchor Length 41 Top Choke — 1" _____ Bottom Choke — ¾" _____

Top Packer Depth 2888 Hole Size — 7⅞" _____ Rubber Size — 6¾" _____

Bottom Packer Depth 2893 Wt. Pipe I.D. — 2.7 Ft. Run _____

Total Depth 2934 Drill Collar — 2.25 Ft. Run _____

Mud Wt. 8.8 lb / gal. Viscosity 43 Filtrate 10.4

Tool Open @ 2:00 AM Initial Blow weak ¼ blow building to 4"

Final Blow 2" blow building to bottom of bucket in 30 Minutes

Recovery — Total Feet 50 Feet of Gas in Pipe 340 Flush Tool? _____

Rec. 50 Feet Of HOCM %gas 35 %oil _____ %water 65 %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 _____ ppm System

(A) Initial Hydrostatic Mud	1500 PSI	AK1 Recorder No.	13277	Range	4125
(B) First Initial Flow Pressure	43 PSI	@ (depth)	2896	w/Clock No.	25828
First Final Flow Pressure	43 PSI	AK1 Recorder No.	24174	Range	3350
(D) Initial Shut-In Pressure	743 PSI	@ (depth)	2933	w/Clock No.	27501
(E) Second Initial Flow Pressure	54 PSI	AK1 Recorder No.	_____	Range	_____
(F) Second Final Flow Pressure	54 PSI	@ (depth)	_____	w/Clock No.	_____
(G) Final Shut-In Pressure	753 PSI	Initial Opening	30	Test	X
(H) Final Hydrostatic Mud	1459 PSI	Initial Shut-In	45	Jars	_____
		Final Flow	60	Safety Joint	_____
		Final Shut-In	90	Straddle	_____
				Circ. Sub	_____
				Sampler	_____
				Extra Packer	_____
				Other	_____
				TOTAL PRICE $	600

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Approved By _____

Our Representative Paul Stimpson

Printcraft Printers - Hays, KS

TRILOBITE TESTING COMPANY

P.O. Box 362 • Hays, Kansas 67601

Drill-Stem Test Data

Well Name LETSCH "B" #8 Test No. 3 Date 4/23/91
Company HALLWOOD PETROLEUM INC Zone Tested LANS-KS CITY
Address P.O. BOX 378111 DENVER CO Elevation 1801
Co. Rep./Geo. MR JIM MUSGROVE Cont. ALLEN DRLG #1 Est. Ft. of Pay
Location: Sec. 4 Twp. 15S Rge. 13W Co. RUSSELL State KS

Interval Tested 2983-3013 Drill Pipe Size 4.5 XH
Anchor Length 30 Wt. Pipe I.D. - 2.7 Ft. Run
Top Packer Depth 2978 Drill Collar — 2.25 Ft. Run
Bottom Packer Depth 2983
Total Depth 3013

Mud Wt. 9.3 lb / gal. Viscosity 42 Filtrate 11.2

Tool Open @ 1:46 PM Initial Blow 1" BLOW BUILDING TO BOTTOM OF BUCKET IN 4 MINUTES-(1/4" BLOW BACK ON SHUTIN)
Final Blow 2" BLOW BUILDING TO BOTTOM OF BUCKET IN 10 MINUTES

Recovery — Total Feet 850 Flush Tool? NO

Rec. 3 Feet of CLEAN OIL
Rec. 847 Feet of WATER
Rec. Feet of
Rec. Feet of
Rec. Feet of

BHT 108 °F Gravity °API @ °F Corrected Gravity °API

RW 0.356 @ 75 °F Chlorides 18000 ppm Recovery Chlorides 8000 ppm System

(A) Initial Hydrostatic Mud 1477.8 PSI AK1 Recorder No. 24174 Range 3350
(B) First Initial Flow Pressure 91.2 PSI @ (depth) 3012 w/Clock No. 17639
(C) First Final Flow Pressure 250.6 PSI AK1 Recorder No. 13277 Range 4125
(D) Initial Shut-In Pressure 477.9 PSI @ (depth 2986 w/Clock No. 27501
(E) Second Initial Flow Pressure 310.5 PSI AK1 Recorder No. Range
(F) Second Final Flow Pressure 408.6 PSI @ (depth) w/Clock No.
(G) Final Shut-In Pressure 501.2 PSI Initial Opening 30 Final Flow 60
(H) Final Hydrostatic Mud 1450.6 PSI Initial Shut-In 45 Final Shut-In 90

STATE CORPORATION COMMISSION JAN 2 0 1992 CONSERVATION DIVISION Wichita, Kansas

Our Representativve MR PAUL SIMPSON TOTAL PRICE $ 600

TRILOBITE TESTING COMPANY

P.O. Box 362 • Hays, Kansas 67601

№ 3717

Test Ticket

Well Name & No. Leisch "B" #8 Test No. 3 Date 4-23-91

Company Hallwood Petroleum Inc Zone Tested LKC

Address _____ Elevation 1801

Co. Rep./Geo. Jim Musgrove/Jim Linville Cont. Allen #1 Est. Ft. of Pay _____

Location: Sec. 4 Twp. 15s Rge. 13w Co. Russell State Ks

No. of Copies _____ Distribution Sheet _____ Yes _____ No Turnkey _____ Yes _____ No _____ Evaluation

Interval Tested 2983-3013 Drill Pipe Size 4½ FH

Anchor Length 30 Top Choke — 1" _____ Bottom Choke — ¾" _____

Top Packer Depth 2978 Hole Size — 7⅞" _____ Rubber Size — 6¾" _____

Bottom Packer Depth 2983 Wt. Pipe I.D. — 2.7 Ft. Run _____

Total Depth 3013 Drill Collar — 2.25 Ft. Run _____

Mud Wt. 9.3 lb / gal. Viscosity 42 Filtrate 11.2

Tool Open @ 1:46 PM Initial Blow 1" blow building to bottom of bucket in 4 minutes (½" blow back on shut in)

Final Blow 2" blow building to bottom of bucket in 10 minutes

Recovery — Total Feet 850 Feet of Gas in Pipe _____ Flush Tool? _____

Rec. 3	Feet Of clean oil	%gas	%oil	%water	%mud
Rec. 847	Feet Of water	%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 108 °F Gravity _____ °API @ _____ °F Corrected Gravity _____ °API

Rw 1.356 @ 75 °F Chlorides 18,000 ppm Recovery Chlorides 8000 ppm System

(A) Initial Hydrostatic Mud	1479 PSI	AK1 Recorder No.	24174	Range	3350
(B) First Initial Flow Pressure	86 PSI	@ (depth)	3012	w/Clock No.	17639
(C) First Final Flow Pressure	232 PSI	AK1 Recorder No.	13277	Range	4125
(D) Initial Shut-In Pressure	475 PSI	@ (depth)	2986	w/Clock No.	27501
(E) Second Initial Flow Pressure	302 PSI	AK1 Recorder No.	_____	Range	_____
(F) Second Final Flow Pressure	400 PSI	@ (depth)	_____	w/Clock No.	_____
(G) Final Shut-In Pressure	497 PSI	Initial Opening	30	Test	X
(H) Final Hydrostatic Mud	1459 PSI	Initial Shut-In	45	Jars	_____
		Final Flow	60	Safety Joint	X
		Final Shut-In	90	Straddle	_____
				Circ. Sub	_____
				Sampler	_____
				Extra Packer	_____
				Other	_____
				TOTAL PRICE $	600

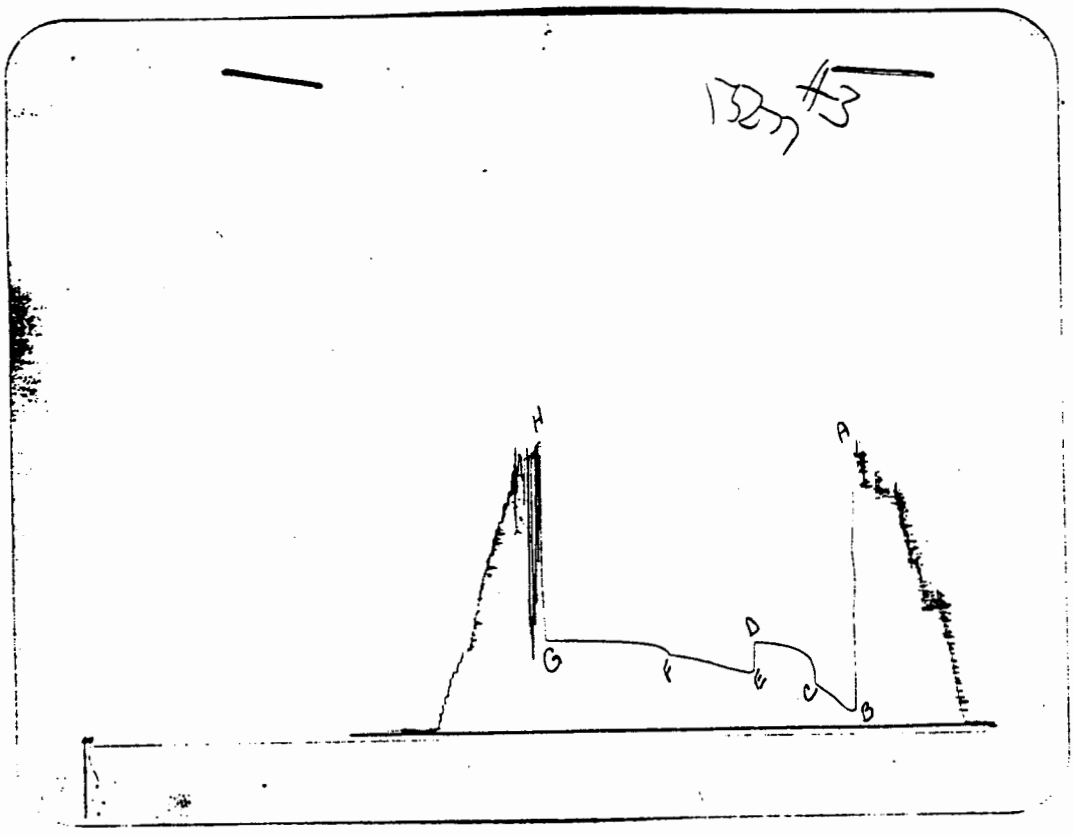
TRILOBITE TESTING COMPANY SHALL NOT BE LIABLE FOR DAMAGE OF ANY KIND OF THE PROPERTY OR PERSONNEL OF THE ONE FOR WHOM A TEST IS MADE, OR FOR ANY LOSS SUFFERED OR SUBSTAINED, DIRECTLY OR INDIRECTLY, THROUGH THE USE OF ITS EQUIPMENT, OR ITS STATEMENTS OR OPINION CONCERNING THE RESULTS OF ANY TEST. TOOLS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

Approved By Tom Wellman

Our Representative Paul Simpson

Printcraft Printers - Hays, KS

4-15-130



This is an actual photograph of recorder chart

POINT	PRESSURE	
	FIELD READING	OFFICE READING
(A) INITIAL HYDROSTATIC MUD	1479	1477.8
(B) FIRST INITIAL FLOW PRESSURE	86	91.2
(C) FIRST FINAL FLOW PRESSURE	232	250.6
(D) INITIAL CLOSED-IN PRESSURE	475	477.9
(E) SECOND INITIAL FLOW PRESSURE	302	310.5
(F) SECOND FINAL FLOW PRESSURE	400	408.6
(G) FINAL CLOSED-IN PRESSURE	497	501.2
(H) FINAL HYDROSTATIC MUD	1459	1450.6

TRILOBITE TESTING COMPANY

P.O. Box 362 • Hays, Kansas 67601

COPY

Drill-Stem Test Data

Well Name LETSCH "B" #8 Test No. 4 Date 4/24/91
Company HALLWOOD PETROLEUM INC Zone Tested LANS-KS CITY
Address P.O. BOX 378111 DENVER CO Elevation 1801
Co. Rep./Geo. MR JIM MUSGROVE Cont. ALLEN DRLG #1 Est. Ft. of Pay
Location: Sec. 4 Twp. 15S Rge. 13W Co. RUSSELL State KS

Interval Tested 3128-3167 Drill Pipe Size 4.5 XH
Anchor Length 31 Wt. Pipe I.D. - 2.7 Ft. Run
Top Packer Depth 3123 Drill Collar — 2.25 Ft. Run
Bottom Packer Depth 3128
Total Depth 3167

Mud Wt. 9.2 lb / gal. Viscosity 48 Filtrate 9.2

Tool Open @ 1:39 AM Initial Blow WEAK 1/4" BLOW BUILDING TO 1 1/2"

Final Blow 2" BLOW BUILDING TO 2.5"

Recovery — Total Feet 20 Flush Tool? NO

Rec. 20 Feet of SLTLY OIL CUT MUD-6%OIL/94%MUD

Rec. Feet of

Rec. Feet of

Rec. Feet of

Rec. Feet of

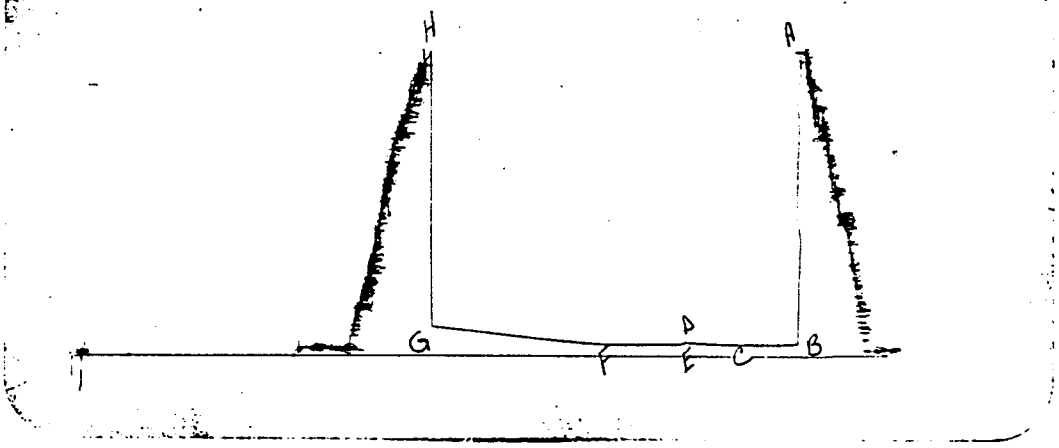
BHT 98 °F Gravity °API @ °F Corrected Gravity °API

RW @ °F Chlorides ppm Recovery Chlorides ppm System

(A) Initial Hydrostatic Mud	1599.6 PSI	Ak1 Recorder No.	13277	Range	4125
First Initial Flow Pressure	10.2 PSI	@ (depth)	3133	w/Clock No.	17639
(C) First Final Flow Pressure	21.4 PSI	AK1 Recorder No.	24174	Range	3350
(D) Initial Shut-In Pressure	30.6 PSI	@ (depth	3166	w/Clock No.	27501
(E) Second Initial Flow Pressure	18.2 PSI	AK1 Recorder No.		Range	
(F) Second Final Flow Pressure	18.2 PSI	@ (depth)		w/Clock No.	
(G) Final Shut-In Pressure	121.4 PSI	Initial Opening	30	Final Flow	60
(H) Final Hydrostatic Mud	1580.9 PSI	Initial Shut-In	45	Final Shut-In	120

Our Representativve MR PAUL SIMPSON TOTAL PRICE $ 600

#4
13277



This is an actual photograph of recorder chart

POINT	PRESSURE	
	FIELD READING	OFFICE READING
(A) INITIAL HYDROSTATIC MUD	1590	1599.6
(B) FIRST INITIAL FLOW PRESSURE	8	10.2
(C) FIRST FINAL FLOW PRESSURE	16	21.4
(D) INITIAL CLOSED-IN PRESSURE	25	30.6
(E) SECOND INITIAL FLOW PRESSURE	16	18.2
(F) SECOND FINAL FLOW PRESSURE	16	18.2
(G) FINAL CLOSED-IN PRESSURE	116	121.4
(H) FINAL HYDROSTATIC MUD	1582	1580.9

TRILOBITE TESTING COMPANY

P.O. Box 362 • Hays, Kansas 67601

№ 3718

Test Ticket

Well Name & No. Letsch "B" #8 Test No. 4 Date 4-24-91

Company Hallwood Petroleum Inc Zone Tested Lkc "I"

Address _____ Elevation 1801

Co. Rep./Geo. Jim Musgrove Cont. Alba #1 Est. Ft. of Pay _____

Location: Sec. 4 Twp. 15s Rge. 13w Co. Russell State Ks

No. of Copies _____ Distribution Sheet _____ Yes _____ No Turnkey _____ Yes _____ No _____ Evaluation

Interval Tested 3128-3167 Drill Pipe Size 4½ XH

Anchor Length 31 Top Choke — 1" _____ Bottom Choke — ¾" _____

Top Packer Depth 3123 Hole Size — 7⅞" _____ Rubber Size — 6¾" _____

Bottom Packer Depth 3128 Wt. Pipe I.D. — 2.7 Ft. Run _____

Total Depth 3167 Drill Collar — 2.25 Ft. Run _____

Mud Wt. 9.2 lb / gal. Viscosity 48 Filtrate 9.2

Tool Open @ 11:39 AM Initial Blow weak ¼" blow building to 1½

Final Blow 1" blow building to 2½"

Recovery — Total Feet 20 Feet of Gas in Pipe 60 Flush Tool? _____

Rec. 20 Feet Of slightly oil cut mud — %gas 6 %oil [redacted] %water 94 %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 _____ ppm System

(A) Initial Hydrostatic Mud	1590 PSI	AK1 Recorder No.	13277	Range	4125
(B) First Initial Flow Pressure	8 PSI	@ (depth)	3133	w/Clock No.	17639
(C) First Final Flow Pressure	16 PSI	AK1 Recorder No.	24174	Range	3350
(D) Initial Shut-In Pressure	25 PSI	@ (depth)	3166	w/Clock No.	27501
(E) Second Initial Flow Pressure	16 PSI	AK1 Recorder No.	_____	Range	_____
(F) Second Final Flow Pressure	16 PSI	@ (depth)	_____	w/Clock No.	_____
(G) Final Shut-In Pressure	116 PSI	Initial Opening	30	Test	X
(H) Final Hydrostatic Mud	1582 PSI	Initial Shut-In	45	Jars	_____
		Final Flow	60	Safety Joint	X
		Final Shut-In	120	Straddle	_____
				Circ. Sub	_____
				Sampler	_____
				Extra Packer	_____
				Other	_____
				TOTAL PRICE $	600

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Approved By Jim Musgrove

Our Representative Paul Simpson

Printcraft Printers - Hays, KS

TRILOBITE TESTING COMPANY

P.O. Box 362 • Hays, Kansas 67601

Drill-Stem Test Data

Well Name LETSCH "B" #8 Test No. 5 Date 4/25/91

Company HALLWOOD PETROLEUM INC Zone Tested ARBUCKLE

Address P.O. BOX 378111 DENVER CO Elevation 1801

Co. Rep./Geo. MR JIM MUSGROVE Cont. ALLEN DRLG #1 Est. Ft. of Pay 5

Location: Sec. 4 Twp. 15S Rge. 13W Co. RUSSELL State KS

Interval Tested 3261-3271 Drill Pipe Size 4.5 XH

Anchor Length 10 Wt. Pipe I.D. - 2.7 Ft. Run

Top Packer Depth 3256 Drill Collar — 2.25 Ft. Run

Bottom Packer Depth 3261

Total Depth 3271

Mud Wt. 9.3 lb / gal. Viscosity 44 Filtrate 10

Tool Open @ 10:57 AM Initial Blow 2" BLOW BUILDING TO BOTTOM OF BUCKET IN 3 MINUTES

Final Blow 1" BLOW BUILDING TO 9"

Recovery — Total Feet 970 Flush Tool? NO

Rec. 160 Feet of GAS IN PIPE

Rec. 940 Feet of CLEAN GASSY OIL-25%GAS/75%OIL

Rec. 30 Feet of OIL & WATER CUT MUD-15%OIL/30%WTR/55%MUD

Rec. Feet of

Rec. Feet of

BHT 109 °F Gravity 36 °API @ 80 °F Corrected Gravity 34 °API

RW 0.538 @ 66.1 °F Chlorides 13000 ppm Recovery Chlorides 8300 ppm System

(A) Initial Hydrostatic Mud 1688.2 PSI Ak1 Recorder No. 13277 Range 4125

(B) First Initial Flow Pressure 79.2 PSI @ (depth) 3263 w/Clock No. 27501

(C) First Final Flow Pressure 166.7 PSI AK1 Recorder No. 24174 Range 3350

(D) Initial Shut-In Pressure 871.7 PSI @ (depth 3270 w/Clock No. 17652

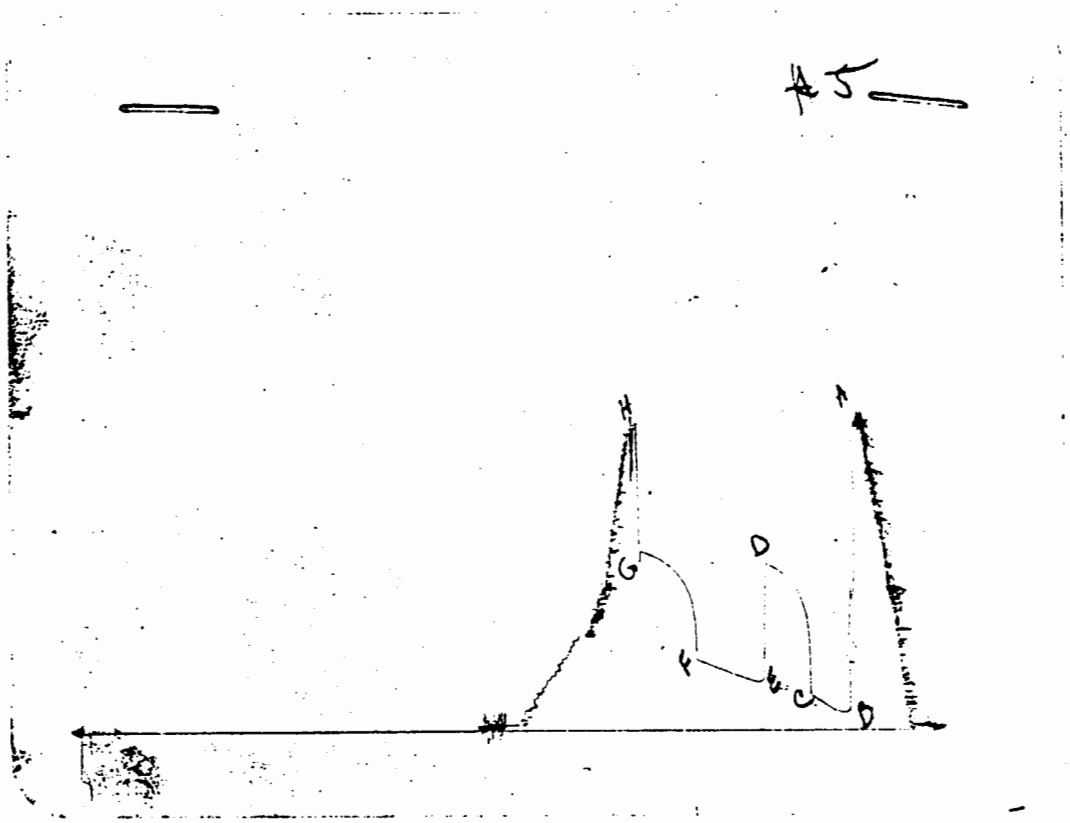
(E) Second Initial Flow Pressure 227.7 PSI AK1 Recorder No. Range

(F) Second Final Flow Pressure 343.3 PSI @ (depth) w/Clock No.

(G) Final Shut-In Pressure 931.7 PSI Initial Opening 30 Final Flow 45

(H) Final Hydrostatic Mud 1620.9 PSI Initial Shut-In 45 Final Shut-In 45

Our Representativve MR PAUL SIMPSON TOTAL PRICE $ 600



This is an actual photograph of recorder chart

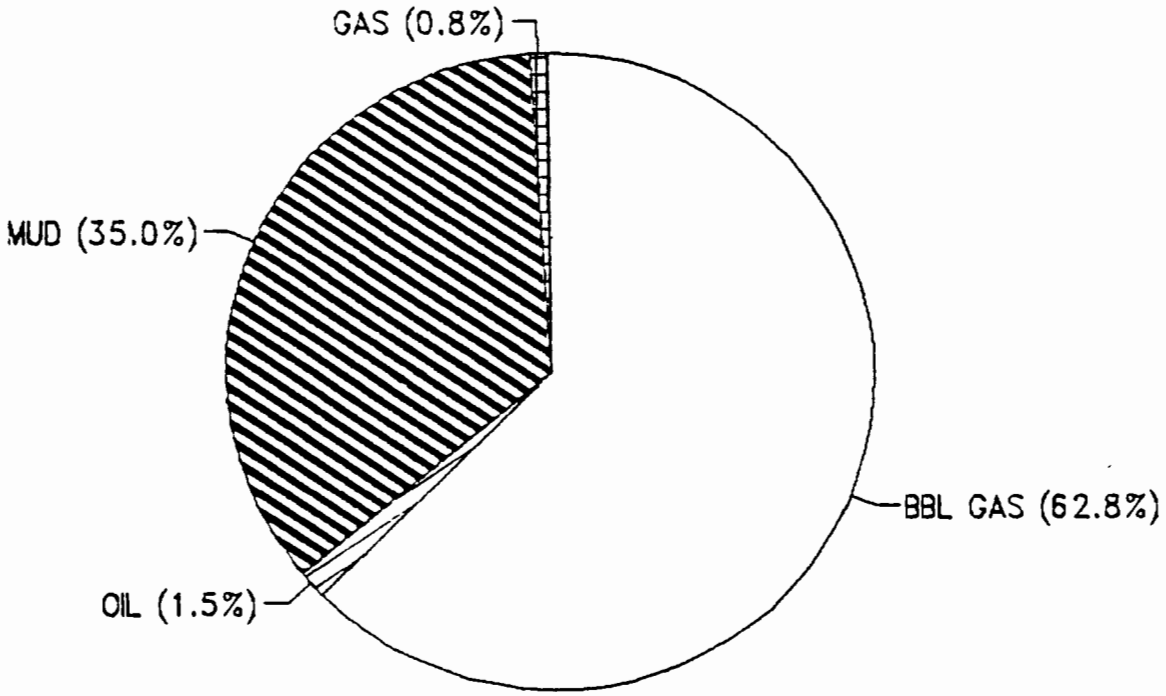
POINT	PRESSURE FIELD READING	PRESSURE OFFICE READING
(A) INITIAL HYDROSTATIC MUD	1665	1688.2
(B) FIRST INITIAL FLOW PRESSURE	74	79.2
(C) FIRST FINAL FLOW PRESSURE	165	166.7
(D) INITIAL CLOSED-IN PRESSURE	853	871.7
(E) SECOND INITIAL FLOW PRESSURE	214	227.7
(F) SECOND FINAL FLOW PRESSURE	355	343.3
(G) FINAL CLOSED-IN PRESSURE	928	931.7
(H) FINAL HYDROSTATIC MUD	1623	1620.9

CALCULATED RECOVERY ANALYSIS DRILL PIPE

DST # 5 TICKET # 3719

SAMPLE #	TOTAL FEET	GAS %	GAS FEET	OIL %	OIL FEET	WATER %	WATER FEET	MUD %	MUD FEET
1	160	100	160		0		0		0
2	940	25	235	75	705		0		0
3	30		0	15	4.5	30	9	55	16.5
4			0		0		0		0
5			0		0		0		0
TOTAL	1130	35	395	62.7876	709.5	0.79646	9	1.46018	16.5

		HRS OPEN	BBL/DAY
BBL OIL=	10.08909 *	1.25	193.711
BBL WATER	0.12798 *		2.45722
BBL MUD=	0.23463		
BBL GAS	5.6169		
OIL	10.08909		



COMPUTER EVALUATION BY TRILOBITE TESTING
HALLWOOD PETROLEUM INC
REPORT FOR DST#5 FOR THE LETSCH "B" #8
4-15S-13W RUSSELL KANSAS

****

TEST PARAMETERS

ELEVATION: 1801 KB
DATUM: -1470
TEST INTERVAL: 3261-3271

RECORDER DEPTH: 3270
BOTTOM HOLE TEMP: 109

EST. PAY: 5 FT
ZONE TESTED: ARBUCKLE

TIME INTERVALS: 30-45-45-45
VISCOSITY: 12.50777 CP
HOLE SIZE: 7.875 IN

****

CALCULATIONS

CUBIC FEET OF GAS IN PIPE: 12.7743

TOTAL FEET OF RECOVERY: 970
BARRELS IN DRILL PIPE: 13.7934
GAS/OIL RATIO: .9261169 CU.FT./BBL
BUBBLE POINT PRESSURE: ; 7.452865E-02
TOTAL BARRELS OF RECOVERY: 13.7934

UNCORR. INIT. PROD.: 264.8333 BBL/DAY

API GRAVITY: 34

FLUID GRADIENT: .37

CORRECTED PIPE FILLUP: 927.8378

CORR. BARRELS OF RECOVERY: 13.18194 BBL

INITIAL PRODUCTION CORRECTED TO FINAL FLOW PRESSURE: 253.0933 BBL/DAY
INITIAL PRODUCTION CORRECTED TO PSEUDO STEADY FLOW STATE
147.7855

****

INITIAL SLOPE 452.18 PSI/CYCLE
INITIAL P* 978 PSI

FINAL SLOPE 429.6 PSI/CYCLE
FINAL P* 1115 PSI

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TRANSMISSIBILITY	95.79368 (MD.-FT./CP.)
PERMEABILITY	239.6331 (MD.)
INDICATED FLOW CAPACITY	1198.166 (MD.FT)
PRODUCTIVITY INDEX	.1082469 (BARRELS/DAY/PSI)
DAMAGE RATIO	.328727
RADIUS OF INVESTIGATION	134.0615 (FT.)
POTENTIOMETRIC SURFACE	1116.685 (FT.)
DRAWDOWN FACTOR	-14.00818 (%)

RECEIVED
STATE CORPORATION COMMISSION
MAR 30 1992
CONSERVATION DIVISION
Wichita, Kansas

INITIAL FLOW

RECORDER # 24174
DST #5

DT(MIN)	PRESSURE	<> PRESSURE
0	79.2	79.2
3	81.6	2.400002
6	85.8	4.200005
9	94.1	8.299996
12	107.3	13.20001
15	120.5	13.2
18	132	11.5
21	145.2	13.2
24	158.4	13.2
27	166.7	8.300003

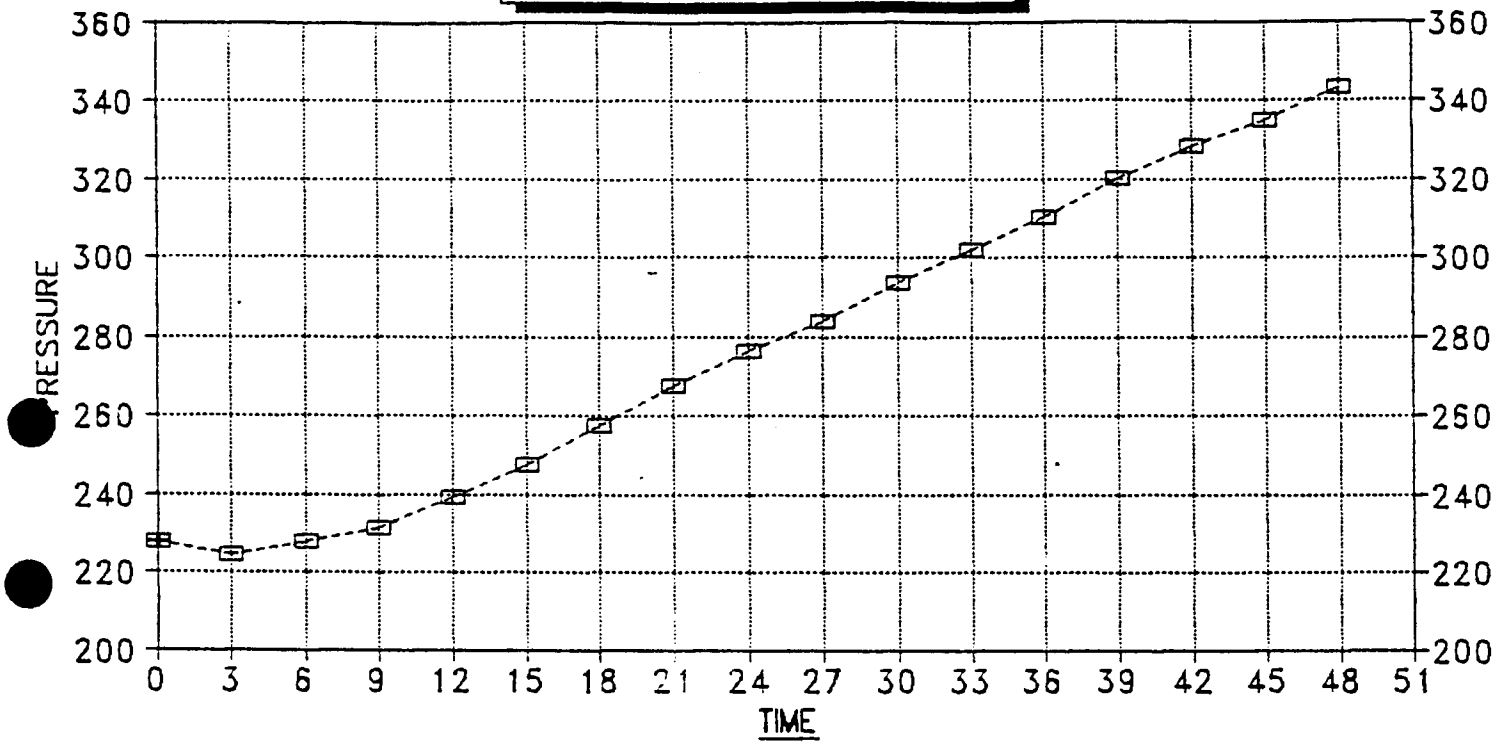
FINAL FLOW

RECORDER # 24174
DST #5

DT(MIN)	PRESSURE	<> PRESSURE
0	227.2	227.2
3	224.4	-2.800003
6	227.7	3.300003
9	231.2	3.5
12	239.3	8.100006
15	247.5	8.199997
18	257.4	9.899994
21	267.3	9.899994
24	276.3	9
27	283.8	7.5
30	293.7	9.900024
33	302	8.299988
36	310.2	8.200013
39	320.1	9.899994
42	328.4	8.299988
45	335	6.600006
48	343.3	8.299988

7-15-15

DELTA T DELTA P
FINAL FLOW - DST #5



INITIAL PRODUCTION CORRECTED TO PSEUDO STEADY FLOW STATE 147.7855 BBL/DAY

LETSCH "B" #8 DST #5
INITIAL SHUTIN

30 INITIAL FLOW TIME

Slope -452.18 psi/cycle
P * 978 psi

	TIME(MIN)	Pws (psi)	Horn T	Log Horn T	<> PRESSURE
	3	166.7	11	1.041	166.7
	6	585.0	6	0.778	418.3
	9	675.0	4	0.637	90.0
	12	721.7	4	0.544	46.7
	15	755.0	3	0.477	33.3
	18	781.7	3	0.426	26.7
X	21	803.3	2	0.385	21.6
	24	818.3	2	0.352	15.0
	27	833.3	2	0.325	15.0
	30	845.0	2	0.301	11.7
	33	848.3	2	0.281	3.3
	36	855.5	2	0.263	7.2
	39	862.7	2	0.248	7.2
X	42	871.7	2	0.234	9.0

LETSCH "B" #8 DST #5
FINAL SHUTIN

75 TOTAL FLOW TIME

Slope -429.60 psi/cycle
P * 1,115 psi

	TIME(MIN)	Pws (psi)	Horn T	Log Horn T	<> PRESSURE
	3	396.0	26	1.415	396.0
	6	636.7	14	1.130	240.7
	9	708.3	9	0.970	71.6
	12	753.3	7	0.860	45.0
	15	783.3	6	0.778	30.0
X	18	808.3	5	0.713	25.0
	21	828.3	5	0.660	20.0
	24	850.0	4	0.615	21.7
	27	865.0	4	0.577	15.0
	30	880.0	4	0.544	15.0
	33	891.7	3	0.515	11.7
	36	903.3	3	0.489	11.6
	39	913.3	3	0.466	10.0
	42	923.3	3	0.445	10.0
X	45	931.7	3	0.426	8.4

TRILOBITE TESTING COMPANY

P.O. Box 362 • Hays, Kansas 67601

№ 3719

Test Ticket

Well Name & No. Letsch "B" #8 Test No. 5 Date 4-25-91

Company Hallwood Petroleum Inc Zone Tested Arbuckle

Address _____ Elevation 1801

Co. Rep./Geo. Jim Musgrove Cont. Allen #1 Est. Ft. of Pay 5

Location: Sec. 4 Twp. 15s Rge. 13w Co. Russell State Ks

No. of Copies _____ Distribution Sheet _____ Yes _____ No Turnkey _____ Yes _____ No ✓ Evaluation

Interval Tested 3261-3271 Drill Pipe Size 4½ XH

Anchor Length 10 Top Choke — 1" _____ Bottom Choke — ¾" _____

Top Packer Depth 3256 Hole Size — 7⅞" _____ Rubber Size — 6¾" _____

Bottom Packer Depth 3261 Wt. Pipe I.D. — 2.7 Ft. Run _____

Total Depth 3271 Drill Collar — 2.25 Ft. Run _____

Mud Wt. 9.3 lb / gal. Viscosity 44 Filtrate 10.0

Tool Open @ 10:57 AM Initial Blow 2" blow building to bottom of bucket in 3 minutes

Final Blow 1" blow building to 9"

Recovery — Total Feet 970 Feet of Gas In Pipe 160 Flush Tool? _____

Rec. 940	Feet Of	cl gassy oil	25 %gas	75 %oil	%water		%mud	
Rec. 30	Feet Of	Oil + watercut mud	%gas	15 %oil	30 %water	55	%mud	
Rec. _____	Feet Of	_____	%gas	%oil	%water		%mud	
Rec. _____	Feet Of	_____	%gas	%oil	%water		%mud	
Rec. _____	Feet Of	_____	%gas	%oil	%water		%mud	

BHT 109 °F Gravity 38 °API @ 85 °F Corrected Gravity 34 °API

RW .538 @ 66.1 °F Chlorides 13,000 ppm Recovery Chlorides 8300 ppm System

(A) Initial Hydrostatic Mud	1665 PSI	AK1 Recorder No. 13277		Range 4125	
(B) First Initial Flow Pressure	74 PSI	@ (depth) 3263		w/Clock No. 27501	
First Final Flow Pressure	165 PSI	AK1 Recorder No. 24174		Range 3350	
(D) Initial Shut-In Pressure	853 PSI	@ (depth) 3270		w/Clock No. 17652	
(E) Second Initial Flow Pressure	214 PSI	AK1 Recorder No. _____		Range _____	
(F) Second Final Flow Pressure	355 PSI	@ (depth) _____		w/Clock No. _____	
(G) Final Shut-In Pressure	928 PSI	Initial Opening 30		Test _____	
(H) Final Hydrostatic Mud	1623 PSI	Initial Shut-In 45		Jars _____	
		Final Flow 45		Safety Joint _____	
		Final Shut-In 45		Straddle _____	
				Circ. Sub _____	
				Sampler _____	
				Extra Packer _____	
				Other _____	
				TOTAL PRICE $ _____	

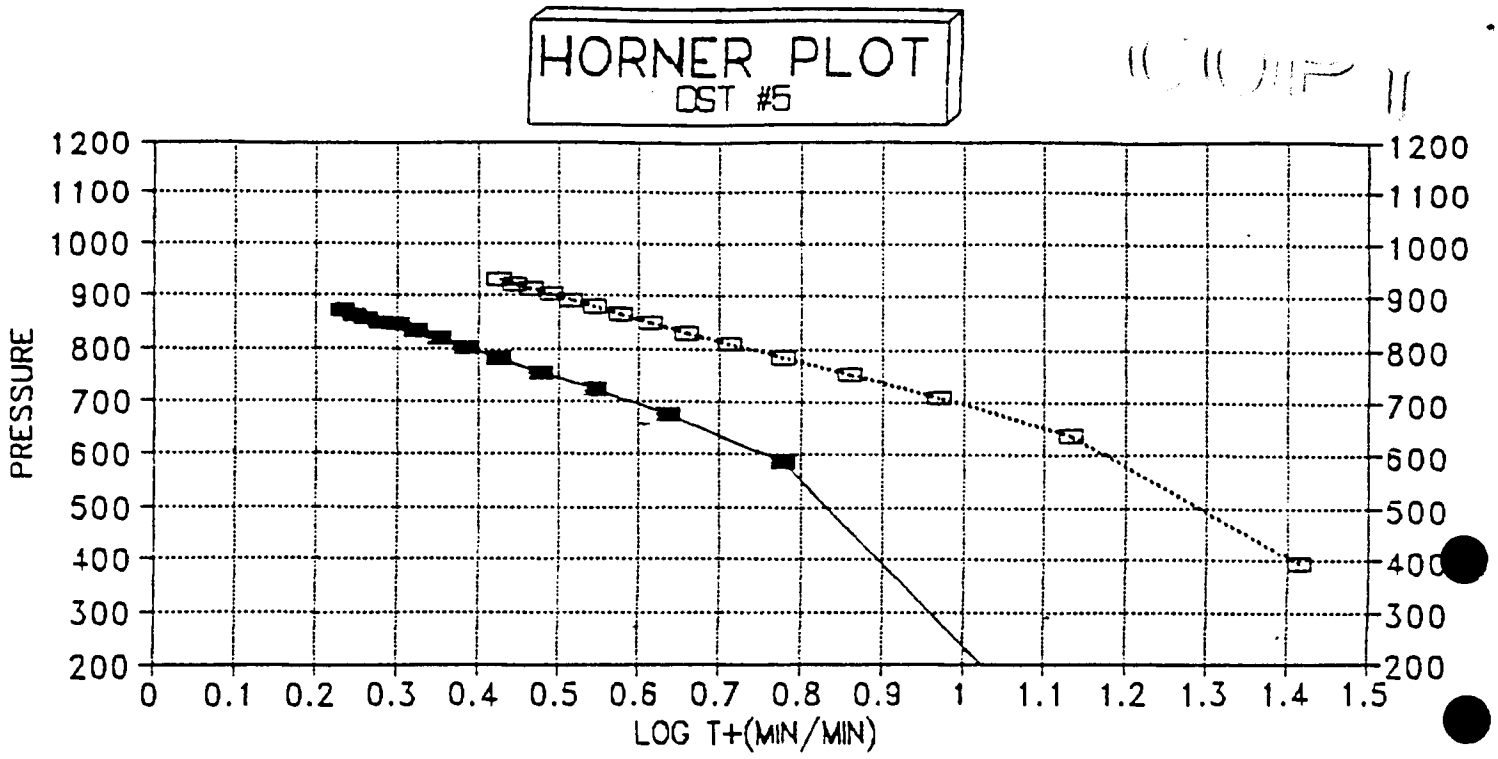
TRILOBITE TESTING COMPANY SHALL NOT BE LIABLE FOR DAMAGE OF ANY KIND OF THE PROPERTY OR PERSONNEL OF THE ONE FOR WHOM A TEST IS MADE, OR FOR ANY LOSS SUFFERED OR SUBSTAINED, DIRECTLY OR INDIRECTLY, THROUGH THE USE OF ITS EQUIPMENT, OR ITS STATEMENTS OR OPINION CONCERNING THE RESULTS OF ANY TEST. TOOLS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

Approved By _____

Our Representative Paul Simpson

Printcraft Printers - Hays, KS

4-15-13W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DST #5
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700
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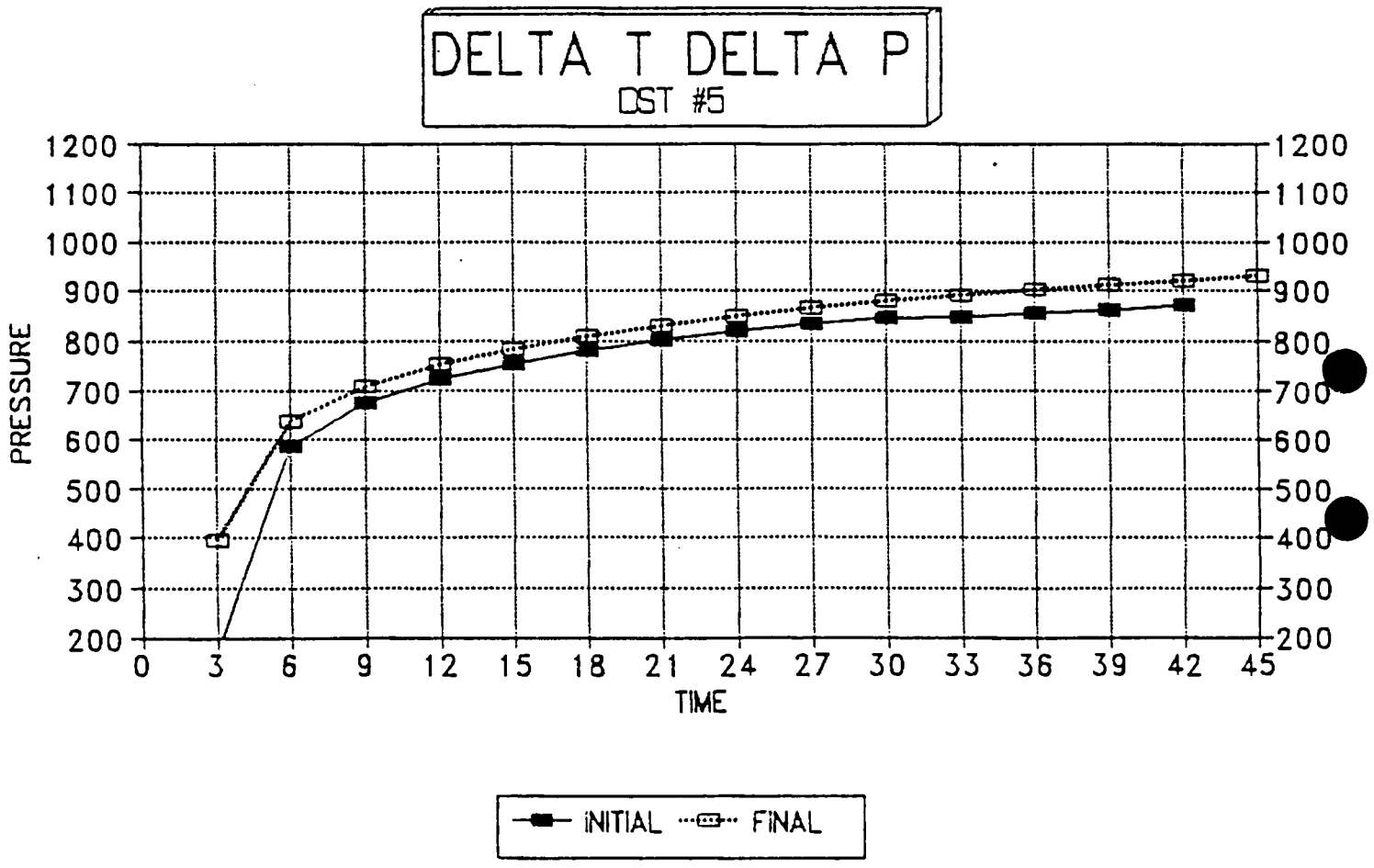
DELTA T DELTA P
DST #5
PRESSURE
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700
600
500
400
300
200
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INITIAL
FINAL