

# TRILOBITE TESTING, L.L.C.

P.O. Box 362 • Hays, Kansas 67601

## Drill-Stem Test Data

Well Name LETSCH "B" #12 Test No. 1 Date 4/15/93  
Company HALLWOOD PETROLEUM INC. Zone TARKIO  
Address P.O. BOX 378111 DENVER CO 80237-8111 Elevation 1805  
Geo. Rep./Geo. JIM MUSGROVE Cont. ALLEN DRLG RIG #3 Est. Ft. of Pay \_\_\_\_\_  
Location: Sec. 4 Twp. 15S Rge. 13W Co. RUSSELL State KS

Interval Tested 2302-2350 Drill Pipe Size 4.5" XH  
Anchor Length 48 Wt. Pipe I.D. - 2.7 Ft. Run \_\_\_\_\_  
Top Packer Depth 2297 Drill Collar - 2.25 Ft. Run \_\_\_\_\_  
Bottom Packer Depth 2302 Mud Wt. 8.7 lb/Gal.  
Total Depth 2350 Viscosity 38 Filtrate 10.4

Well Open @ 3:22 AM Initial Blow STRONG BLOW - BOTTOM OF BUCKET IN 2 MINUTES  
GAS TO SURFACE IN 5 MINUTES - GAUGED - SAMPLE TAKEN  
Final Blow STRONG-BOTTOM OF BUCKET IN 20 SECONDS

Recovery - Total Feet 90 Flush Tool? NO

Feet of GAS TO SURFACE  
Feet of SLIGHTLY WATER CUT MUD-3% WATER / 97% MUD  
Feet of \_\_\_\_\_  
Feet of \_\_\_\_\_  
Feet of \_\_\_\_\_

HT 89 °F Gravity \_\_\_\_\_ °API @ \_\_\_\_\_ °F Corrected Gravity \_\_\_\_\_ °API  
MW 0.7 @ 75 °F Chlorides 8000 ppm Recovery Chlorides 5000 ppm System

A) Initial Hydrostatic Mud 1096.8 PSI AK1 Recorder No. 13754 Range 4000

First Initial Flow Pressure 46.3 PSI @ (depth) 2305 w / Clock No. 8376

First Final Flow Pressure 99.1 PSI AK1 Recorder No. 7437 Range 4200

D) Initial Shut-in Pressure 649.8 PSI @ (depth) 2347 w / Clock No. 8179

E) Second Initial Flow Pressure 120.0 PSI AK1 Recorder No. \_\_\_\_\_ Range \_\_\_\_\_

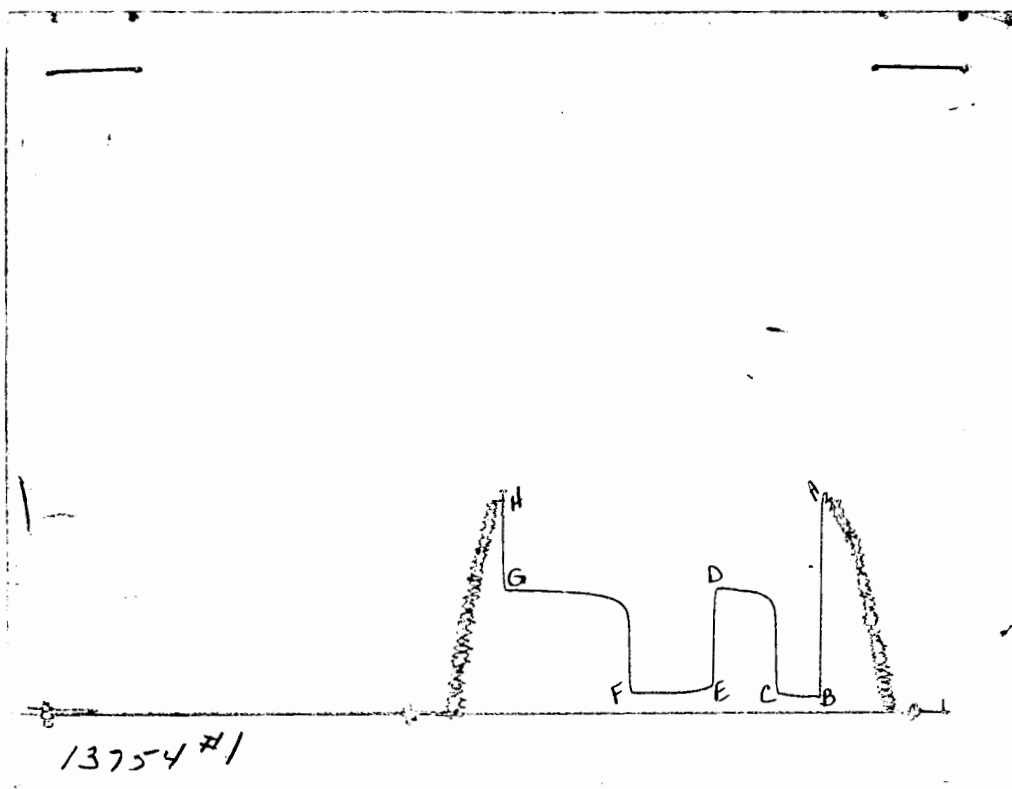
Second Final Flow Pressure 106.8 PSI @ (depth) \_\_\_\_\_ w / Clock No. \_\_\_\_\_

F) Final Shut-in Pressure 645.7 PSI Initial Opening 30 Final Flow 60

H) Final Hydrostatic Mud 1083.1 PSI Initial Shut-in 45 Final Shut-in 90

Our Representative DAN BANGLE

CHART PAGE



This is an actual photograph of recorder chart

	FIELD READING	OFFICE READING
(A) INITIAL HYDROSTATIC MUD	1116	1096.8
(B) FIRST INITIAL FLOW PRESSURE	88	46.3
(C) FIRST FINAL FLOW PRESSURE	98	99.1
(D) INITIAL CLOSED-IN PRESSURE	630	649.8
(E) SECOND INITIAL FLOW PRESSURE	137	120
(F) SECOND FINAL FLOW PRESSURE	98	106.8
(G) FINAL CLOSED-IN PRESSURE	620	645.7
(H) FINAL HYDROSTATIC MUD	1086	1083.1

COMPUTER EVALUATION BY TRILOBITE TESTING, L.L.C.  
HALLWOOD PETROLEUM INC.

LETSCH "B" #12 DST 1  
4 15S 13W RUSSELL KS

\*\*\*\*\*  
ELEVATION: 1805 KB EST. PAY: 12 FT.  
DATUM: -543 ZONE TESTED: TARKIO  
TEST INTERVAL: 2302-2350 TIME INTERVALS: 30-60-45-90  
RECORDER DEPTH: 2347 VISCOSITY: 0.01401 CP  
BOTTOM HOLE TEMP: 89 HOLE SIZE: 7.875 IN  
COMPRESSIBILITY: 0.9986 GAS GRAVITY: 0.7296  
\*\*\*\*\*

TEMPERATURE RANKINE: 548.00 &  
TRANSMISSIBILITY: 18437.52 Kh/%  
THEORITICAL FLOW CAPICITY: 258.38 Kh  
AVERAGE EFFECTIVE PERMEABILITY: 21.53 K(md.)  
RADIUS OF INVESTIGATION: 44.02 FT.  
DAMAGE RATIO: 2.42  
ABSOLUTE OPEN FLOW(MAX) 451.76 MCFD  
ABSOLUTE OPEN FLOW(MIN) 445.84 MCFD  
THEORITICAL OPEN FLOW(MAX) 1091.22 MCFD  
THEORITICAL OPEN FLOW(MIN) 1076.92 MCFD  
POTENTIOMETRIC SURFACE 0.00 (FT.)  
\*\*\*\*\*

INITIAL SHUT-IN VALUES:  
SLOPE 23314.93  
THEORETICAL STATIC PRESSURE 667

FINAL SHUT-IN VALUES:  
SLOPE 21378.19  
THEORETICAL STATIC PRESSURE 662

DRAWDOWN FACTOR: 0.82 (%)

LETSCH B #12 DST #1  
INITIAL SHUTIN

30 TOTAL FLOW TIME

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Slope 23314.93 psi/cycle  
P \* 667 psi  
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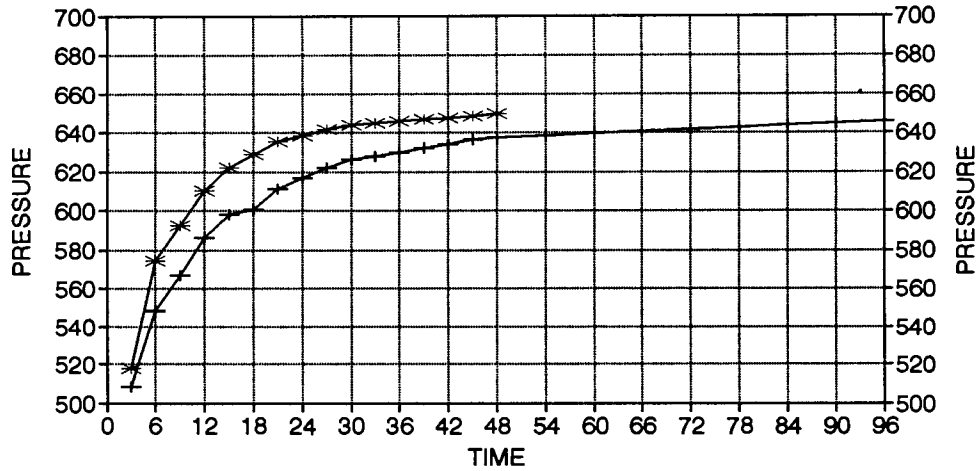
	TIME(MIN)	Pws (psi)	Log Horn T	<> PRESSURE	Horn T
	-----	-----	-----	-----	-----
	3	518.1	1.041	518.1	11
	6	574.5	0.778	56.4	6
	9	592.4	0.637	17.9	4
	12	610.2	0.544	17.8	4
	15	621.7	0.477	11.5	3
	18	629.0	0.426	7.3	3
	21	635.2	0.385	6.2	2
	24	638.4	0.352	3.2	2
	27	641.5	0.325	3.1	2
	30	643.6	0.301	2.1	2
	33	644.6	0.281	1.0	2
	36	645.7	0.263	1.1	2
X	39	646.7	0.248	1.0	2
	42	647.7	0.234	1.0	2
	45	648.8	0.222	1.1	2
X	48	649.8	0.211	1.0	2

LETSCH B #12 DST #1  
 FINAL SHUTIN

90 TOTAL FLOW TIME Slope 21378.19 psi/cycle  
 P \* 662 psi

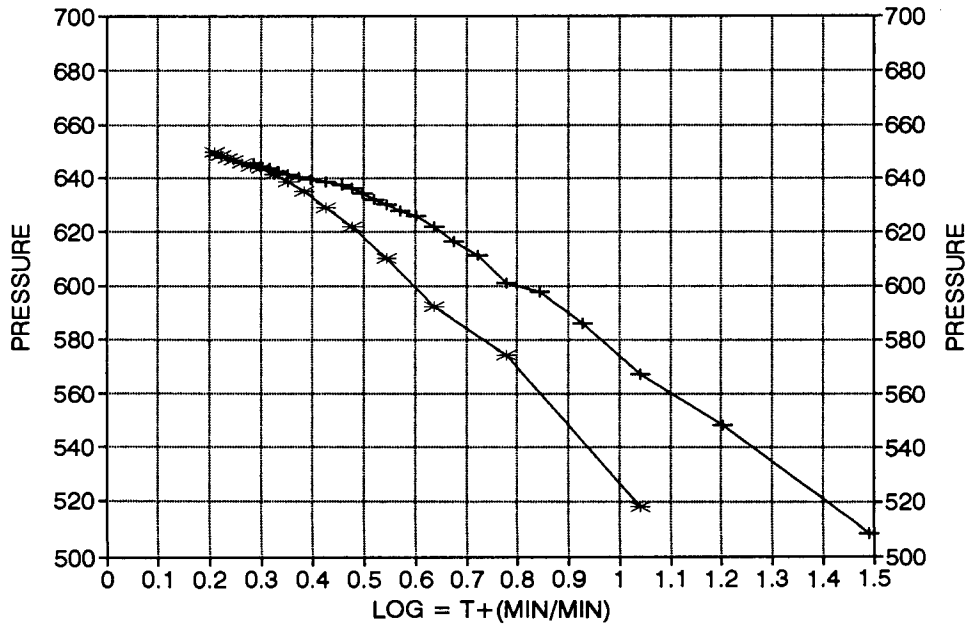
	Pws (psi)	Log Horn T	<> PRESSURE	Horn T	
	3	508.4	1.491	508.4	31
	6	548.2	1.204	39.8	16
	9	567.1	1.041	18.9	11
	12	586.1	0.929	19.0	9
	15	597.6	0.845	11.5	7
	18	600.8	0.778	3.2	6
	21	611.2	0.723	10.4	5
	24	616.5	0.677	5.3	5
	27	621.7	0.637	5.2	4
	30	625.9	0.602	4.2	4
	33	627.9	0.571	2.0	4
	36	630.0	0.544	2.1	4
	39	632.1	0.520	2.1	3
	42	634.2	0.497	2.1	3
	45	636.3	0.477	2.1	3
	48	637.3	0.459	1.0	3
	54	638.4	0.426	1.1	3
X	60	639.4	0.398	1.0	3
	66	640.5	0.374	1.1	2
	72	641.5	0.352	1.0	2
	78	642.5	0.333	1.0	2
	84	643.6	0.316	1.1	2
	90	644.6	0.301	1.0	2
X	96	645.7	0.287	1.1	2

# LETSCH "B" #12 / DST #1 DELTA T DELTA P



\* INITIAL + FINAL

# HORNER PLOT



# GAS VOLUME REPORT

HALLWOOD PETROLEUM INC.

LETSCH "B" #12

DST # 1

MIN	INCHES OF WTR	ORIFICE	MCF/D	MIN	INCHES OF WTR	ORIFICE	MCF/D
0		1.25		0		1.25	
5	20	1.25	196	5	32	0.5	394
10	28	1.25	233	10	34	0.5	406
15	42	1.25	285	15	36	0.5	418
20	54	1.25	323	20	36	0.5	418
25	70	1.25	368	25	38	0.5	429
30	80	1.25	393	30	38	0.5	429
				35	38	0.5	429
				40	40	0.5	440
				45	40	0.5	440
				50	40	0.5	440
				55	40	0.5	440
				60	40	0.5	440

Remarks: GAS TO SURFACE IN 5 MINUTES  
GAS SAMPLE TAKEN



ANALYTICAL LABORATORY, INC.  
 424 Greenwood • Wichita, Kansas 67211 • (316) 269-4200

\*\*\*\*\*  
 \*EXTENDED NATURAL GAS ANALYSIS\*  
 \*\*\*\*\*

COMPANY NAME: HALLWOOD PETROLEUM      LAB# 9315644  
 SAMPLE ID: LETSCH B#12  
 SETT #: DST #1--TARKIO  
 COUNTY: RUSSELL CO KS      LEGAL LOCATION: N/A  
 DATE SAMPLED: APRIL 15 1993      SAMPLER: TRILOBITE  
 SAMPLE PRESSURE: N/A      TEMPERATURE (F): N/A  
 DATE ANALYZED: APRIL 16 1993  
 QUALITY CONTROL DATE: APRIL 16 1993

\*\*\*\*\*ANALYSIS\*\*\*\*\*CALCULATED AT 14.65 PSIA, AT 60 F\*\*NORMALIZED\*\*\*\*\*

HYDROCARBONS	MOLAL%	LIQUID VOLUME%	BTU AMOUNT	GPM
METHANE	62.61	67.91	630.38	0
ETHANE	2.18	3.73	38.46	0
PROPANE	1.37	2.41	34.36	.38
ISO-BUTANE	.25	.52	8.1	.08
NORMAL-BUTANE	.47	.95	15.28	.15
ISO-PENTANE	.15	.35	5.98	.05
NORMAL-PENTANE	.19	.44	7.59	.07
3-METHYLPENTANE	*			
2,3-DIMETHYLBUTANE	*			
2-METHYLPENTANE	*			
CYCLOPENTANE	*			
NORMAL HEXANE	*			
HEXANES+	.29	.77	14.64	.13
NITROGEN	31.17	21.96	0	0
OXYGEN	.07	.04	0	0
CARBON DIOXIDE	.24	.26	0	0
HELIUM	1.01	.66	0	
HYDROGEN	TRACE (<.01)			
<b>TOTALS*****</b>	<b>100</b>	<b>100</b>	<b>754.79</b>	<b>.86</b>

BTU/FT<sup>3</sup> DRY (IDEAL GROSS): 754.79  
 BTU/FT<sup>3</sup> SATURATED (IDEAL GROSS): 742.46  
 IDEAL SPECIFIC GRAVITY: .7296  
 COMPRESSIBILITY: .9986  
 GPM: .86  
 \*COMBINED WITH HEXANES+

RESPECTFULLY SUBMITTED

PRIORITY ANALYTICAL LAB



# TRILOBITE TESTING, L.L.C.

P.O. Box 362 • Hays, Kansas 67601

## Drill-Stem Test Data

Well Name LETSCH "B" #12 Test No. 2 Date 4/16/93  
Company HALLWOOD PETROLEUM INC. Zone TORONTO  
Address P.O. BOX 378111 DENVER CO 80237-8111 Elevation 1805  
Co. Rep./Geo. JIM MUSGROVE Cont. ALLEN DRLG RIG #3 Est. Ft. of Pay \_\_\_\_\_  
Location: Sec. 4 Twp. 15S Rge. 13W Co. RUSSELL State KS

Interval Tested 2870-2916 Drill Pipe Size 4.5" XH  
Anchor Length 46 Wt. Pipe I.D. - 2.7 Ft. Run \_\_\_\_\_  
Top Packer Depth 2865 Drill Collar - 2.25 Ft. Run \_\_\_\_\_  
Bottom Packer Depth 2870 Mud Wt. 9.0 lb/Gal.  
Total Depth 2916 Viscosity 40 Filtrate 9.6

Tool Open @ 5:37 PM Initial Blow /2" BLOW BUILDING TO 5"

Final Blow SURFACE BLOW BUILDING TO 5"

Recovery - Total Feet 135 Flush Tool? NO

Rec. 135 Feet of MUDDY WATER  
Rec. \_\_\_\_\_ Feet of \_\_\_\_\_  
Rec. \_\_\_\_\_ Feet of \_\_\_\_\_  
Rec. \_\_\_\_\_ Feet of \_\_\_\_\_  
Rec. \_\_\_\_\_ Feet of \_\_\_\_\_

BHT 88 °F Gravity \_\_\_\_\_ °API @ \_\_\_\_\_ °F Corrected Gravity \_\_\_\_\_ °API  
RW 0.32 @ 50 °F Chlorides 30000 ppm Recovery Chlorides \_\_\_\_\_ ppm System

(A) Initial Hydrostatic Mud 1440.3 PSI AK1 Recorder No. 13754 Range 4000

(B) First Initial Flow Pressure 23.1 PSI @ (depth) 2879 w / Clock No. 8376

(C) First Final Flow Pressure 49.6 PSI AK1 Recorder No. 7437 Range 4200

(D) Initial Shut-in Pressure 1289.5 PSI @ (depth) 2906 w / Clock No. 27501

(E) Second Initial Flow Pressure 63.9 PSI AK1 Recorder No. \_\_\_\_\_ Range \_\_\_\_\_

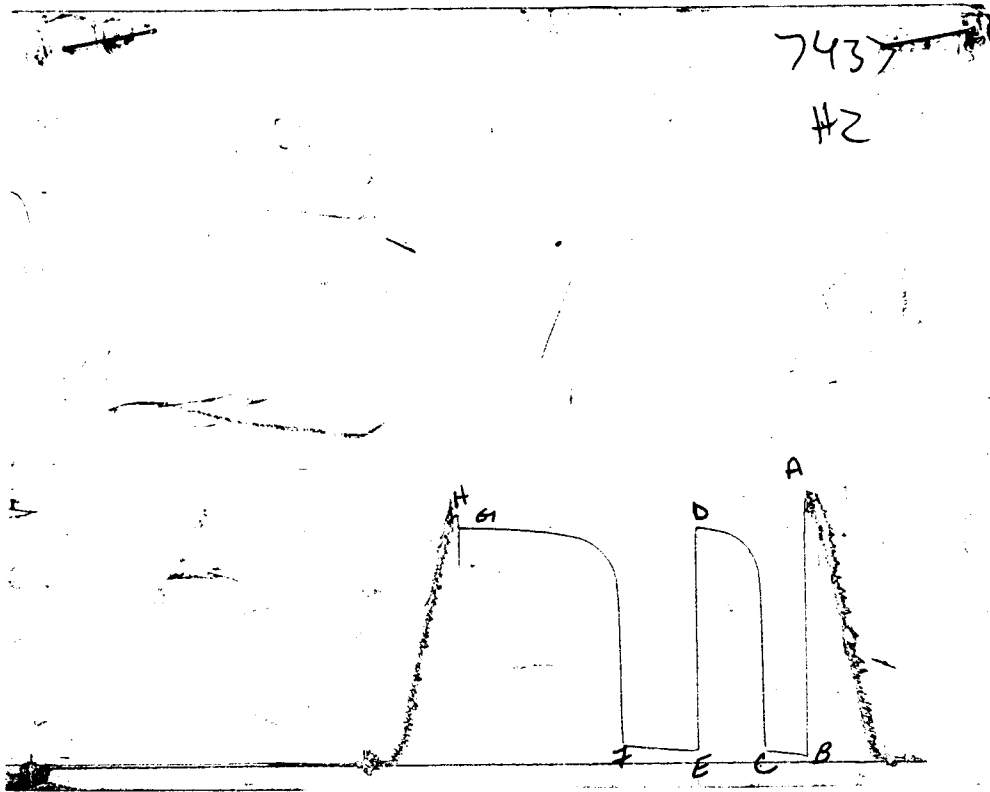
(F) Second Final Flow Pressure 92.5 PSI @ (depth) \_\_\_\_\_ w / Clock No. \_\_\_\_\_

(G) Final Shut-in Pressure 1296.8 PSI Initial Opening 30 Final Flow 60

(H) Final Hydrostatic Mud 1389.6 PSI Initial Shut-in 45 Final Shut-in 120

Our Representative PAUL SIMPSON

CHART PAGE



This is an actual photograph of recorder chart

	FIELD READING	OFFICE READING
(A) INITIAL HYDROSTATIC MUD	1436	1440.3
(B) FIRST INITIAL FLOW PRESSURE	20	23.1
(C) FIRST FINAL FLOW PRESSURE	49	49.6
(D) INITIAL CLOSED-IN PRESSURE	1276	1289.5
(E) SECOND INITIAL FLOW PRESSURE	59	63.9
(F) SECOND FINAL FLOW PRESSURE	88	92.5
(G) FINAL CLOSED-IN PRESSURE	1306	1296.8
(H) FINAL HYDROSTATIC MUD	1386	1389.6

INITIAL FLOW

RECORDER # 7437 DST # 2

TIME(MIN) PRESSURE <> PRESSURE

TIME(MIN)	PRESSURE	<> PRESSURE
3	23.1	23.1
6	28.6	5.5
9	34.1	5.5
12	37.4	3.3
15	39.6	2.2
18	41.8	2.2
21	42.9	1.1
24	45.2	2.3
27	47.4	2.2
30	49.6	2.2

FINAL FLOW

RECORDER # 7437 DST # 2

TIME(MIN) PRESSURE <> PRESSURE

TIME(MIN)	PRESSURE	<> PRESSURE
3	63.9	63.9
6	63.9	0
9	63.9	0
12	63.9	0
15	63.9	0
18	65.9	2
21	67.2	1.3
24	68.3	1.1
27	70.5	2.2
30	71.6	1.1
33	72.7	1.1
36	73.8	1.1
39	76.1	2.3
42	78.2	2.1
45	81.5	3.3
48	83.7	2.2
51	85.9	2.2
54	87.1	1.2
57	90.3	3.2
60	92.5	2.2

LETSCH 'B' #12 DST #2  
 INITIAL SHUTIN  
 30 TOTAL FLOW TIME

TIME(MIN)	Pws (psi)	Log Horn T	<> PRESSURE	Horn T
3	392.1	1.041	392.1	11
6	938.2	0.778	546.1	6
9	1098.9	0.637	160.7	4
12	1138.9	0.544	40.0	4
15	1174.7	0.477	35.8	3
18	1196.8	0.426	22.1	3
21	1216.8	0.385	20.0	2
24	1231.6	0.352	14.8	2
27	1244.2	0.325	12.6	2
30	1254.7	0.301	10.5	2
33	1261.1	0.281	6.4	2
36	1268.4	0.263	7.3	2
39	1272.8	0.248	4.4	2
42	1276.8	0.234	4.0	2
45	1278.9	0.222	2.1	2
48	1281.1	0.211	2.2	2
51	1284.2	0.201	3.1	2
54	1289.5	0.192	5.3	2

FINAL SHUTIN  
 90 TOTAL FLOW TIME

	Pws (psi)	Log Horn T	<> PRESSURE	Horn T
6	419.5	1.204	419.5	16
12	1053.7	0.929	634.2	9
18	1133.7	0.778	80.0	6
24	1180.1	0.677	46.4	5
30	1210.5	0.602	30.4	4
36	1233.7	0.544	23.2	4
42	1242.1	0.497	8.4	3
48	1251.6	0.459	9.5	3
54	1261.1	0.426	9.5	3
60	1268.4	0.398	7.3	3
66	1274.7	0.374	6.3	2
72	1276.8	0.352	2.1	2
78	1278.9	0.333	2.1	2
84	1283.2	0.316	4.3	2
90	1287.4	0.301	4.2	2
96	1290.5	0.287	3.1	2
102	1291.6	0.275	1.1	2
108	1293.7	0.263	2.1	2
114	1294.7	0.253	1.0	2
120	1295.8	0.243	1.1	2
126	1296.8	0.234	1.0	2
132	1296.8	0.226	0.0	2

# TRILOBITE TESTING L.L.C.

P.O. Box 362 • Hays, Kansas 67601

read chart

## Test Ticket

No 5983

Well Name & No. Letsch 'B' #12 Test No. 2 Date 4-16-93  
 Company Hallwood Petroleum, Inc Zone Tested Toronto  
 Address \_\_\_\_\_ Elevation 1805  
 Co. Rep./Geo. Jim Musgrave Cont. \_\_\_\_\_ 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 2870-2916 Drill Pipe Size 4 1/2 XH  
 Anchor Length 46 Top Choke — 1" \_\_\_\_\_ Bottom Choke — 3/4" \_\_\_\_\_  
 Top Packer Depth 2865 Hole Size — 7 7/8" \_\_\_\_\_ Rubber Size — 6 3/4" \_\_\_\_\_  
 Bottom Packer Depth 2870 Wt. Pipe I.D. — 2.7 Ft. Run \_\_\_\_\_  
 Total Depth 2916 Drill Collar — 2.25 Ft. Run \_\_\_\_\_  
 Mud Wt. 9.0 lb/gal. Viscosity 40 Filtrate 9.6  
 Tool Open @ 5:37 PM Initial Blow 1/2" blow building to 105"  
 Final Blow surface blow building to 5"

Recovery — Total Feet	Feet of Gas in Pipe	Flush Tool?			
Rec. <u>135</u> Feet Of <u>Muddy water</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 88 °F Gravity \_\_\_\_\_ °API @ \_\_\_\_\_ °F Corrected Gravity \_\_\_\_\_ °API  
 RW 32 @ 50 °F Chlorides 30,000 ppm Recovery Chlorides \_\_\_\_\_ ppm System  
 (A) Initial Hydrostatic Mud 1436 PSI AK1 Recorder No. 13754 Range 4000  
 (B) First Initial Flow Pressure 20 PSI @ (depth) 2879 w/Clock No. 8376  
 (C) First Final Flow Pressure 49 PSI AK1 Recorder No. 7437 Range 4200  
 (D) Initial Shut-In Pressure 1276 PSI @ (depth) 2906 w/Clock No. 27501  
 (E) Second Initial Flow Pressure 59 PSI AK1 Recorder No. \_\_\_\_\_ Range \_\_\_\_\_  
 (F) Second Final Flow Pressure 88 PSI @ (depth) \_\_\_\_\_ w/Clock No. \_\_\_\_\_  
 (G) Final Shut-In Pressure 1306 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 60 Safety Joint \_\_\_\_\_  
 Final Shut-In 120 Straddle \_\_\_\_\_  
 Circ. Sub \_\_\_\_\_  
 Sampler \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Other \_\_\_\_\_

Approved By Jim Musgrave  
 Our Representative Paul Simpson

# TRILOBITE TESTING, L.L.C.

P.O. Box 362 • Hays, Kansas 67601

## Drill-Stem Test Data

Well Name LETSCH "B" #12 Test No. 3 Date 4/17/93  
Company HALLWOOD PETROLEUM INC. Zone LKC 'C'  
Address P.O. BOX 378111 DENVER CO 80237-8111 Elevation 1805  
Co. Rep./Geo. JIM MUSGROVE Cont. ALLEN DRLG RIG #3 Est. Ft. of Pay \_\_\_\_\_  
Location: Sec. 4 Twp. 15S Rge. 13W Co. RUSSELL State KS

Interval Tested	<u>2970-3000</u>	Drill Pipe Size	<u>4.5" XH</u>
Anchor Length	<u>30</u>	Wt. Pipe I.D. - 2.7 Ft. Run	_____
Top Packer Depth	<u>2965</u>	Drill Collar - 2.25 Ft. Run	_____
Bottom Packer Depth	<u>2970</u>	Mud Wt.	<u>9.1</u> lb/Gal.
Total Depth	<u>3000</u>	Viscosity	<u>50</u>
		Filtrate	<u>10.4</u>

Tool Open @ 7:18 AM Initial Blow STRONG - BOTTOM OF BUCKET IN 5 MINUTES

Final Blow STRONG - BOTTOM OF BUCKET IN 7 MINUTES

Recovery - Total Feet 712 Flush Tool? NO

Rec. 712 Feet of MUDDY SALT WATER 75%WATER/25%MUD  
Rec. \_\_\_\_\_ Feet of WITH SHOW OF OIL ON TOP  
Rec. \_\_\_\_\_ Feet of \_\_\_\_\_  
Rec. \_\_\_\_\_ Feet of \_\_\_\_\_  
Rec. \_\_\_\_\_ Feet of \_\_\_\_\_

BHT 113 °F Gravity \_\_\_\_\_ °API @ \_\_\_\_\_ °F Corrected Gravity \_\_\_\_\_ °API  
RW 0.136 @ 70 °F Chlorides 55000 ppm Recovery Chlorides 7000 ppm System

(A) Initial Hydrostatic Mud 1600.3 PSI AK1 Recorder No. 13754 Range 4000

(B) First Initial Flow Pressure 62.9 PSI @ (depth) 2974 w / Clock No. 8376

(C) First Final Flow Pressure 122.1 PSI AK1 Recorder No. 7437 Range 4200

(D) Initial Shut-in Pressure 1278.9 PSI @ (depth) 2996 w / Clock No. 8179

(E) Second Initial Flow Pressure 187.1 PSI AK1 Recorder No. \_\_\_\_\_ Range \_\_\_\_\_

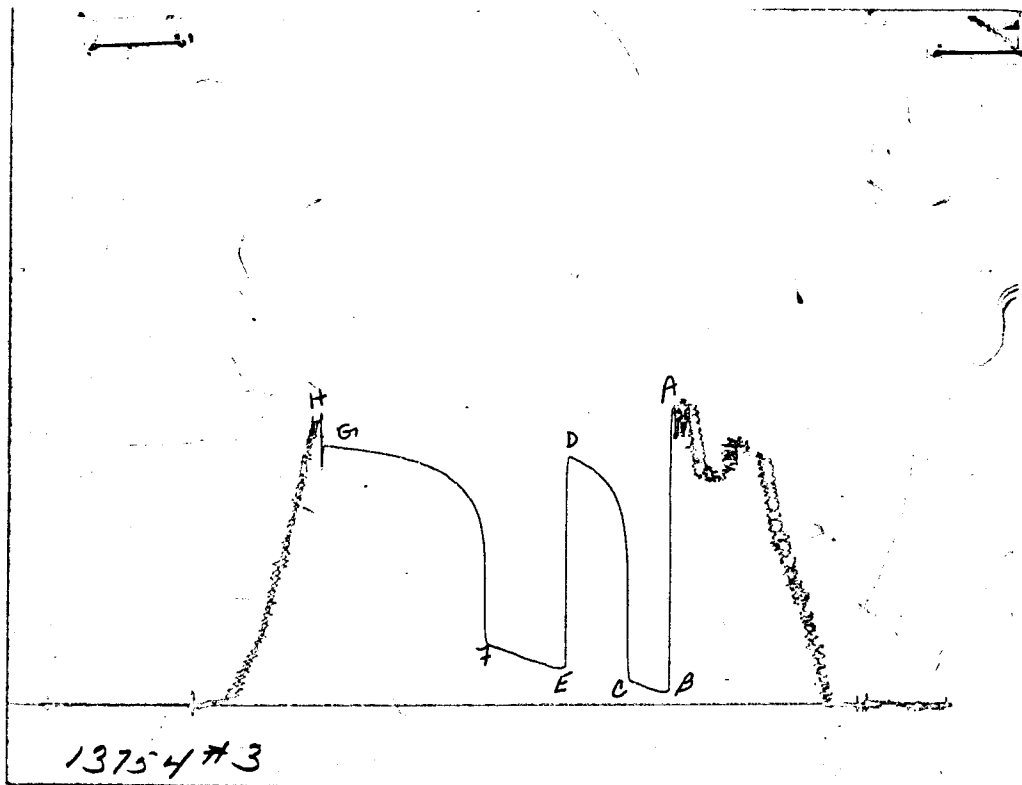
(F) Second Final Flow Pressure 303.1 PSI @ (depth) \_\_\_\_\_ w / Clock No. \_\_\_\_\_

(G) Final Shut-in Pressure 1333.9 PSI Initial Opening 30 Final Flow 60

(H) Final Hydrostatic Mud 1470.2 PSI Initial Shut-in 45 Final Shut-in 120

Our Representative DAN BANGLE

# CHART PAGE



This is an actual photograph of recorder chart

	FIELD READING	OFFICE READING
(A) INITIAL HYDROSTATIC MUD	1556	1600.3
(B) FIRST INITIAL FLOW PRESSURE	59	62.9
(C) FIRST FINAL FLOW PRESSURE	118	122.1
(D) INITIAL CLOSED-IN PRESSURE	1286	1278.9
(E) SECOND INITIAL FLOW PRESSURE	187	187.1
(F) SECOND FINAL FLOW PRESSURE	305	303.1
(G) FINAL CLOSED-IN PRESSURE	1336	1333.9
(H) FINAL HYDROSTATIC MUD	1466	1470.2

INITIAL FLOW

RECORDER # 13754 DST # 3

TIME(MIN)	PRESSURE	<> PRESSURE
3	62.9	62.9
6	63.9	1
9	70.8	6.9
12	75.7	4.9
15	81.6	5.9
18	90.5	8.9
21	98.4	7.9
24	107.2	8.8
27	113.1	5.9
30	122.1	9

FINAL FLOW

RECORDER # 13754 DST # 3

TIME(MIN)	PRESSURE	<> PRESSURE
3	187.1	187.1
6	187.1	0
9	187.9	0.8
12	194.8	6.9
15	204.7	9.9
18	212.5	7.8
21	217.5	5
24	220.4	2.9
27	224.4	4
30	230.3	5.9
33	237.2	6.9
36	246.1	8.9
39	255.9	9.8
42	263.7	7.8
45	269.6	5.9
48	277.5	7.9
51	283.4	5.9
54	289.3	5.9
57	296.2	6.9
60	303.1	6.9

# TRILOBITE TESTING L.L.C.

P.O. Box 362 • Hays, Kansas 67601

## Test Ticket

№ 5984

Well Name & No. <u>Lettsch B #12</u>	Test No. <u>3</u>	Date <u>4-17-93</u>			
Company <u>Hallwood Petro, Inc.</u>	Zone Tested <u>C</u>	<u>L.K.C.</u>			
Address _____	Elevation <u>1805 K.B.</u>				
Co. Rep./Geo. <u>Jim Musgrove</u>	cont. <u>Allen #3</u>	Est. Ft. of Pay _____			
Location: Sec. <u>4</u>	Twp. <u>15</u>	Rge. <u>13</u>	Co. <u>Russell</u>	State <u>Ks.</u>	
No. of Copies _____	Distribution Sheet _____	Yes _____ No _____	Turnkey _____	Yes _____ No _____	Evaluation _____

Interval Tested <u>2970 - 3000</u>	Drill Pipe Size <u>4.5 IH</u>
Anchor Length <u>30'</u>	Top Choke — 1" _____ Bottom Choke — 3/4" _____
Top Packer Depth <u>2965</u>	Hole Size — 7 7/8" _____ Rubber Size — 6 3/4" _____
Bottom Packer Depth <u>2970</u>	Wt. Pipe I.D. — 2.7 Ft. Run _____
Total Depth <u>3000</u>	Drill Collar — 2.25 Ft. Run _____
Mud Wt. <u>9.1</u> lb/gal.	Viscosity <u>50</u> Filtrate <u>10.4</u>
Tool Open @ <u>2:18 a.m.</u>	Initial Blow <u>Strong - B.O.B. in 5 min.</u>
Final Blow <u>Strong - B.O.B. in 2 min.</u>	

Recovery — Total Feet <u>712</u>	Feet of Gas In Pipe _____	Flush Tool? _____
Rec. <u>712</u> Feet Of <u>mdy s.w. w/shaw of</u>	%gas _____ %oil _____ %water <u>75</u>	%mud <u>25</u>
Rec. _____ Feet Of <u>oil on top</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 <u>1.36</u> @ <u>70</u> °F	Chlorides <u>55,000</u> ppm	Recovery Chlorides <u>7,000</u> ppm	System _____
(A) Initial Hydrostatic Mud <u>1556</u>	PSI	AK1 Recorder No. <u>13754</u>	Range <u>4000</u>
(B) First Initial Flow Pressure <u>59</u>	PSI	@ (depth) <u>2974</u>	w/Clock No. <u>8376</u>
(C) First Final Flow Pressure <u>118</u>	PSI	AK1 Recorder No. <u>7437</u>	Range <u>4200</u>
(D) Initial Shut-In Pressure <u>1286</u>	PSI	@ (depth) <u>2996</u>	w/Clock No. <u>8179</u>
(E) Second Initial Flow Pressure <u>187</u>	PSI	AK1 Recorder No. _____	Range _____
(F) Second Final Flow Pressure <u>305</u>	PSI	@ (depth) _____	w/Clock No. _____
(G) Final Shut-In Pressure <u>1336</u>	PSI	Initial Opening <u>30</u>	Test _____
(H) Final Hydrostatic Mud <u>1466</u>	PSI	Initial Shut-In <u>45</u>	Jars _____

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Final Flow <u>60</u>	Safety Joint _____
Final Shut-In <u>120</u>	Straddle _____
	Circ. Sub _____
	Sampler _____
	Extra Packer _____
	Other _____

Approved By Jim Musgrove  
Our Representative Don Rangan

TOTAL PRICE \$

# TRILOBITE TESTING, L.L.C.

P.O. Box 362 • Hays, Kansas 67601

## Drill-Stem Test Data

Well Name LETSCH "B" #12 Test No. 4 Date 4/17/93  
Company HALLWOOD PETROLEUM INC. Zone LKC  
Address P.O. BOX 378111 DENVER CO 80237-8111 Elevation 1805  
Co. Rep./Geo. JIM MUSGROVE Cont. ALLEN DRLG RIG #3 Est. Ft. of Pay \_\_\_\_\_  
Location: Sec. 4 Twp. 15S Rge. 13W Co. RUSSELL State KS

Interval Tested 3027-3050 Drill Pipe Size 4.5" XH  
Anchor Length 23 Wt. Pipe I.D. - 2.7 Ft. Run \_\_\_\_\_  
Top Packer Depth 3022 Drill Collar - 2.25 Ft. Run \_\_\_\_\_  
Bottom Packer Depth 3027 Mud Wt. 9.1 lb/Gal.  
Total Depth 3050 Viscosity 50 Filtrate 10.4

Tool Open @ 8:40 PM Initial Blow STRONG - BOTTOM OF BUCKET IN 2 MINUTES

Final Blow STRONG - BOTTOM OF BUCKET IN 5 MINUTES

Recovery - Total Feet 588 Flush Tool? NO

Rec. 1828 Feet of GAS IN PIPE  
Rec. 154 Feet of OIL CUT GASSY MUD 10%GAS/30%OIL/60%MUD  
Rec. 434 Feet of MUDDY WATER 75%WATER/25%MUD  
Rec. \_\_\_\_\_ Feet of \_\_\_\_\_  
Rec. \_\_\_\_\_ Feet of \_\_\_\_\_

BHT 109 °F Gravity \_\_\_\_\_ °API @ \_\_\_\_\_ °F Corrected Gravity \_\_\_\_\_ °API  
RW 0.124 @ \_\_\_\_\_ °F Chlorides 52000 ppm Recovery Chlorides 7000 ppm System

(A) Initial Hydrostatic Mud 1584.6 PSI AK1 Recorder No. 13754 Range 4000

(B) First Initial Flow Pressure 56.1 PSI @ (depth) 3031 w / Clock No. 8376

(C) First Final Flow Pressure 121.1 PSI AK1 Recorder No. 7437 Range 4200

(D) Initial Shut-in Pressure 1092.9 PSI @ (depth) 3046 w / Clock No. 8179

(E) Second Initial Flow Pressure 195.8 PSI AK1 Recorder No. \_\_\_\_\_ Range \_\_\_\_\_

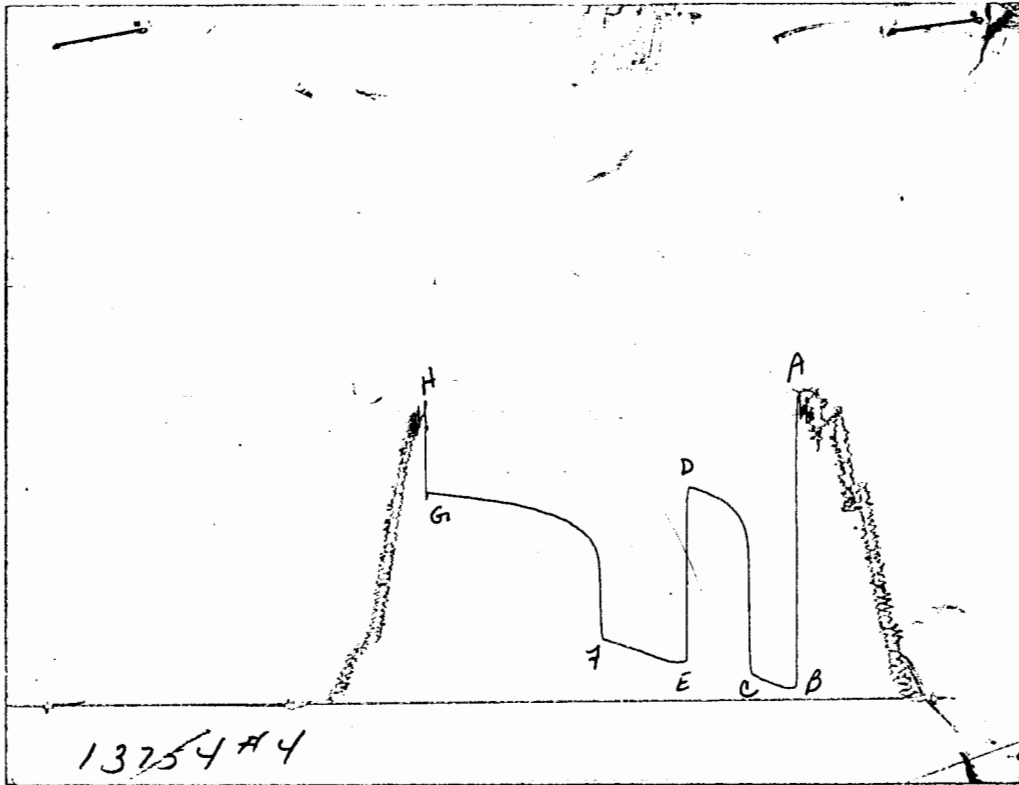
(F) Second Final Flow Pressure 309.1 PSI @ (depth) \_\_\_\_\_ w / Clock No. \_\_\_\_\_

(G) Final Shut-in Pressure 1073.1 PSI Initial Opening 30 Final Flow 60

(H) Final Hydrostatic Mud 1475.3 PSI Initial Shut-in 45 Final Shut-in 120

Our Representative DAN BANGLE

CHART PAGE



This is an actual photograph of recorder chart

	FIELD READING	OFFICE READING
(A) INITIAL HYDROSTATIC MUD	1586	1584.6
(B) FIRST INITIAL FLOW PRESSURE	59	56.1
(C) FIRST FINAL FLOW PRESSURE	127	121.1
(D) INITIAL CLOSED-IN PRESSURE	1086	1092.9
(E) SECOND INITIAL FLOW PRESSURE	187	195.8
(F) SECOND FINAL FLOW PRESSURE	314	309.1
(G) FINAL CLOSED-IN PRESSURE	1066	1073.1
(H) FINAL HYDROSTATIC MUD	1486	1475.3

INITIAL FLOW

RECORDER # 13754

TIME(MIN)	PRESSURE	<> PRESSURE
3	56.1	56.1
6	57.1	1
9	61.1	4
12	68.9	7.8
15	78.7	9.8
18	86.6	7.9
21	93.5	6.9
24	99.4	5.9
27	110.2	10.8
30	121.1	10.9

FINAL FLOW

RECORDER # 13754

TIME(MIN)	PRESSURE	<> PRESSURE
3	195.8	195.8
6	192.9	-2.9
9	192.9	0
12	195.8	2.9
15	199.8	4
18	206.6	6.8
21	214.5	7.9
24	221.4	6.9
27	226.3	4.9
30	234.2	7.9
33	242.1	7.9
36	250.1	8
39	257.8	7.7
42	263.7	5.9
45	270.6	6.9
48	275.5	4.9
51	282.4	6.9
54	290.3	7.9
57	296.2	5.9
60	302.1	5.9

# TRILOBITE TESTING L.L.C.

P.O. Box 362 • Hays, Kansas 67601

## Test Ticket

No 5985

Well Name & No.	<u>hetsch B #12</u>	Test No.	<u>4</u>	Date	<u>4-17-93</u>
Company	<u>Hallwood Petro, Inc.</u>	Zone Tested	<u>4Kc</u>		
Address		Elevation	<u>1805 H.B.</u>		
Co. Rep./Geo.	<u>Jim Musgrave</u>	Cont.	<u>Allen #3</u>	Est. Ft. of Pay	
Location: Sec.	<u>4</u>	Twp.	<u>15</u>	Rge.	<u>13</u>
				Co.	<u>Russell</u>
				State	<u>Kc.</u>
No. of Copies		Distribution Sheet		Yes	No
				Turnkey	Yes
					No
				Evaluation	

Interval Tested	<u>3027-3050</u>	Drill Pipe Size	<u>4.5 X 11</u>
Anchor Length	<u>23'</u>	Top Choke — 1"	Bottom Choke — $\frac{1}{4}$ "
Top Packer Depth	<u>3022</u>	Hole Size — $7\frac{7}{8}$ "	Rubber Size — $6\frac{3}{4}$ "
Bottom Packer Depth	<u>3027</u>	Wt. Pipe I.D. — 2.7 Ft. Run	
Total Depth	<u>3050</u>	Drill Collar — 2.25 Ft. Run	
Mud Wt.	<u>9.1</u>	lb/gal.	Viscosity <u>50</u> Filtrate <u>10.4</u>
Tool Open @	<u>8:40 p.m.</u>	Initial Blow	<u>Strong - B.O.B. in 2 min.</u>

Final Blow Strong - B.O.B. in 5 min.

Recovery — Total Feet	<u>588</u>	Feet of Gas in Pipe	<u>1828</u>	Flush Tool?				
Rec.	<u>154</u>	Feet Of	<u>O.C. Gsym</u>	10 % gas	30 % oil	% water	<u>60</u>	% mud
Rec.	<u>434</u>	Feet Of	<u>mdy win.</u>	% gas	% oil	<u>75</u> % water	<u>25</u> % 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 \_\_\_\_\_ °API @ \_\_\_\_\_ °F Corrected Gravity \_\_\_\_\_ °API

RW 124 @ 75 °F Chlorides 52,000 ppm Recovery Chlorides 7,000 ppm System

- (A) Initial Hydrostatic Mud 1586 PSI AK1 Recorder No. 13754 Range 4000
- (B) First Initial Flow Pressure 59 PSI @ (depth) 3031 w/Clock No. 8376
- (C) First Final Flow Pressure 127 PSI AK1 Recorder No. 7437 Range 4200
- (D) Initial Shut-in Pressure 1086 PSI @ (depth) 3046 w/Clock No. 8179
- (E) Second Initial Flow Pressure 187 PSI AK1 Recorder No. \_\_\_\_\_ Range \_\_\_\_\_
- (F) Second Final Flow Pressure 314 PSI @ (depth) \_\_\_\_\_ w/Clock No. \_\_\_\_\_
- (G) Final Shut-in Pressure 1066 PSI Initial Opening 30 Test \_\_\_\_\_
- (H) Final Hydrostatic Mud 1486 PSI Initial Shut-in 45 Jars \_\_\_\_\_

Final Flow 60 Safety Joint \_\_\_\_\_

Final Shut-in 120 Straddle \_\_\_\_\_

Circ. Sub \_\_\_\_\_

Sampler \_\_\_\_\_

Extra Packer \_\_\_\_\_

Other \_\_\_\_\_

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Approved By Jim Musgrave

Our Representative Don Banister

# TRILOBITE TESTING, L.L.C.

P.O. Box 362 • Hays, Kansas 67601

## Drill-Stem Test Data

Well Name LETSCH "B" #12 Test No. 5 Date 4/18/93  
Company HALLWOOD PETROLEUM INC. Zone ARBUCKLE  
Address P.O. BOX 378111 DENVER CO 80237-8111 Elevation 1805  
Co. Rep./Geo. JIM MUSGROVE Cont. ALLEN DRLG RIG #3 Est. Ft. of Pay \_\_\_\_\_  
Location: Sec. 4 Twp. 15S Rge. 13W Co. RUSSELL State KS

Interval Tested 3250-3260 Drill Pipe Size 4.5" XH  
Anchor Length 10 Wt. Pipe I.D. - 2.7 Ft. Run \_\_\_\_\_  
Top Packer Depth 3245 Drill Collar -- 2.25 Ft. Run \_\_\_\_\_  
Bottom Packer Depth 3250 Mud Wt. 9.1 lb/Gal.  
Total Depth 3260 Viscosity 60 Filtrate 13.6

Tool Open @ 9:05 PM Initial Blow WEAK - SURFACE BLOW

Final Blow NO BLOW

Recovery - Total Feet 10 Flush Tool? NO

Rec. 10 Feet of WATER  
Rec. \_\_\_\_\_ Feet of \_\_\_\_\_  
Rec. \_\_\_\_\_ Feet of \_\_\_\_\_  
Rec. \_\_\_\_\_ Feet of \_\_\_\_\_  
Rec. \_\_\_\_\_ Feet of \_\_\_\_\_

BHT 114 °F Gravity \_\_\_\_\_ °API @ \_\_\_\_\_ °F Corrected Gravity \_\_\_\_\_ °API  
RW 0.325 @ 70 °F Chlorides 18000 ppm Recovery Chlorides 10000 ppm System

(A) Initial Hydrostatic Mud 1610.3 PSI AK1 Recorder No. 13754 Range 4000

(B) First Initial Flow Pressure 21.3 PSI @ (depth) 3254 w / Clock No. 8376

(C) First Final Flow Pressure 21.3 PSI AK1 Recorder No. 7437 Range 4200

(D) Initial Shut-in Pressure 668.2 PSI @ (depth) 3056 w / Clock No. 8179

(E) Second Initial Flow Pressure 32.6 PSI AK1 Recorder No. \_\_\_\_\_ Range \_\_\_\_\_

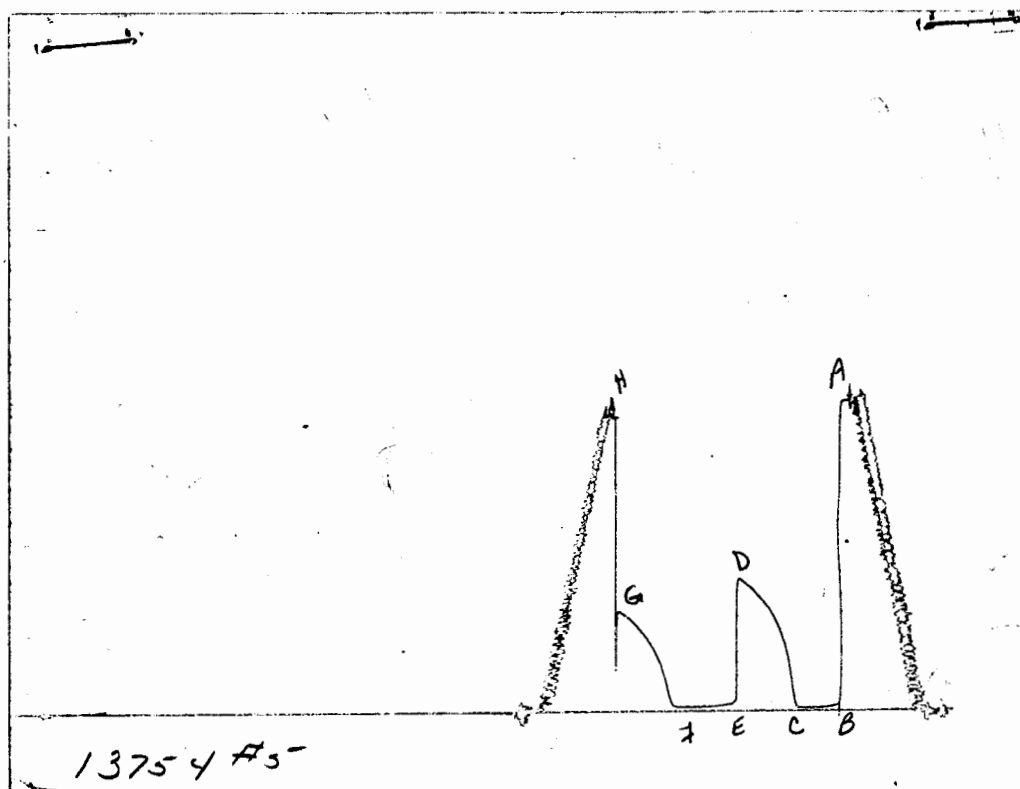
(F) Second Final Flow Pressure 32.6 PSI @ (depth) \_\_\_\_\_ w / Clock No. \_\_\_\_\_

(G) Final Shut-in Pressure 496.1 PSI Initial Opening 30 Final Flow 45

(H) Final Hydrostatic Mud 1571.2 PSI Initial Shut-in 45 Final Shut-in 45

Our Representative DAN BANGLE

# CHART PAGE



This is an actual photograph of recorder chart

	FIELD READING	OFFICE READING
(A) INITIAL HYDROSTATIC MUD	1606	1610.3
(B) FIRST INITIAL FLOW PRESSURE	19	21.3
(C) FIRST FINAL FLOW PRESSURE	19	21.3
(D) INITIAL CLOSED-IN PRESSURE	660	668.2
(E) SECOND INITIAL FLOW PRESSURE	29	32.6
(F) SECOND FINAL FLOW PRESSURE	29	32.6
(G) FINAL CLOSED-IN PRESSURE	492	496.1
(H) FINAL HYDROSTATIC MUD	1566	1571.2

# TRILOBITE TESTING L.L.C.

P.O. Box 362 • Hays, Kansas 67601

## Test Ticket

No 5986

Well Name & No.	<u>Lettsch B #12</u>	Test No.	<u>5</u>	Date	<u>1-18-93</u>
Company	<u>Hallwood Petro, Inc.</u>	Zone Tested	<u>Arbuckle</u>		
Address		Elevation	<u>1805 K.B.</u>		
Co. Rep./Geo.	<u>Jim Musgrove</u>	Cont.	<u>Allen #3</u>	Est. Ft. of Pay	
Location: Sec.	<u>4</u>	Twp.	<u>15</u>	Rge.	<u>13</u>
		Co.	<u>Russell</u>	State	<u>Ks.</u>
No. of Copies		Distribution Sheet	Yes <input type="checkbox"/> No <input type="checkbox"/>	Turnkey	Yes <input type="checkbox"/> No <input type="checkbox"/>
		Evaluation			

Interval Tested	<u>3250 - 3260</u>	Drill Pipe Size	<u>4.5 XH</u>
Anchor Length	<u>10'</u>	Top Choke — 1"	Bottom Choke — 1/4"
Top Packer Depth	<u>3245</u>	Hole Size — 7 7/8"	Rubber Size — 6 3/4"
Bottom Packer Depth	<u>3250</u>	Wt. Pipe I.D. — 2.7 Ft. Run	
Total Depth	<u>3260</u>	Drill Collar — 2.25 Ft. Run	
Mud Wt.	<u>9.1</u>	lb/gal.	Viscosity <u>60</u> Filtrate <u>13.6</u>
Tool Open @	<u>9:05 p.m.</u>	Initial Blow	<u>Weak - Surface blow</u>

Final Blow No blow

Recovery — Total Feet	<u>10</u>	Feet of Gas in Pipe		Flush Tool?	
Rec.	<u>10</u>	Feet Of	<u>WIP</u>	%gas	%oil / CC %water <del>100</del> %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 114 °F Gravity \_\_\_\_\_ °API @ \_\_\_\_\_ °F Corrected Gravity \_\_\_\_\_ °API

RW 1325 @ 70 °F Chlorides 18,000 ppm Recovery Chlorides 10,000 ppm System

- (A) Initial Hydrostatic Mud 1606 PSI Ak1 Recorder No. 13754 Range 4000
- (B) First Initial Flow Pressure 19 PSI @ (depth) 3254 w/Clock No. 8376
- (C) First Final Flow Pressure 19 PSI Ak1 Recorder No. 7437 Range 4200
- (D) Initial Shut-in Pressure 660 PSI @ (depth) 3056 w/Clock No. 8179
- (E) Second Initial Flow Pressure 29 PSI Ak1 Recorder No. \_\_\_\_\_ Range \_\_\_\_\_
- (F) Second Final Flow Pressure 29 PSI @ (depth) \_\_\_\_\_ w/Clock No. \_\_\_\_\_
- (G) Final Shut-in Pressure 492 PSI Initial Opening 30 Test \_\_\_\_\_
- (H) Final Hydrostatic Mud 1566 PSI Initial Shut-in 45 Jars \_\_\_\_\_

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Approved By Jim Musgrove  
Our Representative Dan Dangle

Final Flow 45 Safety Joint \_\_\_\_\_  
Final Shut-in 45 Straddle \_\_\_\_\_  
Circ. Sub \_\_\_\_\_  
Sampler \_\_\_\_\_  
Extra Packer \_\_\_\_\_  
Other \_\_\_\_\_

# TRILOBITE TESTING, L.L.C.

P.O. Box 362 • Hays, Kansas 67601

## Drill-Stem Test Data

Well Name LETSCH "B" #12 Test No. 6 Date 4/19/93  
Company HALLWOOD PETROLEUM INC. Zone ARBUCKLE  
Address P.O. BOX 378111 DENVER CO 80237-8111 Elevation 1805  
Co. Rep./Geo. JIM MUSGROVE Cont. ALLEN DRLG RIG #3 Est. Ft. of Pay \_\_\_\_\_  
Location: Sec. 4 Twp. 15S Rge. 13W Co. RUSSELL State KS

Interval Tested	<u>3260-3272</u>	Drill Pipe Size	<u>4.5" XH</u>
Anchor Length	<u>12</u>	Wt. Pipe I.D. - 2.7 Ft. Run	_____
Top Packer Depth	<u>3255</u>	Drill Collar - 2.25 Ft. Run	_____
Bottom Packer Depth	<u>3260</u>	Mud Wt.	<u>9.1</u> lb/Gal.
Total Depth	<u>3272</u>	Viscosity	<u>42</u>
		Filtrate	<u>9.6</u>

Tool Open @ 8:25 AM Initial Blow WEAK - BUILDING TO BOTTOM OF BUCKET IN 15 MINUTES

Final Blow WEAK - BUILDING TO BOTTOM IN BUCKET IN 30 MINUTES

Recovery - Total Feet 496 Flush Tool? NO

Rec. 496 Feet of MUDDY WATER 90%WATER/10%MUD  
Rec. \_\_\_\_\_ Feet of \_\_\_\_\_  
Rec. \_\_\_\_\_ Feet of \_\_\_\_\_  
Rec. \_\_\_\_\_ Feet of \_\_\_\_\_  
Rec. \_\_\_\_\_ Feet of \_\_\_\_\_

BHT 112 °F Gravity \_\_\_\_\_ °API @ \_\_\_\_\_ °F Corrected Gravity \_\_\_\_\_ °API  
RW 0.203 @ 80 °F Chlorides 27000 ppm Recovery Chlorides 7000 ppm System

(A) Initial Hydrostatic Mud 1684.2 PSI AK1 Recorder No. 13754 Range 4000

(B) First Initial Flow Pressure 42.3 PSI @ (depth) 3264 w / Clock No. 27567

(C) First Final Flow Pressure 74.8 PSI AK1 Recorder No. 7437 Range 4200

(D) Initial Shut-in Pressure 1050.1 PSI @ (depth) 3268 w / Clock No. 27501

(E) Second Initial Flow Pressure 125.1 PSI AK1 Recorder No. \_\_\_\_\_ Range \_\_\_\_\_

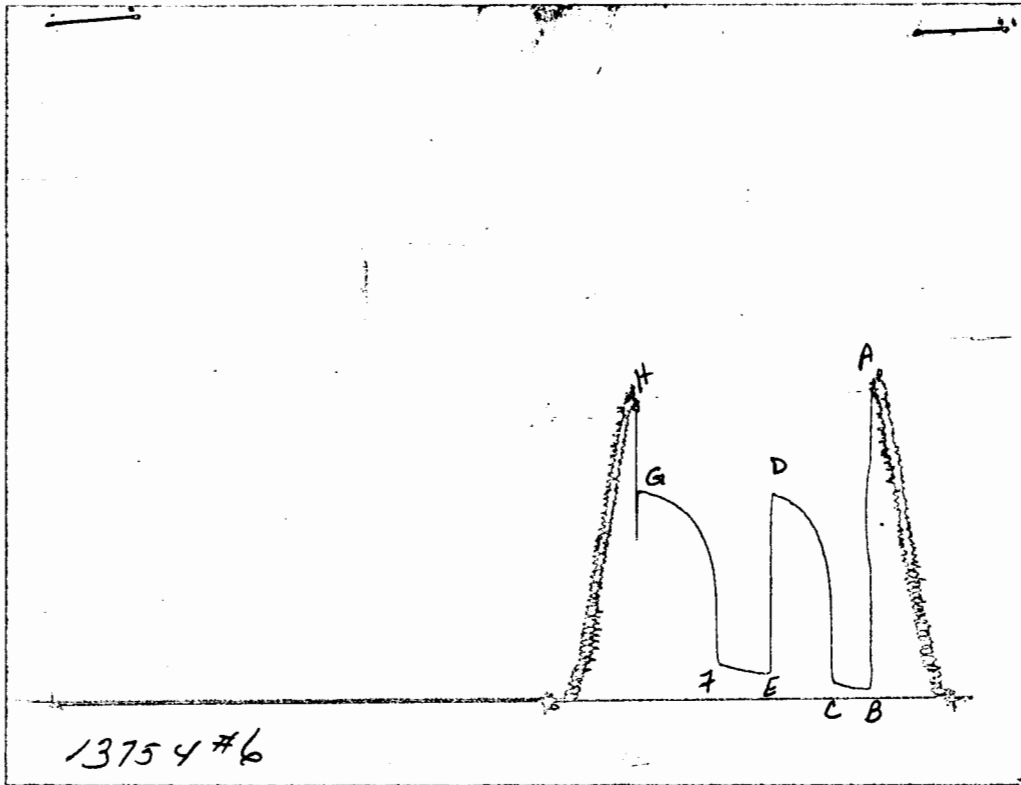
(F) Second Final Flow Pressure 175.1 PSI @ (depth) \_\_\_\_\_ w / Clock No. \_\_\_\_\_

(G) Final Shut-in Pressure 1070.1 PSI Initial Opening 30 Final Flow 45

(H) Final Hydrostatic Mud 1623.6 PSI Initial Shut-in 45 Final Shut-in 60

Our Representative DAN BANGLE

CHART PAGE



This is an actual photograph of recorder chart

	FIELD READING	OFFICE READING
(A) INITIAL HYDROSTATIC MUD	1686	1684.2
(B) FIRST INITIAL FLOW PRESSURE	49	42.3
(C) FIRST FINAL FLOW PRESSURE	98	74.8
(D) INITIAL CLOSED-IN PRESSURE	1046	1050.1
(E) SECOND INITIAL FLOW PRESSURE	127	125.1
(F) SECOND FINAL FLOW PRESSURE	187	175.1
(G) FINAL CLOSED-IN PRESSURE	1066	1070.1
(H) FINAL HYDROSTATIC MUD	1626	1623.6

INITIAL FLOW

RECORDER # 13754 DST # 6

TIME(MIN)	PRESSURE	<> PRESSURE
3	42.3	42.3
6	42.3	0
9	44.2	1.9
12	47.2	3
15	49.2	2
18	53.1	3.9
21	58.1	5
24	63.9	5.8
27	70.8	6.9
30	74.8	4

FINAL FLOW

RECORDER # 13754 DST # 6

TIME(MIN)	PRESSURE	<> PRESSURE
3	125	125
6	125	0
9	125	0
12	126.9	1.9
15	128.9	2
18	133.8	4.9
21	137.7	3.9
24	141.7	4
27	144.6	2.9
30	148.6	4
33	155.5	6.9
36	160.4	4.9
39	165.3	4.9
42	170.2	4.9
45	175.1	4.9

LETSCH 'B' #12 DST #6  
 INITIAL SHUTIN  
 30 TOTAL FLOW TIME

TIME(MIN)	Pws (psi)	Log Horn T	<> PRESSURE	Horn T
3	690.7	1.041	690.7	11
6	774.7	0.778	84.0	6
9	828.1	0.637	53.4	4
12	875.4	0.544	47.3	4
15	911.1	0.477	35.7	3
18	936.7	0.426	25.6	3
21	960.4	0.385	23.7	2
24	977.2	0.352	16.8	2
27	992.1	0.325	14.9	2
30	1006.1	0.301	14.0	2
33	1018.1	0.281	12.0	2
36	1029.1	0.263	11.0	2
39	1035.1	0.248	6.0	2
42	1045.1	0.234	10.0	2
45	1050.1	0.222	5.0	2

LETSCH 'B' #12 DST #6  
 FINAL SHUTIN  
 75 TOTAL FLOW TIME

	Pws (psi)	Log Horn T	<> PRESSURE	Horn T
6	732.2	1.130	732.2	14
12	843.8	0.860	111.6	7
18	910.1	0.713	66.3	5
24	953.5	0.615	43.4	4
30	984.1	0.544	30.6	4
36	1010.1	0.489	26.0	3
42	1031.1	0.445	21.0	3
48	1048.1	0.409	17.0	3
54	1059.1	0.378	11.0	2
60	1070.1	0.352	11.0	2

# TRILOBITE TESTING L.L.C.

P.O. Box 362 • Hays, Kansas 67601

## Test Ticket

No 5987

Well Name & No.	<u>hetsch B #12</u>	Test No.	<u>6</u>	Date	<u>4-19-92</u>
Company	<u>Hallwood Petro, Inc.</u>	Zone Tested	<u>Arbuckle</u>		
Address		Elevation	<u>1805 K.B.</u>		
Co. Rep./Geo.	<u>Jim Musgrove</u>	cont.	<u>Allen #3</u>	Est. Ft. of Pay	
Location: Sec.	<u>4</u>	Twp.	<u>15</u>	Rge.	<u>13</u>
		Co.	<u>Russell</u>	State	<u>Ks.</u>
No. of Copies		Distribution Sheet	<input type="checkbox"/> Yes <input type="checkbox"/> No	Turnkey	<input type="checkbox"/> Yes <input type="checkbox"/> No
		Evaluation			

Interval Tested 3260 - 3272 Drill Pipe Size 4.5 XH  
Anchor Length 12 Top Choke — 1" Bottom Choke — 3/4"  
Top Packer Depth 3255 Hole Size — 7 7/8" Rubber Size — 6 3/4"  
Bottom Packer Depth 3260 Wt. Pipe I.D. — 2.7 Ft. Run  
Total Depth 3272 Drill Collar — 2.25 Ft. Run  
Mud Wt. 9.1 lb/gal. Viscosity 42 Filtrate 9.6  
Tool Open @ 8:25 a.m. Initial Blow Weak - building to B.O.B. in 15 min.

Final Blow weak - building to B.O.B. in 30 min.

Recovery — Total Feet 496 Feet of Gas In Pipe \_\_\_\_\_ Flush Tool? \_\_\_\_\_

Rec.	Feet Of	% gas	% oil	% water	% mud
<u>496</u>	<u>mdy wtr.</u>			<u>90</u>	<u>10</u>
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 112 °F Gravity \_\_\_\_\_ °API @ \_\_\_\_\_ °F Corrected Gravity \_\_\_\_\_ °API

RW .203 @ 80 °F Chlorides 27,000 ppm Recovery Chlorides 7,000 ppm System

(A) Initial Hydrostatic Mud 1686 PSI AK1 Recorder No. 13754 Range 4000  
(B) First Initial Flow Pressure 49 PSI @ (depth) 3264 w/Clock No. 27567  
(C) First Final Flow Pressure 98 PSI AK1 Recorder No. 7437 Range 4200  
(D) Initial Shut-In Pressure 1046 PSI @ (depth) 3268 w/Clock No. 27501  
(E) Second Initial Flow Pressure 127 PSI AK1 Recorder No. \_\_\_\_\_ Range \_\_\_\_\_  
(F) Second Final Flow Pressure 187 PSI @ (depth) \_\_\_\_\_ w/Clock No. \_\_\_\_\_  
(G) Final Shut-In Pressure 1066 PSI Initial Opening 30 Test \_\_\_\_\_  
(H) Final Hydrostatic Mud 1626 PSI Initial Shut-In 45 Jars \_\_\_\_\_

Final Flow 45 Safety Joint \_\_\_\_\_

Final Shut-In 60 Straddle \_\_\_\_\_

Circ. Sub \_\_\_\_\_

Sampler \_\_\_\_\_

Extra Packer \_\_\_\_\_

Other \_\_\_\_\_

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Approved By Jim Musgrove

Our Representative Don Baner