

## DRILL STEM TEST REPORT

Prepared For: **Larson Operating Co**

562 W Highway 4  
Olmitz Ks 67564

ATTN: Tom Larson

**19-16-7-Ellsworth-Ks**

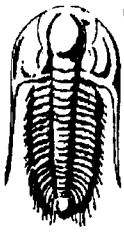
**Beck # 1-19**

Start Date: 2004.09.16 @ 20:50:25

End Date: 2004.09.17 @ 05:56:55

Job Ticket #: 20299                      DST #: 1

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
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TESTING, INC**

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562 W Highway 4  
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ATTN: Tom Larson

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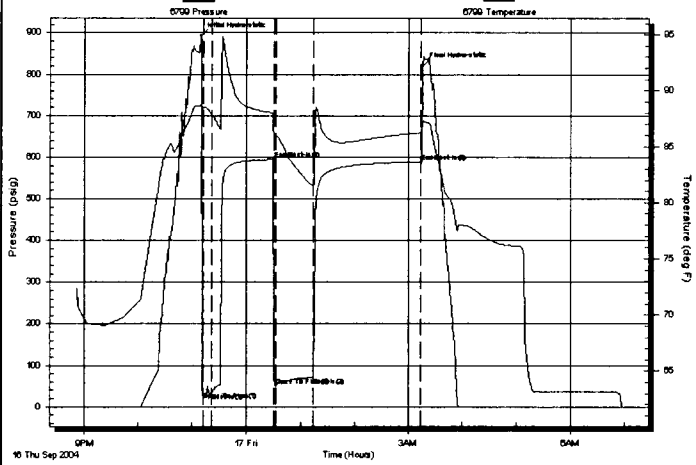
## GENERAL INFORMATION:

Formation: **Grand Haven**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 23:11:55  
Time Test Ended: 05:56:55  
Interval: **1849.00 ft (KB) To 1874.00 ft (KB) (TVD)**  
Total Depth: 1874.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Good  
Test Type: Conventional Bottom Hole  
Tester: Dan Bangle  
Unit No: 21  
Reference Elevations: 1670.00 ft (KB)  
1660.00 ft (CF)  
KB to GR/CF: 10.00 ft

**Serial #: 6799**      **Inside**  
Press@RunDepth: 71.00 psig @ 1850.00 ft (KB)      Capacity: 7000.00 psig  
Start Date: 2004.09.16      End Date: 2004.09.17      Last Calib.: 2004.09.17  
Start Time: 20:50:26      End Time: 06:56:55      Time On Btm: 2004.09.16 @ 23:09:25  
Time Off Btm: 2004.09.17 @ 03:15:25

**TEST COMMENT:** F-Strong B-B in 30 sec GTS in 5 min Gauged  
FF-Strong B-B in 20 sec Gauged gas sample taken

Pressure vs. Time



## PRESSURE SUMMARY

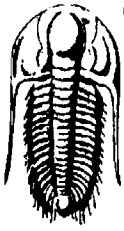
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	892.08	88.65	Initial Hydro-static
3	15.69	88.42	Open To Flow (1)
13	33.85	87.78	Shut-In(1)
81	594.01	87.98	End Shut-In(1)
83	50.26	86.09	Open To Flow (2)
124	71.00	81.44	Shut-In(2)
245	588.76	86.22	End Shut-In(2)
246	820.88	87.23	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
120.00	Gassy Mud	0.59

## Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.25	10.00	38.71
Last Gas Rate	0.25	28.00	67.26
Max. Gas Rate	0.25	28.00	67.26



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**TOOL DIAGRAM**

Larson Operating Co

**Beck # 1-19**

562 W Highway 4  
Olmitz Ks 67564

**19-16-7-Ellsworth-Ks**

Job Ticket: 20299

**DST#: 1**

ATTN: Tom Larson

Test Start: 2004.09.16 @ 20:50:25

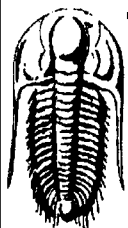
**Tool Information**

Drill Pipe:	Length: 1534.00 ft	Diameter: 3.34 inches	Volume: 16.62 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 311.00 ft	Diameter: 2.25 inches	Volume: 1.53 bbl	Weight to Pull Loose: 42000.00 lb
			<u>Total Volume: 18.15 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	19.00 ft			String Weight: Initial 38000.00 lb
Depth to Top Packer:	1849.00 ft			Final 39000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	25.00 ft			
Tool Length:	48.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			1827.00	
Shut In Tool	5.00			1832.00	
Sampler	2.00			1834.00	
Hydraulic tool	5.00			1839.00	
Packer	5.00			1844.00	23.00 Bottom Of Top Packer
Packer	5.00			1849.00	
Stubb	1.00			1850.00	
Recorder	0.00	6799	Inside	1850.00	
Perforations	21.00			1871.00	
Recorder	0.00	13254	Outside	1871.00	
Bullnose	3.00			1874.00	25.00 Bottom Packers & Anchor

**Total Tool Length: 48.00**



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**FLUID SUMMARY**

Larson Operating Co

**Beck # 1-19**

562 W Highway 4  
Olmritz Ks 67564

**19-16-7-Elsworth-Ks**

Job Ticket: 20299

**DST#: 1**

ATTN: Tom Larson

Test Start: 2004.09.16 @ 20:50:25

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 38.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.57 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1500.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
120.00	Gassy Mud	0.590

Total Length: 120.00 ft      Total Volume: 0.590 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Sampler- 600# PSI  
3.1 Cu Ft Gas

Serial #: 6799

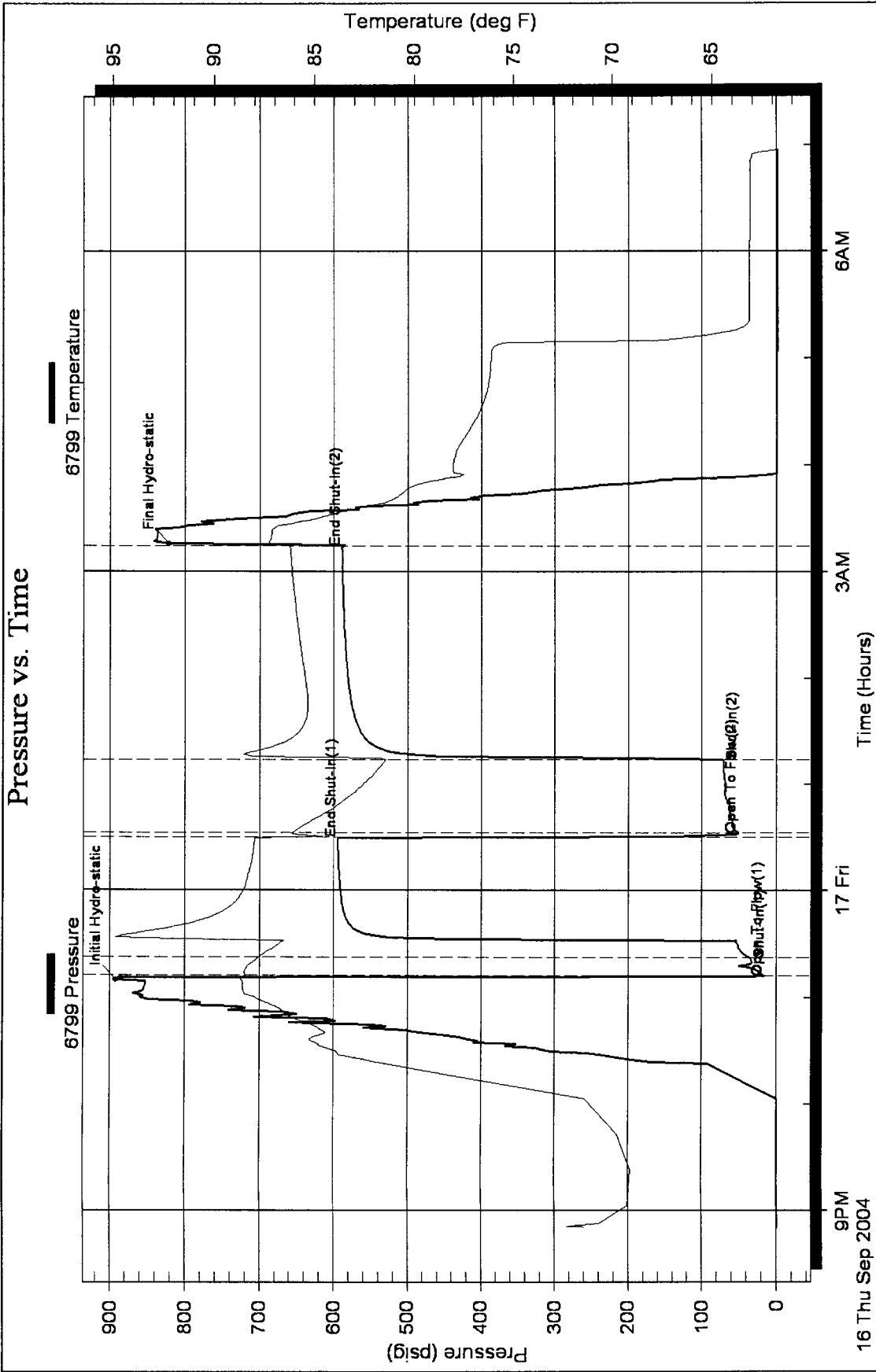
Inside

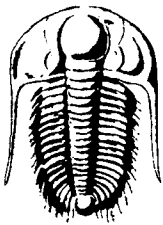
Larson Operating Co

19-16-7-Elisw orth-Ks

DST Test Number: 1

### Pressure vs. Time





# TRILOBITE TESTING INC.

P.O. Box 362 • Hays, Kansas 67601

Inv  
6829

No 20299

05/03

## Test Ticket

Well Name & No. Beck #1-19 Test No. 1 Date 9-16-04  
 Company harson Operating Co. Zone Tested Grand Haven  
 Address 562 W. Highway 4 Olmitz Ks. 67564 Elevation 1670 KB 1650 GL  
 Co. Rep / Geo. Tom harson Cont. Summit Est. Ft. of Pay \_\_\_\_\_ Por. \_\_\_\_\_ %  
 Location: Sec. 19 Twp. 16 Rge. 7 Co. Ellsworth State Ks  
 No. of Copies \_\_\_\_\_ Disbtribution Sheet (Y, N) \_\_\_\_\_ Turnkey (Y, N) \_\_\_\_\_ Evaluation (Y, N) \_\_\_\_\_

Interval Tested 1849 — 1874 Initial Str Wt./Lbs. 38,000 Unseated Str Wt./Lbs. 39,000  
 Anchor Length 25 Wt. Set Lbs. 25,000 Wt. Pulled Loose/Lbs. 42,000  
 Top Packer Depth 1844 Tool Weight 2000  
 Bottom Packer Depth 1849 Hole Size 7 7/8" Rubber Size 6 3/4"  
 Total Depth 1874 Wt. Pipe Run \_\_\_\_\_ Drill Collar Run 311  
 Mud Wt. 8.6 LCM \_\_\_\_\_ Vis. 38 WL 9.6 Drill Pipe Size 4" Ft. Run 1534  
 Blow Description F.F. Strong B-B in 30 sec - GTS in 5 min - Gauged

F.F. Strong B-B in 20 sec - Gauged Gas - Sample Taken

Recovery - Total Feet 120 GIP GTS Ft. in DC 120 Ft. in DP \_\_\_\_\_  
 Rec. 120 Feet of Gsy mud 10 %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 86 °F Gravity \_\_\_\_\_ °API D @ \_\_\_\_\_ °F Corrected Gravity \_\_\_\_\_ °API  
 RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm Recovery \_\_\_\_\_ Chlorides 1500 ppm System

	AK-1	Alpine	Recorder No.	Test
(A) Initial Hydrostatic Mud	<u>892</u>	PSI	<u>6799</u>	<u>900</u>
(B) First Initial Flow Pressure	<u>15</u>	PSI	(depth) <u>1850</u>	Elec. Rec. <u>X</u>
(C) First Final Flow Pressure	<u>33</u>	PSI	Recorder No. <u>13254</u>	Jars _____
(D) Initial Shut-In Pressure	<u>594</u>	PSI	(depth) <u>1871</u>	Safety Jt. _____
(E) Second Initial Flow Pressure	<u>50</u>	PSI	Recorder No. _____	Circ Sub _____
(F) Second Final Flow Pressure	<u>71</u>	PSI	(depth) _____	Sampler <u>X</u> <u>200</u>
(G) Final Shut-In Pressure	<u>588</u>	PSI	<b>Initial Opening</b> <u>15</u>	Straddle _____
(Q) Final Hydrostatic Mud	<u>820</u>	PSI	Initial Shut-In <u>60</u>	Ext. Packer _____
			Final Flow <u>45</u>	Shale Packer _____
			Final Shut-In <u>120</u>	Mileage <u>154</u> <u>130.90</u>
			<b>T-On Location</b> <u>20:00</u>	Sub Total: <u>1230.90</u>
			T-Started <u>20:50</u>	Std. By <u>2hr</u> <u>60.00</u>
			T-Open <u>23:15</u>	Other _____
			T-Pulled <u>03:15</u>	Total: <u>1290.90</u>
			T-Out <u>05:56</u>	

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Approved By \_\_\_\_\_  
 Our Representative Don Rongle

# TRILOBITE TESTING L.L.C.

P.O. Box 362 - Hays, Kansas 67601

## FLUID SAMPLER DATA

Ticket No. 20299 Date 9-16-04  
Company Name Hansen Operating Co.  
Lease Beck #1-19 Test No. 1  
County Ellsworth - Ks Sec. 19 Twp. 16 Rng. 7

### SAMPLER RECOVERY

Gas 3.1 ML  
Oil — ML  
Mud — ML  
Water — ML  
Other — ML  
Pressure 600 PSI  
Total \_\_\_\_\_ ML

### PIT MUD ANALYSIS

Chlorides 1500 ppm.  
Resistivity \_\_\_\_\_ ohms @ \_\_\_\_\_ F  
Viscosity 38  
Mud Weight 8.6  
Filtrate 9.6  
Other \_\_\_\_\_

### SAMPLER ANALYSIS

Resistivity \_\_\_\_\_ ohms @ \_\_\_\_\_ F  
Chlorides \_\_\_\_\_ ppm.  
Gravity \_\_\_\_\_ corrected @ 60 F

### PIPE RECOVERY

TOP  
Resistivity \_\_\_\_\_ ohms @ \_\_\_\_\_ F  
Chlorides \_\_\_\_\_ ppm.

MIDDLE  
Resistivity \_\_\_\_\_ ohms @ \_\_\_\_\_ F  
Chlorides \_\_\_\_\_ ppm.

BOTTOM  
Resistivity \_\_\_\_\_ ohms @ \_\_\_\_\_ F  
Chlorides \_\_\_\_\_ ppm.

**CHART PAGE**  
This is a photocopy of the actual AK-1 recorder chart

