

**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

Prepared For: **Larson Oper.Co.**

562 W Hwy 4  
Olmitz KS 67564-8561

ATTN: Steve Davis

**29-18-9 Graham**

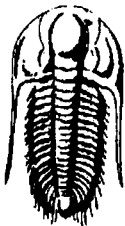
**Behnke 2-29**

Start Date: 2004.11.03 @ 18:44:57

End Date: 2004.11.04 @ 02:23:42

Job Ticket #: 19238                      DST #: 1

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Larson Oper. Co.  
562 W Hwy 4  
Olmritz KS 67564-8561  
ATTN: Steve Davis

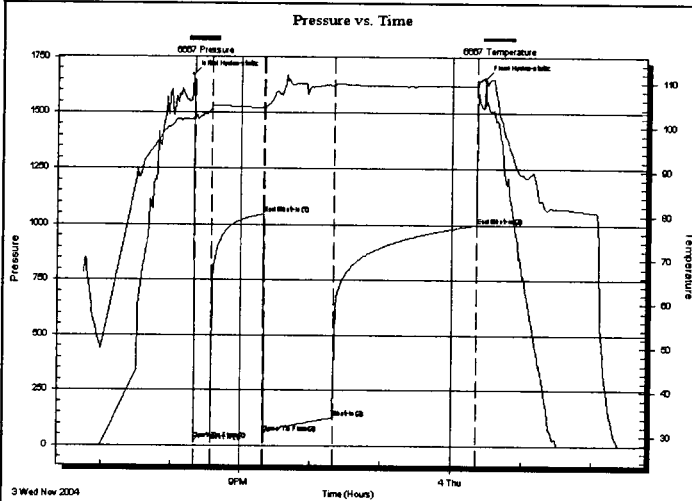
**Behnke 2-29**  
**29-18-9 Graham**  
Job Ticket: 19238      **DST#: 1**  
Test Start: 2004.11.03 @ 18:44:57

## GENERAL INFORMATION:

Formation: **Arbuckle**  
Deviated: **No** Whipstock:                      ft (KB)  
Time Tool Opened: 20:20:27  
Time Test Ended: 02:23:42  
Interval: **3207.00 ft (KB) To 3284.00 ft (KB) (TVD)**  
Total Depth: **3284.00 ft (KB) (TVD)**  
Hole Diameter: **7.83 inches** Hole Condition: Fair  
Test Type: **Conventional Bottom Hole**  
Tester: **Steve Clark**  
Unit No: **19**  
Reference Elevations: **1730.00 ft (KB)**  
**1725.00 ft (CF)**  
KB to GR/CF: **5.00 ft**

**Serial #: 6667**      **Inside**  
Press@RunDepth: **126.08 psig @ 3208.00 ft (KB)**  
Start Date: **2004.11.03**      End Date: **2004.11.04**  
Start Time: **18:45:07**      End Time: **02:23:42**  
Capacity: **7000.00 psig**  
Last Calib.: **2004.11.04**  
Time On Btm: **2004.11.03 @ 20:18:42**  
Time Off Btm: **2004.11.04 @ 00:28:42**

**TEST COMMENT:** F-w k blw increasing to 61/2" 15min  
IS-After bleed off, blw died  
FF-w k blw increasing to 81/2" 60min  
FS-After bleed off, blw died



## PRESSURE SUMMARY

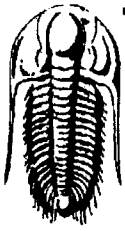
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1672.29	101.77	Initial Hydro-static
2	25.00	102.09	Open To Flow (1)
16	53.99	104.27	Shut-In(1)
61	1046.27	104.41	End Shut-In(1)
62	57.54	104.00	Open To Flow (2)
121	126.08	109.12	Shut-In(2)
243	999.36	109.44	End Shut-In(2)
250	1658.13	110.56	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
280.00	Lightly oil spec mud	3.93
	Sampler-15ml. w ater, 35ml. mud	

## Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)



**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Larson Oper. Co.  
562 W Hwy 4  
Olmitz KS 67564-8561  
  
ATTN: Steve Davis

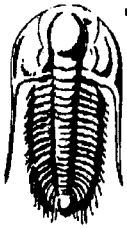
**Behnke 2-29**  
**29-18-9 Graham**  
Job Ticket: 19238      DST#: 1  
Test Start: 2004.11.03 @ 18:44:57

### Tool Information

Drill Pipe:	Length: 3182.00 ft	Diameter: 3.80 inches	Volume: 44.64 bbl	Tool Weight: 25000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 37000.00 lb
		<b>Total Volume:</b>	<b>44.64 bbl</b>	Tool Chased 0.00 ft
Drill Pipe Above KB:	6.00 ft			String Weight: Initial 33000.00 lb
Depth to Top Packer:	3207.00 ft			Final 35000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	77.00 ft			
Tool Length:	108.00 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			3177.00	
Shut In Tool	5.00			3182.00	
Sampler	2.00			3184.00	
Hydraulic tool	5.00			3189.00	
Jars	5.00			3194.00	
Safety Joint	3.00			3197.00	
Packer	5.00			3202.00	31.00      Bottom Of Top Packer
Packer	5.00			3207.00	
Perforations	1.00			3208.00	
Recorder	0.00	6667	Inside	3208.00	
Perforations	8.00			3216.00	
Change Over Sub	1.00			3217.00	
Drill Pipe	63.00			3280.00	
Change Over Sub	1.00			3281.00	
Recorder	0.00	11019	Outside	3281.00	
Bullnose	3.00			3284.00	77.00      Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>108.00</b>				



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Larson Oper.Co.  
562 W Hwy 4  
Olmritz KS 67564-8561  
ATTN: Steve Davis

**Behnke 2-29**  
**29-18-9 Graham**  
Job Ticket: 19238      DST#: 1  
Test Start: 2004.11.03 @ 18:44:57

## Mud and Cushion Information

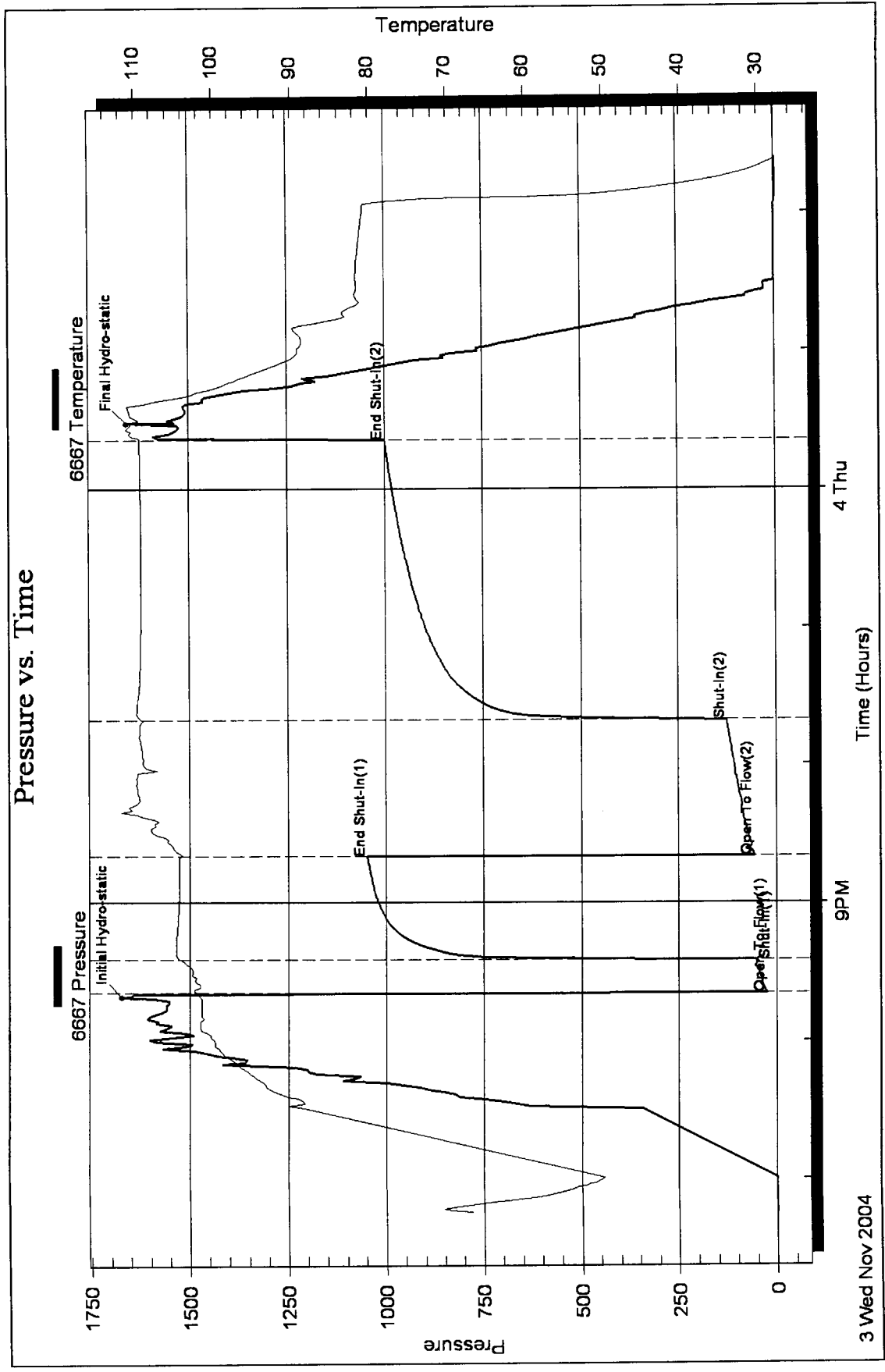
Mud Type: Gel Chem	Cushion Type:	Oil API: 0.8 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: 17000 ppm
Viscosity: 50.00 sec/qt	Cushion Volume: bbl	
Water Loss: 9.17 in <sup>3</sup>	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 5500.00 ppm		
Filter Cake: inches		

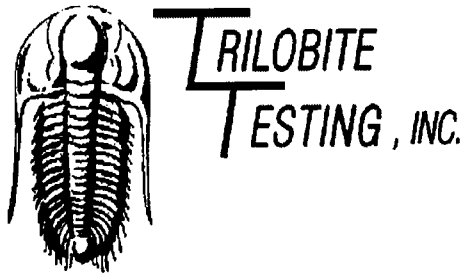
## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
280.00	Lighty oil spec mud	3.928
	Sampler-15ml. water, 35ml. mud	

Total Length: 280.00 ft      Total Volume: 3.928 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:





## DRILL STEM TEST REPORT

Prepared For: **Larson Oper.Co.**

562 W Hwy 4  
Olmitz KS 67564-8561

ATTN: Steve Davis

**29-18-9 Graham**

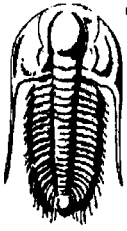
**Behnke 2-29**

Start Date: 2004.11.04 @ 08:38:03

End Date: 2004.11.04 @ 15:51:18

Job Ticket #: 19239                      DST #: 2

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Larson Oper. Co.  
562 W Hwy 4  
Olmritz KS 67564-8561  
ATTN: Steve Davis

**Behnke 2-29**  
**29-18-9 Graham**  
Job Ticket: 19239      DST#: 2  
Test Start: 2004.11.04 @ 08:38:03

## GENERAL INFORMATION:

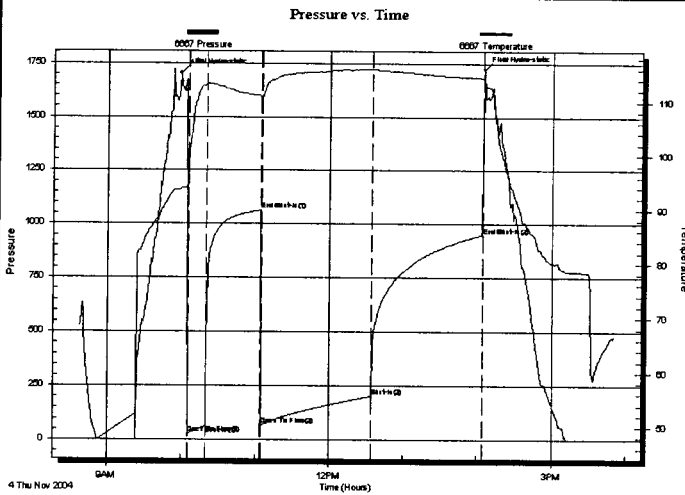
Formation: **Lower Arbuckle**  
Deviated: **No** Whipstock:                      ft (KB)  
Time Tool Opened: 10:05:18  
Time Test Ended: 15:51:18  
Interval: **3278.00 ft (KB) To 3290.00 ft (KB) (TVD)**  
Total Depth: **3290.00 ft (KB) (TVD)**  
Hole Diameter: **7.83 inches** Hole Condition: Fair  
Test Type: Conventional Bottom Hole  
Tester: Steve Clark  
Unit No: 19  
Reference Elevations: 1730.00 ft (KB)  
1725.00 ft (CF)  
KB to GR/CF: 5.00 ft

## Serial #: 6667

Inside

Press@RunDepth: 201.56 psig @ 3279.00 ft (KB)      Capacity: 7000.00 psig  
Start Date: 2004.11.04      End Date: 2004.11.04      Last Calib.: 2004.11.04  
Start Time: 08:38:13      End Time: 15:51:18      Time On Btm: 2004.11.04 @ 09:59:03  
Time Off Btm: 2004.11.04 @ 14:05:03

**TEST COMMENT:** F-wk blw increasing to b.o.b., 15min.  
IS-After bleed off, blw died  
FF-wk ble increasing to b.o.b., 25min.  
FSI-After bleed off, blw died



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1703.89	93.89	Initial Hydro-static
7	25.44	97.76	Open To Flow (1)
21	63.06	113.19	Shut-In(1)
66	1063.43	111.05	End Shut-In(1)
66	65.97	110.70	Open To Flow (2)
155	201.56	115.98	Shut-In(2)
246	950.06	114.44	End Shut-In(2)
246	1722.40	114.34	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
280.00	Slightly MCW-Oil spec	3.93
0.00	Sampler-4000 ml-w ater-oil spec	0.00

## Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)



**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Larson Oper.Co.  
562 W Hwy 4  
Olmitz KS 67564-8561  
  
ATTN: Steve Davis

**Behnke 2-29**  
**29-18-9 Graham**  
Job Ticket: 19239      **DST#: 2**  
Test Start: 2004.11.04 @ 08:38:03

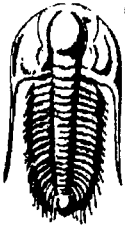
### Tool Information

Drill Pipe:	Length: 3267.00 ft	Diameter: 3.80 inches	Volume: 45.83 bbl	Tool Weight: 25000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 36000.00 lb
		<u>Total Volume:</u>	<u>45.83 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 34000.00 lb
Depth to Top Packer:	3278.00 ft			Final 34000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	12.00 ft			
Tool Length:	43.00 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			3248.00	
Shut In Tool	5.00			3253.00	
Sampler	2.00			3255.00	
Hydraulic tool	5.00			3260.00	
Jars	5.00			3265.00	
Safety Joint	3.00			3268.00	
Packer	5.00			3273.00	31.00      Bottom Of Top Packer
Packer	5.00			3278.00	
Perforations	1.00			3279.00	
Recorder	0.00	6667	Inside	3279.00	
Perforations	8.00			3287.00	
Recorder	0.00	11019	Outside	3287.00	
Bullnose	3.00			3290.00	12.00      Bottom Packers & Anchor

**Total Tool Length: 43.00**



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Larson Oper.Co.  
562 W Hwy 4  
Olmritz KS 67564-8561  
ATTN: Steve Davis

**Behnke 2-29**  
**29-18-9 Graham**  
Job Ticket: 19239      DST#: 2  
Test Start: 2004.11.04 @ 08:38:03

**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: 50.00 sec/qt	Cushion Volume: bbl		
Water Loss: 9.08 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 5500.00 ppm			
Filter Cake: inches			

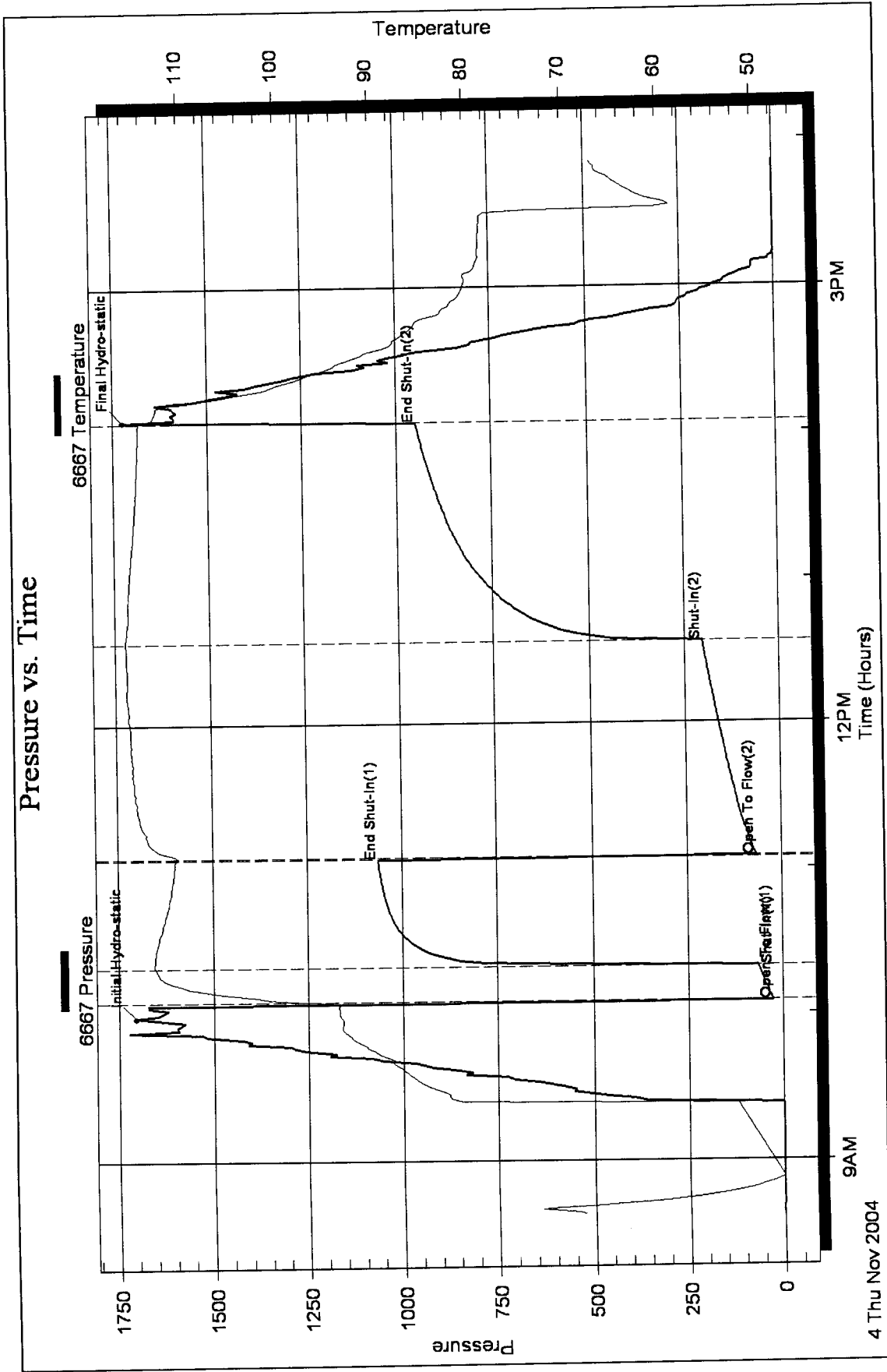
**Recovery Information**

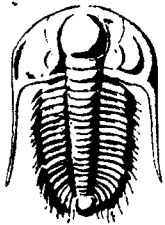
Recovery Table

Length ft	Description	Volume bbl
280.00	Slightly MCW-Oil spec	3.928
0.00	Sampler-4000 ml-w ater-oil spec	0.000

Total Length: 280.00 ft      Total Volume: 3.928 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:

### Pressure vs. Time





# TRILOBITE TESTING INC.

P.O. Box 362 • Hays, Kansas 67601

6919

No. 19238

05/03

## Test Ticket

Well Name & No. Behakz 2-29 Test No. #1 Date 11-4-04  
 Company Larson O&E Co. Zone Tested Arkuckle  
 Address 562 W. Hwy. 4 Okmütz KS 67564-9561 Elevation 1730 KB 1725 GL  
 Co. Rep / Geo. Steve Davis Cont. Retro Mark #1 Est. Ft. of Pay \_\_\_\_\_ Por. \_\_\_\_\_ %  
 Location: Sec. 29 Twp. 18 Rge. 9 Co. RICE State KS  
 No. of Copies 35 Distribution Sheet (Y, N) - Turnkey (Y, N) - Evaluation (Y, N) -

Interval Tested 3207-3284 Initial Str Wt./Lbs. 33,000 Unseated Str Wt./Lbs. 35,000  
 Anchor Length 77' Wt. Set Lbs. 25,000 Wt. Pulled Loose/Lbs. 37,000  
 Top Packer Depth 3205 Tool Weight 2,5000  
 Bottom Packer Depth 3207 Hole Size 7 7/8" Rubber Size 6 3/4"  
 Total Depth 3284 Wt. Pipe Run \_\_\_\_\_ Drill Collar Run \_\_\_\_\_  
 Mud Wt. 9.3 LCM # Vis. 50 WL 92 Drill Pipe Size 4 1/2 XH Ft. Run 3182

Blow Description LF - w/ k. blow increasing to 6 1/2" 15 min  
DSI - After bleed off, blow died  
FF - w/ k. blow increasing to 8 1/2" 60 min  
FST - After bleed off, blow died

Recovery - Total Feet	GIP	Ft. in DC	Ft. in DP
Rec. <u>2.80</u>	Feet of <u>Slightly oil cut mud</u>	%gas <u>1</u>	%oil _____ %water <u>99</u> %mud _____
Rec. _____	Feet of <u>---</u>	%gas _____	%oil _____ %water _____ %mud _____
Rec. _____	Feet of <u>Sampler - 15 ml. water</u>	%gas _____	%oil <u>20</u> %water <u>80</u> %mud _____
Rec. _____	Feet of <u>35 ml. Mud</u>	%gas _____	%oil _____ %water _____ %mud _____
Rec. _____	Feet of _____	%gas _____	%oil _____ %water _____ %mud _____

BHT 109 °F Gravity \_\_\_\_\_ °API D @ \_\_\_\_\_ °F Corrected Gravity \_\_\_\_\_ °API  
 RW .79 @ 35 °F Chlorides \_\_\_\_\_ ppm Recovery 17,000 Chlorides 9,5000 ppm System

	AK-1	Alpine	Recorder No.	Test #
(A) Initial Hydrostatic Mud	<u>1672</u>	PSI	<u>6667</u>	<u>#1 900</u>
(B) First Initial Flow Pressure	<u>25</u>	PSI	(depth) <u>3208</u>	Elec. Rec. <u>-</u>
(C) First Final Flow Pressure	<u>54</u>	PSI	Recorder No. <u>11019</u>	Jars <u>-</u> <u>200</u>
(D) Initial Shut-In Pressure	<u>1046</u>	PSI	(depth) <u>3281</u>	Safety Jt. <u>-</u> <u>50</u>
(E) Second Initial Flow Pressure	<u>58</u>	PSI	Recorder No. _____	Circ Sub <u>-</u>
(F) Second Final Flow Pressure	<u>126</u>	PSI	(depth) _____	Sampler <u>-</u> <u>200</u>
(G) Final Shut-In Pressure	<u>997</u>	PSI	Initial Opening <u>15</u>	Straddle _____
(Q) Final Hydrostatic Mud	<u>1658</u>	PSI	Initial Shut-In <u>45</u>	Ext. Packer _____

TRILOBITE TESTING INC. SHALL NOT BE LIABLE FOR DAMAGED 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.

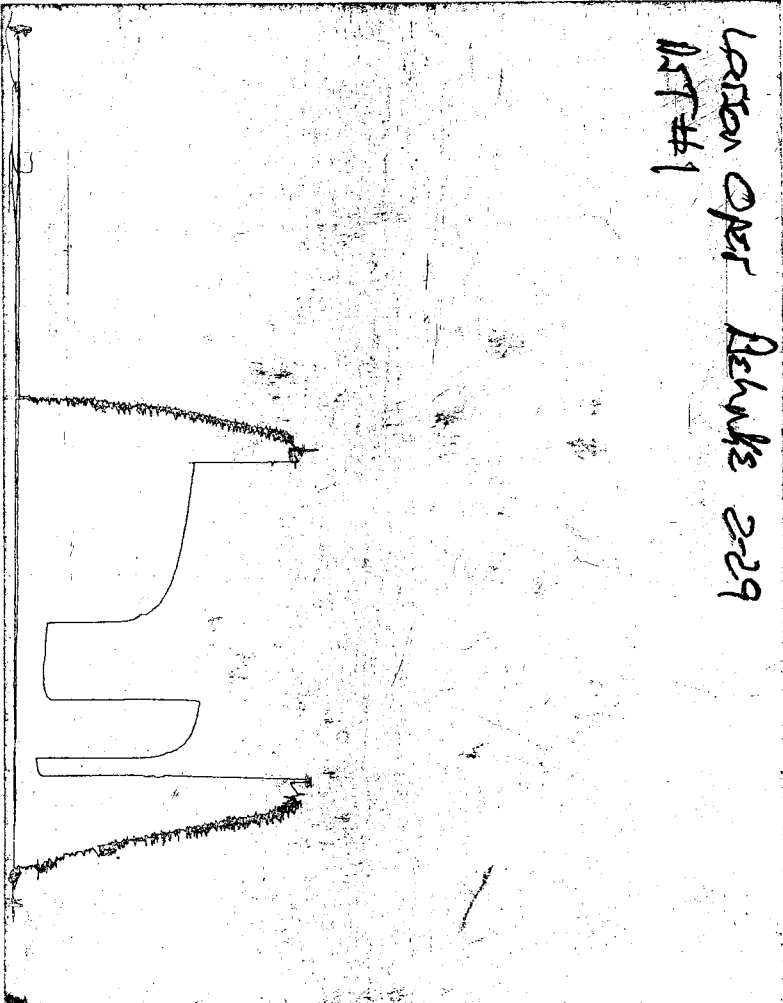
Approved By [Signature]  
 Our Representative [Signature] Thank You!

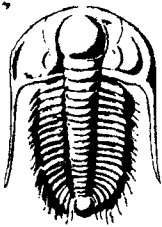
Final Flow	<u>60</u>	Shale Packer _____
Final Shut-In	<u>120</u>	Mileage <u>84 168</u>
T-On Location	<u>18:00</u>	Sub Total: <u>1518</u>
T-Started	<u>18:30</u>	Std. By _____
T-Open	<u>20:20</u>	Other _____
T-Pulled	<u>24:20</u>	Total: <u>1518</u>
T-Out	<u>2:00</u>	

**CHART PAGE**

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

LEISON OPER Belville 2-29  
INST #1





# TRILOBITE TESTING INC.

P.O. Box 362 • Hays, Kansas 67601

No. 19239

05/03

## Test Ticket

Well Name & No. Behaks 2-29 Test No. #1 Date 11-4-04  
 Company Carson Oper. Co. Zone Tested Lower Arkville  
 Address 562 W. Hwy. 4 Okemita KS 67564-8561 Elevation 1730 KB 1735 GL  
 Co. Rep / Geo. Steve Davis Cont. Retro Mark #1 Est. Ft. of Pay \_\_\_\_\_ Por. \_\_\_\_\_ %  
 Location: Sec. 29 Twp. 18 Rge. 9 Co. Rice State KS  
 No. of Copies reg Distribution Sheet (Y, N) \_\_\_\_\_ Turnkey (Y, N) \_\_\_\_\_ Evaluation (Y, N) \_\_\_\_\_

Interval Tested 3278 - 3290 Initial Str Wt./Lbs. 34000 Unseated Str Wt./Lbs. 34000  
 Anchor Length 12 Wt. Set Lbs. 35000 Wt. Pulled Loose/Lbs. 36000  
 Top Packer Depth 3273 Tool Weight 2,500  
 Bottom Packer Depth 3278 Hole Size 7 7/8" Rubber Size 6 3/4"  
 Total Depth 3290 Wt. Pipe Run \_\_\_\_\_ Drill Collar Run \_\_\_\_\_  
 Mud Wt. 9.3 LCM \_\_\_\_\_ Vis. 50 WL 9.2 Drill Pipe Size 4 1/2 XH Ft. Run 3267

Blow Description IF - wk blow, increasing A.O.B., 15 min.  
ISI - After bleed, no blow.  
FF - wk blow, increasing b.o.b., 25 min.  
FSL - After bleed, no blow

Recovery - Total Feet	GIP	Ft. in DC	Ft. in DP	%gas	%oil	%water	%mud
Rec. <u>280'</u>	Feet of <u>Slightly mud C W - oil gas</u>				<u>100</u>		
Rec. _____	Feet of <u>Sampler - 100% water</u>						
Rec. _____	Feet of _____						
Rec. _____	Feet of _____						
Rec. _____	Feet of _____						

BHT 114 °F Gravity \_\_\_\_\_ °API D @ \_\_\_\_\_ °F Corrected Gravity \_\_\_\_\_ °API  
 RW .43 @ 61 °F Chlorides \_\_\_\_\_ ppm Recovery 15000 Chlorides 5500 ppm System

	AK-1	Alpine	Recorder No.	Test #	Pressure
(A) Initial Hydrostatic Mud	<u>1704</u>		<u>6667</u>	<u>#2</u>	<u>900</u>
(B) First Initial Flow Pressure	<u>25</u>		<u>3279</u>		
(C) First Final Flow Pressure	<u>63</u>		<u>1619</u>		<u>200</u>
(D) Initial Shut-In Pressure	<u>1063</u>		<u>3287</u>		<u>50</u>
(E) Second Initial Flow Pressure	<u>66</u>				
(F) Second Final Flow Pressure	<u>201</u>				<u>200</u>
(G) Final Shut-In Pressure	<u>950</u>				
(Q) Final Hydrostatic Mud	<u>1722</u>				
			Initial Opening		
			Initial Shut-In		
			Final Flow		
			Final Shut-In		
			T-On Location		
			T-Started		
			T-Open		
			T-Pulled		
			T-Out		

TRILOBITE TESTING INC. SHALL NOT BE LIABLE FOR DAMAGED 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 [Signature]  
 Our Representative Steve Clark Thank YOU!

Elec. Rec.	<u>—</u>
Jars	<u>— 200</u>
Safety Jt.	<u>— 50</u>
Circ Sub	<u>— —</u>
Sampler	<u>— 200</u>
Straddle	
Ext. Packer	
Shale Packer	
Mileage	<u>88 168</u>
Sub Total:	<u>1518</u>
Std. By	
Other	
Total:	<u>1518</u>

**CHART PAGE**

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

