

**TRILOBITE**  
**TESTING, INC.**

## DRILL STEM TEST REPORT

Prepared For: **TDI inc**

1310 Bison Rd  
Hays KS 67601

ATTN: Herb Deines

### **Derrick #2**

### **4-15s-18w Ellis,KS**

Start Date: 2012.10.24 @ 23:48:05

End Date: 2012.10.25 @ 06:08:20

Job Ticket #: 49361                      DST #: 1

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

Printed: 2012.10.25 @ 10:29:59

TDI inc  
4-15s-18w Ellis,KS  
Derrick #2  
DST # 1  
Arbuckle  
2012.10.24



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

TDI inc  
 1310 Bison Rd  
 Hays KS 67601  
 ATTN: Herb Deines

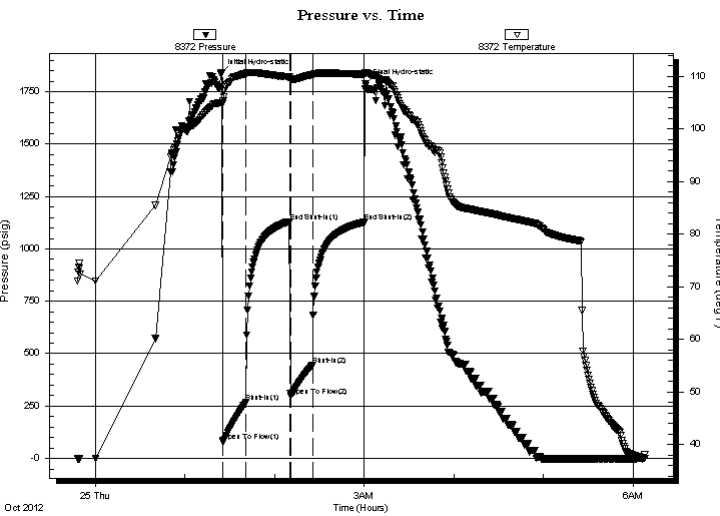
**4-15s-18w Ellis, KS**  
**Derrick #2**  
 Job Ticket: 49361 **DST#: 1**  
 Test Start: 2012.10.24 @ 23:48:05

## GENERAL INFORMATION:

Formation: **Arbuckle**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 01:25:30  
 Time Test Ended: 06:08:20  
**Interval: 3598.00 ft (KB) To 3648.00 ft (KB) (TVD)**  
 Total Depth: 3751.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Poor  
 Test Type: Conventional Straddle (Initial)  
 Tester: Andy Carreira  
 Unit No: 39  
 Reference Elevations: 2029.00 ft (KB)  
 2019.00 ft (CF)  
 KB to GR/CF: 10.00 ft

**Serial #: 8372 Outside**  
 Press @ Run Depth: 445.91 psig @ 3605.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2012.10.24 End Date: 2012.10.25 Last Calib.: 2012.10.25  
 Start Time: 23:48:05 End Time: 06:08:20 Time On Btm: 2012.10.25 @ 01:24:00  
 Time Off Btm: 2012.10.25 @ 03:01:00

**TEST COMMENT:** IF:(15min) BOB 2 min  
 IS:(30min) No Return  
 FF:(15min) BOB 2 min  
 FS:(30min) No Return



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1836.25	104.98	Initial Hydro-static
2	79.81	105.43	Open To Flow (1)
17	269.38	110.47	Shut-In(1)
47	1130.93	109.83	End Shut-In(1)
47	296.49	109.54	Open To Flow (2)
62	445.91	110.27	Shut-In(2)
96	1126.77	110.35	End Shut-In(2)
97	1787.67	110.58	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
500.00	OSW o=tr w=100%	7.01
415.00	OCMW o=10% m=10% w=80%	5.82
120.00	HOCWM o=30% w=30% m=40%	1.68
5.00	CO o=100%	0.07

## Gas Rates

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







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# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

TDI inc  
1310 Bison Rd  
Hays KS 67601  
ATTN: Herb Deines

**4-15s-18w Ellis,KS**  
**Derrick #2**  
Job Ticket: 49361      **DST#: 1**  
Test Start: 2012.10.24 @ 23:48:05

**Tool Information**

Drill Pipe:	Length: 3607.00 ft	Diameter: 3.80 inches	Volume: 50.60 bbl	Tool Weight: 4000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 26000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 40000.00 lb
			<u>Total Volume: 50.60 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	29.00 ft			String Weight: Initial 34000.00 lb
Depth to Top Packer:	3598.00 ft			Final 40000.00 lb
Depth to Bottom Packer:	3648.00 ft			
Interval between Packers:	50.00 ft			
Tool Length:	176.00 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			3579.00	
Shut In Tool	5.00			3584.00	
Hydraulic tool	5.00			3589.00	
Packer	5.00			3594.00	20.00 Bottom Of Top Packer
Packer	4.00			3598.00	
Stubb	1.00			3599.00	
Perforations	5.00			3604.00	
Change Over Sub	1.00			3605.00	
Recorder	0.00	8017	Inside	3605.00	
Recorder	0.00	8372	Outside	3605.00	
Drill Pipe	32.00			3637.00	
Change Over Sub	1.00			3638.00	
Perforations	5.00			3643.00	
Blank Off Sub	1.00			3644.00	
Blank Spacing	4.00			3648.00	50.00 Tool Interval
Packer	4.00			3652.00	
Perforations	1.00			3653.00	
Change Over Sub	1.00			3654.00	
Recorder	0.00	8647	Below	3654.00	
Drill Pipe	94.00			3748.00	
Change Over Sub	1.00			3749.00	
Perforations	2.00			3751.00	
Bullnose	3.00			3754.00	106.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>176.00</b>				



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# DRILL STEM TEST REPORT

**FLUID SUMMARY**

TDI inc  
1310 Bison Rd  
Hays KS 67601  
ATTN: Herb Deines

**4-15s-18w Ellis,KS**  
**Derrick #2**  
Job Ticket: 49361      **DST#: 1**  
Test Start: 2012.10.24 @ 23:48:05

## 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:	40000 ppm
Viscosity: 51.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.97 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 5100.00 ppm			
Filter Cake: inches			

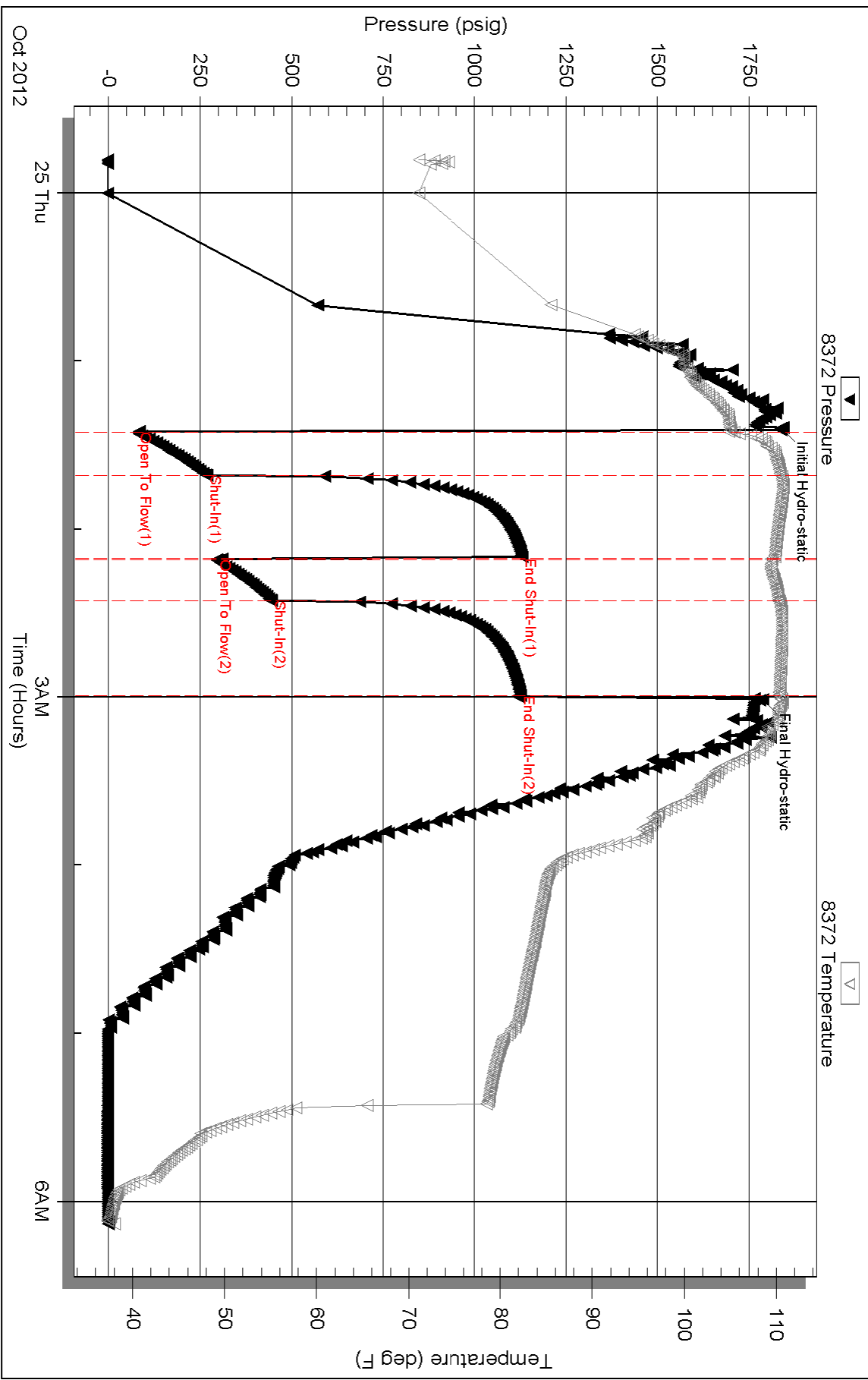
## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
500.00	OSW o=tr w=100%	7.014
415.00	OCMW o=10% m=10% w=80%	5.821
120.00	HOCWM o=30% w=30% m=40%	1.683
5.00	CO o=100%	0.070

Total Length: 1040.00 ft      Total Volume: 14.588 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:

### Pressure vs. Time



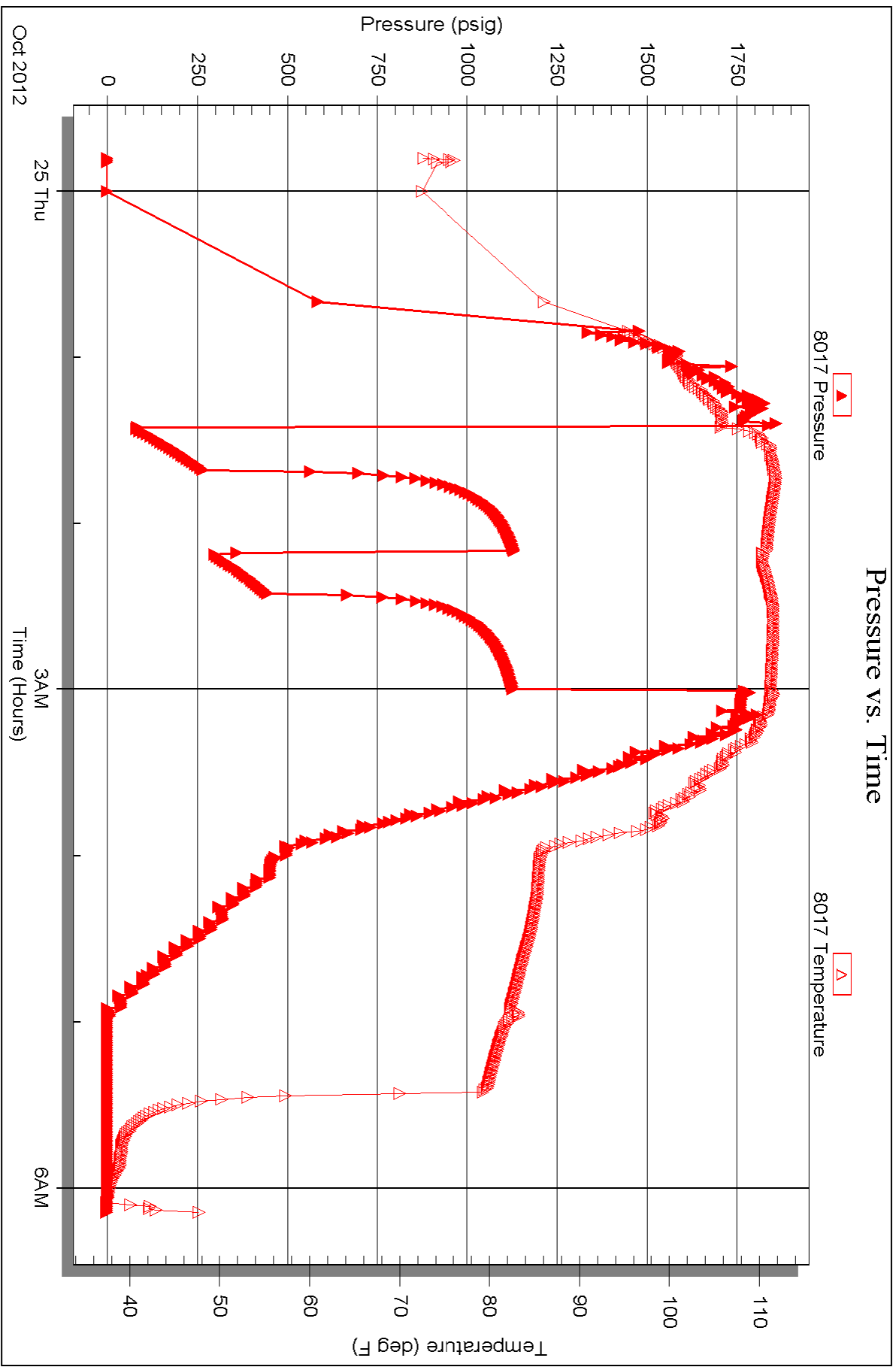
Serial #: 8017

Inside

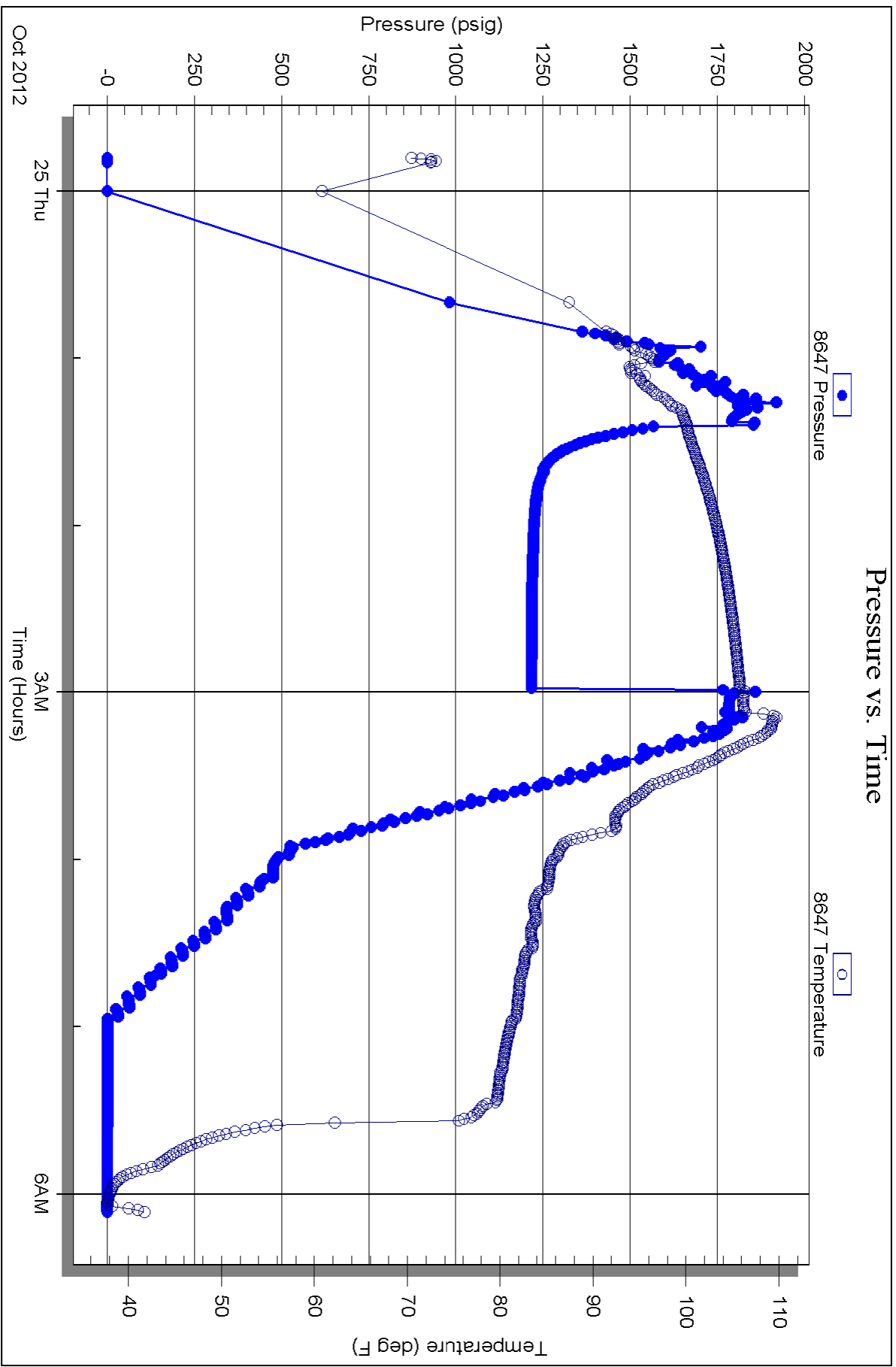
TD/Inc

Derrick #2

DST Test Number: 1









# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 49361

Well Name & No. DERRICK #2 Test No. 1 Date 10-24-12  
 Company TPI INC. Elevation 2030 KB 2028 GL  
 Address 1310 BISON RD Hays, Ks. 67601  
 Co. Rep / Geo. Herb DEINES Rig Southwind 1  
 Location: Sec. 4 Twp. 15S Rge. 18W Co. Ellis State Ks

Interval Tested 3598-3648 Zone Tested Arbuckle  
 Anchor Length 50' Drill Pipe Run 3607 Mud Wt. 9.4  
 Top Packer Depth 3598 Drill Collars Run 0 Vis 51  
 Bottom Packer Depth 3648 Wt. Pipe Run 0 WL 8.0  
 Total Depth 3751 Chlorides 5100 ppm System LCM 2 #5  
 Blow Description IF: BOB 2min  
ISF: NO RETURN  
FF: BOB 2min  
FSL: NO RETURN

Rec	Feet of	%gas	%oil	%water	%mud
<u>5'</u>	<u>CO</u>		<u>100%</u>		
<u>120</u>	<u>HOCWM</u>	<u>30%</u>	<u>30%</u>	<u>30%</u>	<u>40%</u>
<u>415</u>	<u>OC MW</u>	<u>10%</u>		<u>80%</u>	<u>10%</u>
<u>500</u>	<u>OSW</u>	<u>10%</u>		<u>100%</u>	

Rec Total 1040' BHT 110° Gravity 22 API RW 37 @ 33 °F Chlorides 40,000 ppm

(A) Initial Hydrostatic 1836  Test 1150 T-On Location 21:27  
 (B) First Initial Flow 79  Jars \_\_\_\_\_ T-Started 23:48  
 (C) First Final Flow 269  Safety Joint \_\_\_\_\_ T-Open 01:25  
 (D) Initial Shut-In 1130  Circ Sub \_\_\_\_\_ T-Pulled 02:55  
 (E) Second Initial Flow 296  Hourly Standby \_\_\_\_\_ T-Out 06:09  
 (F) Second Final Flow 445  Mileage 20 RT 31 Comments \_\_\_\_\_  
 (G) Final Shut-In 1126  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1787  Straddle E 600  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_ Sub Total 0  
 Day Standby \_\_\_\_\_ Total 1781  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1781

Approved By \_\_\_\_\_ Our Representative [Signature]

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