



## DRILL STEM TEST REPORT

Prepared For: **TDI Inc**

1310 Bison Rd  
Hays KS 67601-9696

ATTN: Herb Deines

**Richard #2**

**10-15s-18w Ellis,KS**

Start Date: 2012.05.16 @ 16:30:00

End Date: 2012.05.16 @ 23:50:00

Job Ticket #: 47129                      DST #: 1

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

Printed: 2012.05.23 @ 16:25:59

TDI Inc  
10-15s-18w Ellis,KS  
Richard #2  
DST # 1  
Arbuckle  
2012.05.16



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

TDI Inc  
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Hays KS 67601-9696  
ATTN: Herb Deines

**10-15s-18w Ellis,KS**  
**Richard #2**  
Job Ticket: 47129 **DST#: 1**  
Test Start: 2012.05.16 @ 16:30:00

## GENERAL INFORMATION:

Formation: **Arbuckle**  
Deviated: No Whipstock: 2032.00 ft (KB)  
Time Tool Opened: 18:49:00  
Time Test Ended: 23:50:00  
Interval: **3608.00 ft (KB) To 3649.00 ft (KB) (TVD)**  
Total Depth: 3750.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Fair  
Test Type: Conventional Straddle (Initial)  
Tester: Jim Svaty  
Unit No: 41  
Reference Elevations: 2032.00 ft (KB)  
2022.00 ft (CF)  
KB to GR/CF: 10.00 ft

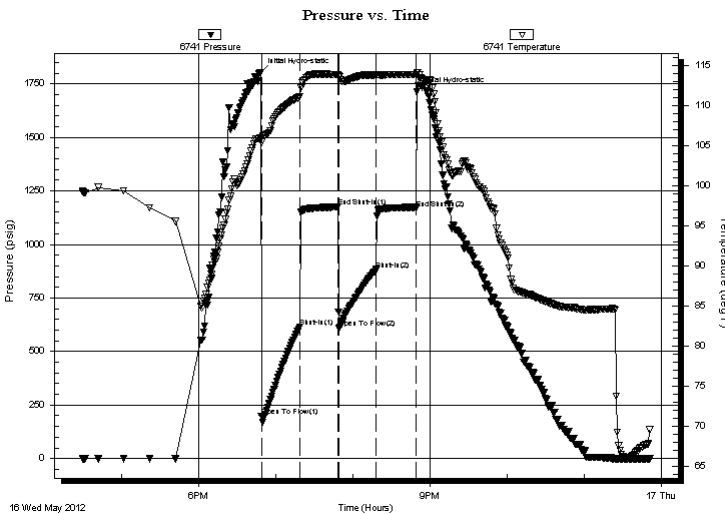
## Serial #: 6741

Inside

Press @ Run Depth: 882.48 psig @ 3610.00 ft (KB) Capacity: 8000.00 psig  
Start Date: 2012.05.16 End Date: 2012.05.16 Last Calib.: 2012.05.16  
Start Time: 16:30:01 End Time: 23:51:00 Time On Btm: 2012.05.16 @ 18:48:30  
Time Off Btm: 2012.05.16 @ 20:50:00

TEST COMMENT: IFP - BOB in 1 min  
ISI - Surface blow built to 2" died in 20 min  
FFP - BOB in 1 min  
FSI - Surface blow built to 1"

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1801.20	106.02	Initial Hydro-static
1	198.71	105.48	Open To Flow (1)
31	614.04	111.17	Shut-In(1)
60	1175.23	113.93	End Shut-In(1)
61	610.67	113.76	Open To Flow (2)
90	882.48	113.82	Shut-In(2)
121	1168.28	113.89	End Shut-In(2)
122	1712.64	114.14	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
1000.00	GO 5%g 95%o	14.03
625.00	GO 25%g 75%o	8.77
189.00	GMWCO 40%g 10%m 10%w 40%o	2.65
189.00	GMWCO 25%g 5%m 35%w 35%o	2.65
170.00	OMCW 4%o 7%m 89%w	2.38
15.00	V/SOMCW 1%o 2%m 97%w	0.21

## Gas Rates

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







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**TOOL DIAGRAM**

TDI Inc  
1310 Bison Rd  
Hays KS 67601-9696  
ATTN: Herb Deines

**10-15s-18w Ellis,KS**  
**Richard #2**  
Job Ticket: 47129      **DST#: 1**  
Test Start: 2012.05.16 @ 16:30:00

**Tool Information**

Drill Pipe:	Length: 3612.00 ft	Diameter: 3.80 inches	Volume: 50.67 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 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: 55000.00 lb
			<u>Total Volume: 50.67 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	24.00 ft			String Weight: Initial 38000.00 lb
Depth to Top Packer:	3608.00 ft			Final 47000.00 lb
Depth to Bottom Packer:	3649.00 ft			
Interval between Packers:	41.00 ft			
Tool Length:	162.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3593.00	
Hydraulic tool	5.00			3598.00	
Packer	5.00			3603.00	20.00      Bottom Of Top Packer
Packer	5.00			3608.00	
Stubb	1.00			3609.00	
Perforations	1.00			3610.00	
Recorder	0.00	6741	Inside	3610.00	
Recorder	0.00	8734	Outside	3610.00	
Change Over Sub	1.00			3611.00	
Blank Spacing	31.00			3642.00	
Change Over Sub	1.00			3643.00	
Perforations	2.00			3645.00	
Blank Off Sub	4.00			3649.00	41.00      Tool Interval
Packer	1.00			3650.00	
Stubb	1.00			3651.00	
Perforations	1.00			3652.00	
Recorder	0.00	8365	Below	3652.00	
Change Over Sub	1.00			3653.00	
Blank Spacing	93.00			3746.00	
Change Over Sub	1.00			3747.00	
Bullnose	3.00			3750.00	101.00      Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>162.00</b>				



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**FLUID SUMMARY**

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1310 Bison Rd  
Hays KS 67601-9696  
ATTN: Herb Deines

**10-15s-18w Ellis,KS**  
**Richard #2**  
Job Ticket: 47129      **DST#: 1**  
Test Start: 2012.05.16 @ 16:30:00

## Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API: 26 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: ppm
Viscosity: 55.00 sec/qt	Cushion Volume: bbl	
Water Loss: 7.19 in <sup>3</sup>	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 2800.00 ppm		
Filter Cake: inches		

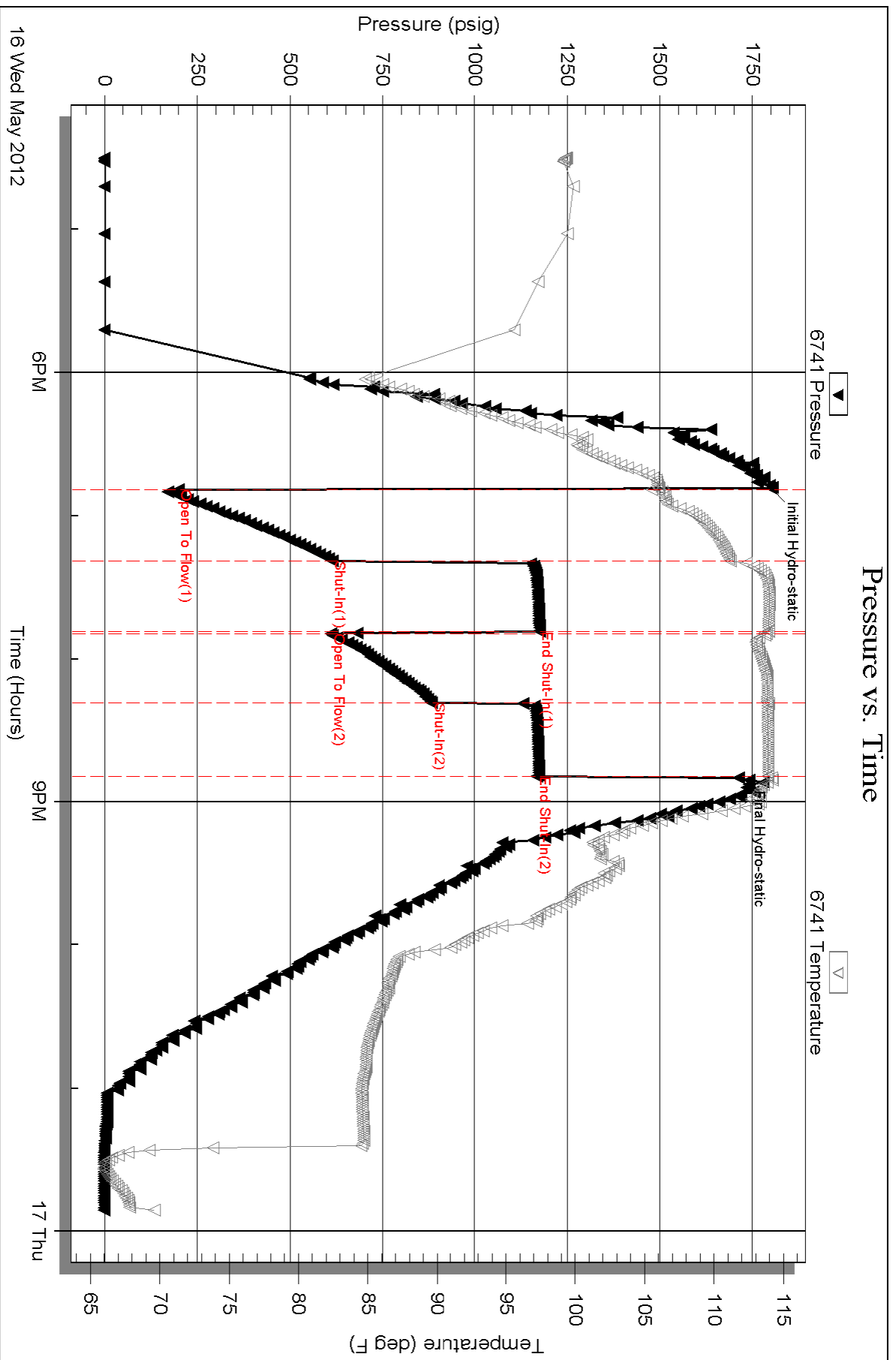
## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1000.00	GO 5%g 95%o	14.027
625.00	GO 25%g 75%o	8.767
189.00	GMWCO 40%g 10%m 10%w 40%o	2.651
189.00	GMWCO 25%g 5%m 35%w 35%o	2.651
170.00	OMCW 4%o 7%m 89%w	2.385
15.00	VSOMCW 1%o 2%m 97%w	0.210
0.00	150 GIP	0.000

Total Length: 2188.00 ft      Total Volume: 30.691 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:

### Pressure vs. Time

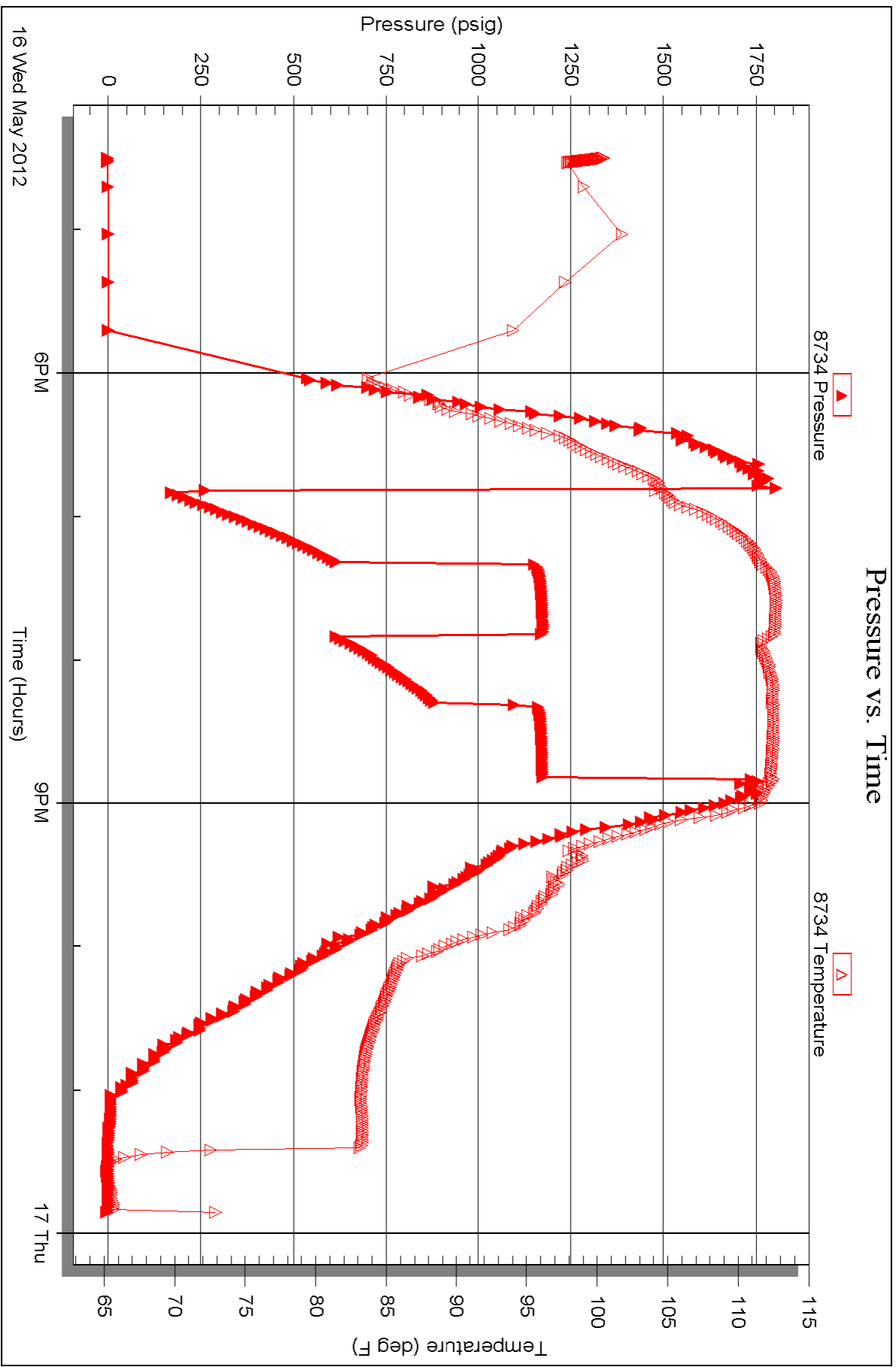


Serial #: 8734

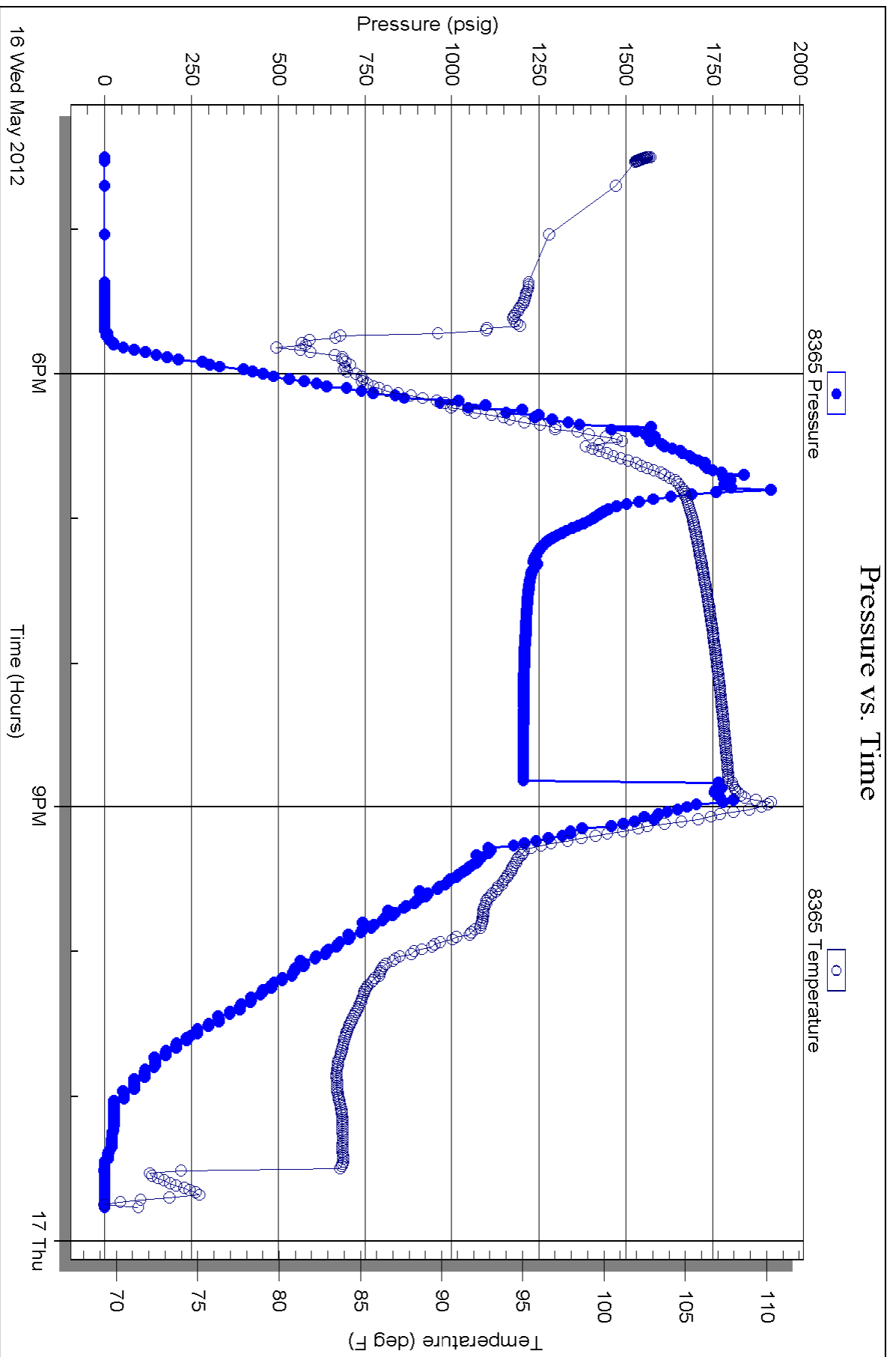
Outside TDI Inc

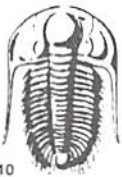
Richard#2

DST Test Number: 1









# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 47129

Well Name & No. Richard #2 Test No. 1 Date 5-16-12  
 Company TPI Inc. Elevation 2032 KB 2022 GL  
 Address 1310 Bison Rd Hays Ks. 67601-9696  
 Co. Rep / Geo. Herb Reines Rig Southwind #1  
 Location: Sec. 10 Twp. 15<sup>s</sup> Rge. 18<sup>w</sup> Co. Ellis State Ks

Interval Tested 3608-3649 + Zone Tested Arbuckle  
 Anchor Length 41 A. 10 Tailpipe Drill Pipe Run 3612 Mud Wt. 9.3  
 Top Packer Depth 3603 Drill Collars Run 0 Vis 55  
 Bottom Packer Depth 3608 Wt. Pipe Run 0 WL 7.2  
 Total Depth 3649 ~~3749~~ ~~3750~~ Chlorides 2800 ppm System LCM 2

Blow Description ZFP - BOB 1min  
ISIP - Surface Blow Build to 2 in Dried in 20min  
FFP - BOB 1min  
FSIP - Surface Blow Building to 1 in.

Rec	Feet of	%gas	%oil	%water	%mud
1000	90	5	95		
625	90	25	75		
189	9m WCO	40	40	10	10
189	9m WCO	25	35	35	5
170	8m CW		4	89	7

Rec Total 2188 BHT 113 Gravity 26 API RW @ 1201 F Chlorides 95w ppm  
 (A) Initial Hydrostatic 1801  Test 1150 T-On Location 13:30  
 (B) First Initial Flow 198  Jars T-Started 16:30  
 (C) First Final Flow 614  Safety Joint T-Open 18:50  
 (D) Initial Shut-In 1175  Circ Sub T-Pulled 20:50  
 (E) Second Initial Flow 610  Hourly Standby T-Out 23:47  
 (F) Second Final Flow 882  Mileage 19 RT 29.45 Comments \_\_\_\_\_  
 (G) Final Shut-In 1168  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1712  Straddle 600  Ruined Shale Packer \_\_\_\_\_

Initial Open 30  Shale Packer \_\_\_\_\_  
 Initial Shut-In 30  Extra Packer \_\_\_\_\_  
 Final Flow 30  Extra Recorder \_\_\_\_\_  
 Final Shut-In 30  Day Standby \_\_\_\_\_  
 Sub Total 1779.45  Accessibility \_\_\_\_\_  
 Total 1779.45 MP/DST Disc't \_\_\_\_\_

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

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