



## DRILL STEM TEST REPORT

Prepared For: **TDI Inc**

1310 Bison Rd  
Hays KS 67601

ATTN: Tom Denning

**Werth #1**

**5-13s-20w Ellis,KS**

Start Date: 2012.05.06 @ 15:16:16

End Date: 2012.05.06 @ 22:00:46

Job Ticket #: 44787                      DST #: 1

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

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**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

TDI Inc  
1310 Bison Rd  
Hays KS 67601  
ATTN: Tom Denning

**5-13s-20w Ellis,KS**  
**Werth #1**  
Job Ticket: 44787      **DST#: 1**  
Test Start: 2012.05.06 @ 15:16:16

**Tool Information**

Drill Pipe:	Length: 3745.00 ft	Diameter: 3.80 inches	Volume: 52.53 bbl	Tool Weight:	2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer:	22000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose:	54000.00 lb
			<u>Total Volume: 52.53 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	23.00 ft			String Weight: Initial	44000.00 lb
Depth to Top Packer:	3742.00 ft			Final	46000.00 lb
Depth to Bottom Packer:	3820.00 ft				
Interval between Packers:	78.00 ft				
Tool Length:	179.00 ft				
Number of Packers:	2	Diameter:	6.75 inches		
Tool Comments:					

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
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<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
Change Over Sub	1.00			3723.00	
Shut In Tool	5.00			3728.00	
Hydraulic tool	5.00			3733.00	
Packer	4.00			3737.00	20.00      Bottom Of Top Packer
Packer	5.00			3742.00	
Stubb	1.00			3743.00	
Perforations	6.00			3749.00	
Change Over Sub	1.00			3750.00	
Drill Pipe	60.00			3810.00	
Change Over Sub	1.00			3811.00	
Recorder	0.00	8321	Inside	3811.00	
Recorder	0.00	8737	Outside	3811.00	
Perforations	5.00			3816.00	
Blank Off Sub	1.00			3817.00	
Stubb	3.00			3820.00	78.00      Tool Interval
Packer	1.00			3821.00	
Stubb	1.00			3822.00	
Perforations	11.00			3833.00	
Change Over Sub	1.00			3834.00	
Recorder	0.00	8679	Below	3834.00	
Drill Pipe	63.00			3897.00	
Change Over Sub	1.00			3898.00	
Bullnose	3.00			3901.00	81.00      Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>179.00</b>				



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TESTING, INC**

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## FLUID SUMMARY

TDI Inc  
1310 Bison Rd  
Hays KS 67601  
ATTN: Tom Denning

**5-13s-20w Ellis,KS**  
**Werth #1**  
Job Ticket: 44787      **DST#: 1**  
Test Start: 2012.05.06 @ 15:16:16

### Mud and Cushion Information

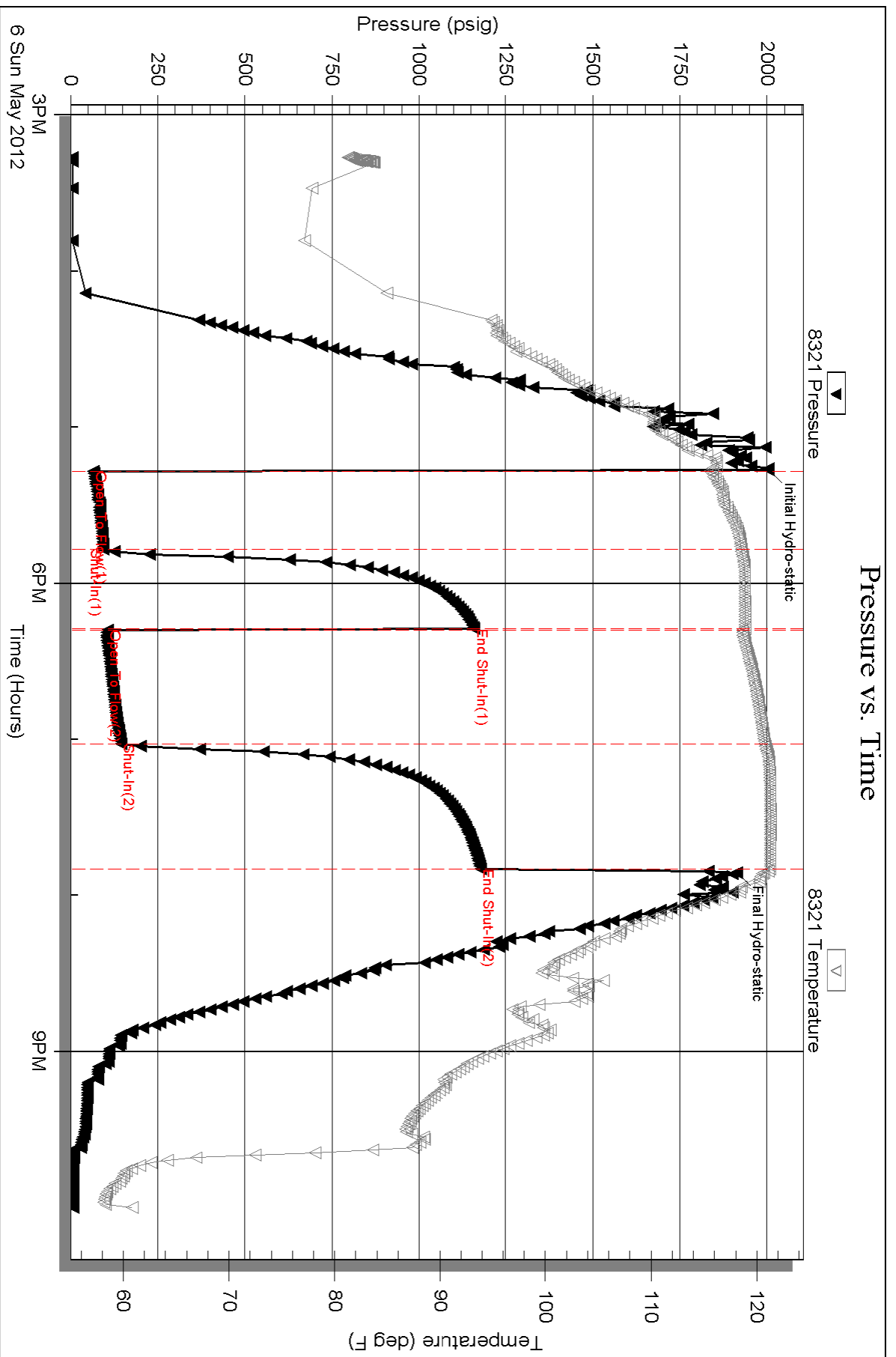
Mud Type: Gel Chem	Cushion Type:	Oil API: 34 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: ppm
Viscosity: 59.00 sec/qt	Cushion Volume: bbl	
Water Loss: 6.79 in <sup>3</sup>	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 1900.00 ppm		
Filter Cake: inches		

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
63.00	VSOCGM 10%G 3%O 87%M	0.884
46.00	HOCM 25%G 75%O	0.645
126.00	Gassy Oil 20%G 80%O	1.767

Total Length: 235.00 ft      Total Volume: 3.296 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:

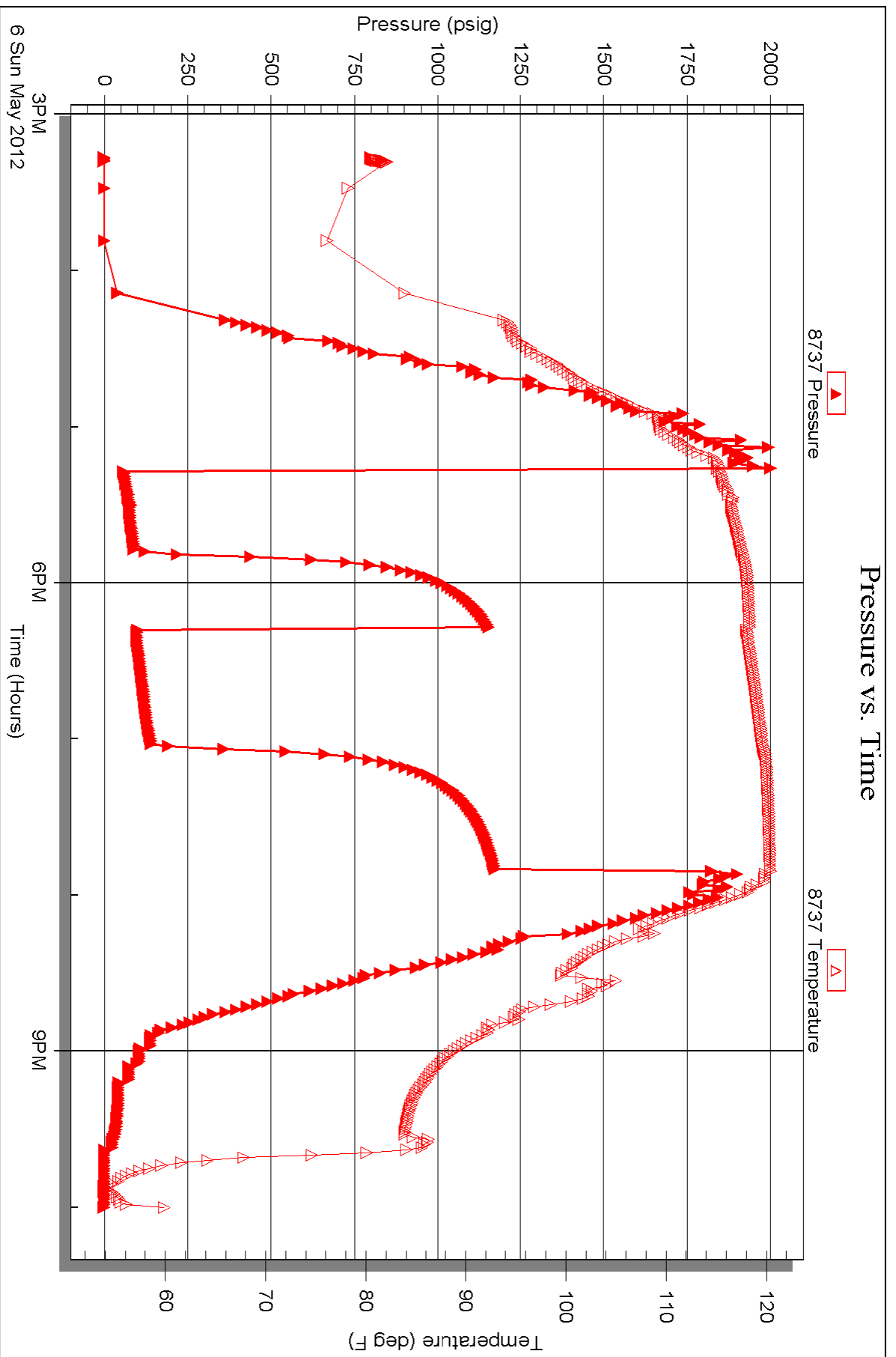


Serial #: 8737

Outside TDI Inc

Went #1

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 44787

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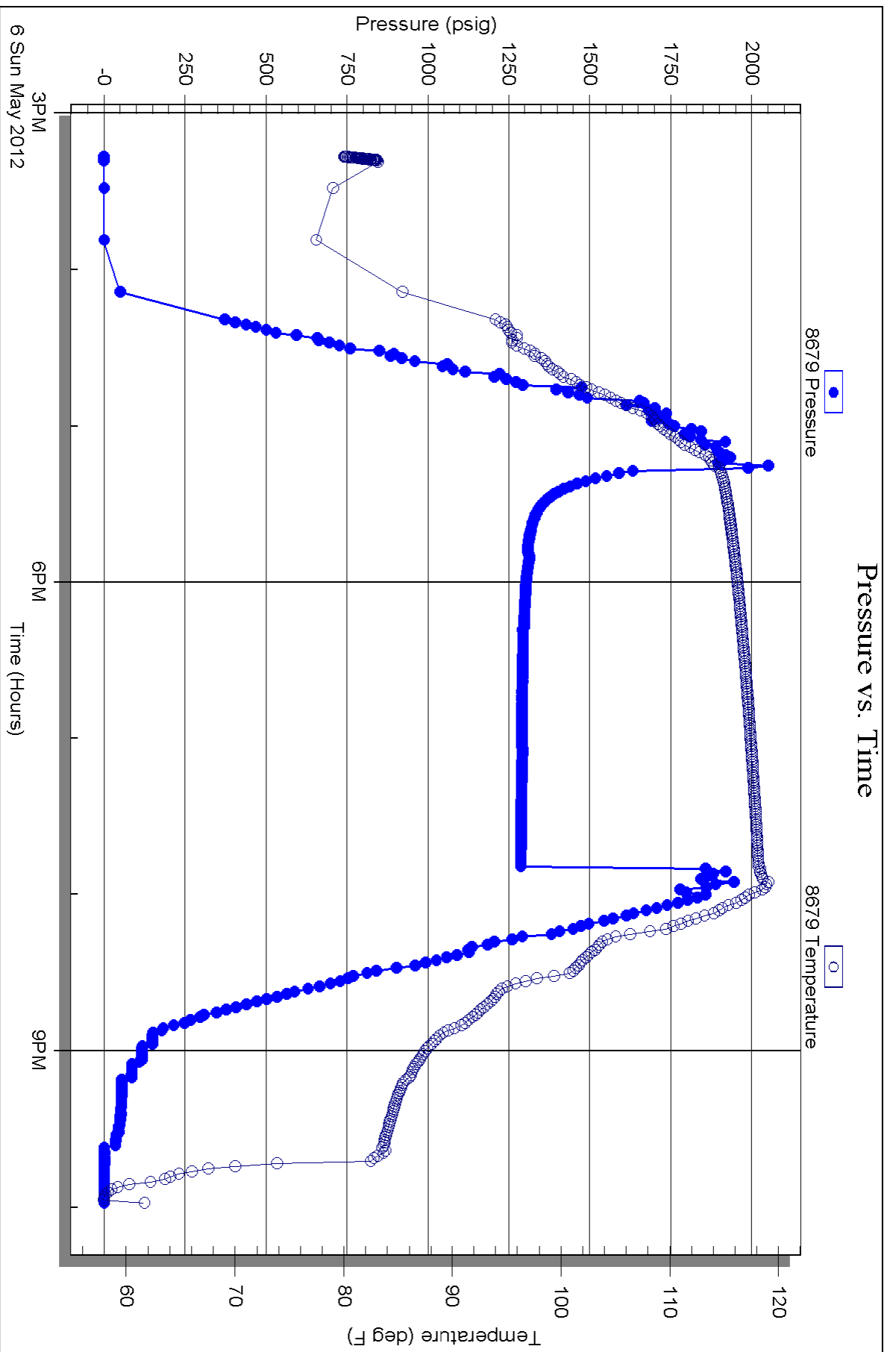


Serial #: 8679

Below (Straddling)

Month #1

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 44787

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# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 44787

Well Name & No. Werth #1 Test No. 1 Date 5-20-12  
 Company TDI INC Elevation 2142 KB 2152 GL  
 Address 1310 BISON RD Hays KS 67601 + 92694  
 Co. Rep / Geo. Herb Deines Rig SOUTHWIND #2  
 Location: Sec. 5 Twp. 13 S Rge. 20 W Co. ELLIS State KS

Interval Tested 3742-3820 Zone Tested Arbuckle  
 Anchor Length 78-Anchor 81-Tail Drill Pipe Run 3745 Mud Wt. 9.3  
 Top Packer Depth 3737 Drill Collars Run 0 Vis 59  
 Bottom Packer Depth 3742 Wt. Pipe Run 0 WL 4.8  
 Total Depth 3901 Chlorides 1900 ppm System LCM 2

Blow Description FFP-GOOD BLOW BOB IN 22 min  
ESI-weak Surface Blow Back died out IN 20 min  
FFP-GOOD BLOW BOB IN 19 1/2 min  
ESI-Weak Surface Blow Back

Rec	Feet of	%gas	%oil	%water	%mud
<u>603</u>	<u>USOC Gcm</u>	<u>10</u>	<u>3</u>	<u>87</u>	<u>0</u>
<u>440</u>	<u>HOCm</u>	<u>25</u>	<u>75</u>	<u>0</u>	<u>0</u>
<u>126</u>	<u>GASSY OIL</u>	<u>20</u>	<u>80</u>	<u>0</u>	<u>0</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 235 BHT 121 Gravity 34 API RW @ ° F Chlorides ppm

(A) Initial Hydrostatic 2005  Test 1150 T-On Location 14:24  
 (B) First Initial Flow 65  Jars T-Started 15:16  
 (C) First Final Flow 95  Safety Joint T-Open 17:18  
 (D) Initial Shut-In 1160  Circ Sub T-Pulled 19:48  
 (E) Second Initial Flow 1040  Hourly Standby T-Out 22:00  
 (F) Second Final Flow 145  Mileage 36 RT 55.80 Comments \_\_\_\_\_  
 (G) Final Shut-In 1178  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1913  Straddle 600  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Initial Open 30  Extra Recorder \_\_\_\_\_ Sub Total 0  
 Initial Shut-In 30  Day Standby \_\_\_\_\_ Total 1805.80  
 Final Flow 45  Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Final Shut-In 45 Sub Total 1805.80

Approved By \_\_\_\_\_ Our Representative Jeff Brown

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