



DRILL STEM TEST REPORT

Prepared For: **TDI**

1310 Bison Rd
Hays, KS 67601

ATTN: Jeff Lawler

Derrick Unit #1

4-15s-18w Ellis,KS

Start Date: 2012.07.08 @ 14:57:33

End Date: 2012.07.08 @ 20:18:33

Job Ticket #: 47414 DST #: 1

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

Printed: 2012.07.17 @ 16:17:37

TDI
4-15s-18w Ellis,KS
Derrick Unit #1
DST # 1
Arbuckle
2012.07.08



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

TDI
1310 Bison Rd
Hays, KS 67601
ATTN: Jeff Lawler

4-15s-18w Ellis, KS
Derrick Unit #1
Job Ticket: 47414 **DST#: 1**
Test Start: 2012.07.08 @ 14:57:33

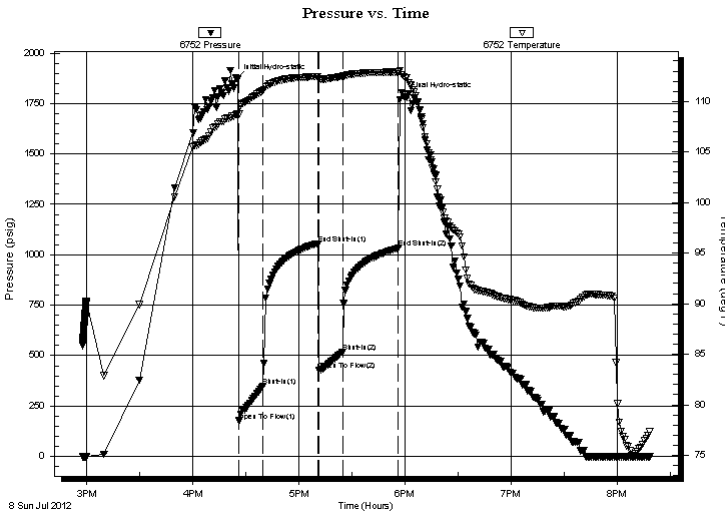
GENERAL INFORMATION:

Formation: **Arbuckle**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 16:26:03
Time Test Ended: 20:18:33
Interval: **3603.00 ft (KB) To 3645.00 ft (KB) (TVD)**
Total Depth: 3645.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Test Type: Conventional Straddle (Initial)
Tester: Brian Fairbank
Unit No: 41
Reference Elevations: 2037.00 ft (KB)
2027.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 6752 Inside
Press @ Run Depth: 518.67 psig @ 3620.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2012.07.08 End Date: 2012.07.08 Last Calib.: 2012.07.08
Start Time: 14:57:34 End Time: 20:18:33 Time On Btm: 2012.07.08 @ 16:24:33
Time Off Btm: 2012.07.08 @ 17:59:03

TEST COMMENT: IFP - BOB 1 min
ISI - 1 1/2" blow back
FFP - BOB 1 1/2 min
FSI - 2" blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1873.39	108.74	Initial Hydro-static
2	176.87	108.74	Open To Flow (1)
15	348.09	111.07	Shut-In(1)
46	1052.09	112.49	End Shut-In(1)
47	427.69	112.28	Open To Flow (2)
60	518.67	112.45	Shut-In(2)
92	1033.03	112.91	End Shut-In(2)
95	1784.23	112.46	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
45.00	VSOCM 5%O, 95%M	0.63
140.00	GHOCM 20%G, 30%O, 50%M	1.96
965.00	FREE OIL 95%O, 5%M	13.54
90.00	OCM 20%O, 80%M	1.26
0.00	60' GIP	0.00

Gas Rates

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



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TOOL DIAGRAM

TDI
1310 Bison Rd
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ATTN: Jeff Lawler

4-15s-18w Ellis, KS
Derrick Unit #1
Job Ticket: 47414 **DST#: 1**
Test Start: 2012.07.08 @ 14:57:33

Tool Information

Drill Pipe:	Length: 3606.00 ft	Diameter: 3.80 inches	Volume: 50.58 bbl	Tool Weight: 2500.00 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: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 52000.00 lb
			<u>Total Volume: 50.58 bbl</u>	Tool Chased 4.00 ft
Drill Pipe Above KB:	23.00 ft			String Weight: Initial 36000.00 lb
Depth to Top Packer:	3603.00 ft			Final 40000.00 lb
Depth to Bottom Packer:	3645.00 ft			
Interval between Packers:	42.00 ft			
Tool Length:	165.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut In Tool	5.00			3588.00	
Hydraulic tool	5.00			3593.00	
Packer	5.00			3598.00	20.00 Bottom Of Top Packer
Packer	5.00			3603.00	
Stubb	1.00			3604.00	
Perforations	16.00			3620.00	
Recorder	0.00	6752	Inside	3620.00	
Recorder	0.00	6741	Outside	3620.00	
Perforations	20.00			3640.00	
Blank Off Sub	1.00			3641.00	
Blank Spacing	4.00			3645.00	42.00 Tool Interval
Packer	5.00			3650.00	
Stubb	1.00			3651.00	
Perforations	2.00			3653.00	
Recorder	0.00	8365	Below	3653.00	
Change Over Sub	1.00			3654.00	
Blank Spacing	94.00			3748.00	103.00 Bottom Packers & Anchor
Total Tool Length:	165.00				



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DRILL STEM TEST REPORT

FLUID SUMMARY

TDI
1310 Bison Rd
Hays, KS 67601
ATTN: Jeff Lawler

4-15s-18w Ellis,KS
Derrick Unit #1
Job Ticket: 47414
Test Start: 2012.07.08 @ 14:57:33

DST#: 1

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API: 28 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: ppm
Viscosity: 57.00 sec/qt	Cushion Volume: bbl	
Water Loss: 7.19 in ³	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 2100.00 ppm		
Filter Cake: inches		

Recovery Information

Recovery Table

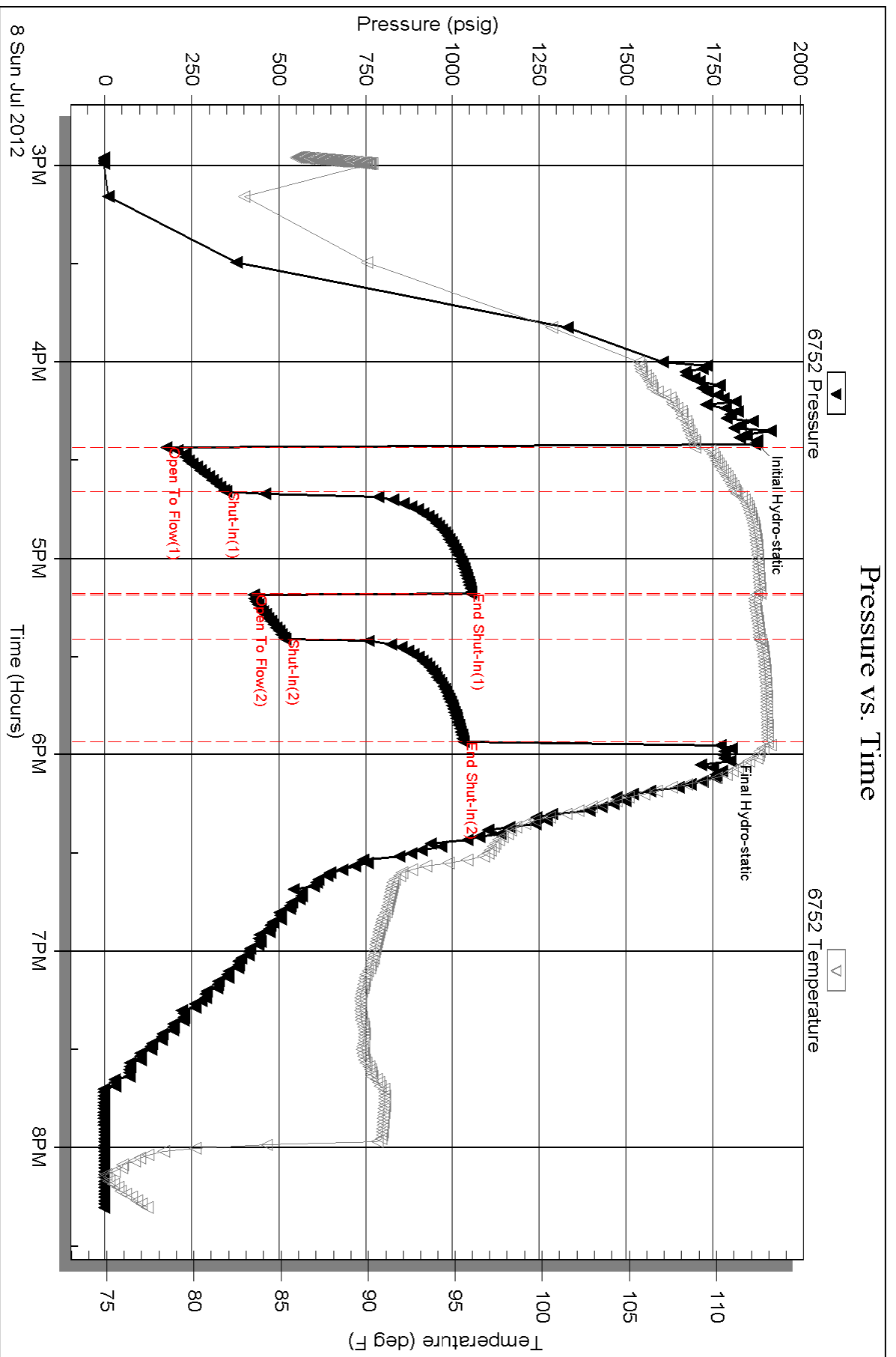
Length ft	Description	Volume bbl
45.00	VSOCM 5%O, 95%M	0.631
140.00	GHOCM 20%G, 30%O, 50%M	1.964
965.00	FREE OIL 95%O, 5%M	13.536
90.00	OCM 20%O, 80%M	1.262
0.00	60' GIP	0.000

Total Length: 1240.00 ft Total Volume: 17.393 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments:

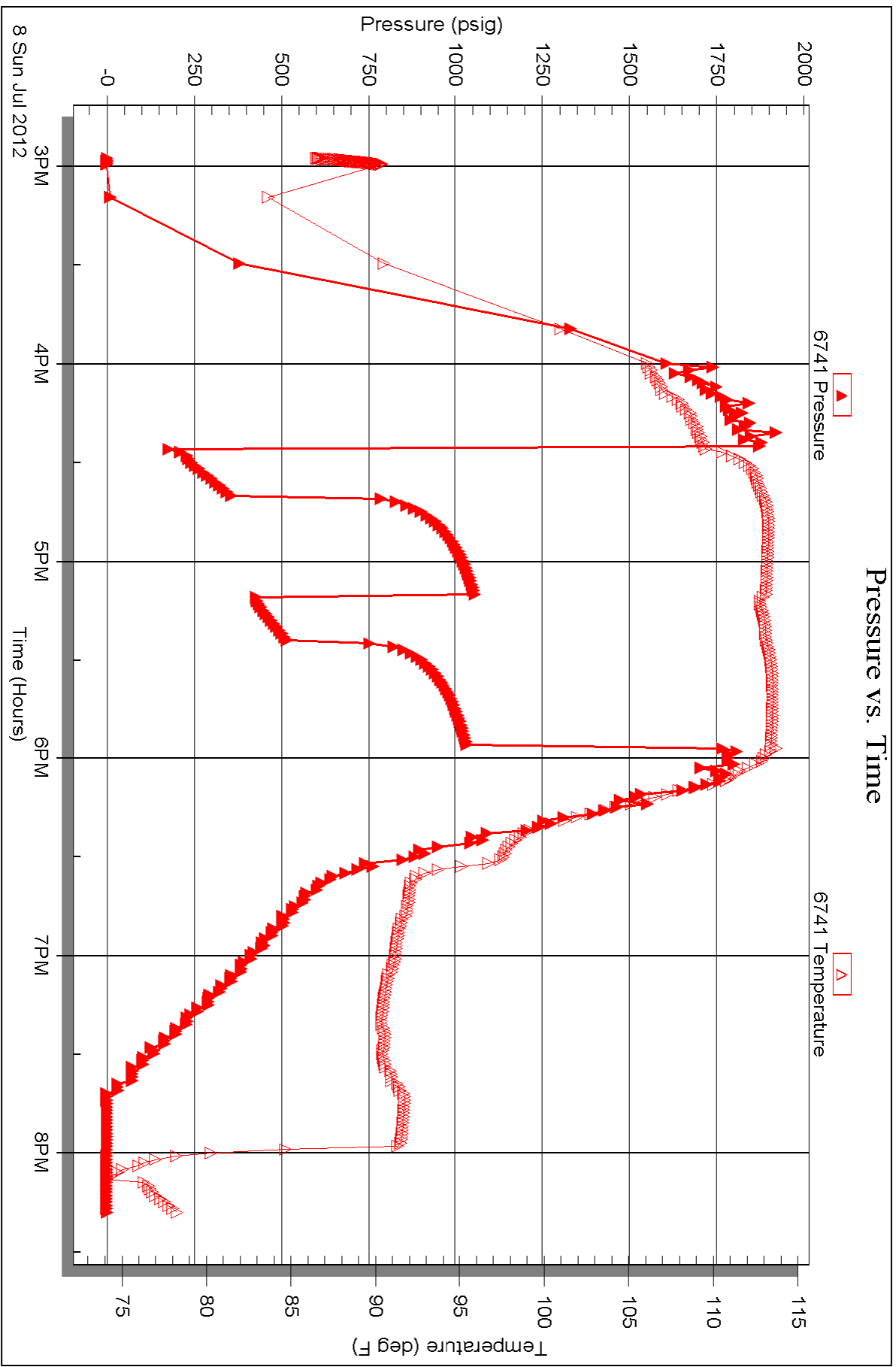


Serial #: 6741

Outside TDI

Derrick Unit #1

DST Test Number: 1

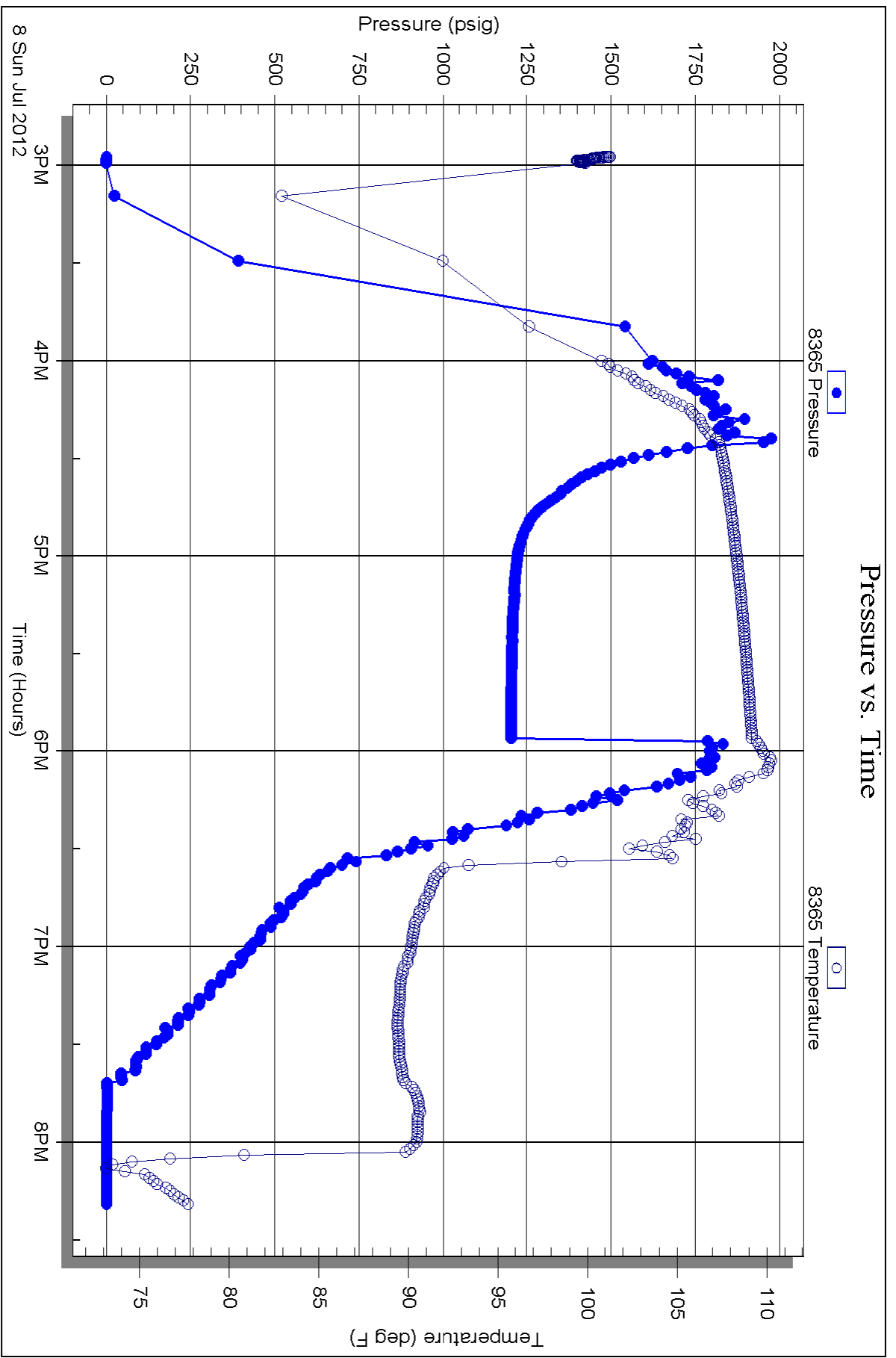


Serial #: 8365

Below (Straddle)

Derrick Unit #1

DST Test Number: 1





TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 47414

4/10

Well Name & No. Derrick Unit #1 Test No. 1 Date 7-8-12
 Company TDI Elevation 2037 KB 2027 GL
 Address 1310 Bison Rd Hays, Ks 67601
 Co. Rep / Geo. Jeff Laker Rig Southwind 1
 Location: Sec. 4 Twp. 15 Rge. 18 Co. Ellis State Ks

Interval Tested 3603 - 3645 Zone Tested Arbuckle
 Anchor Length 42 Drill Pipe Run 3606 Mud Wt. 9.3
 Top Packer Depth 3598 Drill Collars Run — Vis 57
 Bottom Packer Depth 3603 Wt. Pipe Run — WL 7.2
 Total Depth 3750 RTD - 3743^{LD} Chlorides 2100 ppm System LCM
 Blow Description IFP - BOB 1 min
ISI - 1 1/2" blow back
FFP - BOB 1 1/2 min
FSI - 2" blow back

Rec	Feet of	%gas	%oil	%water	%mud
<u>60</u>	<u>GIP</u>				
<u>90</u>	<u>OCM</u>		<u>20</u>		<u>80</u>
<u>965</u>	<u>Free Oil</u>		<u>95</u>		<u>5</u>
<u>140</u>	<u>GHO CM</u>	<u>20</u>	<u>30</u>		<u>50</u>
<u>45</u>	<u>USOCM</u>		<u>5</u>		<u>95</u>

Rec Total 1240 BHT 113 Gravity 28 API RW @ — °F Chlorides — ppm

(A) Initial Hydrostatic 1873 Test 1150 T-On Location 1330
 (B) First Initial Flow 177 Jars _____ T-Started _____
 (C) First Final Flow 348 Safety Joint _____ T-Open 1626
 (D) Initial Shut-In 1052 Circ Sub _____ T-Pulled 1756
 (E) Second Initial Flow 428 Hourly Standby _____ T-Out 2018
 (F) Second Final Flow 519 Mileage 19 RT 29.45 Comments 4' fill on bottom
 (G) Final Shut-In 1033 Sampler _____
 (H) Final Hydrostatic 1784 Straddle 600 Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1779.45
 Accessibility _____ MP/DST Disc't _____

Sub Total 1779.45

Approved By _____ Our Representative Brian Farbak

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