



DRILL STEM TEST REPORT

Prepared For: **TDI Inc**

1310 Blson Rd
Hays,KS 67601

ATTN: Herb Deines

Viola #1

15-10s-17 Rooks,KS

Start Date: 2014.04.27 @ 16:37:13

End Date: 2014.04.27 @ 23:32:13

Job Ticket #: 55746 DST #: 1

Trilobite Testing, Inc
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**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TDI Inc
1310 Blson Rd
Hays, KS 67601
ATTN: Herb Deines

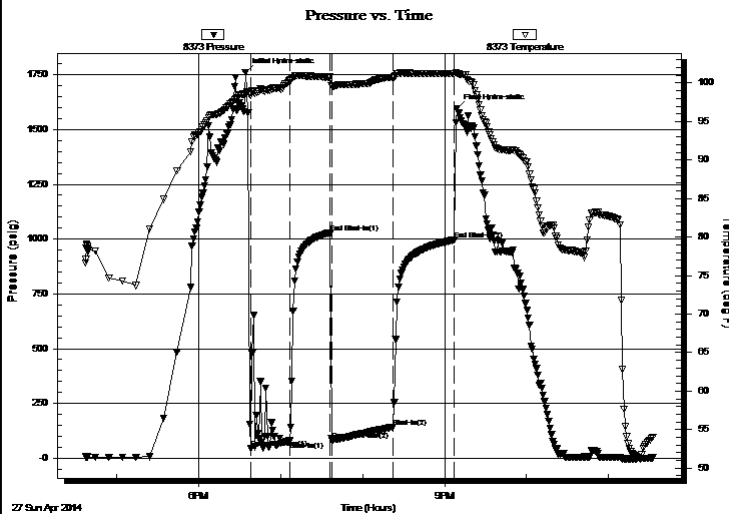
15-10s-17 Rooks, KS
Viola #1
Job Ticket: 55746 **DST#: 1**
Test Start: 2014.04.27 @ 16:37:13

GENERAL INFORMATION:

Formation: **Toronto- LKC D**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 18:38:13
 Time Test Ended: 23:32:13
 Interval: **3241.00 ft (KB) To 3360.00 ft (KB) (TVD)**
 Total Depth: 3360.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Brandon Turley
 Unit No: 60
 Reference Elevations: 2090.00 ft (KB)
 2080.00 ft (CF)
 KB to GR/CF: 10.00 ft

Serial #: 8373 Inside
 Press@RunDepth: 142.34 psig @ 3242.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.04.27 End Date: 2014.04.27 Last Calib.: 2014.04.27
 Start Time: 16:37:18 End Time: 23:32:12 Time On Btm: 2014.04.27 @ 18:34:13
 Time Off Btm: 2014.04.27 @ 21:09:13

TEST COMMENT: IF: 1/4" blow BOB in 11 min. Plugging.
 IS: Surface blow built to 1" died in 14 min.
 FF: BOB in 4 min.
 FS: Surface blow built to 4 1/2" in 15 min. Died in 20 min.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1761.14	98.65	Initial Hydro-static
4	42.97	98.42	Open To Flow (1)
33	79.51	100.30	Shut-In(1)
62	1029.68	100.76	End Shut-In(1)
64	83.30	99.59	Open To Flow (2)
108	142.34	100.69	Shut-In(2)
153	996.07	101.19	End Shut-In(2)
155	1594.74	101.20	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
62.00	gocm 40%g 10%o 50%m	0.87
124.00	gocm 15%g 5%o 80%m	1.74
155.00	mcgo 20%g 60%o 20%m	2.17
0.00	961 GIP weak gas	0.00

Gas Rates

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



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TOOL DIAGRAM

TDI Inc
1310 Blson Rd
Hays, KS 67601
ATTN: Herb Deines

15-10s-17 Rooks, KS
Viola #1
Job Ticket: 55746 **DST#: 1**
Test Start: 2014.04.27 @ 16:37:13

Tool Information

Drill Pipe:	Length: 3247.00 ft	Diameter: 3.80 inches	Volume: 45.55 bbl	Tool Weight:	1500.00 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: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose:	55000.00 lb
			<u>Total Volume: 45.55 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	26.00 ft			String Weight: Initial	40000.00 lb
Depth to Top Packer:	3241.00 ft			Final	44000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	119.00 ft				
Tool Length:	139.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

Tool Description Length (ft) Serial No. Position Depth (ft) Accum. Lengths

Stubb	1.00			3222.00	
Shut In Tool	5.00			3227.00	
Hydraulic tool	5.00			3232.00	
Packer	5.00			3237.00	20.00 Bottom Of Top Packer
Packer	4.00			3241.00	
Stubb	1.00			3242.00	
Recorder	0.00	8373	Inside	3242.00	
Recorder	0.00	8356	Outside	3242.00	
Perforations	17.00			3259.00	
Change Over Sub	1.00			3260.00	
Drill Pipe	94.00			3354.00	
Change Over Sub	1.00			3355.00	
Bullnose	5.00			3360.00	119.00 Bottom Packers & Anchor

Total Tool Length: 139.00



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FLUID SUMMARY

TDI Inc **15-10s-17 Rooks,KS**
 1310 Blson Rd **Viola #1**
 Hays,KS 67601 Job Ticket: 55746 **DST#: 1**
 ATTN: Herb Deines Test Start: 2014.04.27 @ 16:37:13

Mud and Cushion Information

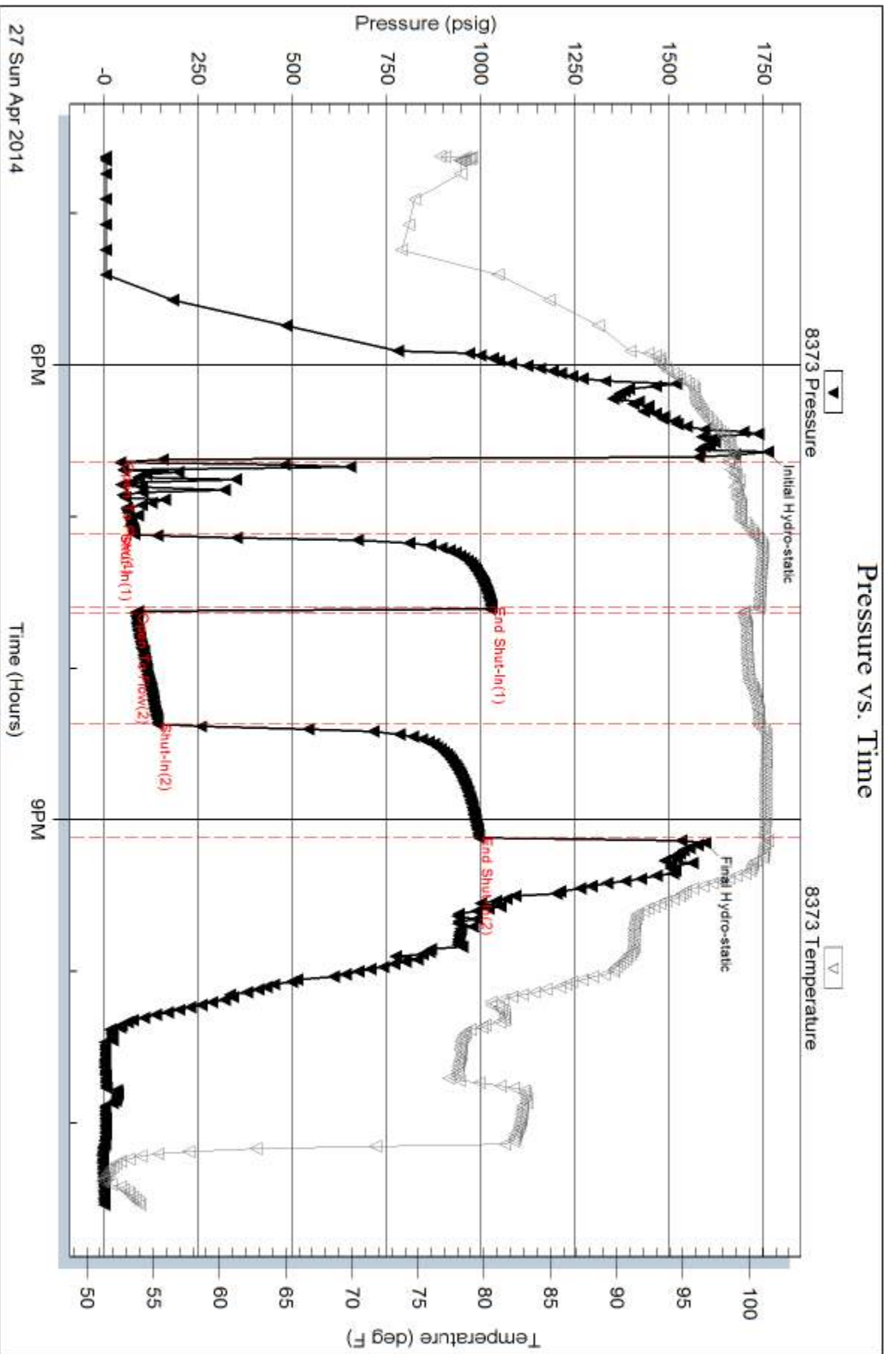
Mud Type: Gel Chem	Cushion Type:	Oil API: 37 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: 0 ppm
Viscosity: 61.00 sec/qt	Cushion Volume: bbl	
Water Loss: 7.99 in ³	Gas Cushion Type:	
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig	
Salinity: 3300.00 ppm		
Filter Cake: 1.00 inches		

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
62.00	gocm 40%g 10%o 50%m	0.870
124.00	gocm 15%g 5%o 80%m	1.739
155.00	mcgo 20%g 60%o 20%m	2.174
0.00	961 GIP weak gas	0.000

Total Length: 341.00 ft Total Volume: 4.783 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments: 37@60=37

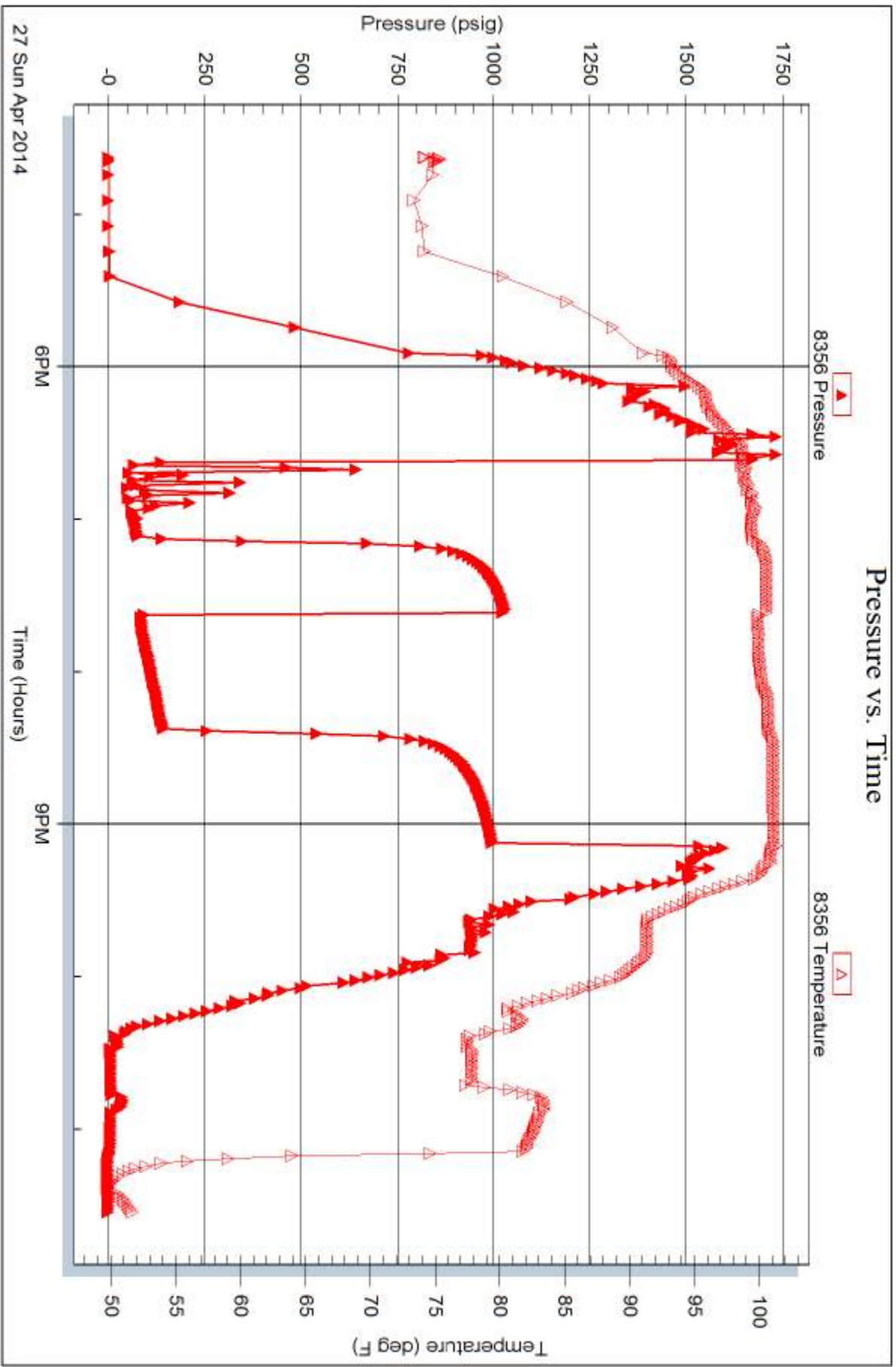


Serial #: 8356

Outside TDI Inc

Viola #1

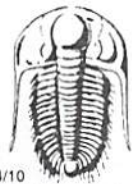
DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 55746

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 55746

Well Name & No. Dio19 #1 Test No. 1 Date 4-27-14
 Company TDI Inc Elevation 2090 KB 2080 GL
 Address 1310 Bison Rd Hays, KS 67601
 Co. Rep / Geo. Herb Deines Rig South with 1
 Location: Sec. 15 Twp. 10 Rge. 17 Co. Rooks State KS

Interval Tested 3241 3360 Zone Tested Toronto - Lansing D
 Anchor Length 119 Drill Pipe Run 3247 Mud Wt. 9.4
 Top Packer Depth 3236 Drill Collars Run — Vis 61
 Bottom Packer Depth 3241 Wt. Pipe Run — WL 8.0
 Total Depth 3360 Chlorides 3300 ppm System LCM 2

Blow Description IF: 1/4 blow BoB in 11 min. Plugging,
IS: Surface blow built to 1 died in 14 min.
FF: BoB in 4 min.
FS: Surface blow built to 4 1/2 in 15 died 20 min.

Rec	Feet of	%gas	%oil	%water	%mud
<u>155</u>	<u>mc90</u>	<u>20</u>	<u>60</u>	<u>20</u>	
<u>124</u>	<u>90cm</u>	<u>15</u>	<u>5</u>	<u>80</u>	
<u>62</u>	<u>90cm</u>	<u>40</u>	<u>10</u>	<u>50</u>	
Rec	Feet of <u>961 GIP</u>	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 341 BHT 101 Gravity 37 API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic 1761 Test 1150 T-On Location 15:45
 (B) First Initial Flow 42 Jars — T-Started 16:37
 (C) First Final Flow 79 Safety Joint — T-Open 18:36
 (D) Initial Shut-In 1029 Circ Sub N/L T-Pulled 21:06
 (E) Second Initial Flow 83 Hourly Standby — T-Out 23:35
 (F) Second Final Flow 142 Mileage 308 x2 Comments loaded tools 4/28 mid afternoon
 (G) Final Shut-In 996 Sampler 58rt 179.80
 (H) Final Hydrostatic 1594 Straddle — Ruined Shale Packer —
 Shale Packer — Ruined Packer —
 Extra Packer — Extra Copies —

Initial Open 30
 Initial Shut-In 30
 Final Flow 45
 Final Shut-In 45

Sub Total 1329.80

Approved By [Signature] Our Representative [Signature]

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