



DRILL STEM TEST REPORT

Prepared For: **TDI Inc**

1310 Bison Rd
Hays KS 67601-9696

ATTN: Tom Denning

Urban Unit #1

11-15s-19w Ellis,KS

Start Date: 2013.03.19 @ 22:10:49

End Date: 2013.03.20 @ 04:19:28

Job Ticket #: 50374 DST #: 1

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

Printed: 2013.03.22 @ 09:55:15

TDI Inc
11-15s-19w Ellis,KS
Urban Unit #1
DST # 1
LKC A-C
2013.03.19



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

TDI Inc
1310 Bison Rd
Hays KS 67601-9696
ATTN: Tom Denning

11-15s-19w Ellis,KS
Urban Unit #1
Job Ticket: 50374 **DST#: 1**
Test Start: 2013.03.19 @ 22:10:49

Tool Information

Drill Pipe:	Length: 3290.00 ft	Diameter: 3.80 inches	Volume: 46.15 bbl	Tool Weight:	2200.00 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: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	55000.00 lb
			<u>Total Volume: 46.30 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	24.00 ft			String Weight: Initial	46000.00 lb
Depth to Top Packer:	3317.00 ft			Final	47000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	49.00 ft				
Tool Length:	70.00 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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Change Over Sub	1.00			3297.00	
Shut In Tool	5.00			3302.00	
Hydraulic tool	5.00			3307.00	
Packer	5.00			3312.00	21.00 Bottom Of Top Packer
Packer	5.00			3317.00	
Stubb	1.00			3318.00	
Perforations	12.00			3330.00	
Recorder	0.00	8369	Inside	3330.00	
Recorder	0.00	8700	Outside	3330.00	
Blank Spacing	33.00			3363.00	
Bullnose	3.00			3366.00	49.00 Bottom Packers & Anchor

Total Tool Length: 70.00



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DRILL STEM TEST REPORT

FLUID SUMMARY

TDI Inc
1310 Bison Rd
Hays KS 67601-9696
ATTN: Tom Denning

11-15s-19w Ellis,KS
Urban Unit #1
Job Ticket: 50374 **DST#: 1**
Test Start: 2013.03.19 @ 22:10:49

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:	53000 ppm
Viscosity: 50.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.18 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 1300.00 ppm			
Filter Cake: 1.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	890' GIP	0.000
30.00	SOCGW 20%G5%O75%W	0.148
155.00	GMO 20%G70%O10%M	2.174
30.00	O&GCM 10%G20%O70%M	0.421

Total Length: 215.00 ft Total Volume: 2.743 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments: RW .18@55F

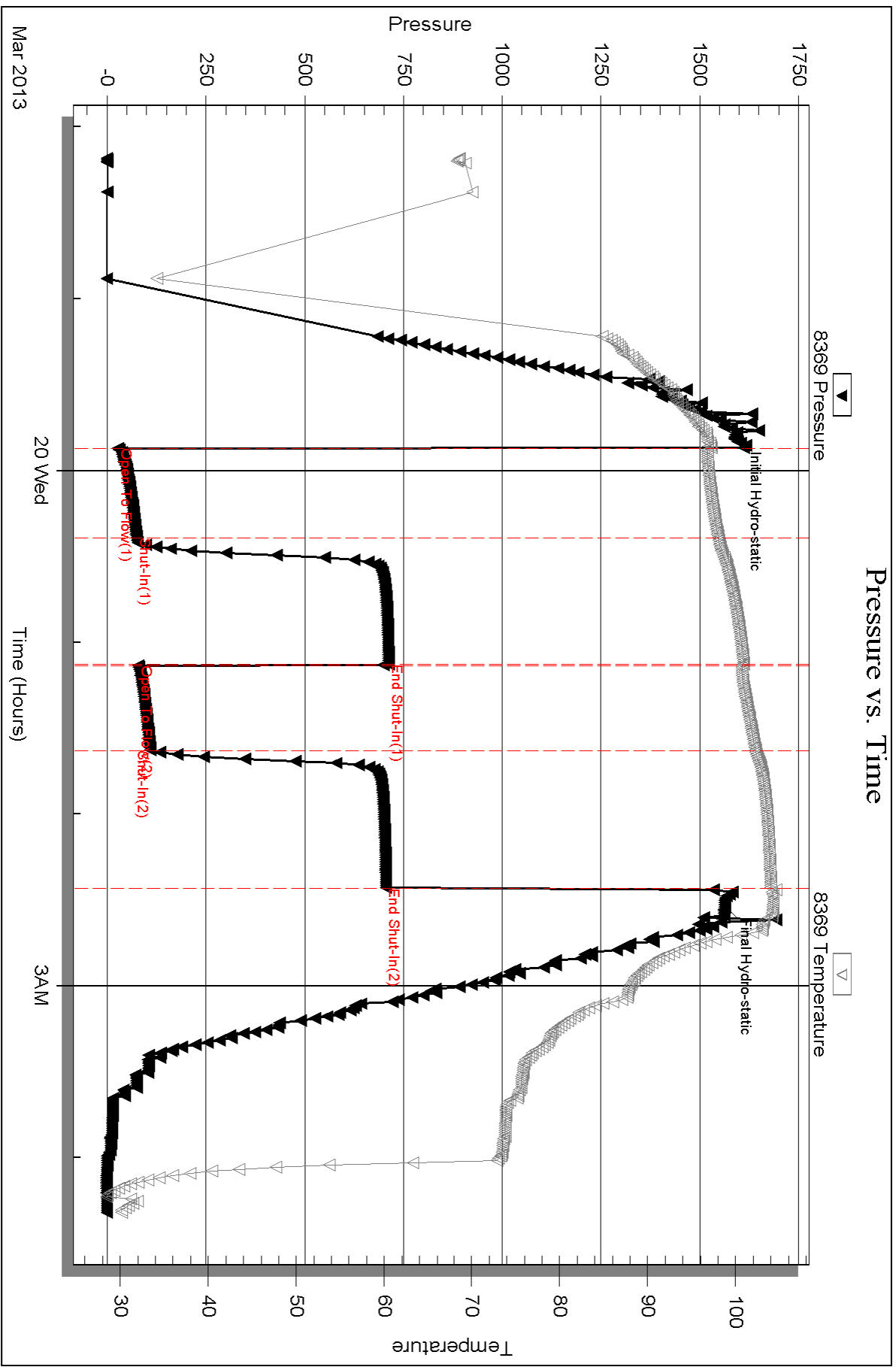
Serial #: 8369

Inside

TDI Inc

Urban Unit #1

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 50374

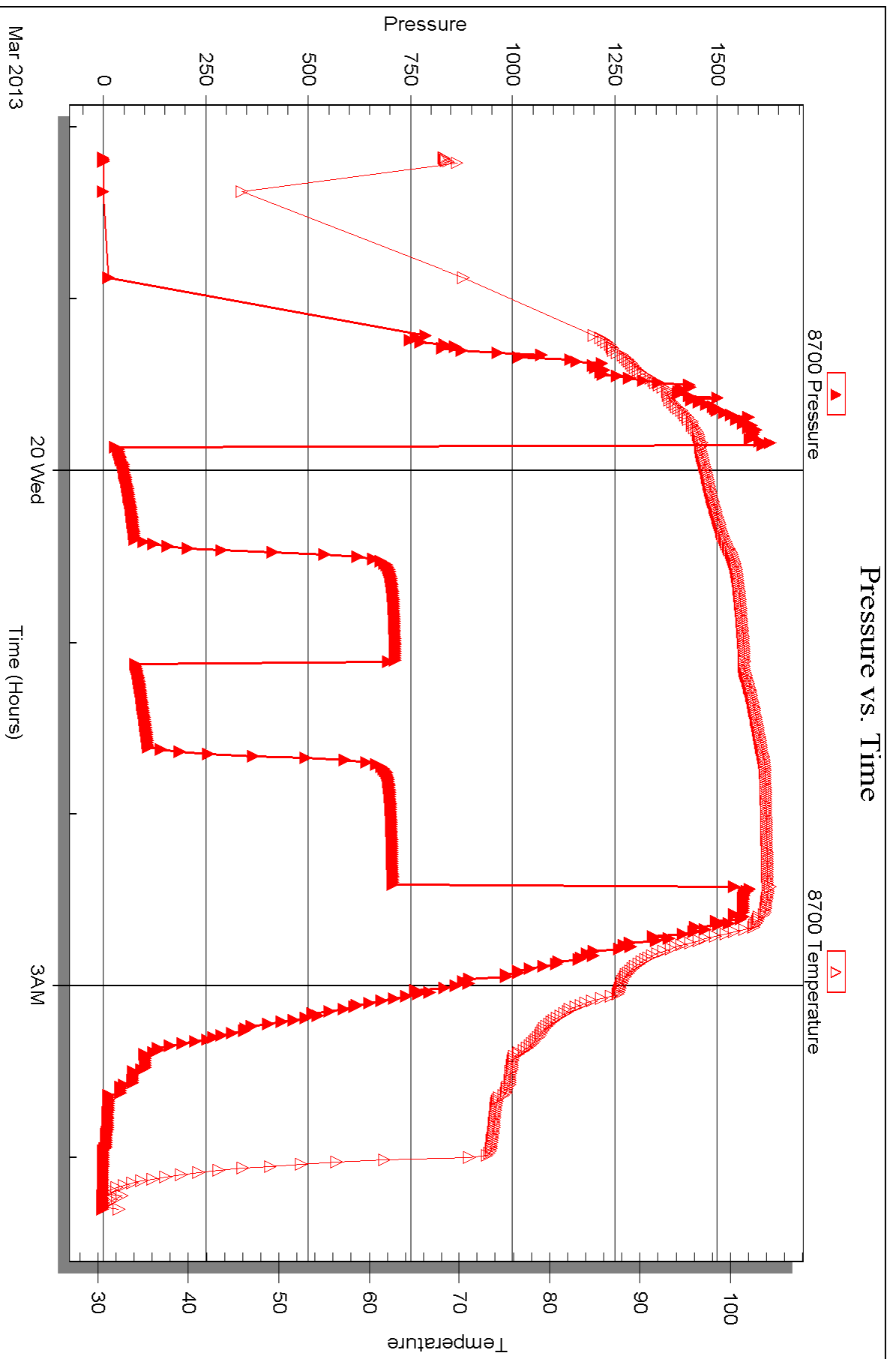
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Serial #: 8700

Outside TDI Inc

Urban Unit #1

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 50374

Printed: 2013.03.22 @ 09:55:18



DRILL STEM TEST REPORT

Prepared For: **TDI Inc**

1310 Bison Rd
Hays KS 67601-9696

ATTN: Tom Denning

Urban Unit #1

11-15s-19w Ellis,KS

Start Date: 2013.03.20 @ 19:00:48

End Date: 2013.03.21 @ 01:52:12

Job Ticket #: 50375 DST #: 2

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

Printed: 2013.03.22 @ 09:54:31



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TDI Inc
1310 Bison Rd
Hays KS 67601-9696
ATTN: Tom Denning

11-15s-19w Ellis,KS
Urban Unit #1
Job Ticket: 50375 **DST#: 2**
Test Start: 2013.03.20 @ 19:00:48

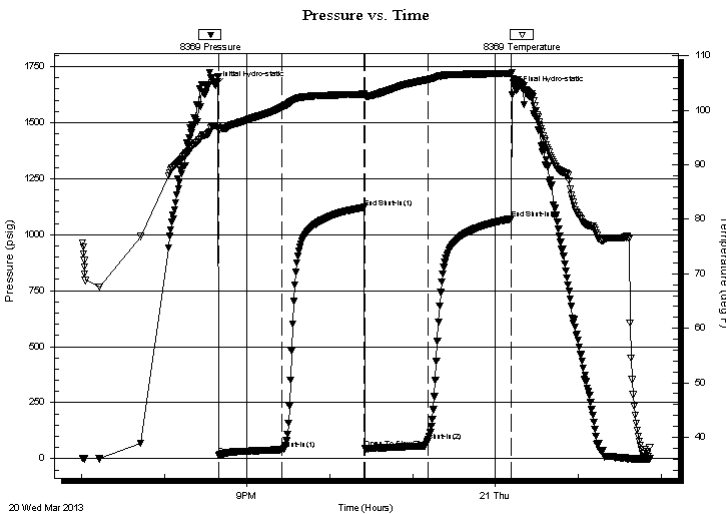
GENERAL INFORMATION:

Formation: **LKC**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 20:39:43
Time Test Ended: 01:52:12
Interval: **3460.00 ft (KB) To 3530.00 ft (KB) (TVD)**
Total Depth: 3530.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Test Type: Conventional Bottom Hole (Reset)
Tester: Ray Schwager
Unit No: 42
Reference Elevations: 2039.00 ft (KB)
2029.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 8369 **Inside**
Press @ Run Depth: 77.61 psig @ 3464.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2013.03.20 End Date: 2013.03.21 Last Calib.: 2013.03.21
Start Time: 19:00:48 End Time: 01:52:12 Time On Btm: 2013.03.20 @ 20:37:13
Time Off Btm: 2013.03.21 @ 00:14:57

TEST COMMENT: 45-IFP-w k bl thru-out 1/4" to 2" bl
60-ISIP-no bl
45-FFP-w k bl 1/4" bl
60-FSIP-no bl

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1666.78	97.17	Initial Hydro-static
3	15.79	96.36	Open To Flow (1)
48	40.97	100.55	Shut-In(1)
108	1121.53	102.95	End Shut-In(1)
108	44.81	102.65	Open To Flow (2)
154	77.61	105.60	Shut-In(2)
215	1070.44	106.70	End Shut-In(2)
218	1644.58	105.58	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
90.00	MW 15%M85%W	0.99

* Recovery from multiple tests

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: Tom Denning

11-15s-19w Ellis,KS
Urban Unit #1
Job Ticket: 50375 **DST#: 2**
Test Start: 2013.03.20 @ 19:00:48

Tool Information

Drill Pipe:	Length: 3439.00 ft	Diameter: 3.80 inches	Volume: 48.24 bbl	Tool Weight:	2200.00 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: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	60000.00 lb
			<u>Total Volume: 48.39 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial	46000.00 lb
Depth to Top Packer:	3460.00 ft			Final	47000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	70.00 ft				
Tool Length:	91.00 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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Change Over Sub	1.00			3440.00	
Shut In Tool	5.00			3445.00	
Hydraulic tool	5.00			3450.00	
Packer	5.00			3455.00	21.00 Bottom Of Top Packer
Packer	5.00			3460.00	
Stubb	1.00			3461.00	
Perforations	3.00			3464.00	
Recorder	0.00	8369	Inside	3464.00	
Recorder	0.00	8700	Outside	3464.00	
Blank Spacing	63.00			3527.00	
Bullnose	3.00			3530.00	70.00 Bottom Packers & Anchor

Total Tool Length: 91.00



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FLUID SUMMARY

TDI Inc
1310 Bison Rd
Hays KS 67601-9696
ATTN: Tom Denning

11-15s-19w Ellis,KS
Urban Unit #1
Job Ticket: 50375 **DST#: 2**
Test Start: 2013.03.20 @ 19:00:48

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:	65000 ppm
Viscosity: 52.00 sec/qt	Cushion Volume: bbl		
Water Loss: 6.79 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 1400.00 ppm			
Filter Cake: 1.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
90.00	MW 15%M85%W	0.989

Total Length: 90.00 ft Total Volume: 0.989 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments: RW .16@50F

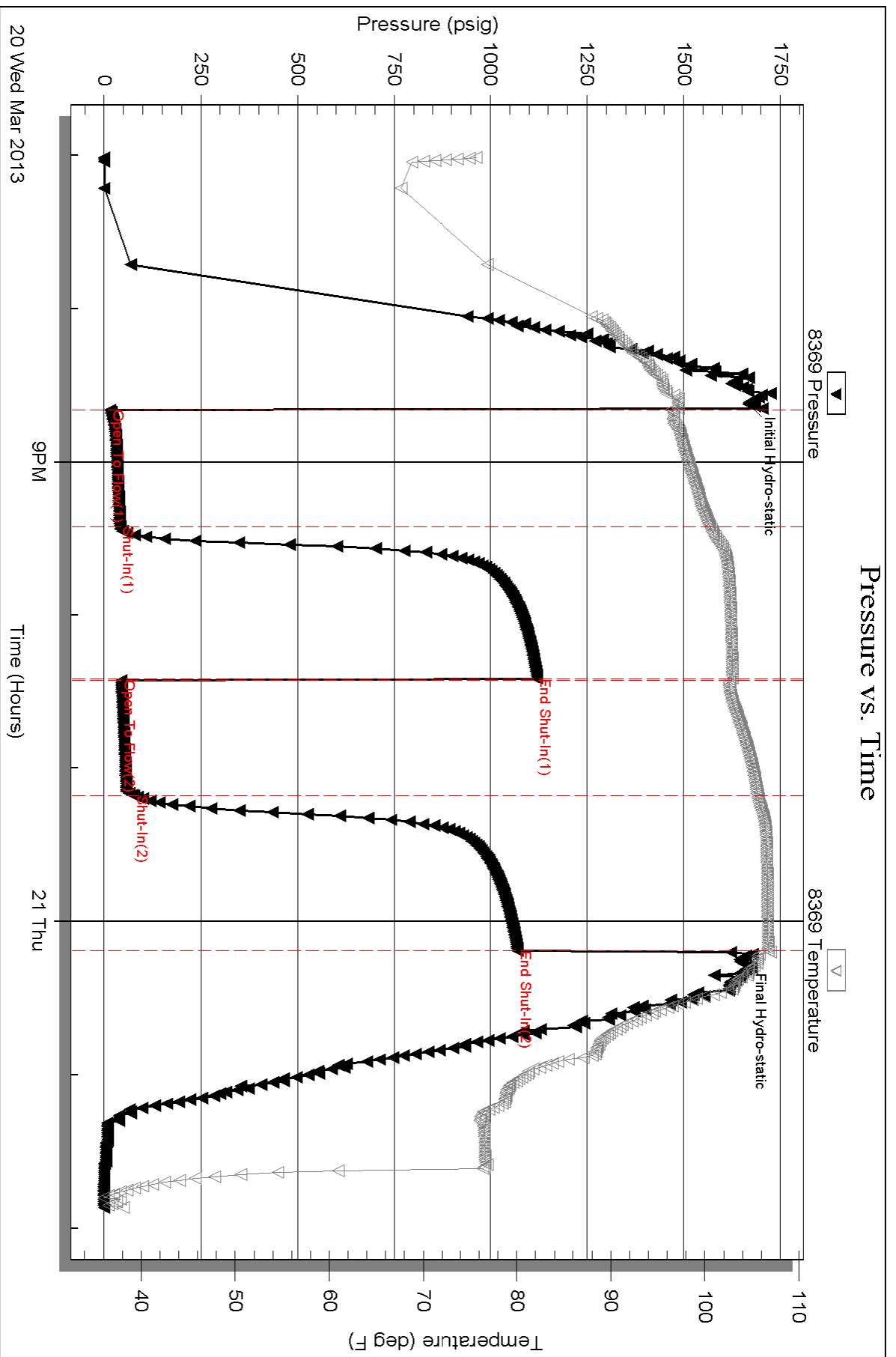
Serial #: 8369

Inside

TDI Inc

Urban Unit #1

DST Test Number: 2



Triobite Testing, Inc

Ref. No: 50375

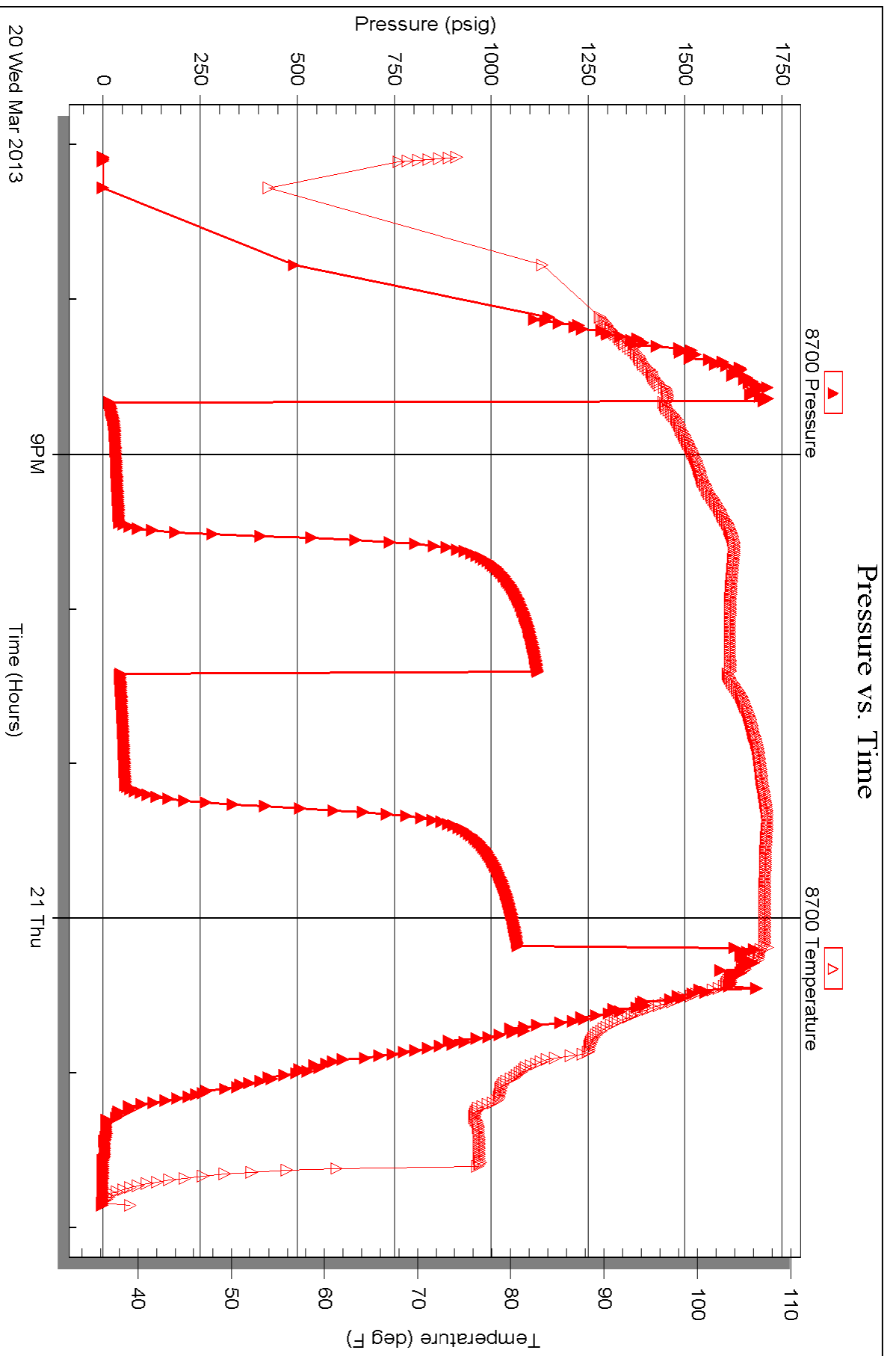
Printed: 2013.03.22 @ 09:54:35

Serial #: 8700

Outside TDI Inc

Urban Unit #1

DST Test Number: 2





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 50374

Well Name & No. Urban Unit #1 Test No. 1 Date 3-19-13
 Company TOI, Inc Elevation 2039 KB 2029 GL
 Address 1310 Bison Rd, Hays, Ks 67601-9696
 Co. Rep / Geo. Jeff Lawler Rig Southwing rig 1
 Location: Sec. 11 Twp. 15^s Rge. 19^w Co. ELLIS State Ks

Interval Tested 3317-3366 Zone Tested LKC A-C
 Anchor Length 49 Drill Pipe Run 3290 Mud Wt. 9
 Top Packer Depth 3312 Drill Collars Run 30 Vis 50
 Bottom Packer Depth 3317 Wt. Pipe Run - WL 7.2
 Total Depth 3366 Chlorides 1300 ppm System LCM 1#

Blow Description IFP - WEAK TO STRONG IN 6min
ISIP - 1/4" Blow Back
FFP - WEAK TO STRONG IN 4min
FSDP - 1/4" Blow Back

Rec	Feet of	%gas	%oil	%water	%mud
<u>890</u>	<u>GIP</u>				
<u>30</u>	<u>SOC6W</u>	<u>20</u>	<u>5</u>	<u>75</u>	
<u>155</u>	<u>GMO</u>	<u>20</u>	<u>70</u>		<u>10</u>
<u>30</u>	<u>O46CM</u>	<u>10</u>	<u>20</u>		<u>70</u>

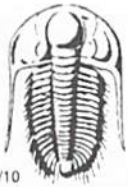
Rec Total 215 BHT 104 Gravity - API RW .18 @ 55 °F Chlorides 53000 ppm

(A) Initial Hydrostatic 1586 Test 1150 T-On Location 2030
 (B) First Initial Flow 27 Jars _____ T-Started 2210
 (C) First Final Flow 74 Safety Joint _____ T-Open 2355
 (D) Initial Shut-In 711 Circ Sub _____ T-Pulled 0225
 (E) Second Initial Flow 78 Hourly Standby _____ T-Out 0419
 (F) Second Final Flow 110 Mileage 28RT 43.40 Comments _____
 (G) Final Shut-In 705 Sampler _____
 (H) Final Hydrostatic 1562 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____

Initial Open 30 Extra Packer _____ Extra Copies _____
 Initial Shut-In 45 Extra Recorder _____ Sub Total 0
 Final Flow 30 Day Standby _____ Total 1193.40
 Final Shut-In 45 Accessibility _____ MP/DST Disc't _____
 Sub Total 1193.40

Approved By _____ Our Representative Ray Schwager *Thank you*

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 50375

4/10

Well Name & No. Urban Unit #1 Test No. 2 Date 3-20-13
 Company TDI, Inc Elevation 2039 KB 2029 GL
 Address 1310 Bison Rd. Hays, Ks 67601-9696
 Co. Rep / Geo. Jeff Lawler Rig Southwind rig 1
 Location: Sec. 11 Twp. 15^s Rge. 19^w Co. Ellis State Ks

Interval Tested 3460-3530 Zone Tested LKC
 Anchor Length 70' Drill Pipe Run 3439 Mud Wt. 9.2
 Top Packer Depth 3455 Drill Collars Run 30 Vis 52
 Bottom Packer Depth 3460 Wt. Pipe Run - WL 6.8
 Total Depth 3530 Chlorides 1400 ppm System LCM 1#

Blow Description IFP - Weak Blow Thru-out 1/4" to 2" Blow
ISIP - NO Blow
FFP - Weak Blow Thru-out 1/4" Blow
FSIP - NO Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>90</u>	<u>MW</u>		<u>85</u>	<u>15</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 90 BHT 106 Gravity - API RW .16 @ 50° F Chlorides 65000 ppm

(A) Initial Hydrostatic <u>1666</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>1850</u>
(B) First Initial Flow <u>15</u>	<input type="checkbox"/> Jars	T-Started <u>1900</u>
(C) First Final Flow <u>40</u>	<input type="checkbox"/> Safety Joint	T-Open <u>2040</u>
(D) Initial Shut-In <u>1121</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>0010</u>
(E) Second Initial Flow <u>44</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>0152</u>
(F) Second Final Flow <u>77</u>	<input checked="" type="checkbox"/> Mileage <u>28 RT</u> 43.40	Comments
(G) Final Shut-In <u>1070</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1644</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer

Initial Open 45
 Initial Shut-In 60
 Final Flow 45
 Final Shut-In 60

Sub Total 1193.40

Approved By _____ Our Representative Ray Schwager Thank you

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.