



DRILL STEM TEST REPORT

Prepared For: **TDI inc**

1310 Bison Rd
Hays KS 67601

ATTN: Herb Deines

Rohleder #3

24-14s-16w Ellis,KS

Start Date: 2012.11.13 @ 16:50:05

End Date: 2012.11.13 @ 22:40:09

Job Ticket #: 50754 DST #: 1

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

Printed: 2012.11.20 @ 15:35:28

TDI inc
24-14s-16w Ellis,KS
Rohleder #3
DST # 1
Arbuckle
2012.11.13



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TDI inc
1310 Bison Rd
Hays KS 67601
ATTN: Herb Deines

24-14s-16w Ellis,KS
Rohleder #3
Job Ticket: 50754 **DST#: 1**
Test Start: 2012.11.13 @ 16:50:05

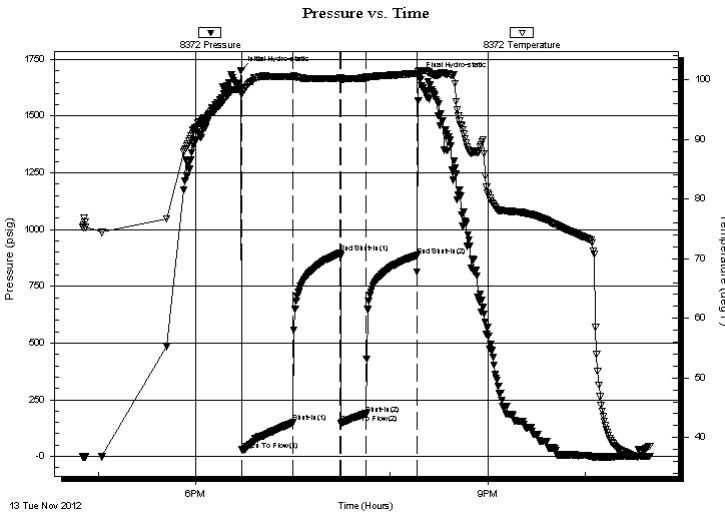
GENERAL INFORMATION:

Formation: **Arbuckle**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 18:28:20
Time Test Ended: 22:40:09
Interval: **3329.00 ft (KB) To 3396.00 ft (KB) (TVD)**
Total Depth: 3500.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Test Type: Conventional Straddle (Initial)
Tester: Andy Carreira
Unit No: 39
Reference Elevations: 1867.00 ft (KB)
1857.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 8372 Outside
Press @ Run Depth: 188.18 psig @ 3324.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2012.11.13 End Date: 2012.11.13 Last Calib.: 2012.11.13
Start Time: 16:50:05 End Time: 22:40:10 Time On Btm: 2012.11.13 @ 18:27:30
Time Off Btm: 2012.11.13 @ 20:17:50

TEST COMMENT: IF:(30min) 6" blow in 3 min. BOB in 7 min.
ISl:(30min) No Return
FF:(15min) 6" blow in 7 min. BOB in 13 min.
FSl:(30min) No Return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1701.57	98.39	Initial Hydro-static
1	28.77	97.56	Open To Flow (1)
33	149.11	100.51	Shut-In(1)
62	896.06	100.26	End Shut-In(1)
62	147.48	99.94	Open To Flow (2)
78	188.18	100.31	Shut-In(2)
109	885.98	101.07	End Shut-In(2)
111	1675.80	101.56	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
60.00	GOCWM g=10% o=15% w=30% m=45%	0.84
155.00	OCGM g=10% o=40% m=50%	2.17
180.00	MCGO g=10% m=40% o=50%	2.52

Gas Rates

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



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Rohleder #3
Job Ticket: 50754 **DST#: 1**
Test Start: 2012.11.13 @ 16:50:05

GENERAL INFORMATION:

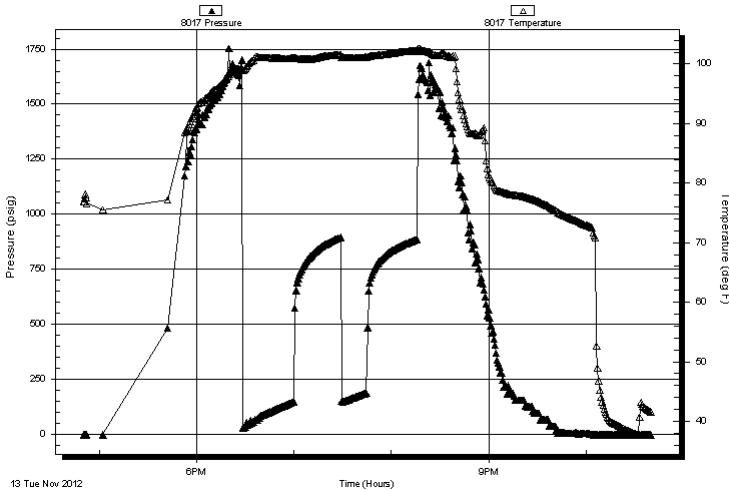
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Time Test Ended: 22:40:09
Interval: **3329.00 ft (KB) To 3396.00 ft (KB) (TVD)**
Total Depth: 3500.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Test Type: Conventional Straddle (Initial)
Tester: Andy Carreira
Unit No: 39
Reference Elevations: 1867.00 ft (KB)
1857.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 8017 Inside

Press @ Run Depth: psig @ 3324.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2012.11.13 End Date: 2012.11.13 Last Calib.: 2012.11.13
Start Time: 16:50:05 End Time: 22:40:10 Time On Btm:
Time Off Btm:

TEST COMMENT: IF:(30min) 6" blow in 3 min. BOB in 7 min.
ISl:(30min) No Return
FF:(15min) 6" blow in 7 min. BOB in 13 min.
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Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery

Length (ft)	Description	Volume (bbl)
60.00	GOCWM g=10% o=15% w=30% m=45%	0.84
155.00	OCGM g=10% o=40% m=50%	2.17
180.00	MCGO g=10% m=40% o=50%	2.52

Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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TDI inc
1310 Bison Rd
Hays KS 67601

ATTN: Herb Deines

24-14s-16w Ellis,KS
Rohleder #3
Job Ticket: 50754 **DST#: 1**
Test Start: 2012.11.13 @ 16:50:05

GENERAL INFORMATION:

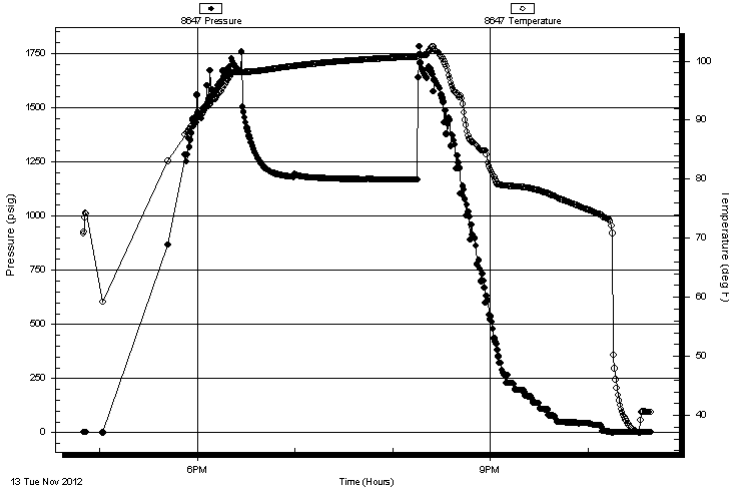
Formation: **Arbuckle**
 Deviated: No Whipstock: ft (KB) Test Type: Conventional Straddle (Initial)
 Time Tool Opened: 18:28:20 Tester: Andy Carreira
 Time Test Ended: 22:40:09 Unit No: 39
Interval: 3329.00 ft (KB) To 3396.00 ft (KB) (TVD) Reference Elevations: 1867.00 ft (KB)
 Total Depth: 3500.00 ft (KB) (TVD) 1857.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 10.00 ft

Serial #: 8647 Below (Straddle)

Press @ Run Depth: psig @ 3405.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2012.11.13 End Date: 2012.11.13 Last Calib.: 2012.11.13
 Start Time: 16:50:05 End Time: 22:38:40 Time On Btm:
 Time Off Btm:

TEST COMMENT: IF:(30min) 6" blow in 3 min. BOB in 7 min.
 ISl:(30min) No Return
 FF:(15min) 6" blow in 7 min. BOB in 13 min.
 FSl:(30min) No Return

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery

Length (ft)	Description	Volume (bbl)
60.00	GOCWM g=10% o=15% w=30% m=45%	0.84
155.00	OCGM g=10% o=40% m=50%	2.17
180.00	MCGO g=10% m=40% o=50%	2.52

Gas Rates

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



**TRILOBITE
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DRILL STEM TEST REPORT

TOOL DIAGRAM

TDI inc
1310 Bison Rd
Hays KS 67601
ATTN: Herb Deines

24-14s-16w Ellis,KS
Rohleder #3
Job Ticket: 50754 **DST#: 1**
Test Start: 2012.11.13 @ 16:50:05

Tool Information

Drill Pipe:	Length: 3330.00 ft	Diameter: 3.80 inches	Volume: 46.71 bbl	Tool Weight:	3000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer:	24000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose:	46000.00 lb
			<u>Total Volume: 46.71 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial	31000.00 lb
Depth to Top Packer:	3320.00 ft			Final	33000.00 lb
Depth to Bottom Packer:	3396.00 ft				
Interval between Packers:	76.00 ft				
Tool Length:	204.00 ft				
Number of Packers:	3	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			3301.00	
Shut In Tool	5.00			3306.00	
Hydraulic tool	5.00			3311.00	
Packer	5.00			3316.00	20.00 Bottom Of Top Packer
Packer	4.00			3320.00	
Stubb	1.00			3321.00	
Perforations	2.00			3323.00	
Change Over Sub	1.00			3324.00	
Recorder	0.00	8017	Inside	3324.00	
Recorder	0.00	8372	Outside	3324.00	
Drill Pipe	64.00			3388.00	
Change Over Sub	1.00			3389.00	
Perforations	5.00			3394.00	
Blank Spacing	1.00			3395.00	
Blank Off Sub	1.00			3396.00	76.00 Tool Interval
Packer	4.00			3400.00	
Stubb	1.00			3401.00	
Perforations	3.00			3404.00	
Change Over Sub	1.00			3405.00	
Recorder	0.00	8647	Below	3405.00	
Drill Pipe	94.00			3499.00	
Change Over Sub	1.00			3500.00	
Perforations	1.00			3501.00	
Bullnose	3.00			3504.00	108.00 Bottom Packers & Anchor
Total Tool Length:	204.00				



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FLUID SUMMARY

TDI inc **24-14s-16w Ellis,KS**
 1310 Bison Rd **Rohleder #3**
 Hays KS 67601 Job Ticket: 50754 **DST#: 1**
 ATTN: Herb Deines Test Start: 2012.11.13 @ 16:50:05

Mud and Cushion Information

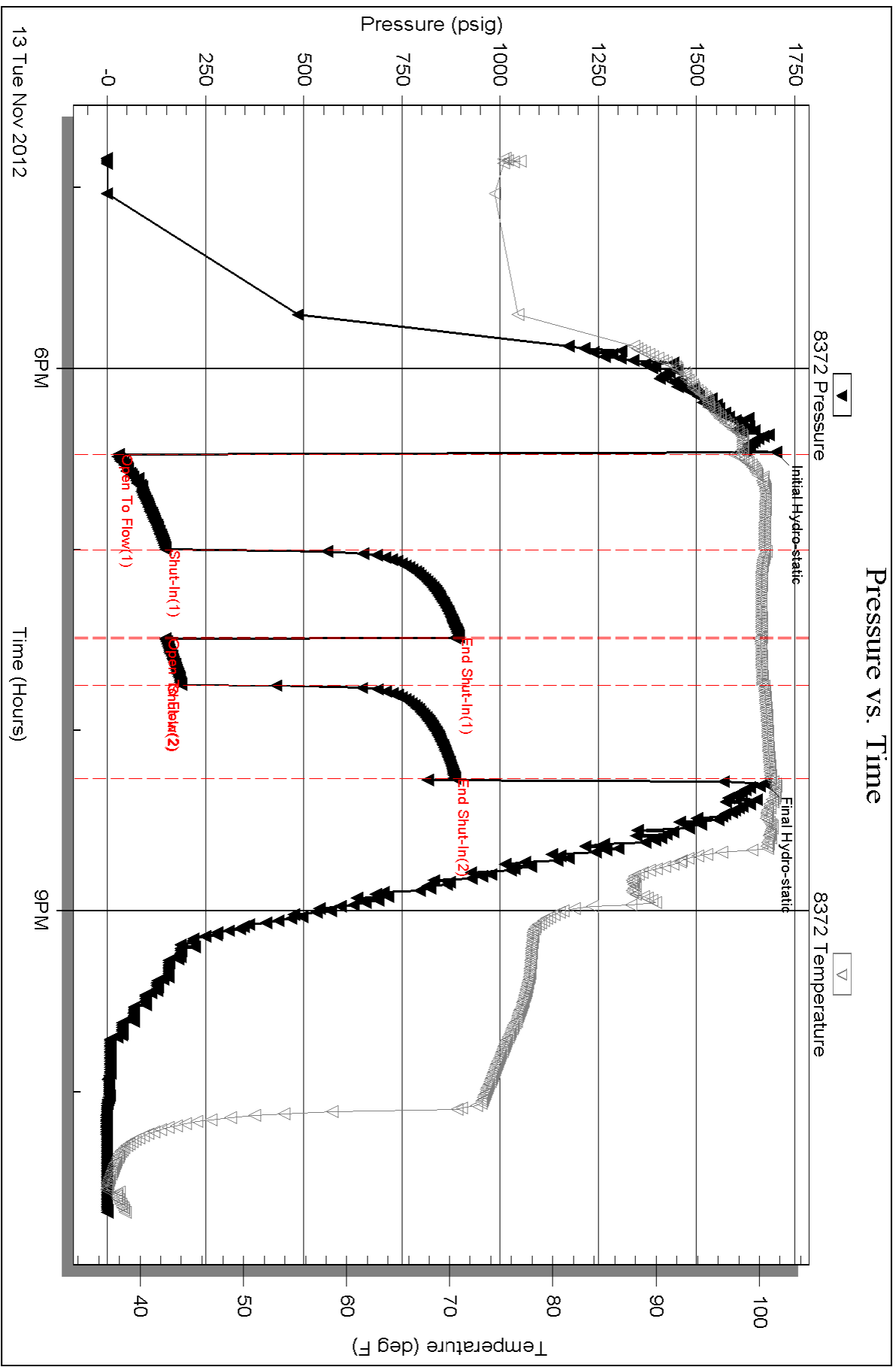
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 56.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.19 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 3600.00 ppm			
Filter Cake: inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	GOCWM g=10% o=15% w =30% m=45%	0.842
155.00	OCCGM g=10% o=40% m=50%	2.174
180.00	MCGO g=10% m=40% o=50%	2.525

Total Length: 395.00 ft Total Volume: 5.541 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:



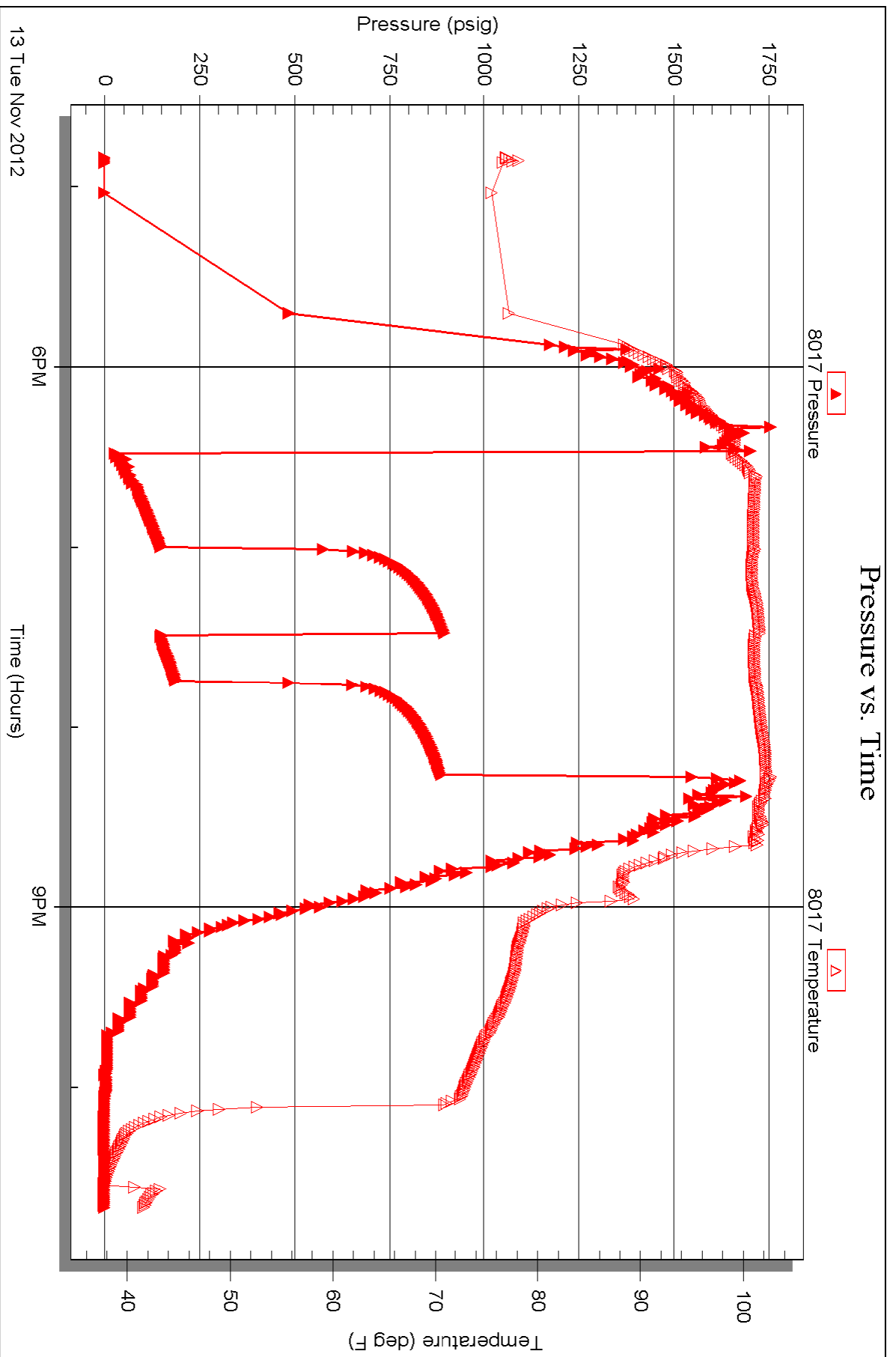
Serial #: 8017

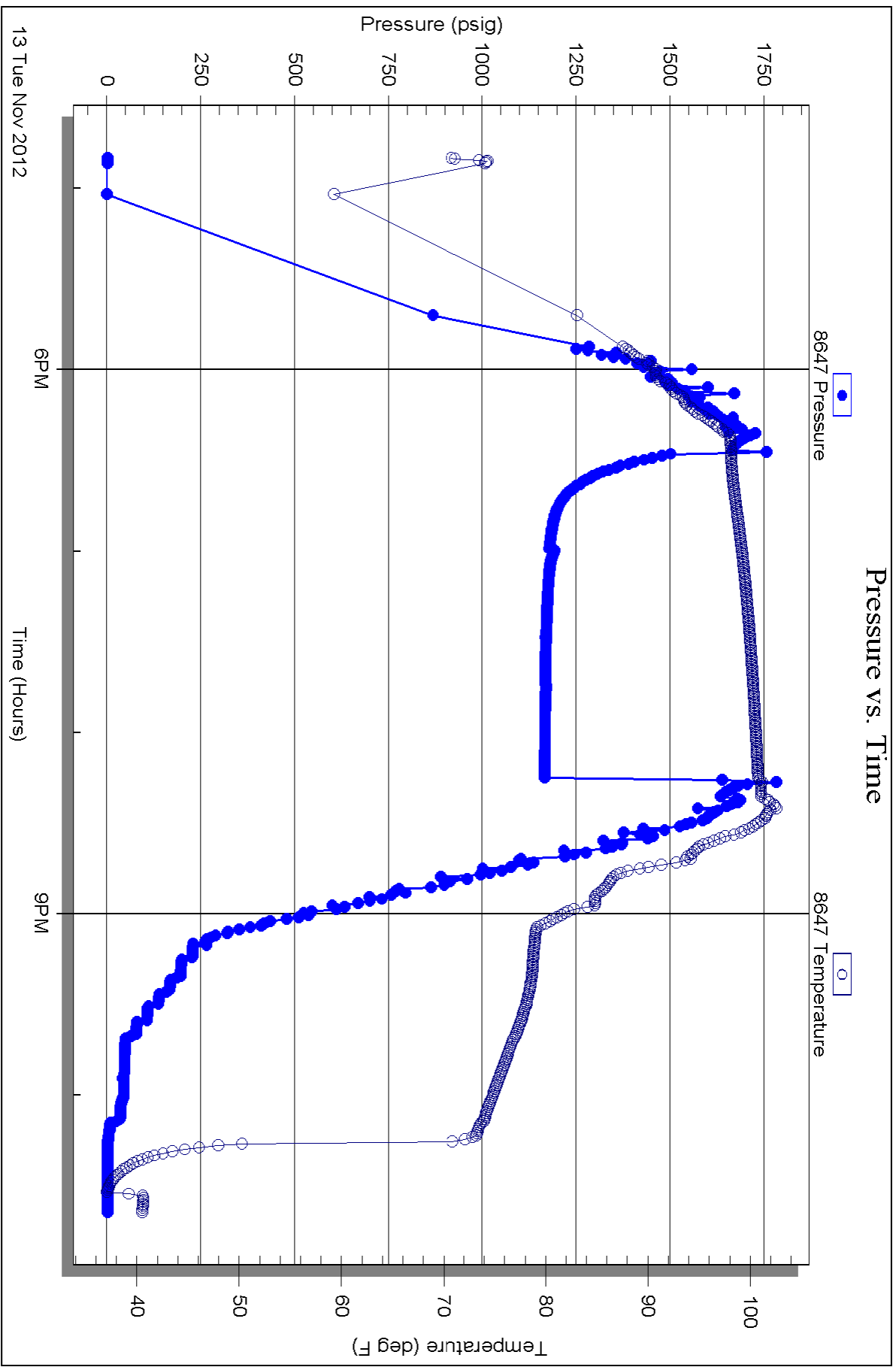
Inside

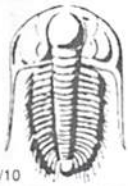
TD/Inc

Rohleder #3

DST Test Number: 1







TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 50754

Well Name & No. Rohleder #3 Test No. 1 Date 11-13-12
 Company TDI INC Elevation 1857 KB 1867 GL
 Address 1310 BISON RD Hays Ks 67601
 Co. Rep / Geo. Herb DEINES Rig Southwind #1
 Location: Sec. 24 Twp. 14s Rge. 16w Co. Ellis State Ks

Interval Tested 3320-3396 Zone Tested Neubuckle
 Anchor Length 76 Drill Pipe Run 3330 Mud Wt. 9.2
 Top Packer Depth 3320 Drill Collars Run 0 Vis 56
 Bottom Packer Depth 3396 Wt. Pipe Run 0 WL 7.2
 Total Depth 3500 Chlorides 3600 ppm System LCM 1 1/2"

Blow Description IF: 6" blow in 3min BOB 7min
FSD: NO Return
FF: 6" blow in 7min BOB 13min
FSD NO Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>180</u>	<u>MCBD</u>	<u>10</u>	<u>50</u>	<u>40</u>	<u>0</u>
<u>155</u>	<u>OCCM</u>	<u>10</u>	<u>40</u>	<u>50</u>	<u>0</u>
<u>60</u>	<u>GOCWM</u>	<u>10</u>	<u>15</u>	<u>30</u>	<u>45</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 395 BHT 101 Gravity 1150 API RW 54.25 @ 1150 °F Chlorides 3600 ppm

(A) Initial Hydrostatic 1701 Test 1150 T-On Location 15:55
 (B) First Initial Flow 28 Jars _____ T-Started 16:50
 (C) First Final Flow 149 Safety Joint _____ T-Open 18:30
 (D) Initial Shut-In 896 Circ Sub _____ T-Pulled 20:15
 (E) Second Initial Flow 147 Hourly Standby _____ T-Out 22:40
 (F) Second Final Flow 188 Mileage 35RT 54.25 Comments _____
 (G) Final Shut-In 885 Sampler _____
 (H) Final Hydrostatic 1675 Straddle 600 Ruined Shale Packer _____

Initial Open 30 Shale Packer _____ Ruined Packer _____
 Initial Shut-In 30 Extra Packer _____ Extra Copies _____
 Final Flow 15 Extra Recorder _____ Sub Total 0
 Final Shut-In 30 Day Standby _____ Total 1804.25
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1804.25

Approved By _____ Our Representative Orly C

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.