



DRILL STEM TEST REPORT

Prepared For: **TDI Inc**

1310 Bison Rd
Hays KS 67601-9696

ATTN: Tom Denning

Zimmerman Unit #1

22-15s-18w Ellis,KS

Start Date: 2013.05.12 @ 20:00:33

End Date: 2013.05.13 @ 02:33:16

Job Ticket #: 52241 DST #: 1

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

Printed: 2013.05.17 @ 15:35:53

TDI Inc
22-15s-18w Ellis,KS
Zimmerman Unit #1
DST # 1
Arbuckle
2013.05.12



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

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

22-15s-18w Ellis,KS
Zimmerman Unit #1
Job Ticket: 52241 **DST#: 1**
Test Start: 2013.05.12 @ 20:00:33

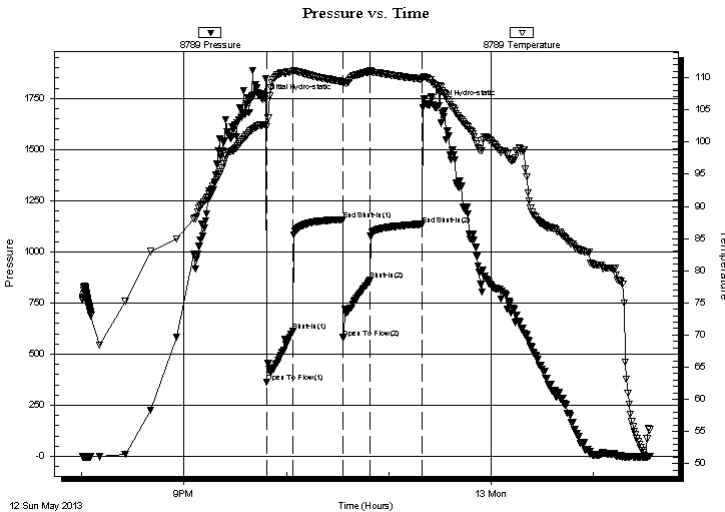
GENERAL INFORMATION:

Formation: **Arbuckle**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 21:48:31
Time Test Ended: 02:33:16
Interval: **3524.00 ft (KB) To 3630.00 ft (KB) (TVD)**
Total Depth: 3750.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Test Type: Conventional Straddle (Initial)
Tester: Ray Schwager
Unit No: 54
Reference Elevations: 2034.00 ft (KB)
2024.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 8789 Inside
Press @ Run Depth: 860.38 psig @ 3526.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2013.05.12 End Date: 2013.05.13 Last Calib.: 2013.05.13
Start Time: 20:00:33 End Time: 01:33:16 Time On Btm: 2013.05.12 @ 21:45:46
Time Off Btm: 2013.05.12 @ 23:22:46

TEST COMMENT: 15-IFP-strong bl in 90 sec
30-ISIP-no bl
15-FFP-strong bl in 90 sec
30-FSIP-no bl

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1747.25	102.65	Initial Hydro-static
3	362.14	102.38	Open To Flow (1)
18	613.49	110.98	Shut-In(1)
48	1154.98	109.39	End Shut-In(1)
48	580.74	109.17	Open To Flow (2)
64	860.38	110.93	Shut-In(2)
94	1132.89	109.80	End Shut-In(2)
97	1718.31	109.85	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
90.00	SOCM 4%O96%M	1.26
186.00	SOCWM 2%O45%W53%M	2.61
124.00	SOCMW 1%O20%M79%W	1.74
1240.00	SOCW 2%O98%W	17.39

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

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

22-15s-18w Ellis,KS
Zimmerman Unit #1
Job Ticket: 52241 **DST#: 1**
Test Start: 2013.05.12 @ 20:00:33

Tool Information

Drill Pipe:	Length: 3531.00 ft	Diameter: 3.80 inches	Volume: 49.53 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: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 49.53 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	28.00 ft			String Weight: Initial 38000.00 lb
Depth to Top Packer:	3524.00 ft			Final 46000.00 lb
Depth to Bottom Packer:	3630.00 ft			
Interval between Packers:	106.00 ft			
Tool Length:	251.00 ft			
Number of Packers:	3	Diameter: 6.75 inches		

Tool Comments:

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

Change Over Sub	1.00			3504.00	
Shut In Tool	5.00			3509.00	
Hydraulic tool	5.00			3514.00	
Packer	5.00			3519.00	21.00 Bottom Of Top Packer
Packer	5.00			3524.00	
Stubb	1.00			3525.00	
Perforations	1.00			3526.00	
Recorder	0.00	8789	Inside	3526.00	
Recorder	0.00	6668	Outside	3526.00	
Blank Spacing	95.00			3621.00	
Perforations	5.00			3626.00	
Blank Off Sub	1.00			3627.00	
Blank Spacing	3.00			3630.00	106.00 Tool Interval
Packer	5.00			3635.00	
Stubb	1.00			3636.00	
Perforations	19.00			3655.00	
Recorder	0.00	8289	Below	3655.00	
Blank Spacing	96.00			3751.00	
Bullnose	3.00			3754.00	124.00 Bottom Packers & Anchor

Total Tool Length: 251.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

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

22-15s-18w Ellis,KS
Zimmerman Unit #1
Job Ticket: 52241 **DST#: 1**
Test Start: 2013.05.12 @ 20:00:33

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 10.00 lb/gal	Cushion Length: ft	Water Salinity:	24000 ppm
Viscosity: 52.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.74 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 3500.00 ppm			
Filter Cake: 1.00 inches			

Recovery Information

Recovery Table

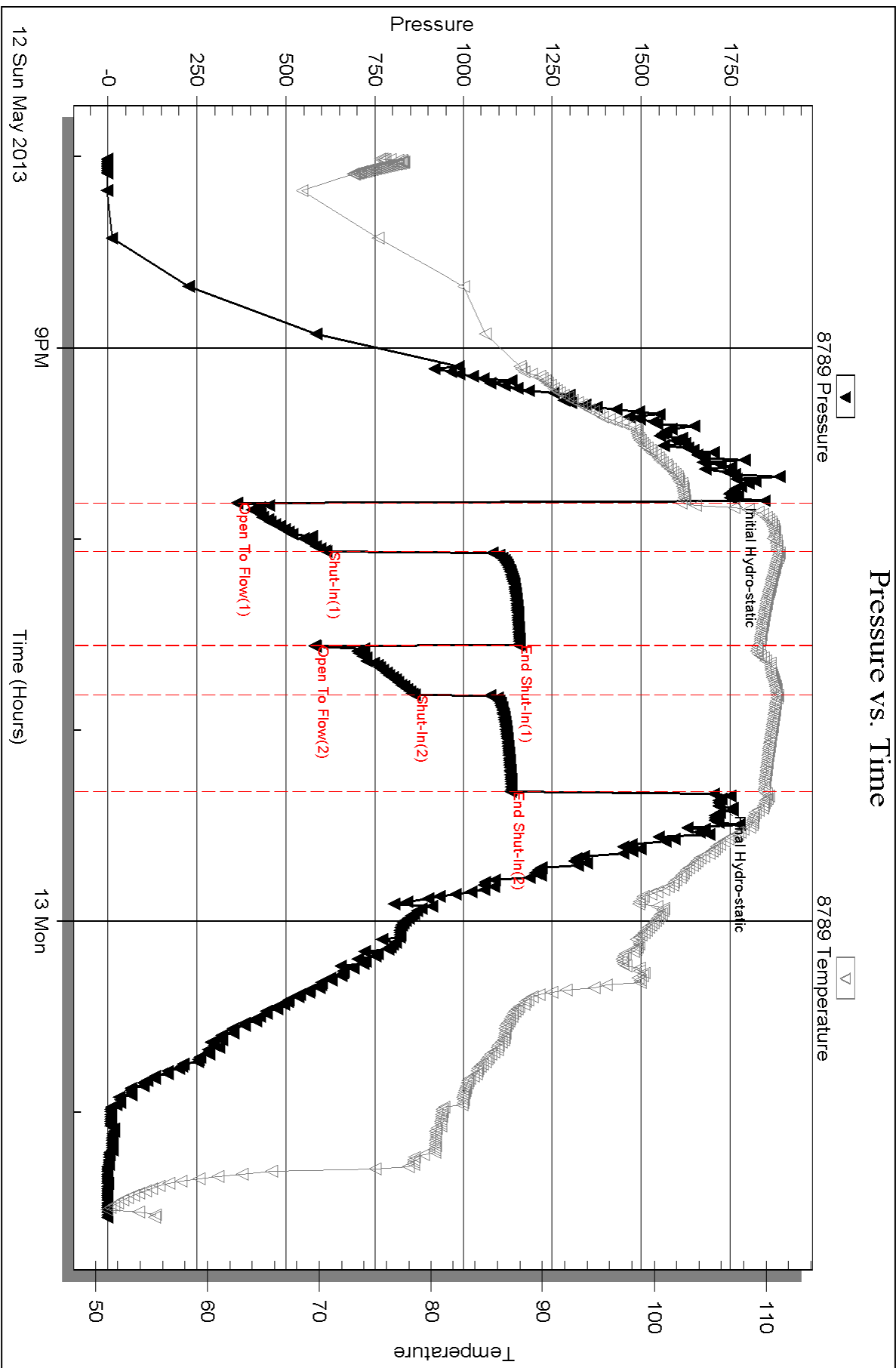
Length ft	Description	Volume bbl
90.00	SOCM 4%O96%M	1.262
186.00	SOCWM 2%O45%W53%M	2.609
124.00	SOCMW 1%O20%M79%W	1.739
1240.00	SOCW 2%O98%W	17.394

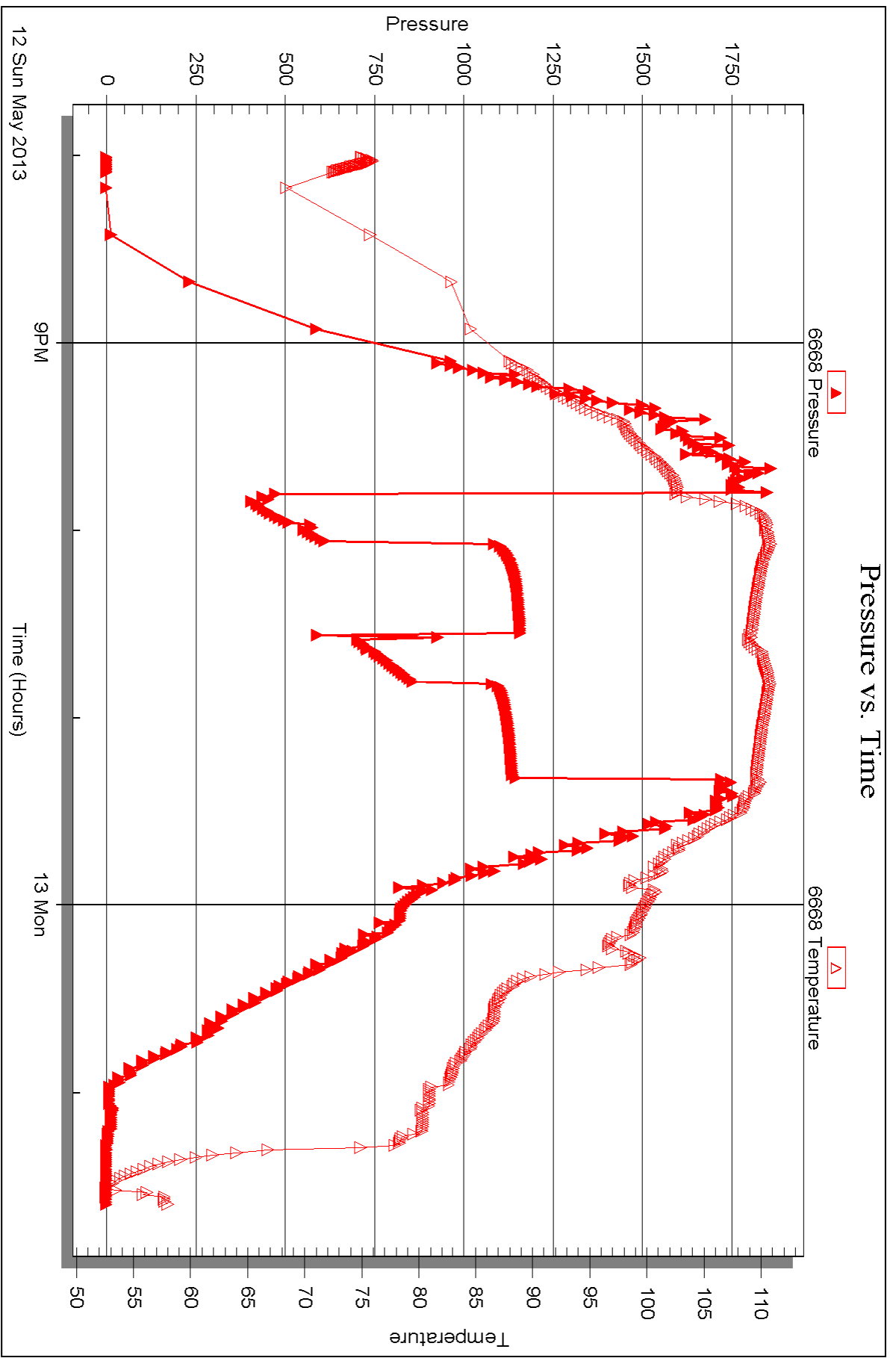
Total Length: 1640.00 ft Total Volume: 23.004 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments: RW .20 @ 53F



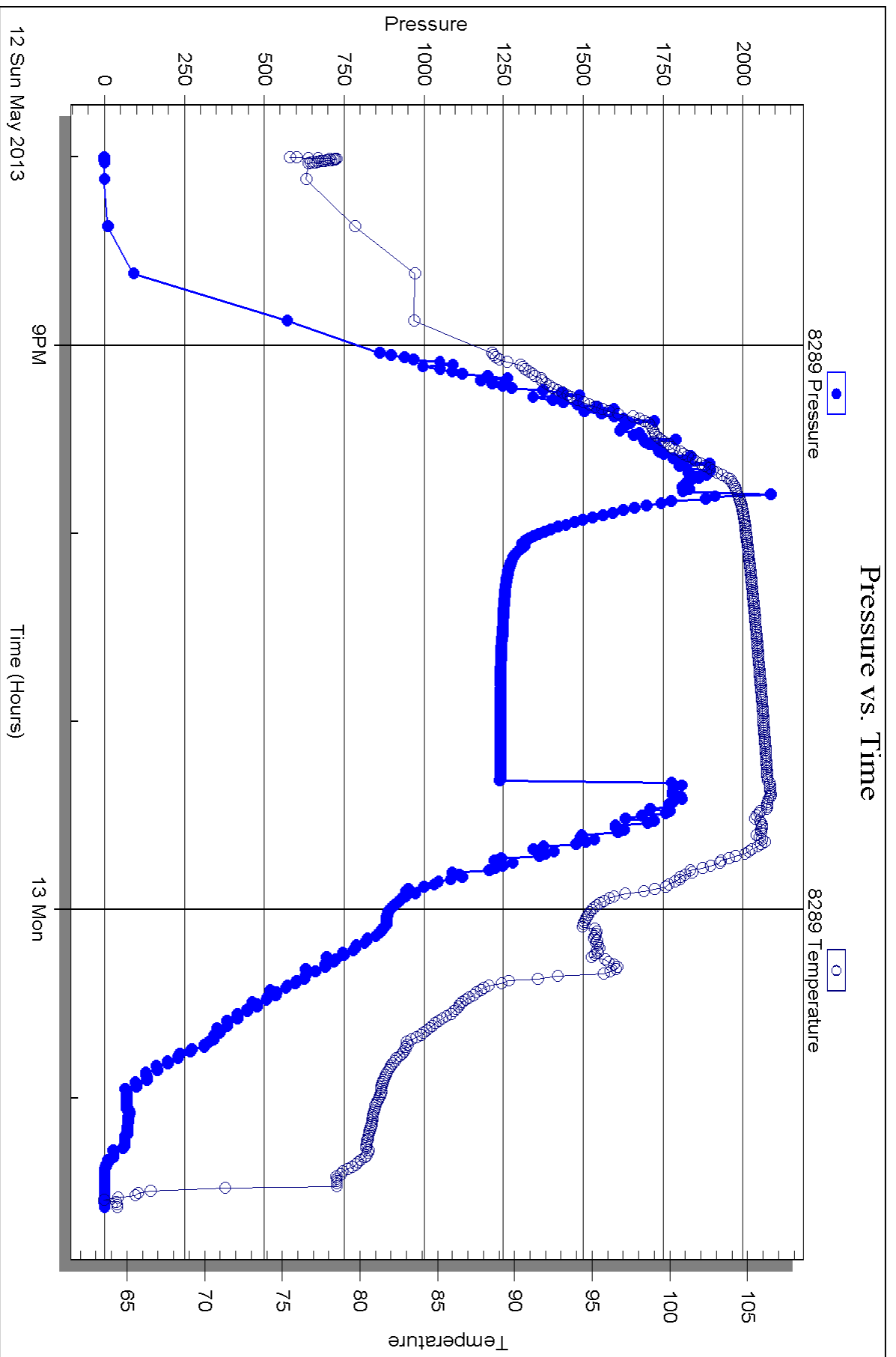


Serial #: 8289

Below (Straddling)

Zimmerman Unit #1

DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **TDI Inc**

1310 Bison Rd
Hays KS 67601-9696

ATTN: Tom Denning

Zimmerman Unit #1

22-15s-18w Ellis,KS

Start Date: 2013.05.13 @ 03:00:08

End Date: 2013.05.13 @ 08:49:36

Job Ticket #: 52242 DST #: 2

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

Printed: 2013.05.17 @ 15:35:03

TDI Inc
22-15s-18w Ellis,KS
Zimmerman Unit #1
DST # 2
LKC
2013.05.13



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

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

22-15s-18w Ellis,KS
Zimmerman Unit #1
 Job Ticket: 52242 **DST#: 2**
 Test Start: 2013.05.13 @ 03:00:08

GENERAL INFORMATION:

Formation: **LKC**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 04:26:06
 Time Test Ended: 08:49:36
Interval: 3415.00 ft (KB) To 3520.00 ft (KB) (TVD)
 Total Depth: 3750.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Straddle (Reset)
 Tester: Ray Schwager
 Unit No: 54
 Reference Elevations: 2034.00 ft (KB)
 2024.00 ft (CF)
 KB to GR/CF: 10.00 ft

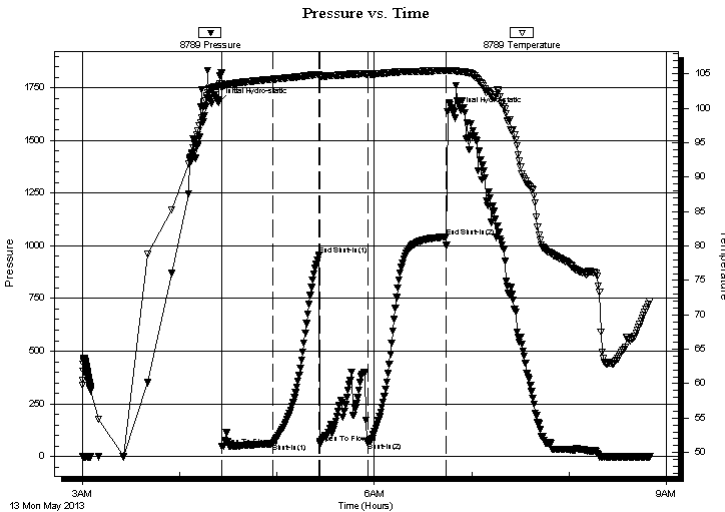
Serial #: 8789

Inside

Press @ Run Depth: 69.18 psig @ 3417.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.05.13 End Date: 2013.05.13 Last Calib.: 2013.05.13
 Start Time: 03:00:08 End Time: 08:49:36 Time On Btm: 2013.05.13 @ 04:23:51
 Time Off Btm: 2013.05.13 @ 06:48:51

TEST COMMENT: 30-IFP-w k to strg in 12 min
 30-ISIP-no bl bk
 30-FFP-strl thru-out
 45-FSIP-no bl bk

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1680.27	103.22	Initial Hydro-static
3	47.51	102.99	Open To Flow (1)
34	61.52	104.22	Shut-In(1)
62	955.50	104.94	End Shut-In(1)
63	61.72	104.68	Open To Flow (2)
93	69.18	104.97	Shut-In(2)
141	1043.07	105.49	End Shut-In(2)
145	1634.72	105.50	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	1345'GIP	0.00
15.00	SOCM 5%O95%M	0.21
62.00	GMO 30%G25%M45%O	0.87

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

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

22-15s-18w Ellis,KS
Zimmerman Unit #1
Job Ticket: 52242 **DST#: 2**
Test Start: 2013.05.13 @ 03:00:08

Tool Information

Drill Pipe:	Length: 3404.00 ft	Diameter: 3.80 inches	Volume: 47.75 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: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 50000.00 lb
			<u>Total Volume: 47.75 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 38000.00 lb
Depth to Top Packer:	3415.00 ft			Final 39000.00 lb
Depth to Bottom Packer:	3520.00 ft			
Interval between Packers:	105.00 ft			
Tool Length:	360.00 ft			
Number of Packers:	3	Diameter: 6.75 inches		

Tool Comments:

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

Change Over Sub	1.00			3395.00	
Shut In Tool	5.00			3400.00	
Hydraulic tool	5.00			3405.00	
Packer	5.00			3410.00	21.00 Bottom Of Top Packer
Packer	5.00			3415.00	
Stubb	1.00			3416.00	
Perforations	1.00			3417.00	
Recorder	0.00	8789	Inside	3417.00	
Recorder	0.00	6668	Outside	3417.00	
Blank Spacing	94.00			3511.00	
Perforations	5.00			3516.00	
Blank Off Sub	1.00			3517.00	
Blank Spacing	3.00			3520.00	105.00 Tool Interval
Packer	5.00			3525.00	
Stubb	1.00			3526.00	
Perforations	2.00			3528.00	
Recorder	0.00	8289	Below	3528.00	
Blank Spacing	223.00			3751.00	
Bullnose	3.00			3754.00	234.00 Bottom Packers & Anchor

Total Tool Length: 360.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

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

22-15s-18w Ellis,KS
Zimmerman Unit #1
Job Ticket: 52242 **DST#: 2**
Test Start: 2013.05.13 @ 03:00:08

Mud and Cushion Information

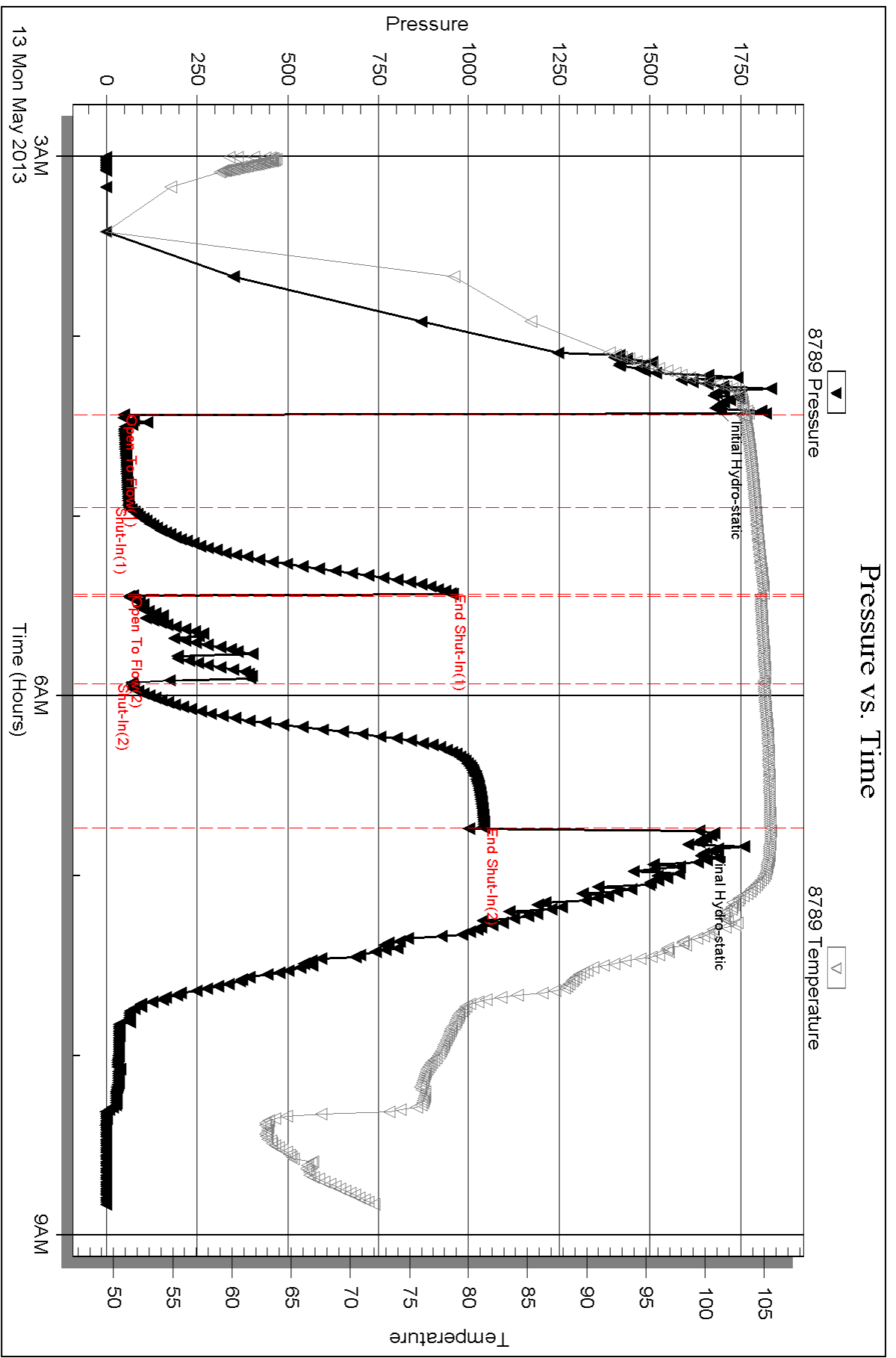
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 10.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 52.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.73 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 3500.00 ppm			
Filter Cake: 1.00 inches			

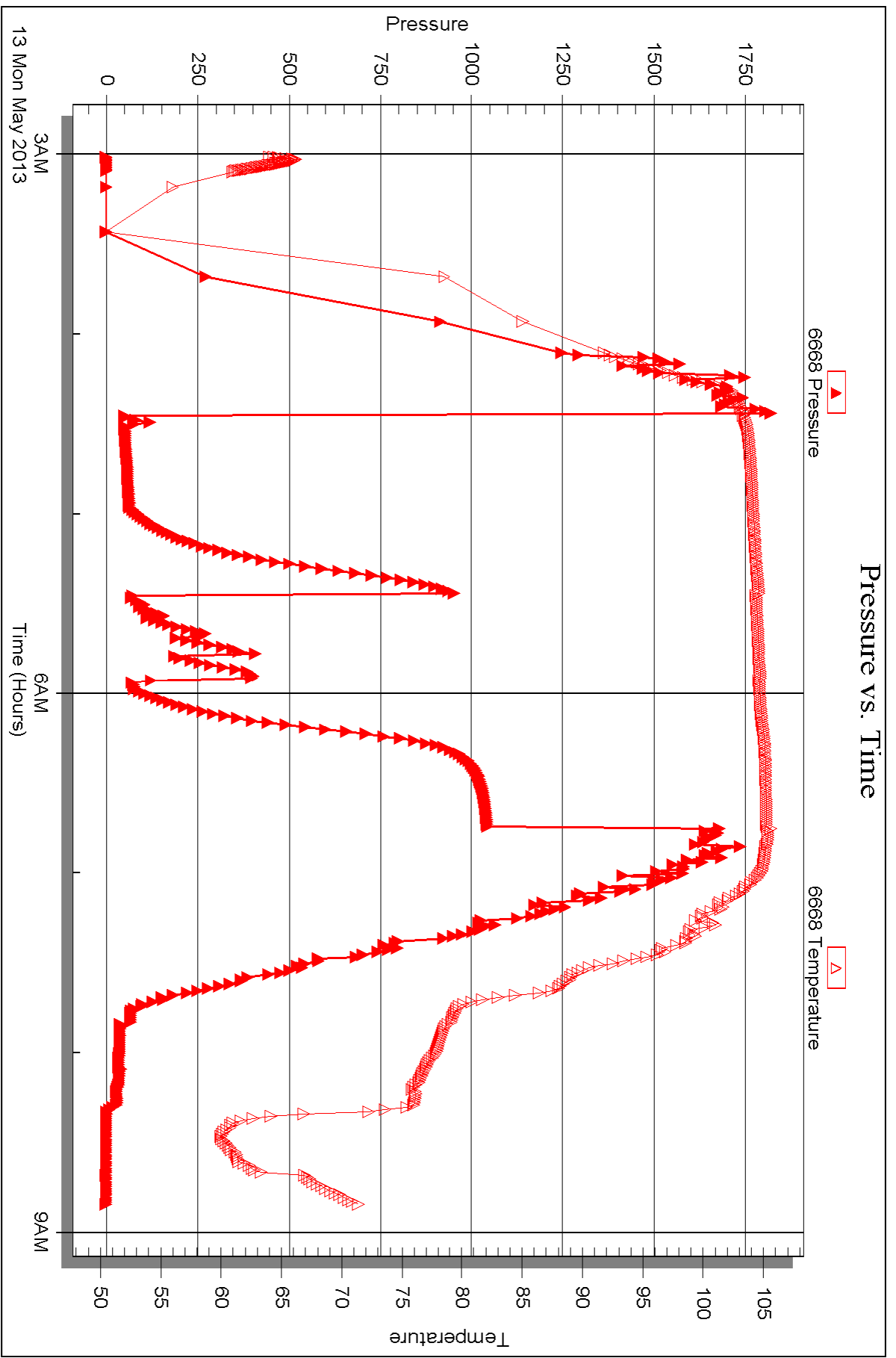
Recovery Information

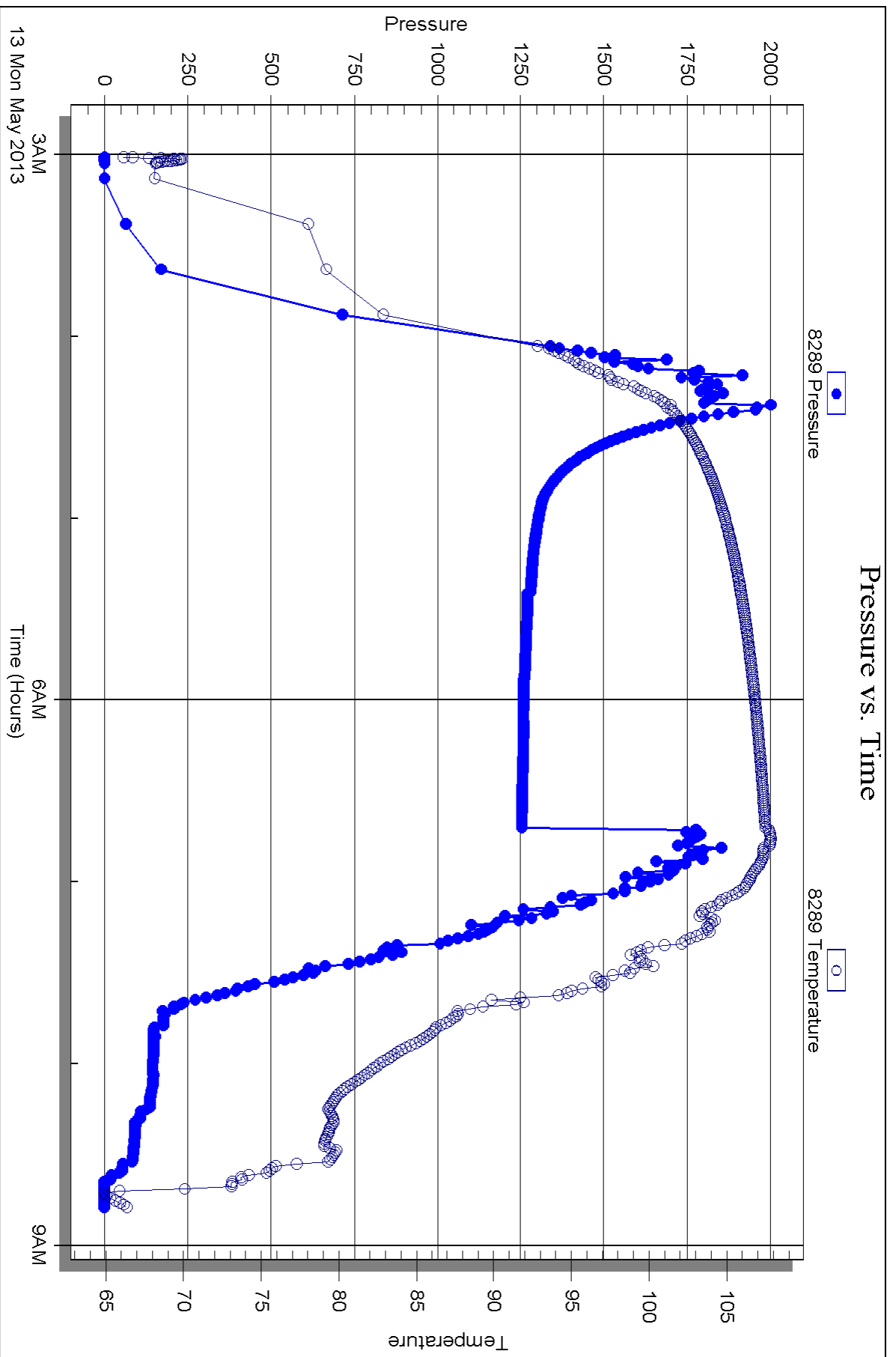
Recovery Table

Length ft	Description	Volume bbl
0.00	1345'GIP	0.000
15.00	SOCM 5%O95%M	0.210
62.00	GMO 30%G25%M45%O	0.870

Total Length: 77.00 ft Total Volume: 1.080 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:









DRILL STEM TEST REPORT

Prepared For: **TDI Inc**

1310 Bison Rd
Hays KS 67601-9696

ATTN: Tom Denning

Zimmerman Unit #1

22-15s-18w Ellis,KS

Start Date: 2013.05.13 @ 13:55:28

End Date: 2013.05.13 @ 19:26:41

Job Ticket #: 52243 DST #: 3

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

Printed: 2013.05.17 @ 15:34:05



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

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

22-15s-18w Ellis,KS
Zimmerman Unit #1
Job Ticket: 52243 **DST#: 3**
Test Start: 2013.05.13 @ 13:55:28

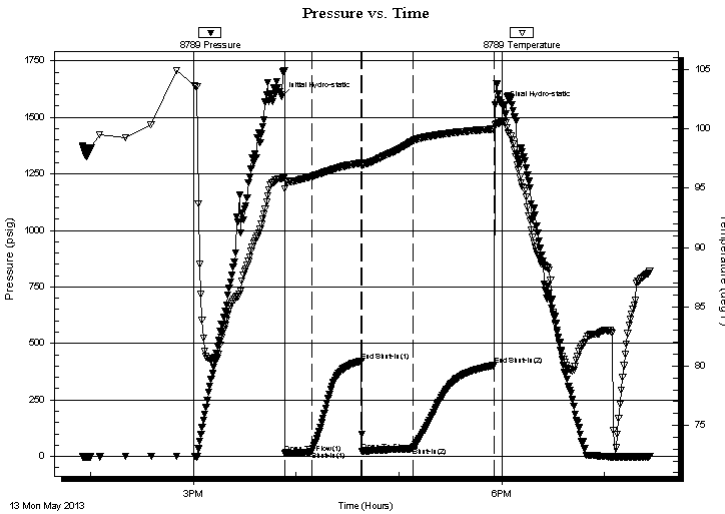
GENERAL INFORMATION:

Formation: **LKC C-D**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 15:53:26
Time Test Ended: 19:26:41
Interval: **3324.00 ft (KB) To 3365.00 ft (KB) (TVD)**
Total Depth: 3750.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Test Type: Conventional Straddle (Reset)
Tester: Ray Schwager
Unit No: 54
Reference Elevations: 2034.00 ft (KB)
2024.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 8789 Inside
Press @ Run Depth: 40.34 psig @ 3326.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2013.05.13 End Date: 2013.05.13 Last Calib.: 2013.05.13
Start Time: 13:55:28 End Time: 19:26:41 Time On Btm: 2013.05.13 @ 15:51:41
Time Off Btm: 2013.05.13 @ 18:00:41

TEST COMMENT: 15-IFP-w k to strg in 7 min
30-ISIP-no bl
30-FFP-w k to strg in 4 min
45-FSIP-no bl

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1592.74	95.82	Initial Hydro-static
2	14.68	94.95	Open To Flow (1)
18	23.12	95.97	Shut-In(1)
47	421.69	97.14	End Shut-In(1)
47	21.87	97.00	Open To Flow (2)
77	40.34	99.02	Shut-In(2)
124	404.64	100.00	End Shut-In(2)
129	1550.60	100.60	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
500.00	GIP	7.01
55.00	SO&GCM 12%G1%O87%M	0.77

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

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

22-15s-18w Ellis,KS
Zimmerman Unit #1
Job Ticket: 52243 **DST#: 3**
Test Start: 2013.05.13 @ 13:55:28

Tool Information

Drill Pipe:	Length: 3313.00 ft	Diameter: 3.80 inches	Volume: 46.47 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: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 46.47 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 44000.00 lb
Depth to Top Packer:	3324.00 ft			Final 45000.00 lb
Depth to Bottom Packer:	3365.00 ft			
Interval between Packers:	41.00 ft			
Tool Length:	451.00 ft			
Number of Packers:	3	Diameter: 6.75 inches		

Tool Comments:

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

Change Over Sub	1.00			3304.00	
Shut In Tool	5.00			3309.00	
Hydraulic tool	5.00			3314.00	
Packer	5.00			3319.00	21.00 Bottom Of Top Packer
Packer	5.00			3324.00	
Stubb	1.00			3325.00	
Perforations	1.00			3326.00	
Recorder	0.00	8789	Inside	3326.00	
Recorder	0.00	6668	Outside	3326.00	
Blank Spacing	30.00			3356.00	
Perforations	5.00			3361.00	
Blank Off Sub	1.00			3362.00	
Blank Spacing	3.00			3365.00	41.00 Tool Interval
Packer	5.00			3370.00	
Stubb	1.00			3371.00	
Recorder	0.00	8289	Below	3371.00	
Blank Spacing	380.00			3751.00	
Bullnose	3.00			3754.00	389.00 Bottom Packers & Anchor

Total Tool Length: 451.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

TDI Inc	22-15s-18w Ellis,KS
1310 Bison Rd Hays KS 67601-9696	Zimmerman Unit #1
ATTN: Tom Denning	Job Ticket: 52243 DST#: 3
	Test Start: 2013.05.13 @ 13:55:28

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 10.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 52.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.73 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 3500.00 ppm			
Filter Cake: 1.00 inches			

Recovery Information

Recovery Table

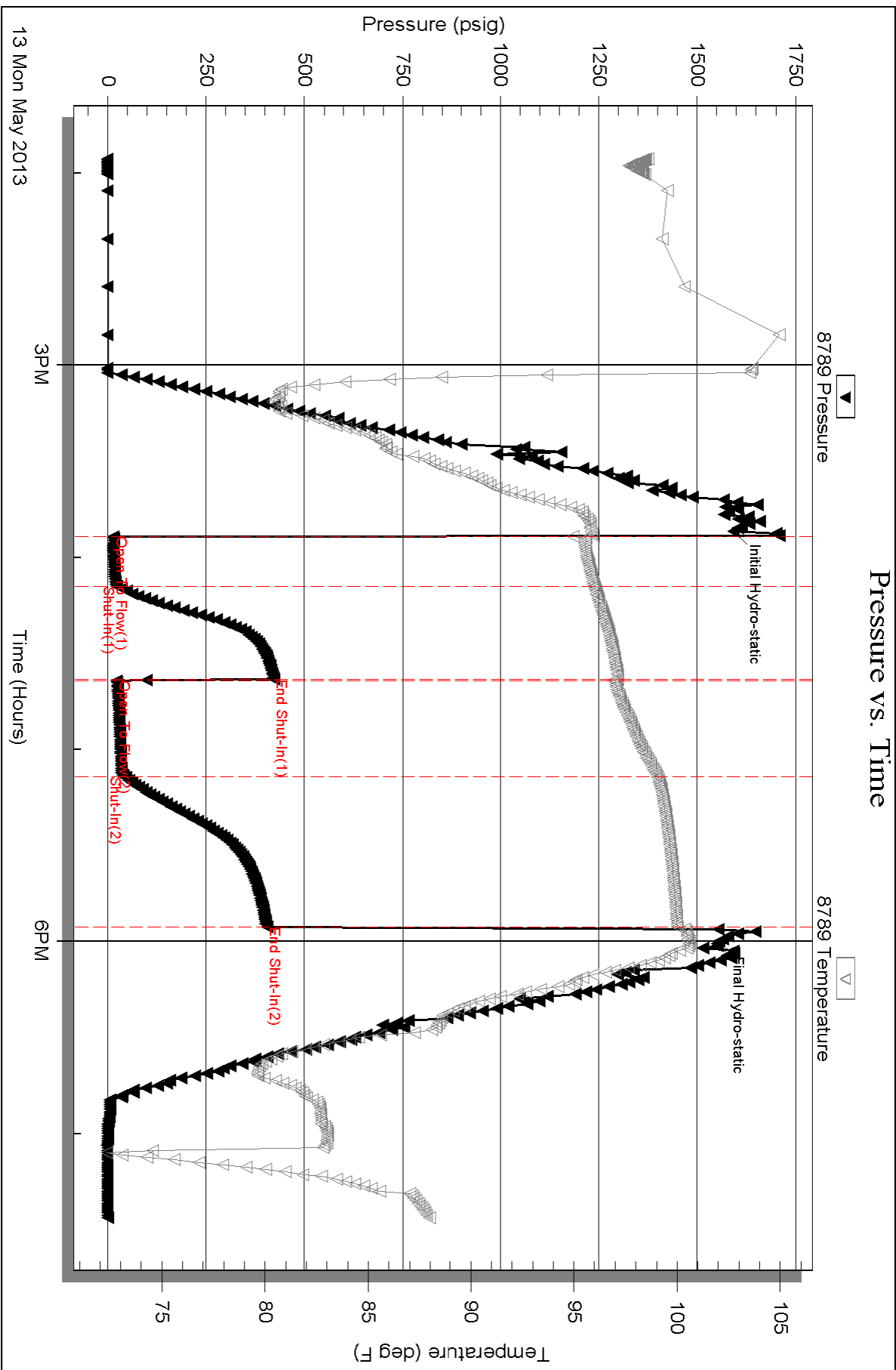
Length ft	Description	Volume bbl
500.00	GIP	7.014
55.00	SO&GCM 12%G1%O87%M	0.772

Total Length: 555.00 ft Total Volume: 7.786 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments:

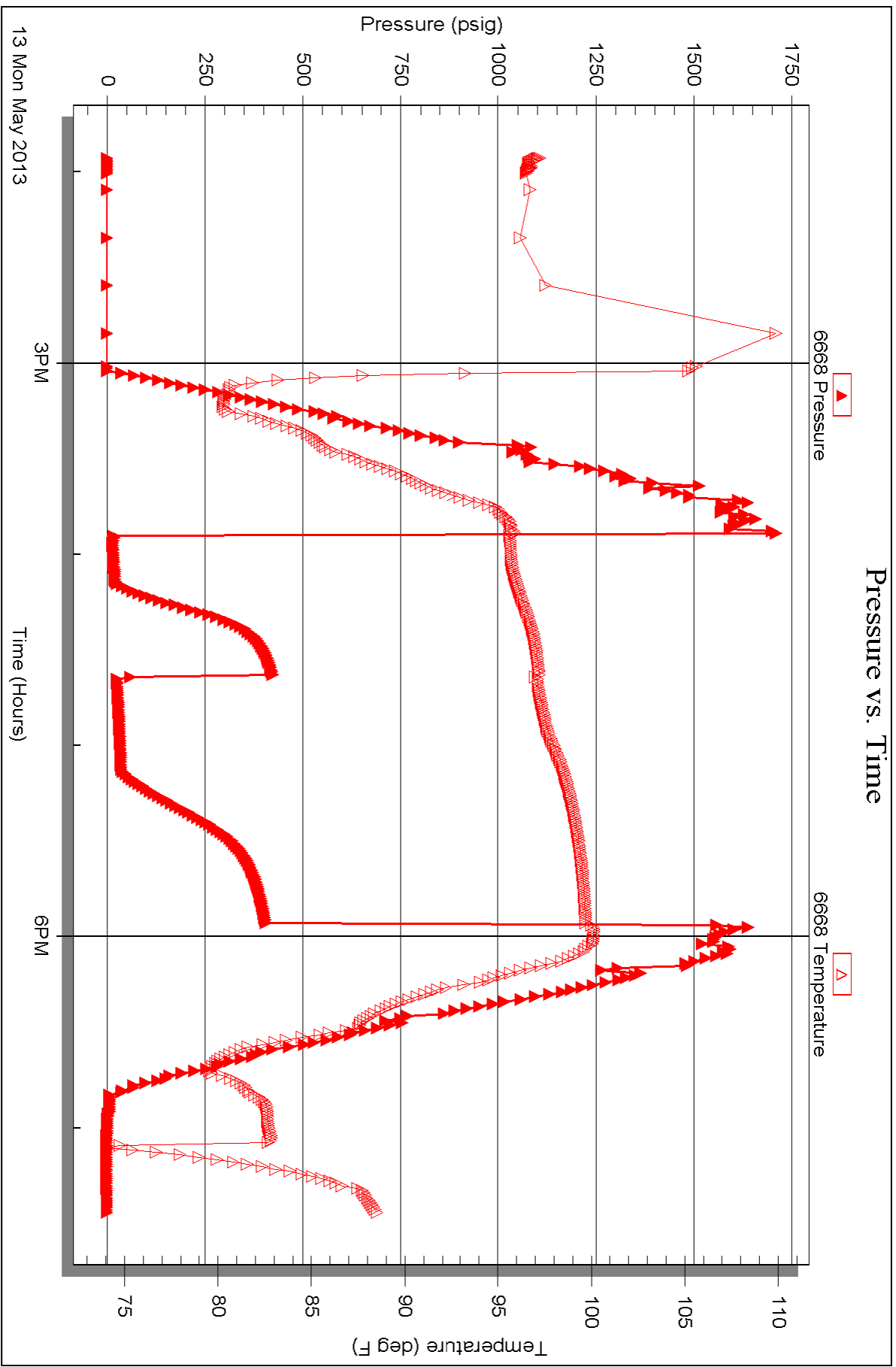


Serial #: 6668

Outside TDI Inc

Zimmerman Unit #1

DST Test Number: 3

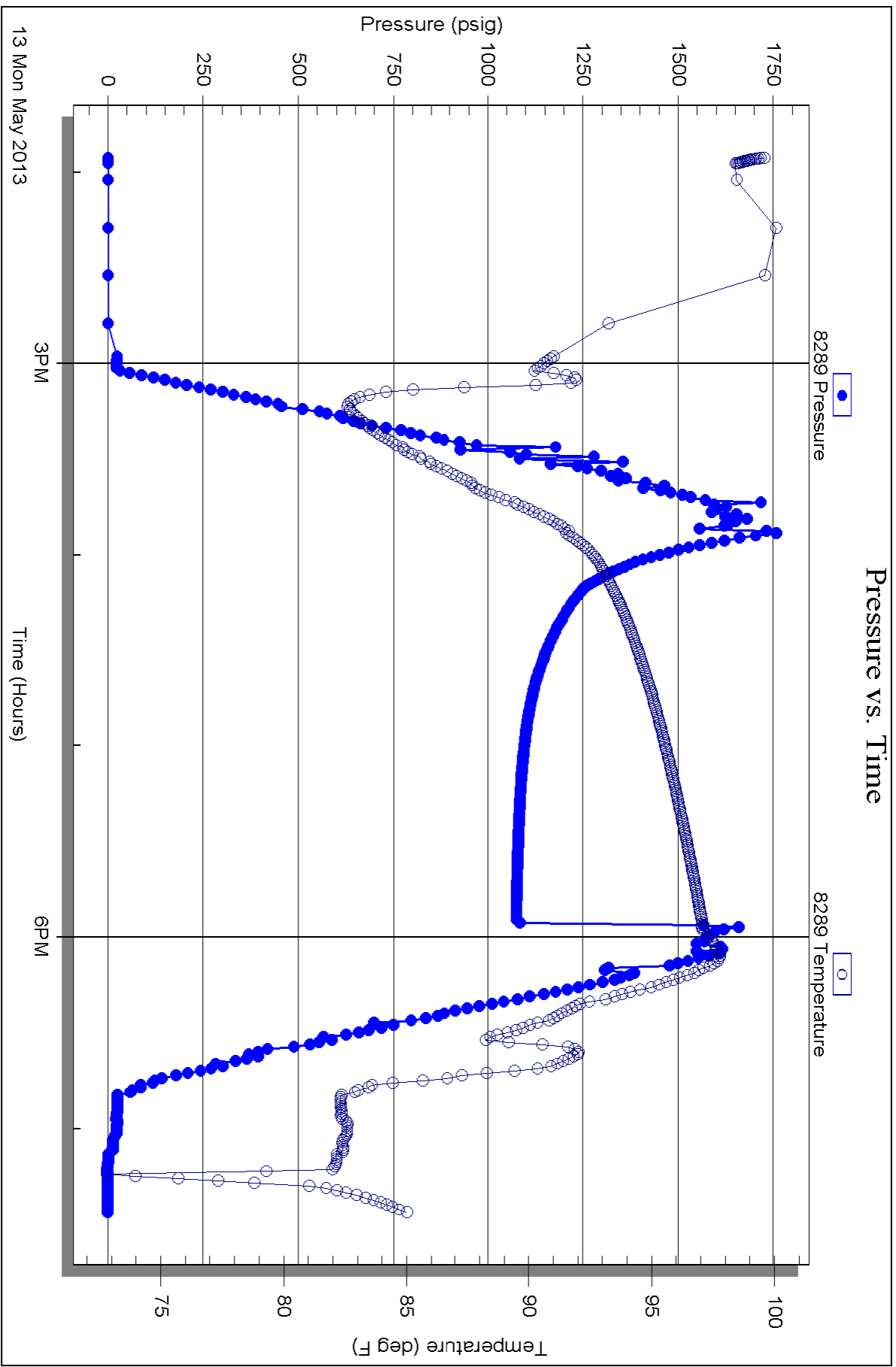


Serial #: 8289

Below (Straddling)

Zimmerman Unit #1

DST Test Number: 3





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 52241

Well Name & No. Zimmerman Unit #1 Test No. 1 Date 5-12-13
 Company TDI Inc Elevation 2034 KB 2024 GL
 Address 1310 Bison Rd Hays, Ks 67601-9696
 Co. Rep / Geo. Herb Dierkes Rig Southwind rig 1
 Location: Sec. 22 Twp. 15^s Rge. 18^w Co. ELLIS State Ks

Interval Tested 3524-3630 Zone Tested Arbuckle
 Anchor Length 106 Drill Pipe Run 3531 Mud Wt. 9.5
 Top Packer Depth 3524-3519 Drill Collars Run - Vis 52
 Bottom Packer Depth 3630 Wt. Pipe Run - WL 7.8
 Total Depth 3750 Chlorides 3500 ppm System LCM 2#
 Blow Description IFP - STRONG BLOW IN 90 seconds
TSIP - NO BLOW
FIFP - STRONG BLOW IN 90 seconds
FSIP - NO BLOW

Rec	Feet of	%gas	%oil	%water	%mud
<u>90</u>	<u>SOCM</u>	<u>4</u>		<u>96</u>	
<u>186</u>	<u>SOCWM</u>	<u>2</u>	<u>45</u>	<u>53</u>	
<u>124</u>	<u>SOCMW</u>	<u>1</u>	<u>79</u>	<u>20</u>	
<u>1240</u>	<u>SOCW</u>	<u>2</u>	<u>98</u>		
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 1640 BHT 110 Gravity - API RW .20 @ 53 °F Chlorides 24000 ppm
 (A) Initial Hydrostatic 1247 Test 1150 T-On Location 1910
 (B) First Initial Flow 362 Jars T-Started 2100
 (C) First Final Flow 613 Safety Joint T-Open 2245
 (D) Initial Shut-In 1154 Circ Sub T-Pulled 0015
 (E) Second Initial Flow 580 Hourly Standby T-Out 0233
 (F) Second Final Flow 860 Mileage 40.30 Comments _____
 (G) Final Shut-In 1132 Sampler _____
 (H) Final Hydrostatic 1718 Straddle 26RT 600 Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1790.30
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1790.30

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. 52242

Well Name & No. Zimmerman Unit #1 Test No. 2 Date 5-13-13
 Company TDI Inc Elevation 2034 KB 2024 GL
 Address 1310 Bison Rd Hays, Ks 67601-9696
 Co. Rep / Geo. Herb Dienes Rig Southwind rig 1
 Location: Sec. 22 Twp. 15^s Rge. 18^w Co. Ellis State Ks

Interval Tested 3415-3520 Zone Tested LKC
 Anchor Length 105 Drill Pipe Run 3404 Mud Wt. 9.5
 Top Packer Depth 3415-3410 Drill Collars Run — Vis 52
 Bottom Packer Depth 3520 Wt. Pipe Run — WL 7.8
 Total Depth 3750 Chlorides 2500 ppm System LCM 2#
 Blow Description IFP - Weak to Strong in 12 min
ISIP - NO Blow
FFP - Strong Blow thru-out
FSIP - NO Blow

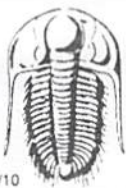
Rec	Feet of	%gas	%oil	%water	%mud
<u>1345</u>	<u>GIP</u>				
<u>15</u>	<u>50CM</u>		<u>5</u>		<u>95</u>
<u>62</u>	<u>GMO</u>	<u>30</u>	<u>45</u>		<u>25</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 77 BHT 105 Gravity — API RW — @ — ° F Chlorides — ppm

(A) Initial Hydrostatic <u>1680</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>0230</u>
(B) First Initial Flow <u>47</u>	<input type="checkbox"/> Jars	T-Started <u>0300</u>
(C) First Final Flow <u>61</u>	<input type="checkbox"/> Safety Joint	T-Open <u>0430</u>
(D) Initial Shut-In <u>955</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>0645</u>
(E) Second Initial Flow <u>61</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>0849</u>
(F) Second Final Flow <u>69</u>	<input checked="" type="checkbox"/> Mileage	Comments
(G) Final Shut-In <u>1043</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1634</u>	<input checked="" type="checkbox"/> Straddle <u>600</u>	<input type="checkbox"/> Ruined Shale Packer
	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Open <u>30</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Flow <u>30</u>	<input type="checkbox"/> Day Standby	Total <u>1750</u>
Final Shut-In <u>45</u>	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1750</u>	

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. 52243

Well Name & No. Zimmerman Unit #1 Test No. 3 Date 5-13-13
 Company TDT Inc Elevation 2034 KB 2024 GL
 Address 1310 Bison Rd, Hays, Ks 67601-9696
 Co. Rep / Geo. Herb Diencs Rig Southwind rig 1
 Location: Sec. 22 Twp. 15^s Rge. 18^w Co. ELLIS State Ks

Interval Tested 3324-3365 Zone Tested LKC C-D
 Anchor Length 41 Drill Pipe Run 3313 Mud Wt. 9.4
 Top Packer Depth 3324-3319 Drill Collars Run - Vis 58
 Bottom Packer Depth 3365 Wt. Pipe Run - WL 7.6
 Total Depth 3750 Chlorides 3700 ppm System LCM 2nd

Blow Description I FP - WEAK TO STRONG IN 7 MIN
I STP - NO BLOW
F FP - WEAK TO STRONG IN 4 MIN
F 5 IP - NO BLOW

Rec	Feet of	%gas	%oil	%water	%mud
<u>500</u>	<u>GIP</u>				
<u>55</u>	<u>50 x 6 CM</u>	<u>12</u>	<u>1</u>	<u>87</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 55 BHT 100 Gravity - API RW - @ - ° F Chlorides - ppm

(A) Initial Hydrostatic 1592 Test 1150 T-On Location 1320
 (B) First Initial Flow 14 Jars T-Started 1355
 (C) First Final Flow 23 Safety Joint T-Open 1550
 (D) Initial Shut-In 421 Circ Sub T-Pulled 1750
 (E) Second Initial Flow 21 Hourly Standby T-Out 1926
 (F) Second Final Flow 40 Mileage 40.30 Comments
 (G) Final Shut-In 404 Sampler
 (H) Final Hydrostatic 1550 Straddle 600 Ruined Shale Packer
 Shale Packer Ruined Packer
 Extra Packer Extra Copies
 Initial Open 15 Extra Recorder Sub Total 0
 Initial Shut-In 30 Day Standby Total 1790.30
 Final Flow 30 Accessibility MP/DST Disc't
 Final Shut-In 45 Sub Total 1790.30

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.