



DRILL STEM TEST REPORT

Prepared For: **TDI**

1310 Bison Rd
Hays KS 67601-9696

ATTN: Herb Deines

Urban #1

7-15s-18w Ellis,KS

Start Date: 2015.08.01 @ 16:42:00

End Date: 2015.08.01 @ 22:19:00

Job Ticket #: 62394 DST #: 1

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2015.08.03 @ 13:24:16

TDI 7-15s-18w Ellis,KS Urban #1 DST # 1 LKC " A - C " 2015.08.01



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TDI
1310 Bison Rd
Hays KS 67601-9696
ATTN: Herb Deines

7-15s-18w Ellis,KS
Urban #1
Job Ticket: 62394 **DST#: 1**
Test Start: 2015.08.01 @ 16:42:00

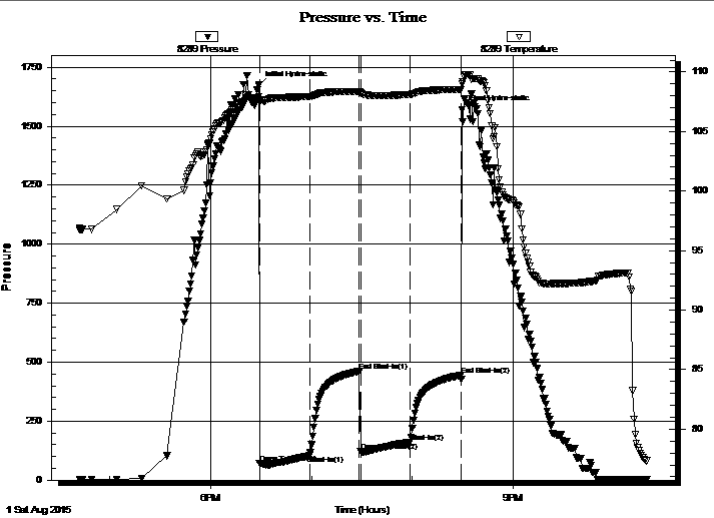
GENERAL INFORMATION:

Formation: **LKC " A - C "**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 18:29:00
Time Test Ended: 22:19:00
Interval: **3315.00 ft (KB) To 3360.00 ft (KB) (TVD)**
Total Depth: 3360.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Reference Elevations: 2039.00 ft (KB)
2031.00 ft (CF)
KB to GR/CF: 8.00 ft
Test Type: Conventional Bottom Hole (Initial)
Tester: Jim Svaty
Unit No: 76

Serial #: 8289 Outside

Press@RunDepth: 161.60 psig @ 3324.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2015.08.01 End Date: 2015.08.01 Last Calib.: 2015.08.01
Start Time: 16:42:02 End Time: 22:19:30 Time On Btm: 2015.08.01 @ 18:28:45
Time Off Btm: 2015.08.01 @ 20:29:30

TEST COMMENT: 30-IF- BOB in 1 min. 45 sec.
30-ISI- Surface Blow Building to 1/2" 7 min. Died Back in 12 min.
30-FF- BOB in 3 min 15 sec. GTS in 29 min.
30-FSI- BOB in 3 min. 45 sec.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1674.07	107.93	Initial Hydro-static
1	71.00	107.41	Open To Flow (1)
31	104.74	107.93	Shut-In(1)
60	461.58	108.37	End Shut-In(1)
61	121.04	108.22	Open To Flow (2)
90	161.60	108.11	Shut-In(2)
121	444.36	108.54	End Shut-In(2)
121	1570.87	108.98	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
62.00	WMCO 15%w 20%m 65%o	0.87
186.00	CO 100%	2.61
129.00	MCO 20%m 80%o	1.81
0.00	GTS	0.00

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

TDI
1310 Bison Rd
Hays KS 67601-9696
ATTN: Herb Deines

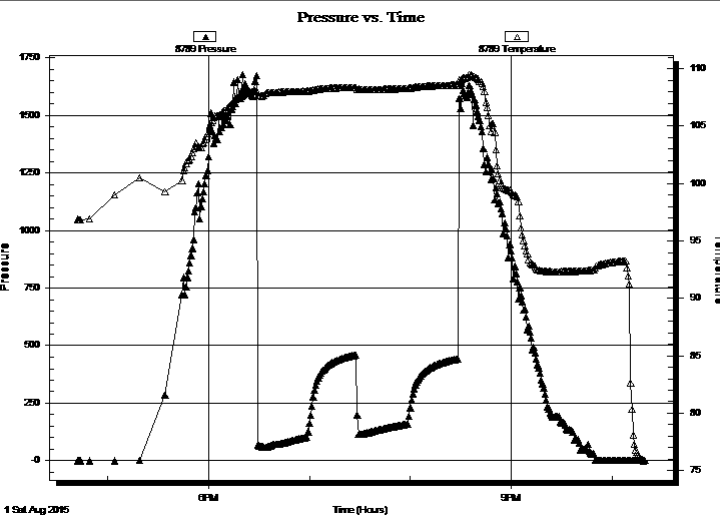
7-15s-18w Ellis, KS
Urban #1
Job Ticket: 62394 **DST#: 1**
Test Start: 2015.08.01 @ 16:42:00

GENERAL INFORMATION:

Formation: **LKC " A - C "**
Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Initial)
Time Tool Opened: 18:29:00 Tester: Jim Svaty
Time Test Ended: 22:19:00 Unit No: 76
Interval: 3315.00 ft (KB) To 3360.00 ft (KB) (TVD) Reference Elevations: 2039.00 ft (KB)
Total Depth: 3360.00 ft (KB) (TVD) 2031.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 8.00 ft

Serial #: 8789 Inside
Press@RunDepth: psig @ 3324.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2015.08.01 End Date: 2015.08.01 Last Calib.: 2015.08.01
Start Time: 16:42:02 End Time: 22:19:45 Time On Btm:
Time Off Btm:

TEST COMMENT: 30-IF- BOB in 1 min. 45 sec.
30-ISI- Surface Blow Building to 1/2" 7 min. Died Back in 12 min.
30-FF- BOB in 3 min 15 sec. GTS in 29 min.
30-FSI- BOB in 3 min. 45 sec.



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

Recovery		
Length (ft)	Description	Volume (bbl)
62.00	WMCO 15%w 20%m 65%o	0.87
186.00	CO 100%	2.61
129.00	MCO 20%m 80%o	1.81
0.00	GTS	0.00

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

TDI
1310 Bison Rd
Hays KS 67601-9696
ATTN: Herb Deines

7-15s-18w Ellis,KS
Urban #1
Job Ticket: 62394 **DST#: 1**
Test Start: 2015.08.01 @ 16:42:00

Tool Information

Drill Pipe:	Length: 3314.00 ft	Diameter: 3.80 inches	Volume: 46.49 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 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: 46000.00 lb
			<u>Total Volume: 46.49 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 43000.00 lb
Depth to Top Packer:	3315.00 ft			Final 44000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	45.00 ft			
Tool Length:	66.00 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			3295.00	
Shut In Tool	5.00			3300.00	
Hydraulic tool	5.00			3305.00	
Packer	5.00			3310.00	21.00 Bottom Of Top Packer
Packer	5.00			3315.00	
Stubb	1.00			3316.00	
Perforations	7.00			3323.00	
Change Over Sub	1.00			3324.00	
Recorder	0.00	8789	Inside	3324.00	
Recorder	0.00	8289	Outside	3324.00	
Blank Spacing	32.00			3356.00	
Change Over Sub	1.00			3357.00	
Bullnose	3.00			3360.00	45.00 Bottom Packers & Anchor

Total Tool Length: 66.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

TDI: **7-15s-18w Ellis,KS**
 1310 Bison Rd **Urban #1**
 Hays KS 67601-9696 Job Ticket: 62394 **DST#: 1**
 ATTN: Herb Deines Test Start: 2015.08.01 @ 16:42:00

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API: 39 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: ppm
Viscosity: 60.00 sec/qt	Cushion Volume: bbl	
Water Loss: 7.98 in ³	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 4800.00 ppm		
Filter Cake: 2.00 inches		

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
62.00	WMCO 15%w 20%m 65%o	0.870
186.00	CO 100%	2.609
129.00	MCO 20%m 80%o	1.810
0.00	GTS	0.000

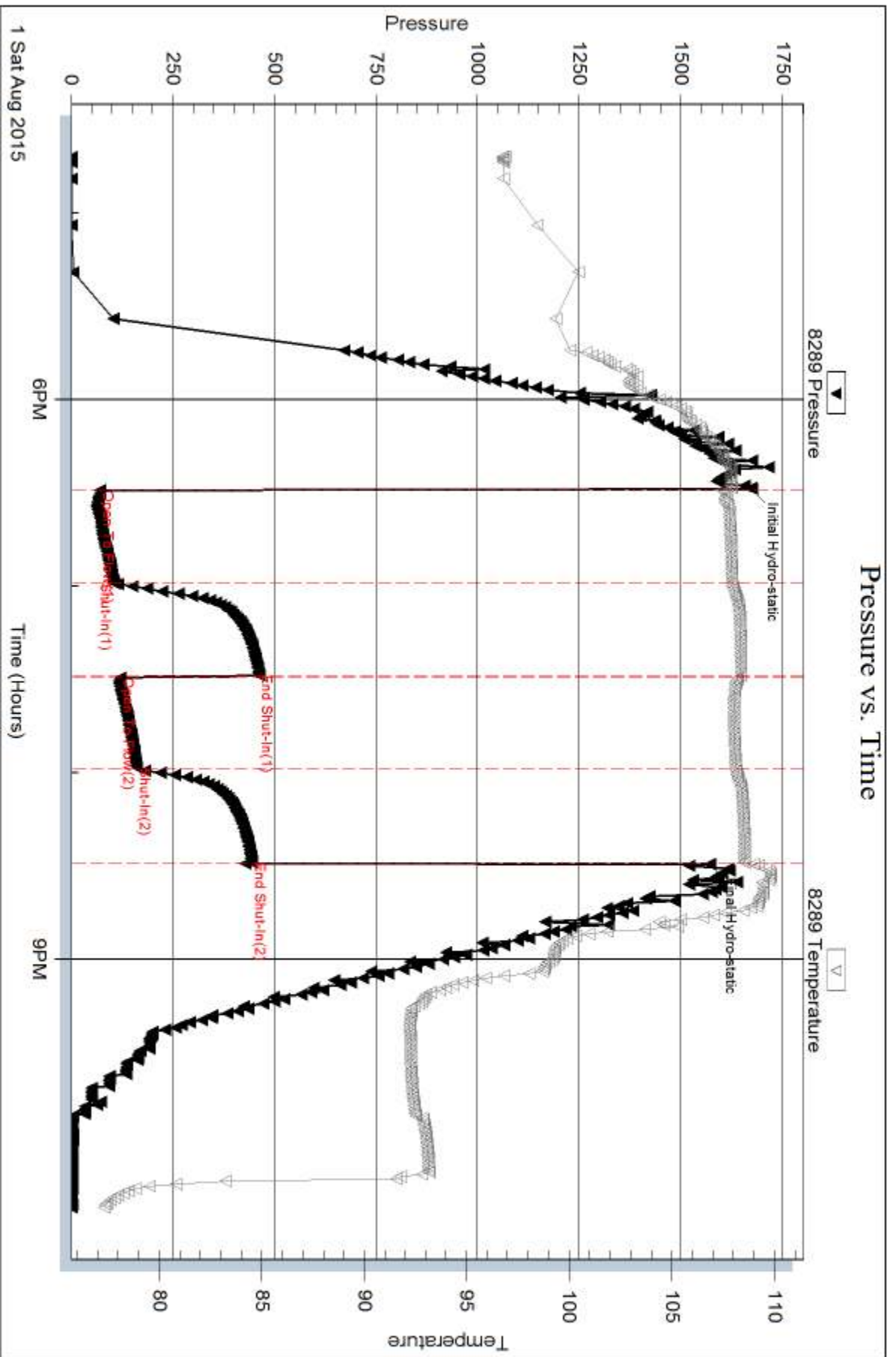
Total Length: 377.00 ft Total Volume: 5.289 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:

Serial #: 8289

Outside TDI

Urban #1

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 62394

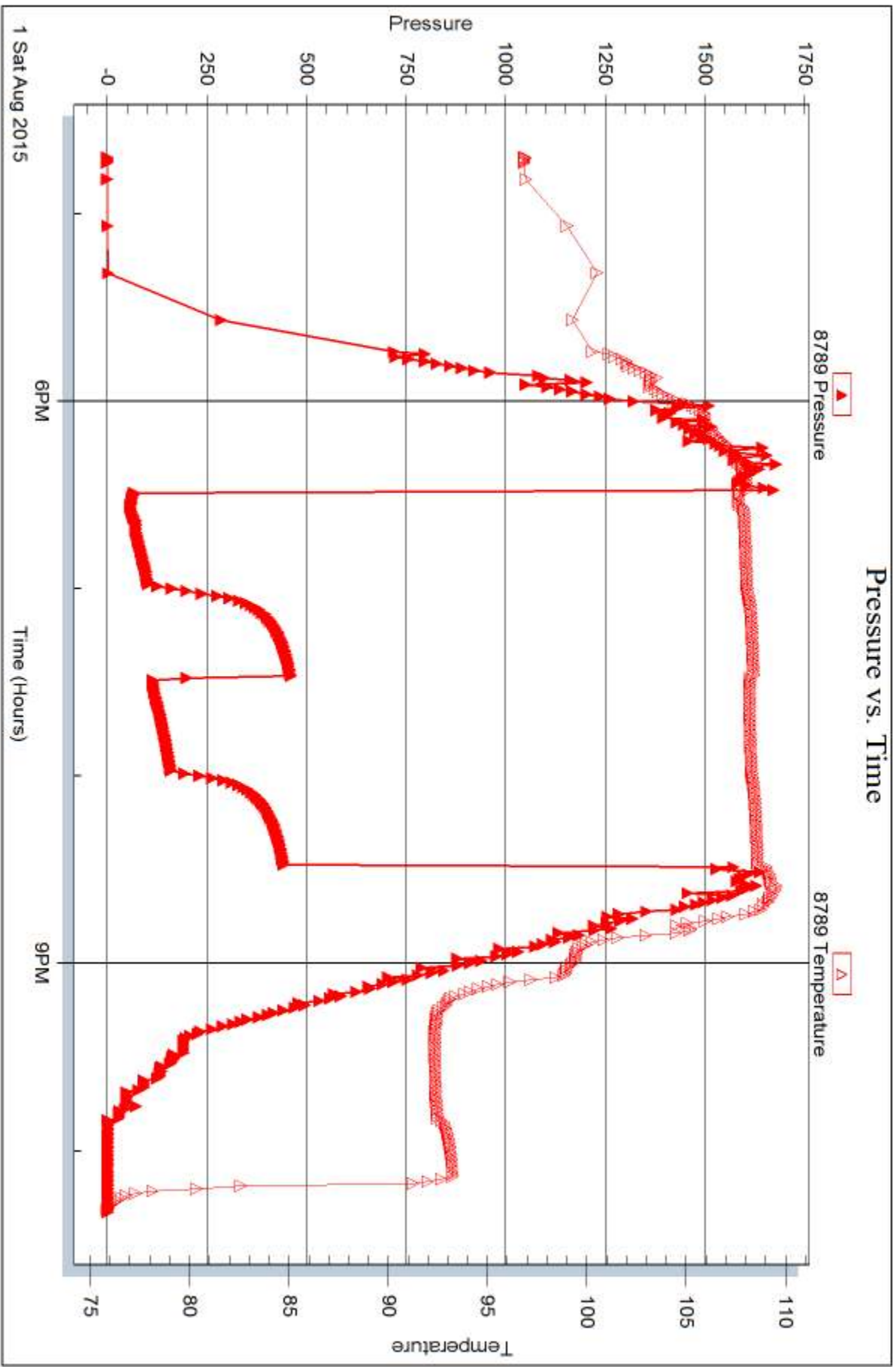
Printed: 2015.08.03 @ 13:24:18

Serial #: 8789

Inside TDI

Urban #1

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 62394

Printed: 2015.08.03 @ 13:24:18



DRILL STEM TEST REPORT

Prepared For: **TDI**

1310 Bison Rd
Hays KS 67601-9696

ATTN: Herb Deines

Urban #1

7-15s-18w Ellis,KS

Start Date: 2015.08.02 @ 14:32:00

End Date: 2015.08.02 @ 20:42:00

Job Ticket #: 62395 DST #: 2

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2015.08.03 @ 13:23:46

TDI 7-15s-18w Ellis,KS Urban #1 DST # 2 LKC " H - K " 2015.08.02



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TDI
1310 Bison Rd
Hays KS 67601-9696
ATTN: Herb Deines

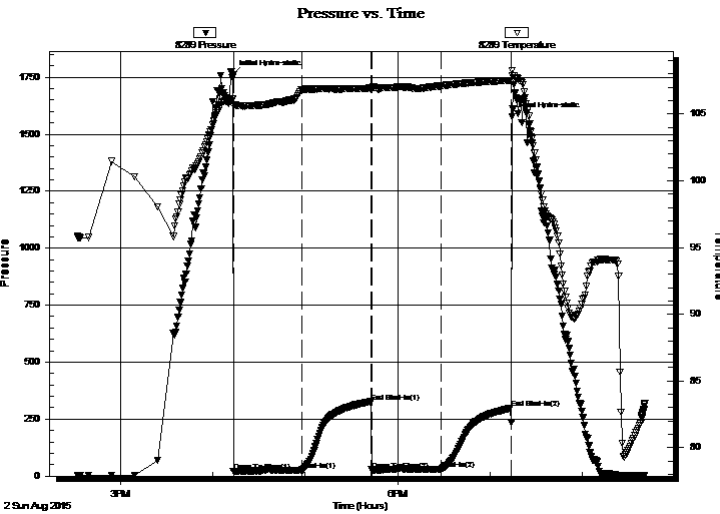
7-15s-18w Ellis,KS
Urban #1
Job Ticket: 62395 **DST#: 2**
Test Start: 2015.08.02 @ 14:32:00

GENERAL INFORMATION:

Formation: **LKC "H - K"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 16:13:15
Time Test Ended: 20:42:00
Interval: **3450.00 ft (KB) To 3540.00 ft (KB) (TVD)**
Total Depth: 3540.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Test Type: Conventional Bottom Hole (Reset)
Tester: Jim Svaty
Unit No: 76
Reference Elevations: 2039.00 ft (KB)
2031.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 8289 Outside
Press@RunDepth: 29.43 psig @ 3473.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2015.08.02 End Date: 2015.08.02 Last Calib.: 2015.08.02
Start Time: 14:32:02 End Time: 20:40:36 Time On Btm: 2015.08.02 @ 16:13:00
Time Off Btm: 2015.08.02 @ 19:14:30

TEST COMMENT: 45-IF- Surface Blow Building to 1/2" Died Back in 17 min.
45-ISI- No Blow
45-FF- No Blow
45-FSI- No Blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1761.30	106.12	Initial Hydro-static
1	21.13	105.62	Open To Flow (1)
45	25.59	106.79	Shut-In(1)
90	326.79	106.92	End Shut-In(1)
90	27.33	106.81	Open To Flow (2)
135	29.43	107.10	Shut-In(2)
181	298.01	107.52	End Shut-In(2)
182	1578.71	108.26	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
30.00	Oil Speck Mud 100%	0.42

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

TDI
1310 Bison Rd
Hays KS 67601-9696
ATTN: Herb Deines

7-15s-18w Ellis,KS
Urban #1
Job Ticket: 62395 **DST#: 2**
Test Start: 2015.08.02 @ 14:32:00

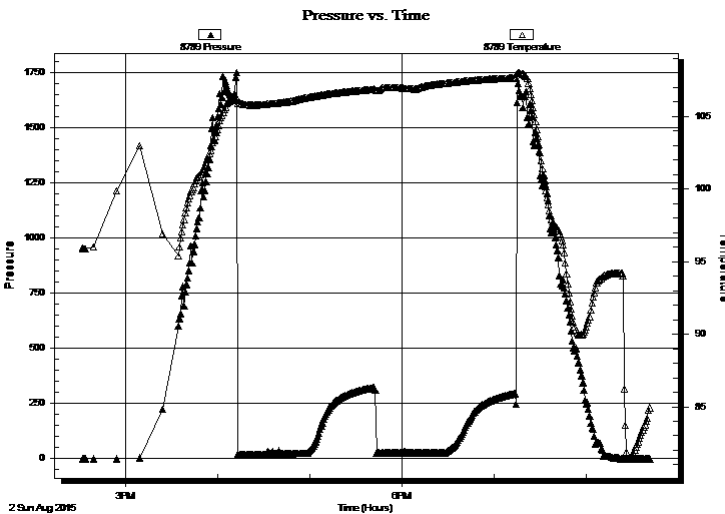
GENERAL INFORMATION:

Formation: **LKC "H - K"**
Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Reset)
Time Tool Opened: 16:13:15 Tester: Jim Svaty
Time Test Ended: 20:42:00 Unit No: 76
Interval: 3450.00 ft (KB) To 3540.00 ft (KB) (TVD) Reference Elevations: 2039.00 ft (KB)
Total Depth: 3540.00 ft (KB) (TVD) 2031.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 8.00 ft

Serial #: 8789 Inside
Press@RunDepth: psig @ 3473.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2015.08.02 End Date: 2015.08.02 Last Calib.: 2015.08.02
Start Time: 14:32:02 End Time: 20:41:30 Time On Btm:
Time Off Btm:

TEST COMMENT: 45-IF- Surface Blow Building to 1/2" Died Back in 17 min.
45-ISI- No Blow
45-FF- No Blow
45-FSI- No Blow

PRESSURE SUMMARY



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

Recovery

Length (ft)	Description	Volume (bbl)
30.00	Oil Speck Mud 100%	0.42

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

TDI
1310 Bison Rd
Hays KS 67601-9696
ATTN: Herb Deines

7-15s-18w Ellis,KS
Urban #1
Job Ticket: 62395 **DST#: 2**
Test Start: 2015.08.02 @ 14:32:00

Tool Information

Drill Pipe:	Length: 3437.00 ft	Diameter: 3.80 inches	Volume: 48.21 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 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:	45000.00 lb
			<u>Total Volume: 48.21 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	8.00 ft			String Weight: Initial	44000.00 lb
Depth to Top Packer:	3450.00 ft			Final	44000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	90.00 ft				
Tool Length:	111.00 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			3430.00	
Shut In Tool	5.00			3435.00	
Hydraulic tool	5.00			3440.00	
Packer	5.00			3445.00	21.00 Bottom Of Top Packer
Packer	5.00			3450.00	
Stubb	1.00			3451.00	
Perforations	21.00			3472.00	
Change Over Sub	1.00			3473.00	
Recorder	0.00	8789	Inside	3473.00	
Recorder	0.00	8289	Outside	3473.00	
Blank Spacing	63.00			3536.00	
Change Over Sub	1.00			3537.00	
Bullnose	3.00			3540.00	90.00 Bottom Packers & Anchor

Total Tool Length: 111.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

TDI **7-15s-18w Ellis,KS**
 1310 Bison Rd **Urban #1**
 Hays KS 67601-9696 Job Ticket: 62395 **DST#: 2**
 ATTN: Herb Deines Test Start: 2015.08.02 @ 14:32:00

Mud and Cushion Information

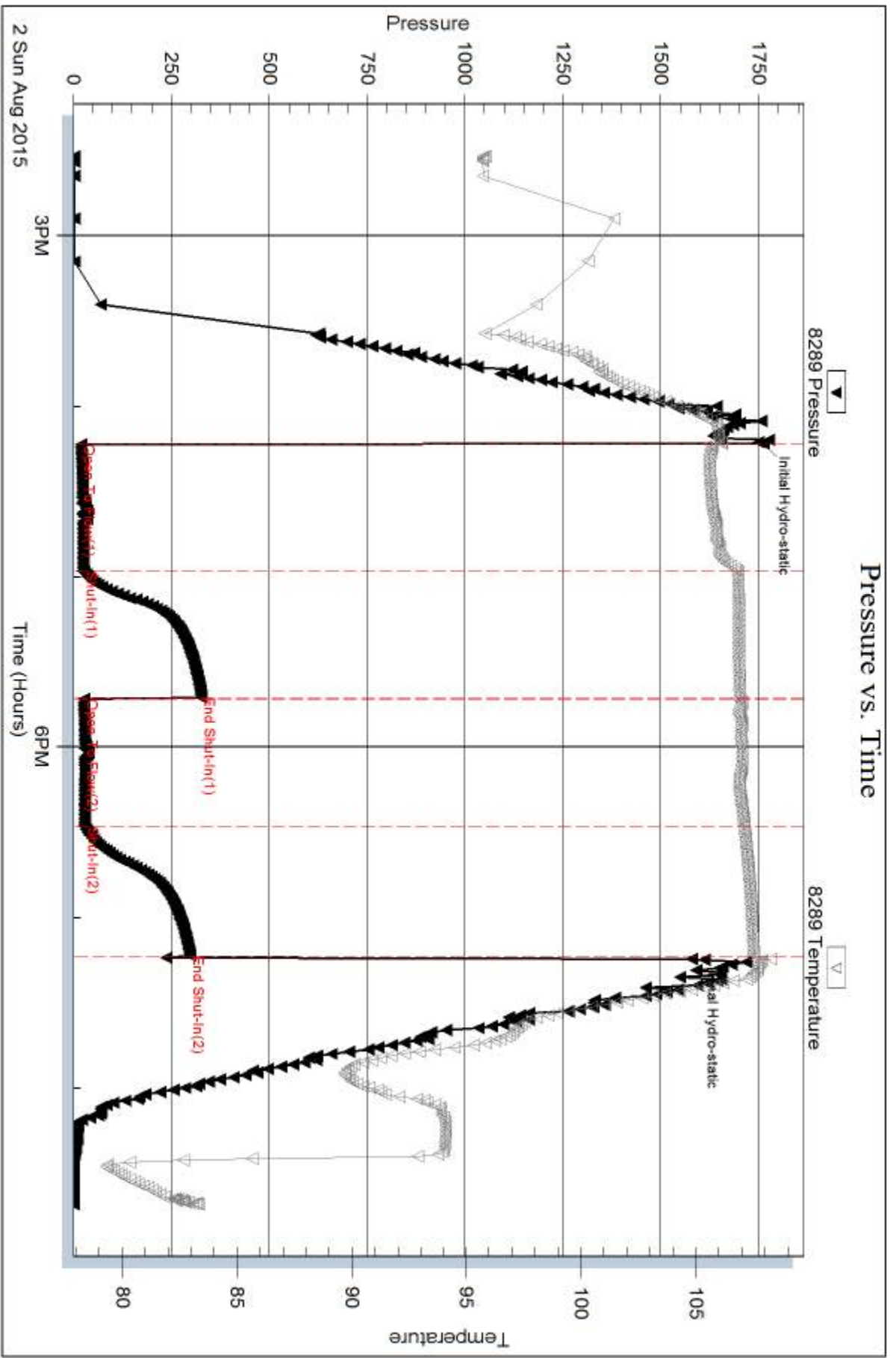
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 61.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.98 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 4800.00 ppm			
Filter Cake: 2.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	Oil Speck Mud 100%	0.421

Total Length: 30.00 ft Total Volume: 0.421 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:

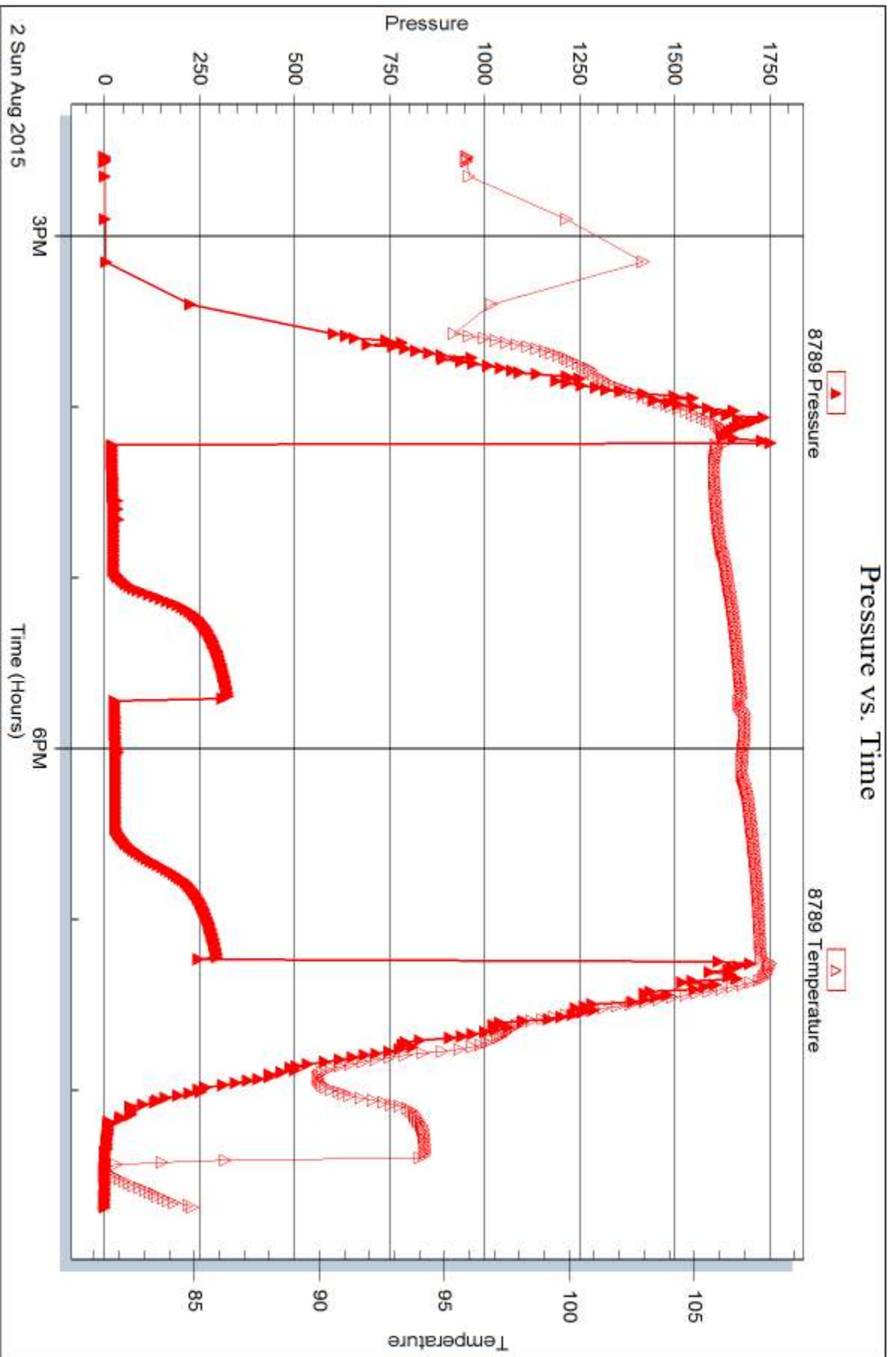


Serial #: 8789

Inside TDI

Urban #1

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 62395

Printed: 2015.08.03 @ 13:23:48



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 62394

Well Name & No. Urban #1 Test No. 1 Date 8-1-15
 Company TPI Elevation 2039 KB 2029 GL
 Address 1310 Bison Rd Hays KS 67601-9696
 Co. Rep / Geo. Herb Deines Rig Southwind #1
 Location: Sec. 7 Twp. 15^s Rge. 18^w Co. Ellis State KS

Interval Tested 3315-3360 Zone Tested LKC "A-C"
 Anchor Length 45 Drill Pipe Run 3314 Mud Wt. 9.3
 Top Packer Depth 3310 Drill Collars Run 0 Vis 60
 Bottom Packer Depth 3315 Wt. Pipe Run 0 WL 8
 Total Depth 3360 Chlorides 4800 ppm System LCM 2

Blow Description IF-BOB in 1min 45 sec.
ISI-Surface Blow Building to 1/2 in. 7min Died Back 12min.
EF-BOB in 3min 15 sec. DSTS 29min.
FSI-BOB in 3min. 45 sec.

Rec	Feet of	%gas	%oil	%water	%mud
<u>62</u>	<u>Wmco</u>	<u>65</u>	<u>15</u>	<u>20</u>	
<u>186</u>	<u>CO</u>	<u>100</u>			
<u>129</u>	<u>mco</u>	<u>80</u>		<u>20</u>	

Rec Total 377 BHT 109 Gravity 39 API RW @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic	<u>1674</u>
(B) First Initial Flow	<u>71</u>
(C) First Final Flow	<u>104</u>
(D) Initial Shut-In	<u>461</u>
(E) Second Initial Flow	<u>121</u>
(F) Second Final Flow	<u>161</u>
(G) Final Shut-In	<u>444</u>
(H) Final Hydrostatic	<u>1570</u>
Initial Open	<u>30</u>
Initial Shut-In	<u>30</u>
Final Flow	<u>30</u>
Final Shut-In	<u>30</u>

- Test 1050
 - Jars _____
 - Safety Joint _____
 - Circ Sub _____
 - Hourly Standby _____
 - Mileage 25 RT
 - Sampler _____
 - Straddle _____
 - Shale Packer _____
 - Extra Packer _____
 - Extra Recorder _____
 - Day Standby _____
 - Accessibility _____
- Sub Total 1075

T-On Location 16:00
 T-Started 16:42
 T-Open 18:29
 T-Pulled 20:29
 T-Out 22:19
 Comments _____
 Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Sub Total 0
 Total 1075
 MP/DST Disc't _____

Approved By _____ Our Representative [Signature]
 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. 62395

Well Name & No. Urban #1 Test No. 2 Date 8-2-15
 Company T D I Elevation 2039 KB 2029 GL
 Address 1310 Bison Rd Hays KS, 67601-9696
 Co. Rep / Geo. Herb Deines Rig Southwind #1
 Location: Sec. 7 Twp. 15^s Rge. 18^w Co. Ellis State KS

Interval Tested 3450-3540 Zone Tested LRC "H-K
 Anchor Length 90 Drill Pipe Run 3437 Mud Wt. 9.2
 Top Packer Depth 3445 Drill Collars Run ~~3445~~ Vis 61
 Bottom Packer Depth 3450 Wt. Pipe Run ~~3450~~ WL 8
 Total Depth 3540 Chlorides 4800 ppm System LCM 2

Blow Description IF - Surface Blow Building to 1/2 in. Died Back in 17 min.
ISI - No Blow
FF - No Blow
FSI - No Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>30</u>	<u>Oil Speck Mud</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 30 BHT 108 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 1761 Test 1050 T-On Location 10:52
 (B) First Initial Flow 21 Jars _____ T-Started 14:32
 (C) First Final Flow 25 Safety Joint _____ T-Open 16:13
 (D) Initial Shut-In 326 Circ Sub _____ T-Pulled 19:13
 (E) Second Initial Flow 27 Hourly Standby _____ T-Out 20:42
 (F) Second Final Flow 29 Mileage 50 Comments _____
 (G) Final Shut-In 298 Sampler _____ loaded tools 8/3 10:00
 (H) Final Hydrostatic 1578 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____

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

Sub Total 0
 Total 1100
 MP/DST Disc't _____
 Sub Total 1100

Approved By _____ Our Representative [Signature]

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.