



DRILL STEM TEST REPORT

Prepared For: **TDI**

1310 Bison Rd
Hays, KS 67601

ATTN: Herb Deines

Beverly #1

2-17s-19w Rush,KS

Start Date: 2014.07.27 @ 16:10:29

End Date: 2014.07.27 @ 23:04:49

Job Ticket #: 58920 DST #: 1

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

Printed: 2014.07.30 @ 14:35:23

TDI
2-17s-19w Rush,KS
Beverly #1
DST # 1
LKC "C"
2014.07.27



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

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

2-17s-19w Rush,KS
Beverly #1
Job Ticket: 58920 **DST#: 1**
Test Start: 2014.07.27 @ 16:10:29

GENERAL INFORMATION:

Formation: **LKC "C"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 18:19:29
 Time Test Ended: 23:04:49
 Interval: **3446.00 ft (KB) To 3476.00 ft (KB) (TVD)**
 Total Depth: 3476.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Tate Lang
 Unit No: 77
 Reference Elevations: 2095.00 ft (KB)
 2083.00 ft (CF)
 KB to GR/CF: 12.00 ft

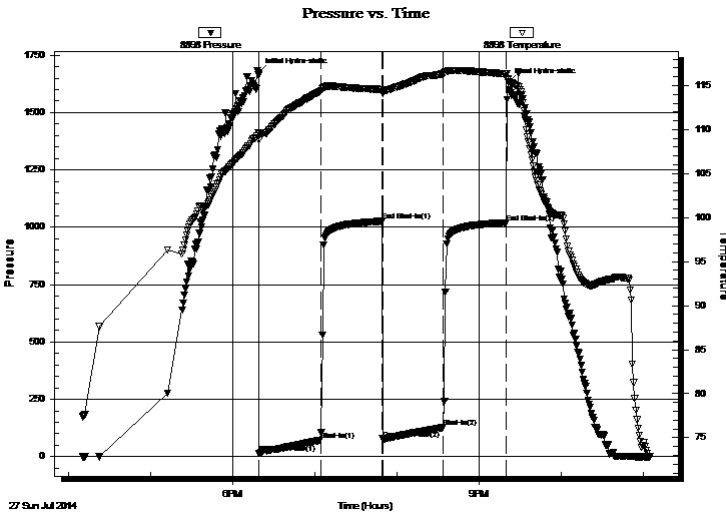
Serial #: 8898

Outside

Press@RunDepth: 127.48 psig @ 3448.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.07.27 End Date: 2014.07.27 Last Calib.: 2014.07.27
 Start Time: 16:10:30 End Time: 23:04:49 Time On Btm: 2014.07.27 @ 18:19:19
 Time Off Btm: 2014.07.27 @ 21:21:19

TEST COMMENT: Strong blow built to 10 in.
 Dead no blow back
 Strong blow built to 8 1/2 in.
 Dead no blow back.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1672.84	109.68	Initial Hydro-static
1	15.67	108.88	Open To Flow (1)
45	72.73	114.36	Shut-In(1)
90	1026.23	114.57	End Shut-In(1)
91	77.63	114.07	Open To Flow (2)
135	127.48	116.36	Shut-In(2)
181	1020.57	116.31	End Shut-In(2)
183	1632.66	115.79	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
248.00	SMCW 5%M 95%W	3.48

Gas Rates

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



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

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

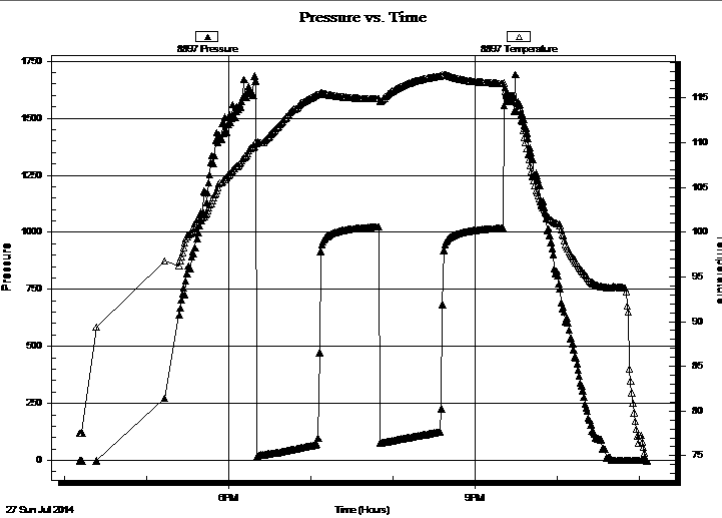
2-17s-19w Rush, KS
Beverly #1
Job Ticket: 58920 **DST#: 1**
Test Start: 2014.07.27 @ 16:10:29

GENERAL INFORMATION:

Formation: **LKC "C"**
Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Initial)
Time Tool Opened: 18:19:29 Tester: Tate Lang
Time Test Ended: 23:04:49 Unit No: 77
Interval: 3446.00 ft (KB) To 3476.00 ft (KB) (TVD) Reference Elevations: 2095.00 ft (KB)
Total Depth: 3476.00 ft (KB) (TVD) 2083.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 12.00 ft

Serial #: 8897 Inside
Press@RunDepth: psig @ 3448.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2014.07.27 End Date: 2014.07.27 Last Calib.: 2014.07.27
Start Time: 16:10:45 End Time: 23:05:14 Time On Btm:
Time Off Btm:

TEST COMMENT: Strong blow built to 10 in.
Dead no blow back
Strong blow built to 8 1/2 in.
Dead no blow back.



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
248.00	SMCW 5%M 95%W	3.48

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
ATTN: Herb Deines

2-17s-19w Rush,KS
Beverly #1
Job Ticket: 58920 **DST#: 1**
Test Start: 2014.07.27 @ 16:10:29

Tool Information

Drill Pipe:	Length: 3436.00 ft	Diameter: 3.80 inches	Volume: 48.20 bbl	Tool Weight:	2500.00 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: 48.20 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial	42000.00 lb
Depth to Top Packer:	3446.00 ft			Final	43000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	30.00 ft				
Tool Length:	50.00 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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Shut In Tool	5.00			3431.00	
Hydraulic tool	5.00			3436.00	
Packer	5.00			3441.00	20.00 Bottom Of Top Packer
Packer	5.00			3446.00	
Stubb	1.00			3447.00	
Perforations	1.00			3448.00	
Recorder	0.00	8897	Inside	3448.00	
Recorder	0.00	8898	Outside	3448.00	
Perforations	25.00			3473.00	
Bullnose	3.00			3476.00	30.00 Bottom Packers & Anchor
Total Tool Length:	50.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

TDI **2-17s-19w Rush,KS**
 1310 Bison Rd **Beverly #1**
 Hays, KS 67601 Job Ticket: 58920 **DST#: 1**
 ATTN: Herb Deines Test Start: 2014.07.27 @ 16:10:29

Mud and Cushion Information

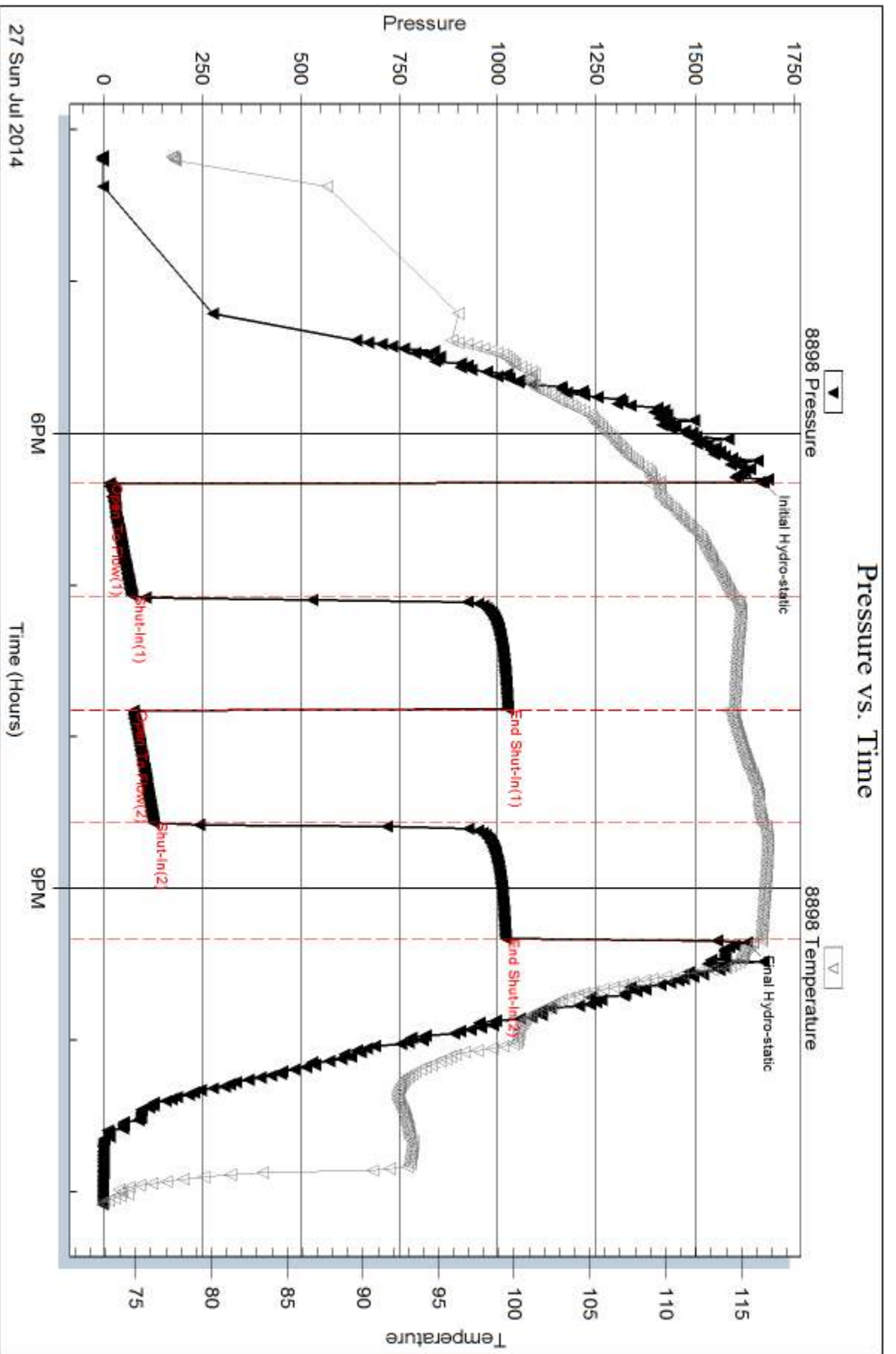
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 6.40 sec/qt	Cushion Volume: bbl		
Water Loss: 11.98 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 7500.00 ppm			
Filter Cake: 1.00 inches			

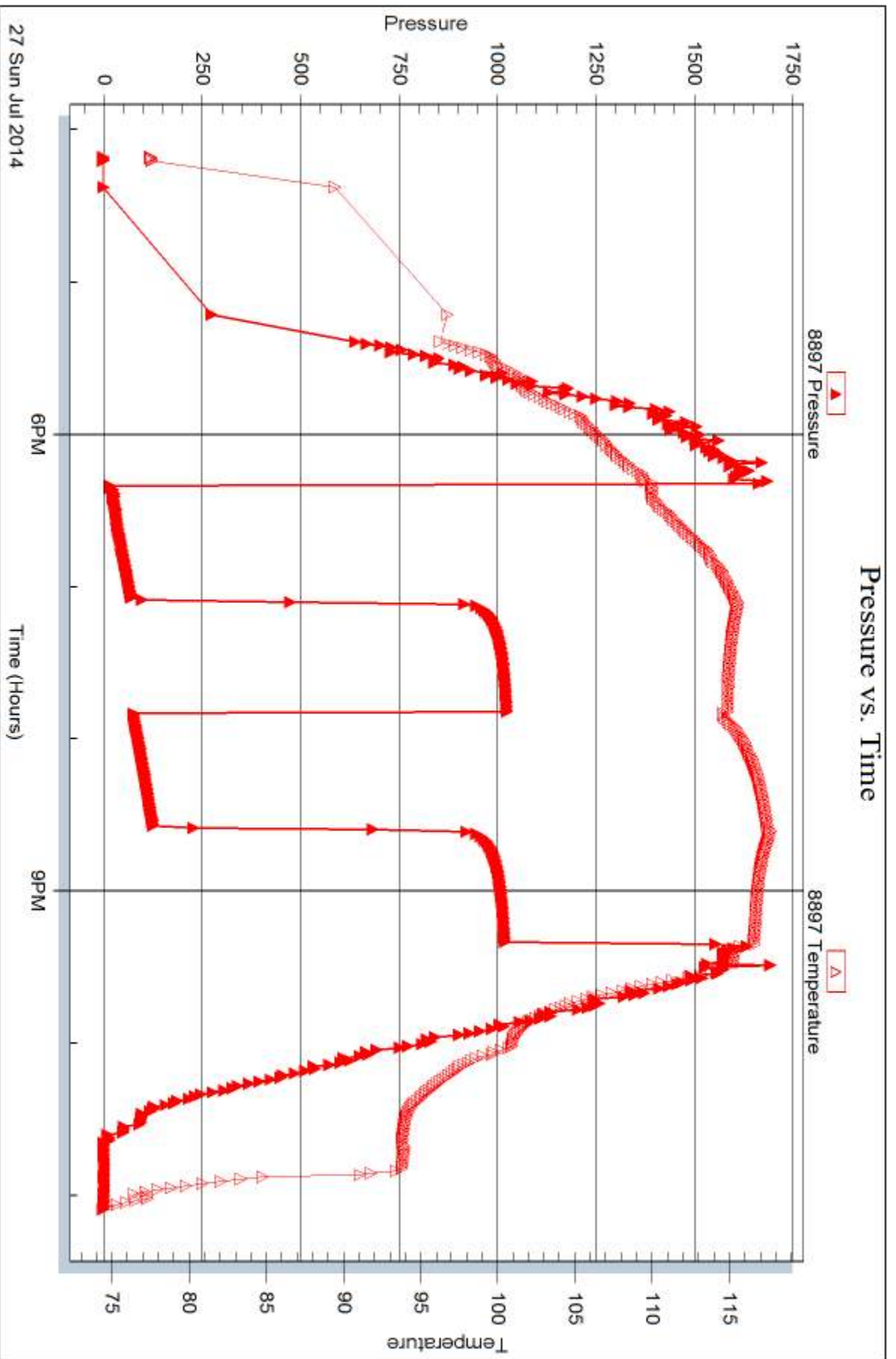
Recovery Information

Recovery Table

Length ft	Description	Volume bbl
248.00	SMCW 5%M 95%W	3.479

Total Length: 248.00 ft Total Volume: 3.479 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:







DRILL STEM TEST REPORT

Prepared For: **TDI**

1310 Bison Rd
Hays, KS 67601

ATTN: Herb Deines

Beverly #1

2-17s-19w Rush,KS

Start Date: 2014.07.28 @ 22:01:39

End Date: 2014.07.29 @ 03:32:39

Job Ticket #: 58921 DST #: 2

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

Printed: 2014.07.30 @ 14:34:50

TDI
2-17s-19w Rush,KS
Beverly #1
DST # 2
Cong. Sand
2014.07.28



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

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

2-17s-19w Rush,KS
Beverly #1
Job Ticket: 58921 **DST#: 2**
Test Start: 2014.07.28 @ 22:01:39

GENERAL INFORMATION:

Formation: **Cong. Sand**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 23:46:29
 Time Test Ended: 03:32:39
 Interval: **3761.00 ft (KB) To 3800.00 ft (KB) (TVD)**
 Total Depth: 3476.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Tate Lang
 Unit No: 77
 Reference Elevations: 2095.00 ft (KB)
 2083.00 ft (CF)
 KB to GR/CF: 12.00 ft

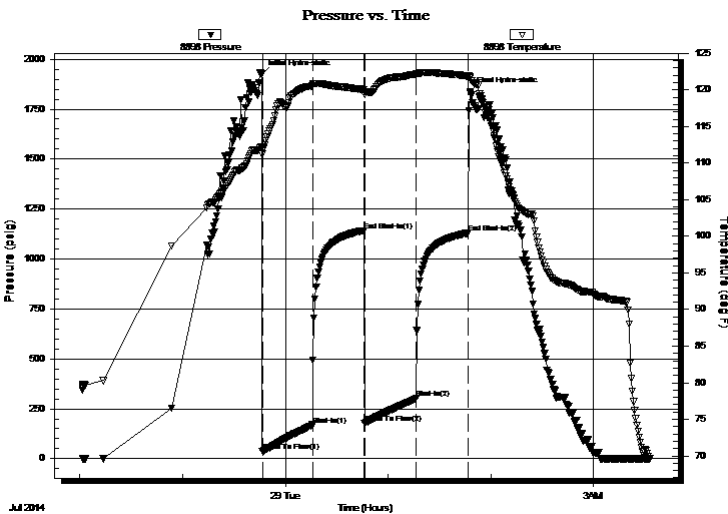
Serial #: 8898

Outside

Press@RunDepth: 302.22 psig @ 3763.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.07.28 End Date: 2014.07.29 Last Calib.: 2014.07.29
 Start Time: 22:01:40 End Time: 03:32:39 Time On Btm: 2014.07.28 @ 23:46:19
 Time Off Btm: 2014.07.29 @ 01:47:49

TEST COMMENT: B.O.B. in 7 mins
 Dead no blow back
 B.O.B. in 8 mins
 Dead no blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1925.36	112.27	Initial Hydro-static
1	36.40	111.21	Open To Flow (1)
30	169.54	120.59	Shut-In(1)
60	1142.70	120.00	End Shut-In(1)
60	178.43	119.33	Open To Flow (2)
90	302.22	122.13	Shut-In(2)
121	1129.77	121.82	End Shut-In(2)
122	1838.43	121.84	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
120.00	WCM 30%W 70%M	1.68
500.00	SMCW 92%W 8%M	7.01

* 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
ATTN: Herb Deines

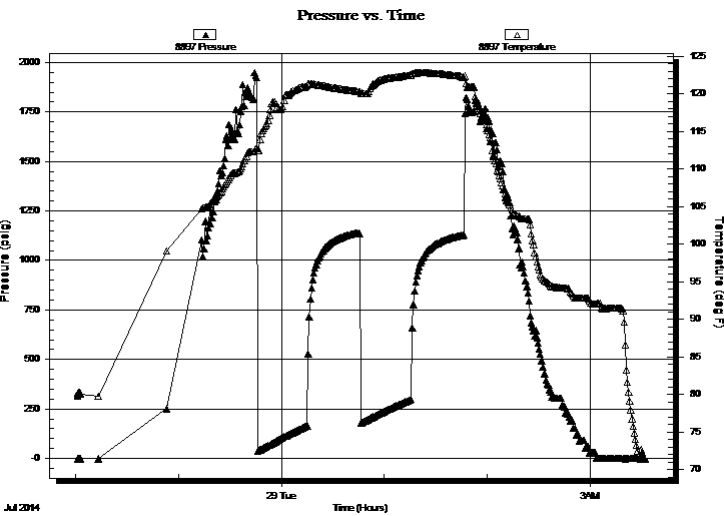
2-17s-19w Rush, KS
Beverly #1
Job Ticket: 58921 **DST#: 2**
Test Start: 2014.07.28 @ 22:01:39

GENERAL INFORMATION:

Formation: **Cong. Sand**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 23:46:29
Time Test Ended: 03:32:39
Interval: 3761.00 ft (KB) To 3800.00 ft (KB) (TVD)
Total Depth: 3476.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Test Type: Conventional Bottom Hole (Reset)
Tester: Tate Lang
Unit No: 77
Reference Elevations: 2095.00 ft (KB)
2083.00 ft (CF)
KB to GR/CF: 12.00 ft

Serial #: 8897 Inside
Press@RunDepth: psig @ 3763.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2014.07.28 End Date: 2014.07.29 Last Calib.: 2014.07.29
Start Time: 22:01:19 End Time: 03:32:08 Time On Btm:
Time Off Btm:

TEST COMMENT: B.O.B. in 7 mins
Dead no blow back
B.O.B. in 8 mins
Dead no blow back



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
120.00	WCM 30%W 70%M	1.68
500.00	SMCW 92%W 8%M	7.01

* Recovery from multiple tests

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
ATTN: Herb Deines

2-17s-19w Rush,KS
Beverly #1
Job Ticket: 58921 **DST#: 2**
Test Start: 2014.07.28 @ 22:01:39

Tool Information

Drill Pipe:	Length: 3750.00 ft	Diameter: 3.80 inches	Volume: 52.60 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose:	50000.00 lb
			<u>Total Volume: 52.60 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	9.00 ft			String Weight: Initial	40000.00 lb
Depth to Top Packer:	3761.00 ft			Final	44000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	39.00 ft				
Tool Length:	59.00 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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Shut In Tool	5.00			3746.00	
Hydraulic tool	5.00			3751.00	
Packer	5.00			3756.00	20.00 Bottom Of Top Packer
Packer	5.00			3761.00	
Stubb	1.00			3762.00	
Perforations	1.00			3763.00	
Recorder	0.00	8897	Inside	3763.00	
Recorder	0.00	8898	Outside	3763.00	
Perforations	34.00			3797.00	
Bullnose	3.00			3800.00	39.00 Bottom Packers & Anchor
Total Tool Length:	59.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

TDI **2-17s-19w Rush,KS**
 1310 Bison Rd **Beverly #1**
 Hays, KS 67601 Job Ticket: 58921 **DST#: 2**
 ATTN: Herb Deines Test Start: 2014.07.28 @ 22:01:39

Mud and Cushion Information

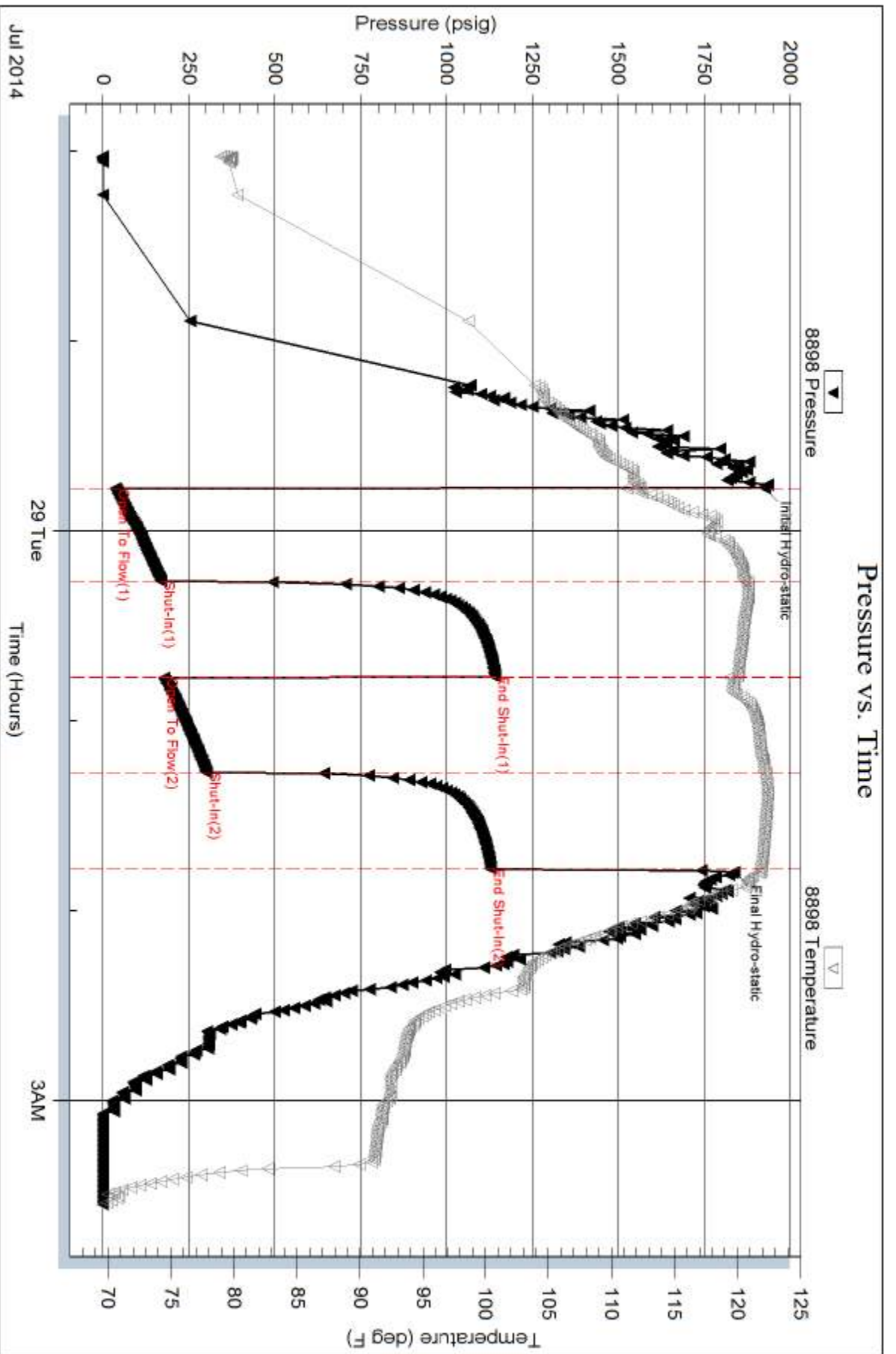
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 54.00 sec/qt	Cushion Volume: bbl		
Water Loss: 10.39 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 7000.00 ppm			
Filter Cake: 1.00 inches			

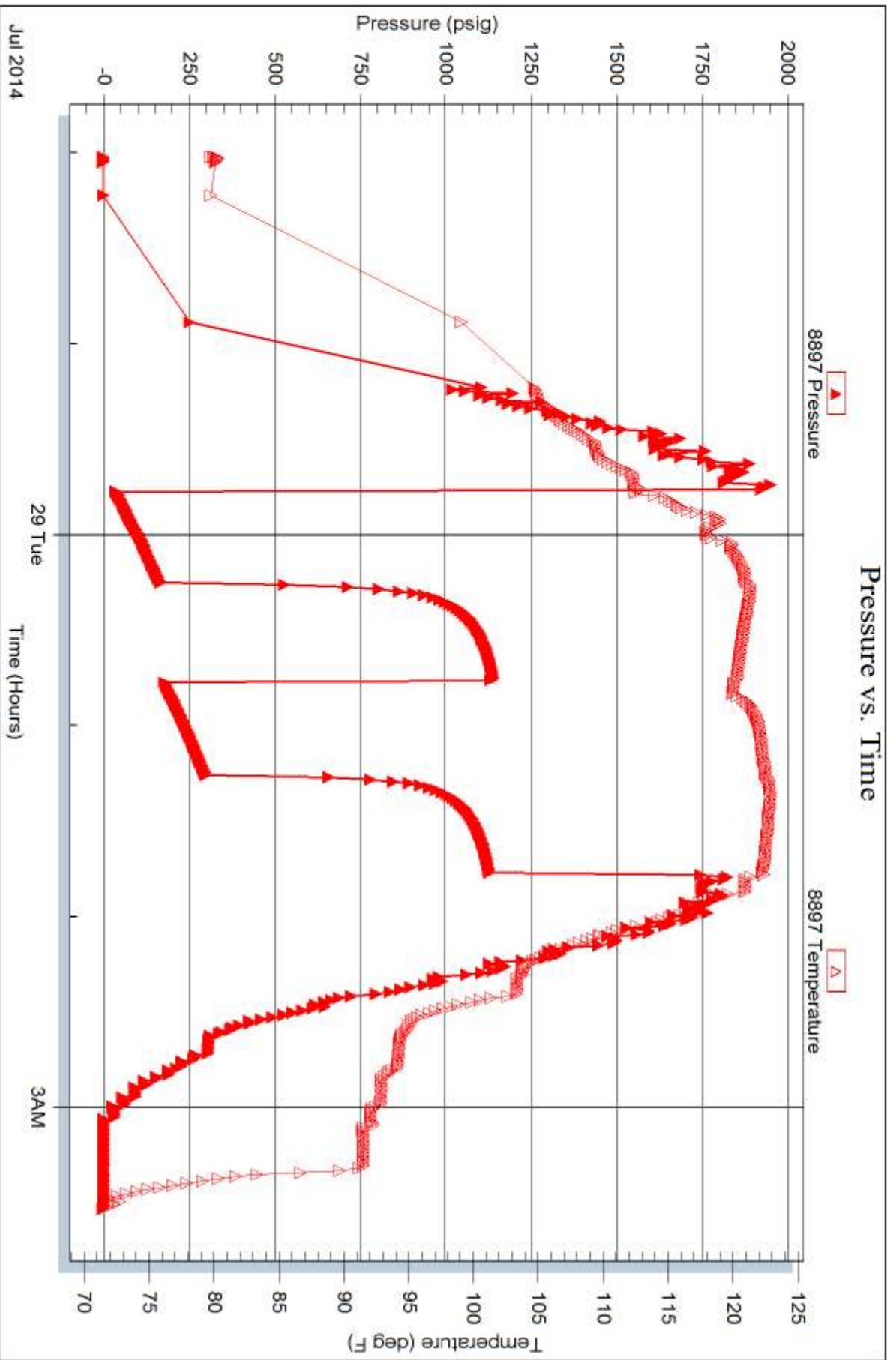
Recovery Information

Recovery Table

Length ft	Description	Volume bbl
120.00	WCM 30%W 70%M	1.683
500.00	SMCW 92%W 8%M	7.014

Total Length: 620.00 ft Total Volume: 8.697 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:







TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 58920

Well Name & No. Beverly #1 Test No. 1 Date 7-27-14
 Company TDI Inc Elevation 2095 KB 2083 GL
 Address 1310 Bison Rd. Hays KS 67601
 Co. Rep / Geo. Herb Deines Rig Southwind #1
 Location: Sec. 2 Twp. 17 Rge. 19 Co. Rush State KS

Interval Tested 3446 3476 Zone Tested LHC "C"
 Anchor Length 30 Drill Pipe Run 3436 Mud Wt. 9.0
 Top Packer Depth 3441 Drill Collars Run 0 Vis 6.4
 Bottom Packer Depth 3446 Wt. Pipe Run 0 WL 12.0
 Total Depth 3476 Chlorides 7500 ppm System LCM 1th

Blow Description Strong blow built to 10in
Dead no blow back
Strong blow built to 8 1/2 in
Dead no blow back

Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec <u>248</u>	Feet of <u>SMCW</u>	%gas	%oil	<u>95</u> %water	<u>5</u> %mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

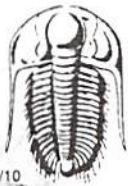
Rec Total 248 BHT 116 Gravity _____ API-RW 231 @ 30 ° F Chlorides 26000 ppm

(A) Initial Hydrostatic 1673 Test 1150 T-On Location 1440
 (B) First Initial Flow 16 Jars _____ T-Started 1610
 (C) First Final Flow 72 Safety Joint _____ T-Open 1819
 (D) Initial Shut-In 1026 Circ Sub _____ T-Pulled 2119
 (E) Second Initial Flow 78 Hourly Standby _____ T-Out 2304
 (F) Second Final Flow 127 Mileage 49RM 75.95 Comments _____
 (G) Final Shut-In 1021 Sampler _____
 (H) Final Hydrostatic 1633 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____

Initial Open 45 Sub Total 0
 Initial Shut-In 45 Total 1225.95
 Final Flow 45 MP/DST Disc't _____
 Final Shut-In 45 Sub Total 1225.95

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. 58921

Well Name & No. Beverly #1 Test No. 2 Date 7-28-14
 Company TDT INC Elevation 2095 KB 2083 GL
 Address 1310 Bison Rd. Hays KS 67601
 Co. Rep / Geo. Herb Deines Rig Southwind #1
 Location: Sec. 2 Twp. 17 Rge. 19 Co. Rush State KS

Interval Tested 3761 3800 Zone Tested Conglomerate Sand
 Anchor Length 39 Drill Pipe Run 3750 Mud Wt. 9.2
 Top Packer Depth 3756 Drill Collars Run 0 Vis 54
 Bottom Packer Depth 3761 Wt. Pipe Run 0 WL 10.4
 Total Depth 3800 Chlorides 7000 ppm System LCM TR

Blow Description B.O.B. IN 7 mins
Dead no blow back
B.O.B. IN 8 mins
Dead no blow back

Rec	Feet of	%gas	%oil	%water	%mud
Rec <u>120</u>	Feet of <u>wcm</u>			<u>30</u> %water	<u>70</u> %mud
Rec <u>500</u>	Feet of <u>smcw</u>			<u>92</u> %water	<u>8</u> %mud
Rec _____	Feet of _____	%gas	%oil	%water	%mud
Rec _____	Feet of _____	%gas	%oil	%water	%mud

Rec Total 620 BHT 121 Gravity _____ API RW 226 @ 60 °F Chlorides 37000 ppm
 (A) Initial Hydrostatic 1925 Test 1150 T-On Location 2119
 (B) First Initial Flow 36 Jars _____ T-Started 2201
 (C) First Final Flow 170 Safety Joint _____ T-Open 2346
 (D) Initial Shut-In 1143 Circ Sub _____ T-Pulled 0146
 (E) Second Initial Flow 178 Hourly Standby _____ T-Out 0332
 (F) Second Final Flow 302 Mileage X2 Local Comments _____
 (G) Final Shut-In 1130 Sampler 151.90 7/29 17:15
 (H) Final Hydrostatic 1838 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1301.90
 Accessibility _____ MP/DST Disc't _____

Initial Open 30
 Initial Shut-In 30
 Final Flow 30
 Final Shut-In 30
 Sub Total 1301.90

Approved By _____ Our Representative [Signature]
 Trilobite Testing Inc. shall not be liable for damaged or 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.