

DRILL STEM TEST REPORT

Prepared For: **TDI Inc**

1310 Bison Rd
Hays KS 67601

ATTN: Herb Deines

Evans #1

35-16s-19w Rush,KS

Start Date: 2013.08.14 @ 19:52:00

End Date: 2013.08.15 @ 04:15:30

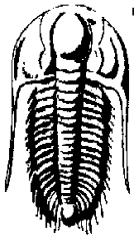
Job Ticket #: 53946 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2013.08.19 @ 14:31:48



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TESTING, INC.

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Hays KS 67601

ATTN: Herb Deines

35-16s-19w Rush, KS

Evans #1

Job Ticket: 53946

DST#: 1

Test Start: 2013.08.14 @ 19:52:00

GENERAL INFORMATION:

Formation: **LKC "A-D"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 23:01:15

Time Test Ended: 04:15:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Cody Bloedorn

Unit No: 53

Interval: 3400.00 ft (KB) To 3474.00 ft (KB) (TVD)

Total Depth: 3474.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2079.00 ft (KB)

2071.00 ft (CF)

KB to GR/CF: 8.00 ft

Serial #: 6799 Inside

Press@RunDepth: 813.99 psig @ 3470.00 ft (KB)

Start Date: 2013.08.14

End Date:

2013.08.15

Start Time: 19:52:05

End Time:

04:15:29

Capacity: 8000.00 psig

Last Calib.: 2013.08.15

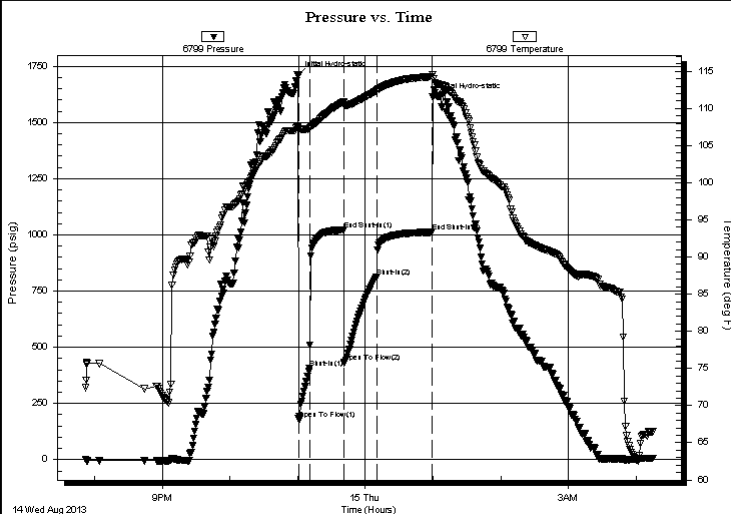
Time On Btm: 2013.08.14 @ 23:00:30

Time Off Btm: 2013.08.15 @ 00:59:45

TEST COMMENT: 10 - IF- BOB in 40 seconds
30 - IS- 2" return
30 - FF- BOB in 40 seconds
45 - FS- No return

PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1707.66	107.64	Initial Hydro-static
1	178.03	107.15	Open To Flow (1)
10	407.00	107.27	Shut-In(1)
41	1023.26	110.88	End Shut-In(1)
41	431.74	110.54	Open To Flow (2)
70	813.99	112.35	Shut-In(2)
119	1011.86	114.25	End Shut-In(2)
120	1612.35	114.57	Final Hydro-static

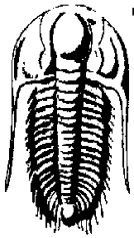


Recovery

Length (ft)	Description	Volume (bbl)
930.00	MW, 5%M, 95%W	12.76
310.00	GMW, 5%G, 40%M, 55%W	4.35
465.00	WM, 30%W, 70%M	6.52

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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2013.08.15

Start Time: 19:53:05

End Time:

04:14:29

Capacity: 8000.00 psig

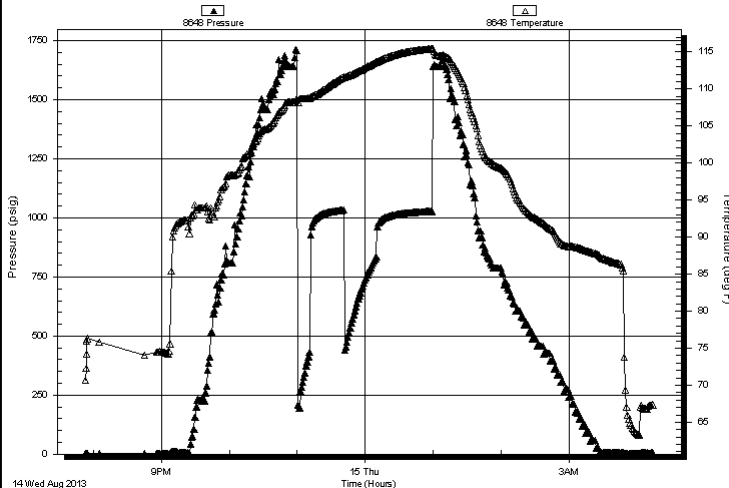
Last Calib.: 2013.08.15

Time On Btm:

Time Off Btm:

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Pressure vs. Time



PRESSURE SUMMARY

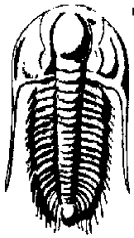
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DRILL STEM TEST REPORT

TOOL DIAGRAM

TDI Inc

1310 Bison Rd
Hays KS 67601

ATTN: Herb Deines

35-16s-19w Rush,KS

Evans #1

Job Ticket: 53946

DST#: 1

Test Start: 2013.08.14 @ 19:52:00

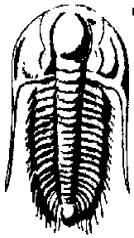
Tool Information

Drill Pipe:	Length:	3382.00 ft	Diameter:	3.80 inches	Volume:	47.44 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	Weight set on Packer:	30000.00 lb
Drill Collar:	Length:	31.00 ft	Diameter:	2.25 inches	Volume:	0.15 bbl	Weight to Pull Loose:	75000.00 lb
					Total Volume:	47.59 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:		34.00 ft					String Weight: Initial	48000.00 lb
Depth to Top Packer:		3400.00 ft					Final	56000.00 lb
Depth to Bottom Packer:		ft						
Interval between Packers:		74.00 ft						
Tool Length:		95.00 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			3380.00	
Shut In Tool	5.00			3385.00	
Hydraulic tool	5.00			3390.00	
Packer	5.00			3395.00	21.00 Bottom Of Top Packer
Packer	5.00			3400.00	
Stubb	1.00			3401.00	
Perforations	5.00			3406.00	
Change Over Sub	1.00			3407.00	
Drill Pipe	62.00			3469.00	
Change Over Sub	1.00			3470.00	
Recorder	0.00	6799	Inside	3470.00	
Recorder	0.00	8648	Outside	3470.00	
Perforations	1.00			3471.00	
Bullnose	3.00			3474.00	74.00 Bottom Packers & Anchor

Total Tool Length: 95.00



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FLUID SUMMARY

TDI Inc

35-16s-19w Rush,KS

1310 Bison Rd
Hays KS 67601

Evans #1

Job Ticket: 53946

DST#: 1

ATTN: Herb Deines

Test Start: 2013.08.14 @ 19:52:00

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 58.00 sec/qt

Water Loss: 7.59 in³

Resistivity: ohm.m

Salinity: 5000.00 ppm

Filter Cake: inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

Oil API:

ft

bbl

psig

deg API

Water Salinity: 28000 ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
930.00	MW, 5%M, 95%W	12.763
310.00	GMW, 5%G, 40%M, 55%W	4.348
465.00	WM, 30%W, 70%M	6.523

Total Length: 1705.00 ft Total Volume: 23.634 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Chlorides: .31 @ 66 Degrees = 28,000

Serial #: 6799

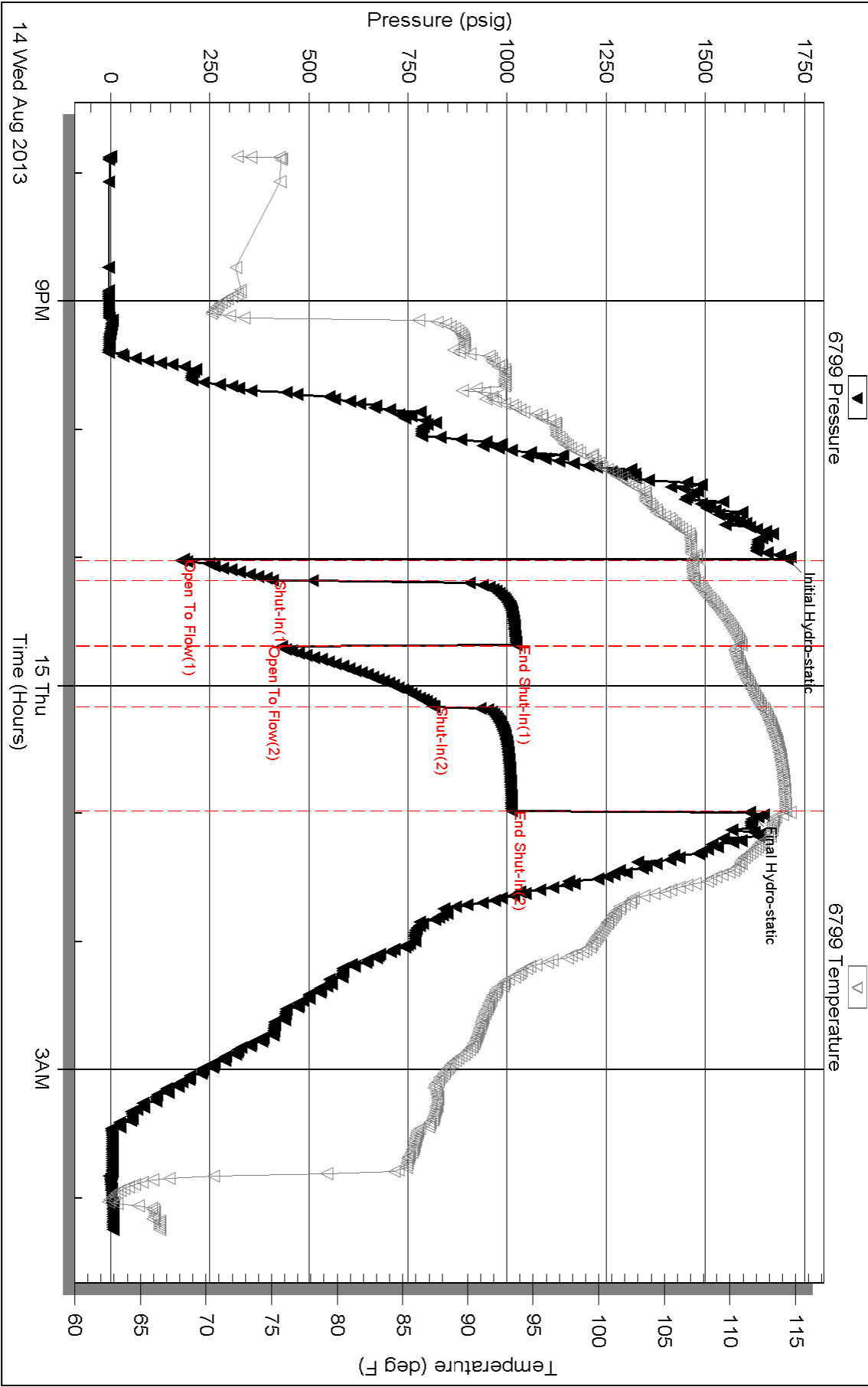
Inside

TDI Inc

Evans #1

DST Test Number: 1

Pressure vs. Time

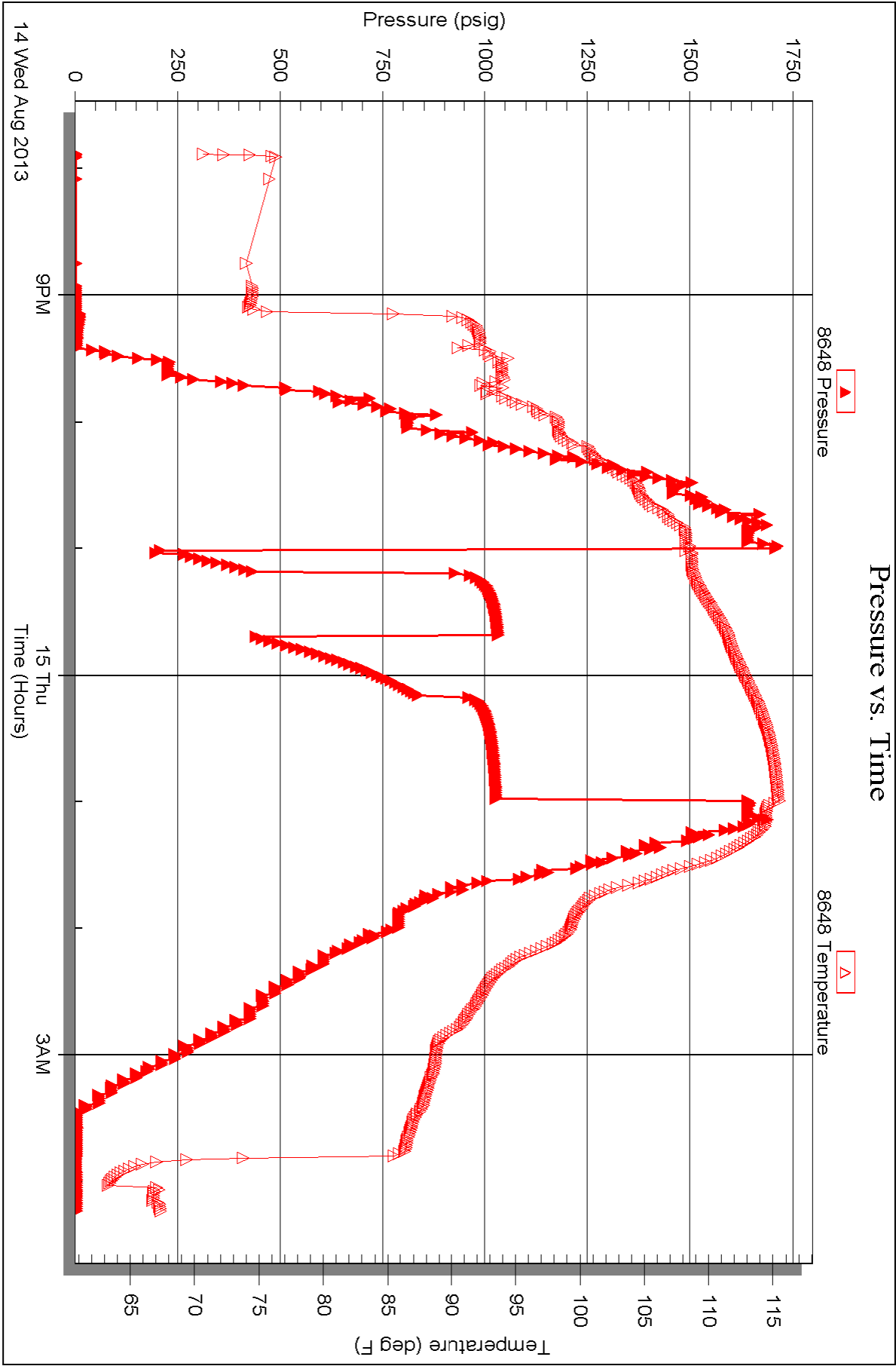


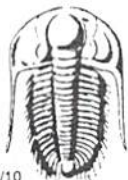
Serial #: 8648

Outside TD/Inc

Evans #1

DST Test Number: 1





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 53946

Well Name & No. Evans #1 Test No. 1 Date 8-14-13
 Company TDI inc Elevation 2079 KB 2071 GL
 Address 1310 Bison RD. Hays KS. 67601
 Co. Rep / Geo. Herb Rig Southwind #1
 Location: Sec. 35 Twp. 16S Rge. 19W Co. Rush State KS

Interval Tested 3400-3474 Zone Tested LKC "A-D"
 Anchor Length 74' Drill Pipe Run 3382' Mud Wt. 9.0
 Top Packer Depth 3394 Drill Collars Run 31' Vis 58
 Bottom Packer Depth 3399 Wt. Pipe Run — WL 7.6
 Total Depth 3474 Chlorides 5,000 ppm System LCM —
 Blow Description IF- B.O.B. in 40 seconds
ISI- 2" return
FF- B.O.B. in 40 seconds
FSI- No return

Rec	Feet of	%gas	%oil	%water	%mud
930	MW		95	5	
310	GMW	5	55	40	
465	WM		30	70	

Rec Total 1705' BHT 114° Gravity — API RW .31 @ 66° F Chlorides 28,000 ppm
 (A) Initial Hydrostatic 1707 ☒ Test 1150 T-On Location 4:33pm
 (B) First Initial Flow 178 ☐ Jars — T-Started 7:52pm
 (C) First Final Flow 407 ☐ Safety Joint — T-Open 11:01pm
 (D) Initial Shut-In 1023 ☐ Circ Sub — T-Pulled 12:56am
 (E) Second Initial Flow 431 ☐ Hourly Standby — T-Out 4:16am
 (F) Second Final Flow 813 ☒ Mileage 49 RT X2 151.90 Comments loaded tools 8-16-13
 (G) Final Shut-In 1011 ☐ Sampler — @ 4:4:35pm
 (H) Final Hydrostatic 1612 ☐ Straddle — ☐ Ruined Shale Packer —

Initial Open 10
 Initial Shut-In 30
 Final Flow 30
 Final Shut-In 45

☐ Shale Packer — ☐ Ruined Packer —
☐ Extra Packer — ☐ Extra Copies —
☐ Extra Recorder — Sub Total 800
☒ Day Standby 1d 12.25h Total 2101.90
☐ Accessibility — MP/DST Disc't —
 Sub Total 1301.90

Approved By —

Our Representative Cody Black

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