



DRILL STEM TEST REPORT

Prepared For: **TDI, Inc**

1310 Bison Rd.
Hays KS 67601-9696

ATTN: Tom Denning , Herb D

GJ #1

12-12s-19w Ellis,KS

Start Date: 2016.07.09 @ 16:20:45

End Date: 2016.07.09 @ 22:43:39

Job Ticket #: 65473 DST #: 1

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

Printed: 2016.07.11 @ 09:38:35



TRILOBITE
TESTING, INC.

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ATTN: Tom Denning, Herb D

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GJ #1

Job Ticket: 65473

DST#: 1

Test Start: 2016.07.09 @ 16:20:45

GENERAL INFORMATION:

Formation: **LKC H-K**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:11:55

Time Test Ended: 22:43:39

Test Type: Conventional Bottom Hole (Initial)

Tester: Ray Schwager

Unit No: 77

Interval: 3530.00 ft (KB) To 3625.00 ft (KB) (TVD)

Total Depth: 3625.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2125.00 ft (KB)

2117.00 ft (CF)

KB to GR/CF: 8.00 ft

Serial #: 8018 Inside

Press@RunDepth: 40.22 psig @ 3536.00 ft (KB)

Start Date: 2016.07.09

End Date:

2016.07.09

Start Time: 16:20:45

End Time:

22:43:39

Capacity: 8000.00 psig

Last Calib.: 2016.07.09

Time On Btm: 2016.07.09 @ 18:09:25

Time Off Btm: 2016.07.09 @ 21:18:09

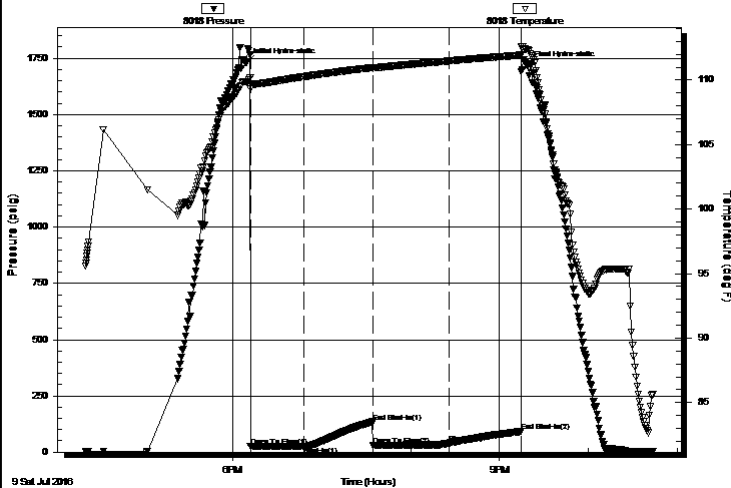
TEST COMMENT: 45-IFP-w k bl thru-out 1/2" to 1" bl

45-ISIP-no bl

45-FFP-no bl

45-FSIP-no bl

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1729.83	109.85	Initial Hydro-static
3	25.60	109.35	Open To Flow (1)
39	26.13	110.26	Shut-In(1)
85	134.31	110.96	End Shut-In(1)
86	30.25	110.94	Open To Flow (2)
137	40.22	111.49	Shut-In(2)
185	91.75	111.93	End Shut-In(2)
189	1719.24	112.38	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	CO	0.07
20.00	OCM 15%O85%M	0.28

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2125.00 ft (KB)

2117.00 ft (CF)

KB to GR/CF: 8.00 ft

Serial #: 8700 Outside

Press@RunDepth: psig @ 3536.00 ft (KB)

Start Date: 2016.07.09

End Date:

2016.07.09

Start Time: 16:20:24

End Time:

22:43:18

Capacity: 8000.00 psig

Last Calib.:

2016.07.09

Time On Btm:

Time Off Btm:

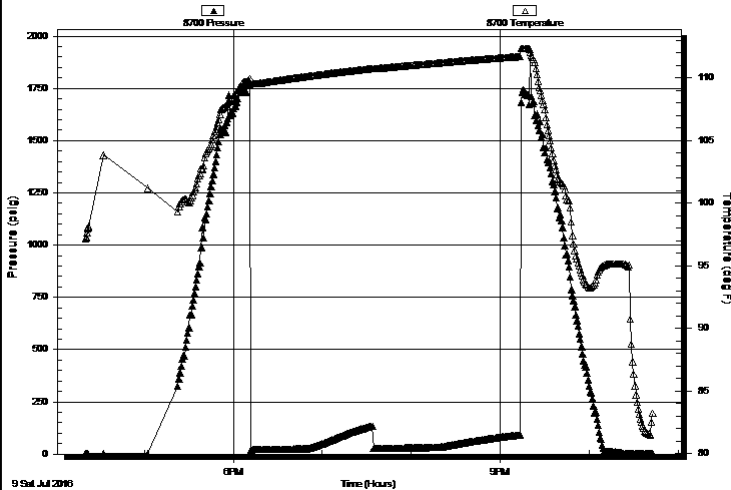
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Pressure vs. Time



PRESSURE SUMMARY

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

Length (ft)	Description	Volume (bbl)
5.00	CO	0.07
20.00	OCM 15% O 85% M	0.28

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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DRILL STEM TEST REPORT

TOOL DIAGRAM

TDI, Inc

1310 Bison Rd.
Hays KS 67601-9696

ATTN: Tom Denning , Herb D

12-12s-19w Ellis,KS

GJ #1

Job Ticket: 65473

DST#: 1

Test Start: 2016.07.09 @ 16:20:45

Tool Information

Drill Pipe:	Length:	3516.00 ft	Diameter:	3.80 inches	Volume:	49.32 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:	45000.00 lb
					Total Volume:	49.32 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:		7.00 ft					String Weight: Initial	38000.00 lb
Depth to Top Packer:		3530.00 ft					Final	38000.00 lb
Depth to Bottom Packer:		ft						
Interval between Packers:		95.00 ft						
Tool Length:		116.00 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			3510.00	
Shut In Tool	5.00			3515.00	
Hydraulic tool	5.00			3520.00	
Packer	5.00			3525.00	21.00 Bottom Of Top Packer
Packer	5.00			3530.00	
Stubb	1.00			3531.00	
Perforations	5.00			3536.00	
Recorder	0.00	8018	Inside	3536.00	
Recorder	0.00	8700	Outside	3536.00	
Blank Spacing	65.00			3601.00	
Perforations	21.00			3622.00	
Bullnose	3.00			3625.00	95.00 Bottom Packers & Anchor

Total Tool Length: 116.00



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FLUID SUMMARY

TDI, Inc

12-12s-19w Ellis,KS

1310 Bison Rd.
Hays KS 67601-9696

GJ #1

Job Ticket: 65473

DST#: 1

ATTN: Tom Denning , Herb D

Test Start: 2016.07.09 @ 16:20:45

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 53.00 sec/qt

Water Loss: 7.59 in³

Resistivity: ohm.m

Salinity: 2800.00 ppm

Filter Cake: 1.00 inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

ft

bbl

psig

Oil API:

Water Salinity:

17 deg API

ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	CO	0.070
20.00	OCM 15%O85%M	0.281

Total Length: 25.00 ft

Total Volume: 0.351 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8018

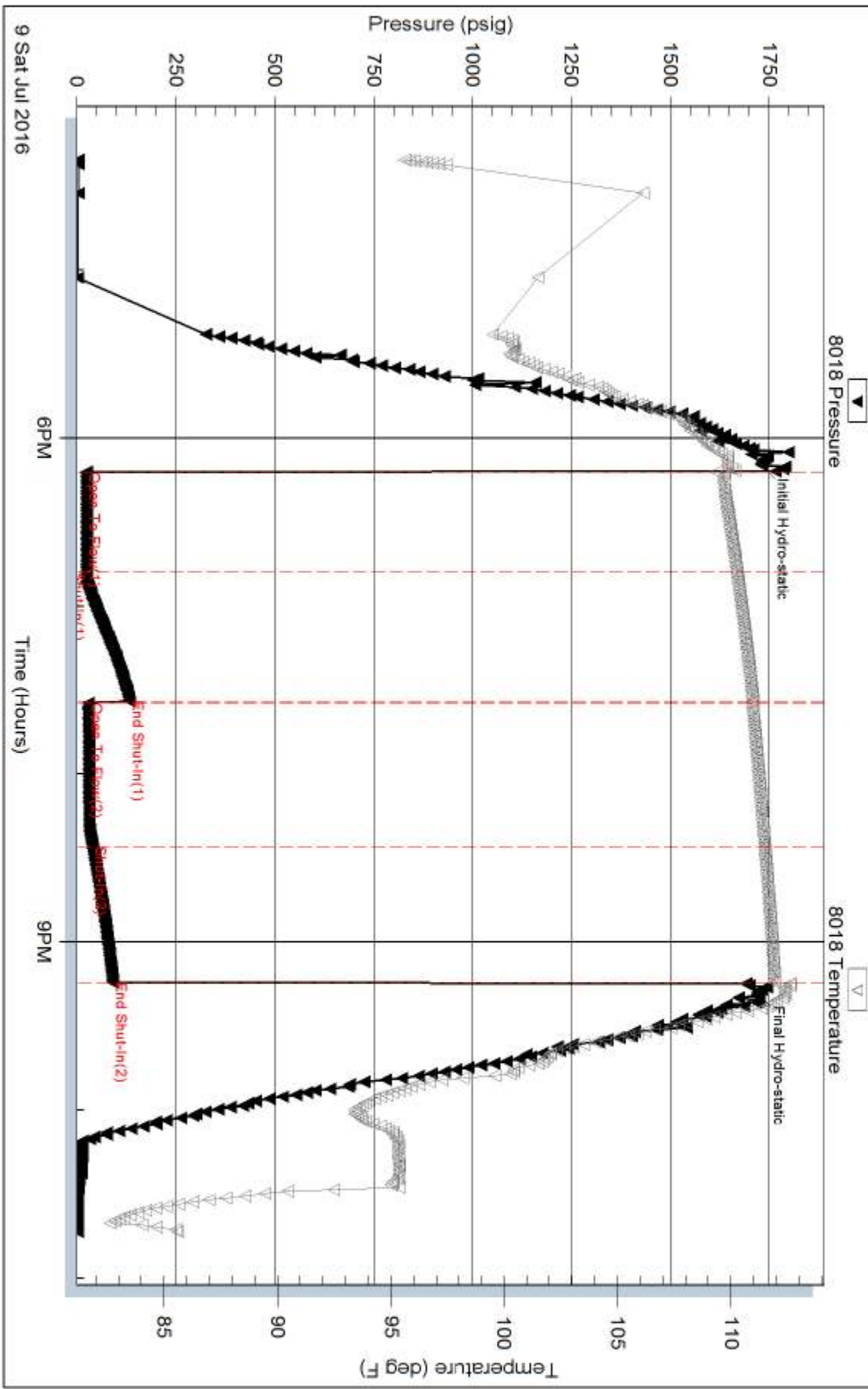
Inside

TDI, Inc

GJ#1

DST Test Number: 1

Pressure vs. Time

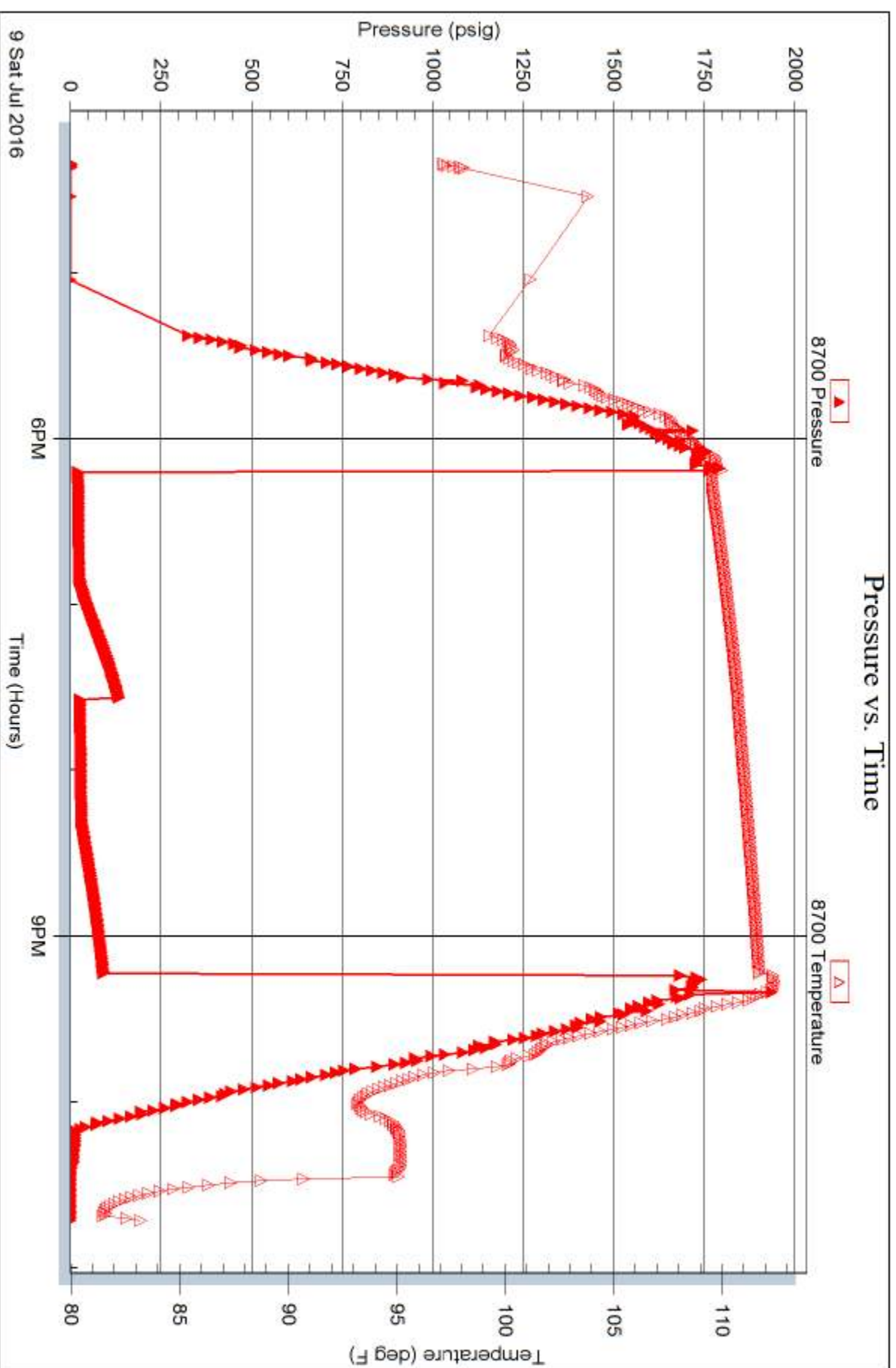


Serial #: 8700

Outside TDI, Inc

GJ#1

DST Test Number: 1





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **65473**

Well Name & No. GJ #1 Test No. 1 Date 7-9-16
 Company TDI Inc Elevation 2125 KB 2117 GL
 Address 1310 Bison Rd. Hays, Ks 67601-9696
 Co. Rep / Geo. Herb Deines Rig Southwind rig 3
 Location: Sec. 12 Twp. 12 Rge. 19^W Co. ELL State K

Interval Tested 3530-3625 Zone Tested LKC H-K
 Anchor Length 95 Drill Pipe Run 3516 Mud Wt. 9.2
 Top Packer Depth 3525 Drill Collars Run - Vis 53
 Bottom Packer Depth 3530 Wt. Pipe Run - WL 7.6
 Total Depth 3625 Chlorides 2800 ppm System LCM 2#
 Blow Description IFP - WEAK Blow thru-out 1/2" TO 1" Blow
ISTP - NO Blow
FFP - NO Blow
FBIP NO Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>CO</u>				
<u>20</u>	<u>OCM</u>		<u>15</u>		<u>85</u>

Rec Total 25 BHT 112 Gravity 17 API RW - @ - ° F Chlorides - ppm

(A) Initial Hydrostatic <u>1729</u>	☒ Test <u>1050</u>	T-On Location <u>1445</u>
(B) First Initial Flow <u>25</u>	☐ Jars	T-Started <u>1620</u>
(C) First Final Flow <u>26</u>	☐ Safety Joint	T-Open <u>1815</u>
(D) Initial Shut-In <u>134</u>	☐ Circ Sub	T-Pulled <u>2115</u>
(E) Second Initial Flow <u>30</u>	☐ Hourly Standby	T-Out <u>2</u>
(F) Second Final Flow <u>40</u>	☒ Mileage <u>31 RT</u> 46.50	Comments <u>Loaded 7/10 7:00</u>
(G) Final Shut-In <u>91</u>	☐ Sampler	
(H) Final Hydrostatic <u>1719</u>	☐ Straddle	☐ Ruined Shale Packer
	☐ Shale Packer	☐ Ruined Packer
	☐ Extra Packer	☐ Extra Copies
Initial Open <u>45</u>	☐ Extra Recorder	Sub Total <u>0</u>
Initial Shut-In <u>45</u>	☐ Day Standby	Total <u>1096.50</u>
Final Flow <u>45</u>	☐ Accessibility	MP/DST Disc't
Final Shut-In <u>45</u>	Sub Total <u>1096.50</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.