



DRILL STEM TEST REPORT

Prepared For: **Carmen Schmitt**

PO Box 47
Great Bend, KS 67530

ATTN: Brad Rine

Horacek A #1

13-23S-21W Hodgeman,KS

Start Date: 2017.02.20 @ 16:18:15

End Date: 2017.02.20 @ 18:23:00

Job Ticket #: 63562 DST #: 1

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

Printed: 2017.02.21 @ 16:36:55



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Carmen Schmitt
PO Box 47
Great Bend, KS 67530
ATTN: Brad Rine

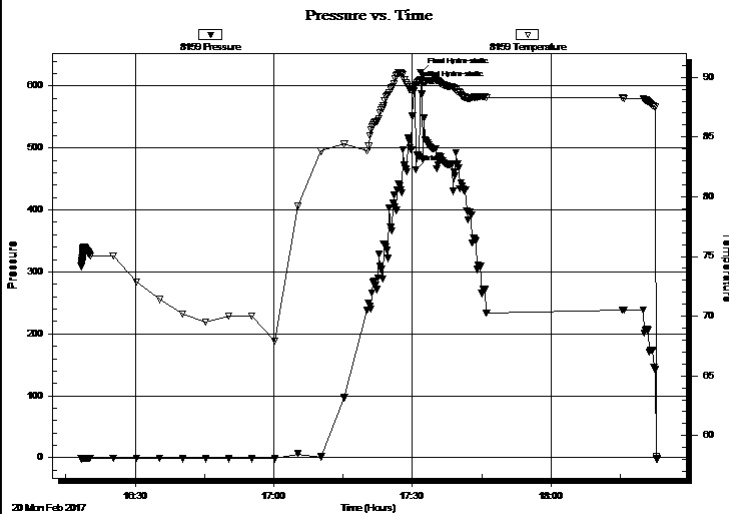
13-23S-21W Hodgeman,KS
Horacek A #1
Job Ticket: 63562 **DST#: 1**
Test Start: 2017.02.20 @ 16:18:15

GENERAL INFORMATION:

Formation: **Mississippi**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 00:00:00
Time Test Ended: 18:23:00
Interval: **4549.00 ft (KB) To 4573.00 ft (KB) (TVD)**
Total Depth: 4573.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Test Type: Conventional Bottom Hole (Initial)
Tester: Leal Cason
Unit No: 74
Reference Elevations: 2316.00 ft (KB)
2309.00 ft (CF)
KB to GR/CF: 7.00 ft

Serial #: 8159 Inside
Press@RunDepth: psig @ 4550.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2017.02.20 End Date: 2017.02.20 Last Calib.: 2017.02.20
Start Time: 16:18:16 End Time: 18:23:00 Time On Btm: 2017.02.20 @ 17:30:30
Time Off Btm: 2017.02.20 @ 17:31:45

TEST COMMENT: Tool Stacked Out Approximately 1050 feet in the Hole. Unable To Break Through, Pulled Test



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	601.35	89.37	Initial Hydro-static
1	465.32	89.40	Bridge
2	621.87	89.77	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Carmen Schmitt
PO Box 47
Great Bend, KS 67530
ATTN: Brad Rine

13-23S-21W Hodgeman,KS
Horacek A #1
Job Ticket: 63562 **DST#: 1**
Test Start: 2017.02.20 @ 16:18:15

Tool Information

Drill Pipe:	Length: 4402.00 ft	Diameter: 3.80 inches	Volume: 61.75 bbl	Tool Weight:	2100.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	lb
Drill Collar:	Length: 153.00 ft	Diameter: 2.25 inches	Volume: 0.75 bbl	Weight to Pull Loose:	lb
			<u>Total Volume: 62.50 bbl</u>	Tool Chased	ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial	lb
Depth to Top Packer:	4549.00 ft			Final	lb
Depth to Bottom Packer:	ft				
Interval between Packers:	24.00 ft				
Tool Length:	43.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

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

Shut In Tool	5.00			4535.00	
Hydraulic tool	5.00			4540.00	
Packer	5.00			4545.00	19.00 Bottom Of Top Packer
Packer	4.00			4549.00	
Stubb	1.00			4550.00	
Recorder	0.00	8159	Inside	4550.00	
Recorder	0.00	6806	Outside	4550.00	
Perforations	20.00			4570.00	
Bullnose	3.00			4573.00	24.00 Bottom Packers & Anchor
Total Tool Length:	43.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Carmen Schmitt
PO Box 47
Great Bend, KS 67530
ATTN: Brad Rine

13-23S-21W Hodgeman,KS
Horacek A #1
Job Ticket: 63562 **DST#: 1**
Test Start: 2017.02.20 @ 16:18:15

Mud and Cushion Information

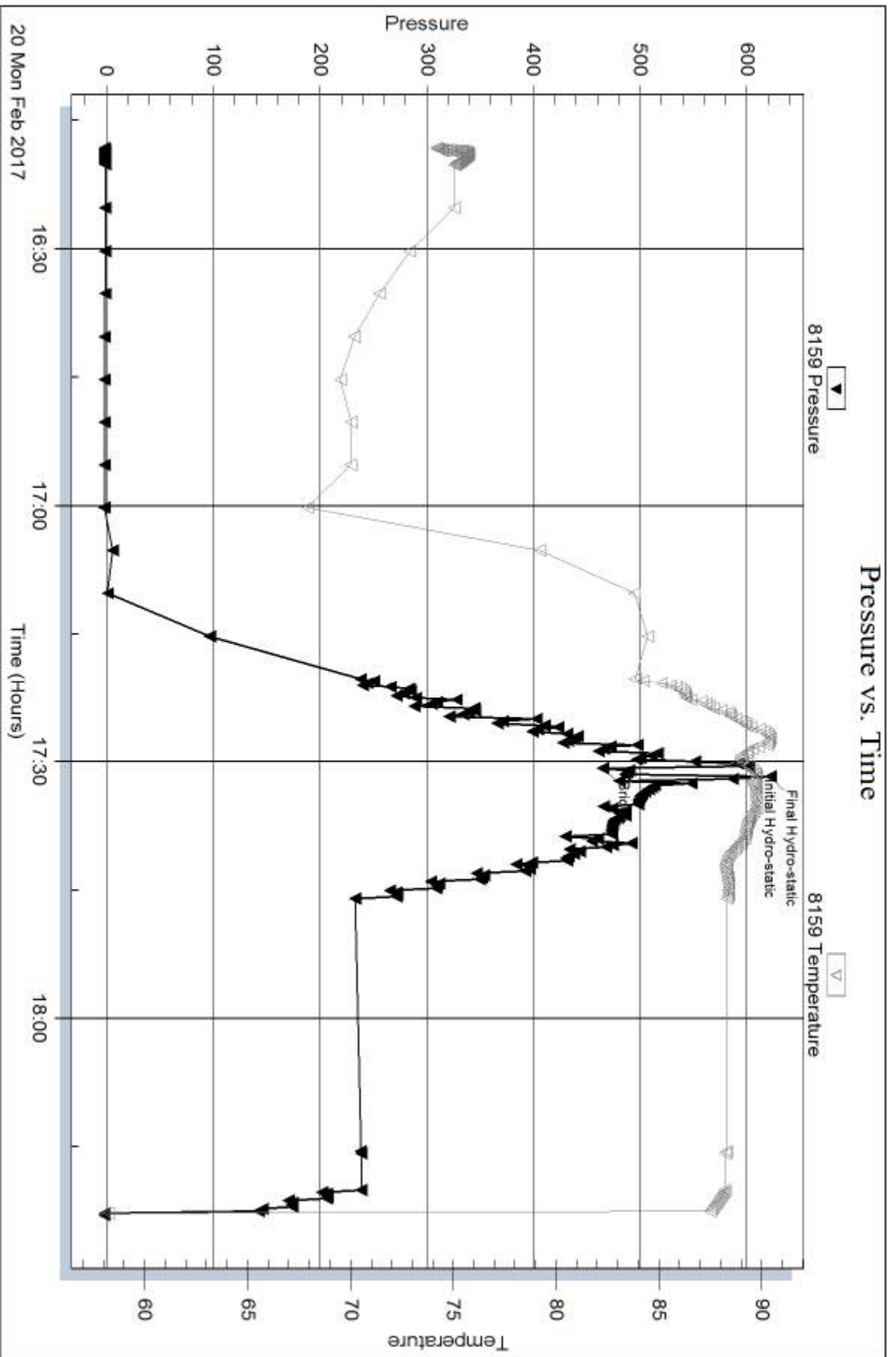
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 50.00 sec/qt	Cushion Volume: bbl		
Water Loss: 8.78 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 3350.00 ppm			
Filter Cake: 0.02 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl

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

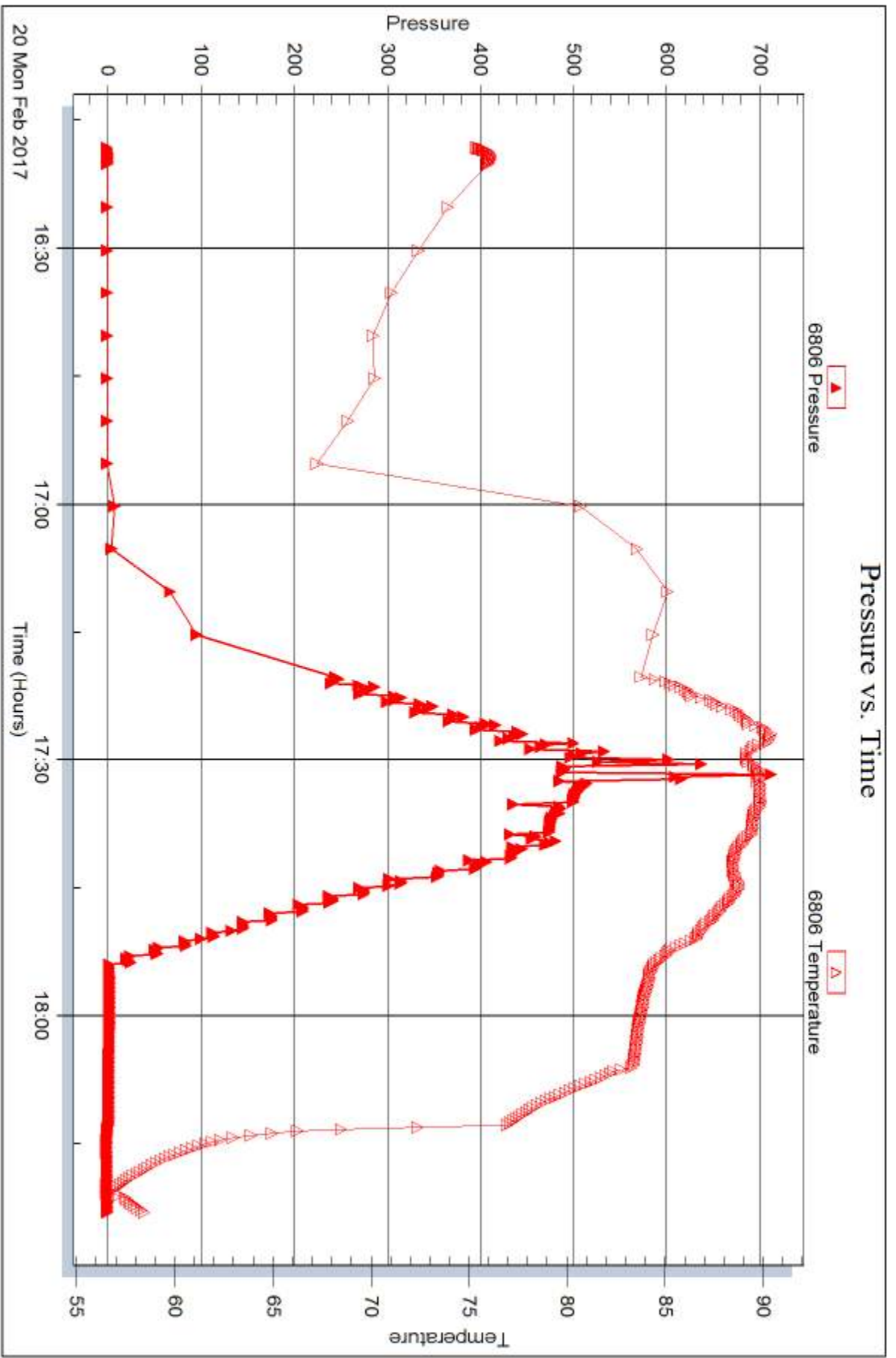


Serial #: 6806

Outside Carmen Schnitt

Horacek A #1

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 63562

Printed: 2017.02.21 @ 16:36:58



DRILL STEM TEST REPORT

Prepared For: **Carmen Schmitt**

PO Box 47
Great Bend, KS 67530

ATTN: Brad Rine

Horacek A #1

13-23S-21W Hodgeman,KS

Start Date: 2017.02.21 @ 01:53:53

End Date: 2017.02.21 @ 10:39:42

Job Ticket #: 63563 DST #: 2

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

Printed: 2017.02.21 @ 16:23:05



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Carmen Schmitt
PO Box 47
Great Bend, KS 67530
ATTN: Brad Rine

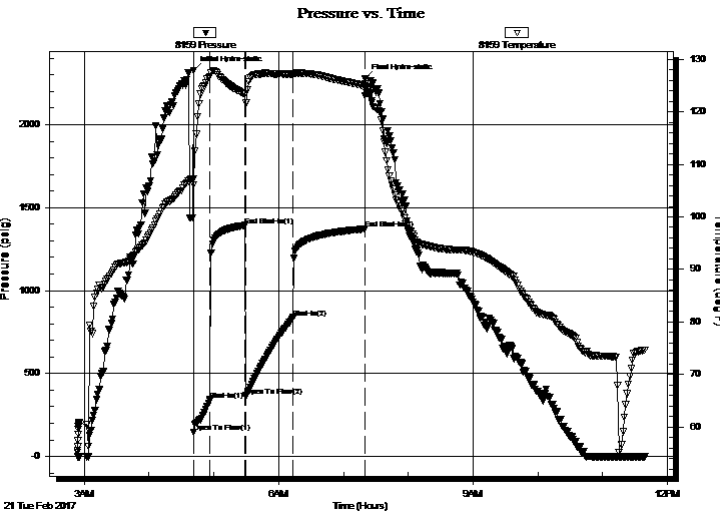
13-23S-21W Hodgeman,KS
Horacek A #1
Job Ticket: 63563 **DST#: 2**
Test Start: 2017.02.21 @ 01:53:53

GENERAL INFORMATION:

Formation: **Mississippi**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 03:41:28
Time Test Ended: 10:39:42
Interval: **4551.00 ft (KB) To 4575.00 ft (KB) (TVD)**
Total Depth: 4573.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Test Type: Conventional Bottom Hole (Reset)
Tester: Leal Cason
Unit No: 74
Reference Elevations: 2316.00 ft (KB)
2309.00 ft (CF)
KB to GR/CF: 7.00 ft

Serial #: 8159 Inside
Press@RunDepth: 837.36 psig @ 4550.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2017.02.21 End Date: 2017.02.21 Last Calib.: 2017.02.21
Start Time: 02:53:54 End Time: 11:39:42 Time On Btm: 2017.02.21 @ 04:41:13
Time Off Btm: 2017.02.21 @ 07:20:13

TEST COMMENT: IF: Strong Blow , BOB in 90 seconds
IS: Blow Back Built to BOB in 6 minutes
FF: Strong Blow , BOB in 90 seconds
FS: Blow Back Built to BOB in 9 minutes, GTS in 9 minutes



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2326.87	107.28	Initial Hydro-static
1	147.24	106.12	Open To Flow (1)
16	341.96	126.81	Shut-In(1)
48	1392.87	123.34	End Shut-In(1)
49	360.75	121.64	Open To Flow (2)
92	837.36	127.11	Shut-In(2)
159	1370.98	124.98	End Shut-In(2)
159	2278.53	124.66	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	GTS	0.00
184.00	GSY MWCO 30%G 10%W 20%M 40%O	1.19
63.00	GSY MWCO 40%G 5%M 5%W 50%O	0.88
2021.00	GCO 20%G 80%O	28.35

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Carmen Schmitt
PO Box 47
Great Bend, KS 67530
ATTN: Brad Rine

13-23S-21W Hodgeman,KS

Horacek A #1

Job Ticket: 63563

DST#: 2

Test Start: 2017.02.21 @ 01:53:53

GENERAL INFORMATION:

Formation: **Mississippi**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:41:28

Time Test Ended: 10:39:42

Interval: 4551.00 ft (KB) To 4575.00 ft (KB) (TVD)

Total Depth: 4573.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Test Type: Conventional Bottom Hole (Reset)

Tester: Leal Cason

Unit No: 74

Reference Elevations: 2316.00 ft (KB)

2309.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 6806 Outside

Press@RunDepth: psig @ 4550.00 ft (KB)

Start Date: 2017.02.21

End Date:

2017.02.21

Start Time: 01:53:54

End Time:

11:40:08

Capacity: 8000.00 psig

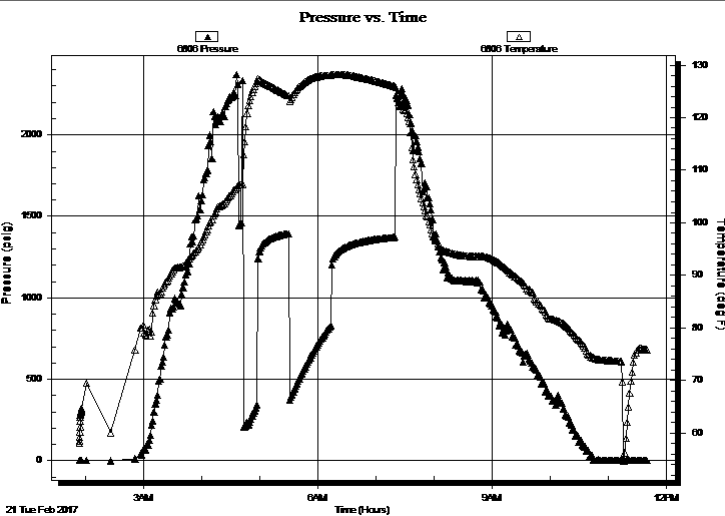
Last Calib.:

2017.02.21

Time On Btm:

Time Off Btm:

TEST COMMENT: IF: Strong Blow , BOB in 90 seconds
IS: Blow Back Built to BOB in 6 minutes
FF: Strong Blow , BOB in 90 seconds
FS: Blow Back Built to BOB in 9 minutes, GTS in 9 minutes



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
0.00	GTS	0.00
184.00	GSY MWCO 30%G 10%W 20%M 40%O	1.19
63.00	GSY MWCO 40%G 5%M 5%W 50%O	0.88
2021.00	GCO 20%G 80%O	28.35

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Carmen Schmitt
PO Box 47
Great Bend, KS 67530
ATTN: Brad Rine

13-23S-21W Hodgeman,KS
Horacek A #1
Job Ticket: 63563 **DST#: 2**
Test Start: 2017.02.21 @ 01:53:53

Tool Information

Drill Pipe:	Length: 4402.00 ft	Diameter: 3.80 inches	Volume: 61.75 bbl	Tool Weight: 2100.00 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: 153.00 ft	Diameter: 2.25 inches	Volume: 0.75 bbl	Weight to Pull Loose: 65000.00 lb
		Total Volume: 62.50 bbl		Tool Chased ft
Drill Pipe Above KB:	32.00 ft			String Weight: Initial 55000.00 lb
Depth to Top Packer:	4549.00 ft			Final 61000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	24.00 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
-------------------------	--------------------	-------------------	-----------------	-------------------	-----------------------

Shut In Tool	5.00			4528.00	
Hydraulic tool	5.00			4533.00	
Jars	5.00			4538.00	
Safety Joint	2.00			4540.00	
Packer - Shale	5.00			4545.00	
Packer	4.00			4549.00	26.00 Bottom Of Top Packer
Stubb	1.00			4550.00	
Recorder	0.00	8159	Inside	4550.00	
Recorder	0.00	6806	Outside	4550.00	
Perforations	20.00			4570.00	
Bullnose	3.00			4573.00	24.00 Anchor Tool

Total Tool Length: 50.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Carmen Schmitt
PO Box 47
Great Bend, KS 67530
ATTN: Brad Rine

13-23S-21W Hodgeman,KS
Horacek A #1
Job Ticket: 63563 **DST#: 2**
Test Start: 2017.02.21 @ 01:53:53

Mud and Cushion Information

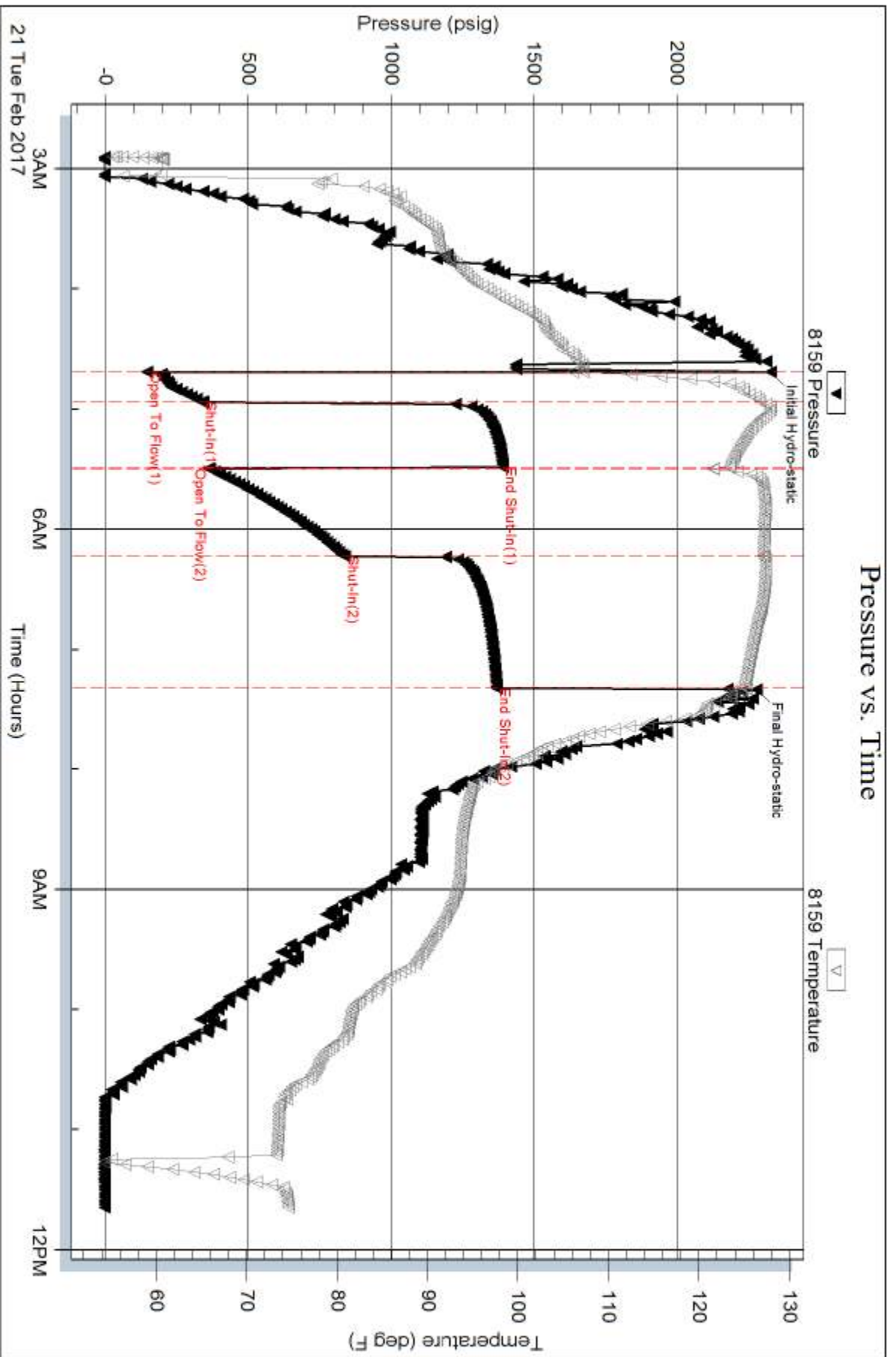
Mud Type: Gel Chem	Cushion Type:	Oil API: 37.4 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: ppm
Viscosity: 50.00 sec/qt	Cushion Volume: bbl	
Water Loss: 8.76 in ³	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 3350.00 ppm		
Filter Cake: 0.02 inches		

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	GTS	0.000
184.00	GSY MWCO 30%G 10%W 20%M 40%O	1.187
63.00	GSY MWCO 40%G 5%M 5%W 50%O	0.884
2021.00	GCO 20%G 80%O	28.349

Total Length: 2268.00 ft Total Volume: 30.420 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments: Gravity w as 37.2 @ 58 degrees

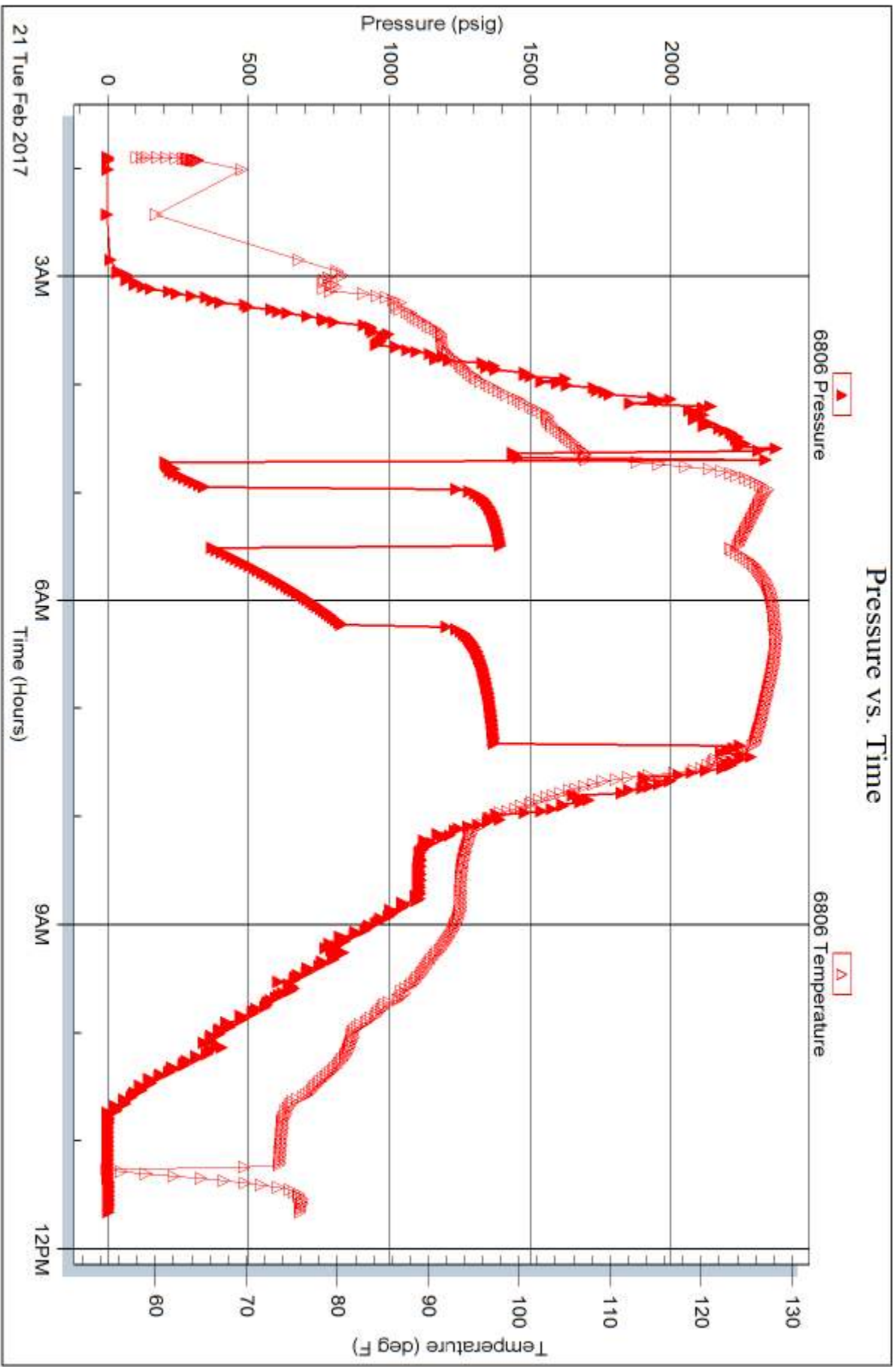


Serial #: 6806

Outside Carmen Schmitt

Horacek A #1

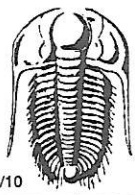
DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 63563

Printed: 2017.02.21 @ 16:23:07



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **63562**

Well Name & No. Haracek A 1 Test No. 1 Date 02/20/17
 Company Carmen Schmitt Elevation 2316 KB 2309 GL
 Address PO Box 47 Great Bend, KS 67530
 Co. Rep / Geo. Brad Rine Rig Murfin 16
 Location: Sec. 13 Twp. 23S Rge. 21W Co. Hodgeman State KS

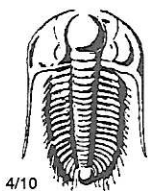
Interval Tested 4549 - 4573 Zone Tested Mississippi
 Anchor Length 24 Drill Pipe Run N/A Mud Wt. 9.4
 Top Packer Depth 4544 Drill Collars Run 153 Vis 50
 Bottom Packer Depth 4549 Wt. Pipe Run 0 WL 8.8
 Total Depth 4573 Chlorides 3350 ppm System LCM 2
 Blow Description Tool Stacked Out approximately 1050' in the Hole, unable TO BREAK through, pulled Tool

Rec	Feet of	%gas	%oil	%water	%mud

Rec Total N/A BHT N/A Gravity N/A API RW N/A @ N/A °F Chlorides N/A ppm
 (A) Initial Hydrostatic 601 Test 950 T-On Location 15:15
 (B) First Initial Flow N/A Jars _____ T-Started 16:18
 (C) First Final Flow N/A Safety Joint _____ T-Open N/A
 (D) Initial Shut-In N/A Circ Sub _____ T-Pulled 17:30
 (E) Second Initial Flow N/A Hourly Standby _____ T-Out 18:23
 (F) Second Final Flow N/A Mileage 160 120 Comments _____
 (G) Final Shut-In N/A Sampler _____
 (H) Final Hydrostatic 621 Straddle _____
 Initial Open N/A Shale Packer _____
 Initial Shut-In N/A Shale Packer _____
 Final Flow N/A Extra Packer _____
 Final Shut-In N/A Extra Recorder _____
 Sub Total 0
 Total 1070
 Sub Total 1070 MP/DST Disc't

Approved By Brad Rine 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. **63563**

Well Name & No. Haracek A 1 Test No. 2 Date 02/21/17
 Company Carmen Schmitt Elevation 2316 KB 2309 GL
 Address PO Box 47 Great Bend, KS 67530
 Co. Rep / Geo. Brad Rine Rig Murfin 16
 Location: Sec. 13 Twp. 23S Rge. 21W Co. Hodgeman State KS

Interval Tested ~~4551~~ - 4575 Zone Tested Mississippi
 Anchor Length 24 Drill Pipe Run 4402 Mud Wt. 9.4
 Top Packer Depth 4544 Drill Collars Run 153 Vis 50
 Bottom Packer Depth 4549 Wt. Pipe Run 0 WL 8.8
 Total Depth 4573 Chlorides 3350 ppm System LCM 2

Blow Description IF: Strong Blow, BOB in 90 seconds
ISI: Blow Back built to BOB in 6 minutes
FF: Strong Blow, BOB in 90 seconds
FSI: Blow Back built to BOB in 9 minutes, GTS in 9 minutes

Rec	Feet of	%gas	%oil	%water	%mud
<u>2287</u>	<u>GTP</u>				
<u>2021</u>	<u>GCO</u>	<u>20</u>	<u>80</u>		
<u>63</u>	<u>GSMWCO</u>	<u>40</u>	<u>50</u>	<u>5</u>	<u>5</u>
<u>184</u>	<u>GSMWCO</u>	<u>30</u>	<u>40</u>	<u>10</u>	<u>20</u>

Rec Total 2268 BHT 125 Gravity 37.4 API RW NIC @ NIC °F Chlorides NIC ppm

(A) Initial Hydrostatic <u>2327</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>00:45</u>
(B) First Initial Flow <u>147</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>01:53</u>
(C) First Final Flow <u>342</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>04:41</u>
(D) Initial Shut-In <u>1393</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>07:19</u>
(E) Second Initial Flow <u>361</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>11:39</u>
(F) Second Final Flow <u>837</u>	<input checked="" type="checkbox"/> Mileage <u>160</u> <u>120</u>	Comments
(G) Final Shut-In <u>1371 1371</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2278</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
	<input checked="" type="checkbox"/> Shale Packer <u>250</u>	<input type="checkbox"/> Ruined Packer
Initial Open <u>15</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>45</u>	<input type="checkbox"/> Day Standby	Total <u>1845</u>
Final Shut-In <u>960</u>	<input type="checkbox"/> Accessibility	MP/DST Disc't <input checked="" type="checkbox"/>
	Sub Total <u>1845</u>	

Approved By Brad Rine 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.