



## DRILL STEM TEST REPORT

Prepared For: **Larson Engineering, Inc**

562 W State Rd 4  
Olmitz, KS 67564

ATTN: Vern Schrag

**Paris #2-11**

**11-19s-29w Lane,KS**

Start Date: 2017.02.20 @ 19:07:00

End Date: 2017.02.21 @ 00:21:15

Job Ticket #: 61318                      DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2017.02.27 @ 08:48:56



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Larson Engineering, Inc

**11-19s-29w Lane,KS**

562 W State Rd 4  
Olmitz, KS 67564

**Paris #2-11**

Job Ticket: 61318

**DST#: 1**

ATTN: Vern Schrag

Test Start: 2017.02.20 @ 19:07:00

## GENERAL INFORMATION:

Formation: **LKC I**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:29:45

Time Test Ended: 00:21:15

Test Type: Conventional Bottom Hole (Initial)

Tester: Bradley Walter

Unit No: 78

**Interval: 4198.00 ft (KB) To 4227.00 ft (KB) (TVD)**

Reference Elevations: 2810.00 ft (KB)

Total Depth: 4227.00 ft (KB) (TVD)

2800.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

**Serial #: 8845 Outside**

Press@RunDepth: 13.05 psig @ 4199.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2017.02.20

End Date:

2017.02.21

Last Calib.: 2017.02.21

Start Time: 19:07:05

End Time:

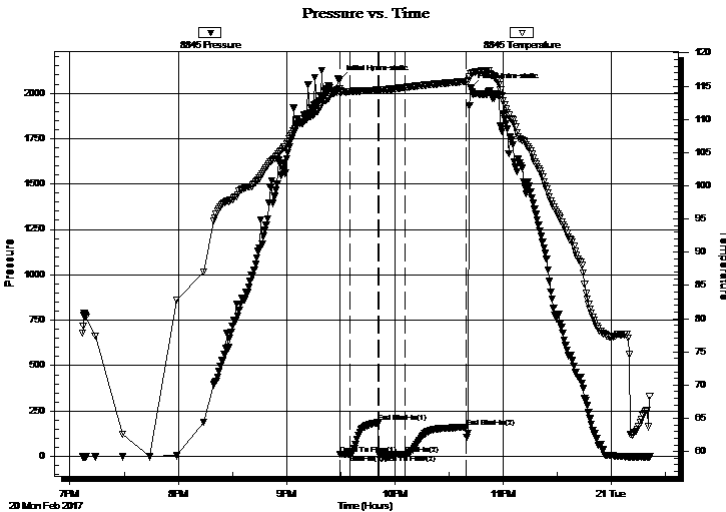
00:21:14

Time On Btm: 2017.02.20 @ 21:29:30

Time Off Btm: 2017.02.20 @ 22:42:00

TEST COMMENT: IF: 1/4" blow.  
IS: No return.  
FF: No blow.  
FS: No return.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2075.29	114.69	Initial Hydro-static
1	11.32	113.97	Open To Flow (1)
6	12.88	114.17	Shut-In(1)
22	185.70	114.41	End Shut-In(1)
22	12.78	114.35	Open To Flow (2)
37	13.05	114.80	Shut-In(2)
70	161.35	115.72	End Shut-In(2)
73	2029.44	116.85	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud 100m (oil spots)	0.07

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Larson Engineering, Inc

**11-19s-29w Lane,KS**

562 W State Rd 4  
Olmitz, KS 67564

**Paris #2-11**

Job Ticket: 61318

**DST#: 1**

ATTN: Vern Schrag

Test Start: 2017.02.20 @ 19:07:00

## Tool Information

Drill Pipe:	Length: 4191.00 ft	Diameter: 3.80 inches	Volume: 58.79 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.90 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:	60000.00 lb
			<u>Total Volume: 58.79 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial	42000.00 lb
Depth to Top Packer:	4198.00 ft			Final	42000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	29.00 ft				
Tool Length:	51.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4177.00	
Shut In Tool	5.00			4182.00	
Hydraulic tool	5.00			4187.00	
Safety Joint	2.00			4189.00	
Packer	5.00			4194.00	22.00 Bottom Of Top Packer
Packer	4.00			4198.00	
Stubb	1.00			4199.00	
Recorder	0.00	8365	Inside	4199.00	
Recorder	0.00	8845	Outside	4199.00	
Perforations	25.00			4224.00	
Bullnose	3.00			4227.00	29.00 Bottom Packers & Anchor

**Total Tool Length: 51.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Larson Engineering, Inc

**11-19s-29w Lane,KS**

562 W State Rd 4  
Olmitz, KS 67564

**Paris #2-11**

Job Ticket: 61318

**DST#: 1**

ATTN: Vern Schrag

Test Start: 2017.02.20 @ 19:07:00

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.19 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1500.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	Mud 100m (oil spots)	0.070

Total Length: 5.00 ft      Total Volume: 0.070 bbl

Num Fluid Samples: 0

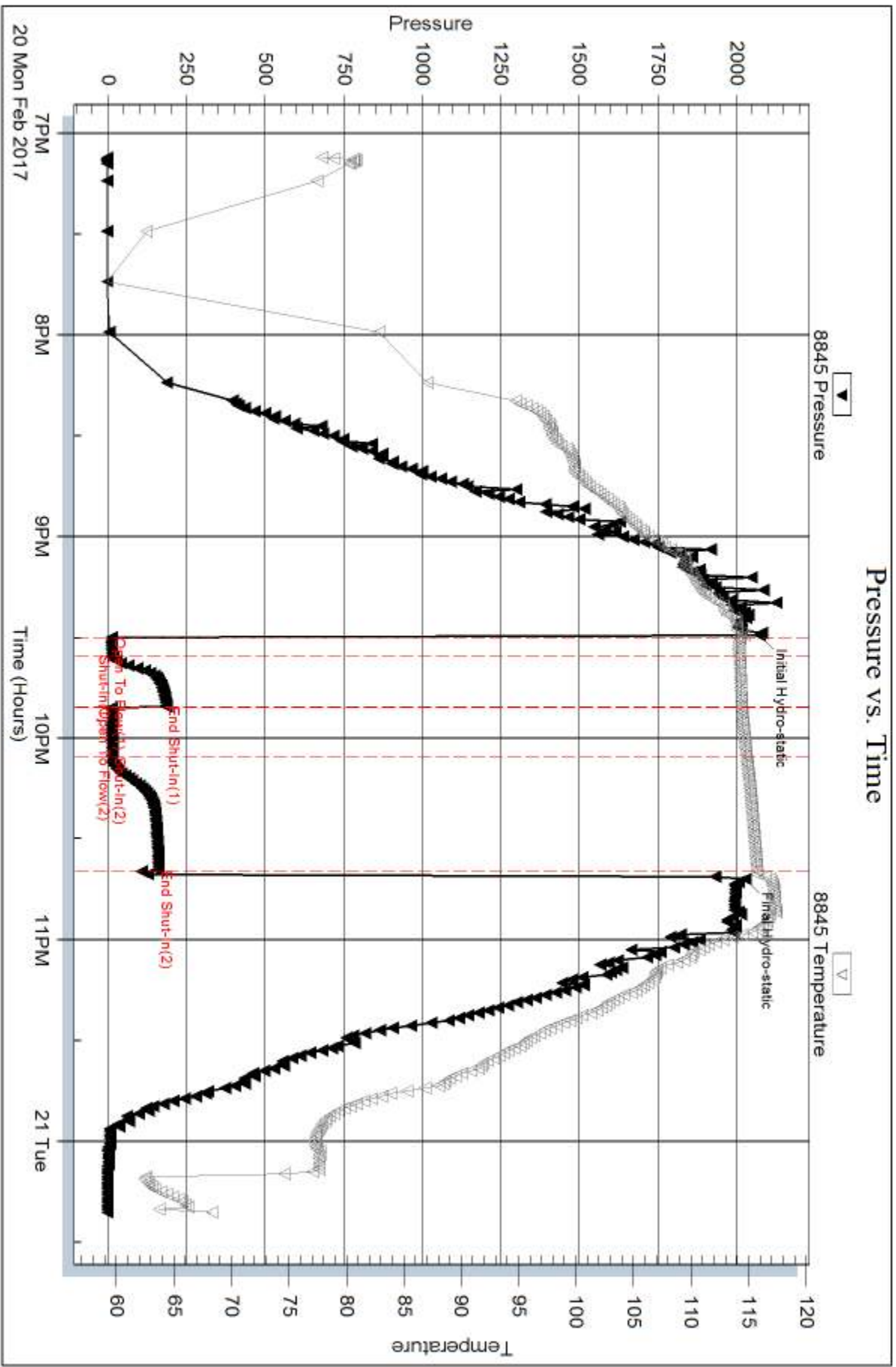
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



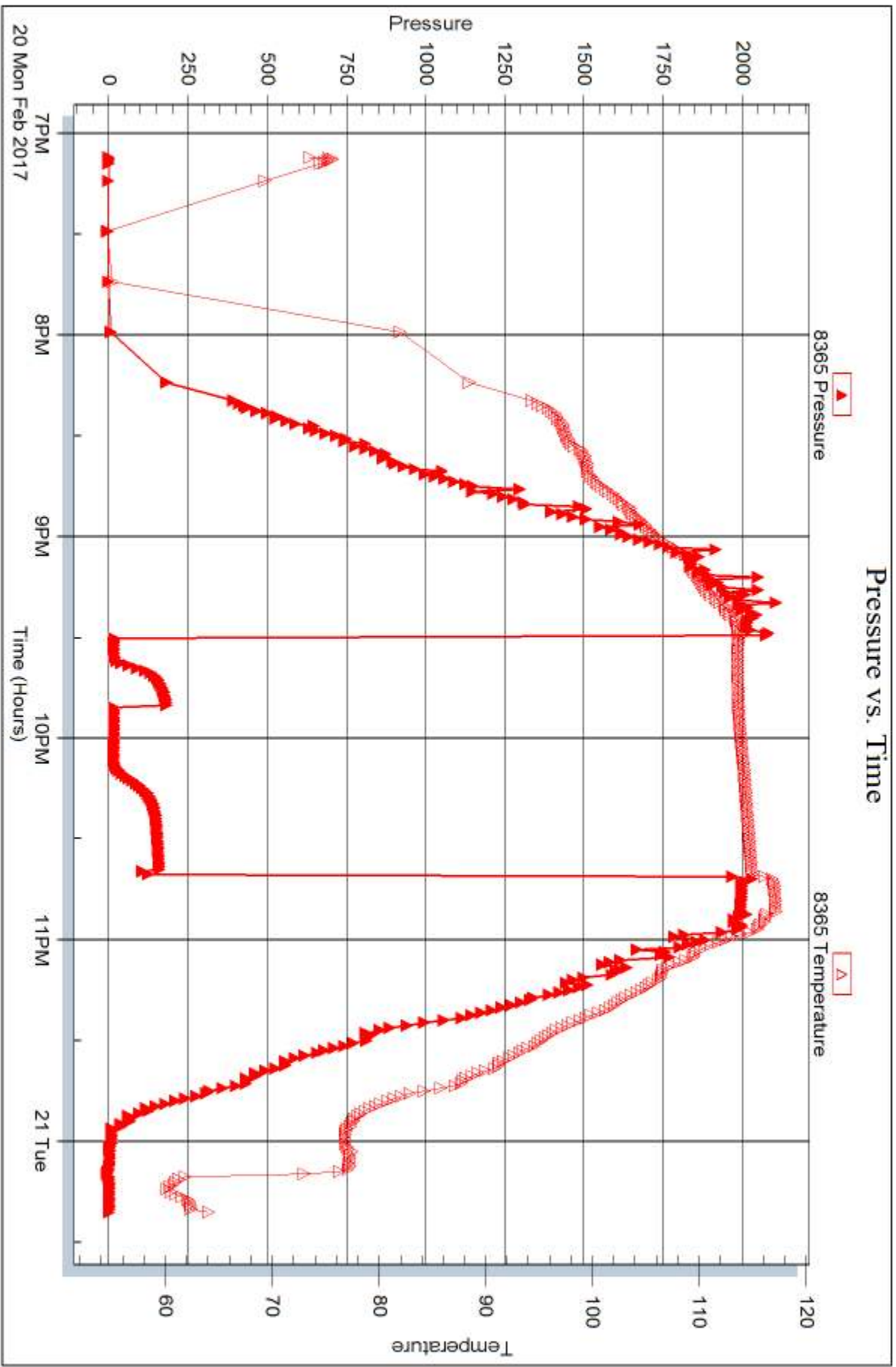
Serial #: 8365

Inside

Larson Engineering, Inc

Paris #2-11

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 61318

Printed: 2017.02.27 @ 08:48:56



## DRILL STEM TEST REPORT

Prepared For: **Larson Engineering, Inc**

562 W State Rd 4  
Olmitz, KS 67564

ATTN: Vern Schrag

**Paris #2-11**

**11-19s-29w Lane,KS**

Start Date: 2017.02.21 @ 11:31:00

End Date: 2017.02.21 @ 16:47:15

Job Ticket #: 61319                      DST #: 2

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

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**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Larson Engineering, Inc

**11-19s-29w Lane, KS**

562 W State Rd 4  
Olmitz, KS 67564

**Paris #2-11**

ATTN: Vern Schrag

Job Ticket: 61319

**DST#: 2**

Test Start: 2017.02.21 @ 11:31:00

## GENERAL INFORMATION:

Formation: **LKC K**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:53:15

Time Test Ended: 16:47:15

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 78

**Interval: 4246.00 ft (KB) To 4262.00 ft (KB) (TVD)**

Reference Elevations: 2810.00 ft (KB)

Total Depth: 4262.00 ft (KB) (TVD)

2800.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

**Serial #: 8845 Outside**

Press@RunDepth: 13.02 psig @ 4247.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2017.02.21

End Date: 2017.02.21

Last Calib.: 2017.02.21

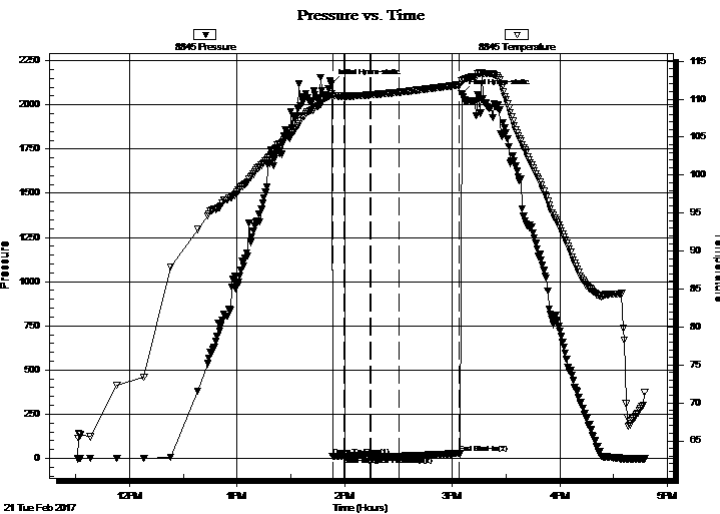
Start Time: 11:31:05

End Time: 16:47:14

Time On Btm: 2017.02.21 @ 13:52:45

Time Off Btm: 2017.02.21 @ 15:05:30

TEST COMMENT: IF: Surface blow .  
IS: No return.  
FF: No blow .  
FS: No return.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2118.60	110.80	Initial Hydro-static
1	11.36	110.26	Open To Flow (1)
7	12.05	110.40	Shut-In(1)
22	23.92	110.56	End Shut-In(1)
22	12.77	110.57	Open To Flow (2)
38	13.02	110.92	Shut-In(2)
71	28.42	111.89	End Shut-In(2)
73	2062.38	112.43	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
2.00	mud 100m (oil spots)	0.03

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Larson Engineering, Inc

562 W State Rd 4  
Olmitz, KS 67564

ATTN: Vern Schrag

11-19s-29w Lane, KS

Paris #2-11

Job Ticket: 61319

DST#: 2

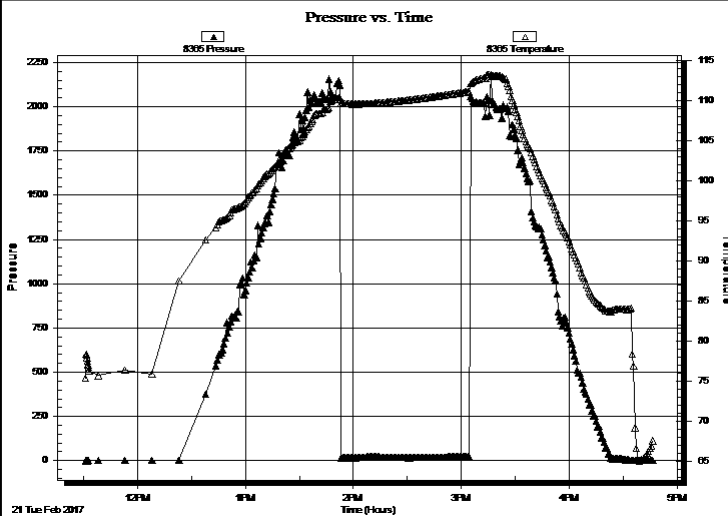
Test Start: 2017.02.21 @ 11:31:00

## GENERAL INFORMATION:

Formation: **LKC K**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 13:53:15  
 Time Test Ended: 16:47:15  
 Interval: **4246.00 ft (KB) To 4262.00 ft (KB) (TVD)**  
 Total Depth: 4262.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Bradley Walter  
 Unit No: 78  
 Reference Elevations: 2810.00 ft (KB)  
 2800.00 ft (CF)  
 KB to GR/CF: 10.00 ft

**Serial #: 8365** Inside  
 Press@RunDepth: psig @ 4247.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2017.02.21 End Date: 2017.02.21 Last Calib.: 2017.02.21  
 Start Time: 11:31:05 End Time: 16:46:29 Time On Btm:  
 Time Off Btm:

TEST COMMENT: IF: Surface blow.  
 IS: No return.  
 FF: No blow.  
 FS: No return.



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
2.00	mud 100m (oil spots)	0.03

## Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Larson Engineering, Inc

**11-19s-29w Lane,KS**

562 W State Rd 4  
Olmitz, KS 67564

**Paris #2-11**

Job Ticket: 61319

**DST#: 2**

ATTN: Vern Schrag

Test Start: 2017.02.21 @ 11:31:00

## Tool Information

Drill Pipe:	Length: 4252.00 ft	Diameter: 3.80 inches	Volume: 59.64 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.90 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: 60000.00 lb
			<u>Total Volume: 59.64 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	28.00 ft			String Weight: Initial 45000.00 lb
Depth to Top Packer:	4246.00 ft			Final 45000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	16.00 ft			
Tool Length:	38.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4225.00	
Shut In Tool	5.00			4230.00	
Hydraulic tool	5.00			4235.00	
Safety Joint	2.00			4237.00	
Packer	5.00			4242.00	22.00 Bottom Of Top Packer
Packer	4.00			4246.00	
Stubb	1.00			4247.00	
Recorder	0.00	8365	Inside	4247.00	
Recorder	0.00	8845	Outside	4247.00	
Perforations	12.00			4259.00	
Bullnose	3.00			4262.00	16.00 Bottom Packers & Anchor

**Total Tool Length: 38.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Larson Engineering, Inc

**11-19s-29w Lane,KS**

562 W State Rd 4  
Olmitz, KS 67564

**Paris #2-11**

Job Ticket: 61319

**DST#: 2**

ATTN: Vern Schrag

Test Start: 2017.02.21 @ 11:31:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 67.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.19 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1900.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2.00	mud 100m (oil spots)	0.028

Total Length: 2.00 ft      Total Volume: 0.028 bbl

Num Fluid Samples: 0

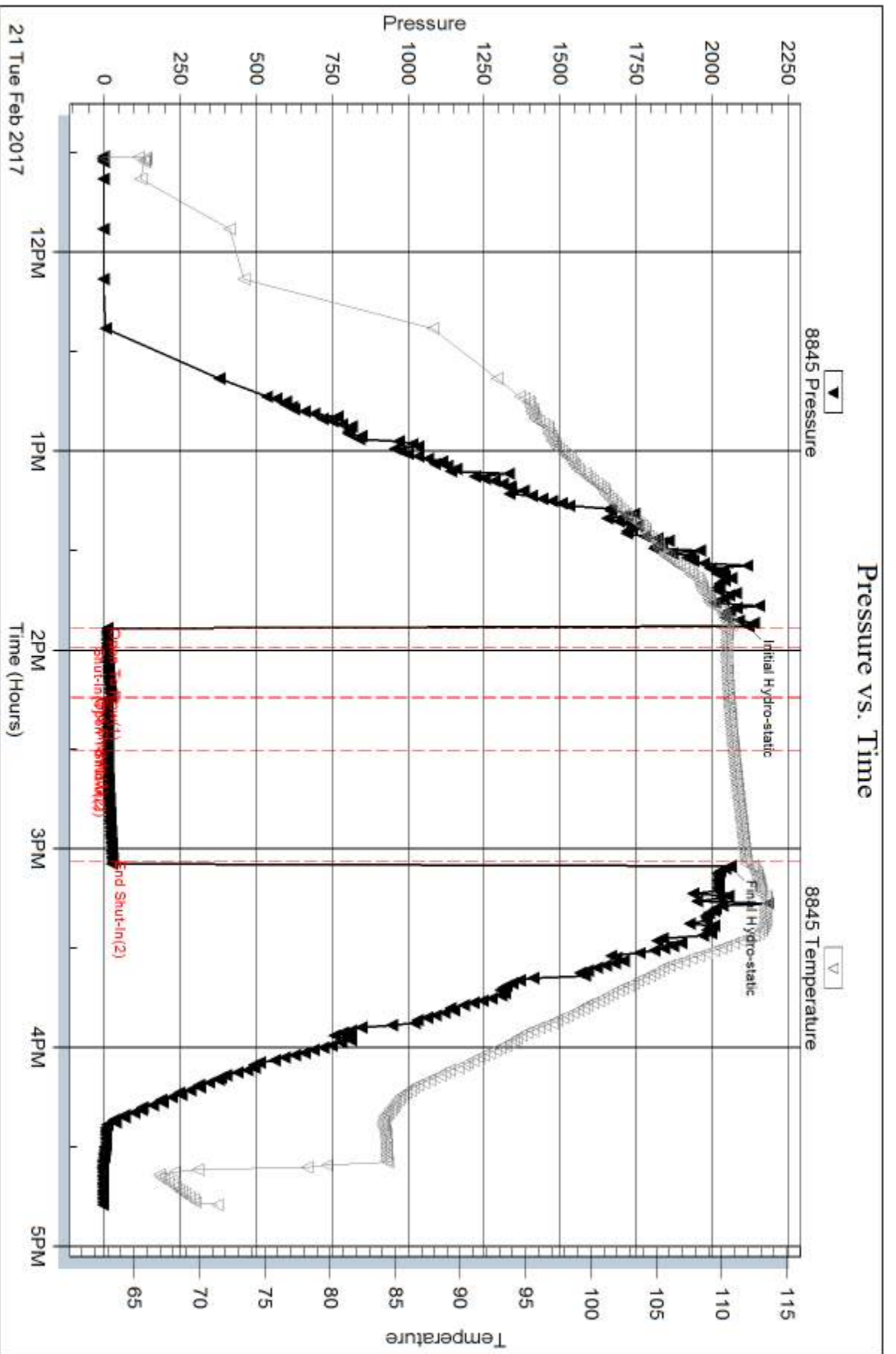
Num Gas Bombs: 0

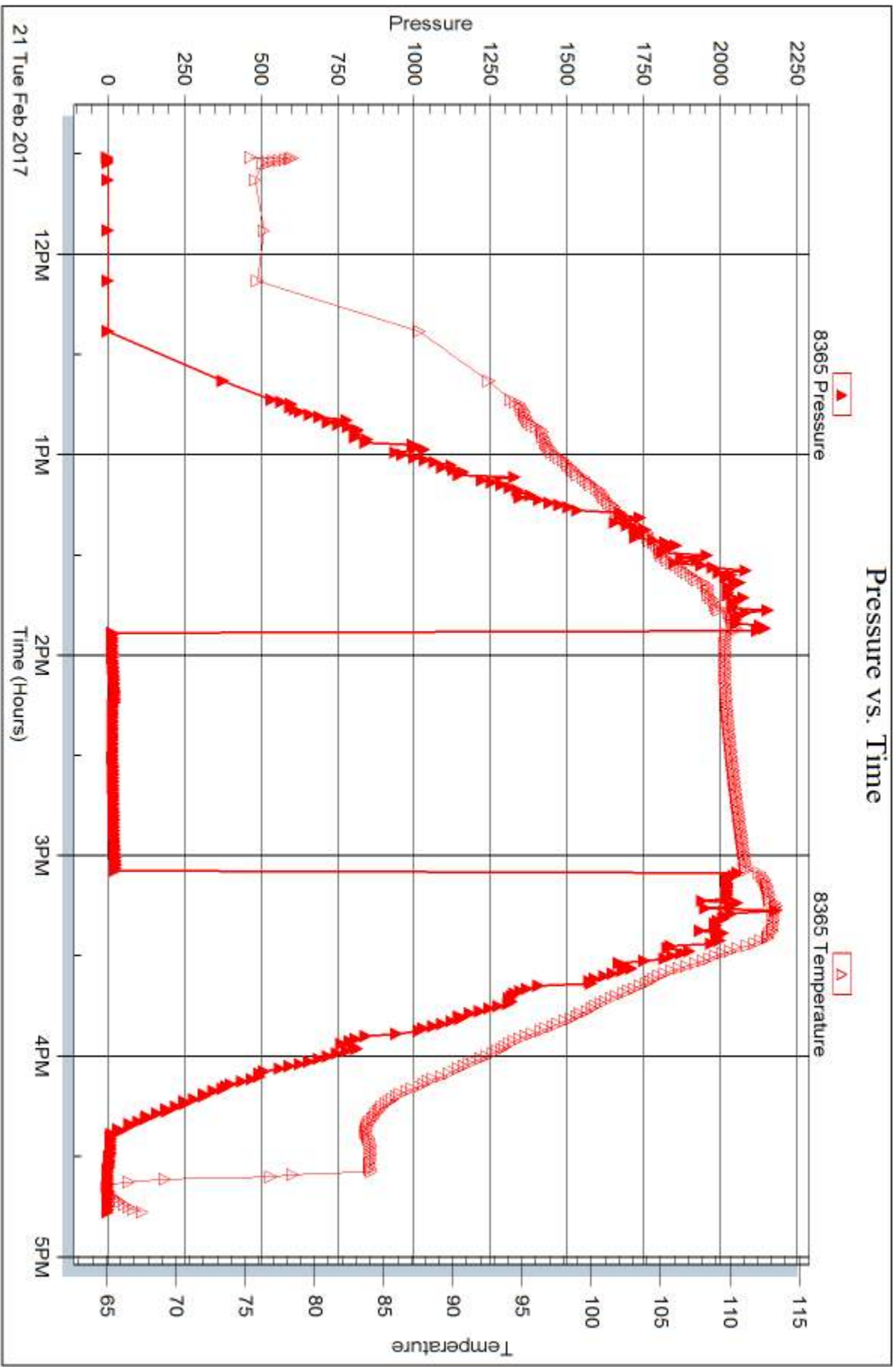
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







## DRILL STEM TEST REPORT

Prepared For: **Larson Engineering, Inc**

562 W State Rd 4  
Olmitz, KS 67564

ATTN: Vern Schrag

**Paris #2-11**

**11-19s-29w Lane,KS**

Start Date: 2017.02.22 @ 04:33:00

End Date: 2017.02.22 @ 10:21:45

Job Ticket #: 61320                      DST #: 3

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

Printed: 2017.02.27 @ 08:43:50



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Larson Engineering, Inc  
562 W State Rd 4  
Olmitz, KS 67564  
ATTN: Vern Schrag

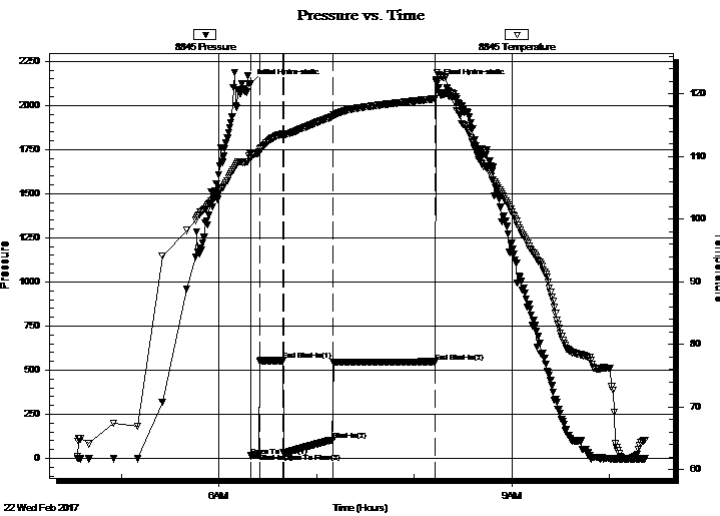
**11-19s-29w Lane, KS**  
**Paris #2-11**  
Job Ticket: 61320 **DST#: 3**  
Test Start: 2017.02.22 @ 04:33:00

## GENERAL INFORMATION:

Formation: **LKC L**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 06:19:45  
Time Test Ended: 10:21:45  
Interval: **4298.00 ft (KB) To 4314.00 ft (KB) (TVD)**  
Total Depth: 4227.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Good  
Test Type: Conventional Bottom Hole (Reset)  
Tester: Bradley Walter  
Unit No: 78  
Reference Elevations: 2810.00 ft (KB)  
2800.00 ft (CF)  
KB to GR/CF: 10.00 ft

**Serial #: 8845 Outside**  
Press@RunDepth: 104.30 psig @ 4299.00 ft (KB) Capacity: 8000.00 psig  
Start Date: 2017.02.22 End Date: 2017.02.22 Last Calib.: 2017.02.22  
Start Time: 04:33:05 End Time: 10:21:44 Time On Btm: 2017.02.22 @ 06:19:30  
Time Off Btm: 2017.02.22 @ 08:14:00

TEST COMMENT: IF: 2" Blow .  
IS: No return.  
FF: 8" blow .  
FS: No return.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2125.34	110.42	Initial Hydro-static
1	14.35	109.75	Open To Flow (1)
6	26.36	110.72	Shut-In(1)
20	554.38	113.59	End Shut-In(1)
21	28.79	113.50	Open To Flow (2)
51	104.30	116.38	Shut-In(2)
113	547.42	119.19	End Shut-In(2)
115	2122.58	123.40	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
200.00	mcw 5m 95w (oil spots)	2.81

\* Recovery from multiple tests

## Gas Rates

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







**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Larson Engineering, Inc

**11-19s-29w Lane,KS**

562 W State Rd 4  
Olmitz, KS 67564

**Paris #2-11**

Job Ticket: 61320

**DST#: 3**

ATTN: Vern Schrag

Test Start: 2017.02.22 @ 04:33:00

## Tool Information

Drill Pipe:	Length: 4284.00 ft	Diameter: 3.80 inches	Volume: 60.09 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.90 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: 60000.00 lb
			<u>Total Volume: 60.09 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	8.00 ft			String Weight: Initial 45000.00 lb
Depth to Top Packer:	4298.00 ft			Final 46000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	16.00 ft			
Tool Length:	38.00 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			4277.00	
Shut In Tool	5.00			4282.00	
Hydraulic tool	5.00			4287.00	
Safety Joint	2.00			4289.00	
Packer	5.00			4294.00	22.00 Bottom Of Top Packer
Packer	4.00			4298.00	
Stubb	1.00			4299.00	
Recorder	0.00	8365	Inside	4299.00	
Recorder	0.00	8845	Outside	4299.00	
Perforations	12.00			4311.00	
Bullnose	3.00			4314.00	16.00 Bottom Packers & Anchor

**Total Tool Length: 38.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Larson Engineering, Inc

**11-19s-29w Lane,KS**

562 W State Rd 4  
Olmitz, KS 67564

**Paris #2-11**

Job Ticket: 61320

**DST#: 3**

ATTN: Vern Schrag

Test Start: 2017.02.22 @ 04:33:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

62000 ppm

Viscosity: 53.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.19 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1900.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
200.00	mcw 5m 95w (oil spots)	2.805

Total Length: 200.00 ft      Total Volume: 2.805 bbl

Num Fluid Samples: 0

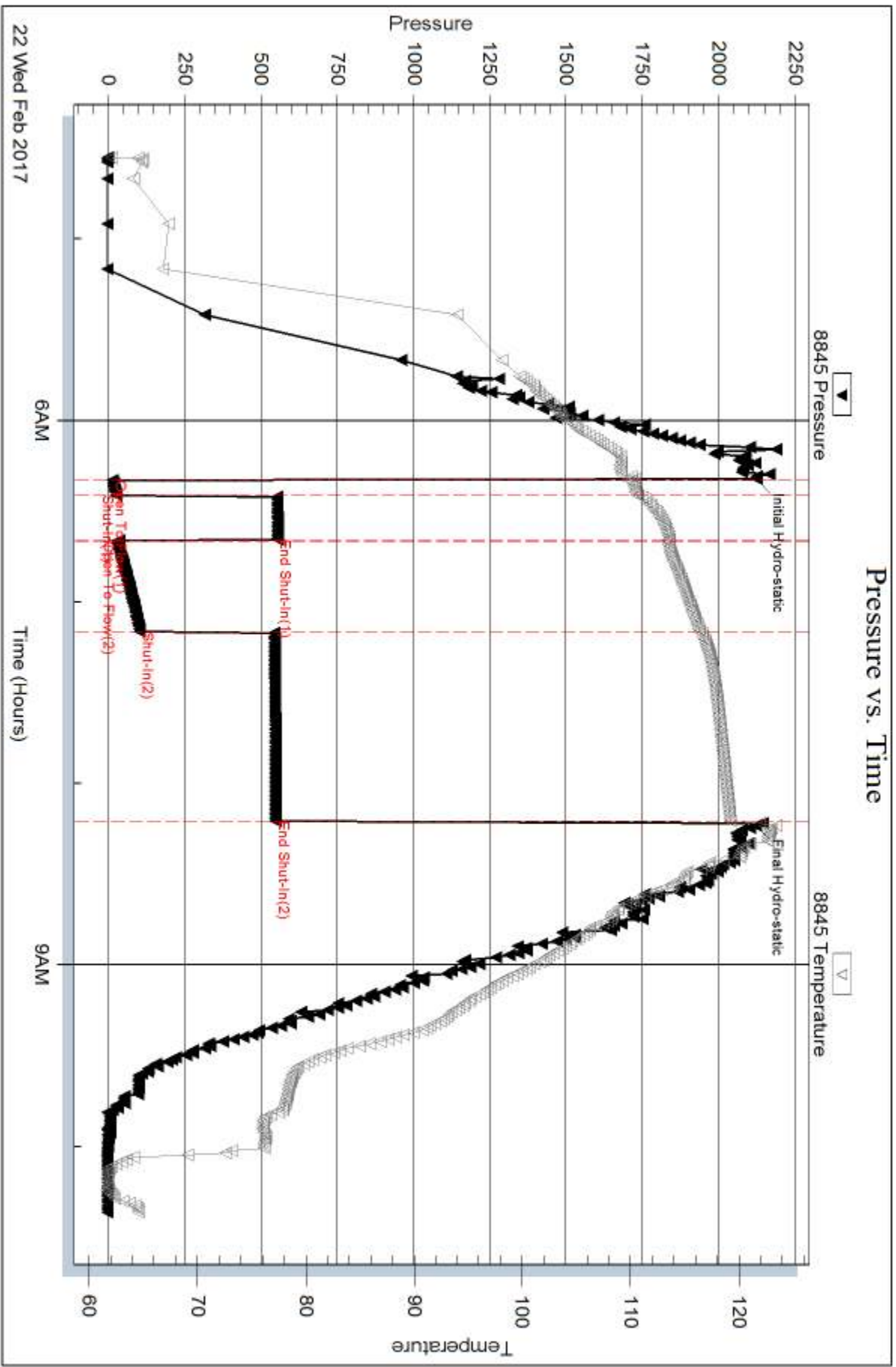
Num Gas Bombs: 0

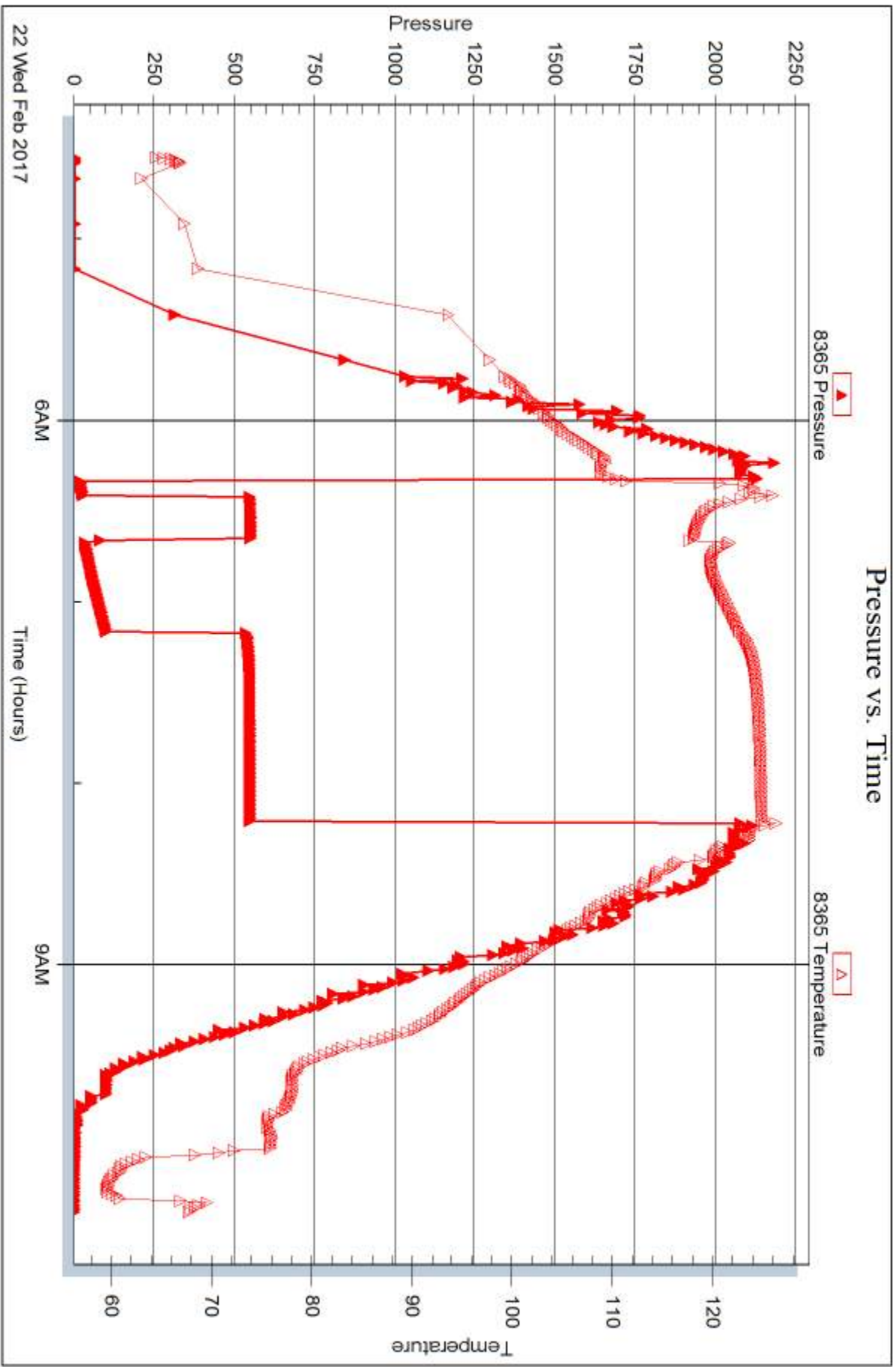
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: rw is .143 @ 61F = 62000







## DRILL STEM TEST REPORT

Prepared For: **Larson Engineering, Inc**

562 W State Rd 4  
Olmitz, KS 67564

ATTN: Vern Schrag

**Paris #2-11**

**11-19s-29w Lane,KS**

Start Date: 2017.02.23 @ 04:28:00

End Date: 2017.02.23 @ 10:21:45

Job Ticket #: 61321                      DST #: 4

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

Printed: 2017.02.27 @ 08:43:26



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Larson Engineering, Inc  
 562 W State Rd 4  
 Olmitz, KS 67564  
 ATTN: Vern Schrag

**11-19s-29w Lane, KS**  
**Paris #2-11**  
 Job Ticket: 61321 **DST#: 4**  
 Test Start: 2017.02.23 @ 04:28:00

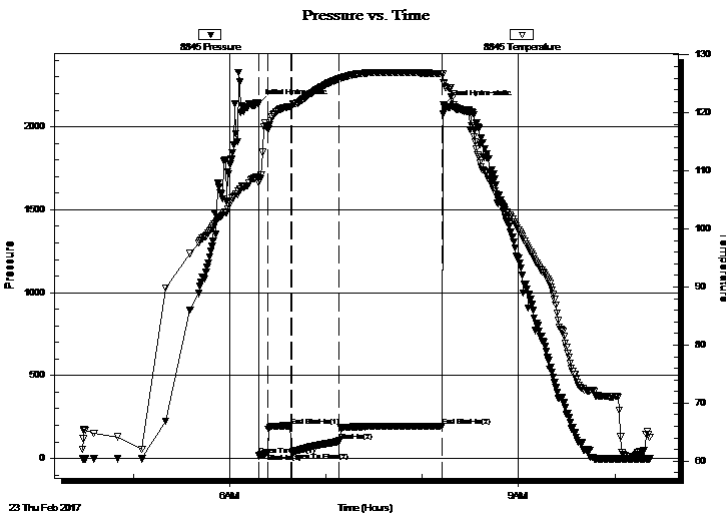
## GENERAL INFORMATION:

Formation: **Pleasanton**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 06:18:00  
 Time Test Ended: 10:21:45  
 Interval: **4341.00 ft (KB) To 4385.00 ft (KB) (TVD)**  
 Total Depth: 4385.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Bradley Walter  
 Unit No: 78  
 Reference Elevations: 2810.00 ft (KB)  
 2800.00 ft (CF)  
 KB to GR/CF: 10.00 ft

**Serial #: 8845 Outside**  
 Press@RunDepth: 101.81 psig @ 4342.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2017.02.23 End Date: 2017.02.23 Last Calib.: 2017.02.23  
 Start Time: 04:28:05 End Time: 10:21:44 Time On Btm: 2017.02.23 @ 06:17:45  
 Time Off Btm: 2017.02.23 @ 08:13:15

TEST COMMENT: IF: 3 1/2" blow .  
 IS: No return.  
 FF: 7" blow .  
 FS: No return.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2140.13	108.82	Initial Hydro-static
1	15.99	107.97	Open To Flow (1)
6	32.71	117.34	Shut-In(1)
20	196.32	121.13	End Shut-In(1)
21	36.69	121.10	Open To Flow (2)
51	101.81	125.90	Shut-In(2)
115	193.92	126.78	End Shut-In(2)
116	2131.13	125.26	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
198.00	mcw 15m 85w (oil spots)	2.78
2.00	free oil 100 o	0.03

\* Recovery from multiple tests

## Gas Rates

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







**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Larson Engineering, Inc

**11-19s-29w Lane,KS**

562 W State Rd 4  
Olmitz, KS 67564

**Paris #2-11**

Job Ticket: 61321

**DST#: 4**

ATTN: Vern Schrag

Test Start: 2017.02.23 @ 04:28:00

## Tool Information

Drill Pipe:	Length: 4346.00 ft	Diameter: 3.80 inches	Volume: 60.96 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.90 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: 60000.00 lb
			<u>Total Volume: 60.96 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	27.00 ft			String Weight: Initial 45000.00 lb
Depth to Top Packer:	4341.00 ft			Final 46000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	44.00 ft			
Tool Length:	66.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4320.00	
Shut In Tool	5.00			4325.00	
Hydraulic tool	5.00			4330.00	
Safety Joint	2.00			4332.00	
Packer	5.00			4337.00	22.00 Bottom Of Top Packer
Packer	4.00			4341.00	
Stubb	1.00			4342.00	
Recorder	0.00	8365	Inside	4342.00	
Recorder	0.00	8845	Outside	4342.00	
Perforations	7.00			4349.00	
Change Over Sub	1.00			4350.00	
Drill Pipe	31.00			4381.00	
Change Over Sub	1.00			4382.00	
Bullnose	3.00			4385.00	44.00 Bottom Packers & Anchor

**Total Tool Length: 66.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Larson Engineering, Inc

**11-19s-29w Lane,KS**

562 W State Rd 4  
Olmitz, KS 67564

**Paris #2-11**

Job Ticket: 61321

**DST#: 4**

ATTN: Vern Schrag

Test Start: 2017.02.23 @ 04:28:00

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

34000 ppm

Viscosity: 53.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.79 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2500.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
198.00	mcw 15m 85w (oil spots)	2.777
2.00	free oil 100 o	0.028

Total Length: 200.00 ft      Total Volume: 2.805 bbl

Num Fluid Samples: 0

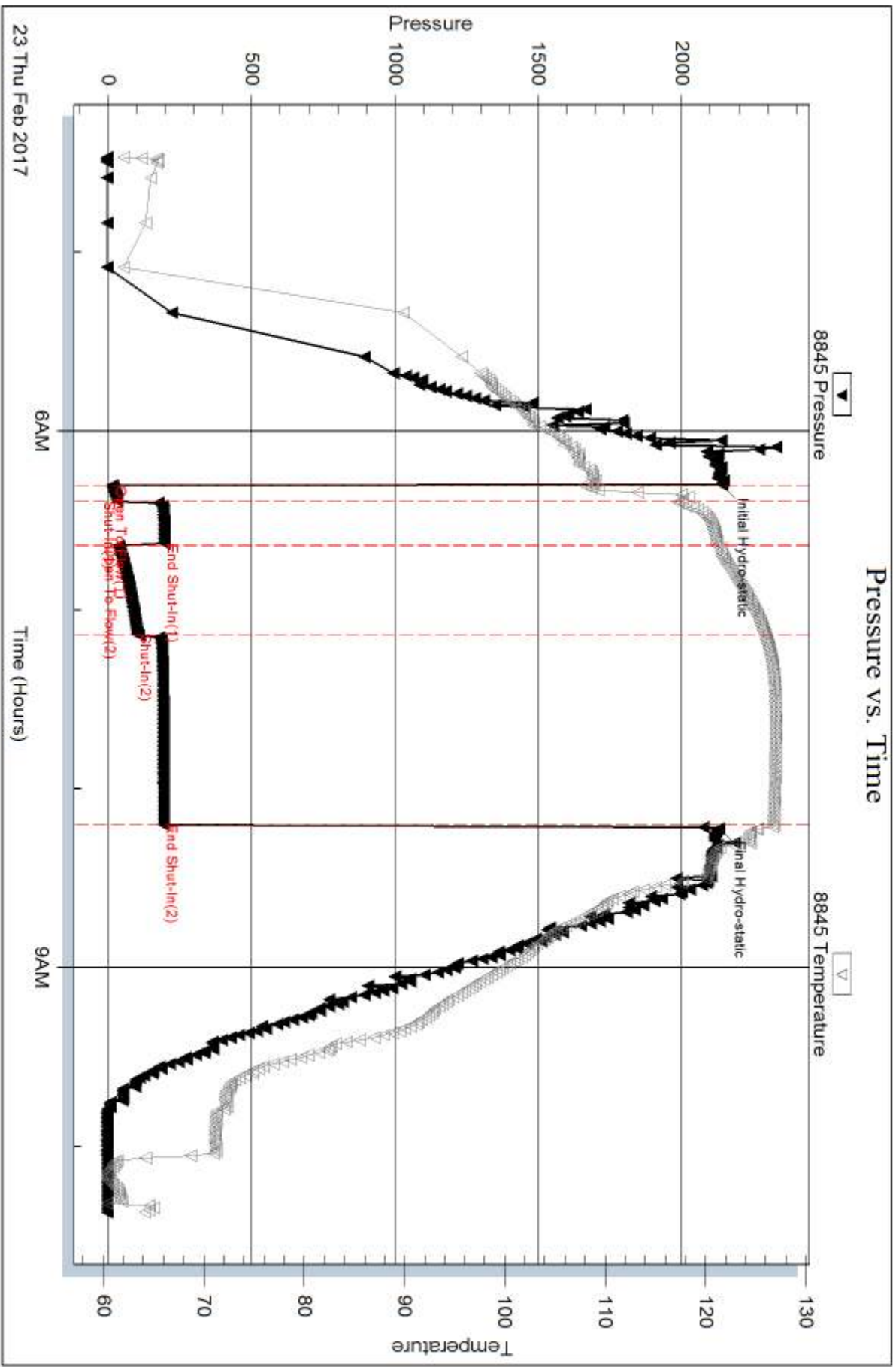
Num Gas Bombs: 0

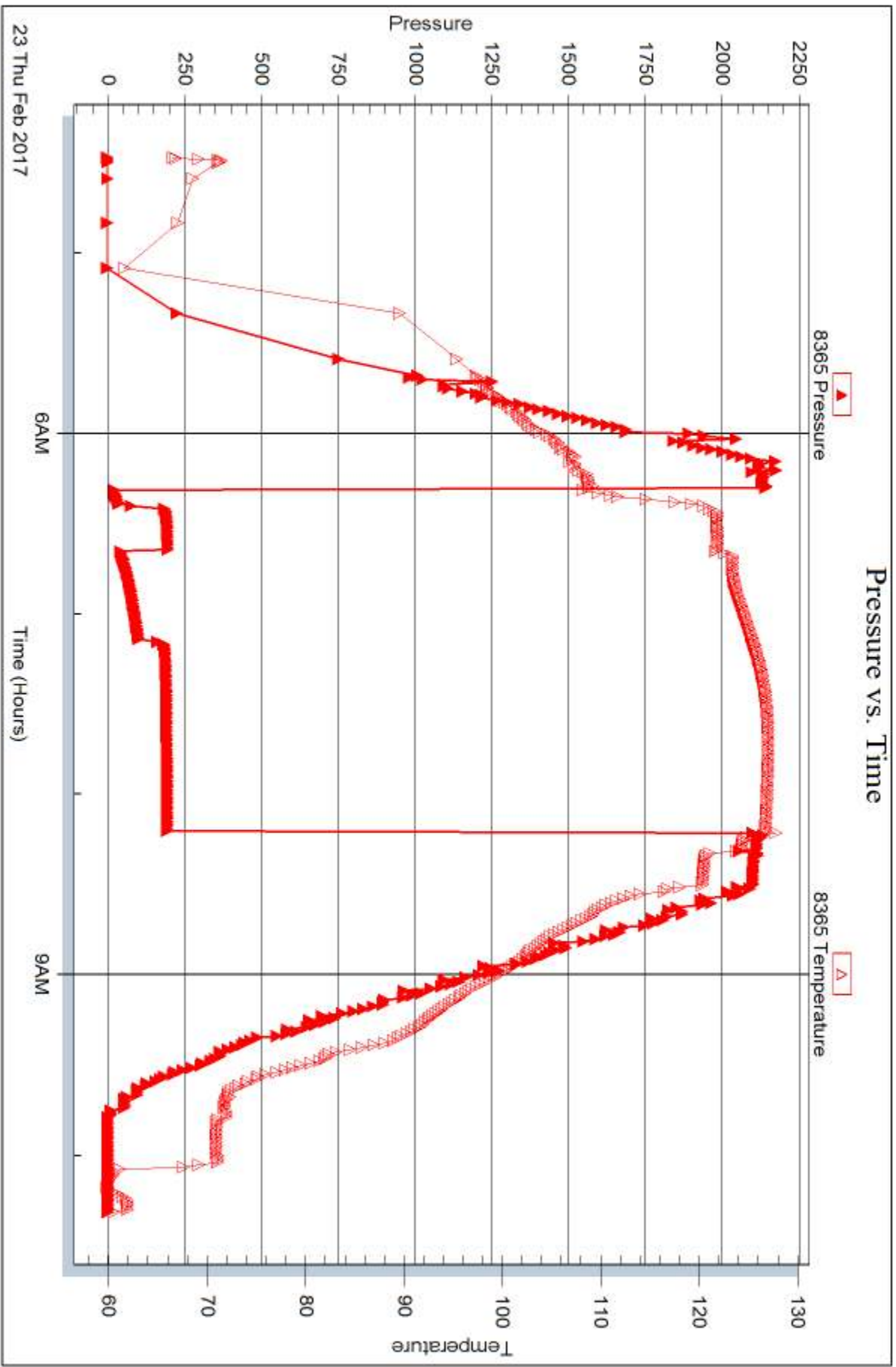
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: rw is .289 @ 51F = 34,000ppm







## DRILL STEM TEST REPORT

Prepared For: **Larson Engineering, Inc**

562 W State Rd 4  
Olmitz, KS 67564

ATTN: Vern Schrag

**Paris #2-11**

**11-19s-29w Lane,KS**

Start Date: 2017.02.23 @ 20:55:00

End Date: 2017.02.24 @ 01:40:15

Job Ticket #: 61322                      DST #: 5

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

Printed: 2017.02.27 @ 08:42:53



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Larson Engineering, Inc

**11-19s-29w Lane, KS**

562 W State Rd 4  
Olmitz, KS 67564

**Paris #2-11**

ATTN: Vern Schrag

Job Ticket: 61322

**DST#: 5**

Test Start: 2017.02.23 @ 20:55:00

## GENERAL INFORMATION:

Formation: **Altamont**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 22:51:15

Time Test Ended: 01:40:15

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 78

**Interval: 4355.00 ft (KB) To 4430.00 ft (KB) (TVD)**

Reference Elevations: 2810.00 ft (KB)

Total Depth: 4430.00 ft (KB) (TVD)

2800.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

**Serial #: 8845 Outside**

Press@RunDepth: 13.85 psig @ 4356.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2017.02.23

End Date:

2017.02.24

Last Calib.: 2017.02.24

Start Time: 20:55:05

End Time:

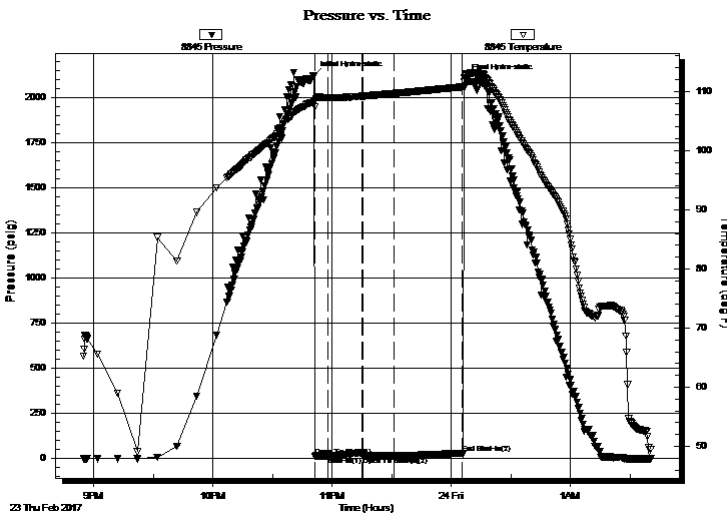
01:40:14

Time On Btm: 2017.02.23 @ 22:51:00

Time Off Btm: 2017.02.24 @ 00:07:00

TEST COMMENT: IF: 1/2" blow .  
IS: No return.  
FF: No blow .  
FS: No return.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2118.96	108.39	Initial Hydro-static
1	12.95	107.37	Open To Flow (1)
7	13.63	108.94	Shut-In(1)
24	31.34	109.19	End Shut-In(1)
25	13.26	109.20	Open To Flow (2)
40	13.85	109.65	Shut-In(2)
75	28.76	110.77	End Shut-In(2)
76	2105.25	112.73	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud 100m (oil spots)	0.07

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Larson Engineering, Inc

**11-19s-29w Lane,KS**

562 W State Rd 4  
Olmitz, KS 67564

**Paris #2-11**

Job Ticket: 61322

**DST#: 5**

ATTN: Vern Schrag

Test Start: 2017.02.23 @ 20:55:00

## Tool Information

Drill Pipe:	Length: 4348.00 ft	Diameter: 3.80 inches	Volume: 60.99 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.90 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: 60000.00 lb
			<u>Total Volume: 60.99 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 45000.00 lb
Depth to Top Packer:	4355.00 ft			Final 45000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	75.00 ft			
Tool Length:	97.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4334.00	
Shut In Tool	5.00			4339.00	
Hydraulic tool	5.00			4344.00	
Safety Joint	2.00			4346.00	
Packer	5.00			4351.00	22.00 Bottom Of Top Packer
Packer	4.00			4355.00	
Stubb	1.00			4356.00	
Recorder	0.00	8365	Inside	4356.00	
Recorder	0.00	8845	Outside	4356.00	
Perforations	6.00			4362.00	
Change Over Sub	1.00			4363.00	
Drill Pipe	63.00			4426.00	
Change Over Sub	1.00			4427.00	
Bullnose	3.00			4430.00	75.00 Bottom Packers & Anchor

**Total Tool Length: 97.00**





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Larson Engineering, Inc

**11-19s-29w Lane,KS**

562 W State Rd 4  
Olmitz, KS 67564

**Paris #2-11**

Job Ticket: 61322

**DST#: 5**

ATTN: Vern Schrag

Test Start: 2017.02.23 @ 20:55:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 49.00 sec/qt

Cushion Volume:

bbf

Water Loss: 7.79 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2200.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbf
5.00	Mud 100m (oil spots)	0.070

Total Length: 5.00 ft      Total Volume: 0.070 bbf

Num Fluid Samples: 0

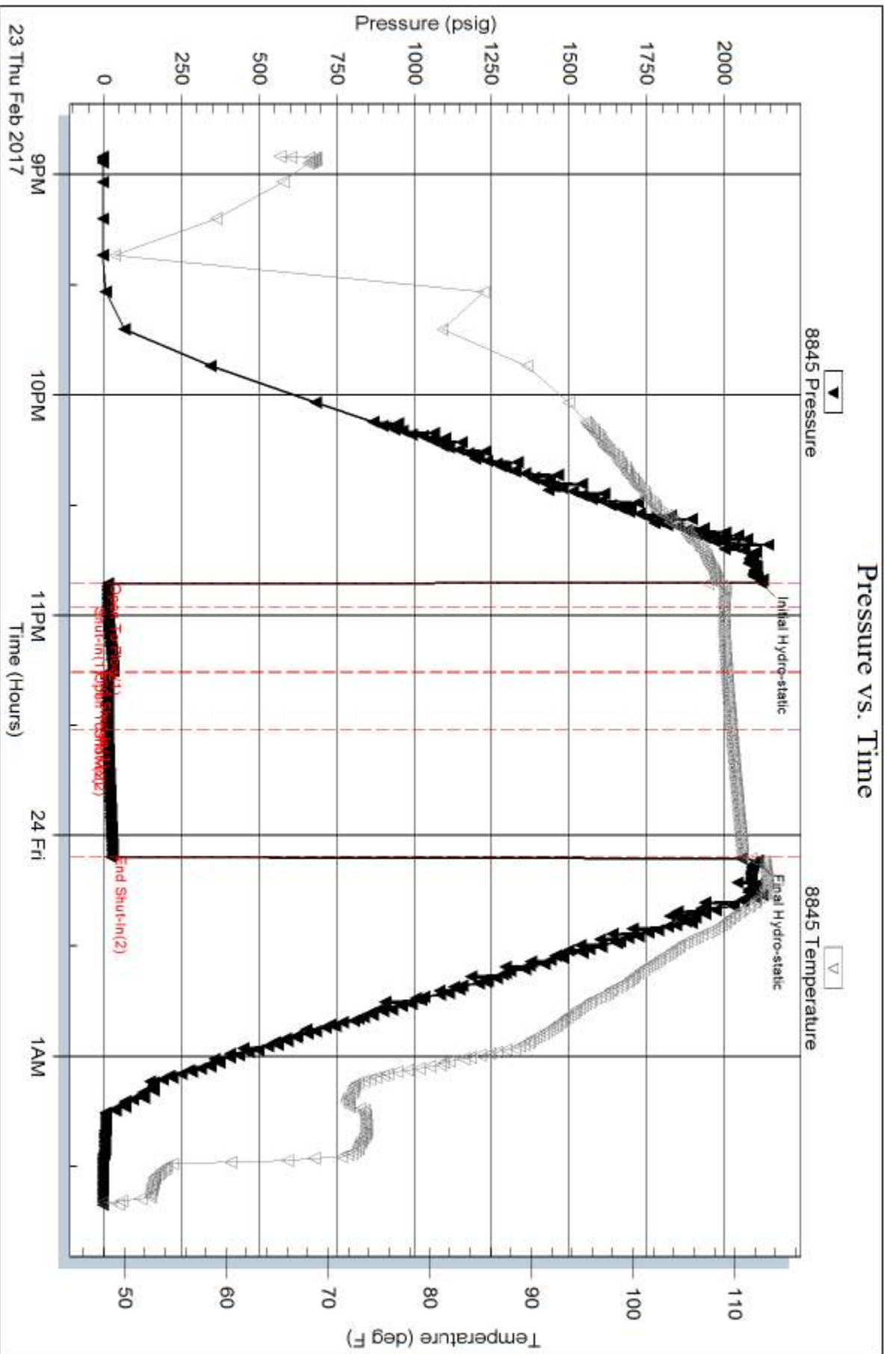
Num Gas Bombs: 0

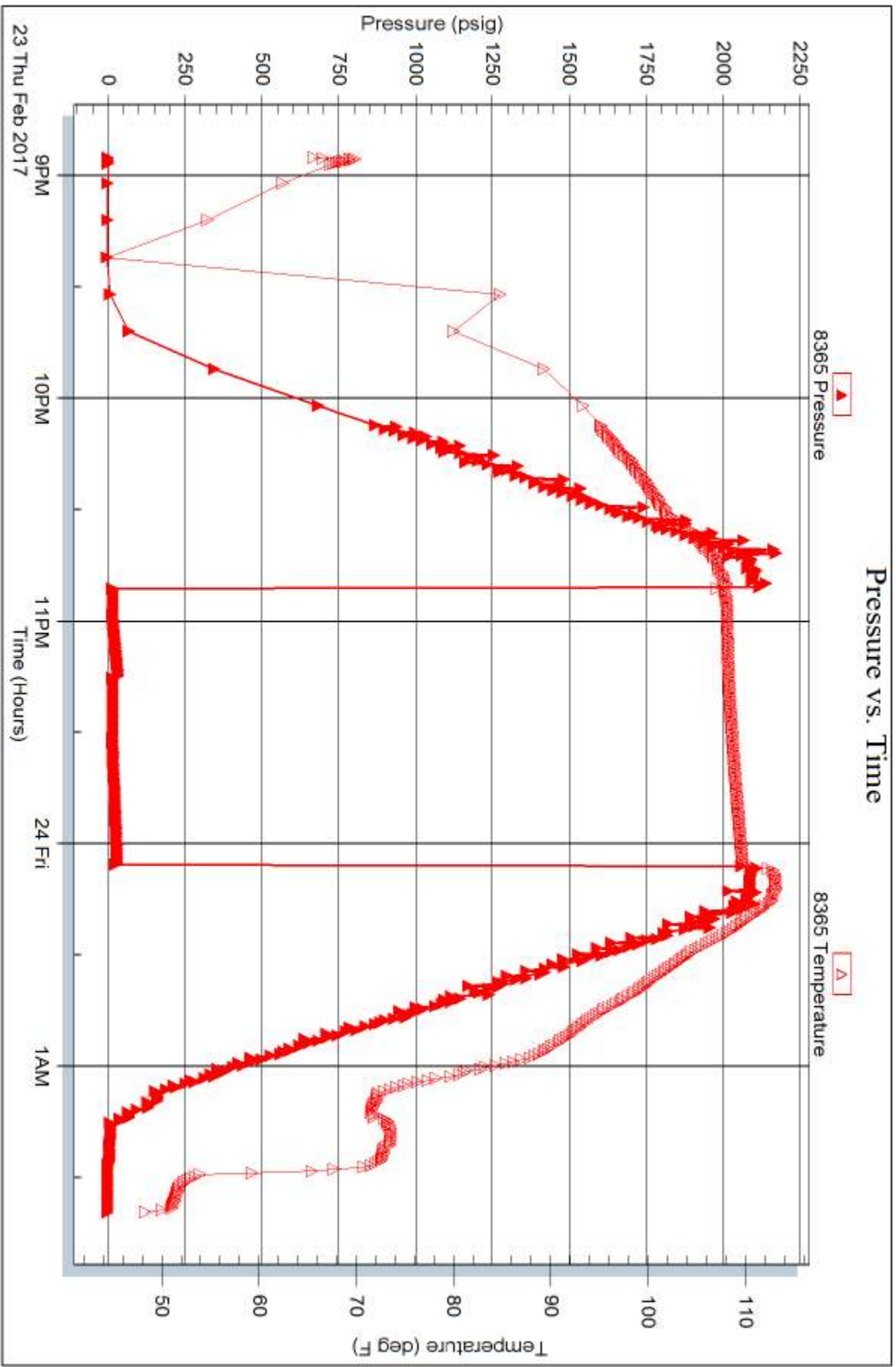
Serial #:

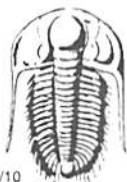
Laboratory Name:

Laboratory Location:

Recovery Comments:







# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **61318**

Well Name & No. Paris 2-11 Test No. 1 Date 2/20/2018  
 Company Larson Engineering, Inc Elevation 2810 KB 2800 GL  
 Address 562 W State Rd 4 Olmitz, ks 67564  
 Co. Rep / Geo. Vern Schwag Rig Southwing 2  
 Location: Sec. 11 Twp. 19S Rge. 29W Co. Lane State KS

Interval Tested 4198 4227 Zone Tested LKC I  
 Anchor Length 29 Drill Pipe Run 4191 Mud Wt. 9.1  
 Top Packer Depth 4193 Drill Collars Run 0 Vis 57  
 Bottom Packer Depth 4198 Wt. Pipe Run 0 WL 7.2  
 Total Depth 4227 Chlorides 1500 ppm System LCM 2#

Blow Description IF 1/4" blow  
ISI No return.  
FF No blow  
FBI No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>S</u>	<u>mud</u>			<u>100</u>	
	<u>oil puddle on top</u>				

Rec Total S BHT 116 Gravity — API RW — @ — °F Chlorides — ppm

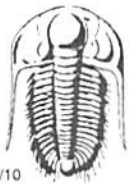
(A) Initial Hydrostatic 2075  Test 1150 T-On Location 1815  
 (B) First Initial Flow 11  Jars NO T-Started 1907  
 (C) First Final Flow 13  Safety Joint 75 T-Open 2131  
 (D) Initial Shut-In 186  Circ Sub 11C T-Pulled 2236  
 (E) Second Initial Flow 13  Hourly Standby \_\_\_\_\_ T-Out 0021  
 (F) Second Final Flow 13  Mileage 65RT 48.75 Comments \_\_\_\_\_  
 (G) Final Shut-In 161  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2029  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_

Initial Open 5  Ruined Shale Packer \_\_\_\_\_  
 Initial Shut-In 15  Ruined Packer \_\_\_\_\_  
 Final Flow 15  Extra Copies \_\_\_\_\_  
 Final Shut-In 30  Sub Total 0  
 Sub Total 1273.75 Total 1273.75  
 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. **61319**

4/10

Well Name & No. Paris 2-11 Test No. 2 Date 2/21/2017  
 Company Larson Engineering, Inc Elevation 2810 KB 2800 GL  
 Address 562 W State Rd 4 Olinitz, KS 67564  
 Co. Rep / Geo. Vern Schwag Rig SouthWind 8  
 Location: Sec. 11 Twp. 19s Rge. 29w Co. Lane State KS

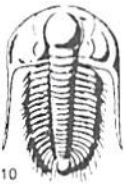
Interval Tested 4246 - 4262 Zone Tested LKC K  
 Anchor Length 16 Drill Pipe Run 4252 Mud Wt. 9.1  
 Top Packer Depth 4241 Drill Collars Run 0 Vis 67  
 Bottom Packer Depth 4246 Wt. Pipe Run 0 WL 7.2  
 Total Depth 4262 Chlorides 1900 ppm System LCM 2#  
 Blow Description IF Surface blow  
ISI No return.  
FF No blow  
FSI No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>2</u>	<u>Mud</u>			<u>100</u>	
	<u>oil spots</u>				

Rec Total 2 BHT 111 Gravity - API RW - @ - ° F Chlorides - ppm

(A) Initial Hydrostatic <u>2119</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>1000</u>
(B) First Initial Flow <u>11</u>	<input type="checkbox"/> Jars	T-Started <u>1131</u>
(C) First Final Flow <u>12</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>1352</u>
(D) Initial Shut-In <u>24</u>	<input checked="" type="checkbox"/> Circ Sub <u>MC</u>	T-Pulled <u>1458</u>
(E) Second Initial Flow <u>13</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>1647</u>
(F) Second Final Flow <u>13</u>	<input checked="" type="checkbox"/> Mileage <u>65 RT</u> <u>48.75</u>	Comments _____
(G) Final Shut-In <u>28</u>	<input type="checkbox"/> Sampler	<input type="checkbox"/> Ruined Shale Packer
(H) Final Hydrostatic <u>2062</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Packer
Initial Open <u>5</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Extra Copies
Initial Shut-In <u>15</u>	<input type="checkbox"/> Extra Packer	Sub Total <u>0</u>
Final Flow <u>15</u>	<input type="checkbox"/> Extra Recorder	Total <u>1273.75</u>
Final Shut-In <u>30</u>	<input type="checkbox"/> Day Standby	MP/DST Disc't _____
	<input type="checkbox"/> Accessibility	
	Sub Total <u>1273.75</u>	

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. 61320

Well Name & No. Paris 2-11 Test No. 3 Date 2/22/2016  
 Company Lawson Engineering, Inc Elevation 2810 KB 2800 GL  
 Address 562 W State Rd 4 Olmitz, KS 67564  
 Co. Rep / Geo. Vern Schrag Rig Southwind 8  
 Location: Sec. 11 Twp. 19s Rge. 29w Co. Lane State Ks

Interval Tested 4298 4314 Zone Tested LKC L  
 Anchor Length 16 Drill Pipe Run 4284 Mud Wt. 9.2  
 Top Packer Depth 4293 Drill Collars Run 0 Vis 53  
 Bottom Packer Depth 4298 Wt. Pipe Run 0 WL 2#  
 Total Depth 4314 Chlorides 1900 ppm System LCM 1"  
 Blow Description IF 2" blow  
ISF No return  
FF 8" blow  
FSF No return.

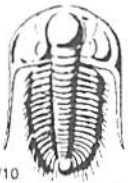
Rec	Feet of	%gas	%oil	%water	%mud
<u>200</u>	<u>mcw</u>		<u>95</u>	<u>5</u>	
	<u>oil spots</u>				

Rec Total 200 BHT 123 Gravity — API RW 143 @ 61 °F Chlorides 62000 ppm  
 (A) Initial Hydrostatic 2125  Test 1150 T-On Location 0405  
 (B) First Initial Flow 14  Jars \_\_\_\_\_ T-Started 0433  
 (C) First Final Flow 24  Safety Joint 75 T-Open 0619  
 (D) Initial Shut-In 554  Circ Sub N/C T-Pulled 0809  
 (E) Second Initial Flow 29  Hourly Standby \_\_\_\_\_ T-Out \_\_\_\_\_  
 (F) Second Final Flow 104  Mileage 65 RT 48.75 Comments \_\_\_\_\_  
 (G) Final Shut-In 547  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2123  Straddle \_\_\_\_\_  
 Ruined Shale Packer \_\_\_\_\_  
 Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Extra Copies \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_  
 Sub Total 1273.75  
 Initial Open 5  
 Initial Shut-In 15  
 Final Flow 30  
 Final Shut-In 60  
 Sub Total 1273.75  
 Total 1273.75  
 MP/DST Disc't \_\_\_\_\_

Approved By \_\_\_\_\_ Our Representative [Signature]

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **61321**

Well Name & No. Paris 2-4 Test No. 4 Date 2/23/2017  
 Company Larson Engineering, Inc Elevation 2810 KB 2800 GL  
 Address 562 W State Rd 4 Olmitz, Ks 67564  
 Co. Rep / Geo. Vern Schrag Rig SouthWind 5  
 Location: Sec. 11 Twp. 19S Rge. 29W Co. Lane State Ks

Interval Tested 4341 4385 Zone Tested Pleasanton  
 Anchor Length 44 Drill Pipe Run 4346 Mud Wt. 9.0  
 Top Packer Depth 4336 Drill Collars Run 0 Vis 53  
 Bottom Packer Depth 4341 Wt. Pipe Run 0 WL 7.8  
 Total Depth 4385 Chlorides 2800 ppm System LCM 2#  
 Blow Description IF 3 1/2" blow  
ISF No return.  
FF 7" blow  
FSF No return.

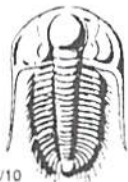
Rec	Feet of	%gas	%oil	%water	%mud
<u>2</u>	<u>OIL</u>		<u>100</u>		
<u>198</u>	<u>MCW oil spots</u>			<u>85</u>	<u>15</u>

Rec Total 200 BHT 126 Gravity — API RW 1281 @ 51 °F Chlorides 34000 ppm

(A) Initial Hydrostatic <u>2140</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>0400</u>
(B) First Initial Flow <u>16</u>	<input type="checkbox"/> Jars	T-Started <u>0428</u>
(C) First Final Flow <u>33</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>0618</u>
(D) Initial Shut-In <u>196</u>	<input checked="" type="checkbox"/> Circ Sub <u>MC</u>	T-Pulled <u>0808</u>
(E) Second Initial Flow <u>37</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>1019</u>
(F) Second Final Flow <u>102</u>	<input checked="" type="checkbox"/> Mileage <u>65RT</u> <u>48.75</u>	Comments
(G) Final Shut-In <u>194</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2131</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Open <u>5</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Initial Shut-In <u>15</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Flow <u>30</u>	<input type="checkbox"/> Day Standby	Total <u>12753.75</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1273.75</u>	

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. 61322

Well Name & No. Paris 2-11 Test No. 5 Date 2/23/2017  
 Company Larson Engineering Inc Elevation 2810 KB 2800 GL  
 Address 562 W State Rd 4 Olmitz, Ks 67564  
 Co. Rep / Geo. Vern Schrag Rig Southern 8  
 Location: Sec. 11 Twp. 19S Rge. 29W Co. Lane State Ks

Interval Tested 4355 - 4430 Zone Tested Altamont  
 Anchor Length 75 Drill Pipe Run 4348 Mud Wt. 9.2  
 Top Packer Depth 4350 Drill Collars Run 0 Vis 49  
 Bottom Packer Depth 4355 Wt. Pipe Run 0 WL 7.8  
 Total Depth 4430 Chlorides 2200 ppm System LCM 1#

Blow Description IF? 1/2" blow  
ISI! No return.  
FF! No blow  
FST! No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>MUD</u>			<u>100</u>	
	<u>oil spots</u>				

Rec Total 5 BHT 111 Gravity — API RW — @ — F Chlorides — ppm

(A) Initial Hydrostatic <u>2119</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>1945</u>
(B) First Initial Flow <u>13</u>	<input type="checkbox"/> Jars	T-Started <u>2055</u>
(C) First Final Flow <u>14</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>2252</u>
(D) Initial Shut-In <u>31</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>2358</u>
(E) Second Initial Flow <u>13</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>0140</u>
(F) Second Final Flow <u>14</u>	<input checked="" type="checkbox"/> Mileage <u>6521</u> <u>48.75</u>	Comments
(G) Final Shut-In <u>29</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2105</u>	<input type="checkbox"/> Straddle	
	<input type="checkbox"/> Shale Packer <u>250</u>	<input type="checkbox"/> Ruined Shale Packer

Initial Open <u>5</u>	<input checked="" type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Initial Shut-In <u>15</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Flow <u>15</u>	<input type="checkbox"/> Day Standby	Total <u>1523.75</u>
Final Shut-In <u>30</u>	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1523.75</u>	

Approved By \_\_\_\_\_ Our Representative [Signature]

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