



## DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc.**

562 W. State Rd.  
Olmitz KS 67564

ATTN: Vern Schrag

### **Lora #1-32**

#### **32-19s-29w Lane,KS**

Start Date: 2014.09.11 @ 01:58:00

End Date: 2014.09.11 @ 08:46:09

Job Ticket #: 57725                      DST #: 1

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

Printed: 2014.09.16 @ 11:09:18



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Larson Engineering Inc.

**32-19s-29w Lane, KS**

562 W. State Rd.  
Olmitz KS 67564

**Lora #1-32**

Job Ticket: 57725

**DST#: 1**

ATTN: Vern Schrag

Test Start: 2014.09.11 @ 01:58:00

## GENERAL INFORMATION:

Formation: **LKC "J"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:15:55

Time Test Ended: 08:46:09

Test Type: Conventional Bottom Hole (Initial)

Tester: Will MacLean

Unit No: 71

**Interval: 4264.00 ft (KB) To 4285.00 ft (KB) (TVD)**

Reference Elevations: 2872.00 ft (KB)

Total Depth: 4285.00 ft (KB) (TVD)

2865.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 7.00 ft

## Serial #: 8674

Inside

Press@RunDepth: 90.69 psig @ 4265.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.09.11

End Date:

2014.09.11

Last Calib.:

2014.09.11

Start Time: 01:58:00

End Time:

08:46:09

Time On Btm:

2014.09.11 @ 04:15:40

Time Off Btm:

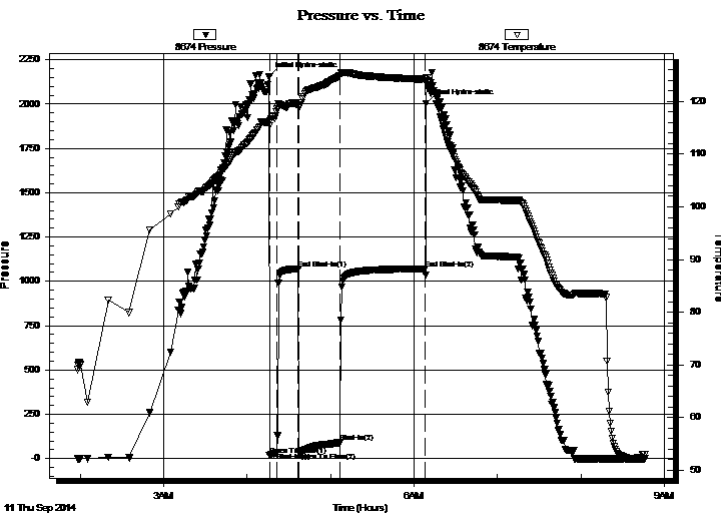
2014.09.11 @ 06:08:25

TEST COMMENT: IF- Weak Surface Blow Built to 1 1/4"

IS- No Blow

FF- Weak Surface Blow Built to 4 1/2"

FS- No Blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2156.50	116.11	Initial Hydro-static
1	18.30	115.42	Open To Flow (1)
6	35.00	118.64	Shut-In(1)
21	1071.19	119.35	End Shut-In(1)
22	37.10	118.72	Open To Flow (2)
52	90.69	124.98	Shut-In(2)
113	1071.39	124.27	End Shut-In(2)
113	2003.23	124.60	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
62.00	MCW 37%w 63%w	0.30
62.00	WCM 29%w 71%w	0.30
10.00	WCM 12%w 88%w with A Few Oil Spc	0.14

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Larson Engineering Inc.

**32-19s-29w Lane, KS**

562 W. State Rd.  
Olmitz KS 67564

**Lora #1-32**

Job Ticket: 57725

**DST#: 1**

ATTN: Vern Schrag

Test Start: 2014.09.11 @ 01:58:00

## Tool Information

Drill Pipe:	Length: 4139.00 ft	Diameter: 3.80 inches	Volume: 58.06 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: 124.00 ft	Diameter: 2.25 inches	Volume: 0.61 bbl	Weight to Pull Loose:	8000.00 lb
			<u>Total Volume: 58.67 bbl</u>	Tool Chased	ft
Drill Pipe Above KB:	26.00 ft			String Weight: Initial	52000.00 lb
Depth to Top Packer:	4264.00 ft			Final	52000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	21.00 ft				
Tool Length:	48.00 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			4238.00	
Shut In Tool	5.00			4243.00	
Hydraulic tool	5.00			4248.00	
Jars	5.00			4253.00	
Safety Joint	2.00			4255.00	
Packer	5.00			4260.00	27.00 Bottom Of Top Packer
Packer	4.00			4264.00	
Stubb	1.00			4265.00	
Recorder	0.00	8355	Outside	4265.00	
Recorder	0.00	8674	Inside	4265.00	
Perforations	15.00			4280.00	
Bullnose	5.00			4285.00	21.00 Bottom Packers & Anchor

**Total Tool Length: 48.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Larson Engineering Inc.

**32-19s-29w Lane, KS**

562 W. State Rd.  
Olmitz KS 67564

**Lora #1-32**

Job Ticket: 57725

**DST#: 1**

ATTN: Vern Schrag

Test Start: 2014.09.11 @ 01:58:00

## Mud and Cushion Information

Mud Type: Gel Chem  
Mud Weight: 9.00 lb/gal  
Viscosity: 62.00 sec/qt  
Water Loss: 7.53 in<sup>3</sup>  
Resistivity: ohm.m  
Salinity: 4400.00 ppm  
Filter Cake: 2.00 inches

Cushion Type:  
Cushion Length: ft  
Cushion Volume: bbl  
Gas Cushion Type:  
Gas Cushion Pressure: psig

Oil API: deg API  
Water Salinity: 16400 ppm

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
62.00	MCW 37%m 63%w	0.305
62.00	WCM 29%w 71%m	0.305
10.00	WCM 12%w 88%m with A Few Oil Spots	0.140

Total Length: 134.00 ft      Total Volume: 0.750 bbl

Num Fluid Samples: 0

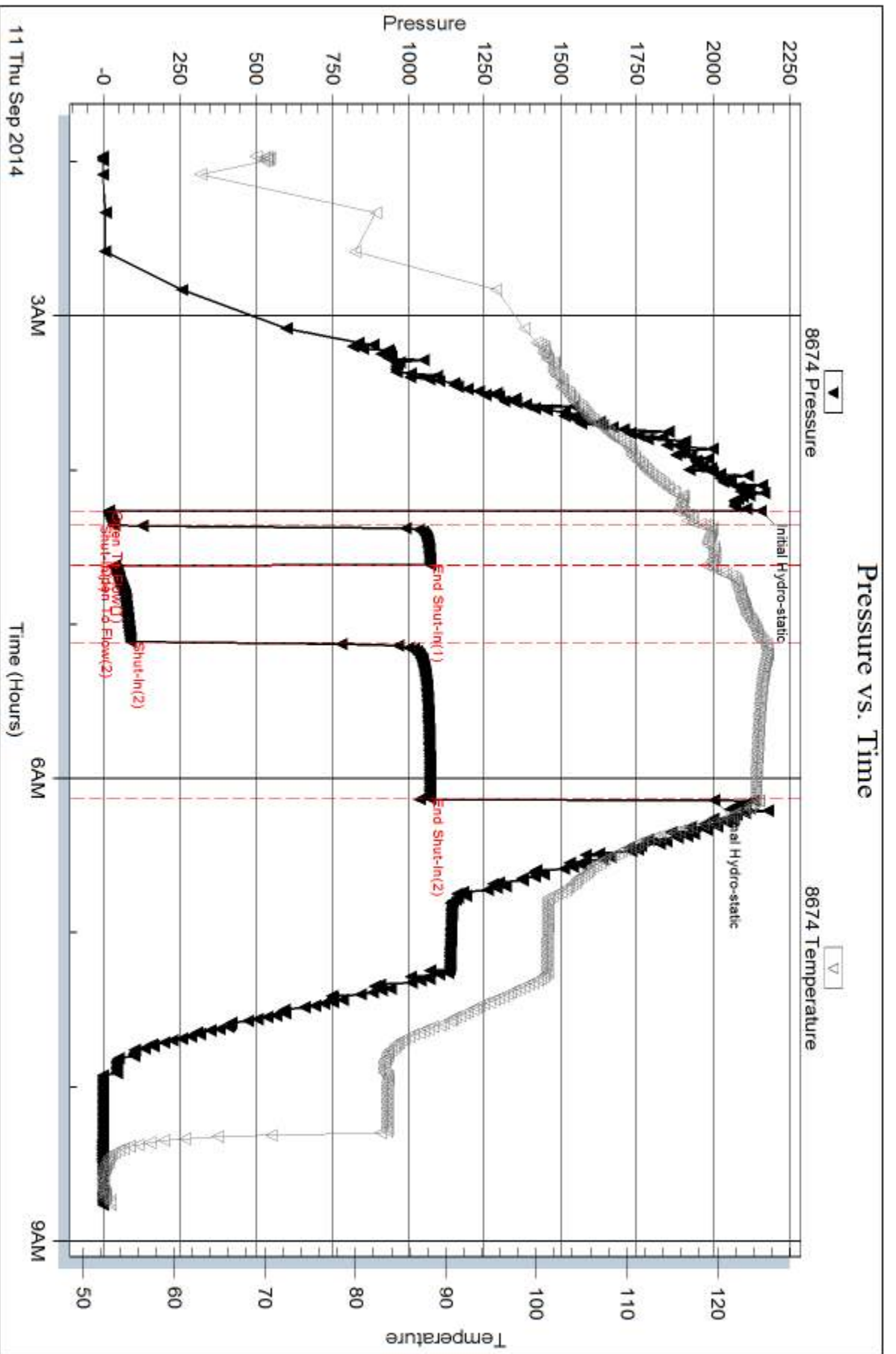
Num Gas Bombs: 0

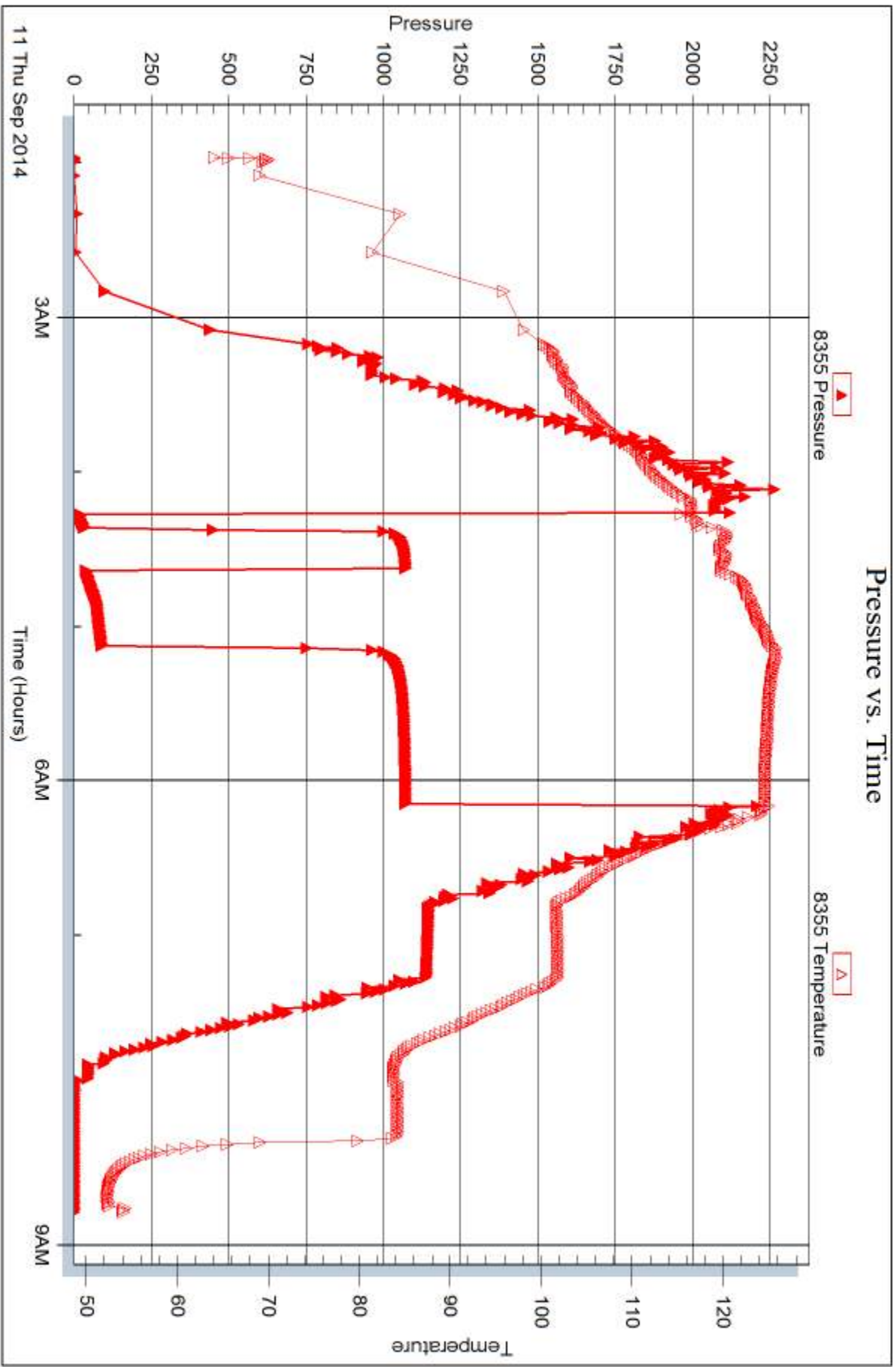
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW is .494 @ 55f = 16,400







## DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc.**

562 W. State Rd.  
Olmitz KS 67564

ATTN: Vern Schrag

### **Lora #1-32**

#### **32-19s-29w Lane,KS**

Start Date: 2014.09.11 @ 16:00:00

End Date: 2014.09.11 @ 21:47:54

Job Ticket #: 57727                      DST #: 2

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

Printed: 2014.09.16 @ 11:06:44





**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Larson Engineering Inc.

**32-19s-29w Lane, KS**

562 W. State Rd.  
Olmitz KS 67564

**Lora #1-32**

Job Ticket: 57727

**DST#: 2**

ATTN: Vern Schrag

Test Start: 2014.09.11 @ 16:00:00

## GENERAL INFORMATION:

Formation: **LKC "K"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:45:10

Time Test Ended: 21:47:54

Test Type: Conventional Bottom Hole (Reset)

Tester: Will MacLean

Unit No: 71

**Interval: 4295.00 ft (KB) To 4316.00 ft (KB) (TVD)**

Reference Elevations: 2872.00 ft (KB)

Total Depth: 4285.00 ft (KB) (TVD)

2865.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 7.00 ft

## Serial #: 8674

Inside

Press@RunDepth: 579.66 psig @ 4296.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.09.11

End Date:

2014.09.11

Last Calib.:

2014.09.11

Start Time: 16:00:00

End Time:

21:47:54

Time On Btm:

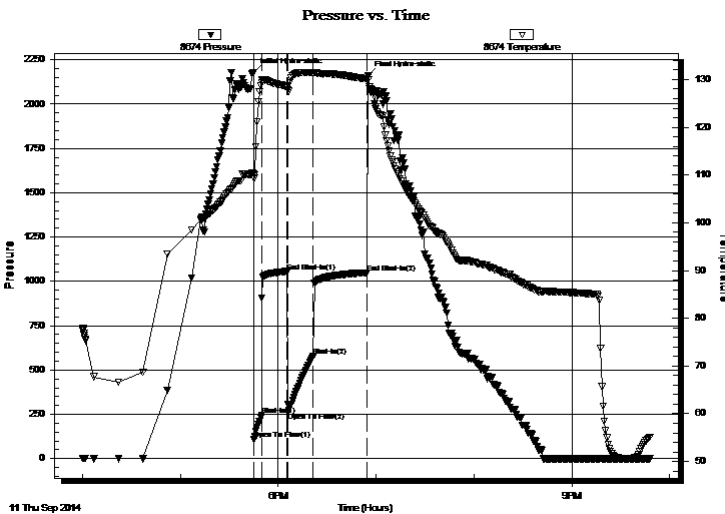
2014.09.11 @ 17:44:55

Time Off Btm:

2014.09.11 @ 18:55:10

TEST COMMENT: IF- Surface Blow Built to BOB in 2 min  
IS- No Blow  
FF- Surface Blow Built to BOB 1 3/4 min  
FS- No Blow

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2178.18	110.17	Initial Hydro-static
1	110.39	109.31	Open To Flow (1)
5	243.01	129.37	Shut-In(1)
21	1056.19	128.51	End Shut-In(1)
21	261.86	127.81	Open To Flow (2)
37	579.66	131.38	Shut-In(2)
70	1048.49	130.09	End Shut-In(2)
71	2159.79	129.93	Final Hydro-static

## Recovery

## Gas Rates

Length (ft)	Description	Volume (bbl)
620.00	OGMCW 3%oil 7%g 8%m 82%w	7.57
248.00	GMOCW 9%g 10%m 15%oil 66%w	3.48
186.00	GOMCW 12%g 20%oil 30%m 38%w	2.61
124.00	GWMCO 8%g 18%w 35%m 39%oil	1.74
20.00	GMCO 3%g 9%m 88%oil	0.28
0.00	228' of GIP	0.00

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

\* Recovery from multiple tests





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Larson Engineering Inc.

**32-19s-29w Lane,KS**

562 W. State Rd.  
Olmitz KS 67564

**Lora #1-32**

Job Ticket: 57727

**DST#: 2**

ATTN: Vern Schrag

Test Start: 2014.09.11 @ 16:00:00

## Tool Information

Drill Pipe:	Length: 4172.00 ft	Diameter: 3.80 inches	Volume: 58.52 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: 124.00 ft	Diameter: 2.25 inches	Volume: 0.61 bbl	Weight to Pull Loose: 10000.00 lb
			<u>Total Volume: 59.13 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	28.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	4295.00 ft			Final 66000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	21.00 ft			
Tool Length:	48.00 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			4269.00	
Shut In Tool	5.00			4274.00	
Hydraulic tool	5.00			4279.00	
Jars	5.00			4284.00	
Safety Joint	2.00			4286.00	
Packer	5.00			4291.00	27.00 Bottom Of Top Packer
Packer	4.00			4295.00	
Stubb	1.00			4296.00	
Recorder	0.00	8355	Outside	4296.00	
Recorder	0.00	8674	Inside	4296.00	
Perforations	15.00			4311.00	
Bullnose	5.00			4316.00	21.00 Bottom Packers & Anchor

**Total Tool Length: 48.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Larson Engineering Inc.

**32-19s-29w Lane,KS**

562 W. State Rd.  
Olmitz KS 67564

**Lora #1-32**

Job Ticket: 57727

**DST#: 2**

ATTN: Vern Schrag

Test Start: 2014.09.11 @ 16:00:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

29 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

25200 ppm

Viscosity: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.34 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4500.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
620.00	OGMCW 3%oil 7%g 8%m 82%w	7.567
248.00	GMOCW 9%g 10%m 15%oil 66%w	3.479
186.00	GOMCW 12%g 20%oil 30%m 38%w	2.609
124.00	GWMCO 8%g 18%w 35%m 39%oil	1.739
20.00	GMCO 3%g 9%m 88%oil	0.281
0.00	228' of GIP	0.000

Total Length: 1198.00 ft      Total Volume: 15.675 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: API is 29 @ 60f = 29

RW is .327 @ 56f = 25200







## DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc.**

562 W. State Rd.  
Olmitz KS 67564

ATTN: Vern Schrag

### **Lora #1-32**

#### **32-19s-29w Lane,KS**

Start Date: 2014.09.12 @ 07:50:00

End Date: 2014.09.12 @ 13:18:39

Job Ticket #: 57728                      DST #: 3

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

Printed: 2014.09.16 @ 11:06:08



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Larson Engineering Inc.

**32-19s-29w Lane, KS**

562 W. State Rd.  
Olmitz KS 67564

**Lora #1-32**

Job Ticket: 57728

**DST#: 3**

ATTN: Vern Schrag

Test Start: 2014.09.12 @ 07:50:00

## GENERAL INFORMATION:

Formation: **Mid Creek**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 09:34:10

Time Test Ended: 13:18:39

Test Type: Conventional Bottom Hole (Reset)

Tester: Will MacLean

Unit No: 71

**Interval: 4335.00 ft (KB) To 4352.00 ft (KB) (TVD)**

Reference Elevations: 2872.00 ft (KB)

Total Depth: 4352.00 ft (KB) (TVD)

2865.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 7.00 ft

**Serial #: 8674**

**Inside**

Press@RunDepth: 298.03 psig @ 4337.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.09.12

End Date:

2014.09.12

Last Calib.:

2014.09.12

Start Time: 07:50:00

End Time:

13:18:39

Time On Btm:

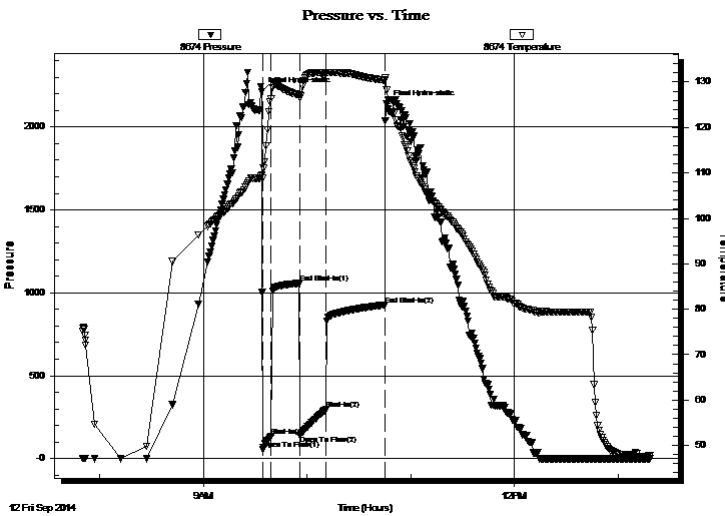
2014.09.12 @ 09:33:40

Time Off Btm:

2014.09.12 @ 10:45:55

**TEST COMMENT:** IF- Surface Blow Built to BOB in 3 1/2 min  
IS- Weak Surface Blow in 8 1/2 min  
FF- Surface Blow Built to BOB in 4 1/4 min  
FS- Weak Surface Blow in 6 min

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2214.24	109.51	Initial Hydro-static
1	54.00	108.84	Open To Flow (1)
6	136.84	126.34	Shut-In(1)
22	1058.25	127.17	End Shut-In(1)
22	142.74	126.58	Open To Flow (2)
38	298.03	131.94	Shut-In(2)
72	928.20	130.40	End Shut-In(2)
73	2138.53	128.22	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
186.00	GOMCW 6%g 7%oil 11%m 76%w	1.48
186.00	MOGCW 14%m 22%oil 26%g 38%w	2.61
186.00	GOCM 20%g 32%oil 48%m	2.61
62.00	GOCM 14%g 26%oil 60%m	0.87
15.00	GMCO 3%g 22%m 75%oil	0.21
0.00	109' of GIP	0.00

\* 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.

**32-19s-29w Lane, KS**

562 W. State Rd.  
Olmitz KS 67564

**Lora #1-32**

Job Ticket: 57728

**DST#: 3**

ATTN: Vern Schrag

Test Start: 2014.09.12 @ 07:50:00

## Tool Information

Drill Pipe:	Length: 4204.00 ft	Diameter: 3.80 inches	Volume: 58.97 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: 124.00 ft	Diameter: 2.25 inches	Volume: 0.61 bbl	Weight to Pull Loose:	4000.00 lb
			<u>Total Volume: 59.58 bbl</u>	Tool Chased	ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial	58000.00 lb
Depth to Top Packer:	4335.00 ft			Final	58000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	17.00 ft				
Tool Length:	44.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

## Tool Description

**Length (ft) Serial No. Position Depth (ft) Accum. Lengths**

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4309.00	
Shut In Tool	5.00			4314.00	
Hydraulic tool	5.00			4319.00	
Jars	5.00			4324.00	
Safety Joint	2.00			4326.00	
Packer	5.00			4331.00	27.00 Bottom Of Top Packer
Packer	4.00			4335.00	
Stubb	1.00			4336.00	
Perforations	1.00			4337.00	
Recorder	0.00	8355	Outside	4337.00	
Recorder	0.00	8674	Inside	4337.00	
Perforations	10.00			4347.00	
Bullnose	5.00			4352.00	17.00 Bottom Packers & Anchor

**Total Tool Length: 44.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Larson Engineering Inc.

**32-19s-29w Lane,KS**

562 W. State Rd.  
Olmitz KS 67564

**Lora #1-32**

Job Ticket: 57728

**DST#: 3**

ATTN: Vern Schrag

Test Start: 2014.09.12 @ 07:50:00

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

22 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

31000 ppm

Viscosity: 62.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.54 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4400.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
186.00	GOMCW 6%g 7%oil 11%m 76%w	1.480
186.00	MOGCW 14%m 22%oil 26%g 38%w	2.609
186.00	GOCM 20%g 32%oil 48%m	2.609
62.00	GOCM 14%g 26%oil 60%m	0.870
15.00	GMCO 3%g 22%m 75%oil	0.210
0.00	109' of GIP	0.000

Total Length: 635.00 ft      Total Volume: 7.778 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: API is 21 @ 50f = 22

RW is .342 @ 45







## DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc.**

562 W. State Rd.  
Olmitz KS 67564

ATTN: Vern Schrag

### **Lora #1-32**

#### **32-19s-29w Lane,KS**

Start Date: 2014.09.12 @ 19:50:00

End Date: 2014.09.13 @ 01:32:02

Job Ticket #: 57729                      DST #: 4

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

Printed: 2014.09.16 @ 11:05:40



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Larson Engineering Inc.

**32-19s-29w Lane, KS**

562 W. State Rd.  
Olmitz KS 67564

**Lora #1-32**

Job Ticket: 57729

**DST#: 4**

ATTN: Vern Schrag

Test Start: 2014.09.12 @ 19:50:00

## GENERAL INFORMATION:

Formation: **LKC " L "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:51:48

Time Test Ended: 01:32:02

Test Type: Conventional Bottom Hole (Reset)

Tester: Will MacLean

Unit No: 71

**Interval: 4350.00 ft (KB) To 4360.00 ft (KB) (TVD)**

Reference Elevations: 2872.00 ft (KB)

Total Depth: 4360.00 ft (KB) (TVD)

2865.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 7.00 ft

**Serial #: 8674**

**Inside**

Press@RunDepth: 24.74 psig @ 4351.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.09.12

End Date:

2014.09.13

Last Calib.:

2014.09.13

Start Time: 19:50:00

End Time:

01:32:02

Time On Btm:

2014.09.12 @ 21:51:33

Time Off Btm:

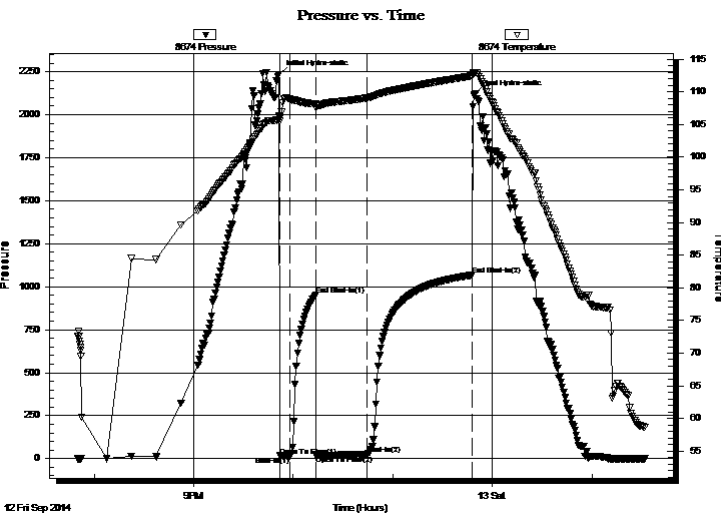
2014.09.12 @ 23:48:48

TEST COMMENT: IF- Weak Surface Blow Built to 1/2"

IS- No Blow

FF- Weak Surface Blow Built to 1"

FS- No Blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2235.53	106.36	Initial Hydro-static
1	16.88	105.51	Open To Flow (1)
7	16.87	108.99	Shut-In(1)
22	952.62	108.21	End Shut-In(1)
23	19.28	107.58	Open To Flow (2)
53	24.74	109.09	Shut-In(2)
117	1067.24	112.45	End Shut-In(2)
118	2116.53	112.87	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
8.00	WOCM 6%w 29%oil 65%m	0.04
2.00	MCO 23%m 77%oil	0.01

\* 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.

**32-19s-29w Lane, KS**

562 W. State Rd.  
Olmitz KS 67564

**Lora #1-32**

Job Ticket: 57729

**DST#: 4**

ATTN: Vern Schrag

Test Start: 2014.09.12 @ 19:50:00

## Tool Information

Drill Pipe:	Length: 4205.00 ft	Diameter: 3.80 inches	Volume: 58.99 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: 124.00 ft	Diameter: 2.25 inches	Volume: 0.61 bbl	Weight to Pull Loose:	4000.00 lb
			<u>Total Volume: 59.60 bbl</u>	Tool Chased	ft
Drill Pipe Above KB:	6.00 ft			String Weight: Initial	56000.00 lb
Depth to Top Packer:	4350.00 ft			Final	58000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	10.00 ft				
Tool Length:	37.00 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			4324.00	
Shut In Tool	5.00			4329.00	
Hydraulic tool	5.00			4334.00	
Jars	5.00			4339.00	
Safety Joint	2.00			4341.00	
Packer	5.00			4346.00	27.00 Bottom Of Top Packer
Packer	4.00			4350.00	
Stubb	1.00			4351.00	
Recorder	0.00	8355	Outside	4351.00	
Recorder	0.00	8674	Inside	4351.00	
Perforations	4.00			4355.00	
Bullnose	5.00			4360.00	10.00 Bottom Packers & Anchor

**Total Tool Length: 37.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Larson Engineering Inc.

**32-19s-29w Lane,KS**

562 W. State Rd.  
Olmitz KS 67564

**Lora #1-32**

Job Ticket: 57729

**DST#: 4**

ATTN: Vern Schrag

Test Start: 2014.09.12 @ 19:50:00

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

26 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

28500 ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.15 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5400.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
8.00	WOCM 6%w 29%oil 65%m	0.039
2.00	MCO 23%m 77%oil	0.010

Total Length: 10.00 ft      Total Volume: 0.049 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

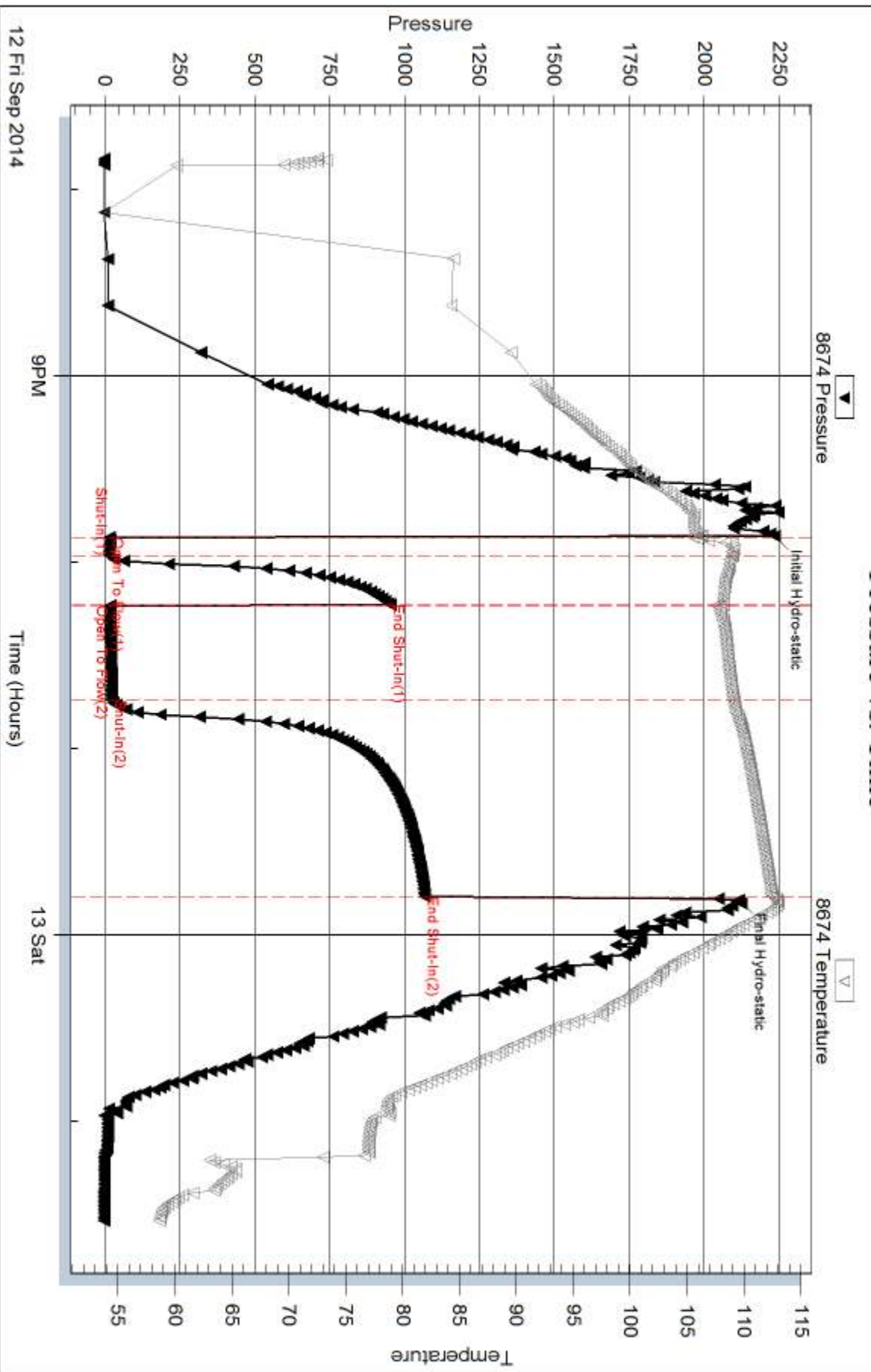
Laboratory Name:

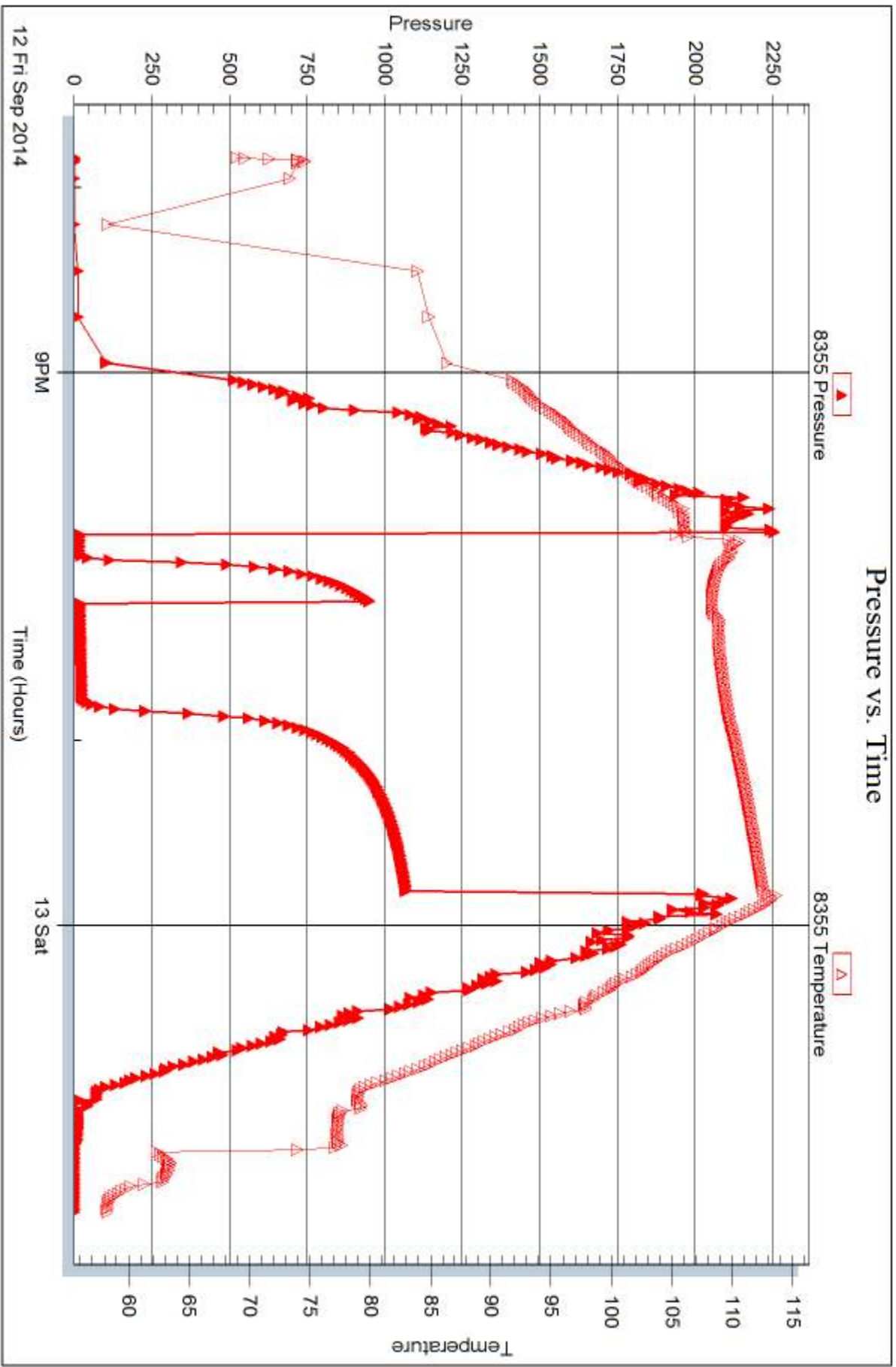
Laboratory Location:

Recovery Comments: RW is .361 @ 45f = 28500

API is 25 @ 50f = 26

### Pressure vs. Time







## DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc.**

562 W. State Rd.  
Olmitz KS 67564

ATTN: Vern Schrag

### **Lora #1-32**

#### **32-19s-29w Lane,KS**

Start Date: 2014.09.13 @ 19:30:00

End Date: 2014.09.14 @ 00:33:09

Job Ticket #: 57730                      DST #: 5

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

Printed: 2014.09.16 @ 11:05:17



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Larson Engineering Inc.

**32-19s-29w Lane, KS**

562 W. State Rd.  
Olmitz KS 67564

**Lora #1-32**

Job Ticket: 57730

**DST#: 5**

ATTN: Vern Schrag

Test Start: 2014.09.13 @ 19:30:00

## GENERAL INFORMATION:

Formation: **Marmanton**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:00:55

Time Test Ended: 00:33:09

Test Type: Conventional Bottom Hole (Reset)

Tester: Will MacLean

Unit No: 71

**Interval: 4377.00 ft (KB) To 4480.00 ft (KB) (TVD)**

Reference Elevations: 2872.00 ft (KB)

Total Depth: 4480.00 ft (KB) (TVD)

2865.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 7.00 ft

**Serial #: 8674**

**Inside**

Press@RunDepth: 288.33 psig @ 4378.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.09.13

End Date:

2014.09.14

Last Calib.: 2014.09.14

Start Time: 19:30:00

End Time:

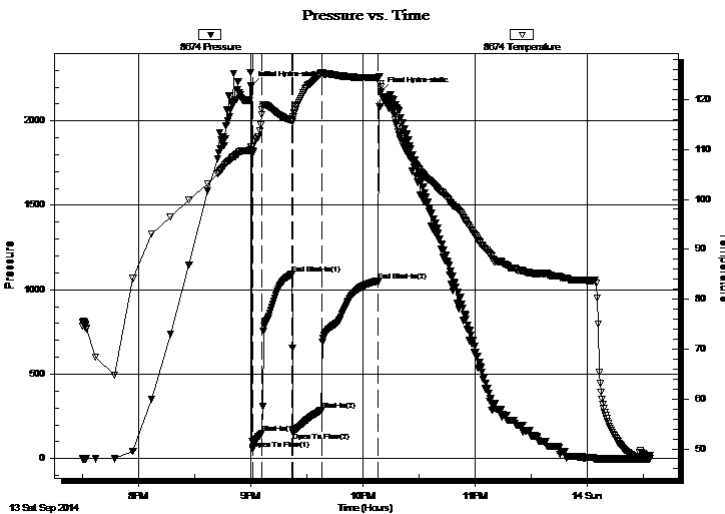
00:33:09

Time On Btm: 2014.09.13 @ 21:00:25

Time Off Btm: 2014.09.13 @ 22:09:25

**TEST COMMENT:** IF- Surface Blow Built to BOB in 4 1/2 min  
IS- No Blow  
FF- Surface Blow Built to BOB in 5 1/4 min  
FS- No Blow

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2210.30	110.61	Initial Hydro-static
1	56.31	109.76	Open To Flow (1)
6	152.54	117.95	Shut-In(1)
22	1092.52	115.80	End Shut-In(1)
22	154.37	115.91	Open To Flow (2)
38	288.33	125.34	Shut-In(2)
68	1052.36	124.39	End Shut-In(2)
69	2172.57	122.52	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
186.00	OGWCM 3%oil 6%g 26%w 65%m	1.48
62.00	OWGCM 5%oil 14%w 15%g 66%w	0.87
186.00	OWGCM 4%oil 5%w 9%g 82%m	2.61
62.00	OGCM 6%oil 11%g 83%m	0.87
82.00	100%m w ith Oil Spots	1.15

## 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.

**32-19s-29w Lane,KS**

562 W. State Rd.  
Olmitz KS 67564

**Lora #1-32**

Job Ticket: 57730

**DST#: 5**

ATTN: Vern Schrag

Test Start: 2014.09.13 @ 19:30:00

## Tool Information

Drill Pipe:	Length: 4238.00 ft	Diameter: 3.80 inches	Volume: 59.45 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:	34000.00 lb
Drill Collar:	Length: 124.00 ft	Diameter: 2.25 inches	Volume: 0.61 bbl	Weight to Pull Loose:	8000.00 lb
			<u>Total Volume: 60.06 bbl</u>	Tool Chased	ft
Drill Pipe Above KB:	12.00 ft			String Weight: Initial	60000.00 lb
Depth to Top Packer:	4377.00 ft			Final	60000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	103.00 ft				
Tool Length:	130.00 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			4351.00	
Shut In Tool	5.00			4356.00	
Hydraulic tool	5.00			4361.00	
Jars	5.00			4366.00	
Safety Joint	2.00			4368.00	
Packer	5.00			4373.00	27.00 Bottom Of Top Packer
Packer	4.00			4377.00	
Stubb	1.00			4378.00	
Recorder	0.00	8355	Outside	4378.00	
Recorder	0.00	8674	Inside	4378.00	
Perforations	33.00			4411.00	
Change Over Sub	1.00			4412.00	
Drill Pipe	62.00			4474.00	
Change Over Sub	1.00			4475.00	
Bullnose	5.00			4480.00	103.00 Bottom Packers & Anchor

**Total Tool Length: 130.00**





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Larson Engineering Inc.

**32-19s-29w Lane,KS**

562 W. State Rd.  
Olmitz KS 67564

**Lora #1-32**

Job Ticket: 57730

**DST#: 5**

ATTN: Vern Schrag

Test Start: 2014.09.13 @ 19:30:00

### 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:

27000 ppm

Viscosity: 58.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.59 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4200.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
186.00	OGWCM 3%oil 6%g 26%w 65%m	1.480
62.00	OWGCM 5%oil 14%w 15%g 66%w	0.870
186.00	OWGCM 4%oil 5%w 9%g 82%m	2.609
62.00	OGCM 6%oil 11%g 83%m	0.870
82.00	100%m with Oil Spots	1.150

Total Length: 578.00 ft      Total Volume: 6.979 bbl

Num Fluid Samples: 0

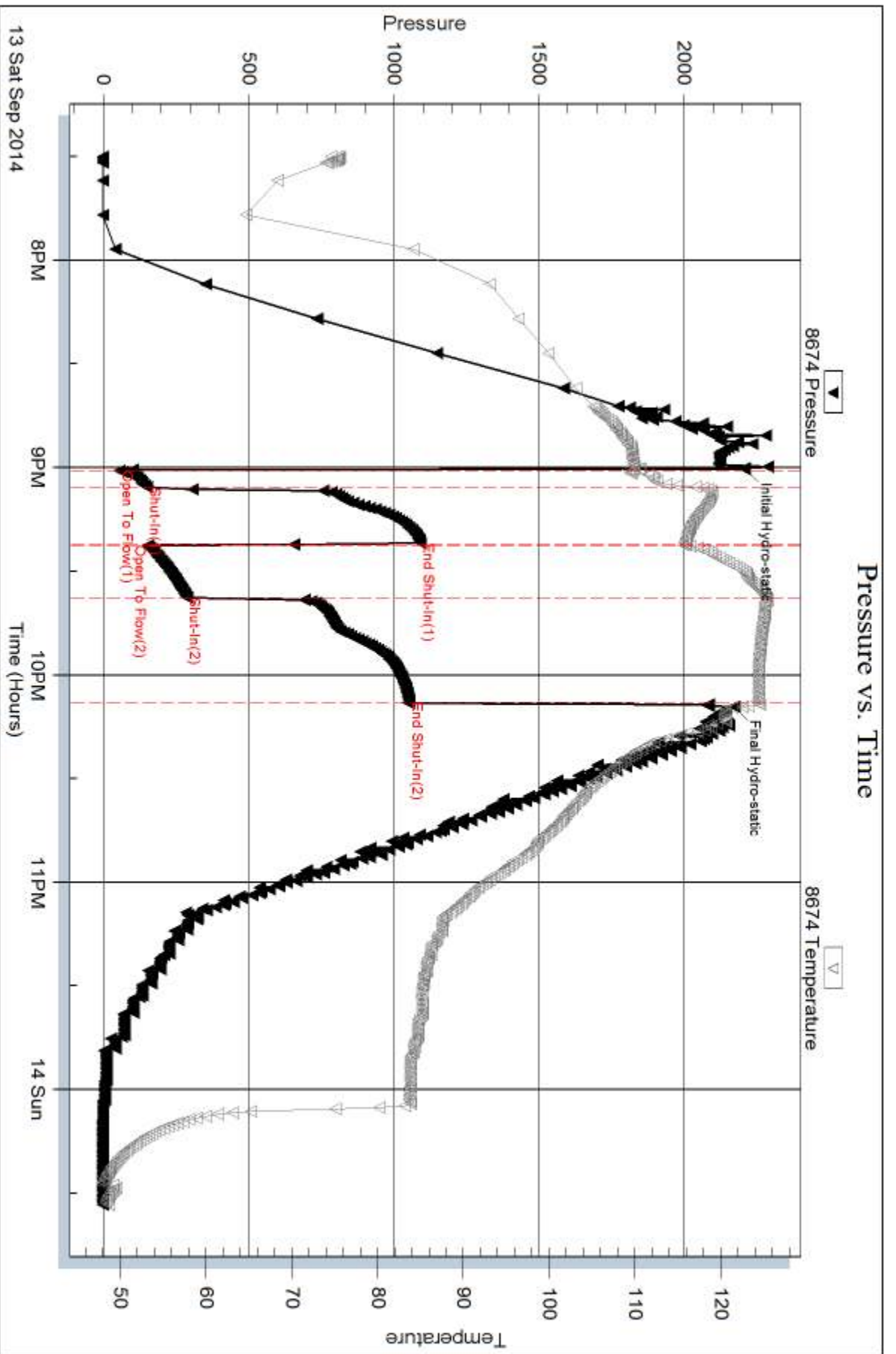
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: API is .373 @ 54f = 27000

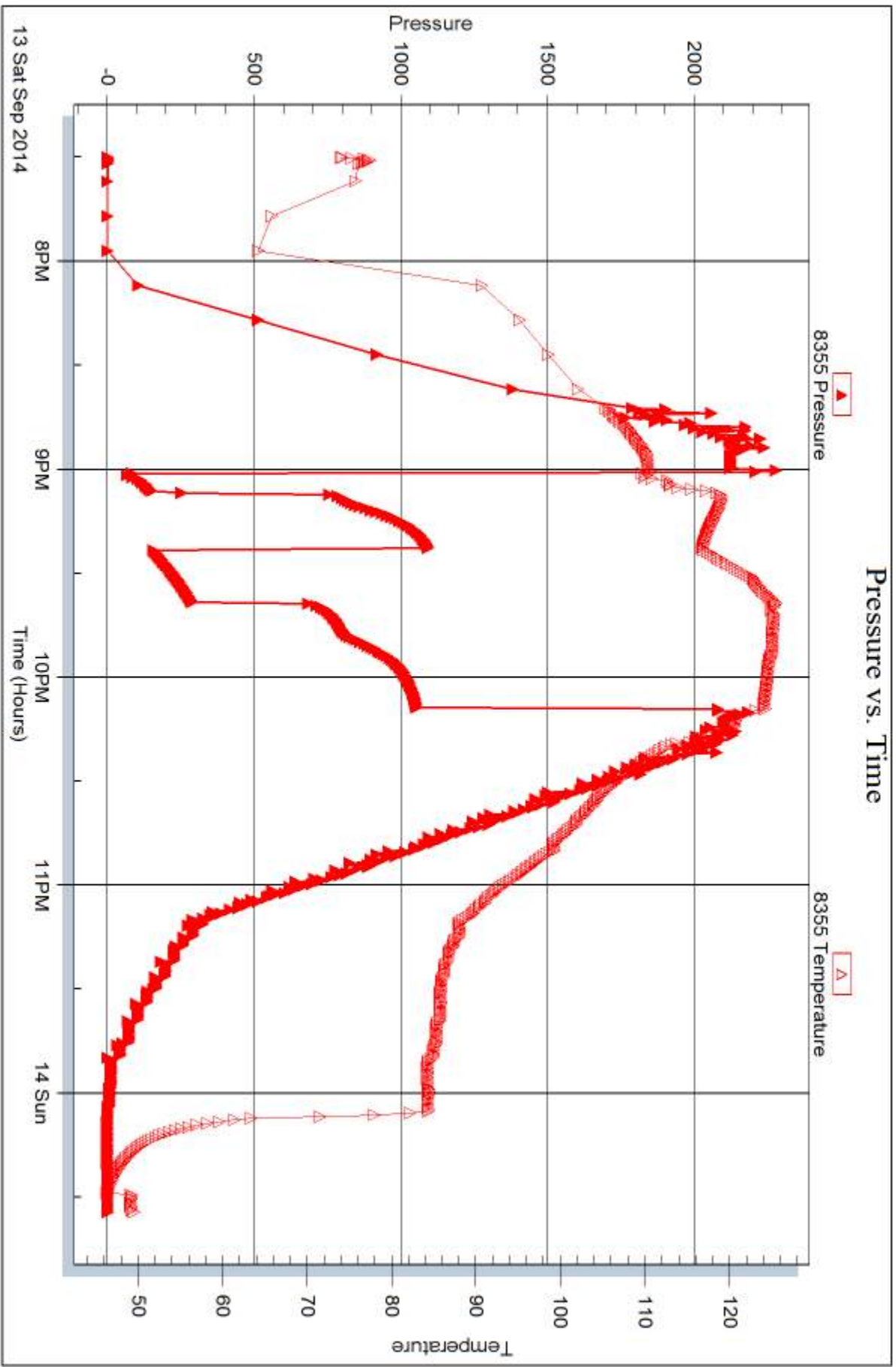


Serial #: 8355

Outside Larson Engineering Inc.

Lora #1-32

DST Test Number: 5



Trilobite Testing, Inc

Ref. No: 57730

Printed: 2014.09.16 @ 11:05:19



## DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc.**

562 W. State Rd.  
Olmitz KS 67564

ATTN: Vern Schrag

### **Lora #1-32**

#### **32-19s-29w Lane,KS**

Start Date: 2014.09.14 @ 17:24:00

End Date: 2014.09.14 @ 22:54:54

Job Ticket #: 57731                      DST #: 6

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

Printed: 2014.09.16 @ 11:04:46



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Larson Engineering Inc.

**32-19s-29w Lane, KS**

562 W. State Rd.  
Olmitz KS 67564

**Lora #1-32**

Job Ticket: 57731

**DST#: 6**

ATTN: Vern Schrag

Test Start: 2014.09.14 @ 17:24:00

## GENERAL INFORMATION:

Formation: **Cherokeee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:27:40

Time Test Ended: 22:54:54

Test Type: Conventional Bottom Hole (Reset)

Tester: Will MacLean

Unit No: 71

**Interval: 4499.00 ft (KB) To 4635.00 ft (KB) (TVD)**

Reference Elevations: 2872.00 ft (KB)

Total Depth: 4635.00 ft (KB) (TVD)

2865.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 7.00 ft

**Serial #: 8674**

**Inside**

Press@RunDepth: 191.96 psig @ 4501.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.09.14

End Date:

2014.09.14

Last Calib.:

2014.09.14

Start Time: 17:24:00

End Time:

22:54:54

Time On Btm:

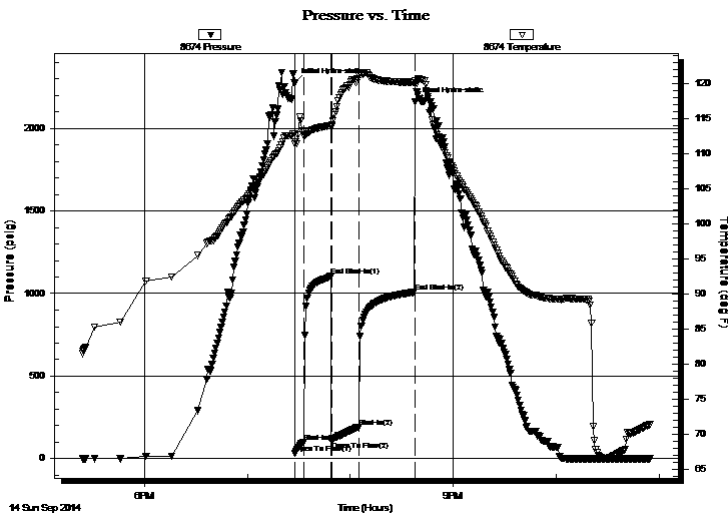
2014.09.14 @ 19:27:25

Time Off Btm:

2014.09.14 @ 20:37:55

**TEST COMMENT:** IF- Weak Surface Blow Built to 5 1/2"  
IS- No Blow  
FF- Weak Surface Blow Built to BOB in 11 1/2 min  
FS- No Blow

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2274.91	112.92	Initial Hydro-static
1	32.05	111.49	Open To Flow (1)
6	102.00	112.65	Shut-In(1)
21	1104.10	114.08	End Shut-In(1)
22	108.53	113.84	Open To Flow (2)
38	191.96	121.13	Shut-In(2)
70	1008.06	120.25	End Shut-In(2)
71	2161.70	120.45	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
124.00	WCM 3%w 97%m with a Few Oil Spots	0.61
124.00	WCM 3%w 97%m	1.74
92.00	100%m	1.29

## 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.

**32-19s-29w Lane, KS**

562 W. State Rd.  
Olmitz KS 67564

**Lora #1-32**

Job Ticket: 57731

**DST#: 6**

ATTN: Vern Schrag

Test Start: 2014.09.14 @ 17:24:00

## Tool Information

Drill Pipe:	Length: 4362.00 ft	Diameter: 3.80 inches	Volume: 61.19 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:	3000.00 lb
Drill Collar:	Length: 124.00 ft	Diameter: 2.25 inches	Volume: 0.61 bbl	Weight to Pull Loose:	12000.00 lb
			<u>Total Volume: 61.80 bbl</u>	Tool Chased	ft
Drill Pipe Above KB:	14.00 ft			String Weight: Initial	64000.00 lb
Depth to Top Packer:	4499.00 ft			Final	64000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	136.00 ft				
Tool Length:	163.00 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			4473.00	
Shut In Tool	5.00			4478.00	
Hydraulic tool	5.00			4483.00	
Jars	5.00			4488.00	
Safety Joint	2.00			4490.00	
Packer	5.00			4495.00	27.00 Bottom Of Top Packer
Packer	4.00			4499.00	
Stubb	1.00			4500.00	
Perforations	1.00			4501.00	
Recorder	0.00	8355	Outside	4501.00	
Recorder	0.00	8674	Inside	4501.00	
Perforations	33.00			4534.00	
Change Over Sub	1.00			4535.00	
Drill Pipe	94.00			4629.00	
Change Over Sub	1.00			4630.00	
Bullnose	5.00			4635.00	136.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>163.00</b>				



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Larson Engineering Inc.

**32-19s-29w Lane,KS**

562 W. State Rd.  
Olmitz KS 67564

**Lora #1-32**

Job Ticket: 57731

**DST#: 6**

ATTN: Vern Schrag

Test Start: 2014.09.14 @ 17:24:00

## 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:

bbbl

Water Loss: 7.98 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3700.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
124.00	WCM 3%w 97%m with a Few Oil Spots	0.610
124.00	WCM 3%w 97%m	1.739
92.00	100%m	1.291

Total Length: 340.00 ft      Total Volume: 3.640 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

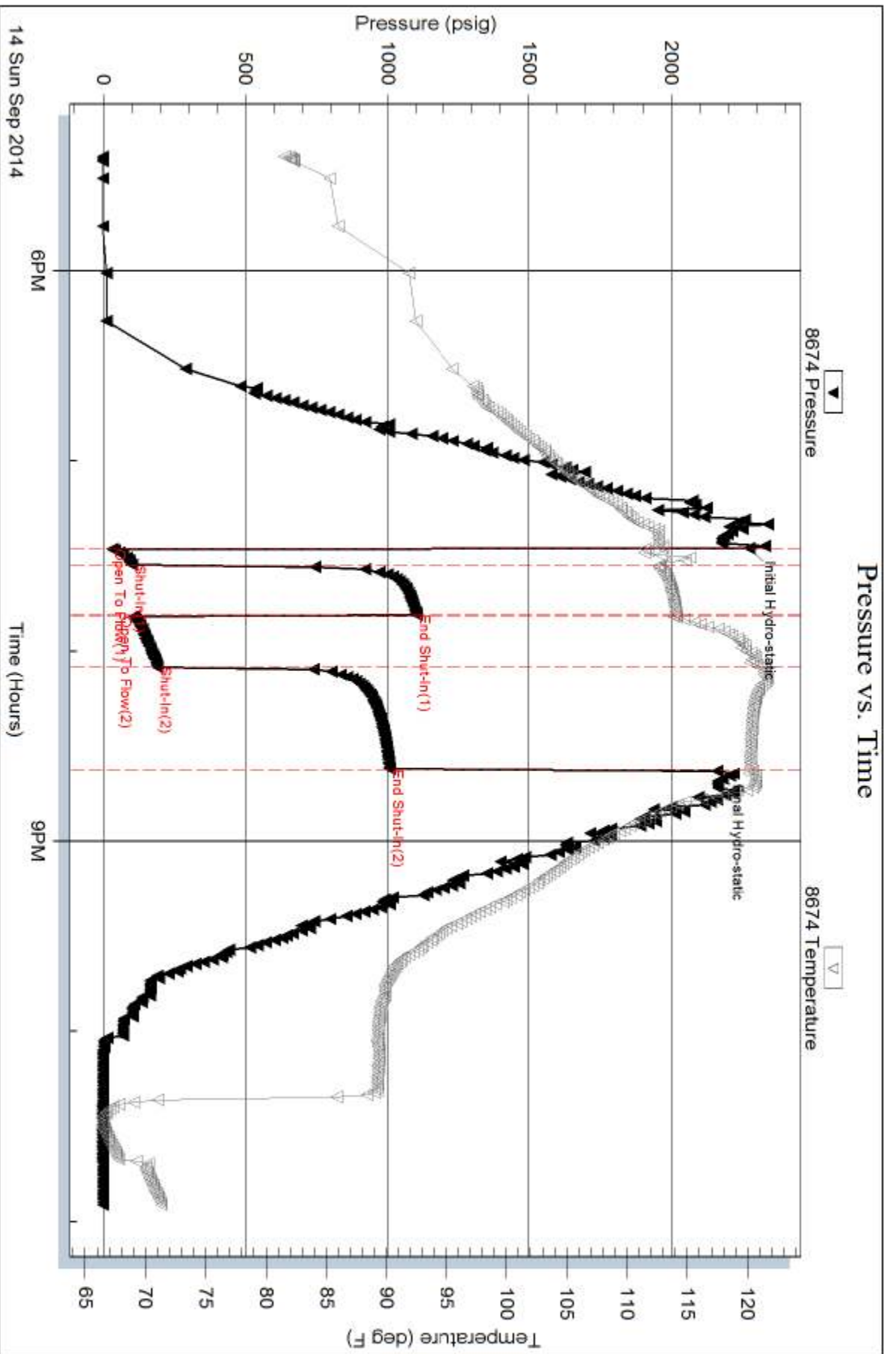
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





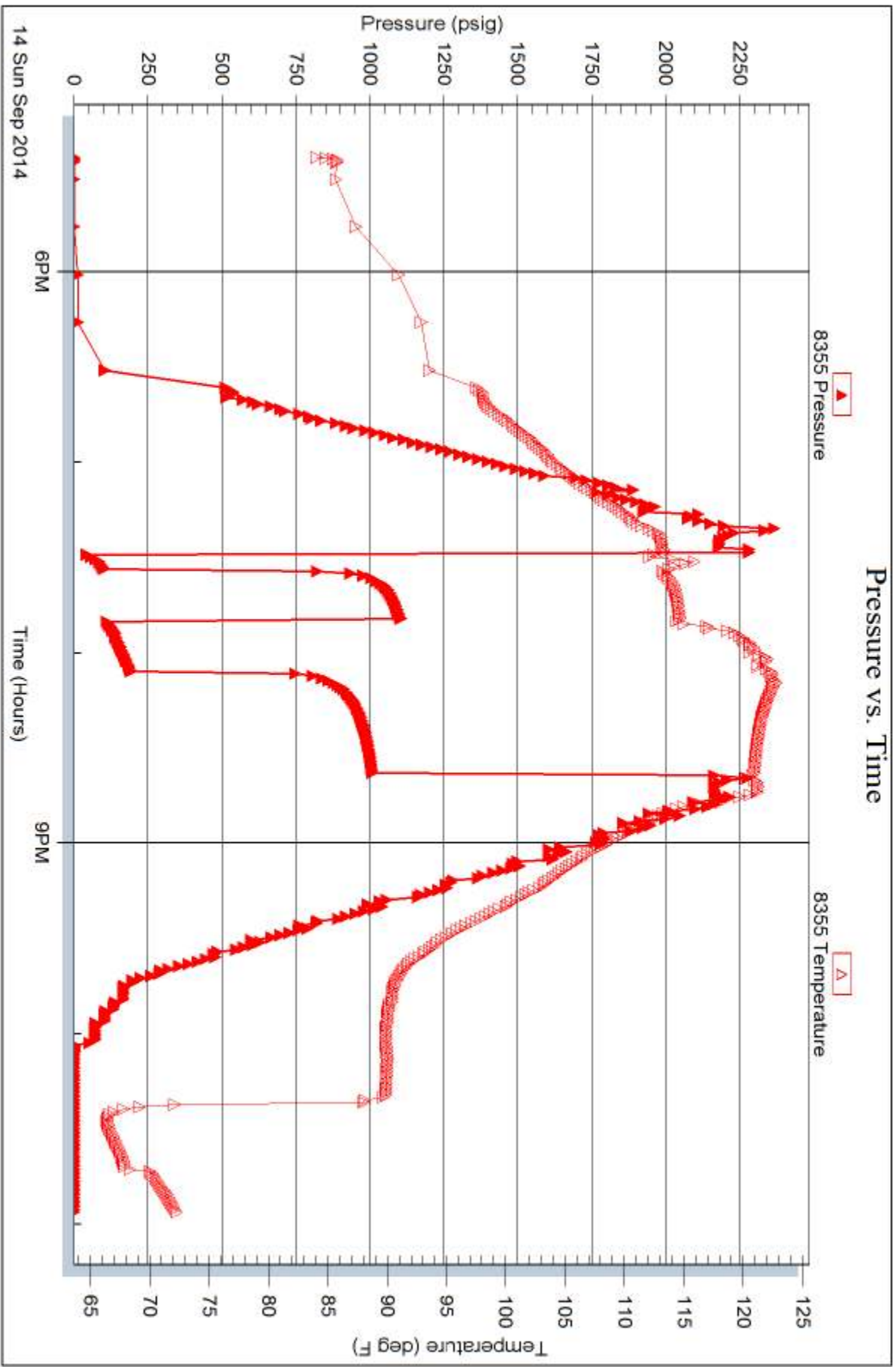
Serial #: 8355

Outside

Larson Engineering Inc.

Lora #1-32

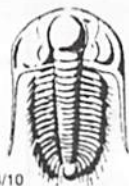
DST Test Number: 6



Trilobite Testing, Inc

Ref. No: 57731

Printed: 2014.09.16 @ 11:04:48



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 57725

4/10

Well Name & No. Lora #1-32 Test No. DST #1 Date 9-11-14  
 Company Larson Engineering Inc Elevation 2872 KB 2865 GL  
 Address 562 W. State Rd Olmitz KS 67564  
 Co. Rep / Geo. Vern Schrag Rig H-D 3  
 Location: Sec. 32 Twp. 19S Rge. 29W Co. Lane State KS

Interval Tested 4264-4285 Zone Tested LRC "J"  
 Anchor Length 21 Drill Pipe Run \_\_\_\_\_ Mud Wt. 8.9  
 Top Packer Depth 4260 Drill Collars Run 124 Vis 62  
 Bottom Packer Depth 4264 Wt. Pipe Run 0 WL 7.6  
 Total Depth 4285 Chlorides 4400 ppm System LCM 115  
 Blow Description FF-Weak Surface Blow Built to 1 1/4"  
ISI- No Blow  
FF-Weak Surface Blow Built to 4 1/2"  
ISI- No Blow

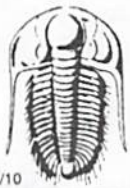
Rec	Feet of	%gas	%oil	%water	%mud
<u>10</u>	<u>WCM</u> <del>1290</del> <u>with a few oil spots</u>		<u>12</u>	<u>88</u>	
<u>62</u>	<u>WCM</u>		<u>29</u>	<u>71</u>	
<u>62</u>	<u>MCH</u>		<u>63</u>	<u>37</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 134 BHT 124 Gravity \_\_\_\_\_ API RW. 494 @ 55 °F Chlorides 16,400 ppm

(A) Initial Hydrostatic <u>2156</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>1:00</u>
(B) First Initial Flow <u>18</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>1:58</u>
(C) First Final Flow <u>35</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>3:15</u>
(D) Initial Shut-In <u>1071</u>	<input checked="" type="checkbox"/> Circ Sub <u>NIC</u>	T-Pulled <u>5:08</u>
(E) Second Initial Flow <u>37</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>7:46</u>
(F) Second Final Flow <u>90</u>	<input checked="" type="checkbox"/> Mileage <u>74 R/T</u> <u>114.70</u>	Comments _____
(G) Final Shut-In <u>1071</u>	<input type="checkbox"/> Sampler _____	
(H) Final Hydrostatic <u>2003</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Shale Packer _____
Initial Open <u>5</u>	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> Ruined Packer _____
Initial Shut-In <u>15</u>	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Extra Copies _____
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder _____	Sub Total <u>0</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby _____	Total <u>1689.70</u>
	<input type="checkbox"/> Accessibility _____	MP/DST Disc't _____
	Sub Total <u>1689.70</u>	

Approved By Vern Schrag 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. 57727

Well Name & No. Lora #1-32 Test No. DST #2 Date 9-11-14  
 Company Larson Engineering Inc Elevation 2872 KB 2865 GL  
 Address 562 W State Rd Olmitz KS 67564  
 Co. Rep / Geo. Vern Schrag Rig H-D 3  
 Location: Sec. 32 Twp. 19s Rge. 29W Co. Lane State KS

Interval Tested 4295-4316 Zone Tested LRC "K1"  
 Anchor Length 21 Drill Pipe Run 4172 Mud Wt. 9.1  
 Top Packer Depth 4291 Drill Collars Run 124 Vis 54  
 Bottom Packer Depth 4295 Wt. Pipe Run 0 WL 8.4  
 Total Depth 4316 Chlorides 4500 ppm System LCM 116  
 Blow Description IF- Surface Blow Built to BOB in 2min  
ISI- No Blow  
FF- Surface Blow Built to BOB in 1 3/4 min  
FSI- No Blow

Rec	Feet of	%gas	%oil	%water	%mud
20	375 G-MCO	3	88	9	
124	G-WMCO	8	39	18	35
186	G-OMCW	12	20	38	30
248	G-MOCW	9	15	66	10
620	OG-MCW	7	3	82	8

Rec Total 1198 BHT 130 Gravity 29 API RW 327 @ 56 °F Chlorides 25 200 ppm

(A) Initial Hydrostatic 2178  Test 1250 T-On Location 15:30  
 (B) First Initial Flow 110  Jars 250 T-Started 16:00  
 (C) First Final Flow 243  Safety Joint 75 T-Open 17:45  
 (D) Initial Shut-In 1056  Circ Sub N/C T-Pulled 18:55  
 (E) Second Initial Flow 261  Hourly Standby \_\_\_\_\_ T-Out 21:47  
 (F) Second Final Flow 579  Mileage 74 R/T 114.70 Comments \_\_\_\_\_  
 (G) Final Shut-In 1048  Sampler \_\_\_\_\_ 228' of G-IP  
 (H) Final Hydrostatic 2159  Straddle \_\_\_\_\_ API is 29 @ 60 f = 29  
 Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_  
 Sub Total 1689.70 Ruined Shale Packer \_\_\_\_\_  
 Ruined Packer \_\_\_\_\_  
 Extra Copies \_\_\_\_\_  
 Sub Total 0  
 Total 1689.70  
 MP/DST Disc't \_\_\_\_\_

Initial Open 5  
 Initial Shut-In 15  
 Final Flow 15  
 Final Shut-In 30  
 Approved By [Signature] 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. 57728

Well Name & No. Larson Engineering Inc Lora #1-32 Test No. DST #3 Date 9-12-14  
 Company Larson Engineering Inc Elevation 2872 KB 2865 GL  
 Address 562 W. State Rd Olmitz KS 67564  
 Co. Rep / Geo. Vern Schrag Rig H-D #3  
 Location: Sec. 32 Twp. 19S Rge. 29W Co. Lane State KS

Interval Tested 4335-4352 Zone Tested Mid Creek  
 Anchor Length 17 Drill Pipe Run 4204 Mud Wt. 9.1  
 Top Packer Depth 4331 Drill Collars Run 124 Vis 54  
 Bottom Packer Depth 4335 Wt. Pipe Run 0 WL 8.4  
 Total Depth 4352 Chlorides 4500 ppm System LCM 115

Blow Description IF - Surface Blow Built to BOB in 3 1/2 min  
ISI - Weak Surface Blow in 8 1/2 min  
FF - Surface Blow Built to BOB in 4 1/4 min  
FSI - Weak Surface Blow in 6 min

Rec	Feet of	%gas	%oil	%water	%mud
<u>15'</u>	<u>G-MCO</u>	<u>3</u>	<u>75</u>	<u></u>	<u>22</u>
<u>62</u>	<u>GOCM</u>	<u>14</u>	<u>26</u>	<u></u>	<u>60</u>
<u>186</u>	<u>GOCM</u>	<u>20</u>	<u>32</u>	<u></u>	<u>48</u>
<u>186</u>	<u>MOCW</u>	<u>26</u>	<u>22</u>	<u>38</u>	<u>14</u>
<u>186</u>	<u>GOMCW</u>	<u>6</u>	<u>7</u>	<u>76</u>	<u>11</u>

Rec Total 635 BHT 128 Gravity 22 API RW .342 @ 45 ° F Chlorides 31000 ppm

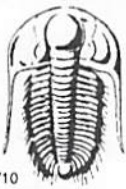
(A) Initial Hydrostatic 2214  Test 1250 T-On Location 6.44  
 (B) First Initial Flow 54  Jars 250 T-Started 7.50  
 (C) First Final Flow 136  Safety Joint 75 T-Open 9.34  
 (D) Initial Shut-In 1058  Circ Sub MC T-Pulled 10.45  
 (E) Second Initial Flow 142  Hourly Standby \_\_\_\_\_ T-Out 13.18  
 (F) Second Final Flow 298  Mileage 74 RIT 114.70 Comments \_\_\_\_\_  
 (G) Final Shut-In 928  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2138  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_

Initial Open 5  
 Initial Shut-In 15  
 Final Flow 15  
 Final Shut-In 30

Sub Total 1689.70  
 Total 1689.70  
 MP/DST Disc't \_\_\_\_\_

Approved By [Signature] 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. **57729**

4/10

Well Name & No. Lora #1-32 Test No. DST #4 Date 9-12-14  
 Company Larson Engineering Inc Elevation 2872 KB 2865 GL  
 Address 562 W. State Rd Olmitz KS 67564  
 Co. Rep / Geo. Vern Schrag Rig H-D 3  
 Location: Sec. 32 Twp. 19S Rge. 29W Co. Lane State KS

Interval Tested 4350-4360 Zone Tested LKC "L"  
 Anchor Length 10 Drill Pipe Run 4205 Mud Wt. 9.2  
 Top Packer Depth 4346 Drill Collars Run 124 Vis 52  
 Bottom Packer Depth 4350 Wt. Pipe Run 0 WL 9.2  
 Total Depth 4360 Chlorides 5400 ppm System LCM 115  
 Blow Description IF - Weak Surface Blow Built to 1/2"  
ISI - No Blow  
FF - Weak Surface Blow Built to 1"  
FST - No Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>2</u>	<u>OCH</u>		<u>27</u>	<u>23</u>	
<u>8</u>	<u>WOCH</u>		<u>29</u>	<u>6</u>	<u>65</u>

Rec Total 10 BHT 113 Gravity 26 API RW 361 @ 45 °F Chlorides 28500 ppm

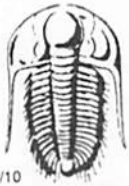
(A) Initial Hydrostatic 2235  Test 1250 T-On Location 19:38  
 (B) First Initial Flow 16  Jars 250 T-Started 19:50  
 (C) First Final Flow 16  Safety Joint 75 T-Open 21:51  
 (D) Initial Shut-In 952  Circ Sub NIC T-Pulled 23:48  
 (E) Second Initial Flow 19  Hourly Standby \_\_\_\_\_ T-Out 1:32  
 (F) Second Final Flow 24  Mileage 74 R/T 114.70 Comments \_\_\_\_\_  
 (G) Final Shut-In 1067  Sampler \_\_\_\_\_ API is 25 @ 50t = 26  
 (H) Final Hydrostatic 2116  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_ Sub Total 0  
 Day Standby \_\_\_\_\_ Total 1689.70  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1689.70

Approved By

V Schrag

Our Representative

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. **57730**

Well Name & No. Lora #1-32 Test No. DST #5 Date 9-13-14  
 Company Larson Engineering Inc Elevation 2872 KB 2865 GL  
 Address 562 W. State Rd Olathe KS 67564  
 Co. Rep / Geo. Vern Schrag Rig H-D 3  
 Location: Sec. 32 Twp. 19S Rge. 29W Co. Lanc State KS

Interval Tested 4377-4480 Zone Tested Marmaton  
 Anchor Length 103 Drill Pipe Run 4238 Mud Wt. 9.0  
 Top Packer Depth 4373 Drill Collars Run 124 Vis 58  
 Bottom Packer Depth 4377 Wt. Pipe Run 0 WL 7.6  
 Total Depth 4480 Chlorides 4200 ppm System LCM 116  
 Blow Description IF- Surface Blow Built to BOB in 4 1/2 min  
ISI- No Blow  
FF- Surface Blow Built to BOB in 5 1/4 min  
FSI- No Blow

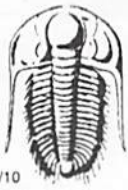
Rec	Feet of	%gas	%oil	%water	%mud
82	Mud with oil spots			100	
62	OG-CM	11	6	83	
186	OWG-CM	9	4	82	
62	OWG-CM	15	5	66	
186	OG-WCM	6	3	65	

Rec Total 578 BHT 122 Gravity \_\_\_\_\_ API RW 373@ 54 °F Chlorides 27000 ppm

(A) Initial Hydrostatic 2210  Test 1250 T-On Location 19:10  
 (B) First Initial Flow 56  Jars 250 T-Started 19:30  
 (C) First Final Flow 152  Safety Joint 75 T-Open 21:00  
 (D) Initial Shut-In 1092  Circ Sub NIC T-Pulled 22:09  
 (E) Second Initial Flow 154  Hourly Standby \_\_\_\_\_ T-Out 00:33  
 (F) Second Final Flow 288  Mileage 74 R/T 114.70 Comments 84' of well GIP  
 (G) Final Shut-In 1052  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2172  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_ Sub Total 0  
 Day Standby \_\_\_\_\_ Total 1689.70  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1689.70

Approved By [Signature] 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.



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 57731

4/10

Well Name & No. Lora #1-32 Test No. DST #6 Date 9-14-14  
 Company Larson Engineering Inc Elevation 2872 KB 2865 GL  
 Address 562 W. State Rd Olmitz KS 67564  
 Co. Rep / Geo. Vern Schrag Rig H-D 3  
 Location: Sec. 32 Twp. 19S Rge. 29W Co. Lane State KS

Interval Tested 4499 - 4635 Zone Tested Cherokee  
 Anchor Length 136 Drill Pipe Run 4362 Mud Wt. 9.1  
 Top Packer Depth 4495 Drill Collars Run 124 Vis 54  
 Bottom Packer Depth 4499 Wt. Pipe Run 0 WL 8.0  
 Total Depth 4635 Chlorides 3700 ppm System LCM 116  
 Blow Description IF - Weak Surface Blow to 5 1/2"  
ISI - No Blow  
FF - Weak Surface Blow to BOB in 1 1/2 min  
PST - No Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>92</u>	<u>Mud</u>			<u>100</u>	
<u>124</u>	<u>WCM</u>		<u>3</u>	<u>97</u>	
<u>124</u>	<u>WCM with a few oil spots</u>		<u>3</u>	<u>97</u>	

Rec Total 340 BHT 121 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic <u>2274</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>16:20</u>
(B) First Initial Flow <u>32</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>17:24</u>
(C) First Final Flow <u>102</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>19:27</u>
(D) Initial Shut-In <u>1104</u>	<input checked="" type="checkbox"/> Circ Sub <u>NIC</u>	T-Pulled <u>20:34</u>
(E) Second Initial Flow <u>108</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>22:54</u>
(F) Second Final Flow <u>191</u>	<input checked="" type="checkbox"/> Mileage <u>74 RIT</u> 114.70	Comments _____
(G) Final Shut-In <u>1008</u>	<input type="checkbox"/> Sampler _____	
(H) Final Hydrostatic <u>2161</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>15</u>	<input type="checkbox"/> Day Standby _____	Total <u>1689.70</u>
Final Shut-In <u>30</u>	<input type="checkbox"/> Accessibility _____	MP/DST Disc't _____
	Sub Total <u>1689.70</u>	

Approved By Jessie Schrag Our Representative \_\_\_\_\_

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 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.