



DRILL STEM TEST REPORT

Prepared For: **Larson Engineering, Inc**

562 W State Rd 4
Olmitz, KS 67564

ATTN: Vern Schrag

Eugene #1-27

27 18s 28w Lane,KS

Start Date: 2013.08.19 @ 03:17:00

End Date: 2013.08.19 @ 08:27:15

Job Ticket #: 54978 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.08.26 @ 14:31:37



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Larson Engineering, Inc

27 18s 28w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

Eugene #1-27

Job Ticket: 54978

DST#: 1

ATTN: Vern Schrag

Test Start: 2013.08.19 @ 03:17:00

GENERAL INFORMATION:

Formation: **LKC - H**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 05:20:00

Time Test Ended: 08:27:15

Test Type: Conventional Bottom Hole (Initial)

Tester: Bradley Walter

Unit No: 69

Interval: 4124.00 ft (KB) To 4152.00 ft (KB) (TVD)

Reference Elevations: 2731.00 ft (KB)

Total Depth: 4152.00 ft (KB) (TVD)

2724.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 7.00 ft

Serial #: 8677

Inside

Press @ Run Depth: 37.66 psig @ 4125.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.08.19

End Date:

2013.08.19

Last Calib.:

2013.08.19

Start Time: 03:17:05

End Time:

08:27:14

Time On Btm:

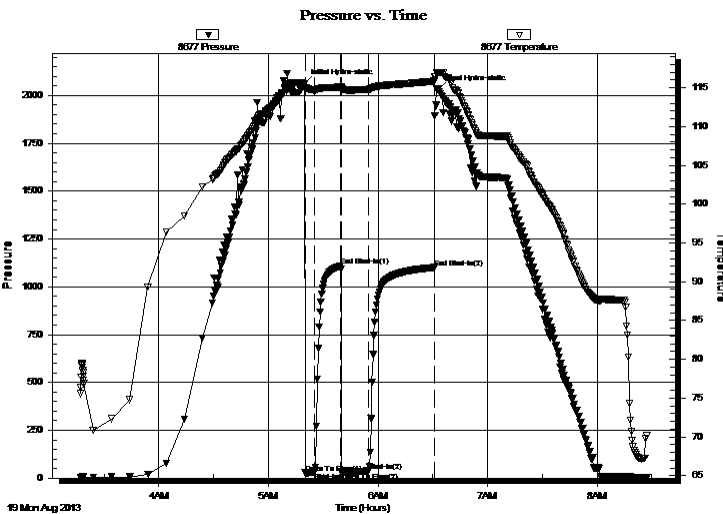
2013.08.19 @ 05:19:45

Time Off Btm:

2013.08.19 @ 06:33:15

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

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2060.09	115.54	Initial Hydro-static
1	26.97	114.75	Open To Flow (1)
6	29.25	114.69	Shut-In(1)
20	1108.37	115.08	End Shut-In(1)
21	31.50	114.71	Open To Flow (2)
35	37.66	114.79	Shut-In(2)
72	1101.35	115.85	End Shut-In(2)
74	2030.23	116.97	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
20.00	mud 100m (thick, heavy)	0.10

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Larson Engineering, Inc

27 18s 28w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

Eugene #1-27

ATTN: Vern Schrag

Job Ticket: 54978

DST#: 1

Test Start: 2013.08.19 @ 03:17:00

GENERAL INFORMATION:

Formation: **LKC - H**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 05:20:00

Time Test Ended: 08:27:15

Interval: **4124.00 ft (KB) To 4152.00 ft (KB) (TVD)**

Total Depth: 4152.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Test Type: Conventional Bottom Hole (Initial)

Tester: Bradley Walter

Unit No: 69

Reference Elevations: 2731.00 ft (KB)

2724.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 8522

Outside

Press @ Run Depth: psig @ 4125.00 ft (KB)

Start Date: 2013.08.19 End Date: 2013.08.19

Start Time: 03:17:05 End Time: 08:28:14

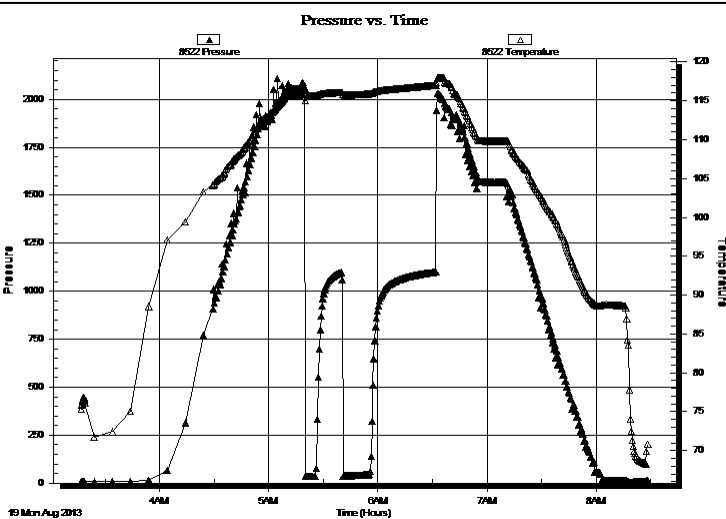
Capacity: 8000.00 psig

Last Calib.: 2013.08.19

Time On Btm:

Time Off Btm:

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



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
20.00	mud 100m (thick, heavy)	0.10

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Engineering, Inc

27 18s 28w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

Eugene #1-27

Job Ticket: 54978

DST#: 1

ATTN: Vern Schrag

Test Start: 2013.08.19 @ 03:17:00

Tool Information

Drill Pipe:	Length: 3983.00 ft	Diameter: 3.80 inches	Volume: 55.87 bbl	Tool Weight: 2500.00 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: 147.00 ft	Diameter: 2.25 inches	Volume: 0.72 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 56.59 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	33.00 ft			String Weight: Initial 55000.00 lb
Depth to Top Packer:	4124.00 ft			Final 55000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	28.00 ft			
Tool Length:	55.00 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			4098.00	
Shut In Tool	5.00			4103.00	
Hydraulic tool	5.00			4108.00	
Jars	5.00			4113.00	
Safety Joint	2.00			4115.00	
Packer	5.00			4120.00	27.00 Bottom Of Top Packer
Packer	4.00			4124.00	
Stubb	1.00			4125.00	
Recorder	0.00	8677	Inside	4125.00	
Recorder	0.00	8522	Outside	4125.00	
Perforations	24.00			4149.00	
Bullnose	3.00			4152.00	28.00 Bottom Packers & Anchor

Total Tool Length: 55.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering, Inc

27 18s 28w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

Eugene #1-27

Job Ticket: 54978

DST#: 1

ATTN: Vern Schrag

Test Start: 2013.08.19 @ 03:17:00

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: 53.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.75 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	mud 100m (thick, heavy)	0.098

Total Length: 20.00 ft Total Volume: 0.098 bbl

Num Fluid Samples: 0

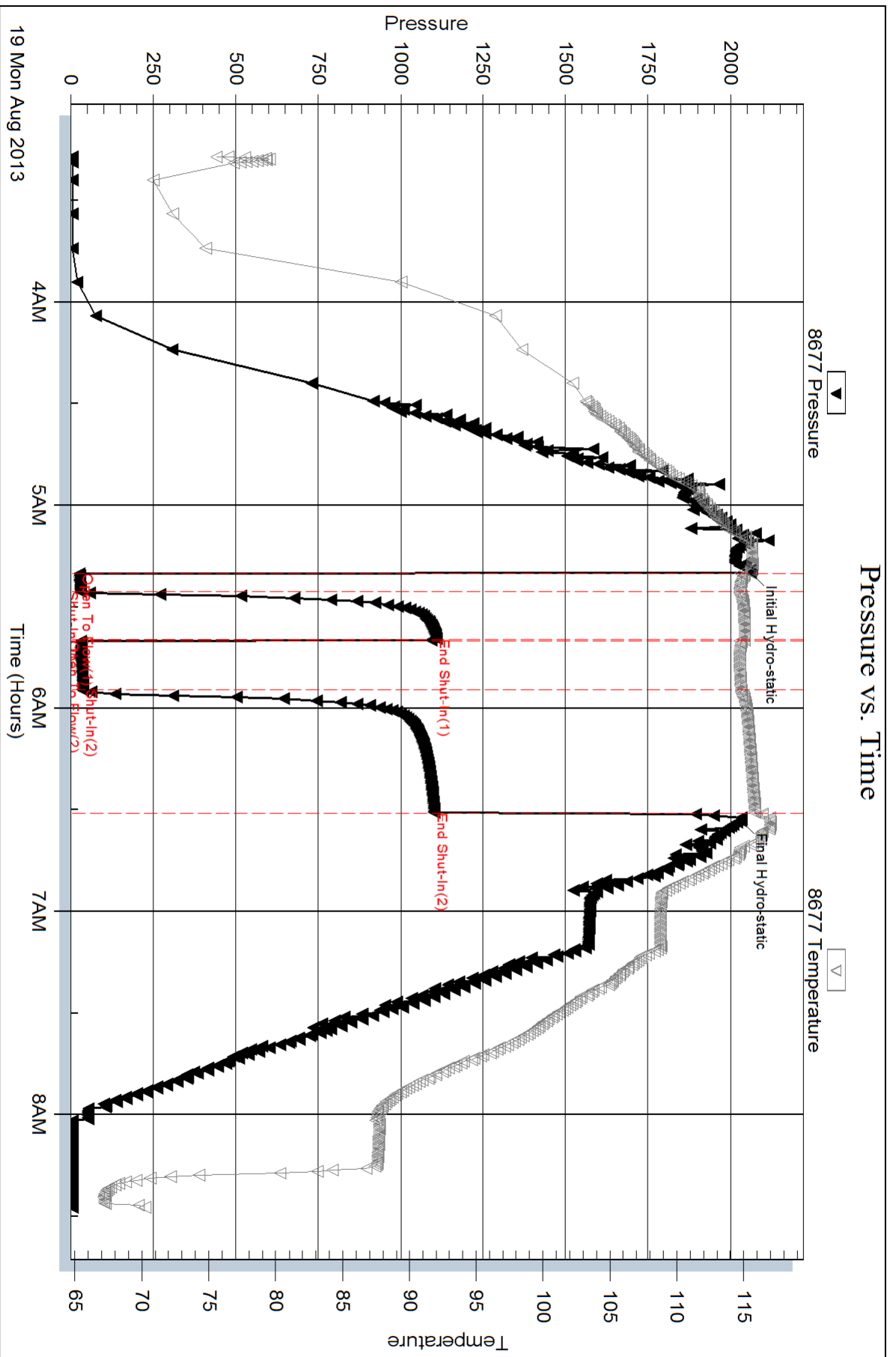
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

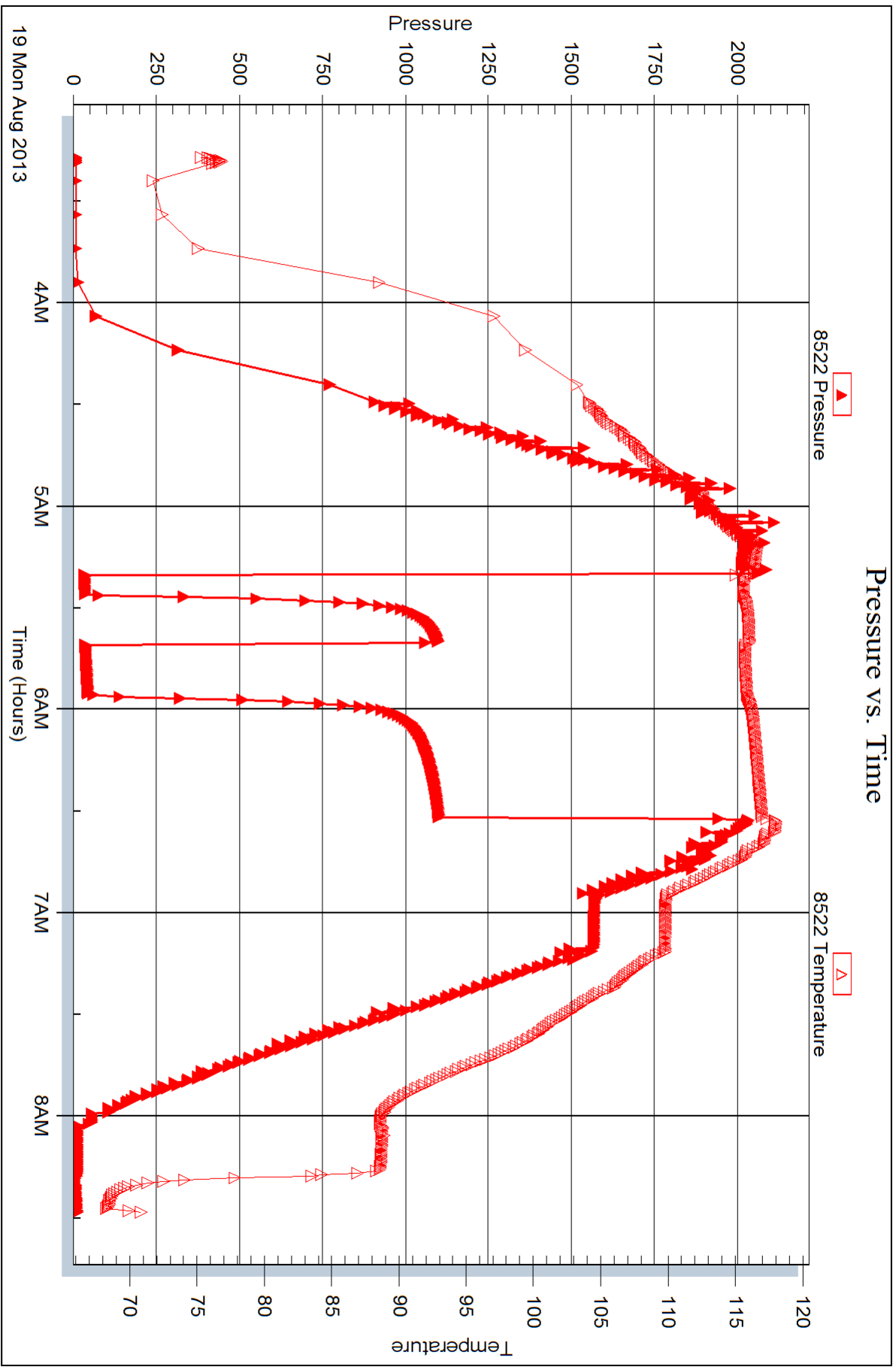


Serial #: 8522

Outside Larson Engineering, Inc

Eugene #1-27

DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **Larson Engineering, Inc**

562 W State Rd 4
Olmitz, KS 67564

ATTN: Vern Schrag

Eugene #1-27

27 18s 28w Lane,KS

Start Date: 2013.08.19 @ 21:04:00

End Date: 2013.08.20 @ 02:00:00

Job Ticket #: 54979 DST #: 2

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

Printed: 2013.08.26 @ 14:31:08



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

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

27 18s 28w Lane, KS
Eugene #1-27
 Job Ticket: 54979 **DST#: 2**
 Test Start: 2013.08.19 @ 21:04:00

GENERAL INFORMATION:

Formation: **LKC - J**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 22:32:45
 Time Test Ended: 02:00:00
 Interval: **4199.00 ft (KB) To 4215.00 ft (KB) (TVD)**
 Total Depth: 4215.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Bradley Walter
 Unit No: 69
 Reference Elevations: 2731.00 ft (KB)
 2724.00 ft (CF)
 KB to GR/CF: 7.00 ft

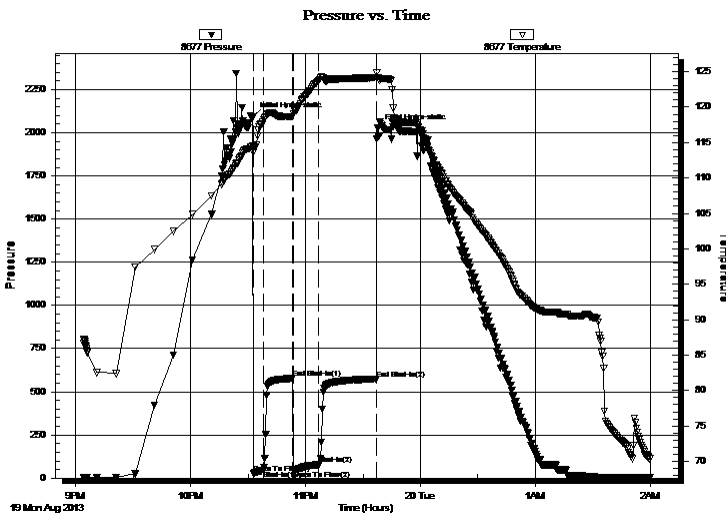
Serial #: 8677

Inside

Press @ Run Depth: 78.23 psig @ 4200.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.08.19 End Date: 2013.08.20 Last Calib.: 2013.08.20
 Start Time: 21:04:05 End Time: 01:59:59 Time On Btm: 2013.08.19 @ 22:32:30
 Time Off Btm: 2013.08.19 @ 23:37:45

TEST COMMENT: IF: 3 1/2" blow.
 IS: No return.
 FF: BOB @ 10 min.
 FS: No return.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2091.87	114.52	Initial Hydro-static
1	26.37	113.57	Open To Flow (1)
6	44.84	117.86	Shut-In(1)
21	577.55	118.65	End Shut-In(1)
22	47.57	119.01	Open To Flow (2)
35	78.23	123.77	Shut-In(2)
65	574.09	124.14	End Shut-In(2)
66	2026.42	124.21	Final Hydro-static

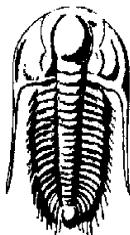
Recovery

Length (ft)	Description	Volume (bbl)
60.00	gocm 10g 40o 50m	0.30
80.00	gsmco 30g 5m 65o	0.39
0.00	160 GIP	0.00

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Larson Engineering, Inc

27 18s 28w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

Eugene #1-27

ATTN: Vern Schrag

Job Ticket: 54979

DST#: 2

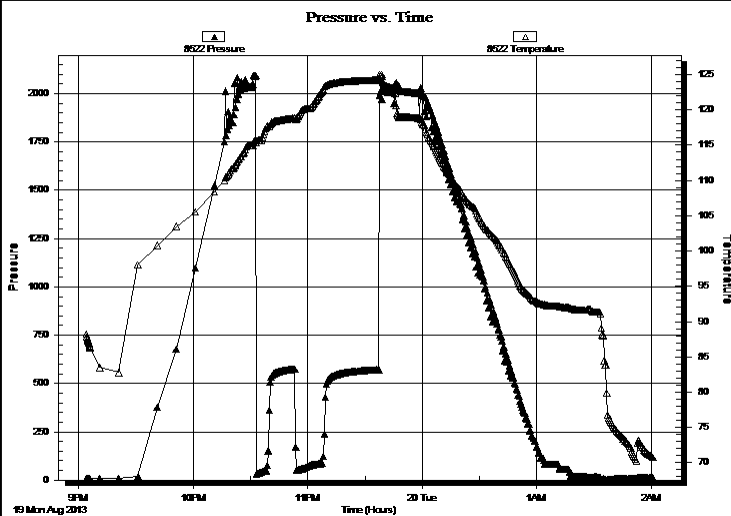
Test Start: 2013.08.19 @ 21:04:00

GENERAL INFORMATION:

Formation: **LKC - J**
 Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 22:32:45 Tester: Bradley Walter
 Time Test Ended: 02:00:00 Unit No: 69
Interval: 4199.00 ft (KB) To 4215.00 ft (KB) (TVD) Reference Elevations: 2731.00 ft (KB)
 Total Depth: 4215.00 ft (KB) (TVD) 2724.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 7.00 ft

Serial #: 8522 **Outside**
 Press@RunDepth: psig @ 4200.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.08.19 End Date: 2013.08.20 Last Calib.: 2013.08.20
 Start Time: 21:04:05 End Time: 02:00:44 Time On Btm:
 Time Off Btm:

TEST COMMENT: IF: 3 1/2" blow .
 IS: No return.
 FF: BOB @ 10 min.
 FS: No return.



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
60.00	gocm 10g 40o 50m	0.30
80.00	gsmco 30g 5m 65o	0.39
0.00	160 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

27 18s 28w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

Eugene #1-27

Job Ticket: 54979

DST#: 2

ATTN: Vern Schrag

Test Start: 2013.08.19 @ 21:04:00

Tool Information

Drill Pipe:	Length: 4045.00 ft	Diameter: 3.80 inches	Volume: 56.74 bbl	Tool Weight: 2500.00 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: 147.00 ft	Diameter: 2.25 inches	Volume: 0.72 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 57.46 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 56000.00 lb
Depth to Top Packer:	4199.00 ft			Final 56000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	16.00 ft			
Tool Length:	43.00 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			4173.00	
Shut In Tool	5.00			4178.00	
Hydraulic tool	5.00			4183.00	
Jars	5.00			4188.00	
Safety Joint	2.00			4190.00	
Packer	5.00			4195.00	27.00 Bottom Of Top Packer
Packer	4.00			4199.00	
Stubb	1.00			4200.00	
Recorder	0.00	8677	Inside	4200.00	
Recorder	0.00	8522	Outside	4200.00	
Perforations	12.00			4212.00	
Bullnose	3.00			4215.00	16.00 Bottom Packers & Anchor

Total Tool Length: 43.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering, Inc

27 18s 28w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

Eugene #1-27

Job Ticket: 54979

DST#: 2

ATTN: Vern Schrag

Test Start: 2013.08.19 @ 21:04:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

37 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.97 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	gocm 10g 40o 50m	0.295
80.00	gsmco 30g 5m 65o	0.393
0.00	160 GIP	0.000

Total Length: 140.00 ft

Total Volume: 0.688 bbl

Num Fluid Samples: 0

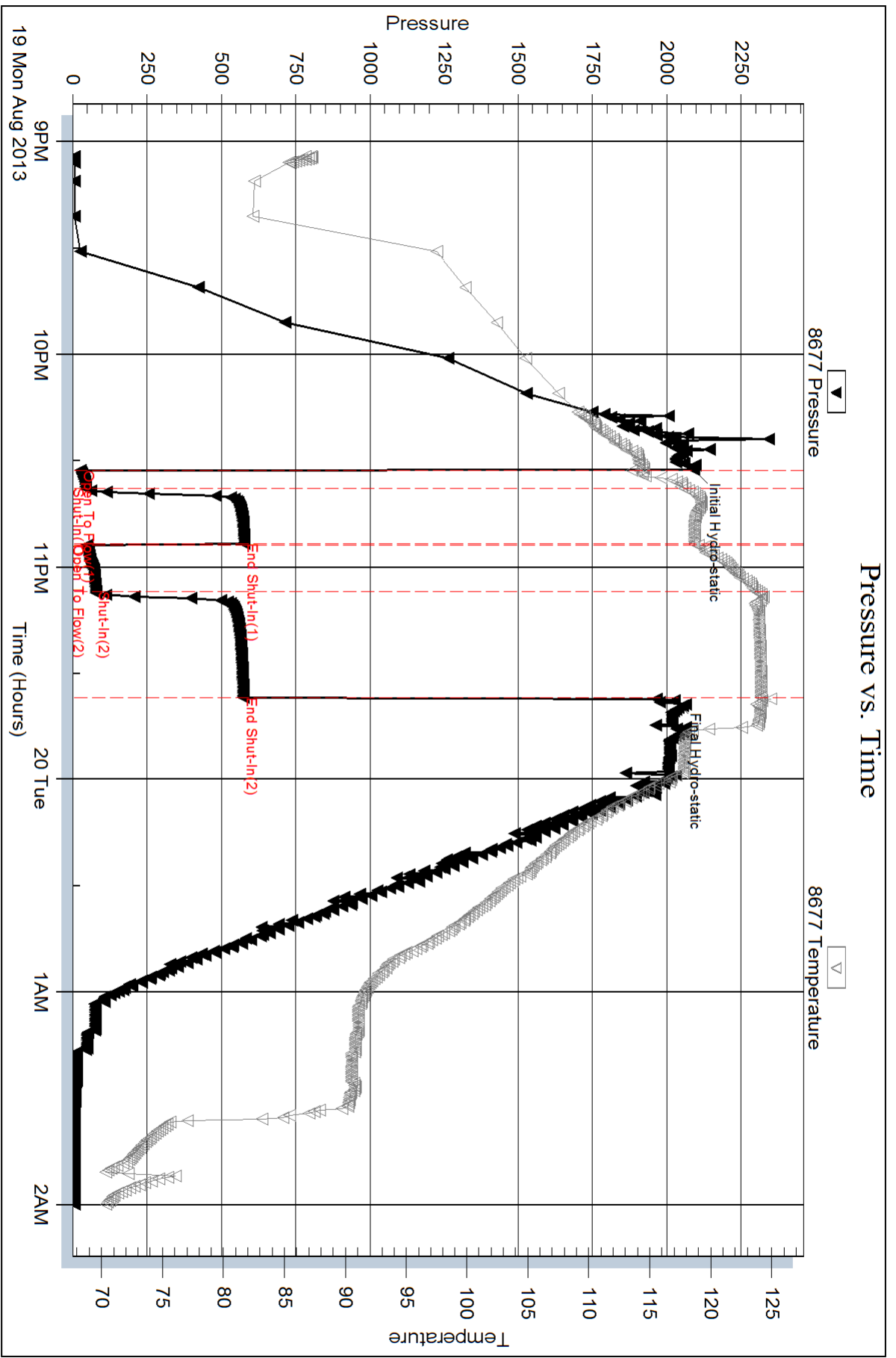
Num Gas Bombs: 0

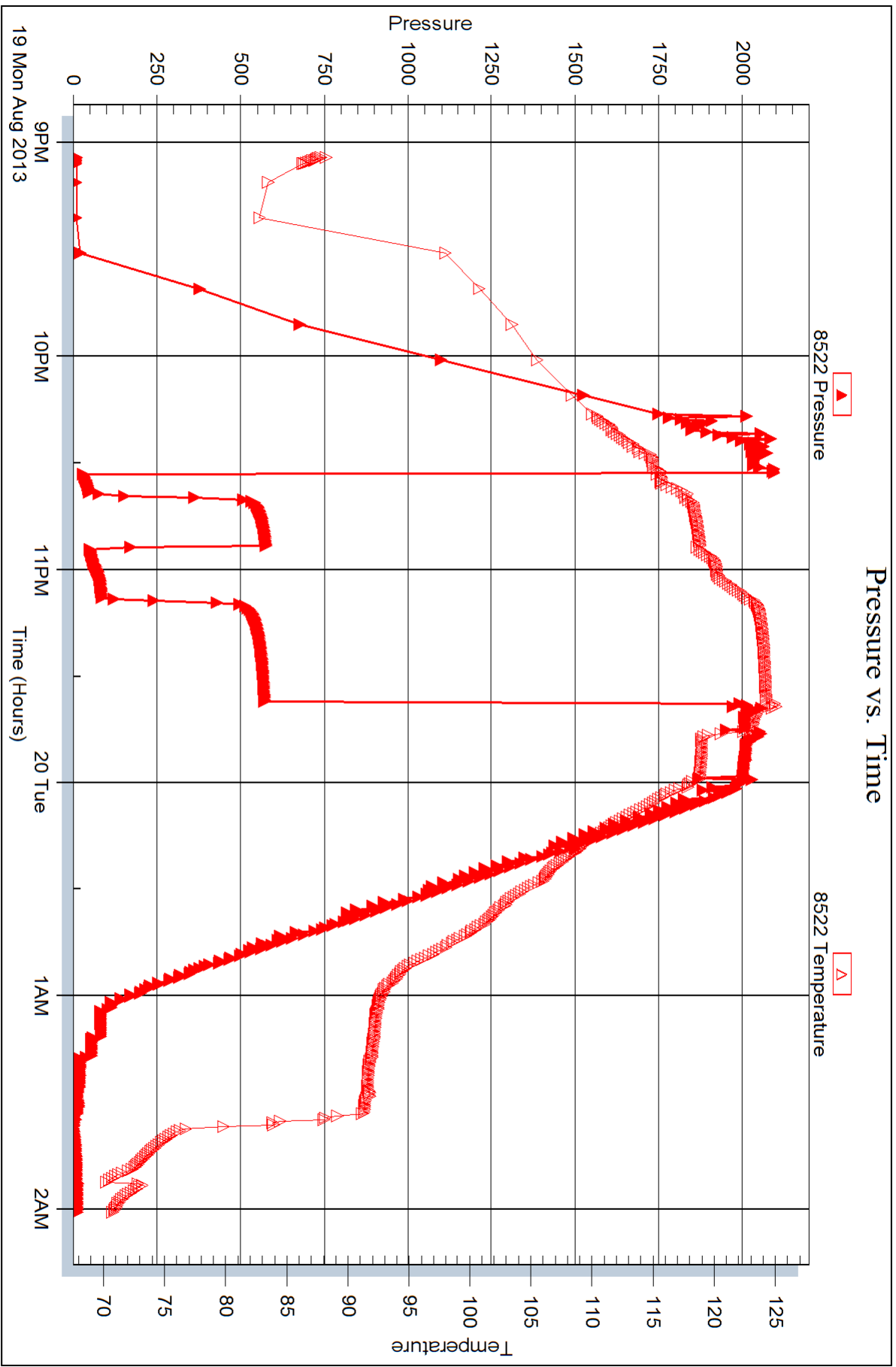
Serial #:

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

Eugene #1-27

27 18s 28w Lane,KS

Start Date: 2013.08.20 @ 12:06:00

End Date: 2013.08.20 @ 17:39:15

Job Ticket #: 54980 DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.08.26 @ 14:30:40



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Larson Engineering, Inc

27 18s 28w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

Eugene #1-27

Job Ticket: 54980

DST#: 3

ATTN: Vern Schrag

Test Start: 2013.08.20 @ 12:06:00

GENERAL INFORMATION:

Formation: **LKC - K**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:49:00

Time Test Ended: 17:39:15

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 69

Interval: 4226.00 ft (KB) To 4250.00 ft (KB) (TVD)

Reference Elevations: 2731.00 ft (KB)

Total Depth: 4250.00 ft (KB) (TVD)

2724.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 7.00 ft

Serial #: 8677

Inside

Press @ RunDepth: 203.21 psig @ 4227.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.08.20

End Date:

2013.08.20

Last Calib.:

2013.08.20

Start Time: 12:06:05

End Time:

17:39:14

Time On Btm:

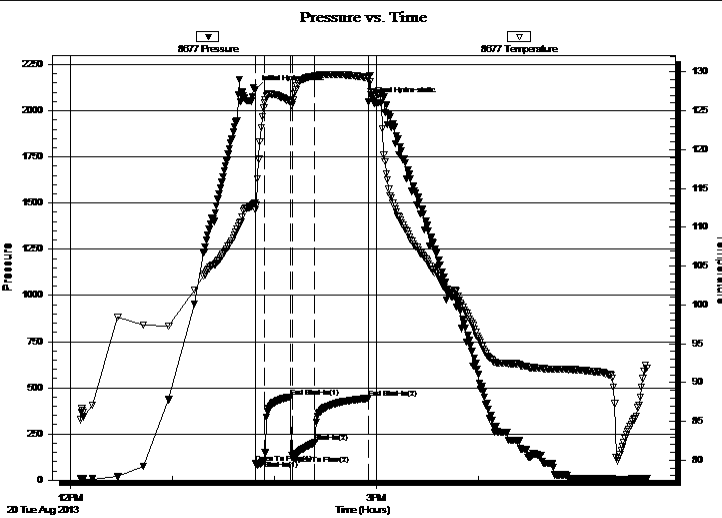
2013.08.20 @ 13:48:45

Time Off Btm:

2013.08.20 @ 14:55:30

TEST COMMENT: IF: BOB @ 2 min.
IS: 5" return.
FF: BOB @ 1 min.
FS: 3" return, Bled off.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2113.71	113.16	Initial Hydro-static
1	90.13	112.21	Open To Flow (1)
6	108.95	126.06	Shut-In(1)
21	450.06	126.15	End Shut-In(1)
22	132.24	126.06	Open To Flow (2)
35	203.21	129.47	Shut-In(2)
67	442.60	129.24	End Shut-In(2)
67	2048.21	129.38	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
140.00	gmco 20g 35m 45o	0.69
350.00	gsmco 40g 3m 57o	4.85
0.00	900' GIP	0.00

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Larson Engineering, Inc

27 18s 28w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

Eugene #1-27

Job Ticket: 54980

DST#: 3

ATTN: Vern Schrag

Test Start: 2013.08.20 @ 12:06:00

GENERAL INFORMATION:

Formation: **LKC - K**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:49:00

Time Test Ended: 17:39:15

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 69

Interval: **4226.00 ft (KB) To 4250.00 ft (KB) (TVD)**

Total Depth: 4250.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2731.00 ft (KB)

2724.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: **8522** Outside

Press @ RunDepth: psig @ 4227.00 ft (KB)

Start Date: 2013.08.20

End Date:

2013.08.20

Capacity: 8000.00 psig

Last Calib.:

2013.08.20

Start Time: 12:06:05

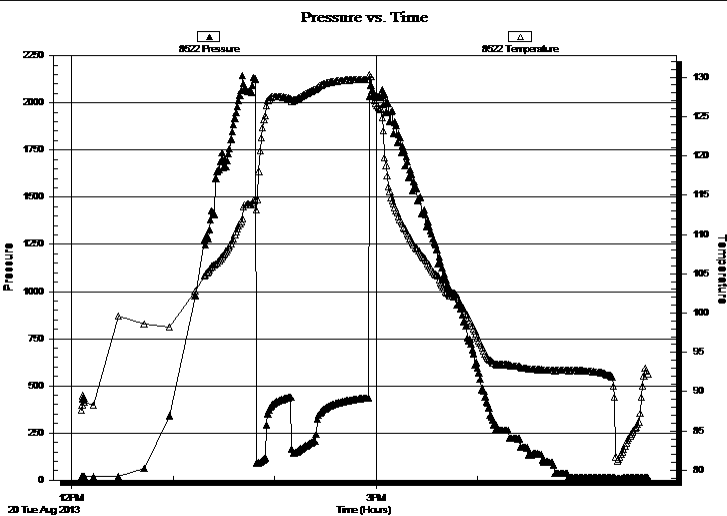
End Time:

17:40:14

Time On Btm:

Time Off Btm:

TEST COMMENT: IF: BOB @ 2 min.
ISl: 5" return.
FF: BOB @ 1 min.
FSl: 3" return, Bled off.



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
140.00	gmco 20g 35m 45o	0.69
350.00	gsmco 40g 3m 57o	4.85
0.00	900' GIP	0.00

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

27 18s 28w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

Eugene #1-27

Job Ticket: 54980

DST#: 3

ATTN: Vern Schrag

Test Start: 2013.08.20 @ 12:06:00

Tool Information

Drill Pipe:	Length: 4082.00 ft	Diameter: 3.80 inches	Volume: 57.26 bbl	Tool Weight: 2500.00 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: 147.00 ft	Diameter: 2.25 inches	Volume: 0.72 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 57.98 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial 56000.00 lb
Depth to Top Packer:	4226.00 ft			Final 57000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	24.00 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			4200.00	
Shut In Tool	5.00			4205.00	
Hydraulic tool	5.00			4210.00	
Jars	5.00			4215.00	
Safety Joint	2.00			4217.00	
Packer	5.00			4222.00	27.00 Bottom Of Top Packer
Packer	4.00			4226.00	
Stubb	1.00			4227.00	
Recorder	0.00	8677	Inside	4227.00	
Recorder	0.00	8522	Outside	4227.00	
Perforations	20.00			4247.00	
Bullnose	3.00			4250.00	24.00 Bottom Packers & Anchor

Total Tool Length: 51.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering, Inc

27 18s 28w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

Eugene #1-27

Job Ticket: 54980

DST#: 3

ATTN: Vern Schrag

Test Start: 2013.08.20 @ 12:06:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

41 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.97 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
140.00	gmco 20g 35m 45o	0.688
350.00	gsmco 40g 3m 57o	4.846
0.00	900' GIP	0.000

Total Length: 490.00 ft Total Volume: 5.534 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

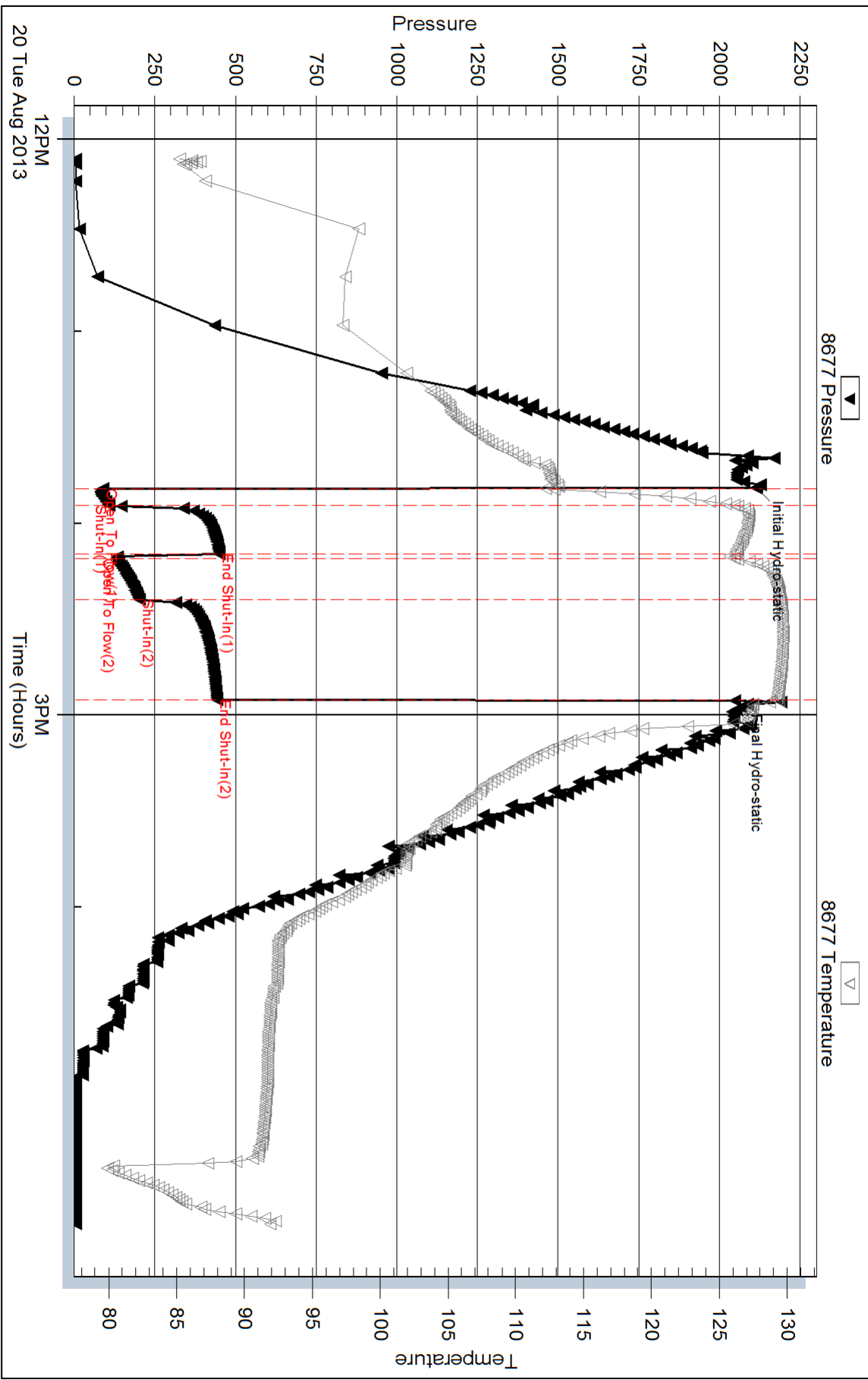
Serial #:

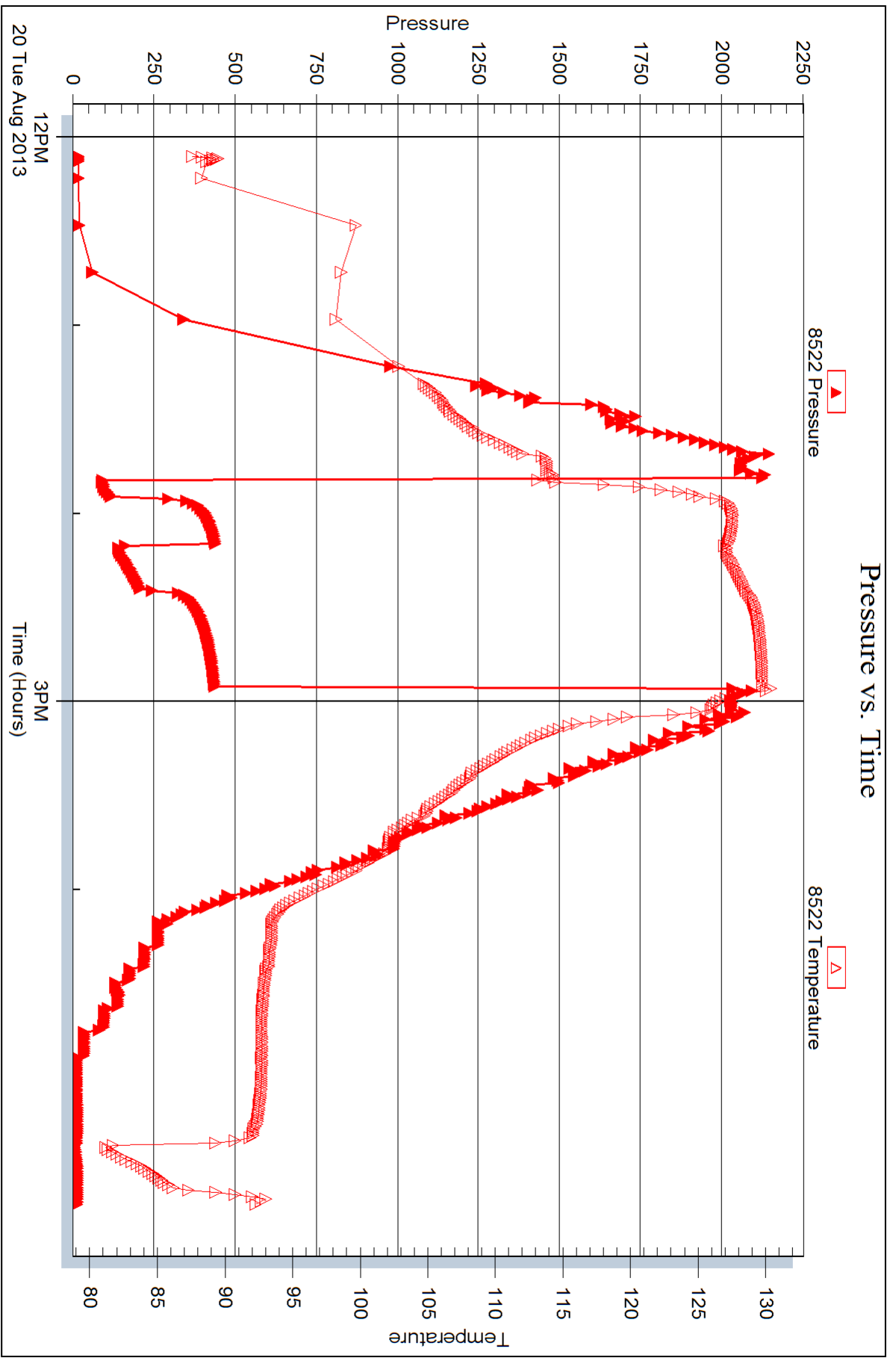
Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time







DRILL STEM TEST REPORT

Prepared For: **Larson Engineering, Inc**

562 W State Rd 4
Olmitz, KS 67564

ATTN: Vern Schrag

Eugene #1-27

27 18s 28w Lane,KS

Start Date: 2013.08.21 @ 04:00:00

End Date: 2013.08.21 @ 09:30:30

Job Ticket #: 54981 DST #: 4

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

Printed: 2013.08.26 @ 14:30:12



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

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

27 18s 28w Lane, KS

Eugene #1-27

Job Ticket: 54981

DST#: 4

Test Start: 2013.08.21 @ 04:00:00

GENERAL INFORMATION:

Formation: **Middle Creek**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:35:00

Time Test Ended: 09:30:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 69

Interval: **4257.00 ft (KB) To 4270.00 ft (KB) (TVD)**

Reference Elevations: 2731.00 ft (KB)

Total Depth: 4270.00 ft (KB) (TVD)

2724.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 7.00 ft

Serial #: **8677**

Inside

Press @ Run Depth: 24.06 psig @ 4258.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.08.21

End Date:

2013.08.21

Last Calib.: 2013.08.21

Start Time: 04:00:05

End Time:

09:30:29

Time On Btm: 2013.08.21 @ 06:34:30

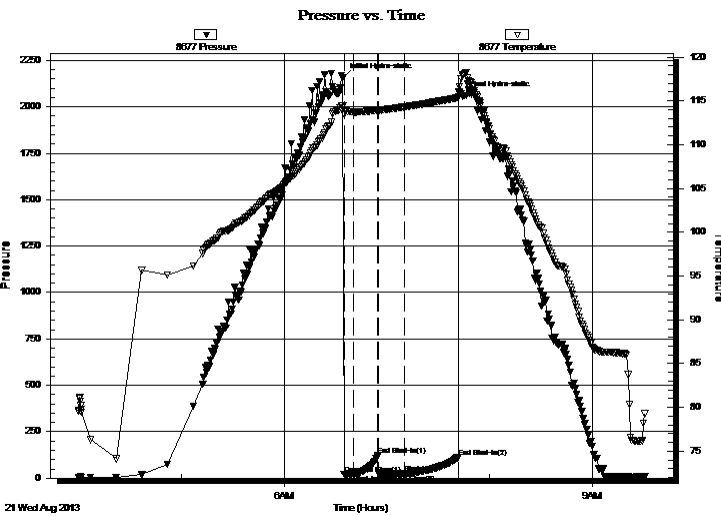
Time Off Btm: 2013.08.21 @ 07:44:15

TEST COMMENT: IF: Died @ 3 min.

IS: No return.

FF: No blow.

FS: No return.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2155.52	114.47	Initial Hydro-static
1	20.33	113.48	Open To Flow (1)
6	22.55	113.73	Shut-In(1)
21	121.90	113.95	End Shut-In(1)
21	22.95	113.93	Open To Flow (2)
36	24.06	114.32	Shut-In(2)
67	112.51	115.36	End Shut-In(2)
70	2060.34	117.93	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
2.00	mud 100m (oil spots)	0.01

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Larson Engineering, Inc

27 18s 28w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

Eugene #1-27

Job Ticket: 54981

DST#: 4

ATTN: Vern Schrag

Test Start: 2013.08.21 @ 04:00:00

GENERAL INFORMATION:

Formation: **Middle Creek**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:35:00

Time Test Ended: 09:30:30

Interval: 4257.00 ft (KB) To 4270.00 ft (KB) (TVD)

Total Depth: 4270.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 69

Reference Elevations: 2731.00 ft (KB)

2724.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 8522 Outside

Press @ Run Depth: psig @ 4258.00 ft (KB)

Start Date: 2013.08.21

End Date: 2013.08.21

Start Time: 04:00:05

End Time: 09:31:14

Capacity: 8000.00 psig

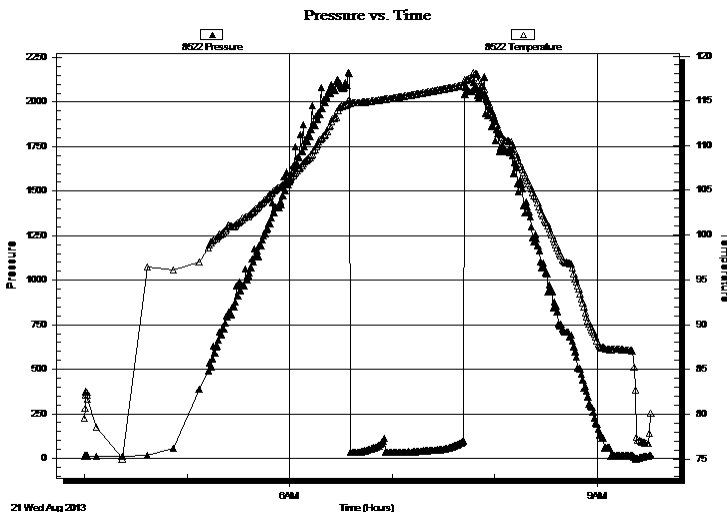
Last Calib.: 2013.08.21

Time On Btm:

Time Off Btm:

TEST COMMENT: IF: Died @ 3 min.
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)	0.01

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

27 18s 28w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

Eugene #1-27

Job Ticket: 54981

DST#: 4

ATTN: Vern Schrag

Test Start: 2013.08.21 @ 04:00:00

Tool Information

Drill Pipe:	Length: 4113.00 ft	Diameter: 3.80 inches	Volume: 57.69 bbl	Tool Weight: 2500.00 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: 147.00 ft	Diameter: 2.25 inches	Volume: 0.72 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 58.41 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial 57000.00 lb
Depth to Top Packer:	4257.00 ft			Final 57000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	13.00 ft			
Tool Length:	40.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

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

Change Over Sub	1.00			4231.00	
Shut In Tool	5.00			4236.00	
Hydraulic tool	5.00			4241.00	
Jars	5.00			4246.00	
Safety Joint	2.00			4248.00	
Packer	5.00			4253.00	27.00 Bottom Of Top Packer
Packer	4.00			4257.00	
Stubb	1.00			4258.00	
Recorder	0.00	8677	Inside	4258.00	
Recorder	0.00	8522	Outside	4258.00	
Perforations	9.00			4267.00	
Bullnose	3.00			4270.00	13.00 Bottom Packers & Anchor

Total Tool Length: 40.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering, Inc

27 18s 28w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

Eugene #1-27

Job Ticket: 54981

DST#: 4

ATTN: Vern Schrag

Test Start: 2013.08.21 @ 04:00:00

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: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.77 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2800.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2.00	mud 100m (oil spots)	0.010

Total Length: 2.00 ft Total Volume: 0.010 bbl

Num Fluid Samples: 0

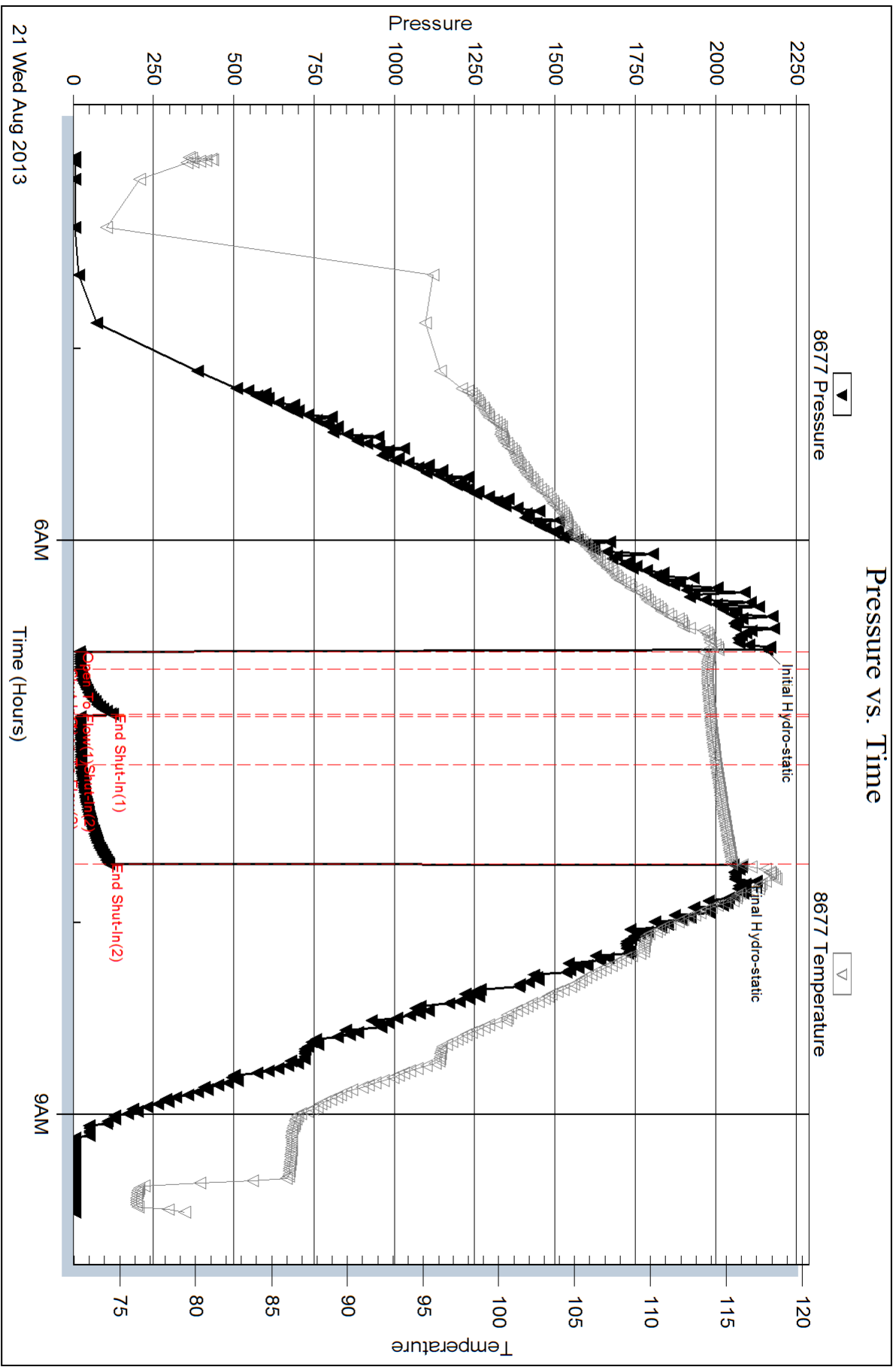
Num Gas Bombs: 0

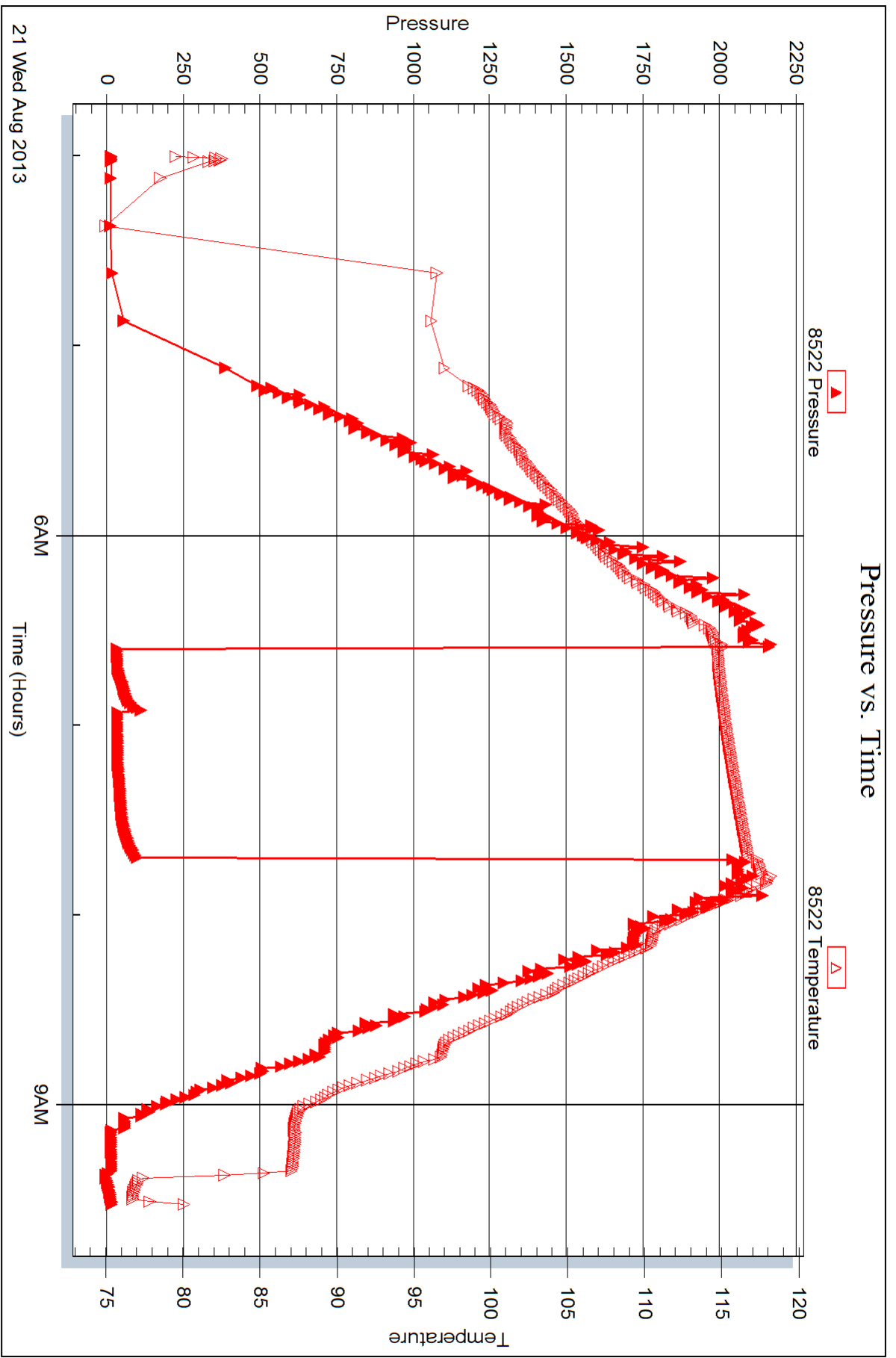
Serial #:

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

Eugene #1-27

27 18s 28w Lane,KS

Start Date: 2013.08.21 @ 15:50:00

End Date: 2013.08.21 @ 21:32:15

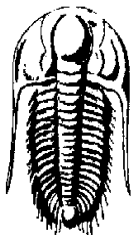
Job Ticket #: 54982 DST #: 5

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.08.26 @ 14:29:42



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Larson Engineering, Inc

27 18s 28w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

Eugene #1-27

Job Ticket: 54982

DST#: 5

ATTN: Vern Schrag

Test Start: 2013.08.21 @ 15:50:00

GENERAL INFORMATION:

Formation: **LKC - L**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:46:15

Time Test Ended: 21:32:15

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 69

Interval: 4264.00 ft (KB) To 4275.00 ft (KB) (TVD)

Reference Elevations: 2731.00 ft (KB)

Total Depth: 4275.00 ft (KB) (TVD)

2724.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 7.00 ft

Serial #: 8677

Inside

Press @ RunDepth: 124.63 psig @ 4265.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.08.21

End Date:

2013.08.21

Last Calib.:

2013.08.21

Start Time: 15:50:05

End Time:

21:32:14

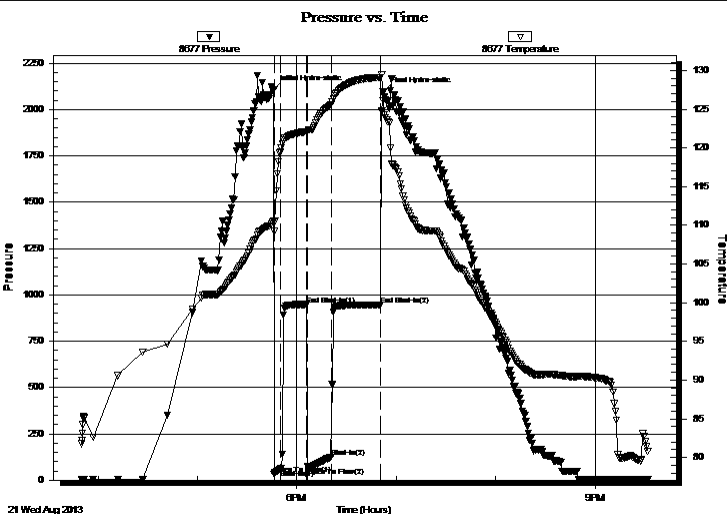
Time On Btm:

2013.08.21 @ 17:46:00

Time Off Btm:

2013.08.21 @ 18:52:00

TEST COMMENT: IF: BOB @ 4 min.
IS: No return.
FF: BOB @ 4 min.
FS: BOB @ 10 min.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2106.55	110.50	Initial Hydro-static
1	31.04	109.20	Open To Flow (1)
4	59.53	119.53	Shut-In(1)
20	947.98	122.08	End Shut-In(1)
21	71.44	122.13	Open To Flow (2)
35	124.63	125.67	Shut-In(2)
65	945.00	129.07	End Shut-In(2)
66	2095.73	126.15	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
80.00	gmco 30g 25m 450	0.39
220.00	gsmco 40g 3m 57o	2.48
0.00	750 GIP	0.00

Gas Rates

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

* Recovery from multiple tests



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

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

27 18s 28w Lane, KS
Eugene #1-27
 Job Ticket: 54982 **DST#: 5**
 Test Start: 2013.08.21 @ 15:50:00

GENERAL INFORMATION:

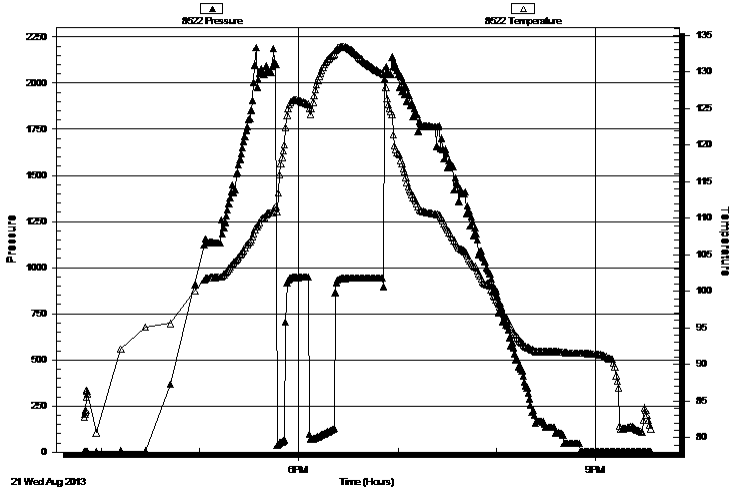
Formation: **LKC - L**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 17:46:15 Tester: Bradley Walter
 Time Test Ended: 21:32:15 Unit No: 69
Interval: 4264.00 ft (KB) To 4275.00 ft (KB) (TVD) Reference Elevations: 2731.00 ft (KB)
 Total Depth: 4275.00 ft (KB) (TVD) 2724.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 7.00 ft

Serial #: 8522 Outside

Press @ Run Depth: psig @ 4265.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.08.21 End Date: 2013.08.21 Last Calib.: 2013.08.21
 Start Time: 15:50:05 End Time: 21:33:14 Time On Btm:
 Time Off Btm:

TEST COMMENT: IF: BOB @ 4 min.
 IS: No return.
 FF: BOB @ 4 min.
 FS: BOB @ 10 min.

Pressure vs. Time



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
80.00	gmco 30g 25m 450	0.39
220.00	gsmco 40g 3m 57o	2.48
0.00	750 GIP	0.00

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

27 18s 28w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

Eugene #1-27

Job Ticket: 54982

DST#: 5

ATTN: Vern Schrag

Test Start: 2013.08.21 @ 15:50:00

Tool Information

Drill Pipe:	Length: 4111.00 ft	Diameter: 3.80 inches	Volume: 57.67 bbl	Tool Weight: 2500.00 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: 147.00 ft	Diameter: 2.25 inches	Volume: 0.72 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 58.39 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	21.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	4264.00 ft			Final 59000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	11.00 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			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	8677	Inside	4265.00	
Recorder	0.00	8522	Outside	4265.00	
Perforations	7.00			4272.00	
Bullnose	3.00			4275.00	11.00 Bottom Packers & Anchor

Total Tool Length: 38.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering, Inc

27 18s 28w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

Eugene #1-27

Job Ticket: 54982

DST#: 5

ATTN: Vern Schrag

Test Start: 2013.08.21 @ 15:50:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

37 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.38 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2900.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
80.00	gmco 30g 25m 450	0.393
220.00	gsmco 40g 3m 57o	2.476
0.00	750 GIP	0.000

Total Length: 300.00 ft Total Volume: 2.869 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

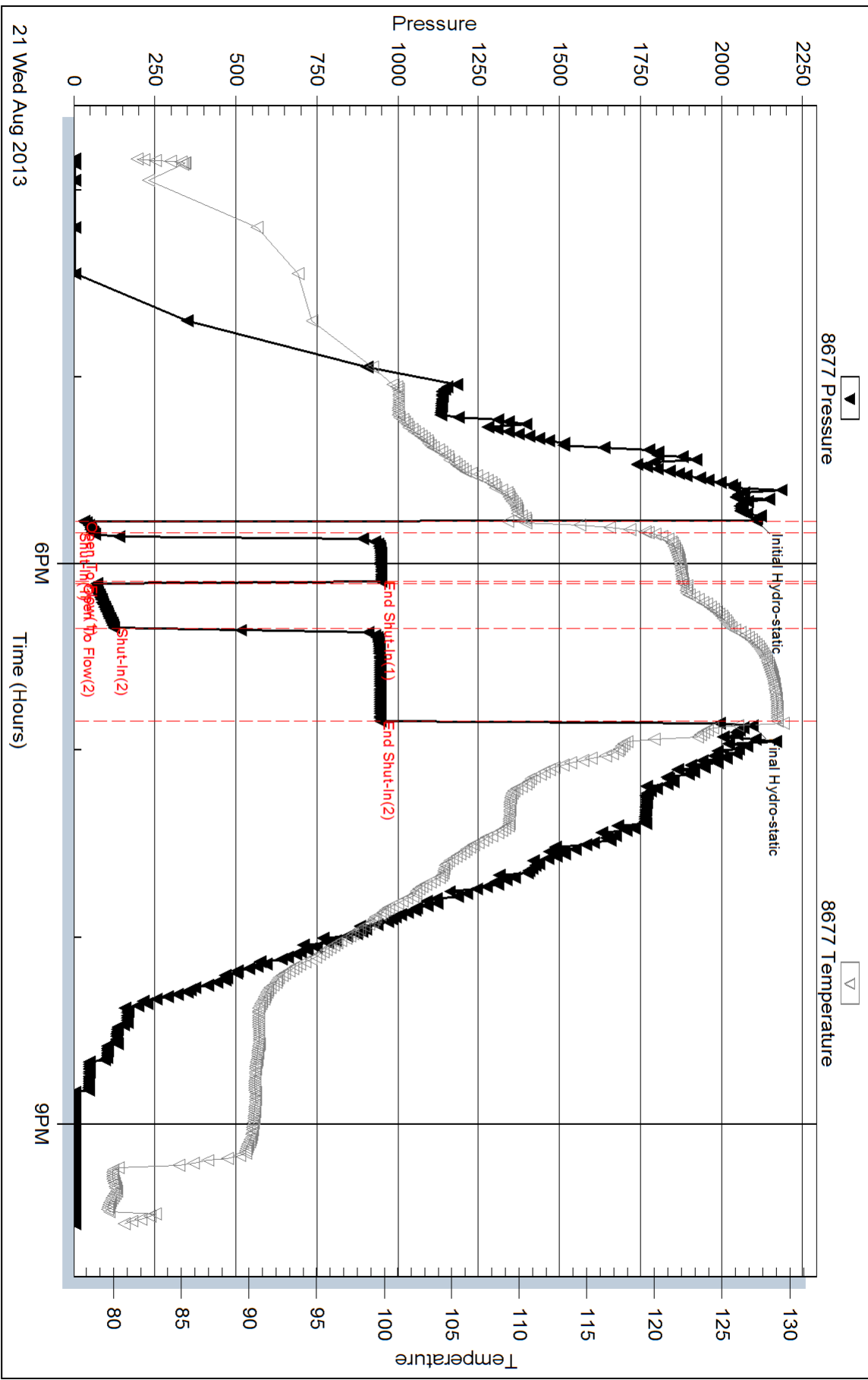
Serial #:

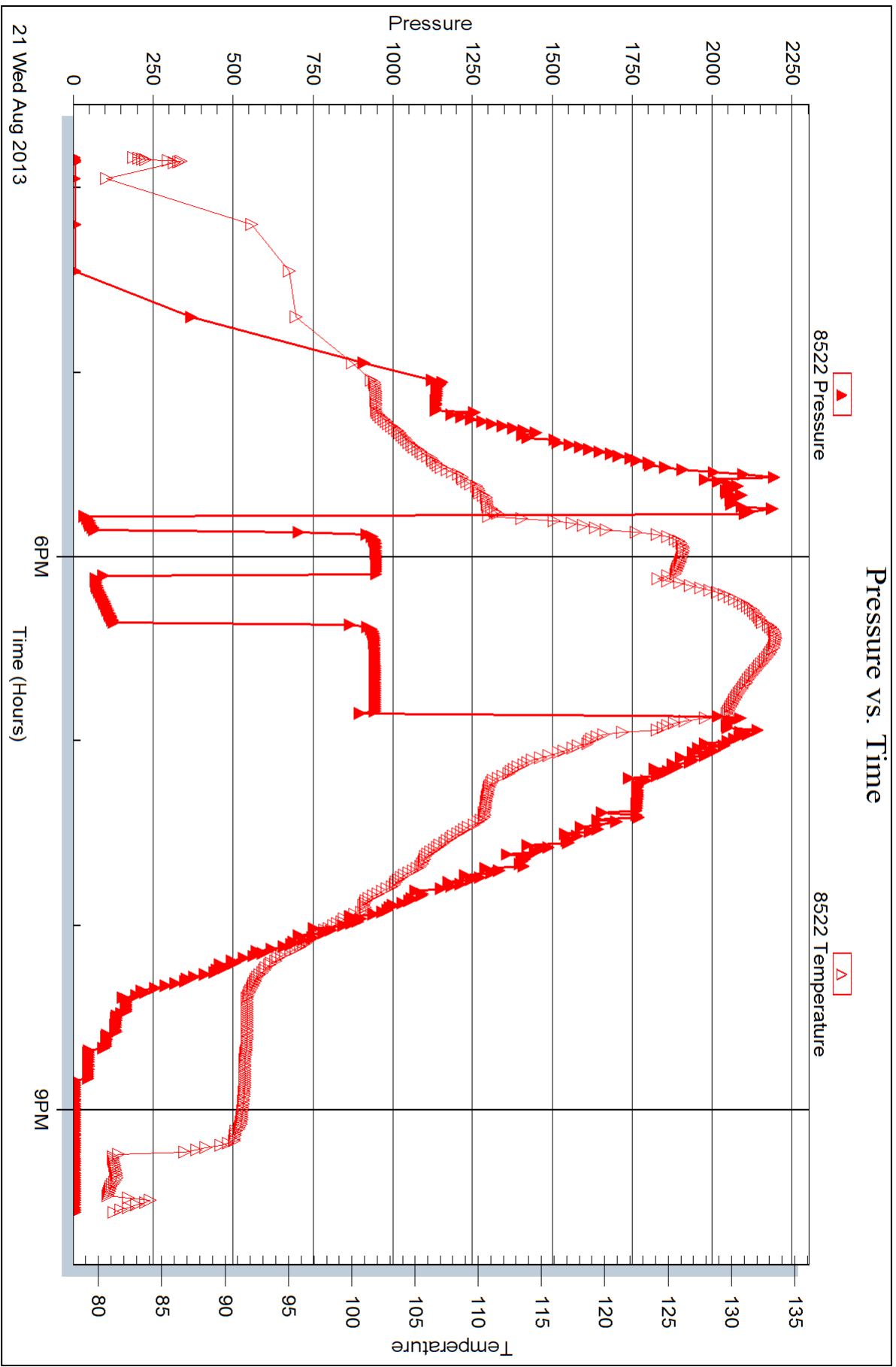
Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time







DRILL STEM TEST REPORT

Prepared For: **Larson Engineering, Inc**

562 W State Rd 4
Olmitz, KS 67564

ATTN: Vern Schrag

Eugene #1-27

27 18s 28w Lane,KS

Start Date: 2013.08.22 @ 17:27:00

End Date: 2013.08.22 @ 23:07:15

Job Ticket #: 54984 DST #: 6

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.08.26 @ 14:29:13



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Larson Engineering, Inc

27 18s 28w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

Eugene #1-27

Job Ticket: 54984

DST#: 6

ATTN: Vern Schrag

Test Start: 2013.08.22 @ 17:27:00

GENERAL INFORMATION:

Formation: **Marmaton**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:38:15

Time Test Ended: 23:07:15

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 69

Interval: **4296.00 ft (KB) To 4410.00 ft (KB) (TVD)**

Reference Elevations: 2731.00 ft (KB)

Total Depth: 4410.00 ft (KB) (TVD)

2724.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 7.00 ft

Serial #: **8522** Outside

Press @ Run Depth: 81.76 psig @ 4297.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.08.22

End Date: 2013.08.22

Last Calib.: 2013.08.22

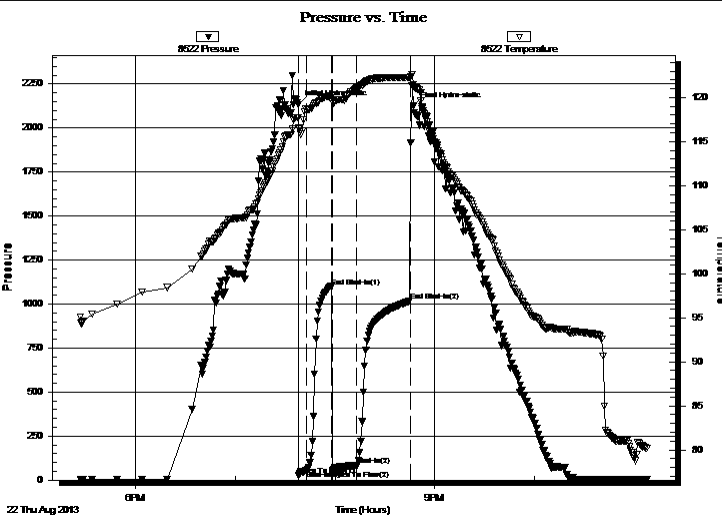
Start Time: 17:27:05

End Time: 23:07:14

Time On Btm: 2013.08.22 @ 19:38:00

Time Off Btm: 2013.08.22 @ 20:47:00

TEST COMMENT: IF: 4" blow.
IS: No return.
FF: BOB @ 7 min.
FS: No return.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2132.50	117.74	Initial Hydro-static
1	28.29	116.54	Open To Flow (1)
5	55.72	118.76	Shut-In(1)
20	1097.21	120.17	End Shut-In(1)
21	55.80	119.51	Open To Flow (2)
35	81.76	121.06	Shut-In(2)
67	1018.77	122.24	End Shut-In(2)
69	2124.16	121.52	Final Hydro-static

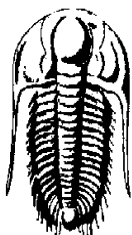
Recovery

Length (ft)	Description	Volume (bbl)
135.00	gocm 20g 30o 50m	0.66
30.00	go 15g 85o	0.31
0.00	195 GIP	0.00

Gas Rates

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

* Recovery from multiple tests



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Larson Engineering, Inc

27 18s 28w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

Eugene #1-27

ATTN: Vern Schrag

Job Ticket: 54984

DST#: 6

Test Start: 2013.08.22 @ 17:27:00

GENERAL INFORMATION:

Formation: **Marmaton**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:38:15

Time Test Ended: 23:07:15

Interval: **4296.00 ft (KB) To 4410.00 ft (KB) (TVD)**

Total Depth: 4410.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 69

Reference Elevations: 2731.00 ft (KB)

2724.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: **8677** Inside

Press @ Run Depth: psig @ 4297.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.08.22 End Date: 2013.08.22

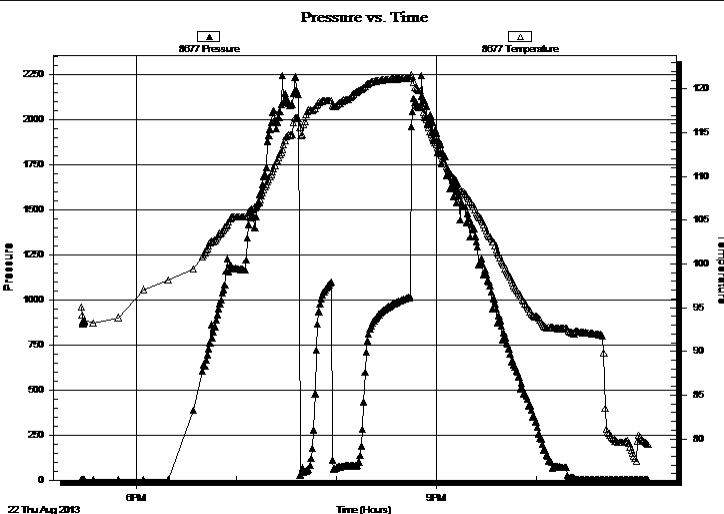
Last Calib.: 2013.08.22

Start Time: 17:27:05 End Time: 23:06:29

Time On Btm:

Time Off Btm:

TEST COMMENT: IF: 4" blow.
IS: No return.
FF: BOB @ 7 min.
FS: No return.



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
135.00	gocm 20g 30o 50m	0.66
30.00	go 15g 85o	0.31
0.00	195 GIP	0.00

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

27 18s 28w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

Eugene #1-27

Job Ticket: 54984

DST#: 6

ATTN: Vern Schrag

Test Start: 2013.08.22 @ 17:27:00

Tool Information

Drill Pipe:	Length: 4144.00 ft	Diameter: 3.80 inches	Volume: 58.13 bbl	Tool Weight: 2500.00 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: 147.00 ft	Diameter: 2.25 inches	Volume: 0.72 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 58.85 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	22.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	4296.00 ft			Final 59000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	114.00 ft			
Tool Length:	141.00 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			4270.00	
Shut In Tool	5.00			4275.00	
Hydraulic tool	5.00			4280.00	
Jars	5.00			4285.00	
Safety Joint	2.00			4287.00	
Packer	5.00			4292.00	27.00 Bottom Of Top Packer
Packer	4.00			4296.00	
Stubb	1.00			4297.00	
Recorder	0.00	8677	Inside	4297.00	
Recorder	0.00	8522	Outside	4297.00	
Perforations	14.00			4311.00	
Change Over Sub	1.00			4312.00	
Drill Pipe	94.00			4406.00	
Change Over Sub	1.00			4407.00	
Bullnose	3.00			4410.00	114.00 Bottom Packers & Anchor

Total Tool Length: 141.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering, Inc

27 18s 28w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

Eugene #1-27

Job Ticket: 54984

DST#: 6

ATTN: Vern Schrag

Test Start: 2013.08.22 @ 17:27:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

37 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.78 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
135.00	gocm 20g 30o 50m	0.664
30.00	go 15g 85o	0.312
0.00	195 GIP	0.000

Total Length: 165.00 ft

Total Volume: 0.976 bbl

Num Fluid Samples: 0

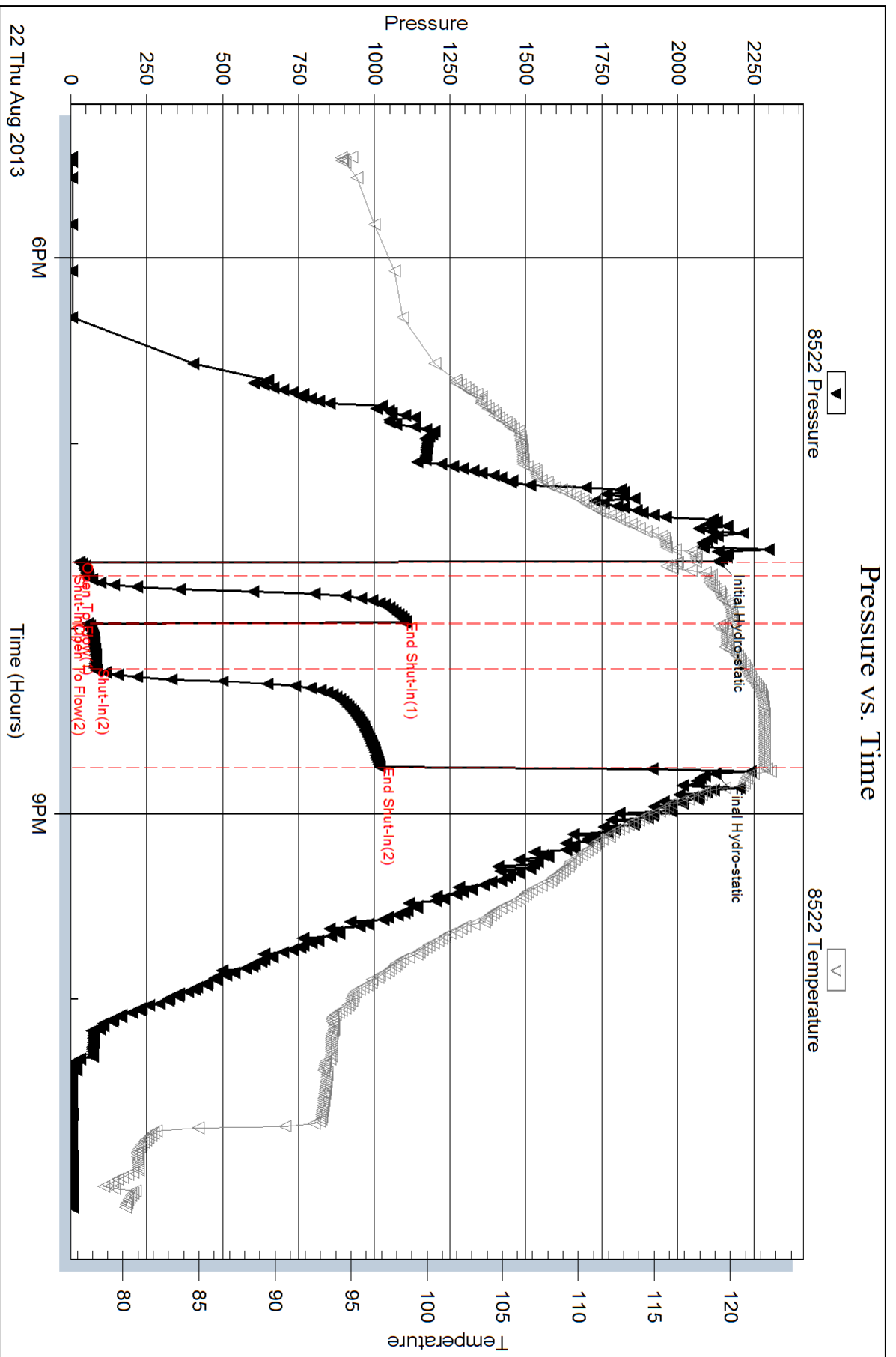
Num Gas Bombs: 0

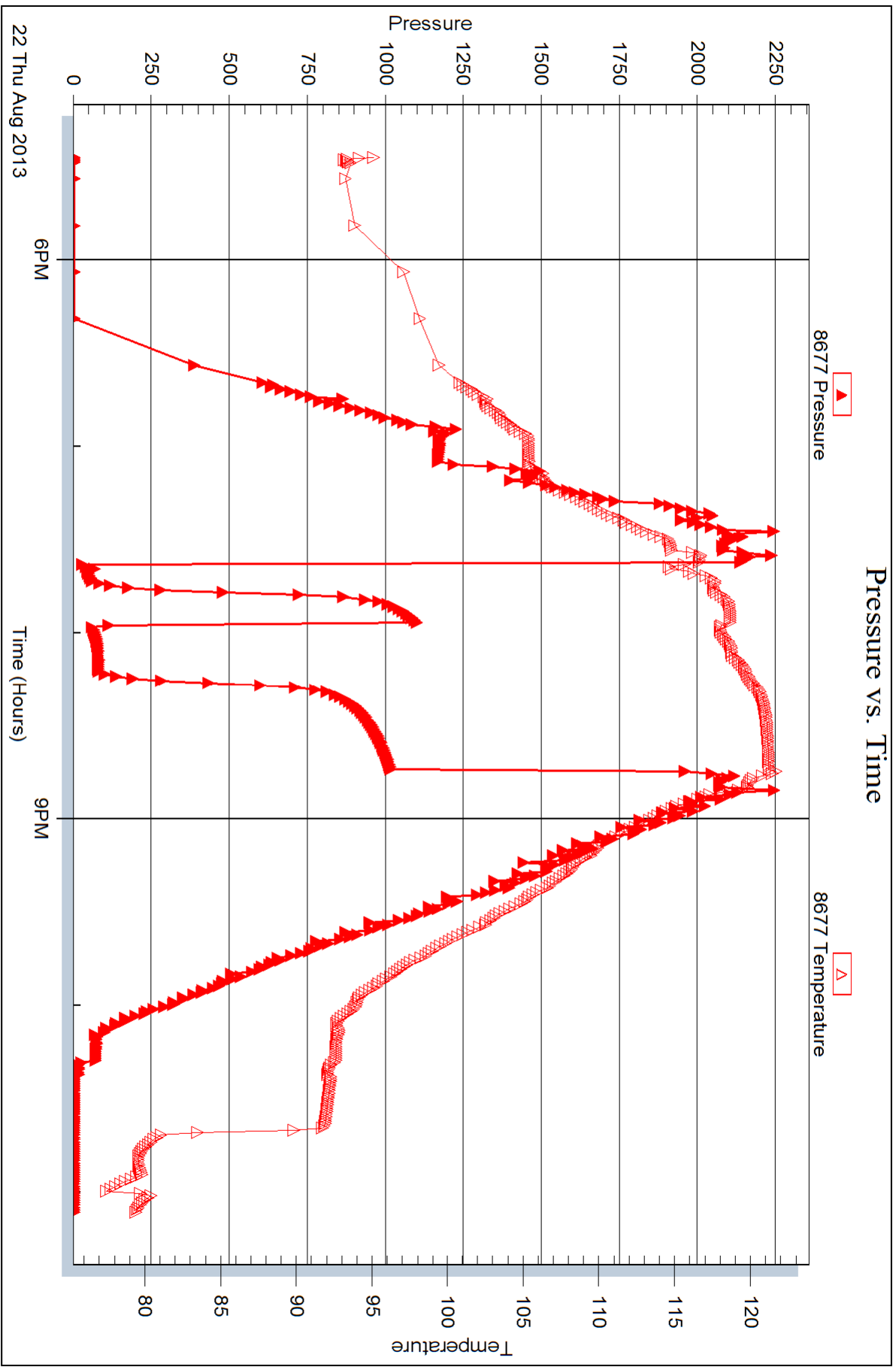
Serial #:

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

Eugene #1-27

27 18s 28w Lane,KS

Start Date: 2013.08.23 @ 19:57:00

End Date: 2013.08.24 @ 01:42:15

Job Ticket #: 54985 DST #: 7

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

Printed: 2013.08.26 @ 14:28:35



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

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

27 18s 28w Lane, KS

Eugene #1-27

Job Ticket: 54985

DST#: 7

Test Start: 2013.08.23 @ 19:57:00

GENERAL INFORMATION:

Formation: **Pawnee - Cherokee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:45:15

Time Test Ended: 01:42:15

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 69

Interval: **4408.00 ft (KB) To 4560.00 ft (KB) (TVD)**

Reference Elevations: 2731.00 ft (KB)

Total Depth: 4560.00 ft (KB) (TVD)

2724.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 7.00 ft

Serial #: **8677**

Inside

Press @ Run Depth: 65.75 psig @ 4409.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.08.23

End Date:

2013.08.24

Last Calib.: 2013.08.24

Start Time: 19:57:05

End Time:

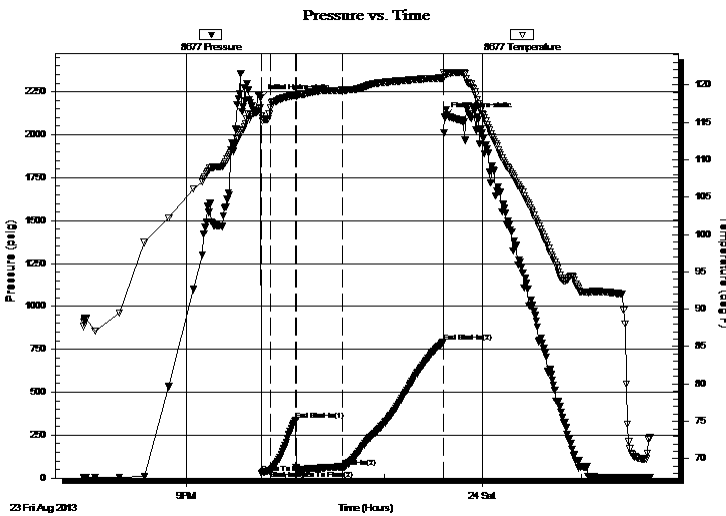
01:42:14

Time On Btm: 2013.08.23 @ 21:45:00

Time Off Btm: 2013.08.23 @ 23:37:00

TEST COMMENT: IF: 2" blow.
 IS: No return.
 FF: BOB @ 18 min.
 FS: No return.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2211.77	116.93	Initial Hydro-static
1	28.84	115.88	Open To Flow (1)
6	43.59	116.90	Shut-In(1)
22	336.71	118.57	End Shut-In(1)
22	46.91	118.58	Open To Flow (2)
50	65.75	119.27	Shut-In(2)
112	793.57	120.92	End Shut-In(2)
112	2103.76	121.32	Final Hydro-static

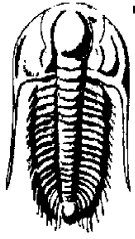
Recovery

Length (ft)	Description	Volume (bbl)
90.00	gocm 30g 25o 45m	0.44
0.00	150 GIP	0.00

Gas Rates

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

* Recovery from multiple tests



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Larson Engineering, Inc

562 W State Rd 4
Olmitz, KS 67564

ATTN: Vern Schrag

27 18s 28w Lane, KS

Eugene #1-27

Job Ticket: 54985

DST#: 7

Test Start: 2013.08.23 @ 19:57:00

GENERAL INFORMATION:

Formation: **Pawnee - Cherokee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:45:15

Time Test Ended: 01:42:15

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 69

Interval: **4408.00 ft (KB) To 4560.00 ft (KB) (TVD)**

Total Depth: 4560.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2731.00 ft (KB)

2724.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: **8522** Outside

Press @ Run Depth: psig @ 4409.00 ft (KB)

Start Date: 2013.08.23

End Date: 2013.08.24

Start Time: 19:57:05

End Time: 01:43:14

Capacity: 8000.00 psig

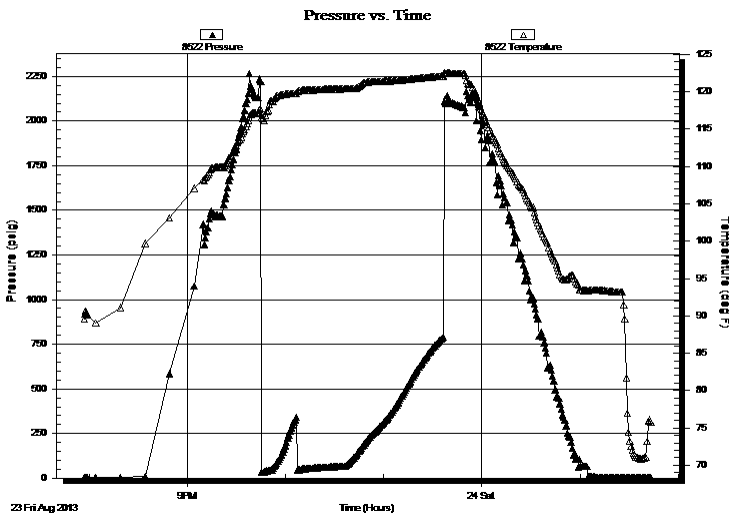
Last Calib.: 2013.08.24

Time On Btm:

Time Off Btm:

TEST COMMENT: IF: 2" blow.
IS: No return.
FF: BOB @ 18 min.
FS: No return.

PRESSURE SUMMARY



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

Recovery

Length (ft)	Description	Volume (bbl)
90.00	gocm 30g 25o 45m	0.44
0.00	150 GIP	0.00

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

27 18s 28w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

Eugene #1-27

Job Ticket: 54985

DST#: 7

ATTN: Vern Schrag

Test Start: 2013.08.23 @ 19:57:00

Tool Information

Drill Pipe:	Length: 4271.00 ft	Diameter: 3.80 inches	Volume: 59.91 bbl	Tool Weight: 2500.00 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: 147.00 ft	Diameter: 2.25 inches	Volume: 0.72 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 60.63 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	32.00 ft			String Weight: Initial 59000.00 lb
Depth to Top Packer:	4408.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	152.00 ft			
Tool Length:	174.00 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			4387.00	
Shut In Tool	5.00			4392.00	
Hydraulic tool	5.00			4397.00	
Safety Joint	2.00			4399.00	
Packer	5.00			4404.00	22.00 Bottom Of Top Packer
Packer	4.00			4408.00	
Stubb	1.00			4409.00	
Recorder	0.00	8677	Inside	4409.00	
Recorder	0.00	8522	Outside	4409.00	
Perforations	20.00			4429.00	
Change Over Sub	1.00			4430.00	
Drill Pipe	126.00			4556.00	
Change Over Sub	1.00			4557.00	
Bullnose	3.00			4560.00	152.00 Bottom Packers & Anchor

Total Tool Length: 174.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering, Inc

27 18s 28w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

Eugene #1-27

Job Ticket: 54985

DST#: 7

ATTN: Vern Schrag

Test Start: 2013.08.23 @ 19:57:00

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: 58.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.99 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2500.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
90.00	gocm 30g 25o 45m	0.443
0.00	150 GIP	0.000

Total Length: 90.00 ft Total Volume: 0.443 bbl

Num Fluid Samples: 0

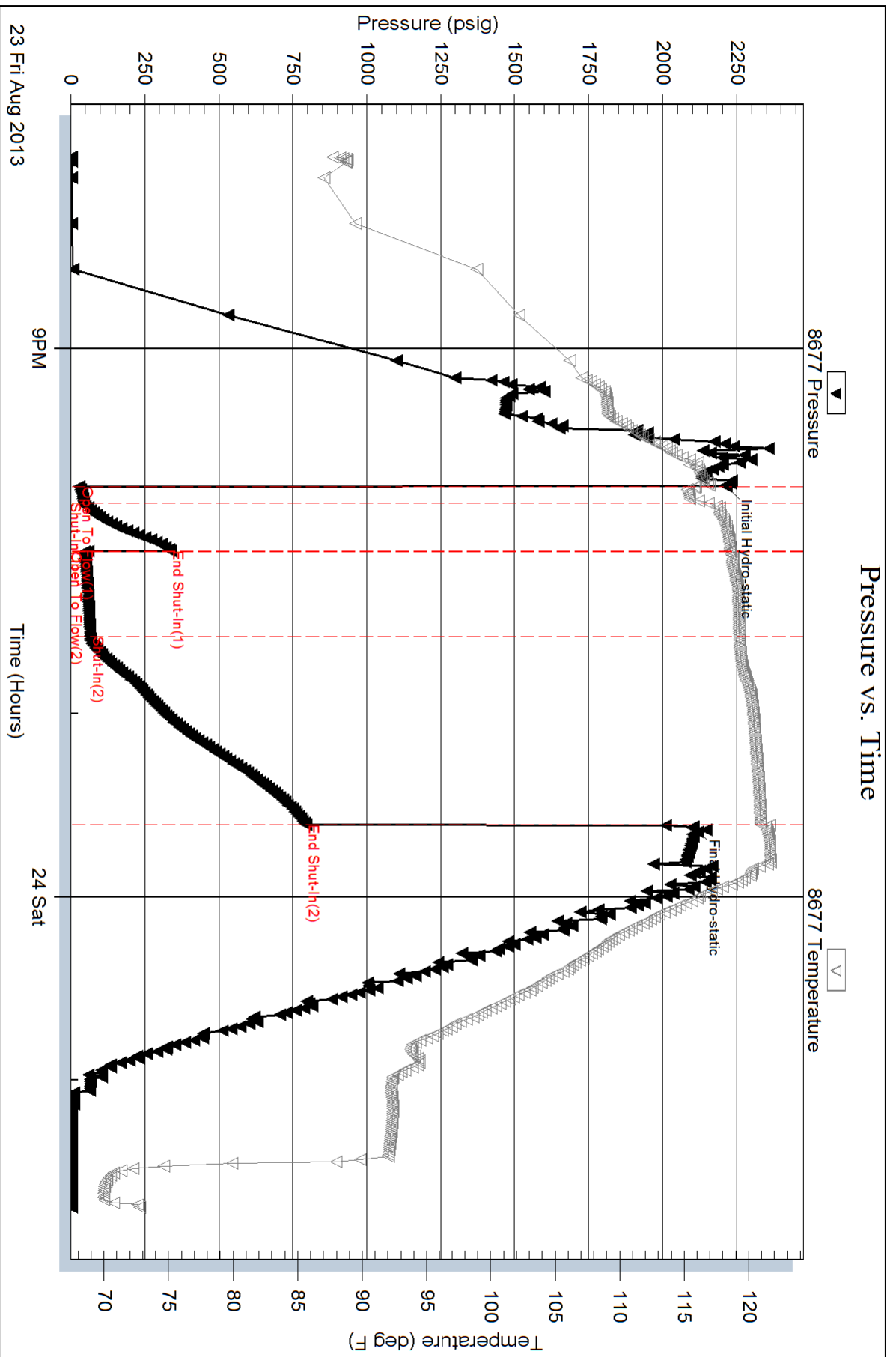
Num Gas Bombs: 0

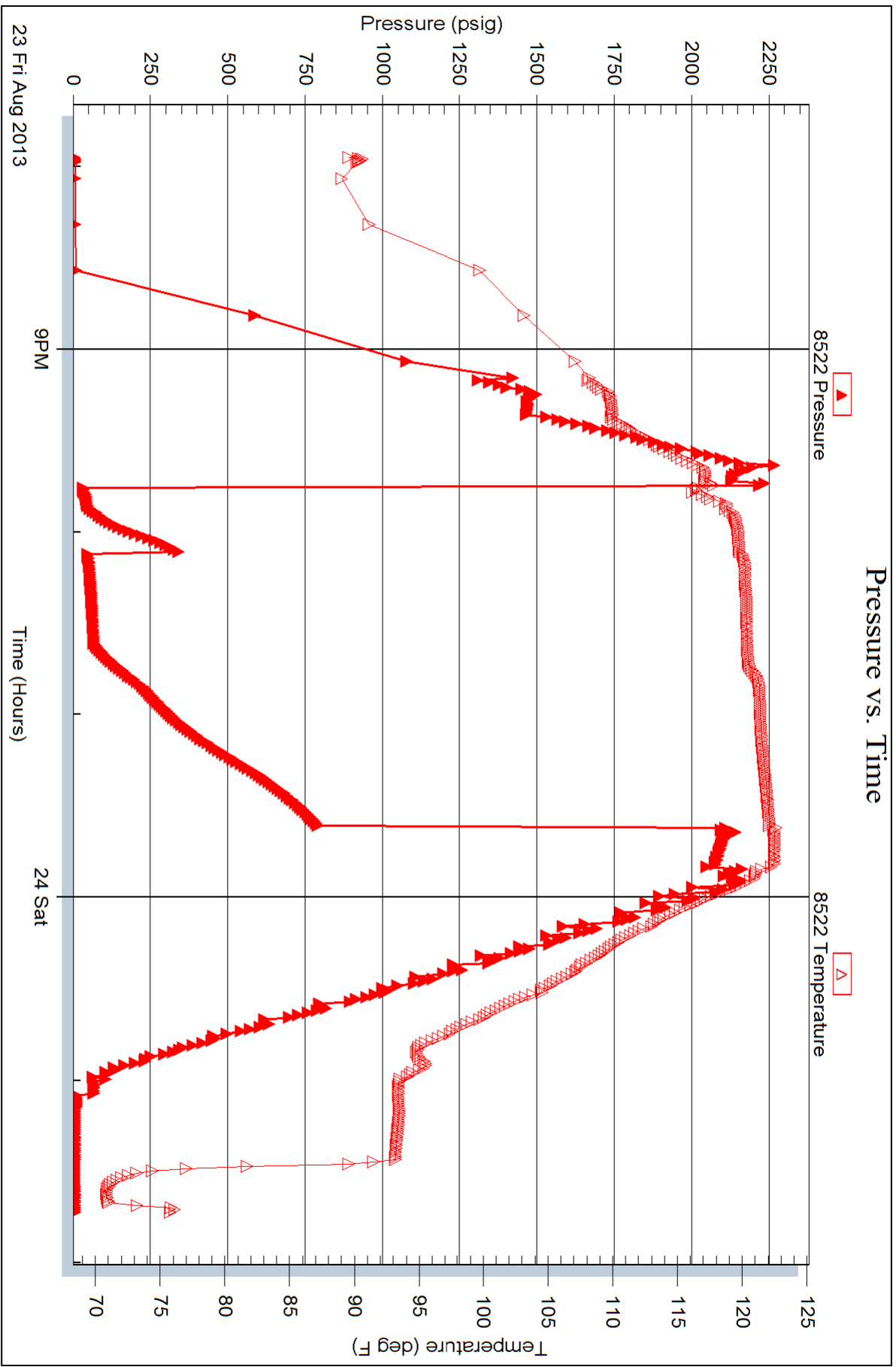
Serial #:

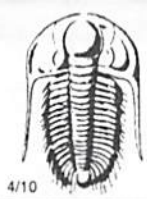
Laboratory Name:

Laboratory Location:

Recovery Comments:







TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **54978**

Well Name & No. Eugene #1-27 Test No. 1 Date 8/20¹⁹/13
 Company Larson Engineering, Inc Elevation 2731 KB 2724 GL
 Address 562 W State Rd #4 Olmitz, ks 67564
 Co. Rep / Geo. Vern Schrag Rig HD #3
 Location: Sec. 27 Twp. 18s Rge. 28w Co. Lane State _____

Interval Tested 4124 4152 Zone Tested LKC -H
 Anchor Length 28 Drill Pipe Run 3983 Mud Wt. 9.1
 Top Packer Depth 4119 Drill Collars Run 147 Vis 53
 Bottom Packer Depth 4124 Wt. Pipe Run 0 WL 8.0
 Total Depth 4152 Chlorides 3000 ppm System LCM 1#

Blow Description IF: 1/4" blow.
IST: No return
FF: Surface blow.
FST: x10 return

Rec	Feet of	%gas	%oil	%water	%mud
<u>20</u>	<u>MUD (Thick)</u>			<u>100</u>	
_____	_____				
_____	_____				
_____	_____				
_____	_____				

Rec Total 20 BHT 117 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2060 Test 1250 T-On Location 0240
 (B) First Initial Flow 27 Jars 250 T-Started 0528-0317
 (C) First Final Flow 29 Safety Joint 75 T-Open 0520
 (D) Initial Shut-In 1108 Circ Sub N/C T-Pulled 0625
 (E) Second Initial Flow 32 Hourly Standby _____ T-Out 0828
 (F) Second Final Flow 38 Mileage 60RT 93
 (G) Final Shut-In 1101 Sampler _____
 (H) Final Hydrostatic 2030 Straddle _____

Shale Packer _____ Ruined Shale Packer _____
 Extra Packer _____ Ruined Packer _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1668
 Accessibility _____ MP/DST Disc _____
 Sub Total 1668

Approved By _____ 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. 54979

Well Name & No. Eugene #1-27 Test No. 2 Date 8/20/13
 Company Larson Engineering Inc. Elevation 2731 KB 2724 GL
 Address 562 W. State rd 4 Olmitz, Ks 67564
 Co. Rep / Geo. Vern Schrag Rig HD #3
 Location: Sec. 27 Twp. 18s Rge. 28w Co. Lane State Ks

Interval Tested 4199-4215 Zone Tested LKC - J
 Anchor Length 16' Drill Pipe Run 4045 Mud Wt. 9.1
 Top Packer Depth 4194 Drill Collars Run 147 Vis 56
 Bottom Packer Depth 4199 Wt. Pipe Run Ø WL 8.0
 Total Depth 4215 Chlorides 3,000 ppm System LCM 1.5

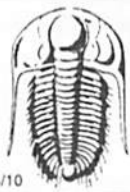
Blow Description IF: 3 1/2" blow.
ISI: No return
FF: BOB @ 10 min.
FSI: No return.

Rec	Feet of	(BOTTOM)	%gas	%oil	%water	%mud
<u>60</u>	<u>60cm</u>		<u>10</u>	<u>40</u>	<u>—</u>	<u>50</u>
<u>80</u>	<u>65mco</u>	(TOP)	<u>30</u>	<u>65</u>	<u>—</u>	<u>5</u>
<u>160</u>	<u>GIP</u>					
<u>140</u>	<u>BHT 124</u>	<u>Gravity 37</u>	<u>API RW —</u>	<u>@ —</u>	<u>° F</u>	<u>Chlorides — ppm</u>

(A) Initial Hydrostatic 2092 Test 1250 T-On Location 2030
 (B) First Initial Flow 26 Jars 250 T-Started 2103
 (C) First Final Flow 45 Safety Joint 75 T-Open 2233
 (D) Initial Shut-In 578 Circ Sub N/C T-Pulled 2338
 (E) Second Initial Flow 48 Hourly Standby _____ T-Out 0201
 (F) Second Final Flow 78 Mileage 60 RT 93 Comments _____
 (G) Final Shut-In 574 Sampler _____
 (H) Final Hydrostatic 2026 Straddle _____
 Shale Packer _____ Ruined Shale Packer _____
 Extra Packer _____ Ruined Packer _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1668
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1668

Approved By Vern C 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. 54980

Well Name & No. Eugene #1-27 Test No. 3 Date 8/20/13
 Company Larson Engineering, Inc Elevation 2731 KB 2724 GL
 Address 562 W. State Rd 4 Olmitz, Ks 67564
 Co. Rep / Geo. Vern Schnag Rig HD #3
 Location: Sec. 27 Twp. 18s Rge. 28w Co. Lanc State Ks

Interval Tested 4226 - 4250 Zone Tested LKC - K
 Anchor Length 24 Drill Pipe Run 4082 Mud Wt. 9.1
 Top Packer Depth 4221 Drill Collars Run 147 Vis 55
 Bottom Packer Depth 4226 Wt. Pipe Run Ø WL 8.0
 Total Depth 4250 Chlorides 3000 ppm System LCM 1#

Blow Description TFI BOB @ 2 min
TSI: 5" return.
FF: BOB @ 1 min
PST: 3" return. bled off.

Rec	Feet of	%gas	%oil	%water	%mud
<u>350</u>	<u>GSMCO</u>	<u>40%</u>	<u>57%</u>	<u>3</u>	
<u>140</u>	<u>CMCO</u>	<u>20%</u>	<u>45%</u>	<u>35</u>	
	<u>900' GIP</u>				

Rec Total 490 BHT 129 Gravity 41 API RW — @ —°F Chlorides — ppm

(A) Initial Hydrostatic 2114 Test 1250 T-On Location 1180
 (B) First Initial Flow 90 Jars 250 T-Started 1205
 (C) First Final Flow 109 Safety Joint 75 T-Open 1349
 (D) Initial Shut-In 450 Circ Sub N/C T-Pulled 1454
 (E) Second Initial Flow 132 Hourly Standby _____ T-Out 1740
 (F) Second Final Flow 203 Mileage 60 RT 93
 (G) Final Shut-In 443 Sampler _____
 (H) Final Hydrostatic 2048 Straddle _____

Ruined Shale Packer _____
 Ruined Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____
 Sub Total 1668

Initial Open 5
 Initial Shut-In 15
 Final Flow 15
 Final Shut-In 20

Sub Total 0
 Total 1668
 MP/DST Disc't _____

Approved By _____ Our Representative [Signature]

Triobite 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. **54981**

Well Name & No. Eugene # 1-27 Test No. 4 Date 8/21/13
 Company Larson Engineering, Inc Elevation 2731 KB 2724 GL
 Address Larson Engineering, Inc 562 W State RD 4 Olmitz, Ks 67564
 Co. Rep / Geo. Vern Schrag Rig HD #3
 Location: Sec. 27 Twp. 18S Rge. 28W Co. Lane State Ks

Interval Tested 4257 - 4270 Zone Tested Middle Creek
 Anchor Length 13 Drill Pipe Run 4113 Mud Wt. 9.0
 Top Packer Depth 4252 Drill Collars Run 147 Vis 55
 Bottom Packer Depth 4257 Wt. Pipe Run 0 WL 8.8
 Total Depth 4270 Chlorides 2800 ppm System LCM 1#

Blow Description IF! Dred @ 3 min.
ISI! No return.
FF! No blow
FSI! No return.

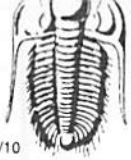
Rec	Feet of	%gas	%oil	%water	%mud
<u>2</u>	<u>MOD (oil spots)</u>				

Rec Total 2 BHT 116 Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic 2156 Test 1250 T-On Location 0330
 (B) First Initial Flow 20 Jars 250 T-Started 0400
 (C) First Final Flow 23 Safety Joint 75 T-Open 0636
 (D) Initial Shut-In 122 Circ Sub H/L T-Pulled 0741
 (E) Second Initial Flow 23 Hourly Standby T-Out 0931
 (F) Second Final Flow 24 Mileage 60 RT 93
 (G) Final Shut-In 113 Sampler
 (H) Final Hydrostatic 2060 Straddle Ruined Shale Packer
 Shale Packer Ruined Packer
 Extra Packer Extra Copies
 Initial Open 5 Extra Recorder Sub Total 0
 Initial Shut-In 15 Day Standby Total 1668
 Final Flow 15 Accessibility MP/DST Disc't
 Final Shut-In 30 Sub Total 1668

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. 54982

Well Name & No. Eugene #1-27 Test No. 5 Date 8/21/13
 Company Larson Engineering, Inc Elevation 2731 KB 2724 GL
 Address 562 W State Rd 4 Olmitz, Ks 67564
 Co. Rep / Geo. Vern Schrag Rig HD #3
 Location: Sec. 27 Twp. 18S Rge. 28W Co. Lane State Ks

Interval Tested 4264-4275 Zone Tested LKC - L
 Anchor Length 11 Drill Pipe Run 413 Mud Wt. 9.1
 Top Packer Depth 4259 Drill Collars Run 147 Vis 55
 Bottom Packer Depth 4264 Wt. Pipe Run 0 WL 8.4
 Total Depth 4275 Chlorides 2900 ppm System LCM 1#

Blow Description IF: BOB @ 4 min
ISI: No return
FF: BOB @ 4 min
FSI: BOB @ 10 min

Rec	Feet of	%gas	%oil	%water	%mud
<u>220</u>	<u>GSMCO</u>	<u>40%</u>	<u>57%</u>	<u>3%</u>	<u></u>
<u>80</u>	<u>G MCO</u>	<u>30%</u>	<u>45%</u>	<u>25%</u>	<u></u>
	<u>750' GIP</u>				

Rec Total 300 BHT 129 Gravity 37 API RW — @ — ° F Chlorides — ppm

(A) Initial Hydrostatic <u>2107</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>1520</u>
(B) First Initial Flow <u>31</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>1550</u>
(C) First Final Flow <u>60</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>1750</u>
(D) Initial Shut-In <u>948</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>1855</u>
(E) Second Initial Flow <u>71</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>2133</u>
(F) Second Final Flow <u>125</u>	<input checked="" type="checkbox"/> Mileage <u>60 RT</u> <u>93</u>	Comments
(G) Final Shut-In <u>945</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2096</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Initial Open <u>5</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Initial Shut-In <u>15</u>	<input type="checkbox"/> Day Standby	Total <u>1668</u>
Final Flow <u>15</u>	<input type="checkbox"/> Accessibility	MP/DST Disc't
Final Shut-In <u>30</u>	Sub Total <u>1668</u>	

Approved By _____ 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. 54984

Well Name & No. Eugene #1-27 Test No. 6 Date 8/22/18
 Company Larson Engineering, Inc Elevation 2731 KB 2724 GL
 Address 562 W. State Rd 4 Olmitz, ks 67564
 Co. Rep / Geo. Vern Schrag Rig HD #3
 Location: Sec. 27 Twp. 18s Rge. 28w Co. Lane State Ks

Interval Tested 4264-4296 -4410 Zone Tested Marmaton
 Anchor Length 114 Drill Pipe Run 4144 Mud Wt. 9.1
 Top Packer Depth 4291 Drill Collars Run 147 Vis 54
 Bottom Packer Depth 4296 Wt. Pipe Run Ø WL 8.8
 Total Depth 4410 Chlorides 3,600 ppm System LCM 1#

Blow Description IF! 4" blow.
ISI: No return.
FF: BOB @ 7 min.
FSI: No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>30</u>	<u>60</u>	<u>15</u>	<u>85</u>		
<u>135</u>	<u>60cm</u>	<u>20</u>	<u>30</u>		<u>50</u>
	<u>195' GIP</u>				

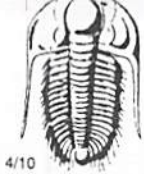
Rec Total 165 BHT 124 Gravity 37 API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>2133</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>1700</u>
(B) First Initial Flow <u>29</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>1727</u>
(C) First Final Flow <u>56</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>1938</u>
(D) Initial Shut-In <u>1097</u>	<input checked="" type="checkbox"/> Circ Sub	T-Pulled <u>2043</u>
(E) Second Initial Flow <u>56</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>2307</u>
(F) Second Final Flow <u>82</u>	<input checked="" type="checkbox"/> Mileage <u>60 RT</u> 93	Comments
(G) Final Shut-In <u>1019</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2124</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>1668</u>
Final Shut-In <u>30</u>	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1668</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. 54985

Well Name & No. Eugene #1-27 Test No. 7 Date 8/24/13
 Company Larson Engineering, Inc Elevation 2731 KB 2724 GL
 Address 562 W. State Rd #4 Olmitz, Ks 67564
 Co. Rep / Geo. Vern Schragg Rig HD#3
 Location: Sec. 27 Twp. 18s Rge. 28w Co. Lane State Ks

Interval Tested 4408 - 4560 Zone Tested TKK Pawnee - Cheyenne
 Anchor Length 152 Drill Pipe Run 4271 Mud Wt. 9.1
 Top Packer Depth 4403 Drill Collars Run 147 Vis 58
 Bottom Packer Depth 4408 Wt. Pipe Run 0 WL 8.0
 Total Depth 4560 Chlorides 2500 ppm System LCM 1#
 Blow Description IF! 2" blow
TST! No return
FF! BOB @ 18 min.
FST! No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>90</u>	<u>60CM</u>	<u>30%</u>	<u>25%</u>	<u>45%</u>	<u>0%</u>
Rec	Feet of <u>150' GIP</u>	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 90 BHT 121 Gravity — API RW — @ — ° F Chlorides — ppm

(A) Initial Hydrostatic <u>2212</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>1930</u>
(B) First Initial Flow <u>29</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>1957</u>
(C) First Final Flow <u>44</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>2145</u>
(D) Initial Shut-In <u>337</u>	<input checked="" type="checkbox"/> Circ Sub <u>NC</u>	T-Pulled <u>2335</u>
(E) Second Initial Flow <u>47</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>0143 8/24</u>
(F) Second Final Flow <u>66</u>	<input checked="" type="checkbox"/> Mileage <u>60 RT</u> 93	Comments
(G) Final Shut-In <u>794</u>	<input type="checkbox"/> Sampler	<input type="checkbox"/> Ruined Shale Packer
(H) Final Hydrostatic <u>2104</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>30</u>	<input type="checkbox"/> Extra Recorder	Total <u>1668</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby	MP/DST Disc't
	<input type="checkbox"/> Accessibility	
	Sub Total <u>1668</u>	

Approved By

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.