



DRILL STEM TEST REPORT

Prepared For: **Larson Engineering**

562 W State Rd 4
Olmitz, KS 67564

ATTN: Vern Schrag

Eugene #2-27

27-18s-28w Lane,KS

Start Date: 2015.12.16 @ 02:00:49

End Date: 2015.12.16 @ 09:10:49

Job Ticket #: 61799 DST #: 1

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

Printed: 2015.12.21 @ 16:27:11



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

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

27-18s-28w Lane, KS

Eugene #2-27

Job Ticket: 61799

DST#: 1

Test Start: 2015.12.16 @ 02:00:49

GENERAL INFORMATION:

Formation: **LKC H**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 04:50:19
 Time Test Ended: 09:10:49
 Interval: **4142.00 ft (KB) To 4170.00 ft (KB) (TVD)**
 Total Depth: 4170.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Brandon Turley
 Unit No: 79
 Reference Elevations: 2746.00 ft (KB)
 2737.00 ft (CF)
 KB to GR/CF: 9.00 ft

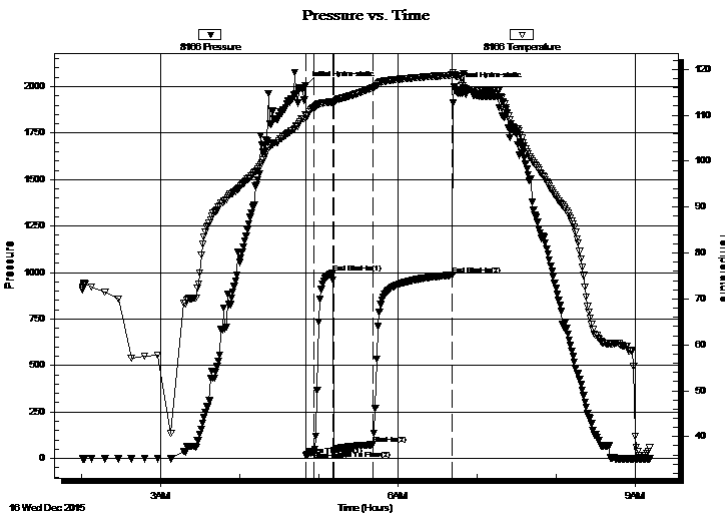
Serial #: 8166

Outside

Press@RunDepth: 74.54 psig @ 4143.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2015.12.16 End Date: 2015.12.16 Last Calib.: 2015.12.16
 Start Time: 02:00:54 End Time: 09:10:48 Time On Btm: 2015.12.16 @ 04:49:49
 Time Off Btm: 2015.12.16 @ 06:42:49

TEST COMMENT: IF: 1/4" blow built to 3"
 IS: No return.
 FF: BOB in 20 min.
 FS: No return.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2007.28	110.02	Initial Hydro-static
1	16.94	109.29	Open To Flow (1)
7	36.20	111.67	Shut-In(1)
21	997.87	112.87	End Shut-In(1)
22	43.36	112.79	Open To Flow (2)
51	74.54	115.96	Shut-In(2)
112	986.62	118.71	End Shut-In(2)
113	1999.57	118.89	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
62.00	mco 20%g 50%o 30%m	0.30
82.00	mco 60%o 40%m	0.59
20.00	oil 100%o	0.28
0.00	186 GIP	0.00

Gas Rates

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



**TRILOBITE
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DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Engineering

27-18s-28w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

Eugene #2-27

Job Ticket: 61799

DST#: 1

ATTN: Vern Schrag

Test Start: 2015.12.16 @ 02:00:49

Tool Information

Drill Pipe:	Length: 4017.00 ft	Diameter: 3.80 inches	Volume: 56.35 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: 25000.00 lb
Drill Collar:	Length: 124.00 ft	Diameter: 2.25 inches	Volume: 0.61 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 56.96 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	26.00 ft			String Weight: Initial 56000.00 lb
Depth to Top Packer:	4142.00 ft			Final 58000.00 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	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Stubb	1.00			4116.00	
Shut In Tool	5.00			4121.00	
Hydraulic tool	5.00			4126.00	
Jars	5.00			4131.00	
Safety Joint	2.00			4133.00	
Packer	5.00			4138.00	27.00 Bottom Of Top Packer
Packer	4.00			4142.00	
Stubb	1.00			4143.00	
Recorder	0.00	8360	Inside	4143.00	
Recorder	0.00	8166	Outside	4143.00	
Perforations	22.00			4165.00	
Bullnose	5.00			4170.00	28.00 Bottom Packers & Anchor

Total Tool Length: 55.00



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering

27-18s-28w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

Eugene #2-27

Job Ticket: 61799

DST#: 1

ATTN: Vern Schrag

Test Start: 2015.12.16 @ 02:00:49

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: 63.00 sec/qt

Cushion Volume:

bbf

Water Loss: 6.38 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
62.00	mcgo 20%g 50%o 30%m	0.305
82.00	mco 60%o 40%m	0.585
20.00	oil 100%o	0.281
0.00	186 GIP	0.000

Total Length: 164.00 ft

Total Volume: 1.171 bbl

Num Fluid Samples: 0

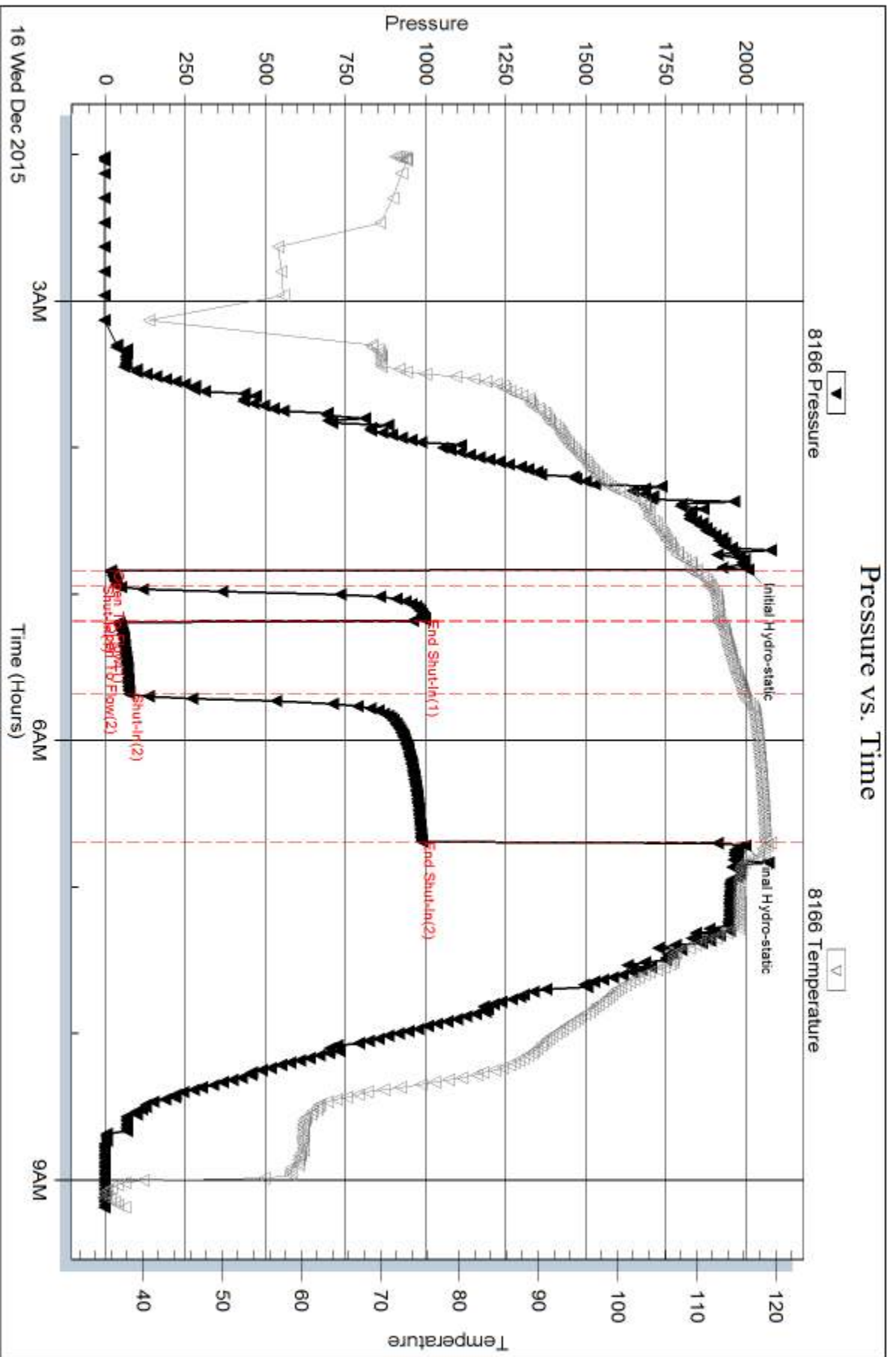
Num Gas Bombs: 0

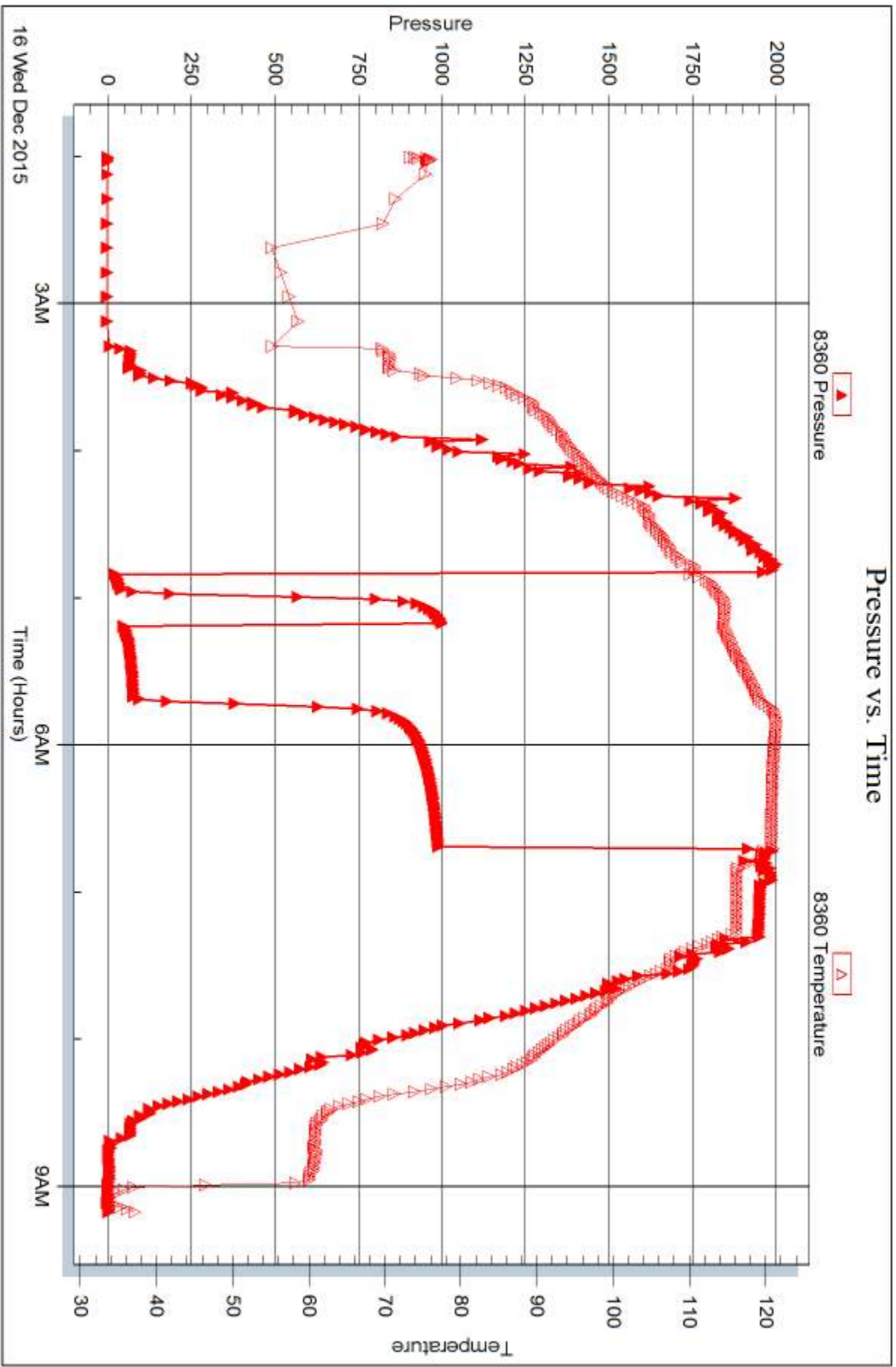
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

Prepared For: **Larson Engineering**

562 W State Rd 4
Olmitz, KS 67564

ATTN: Vern Schrag

Eugene #2-27

27-18s-28w Lane,KS

Start Date: 2015.12.16 @ 20:07:55

End Date: 2015.12.17 @ 01:47:25

Job Ticket #: 61800 DST #: 2

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

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DRILL STEM TEST REPORT

Larson Engineering

27-18s-28w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

Eugene #2-27

Job Ticket: 61800

DST#: 2

ATTN: Vern Schrag

Test Start: 2015.12.16 @ 20:07:55

GENERAL INFORMATION:

Formation: **LKC J**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:54:55

Time Test Ended: 01:47:25

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 79

Interval: 4199.00 ft (KB) To 4227.00 ft (KB) (TVD)

Reference Elevations: 2746.00 ft (KB)

Total Depth: 4227.00 ft (KB) (TVD)

2737.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 9.00 ft

Serial #: 8166 Outside

Press@RunDepth: 75.24 psig @ 4200.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.12.16

End Date:

2015.12.17

Last Calib.: 2015.12.17

Start Time: 20:08:00

End Time:

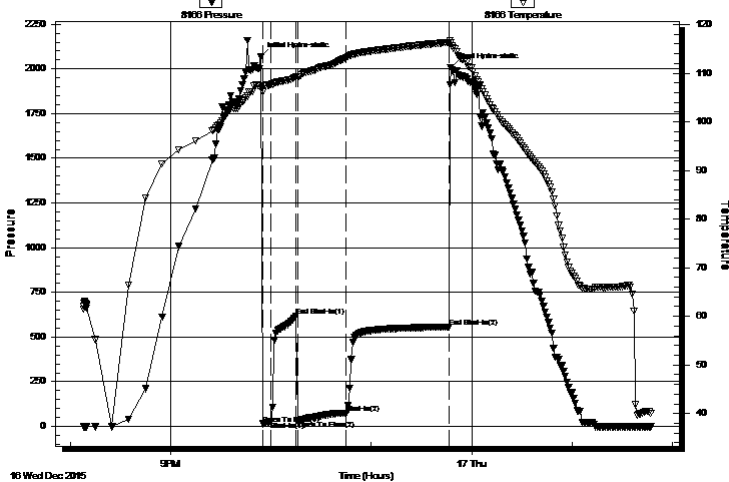
01:47:24

Time On Btm: 2015.12.16 @ 21:53:55

Time Off Btm: 2015.12.16 @ 23:47:25

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

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2066.85	107.45	Initial Hydro-static
1	13.56	106.06	Open To Flow (1)
6	28.24	107.62	Shut-In(1)
21	617.49	109.19	End Shut-In(1)
22	32.60	109.18	Open To Flow (2)
51	75.24	113.20	Shut-In(2)
113	556.07	116.33	End Shut-In(2)
114	2008.23	116.31	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
62.00	ocm 10%o 90%m	0.30
72.00	ocm 20%o 80%m	0.45

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
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DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Engineering

27-18s-28w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

Eugene #2-27

Job Ticket: 61800

DST#: 2

ATTN: Vern Schrag

Test Start: 2015.12.16 @ 20:07:55

Tool Information

Drill Pipe:	Length: 4078.00 ft	Diameter: 3.80 inches	Volume: 57.20 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: 25000.00 lb
Drill Collar:	Length: 124.00 ft	Diameter: 2.25 inches	Volume: 0.61 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 57.81 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	4199.00 ft			Final 58000.00 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	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Stubb	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	8360	Inside	4200.00	
Recorder	0.00	8166	Outside	4200.00	
Perforations	22.00			4222.00	
Bullnose	5.00			4227.00	28.00 Bottom Packers & Anchor

Total Tool Length: 55.00



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering

27-18s-28w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

Eugene #2-27

Job Ticket: 61800

DST#: 2

ATTN: Vern Schrag

Test Start: 2015.12.16 @ 20:07:55

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: 44.00 sec/qt

Cushion Volume:

bbf

Water Loss: 6.38 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2800.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
62.00	ocm 10%o 90%m	0.305
72.00	ocm 20%o 80%m	0.445

Total Length: 134.00 ft

Total Volume: 0.750 bbf

Num Fluid Samples: 0

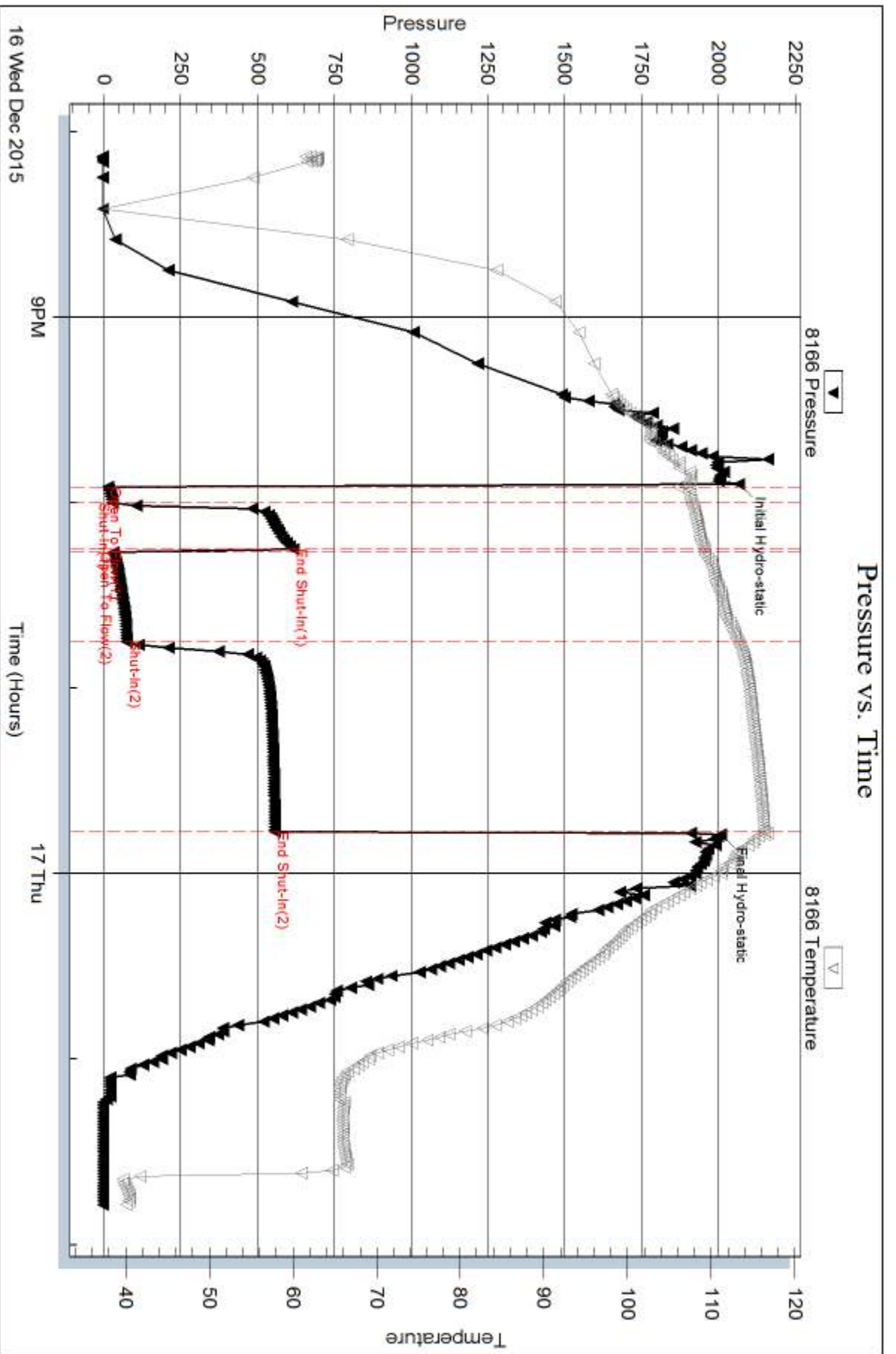
Num Gas Bombs: 0

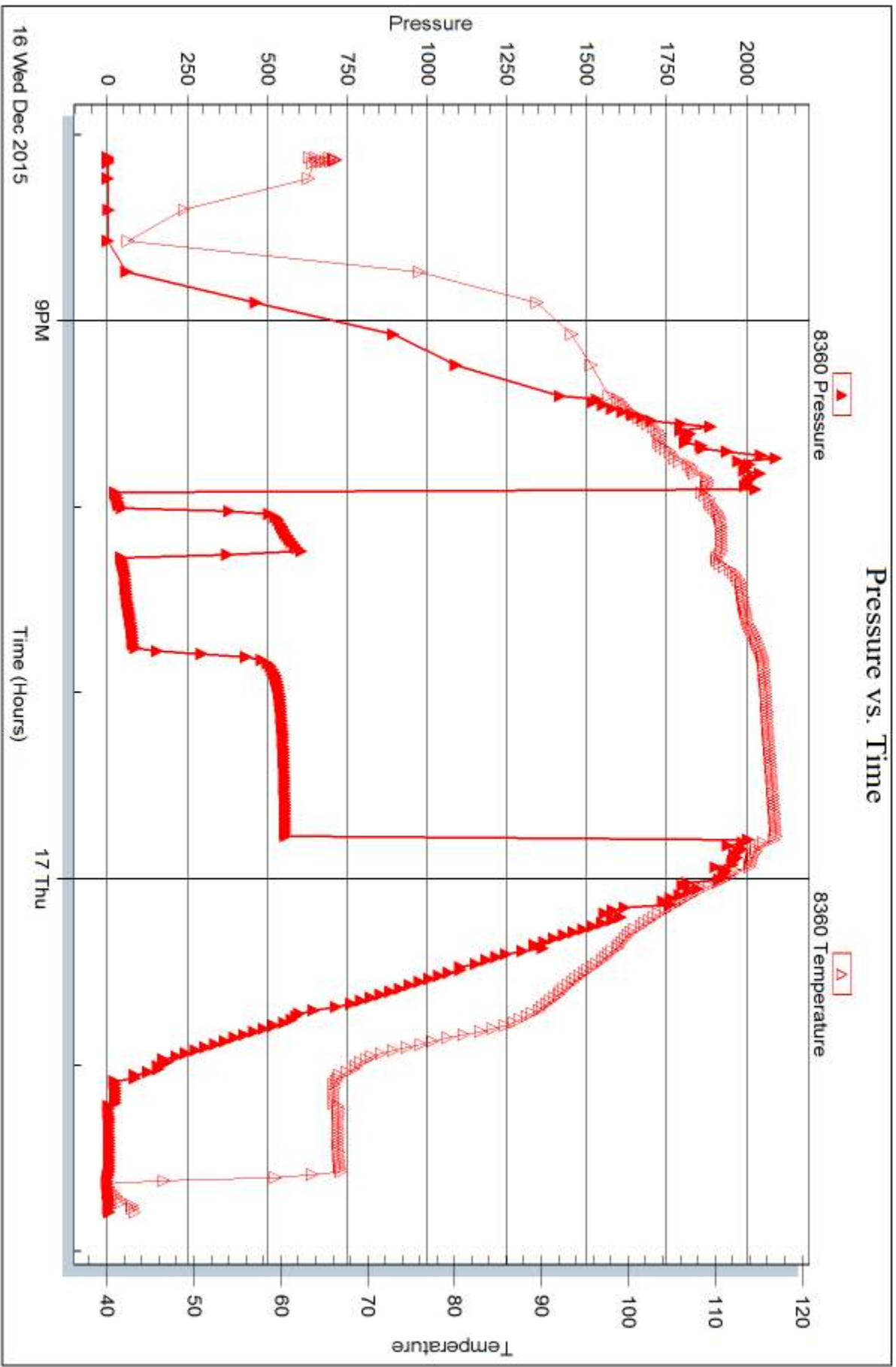
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

Prepared For: **Larson Engineering**

562 W State Rd 4
Olmitz, KS 67564

ATTN: Vern Schrag

Eugene #2-27

27-18s-28w Lane,KS

Start Date: 2015.12.17 @ 10:17:46

End Date: 2015.12.17 @ 16:03:16

Job Ticket #: 64526 DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

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**TRILOBITE
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DRILL STEM TEST REPORT

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

27-18s-28w Lane, KS

Eugene #2-27

Job Ticket: 64526

DST#: 3

Test Start: 2015.12.17 @ 10:17:46

GENERAL INFORMATION:

Formation: **LKC K**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 12:10:16
 Time Test Ended: 16:03:16
 Interval: **4239.00 ft (KB) To 4251.00 ft (KB) (TVD)**
 Total Depth: 4251.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Brandon Turley
 Unit No: 79
 Reference Elevations: 2746.00 ft (KB)
 2737.00 ft (CF)
 KB to GR/CF: 9.00 ft

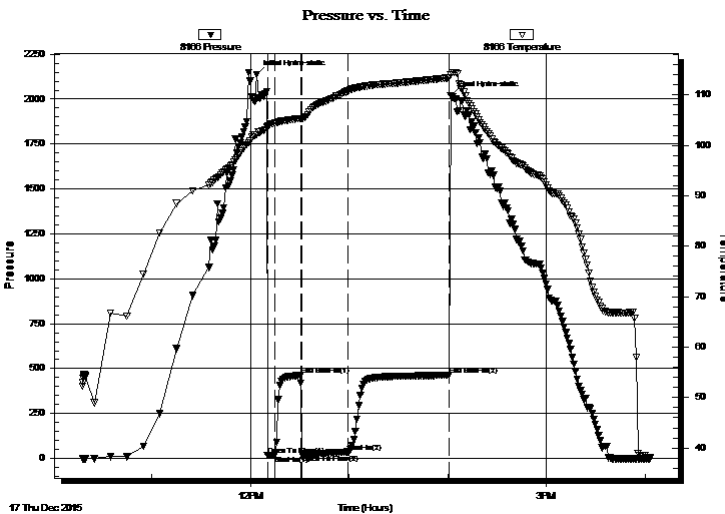
Serial #: 8166

Outside

Press@RunDepth: 36.34 psig @ 4240.00 ft (KB)
 Start Date: 2015.12.17 End Date: 2015.12.17
 Start Time: 10:17:51 End Time: 16:03:15
 Capacity: 8000.00 psig
 Last Calib.: 2015.12.17
 Time On Btm: 2015.12.17 @ 12:03:46
 Time Off Btm: 2015.12.17 @ 14:01:46

TEST COMMENT: IF: Surface blow built to 1/4"
 IS: No return.
 FF: Surface blow built to 1 1/2"
 FS: No return.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2135.74	102.16	Initial Hydro-static
7	15.34	103.49	Open To Flow (1)
11	18.05	104.42	Shut-In(1)
27	462.06	105.36	End Shut-In(1)
28	20.10	105.29	Open To Flow (2)
56	36.34	110.81	Shut-In(2)
117	462.12	113.38	End Shut-In(2)
118	2021.38	114.02	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
40.00	ocw m 10%o 10%w 80%m	0.20
2.00	oil 100%o	0.01

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
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DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Engineering

27-18s-28w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

Eugene #2-27

Job Ticket: 64526

DST#: 3

ATTN: Vern Schrag

Test Start: 2015.12.17 @ 10:17:46

Tool Information

Drill Pipe:	Length: 4108.00 ft	Diameter: 3.80 inches	Volume: 57.62 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: 80000.00 lb
			<u>Total Volume: 58.23 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	4239.00 ft			Final 58000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	12.00 ft			
Tool Length:	39.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Stubb	1.00			4213.00	
Shut In Tool	5.00			4218.00	
Hydraulic tool	5.00			4223.00	
Jars	5.00			4228.00	
Safety Joint	2.00			4230.00	
Packer	5.00			4235.00	27.00 Bottom Of Top Packer
Packer	4.00			4239.00	
Stubb	1.00			4240.00	
Recorder	0.00	8360	Inside	4240.00	
Recorder	0.00	8166	Outside	4240.00	
Perforations	6.00			4246.00	
Bullnose	5.00			4251.00	12.00 Bottom Packers & Anchor

Total Tool Length: 39.00



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering

27-18s-28w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

Eugene #2-27

Job Ticket: 64526

DST#: 3

ATTN: Vern Schrag

Test Start: 2015.12.17 @ 10:17:46

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: 44.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.39 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2800.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
40.00	ocw m 10%o 10%w 80%m	0.197
2.00	oil 100%o	0.010

Total Length: 42.00 ft Total Volume: 0.207 bbl

Num Fluid Samples: 0

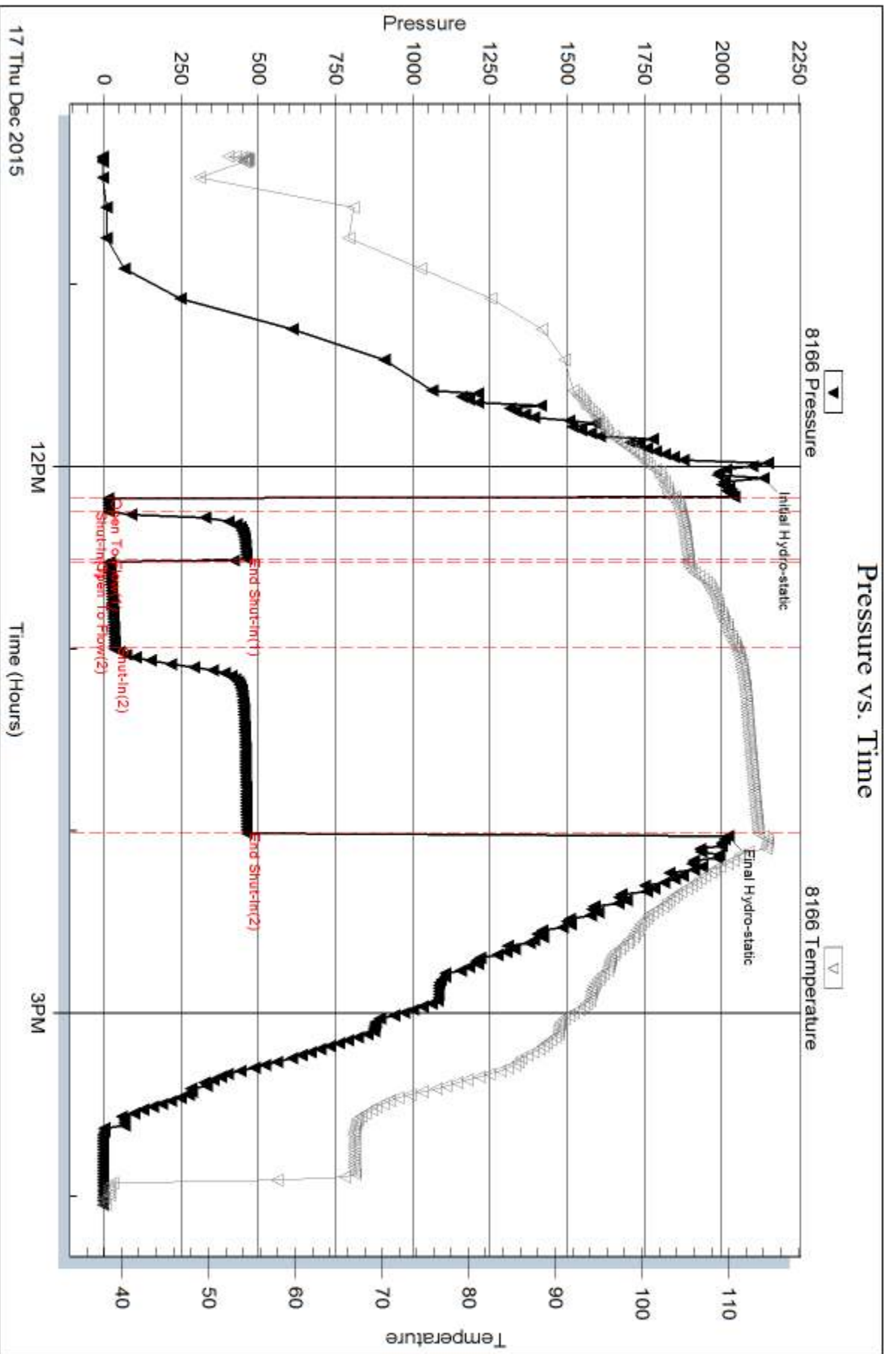
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



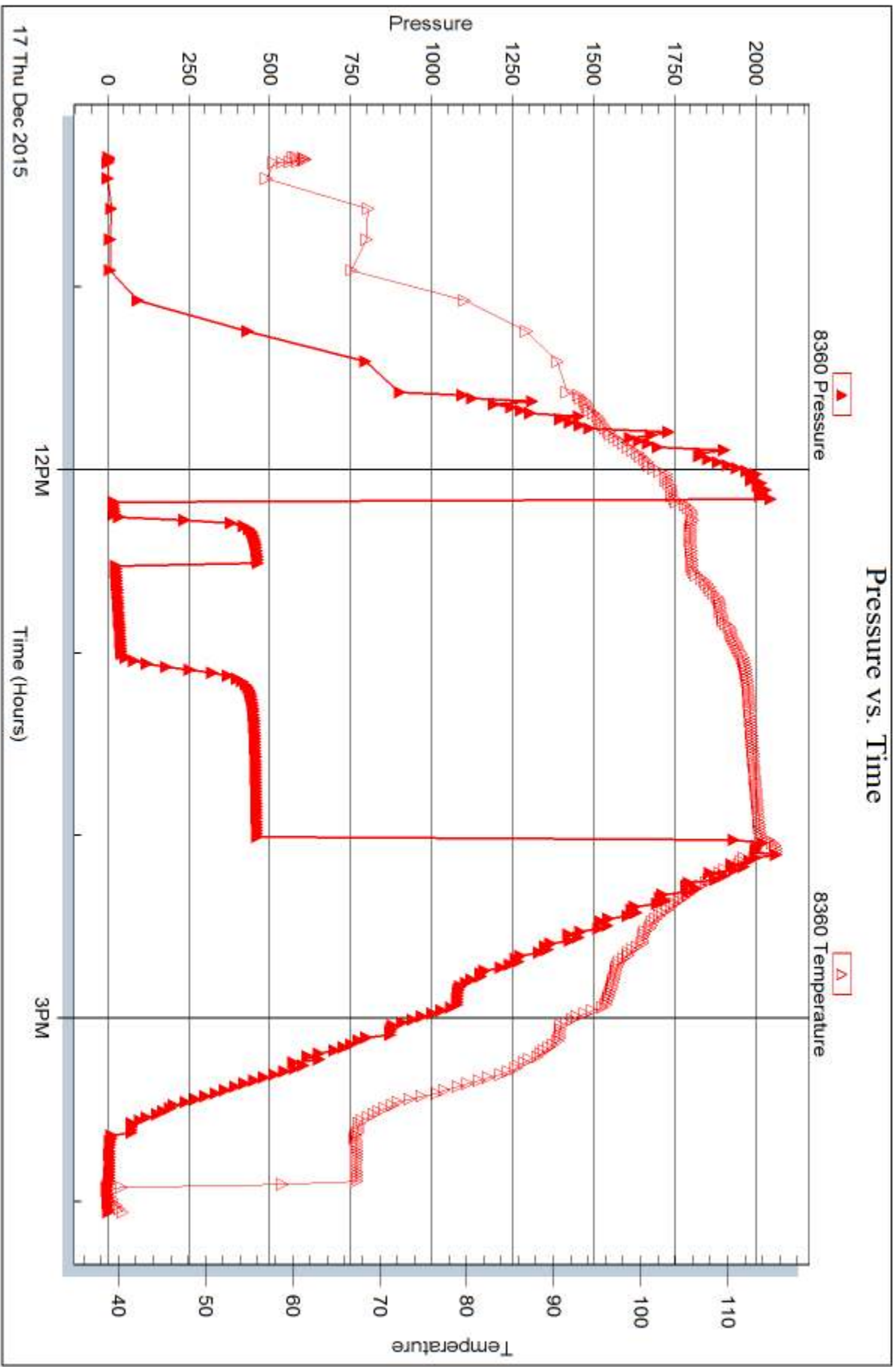
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Inside

Larson Engineering

Eugene #2-27

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 64526

Printed: 2015.12.21 @ 16:26:17



DRILL STEM TEST REPORT

Prepared For: **Larson Engineering**

562 W State Rd 4
Olmitz, KS 67564

ATTN: Vern Schrag

Eugene #2-27

27-18s-28w Lane,KS

Start Date: 2015.12.18 @ 00:26:07

End Date: 2015.12.18 @ 06:07:07

Job Ticket #: 64527 DST #: 4

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

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**TRILOBITE
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DRILL STEM TEST REPORT

Larson Engineering

27-18s-28w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

Eugene #2-27

Job Ticket: 64527

DST#: 4

ATTN: Vern Schrag

Test Start: 2015.12.18 @ 00:26:07

GENERAL INFORMATION:

Formation: **LKC L**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:27:07

Time Test Ended: 06:07:07

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 79

Interval: 4270.00 ft (KB) To 4283.00 ft (KB) (TVD)

Reference Elevations: 2746.00 ft (KB)

Total Depth: 4283.00 ft (KB) (TVD)

2737.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 9.00 ft

Serial #: 8166 Outside

Press@RunDepth: 218.02 psig @ 4271.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.12.18 End Date: 2015.12.18

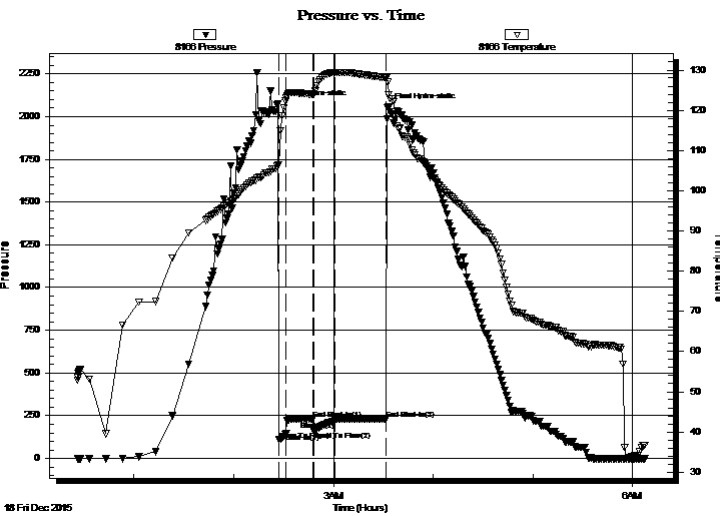
Last Calib.: 2015.12.18

Start Time: 00:26:12 End Time: 06:07:06

Time On Btm: 2015.12.18 @ 02:26:37

Time Off Btm: 2015.12.18 @ 03:32:37

TEST COMMENT: IF: BOB in 30 sec.
IS: BOB in 12 min.
FF: BOB in 2 1/2 min.
FS: Surface blow built to 6"



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2072.89	106.43	Initial Hydro-static
1	109.01	106.42	Open To Flow (1)
5	145.85	123.04	Shut-In(1)
21	230.92	123.92	End Shut-In(1)
22	157.89	123.89	Open To Flow (2)
34	218.02	129.40	Shut-In(2)
65	231.24	128.07	End Shut-In(2)
66	2051.59	126.99	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
126.00	gocm 30%g 10%o 60%m	0.64
388.00	go 30%g 70%o	5.44
0.00	935 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

27-18s-28w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

Eugene #2-27

Job Ticket: 64527

DST#: 4

ATTN: Vern Schrag

Test Start: 2015.12.18 @ 00:26:07

Tool Information

Drill Pipe:	Length: 4141.00 ft	Diameter: 3.80 inches	Volume: 58.09 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:	65000.00 lb
			<u>Total Volume: 58.70 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	22.00 ft			String Weight: Initial	58000.00 lb
Depth to Top Packer:	4270.00 ft			Final	60000.00 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

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Stubb	1.00			4244.00	
Shut In Tool	5.00			4249.00	
Hydraulic tool	5.00			4254.00	
Jars	5.00			4259.00	
Safety Joint	2.00			4261.00	
Packer	5.00			4266.00	27.00 Bottom Of Top Packer
Packer	4.00			4270.00	
Stubb	1.00			4271.00	
Recorder	0.00	8360	Inside	4271.00	
Recorder	0.00	8166	Outside	4271.00	
Perforations	7.00			4278.00	
Bullnose	5.00			4283.00	13.00 Bottom Packers & Anchor

Total Tool Length: 40.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering

27-18s-28w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

Eugene #2-27

Job Ticket: 64527

DST#: 4

ATTN: Vern Schrag

Test Start: 2015.12.18 @ 00:26:07

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

38 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: 6.39 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2700.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
126.00	gocm 30%g 10%o 60%m	0.638
388.00	go 30%g 70%o	5.443
0.00	935 GIP	0.000

Total Length: 514.00 ft Total Volume: 6.081 bbl

Num Fluid Samples: 0

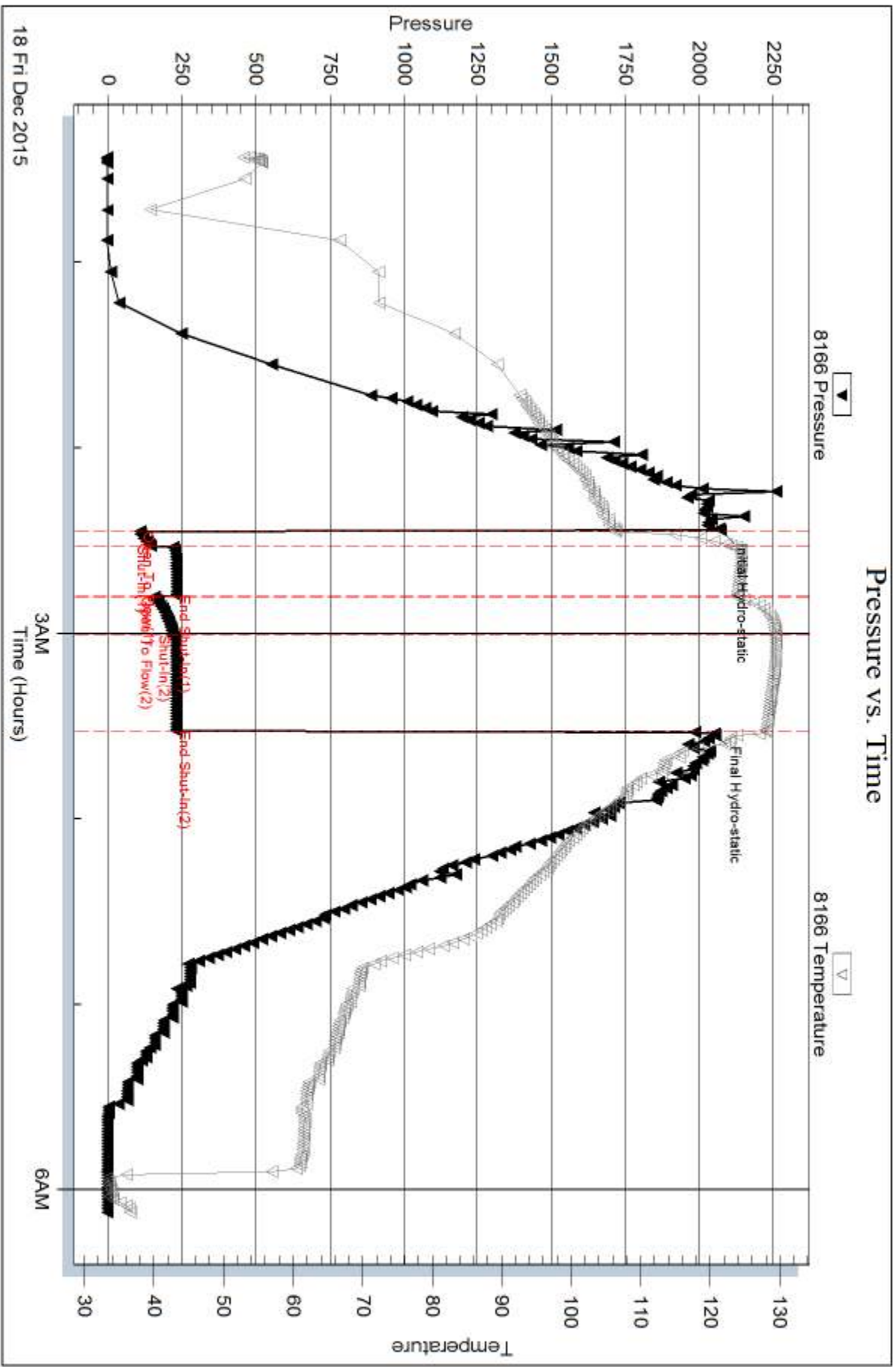
Num Gas Bombs: 0

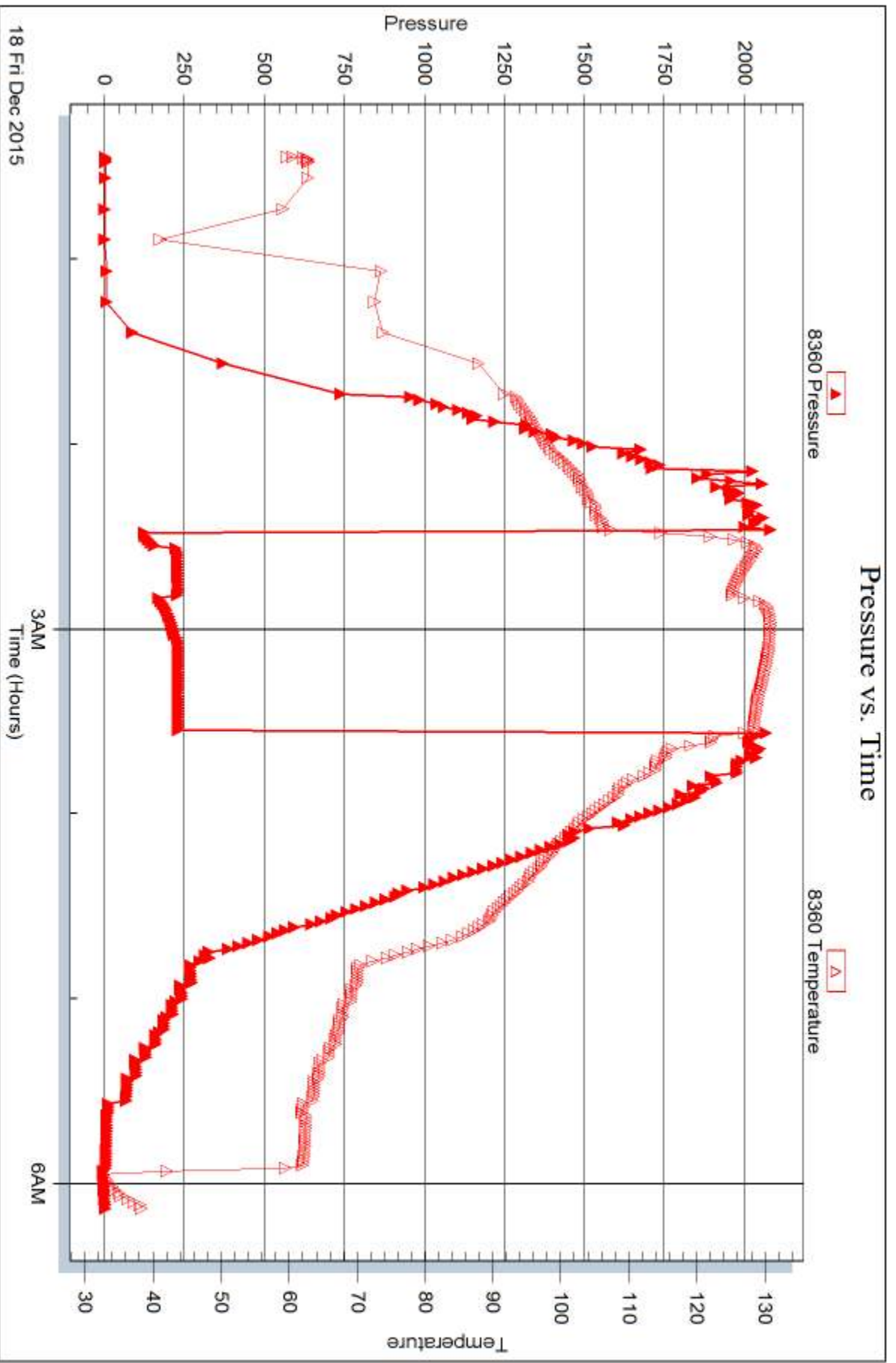
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 34@20=38







DRILL STEM TEST REPORT

Prepared For: **Larson Engineering**

562 W State Rd 4
Olmitz, KS 67564

ATTN: Vern Schrag

Eugene #2-27

27-18s-28w Lane,KS

Start Date: 2015.12.19 @ 00:40:18

End Date: 2015.12.19 @ 05:42:18

Job Ticket #: 64528 DST #: 5

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

Printed: 2015.12.21 @ 16:23:17



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Larson Engineering

27-18s-28w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

Eugene #2-27

Job Ticket: 64528

DST#: 5

ATTN: Vern Schrag

Test Start: 2015.12.19 @ 00:40:18

GENERAL INFORMATION:

Formation: **Marmaton**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:33:48

Time Test Ended: 05:42:18

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 79

Interval: 4319.00 ft (KB) To 4415.00 ft (KB) (TVD)

Reference Elevations: 2746.00 ft (KB)

Total Depth: 4415.00 ft (KB) (TVD)

2737.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 9.00 ft

Serial #: 8166 Outside

Press@RunDepth: 87.67 psig @ 4320.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.12.19

End Date:

2015.12.19

Last Calib.:

2015.12.19

Start Time: 00:40:23

End Time:

05:42:17

Time On Btm:

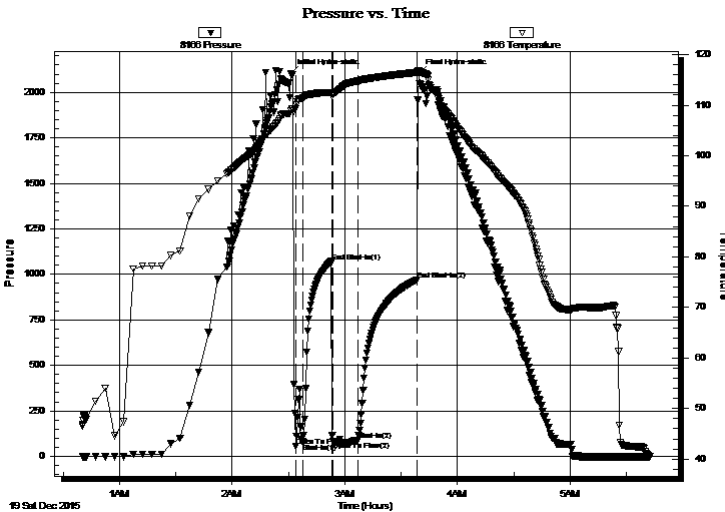
2015.12.19 @ 02:31:18

Time Off Btm:

2015.12.19 @ 03:39:18

TEST COMMENT: IF: 1/4" blow built to 6"
IS: No return.
FF: BOB in 5 min.
FS: Surface blow built to 1/2"

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2103.35	108.86	Initial Hydro-static
3	56.27	109.35	Open To Flow (1)
7	74.32	111.40	Shut-In(1)
22	1070.70	112.42	End Shut-In(1)
23	81.45	112.13	Open To Flow (2)
36	87.67	114.75	Shut-In(2)
67	968.23	116.45	End Shut-In(2)
68	2101.54	116.88	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
62.00	gocm 20%g 10%o 70%m	0.30
102.00	gocm 10%g 20%o 70%m	0.87
0.00	270 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

27-18s-28w Lane,KS

562 W State Rd 4
Olmitz, KS 67564

Eugene #2-27

Job Ticket: 64528

DST#: 5

ATTN: Vern Schrag

Test Start: 2015.12.19 @ 00:40:18

Tool Information

Drill Pipe:	Length: 4173.00 ft	Diameter: 3.80 inches	Volume: 58.54 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: 75000.00 lb
			<u>Total Volume: 59.15 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	5.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	4319.00 ft			Final 66000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	96.00 ft			
Tool Length:	123.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

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

Stubb	1.00			4293.00	
Shut In Tool	5.00			4298.00	
Hydraulic tool	5.00			4303.00	
Jars	5.00			4308.00	
Safety Joint	2.00			4310.00	
Packer	5.00			4315.00	27.00 Bottom Of Top Packer
Packer	4.00			4319.00	
Stubb	1.00			4320.00	
Recorder	0.00	8360	Inside	4320.00	
Recorder	0.00	8166	Outside	4320.00	
Perforations	25.00			4345.00	
Change Over Sub	1.00			4346.00	
Drill Pipe	63.00			4409.00	
Change Over Sub	1.00			4410.00	
Bullnose	5.00			4415.00	96.00 Bottom Packers & Anchor

Total Tool Length: 123.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering

27-18s-28w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

Eugene #2-27

Job Ticket: 64528

DST#: 5

ATTN: Vern Schrag

Test Start: 2015.12.19 @ 00:40:18

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: 51.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.39 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2700.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
62.00	gocm 20%g 10%o 70%m	0.305
102.00	gocm 10%g 20%o 70%m	0.866
0.00	270 GIP	0.000

Total Length: 164.00 ft

Total Volume: 1.171 bbl

Num Fluid Samples: 0

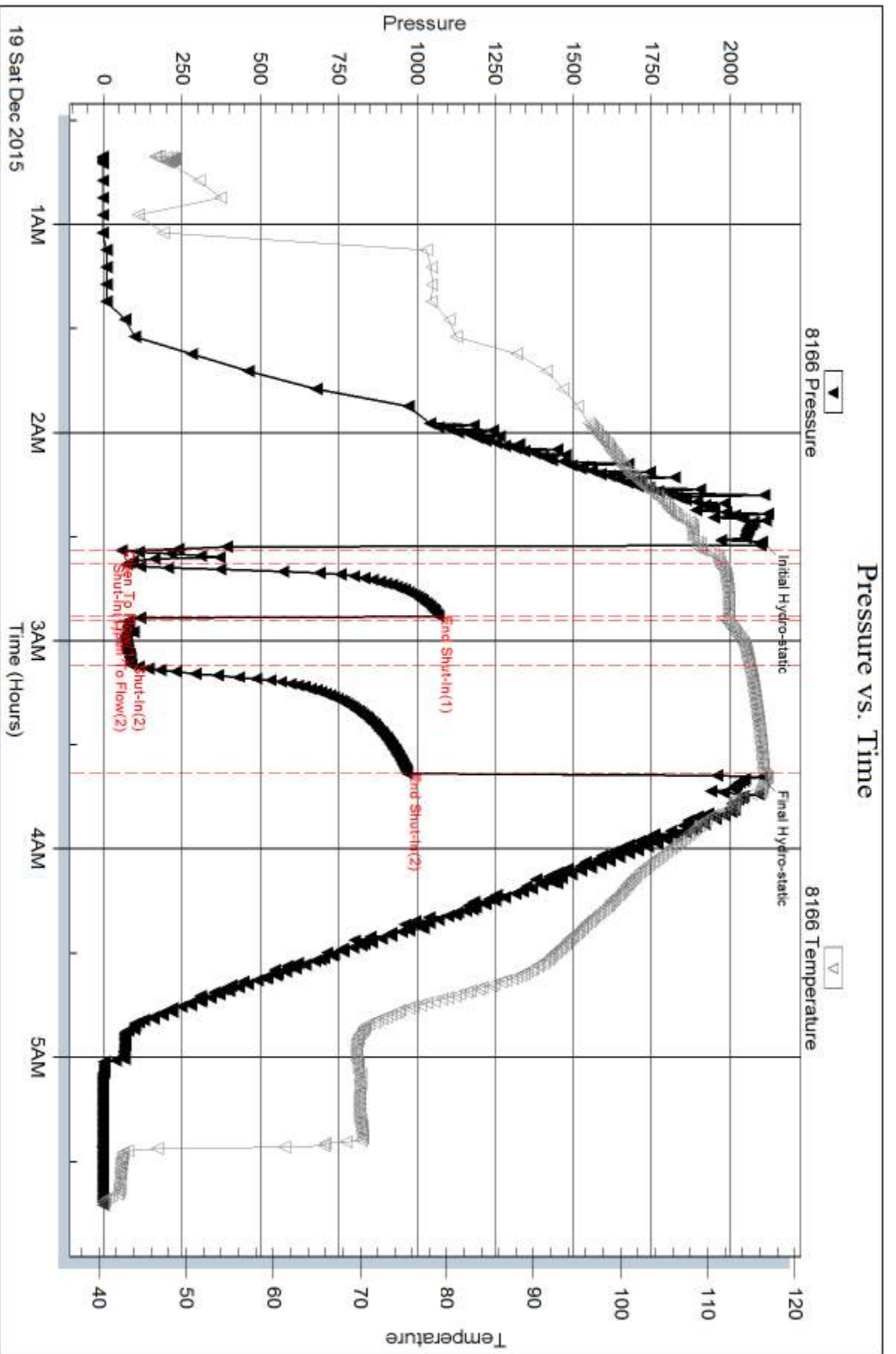
Num Gas Bombs: 0

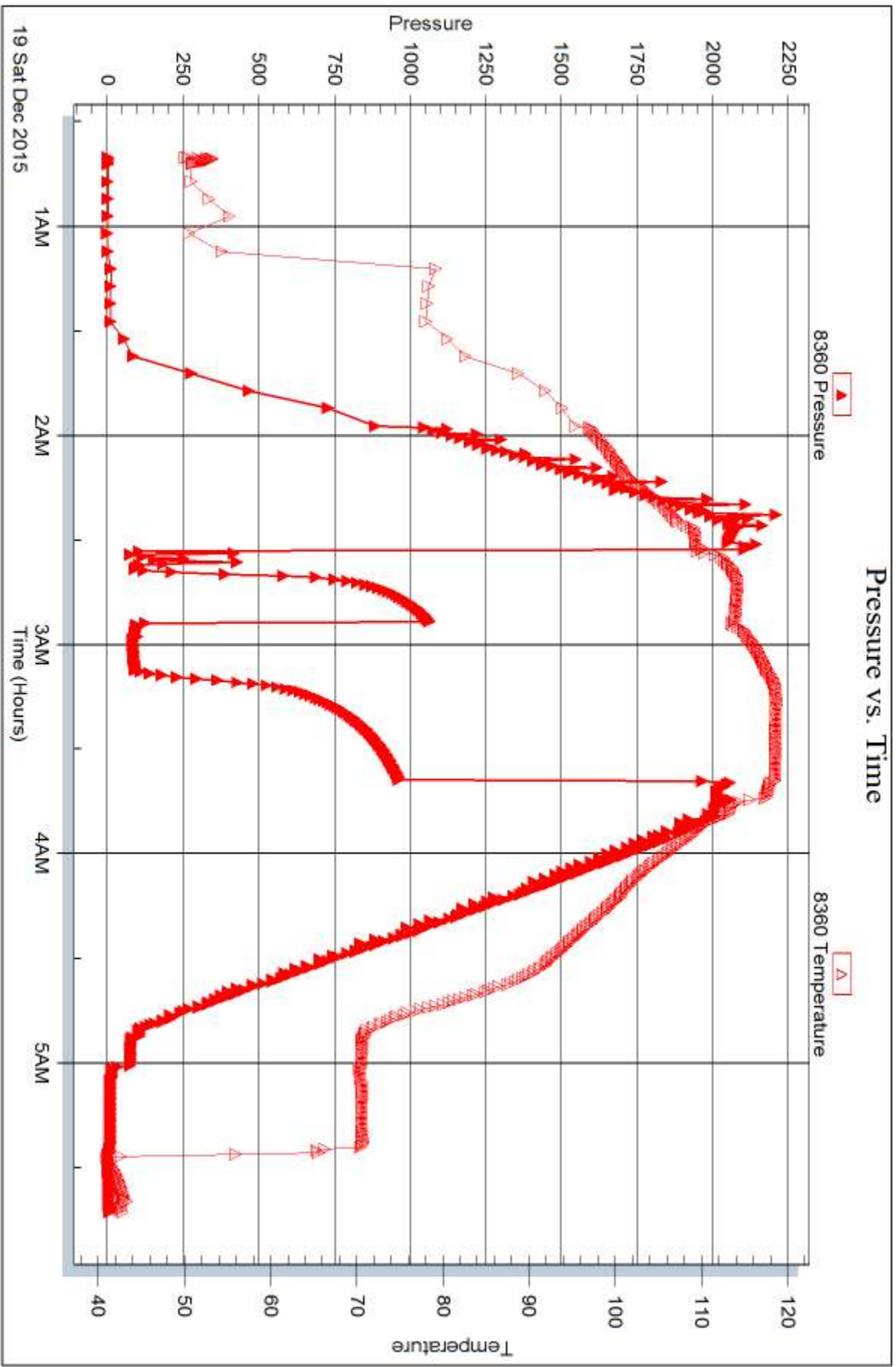
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

Prepared For: **Larson Engineering**

562 W State Rd 4
Olmitz, KS 67564

ATTN: Vern Schrag

Eugene #2-27

27-18s-28w Lane,KS

Start Date: 2015.12.20 @ 04:04:39

End Date: 2015.12.20 @ 09:27:39

Job Ticket #: 64529 DST #: 6

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2015.12.21 @ 16:22:53



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

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

27-18s-28w Lane, KS
Eugene #2-27
Job Ticket: 64529
Test Start: 2015.12.20 @ 04:04:39

DST#: 6

GENERAL INFORMATION:

Formation: **Cherokee**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 06:05:09
Time Test Ended: 09:27:39
Interval: **4425.00 ft (KB) To 4572.00 ft (KB) (TVD)**
Total Depth: 4572.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Test Type: Conventional Bottom Hole (Reset)
Tester: Brandon Turley
Unit No: 79
Reference Elevations: 2746.00 ft (KB)
2737.00 ft (CF)
KB to GR/CF: 9.00 ft

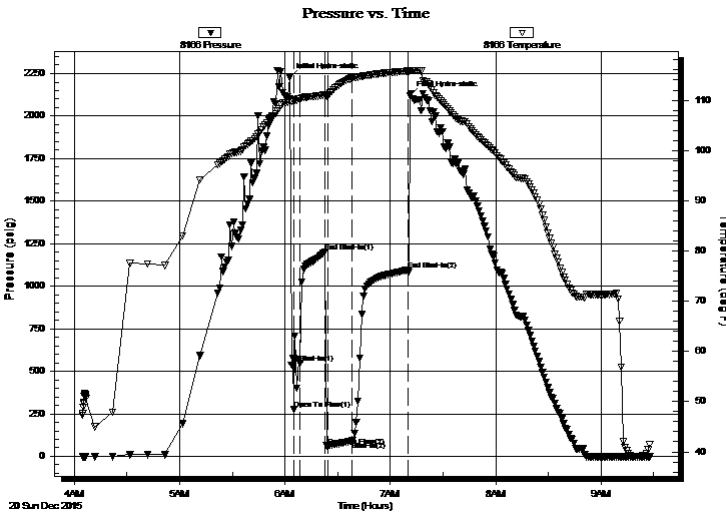
Serial #: 8166

Outside

Press@RunDepth: 90.94 psig @ 4426.00 ft (KB)
Start Date: 2015.12.20 End Date: 2015.12.20
Start Time: 04:04:44 End Time: 09:27:38
Capacity: 8000.00 psig
Last Calib.: 2015.12.20
Time On Btm: 2015.12.20 @ 06:02:39
Time Off Btm: 2015.12.20 @ 07:11:09

TEST COMMENT: IF: 1/4" blow built to 2 1/2"
IS: No return.
FF: BOB in 12 min.
FS: Surface blow built to 1"

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2226.92	110.25	Initial Hydro-static
3	274.75	109.72	Open To Flow (1)
6	549.03	110.19	Shut-In(1)
20	1200.31	111.00	End Shut-In(1)
22	59.07	110.81	Open To Flow (2)
36	90.94	114.46	Shut-In(2)
68	1097.60	115.79	End Shut-In(2)
69	2122.47	115.91	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
62.00	gocm 20%g 20%o 60%m	0.30
112.00	gocm 20%g 10%o 70%m	1.01
0.00	248 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

27-18s-28w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

Eugene #2-27

Job Ticket: 64529

DST#: 6

ATTN: Vern Schrag

Test Start: 2015.12.20 @ 04:04:39

Tool Information

Drill Pipe:	Length: 4296.00 ft	Diameter: 3.80 inches	Volume: 60.26 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: 65000.00 lb
			<u>Total Volume: 60.87 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	22.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	4425.00 ft			Final 62000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	147.00 ft			
Tool Length:	174.00 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
Stubb	1.00			4399.00	
Shut In Tool	5.00			4404.00	
Hydraulic tool	5.00			4409.00	
Jars	5.00			4414.00	
Safety Joint	2.00			4416.00	
Packer	5.00			4421.00	27.00 Bottom Of Top Packer
Packer	4.00			4425.00	
Stubb	1.00			4426.00	
Recorder	0.00	8360	Inside	4426.00	
Recorder	0.00	8166	Outside	4426.00	
Perforations	14.00			4440.00	
Change Over Sub	1.00			4441.00	
Drill Pipe	125.00			4566.00	
Change Over Sub	1.00			4567.00	
Bullnose	5.00			4572.00	147.00 Bottom Packers & Anchor

Total Tool Length: 174.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering

27-18s-28w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

Eugene #2-27

Job Ticket: 64529

DST#: 6

ATTN: Vern Schrag

Test Start: 2015.12.20 @ 04:04:39

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: 6.39 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2900.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
62.00	gocm 20%g 20%o 60%m	0.305
112.00	gocm 20%g 10%o 70%m	1.006
0.00	248 GIP	0.000

Total Length: 174.00 ft

Total Volume: 1.311 bbl

Num Fluid Samples: 0

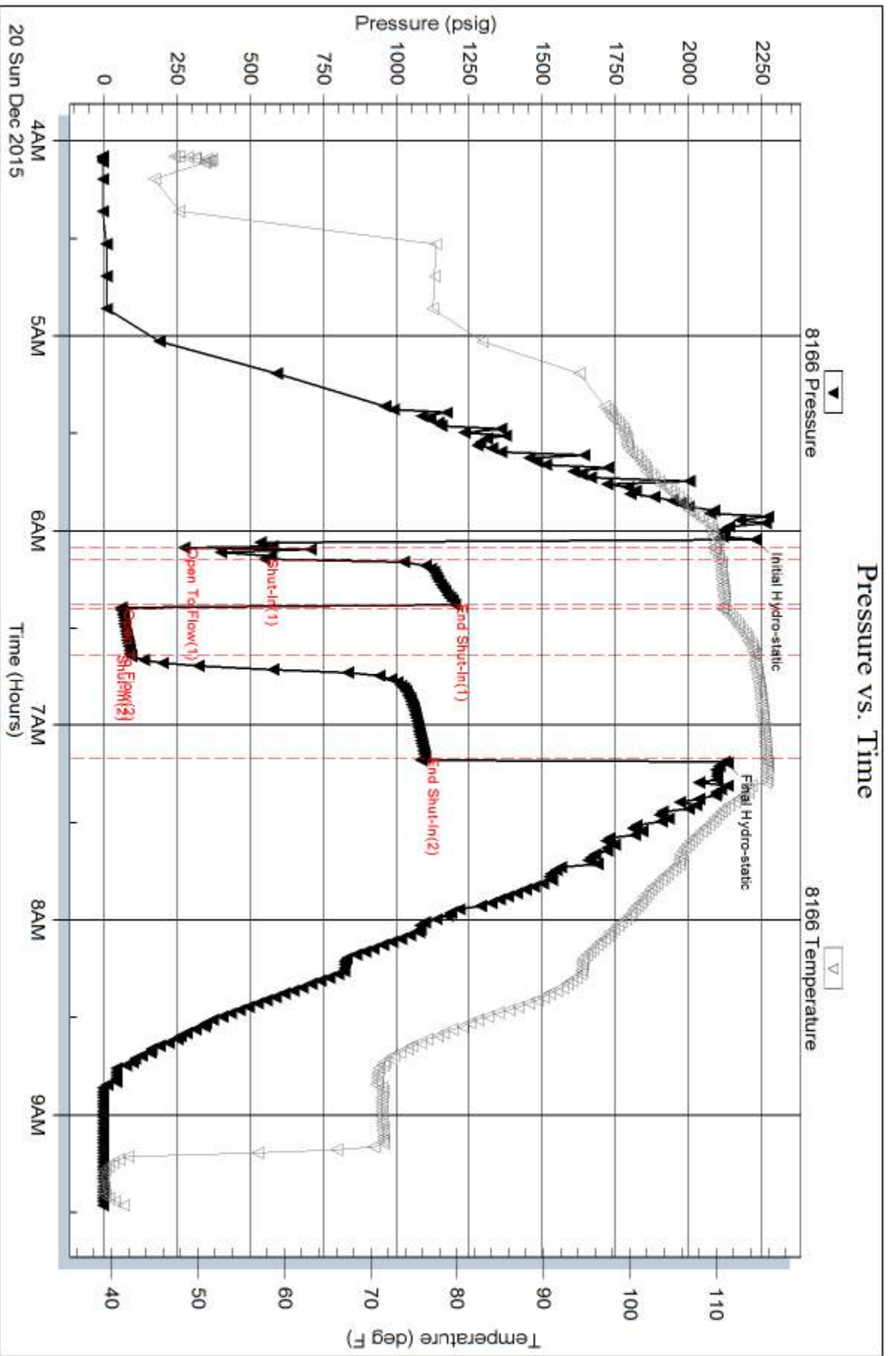
Num Gas Bombs: 0

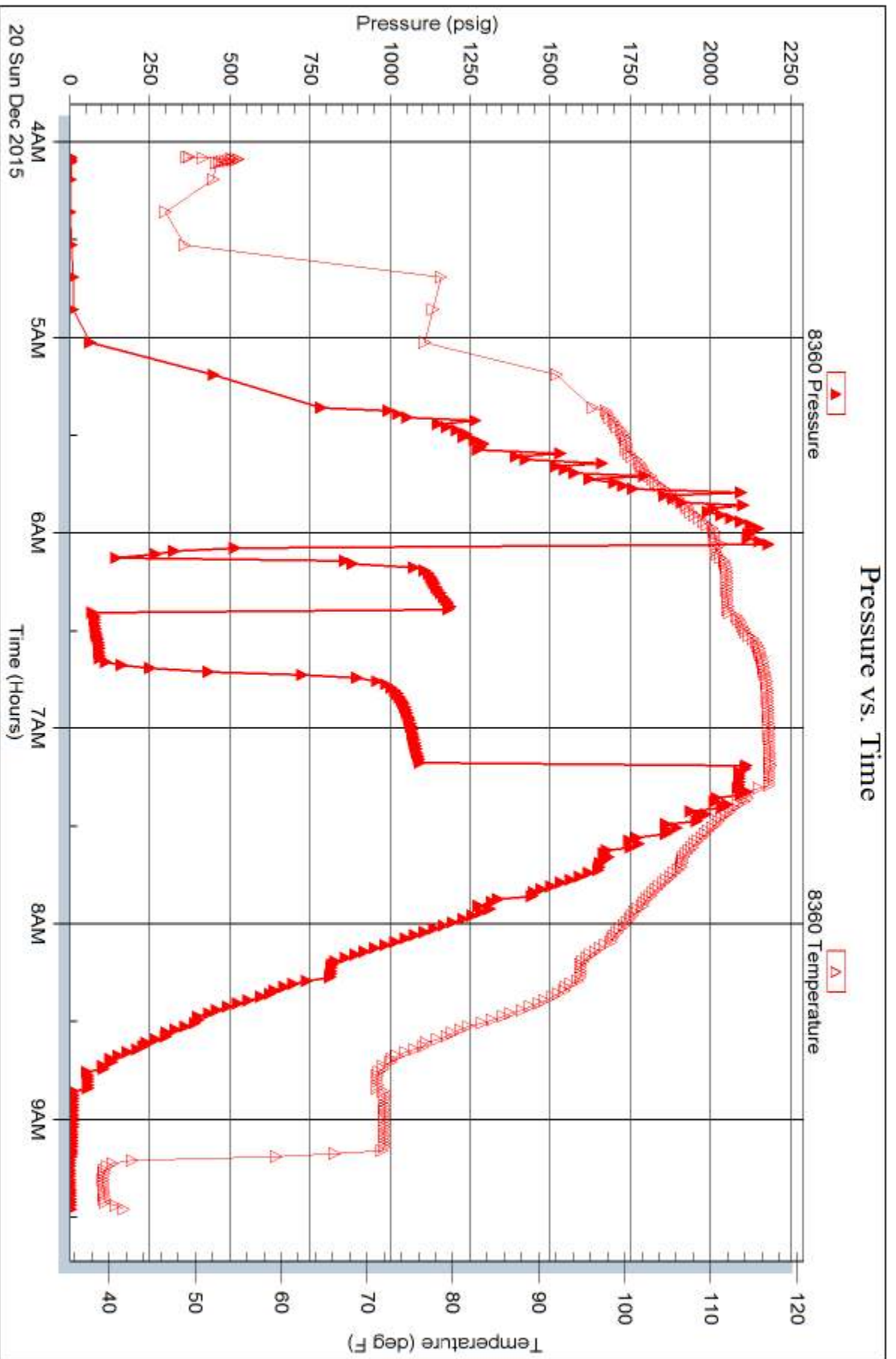
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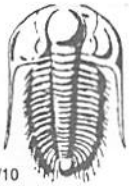
Laboratory Name:

Laboratory Location:

Recovery Comments:







TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 61799

Well Name & No. Eugene 2-27 Test No. 1 Date 12-16-15
 Company Larson Engineering Inc Elevation 2746 KB 2737 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. Larson State KS

Interval Tested 4142 4170 Zone Tested H
 Anchor Length 28 Drill Pipe Run 4017 Mud Wt. 9.0
 Top Packer Depth 4137 Drill Collars Run 124 Vis 63
 Bottom Packer Depth 4142 Wt. Pipe Run — WL 6.4
 Total Depth 4170 Chlorides 3000 ppm System LCM 3
 Blow Description IF: 1/4 blow built to 3.
IS: No return.
FF: BoB in 20 min.
FS: No return.

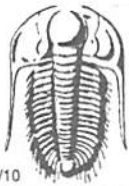
Rec	Feet of	%gas	%oil	%water	%mud
<u>20</u>	<u>oil</u>		<u>100</u>		
<u>82</u>	<u>MCO</u>		<u>60</u>		<u>40</u>
<u>62</u>	<u>MCO</u>	<u>20</u>	<u>50</u>		<u>30</u>
	<u>186 GIP</u>				

Rec Total 164 BHT 118 Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic 2007 Test 1150 T-On Location 12:40
 (B) First Initial Flow 16 Jars 250 T-Started 2:00
 (C) First Final Flow 36 Safety Joint 75 T-Open 4:48
 (D) Initial Shut-In 997 Circ Sub N/L T-Pulled 6:38
 (E) Second Initial Flow 43 Hourly Standby — T-Out 9:11
 (F) Second Final Flow 74 Mileage 64- Comments —
 (G) Final Shut-In 986 Sampler —
 (H) Final Hydrostatic 1999 Straddle —
 Shale Packer —
 Shale Packer —
 Extra Packer —
 Extra Recorder —
 Day Standby —
 Accessibility —
 Ruined Shale Packer —
 Ruined Packer —
 Extra Copies 0
 Sub Total 1539
 Total 1539
 MP/DST Disc't —
 Sub Total 1539

Approved By Vern Schragg Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 61800

Well Name & No. Eugene 2-27 Test No. 2 Date 12-16-15
 Company Larson Engineering Elevation 2946 KB 2737 GL
 Address _____
 Co. Rep / Geo. Vern Schrey Rig HD #3
 Location: Sec. 27 Twp. 185 Rge. 28W Co. Lane State KS

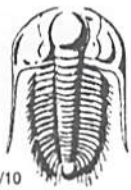
Interval Tested 4199 4227 Zone Tested J
 Anchor Length 28 Drill Pipe Run 4078 Mud Wt. 8.9
 Top Packer Depth 4194 Drill Collars Run 124 Vis 44
 Bottom Packer Depth 4199 Wt. Pipe Run _____ WL 6.4
 Total Depth 4227 Chlorides 2800 ppm System LCM 2
 Blow Description IF: 1/4 blow built to 8,
IS: No return.
FF: 1/4 blow built to 4,
FS: No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>72</u>	<u>ocm</u>	<u>20</u>		<u>80</u>	
<u>62</u>	<u>ocm</u>	<u>10</u>		<u>90</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 134 BHT 116 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm
 (A) Initial Hydrostatic 2066 Test 1150 T-On Location 19:45
 (B) First Initial Flow 13 Jars 250 T-Started 20:07
 (C) First Final Flow 28 Safety Joint 75 T-Open 21:54
 (D) Initial Shut-In 617 Circ Sub N/C T-Pulled 23:44
 (E) Second Initial Flow 32 Hourly Standby _____ T-Out 1:50
 (F) Second Final Flow 75 Mileage 64- Comments _____
 (G) Final Shut-In 556 Sampler _____
 (H) Final Hydrostatic 2008 Straddle _____
 Initial Open 5 Shale Packer _____
 Initial Shut-In 15 Extra Packer _____
 Final Flow 30 Extra Recorder _____
 Final Shut-In 60 Day Standby _____
 Sub Total 1539
 Sub Total 1539

Approved By Vern Schrey Our Representative _____

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **64526**

Well Name & No. Eugene 2-27 Test No. 3 Date 12-17-15
 Company Larson Engineering Elevation 2746 KB 2737 GL
 Address _____
 Co. Rep / Geo. Vern Schrey Rig HD #3
 Location: Sec. 27 Twp. 18S Rge. 28W Co. Lane State KS

Interval Tested 4239 4251 Zone Tested K
 Anchor Length 12 Drill Pipe Run 4108 Mud Wt. 8.9
 Top Packer Depth 4234 Drill Collars Run 124 Vis 44
 Bottom Packer Depth 4239 Wt. Pipe Run _____ WL 6.4
 Total Depth 4251 Chlorides 2800 ppm System LCM 2
 Blow Description IF: surface blow built to 1/4.
IS: No return.
FF: surface blow built to 1 1/2.
FS: No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>2</u>	<u>oil</u>		<u>100</u>		
<u>40</u>	<u>OCWM</u>		<u>16</u>	<u>10</u>	<u>80</u>
Rec _____	Feet of _____	%gas _____	%oil _____	%water _____	%mud _____
Rec _____	Feet of _____	%gas _____	%oil _____	%water _____	%mud _____
Rec _____	Feet of _____	%gas _____	%oil _____	%water _____	%mud _____

Rec Total 42 BHT 113 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm
 (A) Initial Hydrostatic 2135 Test 1150 T-On Location 9:50
 (B) First Initial Flow 15 Jars 250 T-Started 10:17
 (C) First Final Flow 18 Safety Joint 75 T-Open 12:10
 (D) Initial Shut-In 462 Circ Sub NIL T-Pulled 14:00
 (E) Second Initial Flow 20 Hourly Standby _____ T-Out 16:05
 (F) Second Final Flow 36 Mileage 64- Comments _____
 (G) Final Shut-In 462 Sampler _____
 (H) Final Hydrostatic 2021 Straddle _____
 Shale Packer _____
 Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Initial Open 5 Extra Packer _____
 Initial Shut-In 15 Extra Recorder _____
 Final Flow 30 Day Standby _____
 Final Shut-In 60 Accessibility _____
 Sub Total 1539 Sub Total 1539 MP/DST Disc't _____

Approved By James C. Schrey 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. **64527**

Well Name & No. Eugene 2-27 Test No. 4 Date 12-17-15
 Company Larson Engineering Elevation 2746 KB 2737 GL
 Address _____
 Co. Rep / Geo. Vern Schrag Rig HD #3
 Location: Sec. 27 Twp. 18S Rge. 28W Co. Lame State KS

Interval Tested 4270 4283 Zone Tested L
 Anchor Length _____ Drill Pipe Run 4141 Mud Wt. 9.1
 Top Packer Depth _____ Drill Collars Run 124 Vis 56
 Bottom Packer Depth _____ Wt. Pipe Run _____ WL 6.4
 Total Depth 4283 Chlorides 2700 ppm System LCM 2

Blow Description IF! BoB in 30 sec.
IS! BoB in 12 min.
FS! BoB in 2 1/2 min.
FS! surface blow built to 6.

Rec	Feet of	%gas	%oil	%water	%mud
<u>388</u>	<u>90</u>	<u>30</u>	<u>70</u>		
<u>126</u>	<u>90CM</u>	<u>30</u>	<u>10</u>		<u>60</u>
Rec _____	Feet of _____	%gas _____	%oil _____	%water _____	%mud _____
Rec _____	Feet of <u>935</u>	%gas _____	%oil _____	%water _____	%mud _____
Rec _____	Feet of _____	%gas _____	%oil _____	%water _____	%mud _____

Rec Total 514 BHT 128 Gravity 38 API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2072 Test 1150 T-On Location 25:50
 (B) First Initial Flow 109 Jars 250 T-Started 00:26
 (C) First Final Flow 145 Safety Joint 75 T-Open 2:26
 (D) Initial Shut-In 230 Circ Sub N/C T-Pulled 3:31
 (E) Second Initial Flow 157 Hourly Standby _____ T-Out 6:10
 (F) Second Final Flow 218 Mileage 64- Comments _____
 (G) Final Shut-In 231 Sampler _____
 (H) Final Hydrostatic 2051 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 1539 MP/DST Disc't _____

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. **64528**

Well Name & No. Eugene 2-27 Test No. 5 Date 12-19-15
 Company Larson Engineering Elevation 2746 KB 2737 GL
 Address _____
 Co. Rep / Geo. Vern Schrey Rig 40 #3
 Location: Sec. 27 Twp. 18S Rge. 28W Co. Lane State K5

Interval Tested 4319 4415 Zone Tested Marmaton
 Anchor Length 96 Drill Pipe Run 4173 Mud Wt. 9.1
 Top Packer Depth 4314 Drill Collars Run 124 Vis 51
 Bottom Packer Depth 4319 Wt. Pipe Run _____ WL 6.4
 Total Depth 4415 Chlorides 2700 ppm System LCM 2

Blow Description IF: 1/4 blow built to 6.
FS: NO return.
FF: BoB in 5 min.
FS: Surface blow built 1/2.

Rec	Feet of	%gas	%oil	%water	%mud
<u>102</u>	<u>90cm</u>	<u>10</u>	<u>20</u>	<u>70</u>	
<u>62</u>	<u>90cm</u>	<u>20</u>	<u>10</u>	<u>70</u>	
Rec	Feet of <u>270 GFP</u>	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

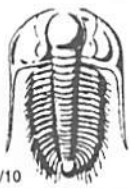
Rec Total 164 BHT 116 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2103 Test 1150 T-On Location 00:20
 (B) First Initial Flow 58 Jars 250 T-Started 00:40
 (C) First Final Flow 74 Safety Joint 75 T-Open 2:30
 (D) Initial Shut-In 1070 Circ Sub NIL T-Pulled 3:35
 (E) Second Initial Flow 81 Hourly Standby _____ T-Out 5:45
 (F) Second Final Flow 87 Mileage 64- Comments _____
 (G) Final Shut-In 968 Sampler _____
 (H) Final Hydrostatic 2101 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 1539
 Total 1539
 MP/DST Disc't _____

Approved By Vern C. Schrey 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. **64529**

Well Name & No. Eugene 2-27 Test No. 6 Date 12-20-15
 Company Larson Engineering Elevation 2746 KB 2737 GL
 Address _____
 Co. Rep / Geo. Vern Schrag Rig HD #3
 Location: Sec. 27 Twp. 18S Rge. 28W Co. Lane State KS

Interval Tested 4425 4572 Zone Tested Cherokee
 Anchor Length _____ Drill Pipe Run 4296 Mud Wt. 9.0
 Top Packer Depth _____ Drill Collars Run 124 Vis 50
 Bottom Packer Depth _____ Wt. Pipe Run _____ WL 6.4
 Total Depth 4572 Chlorides 2900 ppm System LCM 2
 Blow Description IF: 1/4 blow built to 2 1/2.
FS: No return.
FF: BoB in 12 min.
FS: Surface blow built 1/2

Rec	Feet of	%gas	%oil	%water	%mud
<u>112</u>	<u>90CM</u>	<u>20</u>	<u>10</u>	<u>70</u>	
<u>62</u>	<u>90CM</u>	<u>20</u>	<u>20</u>	<u>60</u>	
	<u>248 GEP</u>				

Rec Total 174 BHT 116 Gravity _____ API RW _____ @ _____ Chlorides _____ ppm
 (A) Initial Hydrostatic 2226 Test 1150 T-On Location 3:50
 (B) First Initial Flow 274 Jars 250 T-Started 4:04
 (C) First Final Flow 549 Safety Joint 75 T-Open 6:02
 (D) Initial Shut-In 1200 Circ Sub NIL T-Pulled 7:07
 (E) Second Initial Flow 59 Hourly Standby _____ T-Out 9:30
 (F) Second Final Flow 90 Mileage 64- Comments _____
 (G) Final Shut-In 1097 Sampler _____
 (H) Final Hydrostatic 2122 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 1539
 Total 1539
 MP/DST Disc't _____

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.