



DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc**

562 W State Rd 4
Olmitz, KS 67564

ATTN: Rene Husted

Schoef #1-15

15-18s-30w Lane,KS

Start Date: 2015.06.09 @ 10:43:26

End Date: 2015.06.09 @ 15:55:56

Job Ticket #: 61545 DST #: 1

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

Printed: 2015.06.15 @ 13:44:46



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Larson Engineering Inc
562 W State Rd 4
Olmitz, KS 67564
ATTN: Rene Husted

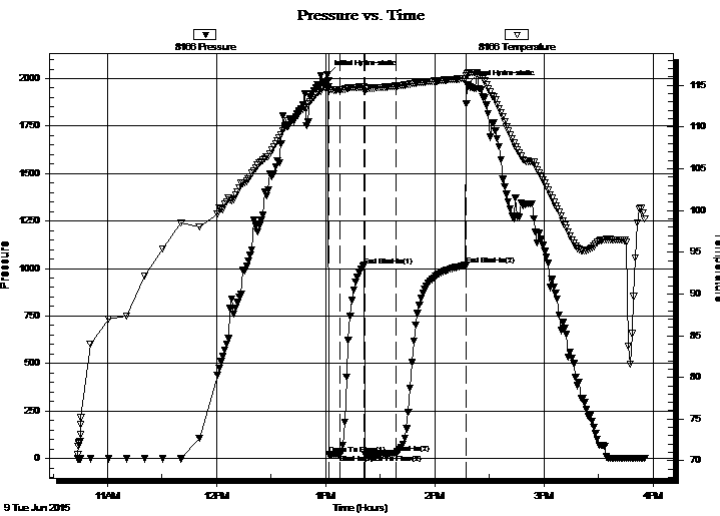
15-18s-30w Lane, KS
Schoef #1-15
Job Ticket: 61545 **DST#: 1**
Test Start: 2015.06.09 @ 10:43:26

GENERAL INFORMATION:

Formation: **LKC E-F**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 13:01:56
Time Test Ended: 15:55:56
Interval: **4010.00 ft (KB) To 4045.00 ft (KB) (TVD)**
Total Depth: 4045.00 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: 2879.00 ft (KB)
2870.00 ft (CF)
KB to GR/CF: 9.00 ft

Serial #: 8166 Outside
Press@RunDepth: 27.24 psig @ 4011.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2015.06.09 End Date: 2015.06.09 Last Calib.: 2015.06.09
Start Time: 10:43:31 End Time: 15:55:55 Time On Btm: 2015.06.09 @ 13:00:56
Time Off Btm: 2015.06.09 @ 14:17:56

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



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2020.03	114.76	Initial Hydro-static
1	19.24	114.34	Open To Flow (1)
7	23.05	114.44	Shut-In(1)
20	1016.46	114.81	End Shut-In(1)
21	21.09	114.26	Open To Flow (2)
38	27.24	114.88	Shut-In(2)
76	1016.84	115.81	End Shut-In(2)
77	1966.76	116.43	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	ocm 10%o 90% m	0.02
1.00	free oil 100%o	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Engineering Inc

15-18s-30w Lane,KS

562 W State Rd 4
Olmitz, KS 67564

Schoef #1-15

Job Ticket: 61545

DST#: 1

ATTN: Rene Husted

Test Start: 2015.06.09 @ 10:43:26

Tool Information

Drill Pipe:	Length: 3889.00 ft	Diameter: 3.80 inches	Volume: 54.55 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: 55.16 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4010.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	35.00 ft			
Tool Length:	62.00 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			3984.00	
Shut In Tool	5.00			3989.00	
Hydraulic tool	5.00			3994.00	
Jars	5.00			3999.00	
Safety Joint	2.00			4001.00	
Packer	5.00			4006.00	27.00 Bottom Of Top Packer
Packer	4.00			4010.00	
Stubb	1.00			4011.00	
Recorder	0.00	8373	Inside	4011.00	
Recorder	0.00	8166	Outside	4011.00	
Perforations	29.00			4040.00	
Bullnose	5.00			4045.00	35.00 Bottom Packers & Anchor

Total Tool Length: 62.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering Inc

15-18s-30w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

Schoef #1-15

Job Ticket: 61545

DST#: 1

ATTN: Rene Husted

Test Start: 2015.06.09 @ 10:43:26

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:

bbf

Water Loss: 7.16 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
5.00	ocm 10%o 90%m	0.025
1.00	free oil 100%o	0.005

Total Length: 6.00 ft Total Volume: 0.030 bbf

Num Fluid Samples: 0

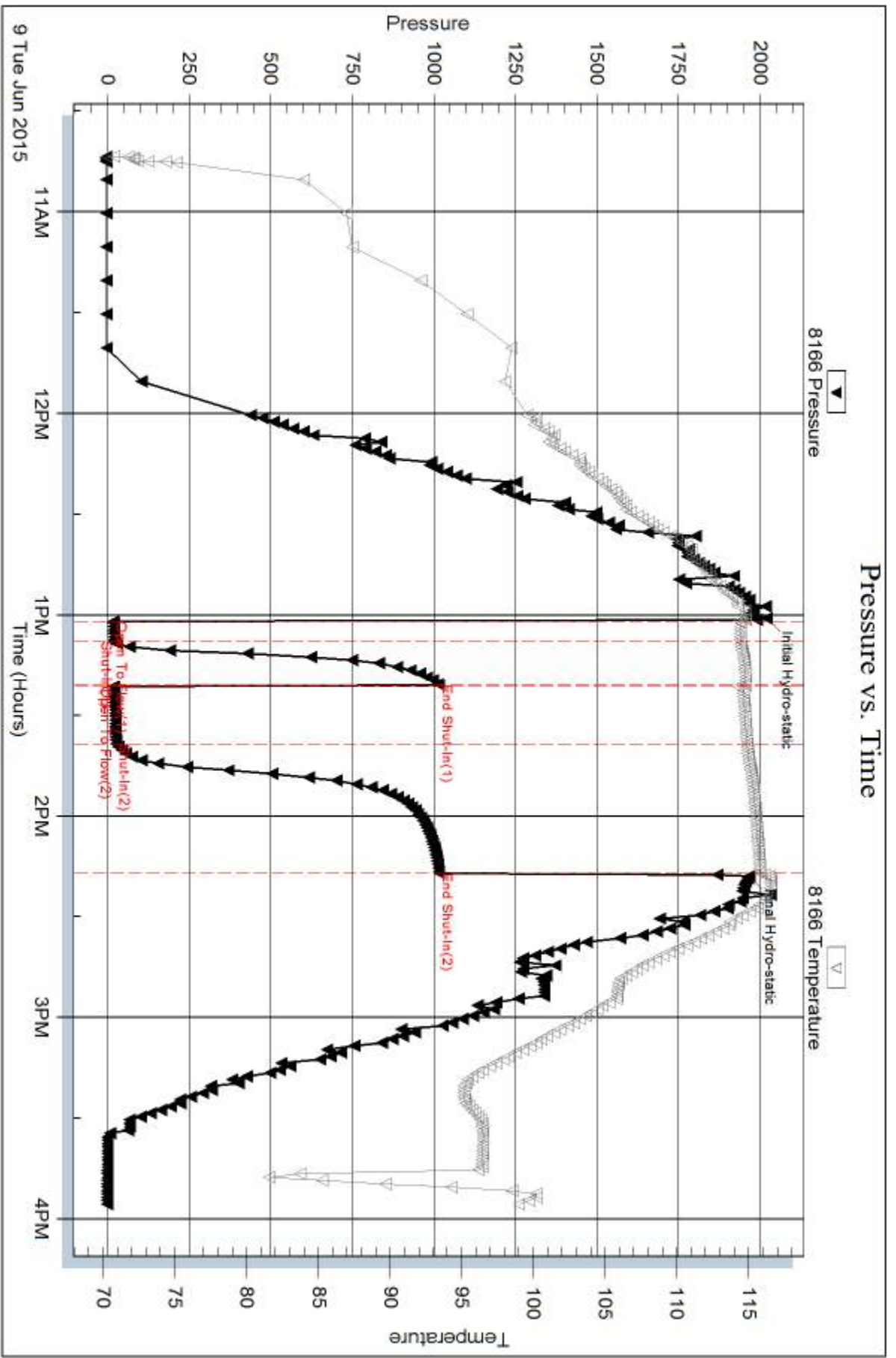
Num Gas Bombs: 0

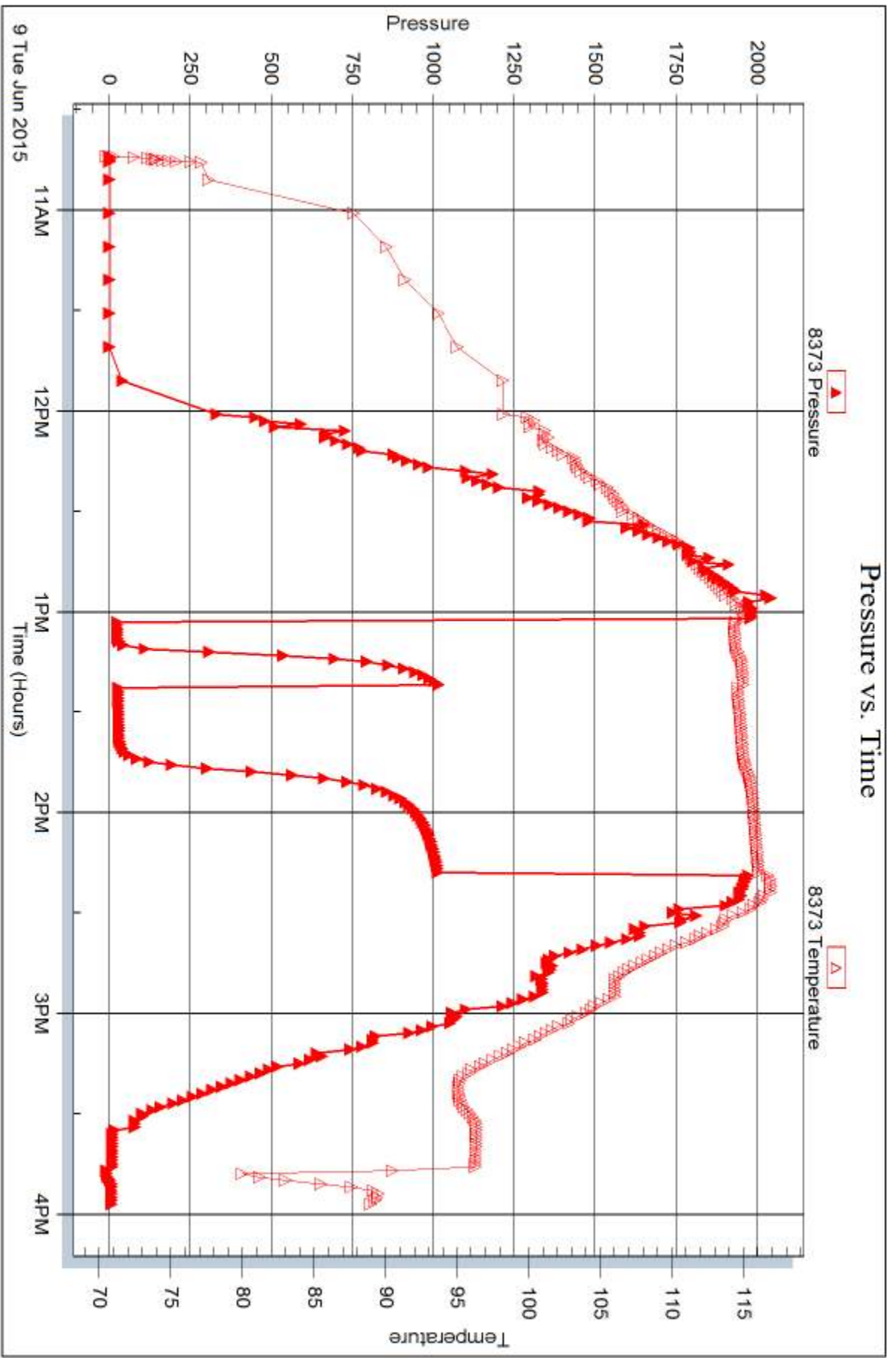
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc**

562 W State Rd 4
Olmitz, KS 67564

ATTN: Rene Husted

Schoef #1-15

15-18s-30w Lane,KS

Start Date: 2015.06.10 @ 02:33:24

End Date: 2015.06.10 @ 08:33:54

Job Ticket #: 61546 DST #: 2

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

Printed: 2015.06.15 @ 13:44:26



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Larson Engineering Inc
562 W State Rd 4
Olmitz, KS 67564
ATTN: Rene Husted

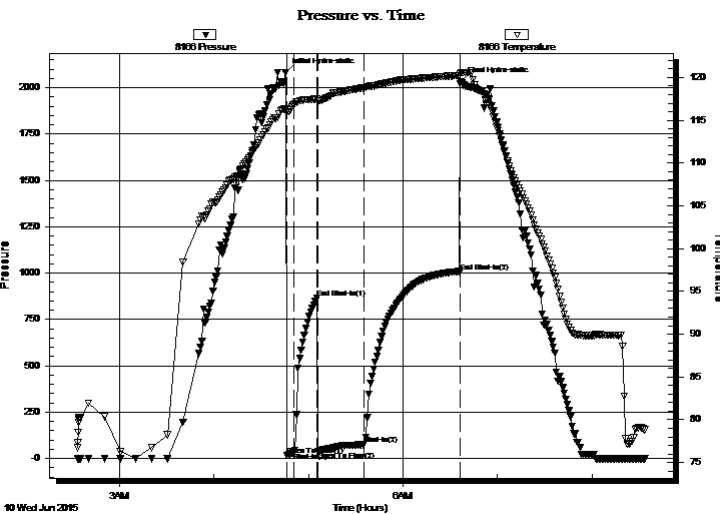
15-18s-30w Lane, KS
Schoef #1-15
Job Ticket: 61546 **DST#: 2**
Test Start: 2015.06.10 @ 02:33:24

GENERAL INFORMATION:

Formation: **LKC H**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 04:46:24
Time Test Ended: 08:33:54
Interval: **4114.00 ft (KB) To 4140.00 ft (KB) (TVD)**
Total Depth: 4140.00 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: 2879.00 ft (KB)
2870.00 ft (CF)
KB to GR/CF: 9.00 ft

Serial #: 8166 **Outside**
Press@RunDepth: 74.51 psig @ 4115.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2015.06.10 End Date: 2015.06.10 Last Calib.: 2015.06.10
Start Time: 02:33:29 End Time: 08:33:53 Time On Btm: 2015.06.10 @ 04:45:24
Time Off Btm: 2015.06.10 @ 06:36:54

TEST COMMENT: IF: 1/4" blow built to 2"
IS: No return.
FF: Surface blow built to 5 1/2" in 30 min.
FS: No return.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2080.81	116.30	Initial Hydro-static
1	18.43	115.90	Open To Flow (1)
6	32.25	116.85	Shut-In(1)
20	865.29	117.49	End Shut-In(1)
21	37.64	117.23	Open To Flow (2)
50	74.51	118.79	Shut-In(2)
111	1007.41	120.25	End Shut-In(2)
112	2033.72	120.58	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
62.00	ocm 40%o 60%m	0.30
62.00	ocm 50%o 50%m	0.30
20.00	oil 100%	0.28

* 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

15-18s-30w Lane,KS

562 W State Rd 4
Olmitz, KS 67564

Schoef #1-15

Job Ticket: 61546

DST#: 2

ATTN: Rene Husted

Test Start: 2015.06.10 @ 02:33:24

Tool Information

Drill Pipe:	Length: 3993.00 ft	Diameter: 3.80 inches	Volume: 56.01 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:	70000.00 lb
			<u>Total Volume: 56.62 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial	60000.00 lb
Depth to Top Packer:	4114.00 ft			Final	60000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	36.00 ft				
Tool Length:	63.00 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			4088.00	
Shut In Tool	5.00			4093.00	
Hydraulic tool	5.00			4098.00	
Jars	5.00			4103.00	
Safety Joint	2.00			4105.00	
Packer	5.00			4110.00	27.00 Bottom Of Top Packer
Packer	4.00			4114.00	
Stubb	1.00			4115.00	
Recorder	0.00	8373	Inside	4115.00	
Recorder	0.00	8166	Outside	4115.00	
Perforations	30.00			4145.00	
Bullnose	5.00			4150.00	36.00 Bottom Packers & Anchor

Total Tool Length: 63.00



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering Inc

15-18s-30w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

Schoef #1-15

Job Ticket: 61546

DST#: 2

ATTN: Rene Husted

Test Start: 2015.06.10 @ 02:33:24

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

32 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: 7.16 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
62.00	ocm 40%o 60%m	0.305
62.00	ocm 50%o 50%m	0.305
20.00	oil 100%o	0.281

Total Length: 144.00 ft Total Volume: 0.891 bbl

Num Fluid Samples: 0

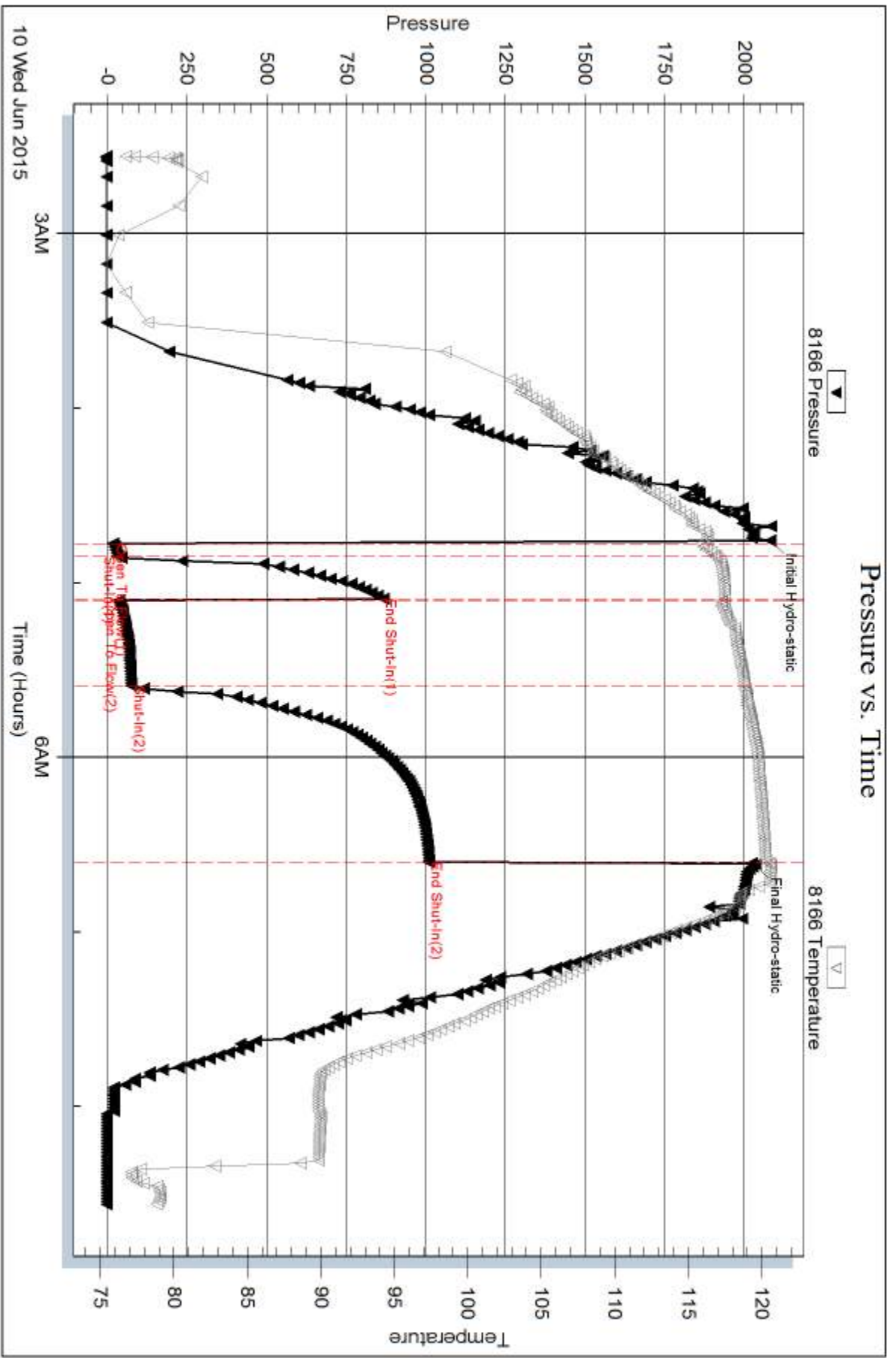
Num Gas Bombs: 0

Serial #:

Laboratory Name:

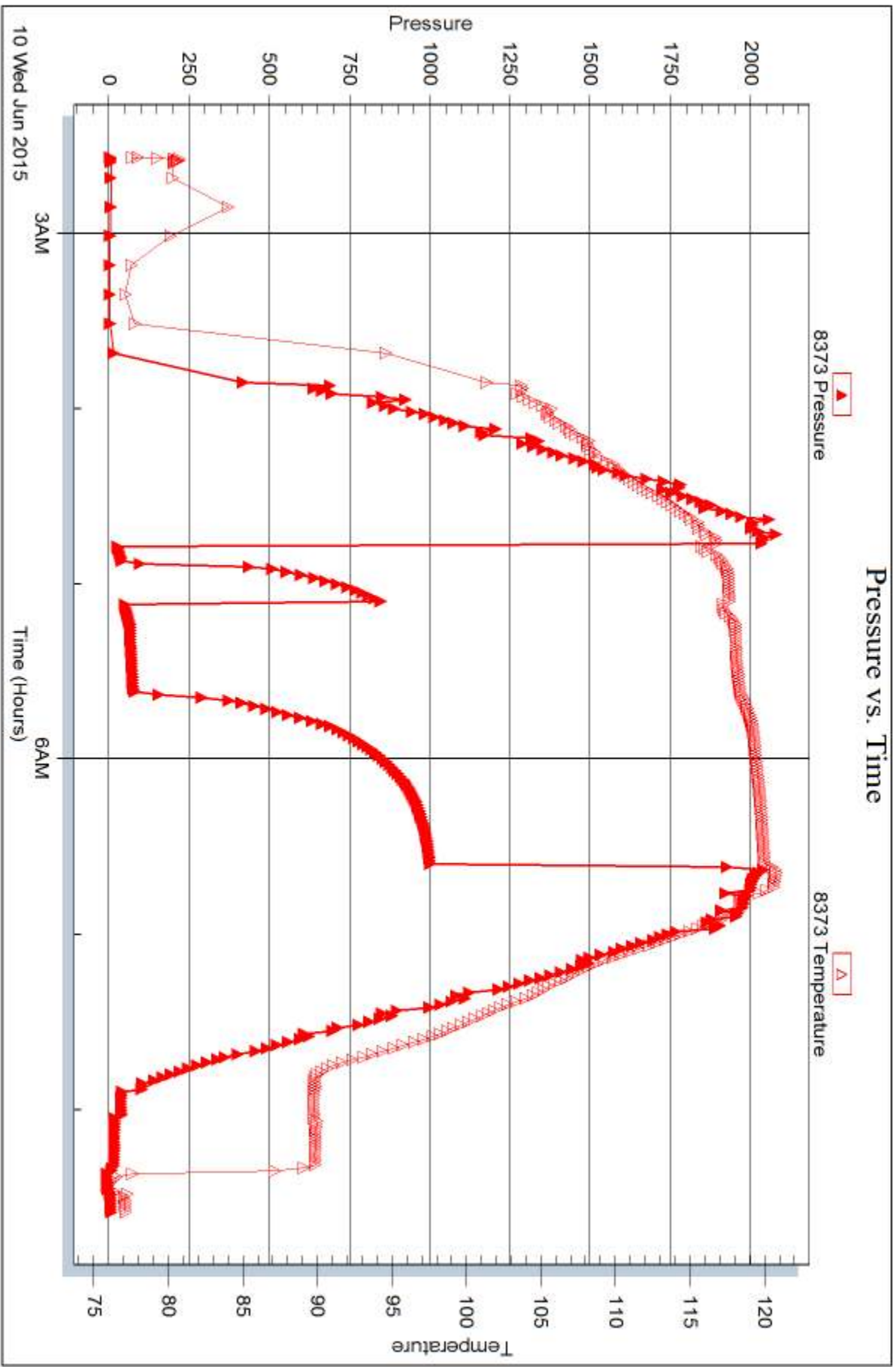
Laboratory Location:

Recovery Comments: 34@80=32



10 Wed Jun 2015

Time (Hours)





DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc**

562 W State Rd 4
Olmitz, KS 67564

ATTN: Rene Husted

Schoef #1-15

15-18s-30w Lane,KS

Start Date: 2015.06.10 @ 19:00:41

End Date: 2015.06.11 @ 00:18:41

Job Ticket #: 61547 DST #: 3

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

Printed: 2015.06.15 @ 13:44:04



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Larson Engineering Inc
 562 W State Rd 4
 Olmitz, KS 67564
 ATTN: Rene Husted

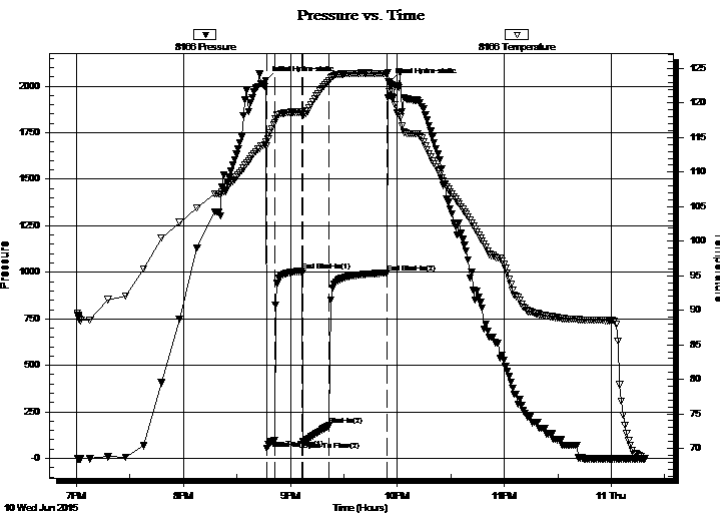
15-18s-30w Lane, KS
Schoef #1-15
 Job Ticket: 61547 **DST#: 3**
 Test Start: 2015.06.10 @ 19:00:41

GENERAL INFORMATION:

Formation: **LKC I**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 20:46:41
 Time Test Ended: 00:18:41
 Interval: **4154.00 ft (KB) To 4184.00 ft (KB) (TVD)**
 Total Depth: 4184.00 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: 2879.00 ft (KB)
 2870.00 ft (CF)
 KB to GR/CF: 9.00 ft

Serial #: 8166 Outside
 Press@RunDepth: 175.93 psig @ 4155.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2015.06.10 End Date: 2015.06.11 Last Calib.: 2015.06.11
 Start Time: 19:00:46 End Time: 00:18:40 Time On Btm: 2015.06.10 @ 20:46:11
 Time Off Btm: 2015.06.10 @ 21:55:11

TEST COMMENT: IF: BOB in 4 min.
 IS: Surface blow built to 1"
 FF: BOB in 4 min.
 FS: Surface blow built to 5" in 30 min.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2030.19	114.30	Initial Hydro-static
1	52.91	113.79	Open To Flow (1)
5	97.27	117.17	Shut-In(1)
20	1005.82	118.70	End Shut-In(1)
21	93.37	118.34	Open To Flow (2)
36	175.93	123.18	Shut-In(2)
68	996.44	124.23	End Shut-In(2)
69	2021.28	123.12	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
186.00	mcgo 50%g 40%o 10%m	1.48
124.00	mcgo 50%g 45%o 5%m	1.74
129.00	go 10%g 90%o	1.81
0.00	434 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

15-18s-30w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

Schoef #1-15

Job Ticket: 61547

DST#: 3

ATTN: Rene Husted

Test Start: 2015.06.10 @ 19:00:41

Tool Information

Drill Pipe:	Length: 4013.00 ft	Diameter: 3.80 inches	Volume: 56.29 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: 70000.00 lb
			<u>Total Volume: 56.90 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4154.00 ft			Final 62000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	30.00 ft			
Tool Length:	57.00 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			4128.00	
Shut In Tool	5.00			4133.00	
Hydraulic tool	5.00			4138.00	
Jars	5.00			4143.00	
Safety Joint	2.00			4145.00	
Packer	5.00			4150.00	27.00 Bottom Of Top Packer
Packer	4.00			4154.00	
Stubb	1.00			4155.00	
Recorder	0.00	8373	Inside	4155.00	
Recorder	0.00	8166	Outside	4155.00	
Perforations	24.00			4179.00	
Bullnose	5.00			4184.00	30.00 Bottom Packers & Anchor

Total Tool Length: 57.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering Inc

15-18s-30w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

Schoef #1-15

Job Ticket: 61547

DST#: 3

ATTN: Rene Husted

Test Start: 2015.06.10 @ 19:00:41

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

32 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: 7.17 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2100.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
186.00	mcgo 50%g 40%o 10%m	1.480
124.00	mcgo 50%g 45%o 5%m	1.739
129.00	go 10%g 90%o	1.810
0.00	434 GIP	0.000

Total Length: 439.00 ft

Total Volume: 5.029 bbl

Num Fluid Samples: 0

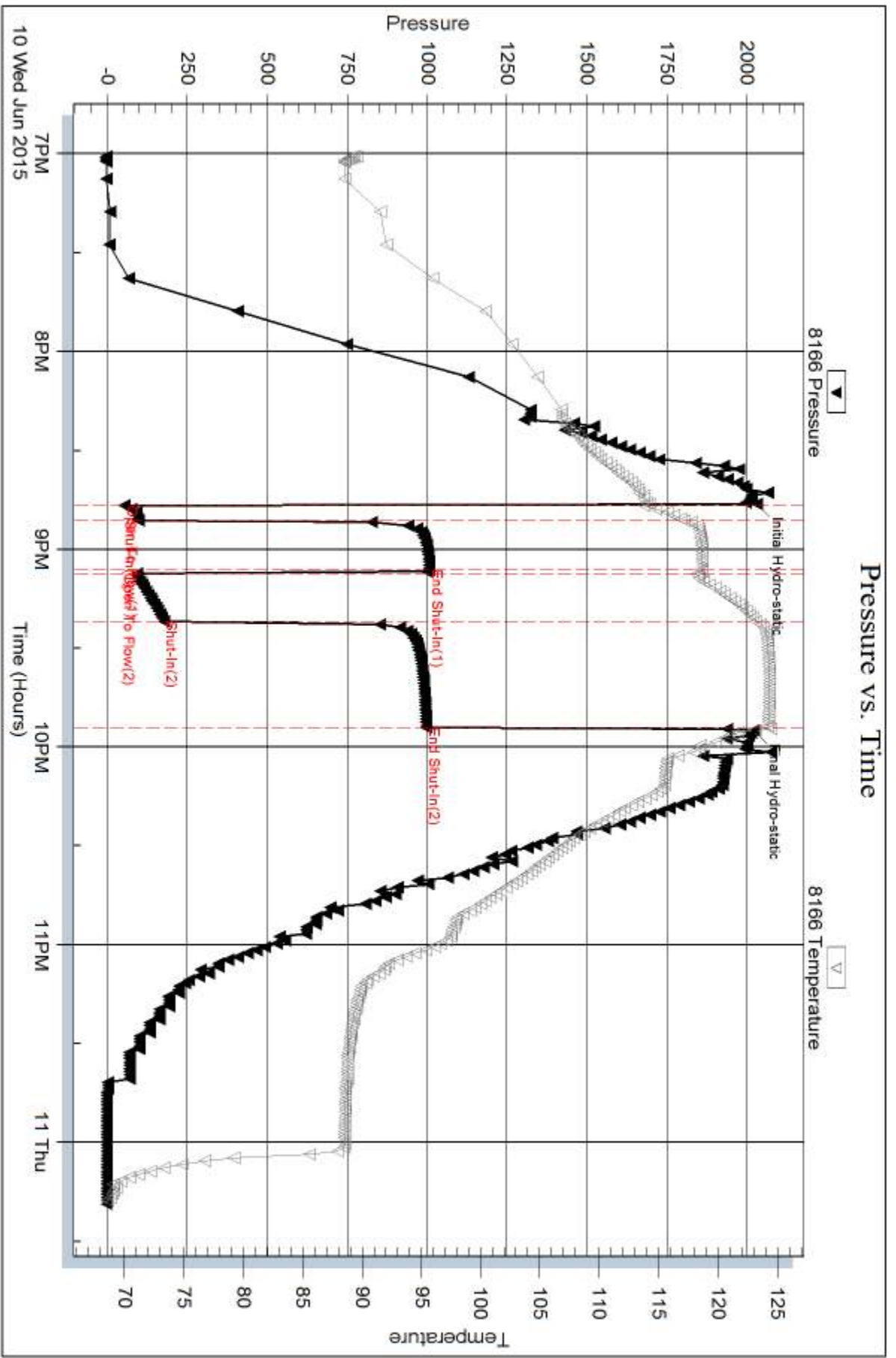
Num Gas Bombs: 0

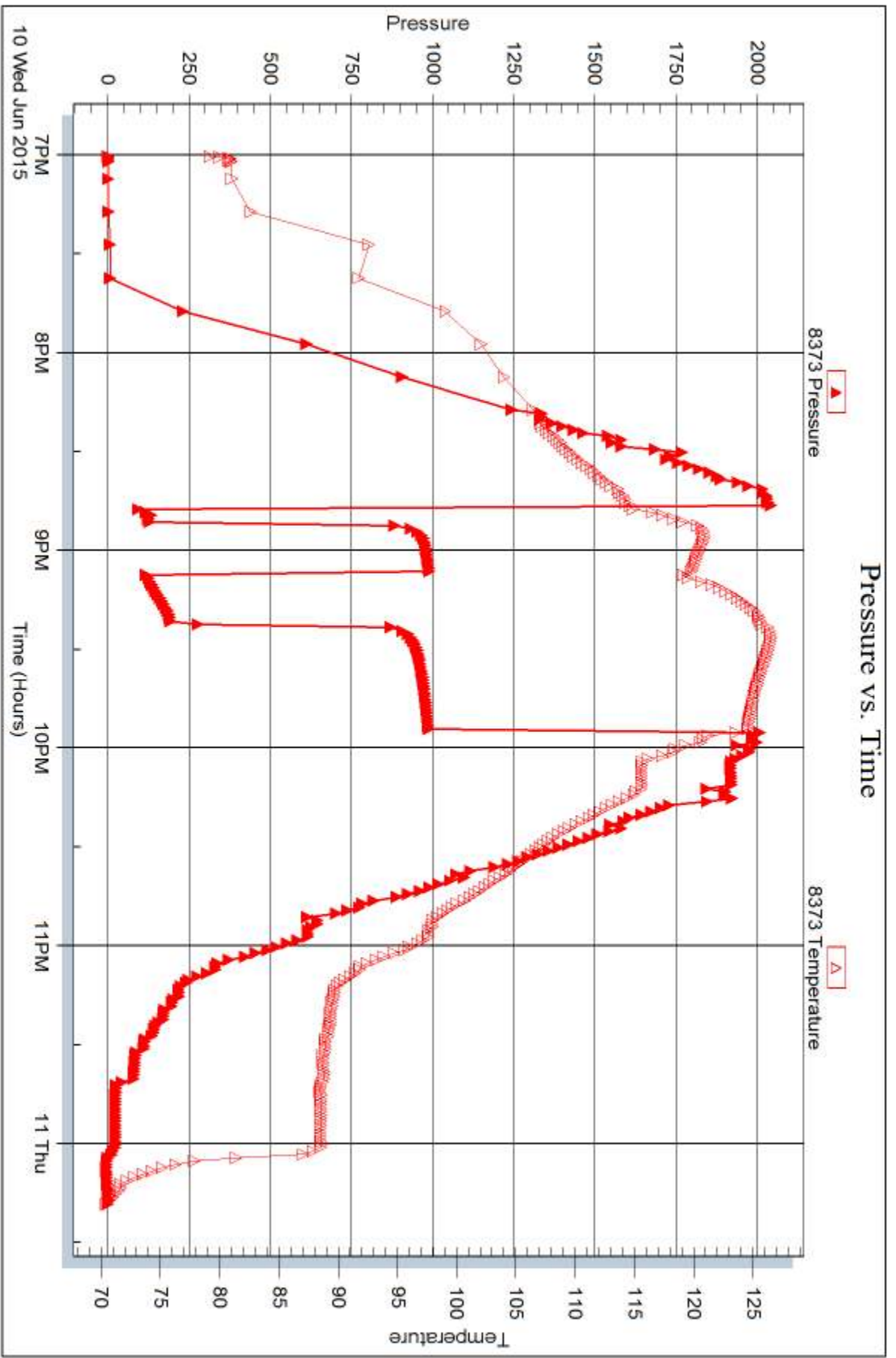
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 32@60=32







DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc**

562 W State Rd 4
Olmitz, KS 67564

ATTN: Rene Husted

Schoef #1-15

15-18s-30w Lane,KS

Start Date: 2015.06.11 @ 07:34:38

End Date: 2015.06.11 @ 12:24:38

Job Ticket #: 61548 DST #: 4

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

Printed: 2015.06.15 @ 13:43:40



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Larson Engineering Inc
 562 W State Rd 4
 Olmitz, KS 67564
 ATTN: Rene Husted

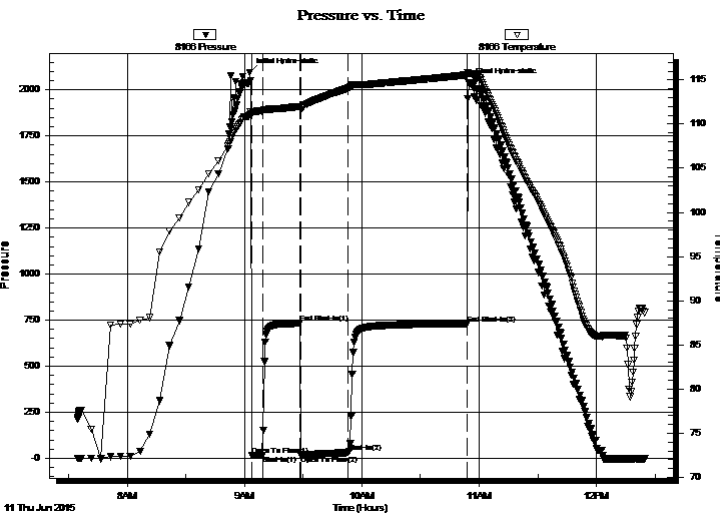
15-18s-30w Lane, KS
Schoef #1-15
 Job Ticket: 61548 **DST#: 4**
 Test Start: 2015.06.11 @ 07:34:38

GENERAL INFORMATION:

Formation: **LKC J**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 09:03:38 Tester: Brandon Turley
 Time Test Ended: 12:24:38 Unit No: 79
Interval: 4182.00 ft (KB) To 4198.00 ft (KB) (TVD)
 Reference Elevations: 2879.00 ft (KB)
 Total Depth: 4198.00 ft (KB) (TVD) 2870.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 9.00 ft

Serial #: 8166 Outside
 Press@RunDepth: 31.86 psig @ 4183.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2015.06.11 End Date: 2015.06.11 Last Calib.: 2015.06.11
 Start Time: 07:34:43 End Time: 12:24:37 Time On Btm: 2015.06.11 @ 09:02:38
 Time Off Btm: 2015.06.11 @ 10:54:38

TEST COMMENT: IF: 1/4" blow built to 3/4"
 IS: No return.
 FF: Surface blow built to 1" in 30 min.
 FS: No return.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2095.01	111.04	Initial Hydro-static
1	14.97	111.15	Open To Flow (1)
7	18.34	111.46	Shut-In(1)
26	733.36	112.00	End Shut-In(1)
26	18.99	111.60	Open To Flow (2)
51	31.86	114.09	Shut-In(2)
111	731.17	115.56	End Shut-In(2)
112	2037.31	115.70	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
20.00	ocm 5%o 95% m	0.10

* 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

15-18s-30w Lane,KS

562 W State Rd 4
Olmitz, KS 67564

Schoef #1-15

Job Ticket: 61548

DST#: 4

ATTN: Rene Hustedad

Test Start: 2015.06.11 @ 07:34:38

Tool Information

Drill Pipe:	Length: 4045.00 ft	Diameter: 3.80 inches	Volume: 56.74 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: 57.35 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	14.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4182.00 ft			Final 60000.00 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	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Stubb	1.00			4156.00	
Shut In Tool	5.00			4161.00	
Hydraulic tool	5.00			4166.00	
Jars	5.00			4171.00	
Safety Joint	2.00			4173.00	
Packer	5.00			4178.00	27.00 Bottom Of Top Packer
Packer	4.00			4182.00	
Stubb	1.00			4183.00	
Recorder	0.00	8373	Inside	4183.00	
Recorder	0.00	8166	Outside	4183.00	
Perforations	10.00			4193.00	
Bullnose	5.00			4198.00	16.00 Bottom Packers & Anchor

Total Tool Length: 43.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering Inc

15-18s-30w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

Schoef #1-15

Job Ticket: 61548

DST#: 4

ATTN: Rene Husted

Test Start: 2015.06.11 @ 07:34:38

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: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.18 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2100.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	ocm 5%o 95%m	0.098

Total Length: 20.00 ft Total Volume: 0.098 bbl

Num Fluid Samples: 0

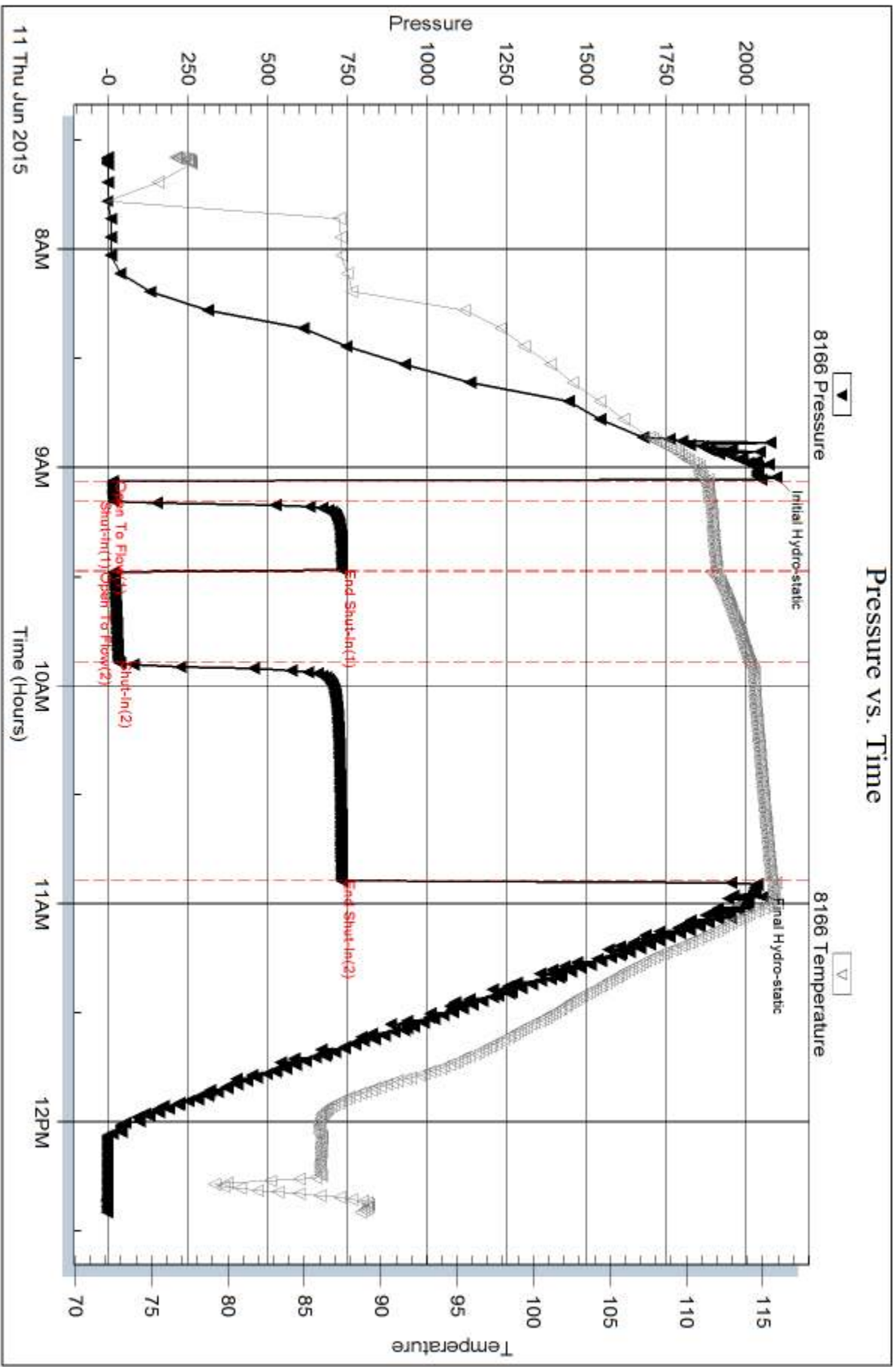
Num Gas Bombs: 0

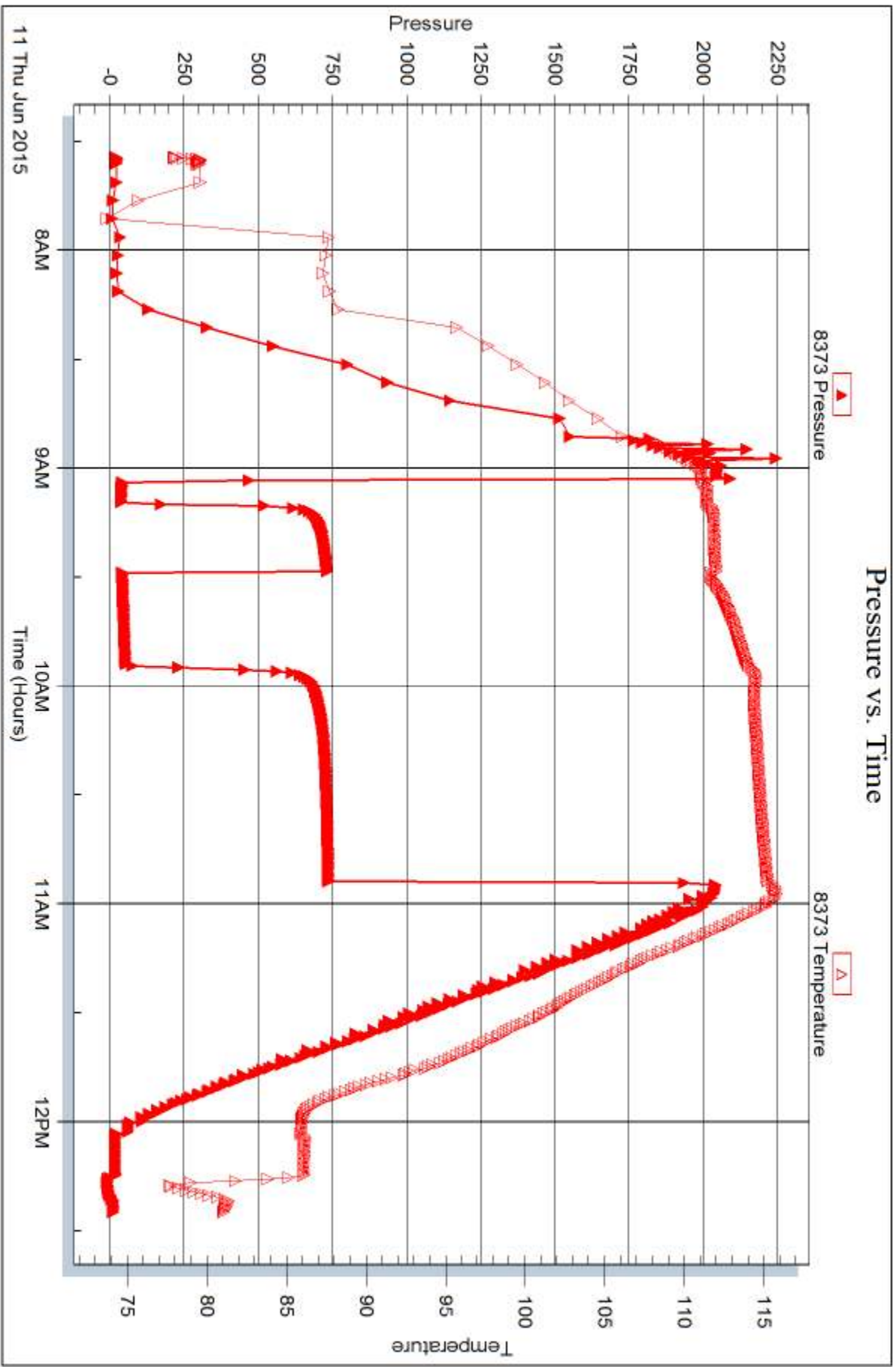
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc**

562 W State Rd 4
Olmitz, KS 67564

ATTN: Rene Husted

Schoef #1-15

15-18s-30w Lane,KS

Start Date: 2015.06.11 @ 22:40:52

End Date: 2015.06.12 @ 03:12:22

Job Ticket #: 61549 DST #: 5

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

Printed: 2015.06.15 @ 13:43:13

Larson Engineering Inc
15-18s-30w Lane,KS
Schoef #1-15
DST # 5
LKC K
2015.06.11



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Larson Engineering Inc
 562 W State Rd 4
 Olmitz, KS 67564
 ATTN: Rene Husted

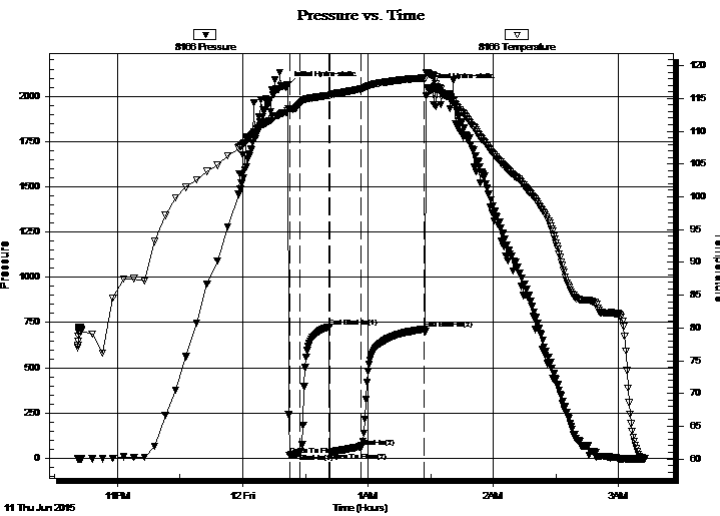
15-18s-30w Lane, KS
Schoef #1-15
 Job Ticket: 61549 **DST#: 5**
 Test Start: 2015.06.11 @ 22:40:52

GENERAL INFORMATION:

Formation: **LKC K**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 00:22:22
 Time Test Ended: 03:12:22
 Interval: **4211.00 ft (KB) To 4225.00 ft (KB) (TVD)**
 Total Depth: 4225.00 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: 2879.00 ft (KB)
 2870.00 ft (CF)
 KB to GR/CF: 9.00 ft

Serial #: 8166 Outside
 Press@RunDepth: 63.73 psig @ 4212.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2015.06.11 End Date: 2015.06.12 Last Calib.: 2015.06.12
 Start Time: 22:40:57 End Time: 03:12:21 Time On Btm: 2015.06.12 @ 00:21:22
 Time Off Btm: 2015.06.12 @ 01:28:22

TEST COMMENT: IF: 1/4" blow built to 1 1/2"
 IS: No return.
 FF: Surface blow built to 3"
 FS: No return.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2060.80	113.17	Initial Hydro-static
1	16.77	113.33	Open To Flow (1)
6	28.65	114.20	Shut-In(1)
20	727.17	115.48	End Shut-In(1)
21	34.20	115.45	Open To Flow (2)
35	63.73	116.44	Shut-In(2)
66	714.51	118.13	End Shut-In(2)
67	2046.52	118.97	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
62.00	ocm 10%o 90%m	0.30
60.00	oil 100%o	0.30

* 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

15-18s-30w Lane,KS

562 W State Rd 4
Olmitz, KS 67564

Schoef #1-15

Job Ticket: 61549

DST#: 5

ATTN: Rene Hustedad

Test Start: 2015.06.11 @ 22:40:52

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:	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: 57.81 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	18.00 ft			String Weight: Initial	65000.00 lb
Depth to Top Packer:	4211.00 ft			Final	65000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	14.00 ft				
Tool Length:	41.00 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			4185.00	
Shut In Tool	5.00			4190.00	
Hydraulic tool	5.00			4195.00	
Jars	5.00			4200.00	
Safety Joint	2.00			4202.00	
Packer	5.00			4207.00	27.00 Bottom Of Top Packer
Packer	4.00			4211.00	
Stubb	1.00			4212.00	
Recorder	0.00	8373	Inside	4212.00	
Recorder	0.00	8166	Outside	4212.00	
Perforations	8.00			4220.00	
Bullnose	5.00			4225.00	14.00 Bottom Packers & Anchor

Total Tool Length: 41.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering Inc

15-18s-30w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

Schoef #1-15

Job Ticket: 61549

DST#: 5

ATTN: Rene Husted

Test Start: 2015.06.11 @ 22:40:52

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

33 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbf

Water Loss: 7.18 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2300.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
62.00	ocm 10%o 90%m	0.305
60.00	oil 100%o	0.295

Total Length: 122.00 ft Total Volume: 0.600 bbf

Num Fluid Samples: 0

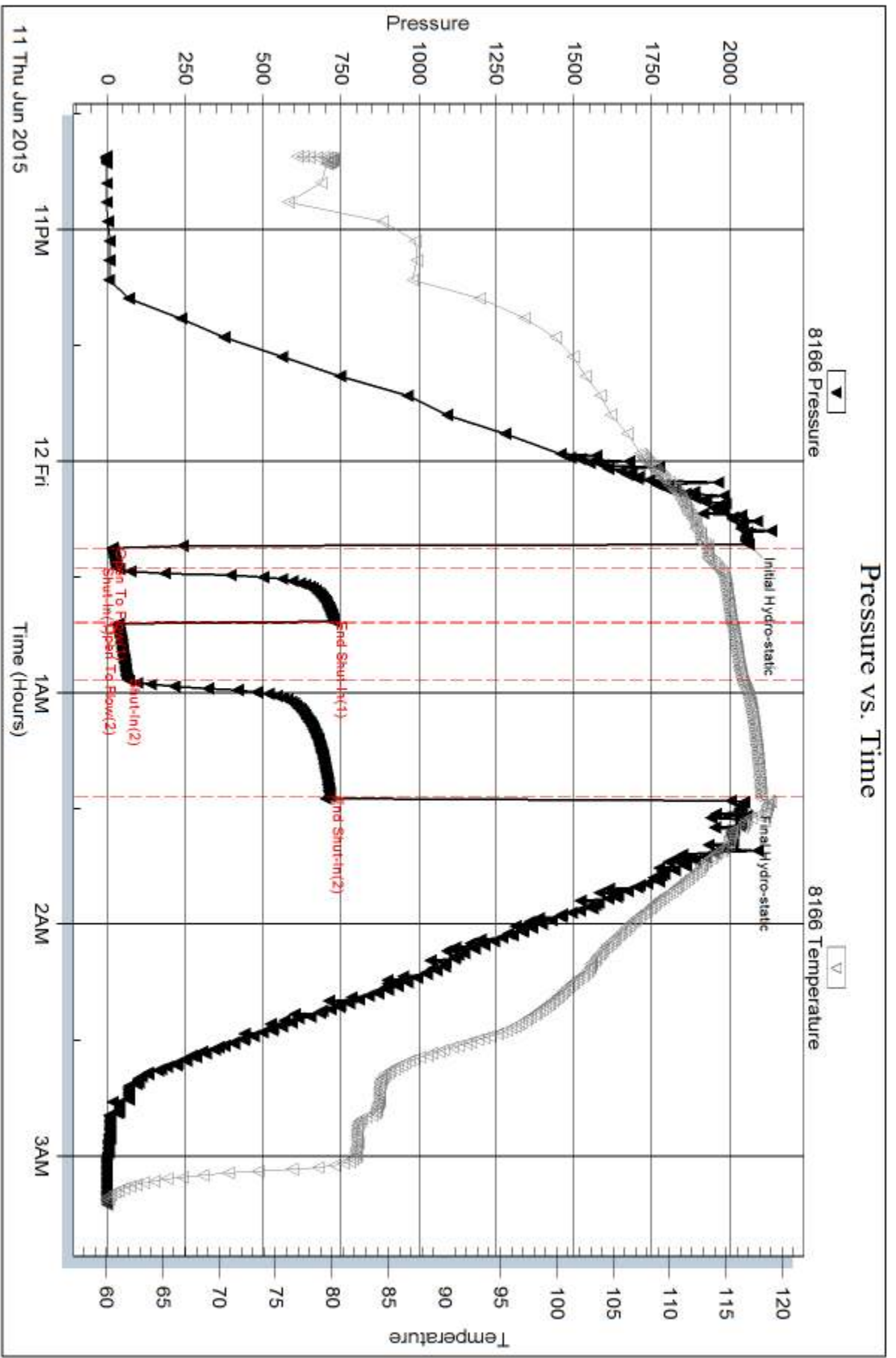
Num Gas Bombs: 0

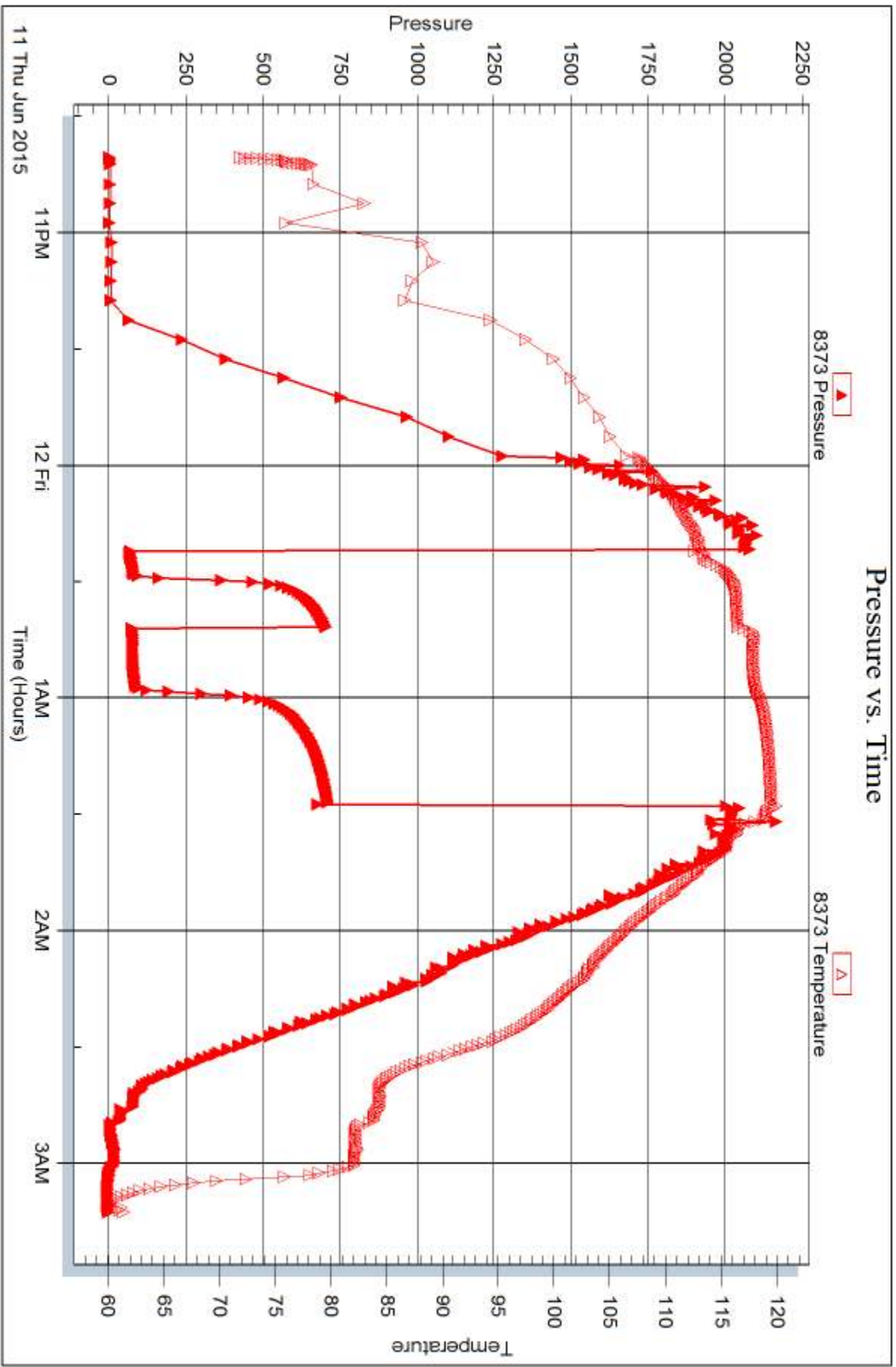
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 32@50=33







DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc**

562 W State Rd 4
Olmitz, KS 67564

ATTN: Rene Husted

Schoef #1-15

15-18s-30w Lane,KS

Start Date: 2015.06.12 @ 12:55:04

End Date: 2015.06.12 @ 17:15:04

Job Ticket #: 61550 DST #: 6

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

Printed: 2015.06.15 @ 13:42:49



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Larson Engineering Inc
562 W State Rd 4
Olmitz, KS 67564
ATTN: Rene Husted

15-18s-30w Lane, KS
Schoef #1-15
Job Ticket: 61550 **DST#: 6**
Test Start: 2015.06.12 @ 12:55:04

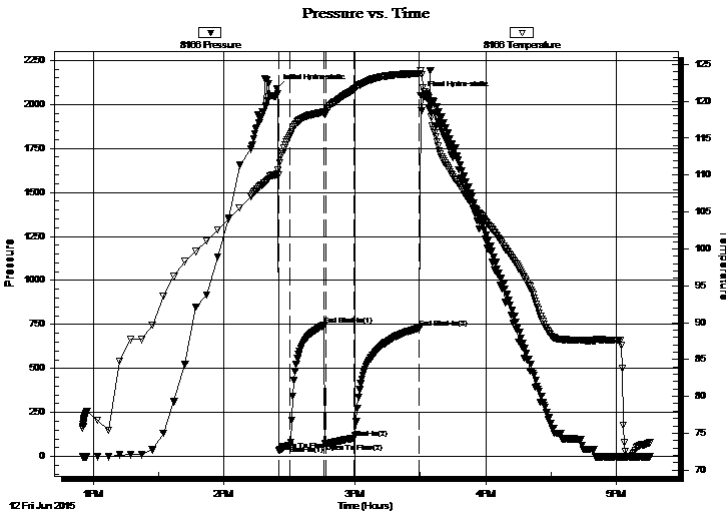
GENERAL INFORMATION:

Formation: **Middle Creek**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 14:25:04
Time Test Ended: 17:15:04
Interval: **4249.00 ft (KB) To 4261.00 ft (KB) (TVD)**
Total Depth: 4261.00 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: 2879.00 ft (KB)
2870.00 ft (CF)
KB to GR/CF: 9.00 ft

Serial #: 8166 Outside
Press@RunDepth: 103.83 psig @ 4250.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2015.06.12 End Date: 2015.06.12 Last Calib.: 2015.06.12
Start Time: 12:55:09 End Time: 17:15:03 Time On Btm: 2015.06.12 @ 14:24:04
Time Off Btm: 2015.06.12 @ 15:30:04

TEST COMMENT: IF: 1" blow built to 8" in 5 min.
IS: Surface blow built to 1"
FF: BOB in 8 min.
FS: Surface built to 2" in 30 min.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2088.39	110.13	Initial Hydro-static
1	35.68	110.02	Open To Flow (1)
6	61.67	115.32	Shut-In(1)
22	744.36	118.54	End Shut-In(1)
23	73.44	118.38	Open To Flow (2)
36	103.83	121.65	Shut-In(2)
66	729.84	123.76	End Shut-In(2)
66	2049.84	124.20	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
62.00	gocm 10%g 30%o 60%m	0.30
62.00	mcco 10%g 80%o 10%m	0.30
134.00	go 30%g 70%o	1.88
0.00	186 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

15-18s-30w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

Schoef #1-15

Job Ticket: 61550

DST#: 6

ATTN: Rene Husted

Test Start: 2015.06.12 @ 12:55:04

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:	75000.00 lb
			<u>Total Volume: 58.23 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial	65000.00 lb
Depth to Top Packer:	4249.00 ft			Final	65000.00 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
------------------	-------------	------------	----------	------------	----------------

Stubb	1.00			4223.00	
Shut In Tool	5.00			4228.00	
Hydraulic tool	5.00			4233.00	
Jars	5.00			4238.00	
Safety Joint	2.00			4240.00	
Packer	5.00			4245.00	27.00 Bottom Of Top Packer
Packer	4.00			4249.00	
Stubb	1.00			4250.00	
Recorder	0.00	8373	Inside	4250.00	
Recorder	0.00	8166	Outside	4250.00	
Perforations	6.00			4256.00	
Bullnose	5.00			4261.00	12.00 Bottom Packers & Anchor

Total Tool Length: 39.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering Inc

15-18s-30w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

Schoef #1-15

Job Ticket: 61550

DST#: 6

ATTN: Rene Husted

Test Start: 2015.06.12 @ 12:55:04

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

35 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: 7.16 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
62.00	gocm 10%g 30%o 60%m	0.305
62.00	mcgo 10%g 80%o 10%m	0.305
134.00	go 30%g 70%o	1.880
0.00	186 GIP	0.000

Total Length: 258.00 ft

Total Volume: 2.490 bbl

Num Fluid Samples: 0

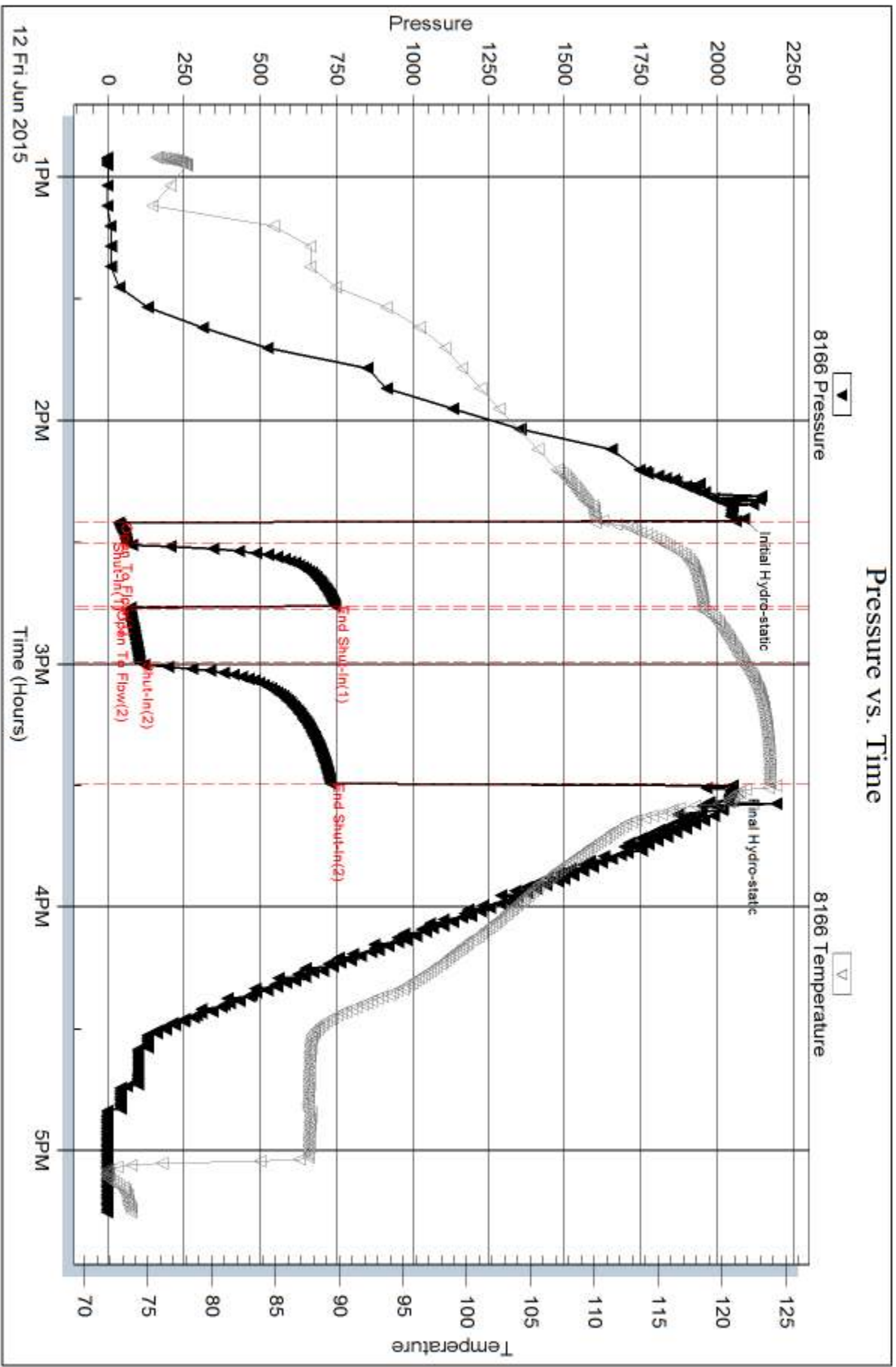
Num Gas Bombs: 0

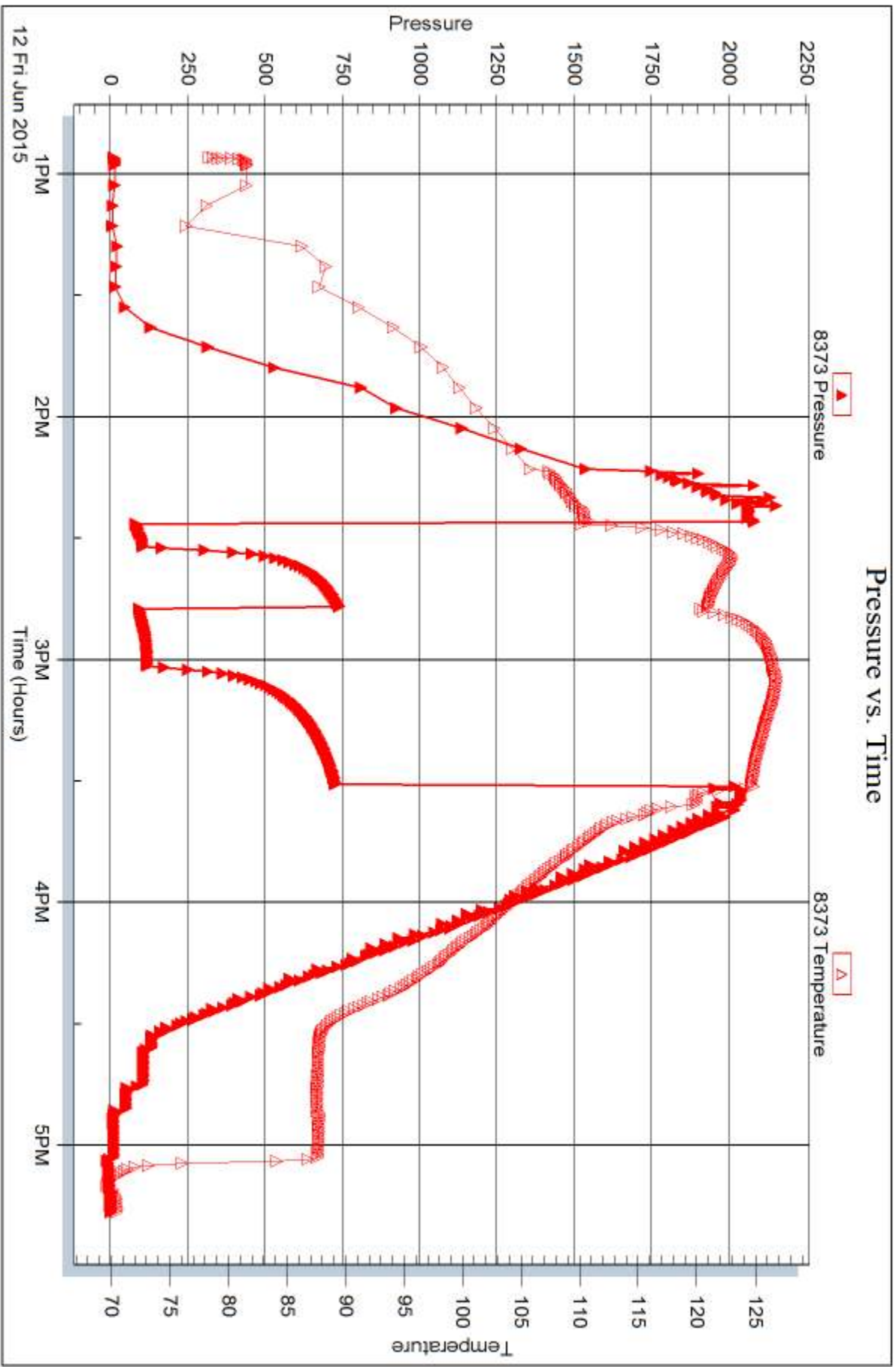
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 37@80=35







DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc**

562 W State Rd 4
Olmitz, KS 67564

ATTN: Rene Husted

Schoef #1-15

15-18s-30w Lane,KS

Start Date: 2015.06.13 @ 02:30:57

End Date: 2015.06.13 @ 08:43:57

Job Ticket #: 61726 DST #: 7

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

Printed: 2015.06.15 @ 13:42:26



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Larson Engineering Inc
562 W State Rd 4
Olmitz, KS 67564
ATTN: Rene Husted

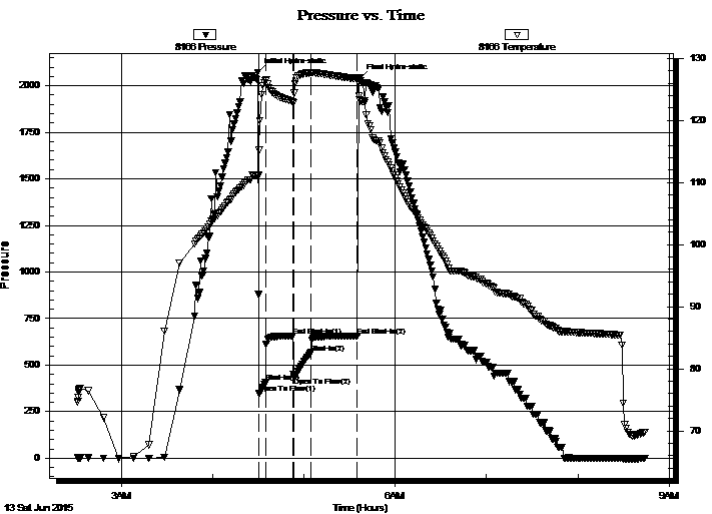
15-18s-30w Lane, KS
Schoef #1-15
Job Ticket: 61726 **DST#: 7**
Test Start: 2015.06.13 @ 02:30:57

GENERAL INFORMATION:

Formation: **LKC L**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 04:30:27
Time Test Ended: 08:43:57
Interval: **4262.00 ft (KB) To 4273.00 ft (KB) (TVD)**
Total Depth: 4273.00 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: 2879.00 ft (KB)
2870.00 ft (CF)
KB to GR/CF: 9.00 ft

Serial #: 8166 Outside
Press@RunDepth: 566.66 psig @ 4263.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2015.06.13 End Date: 2015.06.13 Last Calib.: 2015.06.13
Start Time: 02:31:02 End Time: 08:43:56 Time On Btm: 2015.06.13 @ 04:29:27
Time Off Btm: 2015.06.13 @ 05:36:27

TEST COMMENT: IF: BOB in 30 sec.
IS: Surface blow built to 2"
FF: BOB in 30 sec.
FS: Surface blow built to 2"



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2071.73	111.13	Initial Hydro-static
1	348.07	115.21	Open To Flow (1)
5	405.71	126.37	Shut-In(1)
23	655.96	123.03	End Shut-In(1)
24	434.21	124.40	Open To Flow (2)
35	566.66	127.69	Shut-In(2)
66	656.19	126.70	End Shut-In(2)
67	2040.51	123.30	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
186.00	gocm 20%g 30%o 50%m	1.48
310.00	mcco 30%g 65%o 5%m	4.35
372.00	go 30%g 70%o	5.22
536.00	go 15%g 85%o	7.52
0.00	341 GIP	0.00

* Recovery from multiple tests

Gas Rates

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



DRILL STEM TEST REPORT

Larson Engineering Inc

562 W State Rd 4
Olmitz, KS 67564

ATTN: Rene Hustedad

15-18s-30w Lane, KS

Schoef #1-15

Job Ticket: 61726

DST#: 7

Test Start: 2015.06.13 @ 02:30:57

GENERAL INFORMATION:

Formation: **LKC L**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:30:27

Time Test Ended: 08:43:57

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 79

Interval: 4262.00 ft (KB) To 4273.00 ft (KB) (TVD)

Total Depth: 4273.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2879.00 ft (KB)

2870.00 ft (CF)

KB to GR/CF: 9.00 ft

Serial #: 8373 Inside

Press@RunDepth: psig @ 4263.00 ft (KB)

Start Date: 2015.06.13

End Date:

2015.06.13

Start Time: 02:30:39

End Time:

08:44:03

Capacity: 8000.00 psig

Last Calib.:

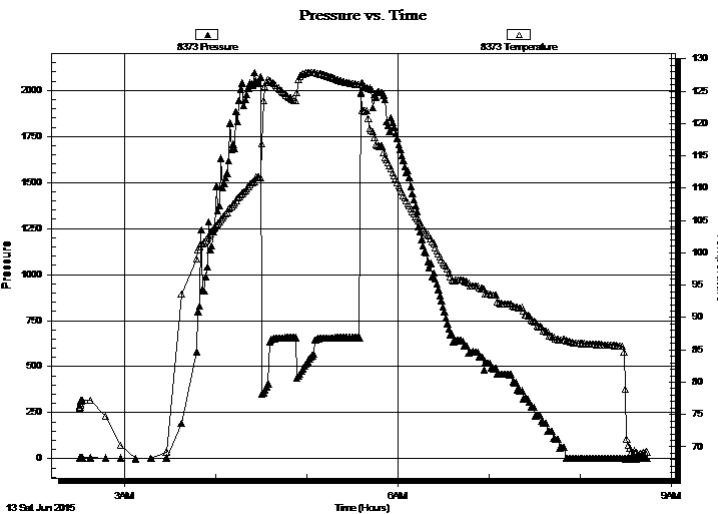
2015.06.13

Time On Btm:

Time Off Btm:

TEST COMMENT: IF: BOB in 30 sec.
IS: Surface blow built to 2"
FF: BOB in 30 sec.
FS: Surface blow built to 2"

PRESSURE SUMMARY



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

Recovery

Length (ft)	Description	Volume (bbl)
186.00	gocm 20%g 30%o 50%m	1.48
310.00	mcco 30%g 65%o 5%m	4.35
372.00	go 30%g 70%o	5.22
536.00	go 15%g 85%o	7.52
0.00	341 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

15-18s-30w Lane,KS

562 W State Rd 4
Olmitz, KS 67564

Schoef #1-15

Job Ticket: 61726

DST#: 7

ATTN: Rene Husted

Test Start: 2015.06.13 @ 02:30:57

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:	25000.00 lb
Drill Collar:	Length: 124.00 ft	Diameter: 2.25 inches	Volume: 0.61 bbl	Weight to Pull Loose:	30000.00 lb
			<u>Total Volume: 58.70 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial	64000.00 lb
Depth to Top Packer:	4262.00 ft			Final	65000.00 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	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Stubb	1.00			4236.00	
Shut In Tool	5.00			4241.00	
Hydraulic tool	5.00			4246.00	
Jars	5.00			4251.00	
Safety Joint	2.00			4253.00	
Packer	5.00			4258.00	27.00 Bottom Of Top Packer
Packer	4.00			4262.00	
Stubb	1.00			4263.00	
Recorder	0.00	8373	Inside	4263.00	
Recorder	0.00	8166	Outside	4263.00	
Perforations	5.00			4268.00	
Bullnose	5.00			4273.00	11.00 Bottom Packers & Anchor

Total Tool Length: 38.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering Inc

15-18s-30w Lane,KS

562 W State Rd 4
Olmitz, KS 67564

Schoef #1-15

Job Ticket: 61726

DST#: 7

ATTN: Rene Husted

Test Start: 2015.06.13 @ 02:30:57

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

28 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 45.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.98 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 3400.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
186.00	gocm 20%g 30%o 50%m	1.480
310.00	mcgo 30%g 65%o 5%m	4.348
372.00	go 30%g 70%o	5.218
536.00	go 15%g 85%o	7.519
0.00	341 GIP	0.000

Total Length: 1404.00 ft Total Volume: 18.565 bbl

Num Fluid Samples: 0

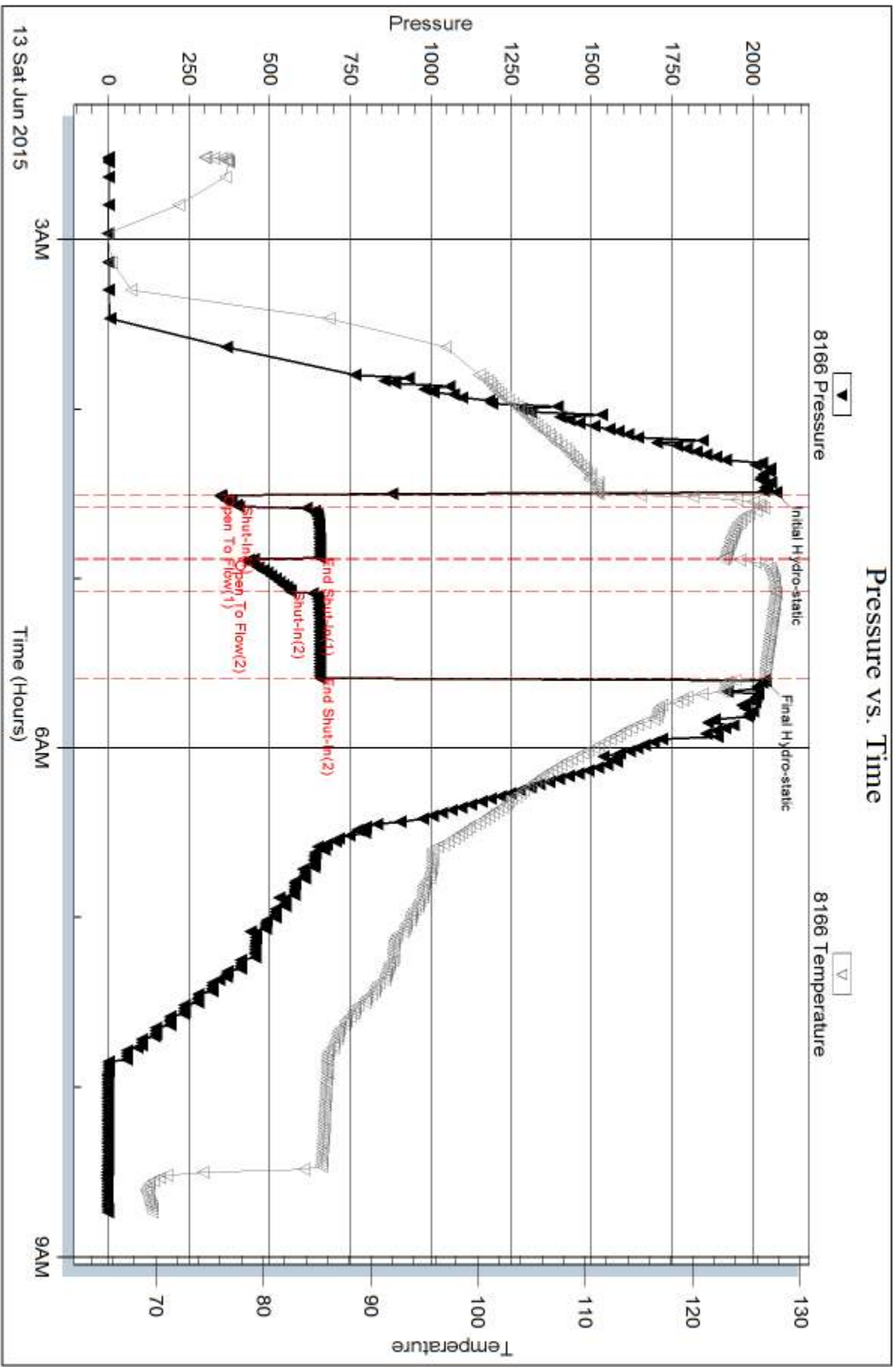
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 29@70=28



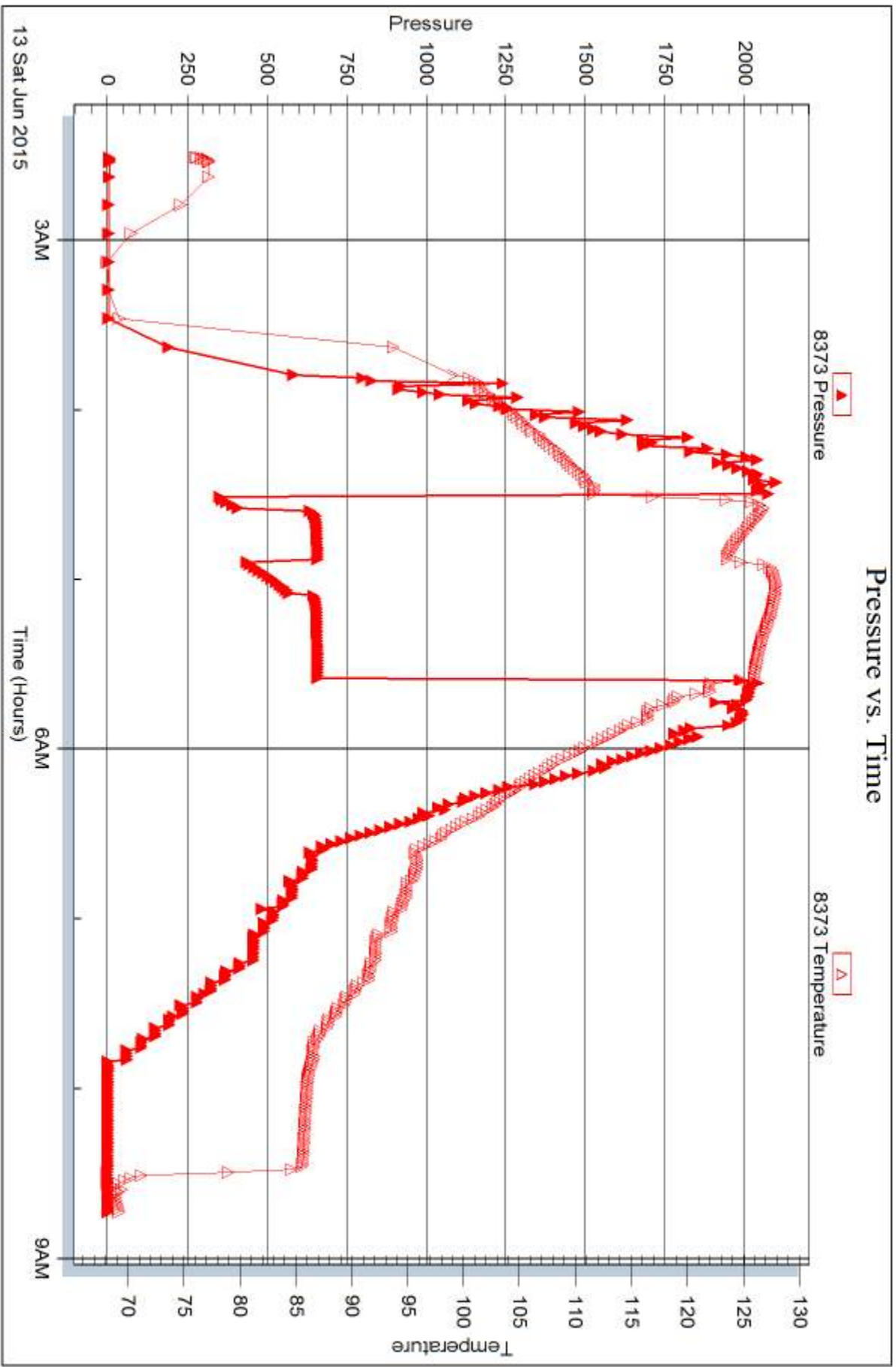
Serial #: 8373

Inside

Larson Engineering Inc

Schoef #1-15

DST Test Number: 7



Trilobite Testing, Inc

Ref. No: 61726

Printed: 2015.06.15 @ 13:42:27



DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc**

562 W State Rd 4
Olmitz, KS 67564

ATTN: Rene Husted

Schoef #1-15

15-18s-30w Lane,KS

Start Date: 2015.06.13 @ 22:40:19

End Date: 2015.06.14 @ 03:19:49

Job Ticket #: 61727 DST #: 8

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

Printed: 2015.06.15 @ 13:42:00



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Larson Engineering Inc
 562 W State Rd 4
 Olmitz, KS 67564
 ATTN: Rene Husted

15-18s-30w Lane, KS
Schoef #1-15
 Job Ticket: 61727 **DST#: 8**
 Test Start: 2015.06.13 @ 22:40:19

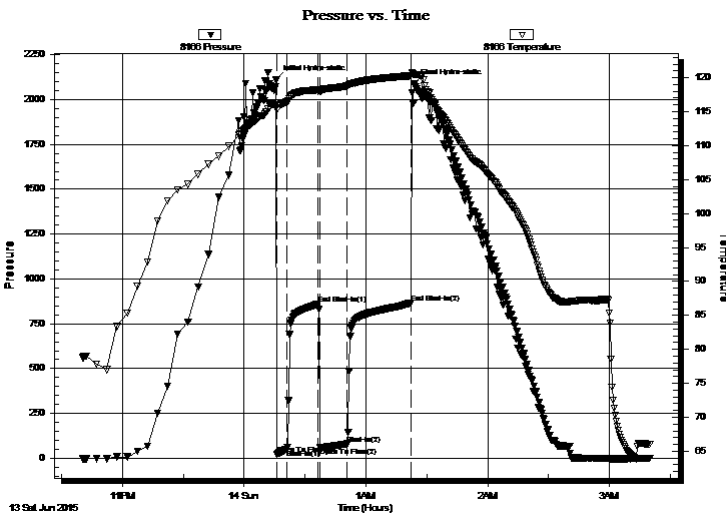
GENERAL INFORMATION:

Formation: **Pleasanton - Marmato**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 00:16:19
 Time Test Ended: 03:19:49
 Interval: **4300.00 ft (KB) To 4384.00 ft (KB) (TVD)**
 Total Depth: 4384.00 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: 2879.00 ft (KB)
 2870.00 ft (CF)
 KB to GR/CF: 9.00 ft

Serial #: 8166 Outside
 Press@RunDepth: 80.44 psig @ 4301.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2015.06.13 End Date: 2015.06.14 Last Calib.: 2015.06.14
 Start Time: 22:40:24 End Time: 03:19:48 Time On Btm: 2015.06.14 @ 00:15:49
 Time Off Btm: 2015.06.14 @ 01:23:49

TEST COMMENT: IF: 1" blow built to 3 1/2"
 IS: No return.
 FF: 1/4" blow BOB in 12 min.
 FS: Surface blow built to 1"

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2109.36	116.30	Initial Hydro-static
1	23.67	115.25	Open To Flow (1)
5	50.82	116.39	Shut-In(1)
21	860.48	118.20	End Shut-In(1)
22	59.33	117.93	Open To Flow (2)
35	80.44	118.78	Shut-In(2)
67	866.66	120.28	End Shut-In(2)
68	2090.23	120.46	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
124.00	gocm 5%g 10%o 85%m	0.61
62.00	go 5%g 95%o	0.87
0.00	186 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

15-18s-30w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

Schoef #1-15

ATTN: Rene Husted

Job Ticket: 61727

DST#: 8

Test Start: 2015.06.13 @ 22:40:19

GENERAL INFORMATION:

Formation: **Pleasanton - Marmato**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:16:19

Time Test Ended: 03:19:49

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 79

Interval: **4300.00 ft (KB) To 4384.00 ft (KB) (TVD)**

Reference Elevations: 2879.00 ft (KB)

Total Depth: 4384.00 ft (KB) (TVD)

2870.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 9.00 ft

Serial #: 8373

Inside

Press@RunDepth: psig @ 4301.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.06.13

End Date:

2015.06.14

Last Calib.:

2015.06.14

Start Time: 22:41:00

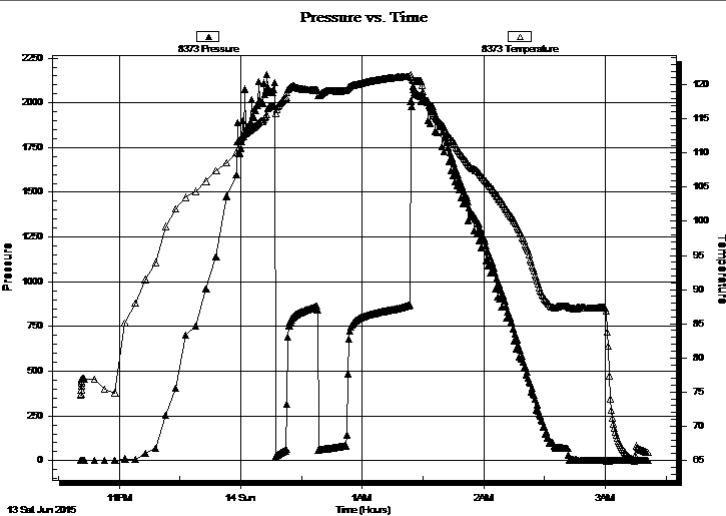
End Time:

03:20:54

Time On Btm:

Time Off Btm:

TEST COMMENT: IF: 1" blow built to 3 1/2"
IS: No return.
FF: 1/4" blow BOB in 12 min.
FS: Surface blow built to 1"



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
124.00	gocm 5%g 10%o 85%m	0.61
62.00	go 5%g 95%o	0.87
0.00	186 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

15-18s-30w Lane,KS

562 W State Rd 4
Olmitz, KS 67564

Schoef #1-15

Job Ticket: 61727

DST#: 8

ATTN: Rene Hustedad

Test Start: 2015.06.13 @ 22:40:19

Tool Information

Drill Pipe:	Length: 4169.00 ft	Diameter: 3.80 inches	Volume: 58.48 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: 750000.0 lb
			<u>Total Volume: 59.09 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 65000.00 lb
Depth to Top Packer:	4300.00 ft			Final 68000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	84.00 ft			
Tool Length:	111.00 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			4274.00	
Shut In Tool	5.00			4279.00	
Hydraulic tool	5.00			4284.00	
Jars	5.00			4289.00	
Safety Joint	2.00			4291.00	
Packer	5.00			4296.00	27.00 Bottom Of Top Packer
Packer	4.00			4300.00	
Stubb	1.00			4301.00	
Recorder	0.00	8373	Inside	4301.00	
Recorder	0.00	8166	Outside	4301.00	
Perforations	13.00			4314.00	
Change Over Sub	1.00			4315.00	
Drill Pipe	63.00			4378.00	
Change Over Sub	1.00			4379.00	
Bullnose	5.00			4384.00	84.00 Bottom Packers & Anchor

Total Tool Length: 111.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering Inc

15-18s-30w Lane,KS

562 W State Rd 4
Olmitz, KS 67564

Schoef #1-15

Job Ticket: 61727

DST#: 8

ATTN: Rene Husted

Test Start: 2015.06.13 @ 22:40:19

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

35 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: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2600.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
124.00	gocm 5%g 10%o 85%m	0.610
62.00	go 5%g 95%o	0.870
0.00	186 GIP	0.000

Total Length: 186.00 ft Total Volume: 1.480 bbl

Num Fluid Samples: 0

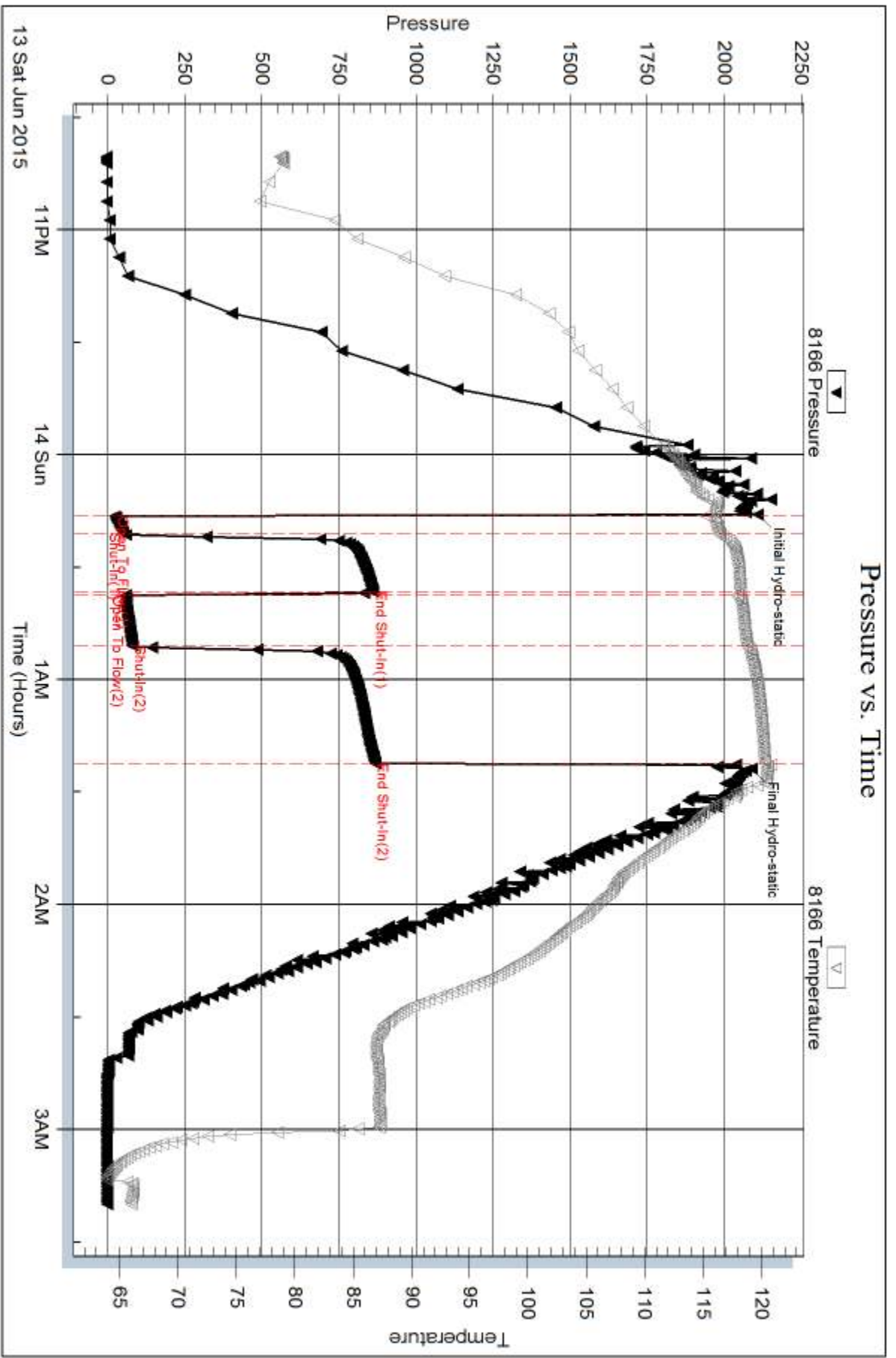
Num Gas Bombs: 0

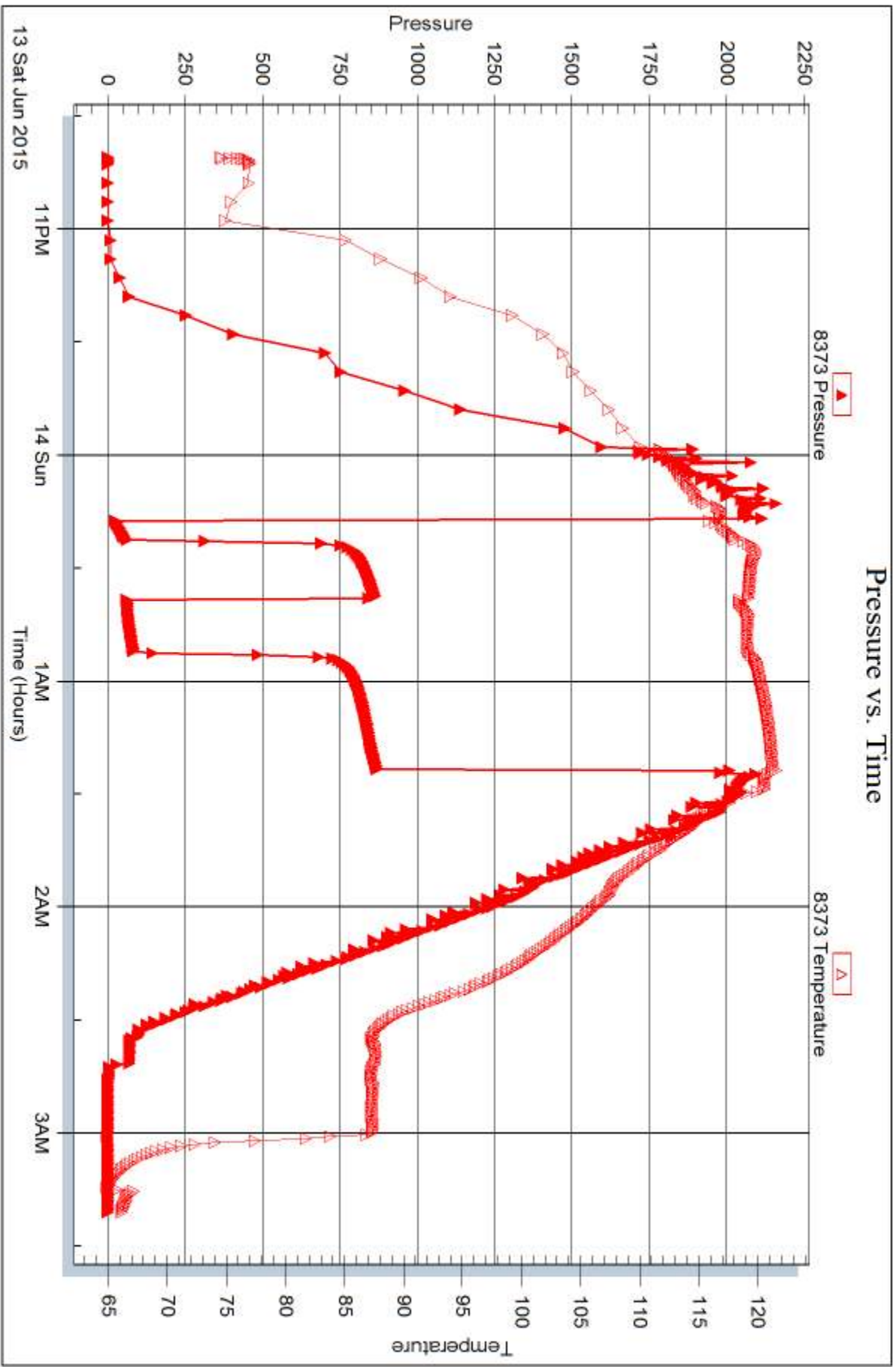
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 35@60=35







DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc**

562 W State Rd 4
Olmitz, KS 67564

ATTN: Rene Husted

Schoef #1-15

15-18s-30w Lane,KS

Start Date: 2015.06.14 @ 16:50:28

End Date: 2015.06.14 @ 21:35:28

Job Ticket #: 61728 DST #: 9

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

Printed: 2015.06.15 @ 13:40:53



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Larson Engineering Inc
 562 W State Rd 4
 Olmitz, KS 67564
 ATTN: Rene Husted

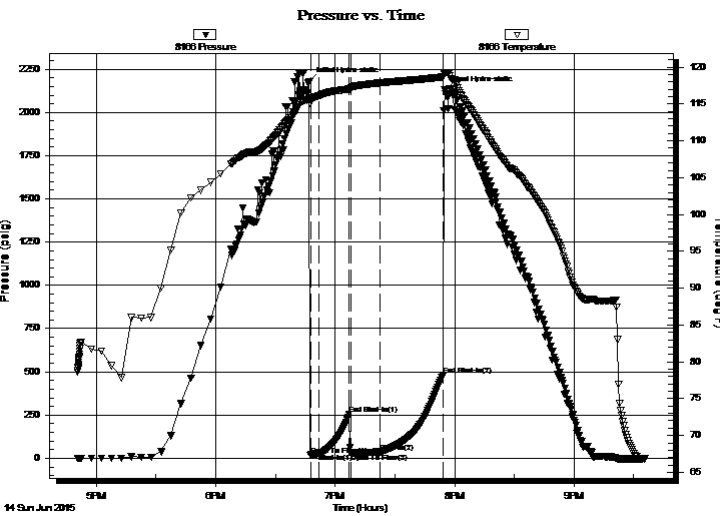
15-18s-30w Lane, KS
Schoef #1-15
 Job Ticket: 61728 **DST#: 9**
 Test Start: 2015.06.14 @ 16:50:28

GENERAL INFORMATION:

Formation: **Pawnee**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 18:47:28
 Time Test Ended: 21:35:28
 Interval: **4410.00 ft (KB) To 4494.00 ft (KB) (TVD)**
 Total Depth: 4494.00 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: 2879.00 ft (KB)
 2870.00 ft (CF)
 KB to GR/CF: 9.00 ft

Serial #: 8166 Outside
 Press@RunDepth: 37.55 psig @ 4411.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2015.06.14 End Date: 2015.06.14 Last Calib.: 2015.06.14
 Start Time: 16:50:33 End Time: 21:35:27 Time On Btm: 2015.06.14 @ 18:46:58
 Time Off Btm: 2015.06.14 @ 19:54:58

TEST COMMENT: IF: 1/4" blow built to 1"
 IS: No return.
 FF: 1/4" blow built to 5"
 FS: No return.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2180.81	115.87	Initial Hydro-static
1	18.48	115.12	Open To Flow (1)
5	27.24	116.11	Shut-In(1)
20	253.71	117.04	End Shut-In(1)
21	28.97	117.21	Open To Flow (2)
36	37.55	117.88	Shut-In(2)
67	478.36	118.67	End Shut-In(2)
68	2128.89	119.27	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
50.00	gocm 10%g 10%o 80%m	0.25
0.00	134 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
562 W State Rd 4
Olmitz, KS 67564
ATTN: Rene Hustedad

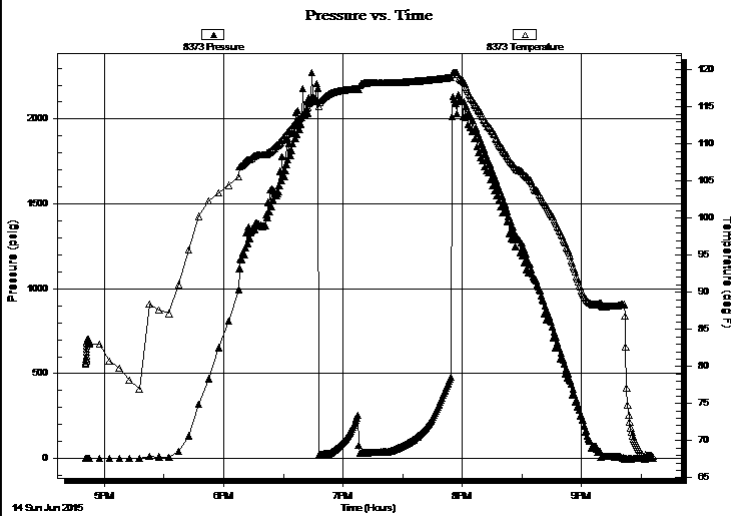
15-18s-30w Lane, KS
Schoef #1-15
Job Ticket: 61728 **DST#: 9**
Test Start: 2015.06.14 @ 16:50:28

GENERAL INFORMATION:

Formation: **Pawnee**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 18:47:28
Time Test Ended: 21:35:28
Interval: **4410.00 ft (KB) To 4494.00 ft (KB) (TVD)**
Total Depth: 4494.00 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: 2879.00 ft (KB)
2870.00 ft (CF)
KB to GR/CF: 9.00 ft

Serial #: 8373 **Inside**
Press@RunDepth: psig @ 4411.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2015.06.14 End Date: 2015.06.14 Last Calib.: 2015.06.14
Start Time: 16:50:28 End Time: 21:35:52 Time On Btm:
Time Off Btm:

TEST COMMENT: IF: 1/4" blow built to 1"
IS: No return.
FF: 1/4" blow built to 5"
FS: No return.



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
50.00	gocm 10%g 10%o 80%m	0.25
0.00	134 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

15-18s-30w Lane,KS

562 W State Rd 4
Olmitz, KS 67564

Schoef #1-15

Job Ticket: 61728

DST#: 9

ATTN: Rene Husted

Test Start: 2015.06.14 @ 16:50:28

Tool Information

Drill Pipe:	Length: 4265.00 ft	Diameter: 3.80 inches	Volume: 59.83 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:	75000.00 lb
			<u>Total Volume: 60.44 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	6.00 ft			String Weight: Initial	65000.00 lb
Depth to Top Packer:	4410.00 ft			Final	65000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	84.00 ft				
Tool Length:	111.00 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			4384.00	
Shut In Tool	5.00			4389.00	
Hydraulic tool	5.00			4394.00	
Jars	5.00			4399.00	
Safety Joint	2.00			4401.00	
Packer	5.00			4406.00	27.00 Bottom Of Top Packer
Packer	4.00			4410.00	
Stubb	1.00			4411.00	
Recorder	0.00	8373	Inside	4411.00	
Recorder	0.00	8166	Outside	4411.00	
Perforations	13.00			4424.00	
Change Over Sub	1.00			4425.00	
Drill Pipe	63.00			4488.00	
Change Over Sub	1.00			4489.00	
Bullnose	5.00			4494.00	84.00 Bottom Packers & Anchor

Total Tool Length: 111.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering Inc

15-18s-30w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

Schoef #1-15

Job Ticket: 61728

DST#: 9

ATTN: Rene Husted

Test Start: 2015.06.14 @ 16:50:28

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: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.99 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2500.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
50.00	gocm 10%g 10%o 80%m	0.246
0.00	134 GIP	0.000

Total Length: 50.00 ft Total Volume: 0.246 bbl

Num Fluid Samples: 0

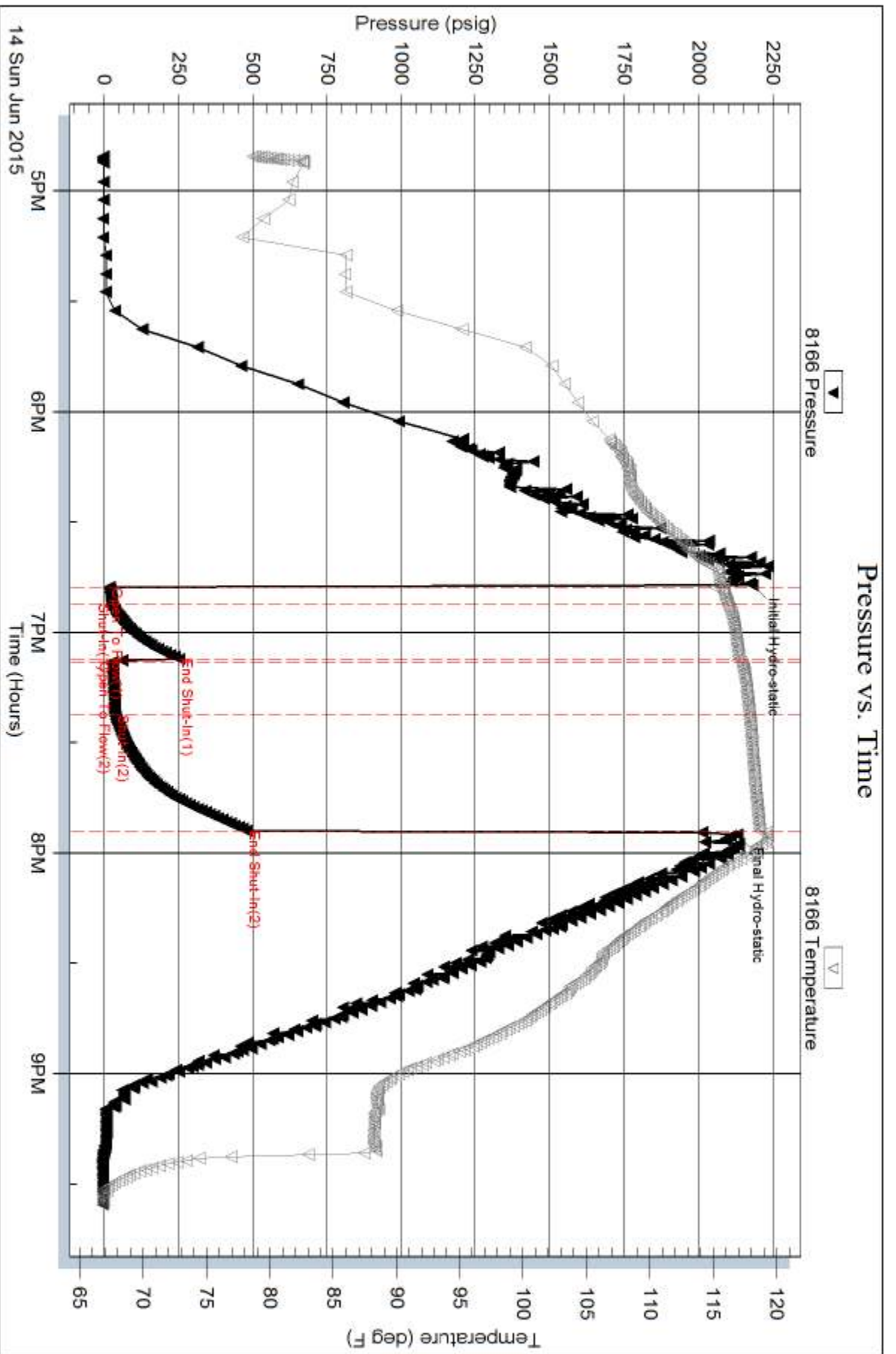
Num Gas Bombs: 0

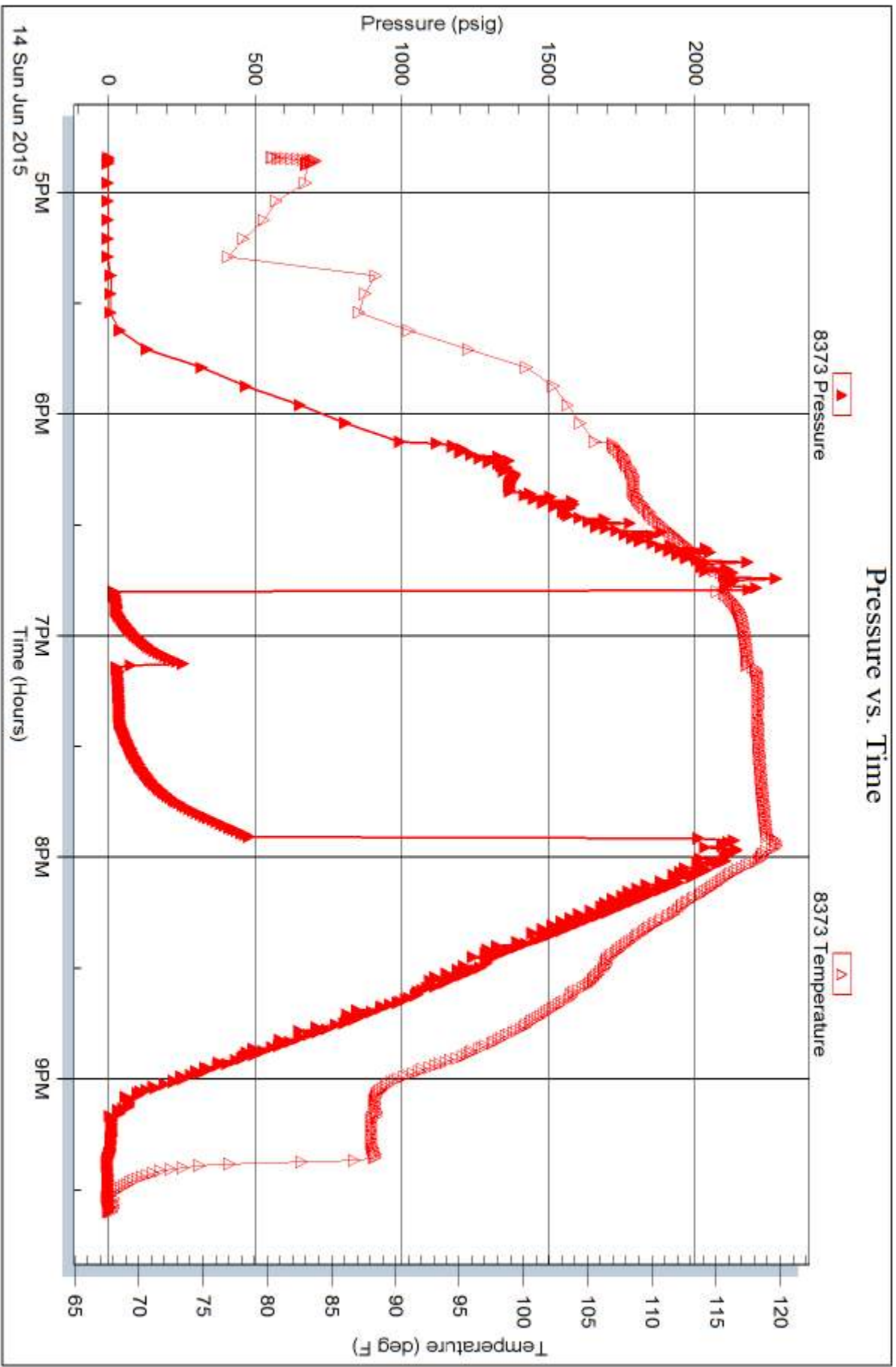
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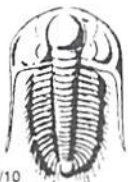
Laboratory Name:

Laboratory Location:

Recovery Comments:







TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 61545

Well Name & No. Schoef # 1-15 Test No. 1 Date 6-9-15
 Company Larson Engineering Inc Elevation 2875 KB 2869 GL
 Address 562 W state Rd 4 Olathe, KS 67564
 Co. Rep / Geo. Rein Husted Rig HD #3
 Location: Sec. 15 Twp. 18 Rge. 30 Co. Lare State KS

Interval Tested 4010 4045 Zone Tested E-F
 Anchor Length 35 Drill Pipe Run 3889 Mud Wt. 9.3
 Top Packer Depth 4005 Drill Collars Run 124 Vis 58
 Bottom Packer Depth 4010 Wt. Pipe Run — WL 7.2
 Total Depth 4045 Chlorides 2000 ppm System LCM 1

Blow Description IF: surface blow.
IS: No return.
FF: No blow.
FS: No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>1</u>	<u>Free oil</u>	<u>100</u>			
<u>5</u>	<u>OCM</u>	<u>10</u>		<u>90</u>	

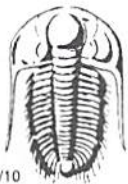
Rec Total 6 BHT 115 Gravity — API RW — @ —° F Chlorides — ppm

(A) Initial Hydrostatic 2020 Test 1150 T-On Location 9:00
 (B) First Initial Flow 19 Jars 250 T-Started 10:43
 (C) First Final Flow 23 Safety Joint 75 T-Open 13:01
 (D) Initial Shut-In 10/6 Circ Sub NIL T-Pulled 14:06
 (E) Second Initial Flow 21 Hourly Standby _____ T-Out 16:00
 (F) Second Final Flow 27 Mileage 44-44 Comments _____
 (G) Final Shut-In 10/6 Sampler _____
 (H) Final Hydrostatic 1966 Straddle _____

Initial Open 5 Shale Packer _____ Ruined Shale Packer _____
 Initial Shut-In 15 Extra Packer _____ Ruined Packer _____
 Final Flow 15 Extra Recorder _____ Extra Copies _____
 Final Shut-In 30 Day Standby _____ Sub Total 0
 Sub Total 1519 Total 1519 MP/DST Disc't _____

Approved By J. Rein Husted 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. 61546

Well Name & No. Schoef #1-15 Test No. 2 Date 6-10-15
 Company Larson Engineering Elevation 2879 KB 2889 GL
 Address _____
 Co. Rep / Geo. Rene Husted Rig 40#3
 Location: Sec. 15 Twp. 18 Rge. 30 Co. Lane State KS

Interval Tested 4114 4140 Zone Tested H
 Anchor Length 36 Drill Pipe Run 3993 Mud Wt. 9.3
 Top Packer Depth 4109 Drill Collars Run 124 Vis 58
 Bottom Packer Depth 4114 Wt. Pipe Run --- WL 7.2
 Total Depth 4140 Chlorides 20000 ppm System LCM 1

Blow Description IF: 1/4 blow built to 2,
IS: No return,
EF: surface blow built to 5 1/2 in 30 min,
FJ:

Rec	Feet of	%gas	%oil	%water	%mud
<u>20</u>	<u>oil</u>	<u>100</u>			
<u>62</u>	<u>ocm</u>	<u>50</u>		<u>50</u>	
<u>62</u>	<u>ocm</u>	<u>40</u>		<u>60</u>	

Rec Total 144 BHT 120 Gravity 32 API RW --- @ --- °F Chlorides --- ppm

(A) Initial Hydrostatic 2080 Test 1150
 (B) First Initial Flow 18 Jars 250
 (C) First Final Flow 32 Safety Joint 75
 (D) Initial Shut-In 865 Circ Sub NITE
 (E) Second Initial Flow 37 Hourly Standby _____
 (F) Second Final Flow 74 Mileage 44-44
 (G) Final Shut-In 1007 Sampler _____
 (H) Final Hydrostatic 2033 Straddle _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____

Initial Open 5
 Initial Shut-In 15
 Final Flow 30
 Final Shut-In 60

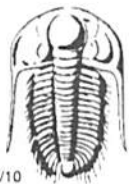
Sub Total 1519

T-On Location 1:45
 T-Started 2:33
 T-Open 4:45
 T-Pulled 6:35
 T-Out 8:40

Comments _____
 Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Sub Total 0
 Total 1519
 MP/DST Disc't _____

Approved By Rene Husted Our Representative _____

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 61547

Well Name & No. Schoef #1-15 Test No. 3 Date 6-10-15
 Company Larson Engineering Elevation 2879 KB 2870 GL
 Address _____
 Co. Rep / Geo. Rene Husted Rig HD#3
 Location: Sec. 15 Twp. 18 Rge. 30 Co. Lame State KS

Interval Tested 4154 4184 Zone Tested I
 Anchor Length 30 Drill Pipe Run 4013 Mud Wt. 9.4
 Top Packer Depth 4149 Drill Collars Run 124 Vis 56
 Bottom Packer Depth 4154 Wt. Pipe Run _____ WL 7.2
 Total Depth 4184 Chlorides 2100 ppm System LCM 1

Blow Description IF: 4y blow BoB in 4 min.
IS: surface blow built to 1,
FK: BoB in 4 min.
KS: surface blow built to 5 in 30 min.

Rec	Feet of	%gas	%oil	%water	%mud
<u>129</u>	<u>90</u>	<u>10</u>	<u>90</u>		
<u>124</u>	<u>ML90</u>	<u>50</u>	<u>45</u>	<u>5</u>	
<u>186</u>		<u>50</u>	<u>40</u>	<u>10</u>	
	<u>434 GEP</u>				

Rec Total 439 BHT 124 Gravity 32 API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2030 Test 1150
 (B) First Initial Flow 52 Jars 250
 (C) First Final Flow 97 Safety Joint 75
 (D) Initial Shut-In 1005 Circ Sub NIL
 (E) Second Initial Flow 93 Hourly Standby _____
 (F) Second Final Flow 175 Mileage 44-44
 (G) Final Shut-In 996 Sampler _____
 (H) Final Hydrostatic 2021 Straddle _____

Initial Open 5 Ruined Shale Packer _____
 Initial Shut-In 15 Ruined Packer _____
 Final Flow 15 Extra Packer _____
 Final Shut-In 30 Extra Recorder _____
 Day Standby _____
 Accessibility _____

Sub Total 1519 MP/DST Disc't _____
 Approved By Rene Husted 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. 61548

Well Name & No. Schoof 1-15 Test No. 4 Date 6-11-15
 Company Larson Engineering Elevation 2879 KB 2870 GL
 Address _____
 Co. Rep / Geo. Rene Husted Rig HD #3
 Location: Sec. 15 Twp. 18 Rge. 30 Co. Larve State KS

Interval Tested 4182 4198 Zone Tested J
 Anchor Length 16 Drill Pipe Run 4645 Mud Wt. 9.4
 Top Packer Depth 4177 Drill Collars Run 124 Vis 56
 Bottom Packer Depth 4182 Wt. Pipe Run — WL 7.2
 Total Depth 4198 Chlorides 2100 ppm System LCM 1

Blow Description IF: 1/4 blow built to 3/4.
IS: NO return.
FF: surface blow built to 1 in 30 min.
FS: NO return.

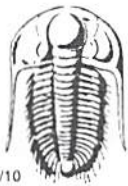
Rec	Feet of	%gas	%oil	%water	%mud
<u>20</u>	<u>0cm</u>	<u>5</u>		<u>95</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 20 BHT 115 Gravity — API RW — @ — °F Chlorides — ppm
 (A) Initial Hydrostatic 2095 Test 1150
 (B) First Initial Flow 14 Jars 250
 (C) First Final Flow 18 Safety Joint 75
 (D) Initial Shut-In 733 Circ Sub NIL
 (E) Second Initial Flow 18 Hourly Standby _____
 (F) Second Final Flow 36 Mileage 44 44
 (G) Final Shut-In 731 Sampler _____
 (H) Final Hydrostatic 2037 Straddle _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____

Initial Open 5
 Initial Shut-In 15
 Final Flow 30
 Final Shut-In 60
 Sub Total 1519
 T-On Location 6:30
 T-Started 7:34
 T-Open 9:02
 T-Pulled 10:52
 T-Out 12:25
 Comments _____
 Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Sub Total 0
 Total 1519
 MP/DST Disc't _____

Approved By [Signature] Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 61549

Well Name & No. Schoef 1-15 Test No. 5 Date 6-11-15
 Company Larson Engineering Elevation 2879 KB 2870 GL
 Address _____
 Co. Rep / Geo. Berre Husted Rig HD #3
 Location: Sec. 15 Twp. 18 Rge. 30 Co. LAME State KS

Interval Tested 4211 4225 Zone Tested K
 Anchor Length _____ Drill Pipe Run 4078 Mud Wt. 9.2
 Top Packer Depth _____ Drill Collars Run 124 Vis 52
 Bottom Packer Depth 4211 Wt. Pipe Run _____ WL 7.2
 Total Depth 4225 Chlorides 2300 ppm System LCM 1
 Blow Description IF: 1/4 blow built to 1 1/2,
IS: No return,
FF: surface blow built to 3,
FS: No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>60</u>	<u>oil</u>	<u>100</u>			
<u>62</u>	<u>OCM</u>	<u>10</u>		<u>90</u>	
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

Rec Total 122 BHT 118 Gravity 33 API RW - @ - °F Chlorides _____ ppm

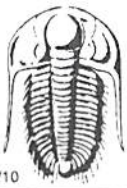
(A) Initial Hydrostatic 2060 Test 1150 T-On Location 22:20
 (B) First Initial Flow 16 Jars 250 T-Started 22:40
 (C) First Final Flow 28 Safety Joint 75 T-Open 00:21
 (D) Initial Shut-In 727 Circ Sub N/C T-Pulled 1:26
 (E) Second Initial Flow 34 Hourly Standby _____ T-Out 3:10
 (F) Second Final Flow 63 Mileage 44-44 Comments _____
 (G) Final Shut-In 714 Sampler _____
 (H) Final Hydrostatic 2046 Straddle _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____
 Sub Total 1519

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

Sub Total 0
 Total 1519
 MP/DST Disc't _____

Approved By J. Husted Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 61550

Well Name & No. School 1-15 Test No. 6 Date 6-12-15
 Company Larson Engineering Elevation 2879 KB 2870 GL
 Address _____
 Co. Rep / Geo. Rene Husterd Rig HD#3
 Location: Sec. 15 Twp. 18 Rge. 30 Co. Lmc State KS

Interval Tested 4249 4261 Zone Tested Middle creek
 Anchor Length _____ Drill Pipe Run 4108 Mud Wt. 9.2
 Top Packer Depth _____ Drill Collars Run 124 Vis 45
 Bottom Packer Depth _____ Wt. Pipe Run _____ WL 8.0
 Total Depth 4261 Chlorides 3400 ppm System LCM 1
 Blow Description IF: 1" blow built to 8 in 5 min.
IS: surface blow built to 1,
FF: BoB in 8 min.
FS: surface built to 2 in 30 min.

Rec	Feet of	%gas	%oil	%water	%mud
<u>134</u>	<u>90</u>	<u>30</u>	<u>70</u>		
<u>62</u>	<u>mc90</u>	<u>10</u>	<u>80</u>	<u>10</u>	
<u>62</u>	<u>90cm</u>	<u>10</u>	<u>30</u>	<u>60</u>	
	<u>186 GIP</u>				

Rec Total 258 BHT 123 Gravity 35 API RW _____ @ _____ ° F Chlorides _____ ppm

(A) Initial Hydrostatic 2088 Test 1150
 (B) First Initial Flow 35 Jars 250
 (C) First Final Flow 61 Safety Joint 75
 (D) Initial Shut-In 744 Circ Sub NIL
 (E) Second Initial Flow 73 Hourly Standby _____
 (F) Second Final Flow 103 Mileage 44-44
 (G) Final Shut-In 729 Sampler _____
 (H) Final Hydrostatic 2049 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 1519

T-On Location 12:20
 T-Started 12:55
 T-Open 14:25
 T-Pulled 15:30
 T-Out 17:15

Comments _____
 Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Sub Total 0
 Total 1519
 MP/DST Disc't _____

Approved By [Signature] Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 61726

Well Name & No. Schoef 1-15 Test No. 7 Date 6-13-15
 Company Larson Engineering Elevation 2879 KB 2870 GL
 Address _____
 Co. Rep / Geo. Rene Husterd Rig HD #3
 Location: Sec. 15 Twp. 18 Rge. 30 Co. Lane State KS

Interval Tested 4262 4273 Zone Tested L
 Anchor Length _____ Drill Pipe Run 4141 Mud Wt. 9.2
 Top Packer Depth 4257 Drill Collars Run 124 Vis 45
 Bottom Packer Depth 4262 Wt. Pipe Run _____ WL 8.0
 Total Depth 4273 Chlorides 3400 ppm System LCM 1

Blow Description IF: BoB in 30 sec.
IS: surface blow built to 2,
FF: BoB in 30 sec.
FS: surface blow built to 2,

Rec	Feet of	%gas	%oil	%water	%mud
<u>536</u>	<u>90</u>	<u>15</u>	<u>85</u>		
<u>372</u>	<u>90</u>	<u>30</u>	<u>70</u>		
<u>310</u>	<u>1490</u>	<u>30</u>	<u>65</u>		<u>5</u>
<u>186</u>	<u>90CM</u>	<u>20</u>	<u>30</u>		<u>50</u>
Rec	Feet of <u>341 GIP</u>	%gas	%oil	%water	%mud

Rec Total 1404 BHT 127 Gravity 28 API RW _____ @ _____ °F Chlorides _____ ppm

- (A) Initial Hydrostatic 2071 Test 1150
- (B) First Initial Flow 348 Jars 250
- (C) First Final Flow 405 Safety Joint 75
- (D) Initial Shut-In 655 Circ Sub _____
- (E) Second Initial Flow 434 Hourly Standby _____
- (F) Second Final Flow 566 Mileage 44 44
- (G) Final Shut-In 656 Sampler _____
- (H) Final Hydrostatic 2040 Straddle _____
- Shale Packer _____
- Extra Packer _____
- Extra Recorder _____
- Day Standby _____
- Accessibility _____

T-On Location 1:50
 T-Started 2:30
 T-Open 4:30
 T-Pulled 5:35
 T-Out 8:40

Comments _____
 Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Sub Total 0
 Total 1519
 MP/DST Disc't _____

Initial Open 5
 Initial Shut-In 15
 Final Flow 15
 Final Shut-In 30
 Sub Total 1519
 Approved By Rene Husterd Our Representative _____

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 61727

Well Name & No. Schoef 1-15 Test No. 8 Date 6-13-15
 Company Larson Engineering Elevation 2879 KB 2870 GL
 Address _____
 Co. Rep / Geo. Rene Husted Rig HP #3
 Location: Sec. 15 Twp. 18 Rge. 30 Co. Lawe State KS

Interval Tested 4300 4384 Zone Tested Plc.anton - Mxmaton
 Anchor Length _____ Drill Pipe Run 4169 Mud Wt. 8.8
 Top Packer Depth _____ Drill Collars Run 124 Vis 58
 Bottom Packer Depth _____ Wt. Pipe Run _____ WL 8.0
 Total Depth 4384 Chlorides 2600 ppm System LCM /
 Blow Description IF: 1" blow built to 3 1/2.
IS: No return.
IF: 1/4 blow BoB in 12 min.
FS: surface blow built to 1.

Rec	Feet of	%gas	%oil	%water	%mud
<u>62</u>	<u>90</u>	<u>5</u>	<u>95</u>		
<u>124</u>	<u>90CM</u>	<u>5</u>	<u>10</u>		<u>85</u>
	<u>186 GIP</u>				

Rec Total 186 BHT 120 Gravity 35 API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2109 Test 1150
 (B) First Initial Flow 23 Jars 250
 (C) First Final Flow 50 Safety Joint 75
 (D) Initial Shut-In 860 Circ Sub NIC
 (E) Second Initial Flow 59 Hourly Standby _____
 (F) Second Final Flow 80 Mileage 44 44
 (G) Final Shut-In 866 Sampler _____
 (H) Final Hydrostatic 2090 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 1519

T-On Location 21:50
 T-Started 22:40
 T-Open 00:15
 T-Pulled 1:10
 T-Out 3:20
 Comments _____
 Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Sub Total 0
 Total 1519
 MP/DST Disc't _____

Approved By Rene Husted Our Representative [Signature]
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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 61728

Well Name & No. Schoof 1-15 Test No. 9 Date 6-13-15
 Company Larson Engineering Elevation 2879 KB 2870 GL
 Address _____
 Co. Rep / Geo. Rene Husted Rig HD #3
 Location: Sec. 15 Twp. 18 Rge. 30 Co. Lane State KS

Interval Tested 4410 4494 Zone Tested Pawnee
 Anchor Length _____ 84 Drill Pipe Run 4265 Mud Wt. 9.2
 Top Packer Depth _____ 4405 Drill Collars Run 124 Vis 56
 Bottom Packer Depth _____ 4410 Wt. Pipe Run _____ WL 8.0
 Total Depth _____ 4494 Chlorides 2500 ppm System LCM 1

Blow Description IF: 1/4 blow built to 1.
IS: NO return.
FF: 1/4 blow built to 5.
FS: NO return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>50</u>	<u>90cm</u>	<u>10</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	Feet of	%gas	%oil	%water	%mud

Rec Total 50 BHT 118 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2180 Test 1150 T-On Location 16:15
 (B) First Initial Flow 18 Jars 250 T-Started 16:50
 (C) First Final Flow 27 Safety Joint 75 T-Open 18:47
 (D) Initial Shut-In 253 Circ Sub N/C T-Pulled 19:52
 (E) Second Initial Flow 28 Hourly Standby _____ T-Out 21:35
 (F) Second Final Flow 37 Mileage 44-44 Comments _____
 (G) Final Shut-In 478 Sampler _____
 (H) Final Hydrostatic 2128 Straddle _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____

Initial Open 5
 Initial Shut-In 15
 Final Flow 15
 Final Shut-In 30
 Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Sub Total 0
 Total 1519
 MP/DST Disc't _____

Approved By Rene Husted Our Representative _____
 Sub Total 1519

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