



DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc.**

562 W. State Rd. 4
Olmitz KS 67564

ATTN: Vern Schrag

Mark #1-6

6-19s-27w Lane,KS

Start Date: 2014.01.14 @ 13:34:00

End Date: 2014.01.14 @ 19:57:54

Job Ticket #: Larson EngineeriDST #: 1

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

Printed: 2014.01.22 @ 14:01:22



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

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

6-19s-27w Lane, KS

Mark #1-6

Job Ticket: Larson

DST#: 1

Test Start: 2014.01.14 @ 13:34:00

GENERAL INFORMATION:

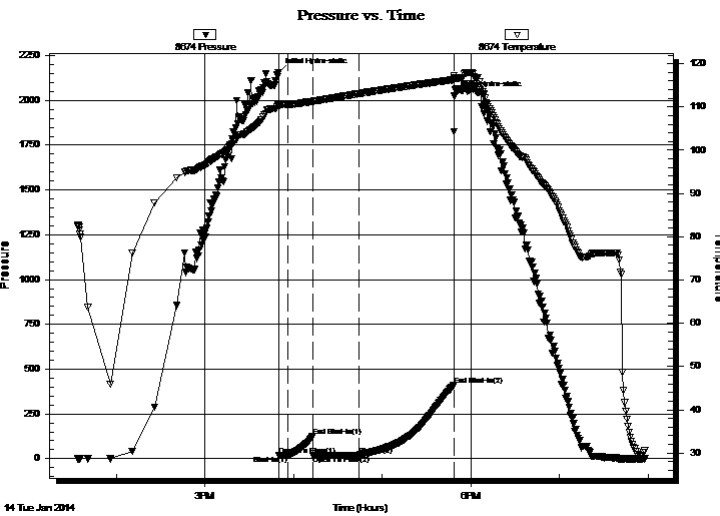
Formation: **LKC " K "**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 15:50:10
 Time Test Ended: 19:57:54
 Interval: **4261.00 ft (KB) To 4278.00 ft (KB) (TVD)**
 Total Depth: 4278.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Will MacLean
 Unit No: 58
 Reference Elevations: 2737.00 ft (KB)
 2730.00 ft (CF)
 KB to GR/CF: 7.00 ft

Serial #: 8674

Inside

Press@RunDepth: 20.42 psig @ 4263.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.01.14 End Date: 2014.01.14 Last Calib.: 2014.01.14
 Start Time: 13:34:00 End Time: 19:57:54 Time On Btm: 2014.01.14 @ 15:49:55
 Time Off Btm: 2014.01.14 @ 17:48:55

TEST COMMENT: IF- Weak Surface Blow Built to 1/4"
 IS- No Blow
 FF- Weak Surface Blow Built to 1/2"
 FS- No Blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2156.03	110.66	Initial Hydro-static
1	18.38	110.04	Open To Flow (1)
6	17.87	110.51	Shut-In(1)
23	124.62	111.31	End Shut-In(1)
24	18.85	111.28	Open To Flow (2)
55	20.42	113.08	Shut-In(2)
119	409.05	116.28	End Shut-In(2)
119	2024.36	116.75	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	OCM 29%oil 71%m	0.02

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Engineering Inc.

6-19s-27w Lane, KS

562 W. State Rd. 4
Olmitz KS 67564

Mark #1-6

Job Ticket: Larson

DST#: 1

ATTN: Vern Schrag

Test Start: 2014.01.14 @ 13:34:00

Tool Information

Drill Pipe:	Length: 4115.00 ft	Diameter: 3.80 inches	Volume: 57.72 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:	28000.00 lb
Drill Collar:	Length: 147.00 ft	Diameter: 2.25 inches	Volume: 0.72 bbl	Weight to Pull Loose:	26000.00 lb
			<u>Total Volume: 58.44 bbl</u>	Tool Chased	ft
Drill Pipe Above KB:	28.00 ft			String Weight: Initial	58000.00 lb
Depth to Top Packer:	4261.00 ft			Final	58000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	17.00 ft				
Tool Length:	44.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			
Tool Comments:					

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			4235.00	
Shut In Tool	5.00			4240.00	
Hydraulic tool	5.00			4245.00	
Jars	5.00			4250.00	
Safety Joint	2.00			4252.00	
Packer	5.00			4257.00	27.00 Bottom Of Top Packer
Packer	4.00			4261.00	
Stubb	1.00			4262.00	
Perforations	1.00			4263.00	
Recorder	0.00	8355	Outside	4263.00	
Recorder	0.00	8674	Inside	4263.00	
Perforations	10.00			4273.00	
Bullnose	5.00			4278.00	17.00 Bottom Packers & Anchor

Total Tool Length: 44.00



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering Inc.

6-19s-27w Lane,KS

562 W. State Rd. 4
Olmitz KS 67564

Mark #1-6

Job Ticket: Larson

DST#: 1

ATTN: Vern Schrag

Test Start: 2014.01.14 @ 13:34:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 58.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.73 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2400.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	OCM 29%oil 71%m	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

Num Fluid Samples: 0

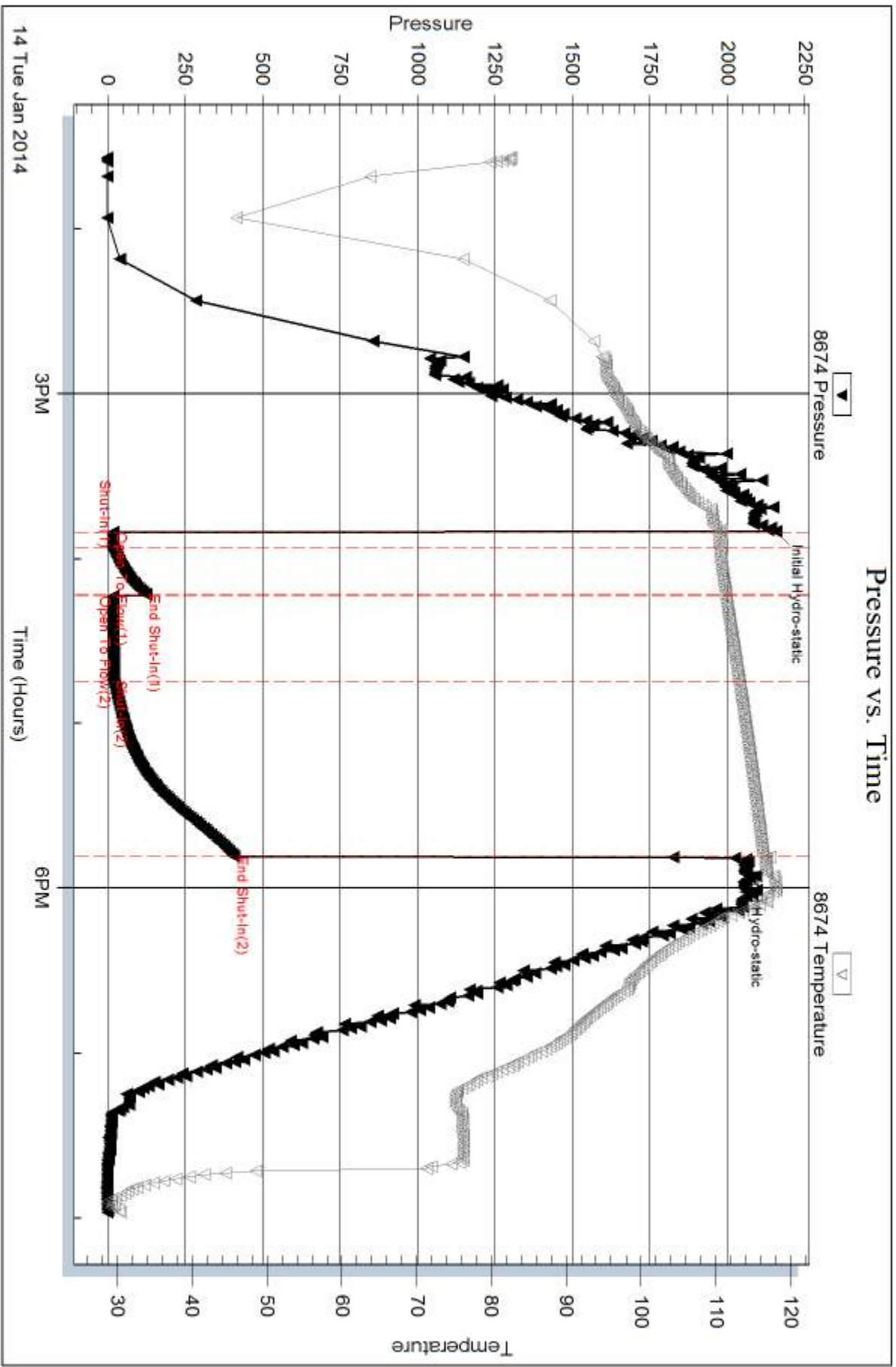
Num Gas Bombs: 0

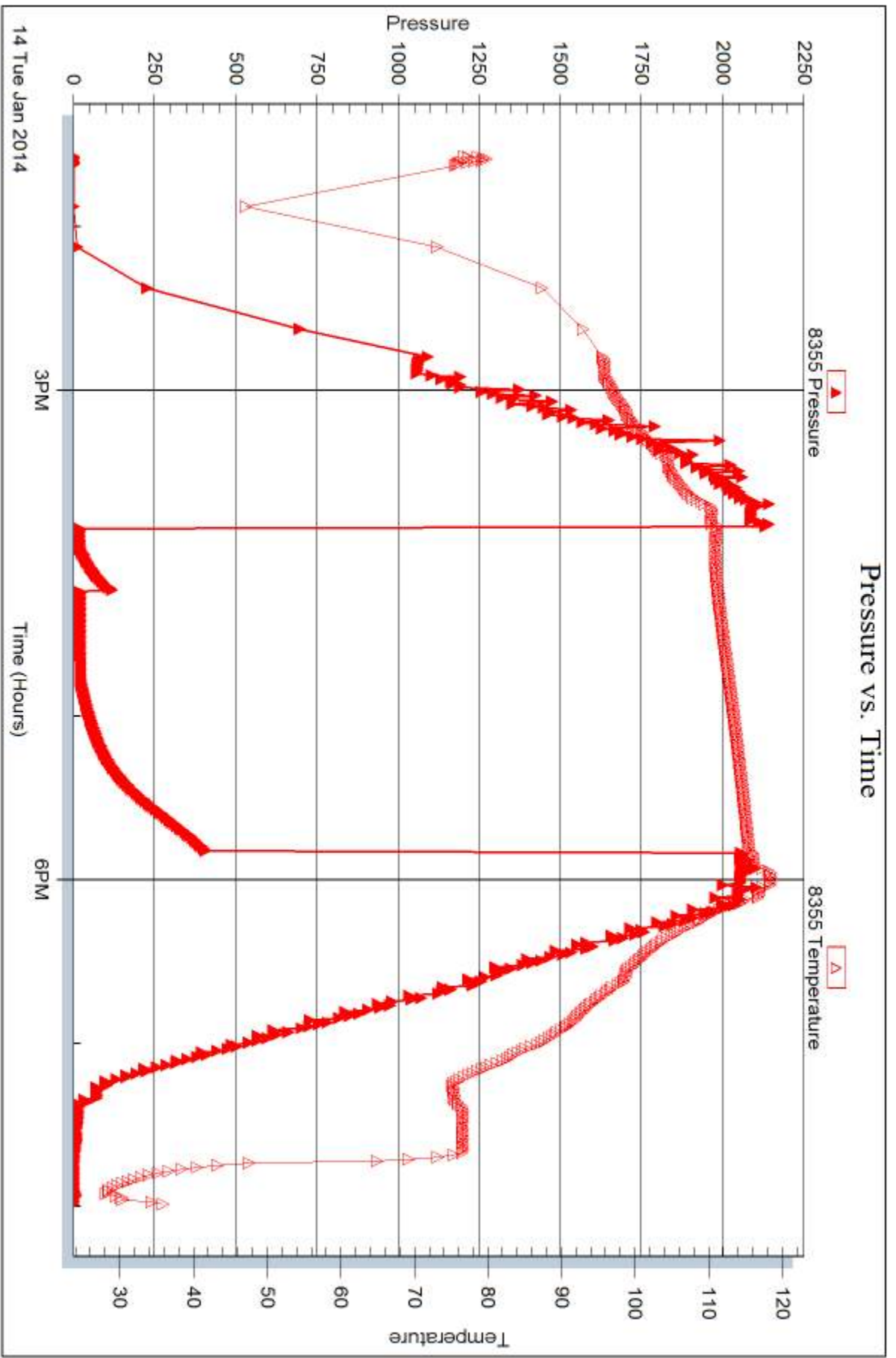
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc.**

562 W. State Rd. 4
Olmitz KS 67564

ATTN: Vern Schrag

Mark #1-6

6-19s-27w Lane,KS

Start Date: 2014.01.15 @ 06:20:00

End Date: 2014.01.15 @ 12:39:24

Job Ticket #: 50238 DST #: 2

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

Printed: 2014.01.22 @ 14:00:46



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Larson Engineering Inc.

6-19s-27w Lane, KS

562 W. State Rd. 4
Olmitz KS 67564

Mark #1-6

Job Ticket: 50238

DST#: 2

ATTN: Vern Schrag

Test Start: 2014.01.15 @ 06:20:00

GENERAL INFORMATION:

Formation: **LKC " K "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:35:10

Time Test Ended: 12:39:24

Test Type: Conventional Bottom Hole (Reset)

Tester: Will MacLean

Unit No: 58

Interval: 4259.00 ft (KB) To 4283.00 ft (KB) (TVD)

Reference Elevations: 2737.00 ft (KB)

Total Depth: 4283.00 ft (KB) (TVD)

2730.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 7.00 ft

Serial #: 8674 Inside

Press@RunDepth: 39.90 psig @ 4260.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.01.15 End Date: 2014.01.15

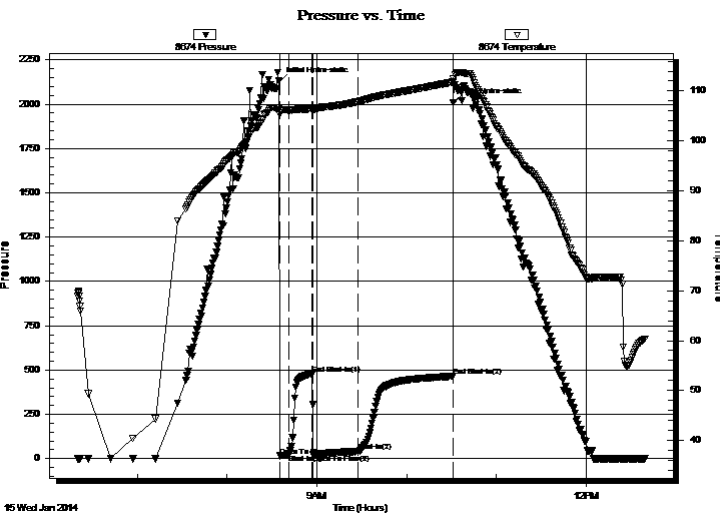
Last Calib.: 2014.01.15

Start Time: 06:20:00 End Time: 12:39:24

Time On Btm: 2014.01.15 @ 08:34:55

Time Off Btm: 2014.01.15 @ 10:31:25

TEST COMMENT: IF- Weak Surface Blow Built to 1/2"
IS- No Blow
FF- Weak Surface Blow Built to 2"
FS- Weak Surface Blow in 40 min



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2129.29	106.61	Initial Hydro-static
1	15.48	105.20	Open To Flow (1)
6	22.64	106.19	Shut-In(1)
22	479.38	106.43	End Shut-In(1)
23	24.85	106.22	Open To Flow (2)
53	39.90	107.90	Shut-In(2)
116	465.06	111.78	End Shut-In(2)
117	2007.37	112.50	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
45.00	GOCM 4%g 12%oil 84%m	0.22
0.00	15' of GIP	0.00

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Engineering Inc.

6-19s-27w Lane, KS

562 W. State Rd. 4
Olmitz KS 67564

Mark #1-6

Job Ticket: 50238

DST#: 2

ATTN: Vern Schrag

Test Start: 2014.01.15 @ 06:20:00

Tool Information

Drill Pipe:	Length: 4115.00 ft	Diameter: 3.80 inches	Volume: 57.72 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: 147.00 ft	Diameter: 2.25 inches	Volume: 0.72 bbl	Weight to Pull Loose:	14000.00 lb
			<u>Total Volume: 58.44 bbl</u>	Tool Chased	ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial	58000.00 lb
Depth to Top Packer:	4259.00 ft			Final	58000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	24.00 ft				
Tool Length:	51.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4233.00	
Shut In Tool	5.00			4238.00	
Hydraulic tool	5.00			4243.00	
Jars	5.00			4248.00	
Safety Joint	2.00			4250.00	
Packer	5.00			4255.00	27.00 Bottom Of Top Packer
Packer	4.00			4259.00	
Stubb	1.00			4260.00	
Recorder	0.00	8355	Outside	4260.00	
Recorder	0.00	8674	Inside	4260.00	
Perforations	18.00			4278.00	
Bullnose	5.00			4283.00	24.00 Bottom Packers & Anchor

Total Tool Length: 51.00



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering Inc.

6-19s-27w Lane,KS

562 W. State Rd. 4
Olmitz KS 67564

Mark #1-6

Job Ticket: 50238

DST#: 2

ATTN: Vern Schrag

Test Start: 2014.01.15 @ 06:20:00

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 58.00 sec/qt
Water Loss: 6.74 in³
Resistivity: ohm.m
Salinity: 2400.00 ppm
Filter Cake: 2.00 inches

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

Oil API: deg API
Water Salinity: ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
45.00	GOCM 4%g 12%oil 84%m	0.221
0.00	15' of GIP	0.000

Total Length: 45.00 ft Total Volume: 0.221 bbl

Num Fluid Samples: 0

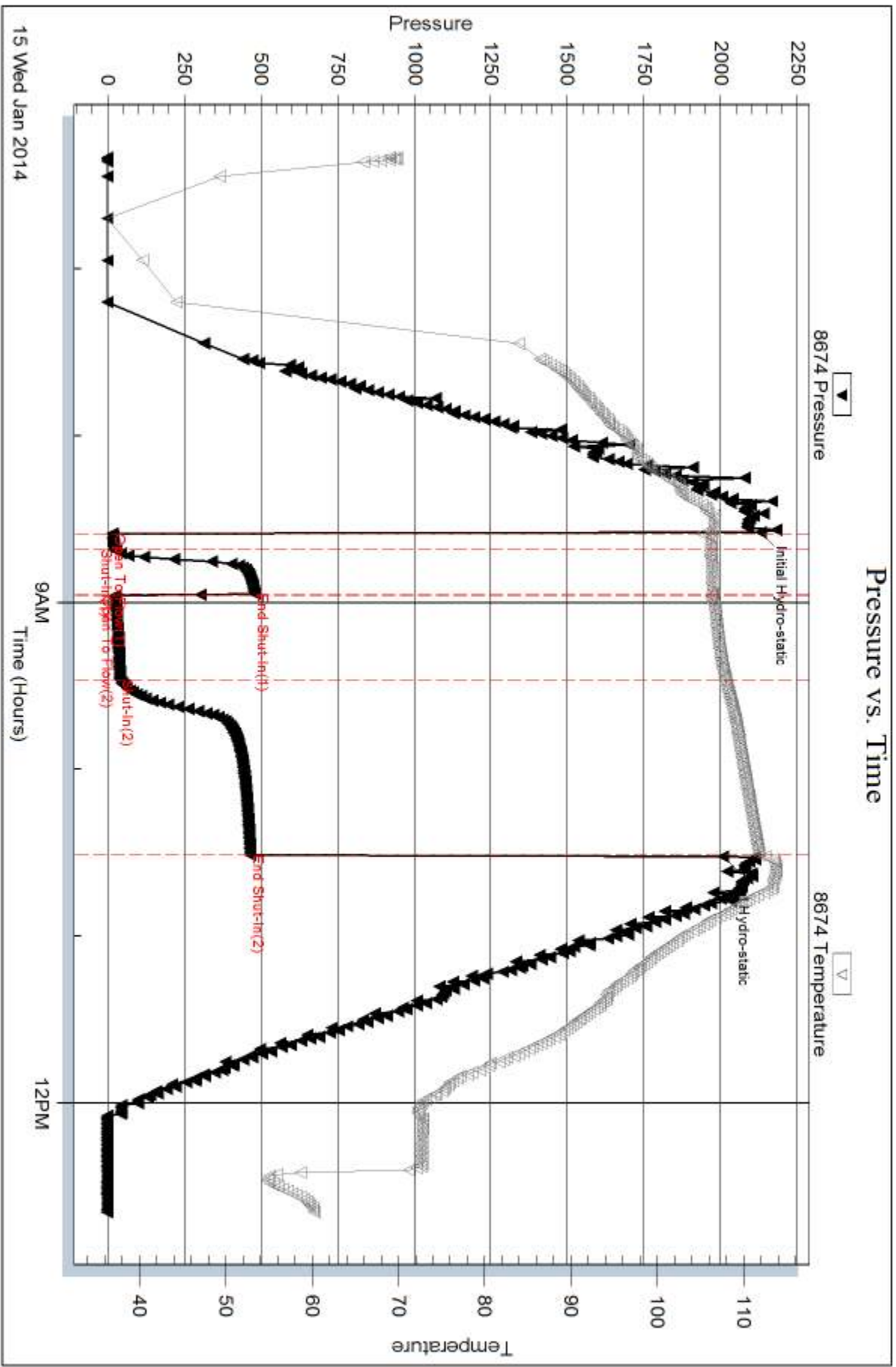
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

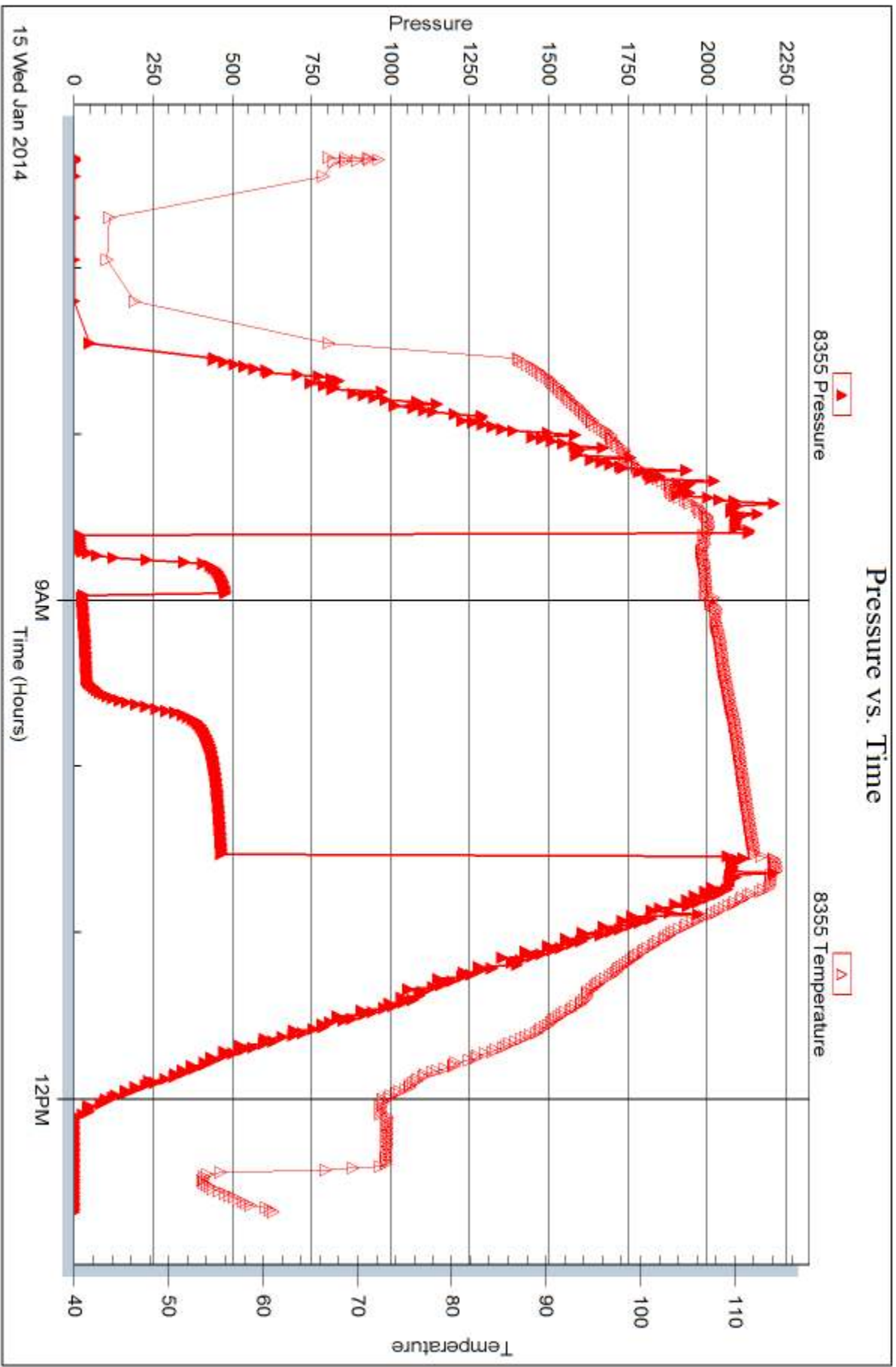
Recovery Comments:



15 Wed Jan 2014

9AM

12PM





DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc.**

562 W. State Rd. 4
Olmitz KS 67564

ATTN: Vern Schrag

Mark #1-6

6-19s-27w Lane,KS

Start Date: 2014.01.15 @ 22:54:00

End Date: 2014.01.16 @ 04:06:09

Job Ticket #: 50239 DST #: 3

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

Printed: 2014.01.22 @ 14:00:02



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Larson Engineering Inc.

6-19s-27w Lane, KS

562 W. State Rd. 4
Olmitz KS 67564

Mark #1-6

Job Ticket: 50239

DST#: 3

ATTN: Vern Schrag

Test Start: 2014.01.15 @ 22:54:00

GENERAL INFORMATION:

Formation: **LKC " L "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:44:55

Time Test Ended: 04:06:09

Test Type: Conventional Bottom Hole (Reset)

Tester: Will MacLean

Unit No: 72

Interval: 4290.00 ft (KB) To 4304.00 ft (KB) (TVD)

Reference Elevations: 2737.00 ft (KB)

Total Depth: 4304.00 ft (KB) (TVD)

2730.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 7.00 ft

Serial #: 8674

Inside

Press@RunDepth: 35.45 psig @ 4291.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.01.15

End Date:

2014.01.16

Last Calib.: 2014.01.16

Start Time: 22:54:00

End Time:

04:06:09

Time On Btm: 2014.01.16 @ 00:44:40

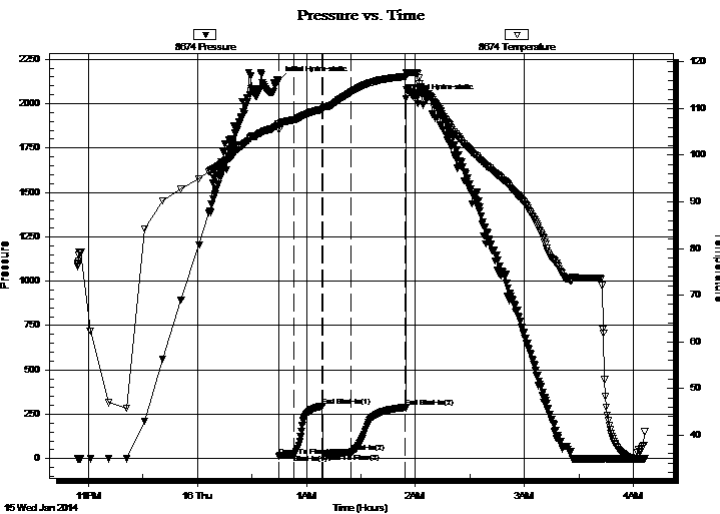
Time Off Btm: 2014.01.16 @ 01:54:55

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

IS- No Blow

FF- Weak Surface Blow Built to 1/2"

FS- No Blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2131.04	106.76	Initial Hydro-static
1	14.67	105.39	Open To Flow (1)
9	24.62	107.57	Shut-In(1)
24	296.24	109.80	End Shut-In(1)
25	29.83	109.99	Open To Flow (2)
40	35.45	113.53	Shut-In(2)
70	289.32	116.86	End Shut-In(2)
71	2027.83	117.65	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
20.00	OCM 3%oil 97%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.

6-19s-27w Lane, KS

562 W. State Rd. 4
Olmitz KS 67564

Mark #1-6

Job Ticket: 50239

DST#: 3

ATTN: Vern Schrag

Test Start: 2014.01.15 @ 22:54:00

Tool Information

Drill Pipe:	Length: 4144.00 ft	Diameter: 3.80 inches	Volume: 58.13 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:	360000.0 lb
Drill Collar:	Length: 147.00 ft	Diameter: 2.25 inches	Volume: 0.72 bbl	Weight to Pull Loose:	22000.00 lb
			<u>Total Volume: 58.85 bbl</u>	Tool Chased	ft
Drill Pipe Above KB:	28.00 ft			String Weight: Initial	58000.00 lb
Depth to Top Packer:	4290.00 ft			Final	58000.00 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

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4264.00	
Shut In Tool	5.00			4269.00	
Hydraulic tool	5.00			4274.00	
Jars	5.00			4279.00	
Safety Joint	2.00			4281.00	
Packer	5.00			4286.00	27.00 Bottom Of Top Packer
Packer	4.00			4290.00	
Stubb	1.00			4291.00	
Recorder	0.00	8355	Outside	4291.00	
Recorder	0.00	8674	Inside	4291.00	
Perforations	8.00			4299.00	
Bullnose	5.00			4304.00	14.00 Bottom Packers & Anchor

Total Tool Length: 41.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering Inc.

6-19s-27w Lane,KS

562 W. State Rd. 4
Olmitz KS 67564

Mark #1-6

Job Ticket: 50239

DST#: 3

ATTN: Vern Schrag

Test Start: 2014.01.15 @ 22:54:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.36 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2500.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	OCM 3%oil 97%m	0.098

Total Length: 20.00 ft Total Volume: 0.098 bbl

Num Fluid Samples: 0

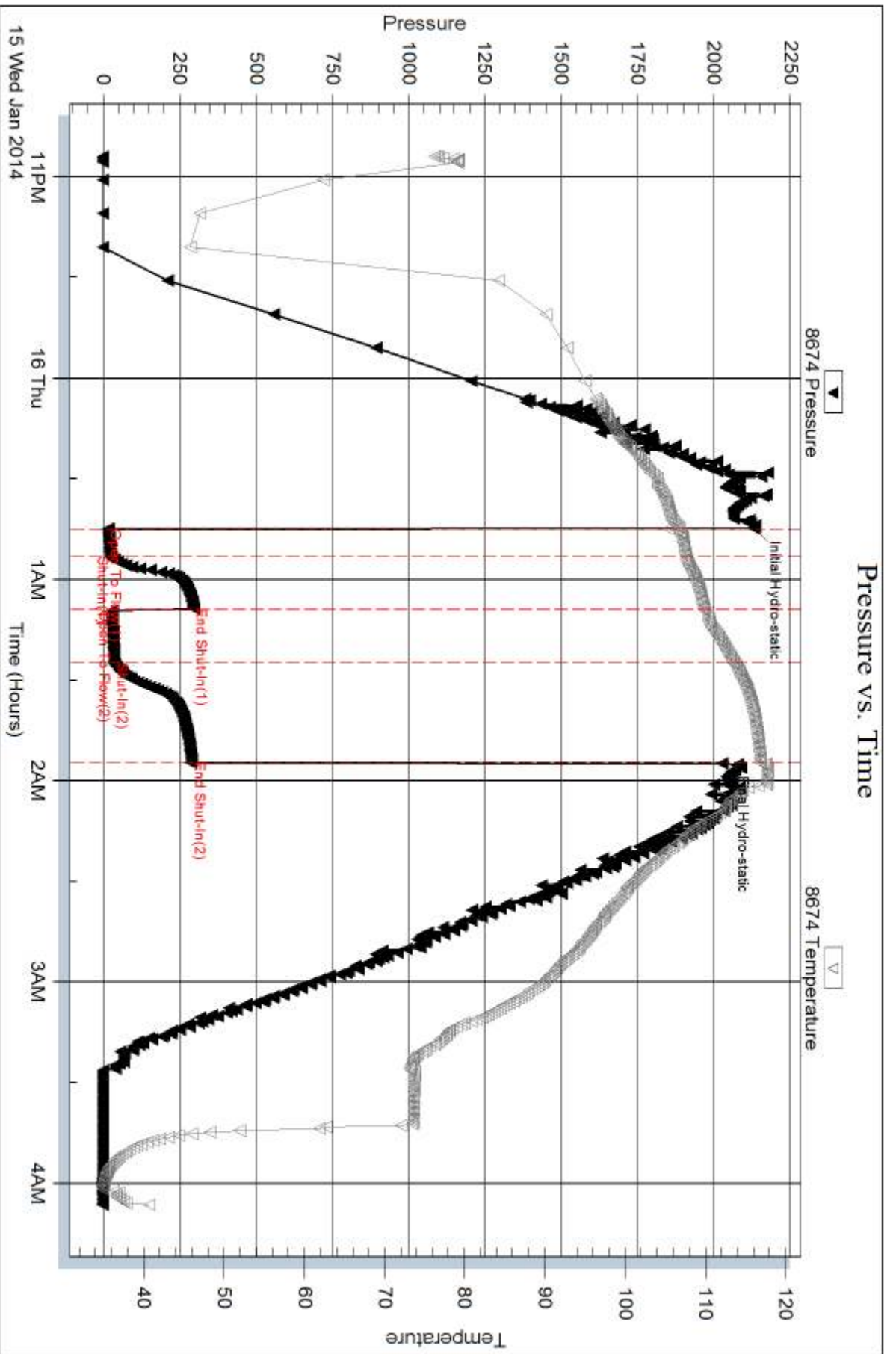
Num Gas Bombs: 0

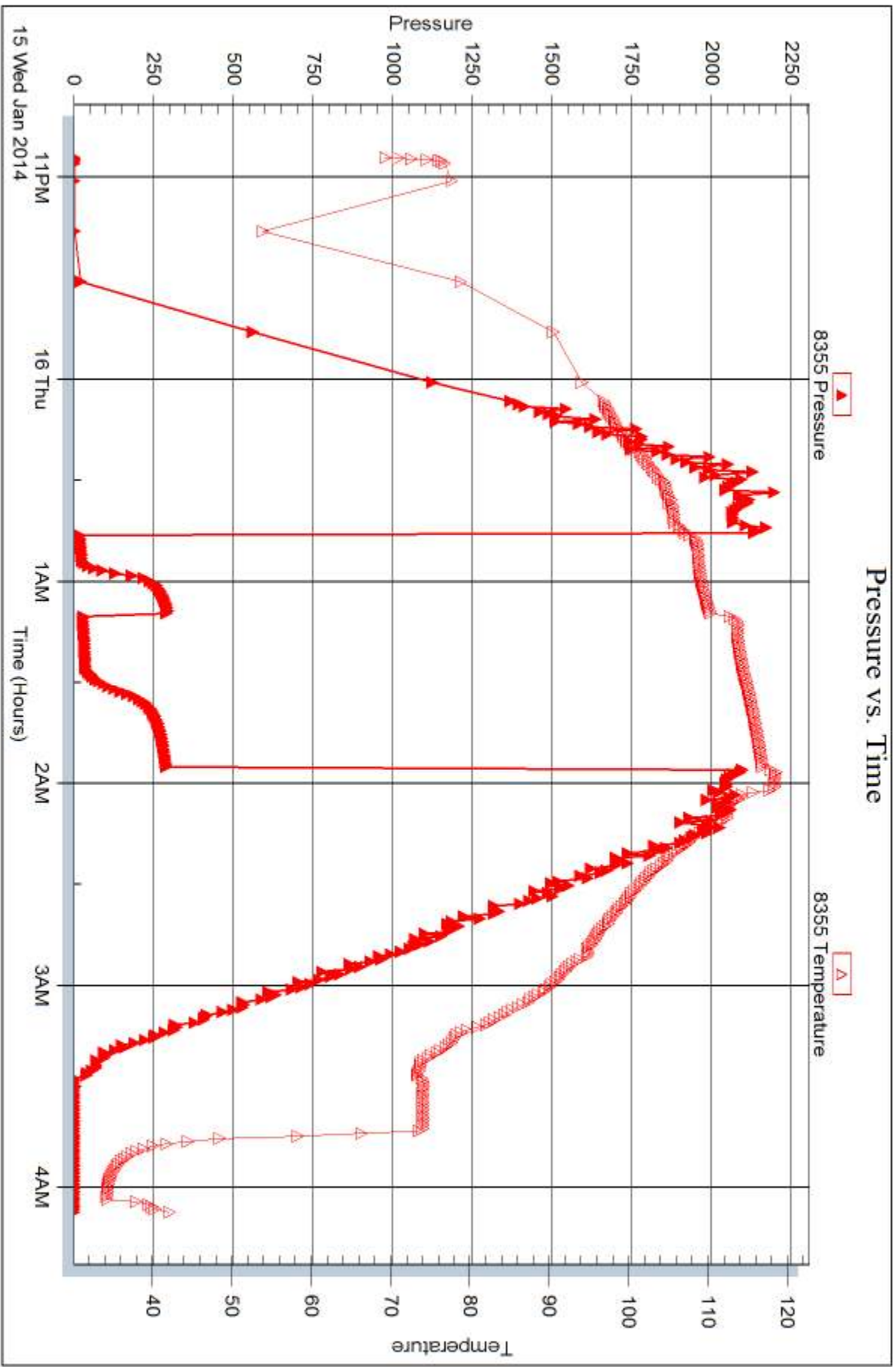
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc.**

562 W. State Rd. 4
Olmitz KS 67564

ATTN: Vern Schrag

Mark #1-6

6-19s-27w Lane,KS

Start Date: 2014.01.16 @ 14:32:00

End Date: 2014.01.16 @ 20:34:24

Job Ticket #: 50240 DST #: 4

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

Printed: 2014.01.22 @ 13:13:03



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Larson Engineering Inc.

6-19s-27w Lane, KS

562 W. State Rd. 4
Olmitz KS 67564

Mark #1-6

Job Ticket: 50240

DST#: 4

ATTN: Vern Schrag

Test Start: 2014.01.16 @ 14:32:00

GENERAL INFORMATION:

Formation: **LKC " L "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:05:10

Time Test Ended: 20:34:24

Test Type: Conventional Bottom Hole (Reset)

Tester: Will MacLean

Unit No: 58

Interval: 4303.00 ft (KB) To 4314.00 ft (KB) (TVD)

Reference Elevations: 2737.00 ft (KB)

Total Depth: 4278.00 ft (KB) (TVD)

2730.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 7.00 ft

Serial #: 8674

Inside

Press@RunDepth: 22.26 psig @ 4304.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.01.16

End Date:

2014.01.16

Last Calib.:

2014.01.16

Start Time: 14:32:00

End Time:

20:34:24

Time On Btm:

2014.01.16 @ 17:04:55

Time Off Btm:

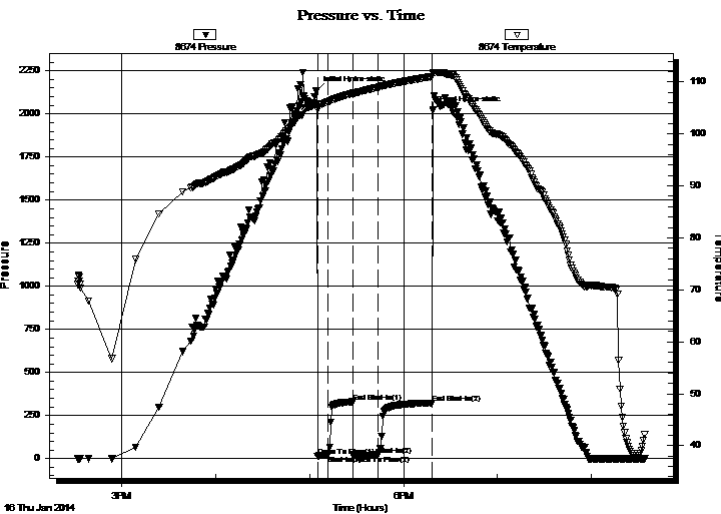
2014.01.16 @ 18:18:40

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

IS- No Blow

FF- Weak Surface Blow Built to 1/4"

FS- No Blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2135.65	105.76	Initial Hydro-static
1	15.04	104.74	Open To Flow (1)
7	18.45	106.16	Shut-In(1)
23	329.72	107.84	End Shut-In(1)
23	17.69	107.62	Open To Flow (2)
39	22.26	108.97	Shut-In(2)
74	323.75	111.07	End Shut-In(2)
74	2017.89	111.76	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	100% m with Oil Spots in Tool	0.02

* 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.

6-19s-27w Lane, KS

562 W. State Rd. 4
Olmitz KS 67564

Mark #1-6

Job Ticket: 50240

DST#: 4

ATTN: Vern Schrag

Test Start: 2014.01.16 @ 14:32:00

Tool Information

Drill Pipe:	Length: 4145.00 ft	Diameter: 3.80 inches	Volume: 58.14 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: 147.00 ft	Diameter: 2.25 inches	Volume: 0.72 bbl	Weight to Pull Loose: 12000.00 lb
			<u>Total Volume: 58.86 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	4303.00 ft			Final 58000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	11.00 ft			
Tool Length:	38.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4277.00	
Shut In Tool	5.00			4282.00	
Hydraulic tool	5.00			4287.00	
Jars	5.00			4292.00	
Safety Joint	2.00			4294.00	
Packer	5.00			4299.00	27.00 Bottom Of Top Packer
Packer	4.00			4303.00	
Stubb	1.00			4304.00	
Recorder	0.00	8355	Outside	4304.00	
Recorder	0.00	8674	Inside	4304.00	
Perforations	5.00			4309.00	
Bullnose	5.00			4314.00	11.00 Bottom Packers & Anchor

Total Tool Length: 38.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering Inc.

6-19s-27w Lane,KS

562 W. State Rd. 4
Olmitz KS 67564

Mark #1-6

Job Ticket: 50240

DST#: 4

ATTN: Vern Schrag

Test Start: 2014.01.16 @ 14:32:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.37 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2200.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	100% m with Oil Spots in Tool	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

Num Fluid Samples: 0

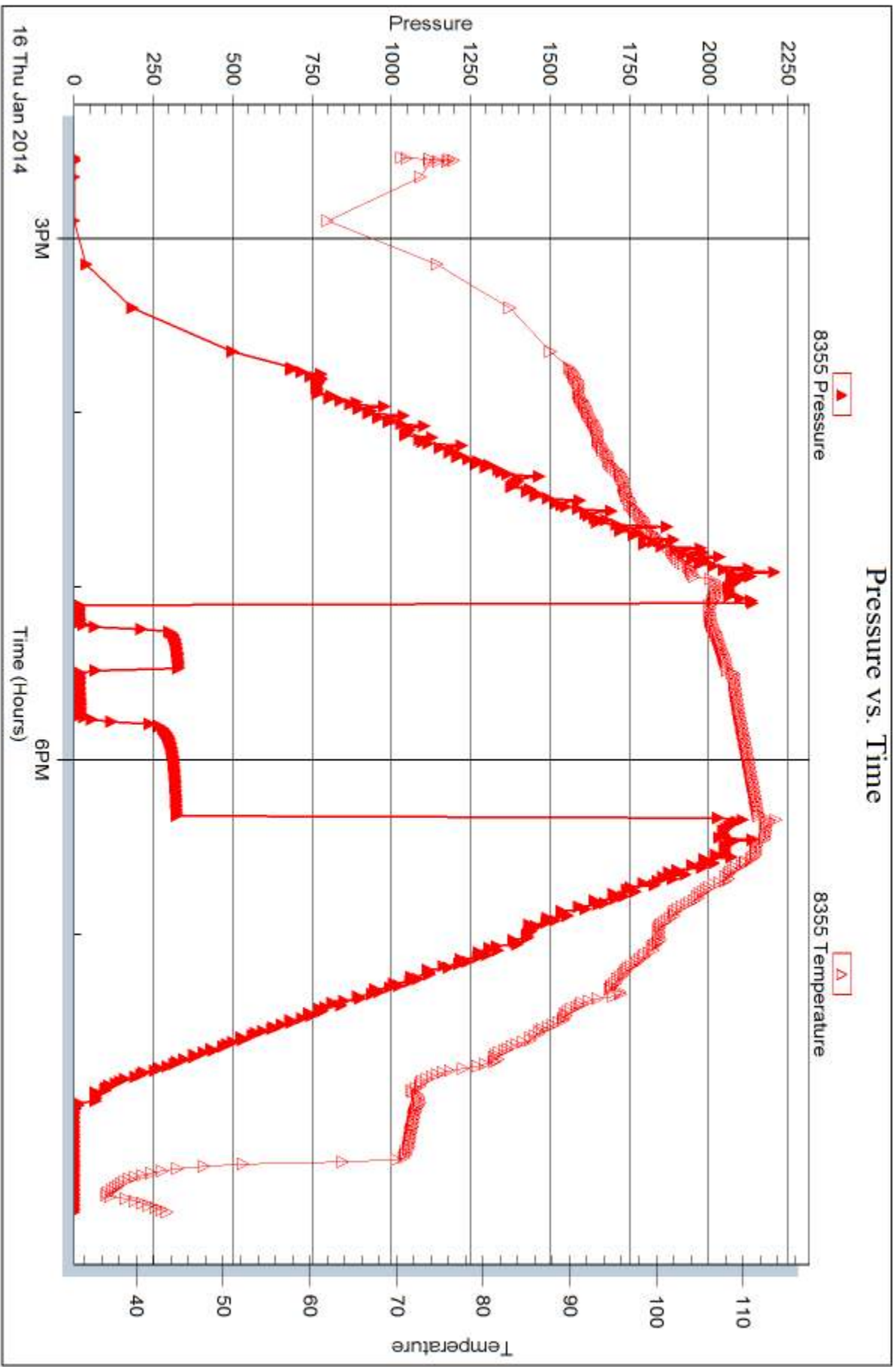
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc.**

562 W. State Rd. 4
Olmitz KS 67564

ATTN: Vern Schrag

Mark #1-6

6-19s-27w Lane,KS

Start Date: 2014.01.17 @ 17:16:00

End Date: 2014.01.17 @ 22:34:54

Job Ticket #: 50241 DST #: 5

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

Printed: 2014.01.22 @ 13:08:30



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

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

6-19s-27w Lane, KS

Mark #1-6

Job Ticket: 50241

DST#: 5

Test Start: 2014.01.17 @ 17:16:00

GENERAL INFORMATION:

Formation: **Marmaton**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:16:25

Time Test Ended: 22:34:54

Test Type: Conventional Bottom Hole (Reset)

Tester: Will MacLean

Unit No: 58

Interval: 4332.00 ft (KB) To 4440.00 ft (KB) (TVD)

Reference Elevations: 2737.00 ft (KB)

Total Depth: 4332.00 ft (KB) (TVD)

2730.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 7.00 ft

Serial #: 8674

Inside

Press@RunDepth: 23.11 psig @ 4334.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.01.17

End Date:

2014.01.17

Last Calib.: 2014.01.17

Start Time: 17:16:00

End Time:

22:34:54

Time On Btm: 2014.01.17 @ 19:15:55

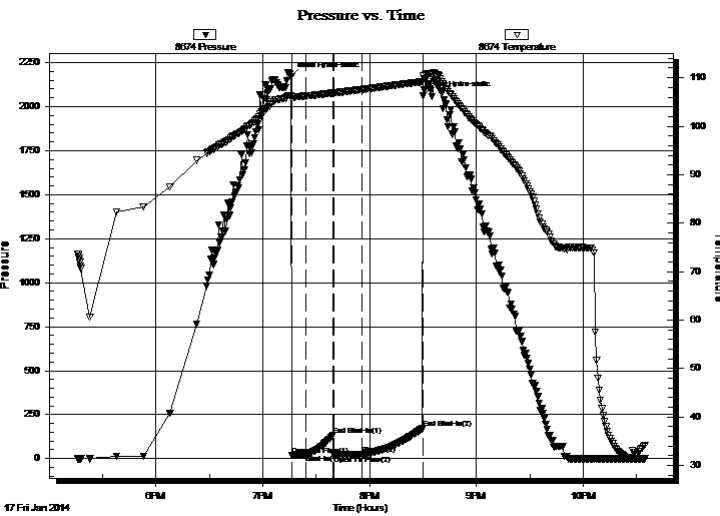
Time Off Btm: 2014.01.17 @ 20:29:55

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

IS- No Blow

FF- Weak Surface Blow

FS- No Blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2169.93	106.37	Initial Hydro-static
1	20.43	105.73	Open To Flow (1)
8	21.82	106.21	Shut-In(1)
24	132.69	106.87	End Shut-In(1)
24	21.03	106.78	Open To Flow (2)
40	23.11	107.58	Shut-In(2)
74	172.37	109.20	End Shut-In(2)
74	2060.98	110.38	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	WCM 1%w 99%m with a Few Oil Spots	0.05

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Larson Engineering Inc.

6-19s-27w Lane, KS

562 W. State Rd. 4
Olmitz KS 67564

Mark #1-6

Job Ticket: 50241

DST#: 5

ATTN: Vern Schrag

Test Start: 2014.01.17 @ 17:16:00

GENERAL INFORMATION:

Formation: **Marmaton**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:16:25

Time Test Ended: 22:34:54

Test Type: Conventional Bottom Hole (Reset)

Tester: Will MacLean

Unit No: 58

Interval: 4332.00 ft (KB) To 4440.00 ft (KB) (TVD)

Reference Elevations: 2737.00 ft (KB)

Total Depth: 4332.00 ft (KB) (TVD)

2730.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 7.00 ft

Serial #: 8355 Outside

Press@RunDepth: psig @ 4334.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.01.17

End Date:

2014.01.17

Last Calib.:

2014.01.17

Start Time: 17:16:05

End Time:

22:36:14

Time On Btm:

Time Off Btm:

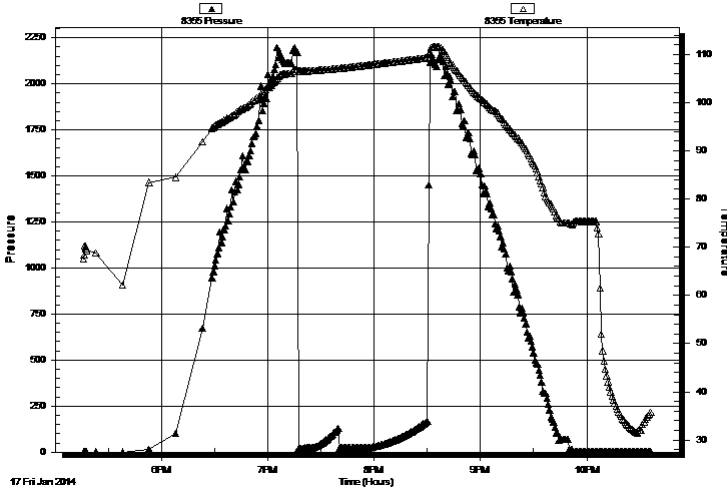
TEST COMMENT: IF- Weak Surface Blow Built to 1/2"

IS- No Blow

FF- Weak Surface Blow

FS- No Blow

Pressure vs. Time



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
10.00	WCM 1%w 99%m with a Few Oil Spots	0.05

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.

6-19s-27w Lane,KS

562 W. State Rd. 4
Olmitz KS 67564

Mark #1-6

Job Ticket: 50241

DST#: 5

ATTN: Vern Schrag

Test Start: 2014.01.17 @ 17:16:00

Tool Information

Drill Pipe:	Length: 4178.00 ft	Diameter: 3.80 inches	Volume: 58.61 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:	28000.00 lb
Drill Collar:	Length: 147.00 ft	Diameter: 2.25 inches	Volume: 0.72 bbl	Weight to Pull Loose:	20000.00 lb
			<u>Total Volume: 59.33 bbl</u>	Tool Chased	ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial	60000.00 lb
Depth to Top Packer:	4332.00 ft			Final	60000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	108.00 ft				
Tool Length:	135.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4306.00	
Shut In Tool	5.00			4311.00	
Hydraulic tool	5.00			4316.00	
Jars	5.00			4321.00	
Safety Joint	2.00			4323.00	
Packer	5.00			4328.00	27.00 Bottom Of Top Packer
Packer	4.00			4332.00	
Stubb	1.00			4333.00	
Perforations	1.00			4334.00	
Recorder	0.00	8355	Outside	4334.00	
Recorder	0.00	8674	Inside	4334.00	
Perforations	36.00			4370.00	
Change Over Sub	1.00			4371.00	
Drill Pipe	63.00			4434.00	
Change Over Sub	1.00			4435.00	
Bullnose	5.00			4440.00	108.00 Bottom Packers & Anchor
Total Tool Length:	135.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering Inc.

6-19s-27w Lane,KS

562 W. State Rd. 4
Olmitz KS 67564

Mark #1-6

Job Ticket: 50241

DST#: 5

ATTN: Vern Schrag

Test Start: 2014.01.17 @ 17:16:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.78 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2200.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	WCM 1%w 99%m with a Few Oil Spots	0.049

Total Length: 10.00 ft Total Volume: 0.049 bbl

Num Fluid Samples: 0

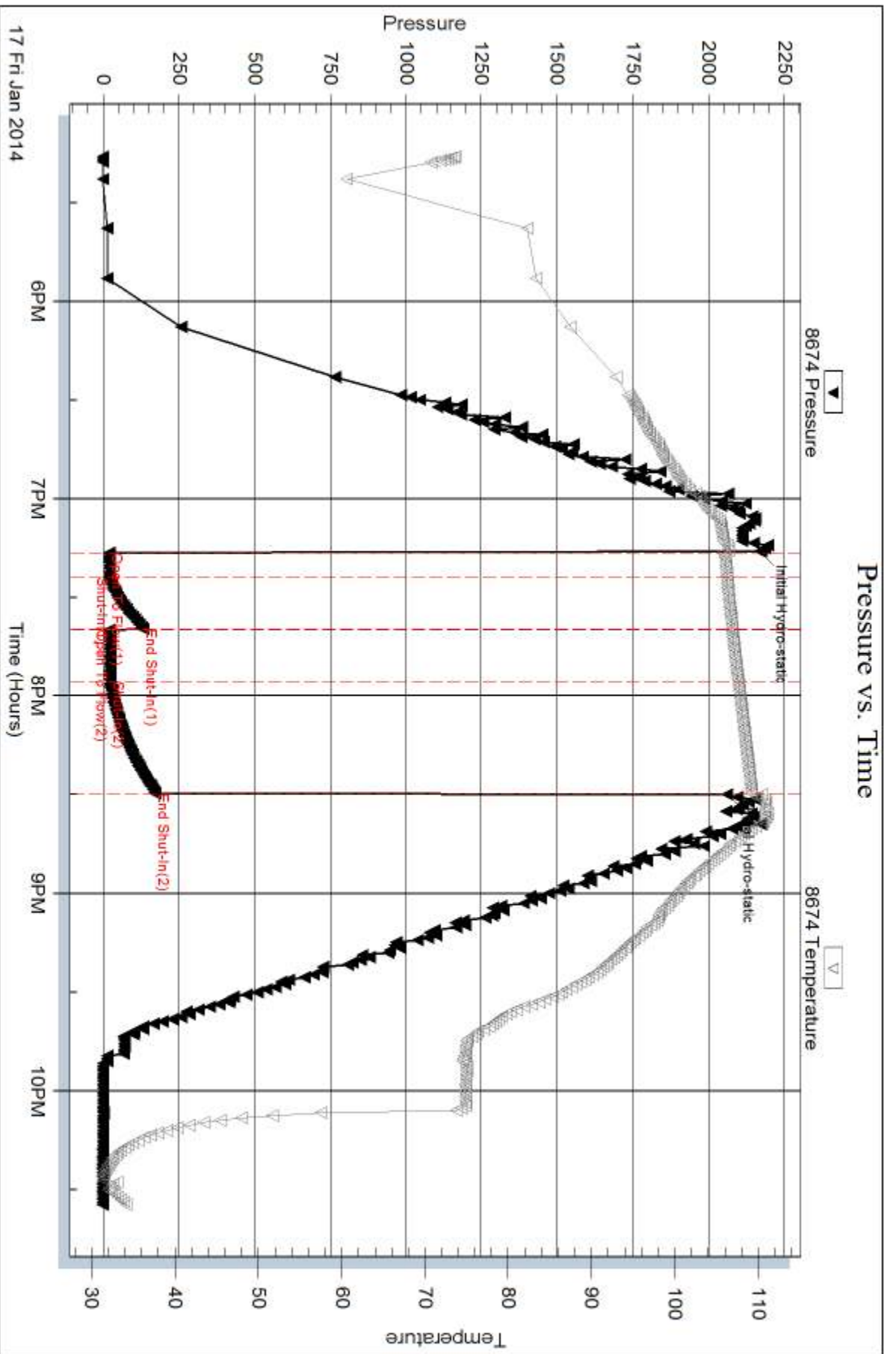
Num Gas Bombs: 0

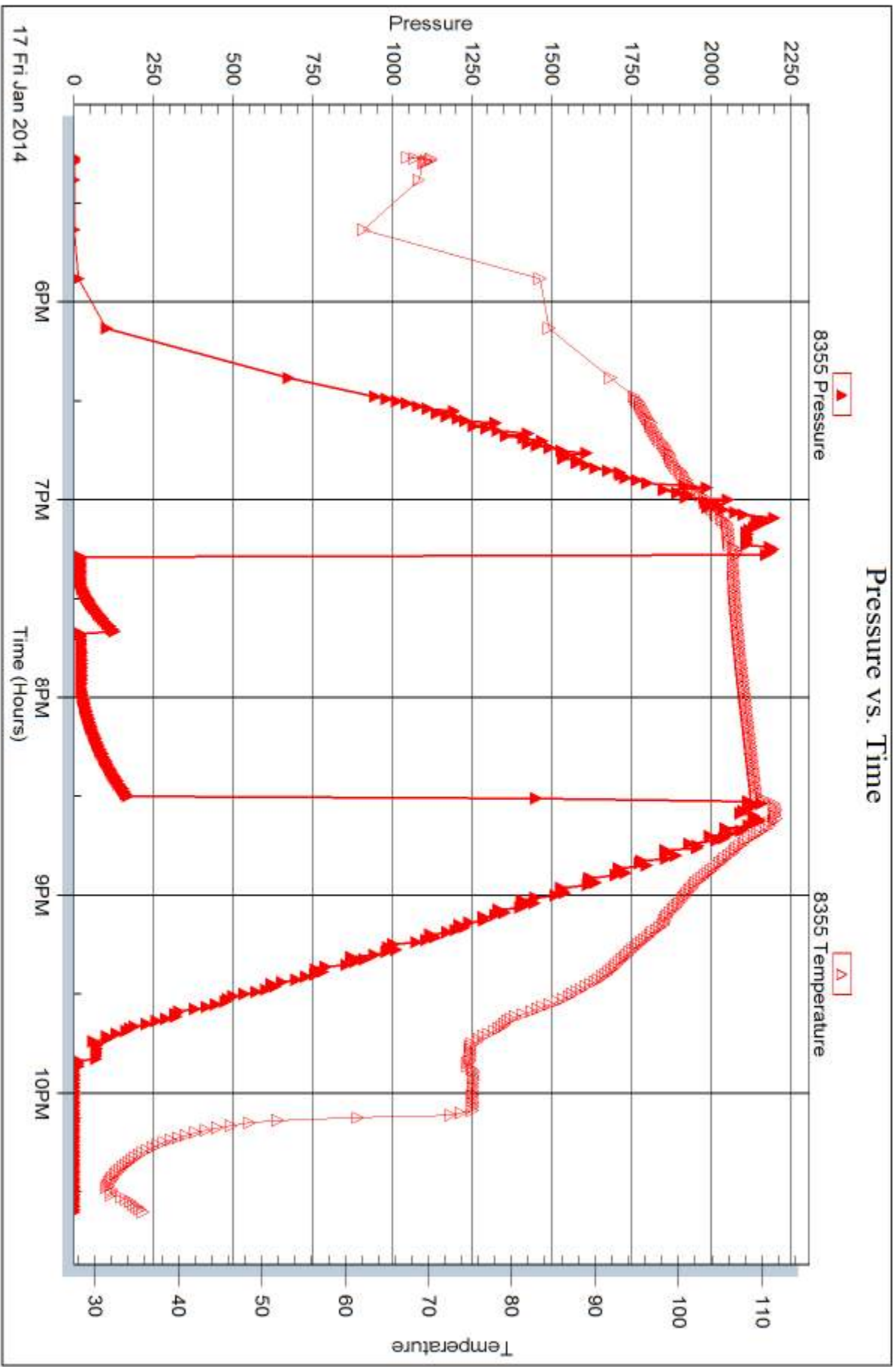
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

Prepared For: **Larson Engineering Inc.**

562 W. State Rd. 4
Olmitz KS 67564

ATTN: Vern Schrag

Mark #1-6

6-19s-27w Lane,KS

Start Date: 2014.01.18 @ 18:32:00

End Date: 2014.01.19 @ 00:33:54

Job Ticket #: 50242 DST #: 6

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

Printed: 2014.01.22 @ 13:07:57



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Larson Engineering Inc.

6-19s-27w Lane, KS

562 W. State Rd. 4
Olmitz KS 67564

Mark #1-6

Job Ticket: 50242

DST#: 6

ATTN: Vern Schrag

Test Start: 2014.01.18 @ 18:32:00

GENERAL INFORMATION:

Formation: **Cherokee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 20:51:25

Time Test Ended: 00:33:54

Test Type: Conventional Bottom Hole (Reset)

Tester: Will MacLean

Unit No: 58

Interval: 4452.00 ft (KB) To 4590.00 ft (KB) (TVD)

Reference Elevations: 2737.00 ft (KB)

Total Depth: 4590.00 ft (KB) (TVD)

2730.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 7.00 ft

Serial #: 8674 Inside

Press@RunDepth: 22.55 psig @ 4453.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.01.18

End Date:

2014.01.19

Last Calib.:

2014.01.19

Start Time:

18:32:00

End Time:

00:33:54

Time On Btm:

2014.01.18 @ 20:50:55

Time Off Btm:

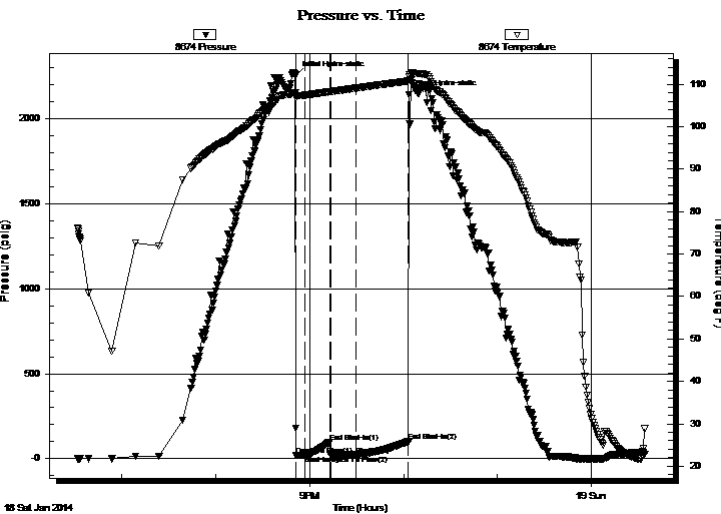
2014.01.18 @ 22:03:25

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

IS- No Blow

FF- Weak Surface Blow Built to 1/4"

FS- No Blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2256.30	108.07	Initial Hydro-static
1	20.87	107.26	Open To Flow (1)
6	21.34	107.43	Shut-In(1)
23	99.24	108.28	End Shut-In(1)
23	18.10	108.22	Open To Flow (2)
39	22.55	109.10	Shut-In(2)
72	100.99	110.76	End Shut-In(2)
73	2142.49	111.70	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	100% m with Couple Oil Spots in Tool	0.05

* 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.

6-19s-27w Lane,KS

562 W. State Rd. 4
Olmitz KS 67564

Mark #1-6

Job Ticket: 50242

DST#: 6

ATTN: Vern Schrag

Test Start: 2014.01.18 @ 18:32:00

Tool Information

Drill Pipe:	Length: 4302.00 ft	Diameter: 3.80 inches	Volume: 60.35 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:	26000.00 lb
Drill Collar:	Length: 147.00 ft	Diameter: 2.25 inches	Volume: 0.72 bbl	Weight to Pull Loose:	10000.00 lb
			<u>Total Volume: 61.07 bbl</u>	Tool Chased	ft
Drill Pipe Above KB:	24.00 ft			String Weight: Initial	62000.00 lb
Depth to Top Packer:	4452.00 ft			Final	62000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	138.00 ft				
Tool Length:	165.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4426.00	
Shut In Tool	5.00			4431.00	
Hydraulic tool	5.00			4436.00	
Jars	5.00			4441.00	
Safety Joint	2.00			4443.00	
Packer	5.00			4448.00	27.00 Bottom Of Top Packer
Packer	4.00			4452.00	
Stubb	1.00			4453.00	
Recorder	0.00	8355	Outside	4453.00	
Recorder	0.00	8674	Inside	4453.00	
Perforations	36.00			4489.00	
Change Over Sub	1.00			4490.00	
Drill Pipe	94.00			4584.00	
Change Over Sub	1.00			4585.00	
Bullnose	5.00			4590.00	138.00 Bottom Packers & Anchor

Total Tool Length: 165.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering Inc.

6-19s-27w Lane,KS

562 W. State Rd. 4
Olmitz KS 67564

Mark #1-6

Job Ticket: 50242

DST#: 6

ATTN: Vern Schrag

Test Start: 2014.01.18 @ 18:32:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 62.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.19 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2100.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	100% m with Couple Oil Spots in Tool	0.049

Total Length: 10.00 ft Total Volume: 0.049 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

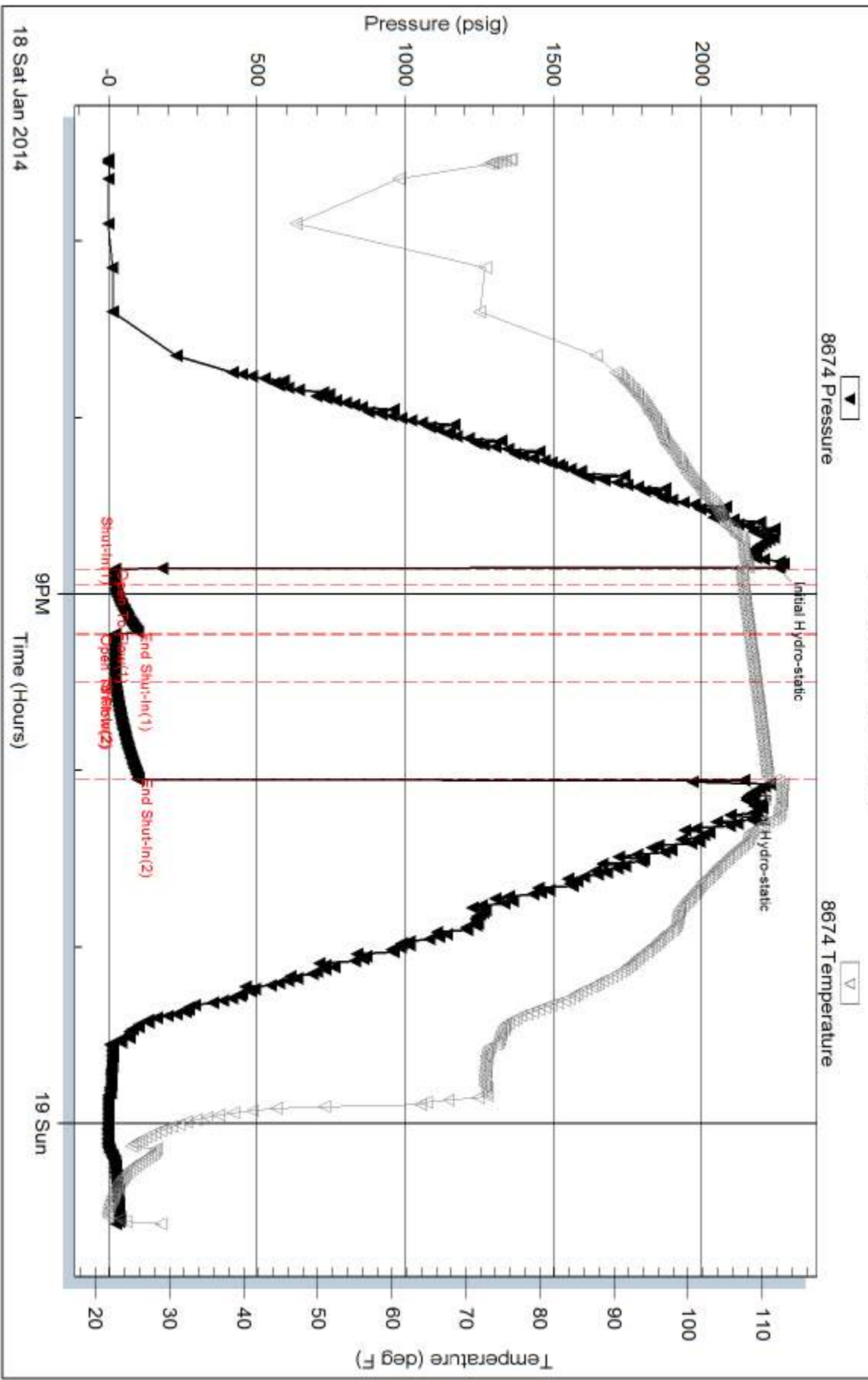
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time

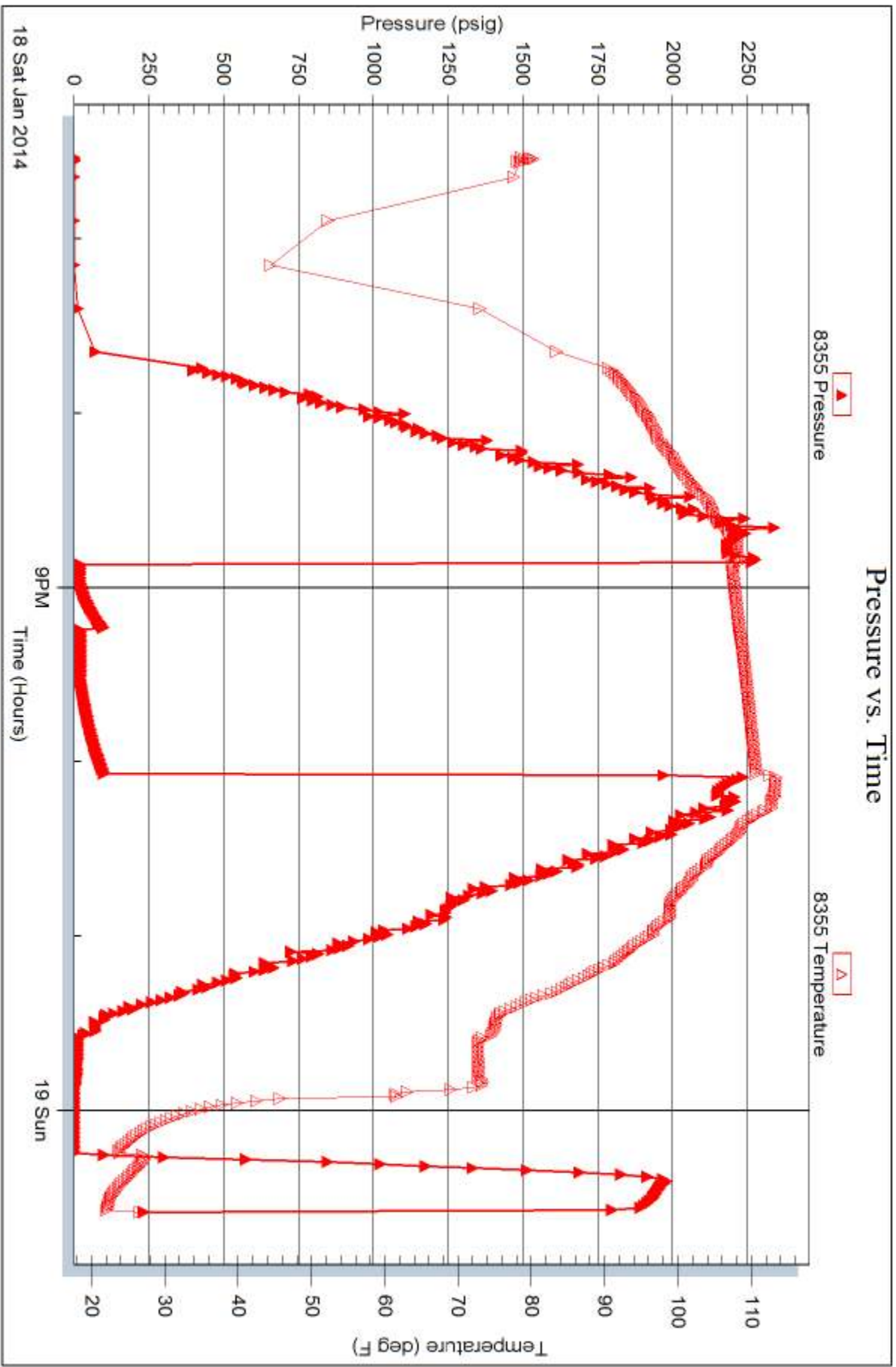


Serial #: 8355

Outside Larson Engineering Inc.

Mark #1-6

DST Test Number: 6



Trilobite Testing, Inc

Ref. No: 50242

Printed: 2014.01.22 @ 13:08:01



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 50237

Well Name & No. Mark # 1-6 Test No. DST #1 Date 1-14-14
 Company Larson Engineering Inc Elevation 2737 KB 2730 GL
 Address 562 W. State Rd 4 Olmitz KS 67564
 Co. Rep / Geo. Vern Schrag Rig H-D R's #3
 Location: Sec. 6 Twp. 19s Rge. 27w Co. Lane State KS

Interval Tested 4261-4278 Zone Tested LRC "K"
 Anchor Length 17 Drill Pipe Run 4115 Mud Wt. 9.2
 Top Packer Depth 4257 Drill Collars Run 147 Vis 58
 Bottom Packer Depth 4261 Wt. Pipe Run 0 WL 6.8
 Total Depth 4278 Chlorides 2400 ppm System LCM 216
 Blow Description IF-Weak Surface Blow Built to 1/4"
ISI- No Blow
FF-Weak Surface Blow Built to 1/2"
FSI- No Blow

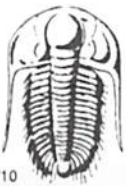
Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>OCM</u>	<u>29</u>		<u>71</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 5 BHT 116 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2156 Test 1250 T-On Location 13:06
 (B) First Initial Flow 18 Jars 250 T-Started 13:34
 (C) First Final Flow 17 Safety Joint 75 T-Open 15:50
 (D) Initial Shut-In 124 Circ Sub NIC T-Pulled 17:48
 (E) Second Initial Flow 18 Hourly Standby _____ T-Out 19:57
 (F) Second Final Flow 20 Mileage 66 RIT 102.30 Comments _____
 (G) Final Shut-In 409 Sampler _____
 (H) Final Hydrostatic 2024 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1677.30
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1677.30

Approved By Vern C Schrag Our Representative Wm Mu

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. 50238

Well Name & No. Mark #1-6 Test No. DST #2 Date 1-15-14
 Company Larson Engineering Inc Elevation 2737 KB 2730 GL
 Address 562 W. State Rd 4 Olmitz KS 67564
 Co. Rep / Geo. Vern Schrag Rig H-D Rig #3
 Location: Sec. 6 Twp. 19s Rge. 27w Co. Lane State KS

Interval Tested 4259 - 4283 Zone Tested LRC "K"
 Anchor Length 24 Drill Pipe Run 4115 Mud Wt. 9.2
 Top Packer Depth 4255 Drill Collars Run 147 Vis 58
 Bottom Packer Depth 4259 Wt. Pipe Run 0 WL 6.8
 Total Depth 4283 Chlorides 2400 ppm System LCM 216
 Blow Description IF- Weak Surface Blow Built to 1/2"
ISI- No Blow
FF- Weak Surface Blow Built to 2"
FSL- Weak Surface Blow in 40min

Rec	Feet of	%gas	%oil	%water	%mud
<u>45</u>	<u>6-OCM</u>	<u>4</u>	<u>12</u>	<u>84</u>	
	<u>15' of GIP</u>				

Rec Total 45 BHT 112 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>2129</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>5:36</u>
(B) First Initial Flow <u>15</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>6:20</u>
(C) First Final Flow <u>22</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>8:35</u>
(D) Initial Shut-In <u>479</u>	<input checked="" type="checkbox"/> Circ Sub <u>NIC</u>	T-Pulled <u>10:31</u>
(E) Second Initial Flow <u>24</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>12:39</u>
(F) Second Final Flow <u>39</u>	<input checked="" type="checkbox"/> Mileage <u>66 RIT</u> 102.30	Comments _____
(G) Final Shut-In <u>465</u>	<input type="checkbox"/> Sampler _____	<input type="checkbox"/> Ruined Shale Packer _____
(H) Final Hydrostatic <u>2007</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Packer _____
Initial Open <u>5</u>	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> Extra Copies _____
Initial Shut-In <u>15</u>	<input type="checkbox"/> Extra Packer _____	Sub Total <u>0</u>
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder _____	Total <u>1677.30</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby _____	MP/DST Disc't _____
	<input type="checkbox"/> Accessibility _____	
	Sub Total <u>1677.30</u>	

Approved By

Vern Schrag

Our Representative

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test. Tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 50239

Well Name & No. Mark #1-6 Test No. DST #3 Date 1-15-14
 Company Larson Engineering Inc Elevation 2737 KB 2730 GL
 Address 562 W. State Rd 4 Olmitz KS 67564
 Co. Rep / Geo. Vern Schrag Rig H-D Rig #3
 Location: Sec. 6 Twp. 19s Rge. 27w Co. Lane State KS

Interval Tested 4290 - 4304 Zone Tested LRC "L"
 Anchor Length 14 Drill Pipe Run 4144 Mud Wt. 9.3
 Top Packer Depth 4286 Drill Collars Run 147 Vis 55
 Bottom Packer Depth 4290 Wt. Pipe Run 0 WL 6.4
 Total Depth 4304 Chlorides 2500 ppm System LCM 216
 Blow Description IF- Weak Surface Blow Built to 1/2"
ISI- No Blow
FF- Weak Surface Blow Built to 1/2"
FSI- No Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>20</u>	<u>OCM</u>		<u>3%</u>		<u>97%</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 117 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2131 Test 1250 T-On Location 22:08
 (B) First Initial Flow 14 Jars 250 T-Started 22:54
 (C) First Final Flow 24 Safety Joint 75 T-Open 00:44
 (D) Initial Shut-In 296 Circ Sub NIC T-Pulled 1:54
 (E) Second Initial Flow 29 Hourly Standby _____ T-Out 4:06
 (F) Second Final Flow 35 Mileage 66 RIT 102.30 Comments _____
 (G) Final Shut-In 289 Sampler _____
 (H) Final Hydrostatic 2027 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1677.30
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1677.30

Approved By [Signature] Our Representative [Signature]

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 50240

Well Name & No. Mark #1-6 Test No. DST #4 Date 1-16-14
 Company Larson Engineering Inc Elevation 2737 KB 2730 GL
 Address 562 W. State Rd 4 Olmitz KS 67564
 Co. Rep / Geo. Vern Schrag Rig H-D R.s #3
 Location: Sec. 6 Twp. 19s Rge. 27W Co. Lane State KS

Interval Tested 4303 - 4314 Zone Tested LRC "L"
 Anchor Length 11 Drill Pipe Run 4145 Mud Wt. 9.1
 Top Packer Depth 4299 Drill Collars Run 147 Vis 56
 Bottom Packer Depth 4303 Wt. Pipe Run 0 WL 6.4
 Total Depth 4314 Chlorides 2200 ppm System LCM 1516
 Blow Description IF - Wear Surface Blow 1/4"
ISI - No Blow
FF - Wear Surface Blow Built to 1/4"
FSI - No Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>Mud with Oil Spots in Tool</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 5 BHT 111 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>2135</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>13:40</u>
(B) First Initial Flow <u>15</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>14:32</u>
(C) First Final Flow <u>18</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>17:05</u>
(D) Initial Shut-In <u>329</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>18:18</u>
(E) Second Initial Flow <u>17</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>20:34</u>
(F) Second Final Flow <u>22</u>	<input checked="" type="checkbox"/> Mileage <u>66 RT</u> 102.30	Comments _____
(G) Final Shut-In <u>323</u>	<input type="checkbox"/> Sampler _____	<input type="checkbox"/> Ruined Shale Packer _____
(H) Final Hydrostatic <u>2017</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Packer _____
Initial Open <u>5</u>	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> Extra Copies _____
Initial Shut-In <u>15</u>	<input type="checkbox"/> Extra Packer _____	Sub Total <u>0</u>
Final Flow <u>15</u>	<input type="checkbox"/> Extra Recorder _____	Total <u>1677.30</u>
Final Shut-In <u>30</u>	<input type="checkbox"/> Day Standby _____	MP/DST Disc't _____
	<input type="checkbox"/> Accessibility _____	
	Sub Total <u>1677.30</u>	

Approved By Vern Schrag Our Representative Will M...

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. 50241

Well Name & No. Mark #1-6 Test No. DST #5 Date 1-17-14
 Company Larson Engineering Inc Elevation 2737 KB 2730 GL
 Address 562 W. State Rd 4 Olmitz KS 67564
 Co. Rep / Geo. Vern Schrag Rig H-D Rig #3
 Location: Sec. 6 Twp. 19s Rge. 27w Co. Lane State KS

Interval Tested 4332-4440 Zone Tested Marmanton
 Anchor Length 108 Drill Pipe Run 4178 Mud Wt. 9.2
 Top Packer Depth 4328 Drill Collars Run 0 Vis 56
 Bottom Packer Depth 4332 Wt. Pipe Run 147 WL 6.8
 Total Depth 4440 Chlorides 2200 ppm System LCM 116
 Blow Description IF- Weak Surface Blow Built to 1/2"
ISI- No Blow
FF- Weak Surface Blow
FSI- No Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>10</u>	<u>NCM with a few oil spots</u>			<u>1</u>	<u>99</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 10 BHT 110 Gravity 1250 API RW @ °F Chlorides ppm

(A) Initial Hydrostatic 2169 Test 1250 T-On Location 16:32
 (B) First Initial Flow 20 Jars 250 T-Started 17:16
 (C) First Final Flow 21 Safety Joint 75 T-Open 19:16
 (D) Initial Shut-In 132 Circ Sub MC T-Pulled _____
 (E) Second Initial Flow 21 Hourly Standby _____ T-Out 22:34
 (F) Second Final Flow 23 Mileage 66 R/T 102.30 Comments _____
 (G) Final Shut-In 172 Sampler _____
 (H) Final Hydrostatic 2060 Straddle _____ Ruined Shale Packer _____
 Shale Packer 250 Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Initial Open 5 Extra Recorder _____ Sub Total 0
 Initial Shut-In 15 Day Standby _____ Total 1927.30
 Final Flow 15 Accessibility _____ MP/DST Disc't _____
 Final Shut-In 30 Sub Total 1927.30

Approved By Vern Schrag Our Representative Will Mast

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 50242

Well Name & No. Mark #1-6 Test No. DST #6 Date 1-18-14
 Company Larson Engineering Inc. Elevation 2737 KB 2730 GL
 Address 562 W. State Rd 4 Olmitz KS 67564
 Co. Rep / Geo. Vern Schrag Rig H-D R-5 #3
 Location: Sec. 6 Twp. 19S Rge. 27W Co. Lane State KS

Interval Tested 4452-4590 Zone Tested Cherokee
 Anchor Length 138 Drill Pipe Run 4302 Mud Wt. 9.2
 Top Packer Depth 4448 Drill Collars Run 147 Vis 62
 Bottom Packer Depth 4452 Wt. Pipe Run 0 WL 7.2
 Total Depth 4590 Chlorides 2100 ppm System LCM 116

Blow Description IF-Weak Surface Blow Built to 1/2"
ISI- No Blow
FF-Weak Surface Blow Built to 1/4"
FSI- No Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>10'</u>	<u>Mud Couple Oil Spots in Tool</u>			<u>100</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 10 BHT 111 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>2256</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>18:10</u>
(B) First Initial Flow <u>20</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>18:32</u>
(C) First Final Flow <u>21</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>20:51</u>
(D) Initial Shut-In <u>99</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>22:03</u>
(E) Second Initial Flow <u>18</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>00:33</u>
(F) Second Final Flow <u>22</u>	<input checked="" type="checkbox"/> Mileage <u>166 RIT</u> <u>102.30</u>	Comments _____
(G) Final Shut-In <u>100</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2142</u>	<input type="checkbox"/> Straddle	<input checked="" type="checkbox"/> Ruined Shale Packer <u>350</u>
	<input checked="" type="checkbox"/> Shale Packer <u>250</u>	<input type="checkbox"/> Ruined Packer _____
	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies _____
	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
	<input type="checkbox"/> Day Standby	Total <u>2277.30</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't _____

Initial Open 5
 Initial Shut-In 15
 Final Flow 15
 Final Shut-In 30
 Sub Total 1927.30

Approved By [Signature] Our Representative [Signature]

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