



DRILL STEM TEST REPORT

Prepared For: **Larson Engineering, Inc.**

562 W. State Rd. 4
Olmitz, KS 67564

ATTN: Vern Schrag

Louise #1-20

20-18-28w Lane,KS

Start Date: 2014.02.27 @ 21:20:00

End Date: 2014.02.28 @ 02:55:36

Job Ticket #: 56643 DST #: 1

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

Printed: 2014.03.04 @ 14:10:12



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Larson Engineering, Inc.

20-18-28w Lane, KS

562 W. State Rd. 4
Olmitz, KS 67564

Louise #1-20

Job Ticket: 56643

DST#: 1

ATTN: Vern Schrag

Test Start: 2014.02.27 @ 21:20:00

GENERAL INFORMATION:

Formation: **LKC 'H'**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 23:52:48

Time Test Ended: 02:55:36

Test Type: Conventional Bottom Hole (Initial)

Tester: Chuck Smith

Unit No: 62

Interval: 4155.00 ft (KB) To 4190.00 ft (KB) (TVD)

Reference Elevations: 2762.00 ft (KB)

Total Depth: 4190.00 ft (KB) (TVD)

2755.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 7.00 ft

Serial #: 8357

Inside

Press@RunDepth: 35.75 psig @ 4159.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.02.27

End Date:

2014.02.28

Last Calib.:

2014.02.28

Start Time: 21:20:05

End Time:

02:55:36

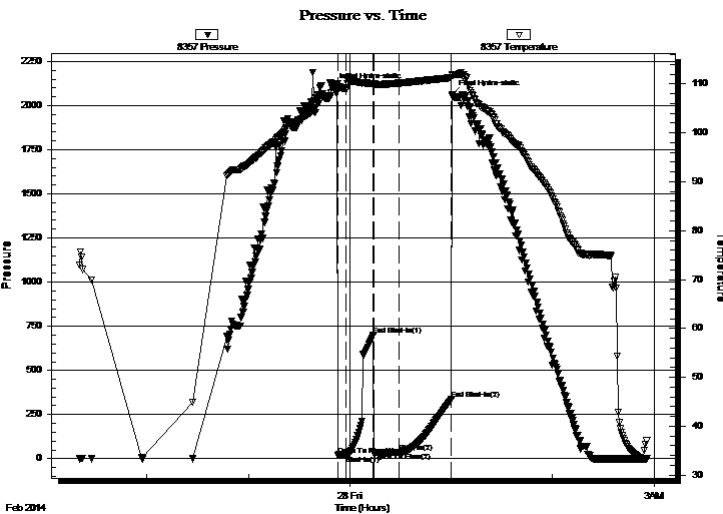
Time On Btm:

2014.02.27 @ 23:50:06

Time Off Btm:

2014.02.28 @ 01:00:30

TEST COMMENT: Surface blow.
No return. May have pulled up too much since pressure jumped.
Very weak blow.
No return.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2103.01	109.59	Initial Hydro-static
3	20.51	109.06	Open To Flow (1)
8	21.83	108.91	Shut-In(1)
24	699.06	110.07	End Shut-In(1)
24	34.60	109.78	Open To Flow (2)
39	35.75	110.15	Shut-In(2)
70	338.45	111.29	End Shut-In(2)
71	2063.69	111.73	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
30.00	M 100m	0.15

Gas Rates

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



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20-18-28w Lane, KS

562 W. State Rd. 4
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Louise #1-20

Job Ticket: 56643

DST#: 1

ATTN: Vern Schrag

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GENERAL INFORMATION:

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Deviated: No Whipstock: ft (KB)

Time Tool Opened: 23:52:48

Time Test Ended: 02:55:36

Test Type: Conventional Bottom Hole (Initial)

Tester: Chuck Smith

Unit No: 62

Interval: 4155.00 ft (KB) To 4190.00 ft (KB) (TVD)

Reference Elevations: 2762.00 ft (KB)

Total Depth: 4190.00 ft (KB) (TVD)

2755.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 7.00 ft

Serial #: 8645 Outside

Press@RunDepth: psig @ 4159.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.02.27

End Date: 2014.02.28

Last Calib.: 2014.02.28

Start Time: 21:20:17

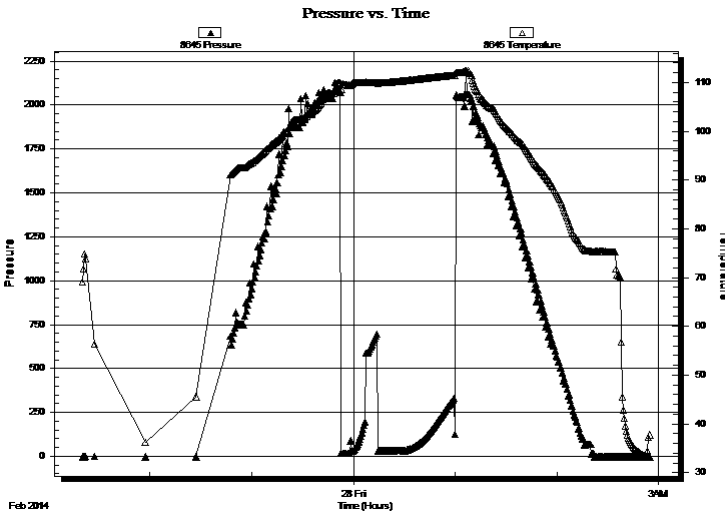
End Time: 02:55:00

Time On Btm:

Time Off Btm:

TEST COMMENT: Surface blow.
No return. May have pulled up too much since pressure jumped.
Very weak blow.
No return.

PRESSURE SUMMARY



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

Recovery

Length (ft)	Description	Volume (bbl)
30.00	M 100m	0.15

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Engineering, Inc.

20-18-28w Lane, KS

562 W. State Rd. 4
Olmitz, KS 67564

Louise #1-20

Job Ticket: 56643

DST#: 1

ATTN: Vern Schrag

Test Start: 2014.02.27 @ 21:20:00

Tool Information

Drill Pipe:	Length: 4013.00 ft	Diameter: 3.80 inches	Volume: 56.29 bbl	Tool Weight:	2300.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	20000.00 lb
Drill Collar:	Length: 146.00 ft	Diameter: 2.25 inches	Volume: 0.72 bbl	Weight to Pull Loose:	65000.00 lb
			<u>Total Volume: 57.01 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	31.50 ft			String Weight: Initial	55000.00 lb
Depth to Top Packer:	4155.00 ft			Final	55000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	35.00 ft				
Tool Length:	62.50 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			4128.50	
Shut In Tool	5.00			4133.50	
Hydraulic tool	5.00			4138.50	
Jars	5.00			4143.50	
Safety Joint	2.50			4146.00	
Packer	5.00			4151.00	27.50 Bottom Of Top Packer
Packer	4.00			4155.00	
Stubb	4.00			4159.00	
Recorder	0.00	8357	Inside	4159.00	
Recorder	0.00	8645	Outside	4159.00	
Perforations	28.00			4187.00	
Bullnose	3.00			4190.00	35.00 Bottom Packers & Anchor

Total Tool Length: 62.50



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering, Inc.

20-18-28w Lane, KS

562 W. State Rd. 4
Olmitz, KS 67564

Louise #1-20

Job Ticket: 56643

DST#: 1

ATTN: Vern Schrag

Test Start: 2014.02.27 @ 21:20:00

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: 53.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.39 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1700.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	M 100m	0.148

Total Length: 30.00 ft Total Volume: 0.148 bbl

Num Fluid Samples: 0

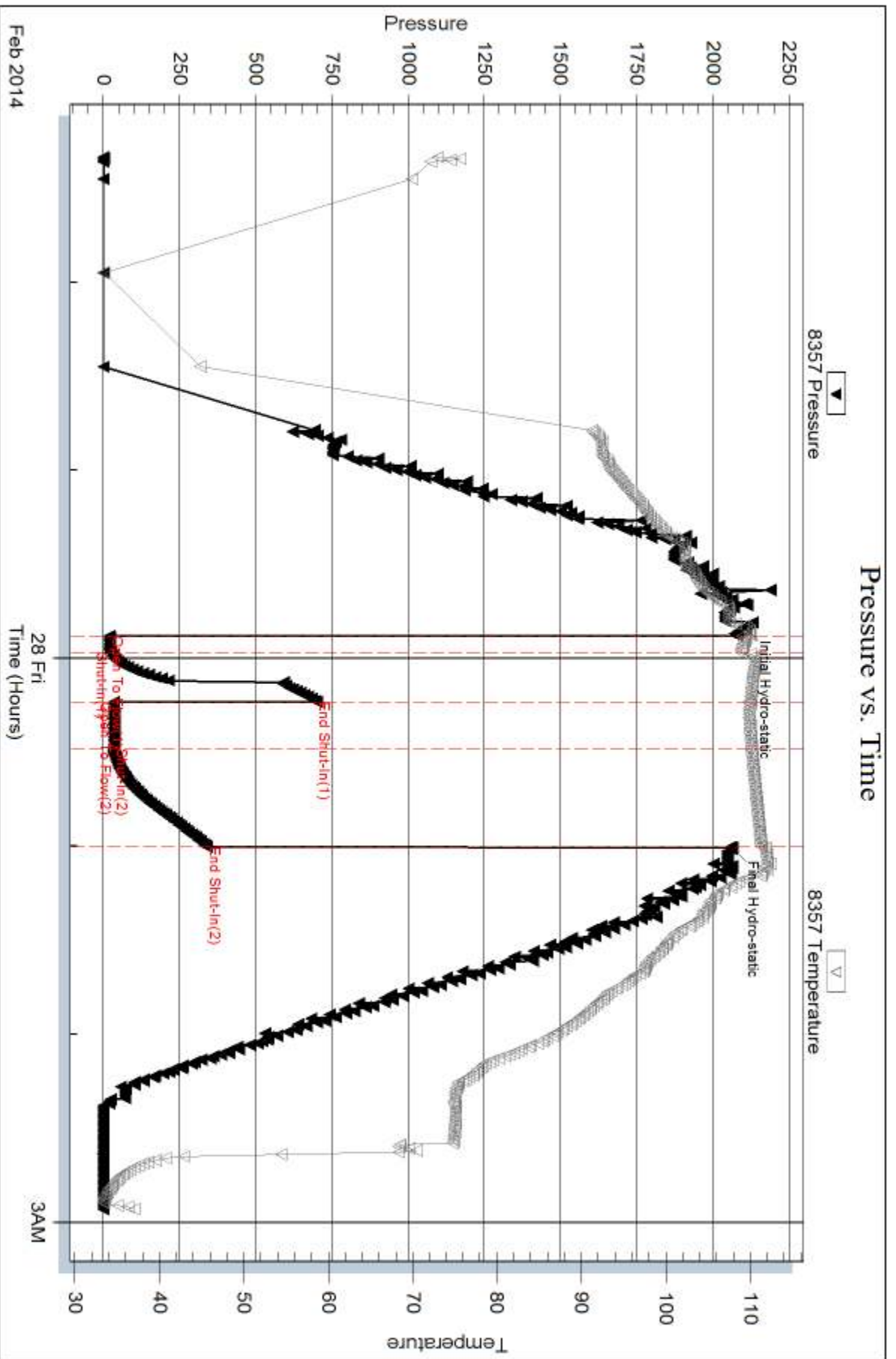
Num Gas Bombs: 0

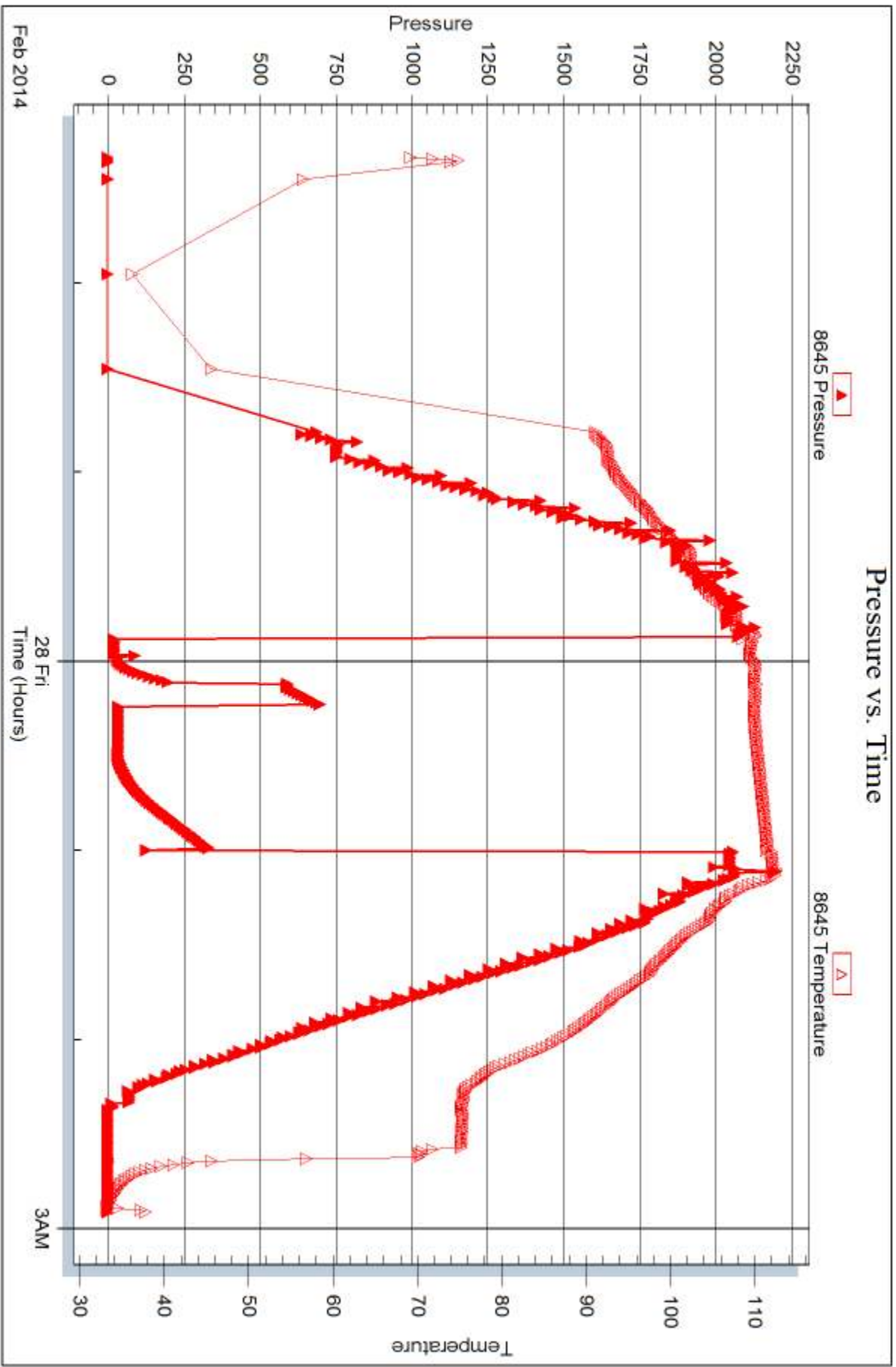
Serial #:

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

Louise #1-20

20-18-28w Lane,KS

Start Date: 2014.02.28 @ 19:22:00

End Date: 2014.03.01 @ 00:20:24

Job Ticket #: 56644 DST #: 2

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

Printed: 2014.03.04 @ 14:09:54



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Larson Engineering, Inc.

20-18-28w Lane, KS

562 W. State Rd. 4
Olmitz, KS 67564

Louise #1-20

Job Ticket: 56644

DST#: 2

ATTN: Vern Schrag

Test Start: 2014.02.28 @ 19:22:00

GENERAL INFORMATION:

Formation: **LKC 'K'**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:06:36

Time Test Ended: 00:20:24

Test Type: Conventional Bottom Hole (Reset)

Tester: Chuck Smith

Unit No: 62

Interval: 4255.00 ft (KB) To 4275.00 ft (KB) (TVD)

Reference Elevations: 2762.00 ft (KB)

Total Depth: 4275.00 ft (KB) (TVD)

2755.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 7.00 ft

Serial #: 8357

Inside

Press@RunDepth: 173.82 psig @ 4257.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.02.28

End Date:

2014.03.01

Last Calib.: 2014.03.01

Start Time: 19:22:05

End Time:

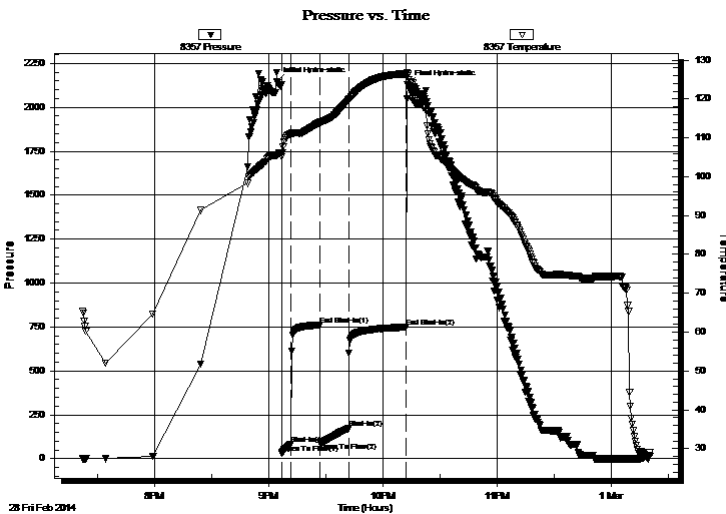
00:20:24

Time On Btm: 2014.02.28 @ 21:04:12

Time Off Btm: 2014.02.28 @ 22:12:54

TEST COMMENT: 8" Blow.
Surface return.
B.O.B. @ 8 min.
3" Return.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2143.99	105.41	Initial Hydro-static
3	31.95	105.22	Open To Flow (1)
8	84.35	111.00	Shut-In(1)
23	761.95	114.03	End Shut-In(1)
23	91.54	113.83	Open To Flow (2)
38	173.82	119.69	Shut-In(2)
68	749.17	126.46	End Shut-In(2)
69	2128.18	126.40	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	RW: .200 @ 40 Degrees F = 67000 P	10.00
176.00	OSMW 20m 80w	1.14
62.00	OSMW 50m 50w	0.87
62.00	OCWM 30o 10w 60m	0.87
45.00	CGO 5g 95o	0.63
0.00	140' Weak 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.

20-18-28w Lane, KS

562 W. State Rd. 4
Olmitz, KS 67564

Louise #1-20

Job Ticket: 56644

DST#: 2

ATTN: Vern Schrag

Test Start: 2014.02.28 @ 19:22:00

GENERAL INFORMATION:

Formation: **LKC 'K'**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:06:36

Time Test Ended: 00:20:24

Test Type: Conventional Bottom Hole (Reset)

Tester: Chuck Smith

Unit No: 62

Interval: **4255.00 ft (KB) To 4275.00 ft (KB) (TVD)**

Reference Elevations: 2762.00 ft (KB)

Total Depth: 4275.00 ft (KB) (TVD)

2755.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 7.00 ft

Serial #: 8645 Outside

Press@RunDepth: psig @ 4257.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.02.28

End Date: 2014.03.01

Last Calib.: 2014.03.01

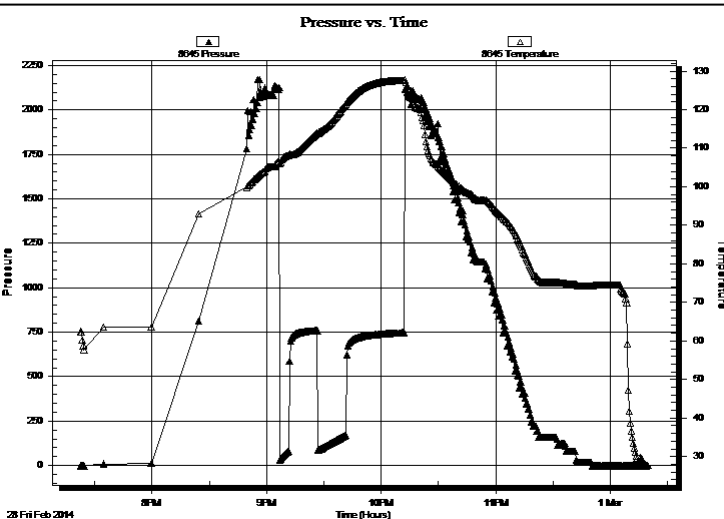
Start Time: 19:22:35

End Time: 00:19:42

Time On Btm:

Time Off Btm:

TEST COMMENT: 8" Blow.
Surface return.
B.O.B. @ 8 min.
3" Return.



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
0.00	RW: .200 @ 40 Degrees F = 67000 P10.00	0.00
176.00	OSMW 20m 80w	1.14
62.00	OSMW 50m 50w	0.87
62.00	OCWM 30o 10w 60m	0.87
45.00	CGO 5g 95o	0.63
0.00	140' Weak 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.

20-18-28w Lane, KS

562 W. State Rd. 4
Olmitz, KS 67564

Louise #1-20

Job Ticket: 56644

DST#: 2

ATTN: Vern Schrag

Test Start: 2014.02.28 @ 19:22:00

Tool Information

Drill Pipe:	Length: 4105.00 ft	Diameter: 3.80 inches	Volume: 57.58 bbl	Tool Weight:	2300.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	20000.00 lb
Drill Collar:	Length: 146.00 ft	Diameter: 2.25 inches	Volume: 0.72 bbl	Weight to Pull Loose:	65000.00 lb
			<u>Total Volume: 58.30 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	23.50 ft			String Weight: Initial	58000.00 lb
Depth to Top Packer:	4255.00 ft			Final	58000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	20.00 ft				
Tool Length:	47.50 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			4228.50	
Shut In Tool	5.00			4233.50	
Hydraulic tool	5.00			4238.50	
Jars	5.00			4243.50	
Safety Joint	2.50			4246.00	
Packer	5.00			4251.00	27.50 Bottom Of Top Packer
Packer	4.00			4255.00	
Stubb	1.00			4256.00	
Perforations	1.00			4257.00	
Recorder	0.00	8357	Inside	4257.00	
Recorder	0.00	8645	Outside	4257.00	
Perforations	15.00			4272.00	
Bullnose	3.00			4275.00	20.00 Bottom Packers & Anchor

Total Tool Length: 47.50



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering, Inc.

20-18-28w Lane,KS

562 W. State Rd. 4
Olmitz, KS 67564

Louise #1-20

Job Ticket: 56644

DST#: 2

ATTN: Vern Schrag

Test Start: 2014.02.28 @ 19:22:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

31 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

67000 ppm

Viscosity: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.79 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1600.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
0.00	RW: .200 @ 40 Degrees F = 67000 PPM	0.000
176.00	OSMW 20m 80w	1.139
62.00	OSMW 50m 50w	0.870
62.00	OCWM 30o 10w 60m	0.870
45.00	CGO 5g 95o	0.631
0.00	140' Weak GIP	0.000

Total Length: 345.00 ft Total Volume: 3.510 bbl

Num Fluid Samples: 0

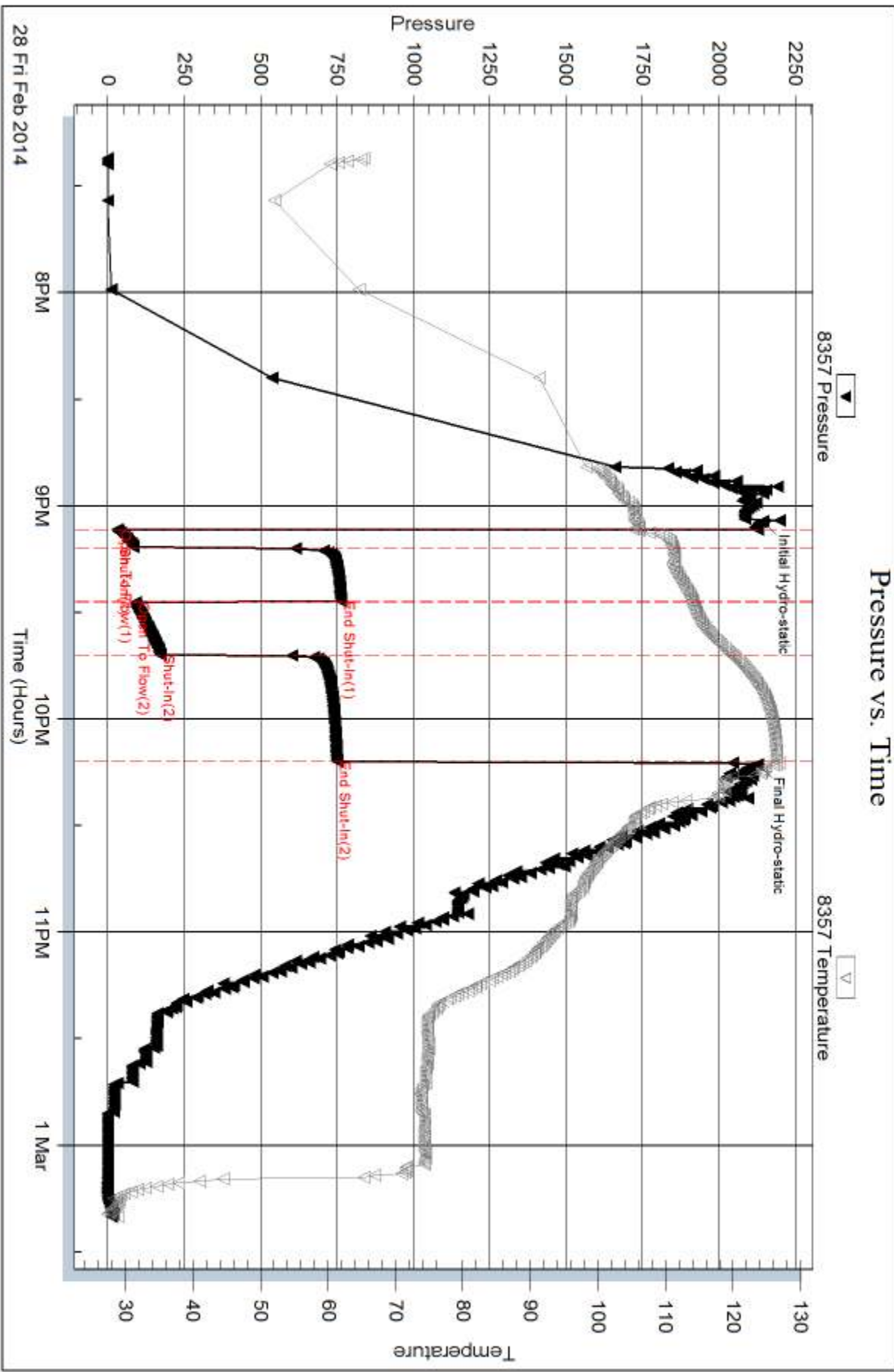
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: API: 28 @ 30 Degrees F = 31.

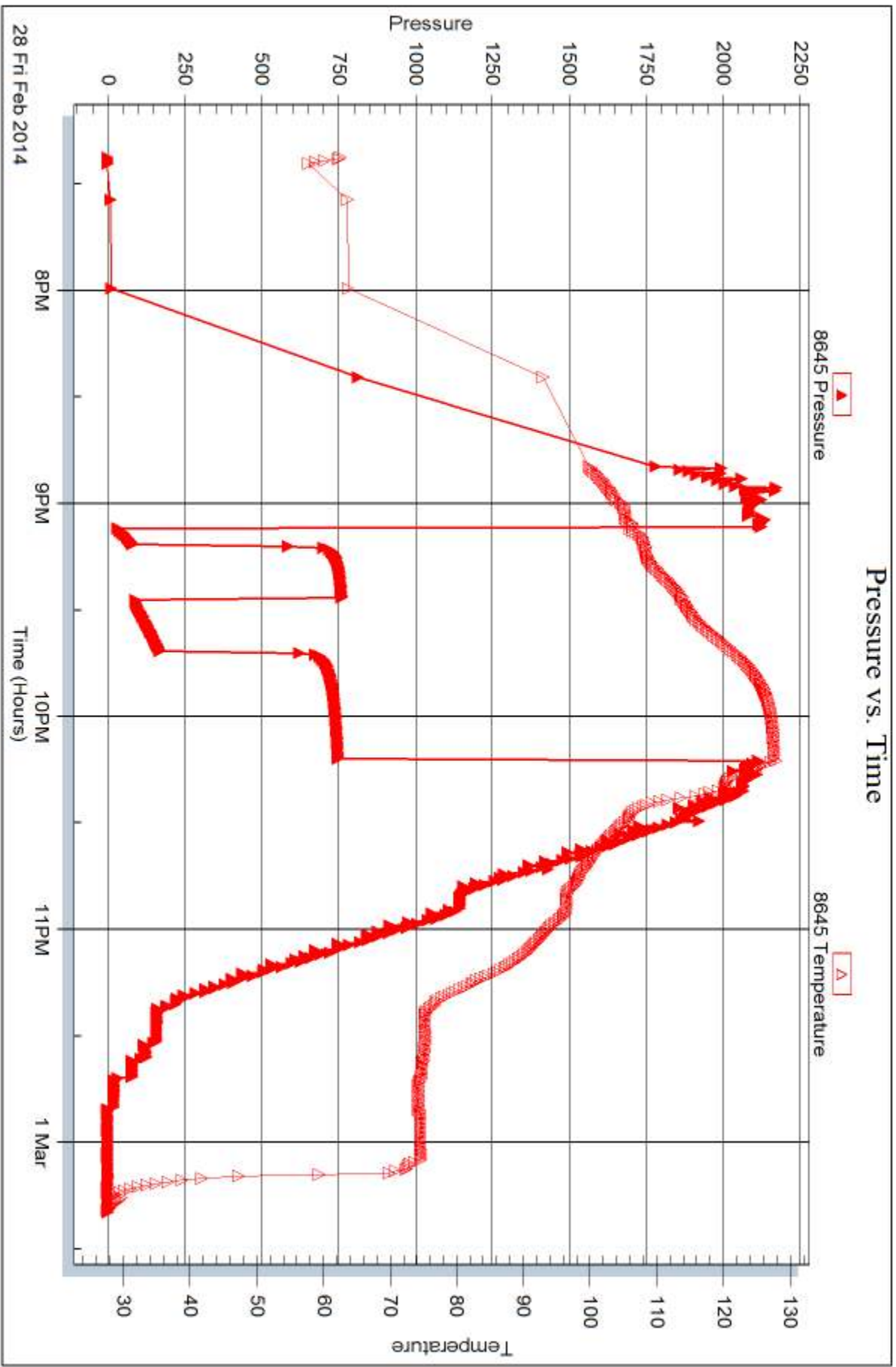


Serial #: 8645

Outside Larson Engineering, Inc.

Louise #1-20

DST Test Number: 2



Tribble Testing, Inc

Ref. No: 56644

Printed: 2014.03.04 @ 14:09:57



DRILL STEM TEST REPORT

Prepared For: **Larson Engineering, Inc.**

562 W. State Rd. 4
Olmitz, KS 67564

ATTN: Vern Schrag

Louise #1-20

20-18-28w Lane,KS

Start Date: 2014.03.01 @ 08:52:00

End Date: 2014.03.01 @ 17:01:00

Job Ticket #: 56645 DST #: 3

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

Printed: 2014.03.04 @ 14:09:39



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Larson Engineering, Inc.

20-18-28w Lane, KS

562 W. State Rd. 4
Olmitz, KS 67564

Louise #1-20

Job Ticket: 56645

DST#: 3

ATTN: Vern Schrag

Test Start: 2014.03.01 @ 08:52:00

GENERAL INFORMATION:

Formation: **Middle Creek**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:08:24

Time Test Ended: 17:01:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Chuck Smith

Unit No: 62

Interval: 4288.00 ft (KB) To 4296.00 ft (KB) (TVD)

Reference Elevations: 2762.00 ft (KB)

Total Depth: 4296.00 ft (KB) (TVD)

2755.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 7.00 ft

Serial #: 8357

Inside

Press@RunDepth: 489.38 psig @ 4289.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.03.01

End Date:

2014.03.01

Last Calib.: 2014.03.01

Start Time: 08:52:05

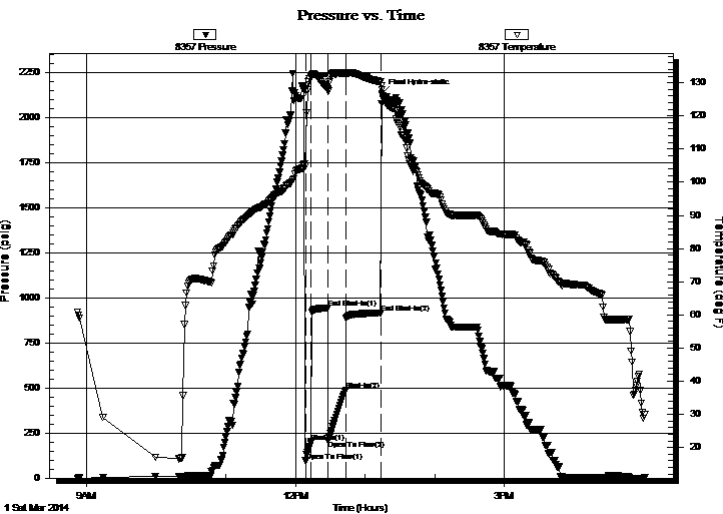
End Time:

17:00:59

Time On Btm: 2014.03.01 @ 12:06:00

Time Off Btm: 2014.03.01 @ 13:14:18

TEST COMMENT: B.O.B. @ 1 1/2 min.
1" Return.
B.O.B. @ 1 1/2 min.
B.O.B. @ 25 min.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2174.14	104.28	Initial Hydro-static
3	96.24	104.86	Open To Flow (1)
8	201.04	132.03	Shut-In(1)
22	943.27	127.95	End Shut-In(1)
23	210.02	127.57	Open To Flow (2)
38	489.38	132.77	Shut-In(2)
68	916.75	130.20	End Shut-In(2)
69	2133.47	127.96	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
120.00	GMCO 15g 25m 60o	0.59
775.00	GO 30g 70o	10.63
310.00	GO 35g 65o	4.35
0.00	589' 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: Vern Schrag

20-18-28w Lane, KS

Louise #1-20

Job Ticket: 56645

DST#: 3

Test Start: 2014.03.01 @ 08:52:00

GENERAL INFORMATION:

Formation: **Middle Creek**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:08:24

Time Test Ended: 17:01:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Chuck Smith

Unit No: 62

Interval: 4288.00 ft (KB) To 4296.00 ft (KB) (TVD)

Total Depth: 4296.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2762.00 ft (KB)

2755.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 8645 Outside

Press@RunDepth: psig @ 4289.00 ft (KB)

Start Date: 2014.03.01

End Date:

2014.03.01

Start Time: 08:52:25

End Time:

16:59:56

Capacity: 8000.00 psig

Last Calib.:

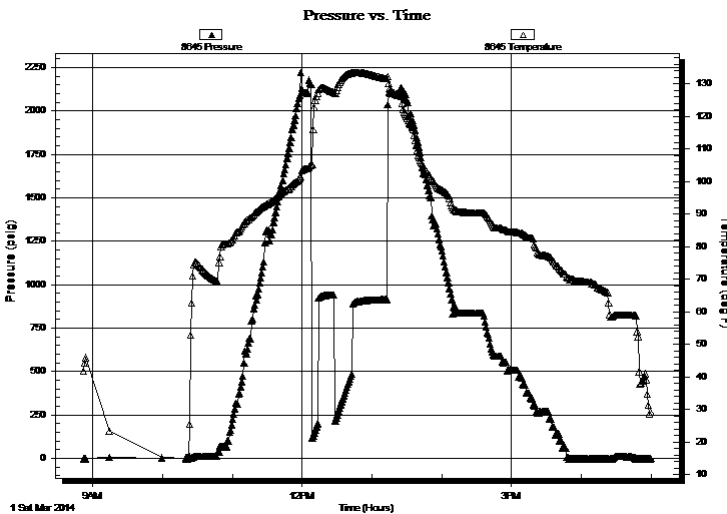
2014.03.01

Time On Btm:

Time Off Btm:

TEST COMMENT: B.O.B. @ 1 1/2 min.
1" Return.
B.O.B. @ 1 1/2 min.
B.O.B. @ 25 min.

PRESSURE SUMMARY



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

Recovery

Length (ft)	Description	Volume (bbl)
120.00	GMCO 15g 25m 60o	0.59
775.00	GO 30g 70o	10.63
310.00	GO 35g 65o	4.35
0.00	589' 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.

20-18-28w Lane, KS

562 W. State Rd. 4
Olmitz, KS 67564

Louise #1-20

Job Ticket: 56645

DST#: 3

ATTN: Vern Schrag

Test Start: 2014.03.01 @ 08:52:00

Tool Information

Drill Pipe:	Length: 4138.00 ft	Diameter: 3.80 inches	Volume: 58.05 bbl	Tool Weight: 2300.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 146.00 ft	Diameter: 2.25 inches	Volume: 0.72 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 58.77 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	23.50 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	4288.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	8.00 ft			
Tool Length:	35.50 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			4261.50	
Shut In Tool	5.00			4266.50	
Hydraulic tool	5.00			4271.50	
Jars	5.00			4276.50	
Safety Joint	2.50			4279.00	
Packer	5.00			4284.00	27.50 Bottom Of Top Packer
Packer	4.00			4288.00	
Stubb	1.00			4289.00	
Recorder	0.00	8357	Inside	4289.00	
Recorder	0.00	8645	Outside	4289.00	
Perforations	4.00			4293.00	
Bullnose	3.00			4296.00	8.00 Bottom Packers & Anchor

Total Tool Length: 35.50



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering, Inc.

20-18-28w Lane,KS

562 W. State Rd. 4
Olmitz, KS 67564

Louise #1-20

Job Ticket: 56645

DST#: 3

ATTN: Vern Schrag

Test Start: 2014.03.01 @ 08:52:00

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 55.00 sec/qt
Water Loss: 6.39 in³
Resistivity: ohm.m
Salinity: 2000.00 ppm
Filter Cake: 2.00 inches

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

Oil API: 35 deg API
Water Salinity: ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
120.00	GMCO 15g 25m 60o	0.590
775.00	GO 30g 70o	10.634
310.00	GO 35g 65o	4.348
0.00	589' GIP	0.000

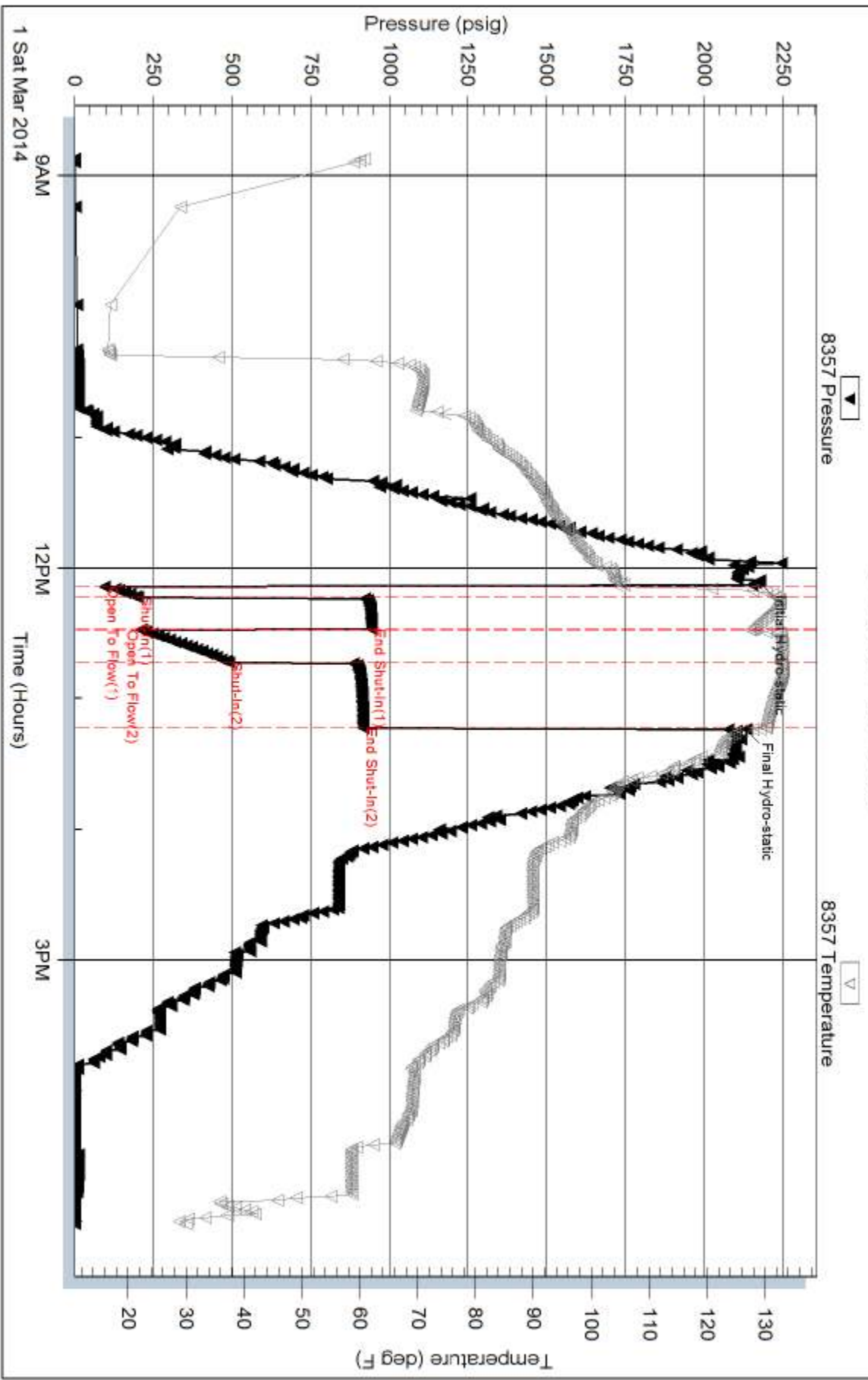
Total Length: 1205.00 ft Total Volume: 15.572 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments: API: 30 @ 10 Degrees F = 35.

Pressure vs. Time

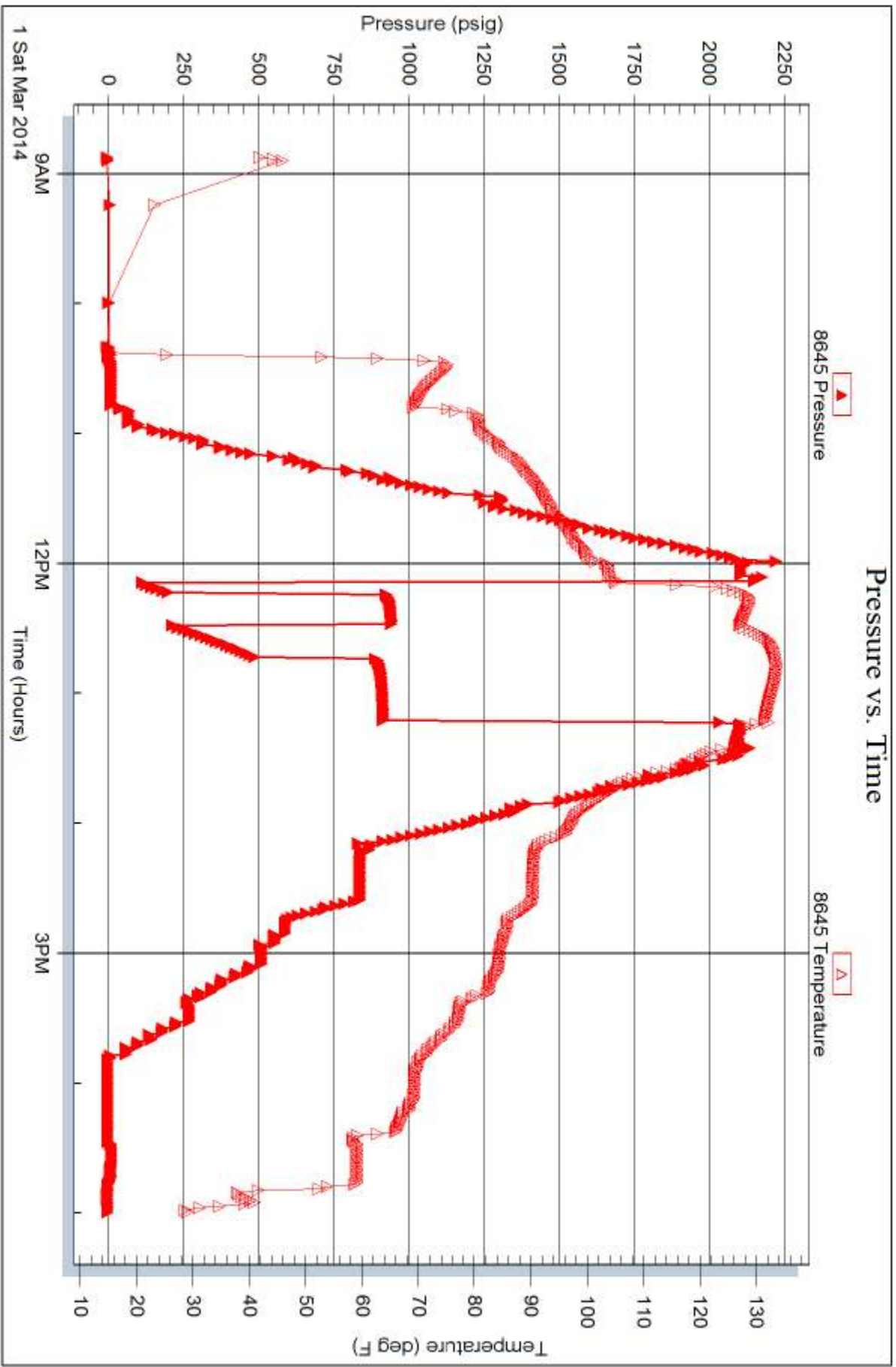


Serial #: 8645

Outside Larson Engineering, Inc.

Louise #1-20

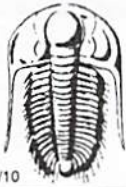
DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 56645

Printed: 2014.03.04 @ 14:09:41



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 56643

4/10

Well Name & No. Louise #1-20 Test No. 1 Date 2-27-14
 Company Larson Engineering, Inc. Elevation 2762 KB 2755 GL
 Address 562 W. St. Rd. 4 Olmitz, KS 67564
 Co. Rep / Geo. Vern Schrag Rig HD#3
 Location: Sec. 20 Twp. 18s Rge. _____ Co. Lane State KS

Interval Tested 4155-4190 Zone Tested LKC 'H'
 Anchor Length 35 Drill Pipe Run 4013 Mud Wt. 9.2
 Top Packer Depth 4151 Drill Collars Run 146 Vis 53
 Bottom Packer Depth 4155 Wt. Pipe Run 0 WL 6.4
 Total Depth 4190 Chlorides 1700 ppm System LCM 1#

Blow Description Surface blow
No return
Very weak blow
No return

Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec <u>30</u>	Feet of <u>M</u>	%gas	%oil	%water <u>100</u>	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 30 BHT 111 Gravity — API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2103 Test 1250 T-On Location 21:15
 (B) First Initial Flow 21 Jars 250 T-Started 21:20
 (C) First Final Flow 22 Safety Joint 75 T-Open 23:53
 (D) Initial Shut-In 700 Circ Sub N/C T-Pulled 1:00
 (E) Second Initial Flow 35 Hourly Standby _____ T-Out 2:56
 (F) Second Final Flow 37 Mileage 52RT 80.60 Comments _____
 (G) Final Shut-In 338 Sampler _____
 (H) Final Hydrostatic 2064 Straddle _____ Ruined Shale Packer _____

Initial Open 5 Shale Packer _____ Ruined Packer _____
 Initial Shut-In 15 Extra Packer _____ Extra Copies _____
 Final Flow 15 Extra Recorder _____ Sub Total 0
 Final Shut-In 30 Day Standby _____ Total 1655.60
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1655.60

Approved By _____ Our Representative Chuck Smith

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. 56644

Well Name & No. Louise #1-20 Test No. 2 Date 2-28-14
 Company Larson Engineering, Inc. Elevation 2762 KB 2755 GL
 Address 562 W. St. Rd. 4 Olmitz, KS 67564
 Co. Rep / Geo. Vern Schrag Rig HD#3
 Location: Sec. 20 Twp. 18s Rge. 28w Co. Lane State KS

Interval Tested 4255 - 4275 Zone Tested LKC 'K'
 Anchor Length 20 Drill Pipe Run 4105 Mud Wt. 9.2
 Top Packer Depth 4251 Drill Collars Run 146 Vis 55
 Bottom Packer Depth 4255 Wt. Pipe Run 0 WL 6.8
 Total Depth 4275 Chlorides 1600 ppm System LCM 1#
 Blow Description 8" Blow.
Surface return.
B.O.B. @ 8min
3" Return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>45</u>	<u>CGO</u>	<u>5</u>	<u>95</u>		
<u>62</u>	<u>OCWM</u>		<u>30</u>	<u>10</u>	<u>60</u>
<u>62</u>	<u>OSAWM</u>			<u>50</u>	<u>50</u>
<u>176</u>	<u>OSMW</u>			<u>80</u>	<u>20</u>
	<u>140' Weak CIP</u>				

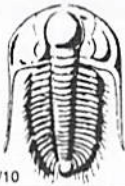
Rec Total 345 BHT 127 Gravity 31 API RW .200 @ 40 °F Chlorides 67000 ppm

(A) Initial Hydrostatic 2144 Test 1250 T-On Location 19:15
 (B) First Initial Flow 32 Jars 250 T-Started 19:22
 (C) First Final Flow 84 Safety Joint 75 T-Open 21:07
 (D) Initial Shut-In 762 Circ Sub N/C T-Pulled 22:12
 (E) Second Initial Flow 92 Hourly Standby _____ T-Out 00:20
 (F) Second Final Flow 174 Mileage 80.60 Comments _____
 (G) Final Shut-In 749 Sampler _____
 (H) Final Hydrostatic 2128 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1655.60
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1655.60

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

Approved By [Signature] Our Representative Chuck Smith

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 56645

4/10

Well Name & No. Louise #1-20 Test No. 3 Date 3-1-14
 Company Larson Engineering, Inc. Elevation 2762 KB 2755 GL
 Address 562 W. St. Rd. 4 Olmitz, KS 67564
 Co. Rep / Geo. Vern Schrag Rig HD#3
 Location: Sec. 20 Twp. 18s Rge. 28w Co. _____ State KS

Interval Tested 4288 - 4296 Zone Tested Middle Creek
 Anchor Length 8 Drill Pipe Run 4138 Mud Wt. 9.2
 Top Packer Depth 4284 Drill Collars Run 146 Vis 55
 Bottom Packer Depth 4288 Wt. Pipe Run 0 WL 6.4
 Total Depth 4296 Chlorides 2000 ppm System LCM 1#

Blow Description B.O.B. @ 1 1/2 min
10" Return.
B.O.B. @ 1 1/2 min
B.O.B. @ 2.5 min.

Rec	Feet of	%gas	%oil	%water	%mud
<u>310</u>	<u>GO</u>	<u>35</u>	<u>65</u>		
<u>775</u>	<u>GO</u>	<u>30</u>	<u>70</u>		
<u>120</u>	<u>G/MCO</u>	<u>15</u>	<u>60</u>		<u>25</u>
<u> </u>	<u>589' GIP</u>				
<u> </u>	<u> </u>				

Rec Total _____ BHT 130 Gravity 35 API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>2174</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>8:45</u>
(B) First Initial Flow <u>96</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>8:52</u>
(C) First Final Flow <u>201</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>12:08</u>
(D) Initial Shut-In <u>943</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>13:14</u>
(E) Second Initial Flow <u>210</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>17:01</u>
(F) Second Final Flow <u>489</u>	<input checked="" type="checkbox"/> Mileage <u>52RT x 2</u> 161.20	Comments _____
(G) Final Shut-In <u>917</u>	<input type="checkbox"/> Sampler _____	<u>Picked up tool 3-3-14</u>
(H) Final Hydrostatic <u>2133</u>	<input type="checkbox"/> Straddle _____	<u>13:00 No test</u>

Initial Open <u>5</u>	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> Ruined Shale Packer _____
Initial Shut-In <u>15</u>	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Ruined Packer _____
Final Flow <u>15</u>	<input type="checkbox"/> Extra Recorder _____	Sub Total <u>0</u>
Final Shut-In <u>30</u>	<input checked="" type="checkbox"/> Day Standby <u>1 3/4 day</u> 1d 20h	Total <u>2536.20</u>
	<input type="checkbox"/> Accessibility _____	MP/DST Disc't _____
	Sub Total <u>1736.20</u>	

Approved By Vern C. Schrag Our Representative Chuck Smith

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