



DRILL STEM TEST REPORT

Prepared For: **Chieftain Oil Co**

PO Box 124
Kiowa, KS 67070

ATTN: Arden Ratzlaff

Molz #18

2-35s-12w Barber,KS

Start Date: 2013.07.03 @ 09:26:15

End Date: 2013.07.03 @ 13:48:00

Job Ticket #: 50995 DST #: 1

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

Printed: 2013.07.09 @ 17:31:54



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Chieftain Oil Co

2-35s-12w Barber, KS

PO Box 124
Kiowa, KS 67070

Molz #18

Job Ticket: 50995

DST#: 1

ATTN: Arden Ratzlaff

Test Start: 2013.07.03 @ 09:26:15

GENERAL INFORMATION:

Formation: **Mississippi**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:32:00

Time Test Ended: 13:48:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Leal Cason

Unit No: 45

Interval: 4763.00 ft (KB) To 4800.00 ft (KB) (TVD)

Reference Elevations: 1379.00 ft (KB)

Total Depth: 4800.00 ft (KB) (TVD)

1366.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 13.00 ft

Serial #: 6798 Inside

Press @ Run Depth: psig @ 4764.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.07.03

End Date: 2013.07.03

Last Calib.: 2013.07.03

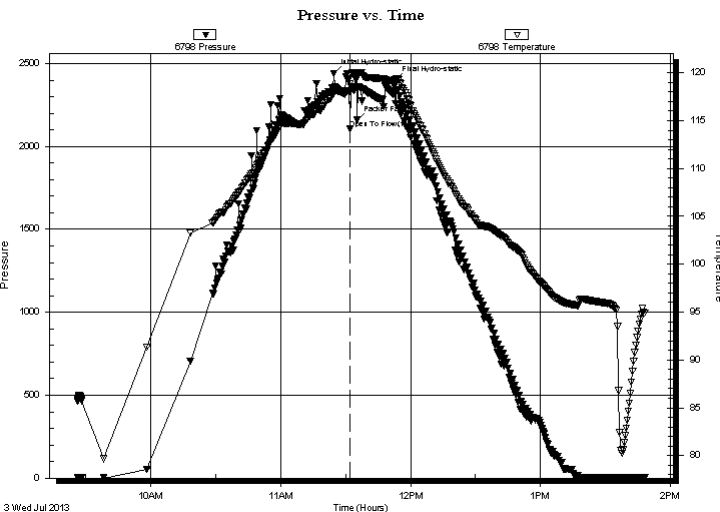
Start Time: 09:26:16

End Time: 13:48:00

Time On Btm: 2013.07.03 @ 11:24:30

Time Off Btm: 2013.07.03 @ 11:52:45

TEST COMMENT: Packer Failure, Tried To Set Twice, Pulled Tool



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2440.78	117.89	Initial Hydro-static
8	2104.44	118.81	Open To Flow (1)
11	2157.60	119.78	Packer Failure
29	2398.86	119.22	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
200.00	Drig Mud	0.69

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Chieftain Oil Co

2-35s-12w Barber,KS

PO Box 124
Kiowa, KS 67070

Molz #18

Job Ticket: 50995

DST#: 1

ATTN: Arden Ratzlaff

Test Start: 2013.07.03 @ 09:26:15

Tool Information

Drill Pipe:	Length: 4596.00 ft	Diameter: 3.80 inches	Volume: 64.47 bbl	Tool Weight:	2100.00 lb
Heavy Wt. Pipe:	Length: 151.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	35000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose:	70000.00 lb
			<u>Total Volume: 64.47 bbl</u>	Tool Chased	ft
Drill Pipe Above KB:	6.00 ft			String Weight: Initial	62000.00 lb
Depth to Top Packer:	4763.00 ft			Final	64000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	37.00 ft				
Tool Length:	59.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

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

Shut In Tool	5.00			4746.00	
Hydraulic tool	5.00			4751.00	
Safety Joint	2.00			4753.00	
Packer	5.00			4758.00	22.00 Bottom Of Top Packer
Packer	5.00			4763.00	
Stubb	1.00			4764.00	
Recorder	0.00	6798	Inside	4764.00	
Recorder	0.00	8367	Outside	4764.00	
Perforations	33.00			4797.00	
Bullnose	3.00			4800.00	37.00 Bottom Packers & Anchor
Total Tool Length:	59.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Chieftain Oil Co

2-35s-12w Barber, KS

PO Box 124
Kiowa, KS 67070

Molz #18

Job Ticket: 50995

DST#: 1

ATTN: Arden Ratzlaff

Test Start: 2013.07.03 @ 09:26:15

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: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.98 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3400.00 ppm

Filter Cake: 0.02 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
200.00	Drig Mud	0.687

Total Length: 200.00 ft Total Volume: 0.687 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

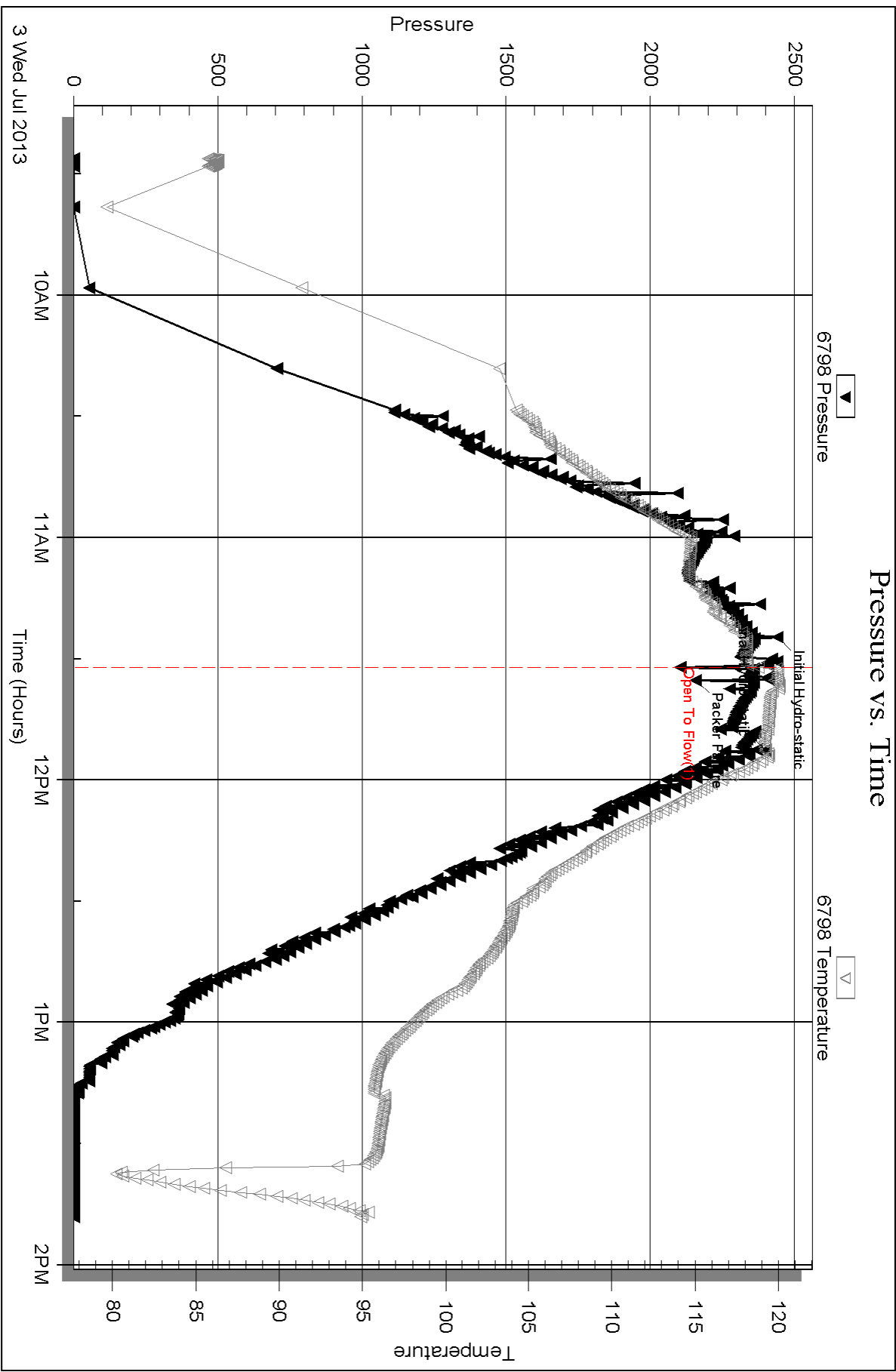
Serial #: 6798

Inside

Chieftain Oil Co

Molz #18

DST Test Number: 1

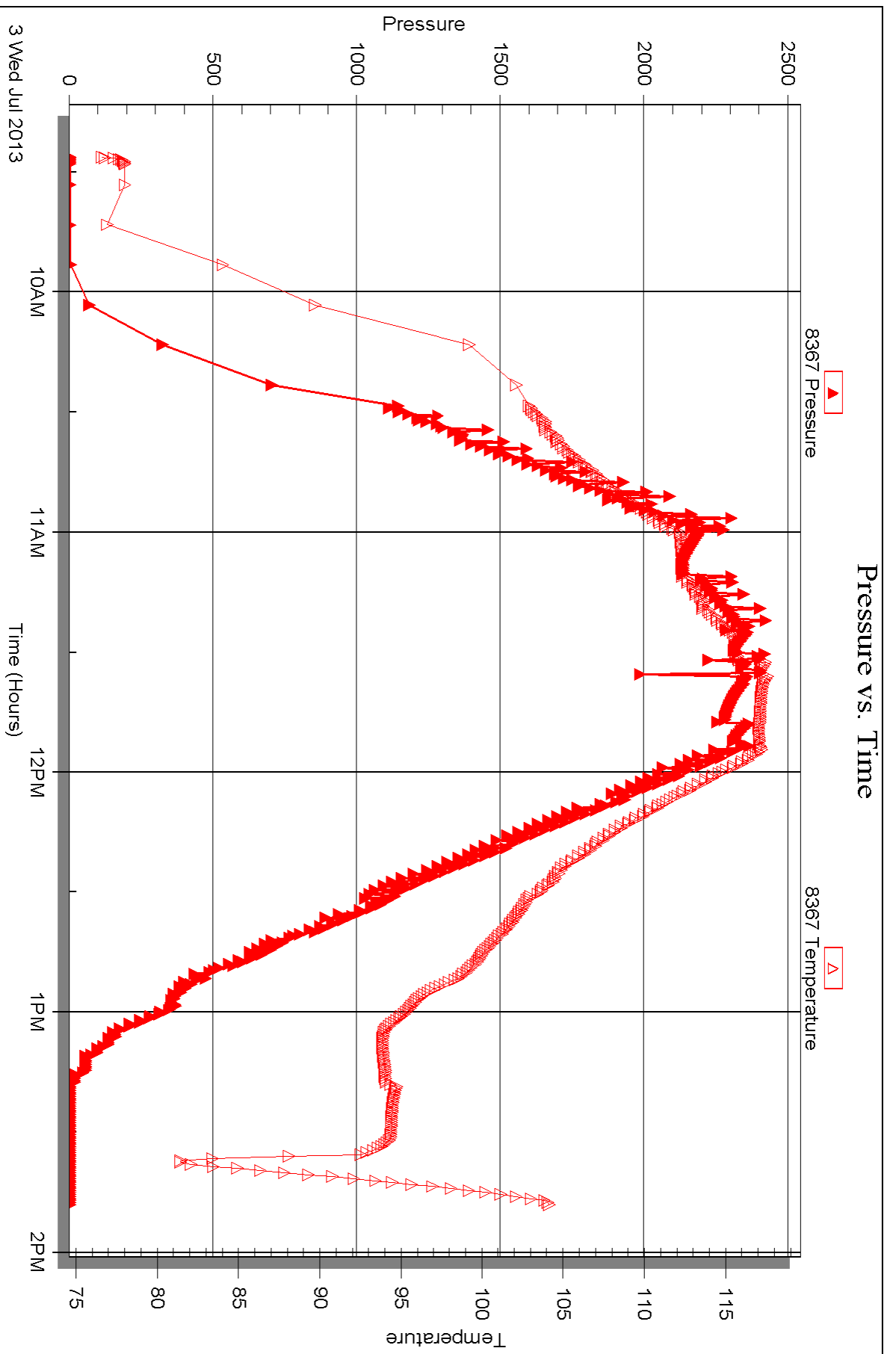


Serial #: 8367

Outside Chieftain Oil Co

Molz #18

DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **Chieftain Oil Co**

PO Box 124
Kiowa, KS 67070

ATTN: Arden Ratzlaff

Molz #18

2-35s-12w Barber,KS

Start Date: 2013.07.03 @ 14:06:41

End Date: 2013.07.03 @ 21:44:26

Job Ticket #: 50996 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.07.09 @ 17:31:19



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Chieftain Oil Co

2-35s-12w Barber, KS

PO Box 124
Kiowa, KS 67070

Molz #18

Job Ticket: 50996

DST#: 2

ATTN: Arden Ratzlaff

Test Start: 2013.07.03 @ 14:06:41

GENERAL INFORMATION:

Formation: **Mississippi**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 15:52:26

Time Test Ended: 21:44:26

Test Type: Conventional Bottom Hole (Reset)

Tester: Leal Cason

Unit No: 45

Interval: 4777.00 ft (KB) To 4800.00 ft (KB) (TVD)

Reference Elevations: 1379.00 ft (KB)

Total Depth: 4800.00 ft (KB) (TVD)

1366.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 13.00 ft

Serial #: 6798

Inside

Press @ Run Depth: 38.69 psig @ 4778.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.07.03

End Date:

2013.07.03

Last Calib.:

2013.07.03

Start Time: 14:06:42

End Time:

21:44:26

Time On Btm:

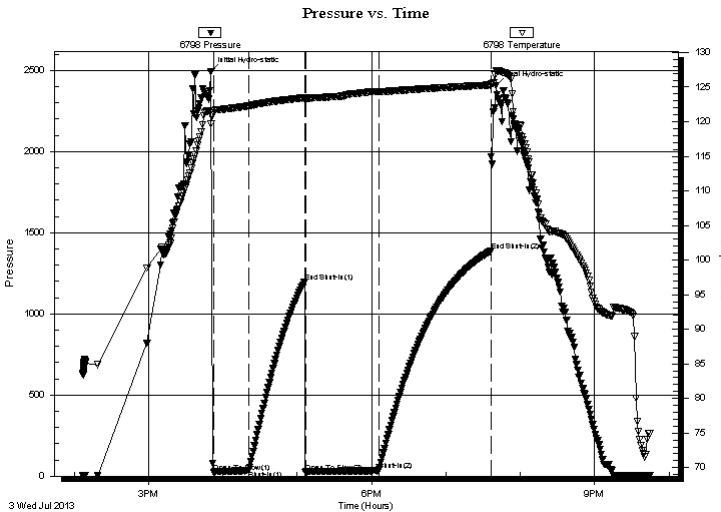
2013.07.03 @ 15:50:26

Time Off Btm:

2013.07.03 @ 19:40:26

TEST COMMENT: IF: Strong Blow, BOB in 4 minutes
IS: No Blow Back
FF: Strong Blow, BOB in 15 seconds
FS: No Blow Back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2494.22	119.71	Initial Hydro-static
2	23.13	121.25	Open To Flow (1)
31	33.89	122.26	Shut-In(1)
76	1197.35	123.45	End Shut-In(1)
77	23.54	123.30	Open To Flow (2)
136	38.69	124.32	Shut-In(2)
226	1387.30	125.32	End Shut-In(2)
230	2406.84	127.41	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	1220 GIP	0.00
40.00	SOCM 2%O 98%M	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

Chieftain Oil Co

2-35s-12w Barber,KS

PO Box 124
Kiowa, KS 67070

Molz #18

Job Ticket: 50996

DST#: 2

ATTN: Arden Ratzlaff

Test Start: 2013.07.03 @ 14:06:41

Tool Information

Drill Pipe:	Length: 4627.00 ft	Diameter: 3.80 inches	Volume: 64.90 bbl	Tool Weight:	2100.00 lb
Heavy Wt. Pipe:	Length: 151.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose:	80000.00 lb
			<u>Total Volume: 64.90 bbl</u>	Tool Chased	ft
Drill Pipe Above KB:	23.00 ft			String Weight: Initial	62000.00 lb
Depth to Top Packer:	4777.00 ft			Final	63000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	23.00 ft				
Tool Length:	45.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			
Tool Comments:					

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			4760.00	
Hydraulic tool	5.00			4765.00	
Safety Joint	2.00			4767.00	
Packer - Shale	5.00			4772.00	
Packer	5.00			4777.00	22.00 Bottom Of Top Packer
Stubb	1.00			4778.00	
Recorder	0.00	6798	Inside	4778.00	
Recorder	0.00	8367	Outside	4778.00	
Perforations	19.00			4797.00	
Bullnose	3.00			4800.00	23.00 Anchor Tool
Total Tool Length:	45.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Chieftain Oil Co

2-35s-12w Barber,KS

PO Box 124
Kiowa, KS 67070

Molz #18

Job Ticket: 50996

DST#: 2

ATTN: Arden Ratzlaff

Test Start: 2013.07.03 @ 14:06:41

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: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.98 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3400.00 ppm

Filter Cake: 0.02 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
0.00	1220 GIP	0.000
40.00	SOCM 2%O 98%M	0.000

Total Length: 40.00 ft

Total Volume: bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

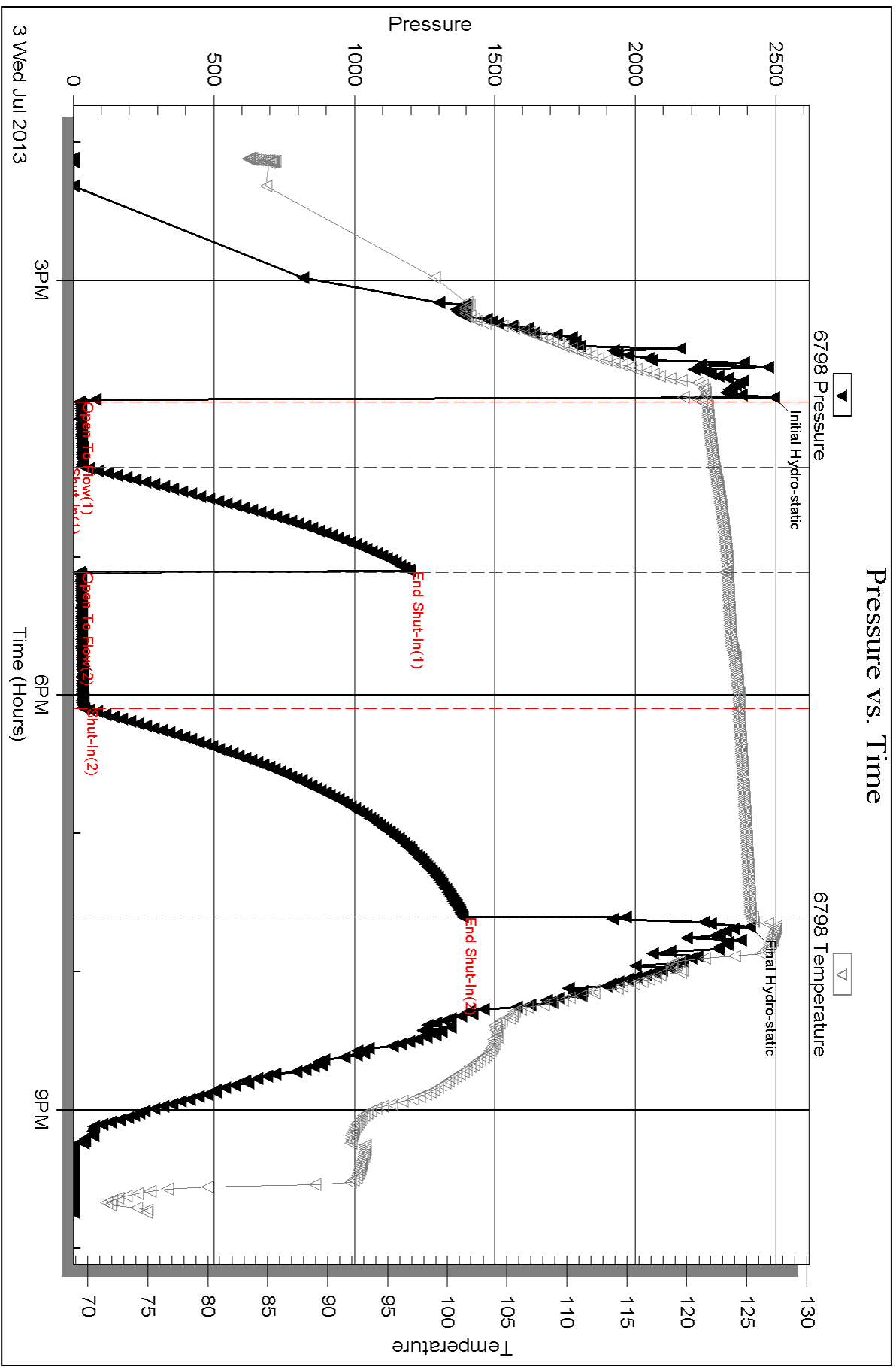
Serial #: 6798

Inside

Chieftain Oil Co

Molz #18

DST Test Number: 2



Triobite Testing, Inc

Ref. No: 50996

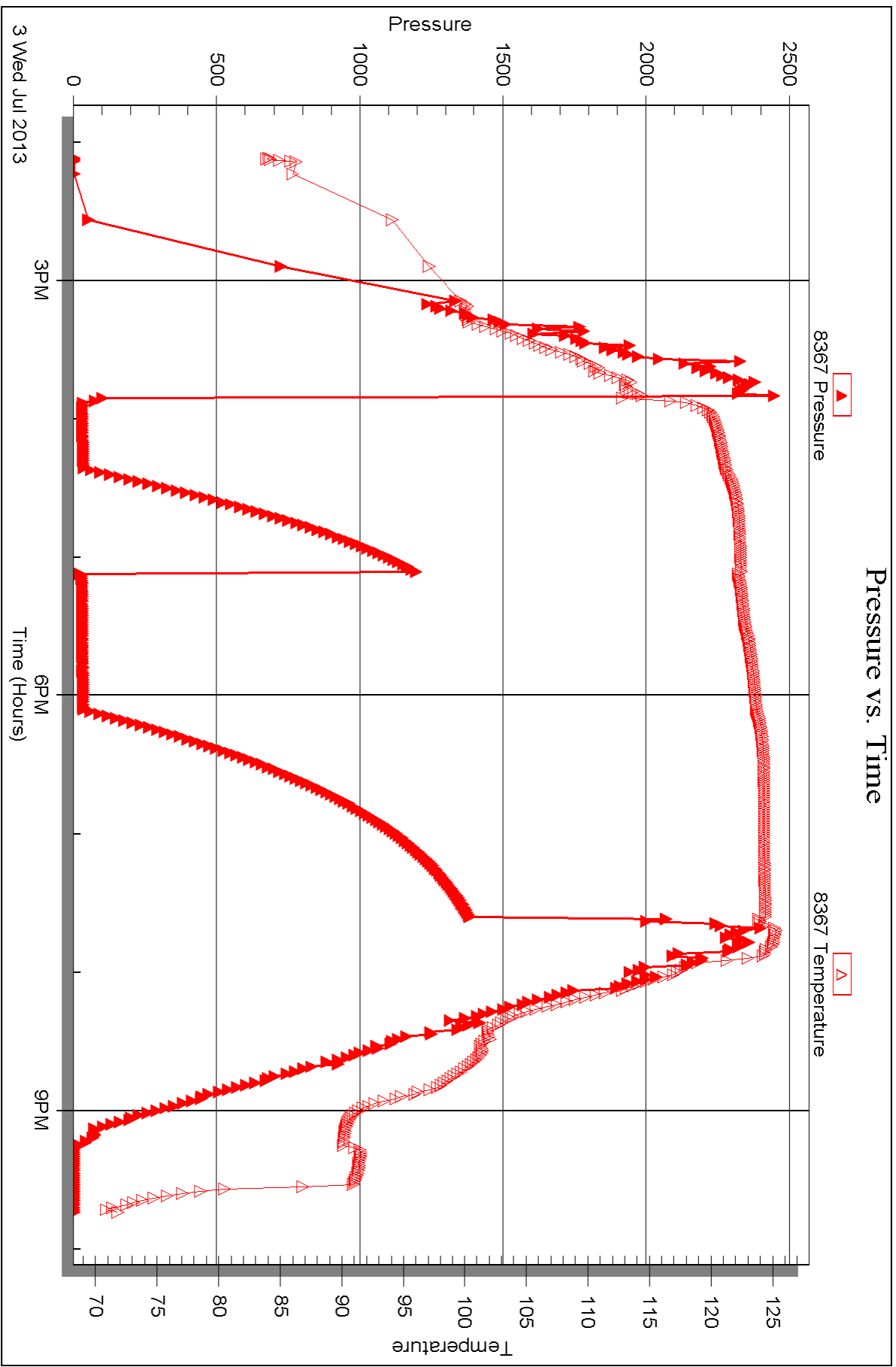
Printed: 2013.07.09 @ 17:31:22

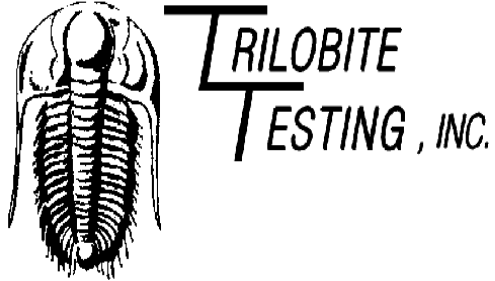
Serial #: 8367

Outside Chieftain Oil Co

Molz #18

DST Test Number: 2





DRILL STEM TEST REPORT

Prepared For: **Chieftain Oil Co**

PO Box 124
Kiowa, KS 67070

ATTN: Arden Ratzlaff

Molz #18

2-35s-12w Barber,KS

Start Date: 2013.07.04 @ 07:11:37

End Date: 2013.07.04 @ 14:39:52

Job Ticket #: 50997 DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.07.09 @ 17:28:56



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Chieftain Oil Co

2-35s-12w Barber,KS

PO Box 124
Kiowa, KS 67070

Molz #18

Job Ticket: 50997

DST#: 3

ATTN: Arden Ratzlaff

Test Start: 2013.07.04 @ 07:11:37

GENERAL INFORMATION:

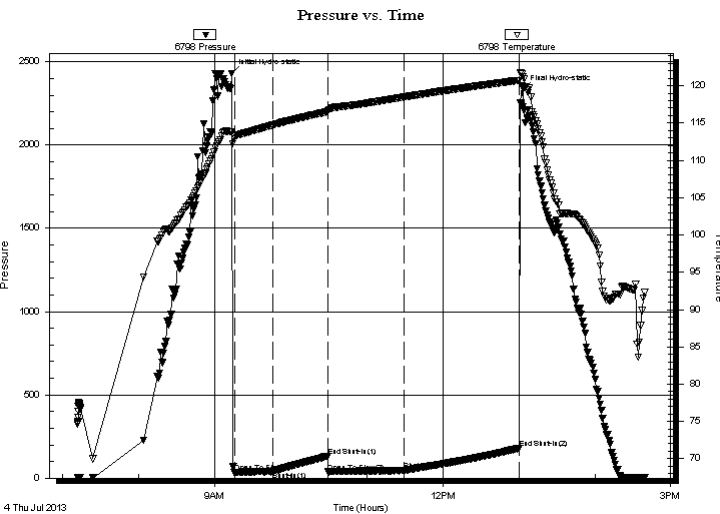
Formation: **Mississippi**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 09:15:22
 Time Test Ended: 14:39:52
 Interval: **4801.00 ft (KB) To 4824.00 ft (KB) (TVD)**
 Total Depth: 4824.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Leal Cason
 Unit No: 45
 Reference Elevations: 1379.00 ft (KB)
 1366.00 ft (CF)
 KB to GR/CF: 13.00 ft

Serial #: 6798

Inside

Press @ Run Depth: 46.65 psig @ 4802.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.07.04 End Date: 2013.07.04 Last Calib.: 2013.07.04
 Start Time: 07:11:38 End Time: 14:39:52 Time On Btm: 2013.07.04 @ 09:13:22
 Time Off Btm: 2013.07.04 @ 13:03:37

TEST COMMENT: IF: Weak Blow , Built to 3 1/2 inches
 IS: No Blow Back
 FF: Weak 1 inch Blow
 FS: No Blow Back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2430.95	113.83	Initial Hydro-static
2	32.16	113.24	Open To Flow (1)
33	41.43	114.74	Shut-In(1)
76	132.37	116.51	End Shut-In(1)
76	36.96	116.59	Open To Flow (2)
137	46.65	118.49	Shut-In(2)
228	181.04	120.75	End Shut-In(2)
231	2335.46	121.18	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
20.00	V SOCM 1%O 99%M	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

Chieftain Oil Co

2-35s-12w Barber,KS

PO Box 124
Kiowa, KS 67070

Molz #18

Job Ticket: 50997

DST#: 3

ATTN: Arden Ratzlaff

Test Start: 2013.07.04 @ 07:11:37

Tool Information

Drill Pipe:	Length: 4658.00 ft	Diameter: 3.80 inches	Volume: 65.34 bbl	Tool Weight: 2100.00 lb
Heavy Wt. Pipe:	Length: 151.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 65.34 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	4801.00 ft			Final 62000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	23.00 ft			
Tool Length:	45.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

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

Shut In Tool	5.00			4784.00	
Hydraulic tool	5.00			4789.00	
Safety Joint	2.00			4791.00	
Packer - Shale	5.00			4796.00	
Packer	5.00			4801.00	22.00 Bottom Of Top Packer
Stubb	1.00			4802.00	
Recorder	0.00	6798	Inside	4802.00	
Recorder	0.00	8367	Outside	4802.00	
Perforations	19.00			4821.00	
Bullnose	3.00			4824.00	23.00 Anchor Tool
Total Tool Length:	45.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Chieftain Oil Co

2-35s-12w Barber,KS

PO Box 124
Kiowa, KS 67070

Molz #18

Job Ticket: 50997

DST#: 3

ATTN: Arden Ratzlaff

Test Start: 2013.07.04 @ 07:11:37

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: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.99 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3700.00 ppm

Filter Cake: 0.02 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
20.00	VSOCM 1%O 99%M	0.000

Total Length: 20.00 ft Total Volume: bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

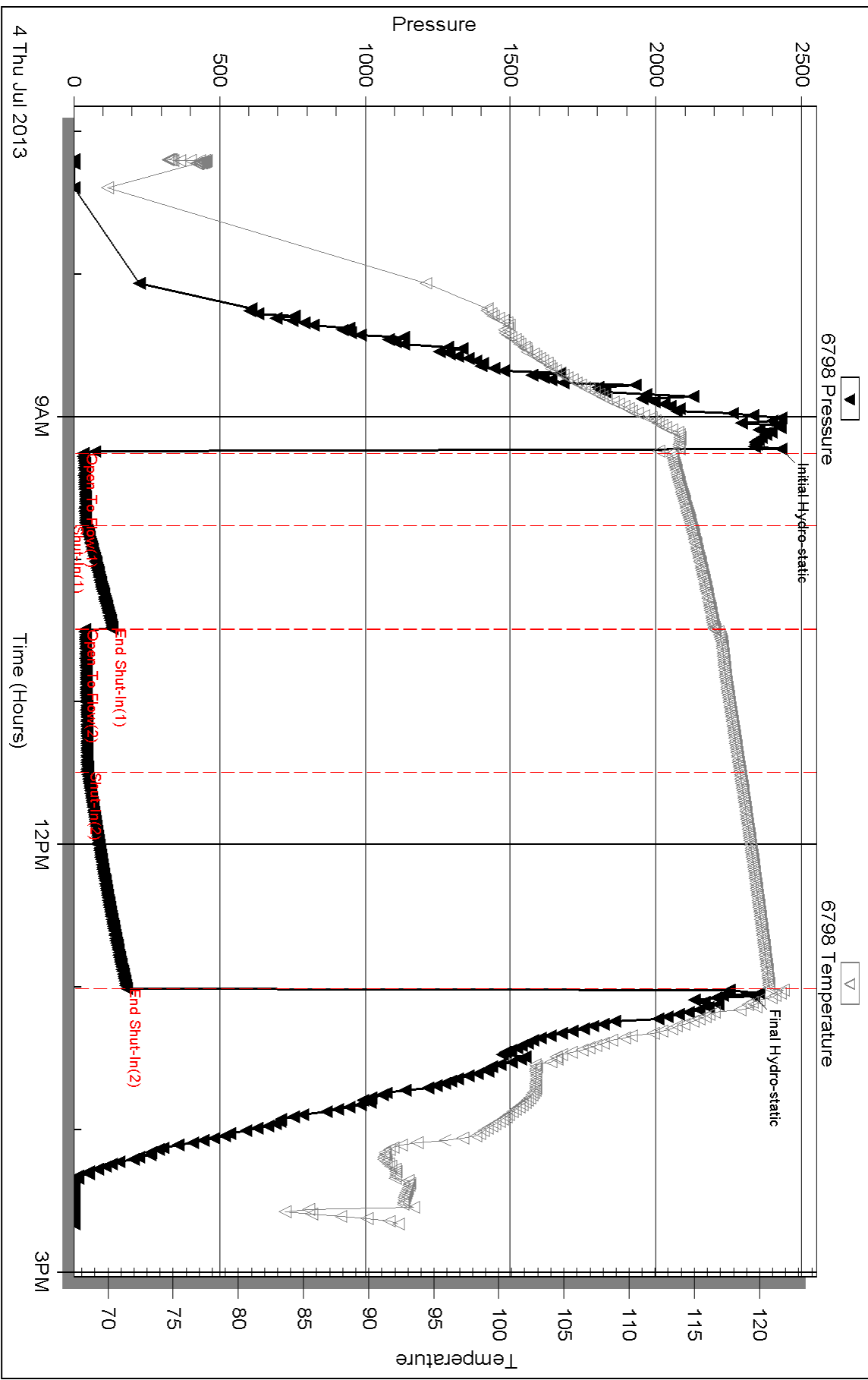
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time

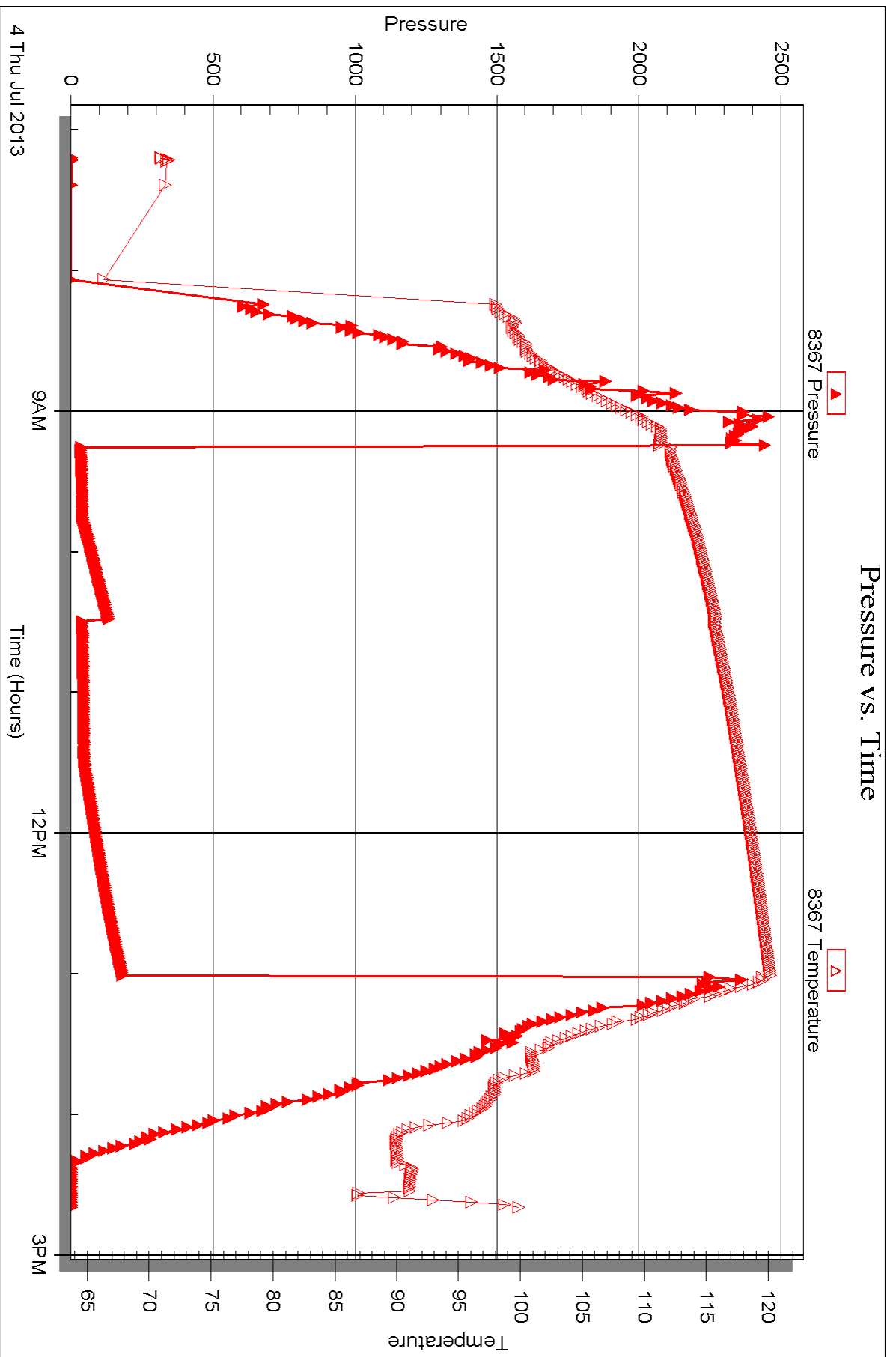


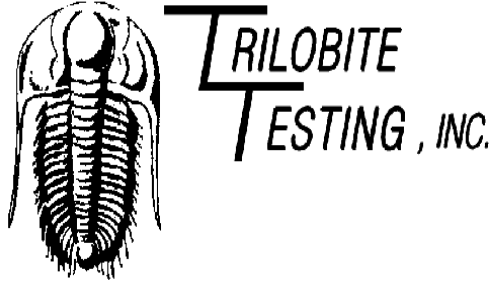
Serial #: 8367

Outside Chieftain Oil Co

Molz #18

DST Test Number: 3





DRILL STEM TEST REPORT

Prepared For: **Chieftain Oil Co**

PO Box 124
Kiowa, KS 67070

ATTN: Arden Ratzlaff

Molz #18

2-35s-12w Barber,KS

Start Date: 2013.07.06 @ 01:09:52

End Date: 2013.07.06 @ 09:26:22

Job Ticket #: 50998 DST #: 4

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

Printed: 2013.07.09 @ 17:28:23



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Chieftain Oil Co

2-35s-12w Barber, KS

PO Box 124
Kiowa, KS 67070

Molz #18

Job Ticket: 50998

DST#: 4

ATTN: Arden Ratzlaff

Test Start: 2013.07.06 @ 01:09:52

GENERAL INFORMATION:

Formation: **Misener**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:38:37

Time Test Ended: 09:26:22

Test Type: Conventional Bottom Hole (Reset)

Tester: Leal Cason

Unit No: 45

Interval: 5112.00 ft (KB) To 5132.00 ft (KB) (TVD)

Reference Elevations: 1379.00 ft (KB)

Total Depth: 5132.00 ft (KB) (TVD)

1366.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 13.00 ft

Serial #: 6798

Inside

Press @ Run Depth: 564.19 psig @ 5113.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.07.06

End Date:

2013.07.06

Last Calib.:

2013.07.06

Start Time: 01:09:53

End Time:

09:26:22

Time On Btm:

2013.07.06 @ 03:36:37

Time Off Btm:

2013.07.06 @ 07:27:37

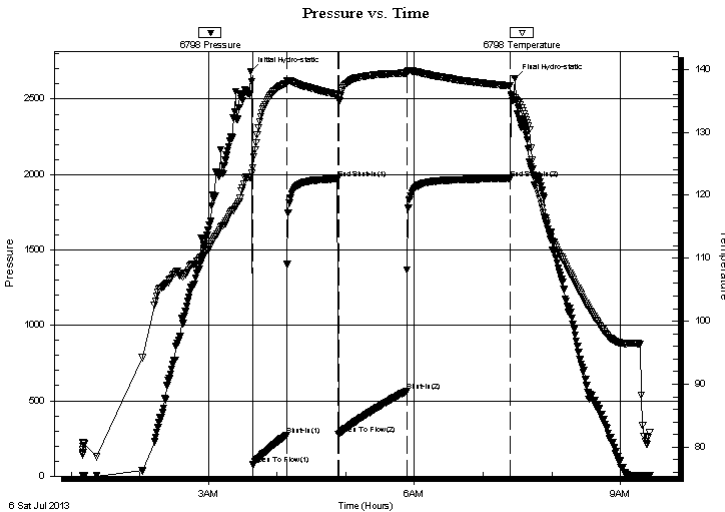
TEST COMMENT: IF: Fair Blow, BOB in 9 minutes

IS: Blow Back Built to 1 inch

FF: Fair Blow, BOB in 13 minutes

FS: 1/2 inch Blow Back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2684.02	122.83	Initial Hydro-static
2	78.18	124.40	Open To Flow (1)
32	272.20	137.72	Shut-In(1)
77	1970.59	135.98	End Shut-In(1)
77	278.15	135.10	Open To Flow (2)
137	564.19	139.41	Shut-In(2)
227	1971.87	137.36	End Shut-In(2)
231	2634.00	135.42	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	160 GIP	0.00
930.00	Water	10.93
124.00	MCW 40%M 60%W	1.74
82.00	SOWCM 2%O 28%W 70%M	1.15

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Chieftain Oil Co

2-35s-12w Barber,KS

PO Box 124
Kiowa, KS 67070

Molz #18

Job Ticket: 50998

DST#: 4

ATTN: Arden Ratzlaff

Test Start: 2013.07.06 @ 01:09:52

Tool Information

Drill Pipe:	Length: 4943.00 ft	Diameter: 3.80 inches	Volume: 69.34 bbl	Tool Weight: 2100.00 lb
Heavy Wt. Pipe:	Length: 151.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 69.34 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	4.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	5112.00 ft			Final 65000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	20.00 ft			
Tool Length:	42.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			5095.00	
Hydraulic tool	5.00			5100.00	
Safety Joint	2.00			5102.00	
Packer - Shale	5.00			5107.00	
Packer	5.00			5112.00	22.00 Bottom Of Top Packer
Stubb	1.00			5113.00	
Recorder	0.00	6798	Inside	5113.00	
Recorder	0.00	8367	Outside	5113.00	
Perforations	16.00			5129.00	
Bullnose	3.00			5132.00	20.00 Anchor Tool
Total Tool Length:	42.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Chieftain Oil Co

2-35s-12w Barber,KS

PO Box 124
Kiowa, KS 67070

Molz #18

Job Ticket: 50998

DST#: 4

ATTN: Arden Ratzlaff

Test Start: 2013.07.06 @ 01:09:52

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: 130000 ppm

Viscosity: 65.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.48 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6300.00 ppm

Filter Cake: 0.02 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
0.00	160 GIP	0.000
930.00	Water	10.927
124.00	MCW 40%M 60%W	1.739
82.00	SOWCM 2%O 28%W 70%M	1.150

Total Length: 1136.00 ft Total Volume: 13.816 bbl

Num Fluid Samples: 0

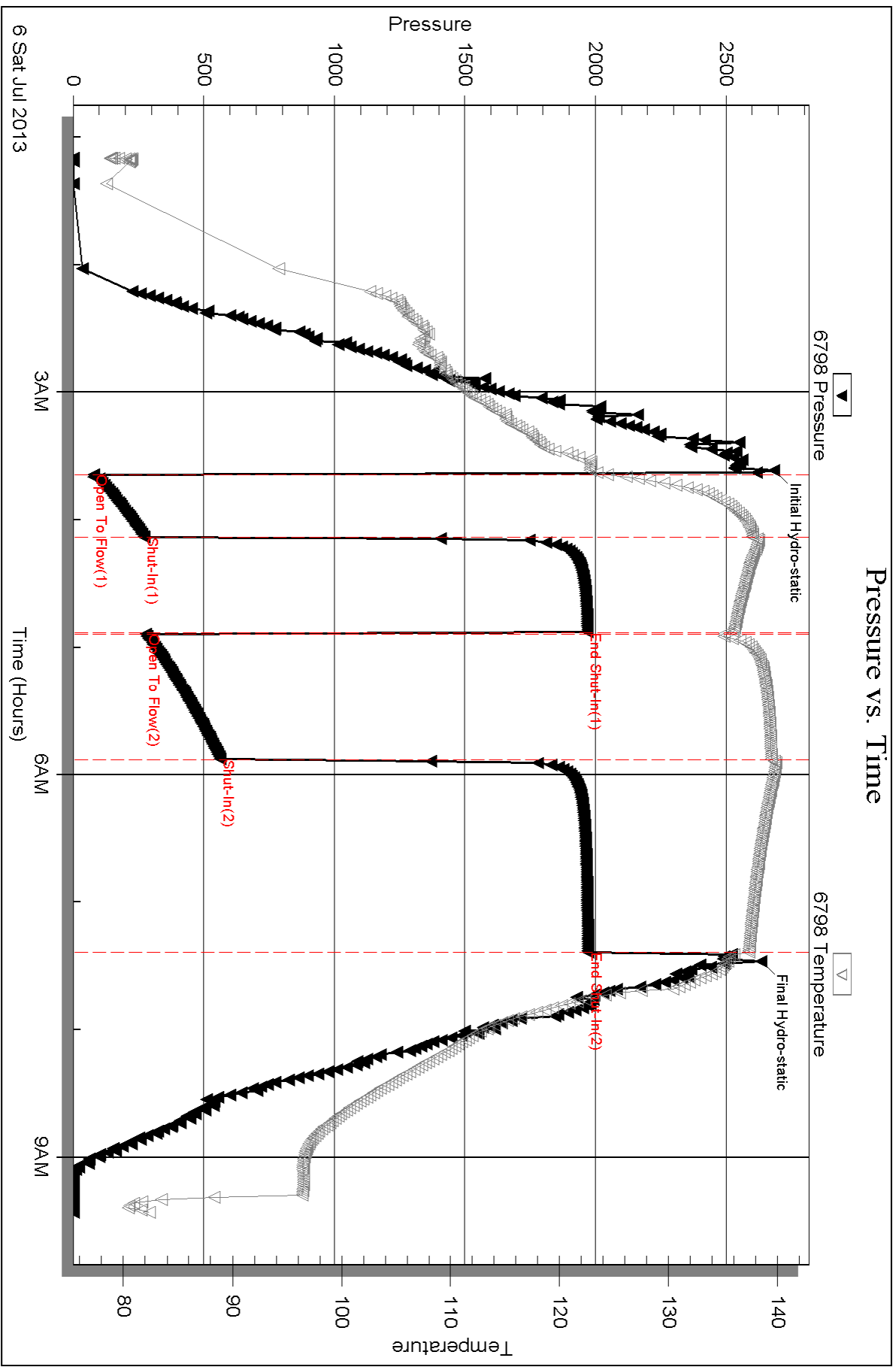
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW w as .06 @ 75 degrees

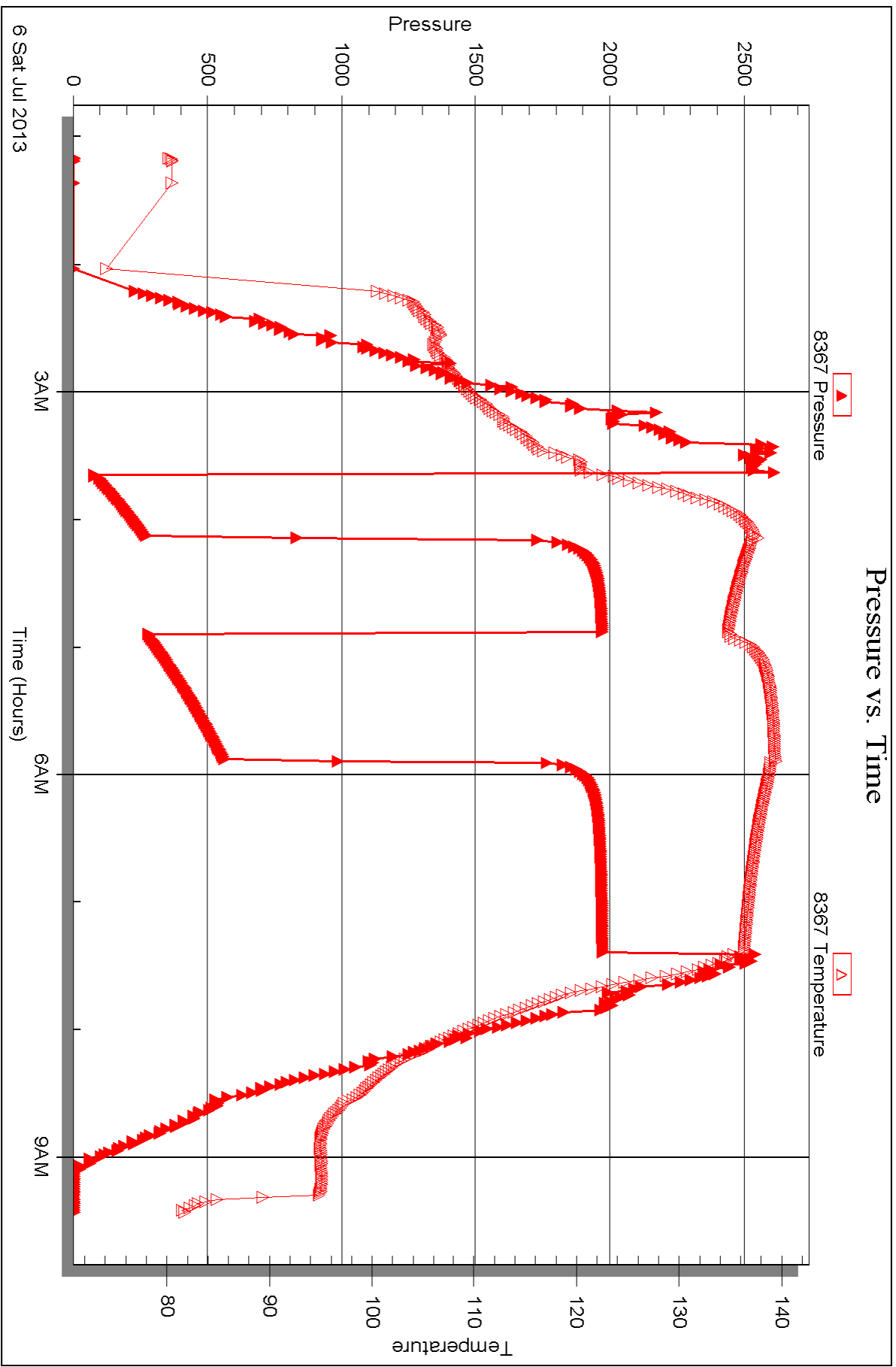


Serial #: 8367

Outside Chieftain Oil Co

Molz #18

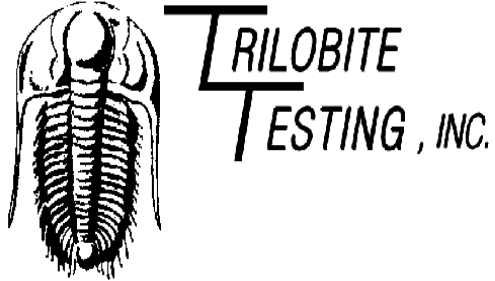
DST Test Number: 4



Triobite Testing, Inc

Ref. No: 50998

Printed: 2013.07.09 @ 17:28:27



DRILL STEM TEST REPORT

Prepared For: **Chieftain Oil Co**

PO Box 124
Kiowa, KS 67070

ATTN: Arden Ratzlaff

Molz #18

2-35s-12w Barber,KS

Start Date: 2013.07.07 @ 08:55:30

End Date: 2013.07.07 @ 17:26:00

Job Ticket #: 52337 DST #: 5

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

Printed: 2013.07.09 @ 17:27:47



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Chieftain Oil Co

2-35s-12w Barber, KS

PO Box 124
Kiowa, KS 67070

Molz #18

Job Ticket: 52337

DST#: 5

ATTN: Arden Ratzlaff

Test Start: 2013.07.07 @ 08:55:30

GENERAL INFORMATION:

Formation: **Simpson**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:55:00

Time Test Ended: 17:26:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Ryan Reynolds

Unit No: 48

Interval: 5259.00 ft (KB) To 5294.00 ft (KB) (TVD)

Reference Elevations: 1379.00 ft (KB)

Total Depth: 5294.00 ft (KB) (TVD)

1366.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 13.00 ft

Serial #: 8790

Inside

Press @ Run Depth: 513.06 psig @ 5260.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.07.07

End Date:

2013.07.07

Last Calib.:

2013.07.07

Start Time:

08:55:35

End Time:

17:25:59

Time On Btm:

2013.07.07 @ 10:49:00

Time Off Btm:

2013.07.07 @ 14:42:15

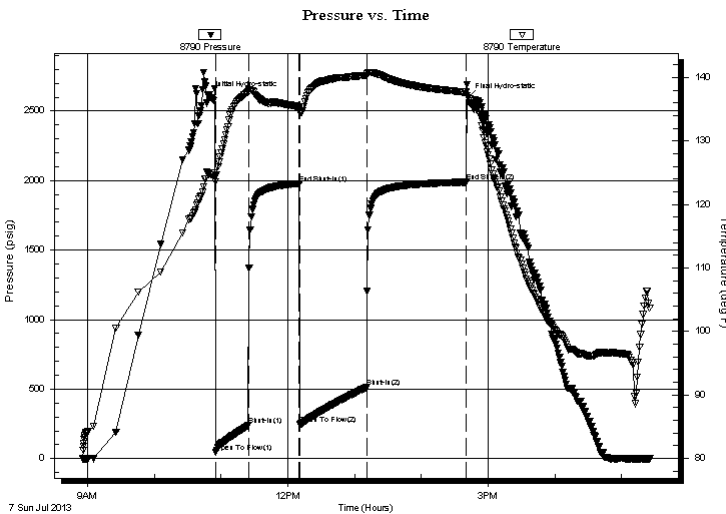
TEST COMMENT: IF: Strong blow . 1/4" - BOB @ 12 1/4 min.

IS: No blow

FF: Strong blow . surf. - BOB @ 16 min.

FS: No blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2608.18	124.77	Initial Hydro-static
6	44.95	123.53	Open To Flow (1)
36	237.81	137.71	Shut-In(1)
82	1979.57	135.37	End Shut-In(1)
82	244.83	134.56	Open To Flow (2)
142	513.06	140.28	Shut-In(2)
232	1988.63	137.69	End Shut-In(2)
234	2593.30	136.83	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
1140.00	SLI GCW 3%gas, 97%w tr	14.62
240.00	MCW 25%mud, 75%w tr	3.37

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Chieftain Oil Co

2-35s-12w Barber,KS

PO Box 124
Kiowa, KS 67070

Molz #18

Job Ticket: 52337

DST#: 5

ATTN: Arden Ratzlaff

Test Start: 2013.07.07 @ 08:55:30

Tool Information

Drill Pipe:	Length: 5105.00 ft	Diameter: 3.80 inches	Volume: 71.61 bbl	Tool Weight: 2100.00 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: 151.00 ft	Diameter: 2.25 inches	Volume: 0.74 bbl	Weight to Pull Loose: 78000.00 lb
			<u>Total Volume: 72.35 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	19.00 ft			String Weight: Initial 63000.00 lb
Depth to Top Packer:	5259.00 ft			Final 67000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	35.00 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
------------------	-------------	------------	----------	------------	----------------

Shut In Tool	5.00			5242.00	
Hydraulic tool	5.00			5247.00	
Safety Joint	2.00			5249.00	
Packer - Shale	5.00			5254.00	
Packer	5.00			5259.00	22.00 Bottom Of Top Packer
Stubb	1.00			5260.00	
Recorder	0.00	8790	Inside	5260.00	
Recorder	0.00	8792	Outside	5260.00	
Perforations	31.00			5291.00	
Bullnose	3.00			5294.00	35.00 Anchor Tool
Total Tool Length:	57.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Chieftain Oil Co

2-35s-12w Barber,KS

PO Box 124
Kiowa, KS 67070

Molz #18

Job Ticket: 52337

DST#: 5

ATTN: Arden Ratzlaff

Test Start: 2013.07.07 @ 08:55:30

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 10.00 lb/gal

Cushion Length:

ft

Water Salinity:

76000 ppm

Viscosity: 68.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.49 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6400.00 ppm

Filter Cake: 0.02 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1140.00	SLI GCW 3%gas, 97%w tr	14.616
240.00	MCW 25%mud, 75%w tr	3.367

Total Length: 1380.00 ft Total Volume: 17.983 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #: none

Laboratory Name:

Laboratory Location:

Recovery Comments:

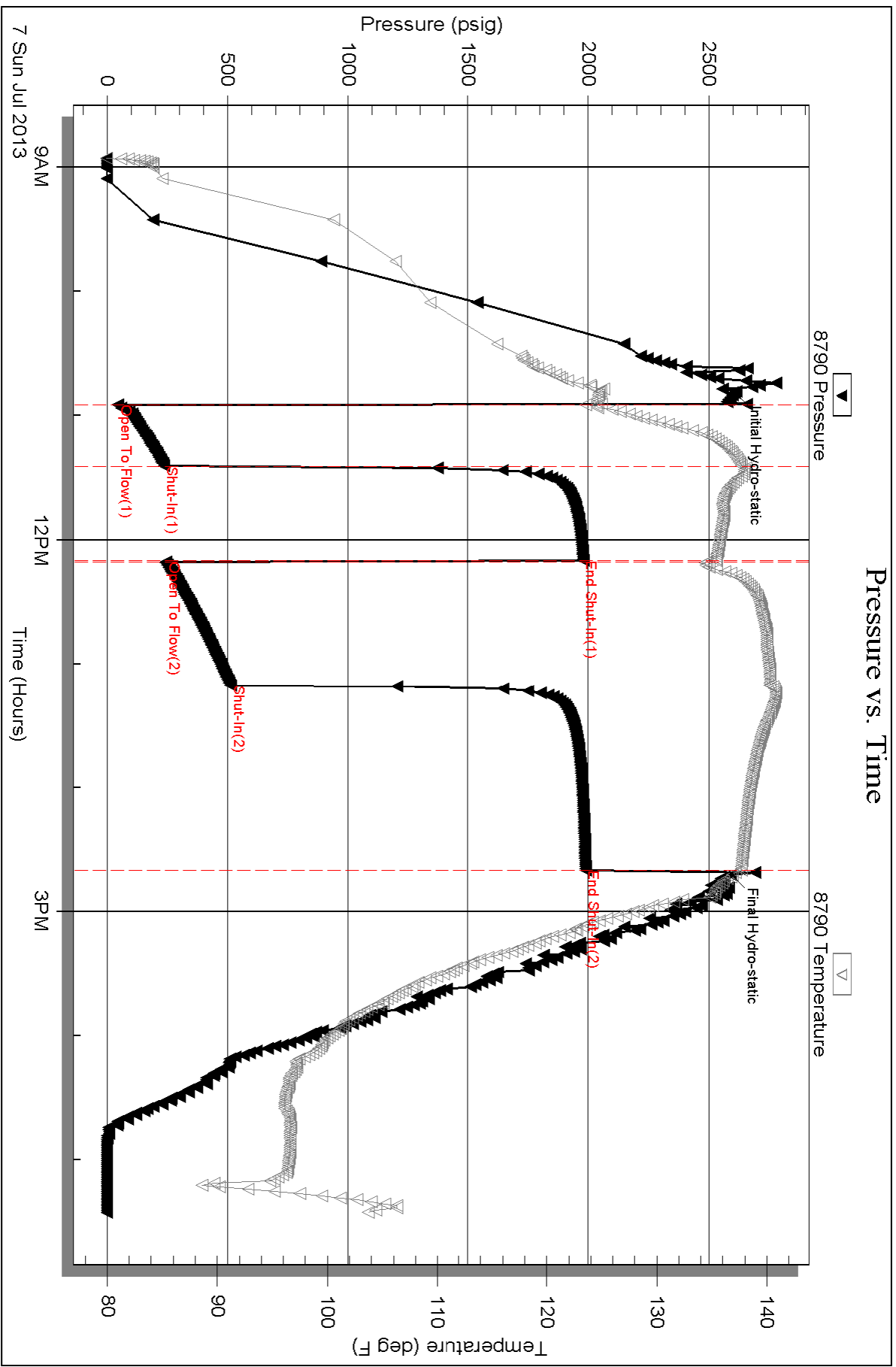
Serial #: 8790

Inside

Chieftain Oil Co

Molz #18

DST Test Number: 5

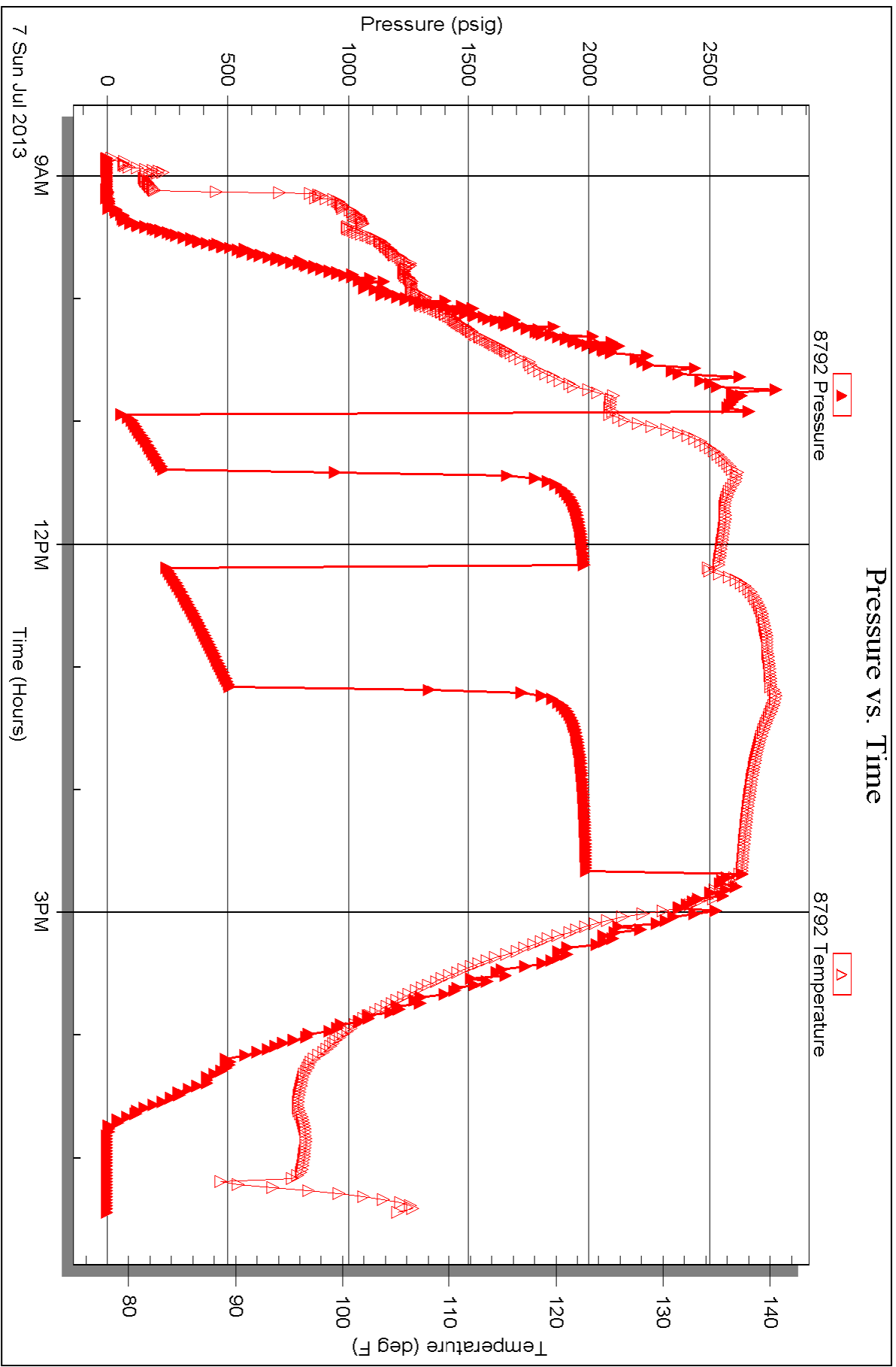


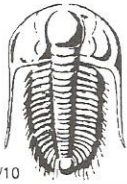
Serial #: 8792

Outside Chieftain Oil Co

Molz #18

DST Test Number: 5





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 50995

Well Name & No. Molz 18 Test No. 1 Date 07/03/13
 Company Chieftain Oil Co Elevation 1379 KB 1366 GL
 Address PO Box 124 Kiowa, KS 67070
 Co. Rep / Geo. Arden Ratzlaff Rig Fossil 3
 Location: Sec. 2 Twp. 35S Rge. 12W Co. Barber State KS

Interval Tested 4763 - 4800 Zone Tested Mississippi
 Anchor Length 37 Drill Pipe Run 4596 Mud Wt. 9.3
 Top Packer Depth 4758 Drill Collars Run 151 Vis 60
 Bottom Packer Depth 4763 Wt. Pipe Run 0 WL 7.0
 Total Depth 4800 Chlorides 3400 ppm System LCM 4
 Blow Description Packer Failure, tried to set twice, pulled test

Rec	Feet of	%gas	%oil	%water	%mud
<u>200</u>	<u>Drig mud</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 200 BHT 119 Gravity N/C API RW N/C @ N/C °F Chlorides N/C ppm

(A) Initial Hydrostatic 2441 Test 1050 T-On Location 08:45
 (B) First Initial Flow N/A Jars T-Started 09:26
 (C) First Final Flow N/A Safety Joint 75 T-Open 11:32
 (D) Initial Shut-In N/A Circ Sub T-Pulled 11:35
 (E) Second Initial Flow N/A Hourly Standby T-Out 13:48
 (F) Second Final Flow N/A Mileage (110) 170.50 Comments _____
 (G) Final Shut-In N/A Sampler _____
 (H) Final Hydrostatic 2399 Straddle _____
 Ruined Shale Packer _____
 Ruined Packer _____
 Extra Packer _____
 Extra Copies _____
 Initial Open _____
 Initial Shut-In _____
 Final Flow _____
 Final Shut-In _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____
 Sub Total 1295.50 Sub Total 0
 Total 1295.50 Total 1295.50
 MP/DST Disc't

Approved By Arden Ratzlaff Our Representative [Signature]

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



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 50996

Well Name & No. Molz 18 Test No. 2 Date 07/03/13
 Company Chief + ain oil co Elevation 1379 KB 1366 GL
 Address PO Box 124 Kiowa, KS 67070
 Co. Rep / Geo. Arden Ratzlaff Rig Fossil 3
 Location: Sec. 2 Twp. 35S Rge. 12W Co. Barber State KS

Interval Tested 4777 - 4800 Zone Tested Mississippi
 Anchor Length 23 Drill Pipe Run 4627 Mud Wt. 9.3
 Top Packer Depth 4772 Drill Collars Run 151 Vis 60
 Bottom Packer Depth 4777 Wt. Pipe Run 0 WL 7.0
 Total Depth 4800 Chlorides 3400 ppm System LCM 4

Blow Description IF: Strong Blow, BOB in 4 minutes

TST: NO Blow Back

FF: Strong Blow, BOB in 15 seconds

FSI: NO Blow Back

Rec	Feet of	%gas	%oil	%water	%mud
<u>1220</u>	<u>GIP</u>				
<u>40</u>	<u>SOCM</u>		<u>2</u>		<u>98</u>

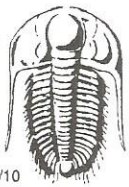
Rec Total 40 BHT 125 Gravity NIC API RW NIC @ NIC F Chlorides NIC ppm

(A) Initial Hydrostatic 2494 Test 1250 T-On Location 13:45
 (B) First Initial Flow 23 Jars T-Started 14:06
 (C) First Final Flow 34 Safety Joint 75 T-Open 15:52
 (D) Initial Shut-In 1197 Circ Sub T-Pulled 19:36
 (E) Second Initial Flow 23 Hourly Standby T-Out 21:44
 (F) Second Final Flow 39 Mileage
 (G) Final Shut-In 1387 Sampler
 (H) Final Hydrostatic 2407 Straddle

Ruined Shale Packer
 Ruined Packer
 Extra Copies
 Sub Total 0
 Total 1325
 MP/DST Disc't
 Sub Total 1325

Approved By Arden Ratzlaff Our Representative _____

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



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 50997

Well Name & No. Molz 18 Test No. 3 Date 07/04/13
 Company Chieftain oil co Elevation 1379 KB 1366 GL
 Address PO Box 124 Kiowa, KS 67070
 Co. Rep / Geo. Arden Ratzlaff Rig Fossil 3
 Location: Sec. 2 Twp. 35S Rge. 12W Co. Barber State KS

Interval Tested 4801 - 4824 Zone Tested Mississippi
 Anchor Length 23 Drill Pipe Run 4658 Mud Wt. 9.3
 Top Packer Depth 4796 Drill Collars Run 151 Vis 57
 Bottom Packer Depth 4801 Wt. Pipe Run 0 WL 7.0
 Total Depth 4824 Chlorides 3700 ppm System LCM 3

Blow Description IF: Weak Blow, Built to 3 1/2 inches
TST: NO Blow Back
FF: Weak Linch Blow
EST: NO Blow Back

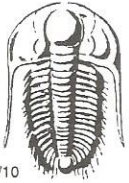
Rec	Feet of	%gas	%oil	%water	%mud
<u>20</u>	<u>150cm</u>		<u>1</u>		<u>99</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 20 BHT 121 Gravity N/C API RW N/C @ N/C °F Chlorides N/C ppm

(A) Initial Hydrostatic <u>2431</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>06:30</u>
(B) First Initial Flow <u>32</u>	<input type="checkbox"/> Jars	T-Started <u>07:11</u>
(C) First Final Flow <u>41</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>09:15</u>
(D) Initial Shut-In <u>132</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>13:00</u>
(E) Second Initial Flow <u>37</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>14:39</u>
(F) Second Final Flow <u>47</u>	<input checked="" type="checkbox"/> Mileage <u>(110)</u> 170.50	Comments
(G) Final Shut-In <u>181</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2335</u>	<input type="checkbox"/> Straddle	
	<input checked="" type="checkbox"/> Shale Packer <u>250</u>	<input type="checkbox"/> Ruined Shale Packer
Initial Open <u>30</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Ruined Packer
Initial Shut-In <u>45</u>	<input type="checkbox"/> Extra Recorder	<input type="checkbox"/> Extra Copies
Final Flow <u>60</u>	<input type="checkbox"/> Day Standby	Sub Total <u>0</u>
Final Shut-In <u>90</u>	<input type="checkbox"/> Accessibility	Total <u>1745.50</u>
	Sub Total <u>1745.50</u>	<input checked="" type="checkbox"/> MP/DST Disc't

Approved By Arden Ratzlaff 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. 50998

Well Name & No. Molz 18 Test No. 4 Date 07/06/13
 Company Chieftain Oil Co Elevation 1379 KB 1366 GL
 Address PO Box 124 Kiowa, KS 67070
 Co. Rep / Geo. Alden Ratzlaff Rig Fossil 3
 Location: Sec. 3 Twp. 35S Rge. 12W Co. Barber State KS

Interval Tested 5112 - 5132 Zone Tested Misener
 Anchor Length 20 Drill Pipe Run 4943 Mud Wt. 9.4
 Top Packer Depth 5107 Drill Collars Run 151 Vis 65
 Bottom Packer Depth 5112 Wt. Pipe Run 0 WL 8.5
 Total Depth 5132 Chlorides 6300 ppm System LCM 3

Blow Description IF: Fair Blow, BOB in 9 minutes

TST: Blowback Built to Linch

IFF: Fair Blow, BOB in 13 minutes

FST: 1/2 inch Blowback

Rec	Feet of	%gas	%oil	%water	%mud
<u>160</u>	<u>GJP</u>				
<u>82</u>	<u>SOWCM</u>		<u>2</u>	<u>28</u>	<u>70</u>
<u>124</u>	<u>MCW</u>			<u>60</u>	<u>40</u>
<u>930</u>	<u>water</u>				

Rec Total 1136 BHT 137 Gravity N/C API RW .06 @ 75 °F Chlorides 130,000 ppm

(A) Initial Hydrostatic <u>2684</u>	<input checked="" type="checkbox"/> Test <u>1350</u>	T-On Location <u>03:00:15</u>
(B) First Initial Flow <u>78</u>	<input type="checkbox"/> Jars	T-Started <u>01:09</u>
(C) First Final Flow <u>272</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>03:38</u>
(D) Initial Shut-In <u>1971</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>07:23</u>
(E) Second Initial Flow <u>278</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>09:26</u>
(F) Second Final Flow <u>564</u>	<input checked="" type="checkbox"/> Mileage <u>(110)</u> 170.50	Comments
(G) Final Shut-In <u>1972</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2634</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
Initial Open <u>30</u>	<input checked="" type="checkbox"/> Shale Packer <u>250</u>	<input type="checkbox"/> Ruined Packer
Initial Shut-In <u>45</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Final Flow <u>60</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>316.67</u>
Final Shut-In <u>90</u>	<input checked="" type="checkbox"/> Day Standby <u>1/2</u> 1d 9.5h	Total <u>2162.17</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't <input checked="" type="checkbox"/>
	Sub Total <u>1845.50</u>	

Approved By Alden Ratzlaff

Our Representative [Signature]

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



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 52337

Well Name & No. Molz #18 Test No. 5 Date 7-7-13
 Company Chieftain Oil Co. Elevation 1379 KB 1366 GL
 Address P.O. Box 124 Kiowa, KS 67070
 Co. Rep / Geo. Arden Ratzlaff Rig Fossil #3
 Location: Sec. 2 Twp. 35s. Rge. 12w. Co. Barber State KS

Interval Tested 5259-5294 Zone Tested Simpson
 Anchor Length 35 Drill Pipe Run 5105 Mud Wt. 9.5
 Top Packer Depth 5254 Drill Collars Run 151 Vis 68
 Bottom Packer Depth 5259 Wt. Pipe Run Ø WL 8.5
 Total Depth 5294 Chlorides 6400 ppm System LCM 1#

Blow Description IF: Strong blow. 1/4" - BOB @ 12 1/4 min.
ISI: No blow
FF: Strong blow, surf. - BOB @ 16 min.
FST: No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>340</u>	<u>MLW</u>		<u>75</u>	<u>25</u>	
<u>1140</u>	<u>SLI GLW</u>	<u>3</u>	<u>97</u>		

Rec Total 1380 BHT 140 Gravity N/C API RW 270 @ 100 °F Chlorides 76000 ppm
 (A) Initial Hydrostatic 2608 Test 1350 T-On Location 0800
 (B) First Initial Flow 45 Jars T-Started 0856
 (C) First Final Flow 238 Safety Joint 75 T-Open 1055
 (D) Initial Shut-In 1980 Circ Sub T-Pulled 1440
 (E) Second Initial Flow 245 Hourly Standby T-Out 1726
 (F) Second Final Flow 513 Mileage 110 170.50 Comments _____
 (G) Final Shut-In 1989 Sampler _____
 (H) Final Hydrostatic 2593 Straddle _____
 Shale Packer 250 Ruined Shale Packer _____
 Extra Packer _____ Ruined Packer _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1845.50
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1845.50

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