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DRILL STEM TEST REPORT

Prepared For: **FIML Natural Resources**
410 17th St.
Suite 900
Denver, CO 80202

ATTN: Gary Doke / Jim Musg

Stock 14A 7-1237

7-12s-37w Logan,KS

Start Date: 2011.10.01 @ 17:28:00
End Date: 2011.10.02 @ 00:07:09
Job Ticket #: 44370 DST #: 1



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

ORIGINAL

Printed: 2011.10.17 @ 13:35:00

FIML Natural Resources 7-12s-37w Logan,KS Stock 14A 7-1237 DST # 1 Topeka 2011.10.01



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

FIML Natural Resources

7-12s-37w Logan, KS

410 17th St.

Stock 14A 7-1237

Suite 900
Denver, CO 80202

Job Ticket: 44370

DST#: 1

ATTN: Gary Duke / Jim Musg

Test Start: 2011.10.01 @ 17:28:00

Tool Information

Drill Pipe:	Length: 3237.00 ft	Diameter: 3.80 inches	Volume: 45.41 bbl	Tool Weight: 2500.00 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: 371.00 ft	Diameter: 2.25 inches	Volume: 1.82 bbl	Weight to Pull Loose: 75000.00 lb
			Total Volume: 47.23 bbl	Tool Chased: 0.00 ft
Drill Pipe Above KB:	15.50 ft			String Weight: Initial 65000.00 lb
Depth to Top Packer:	3620.00 ft			Final 65000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	30.00 ft			
Tool Length:	57.50 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			3593.50	
Shut In Tool	5.00			3598.50	
Hydraulic tool	5.00			3603.50	
Jars	5.00			3608.50	
Safety Joint	2.50			3611.00	
Packer	5.00			3616.00	27.50 Bottom Of Top Packer
Packer	4.00			3620.00	
Stubb	1.00			3621.00	
Perforations	1.00			3622.00	
Recorder	0.00	8018	Inside	3622.00	
Recorder	0.00	6751	Outside	3622.00	
Perforations	25.00			3647.00	
Bullnose	3.00			3650.00	30.00 Bottom Packers & Anchor

Total Tool Length: 57.50



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

FIML Natural Resources

7-12s-37w Logan, KS

410 17th St.
Suite 900
Denver, CO 80202
ATTN: Gary Doke / Jim Musg

Stock 14A 7-1237

Job Ticket: 44370

DST#: 1

Test Start: 2011.10.01 @ 17:28:00

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 53.00 sec/qt
Water Loss: 7.96 in³
Resistivity: ohm.m
Salinity: 4000.00 ppm
Filter Cake: 1.00 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
30.00	SOCM 1%o 99%m	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:

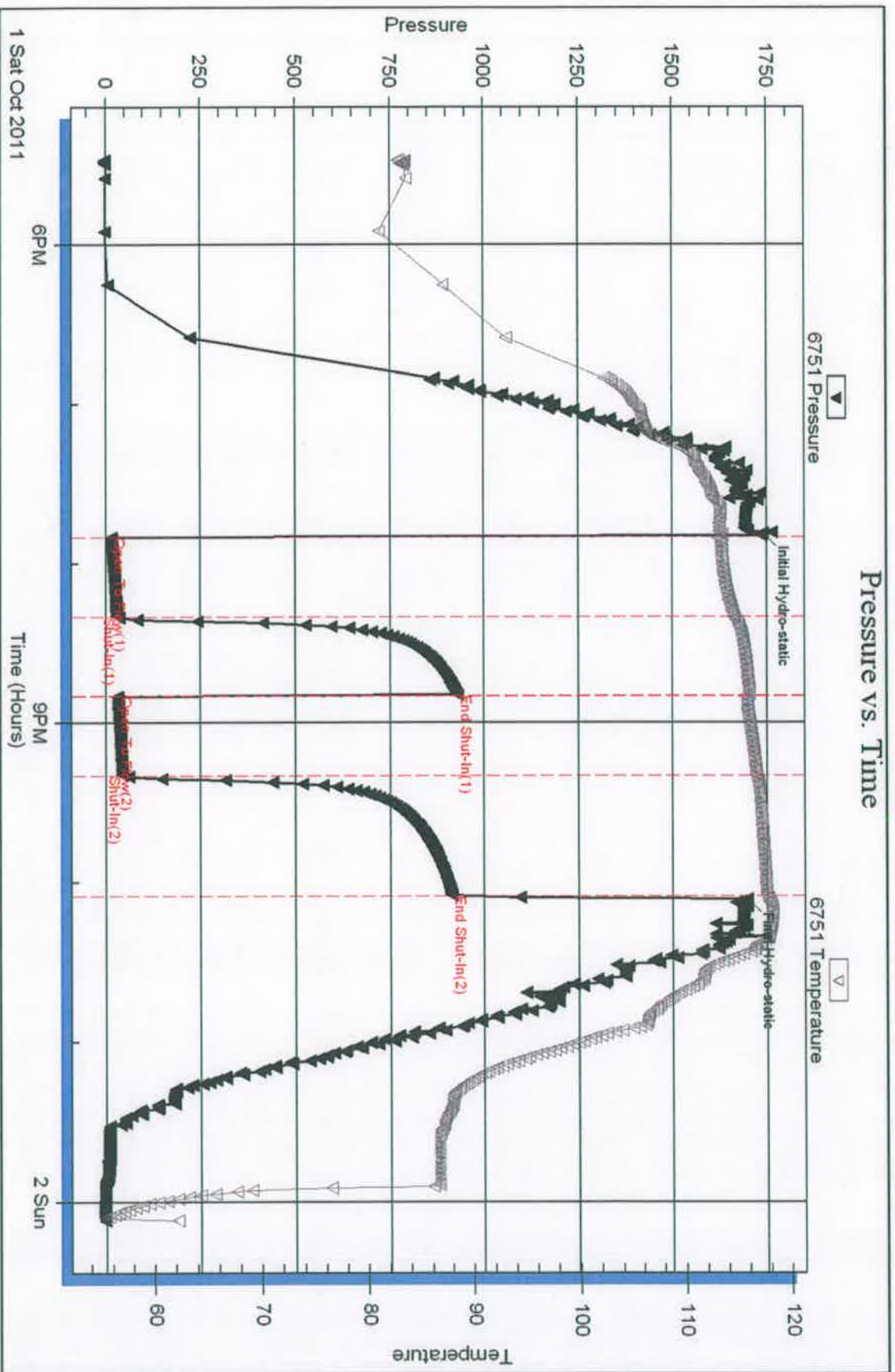
Serial #: 6751

Outside FIML Natural Resources

Stock 14A 7-1237

DST Test Number: 1

Pressure vs. Time





**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

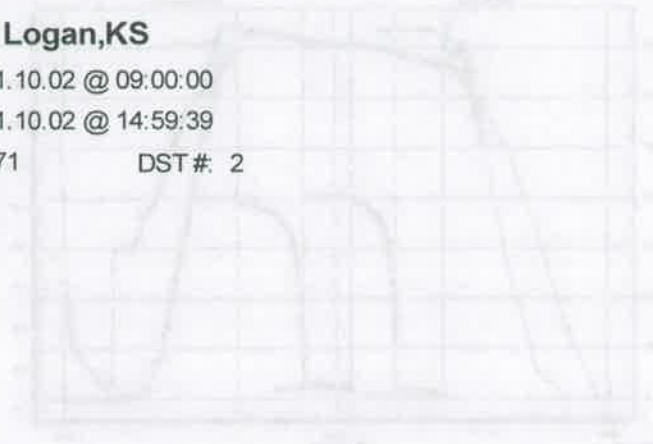
Prepared For: **FIML Natural Resources**
410 17th St.
Suite 900
Denver, CO 80202

ATTN: Gary Doke / Jim Musg

Stock 14A 7-1237

7-12s-37w Logan,KS

Start Date: 2011.10.02 @ 09:00:00
End Date: 2011.10.02 @ 14:59:39
Job Ticket #: 44371 DST #: 2



Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

FIML Natural Resources 7-12s-37w Logan,KS Stock 14A 7-1237 DST # 2 Lower Topeka 2011.10.02



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FIML Natural Resources
410 17th St.
Suite 900
Denver, CO 80202
ATTN: Gary Duke / Jim Musg

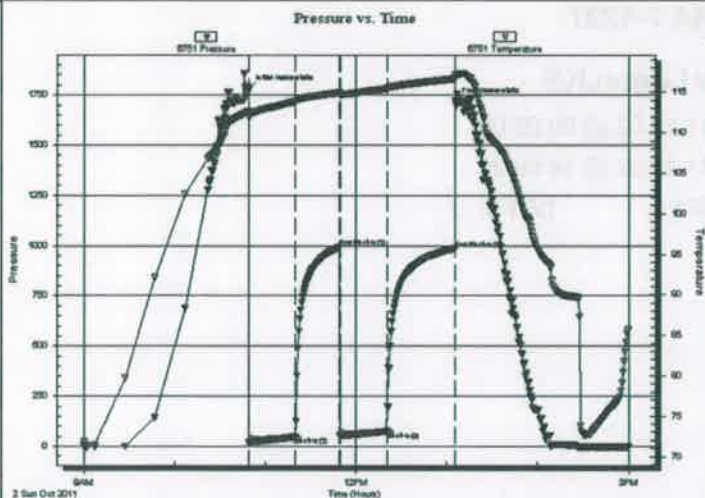
7-12s-37w Logan, KS
Stock 14A 7-1237
Job Ticket: 44371 **DST#: 2**
Test Start: 2011.10.02 @ 09:00:00

GENERAL INFORMATION:

Formation: **Lower Topeka**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 10:49:20
Time Test Ended: 14:59:39
Interval: **3630.00 ft (KB) To 3730.00 ft (KB) (TVD)**
Total Depth: 3730.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Test Type: Conventional Bottom Hole (Initial)
Tester: Randy Williams
Unit No: 37
Reference Elevations: 3300.00 ft (KB)
3291.00 ft (CF)
KB to GR/CF: 9.00 ft

Serial #: 6751 **Outside**
Press@RunDepth: 74.18 psig @ 3664.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2011.10.02 End Date: 2011.10.02 Last Calib.: 2011.10.02
Start Time: 09:00:02 End Time: 14:59:40 Time On Btm: 2011.10.02 @ 10:49:10
Time Off Btm: 2011.10.02 @ 13:05:50

TEST COMMENT: IF-30--No blow
ISI-30- NBB
FF-30- WSB
FSI-45- NBB



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1779.03	112.72	Initial Hydro-static
1	19.45	111.98	Open To Flow (1)
32	46.73	113.91	Shut-In(1)
61	993.19	114.97	End Shut-In(1)
61	50.64	114.54	Open To Flow (2)
92	74.18	115.47	Shut-In(2)
137	986.19	116.69	End Shut-In(2)
137	1718.93	117.16	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbt)
90.00	WCM, 40% W, 60% M	0.44
30.00	WCM, 20% W, 80% M	0.15

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

FIML Natural Resources

7-12s-37w Logan, KS

410 17th St.

Stock 14A 7-1237

Suite 900

Job Ticket: 44371

DST#: 2

Denver, CO 80202

ATTN: Gary Doke / Jim Musg

Test Start: 2011.10.02 @ 09:00:00

Tool Information

Drill Pipe:	Length: 3269.00 ft	Diameter: 3.80 inches	Volume: 45.86 bbl	Tool Weight: 3000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 22000.00 lb
Drill Collar:	Length: 371.00 ft	Diameter: 2.25 inches	Volume: 1.82 bbl	Weight to Pull Loose: 80000.00 lb
			Total Volume: 47.68 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	7.50 ft			String Weight: Initial 66000.00 lb
Depth to Top Packer:	3660.00 ft			Final 66000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	70.00 ft			
Tool Length:	97.50 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			3633.50	
Shut In Tool	5.00			3638.50	
Hydraulic tool	5.00			3643.50	
Jars	5.00			3648.50	
Safety Joint	2.50			3651.00	
Packer	5.00			3656.00	27.50 Bottom Of Top Packer
Packer	4.00			3660.00	
Stubb	1.00			3661.00	
Perforations	3.00			3664.00	
Recorder	0.00	8018	Inside	3664.00	
Recorder	0.00	6751	Outside	3664.00	
Perforations	30.00			3694.00	
Change Over Sub	1.00			3695.00	
Drill Pipe	31.00			3726.00	
Change Over Sub	1.00			3727.00	
Bullnose	3.00			3730.00	70.00 Bottom Packers & Anchor
Total Tool Length:	97.50				



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

FIML Natural Resources

7-12s-37w Logan,KS

410 17th St.
Suite 900
Denver, CO 80202

Stock 14A 7-1237

Job Ticket: 44371

DST#: 2

ATTN: Gary Doke / Jim Musg

Test Start: 2011.10.02 @ 09:00:00

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:

21000 ppm

Viscosity: 49.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.95 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 7000.00 ppm

Filter Cake: 3.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
90.00	WCM, 40% W, 60% M	0.443
30.00	WCM, 20% W, 80% M	0.148

Total Length: 120.00 ft

Total Volume: 0.591 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

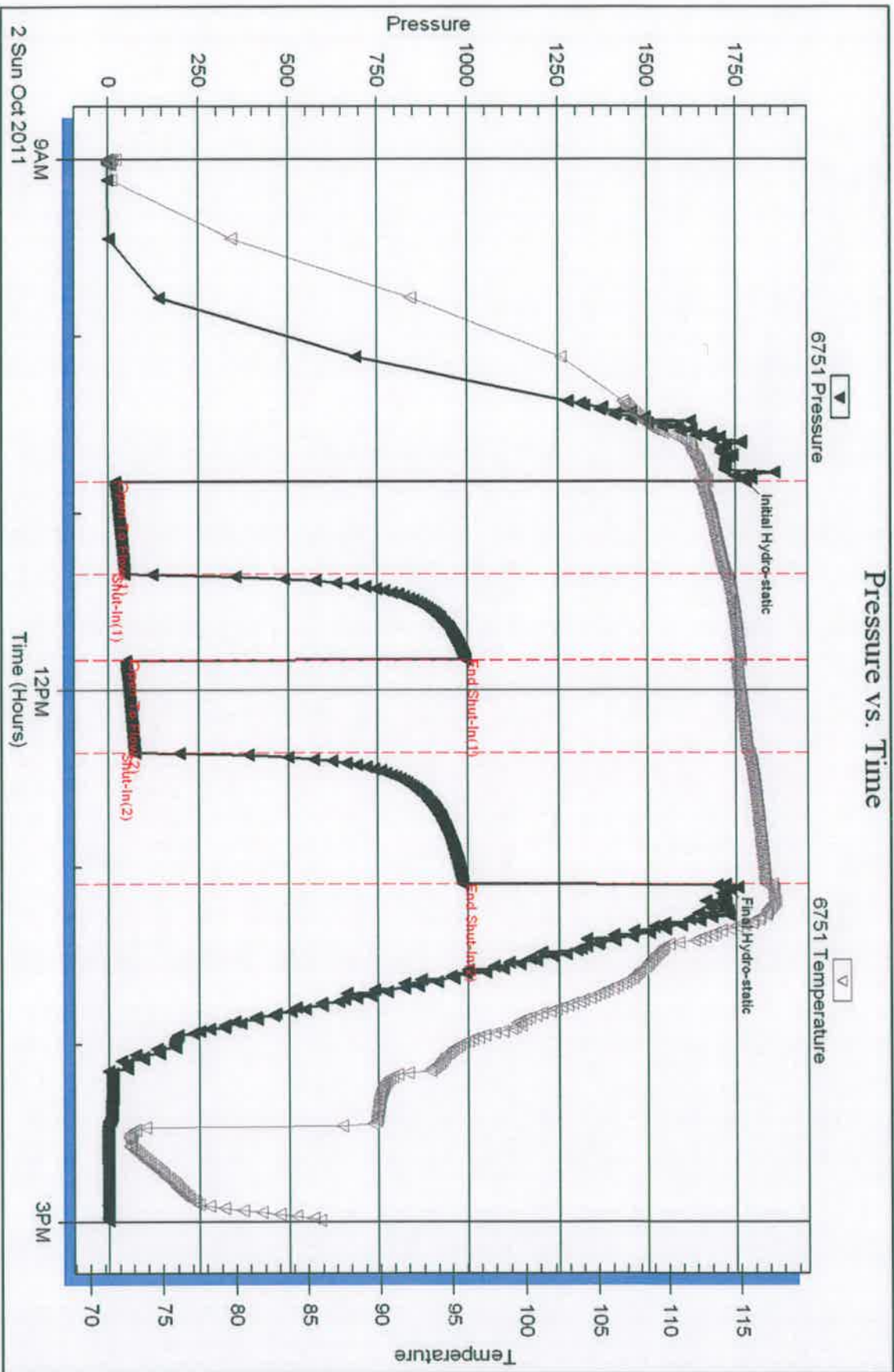
Recovery Comments: Rw .207@79F=21000.0

Serial #: 6751

Outside FNL Natural Resources

Stock 14A 7-1237

DST Test Number: 2





**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **FIML Natural Resources**

410 17th St.
Suite 900
Denver, CO 80202

ATTN: Gary Doke / Jim Musg

Stock 14A 7-1237

7-12s-37w Logan,KS

Start Date: 2011.10.03 @ 15:18:00

End Date: 2011.10.04 @ 00:02:45

Job Ticket #: 44489

DST #: 3



Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2011.10.17 @ 13:35:37

FIML Natural Resources

7-12s-37w Logan,KS

Stock 14A 7-1237

DST # 3

LKC A-C

2011.10.03



**TRILOBITE
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DRILL STEM TEST REPORT

FIML Natural Resources
410 17th St.
Suite 900
Denver, CO 80202
ATTN: Gary Doke / Jim Musg

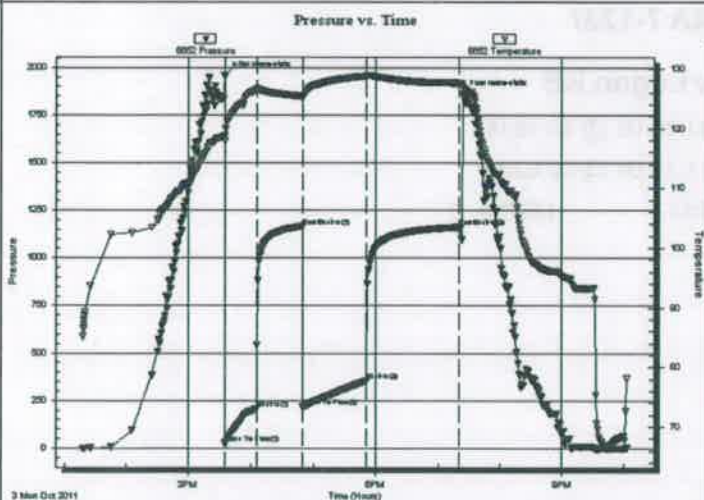
7-12s-37w Logan,KS
Stock 14A 7-1237
Job Ticket: 44489 **DST#: 3**
Test Start: 2011.10.03 @ 15:18:00

GENERAL INFORMATION:

Formation: **LKC A-C**
Deviated: **No Whipstock:** ft (KB)
Time Tool Opened: 17:35:15
Time Test Ended: 00:02:45
Interval: **3918.00 ft (KB) To 3975.00 ft (KB) (TVD)**
Total Depth: 3975.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Test Type: Conventional Bottom Hole (Reset)
Tester: Bradley Walter
Unit No: 40
Reference Elevations: 3300.00 ft (KB)
3291.00 ft (CF)
KB to GR/CF: 9.00 ft

Serial #: 8652 **Inside**
Press@RunDepth: 355.82 psig @ 3919.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2011.10.03 End Date: 2011.10.03 Last Calib.: 2011.10.03
Start Time: 13:18:05 End Time: 22:02:45 Time On Btm: 2011.10.03 @ 15:35:00
Time Off Btm: 2011.10.03 @ 19:23:45

TEST COMMENT: IF: BOB @ 14 min.
IS: No return.
FF: BOB @ 23 min.
FS: No return.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1959.11	118.81	Initial Hydro-static
1	24.86	117.95	Open To Flow (1)
31	209.27	126.54	Shut-In(1)
75	1164.98	125.42	End Shut-In(1)
76	218.01	124.98	Open To Flow (2)
136	355.82	128.79	Shut-In(2)
226	1162.94	127.62	End Shut-In(2)
229	1860.38	127.11	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
600.00	mco 10m 90w (oil spots)	5.04
10.00	mco 10m 90o	0.14

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

FIML Natural Resources

7-12s-37w Logan, KS

410 17th St.
Suite 900
Denver, CO 80202

Stock 14A 7-1237

Job Ticket: 44489

DST#: 3

ATTN: Gary Doke / Jim Musg

Test Start: 2011.10.03 @ 15:18:00

Tool Information

Drill Pipe:	Length: 3549.00 ft	Diameter: 3.80 inches	Volume: 49.78 bbl	Tool Weight: 1500.00 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: 371.00 ft	Diameter: 2.25 inches	Volume: 1.82 bbl	Weight to Pull Loose: 89000.00 lb
			Total Volume: 51.60 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	23.00 ft			String Weight: Initial 65000.00 lb
Depth to Top Packer:	3918.00 ft			Final 67000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	57.00 ft			
Tool Length:	78.00 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			3898.00	
Shut In Tool	5.00			3903.00	
Hydraulic tool	5.00			3908.00	
Packer	5.00			3913.00	21.00 Bottom Of Top Packer
Packer	5.00			3918.00	
Stubb	1.00			3919.00	
Recorder	0.00	8360	Outside	3919.00	
Recorder	0.00	8652	Inside	3919.00	
Perforations	19.00			3938.00	
Change Over Sub	1.00			3939.00	
Drill Pipe	32.00			3971.00	
Change Over Sub	1.00			3972.00	
Bullnose	3.00			3975.00	57.00 Bottom Packers & Anchor

Total Tool Length: 78.00



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

FIML Natural Resources

7-12s-37w Logan,KS

410 17th St.
Suite 900
Denver, CO 80202

Stock 14A 7-1237

Job Ticket: 44489

DST#: 3

ATTN: Gary Doke / Jim Musg

Test Start: 2011.10.03 @ 15:18:00

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API: 0 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: 27000 ppm
Viscosity: 55.00 sec/qt	Cushion Volume: bbl	
Water Loss: 7.97 in ³	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 6000.00 ppm		
Filter Cake: 1.00 inches		

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
600.00	mcw 10m90w (oil spots)	5.037
10.00	mco 10m90o	0.140

Total Length: 610.00 ft Total Volume: 5.177 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments: rw is .236 @ 75 = 27000ppm

Serial #: 8652

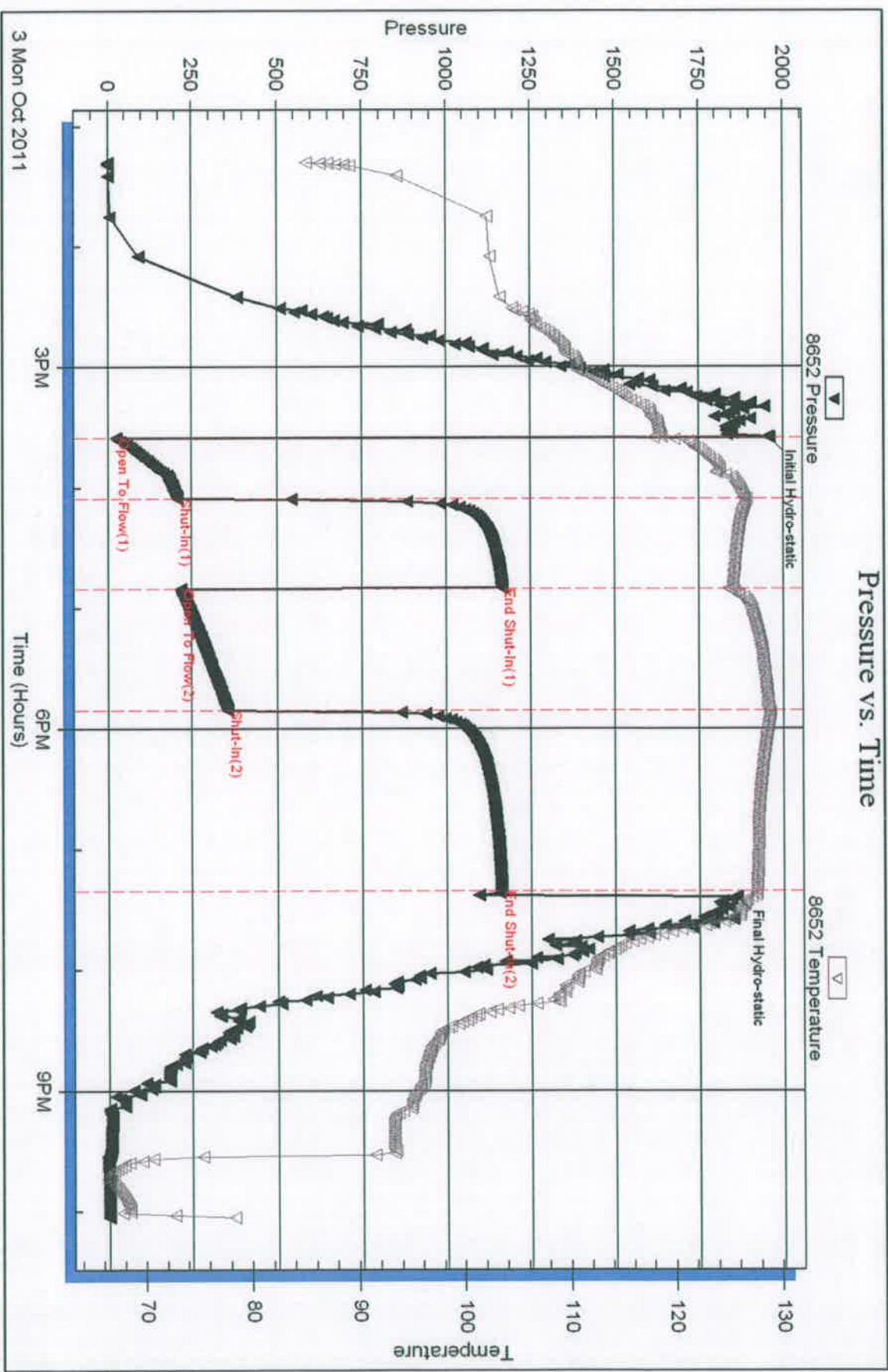
Inside

FIML Natural Resources

Stock 14A 7-1237

DST Test Number: 3

Pressure vs. Time





**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **FIML Natural Resources**

410 17th St.
Suite 900
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ATTN: Gary Doke / Jim Musg

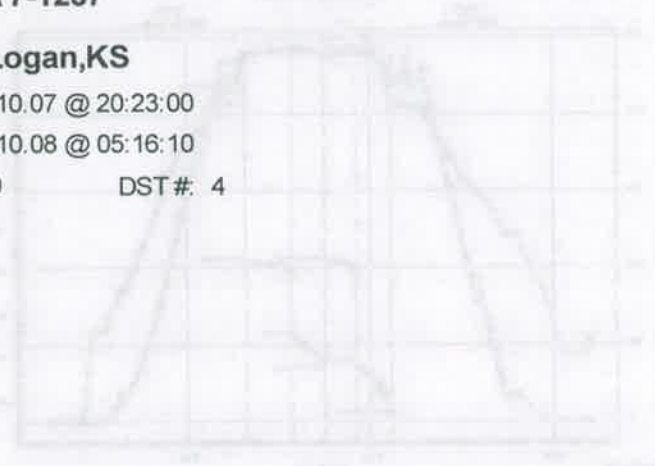
Stock 14A 7-1237

7-12s-37w Logan,KS

Start Date: 2011.10.07 @ 20:23:00

End Date: 2011.10.08 @ 05:16:10

Job Ticket #: 43900 DST #: 4



Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2011.10.17 @ 13:38:47

FIML Natural Resources

7-12s-37w Logan,KS

Stock 14A 7-1237

DST # 4

Upper Morrow

2011.10.07



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FIML Natural Resources
410 17th St.
Suite 900
Denver, CO 80202
ATTN: Gary Duke / Jim Musg

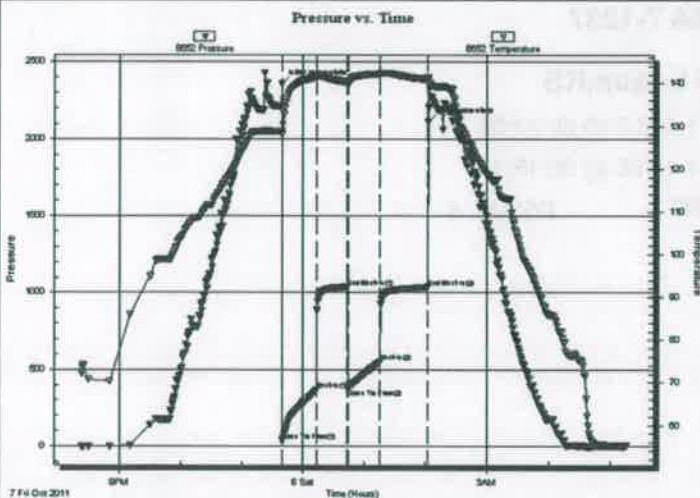
7-12s-37w Logan, KS
Stock 14A 7-1237
Job Ticket: 43900 **DST#: 4**
Test Start: 2011.10.07 @ 20:23:00

GENERAL INFORMATION:

Formation: **Upper Morrow**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 23:39:55
Time Test Ended: 05:16:10
Interval: **4600.00 ft (KB) To 4620.00 ft (KB) (TVD)**
Total Depth: 4950.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Test Type: Conventional Straddle (Reset)
Tester: Will MacLean
Unit No: 40
Reference Elevations: 3300.00 ft (KB)
3291.00 ft (CF)
KB to GR/CF: 9.00 ft

Serial #: 8652 **Outside**
Press@RunDepth: 548.77 psig @ 4601.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2011.10.07 End Date: 2011.10.08 Last Calib.: 2011.10.08
Start Time: 20:23:00 End Time: 05:16:10 Time On Btrr: 2011.10.07 @ 23:39:40
Time Off Btrr: 2011.10.08 @ 02:03:09

TEST COMMENT: IF- BOB in 6 min
IS- No Blow
FF- BOB in 12 1/2 min
FS- No Blow



PRESSURE SUMMARY

Time (Mn.)	Pressure (psig)	Temp (deg F)	Annotation
0	2355.73	128.85	Initial Hydro-static
1	34.62	128.04	Open To Flow (1)
34	365.80	141.49	Shut-In(1)
64	1037.15	140.24	End Shut-In(1)
65	373.86	139.94	Open To Flow (2)
97	548.77	142.27	Shut-In(2)
143	1036.82	140.99	End Shut-In(2)
144	2110.84	141.39	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
173.00	WCM 30%w 70%w	0.85
372.00	MCW 20%w 80%w	3.41
650.00	MCW 10%w 90%w	9.12

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

FIML Natural Resources

7-12s-37w Logan, KS

410 17th St.
Suite 900
Denver, CO 80202
ATTN: Gary Duke / Jim Musg

Stock 14A 7-1237
Job Ticket: 43900 DST#: 4
Test Start: 2011.10.07 @ 20:23:00

Tool Information

Drill Pipe:	Length: 4239.00 ft	Diameter: 3.80 inches	Volume: 59.46 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: 371.00 ft	Diameter: 2.25 inches	Volume: 1.82 bbl	Weight to Pull Loose: 22000.00 lb
			<u>Total Volume: 61.28 bbl</u>	Tool Chased: 0.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	4600.00 ft			Final 78000.00 lb
Depth to Bottom Packer:	4620.00 ft			
Interval between Packers:	20.00 ft			
Tool Length:	370.00 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			4585.00	
Hydraulic tool	5.00			4590.00	
Packer	5.00			4595.00	20.00 Bottom Of Top Packer
Packer	5.00			4600.00	
Stubb	1.00			4601.00	
Recorder	0.00	8360	Inside	4601.00	
Recorder	0.00	8652	Outside	4601.00	
Perforations	15.00			4616.00	
Blank Off Sub	1.00			4617.00	
Top of Straddle Packer	3.00			4620.00	20.00 Tool Interval
Packer	0.00			4620.00	
Stubb	1.00			4621.00	
Recorder	0.00	8322	Below	4621.00	
Perforations	10.00			4631.00	
Change Over Sub	1.00			4632.00	
Drill Pipe	314.00			4946.00	
Change Over Sub	1.00			4947.00	
Bullnose	3.00			4950.00	330.00 Bottom Packers & Anchor

Total Tool Length: 370.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

FIML Natural Resources

7-12s-37w Logan,KS

410 17th St.

Stock 14A 7-1237

Suite 900

Job Ticket: 43900

DST#: 4

Denver, CO 80202

ATTN: Gary Duke / Jim Musg

Test Start: 2011.10.07 @ 20:23:00

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:

30000 ppm

Viscosity: 58.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.18 in³

Gas Cushion Type:

Gas Cushion Pressure:

psig

Resistivity: ohm.m

Salinity: 4400.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
173.00	WCM 30%w 70%m	0.851
372.00	MCW 20%m 80%w	3.414
650.00	MCW 10%m 90%w	9.118

Total Length: 1195.00 ft

Total Volume: 13.383 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW is .260 @ 60f =30000

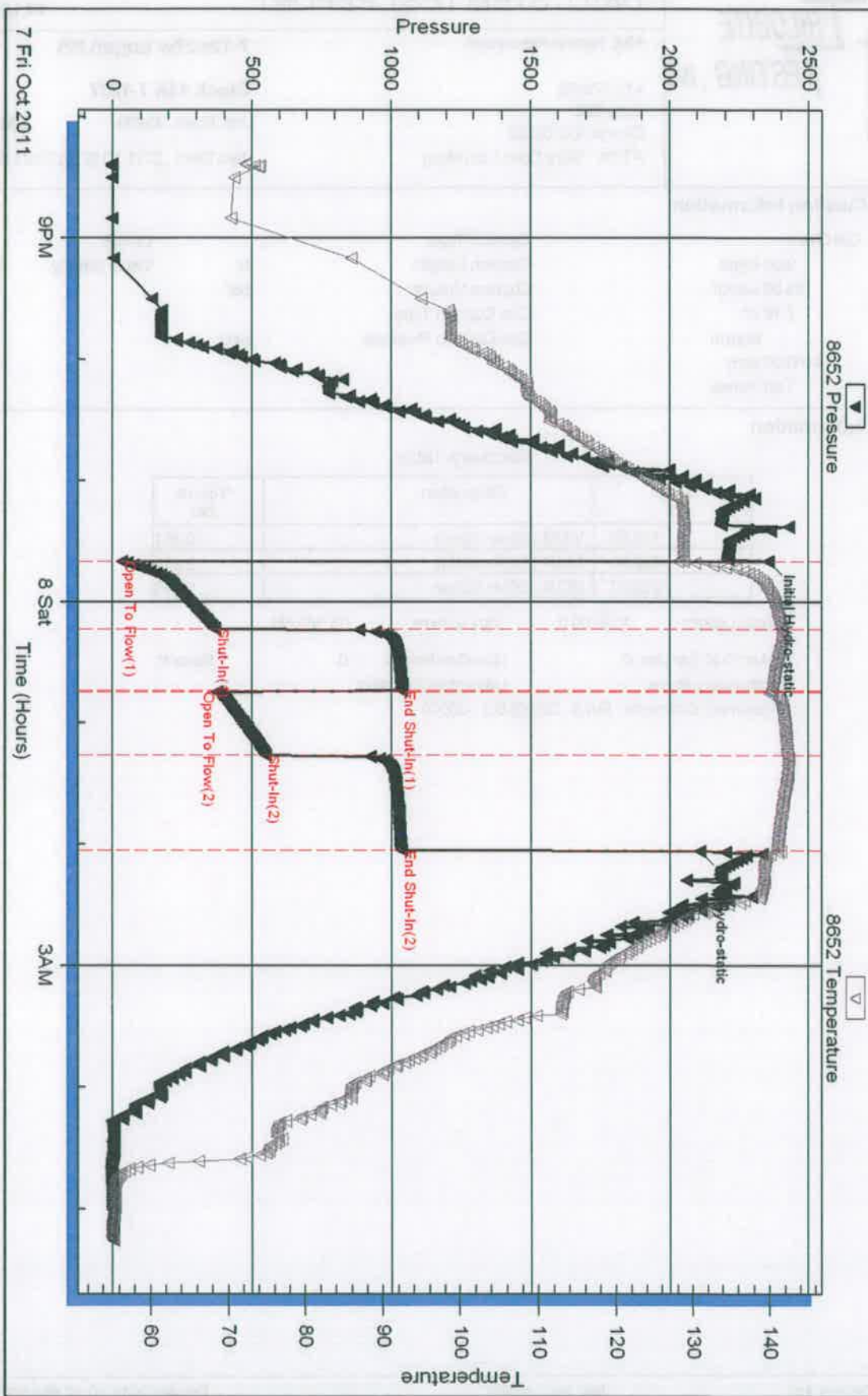
Serial #: 8652

Outside FIML Natural Resources

Stock 14A 7-1237

DST Test Number: 4

Pressure vs. Time



Trilobite Testing, Inc

Ref. No: 43900

Printed: 2011.10.17 @ 13:38:50

Serial #: 8322

Below (Strat) Natural Resources

Stock 14A 7-1237

DST Test Number: 4

