



## DRILL STEM TEST REPORT

Prepared For: **FIML Natural Resources**

410 17th St.  
Suite 900  
Denver, CO 80202-4420

ATTN: Gary Doke/Jim Musgro

**19-12s37w Logan,KS**

**Wright Farms 12A-19-1237**

Start Date: 2011.09.16 @ 04:49:00

End Date: 2011.09.16 @ 11:41:30

Job Ticket #: 44356                      DST #: 1

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

**ORIGINAL**

Printed: 2011.09.22 @ 11:12:26

FIML Natural Resources

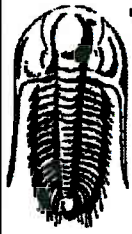
Wright Farms 12A-19-1237

19-12s37w Logan,KS

DST # 1

Topeka

2011.09.16



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

FIML Natural Resources

410 17th St.  
Suite 900  
Denver, CO 80202-4420  
ATTN: Gary Doke/Jim Musgro

**Wright Farms 12A-19-1237**

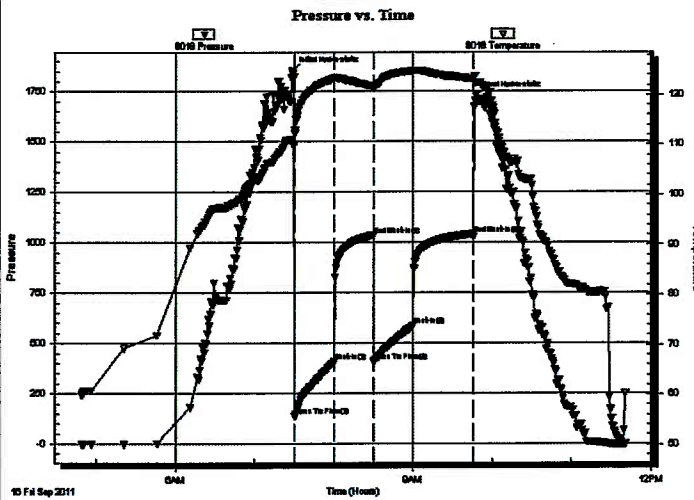
**19-12s37w Logan,KS**  
Job Ticket: 44356      **DST#: 1**  
Test Start: 2011.09.16 @ 04:49:00

## GENERAL INFORMATION:

Formation: **Topeka**  
Deviated: No Whipstock:      ft (KB)  
Time Tool Opened: 07:30:40  
Time Test Ended: 11:41:30  
Test Type: Conventional Bottom Hole (Initial)  
Tester: Chuck Smith  
Unit No: 37  
Interval: **3649.00 ft (KB) To 3701.00 ft (KB) (TVD)**  
Reference Elevations: 3244.00 ft (KB)  
Total Depth: 3701.00 ft (KB) (TVD)      3232.00 ft (CF)  
Hole Diameter: 7.88 inches Hole Condition: Good      KB to GR/CF: 12.00 ft

**Serial #: 8018**      **Inside**  
Press@RunDepth: 586.58 psig @ 3653.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2011.09.16      End Date: 2011.09.16      Last Calib.: 2011.09.16  
Start Time: 04:49:02      End Time: 11:41:30      Time On Btrn: 2011.09.16 @ 07:29:00  
Time Off Btrn: 2011.09.16 @ 09:47:50

TEST COMMENT: IF: B.O.B. @ 3 1/2 min.  
IS: No return.  
FF: B.O.B. @ 5 1/2 min.  
FSI: No return.



## PRESSURE SUMMARY

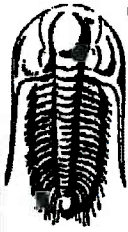
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1853.97	110.28	Initial Hydro-static
2	138.19	112.30	Open To Flow (1)
32	407.80	123.27	Shut-In(1)
61	1036.51	121.81	End Shut-In(1)
62	409.76	121.55	Open To Flow (2)
92	586.58	124.76	Shut-In(2)
137	1042.39	123.18	End Shut-In(2)
139	1729.31	122.34	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
186.00	MV 25m 75w Oil spots in tool.	0.91
931.00	MV 15m 85w	11.37
138.00	MV 50m 50w	1.94

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

FIML Natural Resources

**Wright Farms 12A-19-1237**

410 17th St.  
Suite 900  
Denver, CO 80202-4420  
ATTN: Gary Doke/Jim Musgro

**19-12s37w Logan,KS**  
Job Ticket: 44356      **DST#: 1**  
Test Start: 2011.09.16 @ 04:49:00

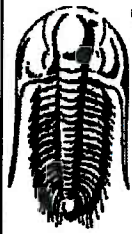
### Tool Information

Drill Pipe:	Length: 3264.00 ft	Diameter: 3.80 inches	Volume: 45.79 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: 24000.00 lb
Drill Collar:	Length: 372.00 ft	Diameter: 2.25 inches	Volume: 1.83 bbl	Weight to Pull Loose: 80000.00 lb
		<b>Total Volume:</b>	<b>47.62 bbl</b>	Tool Chased 0.00 ft
Drill Pipe Above KB:	14.50 ft			String Weight: Initial 68000.00 lb
Depth to Top Packer:	3649.00 ft			Final 70000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	52.00 ft			
Tool Length:	79.50 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			3622.50	
Shut In Tool	5.00			3627.50	
Hydraulic tool	5.00			3632.50	
Jars	5.00			3637.50	
Safety Joint	2.50			3640.00	
Packer	5.00			3645.00	27.50      Bottom Of Top Packer
Packer	4.00			3649.00	
Stubb	1.00			3650.00	
Perforations	3.00			3653.00	
Recorder	0.00	8018	Inside	3653.00	
Recorder	0.00	6751	Outside	3653.00	
Perforations	12.00			3665.00	
Change Over Sub	1.00			3666.00	
Drill Pipe	31.00			3697.00	
Change Over Sub	1.00			3698.00	
Bullnose	3.00			3701.00	52.00      Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>79.50</b>				



**TRILOBITE  
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# DRILL STEM TEST REPORT

**FLUID SUMMARY**

FML Natural Resources

**Wright Farms 12A-19-1237**

410 17th St.  
Suite 900  
Denver, CO 80202-4420  
ATTN: Gary Doke/Jim Musgro

**19-12s37w Logan,KS**  
Job Ticket: 44356      **DST#: 1**  
Test Start: 2011.09.16 @ 04:49:00

## 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:	38000 ppm
Viscosity: 58.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.19 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 3000.00 ppm			
Filter Cake: 1.00 inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
186.00	MW 25m 75w Oil spots in tool.	0.915
931.00	MW 15m 85w	11.365
138.00	MW 50m 50w	1.936

Total Length: 1255.00 ft      Total Volume: 14.216 bbl

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

Laboratory Name:      Laboratory Location:

Recovery Comments: RW .301 @ 45 Deg F

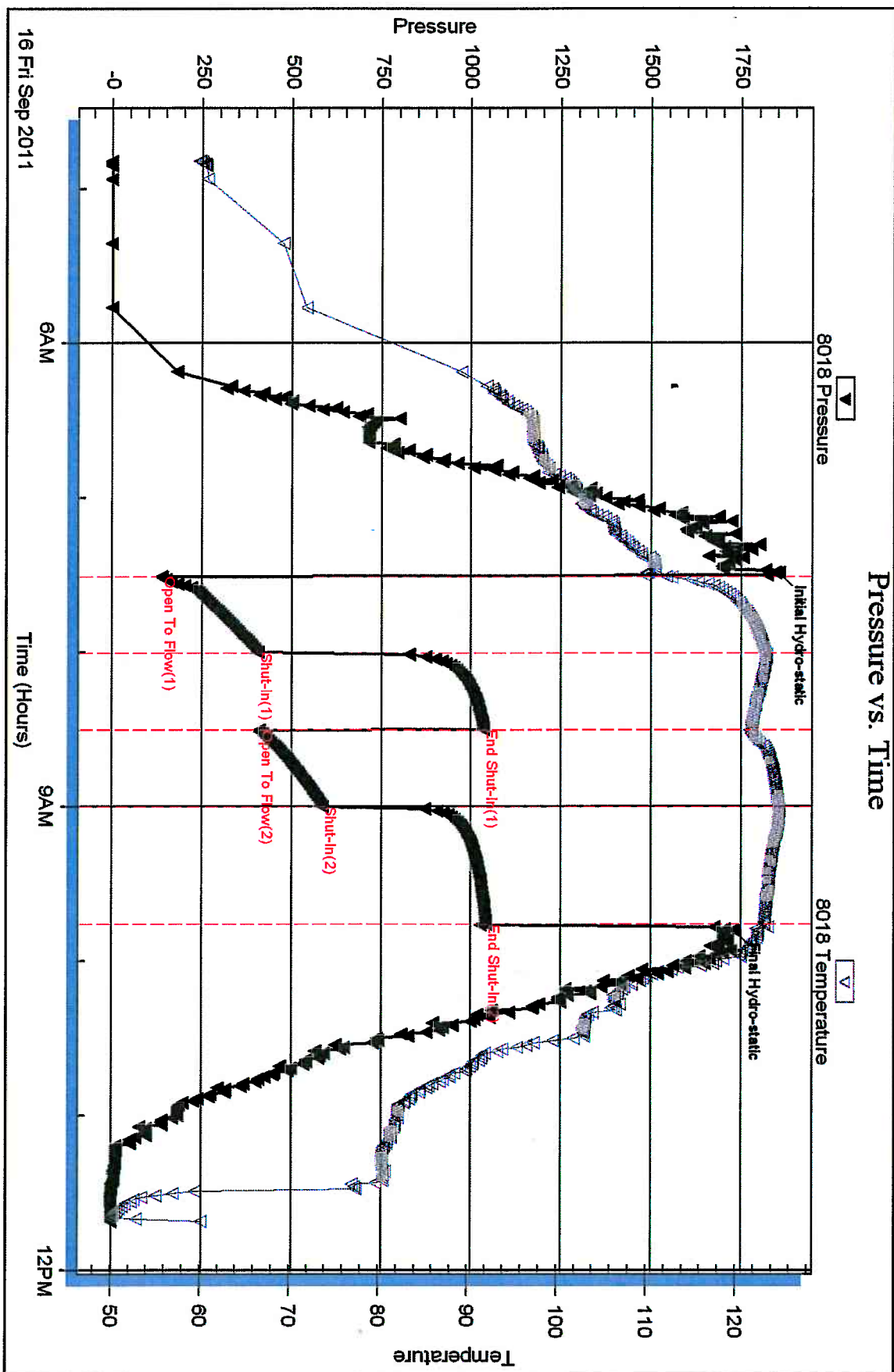
Serial #: 8018

Inside

FIML Natural Resources

19-12537w Logan, KS

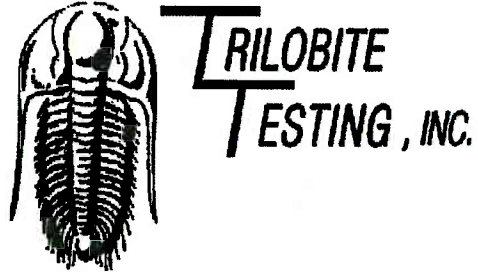
DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 44356

Printed: 2011.09.22 @ 11:12:29



## DRILL STEM TEST REPORT

Prepared For: **FIML Natural Resources**

410 17th St.  
Suite 900  
Denver, CO 80202-4420

ATTN: Gary Doke/Jim Musgro

**19-12s37w Logan,KS**

**Wright Farms 12A-19-1237**

Start Date: 2011.09.19 @ 06:08:00

End Date: 2011.09.19 @ 12:41:09

Job Ticket #: 44357                      DST #: 2

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

Printed: 2011.09.22 @ 11:13:04

FIML Natural Resources

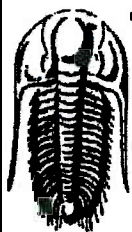
Wright Farms 12A-19-1237

19-12s37w Logan,KS

DST # 2

Morrow

2011.09.19



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

FIML Natural Resources

**Wright Farms 12A-19-1237**

410 17th St.  
Suite 900  
Denver, CO 80202-4420  
ATTN: Gary Doke/Jim Musgro

**19-12s37w Logan,KS**  
Job Ticket: 44357      **DST#: 2**  
Test Start: 2011.09.19 @ 06:08:00

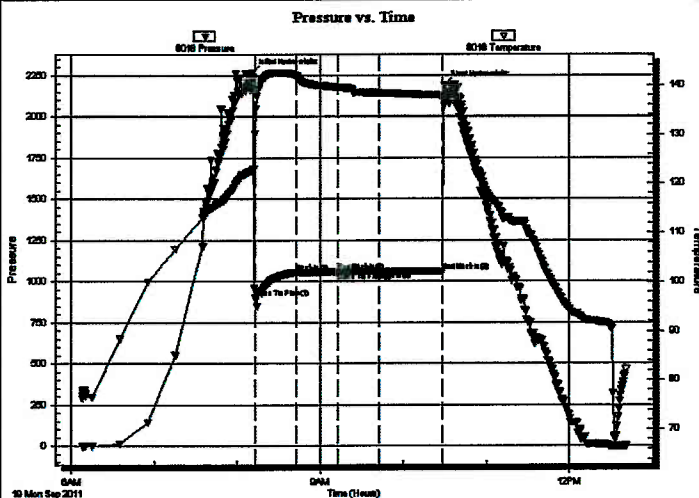
## GENERAL INFORMATION:

Formation: **Morrow**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 08:13:00  
Time Test Ended: 12:41:09  
Test Type: Conventional Bottom Hole (Reset)  
Tester: Chuck Smith  
Unit No: 37  
Interval: **4497.00 ft (KB) To 4567.00 ft (KB) (TVD)**  
Reference Elevations: 3244.00 ft (KB)  
Total Depth: 4567.00 ft (KB) (TVD)      3232.00 ft (CF)  
Hole Diameter: 7.88 inches Hole Condition: Good      KB to GR/CF: 12.00 ft

**Serial #: 8018      Inside**  
Press@RunDepth: 1059.79 psig @ 4501.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2011.09.19      End Date: 2011.09.19      Last Calib.: 2011.09.19  
Start Time: 06:08:02      End Time: 12:41:10      Time On Btm: 2011.09.19 @ 08:10:40  
Time Off Btm: 2011.09.19 @ 10:29:39

**TEST COMMENT:** B.O.B. @ 1 min.  
No return.  
No blow, flushed tool, no blow.  
No return.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2266.19	122.63	Initial Hydro-static
3	898.95	130.14	Open To Flow (1)
32	1052.69	141.93	Shut-In(1)
62	1057.50	139.54	End Shut-In(1)
63	1056.75	139.54	Open To Flow (2)
92	1059.79	138.44	Shut-In(2)
138	1059.60	137.87	End Shut-In(2)
139	2186.53	135.84	Final Hydro-static

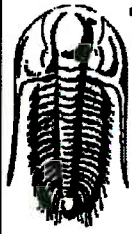
## Recovery

Length (ft)	Description	Volume (bbl)
1333.00	MV 5m 95w	16.16
930.00	VM 40w 60m	13.05

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

FIML Natural Resources

**Wright Farms 12A-19-1237**

410 17th St.  
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Denver, CO 80202-4420  
ATTN: Gary Doke/Jim Musgro

**19-12s37w Logan,KS**  
Job Ticket: 44357      **DST#: 2**  
Test Start: 2011.09.19 @ 06:08:00

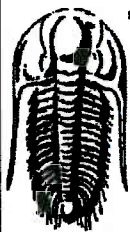
**Tool Information**

Drill Pipe:	Length: 4206.00 ft	Diameter: 3.80 inches	Volume: 59.00 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: 279.00 ft	Diameter: 2.25 inches	Volume: 1.37 bbl	Weight to Pull Loose: 85000.00 lb
		<b>Total Volume:</b>	<b>60.37 bbl</b>	Tool Chased 0.00 ft
Drill Pipe Above KB:	15.50 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	4497.00 ft			Final 79000.00 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	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4470.50	
Shut In Tool	5.00			4475.50	
Hydraulic tool	5.00			4480.50	
Jars	5.00			4485.50	
Safety Joint	2.50			4488.00	
Packer	5.00			4493.00	27.50      Bottom Of Top Packer
Packer	4.00			4497.00	
Stubb	1.00			4498.00	
Perforations	3.00			4501.00	
Recorder	0.00	8018	Inside	4501.00	
Recorder	0.00	6751	Outside	4501.00	
Perforations	30.00			4531.00	
Change Over Sub	1.00			4532.00	
Drill Pipe	31.00			4563.00	
Change Over Sub	1.00			4564.00	
Bullhose	3.00			4567.00	70.00      Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>97.50</b>				





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**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

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ATTN: Gary Doke/Jim Musgro

**19-12s37w Logan,KS**  
Job Ticket: 44357      **DST#: 2**  
Test Start: 2011.09.19 @ 06:08:00

**Mud and Cushion Information**

Mud Type: Gel Chem  
Mud Weight: 9.00 lb/gal  
Viscosity: 55.00 sec/qt  
Water Loss: 9.57 in<sup>3</sup>  
Resistivity: ohm.m  
Salinity: 4000.00 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: 35000 ppm

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
1333.00	MW 5m 95w	16.157
930.00	WM 40w 60m	13.045

Total Length: 2263.00 ft      Total Volume: 29.202 bbl  
Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
Laboratory Name:      Laboratory Location:  
Recovery Comments: RW .205 @ 70 deg F

Serial #: 8018

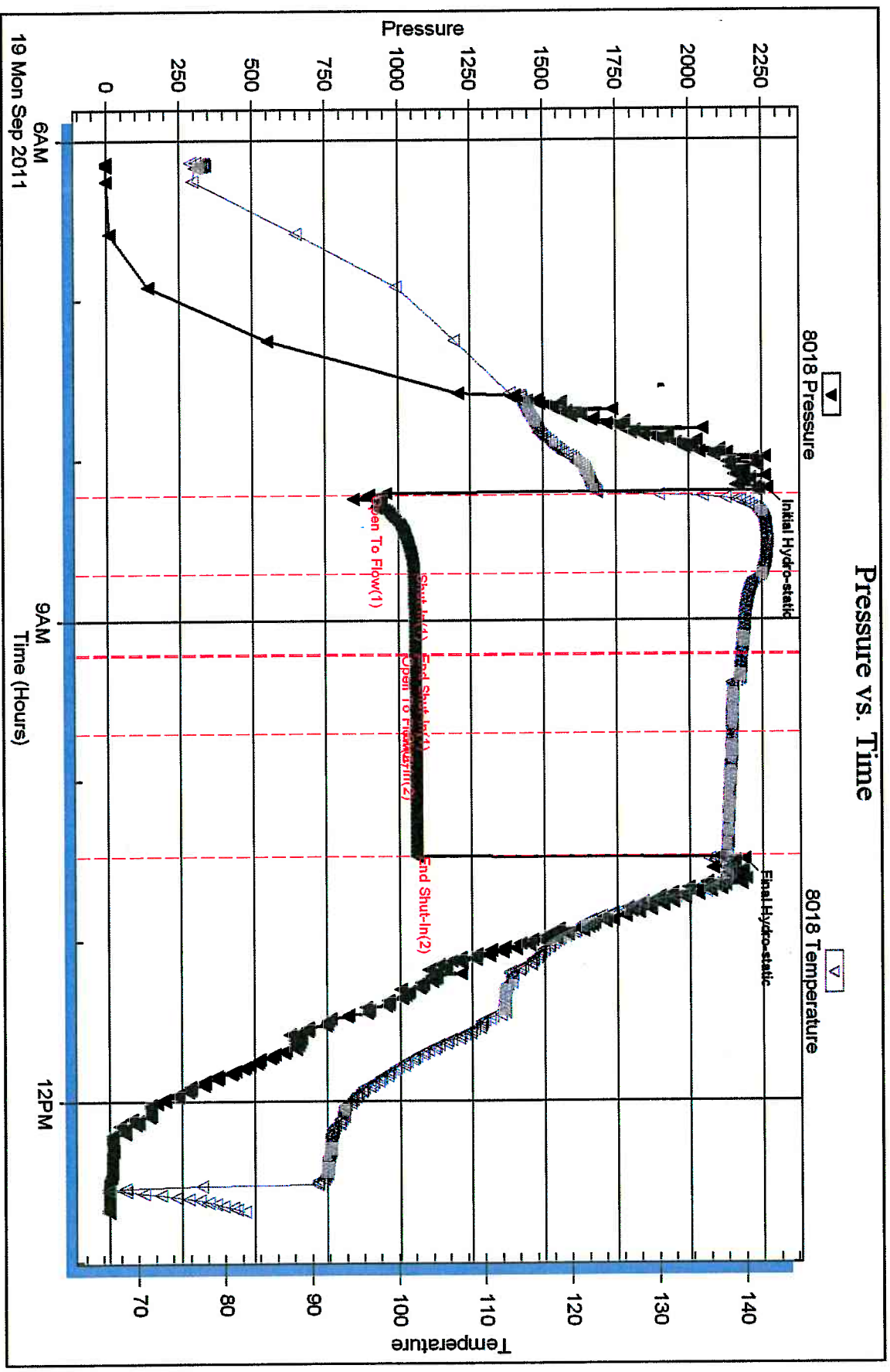
Inside

FML Natural Resources

19-12s37w Logan, KS

DST Test Number: 2

### Pressure vs. Time



Triobite Testing, Inc

Ref. No: 44357

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