

**ORIGINAL**

Triobite Testing, Inc  
PO Box 1733 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

2011.07.18

Lansing J

DST # 1

30 18s 31w Scott, KS

Pfenninger #9D

FIML Natural Resources, LLC

Start Date: 2011.07.18 @ 06:35:00  
End Date: 2011.07.18 @ 13:29:15  
Job Ticket #: 042243  
DST # 1

**Pfenninger #9D**

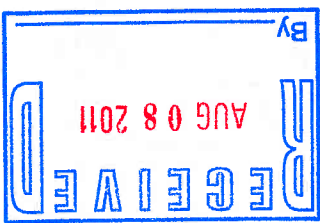
**30 18s 31w Scott, KS**

ATTN: Josh Austin / Gary Do

410 17th St. Suite 900  
Denver, CO 80202

Prepared For: **FIML Natural Resources, LLC**

**DRILL STEM TEST REPORT**



# DRILL STEM TEST REPORT



FML Natural Resources, LLC  
 410 17th St Suite 900  
 Denver, CO 80202  
 ATTN: Josh Austin / Gary Doo

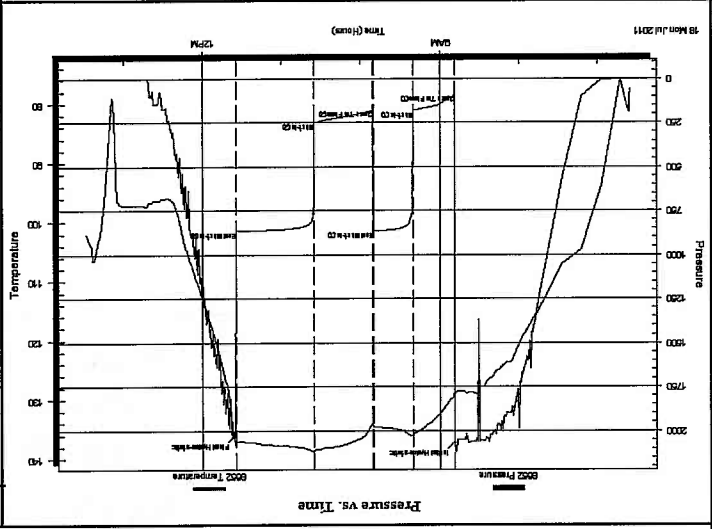
**Fenninger #9D**  
 30 18s 31w Scott, KS  
 Job Ticket: 042243  
 DST#: 1  
 Test Start: 2011.07.18 @ 06:35:00

## GENERAL INFORMATION:

Formation: Lansing J  
 Devised: No Whipstock  
 Time Tool Opened: 08:49:00  
 Time Test Ended: 13:29:15  
 Interval: 4220.00 ft (KB) To 4255.00 ft (KB) (TVD)  
 Total Depth: 4255.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches  
 Condition: Poor  
 Reference Elevations: 2996.00 ft (KB)  
 2984.00 ft (CF)  
 12.00 ft  
 Test Type: Conventional Bottom Hole  
 Tester: Bradley Walter  
 Unit No: 40

**Serial #: 8652**  
 Inside  
 Press@RunDepth: 249.40 psig @ 4221.00 ft (KB)  
 Start Date: 2011.07.18  
 End Date: 2011.07.18  
 Start Time: 06:35:05  
 End Time: 13:29:14  
 Capacity: 8000.00 psig  
 Last Calib.: 2011.07.18  
 Time On Btm: 2011.07.18 @ 08:48:45  
 Time Off Btm: 2011.07.18 @ 11:35:15

**TEST COMMENT:** IF: BOB @ 28 minutes.  
 IS: No return blow.  
 FF: BOB @ 40 minutes.  
 FS: No return blow.



Length (ft)	Description	Volume (bbl)
540.00	mcw 20m 80w (oil spots on top)	5.03

## Recovery

Choke (Inches)	Pressure (psig)	Gas Rate (Mcfd)

## Gas Rates

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2065.54	129.05	Initial Hydro-static
1	91.00	128.33	Open To Flow (1)
32	180.48	135.80	Shut-in(1)
62	866.41	134.54	End Shut-in(1)
62	179.56	134.08	Open To Flow (2)
107	249.40	138.48	Shut-in(2)
166	866.71	137.08	End Shut-in(2)
167	2025.54	137.58	Final Hydro-static

## PRESSURE SUMMARY

**DRILL STEM TEST REPORT**

**Fenninger #9D**

**30 18s 31w Scott, KS**

Job Ticket: 042243  
DST#: 1

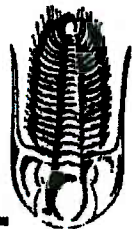
ATTN: Josh Austin / Gary Doo

Test Start: 2011.07.18 @ 06:35:00

FML Natural Resources, LLC

410 17th St, Suite 900  
Denver, CO 80202

**TRILOBITE TESTING, INC**

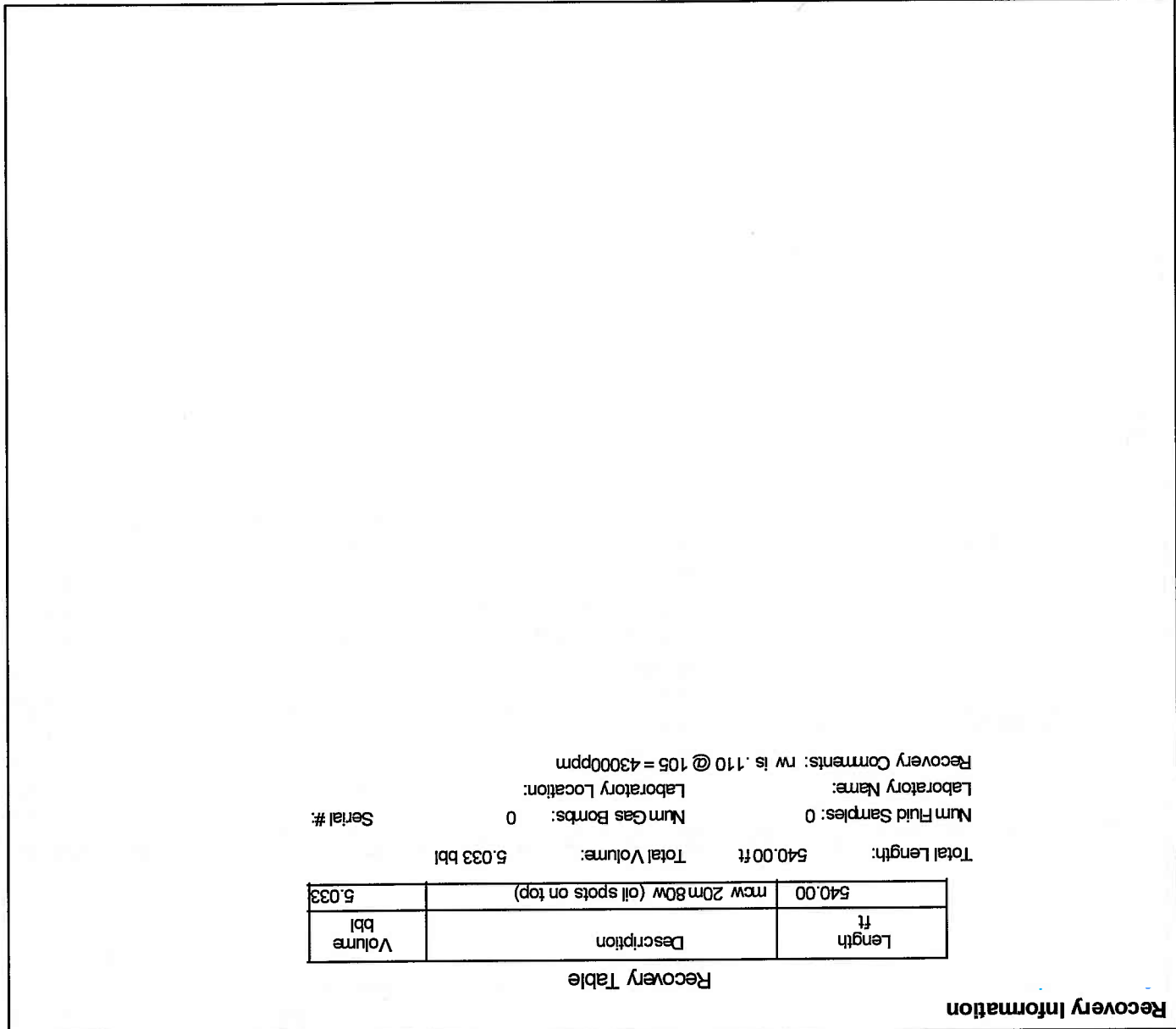


**Tool Information**

Drill Pipe: Length: 3952.00 ft Diameter: 3.80 inches Volume: 55.44 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: 279.00 ft Diameter: 2.25 inches Volume: 1.37 bbl Weight to Pull Loose: 83000.00 lb  
 Drill Pipe Above KB: 32.00 ft Total Volume: 56.81 bbl Tool Chased 10.00 ft  
 Depth to Top Packer: 4220.00 ft String Weight: Initial 66000.00 lb Final 68000.00 lb  
 Depth to Bottom Packer: ft  
 Interval between Packers: 35.00 ft  
 Tool Length: 56.00 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	4200.00			
Shut In Tool	5.00	4205.00			
Hydraulic tool	5.00	4210.00			
Packer	5.00	4215.00		21.00	Bottom Of Top Packer
Packer	5.00	4220.00			
Stub	1.00	4221.00			
Recorder	0.00	4221.00	8360	Outside	
Recorder	0.00	4221.00	8652	Inside	
Perforations	31.00	4252.00			
Bullnose	3.00	4255.00			
<b>Total Tool Length:</b>	<b>56.00</b>				
Bottom Packers & Anchor	35.00				



**Recovery Information**

Length ft	Description	Volume bbl
540.00	mcw 20m 80w (oil spots on top)	5.033
Total Length: 540.00 ft Total Volume: 5.033 bbl		

Num Fluid Samples: 0  
 Num Gas Bombs: 0  
 Laboratory Name:  
 Laboratory Location:  
 Recovery Comments: rw is .110 @ 105 = 4300ppm  
 Serial #:

**Mud and Cushion Information**

Mud Type: Gel Chem	Cushion Type:	Oil API:	0 deg AP
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	43000 ppm
Viscosity: 47.00 sec/qt	Cushion Volume: bbl		
Water Loss: 8.76 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm m	Gas Cushion Pressure: psig		
Salinity: 1350.00 ppm			
Filter Cake: 1.00 inches			

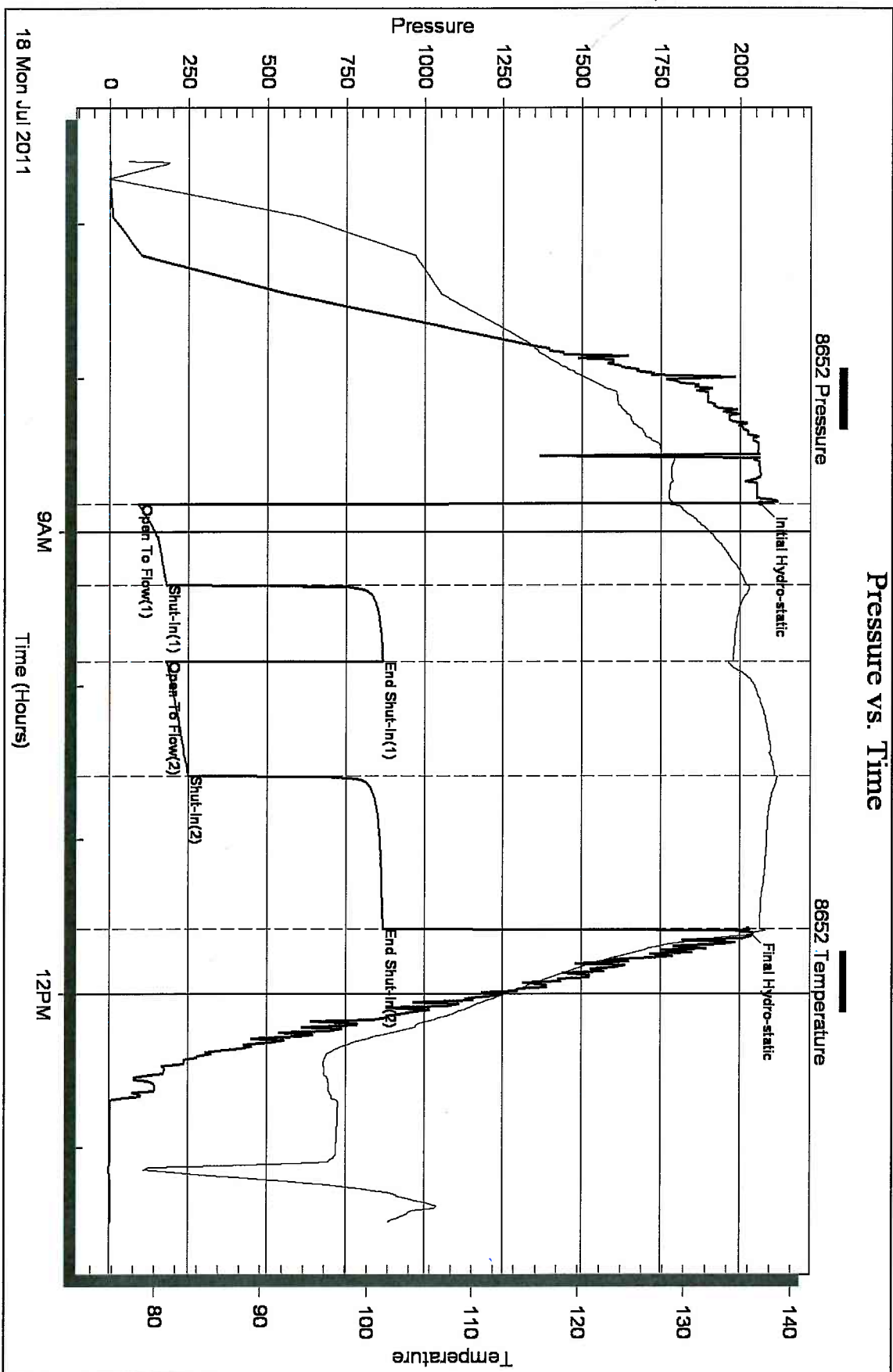


**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

FIML Natural Resources, LLC  
 410 17th St. Suite 900  
 Denver, CO 80202  
 ATTN: Josh Austin / Gary Do  
 Test Start: 2011.07.18 @ 06:35:00  
 Job Ticket: 042243  
 DST#:1  
**Pfenninger #9D**  
**30 18s 31w Scott, KS**

### Pressure vs. Time







**DRILL STEM TEST REPORT**

Prepared For: **FIML Natural Resources, LLC**

410 17th St. Suite 900  
Denver, CO 80202

ATTN: Josh Austin / Gary Do

**30 18s 31w Scott, KS**

**Pfenninger #9D**

Start Date: 2011.07.19 @ 02:50:00

End Date: 2011.07.19 @ 12:05:45

Job Ticket #: 042244  
DST #: 2

Triobite Testing, Inc

PO Box 1733 Hays, KS 67601

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

# DRILL STEM TEST REPORT



FML Natural Resources, LLC  
 410 17th St. Suite 900  
 Denver, CO 80202  
 ATTN: Josh Austin / Gary Doo

**Penninger #9D**  
 30 18s 31w Scott, KS  
 Job Ticket: 042244  
 DST#: 2  
 Test Start: 2011.07.19 @ 02:50:00

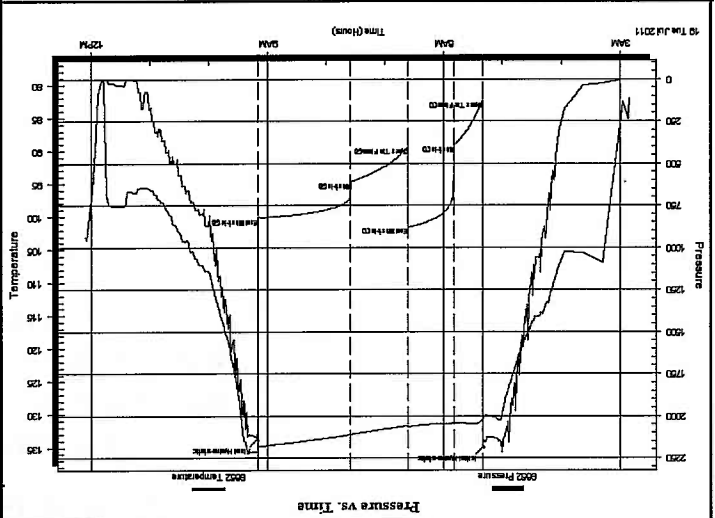
## GENERAL INFORMATION:

Formation: **Marmaton/Altamont**  
 Deviated: No  
 Whipstock: No  
 Test Type: Conventional Bottom Hole  
 Tester: Bradley Walter  
 Unit No: 40  
 Reference Elevations: 2996.00 ft (KB)  
 2984.00 ft (CF)  
 12.00 ft  
 Interval: **4308.00 ft (KB) To 4400.00 ft (KB) (TVD)**  
 Total Depth: 4400.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches  
 Condition: Fair

**Serial #: 8652**  
 Inside  
 Press@RunDepth: 609.81 psig @ 4309.00 ft (KB)  
 Start Date: 2011.07.19  
 End Date: 2011.07.19  
 Start Time: 02:50:05  
 End Time: 12:05:45  
 Capacity: 8000.00 psig  
 Last Callb.: 2011.07.19  
 Time On Btm: 2011.07.19 @ 05:20:00  
 Time Off Btm: 2011.07.19 @ 09:10:30

## TEST COMMENT:

IF: BOB @ 1 1/2 minutes.  
 IS: BOB @ 15 minutes.  
 FF: BOB @ 1 minute.  
 FSI BOB @ 45 minutes.



## PRESSURE SUMMARY

Annotation	Pressure (psig)	Time (Min)
Initial Hydro-static	2185.26	0
Open To Flow (1)	129.13	1
Shut-in (1)	391.58	30
End Shut-in (1)	131.23	30
Open To Flow (2)	405.60	77
Shut-in (2)	609.81	136
End Shut-in (2)	134.85	230
Final Hydro-static	135.69	231

## Gas Rates

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

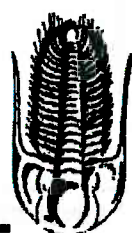
## Recovery

Length (ft)	Description	Volume (bbl)
200.00	gmco 20g 30m 500	0.98
1510.00	go 40g 600	20.46
0.00	1140 GIP	0.00



**DRILL STEM TEST REPORT**

**TOOL DIAGRAM**



**RILOBITE TESTING, INC.**

410 17th St. Suite 900  
Denver, CO 80202

FMN Natural Resources, LLC

Fenninger #9D

30 18s 31w Scott, KS

Job Ticket: 042244 DST#: 2

ATTN: Josh Austin / Gary Doo

Test Start: 2011.07.19 @ 02:50:00

Tool Information	
Drill Pipe: Length: 4016.00 ft Diameter: 3.80 inches Volume: 56.33 bbl Heavy Mt. Pipe: Length: 0.00 ft Diameter: 0.00 inches Volume: 0.00 bbl Drill Collar: Length: 279.00 ft Diameter: 2.25 inches Volume: 1.37 bbl Drill Pipe Above KB: 8.00 ft Depth to Top Packer: 4308.00 ft Depth to Bottom Packer: ft Interval between Packers: 92.00 ft Tool Length: 113.00 ft Number of Packers: 2 Diameter: 6.75 inches Tool Comments:	Tool Weight: 1500.00 lb Weight set on Packer: 2500.00 lb Weight to Pull Loose: 8700.00 lb Tool Chased: 0.00 ft String Weight: Initial 68000.00 lb Final 70000.00 lb

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4288.00	
Shut In Tool	5.00			4293.00	
Hydraulic tool	5.00			4298.00	
Packer	5.00			4303.00	Bottom Of Top Packer
Packer	5.00			4308.00	
Stub	1.00			4309.00	
Recorder	0.00	8360	Outside	4309.00	
Recorder	0.00	8652	Inside	4309.00	
Perforations	3.00			4312.00	
Change Over Sub	1.00			4313.00	
Drill Pipe	63.00			4376.00	
Change Over Sub	1.00			4377.00	
Perforations	20.00			4397.00	
Bullnose	3.00			4400.00	
<b>Total Tool Length:</b>					<b>113.00</b>
<b>Bottom Packers &amp; Anchor</b>					<b>92.00</b>

**Recovery Information**

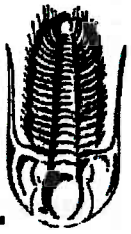
Total Length: 1710.00 ft  
 Total Volume: 21.446 bbl  
 Num Fluid Samples: 0  
 Num Gas Bombs: 0  
 Laboratory Name: \_\_\_\_\_  
 Laboratory Location: \_\_\_\_\_  
 Recovery Comments: \_\_\_\_\_  
 Serial #: \_\_\_\_\_

Length ft	Description	Volume bbl
200.00	gmco 20g 30m50o	0.984
1510.00	go 40g 60o	20.462
0.00	1140 GIP	0.000

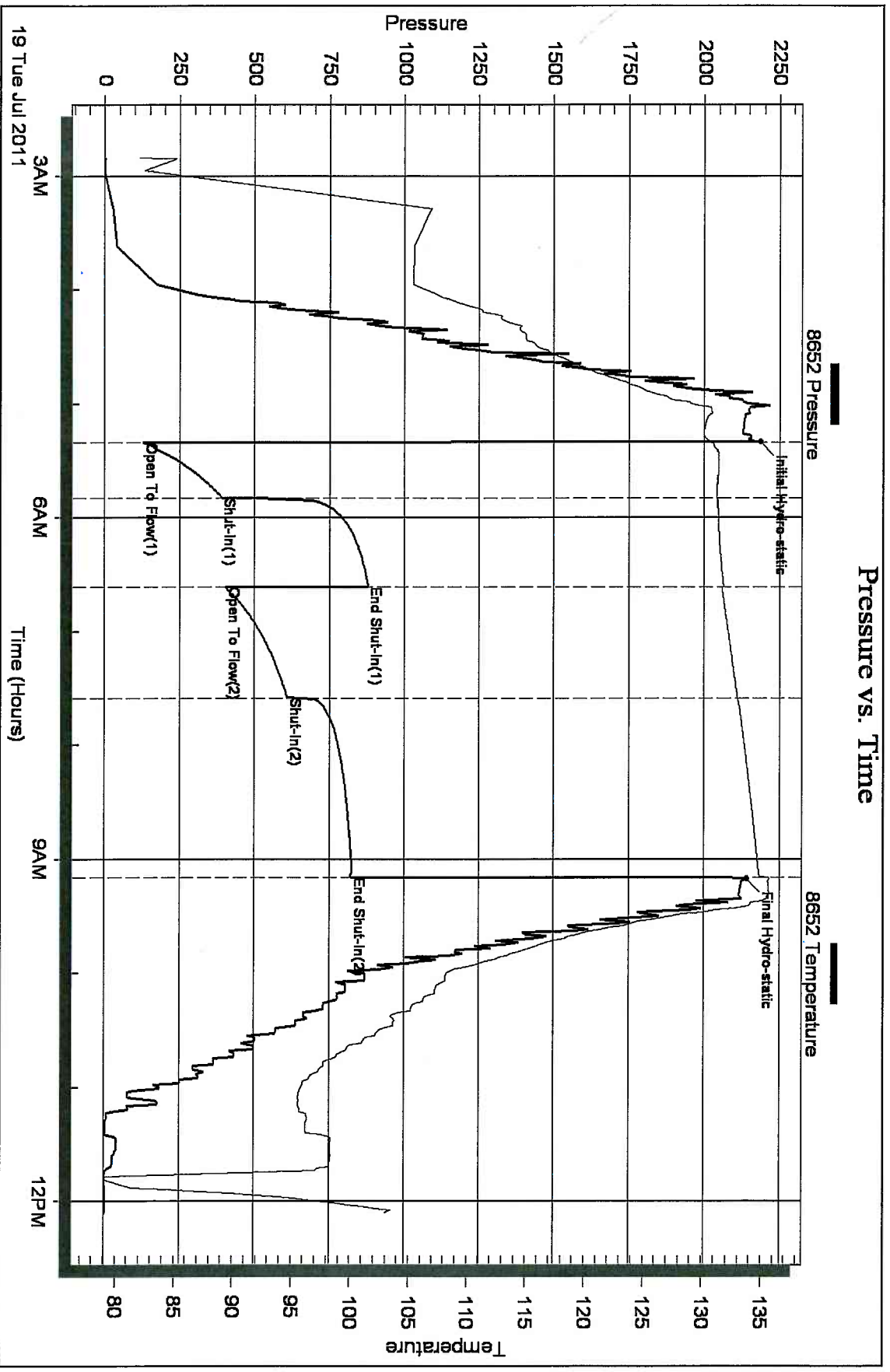
Recovery Table

**Mud and Cushion Information**

Mud Type: Gel Chem  
 Mud Weight: 9.00 lb/gal  
 Viscosity: 56.00 sec/qt  
 Water Loss: 8.37 in<sup>3</sup>  
 Resistivity: ohmm  
 Salinity: 1100.00 ppm  
 Filter Cake: 1.00 inches  
 Cushion Type: \_\_\_\_\_  
 Cushion Length: \_\_\_\_\_  
 Cushion Volume: \_\_\_\_\_  
 Gas Cushion Type: \_\_\_\_\_  
 Gas Cushion Pressure: \_\_\_\_\_  
 Oil API: \_\_\_\_\_  
 Water Salinity: \_\_\_\_\_  
 37 deg API  
 0 ppm

<p><b>DRILL STEM TEST REPORT</b></p> <p><b>FLUID SUMMARY</b></p>	<p>FML Natural Resources, LLC</p> <p>410 17th St. Suite 900                  Denver, CO 80202</p> <p>30 18s 31w Scott, KS                  Job Ticket: 042244                  DST#: 2</p> <p>ATTN: Josh Austin / Gary Doo</p> <p>Test Start: 2011.07.19 @ 02:50:00</p>	 <p><b>TRIOBITE TESTING, INC</b></p>
	<p>Pfenninger #9D</p>	

### Pressure vs. Time







**DRILL STEM TEST REPORT**

Prepared For: **FIML Natural Resources, LLC**

410 17th St. Suite 900  
Denver, CO 80202

ATTN: Josh Austin / Gary Do

**30 18s 31w Scott, KS**

**Pfenninger #9D**

Start Date: 2011.07.20 @ 06:05:00

End Date: 2011.07.20 @ 13:42:45

Job Ticket #: 43227  
DST #: 3

Triobite Testing, Inc

PO Box 1733 Hays, KS 67601

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

# DRILL STEM TEST REPORT



FML Natural Resources, LLC  
 410 17th St. Suite 900  
 Denver, CO 80202  
 ATTN: Josh Austin / Gary Doo

**Pfenninger #9D**  
 30 18s 31w Scott, KS  
 Job Ticket: 43227  
 DST#: 3  
 Test Start: 2011.07.20 @ 06:05:00

## GENERAL INFORMATION:

Formation: Mississippi  
 Deviated: No Whipstock  
 Time Tool Opened: 08:13:45  
 Time Test Ended: 13:42:45  
 Interval: 4608.00 ft (KB) To 4623.00 ft (KB) (TVD)  
 Total Depth: 4623.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 incheshole Condition: Fair  
 Reference Elevations: 2996.00 ft (KB)  
 2984.00 ft (CF)  
 12.00 ft  
 Test Type: Conventional Bottom Hole  
 Tester: Jace McKinney  
 Unit No: 28

## Serial #: 8675

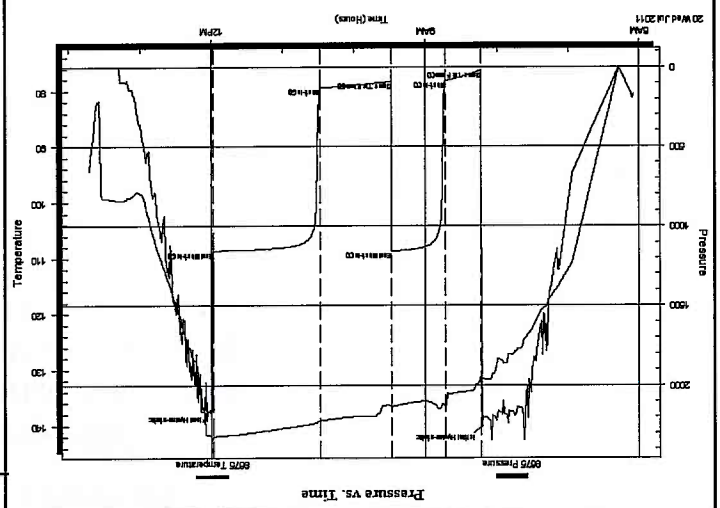
Inside  
 Press@RunDepth: 132.85 psig @ 4609.00 ft (KB)  
 Start Date: 2011.07.20  
 End Date: 2011.07.20  
 Start Time: 06:05:01  
 End Time: 13:42:45  
 Capacity: 8000.00 psig  
 Last Calib.: 2011.07.20  
 Time On Btm: 2011.07.20 @ 08:13:00  
 Time Off Btm: 2011.07.20 @ 11:58:45

## TEST COMMENT:

Built to 6" Blow  
 No Return Blow  
 Built to 8 1/2 Blow  
 Weak Return Blow

## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2255.12	131.59	Initial Hydro-static
1	24.15	131.11	Open To Flow (1)
31	88.37	136.83	Shut-in(1)
76	1157.40	136.57	End Shut-in(1)
76	92.73	136.39	Open To Flow (2)
136	132.85	139.12	Shut-in(2)
226	1155.26	141.94	End Shut-in(2)
226	2143.48	142.53	Final Hydro-static



## Recovery

Length (ft)	Description	Volume (bbl)
90.00	ocw m5%O 35%W 60%M	0.44
90.00	gcmp 10%G 30%M 60%O	0.44
103.00	O 100%O	1.44

## Gas Rates

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

DRILL STEM TEST REPORT		TOOL DIAGRAM			
<p>FML Natural Resources, LLC                      410 17th St. Suite 900                      Denver, CO 80202                      ATTN: Josh Austin / Gary Doo</p>		<p>Pfenninger #9D                      30 18s 31w Scott, KS                      Job Ticket: 43227                      DST#: 3                      Test Start: 2011.07.20 @ 06:05:00</p>			
<p><b>Tool Information</b></p> <p>Drill Pipe: Length: 4420.65 ft Diameter: 3.80 inches Volume: 62.01 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: 20000.00 lb                      Drill Collar: Length: 180.00 ft Diameter: 2.25 inches Volume: 0.89 bbl Weight to Pull Loose: 80000.00 lb                      Drill Pipe Above KB: 12.65 ft                      Depth to Top Packer: 4608.00 ft                      Depth to Bottom Packer: ft                      Interval between Packers: 15.00 ft                      Tool Length: 35.00 ft                      Number of Packers: 2 Diameter: 6.75 inches                      Tool Comments:</p>					
Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4589.00	
Shut In Tool	5.00			4594.00	
Hydraulic tool	5.00			4599.00	
Packer	5.00			4604.00	20.00
Packer	4.00			4608.00	
Packer	4.00			4609.00	
Stub	1.00			4609.00	
Recorder	0.00	8675	Inside	4609.00	
Recorder	0.00	8371	Outside	4609.00	
Perforations	11.00			4620.00	
Change Over Sub	0.00			4620.00	
Drill Pipe	0.00			4620.00	
Change Over Sub	0.00			4620.00	
Bullnose	3.00			4623.00	
<b>Total Tool Length:</b>					<b>35.00</b>
Bottom Packers & Anchor					15.00

**Recovery Information**

Length ft	Description	Volume bbl
90.00	ocw m5%O 35%W 60%M	0.443
90.00	gcms 10%G 30%M 60%O	0.443
103.00	O 100%O	1.445
Total Length:		283.00 ft
Total Volume:		2.331 bbl
Num Fluid Samples: 0		
Num Gas Bombs: 0		
Serial #: _____		
Laboratory Name: _____		
Laboratory Location: _____		
Recovery Comments: API: 31 @ 100 F = 35 RM: 20 @ 108 F = 25,000		

Recovery Table

**Mud and Cushion Information**

Mud Type:	Gel Chem
Mud Weight:	9.00 lb/gal
Viscosity:	56.00 sec/qt
Water Loss:	7.18 in <sup>3</sup>
Resistivity:	0.00 ohm.m
Salinity:	1200.00 ppm
Filter Cake:	1.00 inches
Cushion Type:	_____
Cushion Length:	ft
Cushion Volume:	bbl
Gas Cushion Type:	_____
Gas Cushion Pressure:	psig
Oil API:	35 deg API
Water Salinity:	25000 ppm



**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

FML Natural Resources, LLC  
 410 17th St. Suite 900  
 Denver, CO 80202  
 ATTN: Josh Austin / Gary Doo  
 Test Start: 2011.07.20 @ 06:05:00  
 Job Ticket: 43227  
 DST#: 3  
 Pfenninger #9D  
 30 18s 31w Scott, KS



Serial #: 8675

Inside

FML Natural Resources, LLC

30 18s 31w Scott, KS

DST Test Number: 3

### Pressure vs. Time

